



**County Employees Retirement System
Investment Committee – Regular Meeting
February 26, 2025 at 2:00 PM EST
Live Video Conference/Facebook Live**

AGENDA

- | | |
|---|----------------------------------|
| 1. Call to Order | Dr. Merl Hackbart |
| 2. Opening Statement | Eric Branco |
| 3. Roll Call | Sherry Rankin |
| 4. Public Comment | Sherry Rankin |
| 5. Approval Of Minutes*-- August 15, 2024, November 18, 2024,
November 26, 2024, December 19, 2024 | Dr. Merl Hackbart |
| 6. CERS Quarterly Investment Review and Update | Steve Willer
Wilshire |
| 7. Quarterly Investment Budget Update | Steve Willer |
| 8. Public Equity Investment Recommendations* | Joe Gilbert
Wilshire |
| 9. Real Return Investment Recommendation* | Anthony Chiu |
| 10. Investment Policy Statement—Performance
Benchmark Recommendation* | Joe Gilbert
Wilshire |
| 11. Investment Compliance Review | Carrie Bass |
| 12. ADJOURN | Dr. Merl Hackbart |

****Committee Action May Be Taken***

**MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
SPECIAL CALLED INVESTMENT COMMITTEE MEETING
AUGUST 15, 2024, 2:00 P.M., E.T.
VIA LIVE VIDEO TELECONFERENCE**

At the August 15, 2024, County Employees Retirement System Investment Committee Meeting, the following committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, William O'Mara, and Betty Pendergrass. Staff members present were Ryan Barrow, Erin Surratt, Michael Lamb, Carrie Bass, Steve Willer, Anthony Chiu, Joseph Gilbert, Ashley Gabbard, Phillip Cook, and Sherry Rankin. Also in attendance were CERS CEO Ed Owens III and Eric Branco with Johnson, Branco & Brennan LLP.

1. Dr. Hackbart called the meeting to order.
2. Mr. Branco read the Legal Opening Statement.
3. Ms. Rankin called roll.
4. Dr. Hackbart introduced agenda item **Public Comment** (Video 00:06:30 to 00:07:10). Ms. Rankin indicated that (1) one public comment was received for this meeting from Mary K. Ward and read as follows:

“I may be asking the wrong question to the wrong group, but are there any plans or anything at all being mentioned about state employees’ retirement raises? As far as I know, it’s been 11 years. I believe the teachers’ retirement does receive a cost of living every year. I know state employees received two big raises recently. I’m happy for them. I missed those. I’ve been retired almost 10 years. People working for my agency make double the salary I retired with. Again, I’m happy for them. But we are forgotten.”

Mr. Owens III agreed to respond to her personally.

5. Dr. Hackbart introduced agenda item ***Strategic Planning*** (Video 00:07:10 to 01:35:32). Dr. Hackbart invited Mr. Ed Owens III and Ms. Betty Pendergrass to present to the committee regarding the strategic plan.

Mr. Owens III presented the KPPA Strategic Planning Process and indicated that it is categorized into four (4) groups: governance, organizational excellence, customer service delivery, and infrastructure and key resources. He noted the recommended actionable dates are listed. Mr. Owens III explained the categories as presented, and the committee discussed the portions of the CERS Strategic Plan pertaining to the Investment Committee.

Next, Ms. Betty Pendergrass reviewed the format for the 2024 – 2028 CERS Strategic Plan goals, objectives, measures, and targets. Using the goals, objectives, and measures from the CERS Actuarial Committee, she briefly illustrated the template for the goals, objectives, and measures for the Investment Committee’s Strategic Plan that will be incorporated into the CERS Board’s Strategic Plan and spoke about fiduciary responsibilities. Ms. Pendergrass presented some investment strategic questions as a prompt for discussion. For reference, she displayed the CERS Nonhazardous and Hazardous Contribution Report for the fiscal year ending June 30, 2024. To help answer the question of how much total revenues should come from investments, Ms. Pendergrass reviewed the historical financial statements. After some discussion, it was decided that Mr. Barrow, Mr. Lamb, and Ms. Pendergrass will conduct further research of historical reports to develop recommendations for strategic goals for investment performance.

Ms. Pendergrass offered additional questions to prompt discussion about key monitoring activities that the committee can use to provide oversight as well as key indicators that committee members can review in the monthly and quarterly reports.

Mr. Cheatham stated he would like for the Wilshire team to give an overview of the best way to put together a formula to manage risks. He also expressed his thoughts regarding tracking indexes and whether they are appropriate for that particular asset class or not, especially as it pertains to private equity.

There was discussion regarding the evaluation of investment performance versus actuarial analysis and the need to strengthen risk monitoring. Ms. Pendergrass considered monitoring performance to ensure that managers are meeting performance goals. The committee discussed strengthening the role of the Investment Compliance Officer to monitor and report on investment risk.

After some discussion, it was also recommended the Investment Policy Statement (IPS) should meet Best Practices to ensure CERS meets its fiduciary responsibilities. As part of the measure for this, it was felt that periodic reporting should outline how the actual performance is achieving goals in the IPS. After some dialogue about the information that is available in the investment reports, there was discussion about creating more efficient Investment Committee performance reviews. It was suggested to submit more applicable reports to Board Books, and then the Trustees could be provided a link to the website publication to have access to the full, comprehensive report.

Ms. Pendergrass initiated discussion regarding evaluating asset allocation. Mr. Cheatham suggested that Mr. Owens III should review the information provided by Ms. Pendergrass and create an obtainable timeline. Ms. Pendergrass said she would distribute to the committee members the draft of the formulated Strategic Plan. The recommendation was made to have another special called meeting in October to further discuss the proposals presented in today's meeting and finalize the CERS Investment Committee's Strategic Plan. Ms. Pendergrass also suggested that finalizing the committee's plan in October would allow Chair Cheatham to call a special CERS Board meeting in January to finalize the CERS Board's 2025-2029 Strategic Plan.

6. There being no further business, Dr. Hackbart *adjourned* the meeting.

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CERTIFICATION

I do certify that I was present at this meeting, and I have recorded above the action of the Committee on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in connection with this meeting.

Recording Secretary

I, as Chair of the County Employees Retirement System Investment Committee of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of the meeting held on August 15, 2024, were approved by the County Employees Retirement System Investment Committee on February 26, 2025.

CERS Investment Committee Chair

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on August 15, 2024, for form, content, and legality.

Office of Legal Services

**MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
SPECIAL CALLED INVESTMENT COMMITTEE MEETING
NOVEMBER 18, 2024, 2:00 P.M., E.T.
VIA LIVE VIDEO TELECONFERENCE**

At the November 18, 2024, County Employees Retirement System Special Called Investment Committee Meeting, the following Committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, William O'Mara, and Betty Pendergrass. Staff members present were Ryan Barrow, Michael Lamb, Erin Surratt, Carrie Bass, Steve Willer, Anthony Chiu, Joseph Gilbert, Ashley Gabbard, Shaun Case, Sherry Rankin, and Sandy Hardin. Also in attendance were CERS CEO Ed Owens III; Eric Branco with Johnson, Branco & Brennan LLP; and David Lindberg, Chris Tessman, and Craig Morton with Wilshire.

1. Dr. Hackbart called the meeting to order.
2. Mr. Branco read the Legal Opening Statement.
3. Ms. Rankin called roll.
4. Ms. Rankin indicated there was no **Public Comment** (*Video 00:05:25 to 00:05:27*).
5. Dr. Hackbart introduced agenda item **Investment Policy Statement** (*Video 00:05:55 to 00:53:21*). Dr. Hackbart highlighted that the Committee has been diligently working on the Investment Policy Statement (IPS) for approximately six (6) months. He emphasized that this effort is crucial because maintaining and making periodic adjustments to the IPS is one of the Committee's most significant responsibilities. These adjustments are based on changes occurring nationally or within the State of Kentucky. Dr. Hackbart stated that the objective of today's meeting is to finalize the IPS so that it can be presented to the full Board for their review and approval.

The Wilshire Advisors presented an overview of the key recommended edits to the CERS Investment Policy Statement (IPS). A complete view of all the suggestions is shown in the redline version of the document provided to the committee members.

Mr. Tessman said the presented memo focused on four areas: Introduction, Responsibilities, Asset Allocation Guidelines, and Monitoring. He first referred to Section II. Responsibilities, Section C. vi, noting the addition of an asset class review on an annual basis. This review will detail structural targets, risk, and performance along with future considerations for private markets. Furthermore, Subsection VII was amended to differentiate between public and private search processes.

For Section III. Asset Allocation Guidelines, a quarterly reporting process of actual allocations in relation to the strategy policy was incorporated. Lastly, Mr. Tessman referred to Section II. D, noting the language for co-investment and continuation vehicles was added. This allows the CIO to make investments with the approval of two out of the following three: CERS CEO, CERS Investment Committee Chair, and CERS Board Chair.

Dr. Hackbart raised a concern about ensuring that staff has sufficient time to conduct due diligence when processing and reviewing Continuation Vehicle participation. Mr. Tessman explained that the due diligence period is typically short. He emphasized staff has little control over these timelines. However, as a consultant, Wilshire will collaborate closely with the staff to expedite the processing and ensure timely recommendations in line with the GP's provided timeline. Ms. Pendergrass suggested a proactive approach where, upon receiving a Continuation Vehicle request, the chair could schedule an Investment Committee meeting for one (1) week to ten (10) days ahead of the due date. For complex cases requiring more input from the Investment Committee, the Committee Chair or the Board Chair has the option to call a meeting within 24 hours.

Ms. Pendergrass mentioned she has a list of editorial suggestions, which she will forward to the Wilshire staff. She noted there are also items to be considered in the future. However, there are specific amendments that need to be addressed before presenting the

document to the Board. Ms. Pendergrass noted the inconsistent usage of the terms "fund" and "plan." She also pointed out a provision stating that the CEO signs documents and contracts, noting that in local government, only the elected executive official has the legal authority to sign a contract. This could cause confusion among member employers who are local government entities, questioning why the Chair of the Board is not signing the contracts. Additionally, Ms. Pendergrass suggested that language be included to ensure CERS counsel is involved in key reviews. She further mentioned issues that could be connected to the Strategic Plan.

After discussion, it was decided that the IPS can be presented before the Board once the following five (5) redline items are added:

1. In Introduction under Purpose, the language should be changed to read, "The CERS Board shall **administratively** manage the assets of the insurance fund in the same manner in which it administers its retirement fund." This adds the word "administratively" for clarification.
2. Ensure the consistent use of the terms "funds" versus "plans" throughout the IPS.
3. Clarify who signs the contracts (CEO versus Chair).
4. Include language stating that the CERS counsel be linked in for key reviews.
5. In Section II. C.vi, specify definition of risk.

Mr. Cheatham made a motion to approve the amendments to the IPS based upon the five (5) items identified for clarification and for a redline version with those changes to be presented to the full Board. Additionally, consideration should be given to potential modifications suggested by the Strategic Plan. Mr. O'Mara seconded the motion, and the motion approved unanimously.

Dr. Hackbart remarked on the extensive details in the IPS and inquired about the possibility of creating an Executive Summary to provide a plain-language version. Mr. Branco agreed to work on this and ensure its consistency with the IPS.

6. There being no further business, Dr. Hackbart ***adjourned*** the meeting.

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CERTIFICATION

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Recording Secretary

I, as Chair of the County Employees Retirement System Investment Committee of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of the meeting held on November 18, 2024, were approved by the County Employees Retirement System Investment Committee on February 26, 2025.

CERS Investment Committee Chair

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on November 18, 2024, for form, content, and legality.

Office of Legal Services

**MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
INVESTMENT COMMITTEE MEETING
NOVEMBER 26, 2024, 2:00 P.M., E.T.
VIA LIVE VIDEO TELECONFERENCE**

At the November 26, 2024, County Employees Retirement System Investment Committee Meeting, the following committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, William O'Mara, and Betty Pendergrass. Staff members present were Ryan Barrow, Rebecca Adkins, Erin Surratt, Victoria Hale, Michael Lamb, Steve Willer, Brian Caldwell, Ashley Gabbard, Shaun Case, and Sherry Rankin. Also in attendance were CERS CEO Ed Owens, III, Eric Branco with Johnson, Branco & Brennan LLP, and David Lindberg and Craig Morton with Wilshire.

1. Dr. Hackbart called the meeting to order.
2. Mr. Branco read the Legal Opening Statement.
3. Ms. Rankin called roll.
4. Ms. Rankin noted no ***Public Comment*** was received.
5. Dr. Hackbart introduced agenda item ***Approval of Minutes – August 15, 2024; August 28, 2024; September 17, 2024; and October 22, 2024.*** (Video 00:05:50 to 00:09:52).

Ms. Pendergrass requested the August 15, 2024, minutes be pulled from the agenda and not be put to a vote at this meeting. She will review the video recording with Ms. Hardin to incorporate additional details and make necessary revisions. The updated minutes will be presented at the February 26, 2025, meeting.

A motion was made by Ms. Pendergrass and seconded by Mr. O'Mara to approve the August 28, 2024, minutes as presented. The motion passed unanimously.

A motion was made by Mr. O'Mara and seconded by Mr. Cheatham to approve the September 17, 2024, minutes as presented. The motion passed unanimously.

A motion was made by Mr. Cheatham and seconded by Mr. O'Mara to approve the October 22, 2024, minutes as presented. The motion passed unanimously.

6. Dr. Hackbart introduced agenda item *Investment Office Quarterly Update (Video 00:09:52 to 01:15:28)*. Mr. Steve Willer asked the Wilshire staff to present the Economic Update for the quarter ending September 30, 2024. Mr. Lindberg invited the committee members to the Wilshire Client Conference on April 8 and 9 at the Ritz Carlton in Rancho Mirage, California. Mr. Craig Morton spoke about the economic updates, and Mr. Lindberg gave an overview of the markets and rates.

Dr. Hackbart inquired about the potential impact on inflation and the overall economy as a result of President-elect Trump's newly announced tariffs on Mexico, Canada, and China. He also asked whether any insights or discussions with forecasters had taken place. Mr. Lindberg responded that numerous conversations have been held on this topic. He explained that their forecasts focus on long-term projections (10 years and beyond) and do not attempt to factor in short-term impacts due to the many variables involved. While they have an inflation forecast, they recognize that various factors could influence these numbers. Although the third-quarter economic perspectives did not include specific expectations regarding the tariffs, they are closely monitoring the situation.

Dr. Hackbart inquired whether other states are also reducing their equity investments. Mr. Lindberg confirmed that many states have, and similar recommendations have been made in various cases. He noted that funds have had the opportunity to reposition risk without sacrificing returns, based on ten-year, forward-looking expectations. Mr. Willer added that many plans have extended the risk spectrum over the past three (3) years due to near-zero yields, which did not offer much benefit. This situation has changed, with yield-

type investments now offering more attractive return profiles. These changes in the yield environment are significant for future performance expectations.

After reviewing the September 2024 Asset Class Assumptions chart, Mr. Cheatham inquired if Wilshire had their projections for each asset class targeted over the last five years and requested to see that graph. Mr. Lindberg confirmed that these projections are charted and published annually in the asset allocation papers, which are released in January. He mentioned that they can share the most recent chart from nine months ago and will have an updated version available in a few months.

Next, KPPA Chief Investment Officer Mr. Steve Willer presented the CERS Performance and Asset Allocations for the quarter ending September 30, 2024. He reviewed the CERS Nonhazardous and CERS Hazardous performance data for all plans for the period ending September 30, 2024, and introduced their new report, Internal Portfolios Performance, which shows the internally managed portfolios. He also reviewed the Pension and Insurance Portfolios Performance reports, which were created in response to requests from trustees. Mr. Willer noted that they have been working with BNY to develop asset class level performance reporting for the individual CERS funds, which they hope to include in future reports. Additionally, he provided a compliance review for the period ending September 30, 2024. He then announced that Ms. Carrie Bass has started her new role as Compliance Officer and is already working on overhauling the compliance function and reporting, which is expected to be a significant enhancement. Lastly, Mr. Willer reviewed the Investment Budget and Investment Fees and Expenses for the period ending September 30, 2024.

Ms. Pendergrass noted significant volatility in Wilshire's data over the years and asked if previous years were on a cash basis rather than an accrual basis. Mr. Willer responded that a reduction in overall fees might not be reflected, and there was a reporting delay in fiscal year 2023. He explained that efforts were made to normalize the data to four quarters of fees per fiscal year to ensure accuracy.

Mr. Cheatham highlighted the emergence of new private equity-based investment products in the public market and inquired about including them in benchmark reporting. Mr. Lindberg and Mr. Willer discussed various benchmarking options and emphasized the importance of tracking the internal rate of return (IRR) of private investments compared to public market equivalents. They agreed to explore different benchmarks and service providers to accurately measure performance and address underperformance issues. Mr. Willer stated he would work with Wilshire to present suggestions at the next Investment Committee meeting on alternatives for calculating benchmark performances and evaluating the overall portfolio performance.

7. There being no further business, Dr. Hackbart requested a motion to *adjourn* the meeting. Mr. O'Mara made a motion and was seconded by Ms. Pendergrass to adjourn the meeting. The motion passed unanimously.

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CERTIFICATION

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Recording Secretary

I, as Chair of the County Employees Retirement System Investment Committee of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of the meeting held on November 26, 2024, were approved by the County Employees Retirement System Investment Committee on February 26, 2025.

CERS Investment Committee Chair

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on November 26, 2024, for form, content, and legality.

Office of Legal Services

**MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
SPECIAL CALLED
INVESTMENT COMMITTEE MEETING
DECEMBER 19, 2024, 2:00 P.M., E.T.
VIA LIVE VIDEO TELECONFERENCE**

At the December 19, 2024, Special Called County Employees Retirement System Investment Committee Meeting, the following Committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, William O'Mara, and Betty Pendergrass. Staff members present were Ryan Barrow, Mike Lamb, Victoria Hale, Carrie Bass, Steve Willer, Brian Caldwell, Anthony Chiu, Joseph Gilbert, Phillip Cook, Sherry Rankin, and Sandy Hardin. Also in attendance were CERS CEO Ed Owens III; David Lindberg and Chris Tessman with Wilshire; and Eric Branco with Johnson, Branco, & Brennan, LLC.

1. Dr. Hackbart called the meeting to order.
2. Mr. Branco read the Legal Opening Statement.
3. Ms. Rankin called roll.
4. Ms. Rankin indicated there was no **Public Comment** (Video 00:06:40 to 00:06:47).
5. Dr. Hackbart introduced agenda item **Real Return Investment Recommendation** (Video 00:06:47 to 00:27:43). Dr. Hackbart introduced Mr. Willer and Mr. Chiu, who presented to the committee a detailed overview of the KPPA Investment Staff's investment recommendation of investing in the ITR Rail Fund, L.P., subject to contract negotiations.

Mr. Willer began the presentation with an overview and then invited Mr. Chiu to present a summary of the other Real Return strategies that were reviewed or under consideration. Mr. Willer also reviewed the CERS Pension Portfolio, highlighting the Real Return Allocations and their impact and rationale.

Mr. Chiu then presented a proposed investment by the KPPA Investment Staff in the ITE Rail Fund, L.P., an open-ended fund managed by Industrial Transportation Equipment. Mr. Chiu reviewed the details of this proposal, concluding that given the attractive risk/reward profile, compelling market opportunity, and current Real Return allocations, the Investment Staff recommends an investment of up to \$200 million. This amount would be shared among all KERS and SPRS portfolios, pending successful legal negotiations. When fully funded, this investment would represent approximately 1.0 to 1.1% of Plan assets, depending on market value fluctuations. It is anticipated that the investment would be funded by unwinding proxy positions and using existing cash, based on the specific needs of each portfolio. The expected net return for this investment is projected to be between 6% and 9%. Following the presentation, the Investment Team addressed questions posed by the committee members.

A motion was made by Mr. Cheatham and seconded by Mr. O'Mara to approve the KPPA Investment Staff's recommendation to authorize up to \$200 million investment by CERS into the ITE Rail Fund, L. P., subject to successful contract negotiations. The motion passed unanimously.

6. Dr. Hackbart introduced agenda item ***CERS Strategic Plan*** (Video 00:27:43 to 01:23:53). Ms. Pendergrass presented her final edits to the CERS Investment Committee Strategic Plan. She expressed her gratitude to the Investment Office, Finance Department, and Mr. Barrow for their support in creating the draft plan, which was brought before the Committee for review, discussion, edits, and approval for 2025. She explained that this is a new initiative and provided some history of the plan. Ms. Pendergrass noted that it is hoped the plan will be presented to the CERS Board in January for revisions. The aim is to finalize and approve the Strategic Plan for 2025 to 2029 at that time.

Ms. Pendergrass proceeded to review the format of the plan, which includes goals, objectives, measures, and targets. She stated that her goal with this project was for the Trustees to take a hard look at what they want to accomplish with governance for the CERS Retirement System. The Strategic Plan is intended to be updated every three (3) to five (5) years, depending on progress and any major changes that need to be addressed.

Mr. Lamb then discussed financial information he researched to determine appropriate measures. One question raised by the committee was the proportion of resources generated by the Investment Portfolio compared to contributions. Mr. Lamb reviewed charts showing a ten-year history of CERS Pension Non-Hazardous and Hazardous funds, including employer contributions, member contributions, realized gains (losses), unrealized gains (losses), interest to dividends, and benefit payments. Mr. Lamb noted that incorporating Ms. Pendergrass' guidance, they included a measure considering a five-year cumulative total for realized gains, interest, and dividends. Mr. Lamb reviewed the detailed financial data and summarized the calculations. Ms. Pendergrass emphasized the importance of retaining some investment income and realized gains to fund future benefits and manage volatility. She also wanted to track this over time. Mr. Lamb and Ms. Pendergrass will add this information to the existing cash flow report to monitor progress.

Ms. Pendergrass reviewed Objective A and noted that the five-year Geometric Average Net Investment Return (GANIR) for Tier 3 interest credits will be used to evaluate the returns in the CERS portfolios. The GANIR should range from 6.25% to 10%. Another measure is the investment cash flow from realized gains, interest, dividends, and net of fees compared to total benefits/expenses paid, suggesting a five-year rolling average between 45% and 65%.

Dr. Hackbart inquired about comparable figures from peers and the impact on the overall funding ratio. Ms. Pendergrass explained that a peer group of systems has not yet been identified. She then stated the lower percentage of 45% means more investments would pay down the unfunded liability, while a higher percentage would slow progress. This measure will be coordinated with the Actuarial Committee to align with their strategic goals.

Dr. Hackbart emphasized the importance of assessing the impact on actuarial analysis. Ms. Pendergrass agreed, noting that this would be a good discussion for January when the entire CERS Board Strategic Plan is reviewed.

Ms. Pendergrass explained that if the ranges do not reflect what is happening in the portfolio, they can be reviewed and adjusted. Over time, these ranges will be time-sensitive based on the plan's maturity. As the plan shifts from fewer Tier 1 and Tier 2 members to more Tier 3

members, who have no unfunded liability, changes will occur. Ms. Pendergrass suggested adding the membership breakdown to quarterly reporting to evaluate changes in actuarial analysis, investment monitoring, and financial assessments.

Dr. Hackbart discussed how the residual percentage, after determining employer and employee contributions, would be used to draw investment income. Ms. Pendergrass added that as the Tier 3 component grows, more contributions will stay in Tier 3 rather than pay benefits for Tier 1 and Tier 2.

Ms. Pendergrass brought up for discussion Objective A, Measure 3: “Should CERS use liability-driven investment options to fund a component of benefit payments?” After receiving input from Mr. Willer, who felt it would be difficult to implement from an economic standpoint at this time, Ms. Pendergrass recommended removing this measure from the Strategic Plan and revisiting it in the future when the numbers might be more feasible. In the meantime, Mr. Willer agreed to conduct additional research and provide more information, ensuring this remains on the radar for future consideration.

Referring back to Measure 2, Dr. Hackbart inquired, in terms of relationship, if retaining this component and setting a goal at 30% or 40% would provide input for the actuary in determining contribution rates. Ms. Pendergrass indicated this would be a question for Danny White with GRS and suggested inviting him to the January meeting to integrate investment measures with actuarial measures and targets. They could then identify overlaps and relationships to monitor and determine what can be included or highlighted from the annual valuation.

Ms. Pendergrass discussed Objective B, focusing on the Investment Policy Statement (IPS) to meet best practices and ensure fiduciary responsibilities. She highlighted some minor changes made during the August meeting, particularly in Measure 2. Ms. Pendergrass emphasized the importance of quarterly performance reporting and identifying key performance measures. Mr. Willer explained the rationale behind some target terms and the inclusion of certain reporting elements for comparison purposes.

Ms. Pendergrass asked the committee for additional key points to be included in the quarterly performance and investment reports. Mr. Cheatham suggested concise reports on a manager-

by-manager basis, at least twice a year, which aligned with Objective C, Measure 2. Mr. Willer noted the performance reporting at the current asset class level and mentioned the ongoing efforts with BNY to improve this reporting.

Mr. O'Mara inquired about the number of managers, and Mr. Willer explained the details. Mr. O'Mara suggested focusing on managers that fall below benchmarks. Ms. Pendergrass noted previous detailed reports that included thresholds for each manager. Mr. Willer added that current reports include individual manager performance against benchmarks.

Mr. Cheatham suggested also highlighting top-performing managers for potential fund reallocation. Mr. O'Mara emphasized the committee's oversight role rather than direct management. Mr. Willer agreed to consider enhancements to quarterly and annual reporting, with ongoing discussions with Wilshire and BNY.

Ms. Pendergrass discussed Objective B, Measure 2, highlighting the addition of a manager watch list to Compliance reporting, identifying managers with excellent or below-expectation performance.

Ms. Pendergrass then moved to Objective C, which aims to evaluate investment performance against actuarial analysis and strengthen risk monitoring, with input from Mr. Willer and his team. Mr. Willer provided background, emphasizing the review of benchmarks within asset allocation targets, and the need for appropriate private and public equity benchmarks. Reporting enhancements were discussed to better evaluate fund performance and risk-adjusted returns.

Ms. Pendergrass noted two types of peer groups: investment returns and systems with similar benefit structures. She emphasized the importance of comparing strategies with similar systems to generate new ideas and improve governance.

Mr. Cheatham and Mr. Lindberg discussed narrowing down the peer universe based on asset size. Dr. Hackbart noted the value of learning from peer actions and strategies, even if they are not perfectly comparable.

Mr. Cheatham introduced a concept from Wilshire's affiliate, XTB, related to cost efficiency and investment governance. The Committee members suggested discussing this further at a future meeting.

Ms. Pendergrass then addressed Objective C. Mr. Cheatham suggested including oversight of management fees in periodic reporting. Ms. Pendergrass incorporated this into Objective C, Measure 2. They then discussed using performance and compliance reports to evaluate success and ensuring these reports are available to stakeholders on the KPPA website.

Ms. Pendergrass noted the timeline for Objectives A and C is ongoing. Regarding Objective B, the Investment Policy Statement (IPS) has set dates for 2025 and 2029, with the option for updates in interim years. Ms. Pendergrass concluded by asking for any final suggestions before moving to a motion and vote on adopting the strategic plan as revised and edited.

A motion was made by Mr. Cheatham and seconded by Ms. Pendergrass to approve the CERS Investment Committee Strategic Plan as revised and edited. The motion passed unanimously.

7. There being no further business, Dr. Hackbart called for a motion to *adjourn* the meeting. Mr. O'Mara made the motion to adjourn. Ms. Pendergrass seconded the motion. The motion passed unanimously.

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CERTIFICATION

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Recording Secretary

I, as Chair of the County Employees Retirement System Investment Committee of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of the meeting held on December 19, 2024, were approved by the County Employees Retirement System Investment Committee on February 26, 2025.

CERS Investment Committee Chair

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on December 19, 2024, for form, content, and legality.

Office of Legal Services

County Employees Retirement System

Investment Office Quarterly Update

Quarter Ending: December 31, 2024

County Employees Retirement System

Economic and Market Update

Quarter Ending: December 31, 2024

Market Commentary

U.S. Equity

The U.S. stock market was up 2.6% for the fourth quarter and is up 23.8% for the year-to-date. Sector performance was, in fact, mostly negative for the quarter, with seven sectors producing a loss. However, the three largest sectors by market capitalization were all up – information technology (+5.9%), financials (+7.8%) and consumer discretionary (+12.3%). Small-cap underperformed large-cap by 180 basis points while growth stocks generally outperformed value by a large margin.

The Federal Reserve began raising rates in early 2022 in response to 7% annual inflation, which continued to accelerate to 9%. Rates were increased by 525 basis points during a 17-month period before pausing for roughly one year. The U.S. central bank began decreasing rates during 2024 – by a total of 100 basis points in three meetings. While it is probably too early to judge whether they achieved a “soft landing,” early data is positive. The unemployment rate is low – although jobs growth has been unsteady – and the economy continues to expand. However, inflation ticked higher during the fourth quarter and the Fed took notice. Current expectations for rate cuts in 2025 are modest (-0.50%) and down meaningfully from September.

Non-U.S. Equity

Economic growth in England continues to slow with business confidence waning. Prospects in Germany, Europe’s largest economy, are equally dim due to persistently high energy prices and growing competition with China. Currency changes played a major role in U.S. dollar returns this quarter as the dollar rose meaningfully versus the euro, pound and yen. China’s economy may be turning a corner after several stimulative macroeconomic policies were announced in September. Early indicators show strength in the services sector along with growth in retail sales.

Fixed Income

The U.S. Treasury yield curve was up across most of the maturity spectrum. The 10-year Treasury yield ended the quarter at 4.57%, up 79 basis points from September. The FOMC met twice during the quarter and decreased their overnight rate by a total of -0.50%. Expectations for rate cuts next year have come down as some officials are concerned that the new administration’s preference for tariffs could push prices higher. In fact, Fed Chair Jerome Powell recently stated that, “when the path is uncertain, you go a little slower.”

December 2024 Asset Class Assumptions

	Equity						Fixed Income						Real Assets						
	U.S. Stock	Dev ex-U.S. Stock	Emg Stock	Global ex-U.S. Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Private Credit	Dev ex-U.S. Bond (Hdg)	Real Estate			Cmdty	Real Assets	U.S. CPI
	U.S. RES	Global RES	Private RE																
Compound Return (%)	4.35	5.35	5.60	5.40	4.70	6.25	3.60	5.20	5.30	4.70	6.35	7.75	3.00	5.70	5.70	6.40	4.85	6.15	2.35
Arithmetic Return (%)	5.70	6.85	8.60	7.10	6.05	10.00	3.60	5.30	5.75	4.85	6.80	8.50	3.10	7.10	6.95	7.30	6.05	6.90	2.35
Risk (%)	17.00	18.00	26.00	19.05	17.00	29.65	0.75	4.75	9.90	6.00	10.00	12.75	4.00	17.50	16.55	13.95	16.00	12.60	1.75
Yield (%)	1.25	3.00	2.50	2.85	1.80	0.00	3.60	5.65	5.70	5.05	9.80	4.85	4.25	3.95	3.95	2.85	3.60	3.70	0.00
Growth Factor Exposure	8.00	8.00	8.00	8.00	8.00	14.00	0.00	-0.95	-2.55	-3.00	4.00	5.10	-1.00	6.00	6.00	3.70	0.00	0.70	0.00
Inflation Factor Exposure	-3.00	-1.00	3.00	0.15	-1.95	-4.25	0.00	-2.60	-6.95	2.50	-1.00	-1.50	-3.00	1.00	1.65	1.00	12.00	4.60	1.00

Correlations

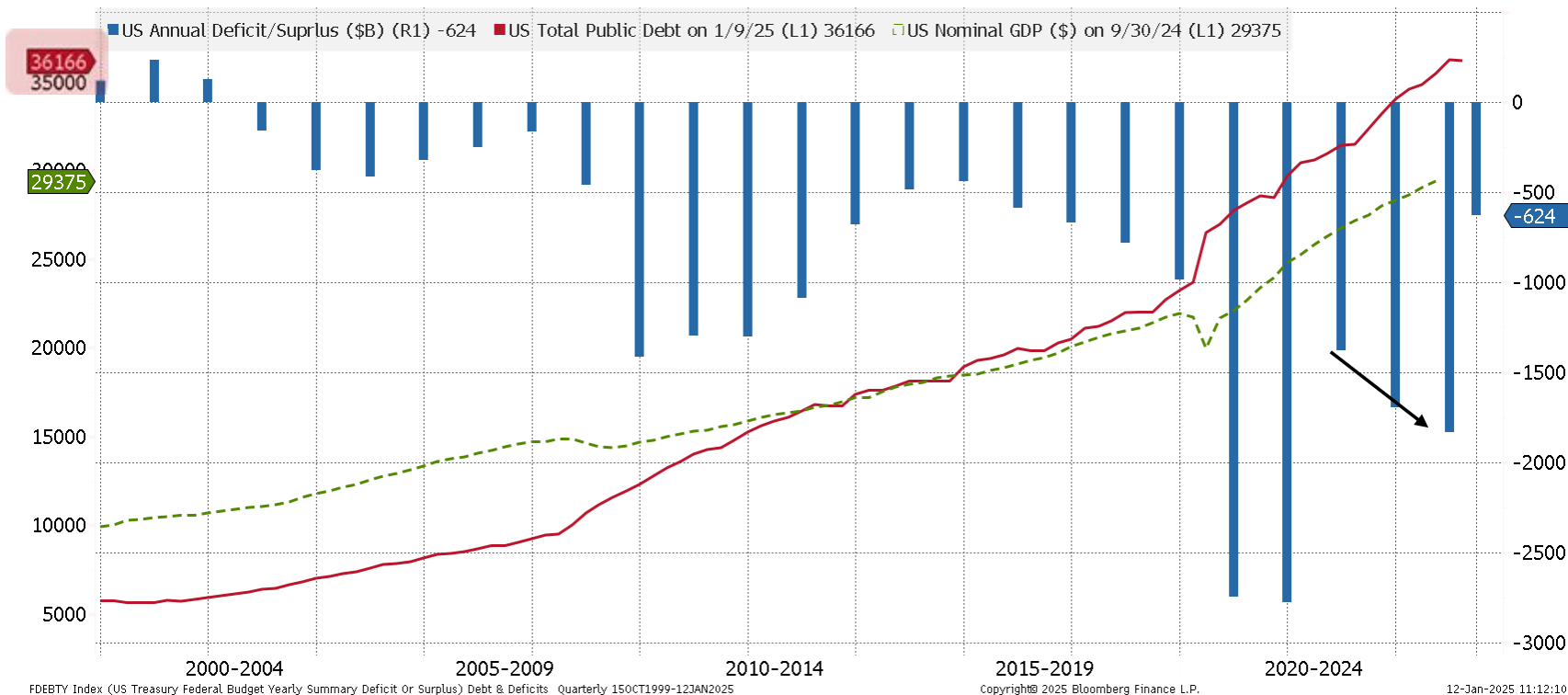
U.S. Stock	1.00																			
Dev ex-U.S. Stock (USD)	0.81	1.00																		
Emerging Mkt Stock	0.74	0.74	1.00																	
Global ex-U.S. Stock	0.84	0.96	0.89	1.00																
Global Stock	0.98	0.90	0.83	0.93	1.00															
Private Equity	0.72	0.63	0.61	0.66	0.73	1.00														
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.06	0.00	1.00													
Core Bond	0.27	0.13	0.00	0.08	0.21	0.30	0.18	1.00												
LT Core Bond	0.30	0.15	0.00	0.10	0.24	0.31	0.11	0.95	1.00											
TIPS	-0.05	0.00	0.15	0.06	-0.01	-0.03	0.20	0.60	0.47	1.00										
High Yield Bond	0.54	0.39	0.49	0.46	0.53	0.31	-0.10	0.24	0.32	0.05	1.00									
Private Credit	0.68	0.55	0.58	0.60	0.68	0.44	0.00	0.23	0.30	0.00	0.76	1.00								
Dev ex-U.S. Bond (Hdg)	0.16	0.25	-0.01	0.16	0.17	0.26	0.10	0.68	0.66	0.39	0.26	0.22	1.00							
U.S. RE Securities	0.57	0.47	0.44	0.49	0.56	0.49	-0.05	0.17	0.22	0.10	0.56	0.62	0.05	1.00						
Global RE Securities	0.62	0.55	0.52	0.58	0.63	0.54	-0.05	0.17	0.21	0.11	0.61	0.67	0.04	0.99	1.00					
Private Real Estate	0.55	0.45	0.45	0.48	0.55	0.50	-0.05	0.18	0.24	0.09	0.58	0.63	0.05	0.79	0.79	1.00				
Commodities	0.25	0.34	0.39	0.38	0.31	0.28	0.00	-0.03	-0.04	0.25	0.29	0.29	-0.10	0.25	0.28	0.25	1.00			
Real Assets	0.62	0.63	0.65	0.68	0.67	0.57	-0.03	0.24	0.25	0.32	0.64	0.69	0.06	0.79	0.83	0.77	0.63	1.00		
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.12	-0.10	0.10	-0.12	-0.12	0.15	-0.08	0.00	-0.08	0.05	0.04	0.05	0.44	0.21	1.00	

2024 Rate Environment Segmented



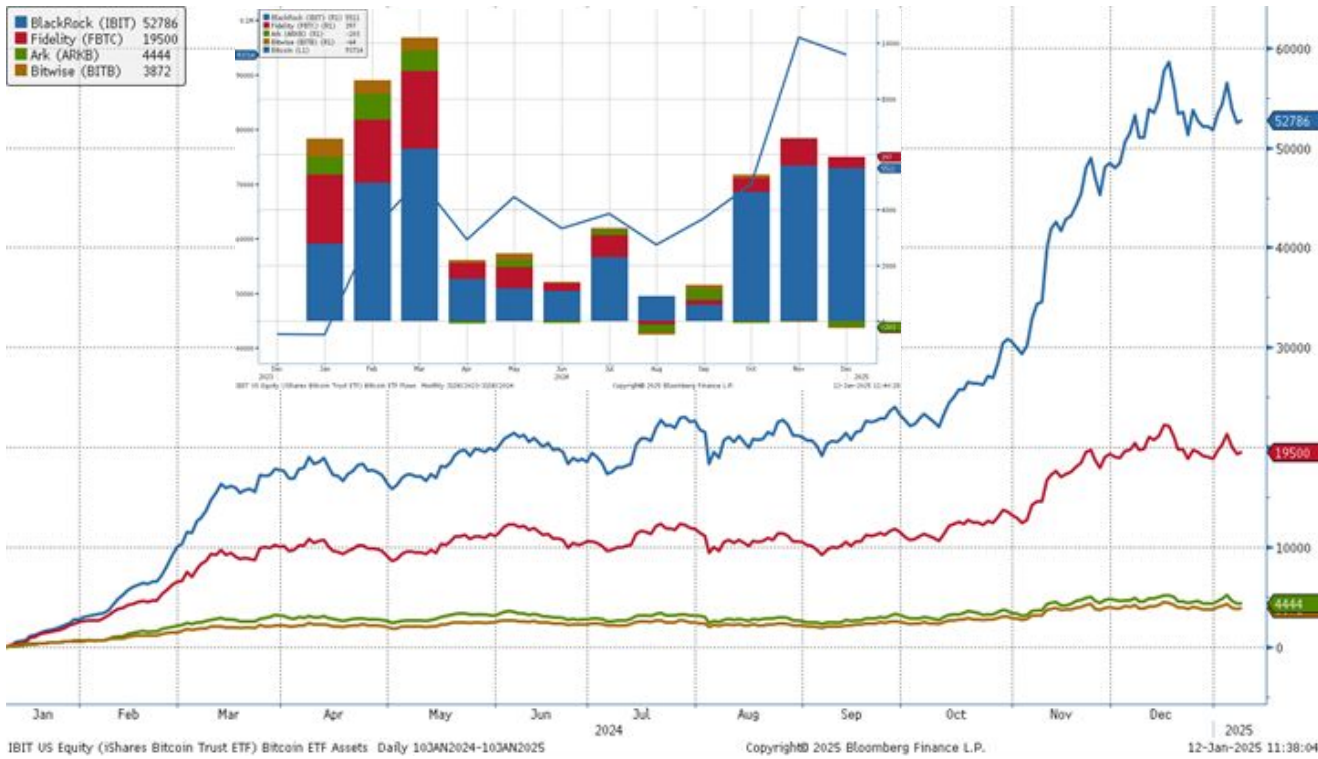
Data Source: Bloomberg

Debt / Deficit Picture



Data Source: Bloomberg

Bitcoin Demand: ETF Approval Provides Familiar Access to BTC



Largest 4 of the new ETFs launched Jan. 2024

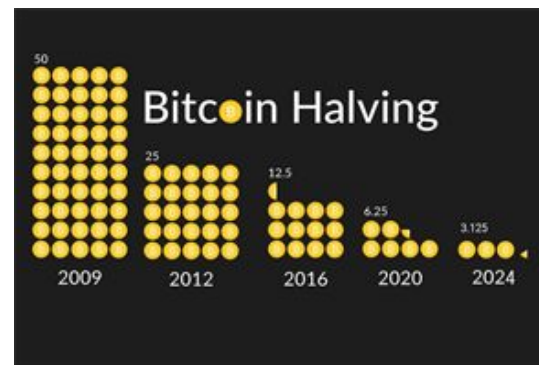
- ~\$55B in flows
- ~\$80B in Assets

Data Source: Bloomberg

Bitcoin Supply

- Only 21 million Bitcoin can ever be created
 - Nearly 95% of which (~19.9 million) already exist today
- Bitcoin supply scarcity is controlled by its creation (“mining”) process
 - Some # of BTC are earned for “solving” blocks in the Bitcoin time chain
 - Rewards drop by half every 210,000 blocks (at ~ 10 minutes per block, this occurs every ~4 years)
 - The last “halving” occurred in April 2024
- Bitcoin’s scarcity — with superior stock-to-flow vs. gold — leads to its Real Asset use case

Event	Date	Bitcoin (millions)		% Mined	Reward	Stock / Flow
		Mined	Left			
BTC Launch	Jan 2009	0.00	21.00	0.0%	50	
1st Halving	Nov 2012	10.50	10.50	50.0%	25	8
2nd Halving	Jul 2016	15.75	5.25	75.0%	12.5	24
3rd Halving	May 2020	18.38	2.63	87.5%	6.25	56
4th Halving	Apr 2024	19.69	1.31	93.8%	3.125	120
5th Halving	Mar 2028	20.34	0.66	96.9%	1.5625	248
...



Summary Changes

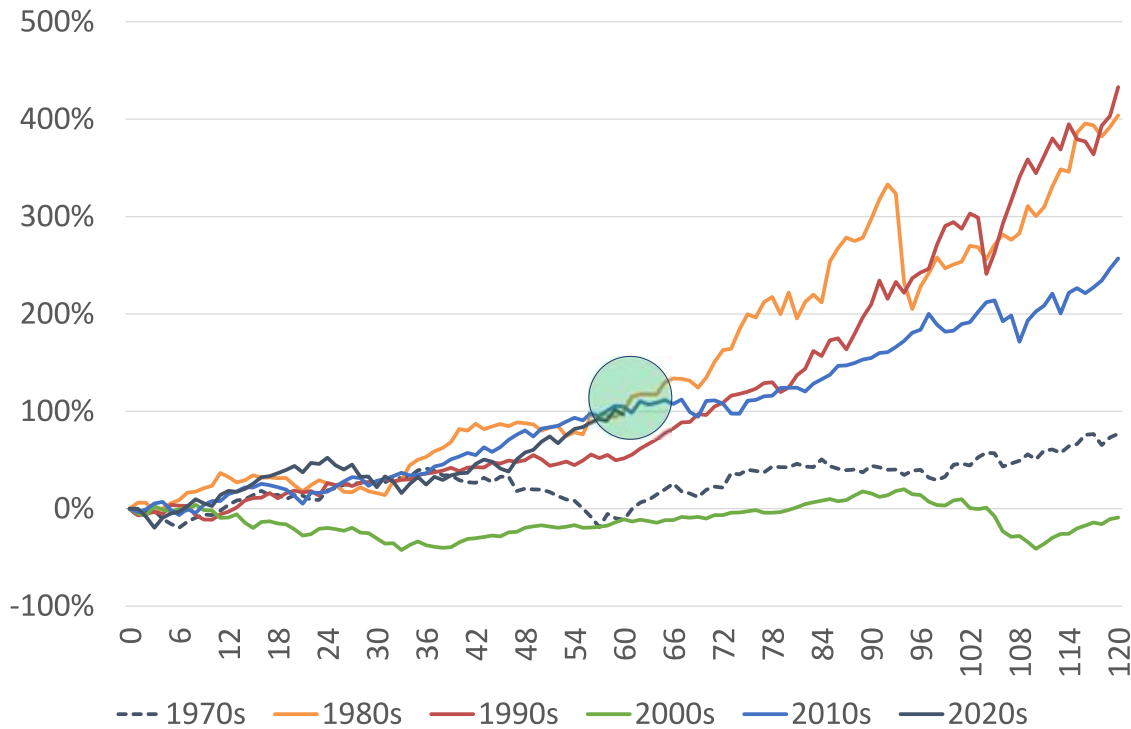
- Yield curve up across most of the maturity spectrum, except the very short term
 - Curve movements resulted in higher forecasts for fixed income asset classes
 - Slight decrease in spreads for investment grade and high yield bonds
- Yields on most real asset securities are up from last quarter; inflation assumption up at 2.35%
- Equity assumptions are up slightly; private equity up to the same degree due to higher leverage costs
- Equity risk premium worsened due to the larger increase in fixed income forecasts

Asset Class Assumption	Total Return (%)			Risk (%)
	Sep 2024	Change	Dec 2024	
Inflation	2.25	0.10	2.35	1.75
Cash Equivalents	3.40	0.20	3.60	0.75
Treasuries	4.05	0.65	4.70	5.00
Core Bonds	4.60	0.60	5.20	4.75
LT Core Bonds	4.65	0.65	5.30	9.90
High Yield Bonds	5.95	0.40	6.35	10.00
Private Credit	7.45	0.30	7.75	12.75
Global RE Securities	5.25	0.45	5.70	16.55
Private Real Estate	6.10	0.30	6.40	13.95
U.S. Stocks	4.25	0.10	4.35	17.00
Dev. ex-U.S. Stocks	5.25	0.10	5.35	18.00
Emerging Market Stocks	5.50	0.10	5.60	26.00
Private Equity	6.15	0.10	6.25	29.65
Global 60/40 (ACWI/U.S. Core)	4.95	0.25	5.20	10.75

Implied Risk Premia	Relative Return (%)		
	Sep 2024	Change	Dec 2024
Cash - Inflation	1.15	0.10	1.25
Treasury - Cash	0.65	0.45	1.10
Core - Treasury	0.55	-0.05	0.50
Long-Term Core - Core	0.05	0.05	0.10
High Yield - Core	1.35	-0.20	1.15
Global RESI - Core	0.65	-0.15	0.50
U.S. Stocks - Core	-0.35	-0.50	-0.85
Private Equity - U.S. Stocks	1.90	0.00	1.90
Implied Real Return (ACA - CPI)			
U.S. Stocks	2.00	0.00	2.00
U.S. Bonds	2.35	0.50	2.85
Cash Equivalents	1.15	0.10	1.25

“Nobody told me there’d be days like these”¹ (Stock Returns by Decade)
 “Everybody’s flying and never touch the sky”¹

US Stock Cumulative Returns



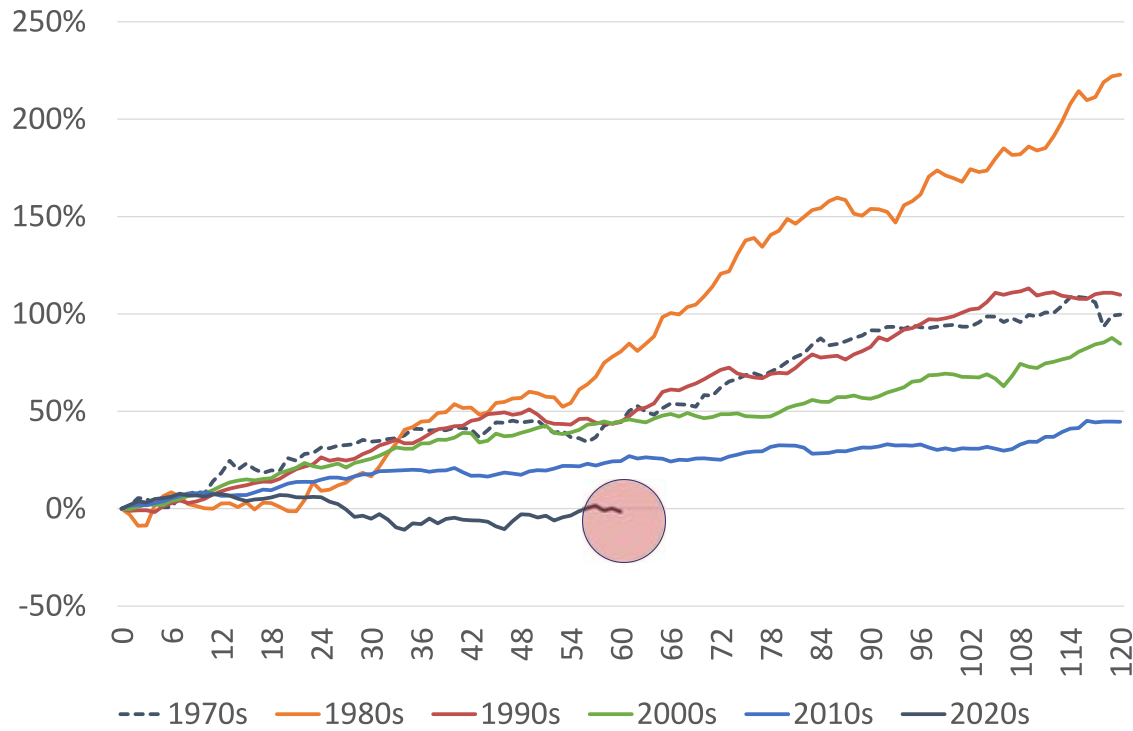
Data Source: Wilshire Compass, Bloomberg

¹ John Lennon, “Nobody Told Me,” *Milk and Honey*, 1984

“Nobody told me there’d be days like these”¹ (Bond Returns by Decade)

“Well, everybody’s crying and no one makes a sound”¹

US Bond Cumulative Returns



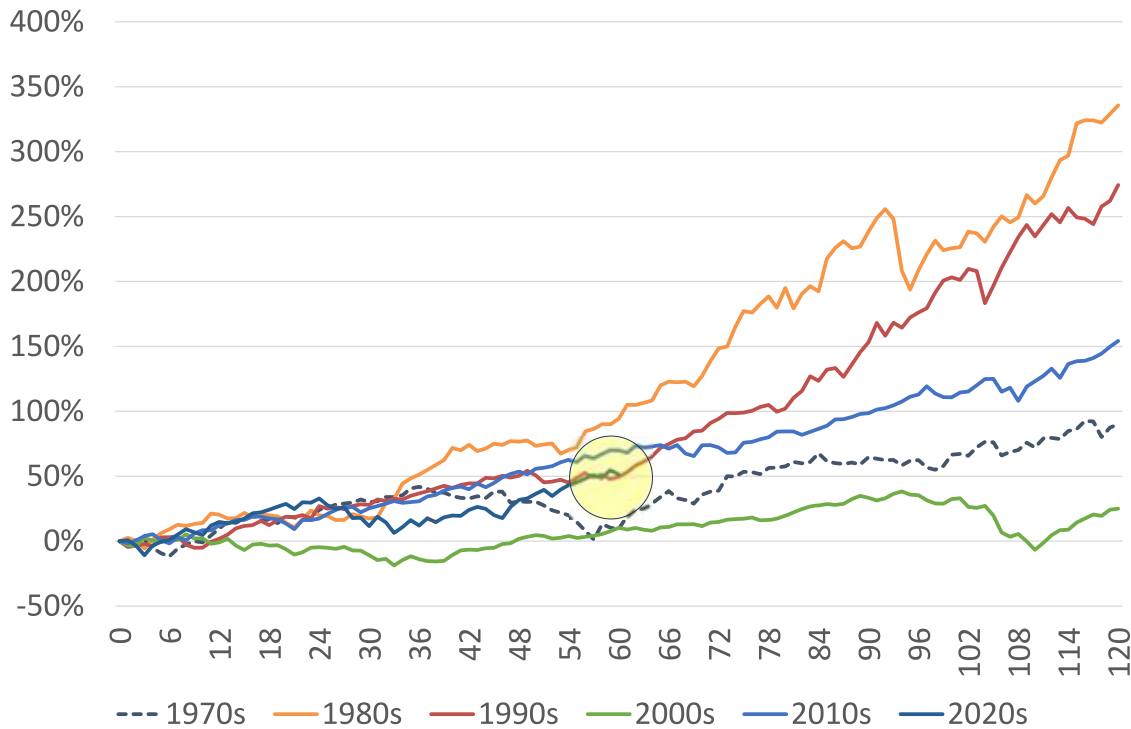
Data Source: Wilshire Compass, Bloomberg

¹ John Lennon, “Nobody Told Me,” *Milk and Honey*, 1984

“Nobody told me there’d be days like these”¹ (60/40 Returns by Decade)

“Always something happening and nothing going on”¹

60/40 Blended Cumulative Returns



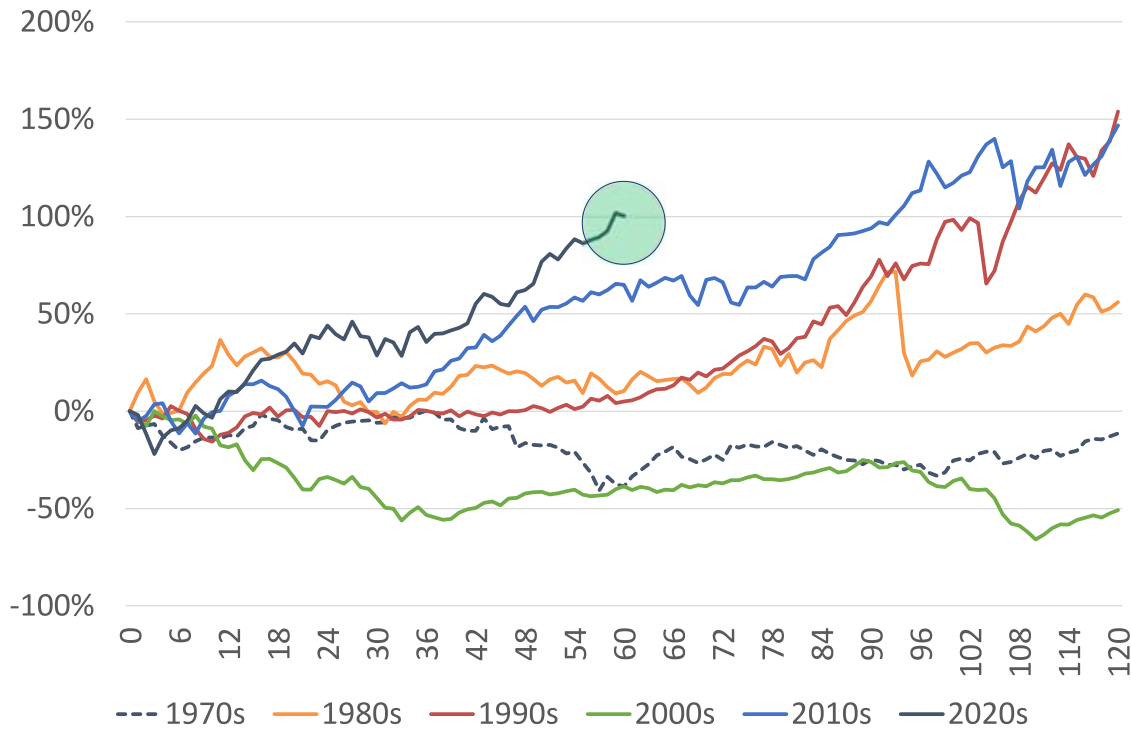
Data Source: Wilshire Compass, Bloomberg

¹ John Lennon, “Nobody Told Me,” *Milk and Honey*, 1984

“Nobody told me there’d be days like these”¹ (Stock > Bond Returns by Decade)

“Strange days indeed... Most peculiar, mama”¹

ERP Cumulative Returns



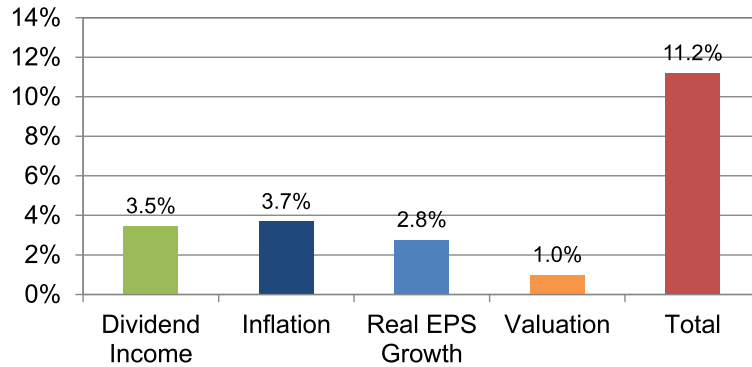
Data Source: Wilshire Compass, Bloomberg

¹ John Lennon, “Nobody Told Me,” *Milk and Honey*, 1984

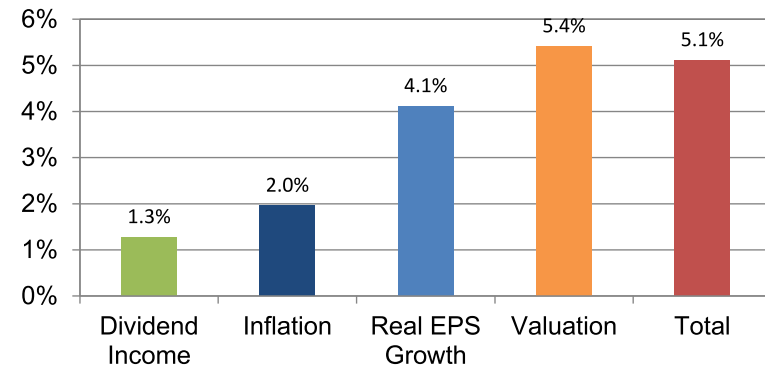
Contributions to Avg. Return, Risk Levels & Contributions to Risk

Historical data from 1951 through 2024

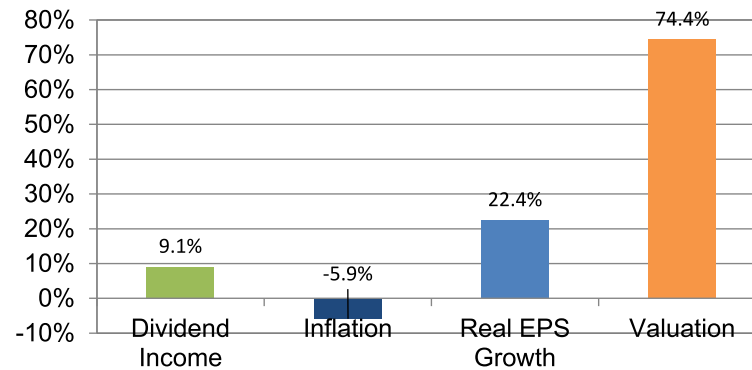
Avg. Return Contributions



St Dev of Return Contributions



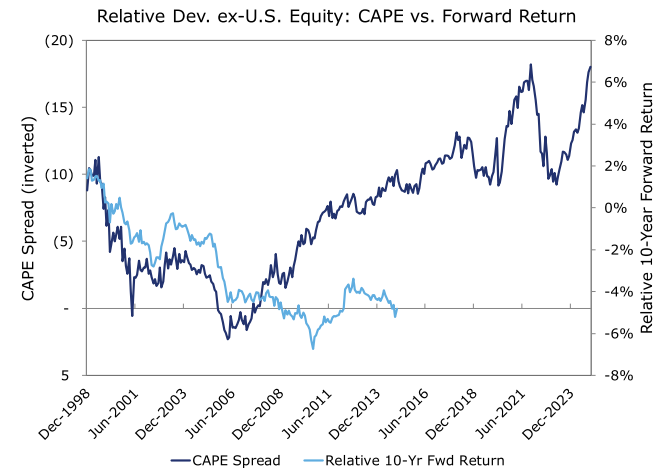
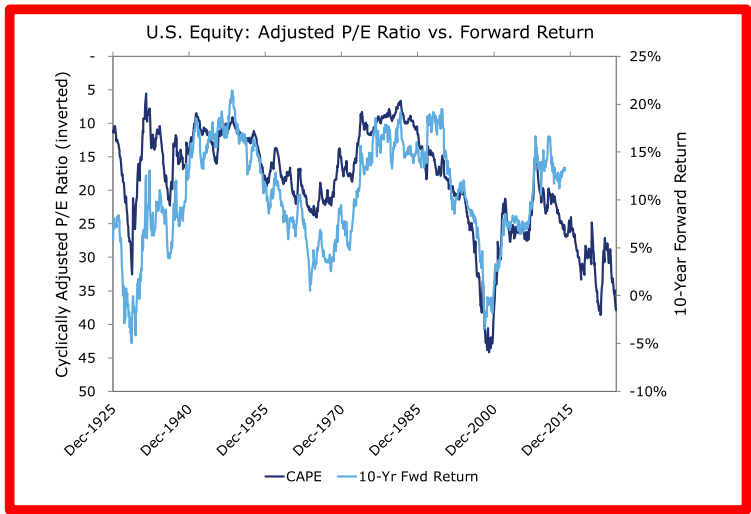
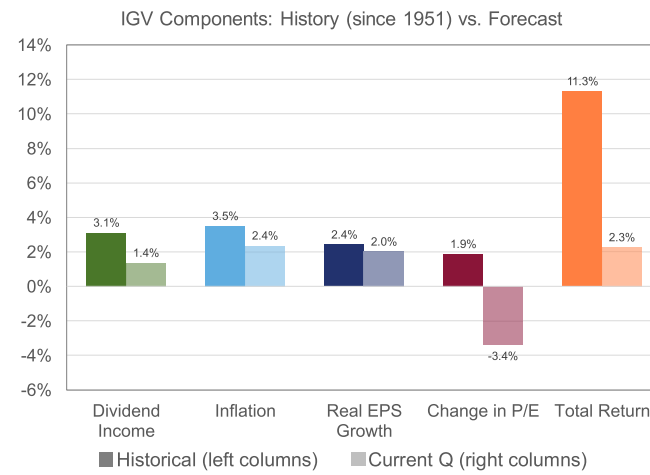
% Contribution to Risk



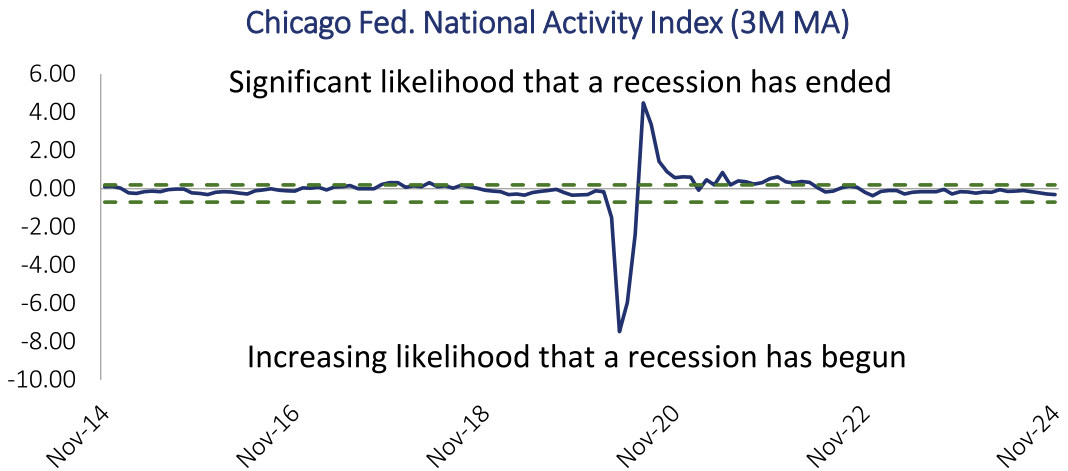
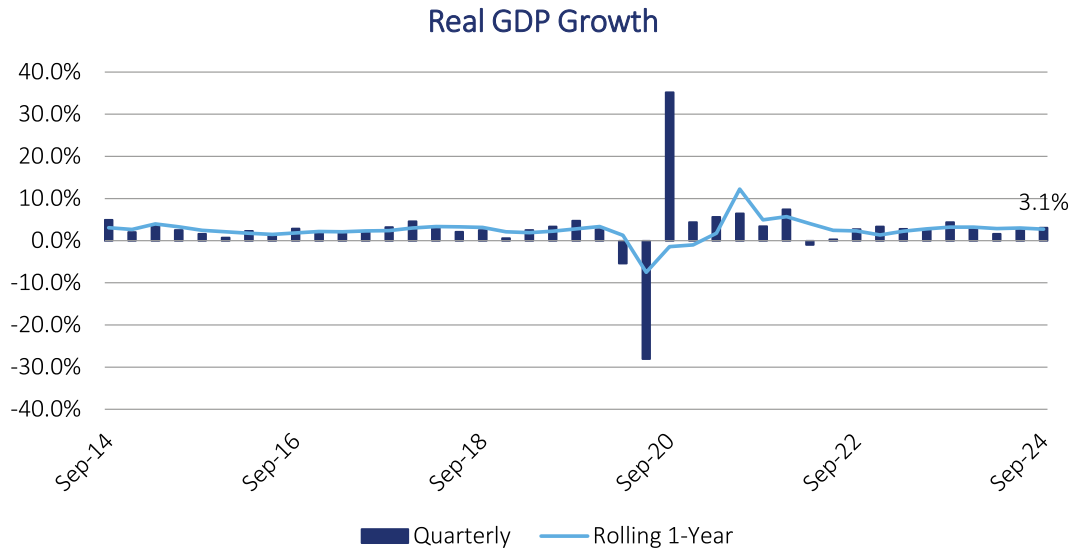
Data Source: S&P

Equity Markets

Equity: Public & Private		Sep 2024	Change	Dec 2024
Equity	DDM	6.40	0.15	6.55
	IGV	2.20	0.10	2.30
	CAPE	2.35	(1.25)	1.10
U.S. Equity Forecast		4.25	0.10	4.35
Dev-ex-US Equity Forecast		5.25	0.10	5.35
EM Equity Forecast		5.50	0.10	5.60
Private	Cost of Debt (Public)	5.35	0.50	5.85
	Cost of Debt (Private)	7.35	0.20	7.55
Private Market Basket Forecast		6.15	0.10	6.25



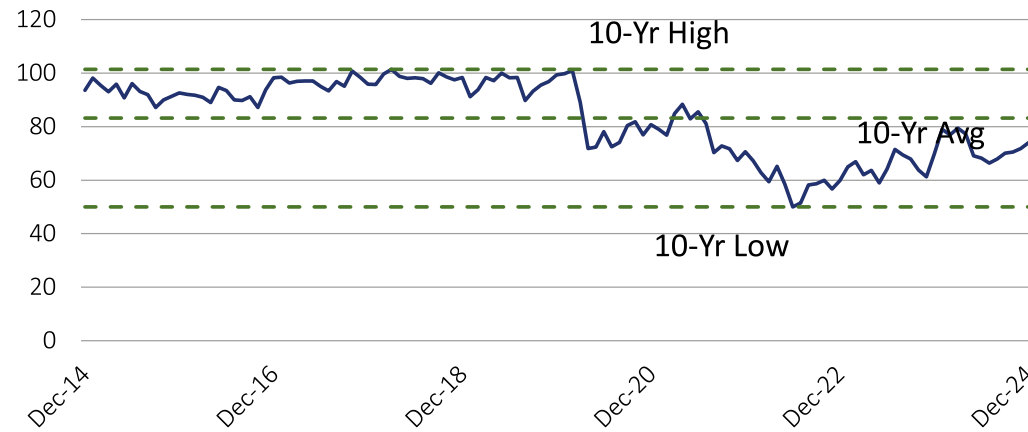
Economic Growth



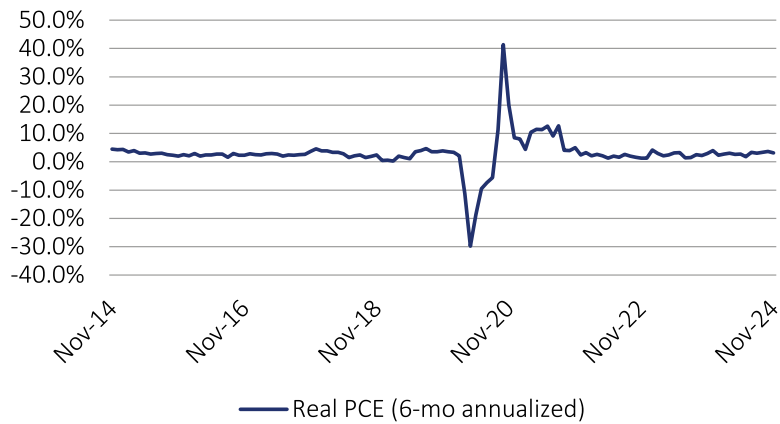
Data Source: Bloomberg

Consumer Activity

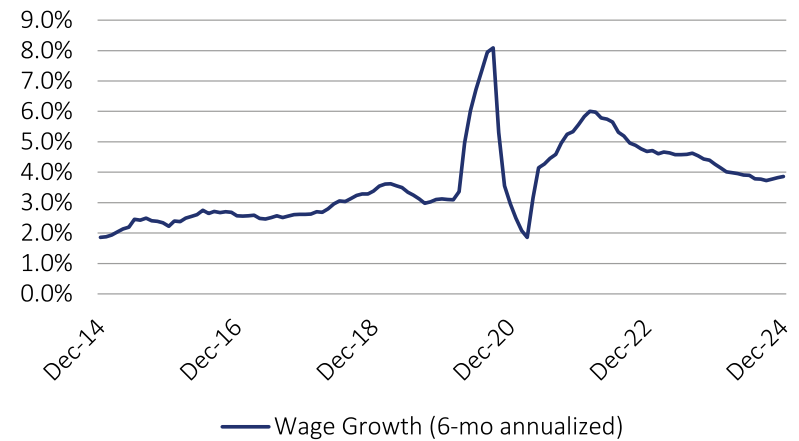
University of Michigan: Consumer Sentiment



Real Personal Consumption Expenditures

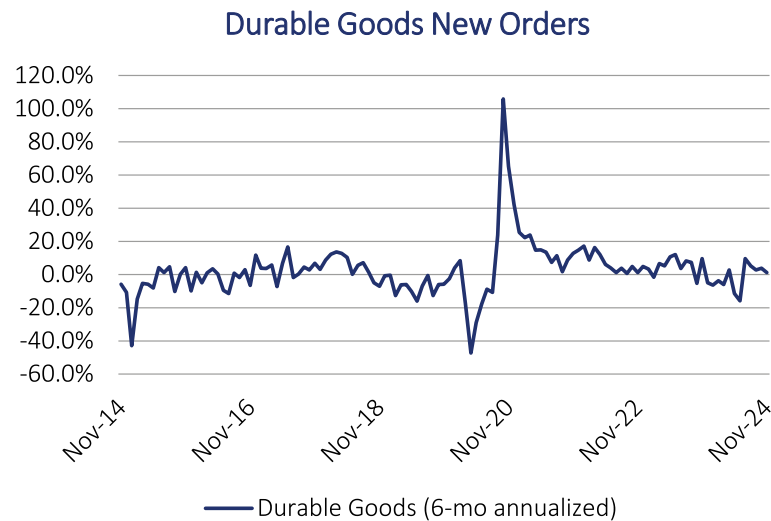
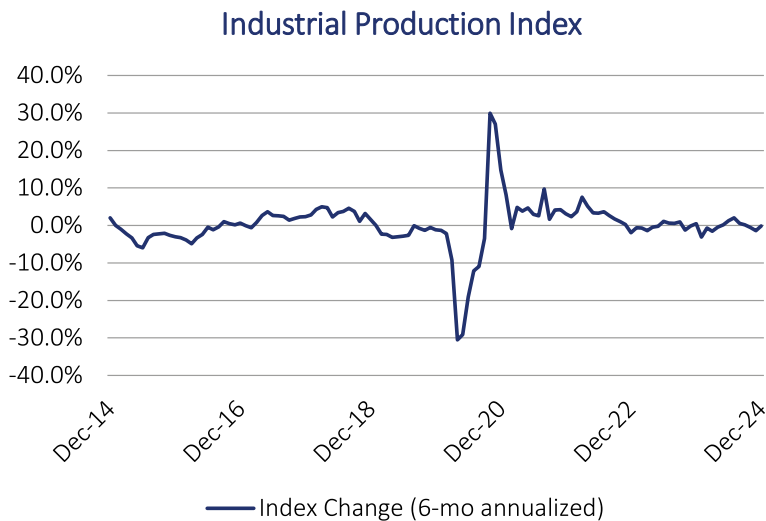
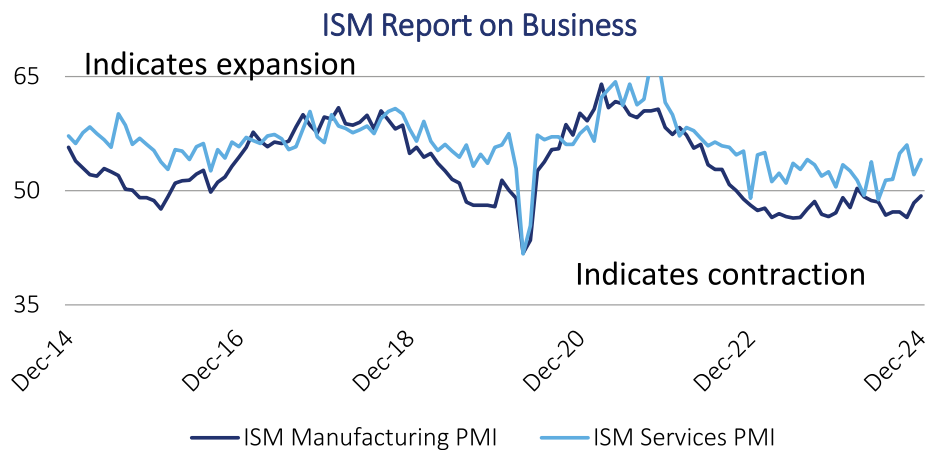


Average Hourly Earnings



Data Source: Bloomberg

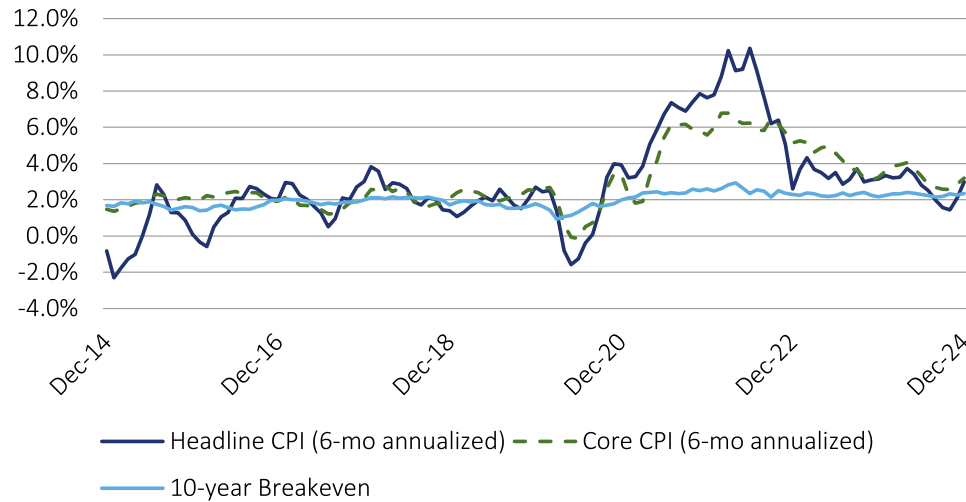
Business Activity



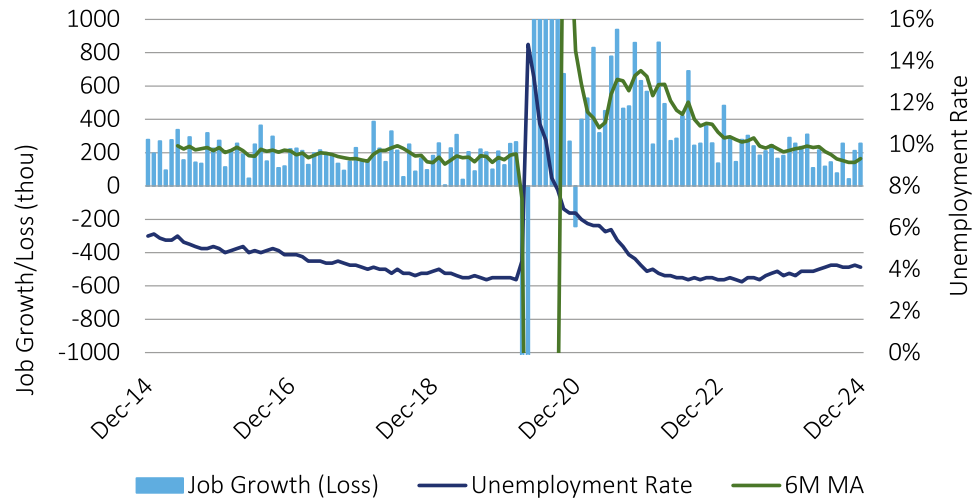
Data Source: Bloomberg

Inflation and Employment

Inflation: Actual & Expected



Employment Gains/Losses

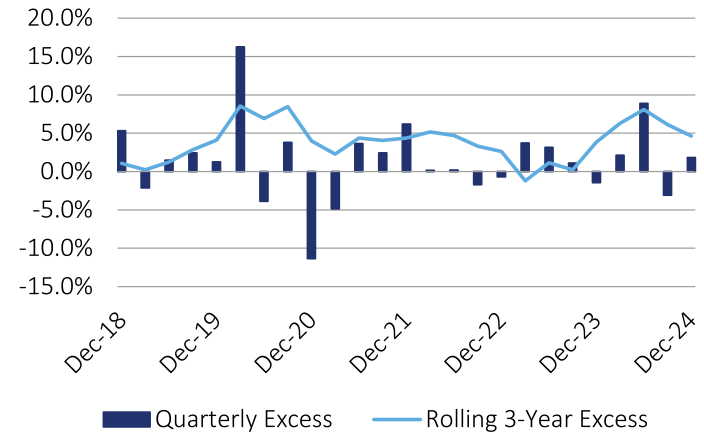


Data Source: Bloomberg

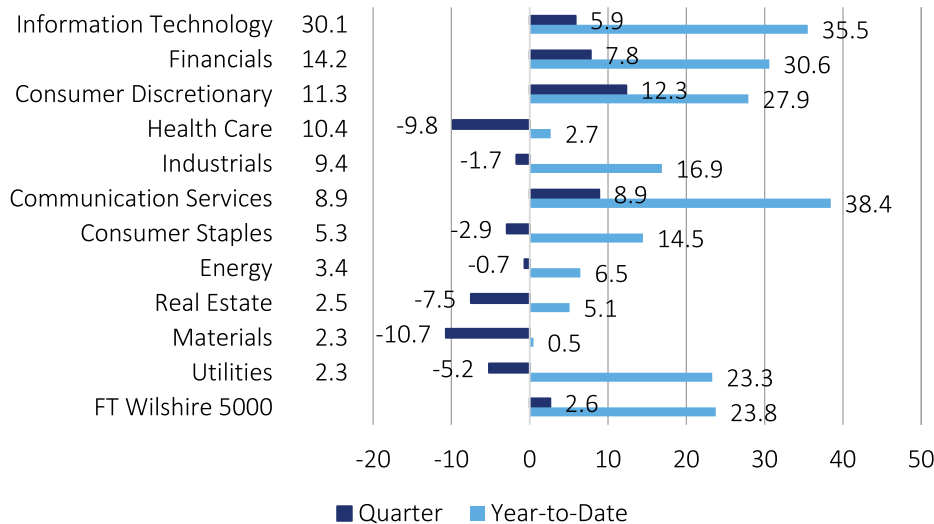
U.S. Equity Market

As of 12/31/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	2.6	23.8	23.8	8.1	14.1	12.7
FT Wilshire U.S. Large Cap	2.8	25.2	25.2	8.8	14.8	13.1
FT Wilshire U.S. Small Cap	1.0	14.1	14.1	4.0	9.5	9.2
FT Wilshire U.S. Large Growth	7.2	35.5	35.5	10.9	19.4	n/a
FT Wilshire U.S. Large Value	-1.7	15.2	15.2	6.4	9.8	n/a
FT Wilshire U.S. Small Growth	2.4	15.5	15.5	2.2	8.8	n/a
FT Wilshire U.S. Small Value	-0.4	12.7	12.7	5.6	9.9	n/a
Wilshire REIT Index	-5.0	9.1	9.1	-2.5	4.5	5.7
MSCI USA Min. Vol. Index	-2.3	16.0	16.0	5.0	8.2	10.4
FTSE RAFI U.S. 1000 Index	-0.3	17.1	17.1	8.0	12.3	10.9

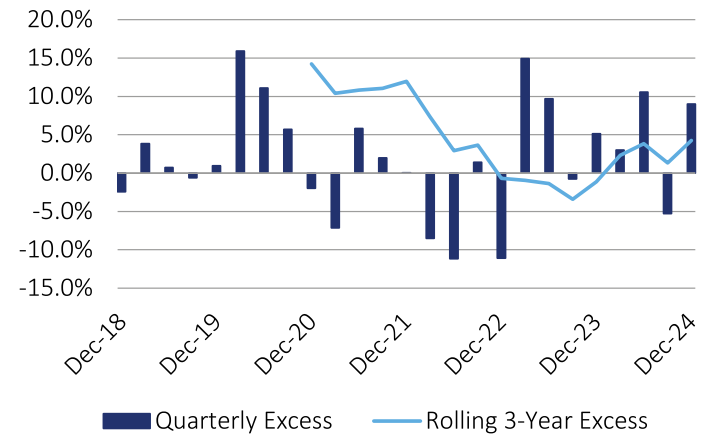
Large Cap vs. Small Cap



U.S. Sector Weight and Return (%)



Large Growth vs Large Value

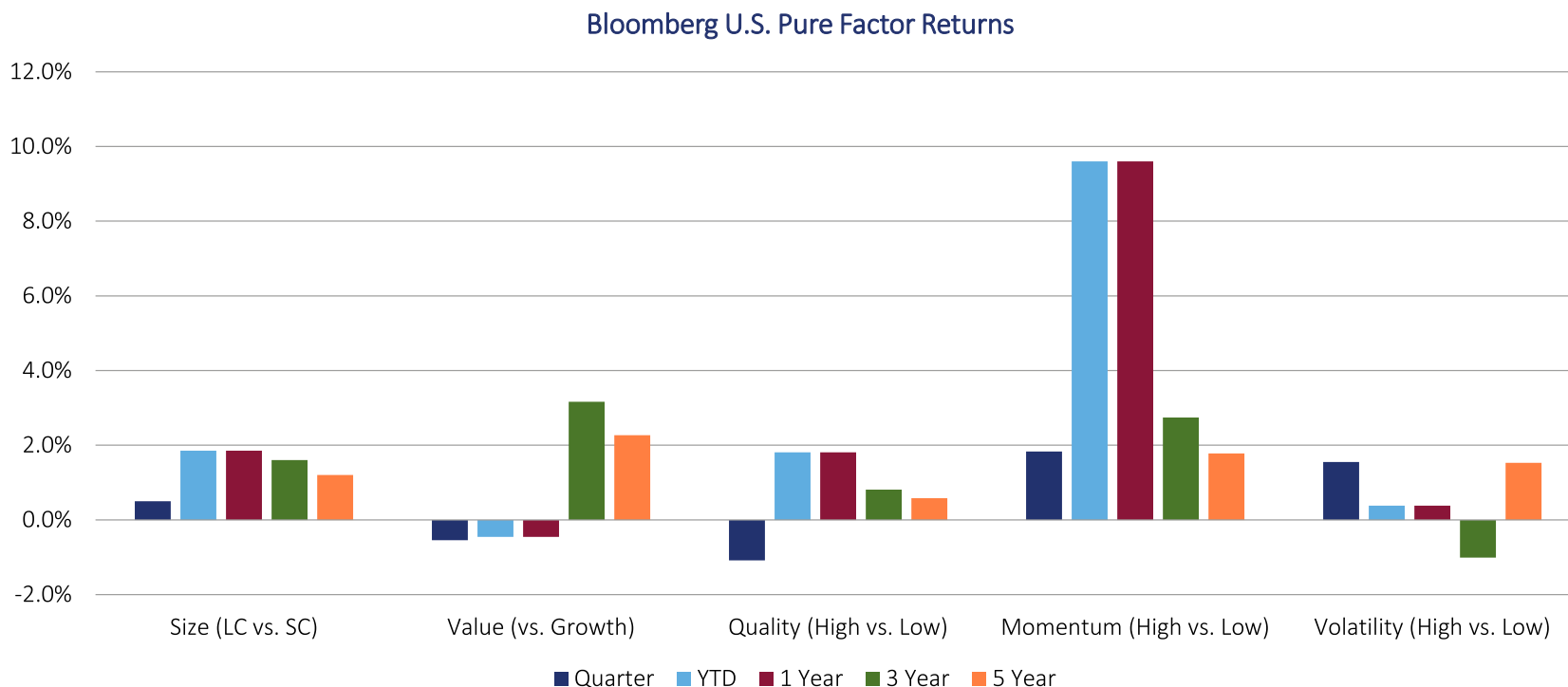


Data Sources: Bloomberg, Wilshire Atlas

U.S. Factor Returns

Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg’s Portfolio & Risk Analytics module

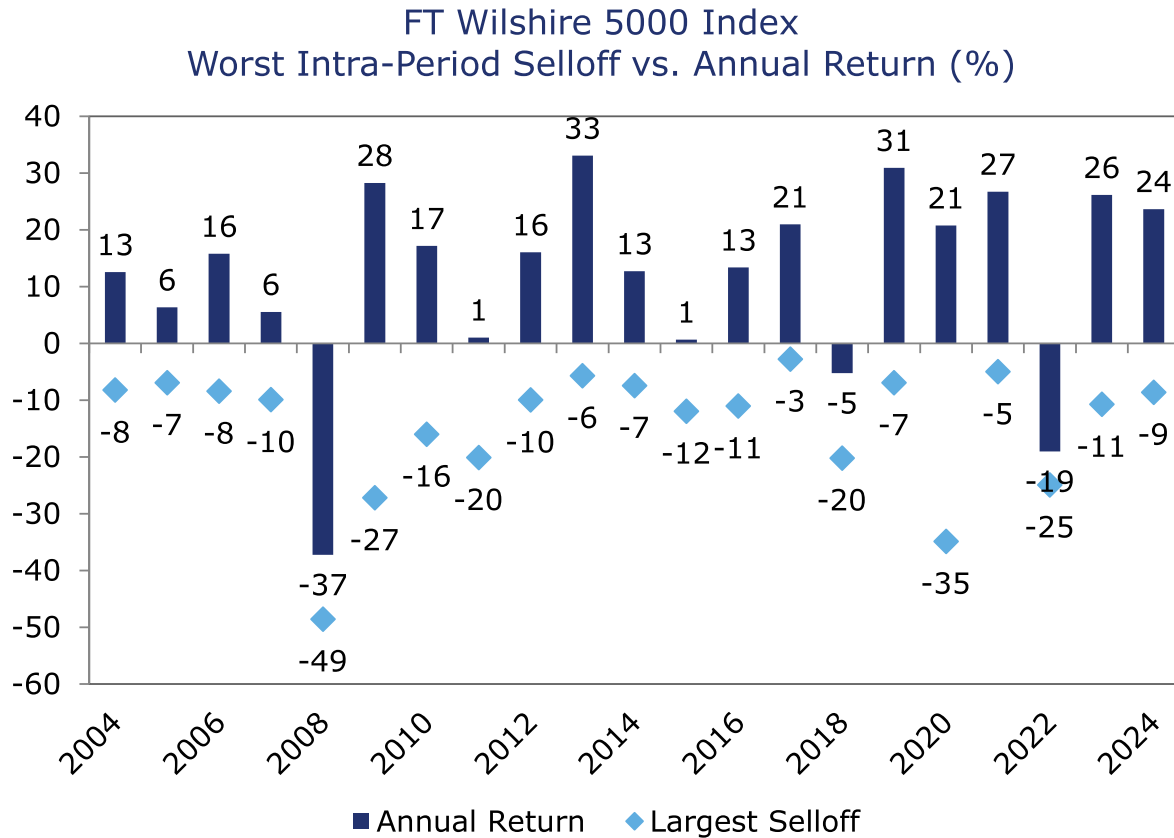
Value detracted from returns for the year while momentum was a meaningful contributor



Data Source: Bloomberg

Annual Equity Market Selloffs

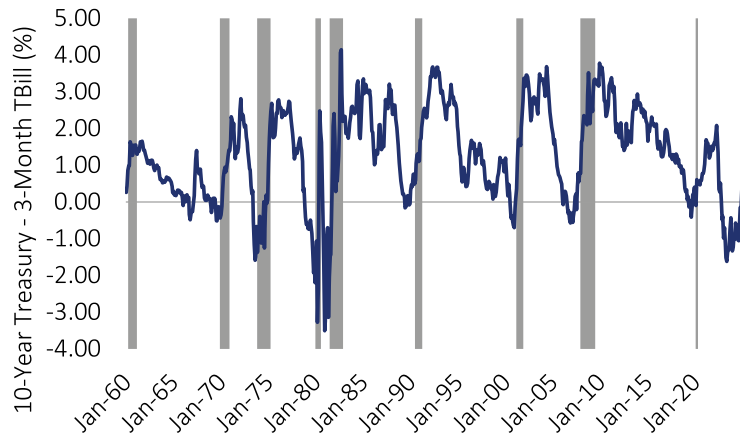
U.S. equity during 2024 was similar to 2023 – a roughly 25% gain with a modest sell-off during the year



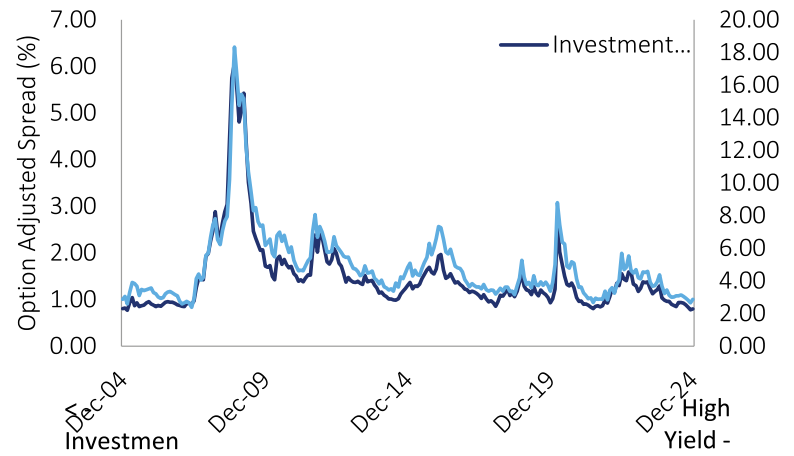
Data Sources: Wilshire Web, Bloomberg

Risk Monitor

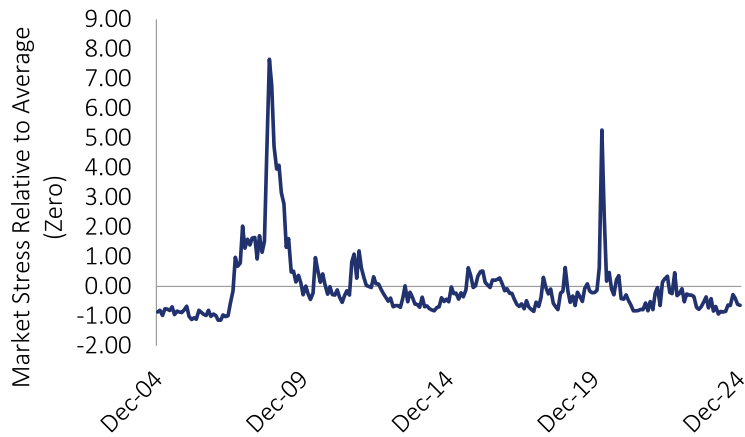
Yield Curve Slope vs Recessions (IN GRAY)



Bloomberg Credit Indexes

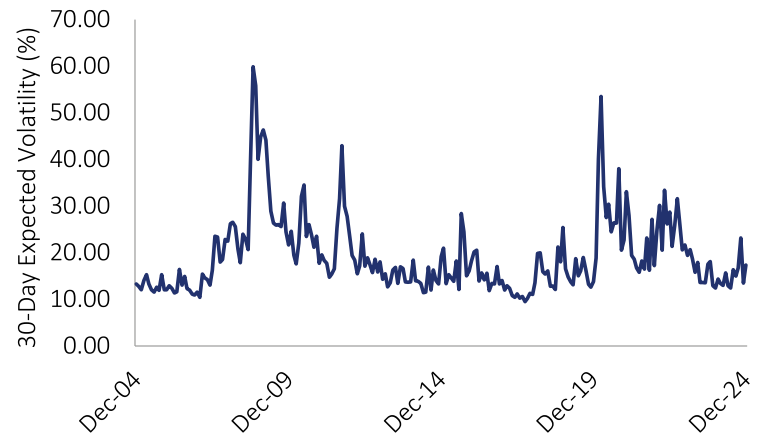


St. Louis Fed. Financial Stress Index



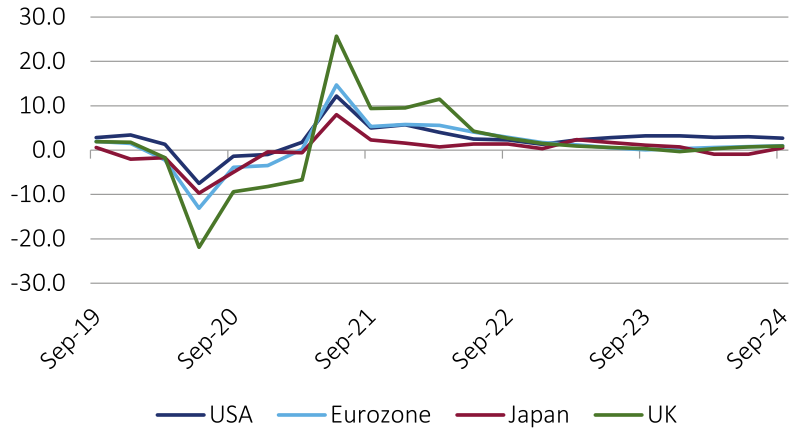
Data Source: Bloomberg

CBOE Volatility Index

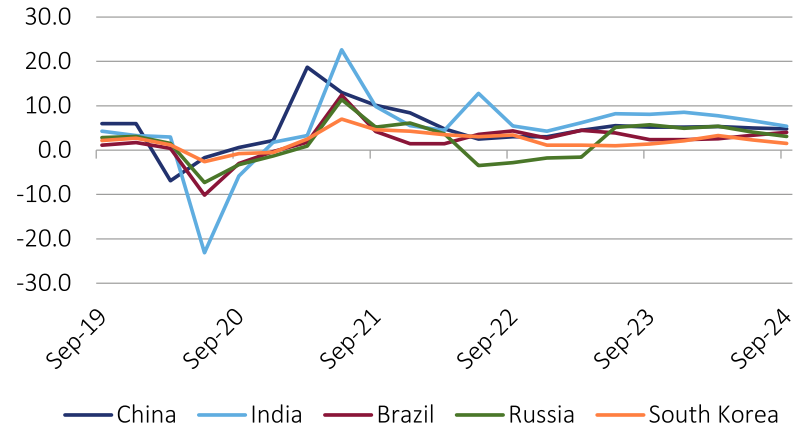


Non-U.S. Growth and Inflation

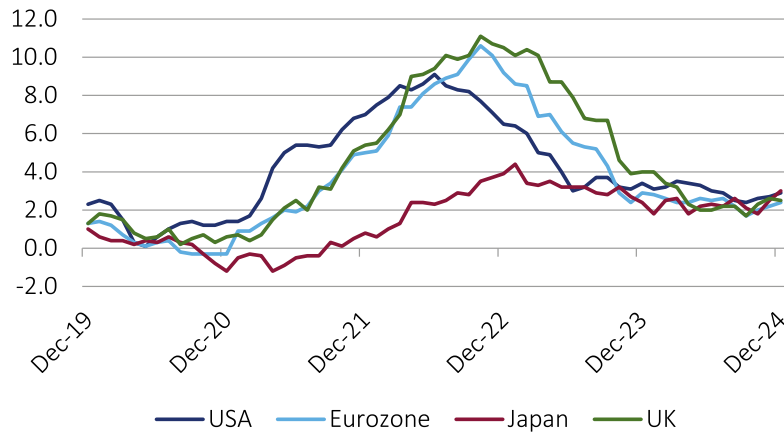
Developed Markets Real GDP Growth YoY (%)



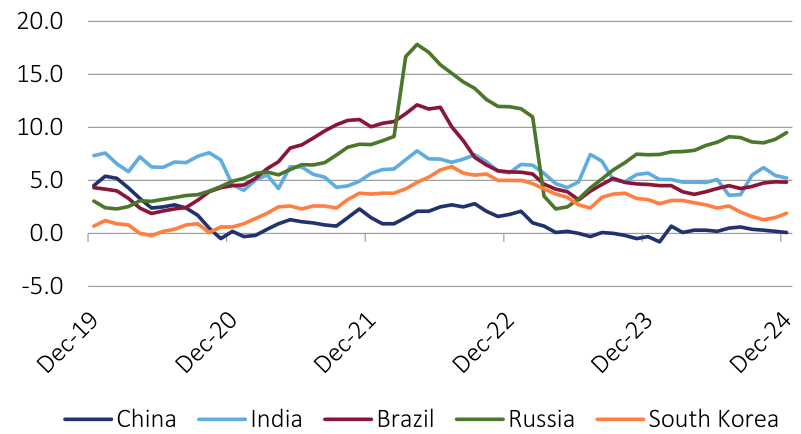
Emerging Markets Real GDP Growth YoY (%)



Developed Markets CPI Growth YoY (%)



Emerging Markets CPI Growth YoY (%)

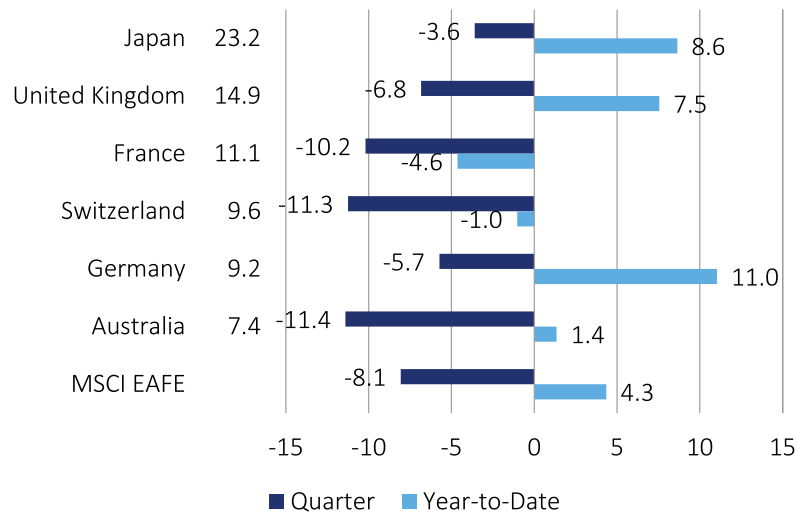


Data Source: Bloomberg

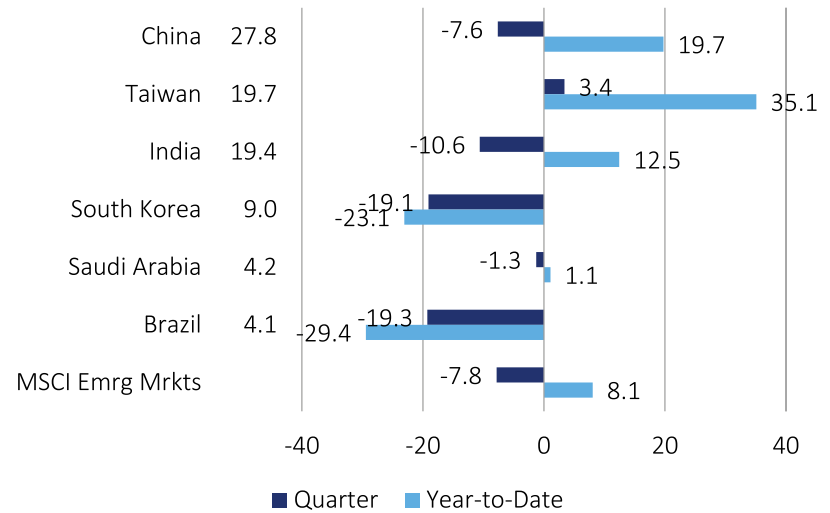
Non-U.S. Equity Market

As of 12/31/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	-7.5	6.1	6.1	1.3	4.6	5.3
MSCI EAFE (\$G)	-8.1	4.3	4.3	2.2	5.2	5.7
MSCI Emerging Markets (\$G)	-7.8	8.1	8.1	-1.5	2.1	4.0
MSCI Frontier Markets (\$G)	-5.0	6.8	6.8	-0.4	0.2	0.8
MSCI ACWI ex-US Growth (\$G)	-7.8	5.4	5.4	-2.4	3.7	5.7
MSCI ACWI ex-US Value (\$G)	-7.3	6.5	6.5	4.7	5.2	4.9
MSCI ACWI ex-US Small (\$G)	-7.6	3.9	3.9	-1.0	4.8	6.1
MSCI ACWI Minimum Volatility	-3.4	12.0	12.0	3.1	5.3	7.6
MSCI EAFE Minimum Volatility	-6.8	6.0	6.0	0.6	2.0	4.8
FTSE RAFI Developed ex-US	-7.3	4.6	4.6	4.3	6.2	5.5
MSCI EAFE LC (G)	-0.6	11.8	11.8	6.9	8.1	7.7
MSCI Emerging Markets LC (G)	-4.2	13.7	13.7	2.1	4.9	6.4

Developed Markets Weight and Return (%)



Emerging Markets Weight and Return (%)

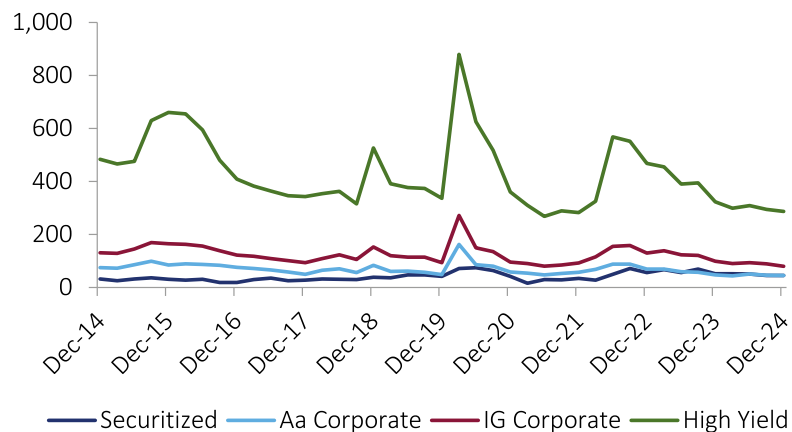


Data Source: Bloomberg

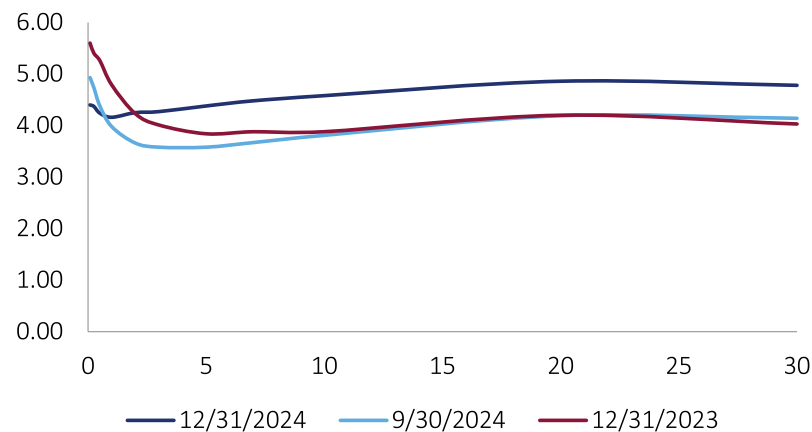
U.S. Fixed Income

As of 12/31/2024	YTW	Dur.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	4.9	6.1	-3.1	1.3	1.3	-2.4	-0.3	1.3
Bloomberg Treasury	4.5	5.8	-3.1	0.6	0.6	-2.9	-0.7	0.8
Bloomberg Gov't-Rel.	4.9	5.2	-2.7	1.7	1.7	-1.5	0.0	1.5
Bloomberg Securitized	5.3	6.0	-3.0	1.5	1.5	-2.0	-0.6	1.0
Bloomberg Corporate	5.3	6.8	-3.0	2.1	2.1	-2.3	0.3	2.4
Bloomberg LT Gov't/Credit	5.3	13.6	-7.4	-4.2	-4.2	-9.2	-3.3	1.0
Bloomberg LT Treasury	4.9	14.7	-8.6	-6.4	-6.4	-12.0	-5.2	-0.6
Bloomberg LT Gov't-Rel.	5.9	11.4	-6.7	-2.5	-2.5	-6.4	-2.4	1.5
Bloomberg LT Corporate	5.8	12.5	-6.2	-1.9	-1.9	-6.8	-1.8	2.2
Bloomberg U.S. TIPS*	4.5	7.1	-2.9	1.8	1.8	-2.3	1.9	2.2
Bloomberg High Yield	7.5	3.1	0.2	8.2	8.2	2.9	4.2	5.2
S&P/LSTA Leveraged Loan	8.0	0.3	2.3	9.0	9.0	7.0	5.9	5.1
Treasury Bills	4.3	0.3	1.2	5.3	5.3	3.9	2.5	1.8

Fixed Income Option Adjusted Spread (bps)



Treasury Yield Curve (%)



*Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index.

Data Source: Bloomberg

Federal Reserve

The Federal Open Market Committee decreased their overnight rate by 0.50% during Q4 and 1% in six months

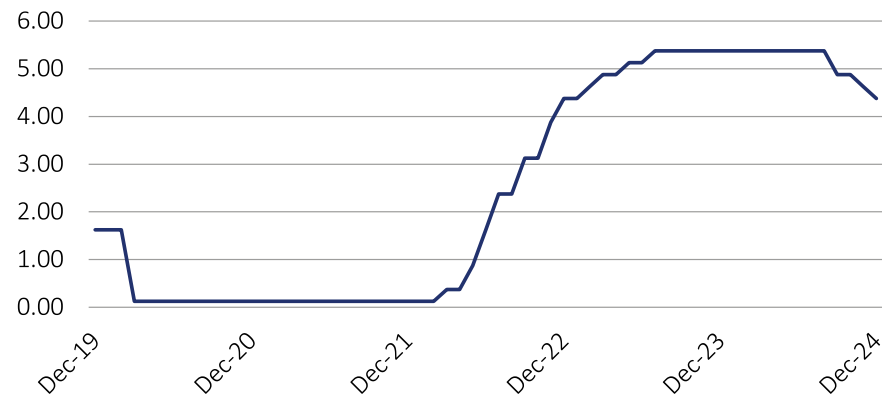
QE4 was larger than the 3 phases of quantitative easing – combined – following the global financial crisis

The Fed’s balance sheet is roughly equal to its level following the COVID spike

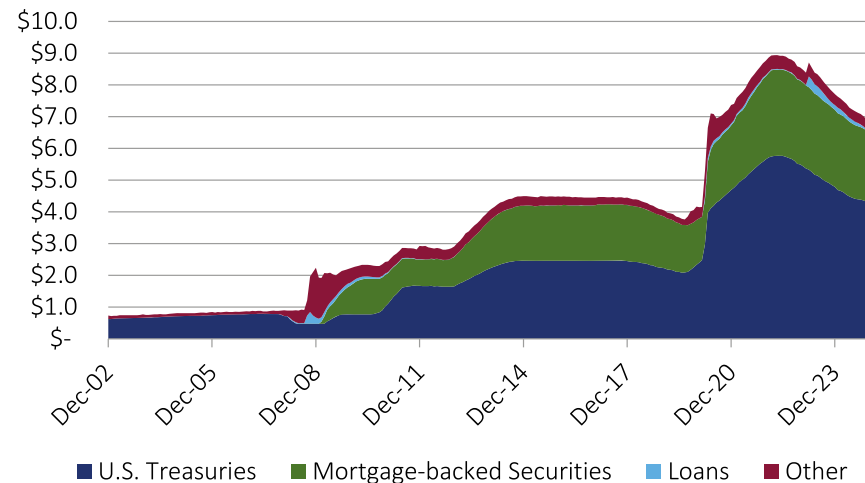
	<u>Announced</u>	<u>Closed</u>	<u>Amount (bil)</u>
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020	3/15/2022	\$4,779

Data Source: Bloomberg

Federal Funds Rate (Mid %)

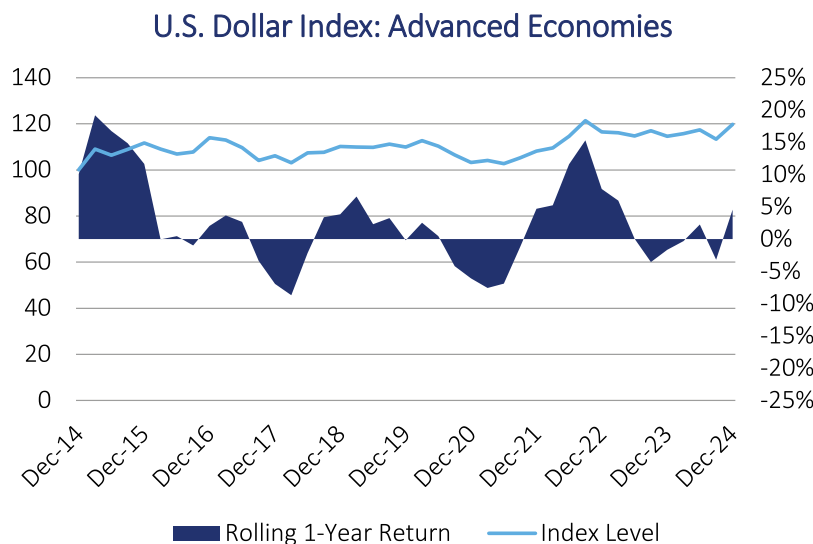
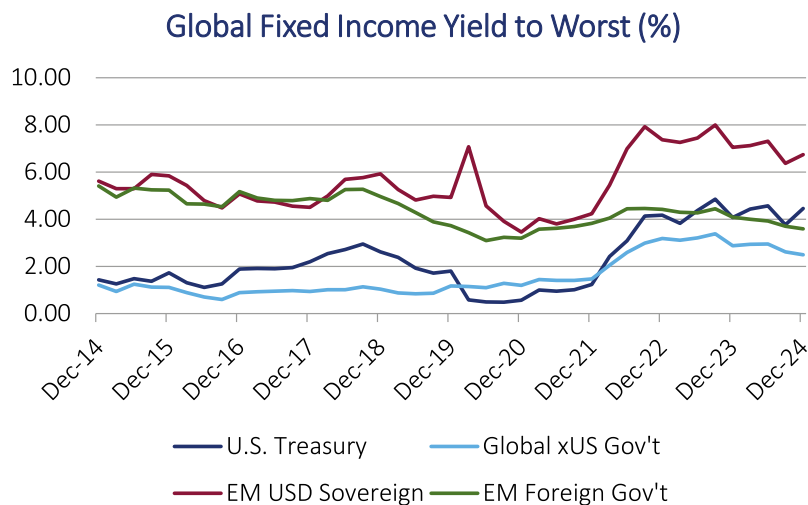


Federal Reserve Balance Sheet (\$T)



Non-U.S. Fixed Income

As of 12/31/2024	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Developed Markets						
Bloomberg Global Aggregate xUS	-6.8	-4.2	-4.2	-6.3	-3.4	-0.9
Bloomberg Global Aggregate xUS*	0.7	5.0	5.0	0.9	1.0	2.4
Bloomberg Global Inflation Linked xUS	-9.9	-8.3	-8.3	-11.5	-4.6	-1.4
Bloomberg Global Inflation Linked xUS*	-2.6	-2.6	-2.6	-6.8	-1.6	1.8
Emerging Markets (Hard Currency)						
Bloomberg EM USD Aggregate	-1.5	6.6	6.6	-0.5	0.6	3.2
Emerging Markets (Foreign Currency)						
Bloomberg EM Local Currency Gov't	-3.8	1.7	1.7	-0.2	0.6	1.7
Bloomberg EM Local Currency Gov't*	2.2	9.3	9.3	4.9	3.3	3.4
Euro vs. Dollar	-7.0	-6.2	-6.2	-3.1	-1.6	-1.5
Yen vs. Dollar	-8.6	-10.3	-10.3	-9.9	-7.1	-2.7
Pound vs. Dollar	-6.4	-1.7	-1.7	-2.6	-1.1	-2.2

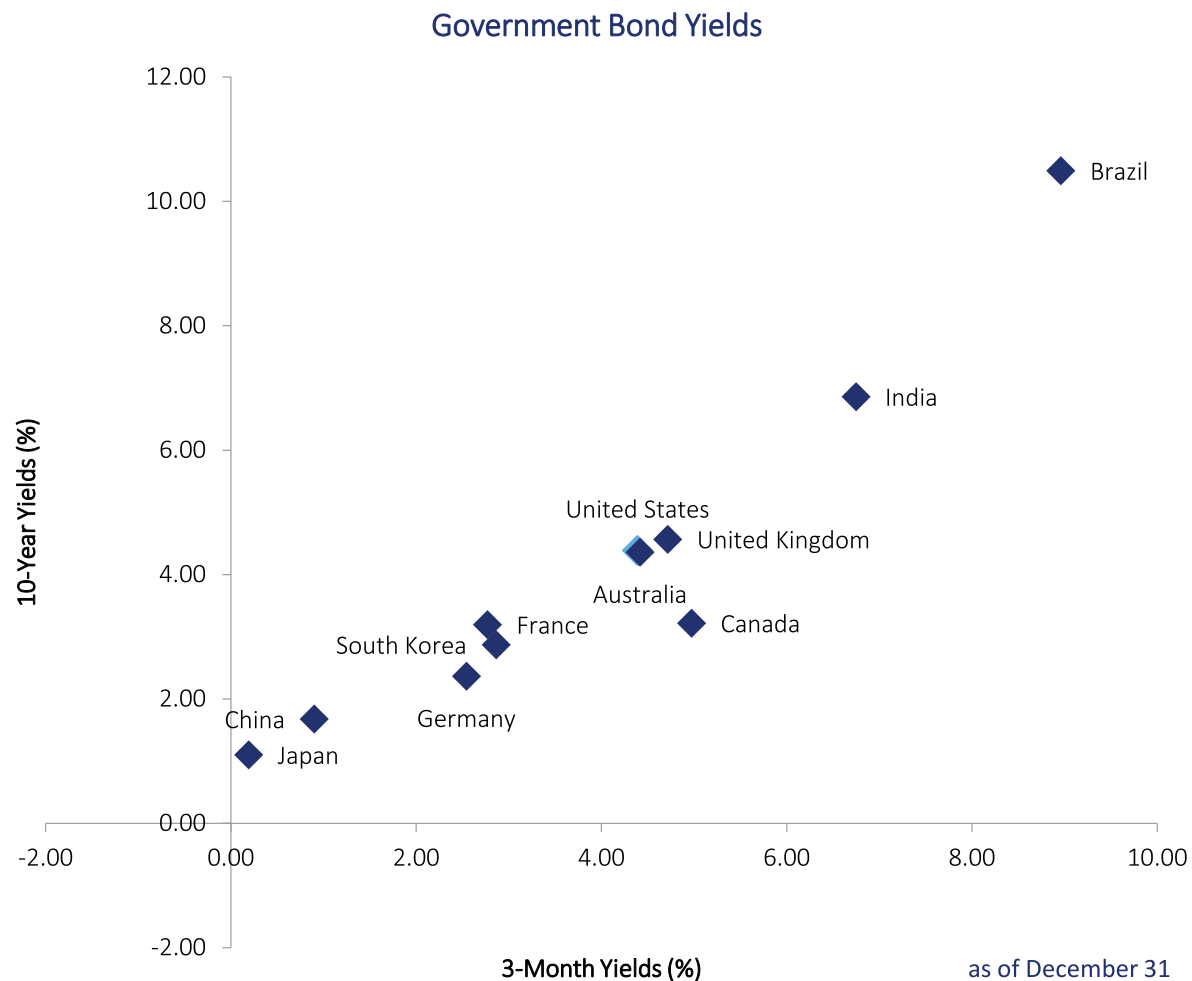


*Returns are reported in terms of local market investors, which removes currency effects.

Data Source: Bloomberg

Global Interest Rates

Short-term rates have turned positive across the globe; longer-term rates above 4.0% in the U.S., U.K. and Australia

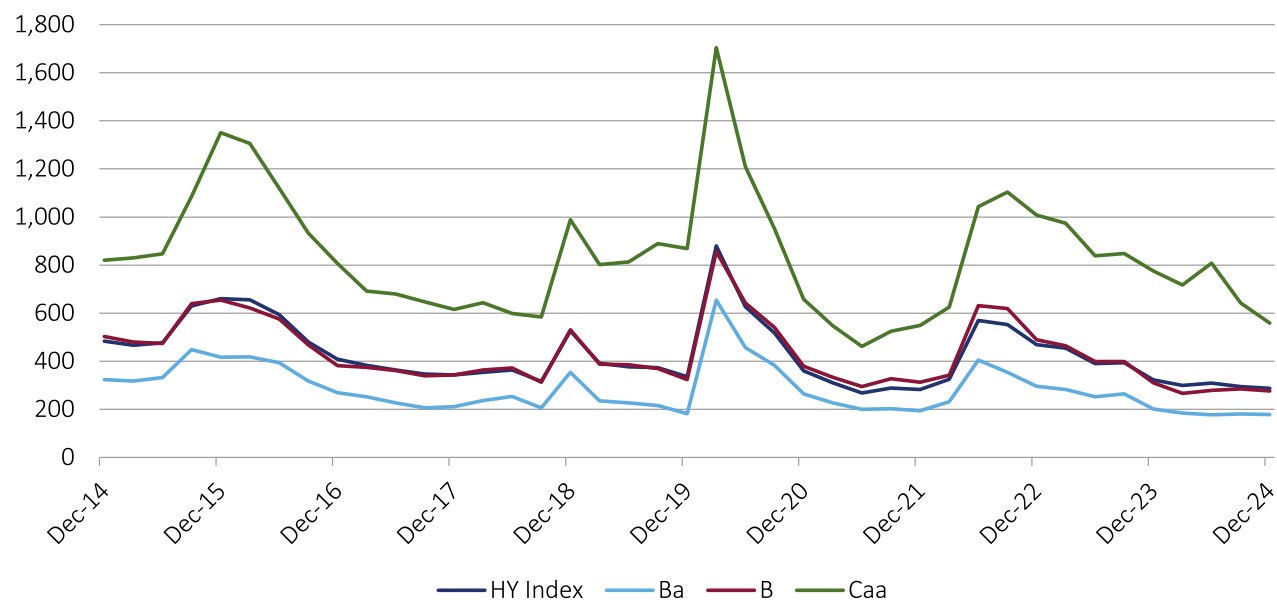


Data Source: Bloomberg

High Yield Bond Market

As of 12/31/2024	Weight	YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		7.5	0.2	8.2	8.2	2.9	4.2	5.2
S&P LSTA Leveraged Loan		8.0	2.5	8.7	8.7	6.9	5.4	4.8
High Yield Quality Distribution								
Ba U.S. High Yield	50.8%	6.4	-0.5	6.3	6.3	1.9	4.1	5.1
B U.S. High Yield	35.2%	7.4	0.3	7.4	7.4	3.1	3.8	4.8
Caa U.S. High Yield	12.1%	10.2	2.3	15.1	15.1	4.9	5.1	5.6
Ca to D U.S. High Yield	2.0%	20.2	2.2	48.3	48.3	15.6	12.3	4.9

Fixed Income Option Adjusted Spread (bps)



Data Source: Bloomberg

Asset Class Performance

Asset Class Returns - Best to Worst

2019	2020	2021	2022	2023	2024 YTD	Annualized 5-Year as of 12/24
U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 16.1%	U.S. Equity 26.1%	U.S. Equity 23.8%	U.S. Equity 14.1%
REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 1.3%	Developed 18.9%	REITs 9.1%	Commodities 6.8%
Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	High Yield -11.2%	REITs 16.1%	High Yield 8.2%	Developed 5.2%
Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	U.S. TIPS -11.8%	High Yield 13.4%	Emrg Mrkts 8.1%	REITs 4.5%
High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	Core Bond -13.0%	Emrg Mrkts 10.3%	Commodities 5.4%	High Yield 4.2%
Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	Developed -14.0%	Core Bond 5.5%	T-Bills 5.3%	T-Bills 2.5%
U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	U.S. Equity -19.0%	T-Bills 5.1%	Developed 4.3%	Emrg Mrkts 2.1%
Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Emrg Mrkts -19.7%	U.S. TIPS 3.9%	U.S. TIPS 1.8%	U.S. TIPS 1.9%
T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	REITs -26.8%	Commodities -1.3%	Core Bond 1.3%	Core Bond -0.3%

Data Sources: Bloomberg

Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

County Employees Retirement System

Performance and Asset Allocations

Quarter Ending: December 31, 2024



CERS Quarterly Performance Update

December 2024


Pension Portfolios Performance

CERS & CERS-HAZ - PENSION FUND PLAN NET RETURNS - 12/31/24											
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS	9,963,205,049.62	-1.49	-0.34	4.54	10.84	4.94	7.75	7.49	6.65	8.11	8.92
KY Ret. CERS Plan IPS Index		-1.05	0.06	4.83	13.38	5.58	7.92	7.39	6.69	8.12	9.00
CERS- H	3,560,186,611.67	-1.51	-0.35	4.56	10.91	4.97	7.72	7.48	6.64	8.11	8.92
KY Ret. CERS Haz Plan IPS Index		-1.05	0.06	4.83	13.38	5.58	7.92	7.39	6.69	8.12	9.00
KPPA PENSION FUND UNIT - NET RETURNS - 12/31/24 - PROXY PLAN ASSET PERFORMANCE											
Structure		Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		-3.09	-1.55	5.04	15.22	4.43	9.28	8.86	7.40	9.16	10.37
MSCI ACWI		-2.37	-0.99	5.56	17.49	5.41	9.71	9.00	7.37	9.02	10.28
PRIVATE EQUITY		0.88	1.02	3.23	4.07	3.83	11.58	11.61	10.26		11.33
Russell 3000 + 3%(Qtr Lag)		2.38	7.00	11.34	38.19	13.36	18.31	15.97	12.84		12.92
SPECIALTY CREDIT		1.01	2.23	5.39	11.06	7.30	7.12				6.86
50% BB US HY / 50% Morningstar LSTA Lev'd Ln		0.07	1.22	4.92	8.59	5.00	5.07				5.06
CORE FIXED INCOME		-1.62	-2.92	2.06	1.76	0.93	1.85	2.46			2.70
Bloomberg US Aggregate		-1.64	-3.06	1.98	1.25	-2.41	-0.33	1.35			1.72
CASH		0.39	1.20	2.55	5.33	3.82	2.41	1.92	1.98	2.76	3.39
FTSE Treasury Bill-3 Month		0.39	1.23	2.61	5.45	4.05	2.54	1.79	1.63	2.41	3.02
REAL ESTATE		-0.80	-0.89	0.81	-4.52	0.33	5.05	7.58	6.88	5.99	6.14
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		0.02	0.02	-0.64	-8.04	-1.04	2.05	5.16	5.65	7.01	5.87
REAL RETURN		-2.81	3.73	10.67	18.90	12.20	9.90	6.79			6.11
US CPI +3%		0.19	0.95	1.94	5.75	6.61	6.58	4.63			4.28


Insurance Portfolios Performance

CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 12/31/24											
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS INS	3,684,942,417.55	-1.45	-0.42	4.38	10.70	5.11	7.64	7.49	6.37	7.31	7.50
KY Ins. CERS Plan IPS Index		-1.05	0.06	4.83	13.38	5.58	7.72	7.35	6.47	7.61	7.76
CERS - H INS	1,761,315,460.10	-1.42	-0.35	4.34	10.71	5.09	7.69	7.55	6.40	7.33	7.52
KY Ins. CERS Haz Plan IPS Index		-1.05	0.06	4.83	13.38	5.58	7.72	7.35	6.47	7.61	7.76
KPPA INSURANCE FUND UNIT - NET RETURNS - 12/31/24 - PROXY PLAN ASSET PERFORMANCE											
Structure		Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		-3.10	-1.64	4.89	14.95	4.35	9.22	8.87	7.30		8.84
MSCI ACWI		-2.37	-0.99	5.56	17.49	5.41	9.69	9.00	7.23		8.74
PRIVATE EQUITY		0.72	0.87	2.52	5.16	6.80	11.85	12.70	10.62		10.63
Russell 3000 + 3%(Qtr Lag)		2.38	7.00	11.34	38.19	13.36	18.31	15.97	12.54		12.51
SPECIALTY CREDIT		1.01	2.26	5.39	11.22	7.56	7.18				6.78
50% BB US HY / 50% Morningstar LSTA Lev'd Ln		0.07	1.22	4.92	8.59	5.00	5.07				5.06
CORE FIXED INCOME		-1.63	-2.94	2.02	1.66	0.72	1.65	2.37			2.44
Bloomberg US Aggregate		-1.64	-3.06	1.98	1.25	-2.41	-0.33	1.35			1.72
CASH		0.39	1.20	2.54	5.34	3.81	2.39	1.78	1.82	2.51	2.58
FTSE Treasury Bill-3 Month		0.39	1.23	2.61	5.45	4.05	2.54	1.79	1.63	2.41	2.50
REAL ESTATE		-0.74	-0.83	0.84	-4.63	0.16	4.92	7.59			7.98
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		0.02	0.02	-0.64	-8.04	-1.04	2.05	5.16			4.67
REAL RETURN		-2.02	3.59	10.48	17.24	10.70	9.25	6.34			5.73
US CPI +3%		0.19	0.95	1.94	5.75	6.19	6.55	4.67			4.33


Internal Portfolios Performance

 Kentucky Retirement Systems Pension Monthly Internally Managed Portfolio Performance (Net of Fee) As of Date: 12/31/2024												
Structure	Market Value	% of Total	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD	Inception Date
PUBLIC EQUITY												
S&P 500 INDEX	3,430,106,718.16	17.28	-2.35	2.44	8.47	25.02	9.03	14.75	13.23	10.60	9.33	2001-07-01
<i>KY Ret. S&P Blend</i>			-2.38	2.41	8.44	25.02	8.94	14.53	13.10	10.52		
Internal US Mid Cap	240,955,123.41	1.21	-7.13	0.44	7.42	14.43	5.61	11.05	10.18		10.43	2014-08-01
<i>S&P MidCap 400 Index</i>			-7.12	0.34		13.93	4.87	10.34	9.68			
Scientific Beta	279,193,536.38	1.41	-5.78	-0.61	7.38	15.77	4.60	9.50			10.82	2016-07-01
<i>S&P 500 Index</i>			-2.38	2.41		25.02	8.94	14.53				
PRIVATE EQUITY												
INTERNAL PRIVATE EQ	89,385,893.97	0.45	-1.91	2.04	7.27	18.31					17.30	2023-12-01
CORE FI												
INTERNAL CORE FI	998,575,671.19	5.03	-1.68	-3.08	2.04	1.34					4.23	2023-09-01
<i>Bloomberg US Aggregate Bond Index</i>			-1.64	-3.06	1.98	1.25					4.03	
REAL ESTATE												
INTERNAL REAL ESTATE	47,021,710.79	0.24	-8.17	-8.36	7.32	4.69					5.35	2023-12-01
<i>NCREIF NFI-ODCE Net 1 Qtr In Arrears Index^a</i>			0.02	0.02	-0.64	-8.04						
REAL RETURN												
INTERNAL REAL RETURN	241,695,452.41	1.22	-8.39	-4.90	7.40	13.11					11.60	2023-12-01
<i>KRS CPI + 300 bpts</i>			0.19	0.95	1.94	5.75					5.34	
INTERNAL TIPS	144,047.17	0.00	0.39	1.20	2.54	5.31	4.03	2.55	2.47	3.41	4.25	2002-05-01
<i>KR2 Internal US TIPS Blend</i>			-0.81	-1.60	1.77	3.25	-0.06	2.75	2.56	3.41	4.25	
CASH ACCOUNT	522,394,476.29	2.63	0.39	1.20	2.55	5.33	3.82	2.41	1.92	1.98	3.39	1988-01-01
<i>FTSE Treasury Bill-3 Month</i>			0.39	1.23		5.45	4.05	2.54	1.79	1.63	3.02	

Pension Portfolios Asset Class Gross Performance

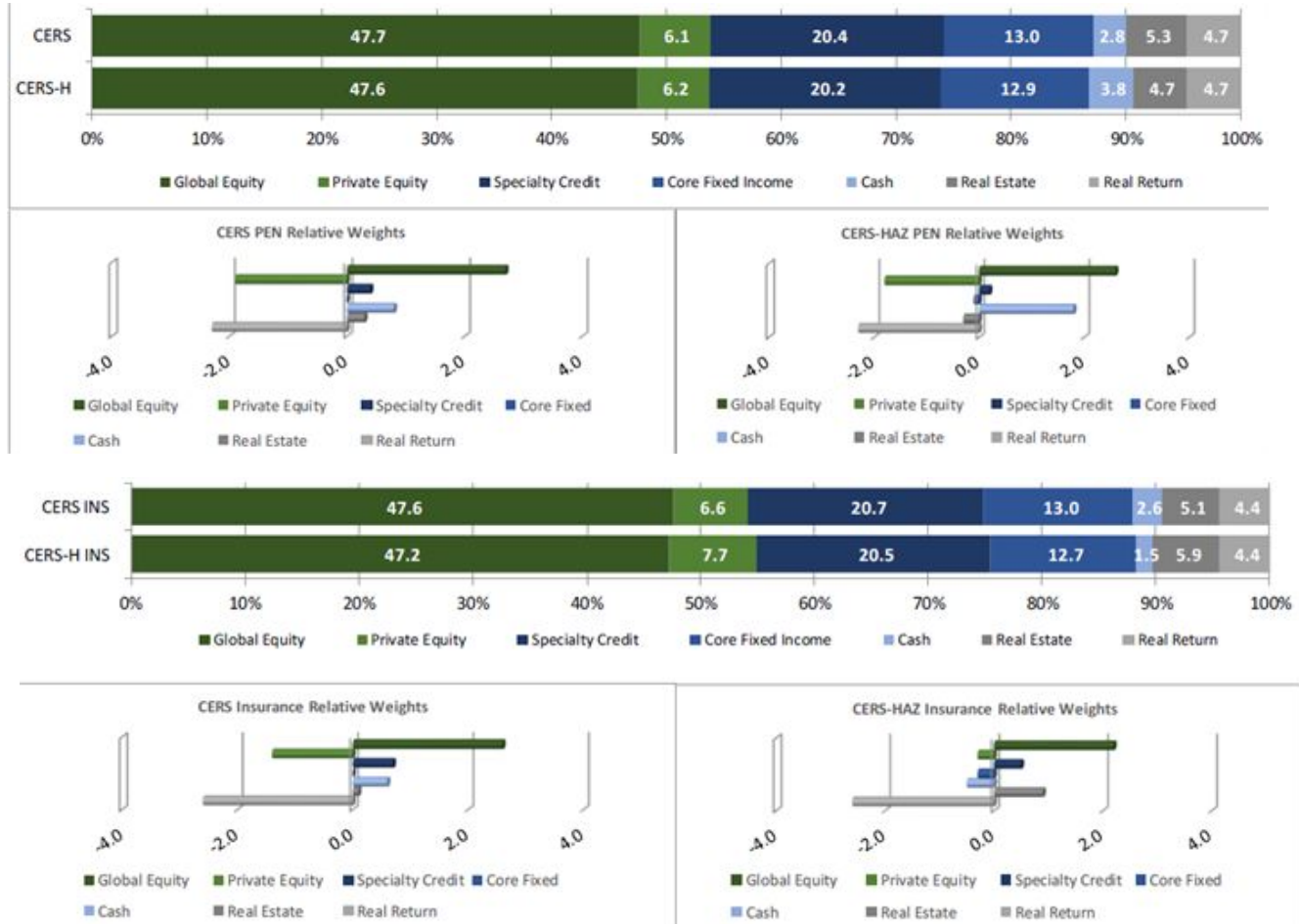
 Reporting Currency:BASE									
Pension Board Asset Class Performance									
As of Date:12/31/2024									
Structure	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	ITD	Inception Date
CERS									
TOTAL GROSS OF FEES	9,966,567,529.90	-1.43	-0.22	4.86	11.49	5.62	8.56	9.13	4/1/1984
EQUITIES	4,762,655,034.67	-3.09	-1.52	5.08	15.25	4.50	9.41	98.67	7/1/2013
FIXED INCOME	3,337,308,433.10	0.25	0.49	4.56	8.85	6.04	6.02	91.65	7/1/2013
REAL ESTATE	519,234,684.71	-0.26	-0.32	0.80	-4.62	0.75	4.97	46.60	7/1/2013
ALTERNATIVE INVESTMENTS	1,090,497,927.25	0.27	3.49	6.70	10.41	8.37	11.76	81.39	7/1/2013
OTHER	4,799,318.06	14.03	-10.59	-6.68	-15.68	-25.58	-17.81	35.86	7/1/2013
CASH & TEMPORARY	252,072,132.11	0.39	1.20	2.55	5.33	3.67	2.33	33.10	7/1/2013
TOTAL NET OF FEES	9,963,205,049.62	-1.49	-0.34	4.54	10.84	4.94	7.75	8.92	4/1/1984
CERS- H									
TOTAL GROSS OF FEES	3,561,411,002.91	-1.45	-0.23	4.87	11.55	5.63	8.51	9.13	4/1/1984
EQUITIES	1,697,728,811.12	-3.10	-1.51	5.08	15.27	4.54	9.43	98.69	7/1/2013
FIXED INCOME	1,183,350,657.08	0.18	0.40	4.48	8.64	5.91	5.92	91.55	7/1/2013
REAL ESTATE	163,992,859.66	-0.26	-0.32	0.79	-4.61	0.77	4.99	45.78	7/1/2013
ALTERNATIVE INVESTMENTS	389,092,631.82	0.25	3.52	6.94	11.15	8.54	11.72	79.02	7/1/2013
OTHER	2,968,602.25	8.08	-5.92	-0.01	-5.26	-10.08	-5.85	30.80	7/1/2013
CASH & TEMPORARY	124,277,440.98	0.39	1.20	2.55	5.33	3.74	2.37	25.15	7/1/2013
TOTAL NET OF FEES	3,560,186,611.67	-1.51	-0.35	4.56	10.91	4.97	7.72	8.92	4/1/1984

Insurance Portfolios Asset Class Gross Performance

	Insurance Board Asset Class Performance								Reporting Currency:BASE
	As of Date:12/31/2024								

Structure	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	ITD	Inception Date
CERS INS									
TOTAL GROSS OF FEES	3,686,301,491.25	-1.37	-0.28	4.68	11.35	5.78	8.47	7.88	4/1/1987
EQUITIES	1,757,321,808.09	-3.09	-1.59	4.94	15.06	4.52	9.37	9.44	7/1/2013
FIXED INCOME	1,246,858,958.83	0.19	0.45	4.53	8.79	5.91	5.97	5.03	7/1/2013
REAL ESTATE	188,688,940.08	-0.18	-0.26	0.92	-4.44	0.73	4.87	7.26	7/1/2013
ALTERNATIVE INVESTMENTS	408,765,264.88	0.82	3.14	5.75	9.92	8.83	11.82	9.12	7/1/2013
OTHER	1,219,081.15	21.54	-23.28	-22.16	-42.07				8/1/2013
CASH & TEMPORARY	83,447,438.22	0.39	1.20	2.54	5.34	4.15	2.59	1.68	7/1/2013
TOTAL NET OF FEES	3,684,942,417.55	-1.45	-0.42	4.38	10.70	5.11	7.64	7.50	4/1/1987
CERS - H INS									
TOTAL GROSS OF FEES	1,761,935,591.20	-1.34	-0.20	4.66	11.41	5.81	8.58	7.90	4/1/1987
EQUITIES	833,941,075.93	-3.12	-1.57	4.96	15.03	4.47	9.39	9.45	7/1/2013
FIXED INCOME	587,684,909.29	0.35	0.67	4.64	9.38	6.25	6.17	5.11	7/1/2013
REAL ESTATE	103,544,773.93	-0.18	-0.26	0.92	-4.43	0.73	4.87	7.26	7/1/2013
ALTERNATIVE INVESTMENTS	215,017,948.77	0.80	3.05	5.23	9.41	8.58	11.71	9.11	7/1/2013
OTHER	553,120.30	18.78	-25.14	-21.61	-45.24				8/1/2013
CASH & TEMPORARY	21,193,762.98	0.39	1.20	2.54	5.34	4.08	2.54	1.68	7/1/2013
TOTAL NET OF FEES	1,761,315,460.10	-1.42	-0.35	4.34	10.71	5.09	7.69	7.52	4/1/1987

Allocations

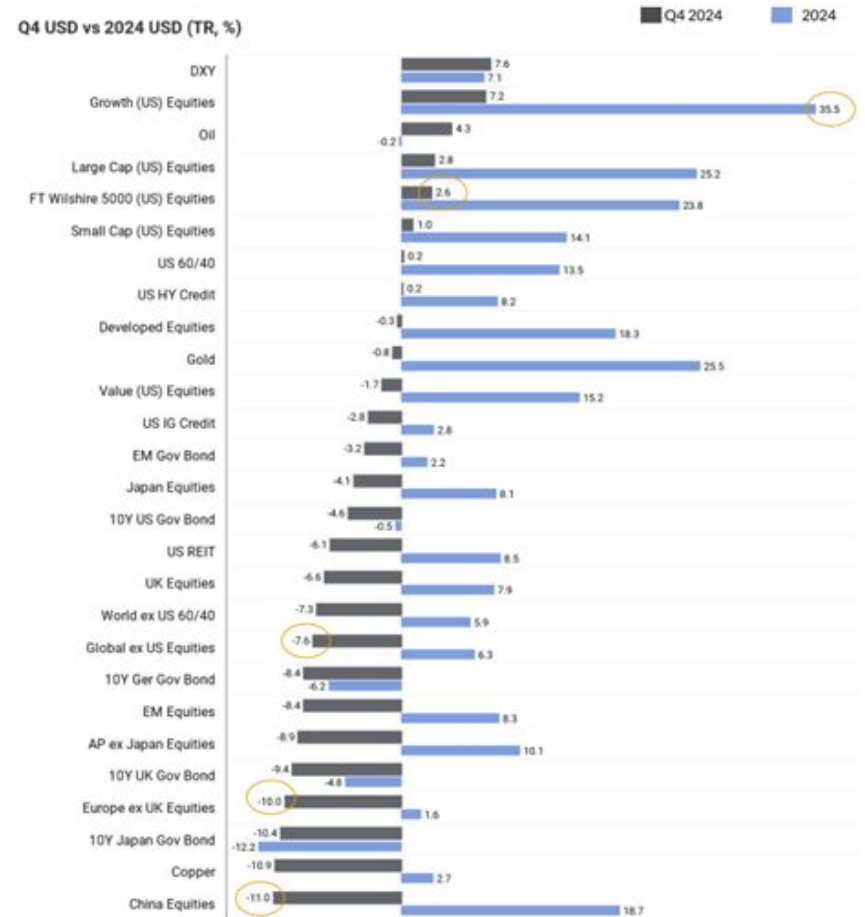


Performance Highlights

- The CERS Pension Composite produced a return of -0.34% while the CERS Insurance Composite returned -0.40% for the quarter versus the benchmark return of 0.06%.

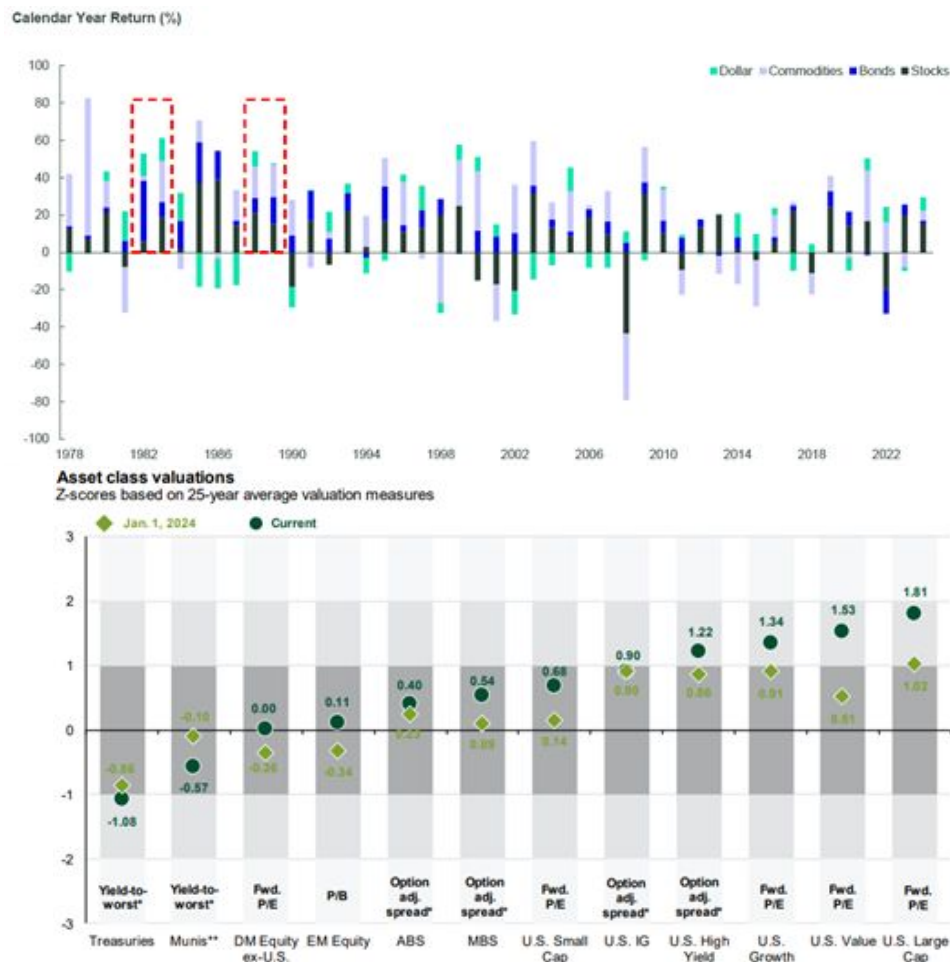
CERS Pension -0.34%
CERSH Pension -0.35%
CERS Insurance -0.42%
CERSH Insurance -0.35%
Benchmark 0.06%

- Across portfolios, the largest contributors to outperformance were the relative outperformance in the Specialty Credit portfolio as managers produced positive excess performance across the board and the strong performance in the Real Return portfolio.
- Relative underperformance in the Public Equity portfolio as well as the underperformance of the Private Equity portfolio versus the public equity benchmark were the biggest drivers of underperformance during the quarter.
- Fiscal year to date, the CERS Pension Composite produced a return of 4.54% underperforming the benchmark by 29bps while the CERS Insurance Composite produced a return of 4.36% versus the benchmark return of 4.83%.
- Fiscal year to date drivers of performance were similar to those for the quarter with Specialty Credit and Real Return contributing positive relative performance which were offset by underperformance in the Public Equity and Private Equity portfolios.



Performance Highlights

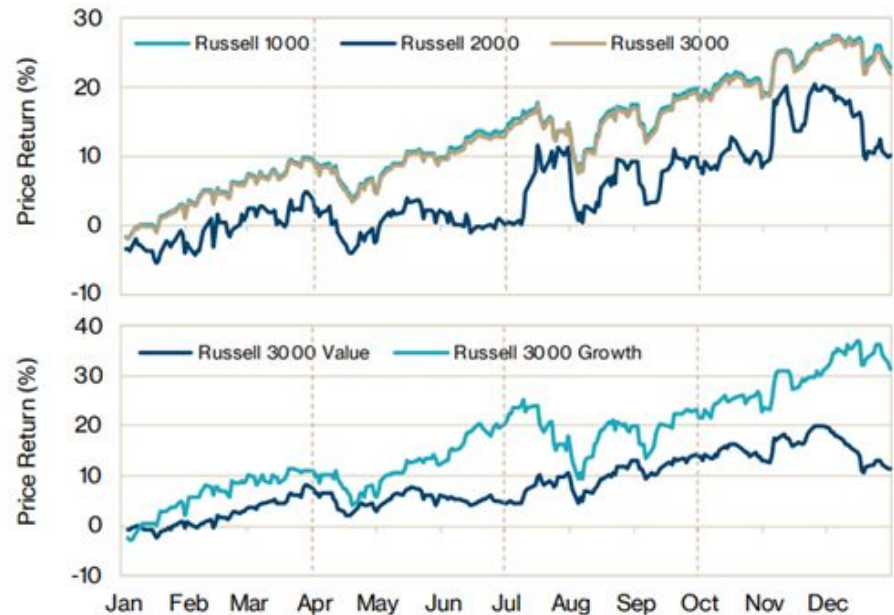
- Risk markets struggled in December, failing to build on the “Trump bump” following the US election that saw markets surge especially segments seen as beneficiaries of lower taxes, regulatory rollbacks and protectionism.
- Despite the pullback late in the quarter, US Public Equities ended the quarter in the black as one of the few bright spots with NonUS Public Equities, Core Fixed Income, Real Estate and broad Commodities all falling during the quarter.
- For the calendar year, US public equities, bonds, commodities and the dollar all rallied which has only happened twice in the last 50 years.
- Markets grappled with numerous headwinds and unknowns in 2024; elections, geopolitical, uncertain fiscal policies and the uneven normalization of inflation and the labor markets all of which combined to keep fears of recession and stagflation elevated. Despite the uncertainty and volatility, markets were resilient with cross-asset volatility remaining extremely low.
- Uncertainty should remain high in 2025 with risks seemingly asymmetric as markets react to policy shifts and economic data underscoring the reality of a new macro environment with a wider range of possible outcomes and persistently high volatility.



Performance Highlights

Public Equities

- Global equity markets had a heterogeneous performance during the fourth quarter as US equity markets reacted positively to President Trump’s election in November, driven mostly by a positive sentiment regarding optimism of a lower regulatory burden under his presidency while European equity investors were more bearish on the news due to growing concerns about the region’s trade relationships with the US.
- While the global rate-cutting cycle was broadly perceived as a tailwind for equities, valuations remain highly elevated and numerous global geopolitical risks remain, which could potentially be a trigger for a sharp correction in equity markets.
- The 4th quarter saw a continuation of style and market cap leadership in US Equity markets
 - Growth outpaced value by nearly 9% (R3000G: 6.82% vs R3000V: -1.94%)
 - Large cap extended dominance (SP500: 2.41% vs Midcap: 0.34% vs R2000: 0.33%)
 - Trump’s election win drove a strong rally in response to optimism surrounding deregulation and fiscal reforms (tax cuts & pro-business policies)



Performance Highlights

Public Equities

- During calendar 2024, the S&P 500 hit 57 record highs and has delivered over 20% annualized for the past 2 years.
 - The economy exceeded expectations, inflation moved lower, large impact from AI-enthusiasm
 - Fed signaled a more accommodative policy (first cut in September)
 - Market was incredibly narrow, led by mega cap growth
 - Growth outpaced value (best 2-year stretch in history)
 - Small caps significantly lagged large caps (last 8 calendar years)

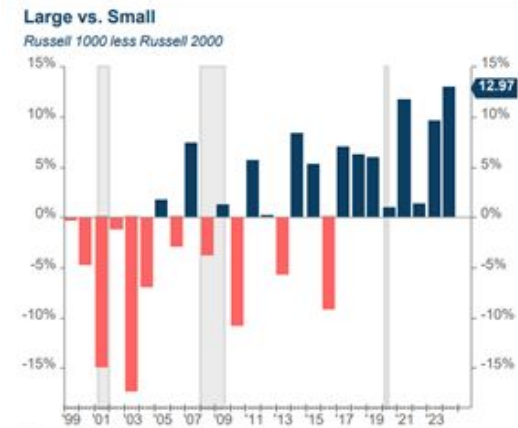
- In contrast, performance in International Public Equity markets was extremely negative for the quarter as growth weakened and political uncertainty persisted with meaningful losses from weakening foreign currencies exacerbating the losses.
 - Growth in Europe weakened
 - Germany faces higher energy costs and increased competition from China
 - Manufacturing and trade slowed in France
 - United Kingdom continued its growth due to a strong service sector leading to higher wages

Larger Growth Drove the Gains in '24



Source: iShares Euronext as of 4/30/2024

Worst Year for Small vs. Large Since 1998

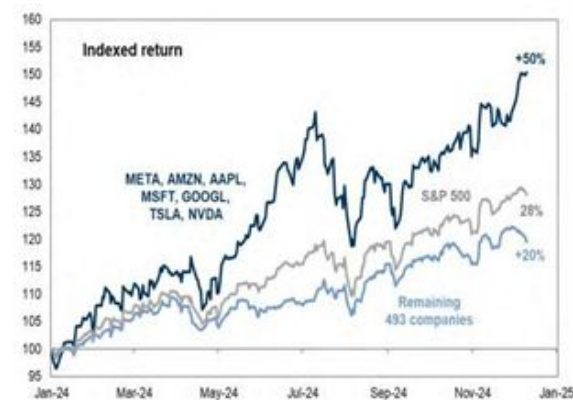


Performance Highlights

Public Equities

- Japan was one of the top performers
 - Exited deflationary spiral – nominal GDP has increased (inflation), price increases and wage growth
 - Improvements in corporate governance (efficiency and balance sheet restructuring) has led to higher ROE's
 - China has outperformed recently driven by policy initiatives to stabilize the economy
 - Growth is weak (structural overcapacity and weak real estate market) but government providing stimulus
 - Tariffs from US a looming threat to exports
 - India continues to demonstrate strong growth with significant investment in infrastructure and manufacturing, though investors must be cognizant of higher valuations
- International markets have been difficult to consistently add value actively due to higher intra stock correlations and lower correlations between EPS estimates and stock prices
 - This appears to be reverting providing a better market backdrop for stock picking
 - Growth continues to trade at a premium versus value at a discount with the spread consolidating to a degree over the past couple years but expanded in the last quarter.

Magnificent 7 Stocks More Than Doubled the Return of the 493



Source: Goldman Sachs Global Investment Research, Scott Rubner, as of 12/12/24.

Relative Valuations of Value vs. Growth at Extreme Levels



Value Equity

Data as of 12/31/2024. Source: IVP, M&I. This slide does not represent the composition of any IVP portfolio.

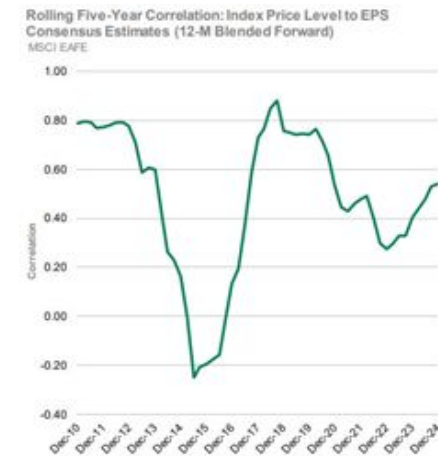
Performance Highlights

Public Equities

- The Global Public Equity portfolio returned -1.55% during the quarter versus its benchmark return of -0.99%.
 - The portfolio's NonUS Equity tilt drove underperformance as these markets underperformed the US markets by over 10%
 - Performance was also hampered by the overweight to small caps relative to the benchmark
- For the quarter, the US Public Equity portfolio returned 2.50% versus its benchmark return of 2.63%.
 - Persistent style and size headwind hampered relative performance
 - Individual mandate performance remained strong with 5 of 7 mandates outperforming
- The NonUS Public Equity portfolio returned -7.80% versus the MSCI ACWI Ex-US index's return of -7.61%.
- For the LTM the Global Public Equity portfolio returned 15.22% versus its benchmark return of 17.49% while the US Public Equity portfolio returned 23.00% versus its benchmark return of 23.81% and the NonUS Public Equity portfolio returned 3.76% versus the benchmark's return of 5.23.



Date from: 12/31/2014 to 12/31/2024
Source: American Century Investments

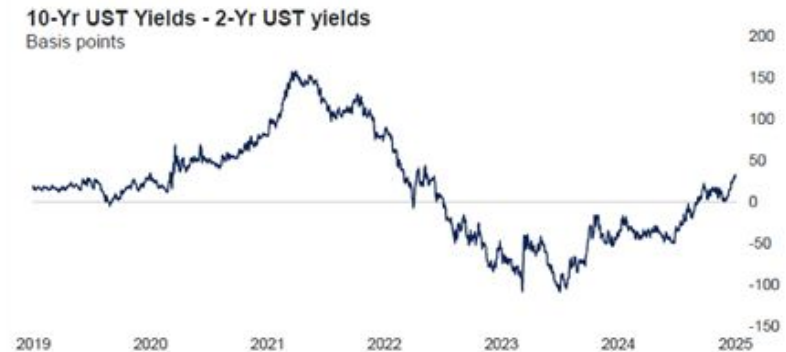
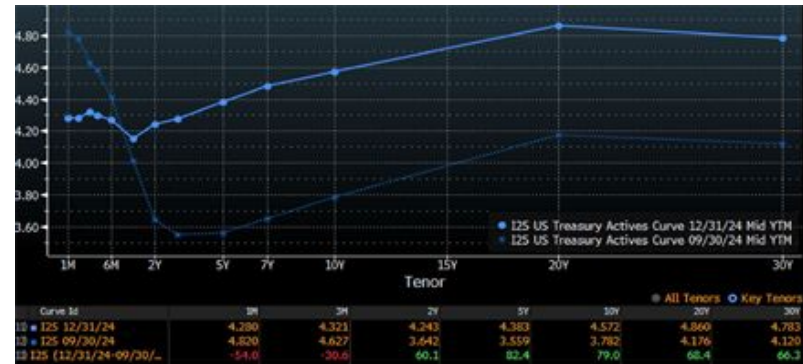


Date from 3/31/2010 to 12/31/2024. Data in USD, using FactSet Consensus EPS Estimates
Source: FactSet

Performance Highlights

Core Fixed Income

- Despite two 25 basis point rate cuts from the Fed, the U.S. Treasury yield curve was up across most of the maturity spectrum during the quarter.
- The 2YR and 5YR US Treasury yields rose 60 basis points and 82 basis points to close at 4.24% and 4.38%, respectively. The 10YR yield was 79 basis points higher to close at 4.57%. The 20YR and 30YR yields were higher 68 basis points and 66 basis points to finish the quarter at 4.86% and 4.78%, respectively.
- Yields on 10YR and 30YR Treasuries approached 2024 highs in December as investors begin demanding compensation for the risks associated with a potentially higher long-term neutral fed funds rate and the bond-bearish implications of expected upcoming federal policy.
- The closely watched 2-10YR curve finished the quarter with a spread of 33 basis points, continuing the healthy step towards normalcy after nearly two years of curve inversion which ended in September.



Performance Highlights

Core Fixed Income

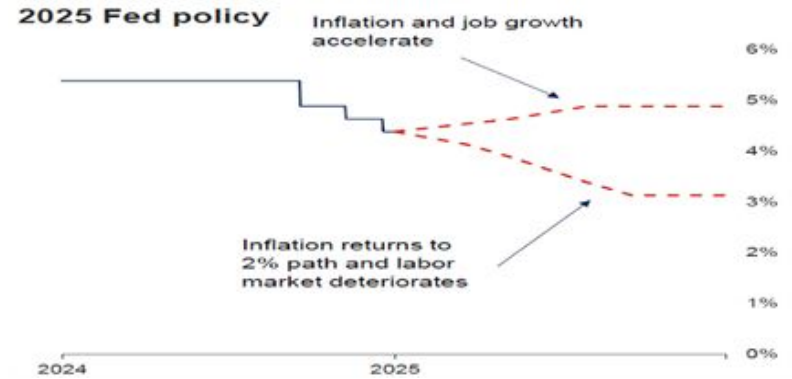
- The Core Fixed Income Portfolio produced a return of -2.92% for the quarter and 2.06% fiscal year-to-date, slightly outperforming the benchmark by 14 and 8 basis points, respectively.
- The portfolio’s relative outperformance was driven by ABS allocation as the sector’s excess return was 0.61%, losing only 0.05% in total return for the quarter.
- In addition, CMBS produced 0.66% excess returns with total return of -1.48% for the quarter with the MBS sector performing the worst with total return of -3.16%.
- The Corporate index OAS (Option Adjusted Spread) closed 9 basis points tighter at 80 during the quarter even though total return was negative 3.04% as rates rose.
- Although 30-year mortgage rates have hovered near 7% for 2 years, the effective mortgage rate has yet to surpass 4%, reflecting many homeowners locked into low rates since the pandemic housing boom.



Performance Highlights

Liquidity

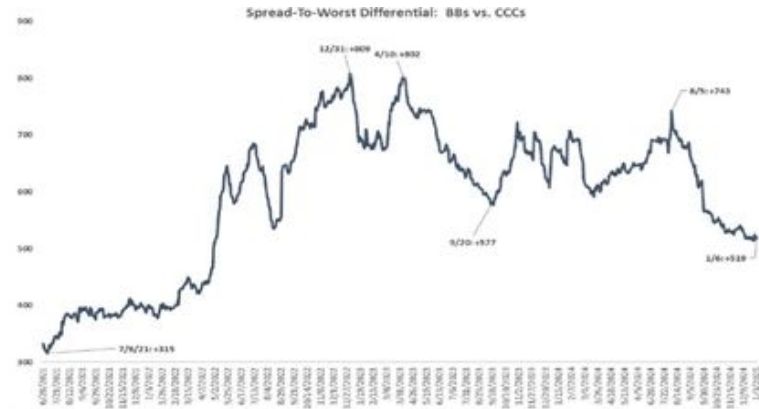
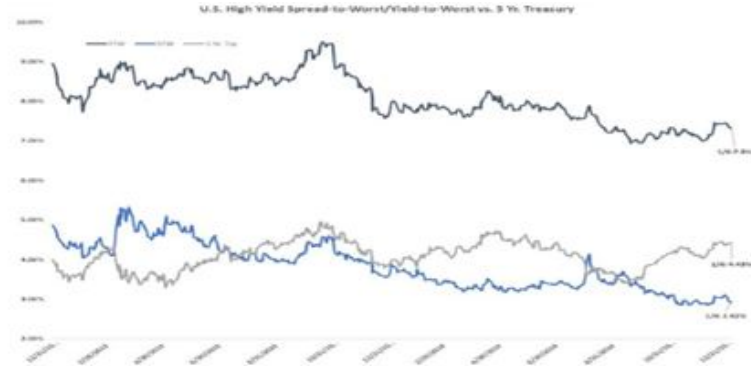
- After reducing the target range for the federal funds rate by 100 basis points over the last three meetings of 2024, updated economic projections from the FOMC point to just two rate cuts in 2025.
- Cash produced a return of 1.20% for the 3-month period ending December 31st, slightly underperforming the 3-Month Treasury Bill benchmark which returned 1.23%.
- In the FOMC’s updated Summary of Economic Projections (SEP), the most significant change was the inflation outlook. The 2025 PCE forecast rose from 2.1% to 2.5%. As a result, the committee now forecasts a 2025 median federal funds rate of 3.9%.
- Persistently strong growth and inflation readings materially reset market expectations for Fed easing over the coming year, with approximately four 25 basis point cuts removed from year-end 2025 pricing forecasts over the quarter.



Performance Highlights

Specialty Credit Fixed Income

- The Specialty Credit portfolio produced a return of 2.23% for the quarter and 5.39% fiscal year-to-date, outperforming the custom benchmark which returned 1.22% and 4.92%, respectively.
- Valuation on a spread basis remain near eighteen-year highs. With interest rates resuming their post-election move higher, absolute yields of 7.31% remain at levels only seen approximately 30% of the time over the last ten years.
- Lower quality issuers outperformed for the sixth consecutive month in December. Over the quarter, BB, B and CCC rated issues returned -0.51%, 0.31% and 2.17%, respectively.
- Over longer periods the portfolio has contributed significant outperformance, beating the benchmark by 230 and 205 basis points over three- and five-year periods respectively.
- The High Yield option adjusted spread (OAS) tightened 8 basis points for the quarter to 287.

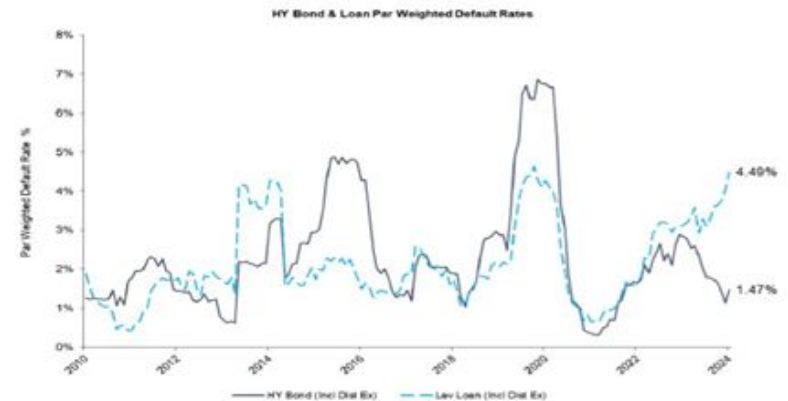
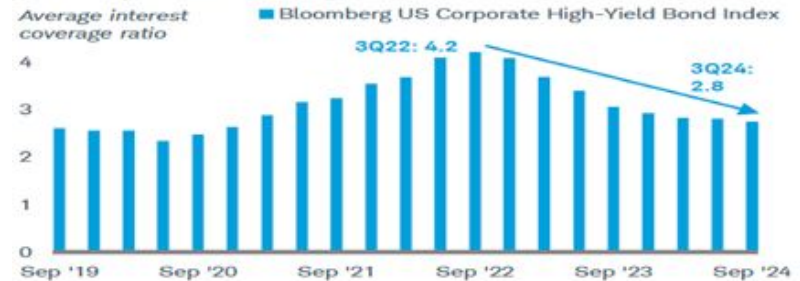


Performance Highlights

Specialty Credit Fixed Income

- Earnings season surprised to the upside, with high yield issuers' operating earnings rising 3.0% quarter over quarter and 1.2% year over year helping keep interest coverage favorable even with the recent decline.
- For the quarter, new issuance totaled \$49.5 billion with 64% representing refinancing, 23% for M&A and 6% accounted for dividends.
- The high yield bond default and distressed exchange activity remained moderate for the quarter. The LTM par-weighted default rate including distressed exchanges increased to 1.47%.
- Default and distressed exchange activity remains concentrated in the leveraged loan market, where the par-weighted default rate including distressed exchange increased to 4.49%.
- The over 300 basis point spread between high yield bond and leveraged loan default activity is at a 24-year high.

Interest coverage ratios for high-yield issuers have generally been declining

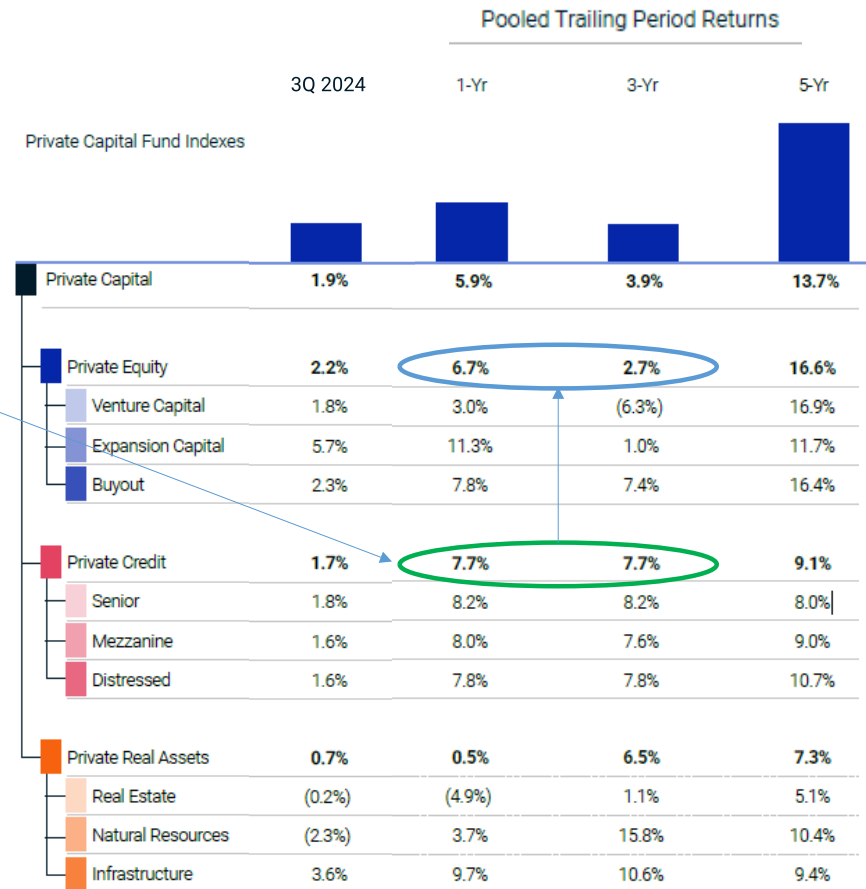


Performance Highlights

Private Capital (as of 9/30/24 - 1 quarter lag)

- Like public equity markets, private markets were broadly positive during the quarter. However, short-term returns for all alternative asset classes continued to lag a sharply rising US equity market, with the S&P 500 and Russell 3000 both gaining over 35% for the trailing 1 year ending 9/30/2024.
- Even though it is senior in the capital structure, private credit's 7-8% returns have outpaced those from private equity over the trailing 1 and 3 years.
- Given its ample liquidity position, KPPA maintains a long term focus in private markets and prefers that its managers continue to manage their investments if an attractive exit is not attainable in the current market environment.
- The Investment Team continues to find and evaluate attractive opportunities that have arisen from higher interest rates and lower liquidity pressuring current holders of attractive assets.

MSCI Private Capital Benchmarks – US

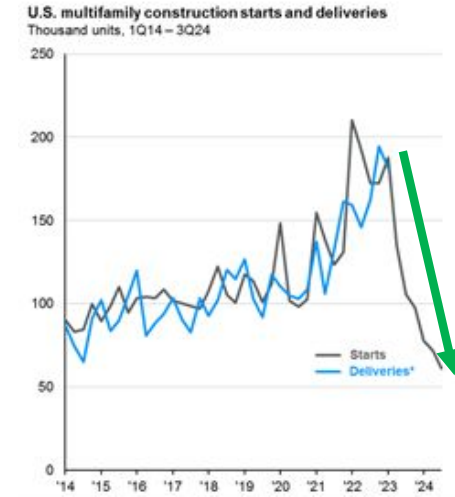
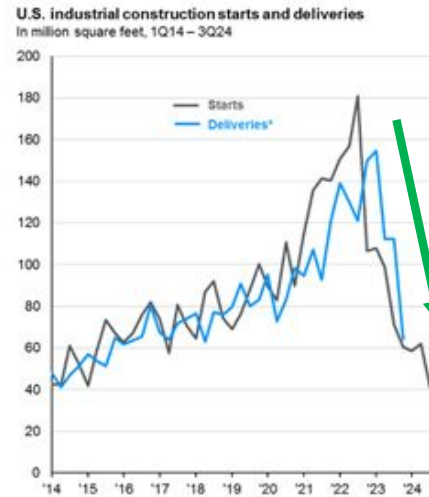
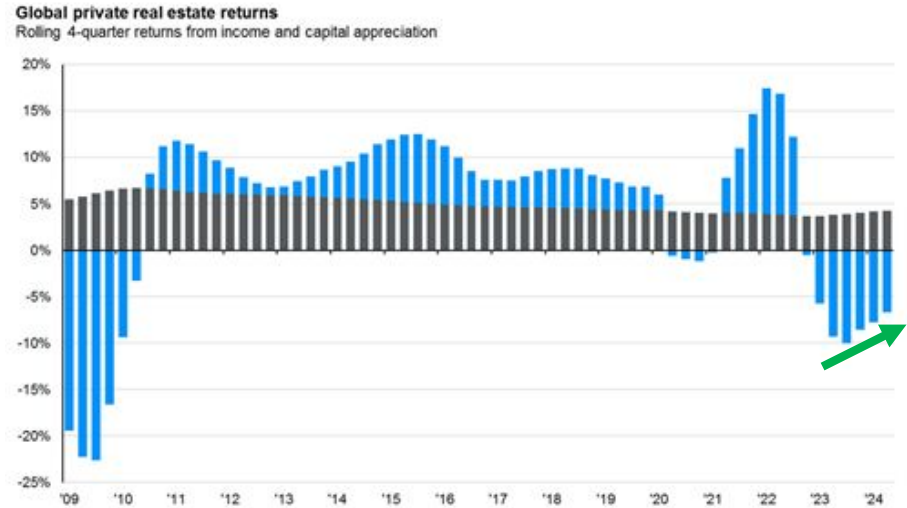


Source: MSCI Private Capital Benchmarks Report (data through calendar 3Q 2024)

Performance Highlights

Real Estate (as of 9/30/24 - 1 quarter lag)

- Real Estate markets and sentiment have begun to turn, with the Open End Diversified Core Equity (NFI-ODCE) index posting its first positive quarter since 3Q 2022.
- The Real Estate portfolio's value fell -0.9% during the quarter, slightly less than the benchmark's flat 0.0% return.
- The portfolio's open-end Core strategies all produced positive returns during the third quarter. While valuation markdowns persist, they diminished enough to be more than offset by steady income returns.
- Construction starts continued to fall sharply from their peak in 2022, even in more favored sectors like industrial and multifamily. The decline in deliveries that will result over the next several quarters should improve rent growth and supply dynamics.
- During the second half of 2024, the three Core equity funds that make up the portfolio's largest positions collectively raised over a billion dollars, largely cleared their redemption queues, and called capital from their contribution queues to start playing offense.



Source: JP Morgan

Performance Highlights

Real Return

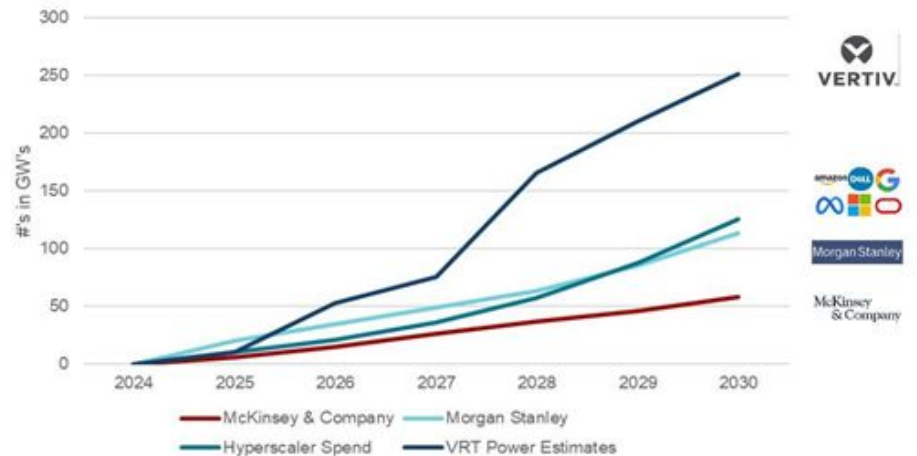
- The Real Return portfolio continued to perform well during the quarter, posting a return of 3.7% that outpaced the 1.0% return of its benchmark.
- A second-order effect of the current AI and technology boom is the significant increase in demand for power and the energy needed to supply it. One key beneficiary in 2024 was utility stocks, as its index nearly matched the S&P 500 with a 23.4% gain.
- Even after declining nearly 7% in December, the portfolio’s MLP exposure gained 13.7% for the quarter versus its benchmark return of 4.9%. The account was up more than 46% for calendar year 2024 as strong cash flows, disciplined capex, and consolidation continued to benefit the industry.
- Infrastructure debt, marine transportation, and sports investments also contributed to the portfolio’s outperformance.
- The portfolio’s farmland mandate was funded in 4Q 2024 along with a toll road continuation vehicle investment with an existing private equity manager.

US data center energy demand: Need to add three NYCs to the power grid by 2030



Source: Apollo Global

AI driving significant US incremental power demand



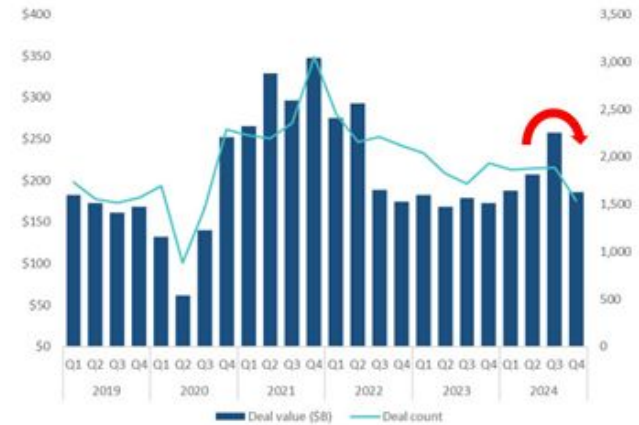
Source: Tortoise Capital

Performance Highlights

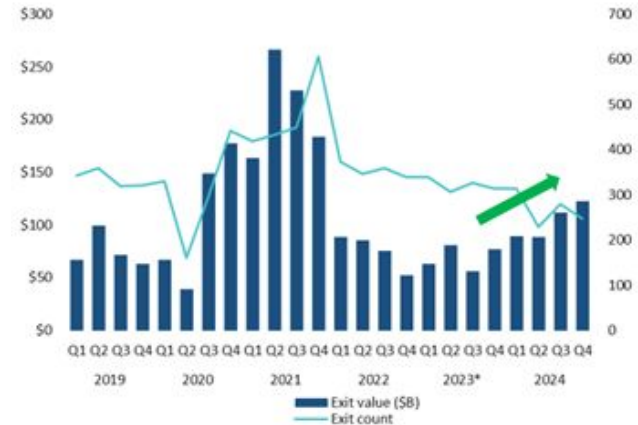
Private Equity

- The Private Equity portfolio produced a return of 1.0% for the quarter, underperforming the benchmark’s return of 7.0%.
- Performance relative to the benchmark (Russell 3000 + 3%, lagged one quarter) has continued to trail due to a robust equity market that has gained more than 35% over the past year through 9/30/2024.
- Deal activity and exits have picked up in recent quarters, but the slow pace of distributions remains a concern for many investors in private equity funds. While distributions from mature funds have been muted for the past 2-3 years, more recently raised funds continue to call capital, which is straining investor liquidity.

PE Deal Activity by Quarter



Exit Activity by Quarter



* Source: Pitchbook, Geography; US, As of 12/31/2024

Performance Highlights

Private Equity

- Given these factors, managers continue to face a difficult fundraising environment. This has contributed to private equity management fees falling to their lowest level in two decades.

US Private Equity Fundraising Activity
2014-24



Source: Pitchbook, Geography; US, As of 12/31/2024

The mean buyout fund management fee is at its lowest in two decades of data

Average global buyout fund management fee rates, by vintage year (%)



FINANCIAL TIMES

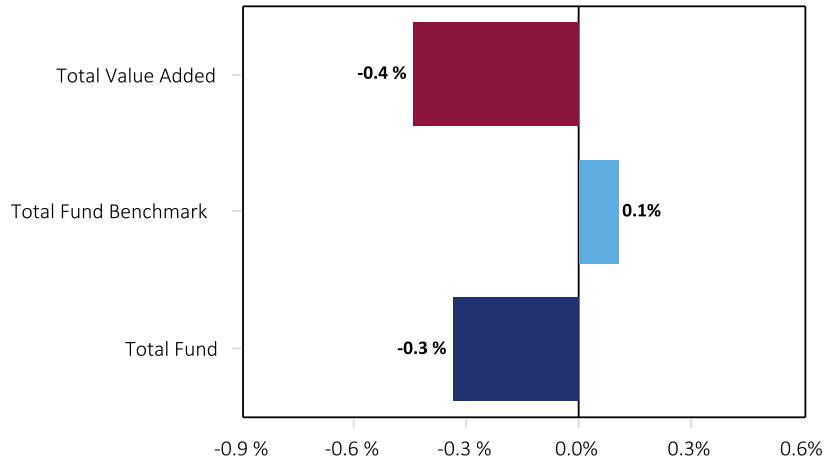
Source: Preqin Pro

Total Fund Attribution

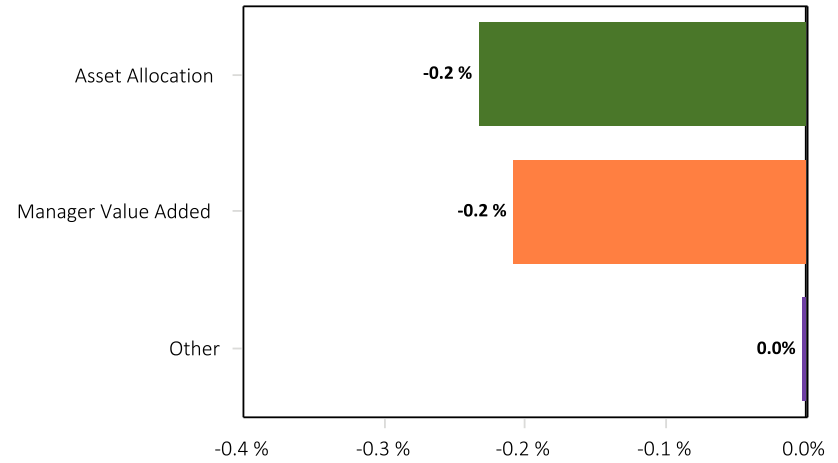
CERS Pension Plan

Periods Ended 1 Quarter Ending December 31, 2024

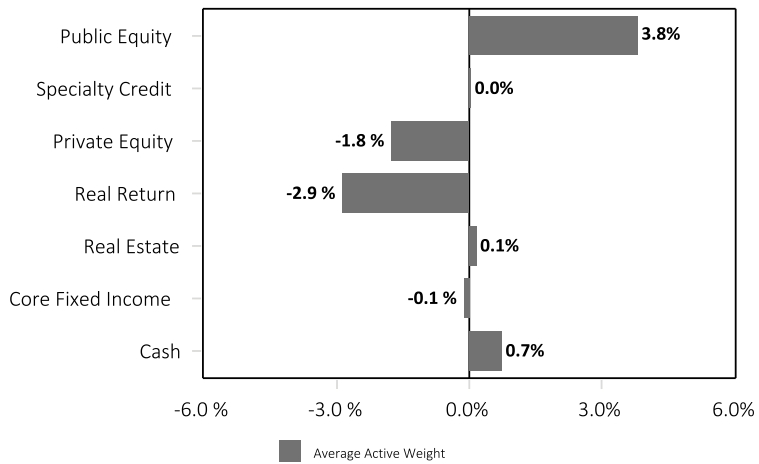
Total Fund Performance



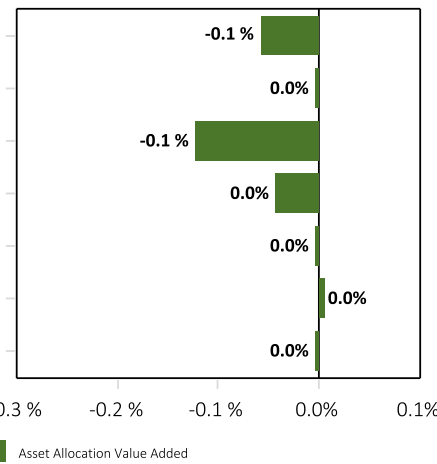
Total Value Added:-0.4 %



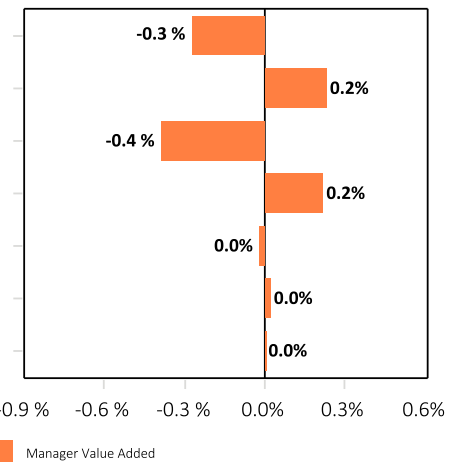
Total Asset Allocation:-0.2 %



Asset Allocation Value Added:-0.2 %



Total Manager Value Added:-0.2 %

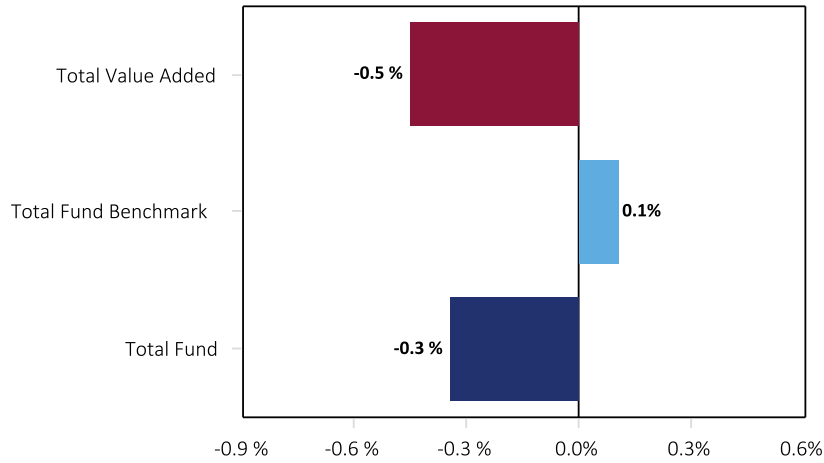


Total Fund Attribution

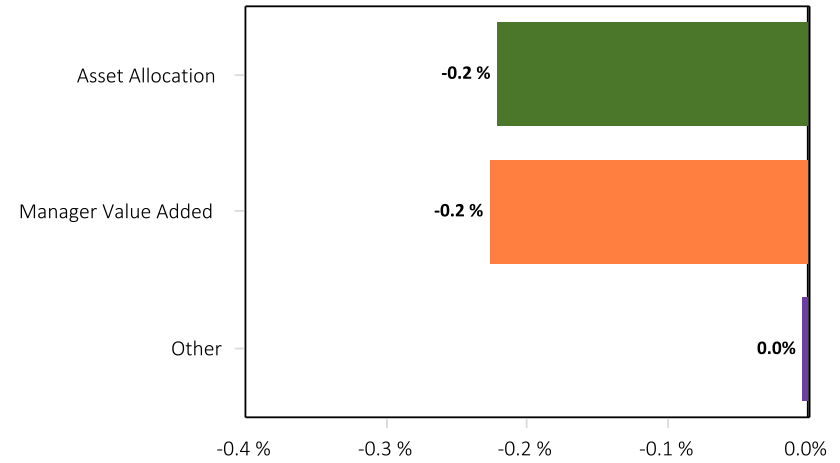
CERS (H) Pension Plan

Periods Ended 1 Quarter Ending December 31, 2024

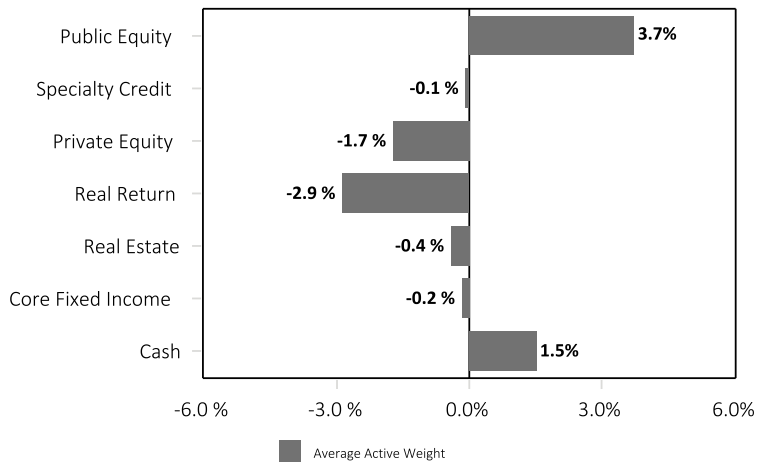
Total Fund Performance



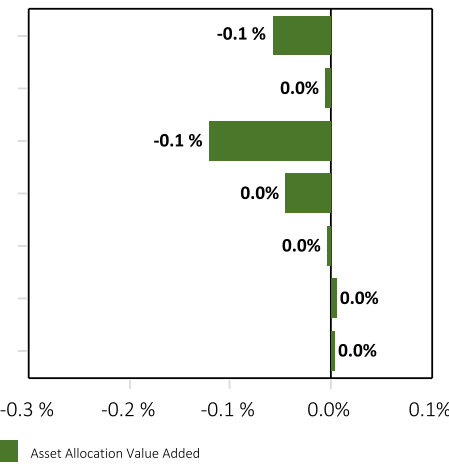
Total Value Added:-0.5 %



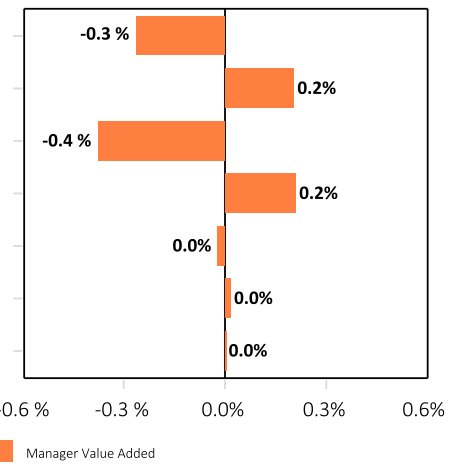
Total Asset Allocation:-0.2 %



Asset Allocation Value Added:-0.2 %



Total Manager Value Added:-0.2 %

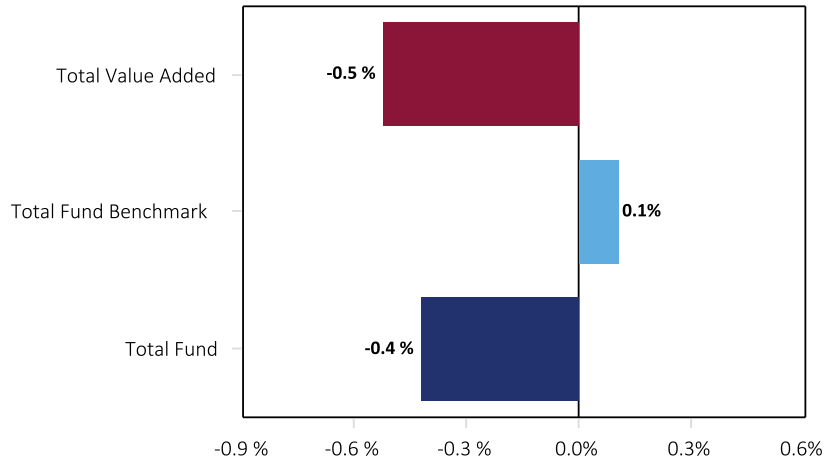


Total Fund Attribution

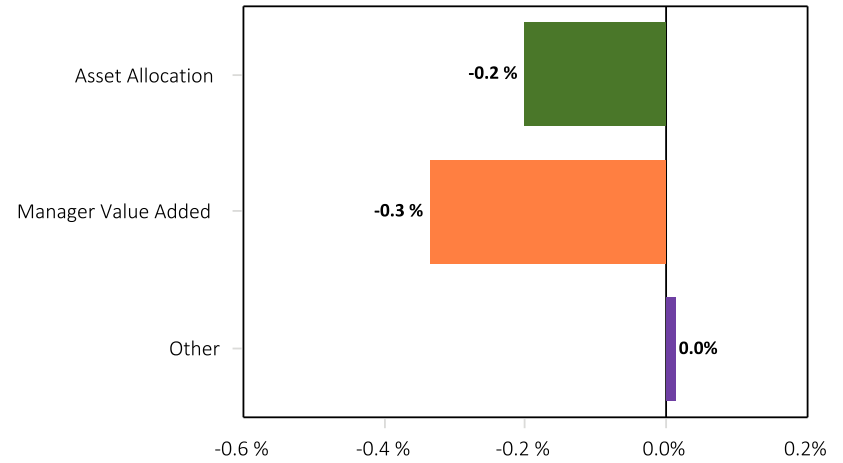
CERS Insurance Plan

Periods Ended 1 Quarter Ending December 31, 2024

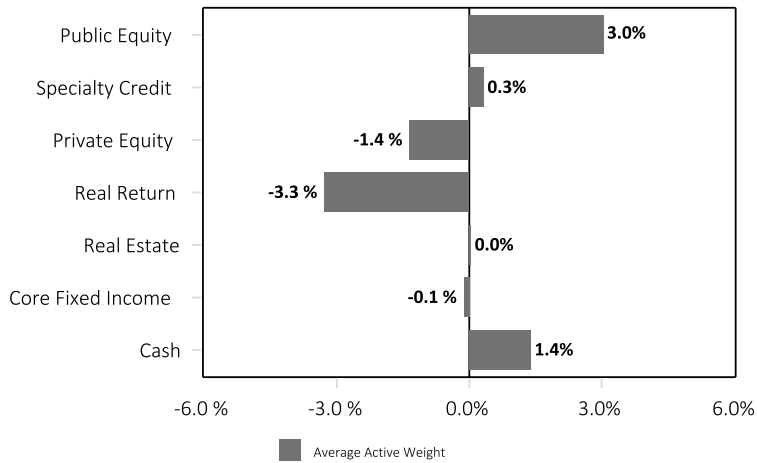
Total Fund Performance



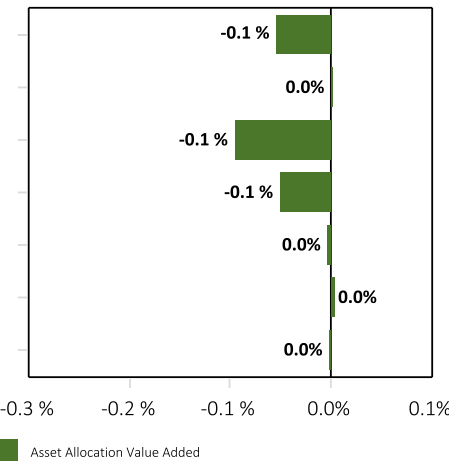
Total Value Added:-0.5 %



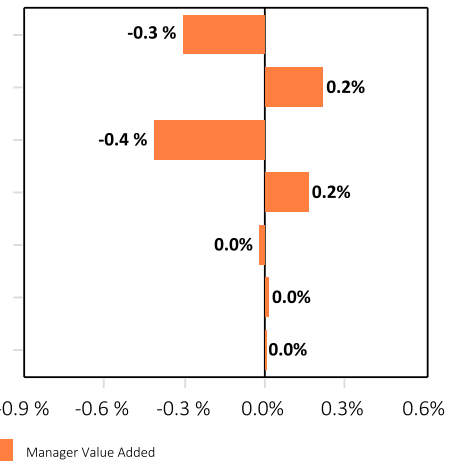
Total Asset Allocation:-0.2 %



Asset Allocation Value Added:-0.2 %



Total Manager Value Added:-0.3 %

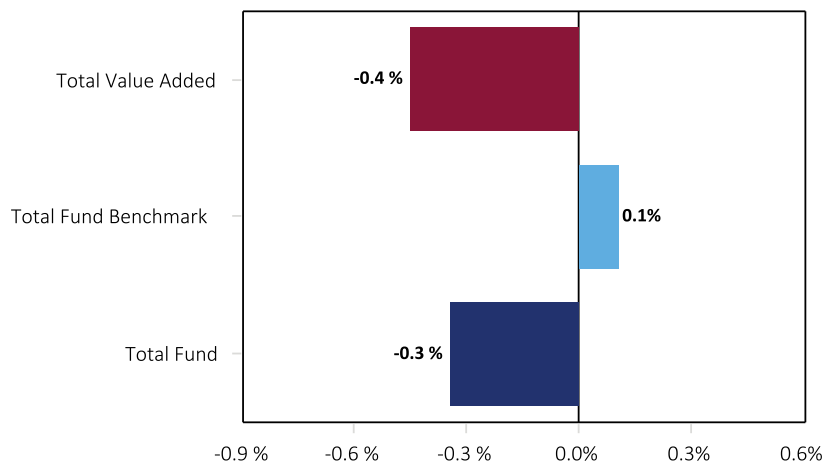


Total Fund Attribution

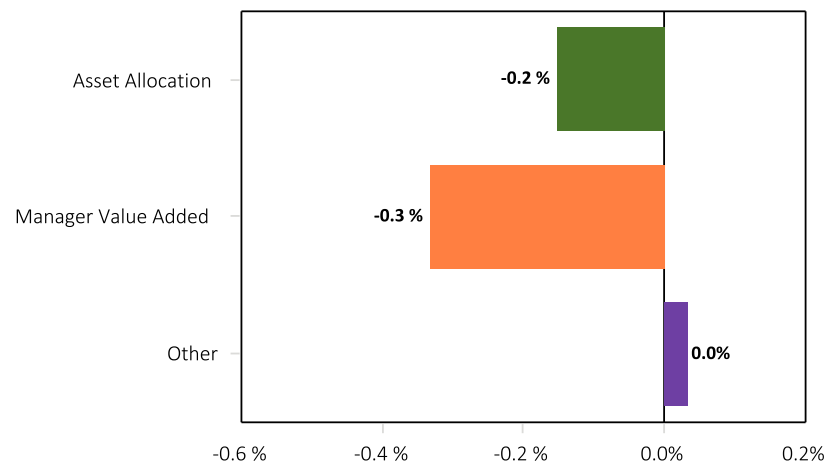
CERS (H) Insurance Plan

Periods Ended 1 Quarter Ending December 31, 2024

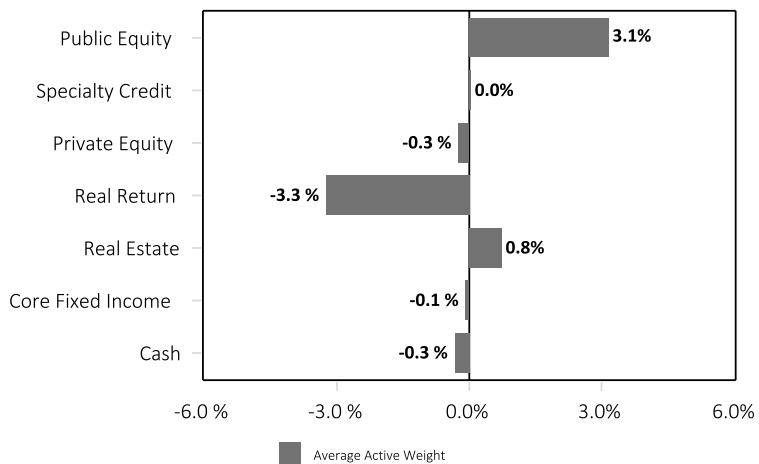
Total Fund Performance



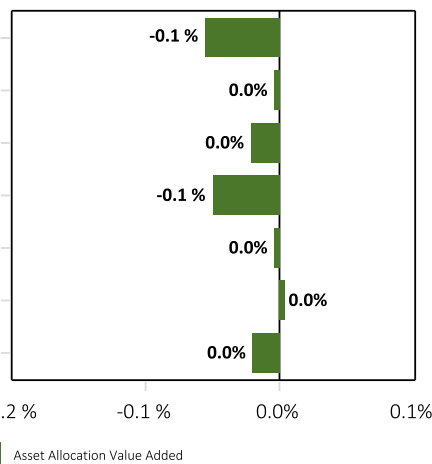
Total Value Added:-0.4 %



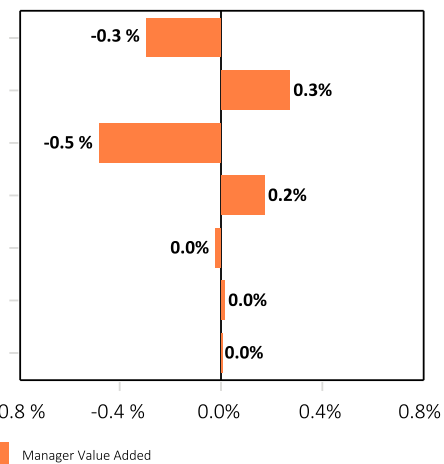
Total Asset Allocation:-0.2 %



Asset Allocation Value Added:-0.2 %



Total Manager Value Added:-0.3 %

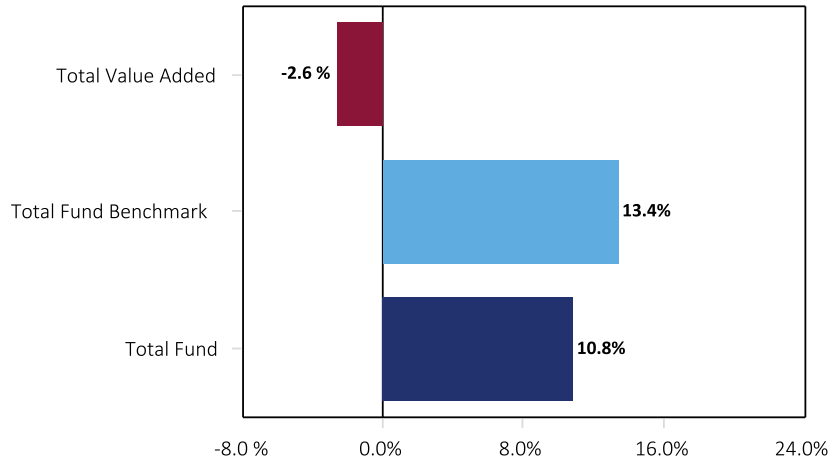


Total Fund Attribution

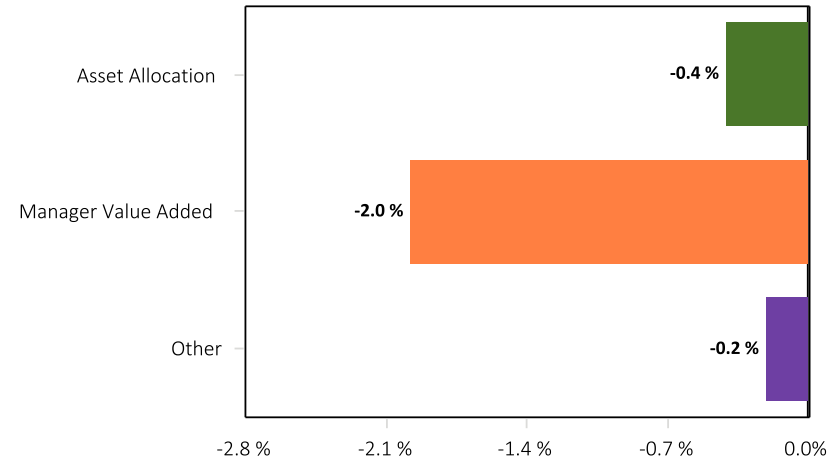
CERS Pension Plan

Periods Ended 1 Year Ending December 31, 2024

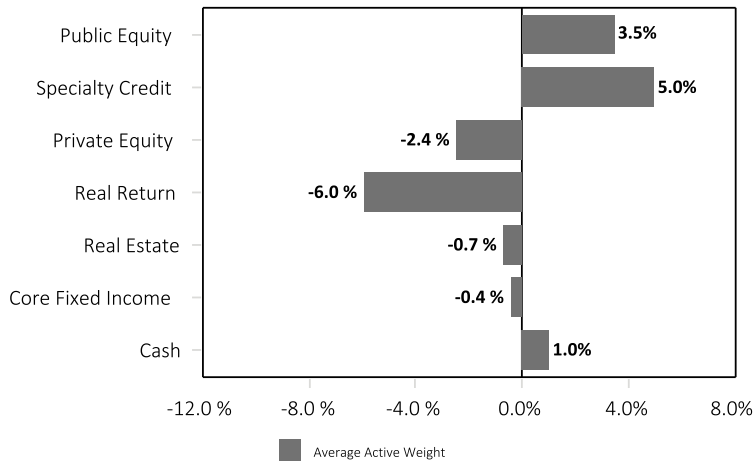
Total Fund Performance



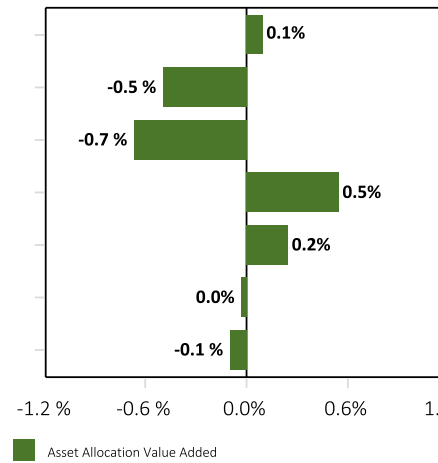
Total Value Added:-2.6 %



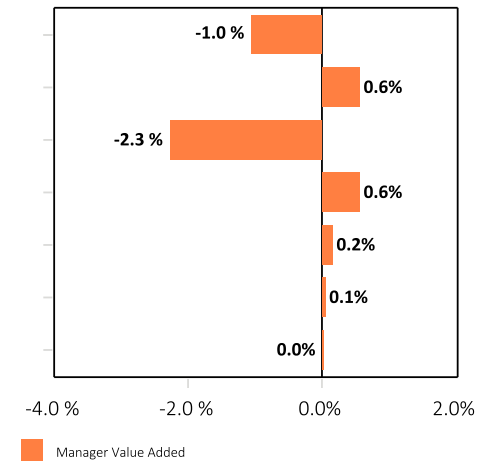
Total Asset Allocation:-0.4 %



Asset Allocation Value Added:-0.4 %



Total Manager Value Added:-2.0 %

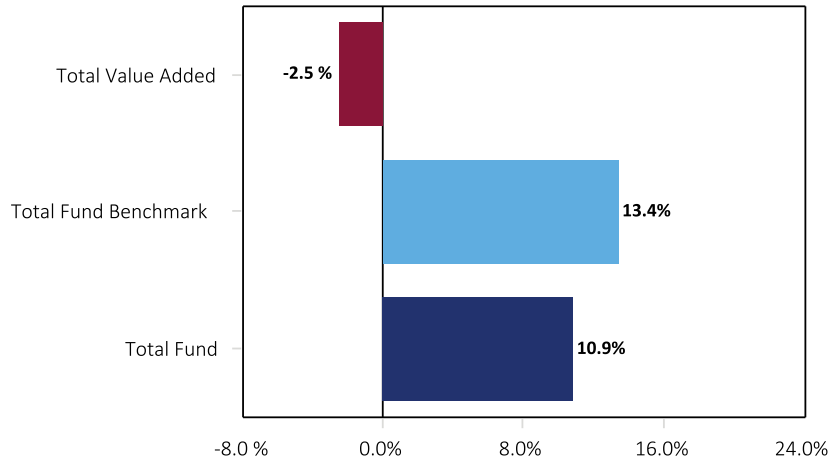


Total Fund Attribution

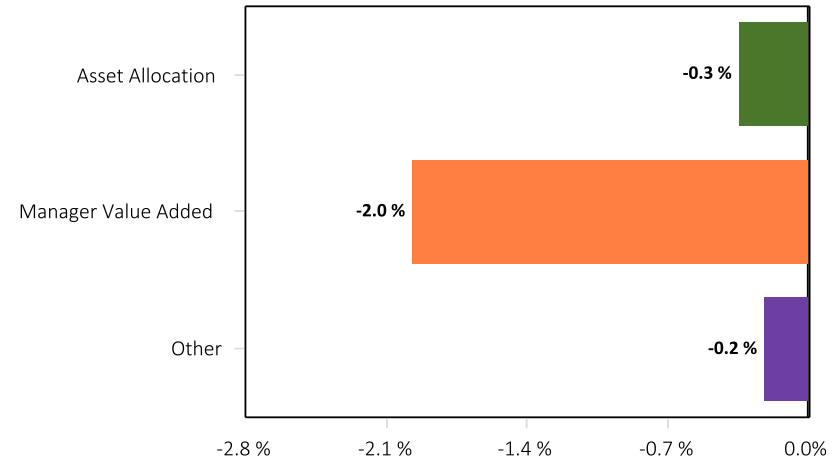
CERS (H) Pension Plan

Periods Ended 1 Year Ending December 31, 2024

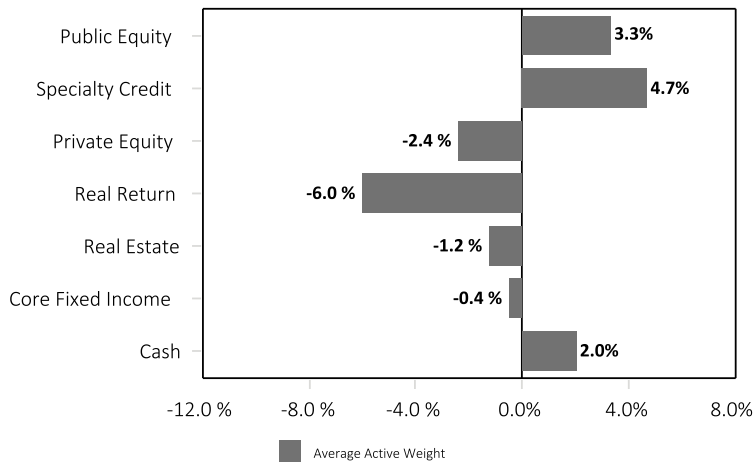
Total Fund Performance



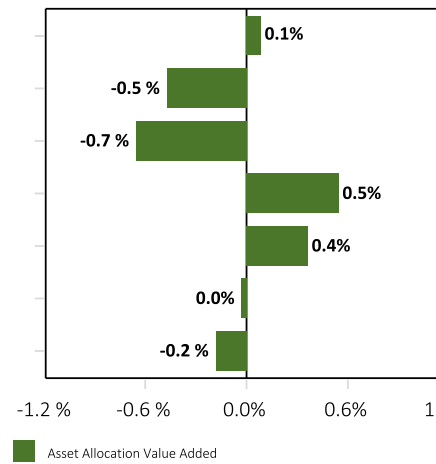
Total Value Added:-2.5 %



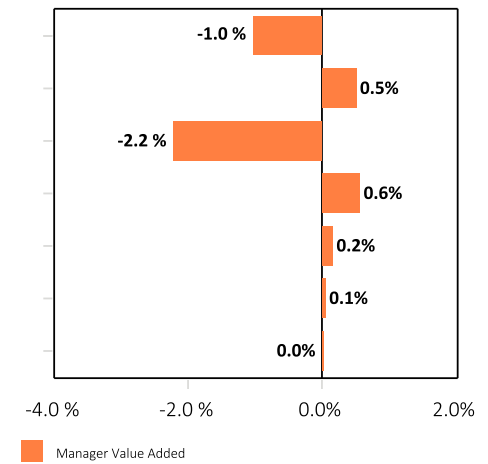
Total Asset Allocation:-0.3 %



Asset Allocation Value Added:-0.3 %



Total Manager Value Added:-2.0 %

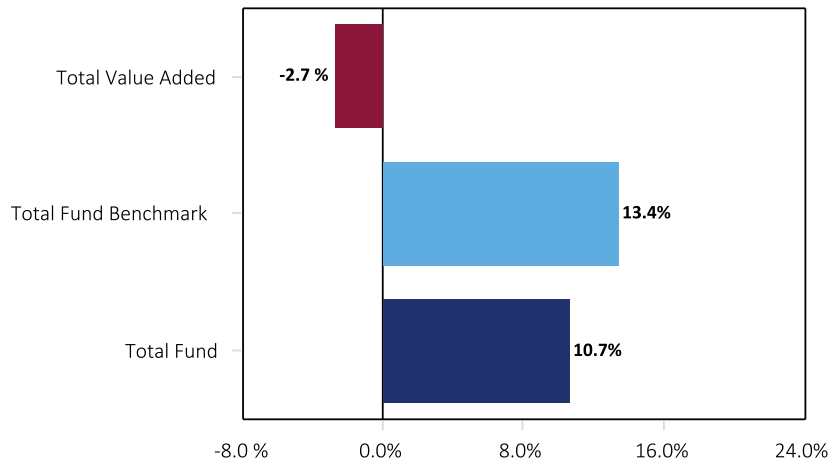


Total Fund Attribution

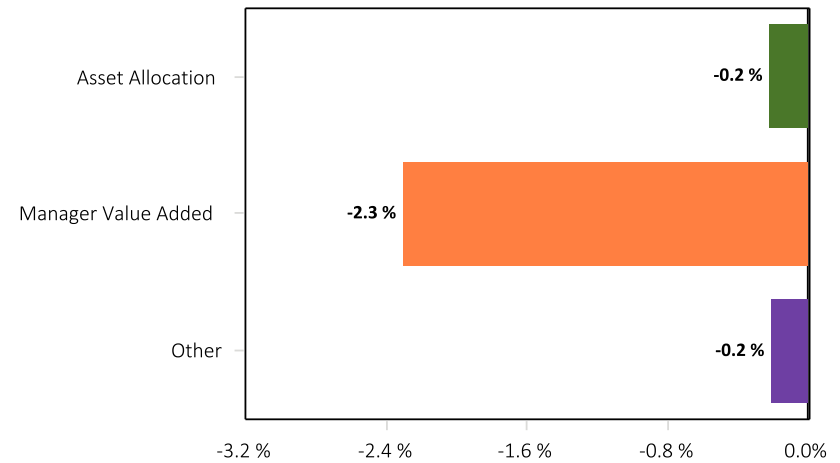
CERS Insurance Plan

Periods Ended 1 Year Ending December 31, 2024

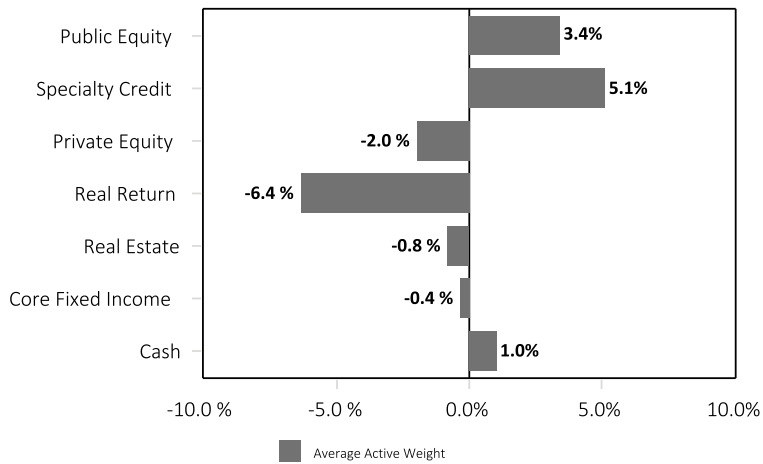
Total Fund Performance



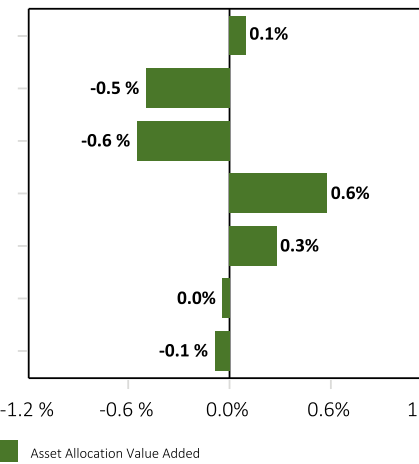
Total Value Added:-2.7 %



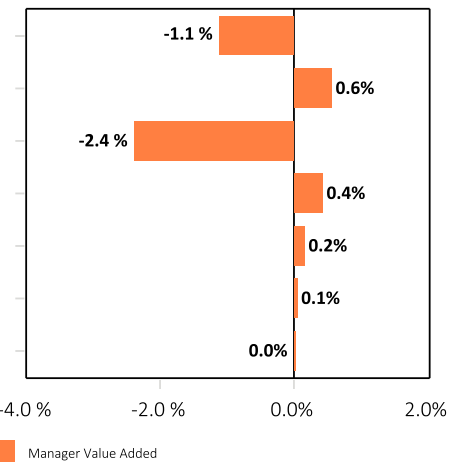
Total Asset Allocation:-0.2 %



Asset Allocation Value Added:-0.2 %



Total Manager Value Added:-2.3 %

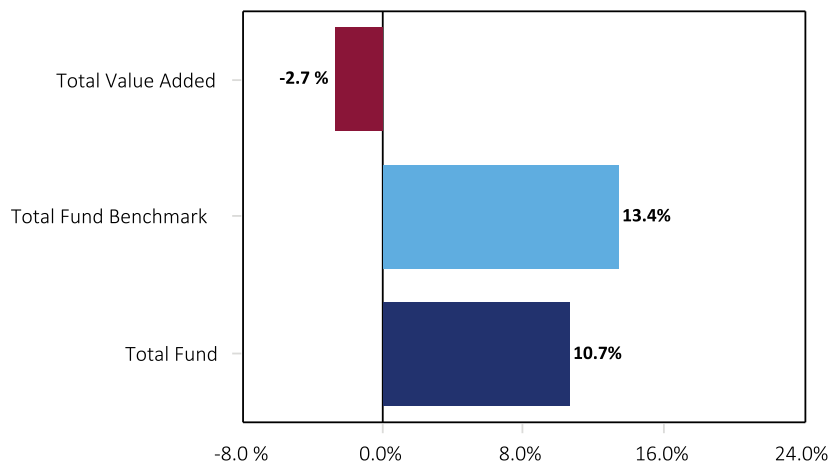


Total Fund Attribution

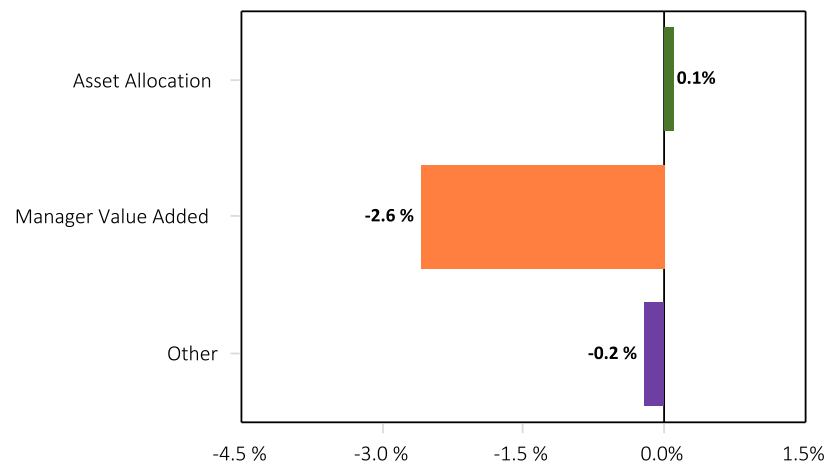
CERS (H) Insurance Plan

Periods Ended 1 Year Ending December 31, 2024

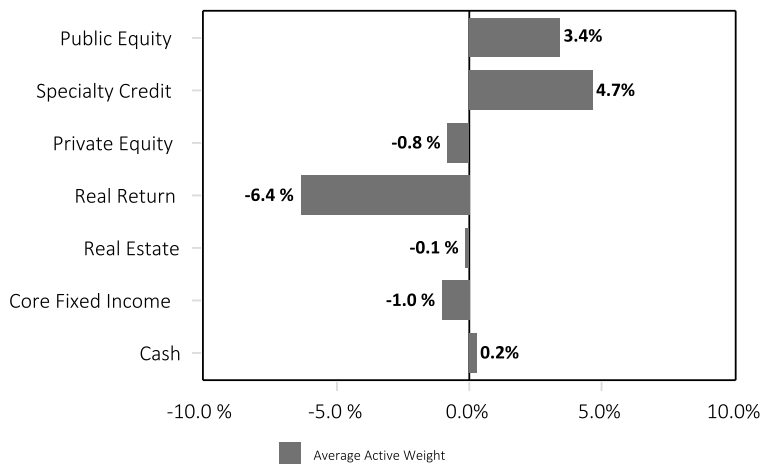
Total Fund Performance



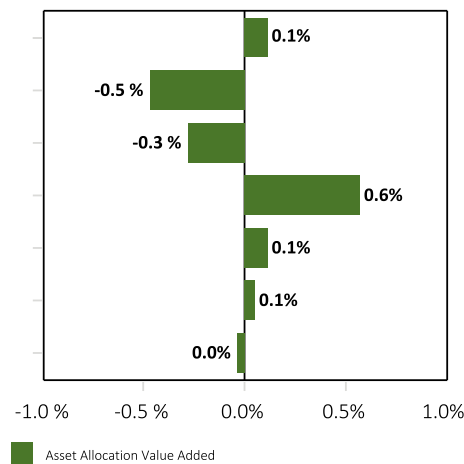
Total Value Added:-2.7 %



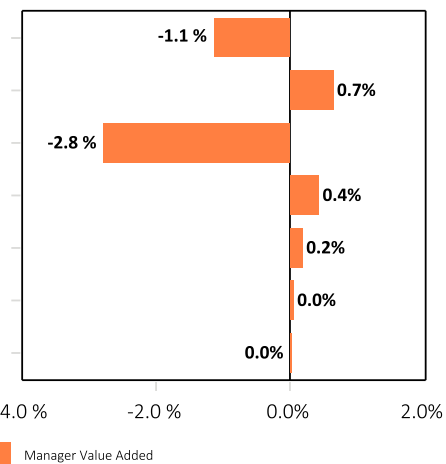
Total Asset Allocation:0.1%



Asset Allocation Value Added:0.1%



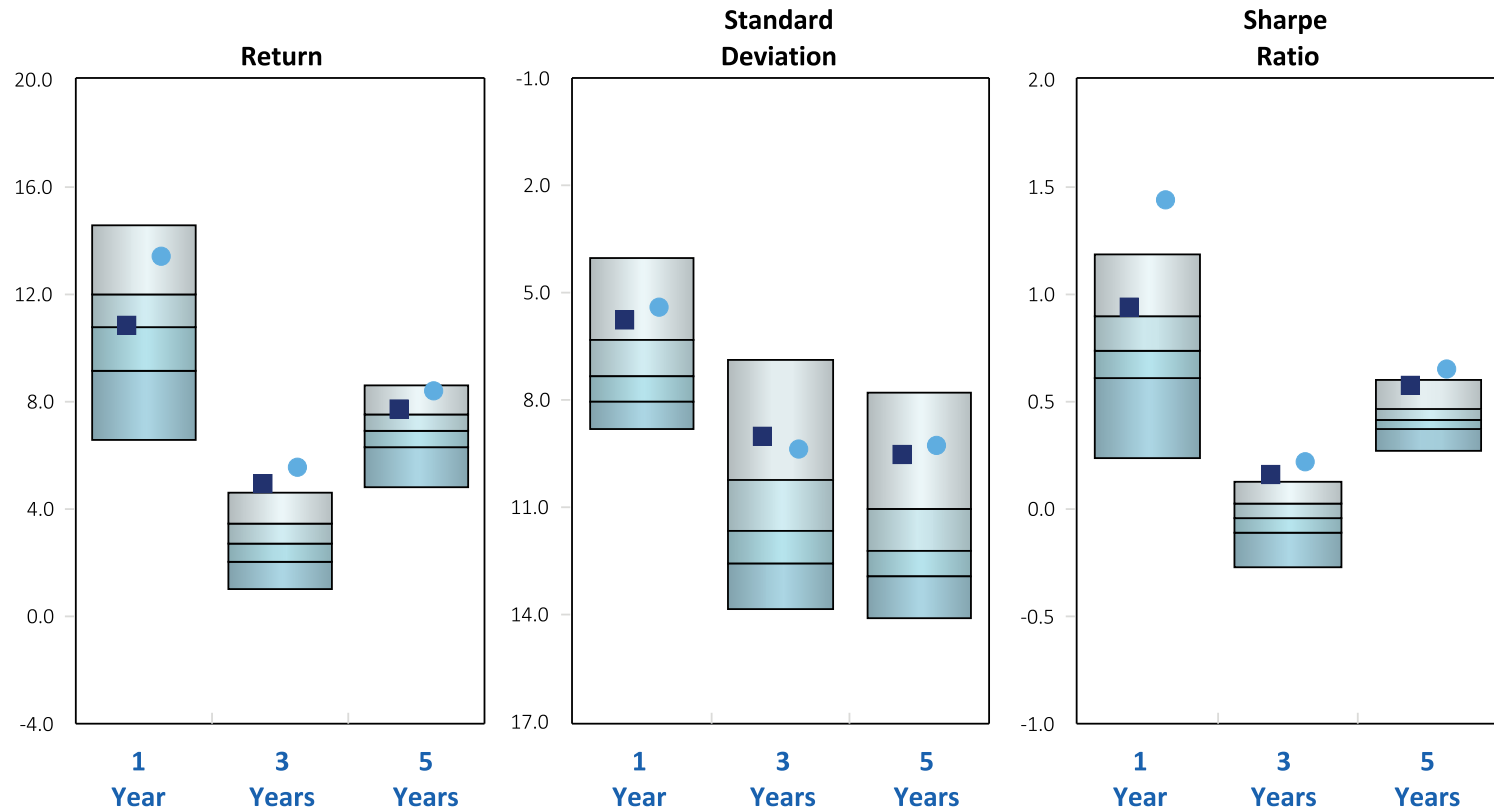
Total Manager Value Added:-2.6 %



Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended December 31, 2024



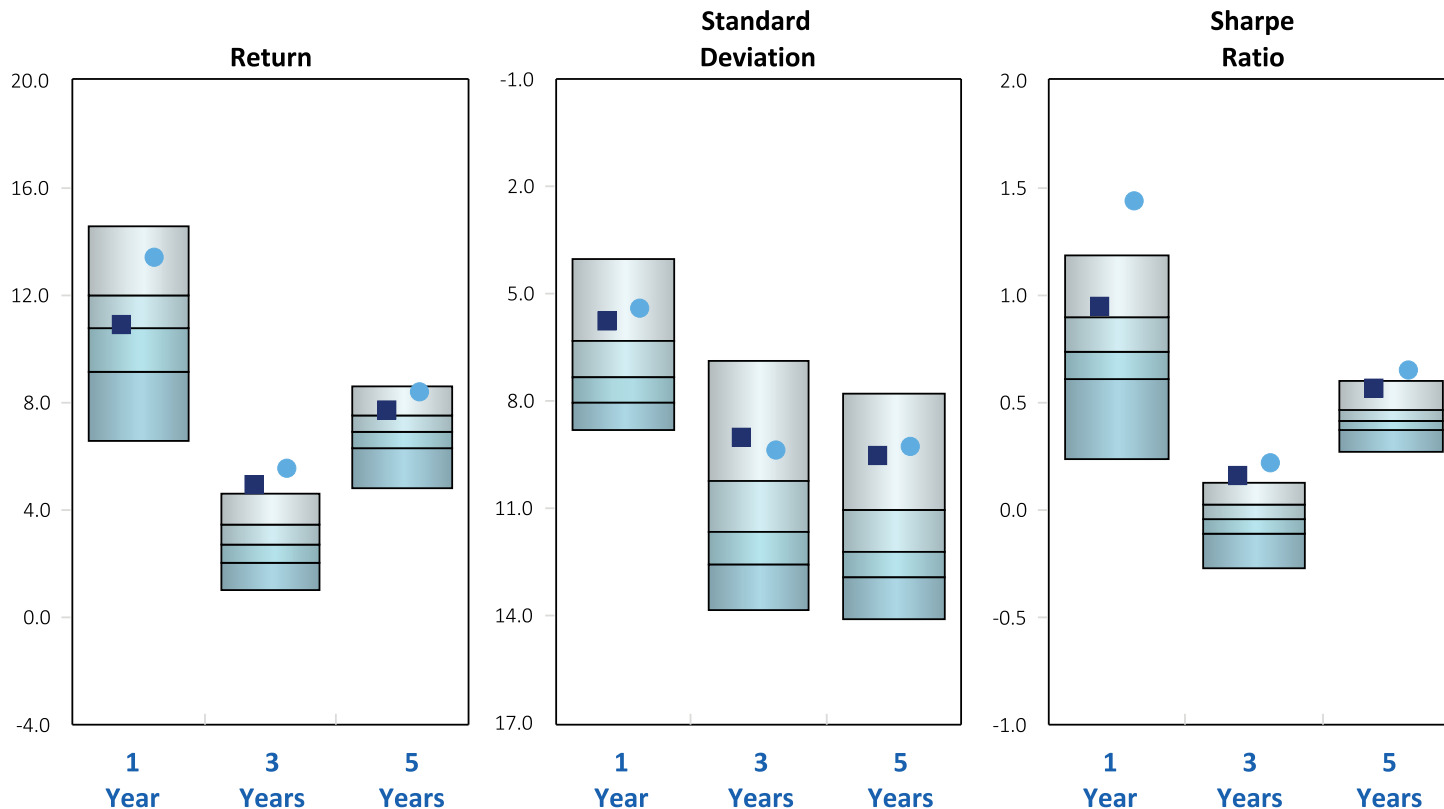
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS Pension Plan	10.84 (50)	4.94 (3)	7.74 (21)	5.75 (18)	8.99 (14)	9.52 (12)	0.94 (21)	0.16 (4)	0.57 (7)
● CERS Pension IPS Index	13.43 (11)	5.59 (3)	8.38 (8)	5.39 (15)	9.37 (16)	9.26 (11)	1.44 (1)	0.22 (2)	0.65 (3)
5th Percentile	14.55	4.58	8.64	4.01	6.88	7.81	1.19	0.13	0.60
1st Quartile	11.98	3.46	7.55	6.31	10.25	11.03	0.90	0.03	0.47
Median	10.77	2.70	6.90	7.32	11.66	12.20	0.74	-0.05	0.41
3rd Quartile	9.17	2.00	6.29	8.05	12.56	12.92	0.61	-0.11	0.37
95th Percentile	6.56	1.02	4.84	8.83	13.82	14.10	0.24	-0.27	0.27

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

CERS (H) Pension Plan vs All Public Plans-Total Fund

Periods Ended December 31, 2024



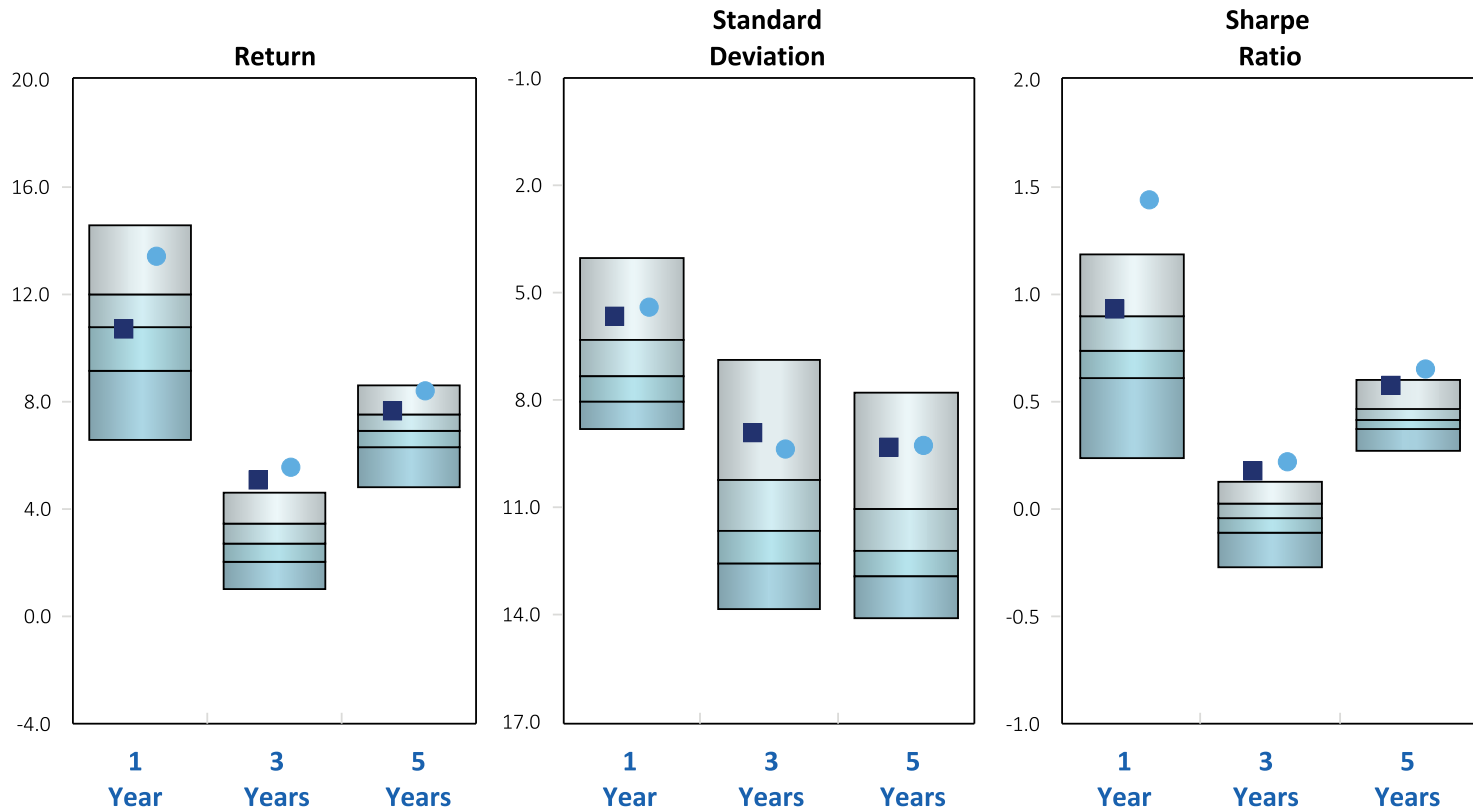
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Pension Plan	10.91 (49)	4.97 (3)	7.72 (21)	5.77 (18)	9.04 (14)	9.53 (12)	0.95 (21)	0.16 (4)	0.57 (7)
● CERS (H) Pension IPS Index	13.43 (11)	5.59 (3)	8.38 (8)	5.39 (15)	9.37 (16)	9.26 (11)	1.44 (1)	0.22 (2)	0.65 (3)
5th Percentile	14.55	4.58	8.64	4.01	6.88	7.81	1.19	0.13	0.60
1st Quartile	11.98	3.46	7.55	6.31	10.25	11.03	0.90	0.03	0.47
Median	10.77	2.70	6.90	7.32	11.66	12.20	0.74	-0.05	0.41
3rd Quartile	9.17	2.00	6.29	8.05	12.56	12.92	0.61	-0.11	0.37
95th Percentile	6.56	1.02	4.84	8.83	13.82	14.10	0.24	-0.27	0.27

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended December 31, 2024

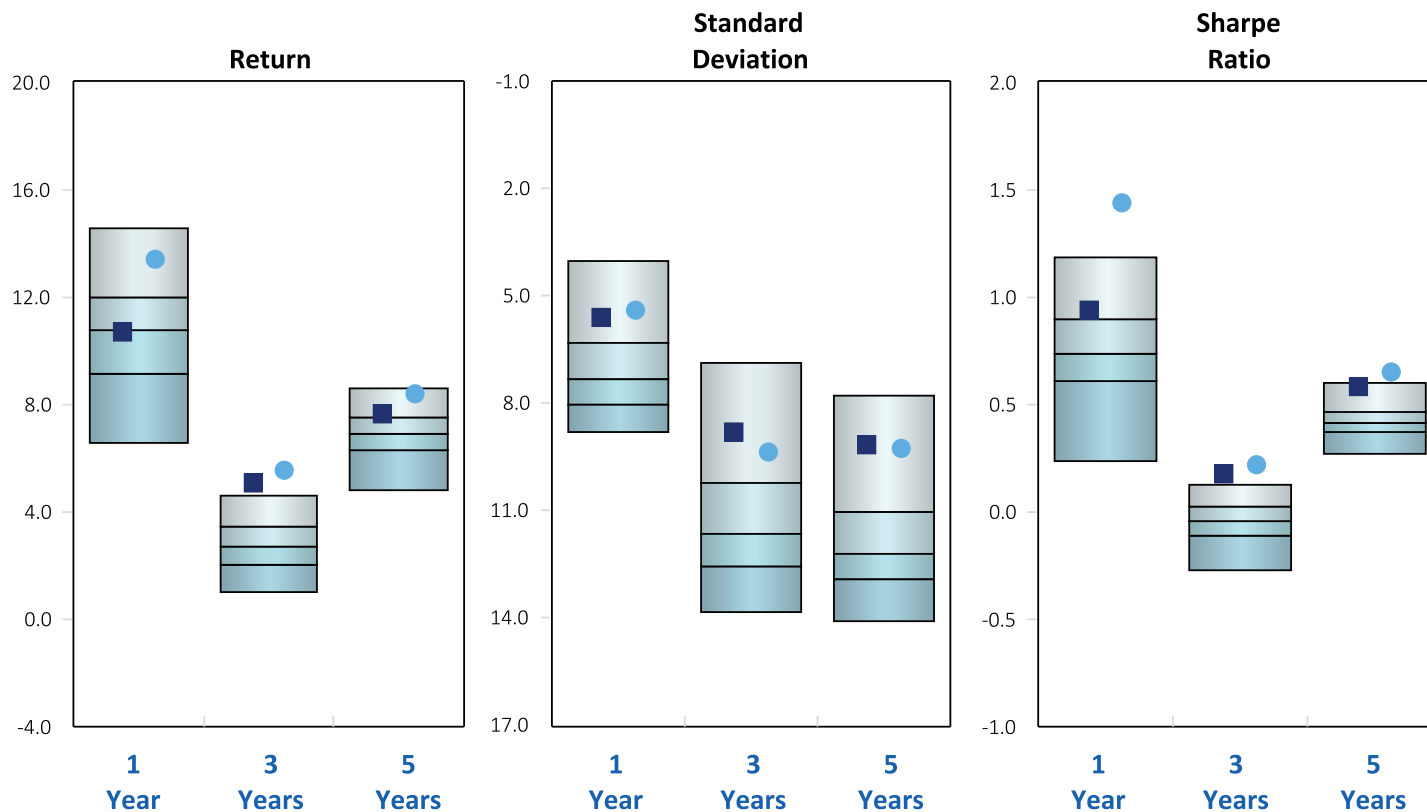


	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS Insurance Plan	10.70 (51)	5.11 (3)	7.63 (24)	5.67 (18)	8.92 (13)	9.32 (11)	0.93 (22)	0.18 (4)	0.57 (7)
● CERS Insurance IPS Index	13.43 (11)	5.59 (3)	8.38 (8)	5.39 (15)	9.37 (16)	9.26 (11)	1.44 (1)	0.22 (2)	0.65 (3)
5th Percentile	14.55	4.58	8.64	4.01	6.88	7.81	1.19	0.13	0.60
1st Quartile	11.98	3.46	7.55	6.31	10.25	11.03	0.90	0.03	0.47
Median	10.77	2.70	6.90	7.32	11.66	12.20	0.74	-0.05	0.41
3rd Quartile	9.17	2.00	6.29	8.05	12.56	12.92	0.61	-0.11	0.37
95th Percentile	6.56	1.02	4.84	8.83	13.82	14.10	0.24	-0.27	0.27

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis - Multi Statistics

CERS (H) Insurance Plan vs All Public Plans-Total Fund
 Periods Ended December 31, 2024



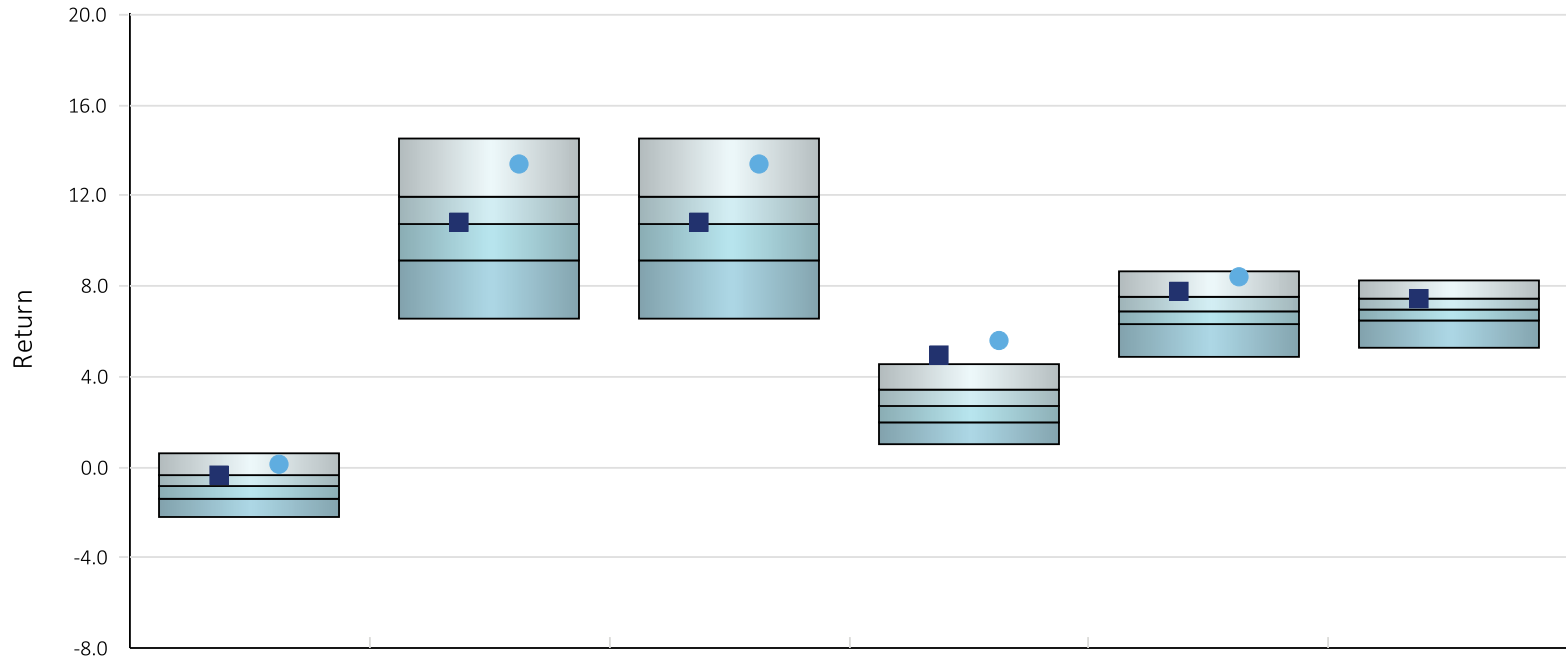
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Insurance Plan	10.71 (51)	5.09 (3)	7.68 (22)	5.61 (17)	8.80 (13)	9.18 (10)	0.94 (21)	0.18 (4)	0.59 (6)
● CERS (H) Insurance IPS Index	13.43 (11)	5.59 (3)	8.38 (8)	5.39 (15)	9.37 (16)	9.26 (11)	1.44 (1)	0.22 (2)	0.65 (3)
5th Percentile	14.55	4.58	8.64	4.01	6.88	7.81	1.19	0.13	0.60
1st Quartile	11.98	3.46	7.55	6.31	10.25	11.03	0.90	0.03	0.47
Median	10.77	2.70	6.90	7.32	11.66	12.20	0.74	-0.05	0.41
3rd Quartile	9.17	2.00	6.29	8.05	12.56	12.92	0.61	-0.11	0.37
95th Percentile	6.56	1.02	4.84	8.83	13.82	14.10	0.24	-0.27	0.27

Parentheses contain percentile rankings.
 Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended December 31, 2024



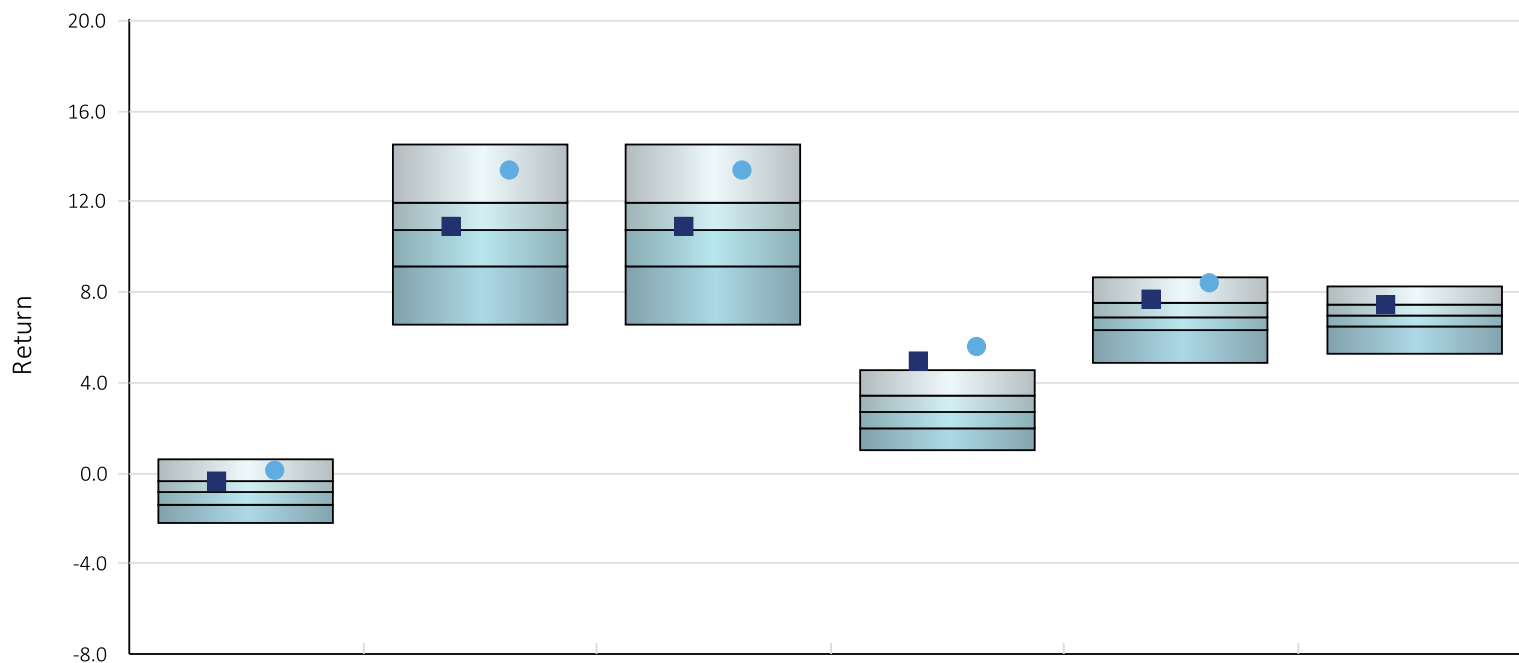
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS Pension Plan	-0.34 (27)	10.84 (50)	10.84 (50)	4.94 (3)	7.74 (21)	7.48 (25)
● CERS Pension IPS Index	0.10 (13)	13.43 (11)	13.43 (11)	5.59 (3)	8.38 (8)	
5th Percentile	0.64	14.55	14.55	4.58	8.64	8.28
1st Quartile	-0.32	11.98	11.98	3.46	7.55	7.45
Median	-0.84	10.77	10.77	2.70	6.90	6.97
3rd Quartile	-1.37	9.17	9.17	2.00	6.29	6.47
95th Percentile	-2.24	6.56	6.56	1.02	4.84	5.31
Population	695	681	681	657	635	540

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

CERS (H) Pension Plan vs All Public Plans-Total Fund

Periods Ended December 31, 2024



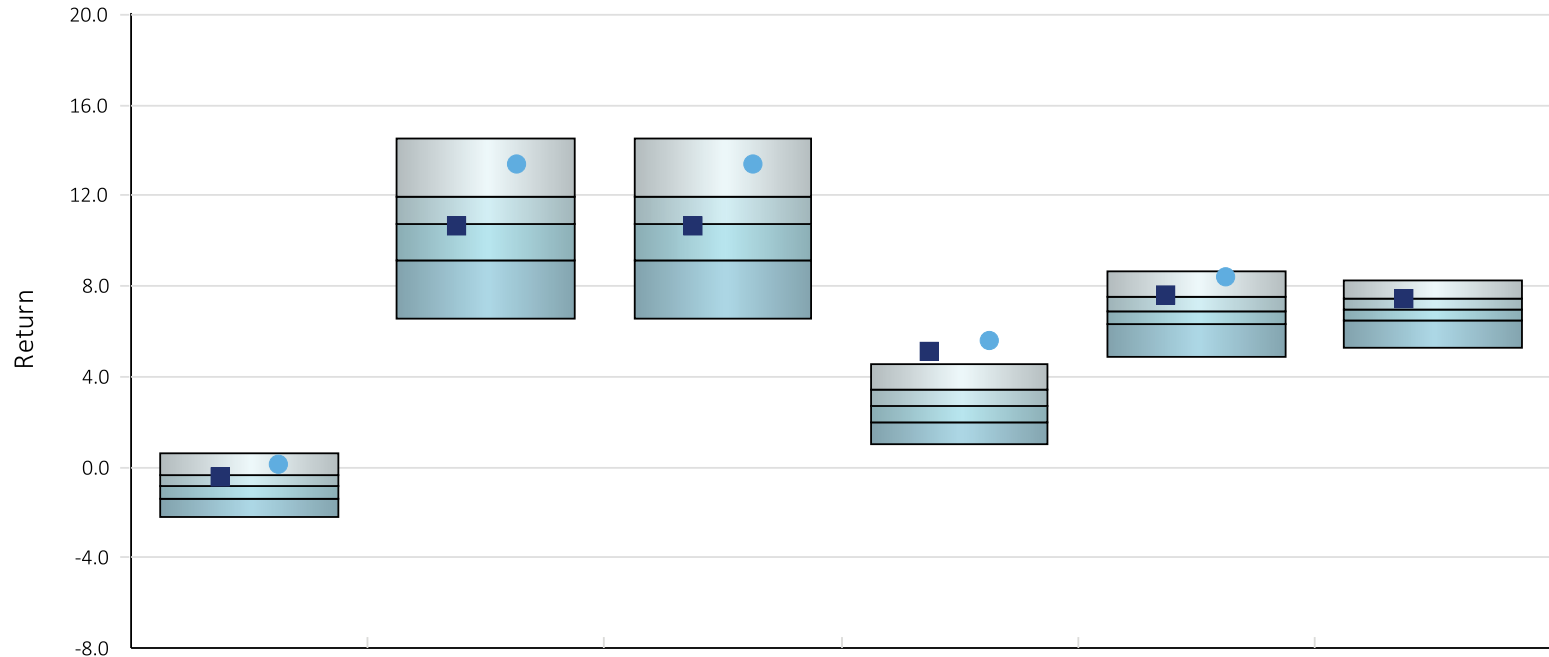
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS (H) Pension Plan	-0.35 (27)	10.91 (49)	10.91 (49)	4.97 (3)	7.72 (21)	7.48 (25)
● CERS (H) Pension IPS Index	0.10 (13)	13.43 (11)	13.43 (11)	5.59 (3)	8.38 (8)	
5th Percentile	0.64	14.55	14.55	4.58	8.64	8.28
1st Quartile	-0.32	11.98	11.98	3.46	7.55	7.45
Median	-0.84	10.77	10.77	2.70	6.90	6.97
3rd Quartile	-1.37	9.17	9.17	2.00	6.29	6.47
95th Percentile	-2.24	6.56	6.56	1.02	4.84	5.31
Population	695	681	681	657	635	540

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

CERS Insurance Plan vs All Public Plans-Total Fund

Periods Ended December 31, 2024



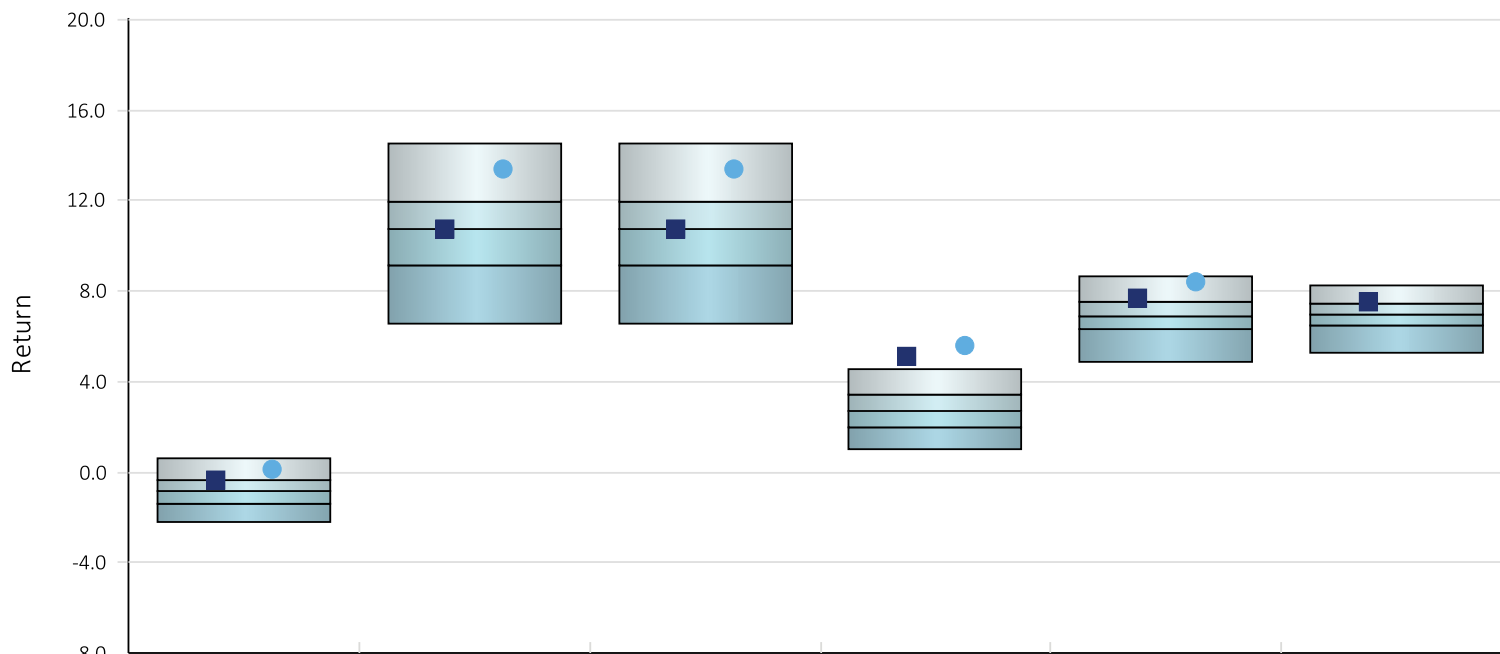
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS Insurance Plan	-0.42 (32)	10.70 (51)	10.70 (51)	5.11 (3)	7.63 (24)	7.49 (25)
● CERS Insurance IPS Index	0.10 (13)	13.43 (11)	13.43 (11)	5.59 (3)	8.38 (8)	
5th Percentile	0.64	14.55	14.55	4.58	8.64	8.28
1st Quartile	-0.32	11.98	11.98	3.46	7.55	7.45
Median	-0.84	10.77	10.77	2.70	6.90	6.97
3rd Quartile	-1.37	9.17	9.17	2.00	6.29	6.47
95th Percentile	-2.24	6.56	6.56	1.02	4.84	5.31
Population	695	681	681	657	635	540

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Plan Sponsor Peer Group Analysis

CERS (H) Insurance Plan vs All Public Plans-Total Fund

Periods Ended December 31, 2024



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS (H) Insurance Plan	-0.35 (27)	10.71 (51)	10.71 (51)	5.09 (3)	7.68 (22)	7.55 (22)
● CERS (H) Insurance IPS Index	0.10 (13)	13.43 (11)	13.43 (11)	5.59 (3)	8.38 (8)	
5th Percentile	0.64	14.55	14.55	4.58	8.64	8.28
1st Quartile	-0.32	11.98	11.98	3.46	7.55	7.45
Median	-0.84	10.77	10.77	2.70	6.90	6.97
3rd Quartile	-1.37	9.17	9.17	2.00	6.29	6.47
95th Percentile	-2.24	6.56	6.56	1.02	4.84	5.31
Population	695	681	681	657	635	540

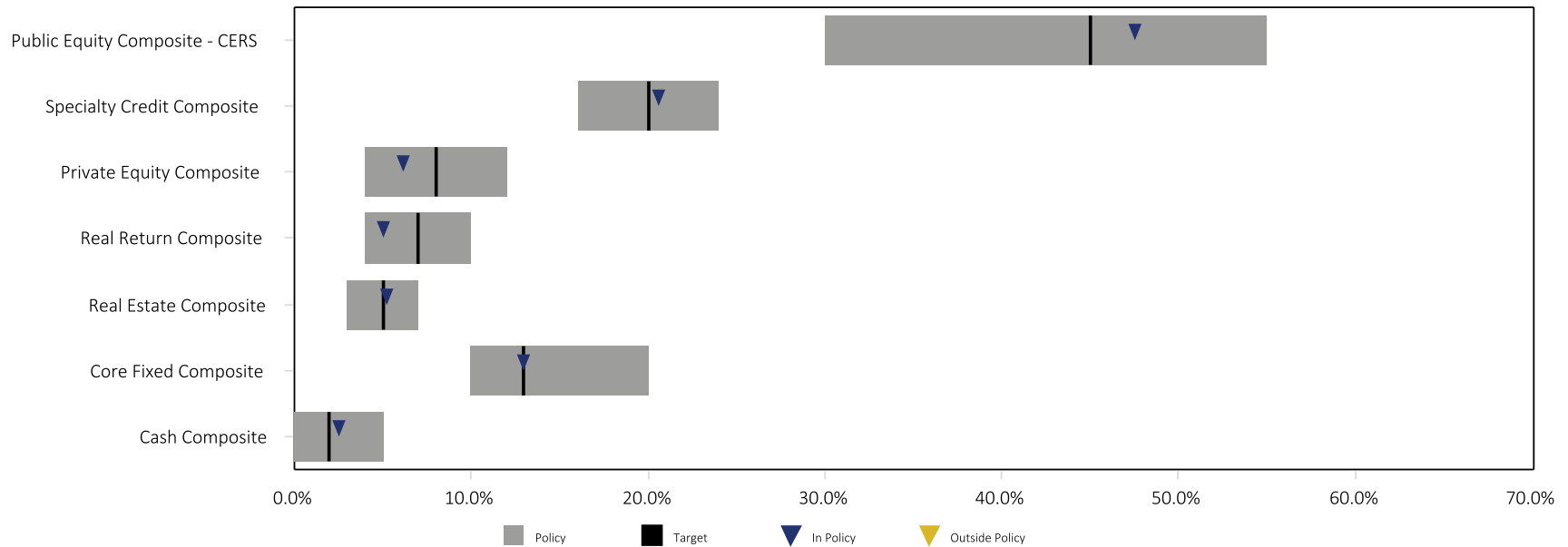
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Asset Allocation Compliance

CERS Pension Plan

Periods Ended As of December 31, 2024

Executive Summary



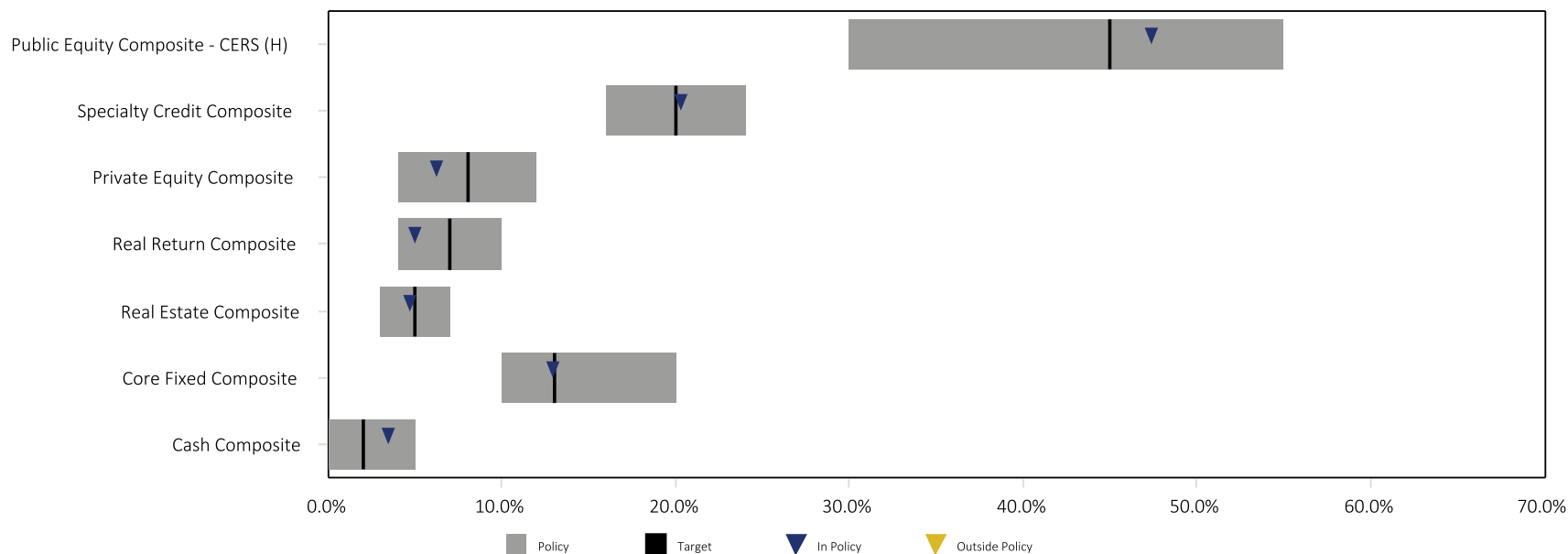
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
CERS Pension Plan	9,963,205,050	100.00			100.00	
Public Equity Composite - CERS	4,738,159,656	47.56	30.00	55.00	45.00	-254,717,383
Specialty Credit Composite	2,048,528,929	20.56	16.00	24.00	20.00	-55,887,919
Private Equity Composite	616,509,636	6.19	4.00	12.00	8.00	180,546,767
Real Return Composite	498,483,670	5.00	4.00	10.00	7.00	198,940,684
Real Estate Composite	520,917,234	5.23	3.00	7.00	5.00	-22,756,982
Core Fixed Composite	1,288,779,504	12.94	10.00	20.00	13.00	6,437,152
Cash Composite	251,826,420	2.53	0.00	5.00	2.00	-52,562,319

Asset Allocation Compliance

CERS (H) Pension Plan

Periods Ended As of December 31, 2024

Executive Summary



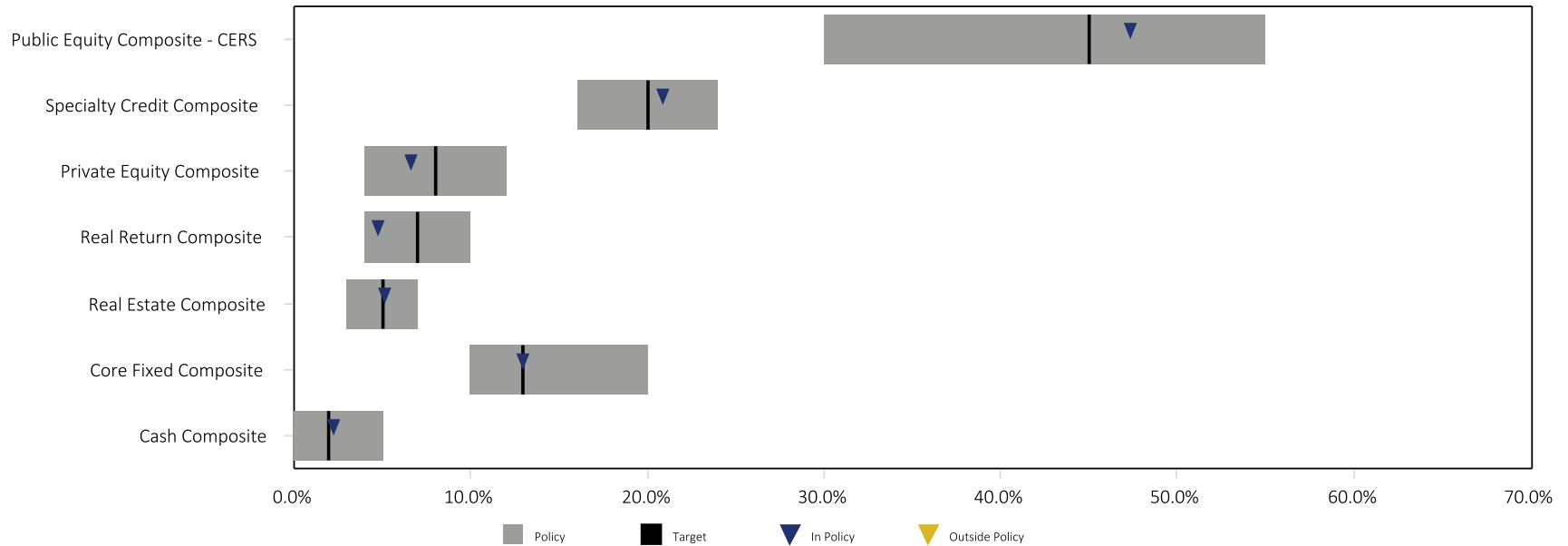
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
CERS (H) Pension Plan	3,560,186,612	100.00			100.00	
Public Equity Composite - CERS (H)	1,688,747,172	47.43	30.00	55.00	45.00	-86,663,197
Specialty Credit Composite	724,131,173	20.34	16.00	24.00	20.00	-12,093,850
Private Equity Composite	220,932,468	6.21	4.00	12.00	8.00	63,882,461
Real Return Composite	177,141,803	4.98	4.00	10.00	7.00	72,071,260
Real Estate Composite	165,824,658	4.66	3.00	7.00	5.00	12,184,672
Core Fixed Composite	459,219,485	12.90	10.00	20.00	13.00	3,604,775
Cash Composite	124,189,853	3.49	0.00	5.00	2.00	-52,986,121

Asset Allocation Compliance

CERS Insurance Plan

Periods Ended As of December 31, 2024

Executive Summary



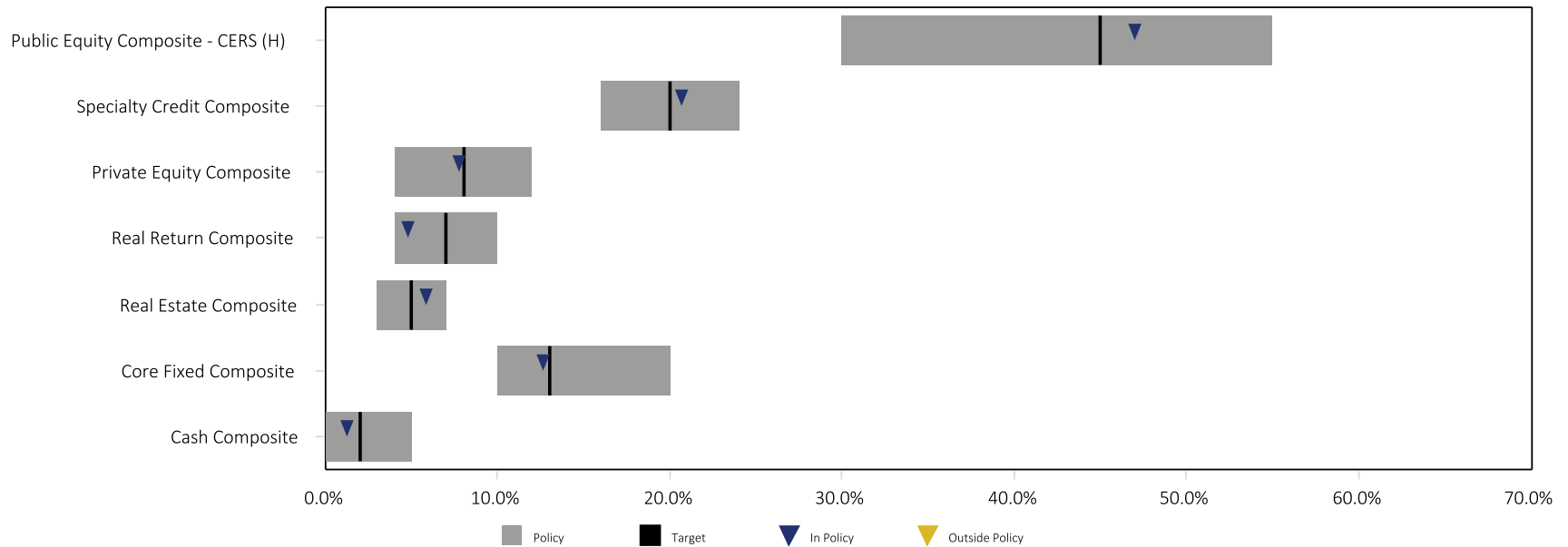
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
CERS Insurance Plan	3,684,942,418	100.00			100.00	
Public Equity Composite - CERS	1,746,016,249	47.38	30.00	55.00	45.00	-87,792,161
Specialty Credit Composite	769,177,844	20.87	16.00	24.00	20.00	-32,189,360
Private Equity Composite	244,809,399	6.64	4.00	12.00	8.00	49,985,994
Real Return Composite	175,261,425	4.76	4.00	10.00	7.00	82,684,544
Real Estate Composite	188,688,940	5.12	3.00	7.00	5.00	-4,441,819
Core Fixed Composite	477,681,115	12.96	10.00	20.00	13.00	1,361,399
Cash Composite	83,307,446	2.26	0.00	5.00	2.00	-9,608,597

Asset Allocation Compliance

CERS (H) Insurance Plan

Periods Ended As of December 31, 2024

Executive Summary



	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
CERS (H) Insurance Plan	1,761,315,460	100.00			100.00	
Public Equity Composite - CERS (H)	828,539,531	47.04	30.00	55.00	45.00	-35,947,574
Specialty Credit Composite	364,572,591	20.70	16.00	24.00	20.00	-12,309,499
Private Equity Composite	136,693,654	7.76	4.00	12.00	8.00	4,211,582
Real Return Composite	83,725,840	4.75	4.00	10.00	7.00	39,566,243
Real Estate Composite	103,544,774	5.88	3.00	7.00	5.00	-15,479,001
Core Fixed Composite	223,112,319	12.67	10.00	20.00	13.00	5,858,691
Cash Composite	21,126,752	1.20	0.00	5.00	2.00	14,099,557

Asset Allocation & Performance

Total Fund

Periods Ended December 31, 2024

	Market Value \$	Performance (%) net of fees										
		QTD	YTD	FYTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
CERS Pension Plan	9,963,205,050	-0.34	10.84	4.54	10.84	4.94	7.74	11.10	6.65	8.11	8.92	4/1/1984
CERS Pension IPS Index		0.10	13.43	4.90	13.43	5.59	8.38					
Value Added		-0.44	-2.60	-0.36	-2.60	-0.65	-0.64					
Assumed Rate 6.50%		1.59	6.50	3.20	6.50	6.50	6.50					
Value Added		-1.92	4.34	1.34	4.34	-1.56	1.24					
CERS Insurance Plan	3,684,942,418	-0.42	10.70	4.38	10.70	5.11	7.63	9.23	6.37	7.31	7.50	4/1/1987
CERS Insurance IPS Index		0.10	13.43	4.90	13.43	5.59	8.38					
Value Added		-0.53	-2.73	-0.53	-2.73	-0.48	-0.74					
Assumed Rate 6.50%		1.59	6.50	3.20	6.50	6.50	6.50					
Value Added		-2.01	4.20	1.18	4.20	-1.39	1.13					
CERS (H) Pension Plan	3,560,186,612	-0.35	10.91	4.56	10.91	4.97	7.72	11.10	6.64	8.11	8.92	4/1/1984
CERS (H) Pension IPS Index		0.10	13.43	4.90	13.43	5.59	8.38					
Value Added		-0.45	-2.53	-0.34	-2.53	-0.62	-0.66					
Assumed Rate 6.50%		1.59	6.50	3.20	6.50	6.50	6.50					
Value Added		-1.93	4.41	1.36	4.41	-1.53	1.22					
CERS (H) Insurance Plan	1,761,315,460	-0.35	10.71	4.34	10.71	5.09	7.68	9.23	6.39	7.33	7.52	4/1/1987
CERS (H) Insurance IPS Index		0.10	13.43	4.90	13.43	5.59	8.38					
Value Added		-0.45	-2.72	-0.56	-2.72	-0.50	-0.70					
Assumed Rate 6.50%		1.59	6.50	3.20	6.50	6.50	6.50					
Value Added		-1.93	4.21	1.14	4.21	-1.41	1.18					

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended December 31, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Public Equity	-3.10	-1.63	14.95	4.87	14.95	4.29		5.54	12/1/2021
Public Equity Policy Index	-2.37	-0.99	17.49	5.56	17.49	5.44		6.63	
Value Added	-0.73	-0.64	-2.54	-0.69	-2.54	-1.15		-1.09	
US Equity Composite	-3.30	2.51	22.85	8.77	22.85	7.68	13.36	10.40	7/1/1992
Russell 3000 Index	-3.06	2.63	23.81	9.03	23.81	8.01	13.86	10.64	
Value Added	-0.24	-0.12	-0.96	-0.26	-0.96	-0.32	-0.50	-0.24	
S&P 500 Index	-2.34	2.45	25.05	8.52	25.05	9.03	14.74	9.37	7/1/2001
S&P 500 Index	-2.38	2.41	25.02	8.44	25.02	8.94	14.53	8.97	
value added	0.04	0.04	0.03	0.09	0.03	0.09	0.22	0.40	
Scientific Beta	-5.78	-0.61	15.77	7.38	15.77	4.54	9.50	10.65	7/1/2016
S&P 500 Index	-2.38	2.41	25.02	8.44	25.02	8.94	14.53	14.89	
Value Added	-3.40	-3.02	-9.25	-1.06	-9.25	-4.40	-5.02	-4.24	
River Road FAV	-5.45	0.28	18.56	11.83	18.56	3.50	5.12	10.01	7/1/2016
Russell 3000 Value Index	-6.91	-1.94	13.98	7.35	13.98	5.41	8.60	9.71	
Value Added	1.46	2.22	4.58	4.49	4.58	-1.90	-3.48	0.30	
Westfield Capital	0.47	7.65	33.87	10.98	33.87	11.56	18.29	15.60	7/1/2011
Russell 3000 Growth Index	0.45	6.82	32.46	10.48	32.46	9.93	18.25	16.06	
Value Added	0.03	0.83	1.41	0.50	1.41	1.62	0.05	-0.46	
Internal US Mid Cap	-7.13	0.44	14.05	7.21	14.05	5.48	10.88	10.43	8/1/2014
S&P MidCap 400 Index	-7.12	0.34	13.93	7.31	13.93	4.87	10.34	9.96	
Value Added	-0.01	0.10	0.13	-0.10	0.13	0.61	0.55	0.47	
NTGI Structured	-8.05	-1.09	11.39	7.49	11.39	3.38	9.18	10.39	7/1/2011
Russell 2000 Index	-8.26	0.33	11.54	9.64	11.54	1.24	7.40	9.11	
Value Added	0.20	-1.43	-0.15	-2.14	-0.15	2.14	1.77	1.28	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended December 31, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Next Century Growth	-6.35	12.94	24.03	16.90	24.03	-0.96	20.52	21.58	11/1/2019
Russell Microcap Growth Index	-4.28	11.55	21.91	21.11	21.91	-2.24	5.72	8.41	
Value Added	-2.07	1.39	2.12	-4.20	2.12	1.27	14.79	13.18	
Non-US Equity Composite	-2.76	-7.88	3.63	-0.99	3.63	-0.49	4.04	2.96	4/1/2000
MSCI ACWI ex US IMI (10/17)	-1.97	-7.61	5.23	-0.05	5.23	0.50	4.12	3.11	
Value Added	-0.79	-0.27	-1.60	-0.95	-1.60	-0.99	-0.08	-0.15	
BlackRock World Ex US	-2.93	-7.62	4.56	-0.45	4.56	2.04	5.23	6.64	6/1/2012
MSCI World ex US (11/19)	-2.68	-7.43	4.70	-0.24	4.70	1.91	5.10	6.54	
value added	-0.24	-0.19	-0.14	-0.21	-0.14	0.13	0.13	0.09	
American Century	-2.94	-7.90	5.27	-1.44	5.27	-5.32	4.27	5.35	7/1/2014
MSCI ACWI ex US IMI (10/17)	-1.97	-7.61	5.23	-0.05	5.23	0.50	4.12	3.76	
Value Added	-0.97	-0.29	0.04	-1.39	0.04	-5.82	0.15	1.59	
Franklin Templeton	-4.43	-7.59	-1.28	-2.40	-1.28	-8.06	-0.62	3.69	7/1/2014
MSCI ACWI ex US IMI (10/17)	-1.97	-7.61	5.23	-0.05	5.23	0.50	4.12	3.76	
Value Added	-2.46	0.02	-6.52	-2.35	-6.52	-8.56	-4.74	-0.07	
Lazard Asset Mgmt	-3.17	-8.86	2.21	-2.64	2.21	0.87	3.82	4.22	7/1/2014
MSCI ACWI ex US IMI (10/17)	-1.97	-7.61	5.23	-0.05	5.23	0.50	4.12	3.76	
Value Added	-1.20	-1.25	-3.02	-2.60	-3.02	0.38	-0.30	0.46	
LSV Asset Mgmt	-1.98	-8.27	3.38	-0.75	3.38	3.95	4.57	3.95	7/1/2014
MSCI ACWI ex US IMI (10/17)	-1.97	-7.61	5.23	-0.05	5.23	0.50	4.12	3.76	
Value Added	-0.01	-0.67	-1.85	-0.70	-1.85	3.46	0.44	0.19	
Axiom	-0.65	-3.00	13.08	5.22	13.08	-5.90		-4.37	12/1/2021
MSCI AC World ex USA Small Cap (Net)	-2.13	-7.66	3.36	0.56	3.36	-1.47		-0.09	
Value Added	1.48	4.65	9.72	4.66	9.72	-4.43		-4.27	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended December 31, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
JP Morgan Emerging Markets	-0.86	-6.71	1.12	-1.71	1.12	-7.54	0.60	1.72	11/1/2019
MSCI Emerging Markets IMI Index	-0.22	-7.73	7.62	0.01	7.62	-0.95	2.93	4.22	
Value Added	-0.64	1.03	-6.50	-1.72	-6.50	-6.60	-2.33	-2.50	
Pzena Emerging Markets	-2.23	-9.82	6.83	0.59	6.83	6.99	7.27	8.36	11/1/2019
MSCI Emerging Markets (Net)	-0.14	-8.01	7.50	0.02	7.50	-1.92	1.70	3.04	
Value Added	-2.09	-1.81	-0.67	0.58	-0.67	8.92	5.58	5.32	
Private Equity Composite	0.72	0.87	5.17	2.51	5.17	6.81	11.87	10.64	7/1/2002
Russell 3000 +3% 1 Quarter Lag	2.32	7.02	39.25	11.28	39.25	13.60	18.72	12.83	
Value Added	-1.60	-6.15	-34.08	-8.76	-34.08	-6.79	-6.85	-2.19	
Core Fixed Income Composite	-1.63	-2.94	1.66	2.04	1.66	0.73	1.64	2.67	10/1/2018
Blmbg. U.S. Aggregate Index	-1.64	-3.06	1.25	1.98	1.25	-2.41	-0.33	1.34	
Value Added	0.00	0.12	0.41	0.06	0.41	3.13	1.97	1.33	
NISA	-1.59	-2.92	1.63	1.94	1.63	-1.94	-0.10	2.13	7/1/2011
Blmbg. U.S. Aggregate Index	-1.64	-3.06	1.25	1.98	1.25	-2.41	-0.33	1.95	
Value Added	0.04	0.14	0.38	-0.03	0.38	0.47	0.23	0.18	
Loomis Sayles	-1.62	-2.82	1.95	2.15	1.95	-0.84	0.68	1.57	2/1/2019
Blmbg. U.S. Aggregate Index (Since 8/1/23)	-1.64	-3.06	1.25	1.98	1.25	-6.97	-2.03	0.99	
Value Added	0.01	0.24	0.70	0.18	0.70	6.13	2.71	0.58	
Lord Abbett	0.56	1.58	8.81	3.48	8.81	2.81	2.53	3.07	10/1/2018
ICE BofA 1-3 Year U.S. Corporate Index	0.22	0.21	5.40	3.37	5.40	2.22	2.15	2.71	
Value Added	0.34	1.37	3.41	0.11	3.41	0.59	0.38	0.35	
Internal Core Fixed Income	-1.69	-3.10	1.30	2.02	1.30			4.19	9/1/2023
Blmbg. U.S. Aggregate Index	-1.64	-3.06	1.25	1.98	1.25			4.03	
value added	-0.05	-0.04	0.05	0.04	0.05			0.17	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended December 31, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Cash Composite	0.39	1.21	5.36	2.55	5.36	3.82	2.41	2.60	7/1/1992
FTSE 3 Month T-Bill	0.39	1.23	5.45	2.61	5.45	4.05	2.54	2.50	
Value Added	0.00	-0.02	-0.08	-0.06	-0.08	-0.23	-0.13	0.10	
Specialty Credit Composite	1.01	2.26	11.22	5.40	11.22	7.56	7.18	7.06	10/1/2018
Specialty Credit Policy Index	0.07	1.22	8.59	4.92	8.59	5.00	5.07	5.17	
Value Added	0.94	1.04	2.64	0.48	2.64	2.57	2.11	1.89	
Cerberus Capital Mgmt	0.48	0.88	6.06	2.13	6.06	8.00	9.83	9.14	9/1/2014
Morningstar LSTA U.S. Leveraged Loan	0.57	2.27	8.96	4.36	8.96	7.00	5.86	4.87	
Value Added	-0.08	-1.39	-2.90	-2.23	-2.90	1.00	3.97	4.27	
Columbia	-0.38	0.15	7.95	4.79	7.95	3.26	3.76	5.92	11/1/2011
Blmbg. U.S. Corp: High Yield Index	-0.43	0.17	8.19	5.47	8.19	2.92	4.21	5.87	
Value Added	0.05	-0.03	-0.25	-0.68	-0.25	0.35	-0.46	0.05	
Manulife Asset Mgmt	-0.24	-0.26	5.79	4.21	5.79	1.86	3.72	4.06	12/1/2011
Policy Index	-1.51	-2.73	2.04	2.32	2.04	-1.95	0.06	1.32	
Value Added	1.27	2.47	3.75	1.89	3.75	3.81	3.66	2.75	
Marathon Bluegrass	0.51	3.70	13.17	6.80	13.17	3.54	6.11	6.23	1/1/2016
Blmbg. U.S. Corp: High Yield Index	-0.43	0.17	8.19	5.47	8.19	2.92	4.21	6.30	
Value Added	0.93	3.53	4.98	1.33	4.98	0.62	1.89	-0.07	
Shenkman Capital	-0.46	1.81	8.10	4.42	8.10	6.10	5.08	4.53	7/1/2011
Morningstar LSTA U.S. Leveraged Loan	0.57	2.27	8.96	4.36	8.96	7.00	5.86	4.94	
Value Added	-1.02	-0.46	-0.86	0.06	-0.86	-0.90	-0.78	-0.41	
Waterfall	0.93	2.64	12.79	4.35	12.79	7.20	5.40	8.22	7/1/2011
Policy Index	-0.10	0.79	8.05	4.67	8.05	4.04	4.19	4.49	
Value Added	1.03	1.85	4.74	-0.32	4.74	3.17	1.22	3.73	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended December 31, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Arrowmark	1.73	3.20	15.13	7.04	15.13	13.39	11.55	11.16	6/1/2018
Morningstar LSTA U.S. Leveraged Loan	0.57	2.27	8.96	4.36	8.96	7.00	5.86	5.49	
Value Added	1.16	0.93	6.18	2.68	6.18	6.38	5.69	5.68	
Real Estate Composite	-0.74	-0.83	-4.63	0.84	-4.63	0.18	4.94	7.78	5/1/2009
NCREIF ODCE NOF 1 Quarter Lag	0.02	0.02	-8.04	-0.64	-8.04	-1.04	2.05		
Value Added	-0.76	-0.85	3.41	1.48	3.41	1.23	2.89		
Internal Real Estate	-8.17	-8.27	4.79	7.43	4.79			5.44	12/1/2023
Baring	1.19	-4.23	-25.40	-5.38	-25.40	-22.10	-8.21	-2.55	1/1/2019
Barings Euro RE II	-7.31	-12.22	-5.89	-1.37	-5.89	-18.19		-20.55	12/1/2020
Divcowest IV	-15.22	-15.22	-17.33	-13.57	-17.33	-0.87	3.28	12.71	3/1/2014
Fundamental Partners III	0.35	0.35	0.09	1.15	0.09	5.39	11.12	10.62	5/1/2017
Greenfield Acq VII	0.17	0.17	-0.67	7.87	-0.67	7.53	11.53	12.14	7/1/2014
Lubert Adler VII	-0.61	-0.61	-19.24	-1.73	-19.24	-10.70	-9.77	-4.49	7/1/2014
Lubert Adler VII B	4.41	4.41	4.00	-0.18	4.00	11.26	17.58	13.16	7/1/2017
Harrison Street	0.00	0.21	-4.40	0.66	-4.40	2.08	3.74	6.31	5/1/2012
Mesa West Core Lend	1.27	1.27	-6.31	2.20	-6.31	-2.06	0.80	4.16	5/1/2013
Mesa West IV	-1.32	-1.32	-13.85	-5.83	-13.85	-10.79	-3.57	-0.39	3/1/2017
Patron Capital	0.62	-4.81	-5.21	-1.12	-5.21	-3.68	0.48	1.60	8/1/2016
Prologis Targeted US	0.00	1.49	-2.89	2.59	-2.89	4.94	11.61	13.57	10/1/2014
Rubenstein PF II	-5.77	-5.77	-47.10	-18.53	-47.10	-40.08	-27.56	-7.14	7/1/2013
Stockbridge Sm/Mkts	0.17	0.17	0.01	0.80	0.01	1.60	4.75	6.97	5/1/2014

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended December 31, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Walton St RE VI	0.20	0.20	-5.39	-4.16	-5.39	7.12	3.82	-9.93	5/1/2009
Walton St RE VII	0.13	0.13	-5.62	-6.87	-5.62	-6.72	-5.59	2.56	7/1/2013
Real Return Composite	-2.02	3.59	17.21	10.47	17.21	10.73	9.26	5.74	7/1/2011
US CPI +3%	0.61	1.62	5.96	2.94	5.96	7.32	7.30	5.66	
Value Added	-2.64	1.96	11.25	7.53	11.25	3.42	1.96	0.07	
Tortoise Capital	-6.72	13.63	46.80	20.47	46.80	33.16	18.76	12.19	8/1/2009
Alerian MLP Index	-7.19	4.94	24.41	5.70	24.41	27.27	15.56	8.81	
Value Added	0.46	8.69	22.39	14.77	22.39	5.90	3.21	3.39	
Internal TIPS	0.39	1.20	5.31	2.54	5.31	4.03	2.36	3.74	10/1/2003
Blmbg. U.S. TIPS 1-10 Year	-0.88	-1.75	3.09	1.69	3.09	-0.10	2.69	3.31	
Value Added	1.27	2.95	2.21	0.85	2.21	4.14	-0.33	0.43	
Internal Real Return	-8.38	-4.92	12.56	7.21	12.56			11.10	12/1/2023
Amerra AGRI Fund II	0.19	0.19	-14.31	-2.76	-14.31	1.42	2.94	4.10	12/1/2012
Amerra AGRI Holdings	-1.40	-1.40	-7.34	-2.21	-7.34	-6.65	-5.03	-3.19	8/1/2015
BTG Pactual	35.73	35.73	28.69	25.59	28.69	20.13	12.36	2.23	12/1/2014
IFM Infrastructure	3.98	3.98	3.27	3.98	3.27	5.92	5.15	5.13	7/1/2019
Blackstone Strat Opp	0.03	-3.38	-1.70	-2.42	-1.70	-2.57	-4.37	-2.66	8/1/2017
CERS Ceres Farms	0.00							0.00	12/1/2024
Magnetar MTP EOF II	0.00	27.09	194.76	104.81	194.76	117.78	76.35	37.41	8/1/2015
Maritime Partners	1.04	1.04	9.04	4.57	9.04			7.17	10/1/2023
Oberland Capital	4.06	4.06	58.36	50.89	58.36	24.33	21.35	17.23	10/1/2014
Taurus Mine Finance	1.33	1.33	14.32	3.01	14.32	29.58	14.41	8.45	1/1/2009

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Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended December 31, 2024

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Tricadia Select	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-3.43	9/1/2017
TPF II	-0.42	-0.42	26.89	-1.53	26.89	15.83	6.48	0.50	10/1/2008
Luxor Capital	-0.02	1.05	3.79	1.00	3.79	1.54	-1.13	0.07	4/1/2014
Pine River	0.00	0.00	21.93	9.48	21.93	0.63	1.94	3.30	5/1/2014
PRISMA Capital	0.37	1.19	5.13	2.49	5.13	2.85	1.82	2.72	9/1/2011
SABA Capital	-4.18	-2.19		4.73				11.59	4/1/2024
SVP Project Spurs	0.00							0.00	12/1/2024

County Employees Retirement System

Capital Calls and Distributions

Quarter Ending: December 31, 2024

CERS Investment Committee Meeting - CERS Quarterly Investment Review and Update

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period October 1, 2024 thru December 31, 2024

Pension Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
Adams Street SPC I A1	175,000,000	97,124,912	82,750,484	0	3,073,271	79,677,213	32,749,407	27,902,515	0	1,036,272	26,866,243
Adams Street SPC II B1	175,000,000	97,124,911	77,204,564	0	2,344,473	74,860,091	32,749,407	26,032,495	0	790,530	25,241,965
Adams Street SPC III A1	174,750,000	88,004,101	14,485,438	11,544,595	1,183,200	18,837,200	32,241,316	5,306,907	4,229,495	2,635,177	6,901,225
Adams Street SPC III B1	174,750,000	88,004,098	5,143,082	13,657,371	5,003,359	13,797,095	32,241,314	1,884,227	5,003,535	1,833,038	5,054,724
AMERRA Agri Fund II, LP	40,100,000	27,641,371	10,886,813	16,909	939,757	9,763,966	3,374,176	8,727,285	3,374,176	5,339	3,082,803
AMERRA-KRS Agri Holding Company, LP	65,000,000	44,805,214	22,604,390	0	2,229,115	20,375,275	14,146,472	7,136,945	0	703,805	6,433,141
Arcano KRS Fund I, L.P.	36,000,000	15,587,717	5,482,076	0	0	5,482,076	4,852,329	1,706,525	0	0	1,706,525
Arctos Sports Partners Fund II	85,000,000	42,000,000	9,771,816	5,707,267	540,271	14,938,812	18,000,000	4,187,921	2,445,972	231,545	6,402,348
Arctos Sports Partners Fund II Co-Investments LP	85,000,000	42,000,000	27,212,068	0	0	31,996,865	18,000,000	11,662,315	2,050,627	0	13,712,942
Ares Special Situations Fund IV, L.P.	26,192,000	17,935,797	13,698,609	0	1,322,277	12,376,332	6,121,833	4,675,599	0	451,319	4,224,281
Bairings Euro Real Estate II	154,030,625	86,657,631	25,500,847	14,714,436	0	37,971,134	27,402,043	8,063,633	4,652,857	0	12,006,867
Bairings Real Estate European Value Add I SCSp	108,727,500	61,170,093	20,885,991	989,118	0	20,351,289	19,342,618	6,604,367	312,769	0	6,435,289
Bay Hills Capital I, L.P.	67,500,000	29,226,970	2,663,692	0	0	2,663,692	9,098,116	829,185	0	0	829,185
Bay Hills Capital III, L.P.	51,250,000	35,095,051	33,995,161	0	0	33,995,161	11,978,618	11,603,204	0	0	11,603,204
Bay Hills Emerging Partners II LP	45,000,000	19,484,647	38,549,737	0	0	38,549,737	6,065,411	12,000,217	0	0	12,000,217
Bay Hills Emerging Partners II-B LP	45,000,000	19,484,647	25,232,684	0	0	25,232,684	6,065,411	7,854,728	0	0	7,854,728
BDCM Opportunity Fund IV, L.P.	35,580,000	24,305,534	39,066,121	0	44,944	39,021,177	8,316,082	13,334,020	0	15,340	13,318,680
Blackstone Capital Partners V, L.P.	47,174,735	20,426,290	0	8,747	0	8,747	6,358,537	2,723	0	0	2,723
Blackstone Capital Partners VI, L.P.	60,000,000	38,220,311	9,123,383	0	147,343	8,976,039	18,479,695	4,411,197	0	71,241	4,339,956
Blue Torch Credit Opportunities Fund II LP	140,000,000	77,659,705	89,145,495	0	0	89,145,495	26,221,374	30,099,488	0	0	30,099,488
BSP Co-Invest Vehicle K LP	37,262,028	21,962,420	23,467,331	0	614,180	22,853,151	7,274,035	7,772,468	0	203,419	7,569,049
BSP Private Credit Fund	100,000,000	58,940,485	52,197,627	0	1,342,383	50,855,245	19,521,309	17,288,049	0	444,602	16,843,447
BTG Pactual Brazil Timberland Fund I	34,500,000	23,847,150	13,869,546	0	828,479	13,041,067	7,642,335	4,444,796	0	265,504	4,179,292
Cerberus KRS Levered Loan Opportunities Fund, L.P.	140,000,000	82,516,679	118,441,057	0	0	119,766,676	27,329,832	39,228,120	0	0	39,667,170
CERS Ceres Farms	50,000,000	0	0	37,000,000	0	37,000,000	13,000,000	0	13,000,000	0	13,000,000
Columbia Captal Equity Partners IV, L.P.	27,000,000	11,690,788	1,439,638	0	611,375	828,263	3,639,247	448,147	0	190,316	257,831
Crestview Partners II, L.P.	67,500,000	29,226,970	12,088,340	95,195	2,767,885	9,415,649	9,098,116	3,763,001	29,633	861,620	2,931,015
Crestview Partners III, L.P.	39,000,000	26,706,479	17,358,961	632,228	1,050,929	16,940,260	9,115,436	5,924,948	215,792	358,702	5,782,037
CS Adjacent Investment Partners Parallel LP	140,000,000	82,516,679	79,119,768	0	2,401,202	76,718,567	27,329,832	26,204,763	0	795,287	25,409,476
CVC European Equity Partners VI, L.P.	22,698,957	15,543,826	15,401,460	255,563	0	14,152,204	13,191,394	5,305,407	87,229	483,036	4,502,477
DAG Ventures II, L.P.	27,000,000	11,690,788	475,054	0	0	475,054	3,639,247	147,880	0	0	147,880
DAG Ventures III, L.P.	27,000,000	11,690,788	66,314	0	0	66,314	3,639,247	20,643	0	0	20,643
DAG Ventures IV, L.P.	90,000,000	38,969,294	11,762,690	0	0	11,762,690	12,130,822	3,661,629	0	0	3,661,629
DAG Ventures V, L.P.	8,000,000	5,096,042	14,880	0	10,652	4,228	2,463,959	7,195	0	5,150	2,044
DCM VI, L.P.	13,500,000	5,845,394	819,933	0	0	819,933	1,819,523	255,070	0	0	255,070
DicoWest Fund IV	20,800,000	14,568,740	602,334	0	48,908	553,527	4,539,761	187,724	0	15,240	172,484
Elda River Opportunities Fund II	37,500,000	19,256,300	119,245	0	114,358	4,886	6,088,953	37,706	0	36,161	1,545
Fundamental Partners III LP	70,000,000	39,382,001	27,914,160	0	1,388,088	26,526,072	12,452,997	8,826,747	0	438,828	8,387,819
Green Equity Investors V, L.P.	90,000,000	38,969,294	144,930	0	0	144,930	12,130,822	45,116	0	0	45,116
Green Equity Investors VI, L.P.	32,000,000	20,384,166	21,035,140	0	1,561,328	19,473,812	9,855,837	10,170,586	0	754,900	9,415,677
Green Equity Investors VII LP	25,000,000	17,900,000	12,606,817	0	511,701	12,095,117	5,575,000	3,926,425	0	159,371	3,767,055
Greenfield Acquisition Partners VII, L.P.	27,800,000	19,471,678	1,087,717	0	0	1,087,717	6,067,572	338,944	0	0	338,944
H.I.G. HealthBridge Capital Partners I, L.P.	13,500,000	8,599,570	4,338,461	0	0	4,338,461	4,157,931	2,097,666	0	0	2,097,666
H.I.G. Capital Partner V, L.P.	13,100,000	8,970,638	4,934,348	44,387	1,339,139	3,639,597	3,061,852	1,684,188	15,150	457,074	1,242,265
H.I.G. Ventures II, L.P.	18,000,000	7,793,859	4,875,510	0	0	4,875,510	2,426,164	151,758	0	0	151,758
H&F Spock I LP	3,250,153	1,407,291	4,191,546	0	0	4,191,546	438,078	1,304,794	0	0	1,304,794
Harvest Partners VI, L.P.	28,400,000	20,768,921	2,280,787	0	0	2,280,787	5,782,239	634,990	0	0	634,990
Harvest Partners VII LP	20,000,000	14,320,000	17,744,414	0	0	17,744,414	4,460,000	5,526,543	0	0	5,526,543
Horsley Bridge International Fund V, L.P.	45,000,000	19,484,647	35,249,915	0	2,071,210	33,178,705	6,065,411	10,973,010	0	644,751	10,328,259
IFM US Infrastructure Debt Fund	70,000,000	39,669,146	42,117,968	9,756,390	9,756,390	43,092,422	13,660,943	14,504,248	3,359,827	3,359,827	14,839,823
Institutional Venture Partners XII, L.P.	27,000,000	11,690,788	2,214	0	0	2,214	3,639,247	689	0	0	689
Kayne Anderson Energy Fund VII LP	50,000,000	35,800,000	18,331,313	0	642,773	17,688,541	11,150,000	5,709,334	0	200,193	5,509,141
KCP IV Co-Invest	12,281,030	8,409,821	1,446,141	0	295,495	1,047,295	2,870,434	493,596	0	100,858	357,462
Keyhaven Capital Partners Fund III, L.P.	26,127,934	11,313,190	3,897,452	0	0	3,897,452	3,616,156	3,521,703	0	1,213,245	1,125,680
Keyhaven Capital Partners IV LP	12,281,030	8,409,821	9,135,395	92,069	434,900	8,151,982	2,870,434	3,118,087	31,425	148,440	2,782,429
Levine Leitchman Capital Partners V, L.P.	46,000,000	31,499,949	1,343,754	0	0	1,343,754	10,751,540	458,649	0	0	458,649
Levine Leitchman Capital Partners VI LP	37,500,000	26,849,987	33,921,676	0	115,358	33,806,319	8,362,509	10,565,007	0	35,928	10,529,079
Libert Adler VII	34,750,000	24,338,900	8,233,451	0	931,228	7,892,223	7,585,925	2,750,085	0	290,244	2,459,841
Libert-Adler Real Estate Fund VII-B LP	36,750,000	20,675,550	4,801,475	0	1,094,121	3,707,354	6,537,824	1,518,276	0	345,972	1,172,304
Maritime Partners LP	175,000,000	87,500,000	66,167,342	66,890,284	1,413,079	65,477,206	35,000,000	26,466,937	26,756,114	565,231	26,190,882
Mesa West Core Lending Fund, LP	57,500,000	36,357,250	33,713,808	301,332	301,332	33,713,808	11,459,750	10,626,541	94,979	94,979	10,626,541
Mesa West Real Estate Income Fund IV LP	36,000,000	15,587,717	6,966,058	0	0	6,966,058	4,852,329	2,168,477	0	0	2,168,477
MiddleGround Partners I LP	50,000,000	35,875,000	41,113,702	0	0	41,113,702	11,200,000	12,835,497	0	0	12,835,497
MiddleGround Partners II LP	50,000,000	27,301,556	34,760,725	0	383,775	34,286,950	9,256,264	11,754,692	0	130,114	11,624,578
MiddleGround Partners II-X LP	25,000,000	13,650,778	18,330,697	0	191,887	18,138,609	4,628,132	6,214,734	0	65,057	6,149,677
Mill Road Capital I, L.P.	27,000,000	11,690,788	696,348	0	0	696,348	3,639,247	216,768	0	0	216,768
New Mountain Partners III, L.P.	32,337,197	14,001,752	574,997	0	0	574,997	4,358,631	178,992	0	0	178,992
New Mountain Partners IV, L.P.	32,800,000	22,460,833	4,934,887	0	0	4,934,887	7,666,315	1,684,372	0	0	1,684,372
New State Capital Partners Fund III LP	17,500,000	9,555,545	6,943,676	0	0	6,943,676	3,239,692	2,354,170	0	0	2,354,170
Oberland Capital Healthcare LP	3,450,000	2,475,375	942,525	0	110,449	832,076	772,800	294,252	0	34,482	259,770
Patron Capital V LP	37,278,000	20,972,603	8,985,681	0	180,772	8,163,421	6,631,755	2,841,366	0	57,162	2,581,358
Riverside Capital Appreciation Fund VI, L.P.	35,500,000	25,961,146	8,467,881	0	119,936	8,467,881	8,347,945	7,227,806	0	33,391	2,324,139
Rubenstein Properties Fund II	20,800,000	14,568,738	3,084,210	0	0	3,084,210	4,539,767	961,071	0	0	961,071

CERS Investment Committee Meeting - CERS Quarterly Investment Review and Update

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period October 1, 2024 thru December 31, 2024

Pension Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
Secondary Opportunities Fund III, L.P.	25,000,000	19,411,552	3,479,407	0	0	3,479,407	5,588,448	1,001,697	0	0	1,001,697
Strategic Value SH 130 C2	65,000,000	29,250,000	0	22,096,579	0	22,096,579	10,725,000	0	8,102,079	0	8,102,079
Strategic Value Special Situations Fund IV LP	43,300,000	31,067,750	32,648,166	0	5,768,858	26,879,308	9,699,200	10,192,598	0	1,801,009	8,391,589
Strategic Value Special Situations Fund V LP	70,000,000	38,222,178	34,108,991	1,882,442	0	35,991,433	12,958,769	11,564,243	638,219	0	12,202,462
Tauska Mining Finance Fund LLC	45,100,000	30,883,643	2,144,145	0	72,366	2,071,779	10,541,186	731,838	0	24,700	707,138
Tenaska Power Fund II, L.P.	27,000,000	12,131,225	43,636	0	0	43,636	4,055,317	14,587	0	0	14,587
Triton Fund IV, L.P.	26,052,064	17,839,971	15,062,444	0	0	13,975,325	6,089,126	5,141,103	0	0	4,770,048
VantagePoint Venture Partners 2006, L.P.	27,000,000	11,690,788	1,690,903	0	0	1,690,903	3,639,247	526,364	0	0	526,364
VantagePoint Venture Partners IV, L.P.	36,000,000	15,587,717	24,768	0	0	24,768	4,852,329	7,710	0	0	7,710
Vista Equity Partners III, L.P.	45,000,000	19,484,647	957,997	0	0	957,997	6,065,411	298,217	0	0	298,217
Vista Equity Partners IV, L.P.	27,000,000	17,199,140	12,282,495	0	0	12,282,495	8,315,863	5,938,642	0	0	5,938,642
Vista Equity Partners VI LP	25,000,000	17,900,000	18,199,373	0	1,694,377	16,504,978	5,575,000	5,668,241	0	527,718	5,140,517
Walton Street Real Estate Fund VI, LP	36,000,000	17,056,796	6,530,129	0	543,020	5,987,109	6,030,018	2,308,569	0	191,971	2,116,598
Walton Street Real Estate Fund VII, LP	38,120,000	26,700,008	2,801,854	0	313,328	2,488,526	8,319,997	873,087	0	97,636	775,450
Warburg, Pincus Private Equity IX, L.P.	50,000,000	21,649,608	24,213	0	0	24,213	6,739,345	7,537	0	0	7,537
Warburg, Pincus Private Equity X, L.P.	38,750,000	16,778,446	389,223	0	64,647	324,576	5,222,993	121,162	0	20,124	101,938
Wayzata Opportunities Fund III, L.P.	35,500,000	25,961,146	753,072	0	150,469	602,603	7,227,806	209,662	0	41,892	167,770
White Oak Yield Spectrum Parallel Fund LP	50,000,000	22,344,255	35,351,878	0	471,892	34,879,986	12,186,342	19,280,574	0	257,365	19,023,209
TOTAL	4,721,543,253	2,597,313,980	1,558,376,554	190,460,962	65,965,115	1,611,432,884	894,462,775	534,174,555	71,031,042	22,603,345	554,444,549

CERS Investment Committee Meeting - CERS Quarterly Investment Review and Update

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period October 1, 2024 thru December 31, 2024

Insurance Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
Adams Street SPC II A1	75,000,000	34,007,112	28,974,080	0	1,076,068	27,898,011	17,965,829	15,306,897	0	568,483	14,738,414
Adams Street SPC II B1	75,000,000	34,007,113	27,032,244	0	820,889	26,211,355	17,965,828	14,281,032	0	433,672	13,847,359
Adams Street SPC III A1	75,250,000	36,247,874	5,966,385	4,755,085	2,962,645	7,758,825	18,496,408	3,044,501	2,426,404	1,511,766	3,959,140
Adams Street SPC III B1	75,250,000	36,247,867	2,118,375	5,625,313	2,060,826	5,682,863	18,496,406	1,080,956	2,870,461	1,051,589	2,899,827
AMERRA Agri Fund II, LP	16,200,000	7,502,182	2,895,577	4,581	254,626	2,645,533	4,141,562	1,598,497	2,529	140,566	1,460,460
AMERRA KRS Agri Holding Company, LP	35,000,000	16,208,417	8,177,204	0	806,389	7,370,815	8,947,820	4,514,207	0	445,165	4,069,042
Arcano KRS Fund I, L.P.	4,000,000	1,611,501	566,752	0	0	566,752	862,625	303,379	0	0	303,379
Arctos Sports Partners Fund II	40,000,000	20,500,000	4,769,579	2,785,690	263,704	7,291,565	7,000,000	1,628,637	951,211	90,045	2,489,802
Arctos Sports Partners Fund II Co-Investments LP	40,000,000	20,500,000	13,282,081	2,335,436	0	15,617,517	7,000,000	0	797,466	0	5,332,810
Ares Special Situations Fund IV, L.P.	13,808,000	7,867,793	6,009,091	0	580,036	5,429,055	4,255,629	3,250,271	0	313,737	2,936,534
Barings Euro Real Estate II	66,013,125	30,313,229	30,313,229	5,147,176	0	13,282,474	16,635,304	4,895,291	2,824,669	0	7,289,160
Barings Real Estate European Value Add I SCSp	46,597,500	21,397,574	7,306,014	345,998	0	7,118,972	11,742,567	4,009,397	189,877	0	3,906,752
Bay Hills Capital I, L.P.	75,000,000	30,215,838	0	275,380	0	275,380	16,174,225	147,409	0	147,409	0
Bay Hills Capital III, L.P.	48,750,000	27,777,730	0	24,202,576	0	24,202,576	15,024,764	0	0	0	13,090,990
Bay Hills Emerging Partners II LP	5,000,000	2,014,376	3,885,377	0	0	3,885,377	1,078,282	2,133,345	0	0	2,133,345
Bay Hills Emerging Partners II-B LP	5,000,000	2,070,000	2,680,657	0	0	2,680,657	1,250,000	1,618,754	0	0	1,618,754
BDCM Opportunity Fund IV, L.P.	24,420,000	13,914,506	22,310,552	0	25,667	22,284,884	7,526,253	12,067,612	0	13,883	12,053,729
Blackstone Capital Partners V, L.P.	12,414,403	5,001,455	2,048	0	0	2,048	2,677,245	1,096	0	0	1,096
Blackstone Capital Partners VI, L.P.	40,000,000	21,919,994	5,232,430	0	84,518	5,147,912	13,120,008	3,131,822	0	50,587	3,081,235
Blue Torch Credit Opportunities Fund III LP	60,000,000	37,169,450	31,187,785	0	0	31,187,785	16,393,251	0	0	0	16,393,251
BSP Co-Invest Vehicle K LP	17,252,566	7,709,915	8,174,705	0	213,817	9,600,888	4,204,913	4,458,405	0	116,614	4,341,792
BSP Private Credit Fund	50,000,000	22,344,255	19,788,047	0	508,895	19,279,152	12,186,342	10,792,210	0	277,547	10,514,664
BTG Pactual Brazil Timberland Fund I	15,500,000	7,016,381	4,080,740	0	243,758	3,836,983	3,855,131	2,242,151	0	133,932	2,108,219
Cerberus KRS Levered Loan Opportunities Fund, L.P.	60,000,000	26,813,106	38,486,433	0	0	38,917,182	14,623,610	20,990,130	0	0	21,225,056
CERS Ceres Farms	25,000,000	0	0	16,750,000	0	25,000,000	8,250,000	0	8,250,000	0	8,250,000
Columbia Capital Equity Partners IV, L.P.	3,000,000	1,208,626	148,835	0	63,205	85,629	646,969	79,670	0	33,833	45,837
Crestview Partners II, L.P.	7,500,000	3,021,564	1,249,717	9,841	286,152	973,406	1,617,422	668,965	5,268	153,175	521,058
Crestview Partners III, L.P.	21,000,000	11,965,793	7,777,647	283,268	470,868	7,590,047	6,472,206	4,206,870	153,218	254,689	4,105,399
CS Adjacent Investment Partners Parallel LP	60,000,000	26,813,106	25,709,309	0	780,251	24,929,058	14,623,610	14,021,609	0	425,541	13,596,068
CVC European Equity Partners VI, L.P.	12,529,757	7,139,450	6,771,625	112,364	622,229	5,799,916	3,861,675	3,662,721	60,777	336,559	3,137,131
DAG Ventures III, L.P.	3,000,000	1,208,626	49,108	0	0	49,108	646,969	26,287	0	0	26,287
DAG Ventures III, L.P.	3,000,000	1,208,626	6,850	0	0	6,850	646,969	3,657	0	0	3,657
DAG Ventures IV, L.P.	10,000,000	4,028,752	0	0	1,216,059	0	2,156,563	650,948	0	0	650,948
DAG Ventures V, L.P.	7,000,000	3,835,999	11,196	0	8,018	3,178	2,296,001	6,701	0	4,799	1,902
DCM VI, L.P.	1,500,000	604,313	0	0	84,711	0	323,484	45,345	0	0	45,345
DivcoWest Fund IV	9,200,000	4,244,869	175,534	0	14,250	161,283	2,306,449	95,376	0	7,743	87,633
Elda River Opportunities Fund II	12,500,000	5,764,633	35,697	0	34,235	1,462	3,188,725	19,746	0	18,937	809
Fundamental Partners III LP	30,000,000	13,776,001	9,764,501	0	485,559	9,278,941	7,559,998	5,358,566	0	266,465	5,092,100
Green Equity Investors V, L.P.	10,000,000	4,028,752	14,983	0	0	14,983	2,156,563	8,020	0	0	8,020
Green Equity Investors VI, L.P.	28,000,000	15,343,995	15,834,020	0	1,175,276	14,658,744	9,184,005	9,477,305	0	703,451	8,773,854
Green Equity Investors VII LP	25,000,000	10,349,999	7,289,416	0	295,872	6,993,545	6,250,000	4,401,822	0	178,667	4,223,155
Greenfield Acquisition Partners VII, L.P.	12,200,000	5,628,527	314,419	0	0	314,419	3,058,186	170,835	0	0	170,835
H.I.G. HealthBridge Capital Partners I, L.P.	11,500,000	6,301,998	0	0	0	0	3,179,342	0	0	0	0
H.I.G. Capital Partner V, L.P.	6,900,000	3,931,617	2,162,608	19,454	586,912	1,595,149	2,126,582	1,169,738	10,523	317,456	862,804
H.I.G. Ventures II, L.P.	2,000,000	805,750	50,400	0	50,400	0	431,313	26,979	0	26,979	0
H&F Spock I LP	1,794,672	723,029	1,462,499	0	0	1,462,499	387,032	782,866	0	0	782,866
Harvest Partners VI, L.P.	11,600,000	6,609,681	725,859	0	0	725,859	3,575,121	392,611	0	0	392,611
Harvest Partners VII LP	20,000,000	8,279,999	10,760,038	0	0	10,760,038	5,000,000	6,195,676	0	0	6,195,676
Horsley Bridge International Fund V, L.P.	5,000,000	2,014,376	3,644,224	0	214,127	3,430,097	1,078,282	1,950,728	0	114,620	1,836,108
IFM US Infrastructure Debt Fund	30,000,000	13,850,494	14,747,970	3,416,284	3,416,284	15,089,184	7,156,853	7,596,653	1,760,185	1,760,185	7,774,458
Institutional Venture Partners XII, L.P.	3,000,000	1,208,626	229	0	0	229	646,969	122	0	0	122
Kayne Anderson Energy Fund VII LP	50,000,000	20,699,998	10,599,390	0	371,659	10,227,731	12,500,001	6,400,599	0	224,432	6,176,167
KCP IV Co-Invest	8,428,970	4,802,824	825,886	0	168,756	598,107	2,597,812	446,715	0	91,279	323,511
Keyhaven Capital Partners Fund III, L.P.	2,899,400	1,168,096	402,930	0	0	373,848	625,274	215,685	0	0	210,119
Keyhaven Capital Partners IV LP	8,428,970	4,802,824	5,217,196	52,581	248,370	4,655,571	2,597,812	2,821,943	28,440	134,341	2,518,164
Levine Leichtman Capital Partners V, L.P.	24,000,000	13,675,190	0	0	583,371	0	7,396,807	315,541	0	0	315,541
Levine Leichtman Capital Partners VI LP	37,500,000	15,525,007	19,613,948	0	66,701	19,547,246	9,374,983	11,844,145	0	40,278	11,803,866
Lubert Adler VII	15,250,000	7,036,350	2,550,849	0	269,217	2,281,632	3,823,174	1,385,995	0	146,278	1,239,716
Lubert-Adler Real Estate Fund VII-B LP	15,750,000	7,232,401	1,679,578	0	382,729	1,296,849	3,968,999	921,719	0	210,034	711,685
Maritime Partners LP	75,000,000	37,500,000	28,357,432	0	386,801	27,970,632	15,000,000	11,342,973	0	154,720	11,188,253
Mesa West Core Lending Fund, LP	29,600,000	13,790,640	18,919,581	169,109	169,109	18,919,581	7,619,040	10,452,672	93,429	93,429	10,452,672
Mesa West Real Estate Income Fund IV LP	14,000,000	6,428,800	2,872,993	0	0	2,872,993	3,527,999	1,576,642	0	0	1,576,642
MiddleGround Partners I LP	25,000,000	3,750,000	4,297,601	0	0	4,297,601	1,999,999	2,292,053	0	0	2,292,053
MiddleGround Partners II LP	25,000,000	11,262,207	14,302,075	0	158,311	14,143,763	5,794,817	7,358,940	0	81,457	7,277,483
MiddleGround Partners II-X LP	12,500,000	5,631,103	7,561,539	0	79,156	7,482,384	2,897,408	3,890,688	0	40,729	3,849,960
Mill Road Capital I, L.P.	3,000,000	1,208,626	71,990	0	0	71,990	646,969	38,536	0	0	38,536
New Mountain Partners III, L.P.	7,186,045	2,895,079	118,889	0	0	118,889	1,549,716	63,640	0	0	63,640
New Mountain Partners IV, L.P.	17,200,000	9,800,553	2,153,283	0	0	2,153,283	5,301,045	1,164,694	0	0	1,164,694
New State Capital Partners Fund III LP	7,500,000	3,378,662	2,455,155	0	0	2,455,155	1,738,445	1,263,267	0	0	1,263,267
Oberland Capital Healthcare LP	15,500,000	4,840,652	184,313	0	21,598	162,714	2,631,898	100,212	0	11,743	88,469
Patron Capital V LP	14,497,000	6,657,023	2,852,246	0	57,380	2,591,244	3,653,243	1,565,256	0	31,489	1,422,024
Riverside Capital Appreciation Fund VI, L.P.	18,712,500	10,748,972	3,506,012	0	49,659	3,456,354	5,705,349	1,860,924	0	26,358	1,834,566
Rubenstein Properties Fund II	9,200,000	4,244,871	898,641	0	0	898,641	2,306,445	488,276	0	0	488,276

CERS Investment Committee Meeting - CERS Quarterly Investment Review and Update

Kentucky Public Pensions Authority
Capital Calls and Distributions
For the period October 1, 2024 thru December 31, 2024

Insurance Funds Managers	Total Pension Fund Commitment	County Employees Retirement System					County Employees Hazardous Retirement System				
		Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation	Commitment	Beginning Valuation	Period Contributions	Period Distributions	Ending Valuation
Secondary Opportunities Fund III, L.P.	75,000,000	34,884,827	6,252,902	0	0	6,252,902	18,849,301	3,378,627	0	0	3,378,627
Strategic Value SH 130 C2	30,000,000	13,500,000	0	10,103,390	0	10,103,390	6,450,000	0	8,102,079	0	8,102,079
Strategic Value Special Situations Fund IV LP	21,700,000	6,776,910	7,121,641	0	1,258,380	5,863,261	3,684,660	0	4,827,175	0	4,827,175
Strategic Value Special Situations Fund V LP	30,000,000	13,514,648	12,730,899	665,596	0	13,396,496	6,953,780	6,550,512	342,474	0	6,892,986
Taurus Mining Finance Fund LLC	19,900,000	11,339,013	787,228	0	26,570	760,659	6,133,188	425,806	0	14,371	411,435
Tenaska Power Fund II, L.P.	3,000,000	1,278,755	4,600	0	0	4,600	678,044	2,439	0	0	2,439
Triton Fund IV, L.P.	13,403,512	7,637,316	6,606,577	0	0	6,129,752	4,130,966	3,573,448	0	0	3,315,537
VantagePoint Venture Partners 2006, L.P.	3,000,000	1,208,626	174,810	0	0	174,810	646,969	93,575	0	0	93,575
VantagePoint Venture Partners IV, L.P.	4,000,000	1,611,501	2,561	0	0	2,561	862,625	1,371	0	0	1,371
Vista Equity Partners III, L.P.	5,000,000	2,014,376	99,042	0	0	99,042	1,078,282	53,017	0	0	53,017
Vista Equity Partners IV, L.P.	23,000,000	12,603,996	9,000,943	0	0	9,000,943	7,544,005	5,387,430	0	0	5,387,430
Vista Equity Partners VI LP	25,000,000	10,349,999	10,523,100	0	979,715	9,543,381	6,250,000	6,354,530	0	591,615	5,762,912
Walton Street Real Estate Fund VI, LP	4,000,000	1,712,019	655,440	0	54,504	600,937	917,457	351,245	0	29,208	322,037
Walton Street Real Estate Fund VII, LP	16,755,000	7,730,005	811,173	0	90,713	720,461	4,199,996	440,740	0	49,287	391,453
Warburg, Pincus Private Equity IX, L.P.	10,000,000	4,028,752	4,506	0	0	4,506	2,156,563	2,412	0	0	2,412
Warburg, Pincus Private Equity X, L.P.	7,500,000	3,021,564	70,069	0	11,642	58,427	1,617,422	37,507	0	6,232	31,276
Wayzata Opportunities Fund III, L.P.	18,712,500	10,748,972	311,803	0	62,301	249,502	5,705,349	165,499	0	33,068	132,431
White Oak Yield Spectrum Parallel Fund LP	50,000,000	22,344,255	35,351,878	0	471,892	34,879,986	12,186,342	19,280,574	0	257,365	19,023,209
TOTAL	2,143,803,920	987,700,074	609,645,286	52,581,168	23,740,237	641,414,549	531,641,314	315,911,916	33,696,185	11,991,423	340,974,597

Kentucky Public Pensions Authority

CERS & CERS-Hazardous Unit Holdings

Quarter Ending: December 31, 2024

CERS Investment Committee Meeting - CERS Quarterly Investment Review and Update

Kentucky Public Pensions Authority								
Pension: CERS & CERS-H Unit Holdings								
Quarter Ended December 31, 2024								
UNIT OF PARTICIPATION	CERS				CERS-H			
	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L
Grand Total	47,625,123.746	7,737,204,254.830	9,922,987,485.970	2,185,783,231.140	17,256,339.476	2,810,345,683.050	3,546,388,592.310	736,042,909.260
KRS ABSOLUTE RETURN UNIT	463,537.835	57,844,307.48	61,365,055.33	3,520,747.85	146,832.107	18,389,391.45	19,438,241.48	1,048,850.03
KRS ADAMS STREET A1 UNIT	402,632.979	70,356,358.97	77,264,130.43	6,907,771.46	135,763.228	23,723,357.48	26,052,579.65	2,329,222.17
KRS ADAMS STREET B1 UNIT	468,043.350	70,070,850.99	72,882,961.59	2,812,110.60	157,818.856	23,627,086.56	24,575,299.75	948,213.19
KRS ADAMS STREET III A1 UNIT	169,828.179	17,658,899.50	18,322,540.78	663,641.28	62,218.504	6,469,540.83	6,712,673.26	243,132.43
KRS ADAMS STREET III B1 UNIT	188,453.427	13,185,558.45	13,590,711.81	405,153.36	69,042.081	4,830,681.11	4,979,113.62	148,432.51
KRS AMERRA AGRI UNIT	277,586.361	27,899,435.49	20,664,309.29	-7,235,126.20	87,643.096	8,808,763.53	6,524,398.52	-2,284,365.01
KRS AMERRA UNIT	58,914.146	10,456,074.09	9,745,530.77	-710,543.32	18,601.122	3,301,326.69	3,076,982.67	-224,344.02
KRS ARCTOS SPORTS II UNIT	232,391.506	35,055,943.85	45,153,874.35	10,097,930.50	99,596.358	15,051,189.05	19,351,660.10	4,300,471.05
KRS ARROWMARK UNIT	1,387,072.461	178,568,799.89	365,992,485.99	187,423,686.10	458,544.662	59,031,794.80	120,991,444.57	61,959,649.77
KRS BLACKROCK UNIT	2,571,921.954	290,376,669.10	490,765,539.04	200,388,869.94	923,368.674	112,024,188.14	176,194,119.86	64,169,931.72
KRS BLUE TORCH UNIT	483,961.906	92,589,426.95	86,772,870.92	-5,816,556.03	163,407.083	31,262,311.23	29,298,383.91	-1,963,927.32
KRS BNYM CUSTODY FEE UNIT	-362,360.726	-362,360.73	-362,360.73	0.00	-128,921.914	-128,921.91	-128,921.91	0.00
KRS BTG UNIT	100,612.736	4,761,889.54	9,474,574.38	4,712,684.84	32,243.529	1,526,049.70	3,036,332.43	1,510,282.73
KRS CASH UNIT	2,619,360.645	273,487,987.94	276,407,076.00	2,919,088.06	1,262,365.928	133,331,756.58	133,210,703.79	-121,052.79
KRS CERS CERES FARMS UNIT	370,000.000	37,000,000.00	37,000,000.00	0.00	130,000.000	13,000,000.00	13,000,000.00	0.00
KRS DB PRIVATE EQ UNIT	14,017.547	5,552,598.16	3,794,343.21	-1,758,254.95	4,035.553	1,598,553.98	1,092,364.67	-506,189.31
KRS DIVCOWEST IV UNIT	1,246.435	0.00	652,939.48	652,939.48	388.401	0.00	203,462.15	203,462.15
KRS DOMESTIC EQUITY UNIT	2,787,602.433	718,760,476.35	962,837,286.50	244,076,810.15	1,007,099.661	261,962,542.92	347,852,008.40	85,889,465.48
KRS GLOBAL FIXED UNIT	1,293,418.552	198,691,729.60	191,835,722.68	-6,856,006.92	504,938.362	75,651,768.35	74,890,850.63	-760,917.72
KRS GREENFIELD VII UNIT	3,565.631	1,294,546.63	1,085,826.20	-208,720.43	1,111.088	403,393.54	338,354.83	-65,038.71
KRS HARRISON UNIT	639,390.832	128,599,885.90	136,435,076.36	7,835,190.46	199,992.765	40,227,133.10	42,675,038.17	2,447,905.07
KRS IFM INFRAST DEBT UNIT	267,825.438	44,760,129.45	41,442,700.58	-3,317,428.87	92,231.578	15,414,137.53	14,271,705.11	-1,142,432.42
KRS INTERNAL EQUITY UNIT	4,701,864.780	1,115,461,564.79	2,038,799,312.95	923,337,748.16	1,663,712.893	408,667,271.44	721,410,942.63	312,743,671.19
KRS INTERNAL PRIVATE EQUITY	14,851.990	1,569,555.07	1,771,093.64	201,538.57	126,241.912	13,341,224.28	15,054,295.62	1,713,071.34
KRS INTERNATIONAL EQUITY UNIT	6,683,273.593	1,119,780,079.74	1,244,877,960.54	125,097,880.80	2,378,188.185	402,783,762.71	442,979,629.12	40,195,866.41
KRS L-A VII UNIT	127,635.903	11,238,872.70	7,944,727.67	-3,294,145.03	39,781.439	3,502,921.39	2,476,205.30	-1,026,716.09
KRS LIQUID CORE FIXED UNIT	9,631,704.128	1,298,123,907.79	1,288,722,012.33	-9,401,895.46	3,431,980.561	461,966,318.11	459,198,999.06	-2,767,319.05
KRS LIQUID HY FI UNIT	1,171,304.441	220,535,545.18	213,083,865.55	-7,451,679.63	509,278.238	95,217,641.65	92,647,967.34	-2,569,674.31
KRS MAGNETAR MTP UNIT	0.514	18,155.80	0.51	-18,155.29	0.163	5,742.13	0.16	-5,741.97
KRS MARITIME PARTNERS UNIT	597,891.705	62,014,176.61	64,582,225.55	2,568,048.94	239,156.682	24,805,671.24	25,832,890.22	1,027,218.98
KRS MESA WEST CORE UNIT	205,495.934	42,109,893.53	33,291,918.90	-8,817,974.63	64,772.004	13,272,976.00	10,493,561.90	-2,779,414.10
KRS MESA WEST IV UNIT	132,628.510	13,144,551.38	9,171,853.65	-3,972,697.73	41,938.511	4,156,444.20	2,900,235.29	-1,256,208.91
KRS MULTI SECTOR CREDIT FI	1,492,072.539	168,702,877.31	281,320,763.77	112,617,886.46	490,250.072	55,425,587.03	92,433,525.24	37,007,938.21
KRS OBERLAND UNIT	6,020.062	0.00	799,635.22	799,635.22	1,879.433	0.00	249,642.08	249,642.08
KRS PE 2010 UNIT	463,659.675	104,478,495.89	137,674,234.54	33,195,738.65	144,333.462	32,524,224.38	42,856,862.42	10,332,638.04
KRS PE 2011 UNIT	131,855.281	30,352,361.91	44,258,519.89	13,906,157.98	63,752.631	14,674,038.72	21,399,196.65	6,725,157.93
KRS PE 2012 A UNIT	6,847.095	3,083,701.26	2,602,132.58	-481,568.68	1,906.288	858,527.05	724,455.28	-134,071.77
KRS PE 2012 B UNIT	50,615.918	7,159,411.29	9,353,075.37	2,193,664.08	14,091.904	1,993,241.59	2,603,976.09	610,734.50
KRS PE 2013 UNIT	169,864.535	50,929,640.49	69,613,193.23	18,683,552.74	57,978.042	17,373,888.95	23,760,325.49	6,386,436.54
KRS PE 2014 UNIT	236,592.639	23,241,221.73	29,422,802.31	6,181,580.58	80,753.628	7,932,679.04	10,042,569.55	2,109,890.51
KRS PE 2015 UNIT	131,070.039	18,612,770.59	47,363,333.24	28,750,562.65	44,736.730	6,352,898.48	16,166,018.32	9,813,119.84
KRS PE 2016 UNIT	250,085.078	26,791,681.11	64,814,057.25	38,022,376.14	77,889.630	8,344,336.19	20,186,502.04	11,842,165.85
KRS PE 2017 UNIT	145,070.696	17,600,986.84	31,895,412.08	14,294,425.24	45,182.702	5,481,880.52	9,933,921.45	4,452,040.93
KRS PE 2018 UNIT	153,528.244	24,980,936.30	30,303,467.59	5,322,531.29	47,930.770	7,798,927.05	9,460,594.99	1,661,667.94
KRS PE 2019 UNIT	172,436.585	25,416,917.78	43,513,390.54	18,096,472.76	53,833.861	7,935,037.55	13,584,668.35	5,649,630.80
KRS PE 2021 UNIT	627,793.317	66,401,392.50	93,803,928.20	27,402,535.70	212,845.768	22,512,594.04	31,803,092.83	9,290,498.79
KRS PERIMETER PARK UNIT	15,181.379	2,200,095.59	1,682,549.53	-517,546.06	16,528.029	2,395,252.22	1,831,798.51	-563,453.71
KRS POST-2015 REAL ESTATE UNIT	854,642.397	74,182,919.46	97,732,960.35	23,550,040.89	270,246.803	23,459,860.08	30,904,177.20	7,444,317.12
KRS PRIVATE CREDIT FI UNIT	1,555,325.605	346,138,878.46	359,818,236.10	13,679,357.64	515,129.648	114,635,891.77	119,173,143.37	4,537,251.60
KRS PROLOGUS UNIT	741,098.600	95,228,317.68	165,043,123.63	69,814,805.95	234,343.128	30,112,188.74	52,188,361.77	22,076,173.03
KRS REAL RETURN UNIT	581,538.452	103,102,319.85	174,037,363.78	70,935,043.93	200,265.557	35,355,416.98	59,933,594.20	24,578,177.22
KRS RUBENSTEIN PF II UNIT	72,479.805	12,404,371.76	3,273,149.29	-9,131,222.47	22,585.445	3,865,327.07	1,019,946.64	-2,845,380.43
KRS SHENKMAN UNIT	826,958.701	151,397,921.68	152,628,904.51	1,230,982.83	327,830.343	59,984,706.25	60,506,511.46	521,805.21
KRS STOCKBRIDGE UNIT	280,090.753	51,288,312.35	57,080,616.89	5,792,304.54	89,313.398	16,354,461.68	18,201,471.49	1,847,009.81
KRS TAURUS UNIT	5,680.455	169,226.51	2,043,974.87	1,874,748.36	1,938.849	57,759.49	697,648.10	639,888.61
KRS TPF II UNIT	351.766	3,993,888.24	43,815.74	-3,950,072.50	117.591	1,335,110.03	14,647.06	-1,320,462.97
KRS WALTON VI UNIT	32,319.454	6,589,920.17	5,975,045.68	-614,874.49	11,425.762	2,329,705.94	2,112,333.02	-217,372.92
KRS WALTON VII UNIT	18,709.364	7,635,167.57	2,485,415.36	-5,149,752.21	5,830.030	2,379,196.01	774,480.95	-1,604,715.06
KRS WATERFALL UNIT	897,560.187	154,515,010.32	189,036,218.18	34,521,207.86	300,048.662	51,646,928.39	63,193,605.46	11,546,677.07

CERS Investment Committee Meeting - CERS Quarterly Investment Review and Update

Kentucky Public Pensions Authority								
Insurance: CERS & CERS-H Unit Holdings								
Quarter Ended December 31, 2024								
UNIT OF PARTICIPATION	CERS INS				CERS-H INS			
	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L	Shares/Par	Base Cost	Base Market Value	Base Market Unrealized G/L
Grand Total	19,092,048.375	2,875,525,861.490	3,669,833,656.320	794,307,794.830	9,012,663.271	1,346,564,317.150	1,753,349,181.880	406,784,864.730
KRS INS ABSOLUTE RETURN UNIT	150,825.727	15,620,835.87	19,993,436.65	4,372,600.78	84,502.687	8,946,879.40	11,201,664.02	2,254,784.62
KRS INS ADAMS STREET A1 UNIT	140,977.060	24,634,428.68	27,053,099.69	2,418,671.01	74,477.650	13,014,275.93	14,292,050.71	1,277,774.78
KRS INS ADAMS STREET B1 UNIT	163,857.037	24,534,460.56	25,519,087.08	984,626.52	86,565.050	12,961,461.62	13,481,636.73	520,175.11
KRS INS ADAMS STREET III A1	69,950.266	7,273,496.13	7,546,842.07	273,345.94	35,693.918	3,711,488.01	3,850,969.80	139,481.79
KRS INS ADAMS STREET III B1	77,622.315	5,430,979.89	5,597,856.67	166,876.78	39,608.780	2,771,295.88	2,856,450.15	85,154.27
KRS INS AMERRA AGRI UNIT	100,408.398	10,092,703.24	7,475,374.81	-2,617,328.43	55,430.225	5,571,653.49	4,126,763.46	-1,444,890.03
KRS INS AMERRA UNIT	15,814.163	2,819,568.75	2,640,538.71	-179,030.04	8,730.174	1,556,535.98	1,457,703.60	-98,832.38
KRS INS ARCTOS SPORTS II UNIT	112,830.564	17,111,751.81	22,039,389.94	4,927,638.13	38,527.507	5,853,241.18	7,525,644.83	1,672,403.65
KR3 ARROWMARK UNIT	554,115.798	72,091,938.85	147,779,966.50	75,688,027.65	301,875.792	39,275,018.59	80,508,793.63	41,233,775.04
KRS INS BLACKROCK UNIT	2,623,893.313	136,232,637.63	198,877,783.75	62,645,146.12	1,292,376.856	64,959,129.38	97,955,600.41	32,996,471.03
KRS INS BLUE TORCH UNIT	169,315.339	32,392,651.99	30,357,716.08	-2,034,935.91	88,997.305	17,026,567.42	15,956,941.25	-1,069,626.17
KRS INS BNYM CUSTODY FEE UNIT	-202,590.917	-202,590.92	-202,590.92	0.00	-97,087.910	-97,087.91	-97,087.91	0.00
KRS INS BTG UNIT	29,602.586	1,401,057.37	2,787,638.14	1,386,580.77	16,265.057	769,807.25	1,531,659.87	761,852.62
KRS INS CASH UNIT	835,615.441	92,727,571.16	94,726,959.05	1,999,387.89	234,328.147	27,561,006.20	26,563,885.38	-997,120.82
KRS INS CERS CERES FARMS UNIT	167,500.000	16,750,000.00	16,750,000.00	0.00	82,500.000	8,250,000.00	8,250,000.00	0.00
KRS INS DB PRIVATE EQ UNIT	25,211.823	10,779,544.54	6,818,878.85	-3,960,665.69	13,622.690	5,824,503.38	3,684,440.93	-2,140,062.45
KRS INS DIVCOWEST IV UNIT	361.116	0.00	190,247.99	190,247.99	196.212	0.00	103,371.05	103,371.05
KRS INS DOMESTIC EQUITY UNIT	1,004,546.740	254,861,097.47	347,685,172.97	92,824,075.50	519,412.118	131,034,588.59	179,774,504.16	48,739,915.57
KRS INS GLOBAL FIXED UNIT	414,702.370	61,372,892.86	60,289,778.90	-1,083,113.96	130,437.082	20,686,042.61	18,963,052.55	-1,722,990.06
KRS INS GREENFIELD VII UNIT	1,030.644	547,744.10	313,872.76	-233,871.34	559.987	297,609.04	170,538.68	-127,070.36
KRS INS HARRISON UNIT	244,840.322	48,884,930.57	51,136,456.72	2,251,526.15	133,920.349	26,733,139.31	27,970,115.68	1,236,976.37
KRS INS IFM INFRAST DEBT UNIT	94,964.510	15,673,146.99	14,511,519.75	-1,161,627.24	48,928.929	8,075,335.06	7,476,826.02	-598,509.04
KRS INS INTERNAL EQUITY UNIT	1,718,501.113	416,627,885.86	746,504,214.70	329,876,328.84	783,935.584	178,393,729.59	340,535,838.52	162,142,108.93
KRS INS INTL EQ UNIT	2,459,042.730	409,005,316.15	452,682,119.58	43,676,803.43	1,141,617.699	185,756,904.59	210,158,983.18	24,402,078.59
KRS INS L-A-VII UNIT	36,890.604	3,249,144.99	2,296,811.14	-952,333.85	20,044.372	1,765,410.75	1,247,963.76	-517,446.99
KRS INS LIQUID CORE FIXED UNIT	3,610,635.743	480,721,590.10	477,698,370.37	-3,023,219.73	1,686,433.244	226,261,058.36	223,120,378.17	-3,140,680.19
KRS INS LIQUID HY FI UNIT	577,737.253	102,922,027.56	102,334,651.04	-587,376.52	133,236.916	24,819,176.85	23,600,266.79	-1,218,910.06
KRS INS MAGNETAR MTP	0.449	6,360.01	0.45	-6,359.56	0.248	3,516.22	0.25	-3,515.97
KRS INS MARITIME PARTNERS UNIT	256,517.545	26,577,505.73	27,678,097.15	1,100,591.42	102,607.018	10,631,001.90	11,071,238.86	440,236.96
KRS INS MESA WEST CORE UNIT	117,798.214	23,799,238.15	18,682,820.77	-5,116,417.38	65,081.046	13,149,871.51	10,321,867.17	-2,828,004.34
KRS INS MESA WEST IV UNIT	43,546.676	4,153,144.95	2,911,285.33	-1,241,859.62	23,897.561	2,279,166.33	1,597,656.24	-681,510.09
KRS INS MULTI SECTOR CREDIT FI	531,206.774	59,287,017.72	98,797,448.57	39,510,430.85	290,366.710	32,362,164.20	54,004,375.51	21,642,211.31
KRS INS OBERLAND UNIT	1,139.897	0.00	156,370.54	156,370.54	619.770	0.00	85,019.76	85,019.76
KRS INS PE 2010 UNIT	53,823.074	12,689,816.36	15,585,625.74	2,895,809.38	28,811.122	6,792,664.36	8,342,878.46	1,550,214.10
KRS INS PE 2011 UNIT	91,426.440	20,014,350.76	31,409,774.62	11,395,423.86	54,722.447	11,979,843.99	18,800,029.04	6,820,185.05
KRS INS PE 2012 A UNIT	2,171.980	891,168.32	828,126.96	-63,041.36	1,174.806	482,026.21	447,927.02	-34,099.19
KRS INS PE 2012 B UNIT	20,859.197	2,914,341.74	3,872,519.54	958,177.80	11,071.662	1,546,555.40	2,055,459.15	508,903.75
KRS INS PE 2013 UNIT	99,247.878	28,983,199.46	39,820,242.05	10,837,042.59	53,682.425	15,676,796.13	21,538,467.12	5,861,670.99
KRS INS PE 2014 UNIT	105,293.560	10,378,887.68	13,068,307.19	2,689,419.51	56,952.482	5,613,859.69	7,068,547.50	1,454,687.81
KRS INS PE 2015 UNIT	75,334.113	10,786,246.60	27,049,062.67	16,262,816.07	40,747.665	5,834,199.84	14,630,638.11	8,796,438.27
KRS INS PE 2016 UNIT	144,607.801	17,489,579.68	37,476,281.07	19,986,701.39	87,323.564	10,561,342.36	22,630,607.80	12,069,265.44
KRS INS PE 2017 UNIT	84,337.976	13,005,752.32	18,442,335.92	5,436,583.60	50,928.618	7,853,698.24	11,136,651.91	3,282,953.67
KRS INS PE 2018 UNIT	32,549.452	2,706,223.12	6,610,184.21	3,903,961.09	17,697.399	1,471,395.03	3,594,010.35	2,122,615.32
KRS INS PE 2019 UNIT	18,024.740	2,567,087.34	4,548,439.01	1,981,351.67	9,613.191	1,369,113.42	2,425,833.21	1,056,719.79
KRS INS PE 2021 UNIT	242,272.496	25,673,387.28	36,181,562.06	10,506,174.78	124,658.048	13,210,924.40	18,616,735.18	5,405,810.78
KRS INS POST-2015 REAL ESTATE	297,968.830	25,713,135.20	33,929,847.74	8,216,712.54	163,519.435	14,112,698.94	18,620,033.28	4,507,334.34
KRS INS PRIVATE CREDIT FI UNIT	542,601.305	119,047,771.74	123,183,285.89	4,135,514.15	295,929.527	64,920,748.55	67,182,977.98	2,262,229.43
KRS INS PROLOGIS UNIT	150,318.422	31,334,744.91	53,276,335.69	21,941,590.78	82,491.818	17,195,897.94	29,237,013.86	12,041,115.92
KRS INS REAL RETURN UNIT	154,762.626	27,505,903.66	46,405,644.60	18,899,740.94	79,755.558	14,218,650.70	23,914,740.75	9,696,090.05
KRS INS RUBENSTEIN PF II UNIT	21,246.598	3,614,243.72	953,692.90	-2,660,550.82	11,544.310	1,963,792.18	518,187.73	-1,445,604.45
KRS INS SHENKMAN UNIT	327,592.538	59,743,330.20	60,274,008.23	530,678.03	149,521.940	27,323,921.82	27,510,659.12	186,737.30
KRS INS STOCKBRIDGE UNIT	117,767.220	21,939,542.90	23,896,579.99	1,957,037.09	64,874.850	12,085,914.58	13,163,994.55	1,078,079.97
KRS INS TAURUS UNIT	2,081.500	187,361.13	750,448.56	563,087.43	1,125.867	108,148.09	405,911.73	297,763.64
KRS INS TPF II UNIT	37.089	83,170.56	4,619.29	-78,551.27	19.666	44,100.17	2,449.32	-41,650.85
KRS INS WALTON VI UNIT	3,263.427	661,440.82	599,724.86	-61,715.96	1,748.845	354,458.83	321,387.86	-33,070.97
KRS INS WALTON VII UNIT	5,416.610	2,206,003.86	719,561.32	-1,486,442.54	2,943.043	1,198,601.28	390,964.07	-807,637.21
KRS INS WATERFALL UNIT	350,631.890	58,007,093.37	71,316,230.41	13,309,137.04	184,096.210	30,440,474.29	37,443,963.57	7,003,489.28

Kentucky Public Pensions Authority

Security Litigation Report

Quarter Ending: December 31, 2024

Claims Filed during the Quarter (pg 3):

13

Proceeds Received during the Quarter (pg 4):

\$279,203.61

Kentucky Retirement Systems	
Quarterly Securities Litigation Report	
Quarter Ended 12/31/24	
Total Claims Filed	
No Claim on File	9
Fiscal Year 1997	1
Fiscal Year 1998	2
Fiscal Year 1999	5
Fiscal Year 2000	9
Fiscal Year 2001	8
Fiscal Year 2002	33
Fiscal Year 2003	45
Fiscal Year 2004	38
Fiscal Year 2005	89
Fiscal Year 2006	150
Fiscal Year 2007	70
Fiscal Year 2008	73
Fiscal Year 2009	85
Fiscal Year 2010	65
Fiscal Year 2011	69
Fiscal Year 2012	54
Fiscal Year 2013	48
Fiscal Year 2014	65
Fiscal Year 2015	80
Fiscal Year 2016	224
Fiscal Year 2017	140
Fiscal Year 2018	74
Fiscal Year 2019	55
Fiscal Year 2020	42
Fiscal Year 2021	43
Fiscal Year 2022	49
Fiscal Year 2023	49
Fiscal Year 2024	46
Fiscal Year 2025	22
Total Filed	1,742
Proceeds Received	
Fiscal Year 1998	\$67,682
Fiscal Year 1999	\$233,370
Fiscal Year 2000	\$303,918
Fiscal Year 2001	\$415,502
Fiscal Year 2002	\$387,318
Fiscal Year 2003	\$519,059
Fiscal Year 2004	\$1,080,920
Fiscal Year 2005	\$1,645,440
Fiscal Year 2006	\$797,535
Fiscal Year 2007	\$5,398,363
Fiscal Year 2008	\$5,402,336
Fiscal Year 2009	\$3,504,682
Fiscal Year 2010	\$2,776,544
Fiscal Year 2011	\$1,292,484
Fiscal Year 2012	\$468,657
Fiscal Year 2013	\$1,070,427
Fiscal Year 2014	\$308,704
Fiscal Year 2015	\$23,639,565
Fiscal Year 2016	\$2,417,957
Fiscal Year 2017	\$1,886,532
Fiscal Year 2018	\$2,247,966
Fiscal Year 2019	\$1,702,272
Fiscal Year 2020	\$1,743,474
Fiscal Year 2021	\$286,420
Fiscal Year 2022	\$616,557
Fiscal Year 2023	\$259,261
Fiscal Year 2024	\$456,301
Fiscal Year 2025	\$330,060
Total Proceeds	\$61,259,308

CERS Investment Committee Meeting - CERS Quarterly Investment Review and Update

Class Action Name	TNT Status Code	Status as of Date	Class Period Start Date	Class Period End Date	Class Account Id	Claimed Account Name
The Boeing Company FAIR FUND	FILED	10/1/2024	11/28/2018	10/17/2019	956596	KRS KRS INTERNAL EQUITY
The Boeing Company FAIR FUND	FILED	10/1/2024	11/28/2018	10/17/2019	956591	KRS WESTFIELD CAPITAL
The Boeing Company FAIR FUND	FILED	10/1/2024	11/28/2018	10/17/2019	956599	KRS S P 500 INDEX
The Boeing Company FAIR FUND	FILED	10/1/2024	11/28/2018	10/17/2019	956768	KRS INS WESTFIELD CAPITAL
The Boeing Company FAIR FUND	FILED	10/1/2024	11/28/2018	10/17/2019	956774	KRS INS S P 500 INDEX
The Boeing Company FAIR FUND	FILED	10/1/2024	11/28/2018	10/17/2019	956772	KRS INS KRS INTERNAL EQUITY
APPLE INC. Securities Litigation	FILED	10/2/2024	11/2/2018	1/2/2019	956597	KRS RIVER ROAD FAV
APPLE INC. Securities Litigation	FILED	10/2/2024	11/2/2018	1/2/2019	956768	KRS INS WESTFIELD CAPITAL
APPLE INC. Securities Litigation	FILED	10/2/2024	11/2/2018	1/2/2019	956591	KRS WESTFIELD CAPITAL
APPLE INC. Securities Litigation	FILED	10/2/2024	11/2/2018	1/2/2019	909181	KRS INS RIVER ROAD FAV
APPLE INC. Securities Litigation	FILED	10/2/2024	11/2/2018	1/2/2019	956774	KRS INS S P 500 INDEX
APPLE INC. Securities Litigation	FILED	10/2/2024	11/2/2018	1/2/2019	956599	KRS S P 500 INDEX
Y-mAbs Therapeutics securities litigation	FILED	10/7/2024	10/6/2020	10/28/2022	956588	KRS NTGI STRUCTURED
Y-mAbs Therapeutics securities litigation	FILED	10/7/2024	10/6/2020	10/28/2022	956765	KRS INS NTGI STRUCTURED
OKTA INC. Securities Litigation	FILED	10/28/2024	3/3/2022	8/31/2022	956768	KRS INS WESTFIELD CAPITAL
OKTA INC. Securities Litigation	FILED	10/28/2024	3/3/2022	8/31/2022	956591	KRS WESTFIELD CAPITAL
Eagle Bancorp, Inc FairFund	FILED	10/30/2024	3/2/2015	7/17/2019	956588	KRS NTGI STRUCTURED
Eagle Bancorp, Inc FairFund	FILED	10/30/2024	3/2/2015	7/17/2019	956765	KRS INS NTGI STRUCTURED
QUALCOMM INCORPORATED (2017)	FILED	11/6/2024	1/31/2012	4/20/2017	2672591	ZZKRS PEN WESTFIELD CAPITAL-SL
QUALCOMM INCORPORATED (2017)	FILED	11/6/2024	1/31/2012	4/20/2017	2672597	ZZKRS INS WESTFIELD CAPITAL-SL
QUALCOMM INCORPORATED (2017)	FILED	11/6/2024	1/31/2012	4/20/2017	2672606	ZZKRS PEN WESTWOOD MANAGEMEN-S
QUALCOMM INCORPORATED (2017)	FILED	11/6/2024	1/31/2012	4/20/2017	2672607	ZZKRS INS WESTWOOD MANAGEMEN-S
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	KR3F1006002	WESTFIELD CAPITAL
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	KR2F1901002	STATE STREET TRANSITION
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	KR3F1008002	WESTWOOD MGMT
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	956596	KRS KRS INTERNAL EQUITY
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	KR2F1009002	INVESCO
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	KR3F1901002	STATE STREET TRANSITION
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	956592	KRS RIVER ROAD
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	956599	KRS S P 500 INDEX
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	956774	KRS INS S P 500 INDEX
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	KR2F1006002	WESTFIELD CAPITAL
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	KR2F1008002	WESTWOOD MGMT
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	956772	KRS INS KRS INTERNAL EQUITY
QUALCOMM INCORPORATED Securities Litigation	FILED	11/6/2024	2/1/2012	1/20/2017	956769	KRS INS RIVER ROAD
CABOT OIL & GAS CORPORATION Securities Litigation	FILED	11/13/2024	2/22/2016	6/12/2020	956596	KRS KRS INTERNAL EQUITY
CABOT OIL & GAS CORPORATION Securities Litigation	FILED	11/13/2024	2/22/2016	6/12/2020	956774	KRS INS S P 500 INDEX
CABOT OIL & GAS CORPORATION Securities Litigation	FILED	11/13/2024	2/22/2016	6/12/2020	956772	KRS INS KRS INTERNAL EQUITY
CABOT OIL & GAS CORPORATION Securities Litigation	FILED	11/13/2024	2/22/2016	6/12/2020	140455	KRS INS ABEL NOSER TRANSITION
CABOT OIL & GAS CORPORATION Securities Litigation	FILED	11/13/2024	2/22/2016	6/12/2020	140454	KRS ABEL NOSER TRANSITION
UNDER ARMOUR INC. Securities Litigation	FILED	11/13/2024	9/16/2015	11/1/2019	KR3F1011002	KRS INTERNAL EQUITY
UNDER ARMOUR INC. Securities Litigation	FILED	11/13/2024	9/16/2015	11/1/2019	956599	KRS S P 500 INDEX
GINKGO BIOWORKS HOLDINGS, INC. Securities Litigation	FILED	11/20/2024	5/11/2021	11/15/2021	904032	KRS PUTNAM
GINKGO BIOWORKS HOLDINGS, INC. Securities Litigation	FILED	11/20/2024	5/11/2021	11/15/2021	904033	KRS INS PUTNAM
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	956772	KRS INS KRS INTERNAL EQUITY
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	904033	KRS INS PUTNAM
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	904032	KRS PUTNAM
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	956768	KRS INS WESTFIELD CAPITAL
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	956774	KRS INS S P 500 INDEX
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	956591	KRS WESTFIELD CAPITAL
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	956599	KRS S P 500 INDEX
UBER TECHNOLOGIES INC. Securities Litigation	FILED	11/20/2024	4/11/2019	11/5/2019	956596	KRS KRS INTERNAL EQUITY
Bioventus Securities Litigation	FILED	11/29/2024	2/11/2021	11/21/2022	956588	KRS NTGI STRUCTURED
Bioventus Securities Litigation	FILED	11/29/2024	2/11/2021	11/21/2022	956765	KRS INS NTGI STRUCTURED
Fluor Corporation FAIR FUND	FILED	12/30/2024	5/6/2016	2/17/2020	956596	KRS KRS INTERNAL EQUITY
Fluor Corporation FAIR FUND	FILED	12/30/2024	5/6/2016	2/17/2020	956599	KRS S P 500 INDEX
Fluor Corporation FAIR FUND	FILED	12/30/2024	5/6/2016	2/17/2020	956772	KRS INS KRS INTERNAL EQUITY



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD

KR2G00000000 - TOTAL FUND

9/30/2024 - 12/31/2024

Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CLASS ACTIONS							
CASH & CASH EQUIVALENTS							
U.S. DOLLAR							
CD	0.000	BNYM-20274NIELSEN HOLDINGS PLC	10/8/2024	0.000000	124.47	124.47	124.47
	NA9123459	, Securities Litigation Distri		0.000000	124.47	124.47	124.47
		20241008S000030 / 000000000002	10/8/2024				Gain/Loss Local Amounts: 124.47 Long
		KR2F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 124.47 Long
CD	0.000	BNYM-20274NIELSEN HOLDINGS PLC	10/8/2024	0.000000	1,794.48	1,794.48	1,794.48
	NA9123459	, Securities Litigation Distri		0.000000	1,794.48	1,794.48	1,794.48
		20241008S000040 / 000000000000	10/8/2024				Gain/Loss Local Amounts: 1,794.48 Long
		KR2F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 1,794.48 Long
CD	0.000	3-17-CV-2616-MBSSCAN A Corporat	10/9/2024	0.000000	27.44	27.44	27.44
	NA9123459	ion (2017)(D.S.C) Distribution		0.000000	27.44	27.44	27.44
		20241009S000090 / 0000000000034	10/9/2024				Gain/Loss Local Amounts: 27.44 Long
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 27.44 Long
CD	0.000	14-CV-09662 (JSR)PETROBRAS - P	10/11/2024	0.000000	564.47	564.47	564.47
	NA9123459	ETROLEO BRASILEIRO S.A (2014)		0.000000	564.47	564.47	564.47
		20241011S000010 / 000000000000	10/11/2024				Gain/Loss Local Amounts: 564.47 Long
		KR2F90010002 : CASH ACCOUNT KR2					Gain/Loss Base Amounts: 564.47 Long
CD	0.000	24874HRG GROUP Securities Liti	10/11/2024	0.000000	62.72	62.72	62.72
	NA9123459	gation Distribution 2ND DISTR		0.000000	62.72	62.72	62.72
		20241011S000240 / 0000000000001	10/11/2024				Gain/Loss Local Amounts: 62.72 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 62.72 Long
CD	0.000	26815OCLARO INC Securities Lit	10/15/2024	0.000000	1,278.24	1,278.24	1,278.24
	NA9123459	igation Distribution 1ST DISTR		0.000000	1,278.24	1,278.24	1,278.24
		20241015S000580 / 000000000000	10/15/2024				Gain/Loss Local Amounts: 1,278.24 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 1,278.24 Long



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD

KR2G00000000 - TOTAL FUND

9/30/2024 - 12/31/2024

Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CD	0.000	3-17-CV-2616-MBSSCAN A Corporat	10/17/2024	0.000000	174.75	174.75	174.75
	NA9123459	ion (2017)(D.S.C) Distribution		0.000000	174.75	174.75	174.75
		20241017S000030 / 000000000002	10/17/2024				
		KR2F10110002 : KRS INTERNAL EQUITY					Gain/Loss Local Amounts: 174.75 Long Gain/Loss Base Amounts: 174.75 Long
CD	0.000	SIGNET SECURITIES LITIGATION S	10/21/2024	0.000000	95.03	95.03	95.03
	NA9123459	ETTLEMENT FUND		0.000000	95.03	95.03	95.03
		20241022S000040 / D4BD4532E729	10/21/2024				
		KR2F20080002 : LAZARD ASSET MGMT					Gain/Loss Local Amounts: 95.03 Long Gain/Loss Base Amounts: 95.03 Long
CD	0.000	3535COMMUNITY HEALTH SYSTEMS,	10/23/2024	0.000000	102.71	102.71	102.71
	NA9123459	INC. (2011) Distribution 2ND D		0.000000	102.71	102.71	102.71
		20241023S000080 / 0000000000023	10/23/2024				
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Local Amounts: 102.71 Long Gain/Loss Base Amounts: 102.71 Long
CD	0.000	23815INTERFACE, INC., Securiti	10/28/2024	0.000000	31.07	31.07	31.07
	NA9123459	es Litigation Distribution 1ST		0.000000	31.07	31.07	31.07
		20241028S000120 / 0000000000000	10/28/2024				
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Local Amounts: 31.07 Long Gain/Loss Base Amounts: 31.07 Long
CD	0.000	23716PRECIGEN INC., Securities	10/30/2024	0.000000	1,440.19	1,440.19	1,440.19
	NA9123459	Litigation Distribution 1ST D		0.000000	1,440.19	1,440.19	1,440.19
		20241030S000130 / 0000000006373	10/30/2024				
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Local Amounts: 1,440.19 Long Gain/Loss Base Amounts: 1,440.19 Long
CD	0.000	1-17-cv-00241-WMRTHE SOUTHERN	10/31/2024	0.000000	32.72	32.72	32.72
	NA9123459	COMPANY Distribution 2ND DISTR		0.000000	32.72	32.72	32.72
		20241031S000010 / 0000000000008	10/31/2024				
		KR2F19010002 : STATE STREET TRANSIT					Gain/Loss Local Amounts: 32.72 Long Gain/Loss Base Amounts: 32.72 Long
CD	0.000	26513WELLS FARGO & COMPANY Sec	10/31/2024	0.000000	21,844.69	21,844.69	21,844.69
	NA9123459	urities Litigation Distributio		0.000000	21,844.69	21,844.69	21,844.69
		20241031S000180 / 0000000000000	10/31/2024				
		KR2F10110002 : KRS INTERNAL EQUITY					Gain/Loss Local Amounts: 21,844.69 Long Gain/Loss Base Amounts: 21,844.69 Long



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD

KR2G00000000 - TOTAL FUND

9/30/2024 - 12/31/2024

Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CD	0.000	26513WELLS FARGO & COMPANY Sec	10/31/2024	0.000000	45,412.60	45,412.60	45,412.60
	NA9123459	urities Litigation Distributio		0.000000	45,412.60	45,412.60	45,412.60
		20241031S000220 / 000000000000	10/31/2024				Gain/Loss Local Amounts: 45,412.60 Long
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 45,412.60 Long
CD	0.000	HARBORVIEW MORTGAGE LOAN TRUST	11/1/2024	0.000000	24.76	24.76	24.76
	NA9123459	LITIGATION SEC LIT PROCEEDS		0.000000	24.76	24.76	24.76
		20241104S000050 / ACDCEED19AD8	11/1/2024				Gain/Loss Local Amounts: 24.76 Long
		KR2F90010002 : CASH ACCOUNT KR2					Gain/Loss Base Amounts: 24.76 Long
CD	0.000	WILMINGTON TRUST (SEC) DISTRIB	11/1/2024	0.000000	178.74	178.74	178.74
	NA9123459	UTION SEC LIT PROCEEDS		0.000000	178.74	178.74	178.74
		20241104S000300 / ACDCEED19AD8	11/1/2024				Gain/Loss Local Amounts: 178.74 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 178.74 Long
CD	0.000	1-16-cv-01031-TSE-MSNORBITAL A	11/5/2024	0.000000	27.75	27.75	27.75
	NA9123459	TK, INC. (2016) Distribution 2		0.000000	27.75	27.75	27.75
		20241105S000120 / 000000000005	11/5/2024				Gain/Loss Local Amounts: 27.75 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 27.75 Long
CD	0.000	23703TACTILE SYSTEMS TECHNOLOG	11/15/2024	0.000000	8,603.25	8,603.25	8,603.25
	NA9123459	Y. INC, Securities Litigation		0.000000	8,603.25	8,603.25	8,603.25
		20241115S000080 / 000000000000	11/15/2024				Gain/Loss Local Amounts: 8,603.25 Long
		KR2F10130002 : NEXT CENTURY GROWTH					Gain/Loss Base Amounts: 8,603.25 Long
CD	0.000	23703TACTILE SYSTEMS TECHNOLOG	11/15/2024	0.000000	232.05	232.05	232.05
	NA9123459	Y. INC, Securities Litigation		0.000000	232.05	232.05	232.05
		20241115S000770 / 000000000000	11/15/2024				Gain/Loss Local Amounts: 232.05 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 232.05 Long
CD	0.000	4 14-CV-11191GENERAL MOTORS CO	11/19/2024	0.000000	139.35	139.35	139.35
	NA9123459	MPANY Distribution 3RD DISTRIB		0.000000	139.35	139.35	139.35
		20241119S000010 / 000000000007	11/19/2024				Gain/Loss Local Amounts: 139.35 Long
		KR2F19010002 : STATE STREET TRANSIT					Gain/Loss Base Amounts: 139.35 Long



Transaction Detail
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Report ID: IACS0008
 Base Currency: USD

KR2G00000000 - TOTAL FUND

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Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CD	0.000	20417J.P. MORGAN CHASE BANK, N NA9123459 .A. ADR-FX Distribution 1ST DI 20241126S000020 / 000000000919 KR2F10120002 : RIVER ROAD FAV	11/26/2024	0.000000	3.16	3.16	3.16
			11/26/2024	0.000000	3.16	3.16	3.16
						Gain/Loss Local Amounts: 3.16 Long Gain/Loss Base Amounts: 3.16 Long	
CD	0.000	17473DAVITA INC. Distribution NA9123459 2ND DISTRIBUTION PROCEEDS FOR 20241129S000030 / 000000000001 KR2F10120002 : RIVER ROAD FAV	11/29/2024	0.000000	672.22	672.22	672.22
			11/29/2024	0.000000	672.22	672.22	672.22
						Gain/Loss Local Amounts: 672.22 Long Gain/Loss Base Amounts: 672.22 Long	
CD	0.000	24906CLOOPEN GROUP HOLDING LIM NA9123459 ITED Securities Litigation Dis 20241129S000100 / 000000006377 KR2F25050002 : JP MORGAN EMERG MKTS	11/29/2024	0.000000	91,478.03	91,478.03	91,478.03
			11/29/2024	0.000000	91,478.03	91,478.03	91,478.03
						Gain/Loss Local Amounts: 91,478.03 Long Gain/Loss Base Amounts: 91,478.03 Long	
CD	0.000	17473DAVITA INC. Distribution NA9123459 2ND DISTRIBUTION PROCEEDS FOR 20241129S000200 / 000000000001 KR2F10110002 : KRS INTERNAL EQUITY	11/29/2024	0.000000	1,741.80	1,741.80	1,741.80
			11/29/2024	0.000000	1,741.80	1,741.80	1,741.80
						Gain/Loss Local Amounts: 1,741.80 Long Gain/Loss Base Amounts: 1,741.80 Long	
CD	0.000	17473DAVITA INC. Distribution NA9123459 2ND DISTRIBUTION PROCEEDS FOR 20241129S000250 / 000000000001 KR2F19020002 : S&P 500 INDEX	11/29/2024	0.000000	214.27	214.27	214.27
			11/29/2024	0.000000	214.27	214.27	214.27
						Gain/Loss Local Amounts: 214.27 Long Gain/Loss Base Amounts: 214.27 Long	
CD	0.000	20603MCKESSON CORPORATION, Sec NA9123459 urities Litigation Distributio 20241205S000080 / 000000000011 KR2F10110002 : KRS INTERNAL EQUITY	12/5/2024	0.000000	1,192.93	1,192.93	1,192.93
			12/5/2024	0.000000	1,192.93	1,192.93	1,192.93
						Gain/Loss Local Amounts: 1,192.93 Long Gain/Loss Base Amounts: 1,192.93 Long	
CD	0.000	20603MCKESSON CORPORATION, Sec NA9123459 urities Litigation Distributio 20241205S000140 / 000000000011 KR2F19020002 : S&P 500 INDEX	12/5/2024	0.000000	4,801.80	4,801.80	4,801.80
			12/5/2024	0.000000	4,801.80	4,801.80	4,801.80
						Gain/Loss Local Amounts: 4,801.80 Long Gain/Loss Base Amounts: 4,801.80 Long	



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KR2G00000000 - TOTAL FUND

9/30/2024 - 12/31/2024

Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CD	0.000	2-12-cv-00555-DGCFIRST SOLAR, NA9123459 INC. Distribution 2ND DISTRIBU 20241205S000150 / 000000000003 KR2F19020002 : S&P 500 INDEX	12/5/2024	0.000000	154.33	154.33	154.33
				0.000000	154.33	154.33	154.33
						Gain/Loss Local Amounts: 154.33 Long Gain/Loss Base Amounts: 154.33 Long	
CD	0.000	21639AAC HOLDINGS, INC., Secur NA9123459 ities Litigation Distribution 20241205S000200 / 000000000000 KR2F10020002 : NTGI STRUCTURED	12/5/2024	0.000000	1,697.60	1,697.60	1,697.60
				0.000000	1,697.60	1,697.60	1,697.60
						Gain/Loss Local Amounts: 1,697.60 Long Gain/Loss Base Amounts: 1,697.60 Long	
CD	0.000	16943PRECISION CASTPARTS CORP. NA9123459 (2016) (ACQUISITION) Distribu 20241210S000230 / 000000000001 KR2F19020002 : S&P 500 INDEX	12/10/2024	0.000000	15.03	15.03	15.03
				0.000000	15.03	15.03	15.03
						Gain/Loss Local Amounts: 15.03 Long Gain/Loss Base Amounts: 15.03 Long	
CD	0.000	10 Civ. 2515 (DAB)FUQI INTERNA NA9123459 TIONAL, INC. Distribution 2ND 20241211S000170 / 000000000002 KR2F10020002 : NTGI STRUCTURED	12/11/2024	0.000000	87.56	87.56	87.56
				0.000000	87.56	87.56	87.56
						Gain/Loss Local Amounts: 87.56 Long Gain/Loss Base Amounts: 87.56 Long	
CD	0.000	20584CITI SPONSORED AMERICAN D NA9123459 EPOSITARY RECEIPTS (CITIBANK N 20241216S000010 / 000000002412 KR2F20050002 : AMERICAN CENTURY	12/16/2024	0.000000	1.66	1.66	1.66
				0.000000	1.66	1.66	1.66
						Gain/Loss Local Amounts: 1.66 Long Gain/Loss Base Amounts: 1.66 Long	
CD	0.000	FIRST SOLAR, INC SEC LIT NA9123459 20241223S000090 / AE78D4160193 KR2F19020002 : S&P 500 INDEX	12/20/2024	0.000000	75.04	75.04	75.04
				0.000000	75.04	75.04	75.04
						Gain/Loss Local Amounts: 75.04 Long Gain/Loss Base Amounts: 75.04 Long	
CD	0.000	20274NIELSEN HOLDINGS PLC, Sec NA9123459 urities Litigation Distributio 20241224S000010 / 000000000002 KR2F10120002 : RIVER ROAD FAV	12/24/2024	0.000000	160.19	160.19	160.19
				0.000000	160.19	160.19	160.19
						Gain/Loss Local Amounts: 160.19 Long Gain/Loss Base Amounts: 160.19 Long	



Transaction Detail
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 Base Currency: USD

KR2G00000000 - TOTAL FUND

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Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CD	0.000	17319ALEXION PHARMACEUTICALS, NA9123459 INC. Securities Litigation Dis	12/31/2024	0.000000	7,269.58	7,269.58	7,269.58
		20241231S000440 / 000000000003	12/31/2024	0.000000	7,269.58	7,269.58	7,269.58
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Local Amounts: 7,269.58 Long Gain/Loss Base Amounts: 7,269.58 Long
TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:					191,756.68	191,756.68	191,756.68
					191,756.68	191,756.68	191,756.68
TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:					191,756.68	191,756.68	191,756.68
EQUITY							
CANADIAN DOLLAR							
CD	0.000	ORD INST: BSDTUS33GBL THE BANK NCB63VJ03 OF NEW YORK MELLON 02149,MA,U	12/4/2024	0.000000	109.30	109.30	109.30
		20241205S000010 / 0469334	12/4/2024	0.000000	77.71	77.71	77.71
		KR2F20010002 : KRS NONUS ACWI-EX US					Gain/Loss Local Amounts: 109.30 Long Gain/Loss Base Amounts: 77.71 Long
U.S. DOLLAR							
CD	0.000	4-17-CV-0449-ALMADEPTUS HEALTH 006855100 CSDRADJ:RAF-ERU-IAS-19371791	10/22/2024	0.000000	7.59	7.59	7.59
		20241023S000080	10/22/2024	0.000000	7.59	7.59	7.59
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Local Amounts: 7.59 Long Gain/Loss Base Amounts: 7.59 Long
CD	0.000	18849ENDO INTERNATIONAL PLC, S G30401106 CSDRADJ:RAF-ERU-IAS-21498490	12/30/2024	0.000000	1,010.87	1,010.87	1,010.87
		20241231S000010	12/30/2024	0.000000	1,010.87	1,010.87	1,010.87
		KR2F90010002 : CASH ACCOUNT KR2					Gain/Loss Local Amounts: 1,010.87 Long Gain/Loss Base Amounts: 1,010.87 Long
CD	0.000	18849ENDO INTERNATIONAL PLC, S G30401106 CSDRADJ:RAF-ERU-IAS-21497976	12/30/2024	0.000000	356.05	356.05	356.05
		20241231S000430	12/30/2024	0.000000	356.05	356.05	356.05
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Local Amounts: 356.05 Long Gain/Loss Base Amounts: 356.05 Long
CD	0.000	16915SIGNET JEWELERS LIMITED (G81276100 CSDRADJ:RAF-ERU-IAS-19105015	10/10/2024	0.000000	34.95	34.95	34.95
		20241011S000160	10/10/2024	0.000000	34.95	34.95	34.95
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Local Amounts: 34.95 Long Gain/Loss Base Amounts: 34.95 Long



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KR2G00000000 - TOTAL FUND

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Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
Transaction No./Client Ref No.			Reported Date				
TOTAL U.S. DOLLAR EQUITY:					1,409.46	1,409.46	1,409.46
					1,409.46	1,409.46	1,409.46
TOTAL EQUITY CLASS ACTIONS:					1,487.17	1,487.17	1,487.17
TOTAL CLASS ACTIONS:					193,243.85	193,243.85	193,243.85
TOTAL TRANSACTIONS BASE:					193,243.85	193,243.85	193,243.85



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD

KR3G00000000 - TOTAL FUND

9/30/2024 - 12/31/2024

Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CLASS ACTIONS							
CASH & CASH EQUIVALENTS							
U.S. DOLLAR							
CD	0.000	16915SIGNET JEWELERS LIMITED (10/10/2024	0.000000	21.18	21.18	21.18
	NA9123459	2016) Distribution 3RD DISTRIB		0.000000	21.18	21.18	21.18
		20241010S000130 / 0000000000004	10/10/2024				Gain/Loss Local Amounts: 21.18 Long
		KR3F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 21.18 Long
CD	0.000	14-CV-09662 (JSR)PETROBRAS - P	10/11/2024	0.000000	209.12	209.12	209.12
	NA9123459	ETROLEO BRASILEIRO S.A (2014)		0.000000	209.12	209.12	209.12
		20241011S000010 / 0000000000000	10/11/2024				Gain/Loss Local Amounts: 209.12 Long
		KR3F29010002 : NON-US TRANS ACCT					Gain/Loss Base Amounts: 209.12 Long
CD	0.000	24874HRG GROUP Securities Liti	10/11/2024	0.000000	27.95	27.95	27.95
	NA9123459	gation Distribution 2ND DISTR		0.000000	27.95	27.95	27.95
		20241011S000230 / 0000000000001	10/11/2024				Gain/Loss Local Amounts: 27.95 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 27.95 Long
CD	0.000	26815OCLARO INC Securities Lit	10/15/2024	0.000000	545.11	545.11	545.11
	NA9123459	igation Distribution 1ST DISTR		0.000000	545.11	545.11	545.11
		20241015S000590 / 0000000000000	10/15/2024				Gain/Loss Local Amounts: 545.11 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 545.11 Long
CD	0.000	3-17-CV-2616-MBSSCANNA Corporat	10/17/2024	0.000000	91.96	91.96	91.96
	NA9123459	ion (2017)(D.S.C) Distribution		0.000000	91.96	91.96	91.96
		20241017S000030 / 0000000000002	10/17/2024				Gain/Loss Local Amounts: 91.96 Long
		KR3F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 91.96 Long
CD	0.000	23548Wells Fargo & Company (SE	10/28/2024	0.000000	1,119.61	1,119.61	1,119.61
	NA9123459	C) Distribution 3RD DISTRIBUTI		0.000000	1,119.61	1,119.61	1,119.61
		20241028S000040 / 0000000000299	10/28/2024				Gain/Loss Local Amounts: 1,119.61 Long
		KR3F90010002 : CASH ACCOUNT KR3					Gain/Loss Base Amounts: 1,119.61 Long



Transaction Detail
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KR3G00000000 - TOTAL FUND

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Status: REVISED

Trans Code	Shares/Par	Description	Trade Date	Price	Cost	Amount	Net Gain/Loss
Link Ref	Security Id	Broker	C. Settle Date	Local/Base	Local/Base	Local/Base	Local/Base
		Transaction No./Client Ref No.	Reported Date				
CD	0.000	26513WELLS FARGO & COMPANY Sec	10/30/2024	0.000000	9,622.82	9,622.82	9,622.82
	NA9123459	urities Litigation Distributio		0.000000	9,622.82	9,622.82	9,622.82
		20241030S000040 / 000000000000	10/30/2024				Gain/Loss Local Amounts: 9,622.82 Long
		KR3F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 9,622.82 Long
CD	0.000	23716PRECIGEN INC., Securities	10/30/2024	0.000000	629.11	629.11	629.11
	NA9123459	Litigation Distribution 1ST D		0.000000	629.11	629.11	629.11
		20241030S000130 / 000000006373	10/30/2024				Gain/Loss Local Amounts: 629.11 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 629.11 Long
CD	0.000	26513WELLS FARGO & COMPANY Sec	10/31/2024	0.000000	20,590.06	20,590.06	20,590.06
	NA9123459	urities Litigation Distributio		0.000000	20,590.06	20,590.06	20,590.06
		20241031S000220 / 000000000000	10/31/2024				Gain/Loss Local Amounts: 20,590.06 Long
		KR3F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 20,590.06 Long
CD	0.000	1-16-cv-01031-TSE-MSNORBITAL A	11/5/2024	0.000000	13.10	13.10	13.10
	NA9123459	TK, INC. (2016) Distribution 2		0.000000	13.10	13.10	13.10
		20241105S000140 / 000000000055	11/5/2024				Gain/Loss Local Amounts: 13.10 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 13.10 Long
CD	0.000	23703TACTILE SYSTEMS TECHNOLOG	11/15/2024	0.000000	3,910.20	3,910.20	3,910.20
	NA9123459	Y. INC, Securities Litigation		0.000000	3,910.20	3,910.20	3,910.20
		20241115S000080 / 000000000000	11/15/2024				Gain/Loss Local Amounts: 3,910.20 Long
		KR3F10130002 : NEXT CENTURY GROWTH					Gain/Loss Base Amounts: 3,910.20 Long
CD	0.000	23703TACTILE SYSTEMS TECHNOLOG	11/15/2024	0.000000	93.66	93.66	93.66
	NA9123459	Y. INC, Securities Litigation		0.000000	93.66	93.66	93.66
		20241115S000740 / 000000000000	11/15/2024				Gain/Loss Local Amounts: 93.66 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 93.66 Long
CD	0.000	4 14-CV-11191GENERAL MOTORS CO	11/19/2024	0.000000	58.59	58.59	58.59
	NA9123459	MPANY Distribution 3RD DISTRIB		0.000000	58.59	58.59	58.59
		20241119S000060 / 000000000007	11/19/2024				Gain/Loss Local Amounts: 58.59 Long
		KR3F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 58.59 Long



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KR3G00000000 - TOTAL FUND

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Status: REVISED

Trans Code Link Ref	Shares/Par Security Id	Description Broker Transaction No./Client Ref No.	Trade Date C. Settle Date Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CD	0.000	17473DAVITA INC. Distribution NA9123459 2ND DISTRIBUTION PROCEEDS FOR 20241129S000030 / 000000000001 KR3F10120002 : RIVER ROAD FAV	11/29/2024 11/29/2024	0.000000 0.000000	286.06 286.06	286.06 286.06	286.06 286.06 Gain/Loss Local Amounts: 286.06 Long Gain/Loss Base Amounts: 286.06 Long
CD	0.000	24906CLOOPEN GROUP HOLDING LIM NA9123459 ITED Securities Litigation Dis 20241129S000090 / 000000006377 KR3F25050002 : JP MORGAN EMERG MKTS	11/29/2024 11/29/2024	0.000000 0.000000	40,874.56 40,874.56	40,874.56 40,874.56	40,874.56 40,874.56 Gain/Loss Local Amounts: 40,874.56 Long Gain/Loss Base Amounts: 40,874.56 Long
CD	0.000	17473DAVITA INC. Distribution NA9123459 2ND DISTRIBUTION PROCEEDS FOR 20241129S000200 / 000000000001 KR3F10110002 : KRS INTERNAL EQUITY	11/29/2024 11/29/2024	0.000000 0.000000	774.52 774.52	774.52 774.52	774.52 774.52 Gain/Loss Local Amounts: 774.52 Long Gain/Loss Base Amounts: 774.52 Long
CD	0.000	20603MCKESSON CORPORATION, Sec NA9123459 urities Litigation Distributio 20241205S000140 / 000000000011 KR3F19020002 : S&P 500 INDEX	12/5/2024 12/5/2024	0.000000 0.000000	2,863.62 2,863.62	2,863.62 2,863.62	2,863.62 2,863.62 Gain/Loss Local Amounts: 2,863.62 Long Gain/Loss Base Amounts: 2,863.62 Long
CD	0.000	17319ALEXION PHARMACEUTICALS, NA9123459 INC. Securities Litigation Dis 20241231S000370 / 000000000003 KR3F10110002 : KRS INTERNAL EQUITY	12/31/2024 12/31/2024	0.000000 0.000000	3,628.20 3,628.20	3,628.20 3,628.20	3,628.20 3,628.20 Gain/Loss Local Amounts: 3,628.20 Long Gain/Loss Base Amounts: 3,628.20 Long
TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:					85,359.43	85,359.43	85,359.43
TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:					85,359.43	85,359.43	85,359.43
EQUITY							
U.S. DOLLAR							
CD	0.000	4-17-CV-0449-ALMADEPTUS HEALTH 006855100 CSDRADJ:RAF-ERU-IAS-19371792 20241023S000070 KR3F10020002 : NTGI STRUCTURED	10/22/2024 10/22/2024	0.000000 0.000000	7.60 7.60	7.60 7.60	7.60 7.60 Gain/Loss Local Amounts: 7.60 Long Gain/Loss Base Amounts: 7.60 Long



**Transaction Detail
Reported By Transaction Category**

Report ID: IACS0008
Base Currency: USD

KR3G00000000 - TOTAL FUND

9/30/2024 - 12/31/2024

Status: REVISED

Trans Code Link Ref	Shares/Par Security Id	Description Broker	Trade Date C. Settle Date Reported Date	Price Local/Base	Cost Local/Base	Amount Local/Base	Net Gain/Loss Local/Base
CD	0.000	18849ENDO INTERNATIONAL PLC, S	12/30/2024	0.000000	417.17	417.17	417.17
	G30401106	CSDRADJ:RAF-ERU-IAS-21498076		0.000000	417.17	417.17	417.17
		20241231S000010	12/30/2024				Gain/Loss Local Amounts: 417.17 Long
		KR3F90010002 : CASH ACCOUNT KR3					Gain/Loss Base Amounts: 417.17 Long
CD	0.000	18849ENDO INTERNATIONAL PLC, S	12/30/2024	0.000000	175.56	175.56	175.56
	G30401106	CSDRADJ:RAF-ERU-IAS-21498077		0.000000	175.56	175.56	175.56
		20241231S000360	12/30/2024				Gain/Loss Local Amounts: 175.56 Long
		KR3F10110002 : KRS INTERNAL EQUITY					Gain/Loss Base Amounts: 175.56 Long
TOTAL U.S. DOLLAR EQUITY:					<u>600.33</u>	<u>600.33</u>	<u>600.33</u>
					600.33	600.33	600.33
TOTAL EQUITY CLASS ACTIONS:					<u>600.33</u>	<u>600.33</u>	<u>600.33</u>
					600.33	600.33	600.33
TOTAL CLASS ACTIONS:					<u>85,959.76</u>	<u>85,959.76</u>	<u>85,959.76</u>
					85,959.76	85,959.76	85,959.76
TOTAL TRANSACTIONS BASE:					<u>85,959.76</u>	<u>85,959.76</u>	<u>85,959.76</u>
					85,959.76	85,959.76	85,959.76

Kentucky Public Pensions Authority

Internal Asset Holdings Report & Internal Asset Transaction Report

Quarter Ending: December 31, 2024

Reports and file web: /

<https://kyretkygo-.In-estments.In-estmentsLibrary.Pages.InternalReports.aspx>

Kentucky Public Pensions Authority

Commissions Report

Quarter Ending: December 31, 2024

Reports and Feedback: /

<https://kyret.ky.gov/-/rest/estments/-/rest/estmentsLibrary/Pages/CommissionsReports.aspx>

County Employees Retirement System

Investment Budget Update

Quarter Ending: December 31, 2024

CERS Investment Committee Meeting - Quarterly Investment Budget Update

KENTUCKY PUBLIC PENSIONS AUTHORITY										
Investment Budget										
For the six month period ending December 31, 2024										
Account Name	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Trust Budget FY 2025	FY25 Expenditures	Remaining	Percentage Spent
CONSULTING SERVICES										
Wilshire Associates	\$ 1,021,799	\$ 1,238,170	\$ 1,225,671	\$ 1,021,175	\$ 838,172	\$ 1,130,417	\$ 1,250,000	\$ 580,311	\$ 669,689	46%
Albourne	-	-	-	-	306,750	270,000	275,000	135,000	140,000	49%
MercerInsight	-	-	-	-	153,548	160,000	165,000	80,000	85,000	48%
New Private Markets Consultant	-	-	-	-	153,548	160,000	250,000	-	250,000	0%
SUBTOTAL	1,021,799	1,238,170	1,225,671	1,021,175	1,452,019	1,720,417	1,940,000	795,311	1,144,689	41%
LEGAL & AUDITING SERVICES										
Faegre Drinker	-	-	96,039	202,502	16,428	18,519	375,000	1,000	374,000	0%
Intelligent Management Solutions (IMS)	620,001	202,140	155,700	69,884	81,880	8,061	700,000	1,289,110	(589,110)	184%
McClain/Goldberg	-	-	891	-	-	312	25,000	-	25,000	0%
Reinhart	317,909	671,269	663,689	619,509	109,508	619,420	3,000,000	1,097,884	1,902,116	37%
Stoll-Keenon-Ogder	10,314	135,353	254,211	463,560	750,438	210,475	875,000	184,180	690,820	21%
Haystack	-	-	-	-	120,175	209,490	200,000	148,650	51,350	74%
Umberg Zipser	-	-	289,100	498,058	606,701	738,483	750,000	61,669	688,331	8%
Fiduciary Legal Expenses	-	-	-	-	5,288	400,872	850,000	431,098	418,902	51%
Miscellaneous	-	-	-	-	-	3,160	50,000	-	50,000	0%
SUBTOTAL	948,225	1,008,762	1,459,630	1,853,513	1,690,417	2,208,791	6,825,000	3,213,591	3,611,409	47%
CONTRACTURAL SERVICES										
Bloomberg	68,722	71,810	98,163	102,243	104,153	110,823	160,000	56,393	103,607	35%
BNYM Custodial Fees	2,056,390	2,088,475	2,379,838	2,565,169	2,333,981	2,752,592	2,700,000	1,499,863	1,200,137	56%
eVestment (Solovis RMS)	-	-	-	30,000	33,800	39,422	35,000	-	35,000	0%
Solovis (Reporting & Analytics)	-	-	-	245,000	266,017	306,319	300,000	319,744	(19,744)	107%
FactSet	222,476	162,295	109,662	140,098	146,411	151,431	150,000	66,840	83,160	45%
Russell Index Subscriptior	1,075	1,250	1,000	1,000	750	1,000	30,000	750	29,250	3%
S&P Global	-	94,500	26,250	68,250	27,563	-	47,500	20,672	26,828	44%
TradeWeb	-	-	-	6,000	7,700	2,800	-	-	-	-
State Street/Elkins McSherry	10,000	5,000	15,000	10,000	10,000	-	10,000	-	10,000	0%
ISS	32,050	32,050	28,288	35,813	39,875	62,875	60,000	8,500	51,500	14%
MSCI	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-	1,000	0%
KPMG Tax Guarantor Services	-	7,606	22,050	7,350	-	9,450	10,000	9,450	550	95%
Jayant Ghevaria and CO	-	10,050	-	52,085	-	-	55,000	-	55,000	0%
India Renewal Fee (SEBI)	-	-	-	3,000	-	2,950	3,000	-	3,000	0%
With Intelligence	-	-	-	-	9,520	9,520	10,000	10,150	(150)	-
SUBTOTAL	2,391,713	2,474,036	2,681,251	3,267,008	2,980,769	3,450,182	3,571,500	1,992,363	1,579,137	56%

CERS Investment Committee Meeting - Quarterly Investment Budget Update

KENTUCKY PUBLIC PENSIONS AUTHORITY										
Investment Budget										
For the six month period ending December 31, 2024										
Account Name	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Trust Budget FY 2025	FY25 Expenditures	Remaining	Percentage Spent
MISCELLANEOUS SERVICES										
Miscellaneous Services							250,000		250,000	0%
Morningstar						2,500	2,500	2,500	-	100%
Oxford						19,500	20,000	20,475	(475)	102%
Pension Real Estate Association						330	350	330	20	94%
Reimbursement of Pzena	-	-	-	-	-	12,923			-	
SUBTOTAL	-	-	-	-	-	35,253	272,850	23,305	249,545	9%
INACTIVE CONTRACTURAL SERVICES										
Dean Dorton	9,719		-	-	250	-	-	-	-	
Hirschler		4,794	-	-	-	-	-	-	-	
INFORMA	12,904		-	-	-	-	-	-	-	
Lighthouse Solutions	3,093		-	-	-	-	-	-	-	
London Stock Exchange GBP (GREAT BRITISH POUNDS)	6,467	3,544	-	-	-	-	-	-	-	
Deutsche Bank Trust	3,000		3,000	-	-	-	-	-	-	
Morris James LLP	94,192	20,154	-	-	-	-	-	-	-	
Calcaterra Pollack			1,200,000	-	-	-	-	-	-	
Manatt		90,798	30,757	-	-	-	-	-	-	
ORG	162,344		-	-	-	162,344	-	-	-	
SUBTOTAL	291,718	119,290	1,233,757	-	250	-	-	-	-	
TOTAL	\$ 4,653,455	\$ 4,840,258	\$ 6,600,309	\$ 6,141,696	\$ 6,123,455	\$ 7,414,644	\$ 12,609,350	\$ 6,024,570	\$ 6,584,780	48%

CERS Investment Committee Meeting - Quarterly Investment Budget Update

INVESTMENT BUDGET	
CONSULTING SERVICES	
Wilshire Associates	General Investment Consulting Services, Manager Research and Due Dilligence, Reporting, Asset Allocation
Albourne	Investment Consultant Research database - Private Markets Manager Research, Private Markets Research, Pension Markets Research
MercerInsight	Investment Consultant Research database - Public Markets Manager Research, Public Markets Research, Pension Markets Research
LEGAL & AUDITING SERVICES	
Faegre Drinker	Delaware litigation counsel
Intelligent Management Solutions (IMS)	IMS is an expert witness in the Bay Hills case.
McClain/Goldberg	Blackstone litigation counsel for the Trustees and Officers
Reinhart	Bay Hills counsel and investment counsel for contract negotiations
Stoll-Keenon-Ogden	Mayberry counsel
Haystack	Conduct Mayberry eDiscovery
Umberg Zipser	PAAMCO-Prisma (California litigation)
Frost Brown Todd	Currently has no investment-related cases
Swansburg & Smith	Reimbursement of Fiduciary Legal Expenses (KKR)
Eddins Domine	Reimbursement of Fiduciary Legal Expenses (KKR)
Taft	Reimbursement of Fiduciary Legal Expenses (Calcaterra Pollack)
CONTRACTURAL SERVICES	
Bloomberg	Bloomberg Professional Services, Data Analytics and Tools, Market Information and News, Research Portal
BNYM Custodial Fees	Full Service Custodial Services, Investment Accounting, Investment Operations, Transaction Services, Performance and Attribution, Reporting
eVestment (Solovis RMS)	Research Management Program organizing internal and external research
Solovis (Reporting & Analytics)	Portfolio and Risk Analytics, Performance Measurement and Attribution, Reporting
FactSet	Workstation and Quant/Risk Applications for managing Public Equity Portfolios
Russell Index Subscription	Access to Russell Indexes for Portfolio Management, Reporting and Performance
S&P Global	Data on the S & P US Index / License to 10,000 Identifiers for Portfolio Management, Reporting and Performance
TradeWeb	Electronic Trading Platform for Internal Management
State Street/Elkins McSherry	Public Equity Trade Cost Analysis
ISS	Portfolio Monitoring and Proxy Voting Services
MSCI	International Public Equity Data Package
KPMG Tax Guarantor Services	Tax Accounting Services - Taiwan
Jayant Ghevaria and CO	Tax Accounting Services - India
India Renewal Fee (SEBI)	Registration of India Local Market Accounts
Oxford Economics	Global macroeconomics and markets research
Morningstar	Access to Morningstar Indexes for Portfolio Management, Reporting and Performance
Pension Real Estate Association	Industry Association for News and Research
With Intelligence	Portfolio Management Research provider

KENTUCKY PUBLIC PENSIONS AUTHORITY											
Investment Fees and Expenses											
For the six month periods ending December 31											
Pension											
	2025			2024		2023		2022		2021	
	FYTD Fees	Annualized Fee Rate	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	1,375,134	0.08%	3,285,258,604	1,014,583	2,287,704,103	1,412,142	1,982,992,065	1,591,391	2,344,396,966	1,401,242	2,282,848,163
<i>Investment Advisory Fees</i>	1,038,999	0.06%		989,977		1,073,446		1,558,075		1,375,451	
<i>Performance Fees</i>						313,985					
<i>Miscellaneous Fees and Expenses</i>	336,134			24,606		24,711		33,316		25,791	
Public Equity	8,629,831	0.20%	8,515,176,300	7,003,749	8,229,412,149	6,326,122	6,860,008,005	7,390,244	7,258,279,054	5,850,570	6,295,655,905
<i>Investment Advisory Fees</i>	8,520,390	0.20%		6,885,398		6,216,244		7,204,226		5,712,166	
<i>Miscellaneous Fees and Expenses</i>	109,441			118,350		109,877		186,018		138,403	
Specialty Credit Fixed Income	52,553,330	2.56%	4,113,638,760	43,867,219	3,449,111,420	26,763,395	3,169,416,226	25,775,685	3,159,992,882	18,397,660	2,806,670,599
<i>Investment Advisory Fees</i>	11,557,737	0.56%		9,314,024		8,272,318		8,375,883		7,320,545	
<i>Performance Fees</i>	20,324,723			15,712,746		7,246,973		12,762,781		9,592,140	
<i>Miscellaneous Fees and Expenses</i>	20,670,870			18,840,449		11,244,103		4,637,021		1,484,975	
Real Estate	9,542,076	1.89%	1,007,605,718	2,347,363	1,007,031,285	5,120,746	980,167,711	16,451,186	780,082,609	980,198	584,165,093
<i>Investment Advisory Fees</i>	3,855,993	0.77%		3,803,771		4,590,896		2,401,864		2,545,408	
<i>Performance Fees</i>	(133,705)			(3,707,401)		(380,882)		12,653,860		(2,070,445)	
<i>Miscellaneous Fees and Expenses</i>	5,819,788			2,250,993		910,732		1,395,462		505,235	
Real Return	5,957,053	0.94%	1,267,368,609	2,496,799	873,036,117	2,108,571	451,152,401	2,632,576	1,021,821,360	3,478,904	989,625,601
<i>Investment Advisory Fees</i>	3,154,358	0.50%		2,099,651		1,176,185		2,001,915		2,247,532	
<i>Performance Fees</i>	1,922,510			147,085		493,101		679,897		1,259,862	
<i>Miscellaneous Fees and Expenses</i>	880,185			250,063		439,285		(49,236)		(28,490)	
Private Equity	7,362,364	1.30%	1,134,713,109	8,028,455	1,162,891,960	(1,217,614)	1,143,362,622	39,968,415	1,262,539,645	24,365,092	1,139,236,934
<i>Investment Advisory Fees</i>	2,225,737	0.39%		2,925,557		3,652,032		3,928,841		4,294,168	
<i>Performance Fees</i>	3,539,722			2,310,867		(6,838,180)		33,350,556		17,523,541	
<i>Miscellaneous Fees and Expenses</i>	1,596,905			2,792,031		1,968,535		2,689,018		2,547,383	
Administrative Expense/Cash	4,140,838	0.04%	521,905,734	2,118,142	737,649,280	1,574,490	813,973,145	1,878,932	612,903,688	1,435,169	266,674,138
Total Investment Mgmt Fees	89,560,626	0.90%	19,845,666,834	66,876,308	17,746,836,314	42,087,852	15,401,072,174	95,688,429	16,440,016,204	55,908,834	14,364,876,433

CERS Investment Committee Meeting - Quarterly Investment Budget Update

KENTUCKY PUBLIC PENSIONS AUTHORITY											
Investment Fees and Expenses											
For the six month periods ending December 31											
Insurance											
	2025			2024		2023		2022		2021	
	FYTD Fees	Annualized Fee Rate	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	439,114	0.09%	990,094,610	342,823	780,518,762	526,658	755,273,150	587,743	855,261,654	568,510	873,074,122
<i>Investment Advisory Fees</i>	329,665	0.07%		334,225		406,870		457,920		558,897	
<i>Performance Fees</i>						112,040		117,337			
<i>Miscellaneous Fees and Expenses</i>	109,449			8,598		7,748		12,486		9,613	
Public Equity	3,845,123	0.21%	3,693,351,775	3,225,651	3,720,705,634	2,916,264	3,159,950,145	3,221,274	3,246,444,061	2,616,659	2,840,620,347
<i>Investment Advisory Fees</i>	3,799,141	0.21%		3,171,832		2,866,269		3,161,508		2,557,467	
<i>Miscellaneous Fees and Expenses</i>	45,982			53,819		49,995		59,766		59,192	
Specialty Credit Fixed Income	23,290,434	2.57%	1,812,349,655	19,604,727	1,527,908,553	12,006,819	1,440,474,508	11,449,880	1,449,432,096	7,816,436	1,274,181,212
<i>Investment Advisory Fees</i>	4,988,056	0.55%		4,026,821		3,715,203		3,748,168		3,373,550	
<i>Performance Fees</i>	9,193,232			7,206,526		3,460,460		5,702,991		3,921,732	
<i>Miscellaneous Fees and Expenses</i>	9,109,146			8,371,380		4,831,156		1,998,721		521,154	
Real Estate	4,188,889	1.85%	451,763,858	1,223,228	451,520,869	2,141,670	414,400,346	6,801,703	330,413,444	536,259	246,753,396
<i>Investment Advisory Fees</i>	1,751,779	0.78%		1,719,862		1,913,144		1,021,218		1,015,005	
<i>Performance Fees</i>	(57,415)			(1,461,607)		(161,966)		5,182,012		(795,199)	
<i>Miscellaneous Fees and Expenses</i>	2,494,525			964,973		390,492		598,473		316,453	
Real Return	2,553,520	1.08%	474,001,894	1,116,868	342,016,500	938,266	175,390,319	1,140,159	432,244,515	1,350,465	419,707,299
<i>Investment Advisory Fees</i>	1,316,466	0.56%		936,352		530,992		889,226		948,395	
<i>Performance Fees</i>	854,844			64,072		201,933		266,344		419,601	
<i>Miscellaneous Fees and Expenses</i>	382,210			116,444		205,341		(15,411)		(17,531)	
Private Equity	3,588,563	1.26%	569,856,320	4,902,486	587,662,239	275,237	573,107,746	22,563,618	595,876,977	16,438,473	548,052,248
<i>Investment Advisory Fees</i>	1,393,540	0.49%		1,826,381		2,427,153		2,772,848		2,892,530	
<i>Performance Fees</i>	1,400,678			1,205,986		(3,062,207)		18,845,205		12,027,941	
<i>Miscellaneous Fees and Expenses</i>	794,345			1,870,119		910,292		945,565		1,518,002	
Administrative Expense/Cash	1,939,536	0.05%	162,008,178	1,050,278	142,324,349	821,924	223,048,022	963,210	401,003,570	842,635	108,497,980
Total Investment Mgmt Fees	\$ 39,845,179	0.98%	\$ 8,153,426,289	\$ 31,466,061	\$ 7,552,656,905	\$ 19,626,840	\$ 6,741,644,236	\$ 46,727,587	\$ 7,310,676,317	\$ 30,169,437	\$ 6,310,886,604

KENTUCKY PUBLIC PENSIONS AUTHORITY				
Investment Fees and Expenses				
For the six month period ending December 31, 2024				
Pension				
	CERS		CERS Hazardous	
	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	537,992	1,288,779,503	191,031	459,219,484
<i>Investment Advisory Fees</i>	405,689		143,897	
<i>Performance Fees</i>				
<i>Miscellaneous Fees and Expenses</i>	132,304		47,133	
Public Equity	4,842,737	4,738,159,654	1,721,605	1,688,747,171
<i>Investment Advisory Fees</i>	4,781,284		1,699,950	
<i>Miscellaneous Fees and Expenses</i>	61,453		21,655	
Specialty Credit Fixed Income	28,471,477	2,048,528,928	9,663,748	724,131,172
<i>Investment Advisory Fees</i>	6,028,361		2,074,165	
<i>Performance Fees</i>	11,199,960		3,710,869	
<i>Miscellaneous Fees and Expenses</i>	11,243,156		3,878,714	
Real Estate	5,321,688	520,917,234	1,681,158	165,824,658
<i>Investment Advisory Fees</i>	2,118,403		668,345	
<i>Performance Fees</i>	(75,374)		(23,830)	
<i>Miscellaneous Fees and Expenses</i>	3,278,658		1,036,643	
Real Return	3,016,895	498,483,669	1,145,770	177,141,802
<i>Investment Advisory Fees</i>	1,586,969		584,461	
<i>Performance Fees</i>	963,587		392,532	
<i>Miscellaneous Fees and Expenses</i>	466,339		168,777	
Private Equity	4,129,052	616,509,637	1,385,120	220,932,468
<i>Investment Advisory Fees</i>	1,416,743		470,164	
<i>Performance Fees</i>	1,750,302		593,272	
<i>Miscellaneous Fees and Expenses</i>	962,007		321,684	
Administrative Expenses/Cash	2,088,745	251,826,421	742,955	124,189,854
Total Investment Mgmt Fees	48,408,587	9,963,205,045	16,531,386	3,560,186,610

KENTUCKY PUBLIC PENSIONS AUTHORITY				
Investment Fees and Expenses				
For the six month period ending December 31, 2024				
Insurance				
	CERS		CERS Hazardous	
	FYTD Fees	Market Value	FYTD Fees	Market Value
Core Fixed Income	208,798	477,681,114	97,829	223,112,318
<i>Investment Advisory Fees</i>	156,124		73,079	
<i>Performance Fees</i>				
<i>Miscellaneous Fees and Expenses</i>	52,674		24,750	
Public Equity	1,767,353	1,746,014,718	858,909	828,538,833
<i>Investment Advisory Fees</i>	1,745,458		848,602	
<i>Miscellaneous Fees and Expenses</i>	21,895		10,307	
Specialty Credit Fixed Income	10,475,380	769,177,844	5,520,846	364,572,591
<i>Investment Advisory Fees</i>	2,152,778		1,077,332	
<i>Performance Fees</i>	4,120,888		2,236,159	
<i>Miscellaneous Fees and Expenses</i>	4,201,713		2,207,355	
Real Estate	1,890,305	188,688,940	1,037,293	103,544,774
<i>Investment Advisory Fees</i>	771,154		423,159	
<i>Performance Fees</i>	(26,367)		(14,468)	
<i>Miscellaneous Fees and Expenses</i>	1,145,517		628,602	
Real Return	1,199,824	175,261,425	507,403	83,725,839
<i>Investment Advisory Fees</i>	600,107		265,974	
<i>Performance Fees</i>	423,192		159,763	
<i>Miscellaneous Fees and Expenses</i>	176,525		81,666	
Private Equity	1,636,044	244,809,399	896,310	136,693,654
<i>Investment Advisory Fees</i>	658,673		366,983	
<i>Performance Fees</i>	563,296		304,373	
<i>Miscellaneous Fees and Expenses</i>	414,075		224,954	
Administrative Expenses/Cash	875,547	83,308,976	419,971	21,127,450
Total Investment Mgmt Fees	\$ 18,053,250	\$ 3,684,942,416	\$ 9,338,560	\$ 1,761,315,460



EXTERNAL MANAGER SEARCH AND SELECTION REPORT: US LARGE CAP EQUITY

IN CONJUNCTION WITH WILSHIRE ASSOCIATES

RECOMMENDATION



- Kentucky Public Pensions Authority (KPPA) Staff and Wilshire are recommending investments for all CERS portfolios in two actively managed U.S. large cap equity mandates to be managed by J.P. Morgan and T. Rowe Price pending successful investment management agreement negotiations.
- Primary funding to come from the retirement of the Internal U.S. Large Cap Factor-based portfolio; secondary funding to come from the Internal S&P 500 portfolio
- No placement agents have been involved or will be compensated as a result of this recommendation.

INTRODUCTION



- Continue to work to improve the public equity allocation
 - Terminate the U.S. large cap factor-based portfolio
 - Factor tilts (size, value, momentum & volatility) have not been rewarded for a sustained period
 - Experienced greater tracking error
 - Relative performance to be driven by stock selection rather than structural biases
 - Add value by utilizing lower tracking error active management with reasonable fees given the exposure and expected relative performance

- This report serves as a review of the competitive search process utilized by staff in accordance with the Investment Policy Statement and Investment Procurement Policy in its pursuit to improve the public equity allocation.

GENERAL PROCESS



- Start with Wilshire Investment Management database (over 12,000 strategies)
- Applied minimum criteria to cull list to a more manageable size (qualitative)
- Staff may add managers to the list that may not participate in the database
- Additional cut (quantitative)
- Distribute a Request for Information (RFI) to remaining candidates (7 firms / 9 strategies)
- Staff and consultant having read the RFI responses narrowed down the candidate list (4)
- Discussions / onsite visits with short-list candidates
- Additional discussions with front-runners prior to final decision

ESTABLISHED CRITERIA



- Screening Criteria
 - U.S. large cap universe: Benchmarks included SP500 and/or R1000
 - Active Management: majority of holdings must be U.S. large cap stocks
 - Firm AUM: greater than \$10billion
 - Strategy AUM: greater than \$1billion
 - Minimum five-year track record
 - Firm / Team ranked by Wilshire's Manager Research Team third decile or better (qualitative)
 - Separate Account Offering
 - Relative Returns (1,3,5&10Yrs): Positive Excess
 - Tracking Error (1,3,5&10Yrs): Above 1%
 - Information Ratios (1,3,5&10Yrs): Above 0.50
 - Sharpe Ratios (1,3,5&10Yrs): Positive Excess
 - Up / Down Capture Ratios (1,3,5&10Yrs): Above 1.0 / Below 1.0

CANDIDATE POOL



- Preliminary screening provided a broad candidate list of 111 potential strategies
- Additional screening culled the list down to 7 firms (9 strategies), who received a Request for Information (RFI)
- Short list created for further review
 - BlackRock: Systematic Active Equity U.S. Alpha Tilts
 - Columbia Threadneedle: U.S. Contrarian Large Cap Core Strategy
 - J.P. Morgan: U.S. Large Cap Core
 - T. Rowe Price: U.S. Structured Research Equity Strategy

J.P. Morgan



- Organization Structure
 - Founded in 1863
 - Publicly traded on the NYSE; employees hold 3.5% of outstanding
 - Firm public equity AUM over \$1T; Strategy AUM of \$81.9b
- Investment Team
 - Consists of 3 PMs (25/19); supported by a team of 18 career sector specialists (23/12)
 - Lead PM ultimately responsible for portfolio construction and risk management
- Client / Product Stability
 - Past few years, strategy has added 21 (+70) clients with net inflows over \$740m
- Investment Philosophy
 - Understanding the normalized earnings power of a company; take advantage of mispricing from near-term information
 - Stock selection in the context of a high conviction fully invested, broadly diversified and style consistent portfolio
 - Information advantage developed through proprietary, fundamental research

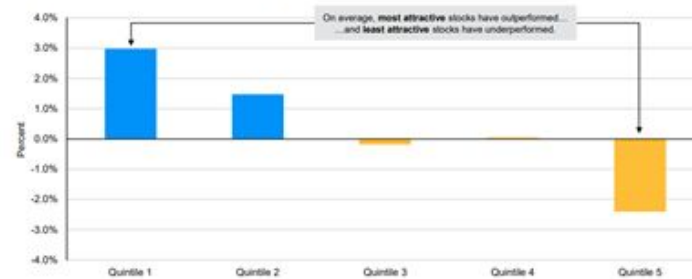
J.P. Morgan (cont.)



- Investment Process
 - Create as sustainable, proprietary information advantage by leveraging fundamental analysts
 - Gain an understanding of the dynamics of a business, its growth prospects, and sustainability of competitive advantage
 - Utilize a systematic valuation process to quantify forward looking views
 - Forecasts earnings and dividends (long-term)
 - Determine normalized long-term earnings and whether the current stock price is under or over-valued
 - Each stock is characterized into industry sector and ranked into quintiles

January 1, 1987 – December 31, 2024

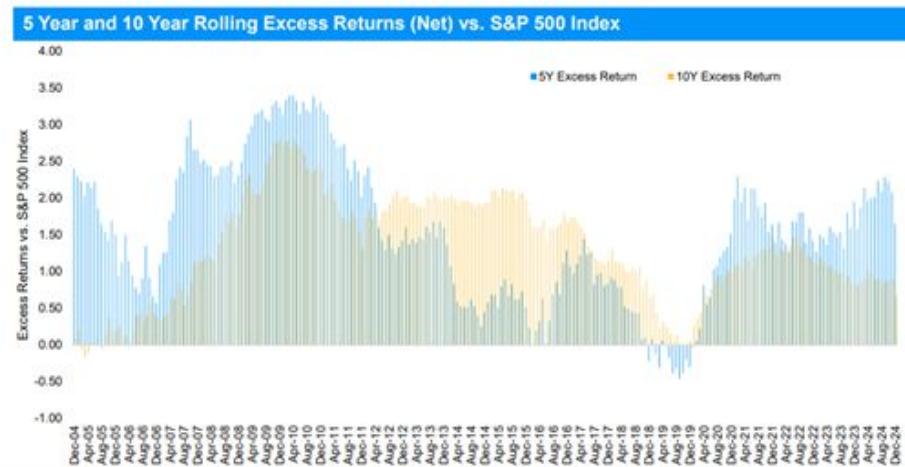
Quintile Performance vs. S&P 500 Index



J.P. Morgan (cont.)



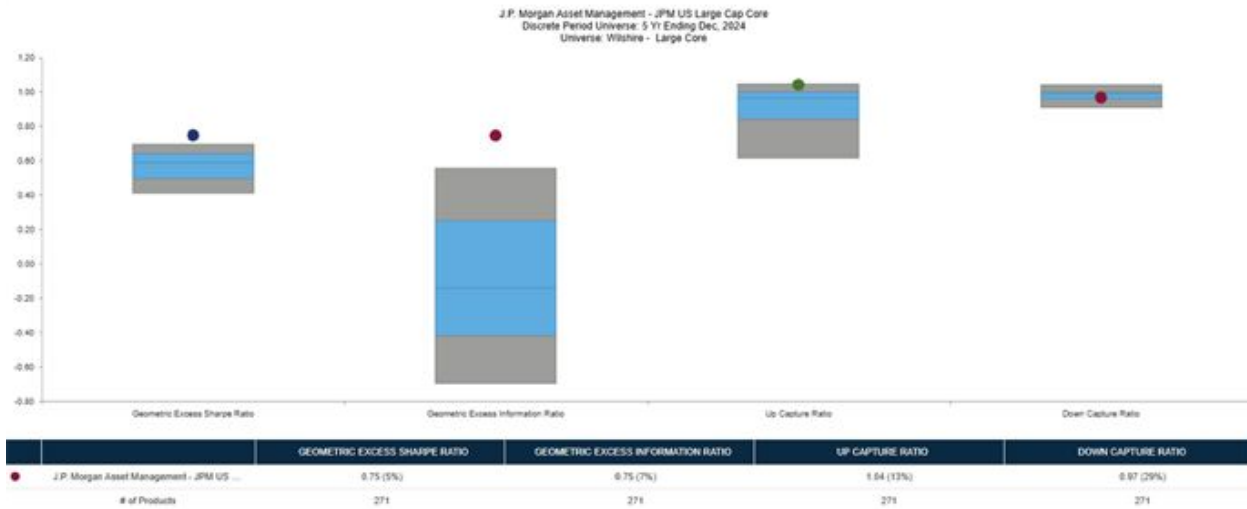
- Investment Process (cont.)
 - Construct portfolio driven by stock selection while concentrating risk into the highest conviction ideas
 - PM selects from most attractively valued stocks within each sector (typically first 2 quintiles)
 - Attractively valued, where insights are differentiated and conviction is high, where there exists a compelling risk-reward relationship
 - 50-70 names; TE 2-4%; relative sector weights +/- 4%; specific security weights +/- 4%
 - Style neutral portfolio, stock selection driven excess performance



J.P. Morgan (cont.)



J.P. Morgan					
As of: 12/31/24	1YR	3YR	5YR	10YR	SI
US Large Cap Core Equity Strategy	24.83	9.21	16.49	14.06	12.49
S&P 500 Index	25.02	8.94	14.53	13.10	11.31
Relative Performance (+/-)	-0.19	0.27	1.96	0.96	1.18
Inception Date: 12/31/85					



T. Rowe Price



- Organization Structure
 - Founded in 1937; IPO 1986
 - 2000 became T. Rowe Price Group; employees hold 7% of outstanding
 - Firm AUM over \$1.6T; Strategy AUM of \$89.6b

- Investment Team
 - Analyst driven (28) who are industry specialists; managed by 5-member Portfolio Oversight Committee (21/9)

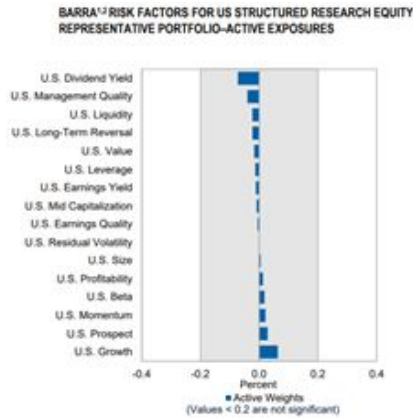
- Client / Product Stability
 - Past few years, strategy has added 7 clients with net inflows over \$300m

- Investment Philosophy
 - Fundamental research is key; differentiated sources can create a competitive advantage
 - Company earnings and revenue can be mispriced; stock price mean reversion
 - Investors overreact to news, providing opportunities
 - Seek to add value over a full market cycle rather than short-term fluctuations; leadership is often difficult to anticipate

T. Rowe Price (cont.)



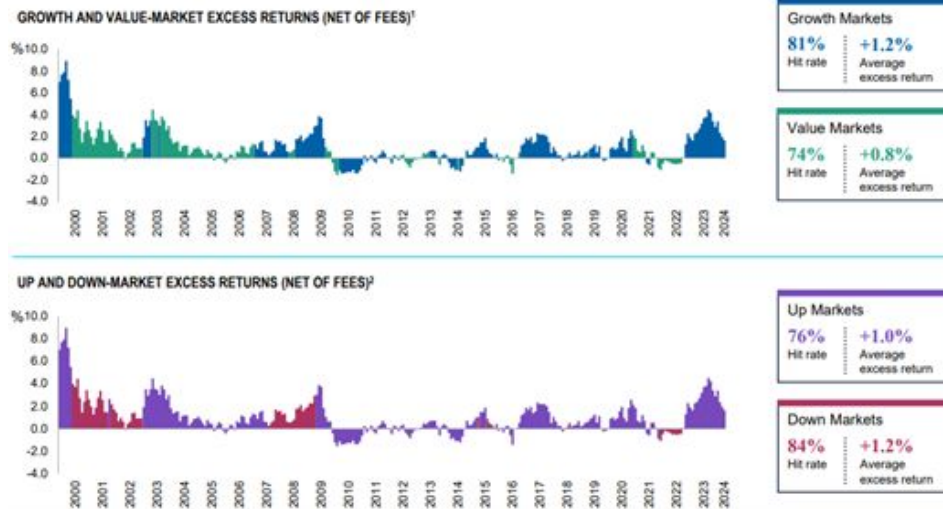
- Investment Process
 - Strategy is a collection of industry focused analyst driven portfolios; bottom-up stock selection
 - Capital allocated across the analyst team in alignment with index weights associated with coverage area
 - Each analyst manages their own portfolio; express conviction in each holdings based on research
 - Business model / management quality / market position / valuation
 - Portfolio Oversight Committee
 - 5 PMs, assign coverage areas, mentors / develops analysts, oversees activity, ensures adherence with portfolio constraints & risk controls



T. Rowe Price (cont.)



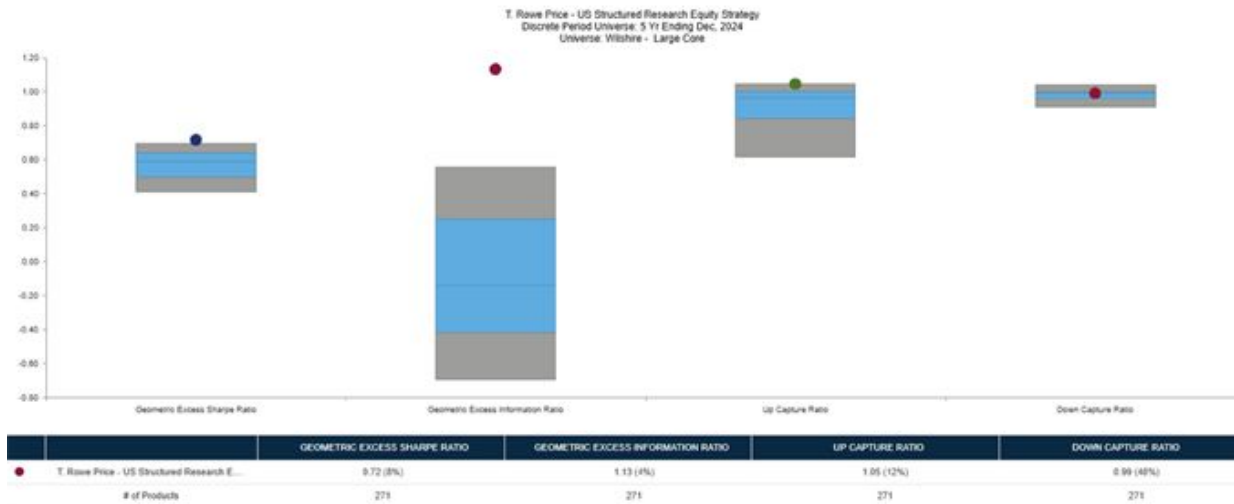
- Investment Process (cont.)
 - Portfolio consists of 200-275 stocks; relative weight +/- 15bps ; TE < 1.75%
 - Relatively industry (+/- 100bps) & sector (+/- 150bps) neutral; active positions +/- 100bps
 - All weather portfolio not dependent on factor or style leadership, driven by individual stock risk



T. Rowe Price (cont.)



T. Rowe Price					
As of: 12/31/24	1YR	3YR	5YR	10YR	SI
US Structured Research Equity Strategy	26.99	10.53	15.87	14.37	9.59
S&P 500 Index	25.02	8.94	14.53	13.10	8.06
<i>Relative Performance (+/-)</i>	<i>1.97</i>	<i>1.59</i>	<i>1.34</i>	<i>1.27</i>	<i>1.53</i>
Inception Date: 05/31/99					



Implementation & Sizing



- As of 12/31/24, \$397.1m invested in the U.S. large cap factor-based portfolio (5.2% U.S. / 3.3% public equity)
 - Retire the investment; primary source of funding for new mandates

- Allocation should be more meaningful in terms of attribution to performance (Internal S&P 500)

- Upsizing the allocation and blending the two finalists, expected return can be improved while maintaining current risk levels in the greater portfolio
 - Strategies complement one another – both expected to outperform over a market cycle, but do so with differentiated return paths
 - T. Rowe Price – well-diversified large number of incremental bets that compound overtime
 - J.P. Morgan – takes larger relative positions, creates opportunity for greater excess return albeit with higher level of relative risk, less predictable return path
 - Blending the two yields a higher expected return, yet smoother return path (correlation 0.53)

- Seeking approval to invest up to 12.5% of public equities; with initial funding to approximate 6.6%

Initial Approximate Plan Participation based on 12/31/24 Allocations				
KERS	77,000,000.00	KERS INS	40,300,000.00	117,300,000.00
KERS-H	27,300,000.00	KERS-H INS	16,200,000.00	43,500,000.00
CERS	308,800,000.00	CERS INS	111,000,000.00	419,800,000.00
CERS-H	111,600,000.00	CERS-H INS	57,400,000.00	169,000,000.00
SPRS	14,300,000.00	SPRS INS	6,600,000.00	20,900,000.00
	539,000,000.00		231,500,000.00	770,500,000.00

RECOMMENDATION



- Staff and consultant believe J.P. Morgan and T. Rowe Price will be a positive addition to the KPPA investment program.
 - While distinct, the shared philosophical belief in conjunction with differentiated construction methodologies, yields complimentary return profiles.
 - Neither relies on style biases or tilts but rather on idiosyncratic stock selection to drive relative performance, which helps to insulate from macro theme influences
 - The expected result is a more efficient public equity portfolio, with a better risk/reward profile and increased diversification, as both strategies have low to negative correlations with already existing mandates
- ***J.P. Morgan – U.S. Large Cap Core Equity Strategy***
 - ***Up to 6.25% of the total public equity allocation, with initial funding of approximately 3.3% (approximately \$383.3m). Primary funding to come from the internal factor-based U.S. large cap portfolios, with additional funds from the Internal S&P 500 portfolios.***
- ***T. Rowe Price – U.S. Structured Research Equity Strategy***
 - ***Up to 6.25% of the total public equity allocation, with initial funding of approximately 3.3% (approximately \$383.3m). Primary funding to come from the internal factor-based U.S. large cap portfolios, with additional funds from the Internal S&P 500 portfolios.***



KENTUCKY PUBLIC PENSIONS AUTHORITY



INVESTMENTS

To: CERS Investment Committee

From: Anthony Chiu, Deputy CIO

Date: February 26, 2025

Subject: Investment Recommendation – Arctos American Football Fund

KPPA Investment Staff is proposing an investment in the Arctos American Football Fund (“AAFF” or the “Fund”) contingent on successful IMA negotiations. Based in Dallas, Arctos Sports Partners (“Arctos” or the “Firm”) provides liquidity and strategic capital to the owners of major professional sports franchises, with a focus on what they call the United States’ Big 5 sports leagues - Major League Baseball (“MLB”), the National Basketball Association (“NBA”), the National Hockey League (“NHL”), Major League Soccer (“MLS”), and the National Football League (“NFL”). This mandate would be part of the Real Return asset allocation.

In February 2023, KPPA committed \$250 million (including co-investment) to Arctos Sports II (“Arctos II” or “Fund II”), which had a final close in April 2024 at more than \$4 billion (including co-investment). When KPPA made its commitment, the NFL was the only one of the major US sports leagues that had not approved institutional private equity investment in its teams. However, based on media reports and discussions, it appeared that the NFL had been observing and studying the other leagues’ experiences with institutional investment - and Staff was confident that the Arctos Sports II investment would eventually include NFL exposure.

In August 2024, the NFL announced that it would open to private equity investment, with a very select group of four investors provisionally approved: Arctos, Ares, Sixth Street, and a consortium that includes Blackstone, Carlyle, and CVC. While the league’s guidelines were similar to the other US leagues, the NFL had some additional requirements, including at least \$2 billion of committed capital and a maximum of 10% ownership in any single team.

Arctos created AAFF to invest in multiple NFL franchises and additional sports assets. In December, the first private equity investments in NFL teams were approved and announced, including Arctos’s investment with the Buffalo Bills.

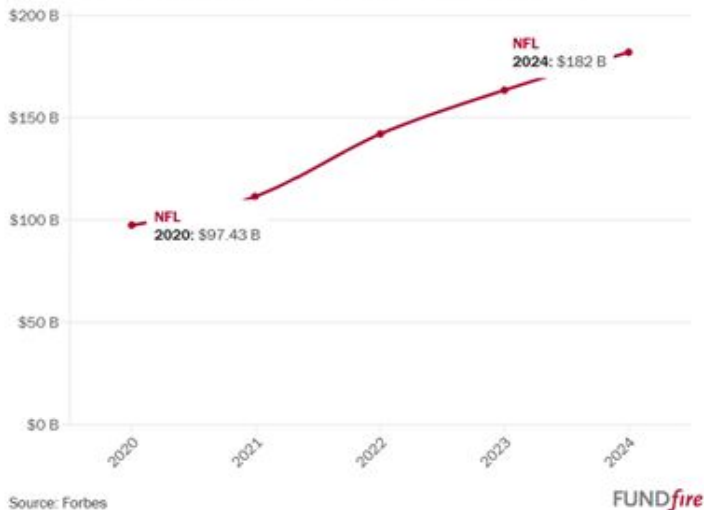
KPPA will have a small indirect investment in AAFF through Arctos II, and Staff is proposing an additional investment in AAFF to have a more meaningful exposure to the unique asset that is the NFL. This proposed investment will also help all KPPA plans continue to move toward their Real Return target allocations and replace the existing proxy real asset exposures in portfolios.

Investment Opportunity:

As with any investment, valuation is a key driver of future returns. And as discussed 2 years ago during the Arctos II approval process, a potential key risk for this strategy is that Arctos is providing liquidity to sellers of vanity assets that are underpinned by consumer and corporate spending near a market top.

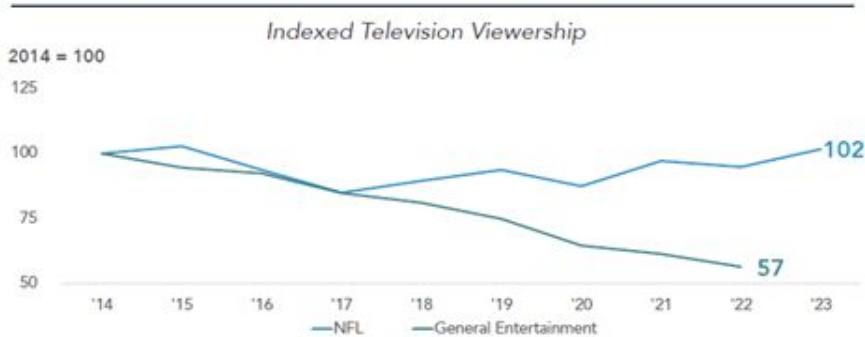
NFL's Rocketing Valuations

The combined worth of the National Football League's 32 franchises has nearly doubled since the pandemic, even before the league permitted its first investments by private equity firms.

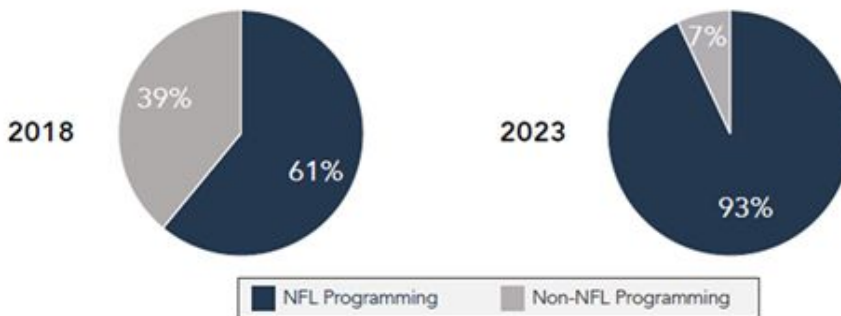


Subsequent to our commitment, US major league sports team valuations have continued to rise, but this has been fundamentally underpinned by their increasingly valuable media rights. Today people have essentially infinite choices for content consumption, and the resulting fragmentation of consumer attention has made live sports one of the few assets that can reliably deliver audiences at scale. The charts below show just how far the viewership for scripted and other produced shows has fallen compared to sports in just the past 5 to 10 years.

THE NFL IS CAPTURING GREATER LEVERAGE OVER LINEAR

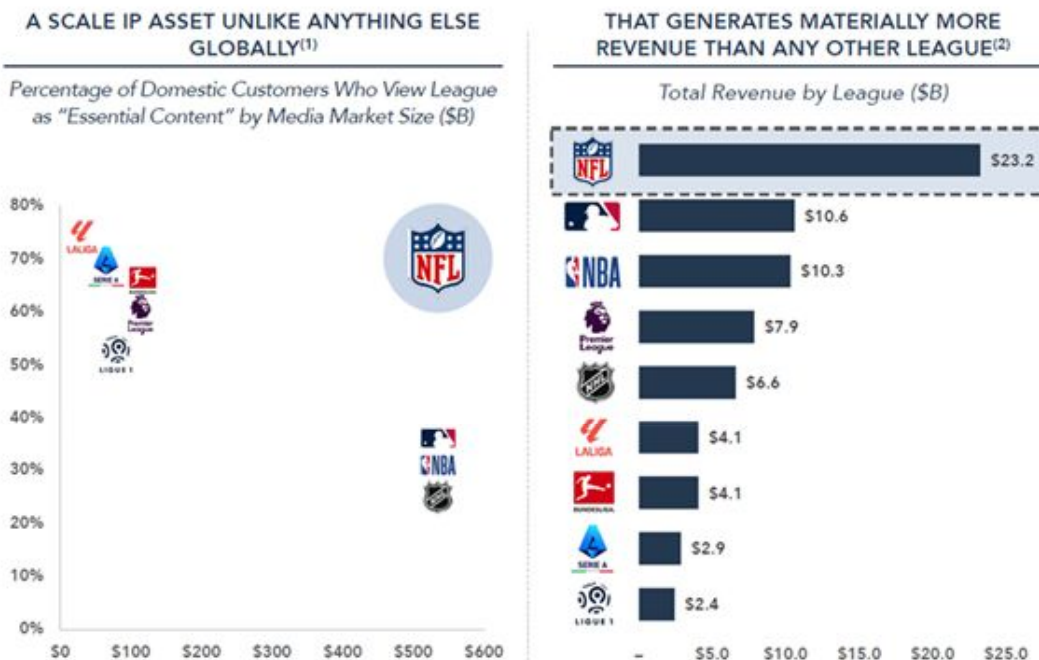


Top 100 TV Broadcasts by Category



Thus, both linear television networks and streaming providers **need** premium sports content – TV networks simply for survival and streaming services for subscriber growth. And among sports leagues, the NFL is literally in a league of its own for the fan interest and revenue that it drives.

The NFL is an Unrivaled Global IP Asset



The resulting cash flow streams (which are contracted and growing) combined with the scarcity of the underlying assets (the last NFL expansion team added was Houston in 2002, more than 20 years ago) make this a compelling real asset exposure for KPPA.

HIGHLY RECURRING CORE REVENUE



Performance:

Fund	Vintage	Size (\$ MM)	Net	
			Net IRR	Multiple
Arctos Sports I	2020	\$2,137	19%	1.5x
Arctos Sports II	2022	\$3,445	18%	1.3x

Source: Arctos as of 9/30/24

As of 9/30/24, Fund I is marked at 1.7x gross, with key positions including Sacramento Kings, Houston Astros, Golden State Warriors, and Tampa Bay Lightning. Fund II is marked at 1.5x gross and includes stakes in the Utah Jazz, Philadelphia 76ers / New Jersey Devils, and Los Angeles Dodgers among its top positions.

Conclusion: Staff is recommending an investment of \$70 million to be shared among all CERS plans. When fully funded, this would represent an additional ~0.3% of assets and provide ~0.35 – 0.50% NFL exposure to each plan (depending on fluctuations in market value).

Investment and Terms Summary

Type of Investment: Real Return

Structure: GP / LP

Management Fee: Years 1-5: 1.75% on committed capital
Thereafter: 1.25% on invested capital, net of write-offs and distributions

Performance Fee: 20% over an 8% preferred return

Purpose: Capture the long-term valuation growth of scarce NFL league and team assets, which are backed by sizable contracted cash flow streams and profitability.

Risks: Equity, Liquidity, Lack of Control, Valuation, Key Person

Exp. Net Return: 8% - 12%



KENTUCKY PUBLIC PENSIONS AUTHORITY



INVESTMENTS

To: CERS Investment Committee

From: Anthony Chiu, Deputy CIO

Date: February 26, 2025

Subject: Investment Recommendation – Maritime Partners additional investment

KPPA Investment Staff is proposing an additional investment in American Rivers Fund, LLC (the “Fund”), an open-end fund managed by Maritime Partners (“Maritime” or the “Firm”). Based near New Orleans, Maritime primarily leases barges, towboats, and tankers for US marine transportation of essential dry and liquid cargoes such as food, fuel, chemicals, and aggregates.

In February 2023, KPPA committed \$250 million to the Fund. Approximately 75% of the commitment was called in October 2023 and has subsequently yielded ~10% as anticipated, with cash distributed quarterly.

Investment Opportunity:

Similar to their M/G Transport, JR Flowers, American Tanker, and US Marine Management acquisitions, Maritime continues to look opportunistically across the US marine transportation industry for attractive assets to acquire. Maritime has indicated that they have visibility to deals that would utilize the rest of our existing commitment as well as an additional \$100 million of capacity for KPPA.

Like two years ago when Staff first presented the Fund, the marine transportation supply / demand dynamic remains extremely favorable. Demand for the essential cargoes that the Fund’s fleet transports is strong, with utilization remaining near 100%. Meanwhile, new vessel supply is largely at replacement levels for an aging inland marine fleet.

This is because lease rates still need to increase significantly to justify new vessel construction – and even if that were to occur immediately, it would still take several years to deliver new equipment due to widespread shipyard closures over the past decade and today’s current labor shortage.

For reference, publicly traded barge operator Kirby Corporation (NYSE: KEX) provides regular color on the inland marine market, including the following quotes from their earnings call on January 30, 2025.

We continue to see inflationary pressures, and there remains an acute mariner shortage in the industry, which continues to drive up labor costs. These pressures, along with the increasing cost of equipment should continue to put upward pressure on spot and contract pricing.

That's why we're so constructive about the pricing environment, and that's all driven by supply and demand. I mean there's not a lot of new supply.

Spot pricing is well above term, it's probably in the order of 10% above term right now... And then if you look at where pricing needs to go to justify building new equipment, for a two-barge tow it's got to increase probably 40% from where we are now...Look, our competitors understand that...there's a lot of discipline in terms of new construction right now. It just doesn't make sense

to build new equipment. What little building is happening is entirely for replacement right now...our estimation is it's all for replacement. To build new capacity, we need significant rates improvement.

-David Grzebinski, CEO, Kirby Corporation – January 30, 2025

Performance:

Fund	1 yr	3 yr	5 yr	Since Inception	Inception Date
American Rivers Fund	9.6%	15.9%	15.7%	16.3%	Dec-18

Source: Maritime Partners as of 9/30/24

Conclusion: Staff is recommending an investment of \$70 million to be shared among all CERS plans. When fully funded, this would represent an additional ~0.3% of assets and provide around 1.2% exposure for each plan (depending on fluctuations in market value).

Investment and Terms Summary

Type of Investment: Real Return

Structure: Open end

Management Fee: 2% on invested capital

Performance Fee: 20% of profits above a 7% annual cash hurdle, with a 50/50 catch up

Purpose: Capture current income and inflation exposure from barge and towboat lease payments.

Risks: Key Person, Customer Concentration, Barge Operator Credit, Liquidity

Exp. Net Return: 7% - 10%

Marine Transportation – 2025 Outlook

Strong outlook with near-term headwinds, seasonal weather and coastal shipyard activity

▪ Inland

- Positive market dynamics due to limited new barge construction
- Barge utilization expected to be in the low to mid 90% range
- Continued improvements on spot and term contracts. Mariner shortage and increasing cost of equipment continue to put upward pressure on spot prices
- First quarter revenues and margins impacted by normal seasonal conditions
- Full year revenue growth in mid to high single digit range
- Operating margins on average 200-300 bps higher for the full year compared to 2024 with the first quarter being the lowest

▪ Coastal

- Balanced supply and demand driving favorable market conditions
- Steady customer demand with barge utilization expected to be mid-90% range
- Full year revenues are expected to be up high single to low double digits year-over-year
- Operating margins are expected to be in the mid-teens range on a full year basis with first quarter being the lowest due to shipyards





To: KRS Investment Committee
From: Investment Staff
Subject: Public Equity Performance Benchmark Recommendation
Date: February 19, 2025

Recommendation

The Investment Policy Statement currently prescribes the MSCI All Country World Index Net USD (MSCI ACWI \$ net) as the performance benchmark for the Public Equity Asset Class. Staff and Wilshire have made the determination that this Index does not represent the current investment exposure and strategy of the asset class and embeds an unintended bias in the Global Equity allocation. Staff and Wilshire recommend adopting the MSCI All Country World Investable Market Index (MSCI ACWI IMI) as this benchmark represents a better alignment of the actual exposure and strategy of the portfolio as well as the desires of the Board.

History

Investment Policy Statements (IPS) prior to April 2022 provided a target allocation to both US Public Equities and to NonUS Public Equities. Accordingly, these previous IPSs prescribed regional performance benchmarks for measurement of those asset classes. With the adoption of the April 2022 IPS, the individual targets to both US and NonUS Public Equity allocations were removed in favor of the adoption of a Global Public Equity target using the MSCI ACWI \$ net as the performance benchmark.

Staff managed these changes in Asset Class targets and classifications utilizing the existing roster of investment managers and strategies in a manner appropriate to provide the desired Global Public Equity exposure, with the aim of minimizing both the direct and indirect costs of a significant portfolio turnover event.

Public Equity

04/30/22	Current	MSCI ACWI Net	100.0%					
01/31/16	03/31/22	Ruseell 3000	50.0%	MSCI ACWI ex US IMI Net	50.0%			
07/31/13	12/31/15	Russell 3000	45.5%	MSCI ACWI ex US	45.5%	MSCI EM Index	9.0%	

US Equity

04/31/13	Current	Russell 3000	100.0%
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Non US Equity

10/31/17	Current	MSCI ACWI es US IMI Net	100.0%
01/31/16	09/30/17	MSCI ACWI ex US IMI	100.0%
07/31/13	12/31/15	MSCI ACWI ex US	100.0%

Issue

It is expected that relative performance deviations will occur regularly due to tracking error, whether the result of active management or actively managed positioning tilts within the portfolio, surrounding style, region, or market cap. Those deviations should be attributed to a known source. In the recent market environment of large cap



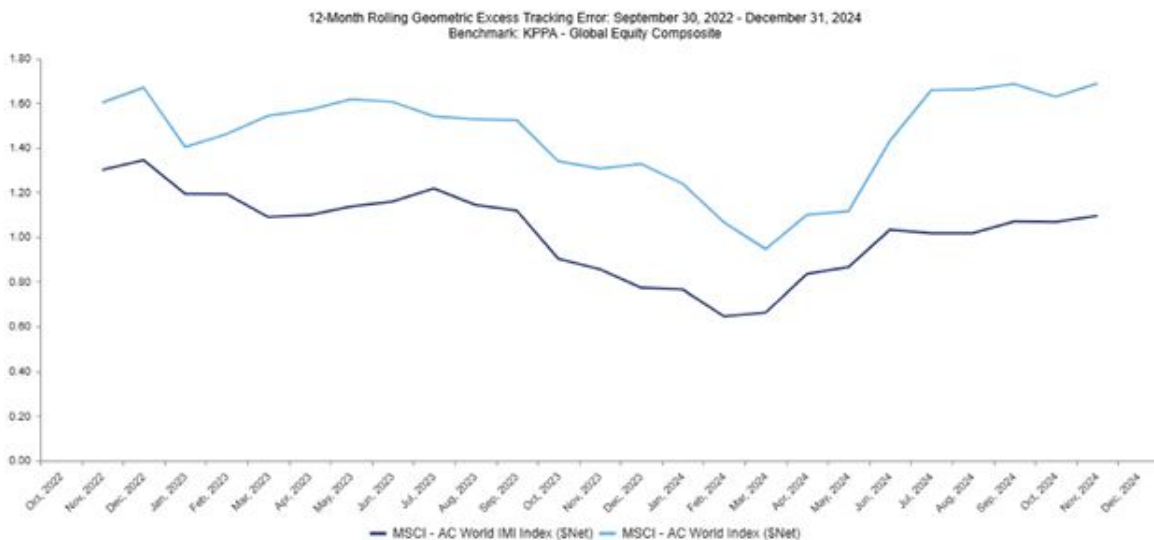
dominance, the degree of relative performance deviations at the Global Public Equity asset class level could not be fully explained by identifiable performance attributes or positioning.

This prompted staff to initiate an investigation into the current performance benchmark utilized in terms of its appropriateness given the actual portfolio’s exposures. Historically for the Public Equity asset class given the legacy strategies and asset class categorizations, staff utilized the Russell family of indices for the US portfolios and the MSCI family of indices for Non-US mandates. While blending two distinct index families can be difficult, the methodology employed by staff to build the Global Equity exposure has proven effective and has performed as expected. Legacy benchmarks (shown above) utilized included the R3000 and MSCI ACWI ex US IMI, providing the broadest definition of the investable universe.

The most recent IPS’s adoption of the MSCI ACWI \$ Net as the Global Equity performance benchmark created what Staff believes was an unintended structural small cap bias within the Global Equity portfolio, embedding an increased level of tracking error. This unintended embedded bias surfaced due to the significant performance deviations between US Public Equity market caps.

After discussions with MSCI (the index provider) and Wilshire, it has been confirmed that the MSCI ACWI \$ Net Index does not incorporate the bottom 15% of companies (by market cap), confirming the structural bias.

The following chart provided by Wilshire, demonstrates the shift in tracking error had KPPA employed the MSCI ACWI IMI. As demonstrated, tracking error would have been consistently decreased, at times by as much as +40%. A tighter tracking error is indicative of a more appropriate benchmark given a portfolio’s exposure.



Recommendation

Staff and Wilshire recommend that the IPS performance benchmark for Global Public Equity allocation be changed from the MSCI ACWI \$ Net to the more appropriate MSCI ACWI IMI. This change would expand the investable universe of the performance benchmark to one that is more appropriate given the exposures and strategy of the KPPA Global Public Equity portfolio.



Performance - 12/31/24	FYTD	1YR	3YR	5YR
KPPA Global Equity	5.04%	15.22%	4.43%	9.28%
<i>MSCI ACWI</i>	<i>5.56%</i>	<i>17.49%</i>	<i>5.41%</i>	<i>10.06%</i>
<i>MSCI ACWI IMI</i>	<i>5.52%</i>	<i>16.37%</i>	<i>4.90%</i>	<i>9.67%</i>

To: Kentucky Public Pensions Authority
From: Wilshire Advisors
Subject: Global Equity Benchmark
Date: January 30, 2025

Background

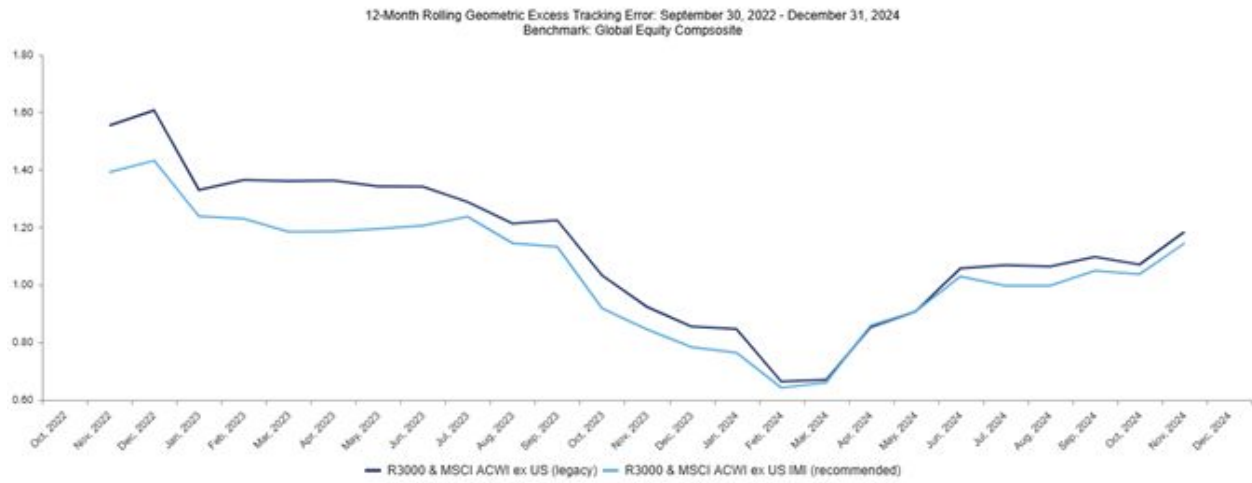
In 2021/2022 the U.S. and Non-U.S. Equity composites were combined into a Global Equity composite. This combination provided staff with a single public equity target instead of static regional targets between the U.S. and Non-U.S. markets. Static benchmark weights do not enable the benchmarking process to reflect the natural shifts that occur over time between U.S. and Non-U.S. market weights. The U.S. Equity composite had previously been benchmarked to the Russell 3000 index while the Non-U.S. composite was benchmarked to the MSCI All Country World ex. U.S. IMI Index (ACWI ex US IMI). Both of these indexes are commonly used by institutional investors. Upon the creation of the new Global Equity composite, the MSCI ACWI was selected as the new asset class benchmark.

According to the CFA Institute, a valid benchmark should possess the following characteristics, aligning the benchmark's style and risk with the asset class or manager:

- **Specified in advance:** The benchmark should be known at the start of the period
- **Appropriate/Relevant:** The benchmark should be consistent with the investment approach and style
- **Measurable:** Its value and return can be determined on a reasonably frequent basis
- **Unambiguous:** Clearly defined identities and weights of securities constituting the benchmark
- **Reflective of the current investment options:** The managers have current knowledge of and expertise with the securities in the benchmark
- **Accountable:** The manager(s) should accept the applicability of the benchmark and recognize differences in performance between the portfolio and benchmark as the results of active management
- **Investable:** The benchmark should be possible to replicate passively

Analysis

Upon a recent review of the Global Equity composite, it was determined that the experienced tracking error of the composite vs. its benchmark was higher than expected. Staff and Wilshire investigated the sources of tracking error within the portfolio and determined that while the MSCI ACWI represents the qualities above of a good benchmark, the MSCI ACWI IMI index was a better fit due to the construction methodology of the IMI index. Specifically, the MSCI ACWI index only covers 85% of the market capitalization per MSCI's construction methodology. Given the implementation of the public equity composite within small and micro-capitalization strategies, the MSCI ACWI IMI index is a better reflection of the current investment options in the portfolio as it covers 99% of the global equity investment opportunity set.



Given the tracking error above incorporates active management in addition to benchmark differences, analysis was performed to compare the underlying benchmarks at the region level to quantify the impact of using the standard MSCI regional index vs. the IMI counterpart. It was determined that by using the IMI version of the index as the global equity benchmark, over 65% of the systematic tracking error could be removed, reducing the one-year tracking error from 81bps down to 27bps.

Recommendation

Wilshire and staff are in agreement that the MSCI ACWI IMI Index is a better benchmark for the reasons listed above and would recommend that the global equity benchmark be changed accordingly within the Investment Policy Statement and used for performance reporting purposes.

Quarterly Investment Compliance Report

Quarter Ending December 31, 2024



Investment Guideline Compliance Review

Quarterly Investment Compliance Report Quarter Ending
12/31/2024

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19 Guidelines In Compliance

0 Guidelines **Not In Compliance**

Guideline Category	Guideline	Compliance Status
General	The assets managed by any one active or passive investment manager shall not exceed 15% of the overall assets in the Pension and Insurance funds.*	In Compliance
	Total assets assigned to a selected manager shall not exceed 25% of the management firm's total assets under management.	In Compliance
	Total assets assigned to a selected manager shall not exceed 25% of the management firm's total assets under management in a commingled product.	In Compliance
	Derivative investments shall not cause the portfolio to be leveraged beyond a 100% invested position.	In Compliance
	The maximum investment in any co-investment vehicle shall not exceed 50% of the total capital committed by all partners at the time of the final closing.	In Compliance
	The maximum investment in any single direct co-investment shall not exceed 20% of the original partnership commitment.	In Compliance
	Total investment in direct co-investments shall not exceed 20% of the asset class portfolio on a cost basis at the time of investment.	In Compliance
	An external investment manager's cash holdings shall not exceed 5% of the manager's allocation for any given quarter, unless such cash holdings are an integral part of a fixed income manager's investment strategy.	In Compliance
	Externally and internally managed portfolio investment guidelines shall be met.	In Compliance
Equity	The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of CERS' assets.	In Compliance
	The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.	In Compliance
	Investment in "frontier" markets shall not exceed 5% of CERS' international equity assets.	In Compliance
	No more than 15% of the Pension or Insurance total allocation to private equity investments may be committed to any one partnership.	In Compliance
Fixed Income	The duration of the core fixed income portfolios combined shall not vary from that of CERS' Fixed Income Index by more than +/- 25% as measured by effective duration, modified duration, or dollar duration except when the Investment Committee has determined a target duration to be used for an interim basis.	In Compliance
	The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of CERS' fixed income assets, with the exception of U.S. Government issued, guaranteed, or agency obligations (or securities collateralized by the same).	In Compliance
	50% of the core fixed income assets shall have stated liquidity that is trade date plus three (3) days or better.	In Compliance
Real Return	No more than 20% of the total net assets of the Real Return portfolios shall be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.	In Compliance
	No more than 20% of the total net assets of the Real Return portfolio shall be invested in any one registered investment vehicle, mutual fund, or separately managed account.	In Compliance
Cash Equivalent Securities	All instruments in the liquidity allocation shall have a maturity at the time of purchase that does not exceed 397 days.	In Compliance

*Only applies to external managers and not to assets managed by KPPA Investment Staff.

Quarterly Investment Compliance Report Quarter Ending
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Guideline Compliance Overview

- Guidelines included are those “yes/no” requirements stated in CERS’ Investment Policy Statement and the Investment Guidelines of external and internally managed portfolios.
- Guideline compliance reviews will look at the entire quarter.
- When there is an “out of compliance” finding for one (1) or more guidelines, the Quarterly Investment Compliance Report will include an “Exception Report.” The “Exception Report” will include the following information for each guideline for which an “out of compliance” finding is noted:
 - Guideline
 - Date exception began
 - Cause of exception
 - Date of resolution
 - Description of resolution
- Continued work with BNY to enhance reporting on compliance with investment guidelines.

Asset Allocation
Compliance Review
(Exceptions Only)

Quarterly Investment Compliance Report Quarter Ending
12/31/2024

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Exception Report

None – All asset classes in range.

Asset Allocation Compliance Report Overview

- If one (1) or more asset class falls outside the allowable range for that asset class as stated in CERS' Investment Policy Statement, it will be noted in the Asset Allocation Compliance Review.
- Asset Allocation Compliance Report will look at the entire quarter.
- Reporting will include exceptions only.
- When an asset class exceeds or is less than the allowable range, the Quarterly Investment Compliance Report will include the following information for each asset class outside of the allowable range:
 - Asset class
 - Allowable range
 - Date exception began
 - Cause of exception
 - Date of resolution
 - Description of resolution

Quarterly Investment Compliance Report Quarter Ending
12/31/2024

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