



**County Employees Retirement System
Investment Committee – Regular Meeting
November 22, 2022 at 2:00 PM ET
Live Video Conference/Facebook Live**

AGENDA

- | | |
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| 1. Call to Order | Dr. Merl Hackbart |
| 2. Opening Statement | Legal Services |
| 3. Roll Call | Sherry Rankin |
| 4. Public Comment | Sherry Rankin |
| 5. Approval of Minutes* -- August 31, 2022 | Dr. Merl Hackbart |
| 6. Letter from State AG/State Treasurer* | Dr. Merl Hackbart |
| 7. CERS Investment Policy* | Steve Willer |
| 8. CERS Procurement Policy* | Steve Willer |
| 9. Wilshire Market Overview | David Lindberg
Craig Morton
Chris Tessman |
| 10. Investment Office Quarterly Update | Steve Willer |
| 11. Trust Budget | Steve Willer |
| 12. Proxy Voting | Joe Gilbert |
| 13. ADJOURN | Dr. Merl Hackbart |

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

**MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
INVESTMENT COMMITTEE MEETING
AUGUST 31, 2022, 2:00 P.M., E.T.
VIA LIVE VIDEO TELECONFERENCE**

At the August 31, 2022 County Employees Retirement System' (CERS) Investment Committee Meeting, the following Committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, Dr. Martin Milkman, William O'Mara, and Jerry Powell. Staff members present were David Eager, Erin Surratt, Michael Board, Victoria Hale, Steve Willer, Joseph Gilbert, Jared Crawford, Anthony Chiu, Shaun Case, Ashley Gabbard, Katie Park, and Sherry Rankin. Also in attendance were CERS CEO, Ed Owens, III, CERS Trustee Betty Pendergrass, KRS Trustee Prewitt Lane, as well as LouAnn Eisenhut, David Lindberg, Craig Morton, and Chris Tessman with Wilshire Advisors, LLC.

Dr. Hackbart called the meeting to order.

Ms. Hale read the Legal Opening Statement.

Ms. Rankin took Roll Call.

Ms. Rankin informed the Committee that two *Public Comments* were received and read the first comment from Patricia Thorpe aloud to the Committee:

I wrote a letter to my Representative on June 27, 2022 regarding a cost of living adjustment (COLA) on my CERS police pension. We have not had any COLA since July 2011. In response to my letter, Mr. Kevin Bratcher informed me "it is not the legislature that would fund a COLA, it is the CERS Board's decision-please contact them on this issue." I am hereby contacting you as instructed and hoping that the CERS Board will take the necessary steps to assist us former employees who dedicated our life in careers to helping others in the commonwealth of this state. Now we need your help. Since 2011 there has been a cumulative price increase of almost 30%. The most recent rise was the highest in over 40 years. I hope this Board will take all of this into consideration and do what you can to facilitate a much needed raise and work with the General Assembly as deemed necessary. I thank you for any assistance you can give in this matter. Sincerely, Patricia and my brothers and sisters in blue.

Ms. Rankin read aloud the second comment from Terra Long:

I am respectful requesting that our COLA be added back to our retirements. It has been many years since it was frozen and what use to be a decent retirement now is not. We gave many years of our service at lower pay than that of the private sector and were promised a pension that included COLA. Our representative have failed to support retired works time after time in our reinstatement of our COLA only to vote themselves a 8% raise. It's time to do the right thing and take care of the people who took care of our state for so many years. Thank you for your consideration.

A response to the submitted public comments was made by Mr. Michael Board, Executive Director of the Office of Legal Services on behalf of the CERS Investment Committee:

Thank you for your comment regarding cost of living adjustments (COLA). It is an issue that has received a lot of attention over the past several months. The CERS Investment Committee recognizes the significant length of time since a COLA was granted to members of CERS. The decision of when to grant members of CERS a COLA does rest solely with the General Assembly. KRS 61.691 states the General Assembly must pre-fund any COLA if the underlying system is not 100% funded. This statement is true for the KERS and SPRS retirement plan documents. Chapter 78 of the Kentucky Revised Statutes which governs the retirement plan documents for CERS states at KRS 78.5518 that a COLA can only be paid to beneficiaries if: (1) the plan is 100% funded; or (2) the General Assembly directs payment of employer contributions to fully pre-fund the increase described by this subsection in the year the increase is provided. Your representative was correct in that any COLA for members of CERS would be paid for by the CERS trust. However, only upon direction by the General Assembly to pre-fund the increase. Consequently, the COLA decision for CERS members remains a function under General Assembly control.

Dr. Hackbart requested that the above response be sent to those who submitted the public comments.

Dr. Hackbart introduced agenda item *Approval of Minutes – May 25, 2022*. A motion was made by Dr. Milkman and seconded by Mr. Powell to approve the May 25, 2022 minutes as presented. The motion passed unanimously.

Dr. Hackbart introduced agenda items *Quarterly Performance Report and Investment Office Update*. Mr. Craig Morton with Wilshire Advisors, LLC briefly reviewed the economic growth,

consumer activity, inflation and employment, U.S. equity market, non-U.S. equity market, U.S. fixed income, and asset class performance for the second quarter. Mr. Willer presented the KPPA Monthly Performance Update and portfolio returns. He stated that June was a difficult month for the markets. The CERS Nonhazardous portfolio was down 4.49%, CERS Hazardous was down 4.55%, CERS Nonhazardous Insurance was down 4.29%, and CERS Hazardous Insurance was down 4.22%. All plans underperformed against their benchmark index for the month of June between 43 and 79 basis points. Mr. Willer reported that an underweight in real return was a negative driver of performance across the plans. There were also underperformance in private equity and real estate relative to their benchmarks. Despite a very volatile 12-month period, the plans held up relatively well in the fiscal year ending June 30, 2022, said Mr. Willer. The CERS Nonhazardous pension was down 5.9% with 51 basis points of outperformance, CERS Hazardous was down 6.07% with 34 basis points of outperformance, CERS Nonhazardous Insurance was down 5.43% with 79 basis points of outperformance, and CERS Hazardous Insurance was down 4.99% with 123 basis points of outperformance. He stated that the largest positive contributors to performance in an asset allocation within an asset class were high-yield, specialty credit, and core fixed income. The Plan Sponsor Peer Group Analysis for the CERS Pension Plan was reviewed which included return, standard deviation, and sharpe ratio metrics. Mr. Willer reported that markets were also volatile in July with global equities up over 7%. The U.S. markets outperformed their non-U.S. counterparts and the funds were up about 4.5% for an outperformance of approximately 70 to 75 basis points. Mr. Willer stated that the Office of Investments continues to be cautious and opportunistic due to the unprecedented volatility and uncertainty of the markets. Dr. Milkman asked for additional explanation regarding the sharpe ratio metrics. Mr. Willer explained that the sharpe ratio indicates the amount of return relative to the amount of risk taken.

Mr. Hackbart asked Mr. Morton what is to be expected from the Federal Reserve Board (Fed) in the future. Mr. Morton stated that Wilshire Advisors, LLC is not one to predict the actions of the Fed; however, Mr. Morton stated that he believes that the Fed will continue to raise rates in order to combat inflation. Mr. Willer added that it will take time for inflation to decrease and that the Fed will need to see weakness in the job market before they stop increasing rates. Dr. Hackbart stated that there are many variable factors which affect the overall performance of the economy for the Fed to consider. Mr. Cheatham asked when the June 2022 Asset Class Assumptions (meeting materials, p. 7) were last reviewed and reassessed. Mr. Morton advised that the assumptions are updated quarterly. Next, Mr. Willer presented the CERS Pension Plan Asset Allocation Compliance for the period ending June 30, 2022. He reiterated that asset allocation was a hindrance on performance. The most significant divergences from allocation targets were in public equities, specialty credits, and real return. Mr. Willer reported that about one billion dollars was invested in public markets across the pension and insurance trust with about 650 million of those funds for CERS Nonhazardous and CERS Hazardous pension and insurance. He stated that about 85% of that activity took place in the month of June. Additionally, there is about 400 million in committed capital for both real estate and private equity mandates. Mr. Willer reported that the Office of Investments is currently engaged in several searches in various stages including multi-asset inflation-sensitive commodities, agriculture, infrastructure, and a variety of unique real asset strategies. Staff is also evaluating using liquid public securities and short-term proxies for the private asset classes. Mr. Willer stated that the approved asset allocation ranges are the guide under which Investment Staff will continue to operate moving forward. He advised that the asset allocations are reviewed annually per the Investment Policy Statement (IPS). Mr. Cheatham asked for a timeline regarding moving the real return and specialty credit allocations into range as they

have been outliers for about a year. Mr. Willer stated that it will take several mandates to move those allocations back into range and reach their targets. Mr. Willer advised that he is working towards making significant progress by the end of the year. Mr. Willer directed the Committee to the meeting materials and advised that a new Compliance Report, Unit Holding Report, and additional informational reports have been provided. Dr. Milkman asked Mr. Willer if KPPA utilizes too many external managers. Mr. Willer stated that he believes so and plans to reduce the number of external managers in the future. Mr. Jared Crawford reviewed the CERS Compliance Report for the period ending June 30, 2022. Mr. Crawford stated that the report is a work-in-progress and welcomed feedback from the Investment Committee. He reviewed the various visual aids and graphics in the report illustrating plan asset allocation ranges and targets. Mr. Crawford stated that he receives a compliance report daily and is notified of any changes. He advised that the only area not in compliance was the S&P 500 portfolio due to fractional shares held. Mr. Crawford said that implementing a de minimus rule for exceptions has been discussed internally. Mr. Willer added that the fractional shares cannot be sold but can be cleaned up via BNY Mellon. Dr. Milkman asked for the total value of the fractional shares in dollars. Mr. Joe Gilbert stated that the combined value is approximately \$3,000. Further, Mr. Gilbert stated that he may be able to sell the Kyndryl Holdings, Inc. if it is a full share; however, the others will need to be cleaned up on the account. Mr. Cheatham urged Mr. Willer to remedy the S&P 500 portfolio compliance issue. Mr. Willer said he would draft a de minimus exception and seek feedback on what the appropriate threshold should be. Dr. Hackbart was pleased with that approach. Mr. O'Mara advised that other organizations must face the same issue and may be a helpful source for best practices on fractional shares.

Dr. Hackbart introduced agenda item *Initial Trust Budget*. Mr. Steve Willer presented the Initial Trust Budget. Mr. Willer stated that this was the first year that KPPA budgeted trust expenditures. KPPA is required to report all investment expenses to the Public Pension Oversight Board (PPOB) by statute beginning November of 2022. In response, a working group was formed to discuss the Administrative Budget and the Trust Budget. Mr. Willer advised that the Trust Budget will be reported to the CERS and KRS Investment Committees on a quarterly basis moving forward. The Trust Budget includes four main categories: consulting services, legal and auditing services, and contractual services. Mr. Willer stated that investment-related expenditures are paid directly from trust funds, but are not included in the administrative budget. Mr. Willer stated that a key or detailed description of the services provided by fee will be added for each line item to provide context. Mr. Cheatham expressed concern and stated that the trust budget had increased drastically over the past five years. He asked if the Trust Budget had been reviewed or approved by the Board of Trustees. Mr. Willer advised that the Trust Budget had not been presented in the past. Mr. Cheatham stated that per the presented Trust Budget, the BNY Mellon Custodial fees had increased by 100%. Mr. Willer explained that this high-increase was due to five quarters of fees being paid in one fiscal year; whereas, three quarters were paid in another fiscal year. Additionally, Mr. Willer explained that custodial fees are dependent on accounts and transactions. Mr. Cheatham added that there was an increase of 102% in legal fees. Mr. Willer stated that all legal fees are related to investment litigation. Mr. Michael Board confirmed that these legal fees are indeed due to investment-related litigation in Kentucky and other states. Mr. Board stated that these fees have increased substantially in recent years as litigation continues. Dr. Hackbart asked Mr. O'Mara if the CERS Finance Committee was also reviewing the Trust Budget. Mr. O'Mara stated that he was a part of the group which reviewed the Administrative Budget and requested that a Trust

Budget be created and shared with the Investment Committees. Mr. O'Mara explained that the CERS Finance Committee does not have oversight, but the CERS and KRS Investment Committees do have oversight of the Trust Budget moving forward. Mr. O'Mara added that the budget may improve in accuracy overtime as oversight increases. Dr. Hackbart stated that the discussed appendix/key to the Trust Budget would be beneficial and suggested that perhaps a special called meeting be held to further review the Trust Budget, if needed.

Dr. Hackbart introduced agenda item *Staffing Update*. Mr. Willer provided an update on staffing within the KPPA Office of Investments. He stated that the Division has limited bandwidth, however, the Staff has been successful in navigating all challenges faced and have been able to consistently meet investment objectives. Mr. Willer announced that he is working with KPPA Human Resources and the Governor's Office on the development of new Junior and Senior Investment Analyst positions. Mr. Willer stated that those roles would provide support across asset classes and functions. Mr. Willer stated that recruiting has been challenging and it will take time to fill these roles with the right candidates. Mr. Milkman stated that he had heard predictions of layoffs on Wall Street; therefore, the coming months might be a good time to recruit for those positions. Mr. O'Mara thanked Mr. Willer and his Staff for the expanded reporting which provides additional transparency and improves Trustee knowledge of investment activities.

Dr. Hackbart thanked Wilshire Advisors, LLC, Mr. Willer, and Staff for their presentations and requested a motion to adjourn. A motion was made by Mr. O'Mara and seconded by Mr. Cheatham to adjourn the meeting. The motion passed unanimously.

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.

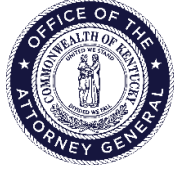
Recording Secretary

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 31, 2022 were approved by the County Employees Retirement System Investment Committee on November 22, 2022.

Committee Chair

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on August 31, 2022 for form, content, and legality.

Office of Legal Services



October 31, 2022

Via email

David L. Eager, Executive Director
Kentucky Public Pension Authority
1260 Louisville Road
Frankfort, KY 40601
David.Eager@kyret.ky.gov

Gary L. Harbin
Kentucky Teachers' Retirement System
479 Versailles Road
Frankfort, KY 40601
c/o Beau.Barnes@trs.ky.gov

RE: "ESG" and Opinion of the Attorney General 22-05

Dear Messrs. Eager and Harbin:

As you know, the Attorney General "is the chief law officer of the Commonwealth of Kentucky," KRS 15.020(1), and the State Treasurer is "the head of the Department of the Treasury," KRS 41.020, and as such, is responsible for assuring that the expenditures of the Commonwealth of Kentucky are paid in accordance with the Constitution and laws governing the Commonwealth.

Recently, Treasurer Ball asked the Office of the Attorney General whether "environmental, social, and governance" (ESG) investment practices, which introduce mixed motivations to investment decisions, are consistent with Kentucky law governing fiduciary duties owed by investment managers to Kentucky's public pensions. The Attorney General opined that such practices violate statutory and contractual fiduciary duties. A copy of that opinion is enclosed.

Messrs. Eager and Harbin
October 31, 2022
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We write today to request that you, as the executive directors of the Commonwealth's major public pension systems, advise our Offices about your systems' efforts to ensure that ESG considerations are not being implemented in your systems' investment decisions, consistent with Kentucky law. Your response is essential to guaranteeing that politics has no place in Kentucky's public pensions. We look forward to hearing from you on or before November 23, 2022.

Sincerely,



Daniel Cameron
ATTORNEY GENERAL



Allison Ball
STATE TREASURER



Commonwealth of Kentucky
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May 26, 2022

OAG 22-05

Subject: Whether “stakeholder capitalism” and “environmental, social, and governance” investment practices in connection with the investment of public pensions funds are consistent with Kentucky law governing fiduciary duties.

Requested by: Treasurer Allison Ball
State Treasurer of the Commonwealth of Kentucky¹

Written by: Carmine G. Iaccarino, General Counsel
Zachary Richards, Assistant Attorney General

Syllabus: “Stakeholder capitalism” and “environmental, social, and governance” investment practices, which introduce mixed motivations to investment decisions, are inconsistent with Kentucky law governing fiduciary duties owed by investment management firms to Kentucky’s public pension plans.

Opinion of the Attorney General

There is an increasing trend among some investment management firms to use money in public and state employee pension plans—that is, other people’s money—to

¹ Although the Treasurer asks for the Attorney General’s opinion in her capacity as State Treasurer, she also serves as chair of the State Investment Commission, KRS 42.500(1)(a), and as a trustee of the Teachers’ Retirement System of the State of Kentucky, KRS 161.250(1)(b)2.

Opinion of the Attorney General 22-05

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push their own political agendas and force social change.² State Treasurer Allison Ball asks whether those asset management practices are consistent with Kentucky law. For the reasons below, it is the opinion of this Office that they are not.

Background

To encourage public service, Kentucky offers public employees certain pension benefits. *See, e.g.*, KRS 61.510 to KRS 61.705. For years, however, the Commonwealth’s public pension plans have hovered at severely underfunded levels. According to the Kentucky Public Pension Authority’s most recent annual report, the public pension plan for most state employees is roughly 17% funded.³ Kentucky’s other public pension plans have not fared much better: the public pension fund covering Kentucky State Police is roughly 30% funded and the County plans are 46% to 52% funded.⁴ And while the public pension plans administered by the Kentucky Public Pension Authority have shown year-over-year improvement in funding,⁵ there is a concern that this trajectory may be threatened by extreme approaches to investment management—particularly those that put ancillary interests before investment returns for the benefit of public pensioners and state employees.

One such approach is “stakeholder capitalism.” According to its advocates, “[s]takeholder capitalism is an expansion of corporate management fealty beyond shareholders to include the workforce, supply chain, customers, communities, societies, and the environment.”⁶ What this means in reality is that investment

² The social change they seek has often been rejected outright by the people’s elected representatives. *See, e.g.*, *Will ESG Disclosures be Mandated by Law? A Legislative Analysis*, KING & SPALDING (Sept. 22, 2021), <https://perma.cc/F4FZ-9JA7> (discussing environmental, social, and governance (“ESG”) legislation from the 117th Congress and finding a “low likelihood” that the legislation becomes law); *see also* Stuart Loren, *ESG and the Road to Serfdom*, LINKEDIN (Oct. 22, 2021), <https://perma.cc/3UVC-ETZ7> (“Even if well-intentioned and sensible, . . . do we really want a handful of senior management at BlackRock and the world’s largest asset allocators pushing for policy-related changes? Isn’t this the role of government?”).

³ *Annual Comprehensive Financial Report for the Fiscal Year Ended June 30, 2021*, KENTUCKY PUBLIC PENSION AUTHORITY (Dec. 8, 2021), at 6, <https://perma.cc/AN5N-9YXA> (hereinafter “KPPA 2021 Report”).

⁴ *Id.* Kentucky is not alone in its public pension experience. Pew, *Legal Protection for State Pension and Retiree Health Benefits, Findings from a 50-state survey of retirement plans* (May 30, 2019), <https://perma.cc/CNR7-QK89>. (“Since 2000, when public retirement systems were almost fully funded, states have seen aggregate unfunded pension liabilities grow to more than \$1 trillion, with an additional \$700 billion in unfunded retiree health benefit costs.”).

⁵ KPPA 2021 Report, *supra* note 3, at 14.

⁶ Mark A. Cohen, *Stakeholder Capitalism: Challenges and Opportunities for Big Law*, FORBES (Jan. 19, 2022), <https://www.forbes.com/sites/markcohen1/2022/01/19/stakeholder-capitalism-challenges-and-opportunities-for-big-law/?sh=760110a449e2> (last visited May 26, 2022).

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management firms who embrace stakeholder capitalism propose prioritizing activist goals over the interests of their public and state employee clients.

To achieve this version of “capitalism,” investment management firms are adopting “environmental, social, and governance”—or “ESG”—investment practices. ESG investing is an “umbrella term that refers to an investment strategy that emphasizes a firm’s governance structure or the environmental or social impacts of the firm’s products or practices.”⁷

American economist Milton Friedman once criticized an earlier version of this trend whereby one set of stockholders sought to convince another set of stockholders that business should have a “social conscience.” As he explained, “what is in effect involved is some stockholders trying to get other stockholders (or customers or employees) to contribute against their will to ‘social’ causes favored by activists. Insofar as they succeed, they are again imposing taxes and spending the proceeds.”⁸ Friedman found this problematic because “the great virtue of private competitive enterprise” is that it “forces people to be responsible for their own actions and makes it difficult for them to ‘exploit’ other people for either selfish or unselfish purposes. They can do good—but only at their own expense.”⁹

Today, in perhaps an even more pernicious version of the trend, the debate is no longer left to stockholders. In fact, there is little-to-no debate. Investment managers in some corporate suites now use the assets they manage—that is, other people’s money—to enforce their preferred partisan sensibilities and to seek their desired societal and political changes.

Investment management firms have publicly committed to coordinating joint action for ESG purposes, such as reducing climate change. For example, the Steering Committee for the Glasgow Alliance for Net Zero (“GFANZ”) states: “*The systemic change needed to alter the planet’s climate trajectory can only happen if the entire financial system makes ambitious commitments and operationalises those commitments with near-term action. That is why we formed [GFANZ], to bring together over 450 leading financial enterprises united by a commitment to accelerate the decarbonisation of the global economy.*”¹⁰ Similarly, Climate Action 100 “aims to

⁷ Max M. Schanzenbach & Robert H. Sitkoff, *Reconciling Fiduciary Duty and Social Conscience: The Law and Economics of ESG Investing by A Trustee*, 72 STAN. L. REV. 381, 388 (2020).

⁸ Milton Friedman, *The Social Responsibility of Business is to Increase its Profits*, THE NEW YORK TIMES MAGAZINE (Sept. 13, 1970), at 4, <https://perma.cc/CTJ6-9FKV>.

⁹ *Id.*

¹⁰ *Forward from the Principals Group* GLASGOW FINANCIAL ALLIANCE FOR NET ZERO (Nov. 2021), at 6, <https://perma.cc/N3KS-KTZG> (emphasis added).

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ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change.”¹¹ Climate Action 100 explicitly concedes a mixed motive, stating that its investor signatories believe that taking action “is consistent with their fiduciary duty *and essential to achieve the goals of the Paris Agreement.*”¹² As further suggestion of a political motive, some investment management firms have committed to both advocate for government-imposed climate change mandates,¹³ *and* use their fiduciary role to prevent portfolio companies from advocating against such mandates.¹⁴

Whether these ancillary purposes are societally beneficial is beside the point when speaking of the duty of fiduciaries. Fiduciaries must have a single-minded purpose in the returns on their beneficiaries' investments.

And this affects Kentuckians. One investment management firm, at one time directing roughly \$1.5 billion on behalf of the Kentucky Public Pension Authority,¹⁵ has made a “firmwide commitment to integrate ESG information into [its] investment processes” to affect “all of [its] investment divisions and investments teams.”¹⁶ Other investment management firms that direct billions of dollars in Kentucky pension fund investments have publicly made similar commitments to ESG investment practices.¹⁷ There is some suggestion that politically biased investment strategies have real costs and worsen outcomes for pensioners.¹⁸ These harms are significant

¹¹ CLIMATE ACTION 100+, *About*, <https://perma.cc/K64N-J69K>.

¹² *Id.*

¹³ *Act Now, Financial Leaders Urge More Climate Action from the G20*, GLASGOW FINANCIAL ALLIANCE FOR NET ZERO, <https://perma.cc/43B2-XQ4A> (“More governments need to commit to the Paris target of 1.5 degrees Celsius by 2050. They need to make immediate cuts to emissions . . .”).

¹⁴ *2020 Progress Report*, CLIMATE ACTION 100+ (2020), at 18 and 78, <https://perma.cc/B5XW-XW2X> (scoring companies on whether the companies and their trade associations' lobbying efforts are “Paris-agreement aligned” and noting industry associations who “engage in problematic lobbying on climate” are “holding back Paris-aligned climate policy”).

¹⁵ KPPA 2021 Report, *supra* note 3, at 137. Of course, this figure fluctuates and, as of the date of this opinion, stood at roughly \$1.1 billion according to the Kentucky Public Pension Authority.

¹⁶ 2020 Sustainability Disclosure, BlackRock, at 6, <https://perma.cc/4HE5-6DXH>. Compare Larry Fink's 2022 Letter to CEOs: A Fundamental Reshaping of Finance, <https://perma.cc/H59D-R4BA>, with Larry Fink's 2022 Letter to CEOs: The Power of Capitalism, <https://perma.cc/MMF7-LESJ>.

¹⁷ See, e.g., *Responsible Investment: Policies and Principles*, FRANKLIN TEMPLETON (2020), <https://perma.cc/679E-6DQ3>; Lord Abbett, *ESG Investing*, <https://perma.cc/S8RS-U7M6>; Putnam Investments, *Philosophy – ESG integration in our investment group*, <https://perma.cc/F3LT-SYJE>; see also KPPA 2021 Report, *supra* note 3, at 136-37.

¹⁸ See, e.g., Christopher Bancroft Burnham, *BlackRock's ESG Strategy Plays Politics with Public Pensions*, BARRON'S (May 28, 2020), <https://perma.cc/FRU5-CX93> (“Research has consistently indicated that conventional index portfolios perform better than ESG portfolios, partly because ESG portfolios charge higher fees. . . . Fink is pursuing a course which, while possibly more profitable for

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because companies employing ESG investment strategies are entrusted as fiduciaries to manage the funds in the best interests of pension beneficiaries like teachers, firefighters, and many other public servants who have ordered their lives around promises made and who depend on public pensions to finance their retirements.¹⁹

Law

State and federal law have long recognized fiduciary duties for those who manage other people’s money. The Employee Retirement Income Security Act (“ERISA”), for example, demands that a fiduciary “discharge that person’s duties with respect to the plan solely in the interests of the participants and beneficiaries, for the exclusive purpose of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administering the plan, and with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.” 29 CFR § 2550.404a-1(a).

Kentucky law provides similarly demanding duties for fiduciaries. KRS 61.650 provides that a “trustee, officer, employee, employee of the Kentucky Public Pensions Authority, or other fiduciary shall discharge duties with respect to the retirement system . . . [*solely* in the interest of the members and beneficiaries [and for] the *exclusive* purpose of providing benefits to members and beneficiaries and paying reasonable expenses of administering the system[.]” KRS 61.650(1) (setting forth the duties governing the fiduciaries of the Kentucky Employees Retirement System or State Police Retirement System) (emphasis added); *see also* KRS 78.790 (setting forth similar duties governing the fiduciaries of the County Employees Retirement System); KRS 161.430(2) (setting forth similar duties governing the fiduciaries of the Teachers’ Retirement System of the State of Kentucky). This language draws from traditional trust principles requiring a single-minded purpose by fiduciaries that has been summarized as follows: “[a]cting with mixed motives triggers an irrebuttable presumption of wrongdoing, full stop.”²⁰

BlackRock, puts public pension funds and other client portfolio performance in jeopardy by opening the door to politics as part of pension portfolio management.”).

¹⁹ This Office notes a related move in this trend: the S&P Global Ratings’ (S&P) recent decision to include ESG credit indicators in state credit ratings. Energy producing states, like Kentucky, may suffer under these ratings because the Commonwealth’s investment in signature industries like coal, oil, and natural gas would likely result in lower ESG scores. Yet state law requires pension trustees to “give priority to the investment of funds in obligations calculated to improve the industrial development and enhance the economic welfare of the Commonwealth.” *See, e.g.*, KRS 161.430(1)(c); KRS 78.790(3) (same); KRS 61.650(3) (same). A state’s credit worthiness should be determined by the health of its economy—not activist ESG considerations.

²⁰ Schanzenbach, *supra* note 7, at 400–401.

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Like ERISA, state law also demands that such fiduciaries discharge their duties “[w]ith the care, skill, and caution under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose.” KRS 61.650(1)(c)(3); KRS 161.430(2)(b) (same for the Teachers’ Retirement System of the State of Kentucky); KRS 78.790(1)(c) (same for County Employees Retirement System). The duty of prudence requires more than assuming sweeping government mandates that coincide with an investment manager’s policy preferences.²¹ Under Kentucky law, fiduciary duty is not merely gift wrapping that a fiduciary may use to conceal a package of personal motivations.

Along with these fiduciary duties, the trustees of the Kentucky Public Pension Authority, for example, have adopted an investment policy that expressly provides that, in “instances where the Investment Committee has determined it is desirable to employ the services of an external Investment Manager,” those “Investment Managers . . . agree to serve as a fiduciary to the Systems.”²² Moreover, the trustees have expressly stated that, “[c]onsistent with carrying out their fiduciary responsibilities, the Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute.”^{23, 24}

Conclusion. Whether an investment management firm has breached a fiduciary duty is a fact intensive inquiry. That determination rests on a number of considerations and careful review of a fiduciary’s actions, statements, and commitments. While *asset owners* may pursue a social purpose or “sacrifice some performance on their investments to achieve an ESG goal,”²⁵ *investment managers* entrusted to make financial investments for Kentucky’s public pension systems must be single-minded in their motivation and actions and their decisions must be “[s]olely

²¹ See *Jarvis v. Nat’l City*, 410 S.W.3d 148, 158 n.28 (Ky. 2013) (“Trustees must often ‘conduct considerable research and analysis in each potential investment and in devising an overall investment strategy.’” (quoting *Estate of Fridenberg v. Appeal of Commonwealth of Pa.*, 33 A.3d 581, 590 (Pa. 2011))).

²² Kentucky Retirement System, *Investment Policy Statement* (adopted Nov. 16, 2021), at Section II.D.i., <https://perma.cc/4LLR-KNC6>.

²³ *Id.* at Section I.B.

²⁴ Although beyond the scope of this request, there are some free speech concerns when considering this scheme in light of the U.S. Supreme Court’s decision in *Janus v. AFSCME*, 138 S. Ct. 2448, 2464 (2018) (“Forcing free and independent individuals to endorse ideas they find objectionable is always demeaning . . .”). Allowing investment management firms to speak on behalf of pensioners or the pension systems without notice or approval may give rise to First Amendment concerns.

²⁵ *Domini Poll: ESG Investing is Gaining Traction*, KIPLINGER (Oct. 12, 2021), <https://perma.cc/4LSV-X4DE>.

Opinion of the Attorney General 22-05

May 26, 2022

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in the interest of the members and beneficiaries [and for] the exclusive purpose of providing benefits²⁶ to members and beneficiaries,” KRS 61.650(1); *see also* KRS 78.790(1)(c); KRS 161.430(2)(a). To do otherwise risks breaching clearly established statutory and contractual fiduciary duties and threatens the stability of already fragile pension systems. In sum, politics has no place in Kentucky’s public pensions. Therefore, it is the opinion of this Office that “stakeholder capitalism” and “environmental, social, and governance” investment practices that introduce mixed motivations to investment decisions are inconsistent with Kentucky law governing fiduciary duties owed by investment management firms to Kentucky’s public pension plans.

Daniel Cameron
ATTORNEY GENERAL

Carmine G. Iaccarino
Zachary Richards
Assistant Attorneys General

²⁶ These “benefits” are clearly financial benefits, not an investment manager’s conception of societal benefits. *See Fifth Third Bancorp v. Dudenhoeffer*, 573 U.S. 409, 420–21 (2014) (noting that the “benefits” to be pursued by ERISA fiduciaries as their “exclusive purpose” does not include “nonpecuniary benefits”).



KENTUCKY PUBLIC PENSIONS AUTHORITY

David L. Eager, Executive Director

1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822



Kentucky Public
Pensions Authority

November 2, 2022

Hon. Attorney General Daniel Cameron
700 Capital Avenue, Suite 118
Frankfort, Kentucky 4060

State Treasurer Allison Ball
1050 US Highway 127 South, Suite 100
Frankfort, Kentucky 40601

RE: “ESG” and Opinion of the Attorney General 22-05

Dear Hon. Attorney General Cameron and State Treasurer Ball:

I am in receipt of your email dated October 31, 2022, regarding “ESG” and the Opinion of the Attorney General 22-05. You requested Kentucky Public Pensions Authority (“KPPA”) advise of our efforts to ensure ESG considerations are not being implemented in investment decisions. A response date was requested on or before November 23, 2022. Regrettably, KPPA will be unable to meet the requested deadline for the reasons given below.

KPPA itself has no statutory authority to adopt or implement investment policies. Consequently, KPPA will immediately refer this request to the two Boards of Trustees who do have authority: the Kentucky Retirement Systems (“KRS”)¹ and the County Employees Retirement Systems (“CERS”)², collectively the Boards.

KPPA anticipates the Boards will refer your request through their respective Investment Committees whose next earliest meeting dates are as follows:

- KRS Investment Committee: November 10th, 2022 at 10:00am; and
- CERS Investment Committee: November 22nd, 2022 at 2:00pm.

The Investment Committee actions must be approved by their respective Boards. The Boards next earliest meeting dates are as follows:

- KRS Board of Trustees: December 1st, 2022 at 10:00am; and
- CERS Board of Trustees: December 5th, 2022 at 2:00pm.

Proceeding the above meeting dates, KPPA will respond to your Offices’ inquiry as soon as possible.

Best regards,

A handwritten signature in cursive script, appearing to read "David Eager".

David Eager, Executive Director
Kentucky Public Pensions Authority

¹ KRS 61.650(1)(b)(2)

² KRS 78.790(1)(b)(2)



December 9, 2022

Hon. Attorney General Daniel Cameron
700 Capital Avenue, Suite 118
Frankfort, KY 40601

State Treasurer Allison Ball
1050 US Highway 127 South, Suite 100
Frankfort, KY 40601

RE: “ESG” and Opinion of the Attorney General 22-05

Dear Hon. Attorney General Cameron and State Treasurer Ball:

We are in receipt of your letter dated October 31, 2022, regarding “ESG” and the Opinion of the Attorney General 22-05. As David Eager, Executive Director of KPPA, wrote to you in his letter dated November 2, 2022, investment policy and decision-making are the purview of the Investment Committees and the Boards of Trustees of the County Employees Retirement Systems (“CERS”)¹ and the Kentucky Retirement Systems (“KRS”)², respectively.

Your letter sought clarification that ESG considerations were not being implemented in investment decisions. We can assure you that each investment decision of the CERS Investment Committee, and the Board, is made with a clear focus on the highest level of fiduciary responsibility owed to the over 250,000 members of our System.

On April 25, 2022, I provided testimony to the Public Pensions Oversight Board (“PPOB”) on this very issue. The CERS portion of that presentation is attached hereto and incorporated by reference.

Federal and state law make it clear that a fiduciary has a duty to act in the best interest of the Trust as if it had no other competing interest to protect. The duty requires an undivided loyalty to members and beneficiaries.³ Kentucky statutes codify this duty by stating, in part: “Notwithstanding any other evidence of legislative intent, it is hereby declared to be the controlling legislative intent that the provisions of KRS 78.510 to 78.852 conform with federal statute or regulation and meet the qualification requirements under 26 U.S.C. sec. 401 (a), applicable federal regulations, and other published guidance.”⁴

The courts have also weighed in on how fiduciary duties must be carried out to benefit membership. The Sixth U.S. Circuit Court of Appeals has explained that fiduciary duties have three (3) component parts. First, all decisions must be made with an eye to the interests of the participants and beneficiaries.

¹ KRS 78.790(1)(b)(2)

² KRS 61.650(1)(b)(2)

³ 26 U.S.C. § 401 (a) and 29 U.S.C. § 1104 (a)

⁴ KRS 78.782 9(d)

Second, the fiduciary must act as a prudent person would act with single-minded devotion to those same plan participants and beneficiaries. Third, the fiduciary must act for the exclusive purpose of providing benefits to beneficiaries.⁵

With this duty of loyalty in mind, on November 10, 2021, the CERS Board of Trustees amended the Investment Policy Statement to read:

The CERS Trustees recognize the importance of responsible investing. Accordingly, the Trustees acknowledge that integrating Environment, Social, and Governance (ESG) policy principles that engage the issue from a risk, opportunity and fiduciary duty perspective will enhance investment results. The overriding consideration for the Trustees will continue to be investing to maximize the long-term returns for plan beneficiaries.

The investment policy is designed to acknowledge that in some instances considering ESG factors may minimize risk or highlight opportunities but must always be done with an eye toward the unwavering fiduciary duty owed to every member of the Plan. The policy is emphatic. The overriding consideration for every investment will be the decision which enhances the long-term return for beneficiaries.

Proxy Voting

Although our decisions regarding proxy voting were not explicitly requested in your letter, we wanted to take the opportunity to emphasize how seriously we take our fiduciary duty. As you know, the firm BlackRock, with approximately \$9.5 Trillion of Assets Under Management (“AUM”), has become synonymous with ESG investing. They have, on their own admission, used the proxy vote that has been granted them by investors to become advocates for ESG-driven policy and change, often, with little communication of their agenda to affected investors.

CERS and KRS have approximately \$1 billion in non-U.S. equity index funds that are managed by BlackRock. All our investment managers are fiduciaries to our plan, thereby agreeing to submit to the will of our beneficiaries. The CERS and KRS Boards of Trustees have taken proactive steps to ensure that the will of our beneficiaries will be paramount in proxy voting.

Although CERS will continue to utilize Institutional Shareholders Services (“ISS”) for our proxy voting, we are implementing a policy that all internally and externally managed accounts will be voted in accordance with the CERS Proxy Voting Policy which was adopted by the CERS Board of Trustees on March 16, 2022.

All external managers, including BlackRock, have agreed to implement this change. Our Investment Office staff is currently working to add an addendum to or update the various Investment Management Agreements (“IMA”). Staff is also working to implement a system of random audits of proxy votes taken by ISS. The sheer number of proxy votes in any given quarter or year makes a full review of every single vote impossible; however, we believe random audits, combined with our strong Proxy Voting Policy, will ensure that proxy votes taken on our behalf reflect the will of our beneficiaries.

Conclusion

⁵ *Chao v. Hall Holding Co., Inc.*, 285 F.3d 415, 426 (6th Cir. 2002)

Attorney General Cameron and Secretary Ball, I greatly appreciate the opportunity to share with you our commitment to the beneficiaries of the CERS Plans. The duty of loyalty owed to them is always at the center of our decision-making. If I can be of further assistance, or provide additional information, please do not hesitate to contact me.

Sincerely,

Ed Owens, III
CEO, CERS Board of Trustees

Attachment



CERS

County Employees Retirement System

ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) REPORTING

Ed Owens III, Chief Executive Officer

County Employees Retirement System (CERS)

CERS ESG PERSPECTIVE



DUTY OF LOYALTY

A fiduciary has a duty to act in the Interest of the Trust as if it had no other competing interest to protect

Requires undivided loyalty to members and beneficiaries*

* 26 U.S.C. sec 401(a)



KENTUCKY STATUTES

KRS 78.782 9(d) *The board shall do all things, take all actions, and promulgate all administrative regulations, not inconsistent with the provisions of KRS 78.510 to 78.852, necessary or proper in order to carry out the provisions of KRS 78.510 to 78.852. **Notwithstanding any other evidence of legislative intent, it is hereby declared to be the controlling legislative intent that the provisions of KRS 78.510 to 78.852 conform with federal statute or regulation and meet the qualification requirements under 26 U.S.C. sec. 401(a), applicable federal regulations, and other published guidance. Provisions of KRS 78.510 to 78.852 which conflict with federal statute or regulation or qualification under 26 U.S.C. sec. 401(a), applicable federal regulations, and other published guidance shall not be available.***



DUTY OF LOYALTY: COURTS

- The 6th Circuit has explained that fiduciary duties have three components:
 - All decisions must be made with **an eye to the interests of the participants and beneficiaries**
 - An unwavering duty to act both as a prudent person would act in a similar situation and with **single-minded devotion to those same plan participants and beneficiaries**
 - Act for the **exclusive-purpose** of providing benefits to plan beneficiaries

Chao v. Hall Holding Co., Inc., 285 F.3d 415, 426 (6th Cir. 2002)



ESG INCORPORATED

On November 10, 2021 the CERS Board of Trustees amended the Investment Policy Statement to read:

The CERS Trustees recognize the importance of responsible investing. Accordingly, the Trustees acknowledge that integrating Environment, Social, and Governance (ESG) policy principles that engages the issue from a risk, opportunity and fiduciary duty perspective will enhance investment results. The overriding consideration for the Trustees will continue to be investing to maximize the long-term returns for plan beneficiaries.





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This Investment Policy Statement (IPS) is issued by the CERS Board of Trustees (CERS Board or CERS Trustees) of the County Employees Retirement System (CERS) in connection with investing in the pension and insurance trust funds (Funds) of CERS.

I. Introduction

A. Purpose

The purpose of this IPS is to define the framework for investing the assets of CERS. This IPS is intended to provide general principles for establishing the goals of CERS, the allocation of assets, employment of outside asset management, and monitoring the results of the respective Funds.

The pension plans administered by the County Employees Retirement System (CERS) are Qualified Pension Plans under Section 401(a) of the Internal Revenue Code. Additionally, Kentucky Revised Statutes 61.701 establishes health insurance benefits to recipients of CERS. Kentucky Revised Statutes 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The CERS Board shall administer the insurance fund in the same manner as the pension funds.

B. Philosophy

The CERS Trustees recognize their fiduciary duty not only to invest CERS funds in formal compliance with the Prudent Person Rule, but also to manage those assets in continued recognition of the basic long-term nature of CERS. The CERS Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in the law and this document, that the assets of CERS shall be proactively managed—that is, investment decisions regarding the particular asset classes, strategies, and securities to be purchased or sold shall be the result of a long-term investment strategy. Being a long-term investor means that CERS Trustees are willing to accept a certain amount of risk in pursuit of potentially higher reward and that the Trustees can afford to be patient for a longer period of time.

The CERS Trustees recognize that asset allocation is the primary driver of long-term investment performance, and will therefore review asset allocation and asset-liability studies on a regular basis as outlined in Section III of this document. The Asset Allocation Guidelines represents a strategic decision, with the primary aim that CERS meet their performance objectives in the long-term, but understanding that this may not necessarily occur every year.

The CERS Trustees recognize that there is generally an inverse relationship between market efficiency and the ability for active management to produce excess returns. Therefore, investments in efficient markets will be made using index or index-like investments with the goal of replicating, or exceeding, index returns with low management fees and low tracking errors. Active management will be pursued in less efficient markets accepting higher tracking error and paying higher management fees with the expectation of producing excess returns over the long term. This allows the KPPA Office of Investments staff (KPPA Investment Staff) and consultant(s) to focus their efforts on identifying, selecting, and monitoring managers, as well as the overall management fees paid, in the areas of the market most likely to produce excess returns.

The CERS Trustees recognize that, commensurate with their overall objective of maximizing long-term return given the appropriate level of risk, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their fiduciary responsibilities and the concept of Modern Portfolio Theory, the CERS Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the CERS Trustees rely upon appropriate professional advice from staff and service providers.

The CERS Trustees recognize the importance of responsible investing. Accordingly, the Trustees acknowledge that integrating Environment, Social, and Governance (ESG) policy principles that engages the issue from a risk, opportunity and fiduciary duty perspective will enhance investment results. The overriding consideration for the Trustees will continue to be investing to maximize the long-term returns for plan beneficiaries.

II. Responsibilities

The CERS Trustees and other fiduciaries shall discharge their duties with respect to CERS: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations, and other instruments governing CERS.

Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of CERS income or assets. Every fiduciary shall provide adequate security and a reasonable rate of return to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).

A. CERS Board of Trustees

The CERS Investment Committee is created by Kentucky Revised Statutes 78.790(1)(b) and the CERS Board as set forth in the CERS Board's Statement of Bylaws and Committee Organization (Section 2.2(e)). The Chair authorizes and directs the appointment of a CERS Investment Committee with full power to act for the CERS Board in the acquisition, sale and management of the securities and funds of CERS in accordance with the provisions of any applicable statutes, and policies of the CERS Board. The CERS Investment Committee has the power to act on behalf of the CERS Board on all investment related matters, including the acquisition, sale, safeguarding, monitoring and management of the assets, securities and funds of CERS. The CERS Board shall require a vote of six (6) Trustees to ratify the actions of the CERS Investment Committee at the CERS Board meeting following the CERS Investment Committee meeting where such action was taken.

B. CERS Investment Committee

The CERS Board of Trustees shall establish an investment committee as required by KRS 78.790(b). The CERS Investment Committee shall consist of five members of the CERS Board and shall be specifically composed as follows: The three (3) members with investment experience appointed by the Governor under KRS 78.782(1)(b); one (1) elected member to be appointed by the CERS Board Chair; and one (1) member appointed by the Governor under KRS 78.782(1)(b) with retirement experience, to be appointed by the CERS Board Chair. The CERS Investment Committee has the authority to implement the investment policies adopted by the CERS Board and to act on behalf of the CERS Board on all investment related matters.

The CERS Investment Committee has the following oversight responsibilities:

1. Assure compliance with this IPS and all applicable laws and regulations.
2. Approve the selection and termination of service providers. If the need arises to terminate a manager between CERS Board meetings, the KPPA Executive Director, Office of Investments (CIO) will have discretion to do so after receiving approval from either the CERS Board Chair or the CERS Investment Committee Chair, with concurrence by the CERS CEO. The CERS Investment Committee and the CERS Board must be notified of the manager termination at the next scheduled CERS Investment Committee and CERS Board meetings.
3. Meet no less than quarterly to evaluate whether this IPS, the investment activities and management controls and processes continue to be consistent in meeting CERS goals. Mandate actions necessary to maintain the overall effectiveness of the investment program.
4. Review assessment of investment program management processes and procedures, and this IPS relative to meeting stated goals.

C. KPPA Investment Staff

The CIO is responsible for the administration of investment assets of CERS consistent with the policies, guidelines and limits established by the federal and state laws, the CERS Board, and the CERS Investment Committee.

The CIO receives direction from and reports to the KPPA Executive Director. The CIO shall provide information to the CERS Investment Committee on all investment matters, including but not limited to the following:

- i. Maintaining the diversification and risk exposure of the Funds consistent with policies and guidelines.
- ii. Assessing and reporting on the performance and risk exposure of the overall investment program relative to goals, objectives, policies and guidelines.
- iii. Monitoring and assessing service providers to assure that they meet expectations and conform to policies and guidelines.
- iv. Recommending changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals; and acting as liaison on all investment related matters.
- v. Identifying issues for consideration by the CERS Investment Committee and preparing recommendations or reports regarding such matters.
- vi. Preparing a memo for the CERS Investment Committee for each proposed investment which shall cover the pertinent details of the investment, which should include, but not be limited to: the amount of the investment, type of investment, purpose, opportunity/goal,

- risks, volatility assumptions, liquidity, structure, fees, background of investment firm with reasons for selection, list of other firms considered, which CERS funds will invest, and the specific reasons, if any, why a CERS fund may be excluded from the investment.
- vii. Engaging in a monthly meeting with the CERS Investment Committee Chair and the CERS CEO to discuss market trends and all things relevant to the CERS plan positioning.

The CIO or designee is authorized to execute trades on fixed income and equity securities (including exchange-traded funds (ETFs) and to execute proxies for the CERS Board consistent with this IPS.

To carry out this IPS and any investment related decisions of the CERS Board, the CERS Chief Executive Officer (CEO), or the CIO or designee are authorized to execute agreements and other necessary or proper documents pertaining to investment managers, consultants, investment related transactions, or other investment functions. All investment decisions of the CEO and/or the CIO not addressed in this IPS will be ratified by the Investment Committee and the Board of CERS.

D. Investment Managers

In instances where the CERS Investment Committee, in consultation with the CIO, has determined it is desirable to employ the services of an external Investment Manager, the following shall be applicable:

- i. Investment Managers shall be qualified and agree to serve as a fiduciary to CERS and should be of institutional quality as deemed by KPPA Investment Staff in collaboration with the investment consultant(s).
- ii. Notwithstanding the CIO responsibilities when selecting a new investment, when the KPPA Investment Staff seeks to retain a new external Investment Manager, whenever feasible the Investment Committee shall interview the top three candidates identified and considered by KPPA Investment Staff and the Investment Committee will participate in the selection of the Investment Manager.
- iii. Investment Managers shall manage assets in accordance with this IPS and any additional guidelines established by contract, as may be modified in writing from time to time.
- iv. Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.
- v. 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.
- vi. All investment management services will be contracted according to the CERS Investment Procurement Policy established by the CERS Board.

E. Custody Bank

KPPA shall hire custodians and other agents who will be fiduciaries to CERS and who will assume responsibility for the safekeeping and accounting of all assets held on behalf of CERS and other duties as agreed to by contract.

A portfolio accounting system process shall be implemented that includes plan accounting and unitization methods. An investment related service provider(s) may be selected to execute the process in accordance with the Boards' selection process. The following is a brief description of CERS' plan accounting processing:

Within the plan accounting structure there are two primary types of accounts Plan Accounts and Pool Accounts. Plan Accounts are the owners of the investment pool. An account is established for each plan and these accounts hold Units of Participation that represent the plan's/fund's invested value of the investment pool. Pool Accounts are accounts that hold the assets of the investment pool where all investment related activity and earnings occur. These accounts are the investment strategies of the pool. Units of Participation are bought and sold as each plan/fund contributes or withdraws cash or assets from the investment pool. The investment pool earnings are then allocated to plans utilizing a cost distribution method that allows for fluctuating prices experienced in capital markets. This involves earnings allocated to the plan accounts with an increase or decrease in cost on the Unit of Participation Holdings of the Plan Accounts. Correspondingly, the price of the Unit of Participation Holdings is updated to reflect change in market value in the investment pool. Earnings are allocated based on the daily weighted average of Master Trust Units held by each plan/fund account during the monthly earnings period. This method is commonly used when plans make multiple contributions or withdrawals from the investment pool throughout the month as it eliminates allocation distortion due to large end of month cash flows.

An institutional accounting system shall support a method for determining the amount of monthly earnings are allocated to each plan account.

F. Investment Consultants

Qualified independent investment consultants may be retained by the CERS Investment Committee for asset allocation studies, asset allocation recommendations, performance reviews, manager searches, and other investment related consulting functions and duties as set forth by contract.

G. Selection

Qualified investment managers, investment consultants, and other investment related service providers shall be selected by the CERS Investment Committee in accordance with the IPS. The selection shall be based upon the demonstrated ability of the professional(s) to provide the required expertise or assistance described in the Request For Proposals (RFP) or Request For Information (RFI), if utilized. In order to create an efficient and effective process, the CERS Investment Committee or CIO may, in their sole discretion, utilize an RFI, an RFP, third party proprietary software or database, review of existing service provider capabilities, or any combination of these or other methods to select a service provider.

III. Asset Allocation Guidelines

In establishing asset allocation guidelines, the CERS Board recognizes that each CERS plan has its own capacity to tolerate investment volatility, or risk. Therefore, each CERS plan has been studied and asset allocation guidelines have been established on a plan by plan basis. The CERS Board will ensure the asset allocation guidelines of each plan are reviewed annually. The CERS Board will provide the CERS Investment Committee with the results of any asset liability valuation study and guidance for determining the needs of any particular CERS plan.

This asset allocation is the result of an update to the Investment Policy enacted on January 1,

2021. The changes to the asset allocation were arrived upon after the Asset Allocation study of November 2020 and an Efficient Frontier analysis conducted in November 2021. The CERS Board has established the following Asset Allocation Guidelines, effective November 10, 2021.

Asset Class	Target	Minimum	Maximum
Equity			
Public Equity	50%	35%	65%
Private Equity	10%	7%	13%
Fixed Income			
Core Fixed Income	10%	8%	12%
Specialty Credit*	10%	7%	13%
Cash	0%	0%	3%
Inflation Protected			
Real Estate	7%	5%	9%
Real Return	13%	9%	17%

*includes High Yield Fixed Income

When the CERS Board makes significant revisions to the asset class target allocations and the corresponding minimum and maximum ranges for those targets are revised, KPPA Investment Staff shall have an eighteen (18) month period of time, or other specified period of time set by the Investment Committee, within which to make adjustments to the CERS portfolio to bring the assets into compliance with the newly adjusted allocations. Any overweights or underweights to an asset class which occur during this eighteen (18) month period shall be noted and reported to the Investment Committee, but shall not be considered as being out of compliance with the IPS.

The intent of the CERS Board in allocating funds to the investment managers is for the investment managers to fully invest the funds. However, the CERS Board is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed five percent (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.

The individual CERS plan level asset allocations will be reviewed monthly by KPPA Investment Staff relative to its target asset class allocation taking into account any tactical asset allocation shift directed by the CERS Investment Committee.

Regarding individual investment manager initial allocations, KPPA Investment Staff will get approval at the CERS Investment Committee meeting for a specific dollar amount intended to be committed to a closed-end fund such as private equity or real estate funds and will get approval for a percent of the appropriate asset class target for open-end managers. For those open-end funds where assets can be added or subtracted, the CIO will have discretion to reduce or increase an investment manager's allocation between 50% and 150% of the approved target. The target will not be raised prior to the one-year anniversary of the amount approved by the CERS Investment Committee, and must be reported to the CERS Investment Committee at the next scheduled meeting. If the need arises to terminate a manager between CERS Board meetings, the CIO will have discretion to do so after receiving approval from either the CERS Board Chair or the CERS Investment Committee Chair with concurrence by the CERS CEO. The CERS Investment Committee and the CERS Board must be notified of the manager termination at the next scheduled CERS Investment Committee and Board meetings.

Short-term market shifts may cause the asset mix to drift from the allocation targets. Should the

target percentage fall out of the indicated range for a particular asset class, KPPA Investment Staff shall direct rebalancing transactions to reallocate assets from the over-allocated asset class to the under-allocated asset class. Within the allowable ranges, KPPA Investment Staff should use regular cash flows to rebalance toward targets to avoid incurring additional trading costs to correct minor deviations from asset allocation targets. Except when there is a perceived extraordinary downside risk in a particular asset class, movement outside the normal ranges should be avoided.

Investments in private assets are generally less liquid than investments in public markets securities and are typically implemented via periodic commitments to funds with limited partnership structures. As a result, actual allocations to these asset classes may deviate from their strategic targets for extended periods. Actual vs. target deviations for these asset classes shall not be considered in violation of the Asset Allocation Guidelines. However, when identified by the KPPA Investment Staff the deviation must be reported to the CERS Investment Committee Chair within ten (10) business days and at the next Quarterly CERS Investment Committee meeting and each Investment Committee meeting thereafter until the allocation is in compliance with the target. Under/overweights to these asset classes shall be invested in public markets securities with the most similar risk/return characteristics as a short-term proxy for the private asset classes.

In keeping with its responsibility as a CERS Board and wherever consistent with its fiduciary responsibility, the CERS Board encourages the investment of the fund's assets in investments, funds, and securities of corporations which provide a positive contribution to the economy of the Commonwealth of Kentucky. However, where any security is not a prohibited investment under the governing laws and policies, discretion will be granted to the appointed investment managers in the selection of such securities and timing of transactions consistent with the following guidelines and restrictions.

A. Equity

Public Equity

Investments may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETFs or any other type of security contained in a manager's benchmark. Each individual equity account shall have a comprehensive set of investment guidelines prepared by the GIO, which contains a listing of permissible investments, portfolio restrictions, and standards of performance for the account.

The KPPA Investment Staff internally manages approximately fifteen (15%) percent of US equity index funds that are intended, consistent with the governing Plan documents, to gain exposure to a broad asset sector to replicate the characteristics of the asset class, to minimize administrative expenses and to help achieve overall portfolio objectives. The KPPA Investment Staff may passively manage up to twenty (20%) percent of the overall portfolio dedicated to these efficient markets. Beyond this level the CIO shall seek the approval of the Investment Committee by explaining how further passive management would help achieve the overall portfolio objectives. These objectives can be achieved through several management techniques, including, but not limited to, portfolio optimization, non-reinvestment of index dividends, and other management techniques intended to help achieve the investment objectives of CERS.

Private Equity Investments

Subject to specific approval of the CERS Investment Committee, investments may be made for

the purpose of creating a diversified portfolio of alternative investments. Private equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of **risk** with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments. Examples of such investments include, but are not limited to: private investments into venture capital; leveraged buyouts; special situations; distressed debt; private debt; timberland, oil and gas partnerships; infrastructure; commodities; and private placements. While it is expected that the majority of these assets will be invested within the United States, a portion has been allocated to non-US investments. These non-U.S. investments are not restricted by geography.

The private equity market is highly sophisticated and specialized with respect to variety and types of investment structures. There exists major competition for deal flow on the part of both investor and general partners. To a great extent, market forces drive the bargaining of economic terms. Most investment vehicles are structured as commingled vehicles and often blind pool investment partnerships. The most common offering forms are equity private placements where the governing laws of the partnership impose a passive role of the limited partner investor. These contractual arrangements are long-term in nature and provide the general partner or sponsors a reasonable time horizon to wisely invest capital, add value through intensive operational management, then realize the proceeds of such an investment. Moreover, terms of the partnership are proposed by the general partner and are critical to the economic incentives and ultimate net performance of the partnership.

Investment Strategy and Plan Guidelines

To strengthen the diversification of the investments, several guidelines will be utilized in KPPA Investment Staffs formulation and recommended annual investment strategy and plan for private equity investments. These guidelines encompass annual commitment levels to the asset class, types of investment vehicles that can be utilized, controlling financing stage risks, industry, manager and geography concentration/diversification limits, acceptable contract negotiations, appropriate sizes for investments, and the preferred alignment of interests.

Investment Vehicles: CERS plans will gain exposure to private equity investments by hiring external investment managers either directly or through participation in secondary private equity markets. Typically, CERS plans will subscribe as a Limited Partner (LP) to limited partnership vehicles sponsored by such specialty external investment managers. CERS will also at times structure separately managed accounts with specific investment objectives to be implemented by external investment managers. CERS plans may also gain private equity exposure by utilizing the following vehicles: limited liability companies and co-investments alongside CERS existing or potential limited partnerships.

Investment Timing Risks: KPPA Investment Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. Moreover, the portfolio must gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. KPPA Investment Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and therefore positively impacting the current and long-term net return of the portfolio. Should KPPA Investment Staff anticipate the need of entering a secondary partnership such agreement would need the approval of CERS Investment Committee and ratification by the CERS Board. In addition, mindful of vintage year diversification, CERS should seek to identify attractive commitments annually, further ensuring the portfolio invests across business cycles.

General Partner Diversification: KPPA Investment Staff will seek to work with a variety of general partners due to their specialized expertise in particular segments of the private equity market and source of their deal flow. No more than fifteen (15) percent of CERS Pension or Insurance total allocation to private equity investments may be committed to any one partnership.

Total Exposure to Private Equity: Given the illiquid nature of the asset and the complexity of each private equity transaction, it is important that the CIO actively manage the maximum amount of CERS Plan assets allocated to this asset class. The asset allocation authorizes a maximum of thirteen (13%) percent of total CERS Plan assets to this asset class. Should circumstances arise and the allocation go beyond the maximum allocation, the CIO will inform the Investment Committee Chair as soon as possible and report to the Investment Committee Chair and the CEO at the next monthly strategic planning meeting and all subsequent quarterly CERS Investment Committee meetings until the allocation is back in compliance.

B. Fixed Income

Core Fixed Income

The core fixed income accounts may include, but are not limited to the following fixed income securities: U.S. Government and Agency bonds; investment grade U.S. corporate credit; investment grade non-U.S. corporate credit; municipal bonds; Non-U.S. sovereign debt; mortgages including residential mortgage backed securities; commercial mortgage backed securities; and whole loans, asset-backed securities, and asset class relevant ETFs.

The high yield fixed income accounts may include, but are not limited to, the following fixed income securities: non-investment grade U.S. corporate credit including both bonds and bank loans; non-investment grade non-U.S. corporate credit including bonds and bank loans; municipal bonds; non-U.S. sovereign debt; mortgages including residential mortgage backed securities, commercial mortgage backed securities, and whole loans, asset-backed securities; and emerging market debt (EMO) including both sovereign EMD and corporate EMD and asset class relevant ETFs.

Each individual core fixed income account shall have a comprehensive set of investment guidelines prepared by the CIO which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Specialty Credit

Each individual Specialty Credit account shall have a comprehensive set of investment guidelines prepared by the CIO which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash Equivalent Securities

Selection of particular short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the investment and only secondarily by the available yield. The following short-term investment vehicles are considered acceptable: Publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages, municipal bonds, and collective short-term investment funds (STIFs), money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper) and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment

grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days. Repurchase agreements shall be deemed to have a maturity equal to the period remaining until the date on which the repurchase of the underlying securities is scheduled to occur. Variable rate securities shall be deemed to have a maturity equal to the time left until the next interest rate reset occurs, but in no case will any security have a stated final maturity of more than three years.

CERS fixed income managers that utilize cash equivalent securities as an integral part of their investment strategy are exempt from the permissible investments contained in the preceding paragraph. Permissible short-term investments for fixed income managers shall be included in the investment manager's investment guidelines.

C. Inflation Protected

Real Estate

Investments are made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. Allowable real estate investments include open-end and closed-end commingled real estate funds, joint venture investments, public and private real estate investment trusts (REITs), public real estate operating companies, and real estate related debt. CERS has determined that the primary role of the real estate asset class is to provide for the following:

- Attractive risk adjusted returns through active management and ability to access managers with the expertise and capabilities to exploit market inefficiencies in the asset class. The illiquid nature of real estate investments combined with the complexity of investments makes it difficult for casual investors to effectively access the asset class effectively. It is our belief that through active management and by investing in top tier managers with interests aligned through co-investment and incentive-based compensation, CERS can maximize their risk adjusted returns. This active management approach will be pursued.
- Diversification benefits through low correlations with other asset classes, primarily the U.S. equity markets.
- Provide a hedge against unanticipated inflation, which real estate has historically provided due to lease structures and the increases in material and labor costs during inflationary periods.
- Permit CERS to invest in unique opportunities that arise due to dislocations in markets that occur from time to time.

Real Return

The purpose of the Real Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans. Real Return strategies are not necessarily a separate asset class but may include real assets, such as infrastructure, real estate, commodities, and natural resources among others, as well as financial assets that have a positive correlation to inflation. This can include real bonds such as Treasury Inflation-Protected Securities (TIPs) (and other inflation linkers) or real stocks such as REITs, Master Limited Partnerships (MLPs), and oil & gas stocks. Additionally, Real Return managers

may attempt to add value by tactically allocating to various asset classes according to how each asset class performs across an economic cycle and the manager's perception of where we are in the cycle. The goal is to invest in inflation sensitive assets during inflationary periods, and avoid those assets in deflationary periods, thus providing a positive real return across the cycle.

The real return opportunity set may include numerous vehicles to access a wide variety of investment styles and strategies. These investment vehicles may include mutual funds, ETFs, separately managed accounts as well as hedge funds (open-end limited partnerships) and private equity (close-end limited partnerships). The list of strategies that CERS' Real Return Portfolio may use includes, but is not limited to, the following:

- Global Tactical Asset Allocation (GTAA)/Global Macro: GTAA or macro strategies are those that make directional bets on major markets or asset classes instead of individual securities. GTAA and macro strategies typically invest in all major assets classes including equity markets, credit and debt instruments, currencies/interest rates, and commodities. These strategies tend to focus on economic factors that would suggest an opportune time to invest in a given asset class, and will change their allocations actively over time. These strategies may use inflation as the economic factor to gain exposure to and will target a real rate of return over time.
- Inflation Linked Securities are securities that directly tie coupon payments or principal increases to an inflation index, such as Consumer Price Index (CPI). These strategies could include not only US TIPS, but also global sovereign inflation linked bonds, corporate or infrastructure inflation linked bonds, and possibly short duration floating rate bonds.
- Inflation Sensitive Equities include publicly traded equity and equity related securities in companies which have a high sensitivity to inflation in their profit margins via the nature of their operating assets, such as energy companies, basic materials and miners, natural resource stocks, and listed infrastructure. This category can also include, but are not limited to, REITs, MLPs as well as ETFs and index products on REITs, MLPs, and natural resource stocks.
- Commodities: Commodities are the raw materials that are physical inputs into the production process. Managers that invest in liquid commodity strategies using exchange traded futures can span from simple indexing (matching a long-only commodities index), to enhanced indexing or active long (selecting positions that vary from the index but within fairly tight ranges), as well as unconstrained long-short managers.

Private Property: For the purposes of this IPS, private property refers to the ownership of an idiosyncratic, physical asset that is predominately fixed and/or permanent or at least substantially long-lived. This includes real estate, such as land and any improvements to or on the land, as well as timberland and farmland. Timberland investing involves the institutional ownership of forest for the purpose of growing and harvesting the timber. The timber may be used for furniture, housing lumber, flooring, pulp for paper, woodchips, and charcoal, among other things. Farmland investing entails ownership of land used primarily, if not exclusively, for agricultural production both for crops, including row crops and permanent crops, as well as livestock. Private property can also include infrastructure investing, which refers to financing the manufacture or development of the underlying fundamental assets and basic core infrastructure that are necessary for an economy whereby such assets are largely fixed and long-lived. These tend to be high cost, capital-intensive investments that are vital to a society's prosperity and facilitate the transfer, distribution, or production of basic goods and services.

- **Natural Resources:** Natural resources can include investing in the financing, development, extraction, and production of minerals, basic materials, petroleum products, and water as well as renewable resources such as agricultural commodities and solar energy. As opposed to property, the returns generated in these investment strategies come more from the actual production of the resource itself. Further, these are depleting and/or consumable assets that are also portable and fungible and which in the aggregate comprise a majority of the inputs into most measurements of inflation.
- **Private Assets:** Private assets can include tangible or intangible assets that are not easily sold in the regular course of a business' operations for cash, and which are held for their role in contributing directly to the business' ability to generate profit. As the useful life of the asset tends to extend across many years and the assets tend to be capital intensive as well, they have some similarity to private infrastructure. Further, given that the assets contribute directly to the production process as well as often retaining intrinsic value, there is a fundamental link to inflation somewhat similar to natural resources.
- **Other (Opportunistic Inflation Hedge):** Other/opportunistic strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time. Liquid strategies such as inflation swaps, diversified inflation hedging mutual funds, or nominal bonds backed by inflation sensitive assets may be included in this allocation, while other illiquid strategies that may provide the same real profile can include private equity in inflation sensitive companies, hard asset-backed private credit, and structured inflation-linked products among others.

Portfolio Guidelines

No more than 50% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.

No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.

The relative allocations to the liquid and illiquid portfolios will be determined according to each individual System's liquidity needs, funding status, and allocation targets on an investment by investment basis.

D. Co-Investment Policy

The CIO has discretion to make direct co-investments in companies alongside of current general partners. Any co-investment opportunity must also be part of the main account or fund into which CERS has already invested before it can be considered. For purposes of this IPS, a direct co-investment is defined as a direct investment in a portfolio company alongside an existing CERS' partnership deemed in good standing.

The maximum investment in any co-investment vehicle shall not exceed 50 percent of the total capital committed by all partners at the time of the final closing. The maximum investment in any single direct co-investment shall not exceed 20 percent of the original partnership commitment. Total investment in direct co-investments shall not exceed 20 percent of the asset class portfolio on a cost basis at the time of investment.

IV. Monitoring

Performance Measurement

CERS overall fund performance is measured relative to CERS Pension or Insurance Total Fund Benchmark. The benchmark is calculated by means of a weighted average methodology. This method is consistent with the CFA Institute Global Investment Performance Standards (GIPS®), a set of standardized, industry-wide ethical principles that guide investment managers and asset owners on how to fairly calculate and present their investment results, with the goal of promoting performance transparency and comparability. It is the product of the various component weights (i.e., asset classes' percentages) by their respective performance (returns). Due to market fluctuations and acceptable divergence, the asset classes' weights (percentages) are often not equivalent to the benchmark's weights. Therefore, the performance may indicate that the Funds have outperformed (underperformed) relative to their respective benchmarks, even when the preponderance of lesser weighted categories have underperformed (outperformed) their indices.

CERS measures its asset classes, sub-asset classes, sectors, strategies, portfolios, and instruments (investment) performance with indices that are recognized and published). These indices are determined to be appropriate measures of investments and composites of investments with identical or similar investments profiles, characteristics, and strategies. The benchmarks and indexes are intended to be objective, investable, replicable, representative and measurable of the investment mandate and, developed from publicly available information that is acceptable to CERS and the investment manager/advisor as the neutral position consistent with the underlying investor status. The CERS investment consultant and KPPA Investment staff recommend the benchmarks and indexes. These measures shall be subject to the review and approval of the CERS Investment Committee with ratification by the CERS Board when asset allocation studies are performed, or when a change to existing benchmarks is recommended by KPPA Investment Staff and the CERS investment consultant. The current asset class benchmarks, effective as of November 10, 2021 with the adoption of the asset allocation, are as follows:

Asset Class	Benchmark
Equity	
Public Equity	MSCI ACWI(\$N)
Private Equity	Russell 3000 + 300 bps (lagged)
Fixed Income	
Core Fixed Income	Bloomberg Barclays US Aggregate
Specialty Credit	50% Bloomberg Barclays US High Yield/ 50% S&P LSTA Leveraged Loan
Cash	Citi Grp 3-mos Treasury Bill
Inflation Protected	
Real Estate	NCREIF ODCE
Real Return	US CPI+ 3%

The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of CERS. They are to be computed and expressed on a time-weighted total return basis:

Total Public Asset Class Allocations

Short-term

- For periods less than five years or a full market cycle, the Asset Class Allocation should exceed the returns of the appropriate Index.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, the Asset Class Allocation should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

Individual Public Security Portfolios: Individual portfolios shall be assigned a market goal or benchmark that is representative of the style or market capitalization of the assignment. Individual accounts should be monitored using the following Standards:

Short-term

- For periods less than five years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets:

Private Equity

The Private Equity portfolio should also seek to achieve both short-term and intermediate/long term Net Internal Rate of Returns (IRR) that provide yields in excess of core equity investments. The KPPA Investment Staff shall quarterly complete a comparison of performance between equity portfolio performance and Private Equity portfolio returns. The KPPA Investment Staff will report to the Investment Committee the following:

Short-term

- Alternative investments should earn a Net Internal Rate of Return (IRR) that place the investment above the median Net IRR of other similar funds, of the same vintage year, as reported by industry benchmarks.

Intermediate & Long-term

- The private equity portfolio should earn a return that meets or exceeds CERS Private Equity Index. Individual private equity investments should earn a Net IRR above the median Net IRR of other similar funds, of the same vintage year, as reported by industry benchmarks.

Inflation Protected

Real Estate

Private Real Estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short-term performance discrepancies versus public benchmarks, CERS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:

Relative Return: The Real Estate portfolio is expected to generate returns, net of all fees and expenses, in excess of the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index (NCREIF ODCE) lagged 1 calendar quarter.

Absolute Return: The long-term real return objective (returns adjusted for inflation) for CERS' Real Estate portfolio is five percent (5%) over the Barclays Capital U.S. 7-10 Year Treasury Bond Index, net of investment management fees. This return shall be calculated on a time-weighted basis using industry standard reporting methodologies.

Real Return

The total Real Return investments shall seek to:

1. Short-term benchmark: For periods less than five (5) years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks) annually over a complete market cycle, net of all investment management fees.
2. Strategic objective: For periods greater than five (5) years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (CPI + 300 basis points) as well.
3. Achieve a positive risk/reward trade-off when compared to similar style Real Return Investment Managers.

Performance Review

On a timely basis, but not less than quarterly, the CERS Investment Committee will review the performance of the portfolio for determination of compliance with this IPS. This will include a quarterly performance peer review analysis comparing CERS with other public pension plans. On an annual basis, a comprehensive review of each asset class and underlying portfolios shall be conducted by the KPPA Investment staff and presented to the CERS Investment Committee. The review shall consist of an organizational, performance and compliance assessment.

The Compliance Officer shall perform tests at least monthly to assure compliance with the restrictions imposed by this IPS. These tests shall be performed at the asset class and total fund level. Quarterly, the Compliance Officer shall prepare a report to the CERS Investment Committee detailing the restrictions tested, exceptions, the cause of the exception and the subsequent resolution. The CERS Investment Committee shall report the findings to the CERS Board at the next regularly scheduled meeting. Internal Audit will schedule periodic reviews/audits of this function to ensure compliance with this IPS.

The following restrictions shall be tested at least monthly:

1. 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.
2. The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.
3. Investment in frontier markets (those countries not included in the MSCI EM Index) shall not exceed 5% of CERS' international equity assets.
4. The duration of the core fixed income portfolios combined shall not vary from that of CERS' Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration, or dollar duration except when the CERS Investment Committee has determined a target duration to be used for an interim basis.
5. 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 same), and derivative securities used for exposure, cost efficiency, or risk management purposes in compliance with Section VII of this policy.
6. 50% of the core fixed income assets must have stated liquidity that is trade date plus three days or better.

Any test of the restrictions set forth in this IPS that results in an exception with a fair market value of less than ten thousand dollars for a single position and less than one-hundred thousand dollars in aggregate will be classified as de minimis. These exceptions shall be documented by the Compliance Officer but will be excluded from the report prepared by the Compliance Officer and presented to the Investment Committee.

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The CIO shall develop a comprehensive set of investment guidelines for each externally managed account. These guidelines should ensure, at the total fund and asset class level, that the restrictions set forth above are preserved.

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Under the CIO's direction, KPPA Investment Staff shall perform site visits with all current CERS investment managers over 3-year rolling market cycles, with at least 1/3 of all current managers occurring on a yearly basis.

V Additional Items

Derivatives Permitted Use:

CERS permits external managers and KPPA Investment Staff to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:

Exposure:

Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with

minimum portfolio disruption. An example is a cash equitization program.

Cost Efficiency:

Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.

Risk Management:

Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.

Derivatives Restricted Use:

Settlement:

Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall CERS plans agree to take physical delivery on a futures contract.

Position Limits:

Futures and options positions entered into by CERS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.

Over-the-Counter (OTC):

Investments in securities not traded on public exchanges that are deemed OTC in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager's guideline section of the manager's contract. All counterparties must have a short-term credit rating of at least BBB (Standard and Poor's or Fitch) or Baa2 (Moody's).

All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of CERS under the transactions. All ISDA Master Agreements entered into by or on behalf of CERS by the KPPA Investment Staff and external manager pursuant to an Agency Agreement shall provide that netting applies (netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The KPPA Investment Staff and external managers may also use collateral

arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.

Derivatives Applications Not Permitted:

Speculation:

Except for investments in Real Return investments, derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to CERS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by the CERS IPS or applicable to the CERS portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the CERS IPS or applicable regulatory requirements.

Leverage:

Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment.

The above is not intended to limit CERS from borrowing to cover short-term cash flow needs nor prohibit CERS from loaning securities in accordance with a securities lending agreement.

The CERS Board recognizes that the voting of proxies is an important responsibility in assuring the overall performance over a longtime horizon. The CERS Board has delegated the responsibility of voting all proxies to ~~the Investment Committee or designee, custodian, investment manager or agent~~ ~~an outside Proxy Voting service provider or contracted external investment manager~~. The CERS Board expects that ~~said delegate(s) the proxy voting service~~ will execute all proxies in a timely fashion, and in accordance with the ~~Investment Proxy Voting Policy voting policy~~ which has been formally adopted.

The following policies, as amended, are hereby incorporated by reference into this Investment Policy Statement:

- A. ~~CERS Investment Procurement Policy as amended and the as amended are hereby incorporated by reference.~~
- B. ~~CERS Investment Brokerage Policy as amended is hereby incorporated by reference.~~
- C. ~~CERS Transactions Procedures Policy as amended is hereby incorporated by reference.~~
- D. ~~CERS Securities Litigation Policy and Procedures as amended is hereby incorporated by reference.~~
- E. ~~CERS Investment Securities Lending Guidelines as amended is hereby incorporated by~~

- reference.
- F. CERS Securities Trading Policy for Trustees and Employees as ~~amended is hereby incorporated by reference.~~
- G. CERS Manager and Placement Agent Statement of Disclosure Policy as ~~amended is hereby incorporated by reference.~~
- H. CERS Real Estate Policy as ~~amended and hereby incorporated by reference.~~
- I. CERS Conflict of Interest and Confidentiality Policy as ~~amended and hereby incorporated by reference.~~
- J. CERS **Investment** Proxy Voting Policy as ~~amended and hereby incorporated by reference.~~

Signatories

As Adopted by the CERS Investment Committee

As Adopted by the CERS Board of Trustees

Date: _____

Date: _____

Signature _____

Signature . _____

Dr. Merl Hackbart
Chair, CERS Investment Committee

Ms. Betty Pendergrass
Chair, CERS Board of Trustees

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INVESTMENT PROCUREMENT POLICY

[Adopted: [December 9, 2022](#)]

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INTRODUCTION

The Kentucky Revised Statutes mandate that the County Employees Retirement System (CERS) of the Commonwealth of Kentucky, through its Board of Trustees, ("Board") develop and adopt an investment procurement policy ("Policy") (KRS 78.790(6)). The Policy must be designed, in consultation with the Secretary of the Finance and Administration Cabinet, to meet best practices for the procurement of investment goods and services. This Policy functions in concert with other statutes, administrative regulations and guidelines detailing the requirements and parameters for investing trust funds. If any inconsistency exists between the law and this Policy, the law shall control.

The procurement procedures in this Policy will be implemented consistent with the Board's duty to procure the investment managers, goods and services needed to support the investment or management of CERS assets. The CERS Board has delegated investment authority to its Investment Committee, consistent with investment policies adopted by the Board.

A portion of CERS's funds are managed externally by investment managers specializing in mandates such as equities, bonds, other publicly traded securities, alternative investments, real estate, timberland and/or any other asset type authorized by Kentucky law. The Board is responsible for the procurement of services to carry out the investment or management of CERS assets.

Procurements for investment related goods and services will aim to promote competition and best value, giving due consideration to factors including, but not limited to, timing (including emergencies), execution, quality, service and price. Whenever CERS is considering an investment procurement, KPPA staff - rather than members of the Board and Investment Committee - will communicate directly with the principals of the potential vendor to ensure transparency, accountability and compliance with laws and Board policies, including those prohibiting the payment of fees or commissions to placement agents.

1. Definitions.

KPPA: means the Kentucky Public Pensions Authority

Alternative investments (alternatives): investments with General Partners or managers in assets such as timberland, private equity and infrastructure that are long-term and illiquid in nature.

Best and final price: request to submit a last and most competitive price to secure a contract.

Co-investment opportunities: an opportunity to invest in a company or property outside of an existing Limited Partnership. Co-investment opportunities arise when the General Partner wants to make an investment for the Partnership, but the total value of that investment is larger than the Partnership can hold. Co-investments generally have much more favorable economics than the investment in the Partnership, and are usually only offered to Limited Partners who have expressed a desire to be offered these opportunities.

Evaluation factors/screening criteria: evaluation criteria that represent the key areas of importance in making a final determination, which shall always include cost/price, as well as other considerations weighted by importance.

External investment manager: a vendor selected by a competitive selection process who is approved by the Investment Committee, subject to ratification by the Board, to invest CERS funds in a manner specified by contract.

Final candidate pool: that subset of vendor(s) from which the final vendor is chosen to provide services to CERS under this Policy.

Competition and best value: seeking vendors that provide the best performance at the lowest cost (economic efficiency) giving due consideration to factors including, but not limited to, performance improvements (faster, more suitable), timing (including emergencies), execution, quality, trust, reputation, service and price.

Independent: having no conflicts of interest with CERS, its Board or staff members, or Kentucky Public Pensions Authority ("KPPA") staff members.

CERS Investment consultant: an external firm or individual retained to advise the Board and the Investment Committee and assist K P P A investment staff as outlined in this Policy or in the governing contract.

Minimum qualifications: the lowest threshold metric for determining whether a vendor is qualified to perform the necessary work.

Specialty investment consultant: an external firm or individual retained to advise the Board and Investment Committee and assist KPPA investment staff, as outlined in this Policy or in the governing contract, including recommending General Partners or managers for alternative investments.

Investment procurement: all contracts for the investment or management of assets of CERS undertaken in accordance with KRS 78.790(6) and this Policy.

Performance attribution: quantifies the relationship between a portfolio's returns and the active decisions of the portfolio manager.

Placement agents: a third party or firm identified in KRS 78.782(20) from receiving fees or commissions incident to an investment by CERS.

Qualitative analysis: a review of a potential vendor that uses unquantifiable information, such as the impact of vendor management expertise, processes and ownership structure on an investment.

Quantitative analysis: economic, business or financial reviews that aim to understand or predict behavior or events through the use of mathematical measurements and calculations, statistical modeling and research.

Quiet Period: a specified timeframe when Board members and staff are restricted in communications with potential vendors in designated procurements.

Request For Information (RFI): a document sent to vendors to request specific information or clarification on a service or product.

Request For Proposals (RFP): a document soliciting proposals for a procurement based on the terms listed in the offering document.

Request For Quotations (RFQ): an invitation to suppliers to bid on providing specific products or services.

2. External Manager Selection.

External investment managers are to be chosen through a competitive selection process coordinated by KPPA investment staff and based upon established criteria. The selection process, which may involve the assistance of CERS's independent investment consultant, will result in a recommendation of an investment manager(s). When feasible, prior to the decision being made on which external investment manager KPPA investment staff will recommend, the Investment Committee will be provided with the opportunity to interview the final candidates. Moreover, the Investment Committee will interview final investment manager candidates, when feasible, prior to the final selection. The recommendation of KPPA investment staff will be made to the Investment Committee for its review and approval, with ratification by the Board at its next meeting.

Normally an open search process will be used when conducting a manager search. KPPA investment staff and/or the independent investment consultant will identify a list of suitable candidates that are appropriate for the mandate. The list of suitable candidates will be developed using a broad-based list of potential managers that meet the screening criteria.

An RFP, RFI or RFQ may also be used when conducting a manager search. The request may be sent directly to known vendors, will be listed on the KPPA website and may be advertised through other means such as financial media. Any advertisement will clearly state the mandate for which CERS is seeking a manager. The advertisement also will state certain minimum requirements that a manager must meet.

KPPA investment staff will provide a written report to the Investment Committee documenting the particulars of the search process that was performed, along with a recommendation on which manager KPPA investment staff proposes be hired. The report will include matters such as the screening criteria, the number of managers considered, the number of managers interviewed, the number of firms in the final candidate pool, the names of the firms in the final candidate pool, any prior CERS (or Kentucky Retirement Systems) history with the manager, references checked and summaries of other qualitative and quantitative analyses.

A. Determination of Screening Criteria

Screening criteria may include, but are not limited to: investment processes; investment fee schedule; investment products; dollar value and composition of assets under management; historical performance; years of experience; growth of firm; a manager's history with CERS (or Kentucky Retirement Systems); other client relationships (including experience with large public funds); ownership; the number and depth of investment professionals; research capabilities; structure of the proposed investment (separate account, commingled account, limited partnership, etc.); compliance with the federal Investment Advisers Act of 1940, as amended, standard contractual provisions;

~~compliance with the Chartered Financial Analyst (CFA) Institute Code of Ethics; compliance with Global Investment Performance Standards as administered by the CFA Institute;~~ and reporting consistent with the Institutional Limited Partners Association (“ILPA”) standards. Other criteria may be added for any search.

Commented [HV(1)]: The CFA requirements were removed by the legislature in 2017 and replaced with the Investment Advisers Act of 1940. All references to the CFA need to be replaced.

B. Preliminary Screening

- 1) KPPA staff and/or the CERS investment consultant identify a preliminary list of firms that meet the initial set of screening criteria.
- 2) KPPA staff and/or the CERS investment consultant contact each firm on the preliminary list to determine if they are accepting new business and to obtain the most current information and any additional information, as required. Follow-up telephone calls, interviews or on- site visits are made as necessary.
- 3) Based upon the established criteria, KPPA staff and/or the CERS investment consultant narrows the preliminary list to a candidate pool.

C. Candidate Pool

- 1) KPPA staff and/or the CERS investment consultant conduct a more in-depth interview with each candidate. The interviews may be in person or telephonic/virtual which allows for the interaction with and evaluation of the person or persons who will be investing on behalf of CERS. Interview topics may include:
 - a) Investment process;
 - b) Any action or investigation concerning a candidate by a regulatory or civil or criminal enforcement agency;
 - c) Any SEC forms, other similar agency reports or prospectuses;
 - d) Qualifications of the firm's representatives, including the portfolio management team;
 - e) A list of institutional references;
 - f) Communication with the firm;
 - g) Employee compensation and ownership structure;
 - h) Availability of the contact person and portfolio manager to meet with KPPA investment staff and the Investment Committee and responsiveness to Board and staff concerns;
 - i) Validation of performance and the continued management by key individuals who will be responsible for fulfilling the assignment;
 - j) Accommodation of CERS's priorities;
 - k) Experience with large public funds;
 - l) Fee discussions;

- m) Conflicts of interest, including the appearance of conflicts of interest. Potential or actual conflicts of interest must be evaluated during the due diligence process and after engagement under the Board's Conflict of Interest and Confidentiality Policy and any applicable statutes and regulations. The KPPA investment staff will employ reasonable efforts to identify conflicts of interest affecting CERS trustees, employees and managers with respect to all investments.
 - n) Placement agents. KPPA investment staff will employ reasonable due diligence to ensure that no fees or commissions are paid to a third party or firm pursuant to KRS 78.782(20) or Board policies.
- 2) Quantitative analyses also are conducted in addition to the qualitative analyses above. These analyses will include performance attribution and risk management.
- 3) Additional due diligence factors may be necessary in selecting General Partners or managers for alternative investments (such as timberland, private equity and infrastructure) because of the long-term and illiquid nature of these types of investments. The additional factors include particular considerations such as risk management; diversification; and legal and business matters.
- a) CERS may engage independent specialized consultants to assist in the selection of these managers.
 - b) KPPA staff and/or consultants will narrow potential funds to seek best-in-class managers.
 - c) Any new fund offering by an existing manager (also known as a reup) will be evaluated consistent with the process described above (understanding that some of the materials and knowledge for conducting due diligence already may have been obtained based on the prior investment with the manager).
- 4) KPPA staff and - if involved in the process - the CERS investment consultant (or any engaged specialty investment consultant), will reach a consensus regarding a manager for the final written recommendation to the Investment Committee. Any approval by the Investment Committee is subject to the review by and ratification of the Board, the completion of due diligence and the negotiation and execution of a contract.
- a) It is critical that the terms of the contract accurately reflect the terms and conditions of the authorization. The process may involve highly specialized contract provisions, including investment guidelines, and result in protracted negotiations. KPPA investment staff may request the approval of the Investment Committee to retain outside counsel to assist in the contract process.

- b) The investment manager must certify that no fees or commissions are paid to a third party or firm prohibited, either by KRS 78.782(20) or Board policies, from receiving fees or commissions incident to an investment by CERS.

D. An approval of a manager by the Investment Committee is to be reported to the Board no later than at its next meeting for review and ratification.

3. Co-Investment Opportunities.

Co-Investment opportunities occurring from General Partners, funds, or other investment managers already contained in the CERS portfolio and previously approved by the Investment Committee and Board may be authorized by KPPA’s Director Office of Investments (“CIO”) in amounts up to **1.5% of the plan assets**, considering the following:

- 1) The co-investments may be made alongside an existing General Partner, provided that the strategy and objective of the Partnership investing in the transaction are consistent with those of the Partnership in which CERS has an existing commitment.
- 2) Co-investments shall be made on the same (or better) terms and conditions as provided to the Partnership;

4. External Investment Consultant Selection.

External investment consultants are to be chosen through a competitive selection process coordinated by KPPA investment staff and based upon established criteria. The selection process shall result in a recommendation of a consultant to the Investment Committee for its review and approval, with ratification by the Board at its next meeting. Notwithstanding the above, the Investment Committee reserves the right to contract for its own Investment Consultant pursuant to KRS 78.782(2)(d).

CERS normally will use an open search process when conducting a consultant search. A list of suitable candidates will be developed by KPPA investment staff using a broad-based list of potential consultants that meet the screening criteria.

CERS also may use a request process such as an RFP, RFI or RFQ when conducting a consultant search. The request may be sent directly to known vendors, will be listed on the KPPA website and may be advertised through other means such as financial media. Any advertisement will clearly state the mandate for which CERS is seeking a consultant. The advertisement also will state certain minimum requirements that a consultant must meet.

KPPA investment staff will provide a written report to the Investment Committee documenting the particulars of the search process that was performed, along with a recommendation on which consultant staff proposes be hired. The report will include matters such as the firm name, screening criteria, the number of consultants considered, the number of consultants interviewed, the number of firms in the final candidate pool and their names, any prior CERS (or Kentucky Retirement Systems) history with the consultant, references checked and summaries of other

Commented [HV(2): Is this CERS plan assets only, or the combined assets of the 3 plans (CERS, KRS and SPRS)? When this used to say "plan assets" under the old KRS Procurement Policy it was clear it was for all 3 plans since all 3 plans invest in the same manner.

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qualitative and quantitative analyses.

A. Determination of Screening Criteria.

Screening criteria for an External Investment Consultant may include, but are not limited to: depth, breadth and experience in consulting similar plans, organizational strength, firm stability, key personnel, financial condition, industry reputation, client list, soundness and compatibility of investment philosophy and approach, breadth and capability of technological resources, research platform, risk reporting, fee proposal, size of public institutional, tax-exempt client AUM; size of pension fund client assets; consultant's history with CERS; other client relationships (including experience with large public funds); ownership; the number and depth of investment professionals; research capabilities; compliance with standard contractual provisions; compliance with the Chartered Financial Analyst (CFA) Institute Code of Ethics; compliance with Global Investment Performance Standards as administered by the CFA Institute; and reporting consistent with the Institutional Limited Partners Association standards. Other criteria may be added for any search.

B. Preliminary Screening.

- 1) KPPA investment staff will identify a preliminary list of firms that meet the initial set of screening criteria.
- 2) KPPA investment staff will contact each firm on the preliminary list to determine if they are accepting new business, would be interested in being a candidate, and to obtain the most current information and any additional information, as required. Follow-up telephone calls, interviews, or on-site visits are made as necessary.
- 3) Based upon the established criteria, KPPA investment staff narrows the preliminary list to a candidate pool.

C. Analysis.

- 1) KPPA investment staff will conduct a qualitative and quantitative analysis utilizing criteria developed by KPPA investment staff identified to meet the External Investment Consultant needs of the Agency.
- 2) KPPA investment staff will utilize, as necessary, additional diligence factors for consideration in selecting an External Investment Consultant. KPPA investment staff may conduct interviews, in- person or telephonic/virtual, which allows for the interaction with and evaluation of the person or persons who will be providing consulting services. References will be checked.
- 3) It is critical that the terms of the contract accurately reflect the terms and conditions of the authorization. The process may involve highly specialized contract provisions, including investment guidelines, and result in protracted negotiations. Staff may retain outside counsel to assist in the contract process.
- 4) KPPA investment staff will reach a consensus regarding an External Investment Consultant to be provided as a final written recommendation to the Investment Committee. Any approval by the Investment Committee is subject to the review and

ratification of the board, the completion of due diligence and the negotiation and execution of a contract. An approval of an External Investment Consultant by the Investment Committee is reported to the CERS Board no later than at its next quarterly meeting for review and ratification.

5. Procurement of investment analytical, professional, research and technical services.

KPPA investment staff will procure investment-related goods and services through one of the methods below. Nothing in this section shall apply to the procurement of ordinary goods and services that are common to other KPPA administrative functions.

- A. Procurement of goods and services costing **less than \$510,000** during a fiscal year will be determined by KPPA staff based upon best value comparing known vendors. In comparing vendors, staff will promote the highest level of competition.
- B. Procurement of goods and services costing **from \$510,000 to \$2449,999** during a fiscal year will be determined by any one of the following: KPPA Executive Director Office of Investments, KPPA Deputy Director Office of Investments, CERS Chief Executive Officer (“CEO”), or any KPPA employee designated by CERS to act in its stead, based upon best value comparing at least three (3) known vendors, whose price quotations may be obtained by telephone, catalog, or internet. Any procurement made under this subsection shall be reported to the CERS CEO, or, if the CERS CEO is the person making the procurement decision, to the Chair of the Investment Committee.
- C. Procurement of goods and services **equal to or greater than \$2550,000** in cost during a fiscal year will be determined ~~solely by the~~ two of the following: CERS CEO-KPPA Executive Director, KPPA Executive Director Office of Investments, or any KPPA employee designated by CERS to act in its stead, based upon best value comparing at least three (3) known vendors, whose price quotations must be obtained in written form on the vendor’s letterhead. The price quotations received and comments concerning the basis for placing the order shall be recorded in writing and shall be placed in a file to be maintained by KPPA. These records are retained by KPPA for record, audit, and review. Any procurement made under this subsection shall be reported to the Chair of the Investment Committee.
- D. A price contract established by the Commonwealth of Kentucky, the U.S. General Services Administration or U.S. Communities (a national government purchasing cooperative) may be used so long as the vendor enters into a contract at or below the contract price and under the same terms and conditions.

An RFP, RFI and/or RFQ for goods or services may be published. The request may be sent directly to known vendors; will be listed on the KPPA website; and may be advertised through other means, such as financial media, as appropriate to promote the highest level of competition. The request will describe the goods or services required, the type of information and data required of each vendor, the relative importance of qualifications

and the evaluation factors to be used. After determining the best value of proposals received, a contract for goods or services with a vendor may be negotiated. If contract terms cannot be agreed upon with the highest-ranking vendor, negotiations may be conducted with other vendor(s) in the order of ranking as defined by the request. The evaluation of best value will be documented by KPPA investment staff. The documentation will include specifics of the process used in selecting the vendor. Those specifics may include: price, the number of vendors considered, the number of vendors interviewed, any prior CERS (or Kentucky Retirement Systems) history with the vendor, references checked and summaries of other qualitative and quantitative analyses.

- E. Exceptions to using the methods of procurement above include, but are not limited to: goods and services available only from one or two uniquely qualified sources; advertisements and public notices; and copyrighted computer software. The reason for the exception will be documented.

6. Contract Renewal.

Contract renewals for contracts procured under Sections 2, 3 and 4 above, whether they be annual or longer-term agreements, use criteria such as the continued need of the vendor and/or asset class; level of trust; continuity of ownership, leadership and process; long-term performance; and competitiveness of fees. For contracts procured under Sections 2, 3 and 4 above, KPPA investment staff will submit a formal recommendation regarding the renewal of a contract to the Investment Committee for approval. The submission to the Investment Committee will include a description of the process used in making the recommendation to renew the contract. Any approval by the Investment Committee is subject to the review by and ratification of the Board, the completion of due diligence and the negotiation and execution of a contract, or contract renewal or extension.

Contract renewals for goods and services procured under Section 5 above, because the initial contract award did not have to be presented to the Investment Committee for approval, shall follow the procedures set forth in Section 5 for the awarding of the contract.

7. Emergency Procurement.

The existence of an emergency may cause an immediate need for managers, goods and/or services that cannot be procured through CERS's normal investment procurement procedures. The determination that an emergency exists is to be made by, and procurement actions approved by, any two of the following: Executive Director Office of Investments, the Deputy Director Office of Investments, the CERS CEO, or the CERS Investment Committee Chair. Thereafter, no later than at the next quarterly meetings of the Board and Investment Committee, the emergency and procurement actions incident to the emergency will be reported.

8. Quiet Period.

To ensure a competitive and fair procurement, KPPA staff, the Board and the Investment Committee members will follow a quiet period with potential vendors during specified

timeframes. A quiet period is a specified timeframe when staff, the Board and Investment Committee members are restricted in communications with potential vendors in designated procurements. Staff assigned to the procurement are not covered by the quiet period and will notify the Board, Investment Committee and other staff upon initiation of a quiet period and a description of the types of vendors to whom it applies. During quiet periods, covered staff, the Board and Investment Committee members will not communicate with potential vendors or with an existing vendor on matters pertaining to the procurement, except during Board or Investment Committee meetings.

A quiet period will cease when the approval of a vendor has been ratified by the Board, or if the search process or quiet period are otherwise ended.

9. Other Laws and Policies that Comprise CERS Investment Procurement Policy.

This policy is to be implemented in conjunction and accordance with the laws and other policies that, cumulatively, establish the comprehensive CERS Investment Procurement Policy under which all CERS investment procurements are to be made. These laws and other policies are as follows, but are not limited to:

- A. Executive Branch Code of Ethics (KRS Chapter 11A);
- B. Board as fiduciary (KRS78.790(1)(c));
- C. Pension Fund investment requirements (KRS 78.790);
- D. CERS conflict of interest prohibitions (KRS 78.745);
- E. CERS confidentiality requirement (KRS 78.745);
- F. Insurance Fund investment requirements (KRS 61.701 and 105 KAR 1:410); and
- G. County Employees Retirement System Board of Trustees Election Policy and Procedure, Statement of Bylaws and Committee Organization, Trustees Education Program, Conflict of Interest and Confidentiality Policy, Policy and Procedures Regarding Open Records Requests, CFA Code of Ethics and Standards of Professional Conduct, CFA Asset Manager Code of Professional Conduct, federal Investment Advisers Act of 1940, as amended, and CFA Code of Conduct for Members of a Pension Scheme Governing Body.

•••••

CERTIFICATION OF ADOPTION BY BOARD OF TRUSTEES

This is to certify that this County Employees Retirement System Investment Procurement Policy was approved and adopted by the Board of Trustees of the County Employees Retirement System.

Betty A. Pendergrass, Chair
CERS Board of Trustees

Date: _____

Ed Owens
CERS Chief Executive Officer

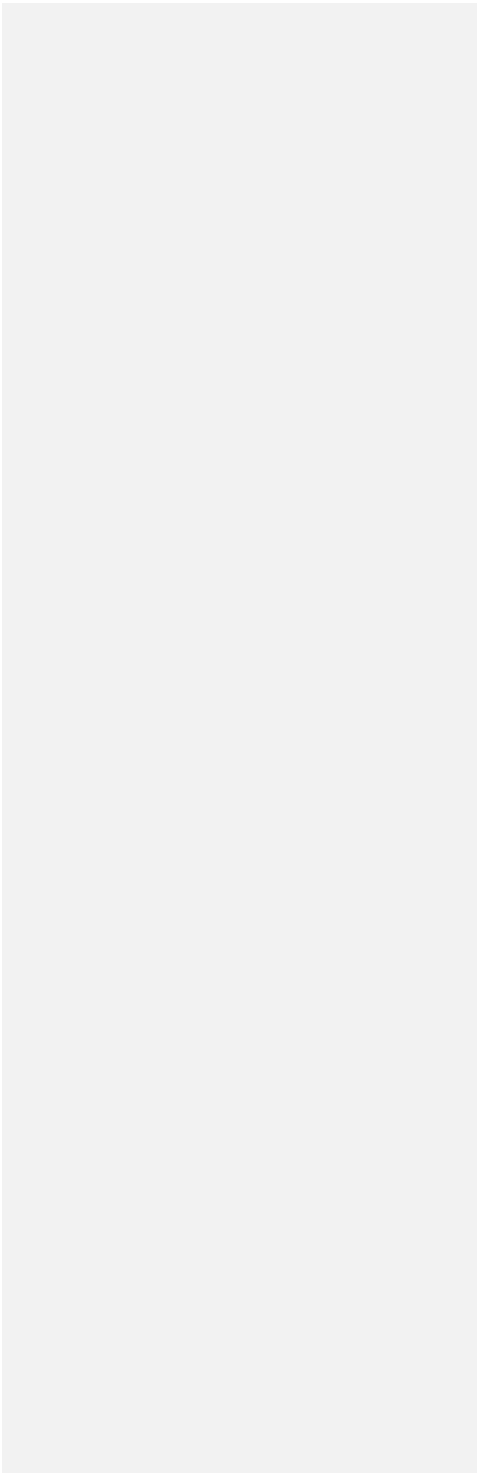
Date: _____

CERTIFICATION OF FINANCE AND ADMINISTRATION CABINET

This certifies that the Investment Procurement Policy of the County Employees Retirement System of the Commonwealth of Kentucky, attached hereto, meets best practices for investment management procurement as specified KRS 78.790(6).

Holly M. Johnson
Secretary of the Finance and
Administration Cabinet
Commonwealth of Kentucky

Date: _____



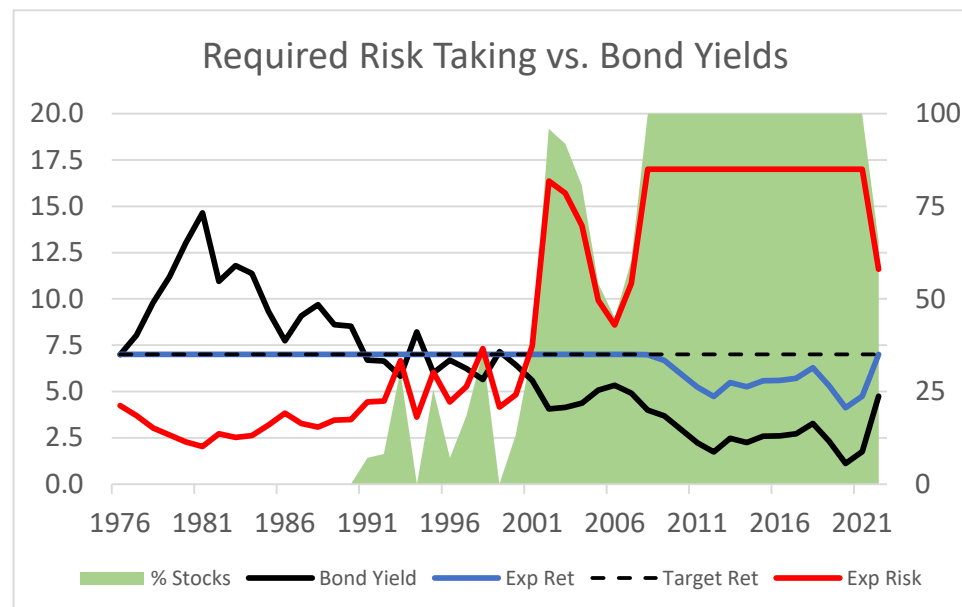
Capital Market Update

September 2022 Asset Class Assumptions

	Equity						Fixed Income					Real Assets						
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Dev ex-US Bond (Hdg)	US RES	Global RES	Private RE	Comdty	Real Assets	US CPI
Compound Return (%)	6.75	7.50	7.75	7.85	7.30	10.25	3.65	4.90	5.10	4.05	6.85	2.85	5.65	5.80	6.35	5.90	7.05	2.25
Expected Risk (%)	17.00	18.00	26.00	19.10	17.10	28.00	0.75	4.25	8.90	6.00	10.00	4.25	17.50	16.45	14.00	16.00	10.35	1.75
Cash Yield (%)	1.80	3.45	2.95	3.30	2.40	0.00	3.65	5.10	5.20	4.30	9.65	3.50	3.95	3.95	2.30	3.65	2.75	0.00
Growth Exposure	8.00	8.00	8.00	8.00	8.00	13.50	0.00	-0.85	-2.25	-3.00	4.00	-1.00	6.00	6.00	3.50	0.00	1.80	0.00
Inflation Exposure	-3.00	0.00	5.00	1.50	-1.25	-3.80	0.00	-2.50	-6.70	2.50	-1.00	-3.00	1.00	1.80	1.00	12.00	4.85	1.00
Correlations																		
US Stock	1.00																	
Dev ex-US Stock (USD)	0.81	1.00																
Emerging Mkt Stock	0.74	0.74	1.00															
Global ex-US Stock	0.83	0.96	0.87	1.00														
Global Stock	0.95	0.92	0.83	0.94	1.00													
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00												
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00											
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00										
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.92	1.00									
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.59	0.47	1.00								
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.17	0.18	0.26	0.10	0.66	0.65	0.39	0.26	1.00						
US RE Securities	0.58	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00					
Global RE Securities	0.64	0.58	0.56	0.61	0.65	0.58	-0.05	0.17	0.22	0.11	0.61	0.03	0.96	1.00				
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.77	0.75	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.48	0.51	0.58	0.57	0.54	0.47	-0.02	0.23	0.25	0.39	0.56	0.05	0.70	0.75	0.70	0.65	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00

Improved Investment Outlook

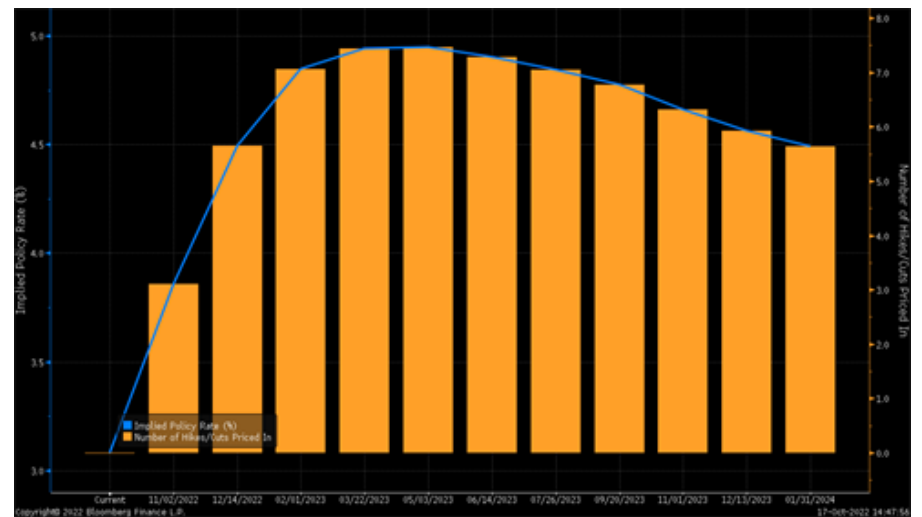
- Significant increase in bond yields has pushed return forecasts higher
- Exhibit below demonstrates how much risk taking is required within a stock/bond portfolio to meet a 7% return target – assuming the current bond yield of 4.75% and a 3% equity risk premium
- Under the September 2022 assumption suite, the necessary equity allocation is approximately 65% and the expected portfolio risk is 11.60%



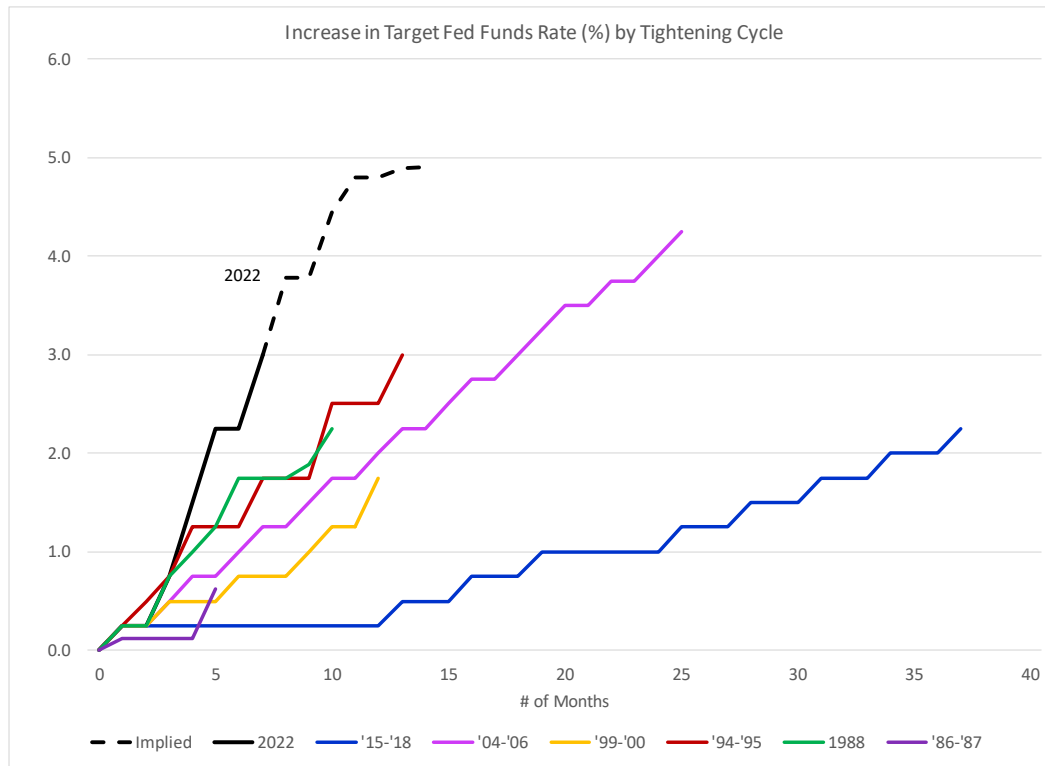
Center Stage: Fed Actions & Expectations



Data Source: Bloomberg



Most Aggressive Tightening in Modern Era... When/If it Bites, It Might Hurt



“While higher interest rates, slower growth, and softer labor market conditions will bring down inflation, they will also bring some pain to households and businesses. These are the unfortunate costs of reducing inflation. But a failure to restore price stability would mean far greater pain.”

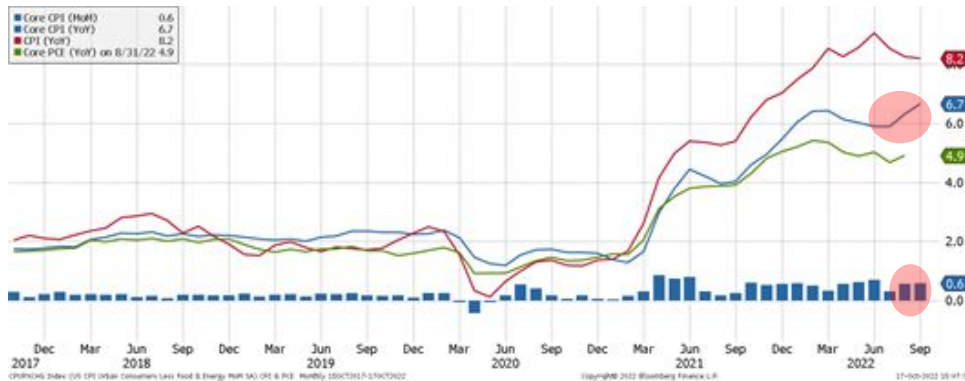


Jerome Powell

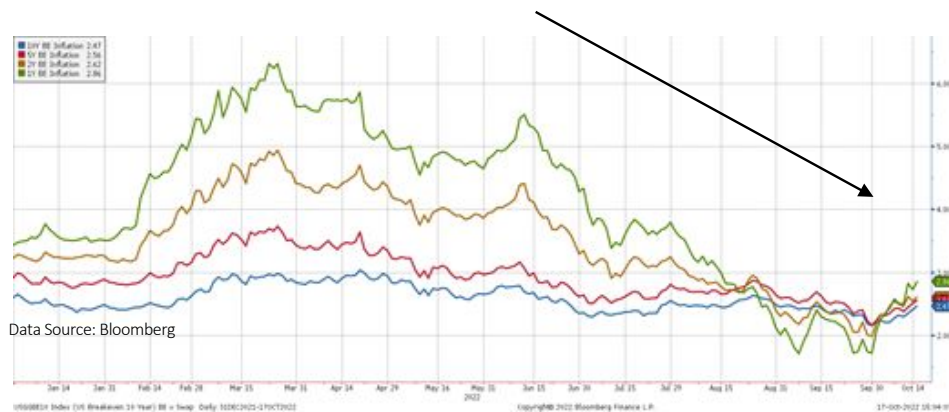
August 2022, Jackson Hole

Data Source: Bloomberg

The Fed's Dashboard: Realized & Expected Inflation

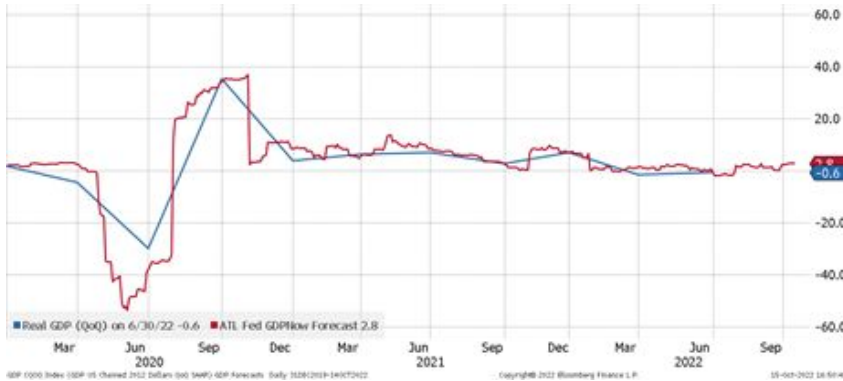


- Realized inflation remains stubbornly high
 - Sept & Oct Core CPI exceeded expectations
 - Core CPI (YoY) has ticked higher in recent months (as we anticipated last quarter)
 - Wage inflation & labor market imbalances add to inflation persistency/stickiness



- Inflation expectations have come down
 - Suggests that inflation anchoring at high levels may not yet be fully entrenched in consumer/business sentiment
 - Expectational anchoring at higher-levels would make the Fed's job even more challenging

The Fed's Dashboard: Economic Growth & Labor Market



- The odds of a “soft landing” diminish as inflation persists (as the Fed is pressured to tighten aggressively)
 - Potential outcome may be somewhere between a hard and soft landing
 - Powell’s “Sully” Sullenberger moment...



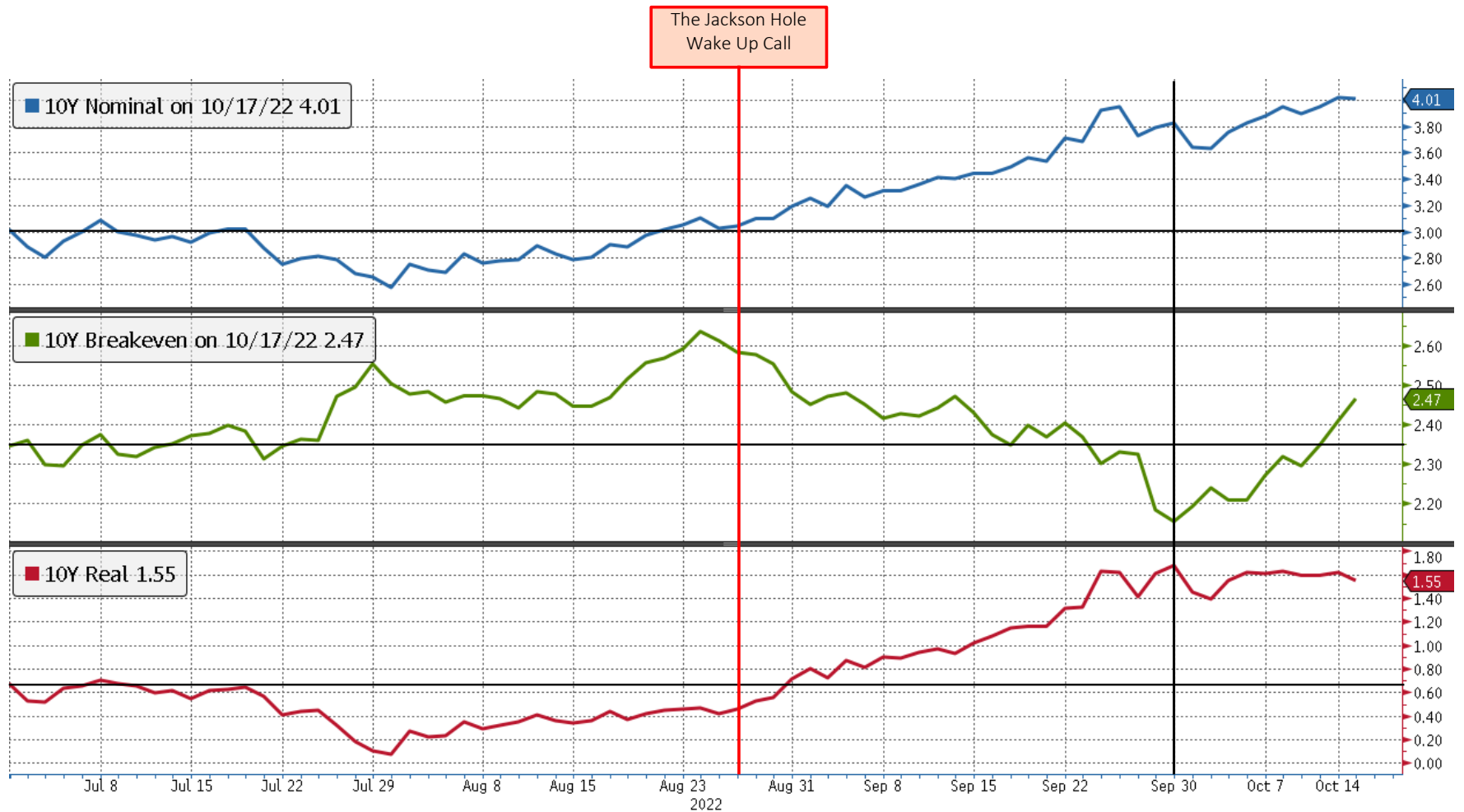
“We’re going to be in the Hudson”

Chesley Burnett "Sully" Sullenberger III
Pilot of US Airways 1549, January 15, 2009



- Labor markets remain historically tight
 - Difficult to see inflation pressures easing to acceptable levels without these tensions reversing
 - Recent jobs reports remain strong (good news is bad news as it relates to the Fed’s current objectives)

Rate Moves (10Y Nominal, Real & BEI)



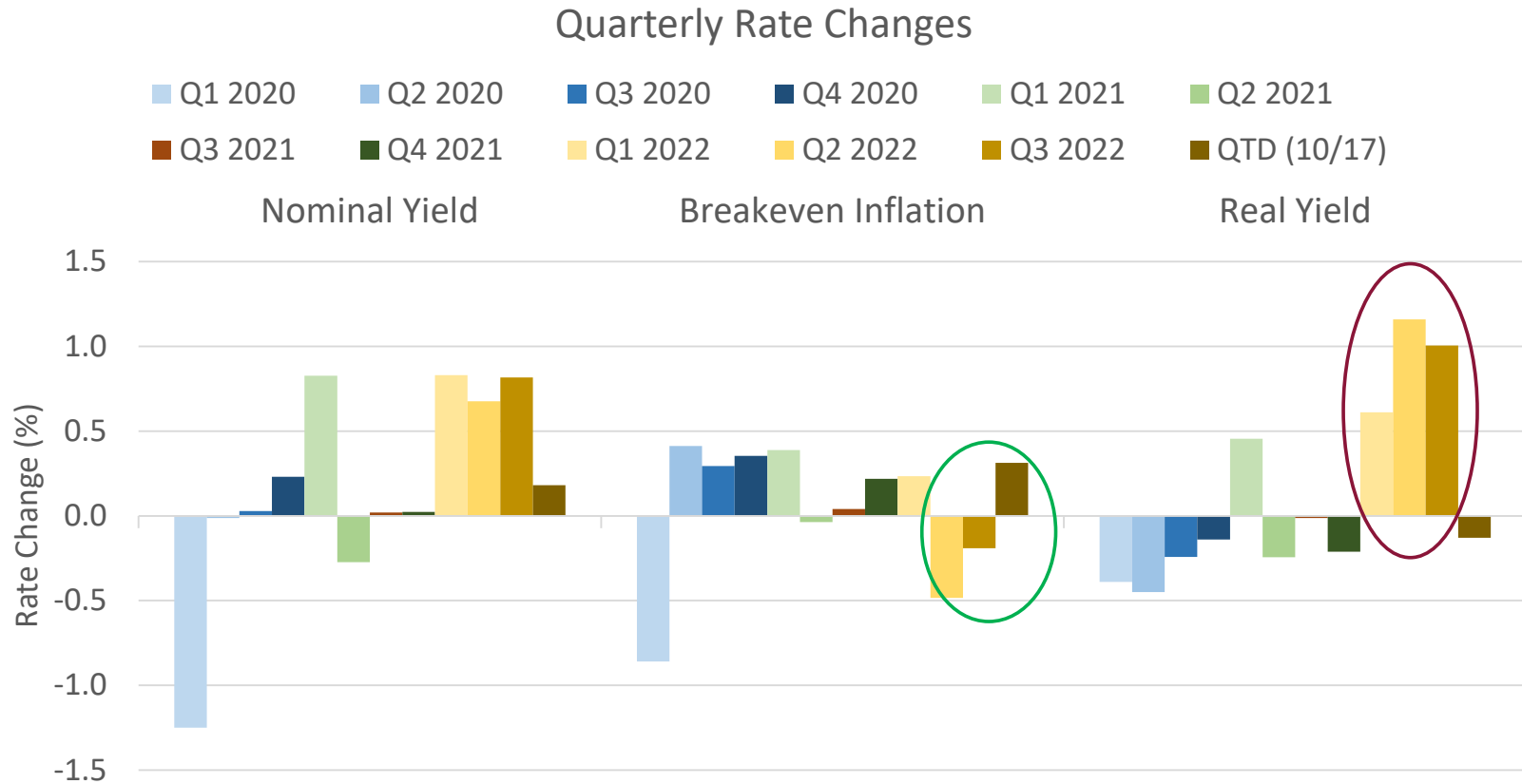
USGG10YR Index (US Generic Govt 10 Yr) 10yr Splits Daily 30JUN2022-17OCT2022

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Data Source: Bloomberg

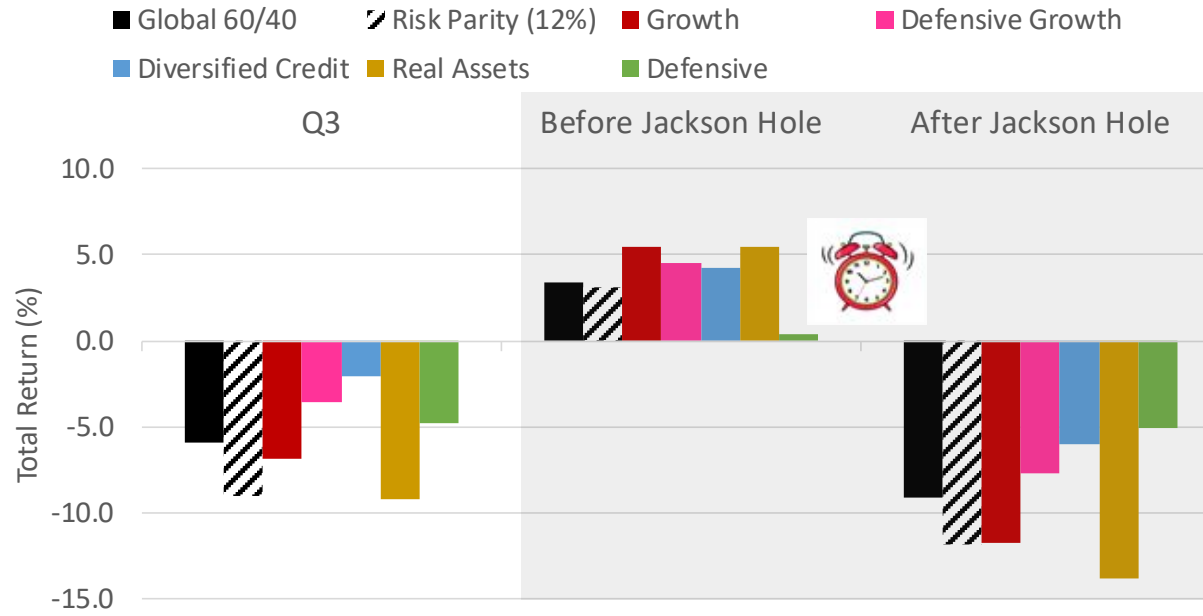
Rate Changes (2020 – YTD 2022) – Tightening the screws..



Data Source: Bloomberg

Q3 Market Returns: Before & After Jackson Hole

Asset Allocation & Thematic Returns



	Q3	Before Jackson Hole	After Jackson Hole
Global 60/40	(5.94)	3.44	(9.07)
Risk Parity (12%)	(9.03)	3.14	(11.80)
Growth	(6.82)	5.51	(11.68)
Defensive Growth	(3.54)	4.54	(7.73)
Diversified Credit	(2.03)	4.23	(6.01)
Real Assets	(9.14)	5.42	(13.81)
Defensive	(4.75)	0.36	(5.10)

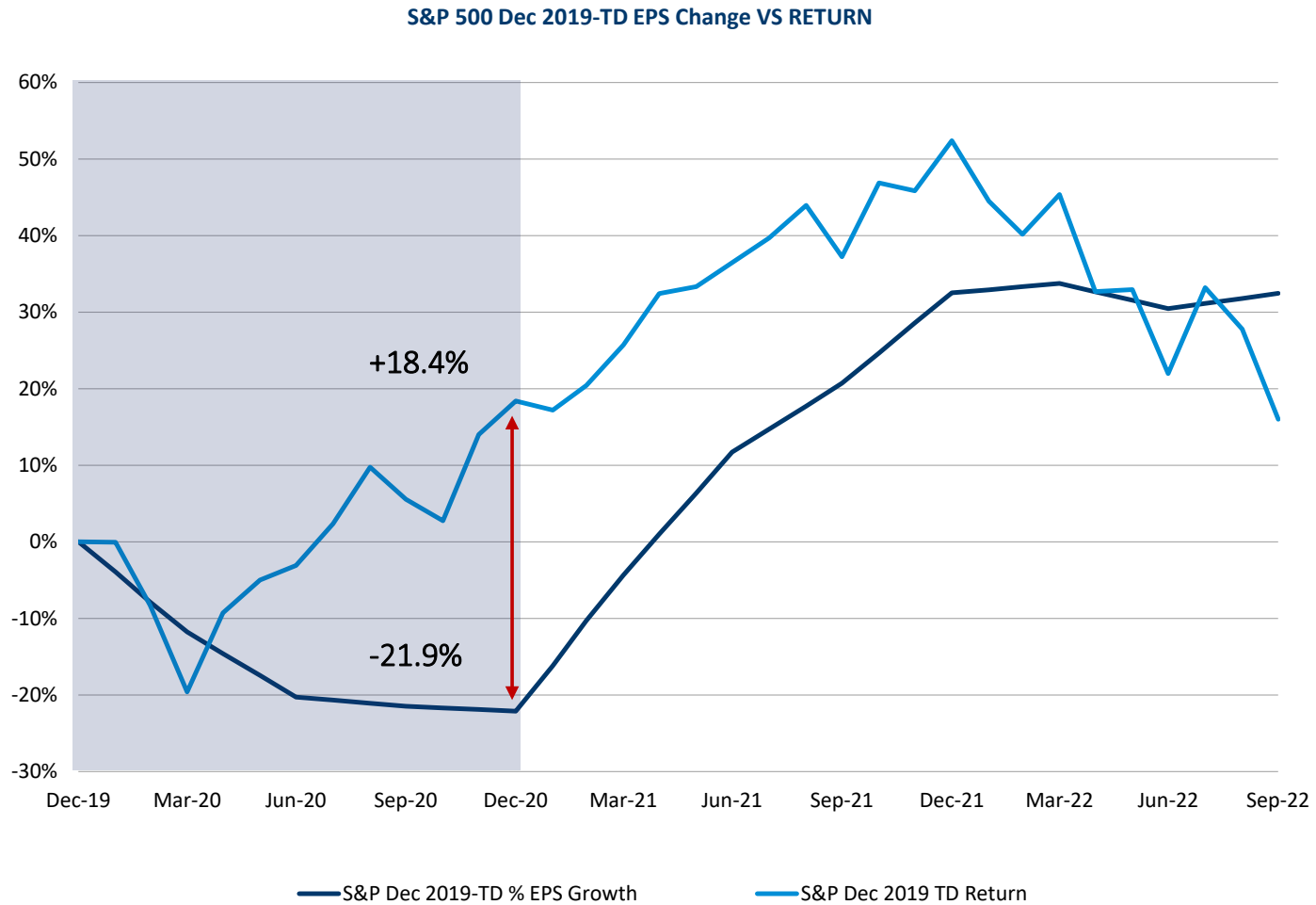
Data Source: Bloomberg, Wilshire

Liquidity/Rates-driven Market: Plenty of downside left if fundamentals deteriorate



Data Source: Bloomberg

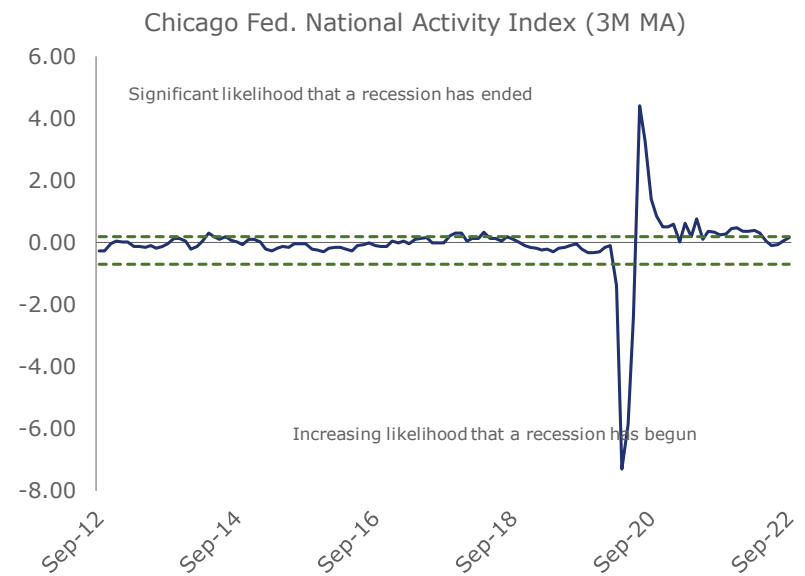
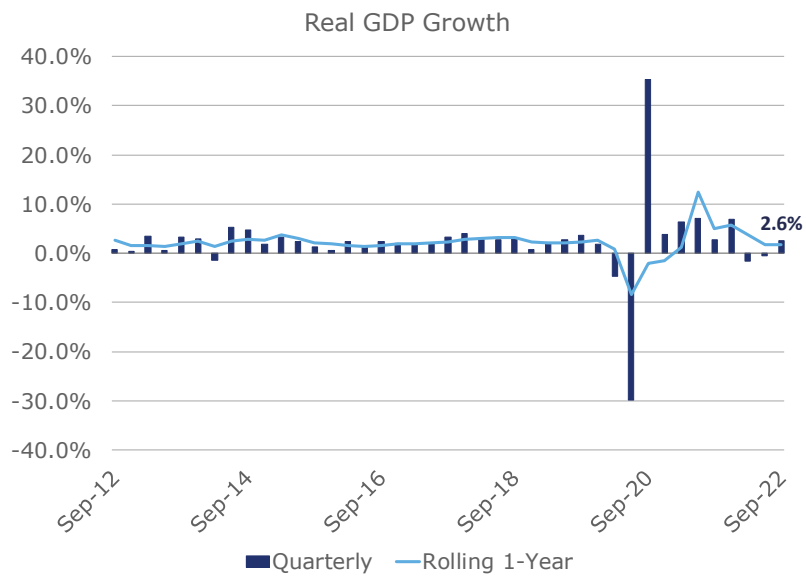
EPS Growth since Dec 2020 (prices down as growth stalls)



Data Source: Bloomberg

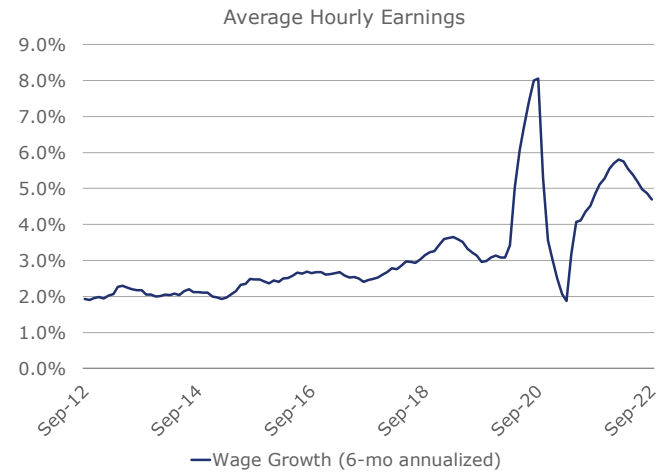
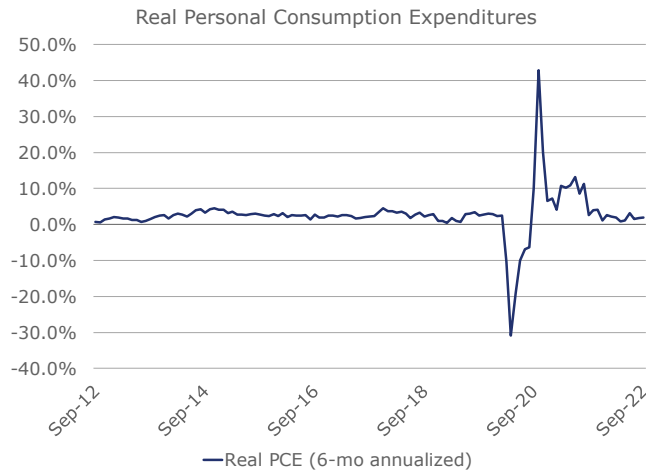
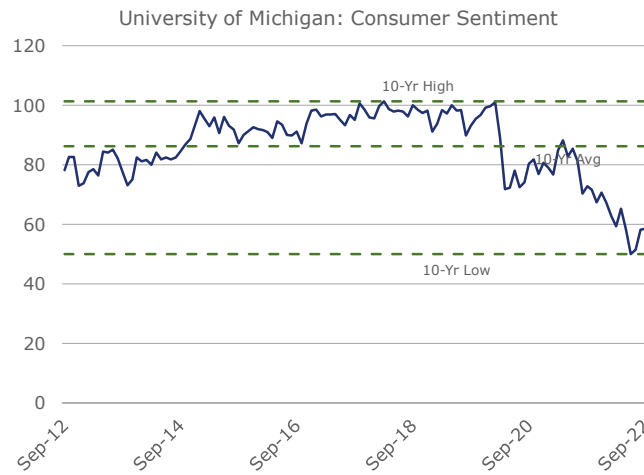
Economic/Market Activity

Economic Growth



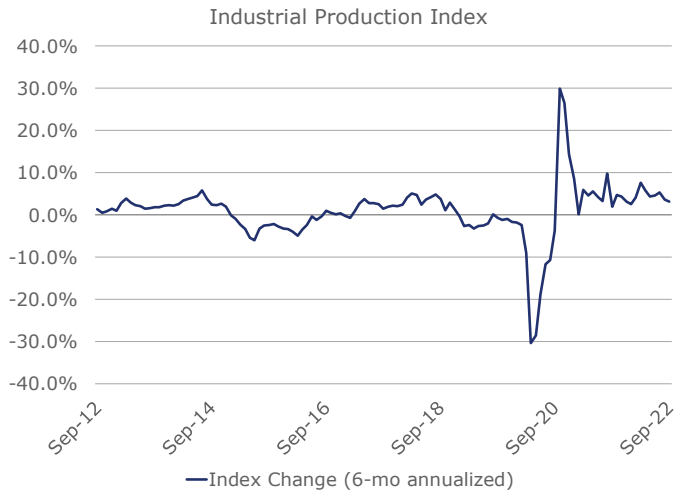
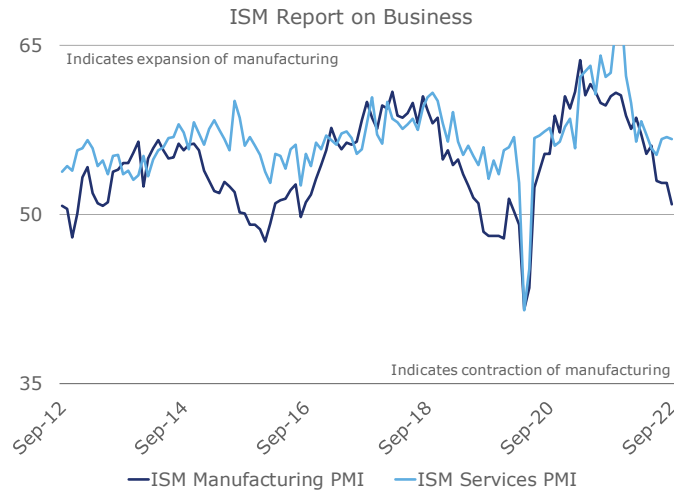
Data Sources: Bloomberg

Consumer Activity



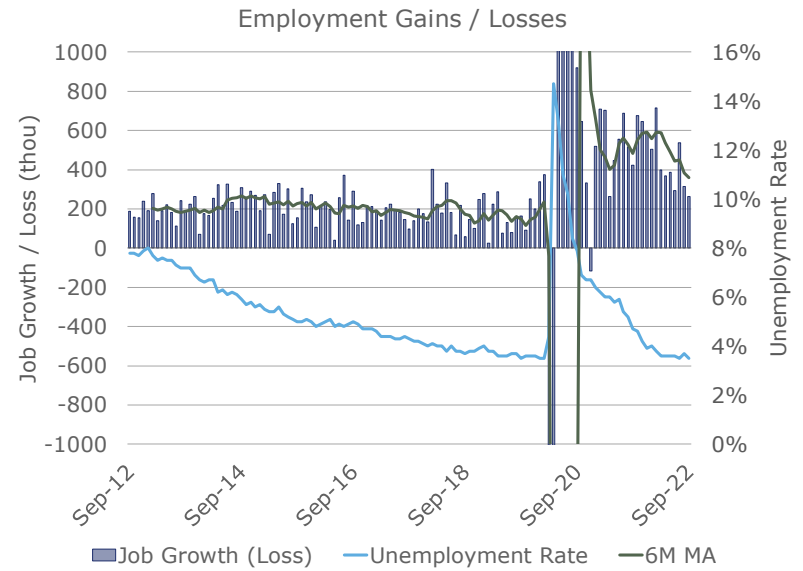
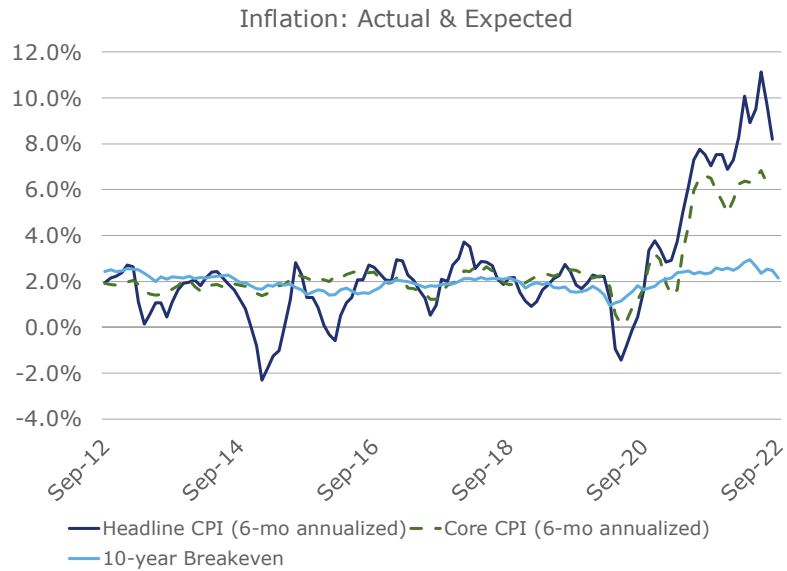
Data Sources: Bloomberg

Business Activity



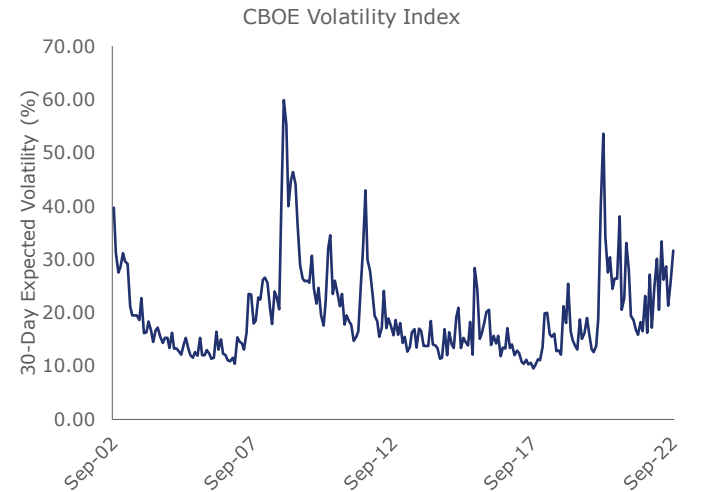
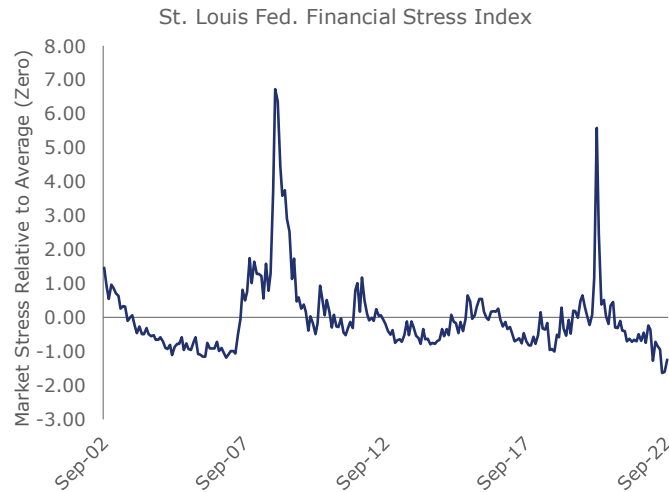
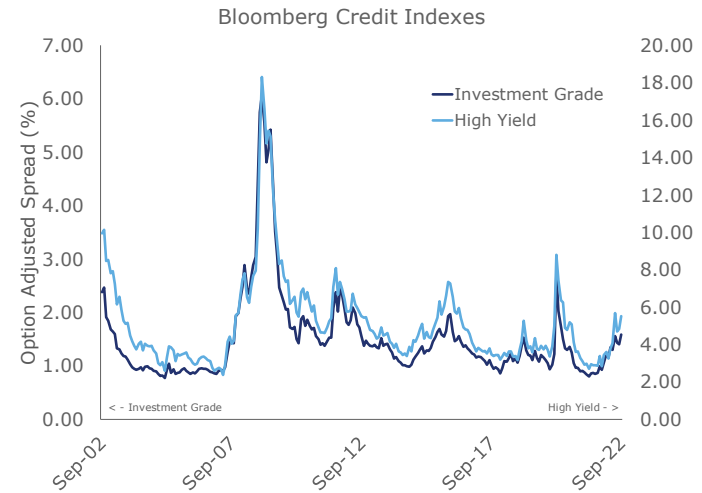
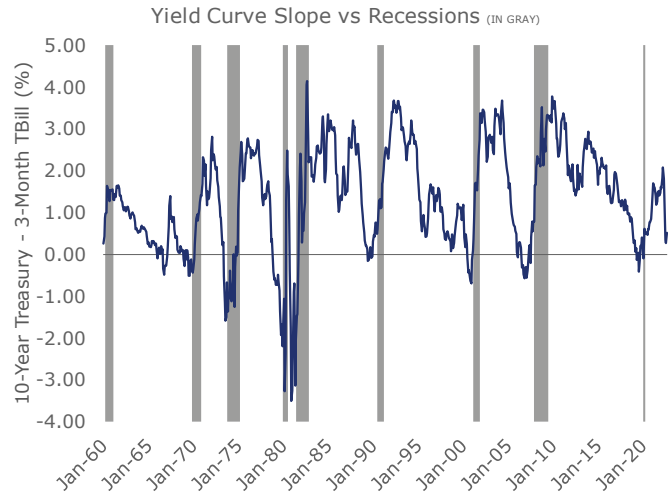
Data Sources: Bloomberg

Inflation and Employment



Data Sources: Bloomberg

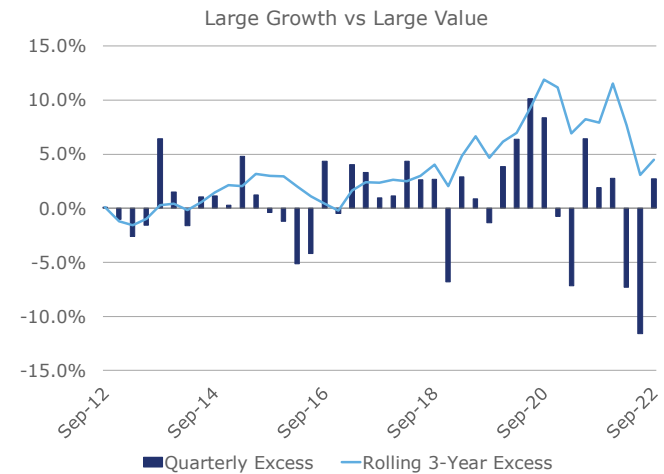
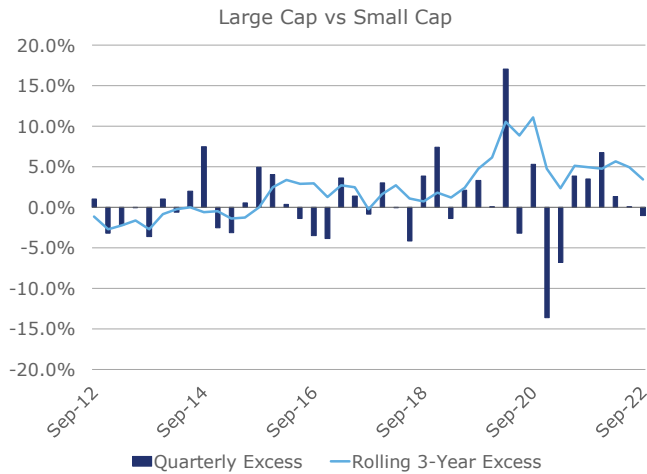
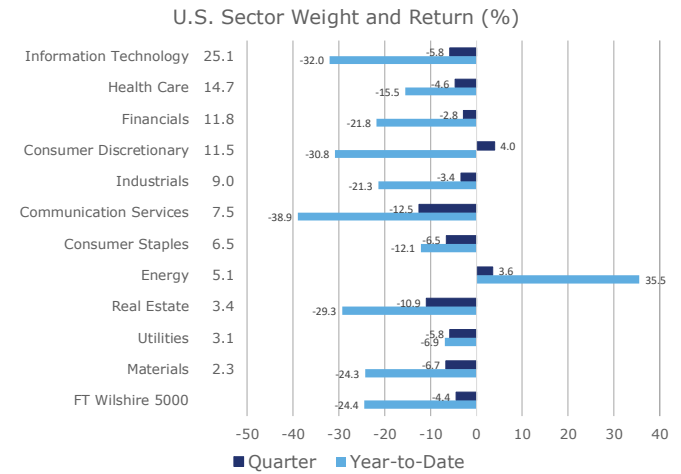
Risk Monitor



Data Sources: Bloomberg

U.S. Equity Market

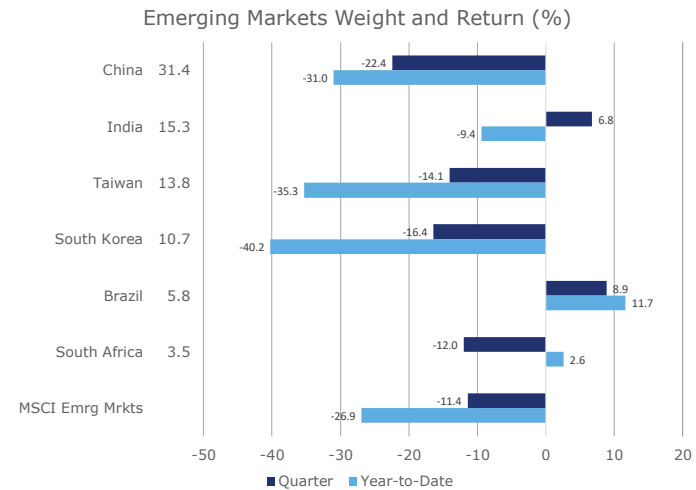
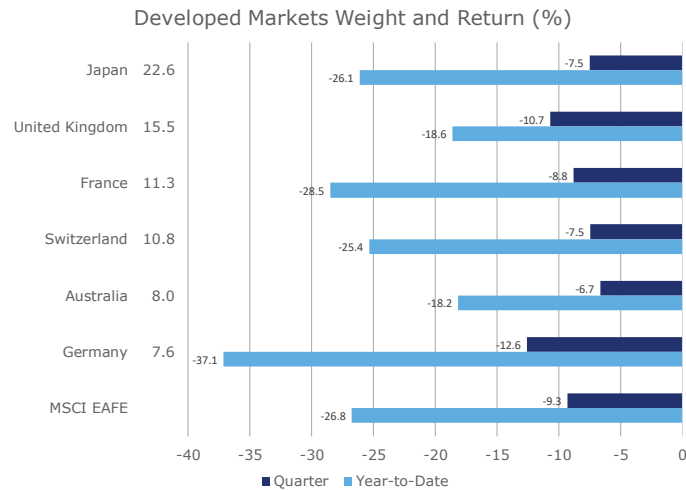
As of 9/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	-4.4	-24.4	-17.2	8.1	8.8	11.5
Wilshire U.S. Large Cap	-4.5	-24.4	-16.6	8.4	9.3	11.8
Wilshire U.S. Small Cap	-3.5	-24.6	-22.1	4.8	4.2	9.2
Wilshire U.S. Large Growth	-3.3	-30.1	-22.0	10.7	11.4	13.4
Wilshire U.S. Large Value	-5.8	-16.9	-9.8	6.0	7.2	10.1
Wilshire U.S. Small Growth	-2.0	-28.2	-26.9	4.1	4.5	9.3
Wilshire U.S. Small Value	-4.9	-21.1	-17.3	5.4	3.8	8.9
Wilshire REIT Index	-10.2	-29.7	-17.6	-2.2	2.9	6.1
MSCI USA Min. Vol. Index	-5.4	-17.3	-8.7	2.9	7.7	10.7
FTSE RAFI U.S. 1000 Index	-5.7	-17.7	-10.3	8.2	7.9	11.1



Data Sources: Bloomberg, Wilshire Atlas

Non-U.S. Equity Market

As of 9/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	-9.8	-26.2	-24.8	-1.1	-0.3	3.5
MSCI EAFE (\$G)	-9.3	-26.8	-24.7	-1.4	-0.4	4.2
MSCI Emerging Markets (\$G)	-11.4	-26.9	-27.8	-1.7	-1.4	1.4
MSCI Frontier Markets (\$G)	-8.6	-24.8	-23.3	-6.4	-4.6	-0.1
MSCI ACWI ex-US Growth (\$G)	-9.3	-31.6	-30.0	-1.1	0.5	4.3
MSCI ACWI ex-US Value (\$G)	-10.1	-21.1	-20.1	-1.3	-1.4	2.8
MSCI ACWI ex-US Small (\$G)	-8.2	-29.1	-28.6	0.8	-0.2	4.8
MSCI ACWI Minimum Volatility	-5.9	-16.9	-11.6	0.4	4.5	7.4
MSCI EAFE Minimum Volatility	-9.3	-24.1	-22.2	-5.0	-1.1	3.9
FTSE RAFI Developed ex-US	-10.1	-23.1	-21.1	-0.4	-0.8	3.9
MSCI EAFE LC (G)	-3.5	-14.1	-10.7	3.0	3.3	7.9
MSCI Emerging Markets LC (G)	-8.0	-20.5	-21.1	1.4	1.5	4.8

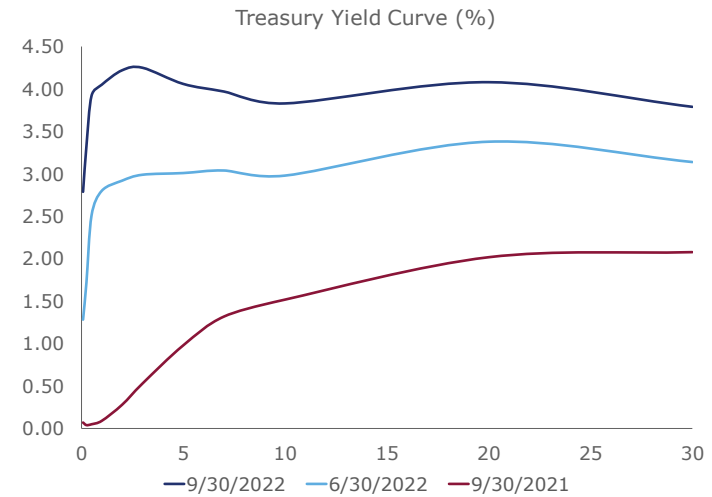
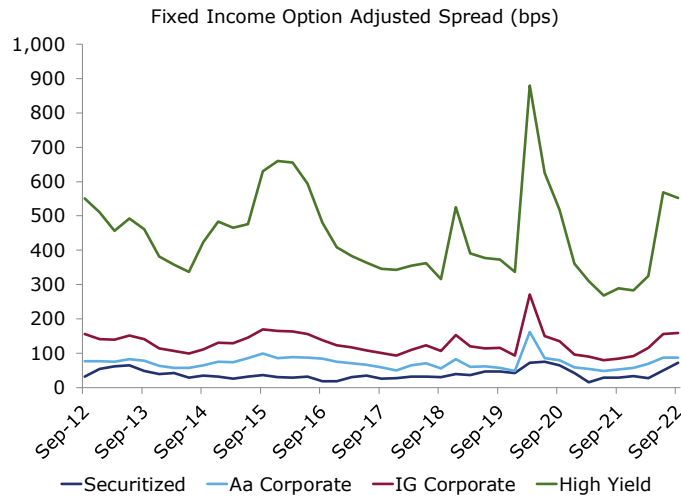


Data Sources: Bloomberg

U.S. Fixed Income

As of 9/30/2022	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	4.8	6.2	-4.8	-14.6	-14.6	-3.3	-0.3	0.9
Bloomberg Treasury	4.1	6.1	-4.3	-13.1	-12.9	-3.1	-0.2	0.5
Bloomberg Gov't-Rel.	4.7	5.1	-3.9	-12.7	-12.7	-2.9	0.0	1.0
Bloomberg Securitized	4.9	5.8	-5.2	-13.4	-13.8	-3.5	-0.8	0.6
Bloomberg Corporate	5.7	7.1	-5.1	-18.7	-18.5	-3.7	0.0	1.7
Bloomberg LT Gov't/Credit	5.0	14.3	-9.0	-28.9	-27.4	-7.3	-1.2	1.4
Bloomberg LT Treasury	4.0	16.3	-9.6	-28.8	-26.6	-8.5	-1.6	0.6
Bloomberg LT Gov't-Rel.	5.7	11.6	-7.9	-25.8	-24.4	-7.2	-1.3	1.4
Bloomberg LT Corporate	5.9	12.8	-8.7	-29.4	-28.4	-7.0	-1.1	1.8
Bloomberg U.S. TIPS *	3.8	7.8	-5.1	-13.6	-11.6	0.8	2.0	1.0
Bloomberg High Yield	9.7	4.1	-0.6	-14.7	-14.1	-0.5	1.6	3.9
S&P/LSTA Leveraged Loan	8.0	0.3	1.4	-3.3	-2.5	2.2	3.0	3.5
Treasury Bills	3.2	0.3	0.4	0.4	0.4	0.6	1.1	0.7

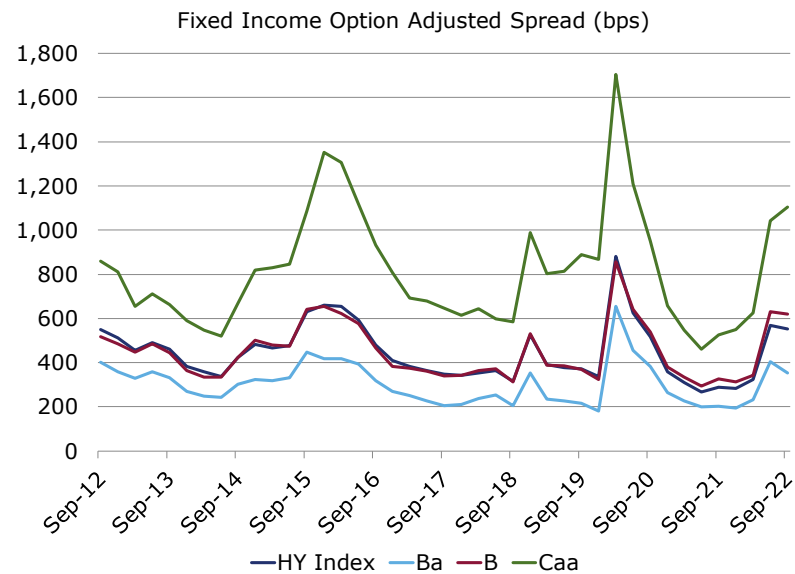
* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index



Data Sources: Bloomberg

High Yield Bond Market

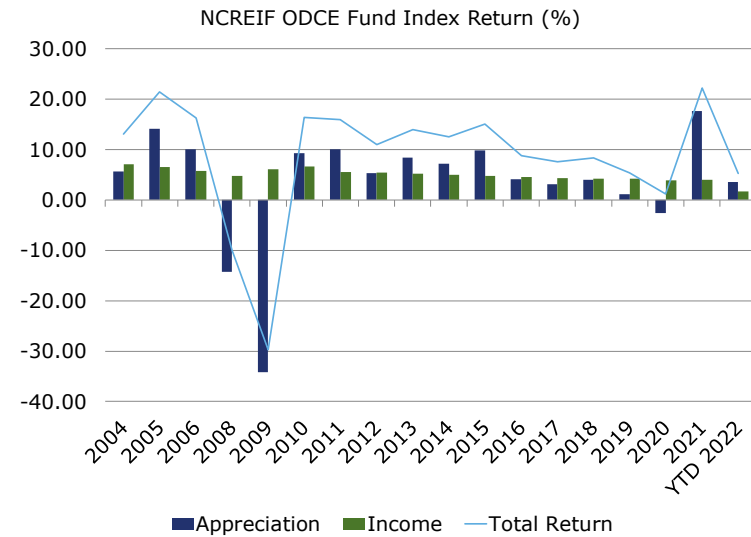
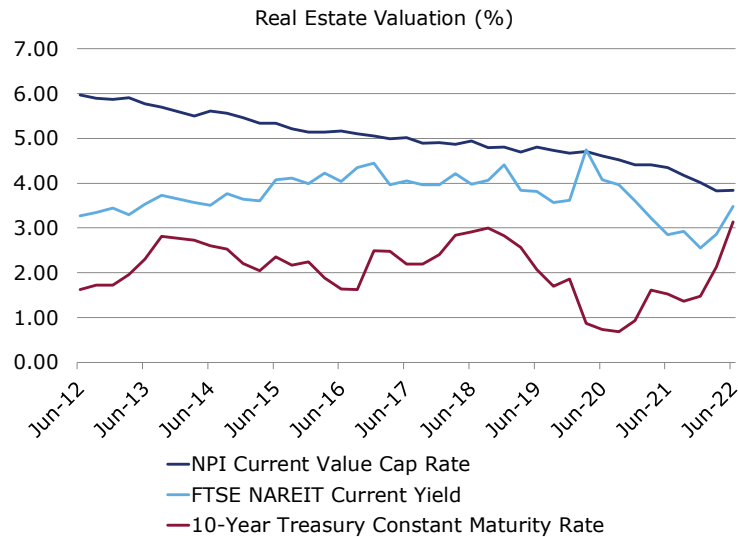
As of 9/30/2022		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		9.7	-0.6	-14.7	-14.1	-0.5	1.6	3.9
S&P LSTA Leveraged Loan		8.0	1.3	-4.3	-3.9	1.4	2.5	3.0
High Yield Quality Distribution	Weight							
Ba U.S. High Yield	51.6%	7.8	-0.7	-14.5	-13.8	0.3	2.2	4.2
B U.S. High Yield	36.7%	10.2	-0.7	-14.5	-13.8	-1.3	1.3	3.5
Caa U.S. High Yield	10.9%	15.2	-0.4	-16.7	-16.3	-1.4	-0.3	3.7
Ca to D U.S. High Yield	0.7%	34.0	-3.0	-21.3	-31.5	-5.6	-2.0	-5.6



Data Sources: Bloomberg

Real Assets

As of 9/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	-5.1	-13.6	-11.6	0.8	2.0	1.0
Bloomberg Commodity Index	-4.1	13.6	11.8	13.5	7.0	-2.1
Bloomberg Gold Index	-7.9	-9.3	-5.7	2.8	4.2	-1.5
Wilshire Global RESI Index	-11.2	-29.4	-20.1	-4.3	1.0	4.6
NCREIF ODCE Fund Index	0.5	13.1	22.1	12.4	10.2	10.9
NCREIF Timberland Index	2.4	7.6	12.5	5.8	4.7	5.9
FTSE Global Core Infrastructure 50/50	-8.9	-12.3	-5.5	0.6	4.1	7.3
Alerian Midstream Energy	-1.0	12.1	11.7	6.7	5.0	n.a.
Bitcoin	3.7	-58.1	-55.3	33.1	36.0	108.7



Data Sources: Bloomberg, National Council of Real Estate Investment Fiduciaries

Asset Class Performance

Asset Class Returns - Best to Worst						Annualized 5-Year as of 9/22
2017	2018	2019	2020	2021	2022 YTD	
Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 13.6%	U.S. Equity 8.8%
Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	T-Bills 0.4%	Commodities 7.0%
U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	U.S. TIPS -13.6%	REITs 2.9%
High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	Core Bond -14.6%	U.S. TIPS 2.0%
REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	High Yield -14.7%	High Yield 1.6%
Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	U.S. Equity -24.4%	T-Bills 1.1%
U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	Developed -26.8%	Core Bond -0.3%
Commodities 1.7%	Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Emrg Mrkts -26.9%	Developed -0.4%
T-Bills 0.8%	Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	REITs -29.7%	Emrg Mrkts -1.4%

Data Sources: Bloomberg

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

September
2022

KPPA MONTHLY PERFORMANCE UPDATE

CERS/CERS-H

What's going on in the marketplace?

The quarter was defined by elevated volatility. Markets rallied to start the quarter in response to the Fed potentially slowing the pace of rate hikes as the expectation of falling inflation began to take hold. However, markets turned sharply negative in response to August inflation data that painted a very different picture. While some segments of the CPI revealed slowing inflation, like energy and materials, other areas, such as services, shelter, and food prices remained stubbornly elevated. This spurred hawkish comments from the Fed, who announced additional interest rate hikes while using the phrasing of “higher for longer” sending markets lower.

Rising rates in the U.S. are creating pressure on currency markets and ultimately on other economies around the world, many of whom are already weaker due to their own inflationary pressures. Foreign central banks are responding by raising rates to defend their currencies and attempt to curb elevated inflation in their home markets. These actions have led to greater concerns regarding economic growth.

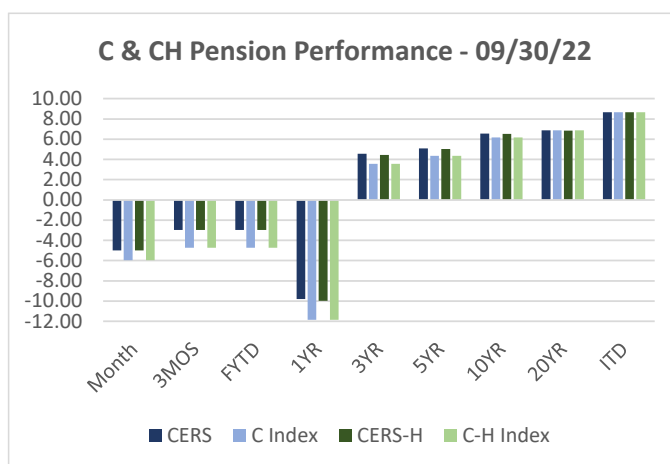
The current environment of rising costs, erosion of savings, and tight labor markets point to a continued growth slowdown. Further rate hikes to combat inflation raise concerns about the inevitability of a recession. So far during 2022, there have been few places to hide. High quality, valuation, and traditionally defensive segments of the market have held up best. Growth segments such as communications, technology, consumer discretionary, and rate-sensitive real estate have been the most difficult portions of the market.

Looking forward, the market is likely to remain range bound as competing narratives emerge from one day to the next. Supply chain disruptions and moderating inflation versus inflation remaining elevated, the chance of a Fed pause versus continued tightening, low unemployment versus odds of a recession, etc. These are just a few of the issues likely to produce continued volatility. Ultimately, market direction is dependent on inflation and the Fed's reaction to it.

The KPPA Pension Trust portfolio fell -4.68% during the month of September, providing 92bps of downside protection versus a blended benchmark. The CERS and CERS-H portfolios returned -4.98% and -5.00%, respectively, while their benchmark returned -5.97%. The portfolios outperformed their respective benchmarks with similar drivers of attribution. Relative outperformance was a product of solid performance within the Specialty Credit, Core Fixed Income, and Public Equity asset classes. The portfolios also benefitted from an underweight to public equities during a volatile period.

For the quarter, the KPPA Pension Trust portfolio fell -2.77%, outperforming a blended benchmark return of -4.41%. Relative outperformance was driven by solid performance in the Core Fixed Income and Public Equities portfolios. The portfolios also benefitted from overweights to Specialty Credit, and to cash during a weak quarter.

Global equity markets experienced a significant sell-off during the month of September, as evidenced by the MSCI ACWI Index returning -9.57%. Domestic markets held up better than their Non-US market counterpart (R3000: -9.27% versus MSCI ACWI Ex-US: -10.14%). This brought the quarterly return for global markets to



-6.82%, driven by weakness in the international markets, which have fallen -9.69%. US markets have now fallen -4.24% during the first quarter of the fiscal year.

US equity markets fell -9.27% during the month (Russell 3000), while the KPPA portfolio fared slightly better, returning -9.22%. All market segments were significantly weaker; with value continuing to hold up better than growth (R3000V: -8.86% versus R3000G: -9.68%).

For the quarter, US markets were down -4.46%, while the KPPA portfolio provided 22 bps of downside protection. During the quarter, small and midcaps held up much better than their large cap counterparts (R2000: -2.19% versus MC: -2.46% versus SP500: -4.88%). For the quarter, growth outperformed value (-3.37% versus -5.56%) driven by strong performance in July, prior to a sharp reversal in August spurred by inflation data. The KPPA portfolio's relative outperformance has been driven by its slight overweight down market cap, and positively skewing relative performance at the individual strategy level.

NonUS equity markets returned -10.14% (MSCI ACWI Ex-US) during the month. Developed markets returned -9.22% (MSCI World Ex-US) during the period while emerging markets fell -11.72% (MSCI EM). The KPPA portfolio lost -9.49% during the month, outperforming its benchmark by 65bps. Relative outperformance was driven by stock selection, as most individual mandates outperformed their respective benchmarks.

For the quarter, NonUS markets fell -9.69%. Developed markets held up better than their emerging market counterparts, which were significantly weaker, returning -11.57%. A significant portion (approaching half) of the negative performance can be attributed to the currency market, as the basket of global currencies have weakened dramatically versus the US dollar and hampered local performance.

The specialty credit portfolio outperformed its benchmark during the month, returning -0.59% versus -3.12%. The High Yield market declined (-3.97%) as spreads widened and rates rose in response to a continued risk-off sentiment. The leveraged loan segment of the market held up marginally better as the Morningstar LSTA Leveraged Loan Index fell -2.27% during the month. For the quarter, the portfolio significantly outperformed its benchmark, falling -0.45% versus -8.41%. Notably, the High Yield market has been significantly weaker, as that index fell -14.14%. The portfolio's strong relative outperformance was driven by across the board strength among individual mandates.

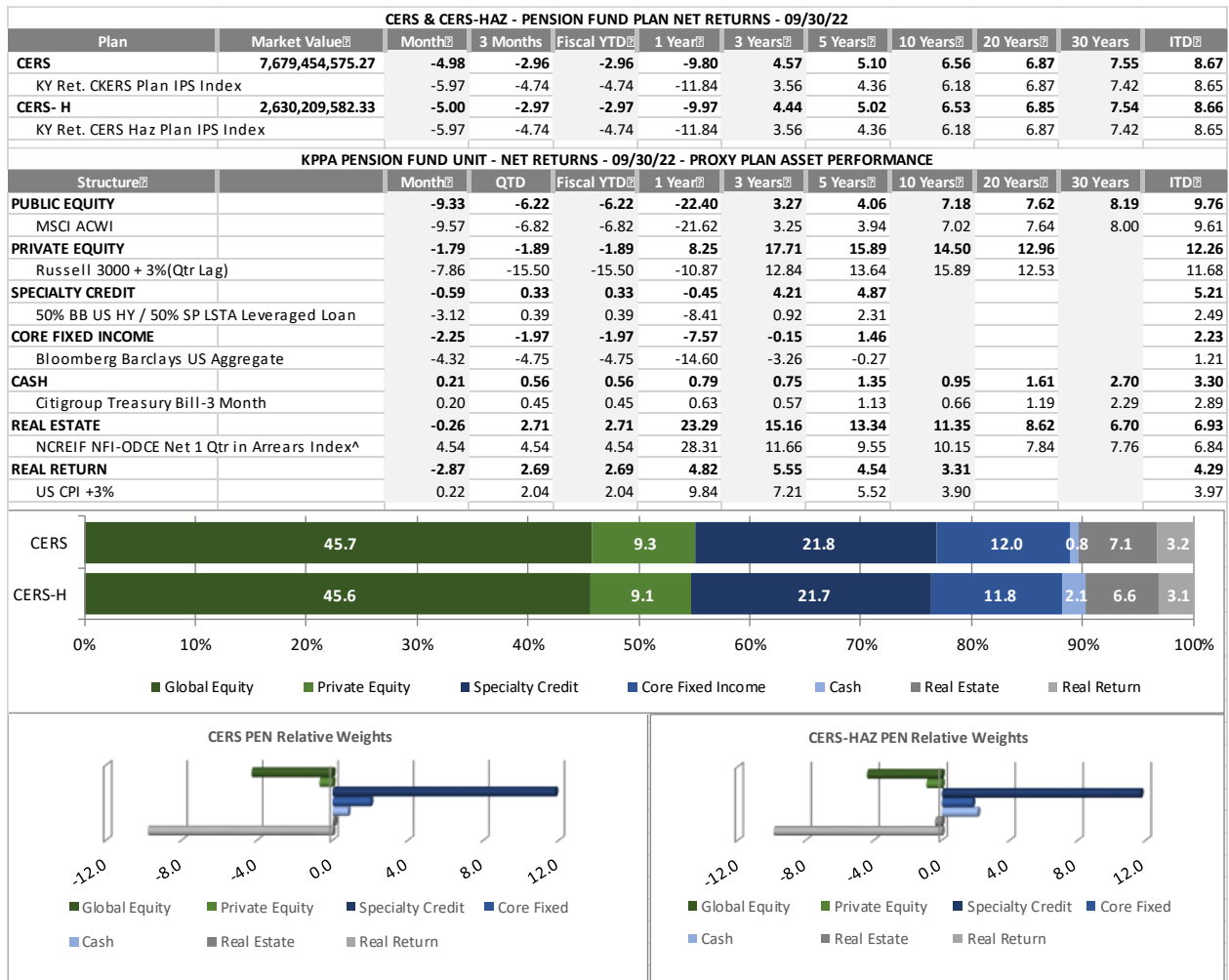
The core fixed income portfolio lost -2.25% compared to the Bloomberg Aggregate Index return of -4.32%. Relative outperformance was attributable to positioning within the allocation; the portfolios remain underweight overall duration given the outlook for rising rates and elevated volatility. Both shorter-term and intermediate credit market segments held up better. For the quarter, the portfolio returned -1.97% compared to the benchmark return of -4.75%. The month of September heavily influenced the quarter, which experienced a similar phenomenon where the shorter end of the curve performed better.

The private equity allocation fell -1.79% during the month, bringing the quarter return to -1.89%. Trailing public marks have begun to affect the overall performance of the portfolio. The 1-year return is still positive at 8.25%; however, that is down from just shy of 21% last month.

The real return portfolio fell -2.87% during the month, compared to its benchmark return of 0.22%. As with the past few months, performance was driven by the MLP portion of the portfolio; however, this month it was to the downside, as this portion of the portfolio was down -7.68%. For the quarter, the portfolio has returned 2.69%, bringing the 1-year return to 4.82%.

Real estate remained relatively flat during the month, falling 26bps. The latest quarter performance of 2.71% was lower than that of a year ago, thus the 1-year return fell to 23.29% versus in excess of 27% prior month. The portfolio has benefitted from recent strength in industrial, multi-family, student housing, and storage properties.

The cash portfolio performed in-line with its benchmark, with the 3-month T-bill returning 0.21% for the month. This brought the quarterly return to 0.56%, and the 1-year return to 0.79% (versus 0.63%).



CERS Investment Committee Meeting - Investment Office Quarterly Update

CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 09/30/22											
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS INS	2,911,940,125.11	-4.98	-3.04	-3.04	-9.56	4.31	5.01	6.43	6.80	6.64	7.14
KY Ins. CERS Plan IPS Index		-5.97	-4.74	-4.74	-11.81	3.25	4.17	6.13	7.06	6.82	7.30
CERS - H INS	1,455,568,442.84	-4.92	-3.03	-3.03	-9.27	4.49	5.15	6.52	6.85	6.67	7.17
KY Ins. CERS Haz Plan IPS Index		-5.97	-4.74	-4.74	-11.81	3.25	4.17	6.13	7.06	6.82	7.30

KPPA INSURANCE FUND UNIT - NET RETURNS - 09/30/22 - PROXY PLAN ASSET PERFORMANCE											
Structure		Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		-9.34	-6.24	-6.24	-22.31	3.30	4.04	7.22	7.55		7.98
MSCI ACWI		-9.57	-6.82	-6.82	-21.64	3.22	3.90	6.97	7.29		7.78
PRIVATE EQUITY		0.20	-0.10	-0.10	15.26	16.67	15.58	15.36	12.50		11.28
Russell 3000 + 3%(Qtr Lag)		-7.86	-15.50	-15.50	-10.87	12.84	13.64	15.89	12.24		11.22
SPECIALTY CREDIT		-0.74	0.23	0.23	-0.17	4.08	4.70				5.00
50% BB US HY / 50% SP LSTA Leveraged Loan		-3.12	0.39	0.39	-8.41	0.92	2.31				2.49
CORE FIXED INCOME		-2.33	-2.10	-2.10	-7.85	-0.40	1.28				1.92
Bloomberg Barclays US Aggregate		-4.32	-4.75	-4.75	-14.60	-3.26	-0.27				1.21
CASH		0.21	0.55	0.55	0.77	0.58	1.19	0.80	1.44		2.42
Citigroup Treasury Bill-3 Month		0.20	0.45	0.45	0.63	0.57	1.13	0.66	1.19		2.30
REAL ESTATE		-0.30	2.60	2.60	22.80	15.00	13.29	11.17			10.63
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		4.54	4.54	4.54	28.31	11.66	9.55	10.15			7.21
REAL RETURN		-2.29	2.20	2.20	4.11	5.71	4.61	3.17			4.14
US CPI +3%		0.22	2.04	2.04	8.77	7.27	5.53	3.96			4.02

Plan	Global Equity	Private Equity	Specialty Credit	Core Fixed Income	Cash	Real Estate	Real Return
CERS INS	45.8	9.5	21.4	11.7	2.3	6.8	2.6
CERS-H INS	45.1	10.7	21.6	11.8	0.5	7.4	2.8

CERS Insurance Relative Weights

CERS-HAZ Insurance Relative Weights

County Employees Retirement Systems

Performance and Asset Allocations

Quarter Ending: September 30, 2022

September
2022

KPPA MONTHLY PERFORMANCE UPDATE

CERS/CERS-H

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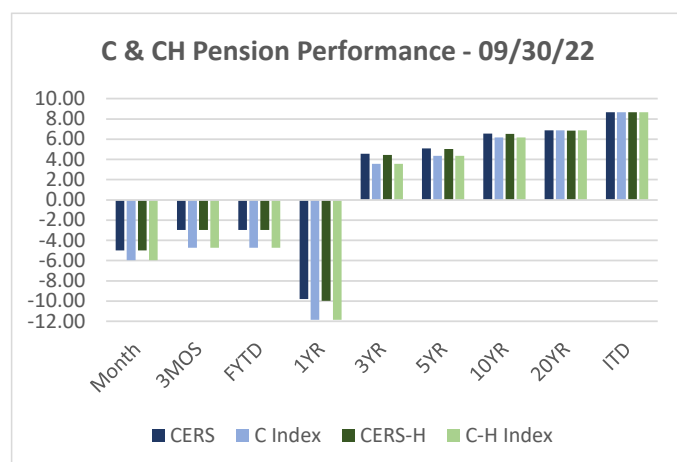
The current environment of rising costs, erosion of savings, and tight labor markets point to a continued growth slowdown. Further rate hikes to combat inflation raise concerns about the inevitability of a recession. So far during 2022, there have been few places to hide. High quality, valuation, and traditionally defensive segments of the market have held up best. Growth segments such as communications, technology, consumer discretionary, and rate-sensitive real estate have been the most difficult portions of the market.

Looking forward, the market is likely to remain range bound as competing narratives emerge from one day to the next. Supply chain disruptions and moderating inflation versus inflation remaining elevated, the chance of a Fed pause versus continued tightening, low unemployment versus odds of a recession, etc. These are just a few of the issues likely to produce continued volatility. Ultimately, market direction is dependent on inflation and the Fed's reaction to it.

The KPPA Pension Trust portfolio fell -4.68% during the month of September, providing 92bps of downside protection versus a blended benchmark. The CERS and CERS-H portfolios returned -4.98% and -5.00%, respectively, while their benchmark returned -5.97%. The portfolios outperformed their respective benchmarks with similar drivers of attribution. Relative outperformance was a product of solid performance within the Specialty Credit, Core Fixed Income, and Public Equity asset classes. The portfolios also benefitted from an underweight to public equities during a volatile period.

For the quarter, the KPPA Pension Trust portfolio fell -2.77%, outperforming a blended benchmark return of -4.41%. Relative outperformance was driven by solid performance in the Core Fixed Income and Public Equities portfolios. The portfolios also benefitted from overweights to Specialty Credit, and to cash during a weak quarter.

Global equity markets experienced a significant sell-off during the month of September, as evidenced by the MSCI ACWI Index returning -9.57%. Domestic markets held up better than their Non-US market counterpart (R3000: -9.27% versus MSCI ACWI Ex-US: -10.14%). This brought the quarterly return for global markets to



-6.82%, driven by weakness in the international markets, which have fallen -9.69%. US markets have now fallen -4.24% during the first quarter of the fiscal year.

US equity markets fell -9.27% during the month (Russell 3000), while the KPPA portfolio fared slightly better, returning -9.22%. All market segments were significantly weaker; with value continuing to hold up better than growth (R3000V: -8.86% versus R3000G: -9.68%).

For the quarter, US markets were down -4.46%, while the KPPA portfolio provided 22 bps of downside protection. During the quarter, small and midcaps held up much better than their large cap counterparts (R2000: -2.19% versus MC: -2.46% versus SP500: -4.88%). For the quarter, growth outperformed value (-3.37% versus -5.56%) driven by strong performance in July, prior to a sharp reversal in August spurred by inflation data. The KPPA portfolio's relative outperformance has been driven by its slight overweight down market cap, and positively skewing relative performance at the individual strategy level.

NonUS equity markets returned -10.14% (MSCI ACWI Ex-US) during the month. Developed markets returned -9.22% (MSCI World Ex-US) during the period while emerging markets fell -11.72% (MSCI EM). The KPPA portfolio lost -9.49% during the month, outperforming its benchmark by 65bps. Relative outperformance was driven by stock selection, as most individual mandates outperformed their respective benchmarks.

For the quarter, NonUS markets fell -9.69%. Developed markets held up better than their emerging market counterparts, which were significantly weaker, returning -11.57%. A significant portion (approaching half) of the negative performance can be attributed to the currency market, as the basket of global currencies have weakened dramatically versus the US dollar and hampered local performance.

The specialty credit portfolio outperformed its benchmark during the month, returning -0.59% versus -3.12%. The High Yield market declined (-3.97%) as spreads widened and rates rose in response to a continued risk-off sentiment. The leveraged loan segment of the market held up marginally better as the Morningstar LSTA Leveraged Loan Index fell -2.27% during the month. For the quarter, the portfolio significantly outperformed its benchmark, falling -0.45% versus -8.41%. Notably, the High Yield market has been significantly weaker, as that index fell -14.14%. The portfolio's strong relative outperformance was driven by across the board strength among individual mandates.

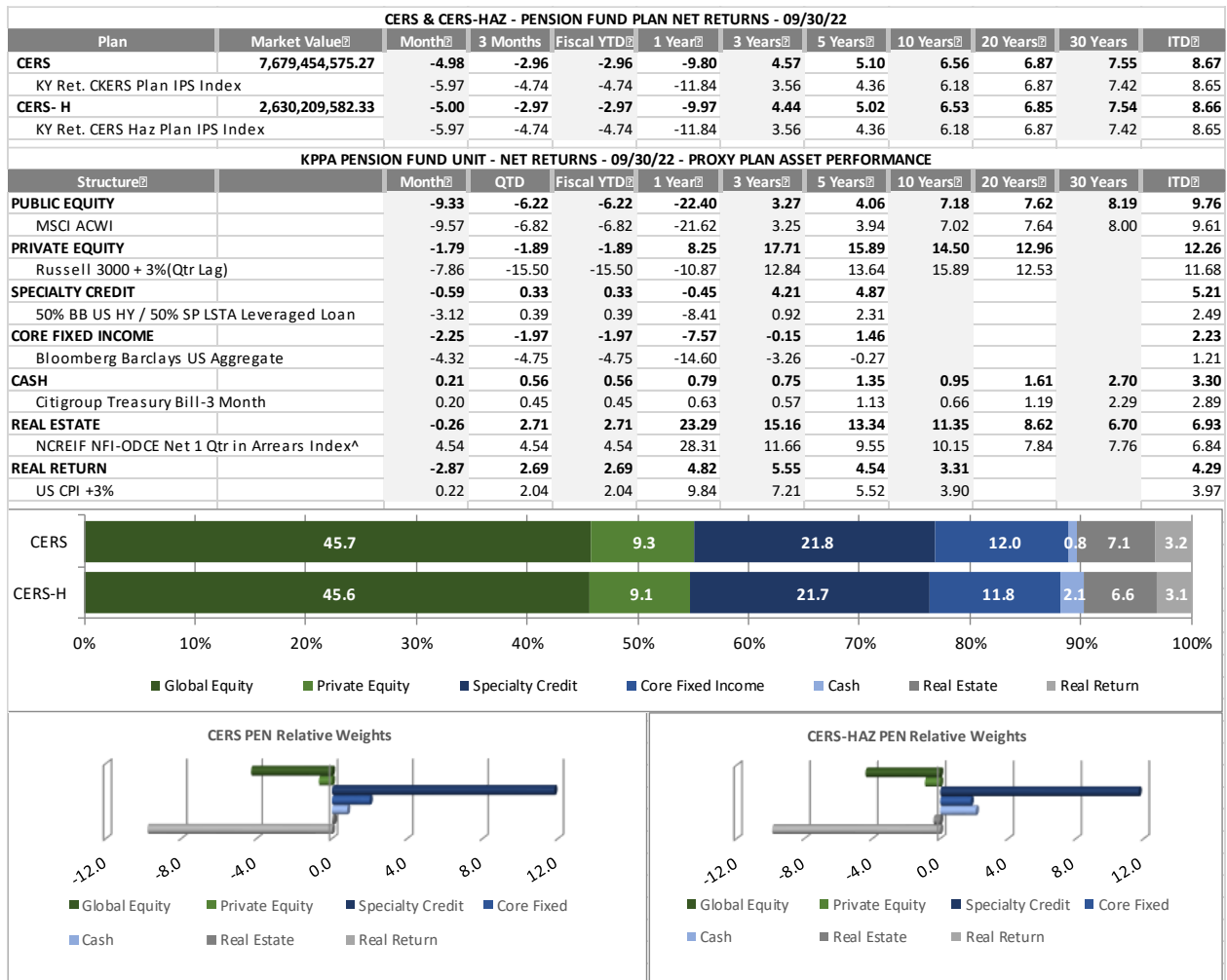
The core fixed income portfolio lost -2.25% compared to the Bloomberg Aggregate Index return of -4.32%. Relative outperformance was attributable to positioning within the allocation; the portfolios remain underweight overall duration given the outlook for rising rates and elevated volatility. Both shorter-term and intermediate credit market segments held up better. For the quarter, the portfolio returned -1.97% compared to the benchmark return of -4.75%. The month of September heavily influenced the quarter, which experienced a similar phenomenon where the shorter end of the curve performed better.

The private equity allocation fell -1.79% during the month, bringing the quarter return to -1.89%. Trailing public marks have begun to affect the overall performance of the portfolio. The 1-year return is still positive at 8.25%; however, that is down from just shy of 21% last month.

The real return portfolio fell -2.87% during the month, compared to its benchmark return of 0.22%. As with the past few months, performance was driven by the MLP portion of the portfolio; however, this month it was to the downside, as this portion of the portfolio was down -7.68%. For the quarter, the portfolio has returned 2.69%, bringing the 1-year return to 4.82%.

Real estate remained relatively flat during the month, falling 26bps. The latest quarter performance of 2.71% was lower than that of a year ago, thus the 1-year return fell to 23.29% versus in excess of 27% prior month. The portfolio has benefitted from recent strength in industrial, multi-family, student housing, and storage properties.

The cash portfolio performed in-line with its benchmark, with the 3-month T-bill returning 0.21% for the month. This brought the quarterly return to 0.56%, and the 1-year return to 0.79% (versus 0.63%).



CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 09/30/22											
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS INS	2,911,940,125.11	-4.98	-3.04	-3.04	-9.56	4.31	5.01	6.43	6.80	6.64	7.14
KY Ins. CERS Plan IPS Index		-5.97	-4.74	-4.74	-11.81	3.25	4.17	6.13	7.06	6.82	7.30
CERS - H INS	1,455,568,442.84	-4.92	-3.03	-3.03	-9.27	4.49	5.15	6.52	6.85	6.67	7.17
KY Ins. CERS Haz Plan IPS Index		-5.97	-4.74	-4.74	-11.81	3.25	4.17	6.13	7.06	6.82	7.30

KPPA INSURANCE FUND UNIT - NET RETURNS - 09/30/22 - PROXY PLAN ASSET PERFORMANCE											
Structure		Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		-9.34	-6.24	-6.24	-22.31	3.30	4.04	7.22	7.55		7.98
MSCI ACWI		-9.57	-6.82	-6.82	-21.64	3.22	3.90	6.97	7.29		7.78
PRIVATE EQUITY		0.20	-0.10	-0.10	15.26	16.67	15.58	15.36	12.50		11.28
Russell 3000 + 3%(Qtr Lag)		-7.86	-15.50	-15.50	-10.87	12.84	13.64	15.89	12.24		11.22
SPECIALTY CREDIT		-0.74	0.23	0.23	-0.17	4.08	4.70				5.00
50% BB US HY / 50% SP LSTA Leveraged Loan		-3.12	0.39	0.39	-8.41	0.92	2.31				2.49
CORE FIXED INCOME		-2.33	-2.10	-2.10	-7.85	-0.40	1.28				1.92
Bloomberg Barclays US Aggregate		-4.32	-4.75	-4.75	-14.60	-3.26	-0.27				1.21
CASH		0.21	0.55	0.55	0.77	0.58	1.19	0.80	1.44		2.42
Citigroup Treasury Bill-3 Month		0.20	0.45	0.45	0.63	0.57	1.13	0.66	1.19		2.30
REAL ESTATE		-0.30	2.60	2.60	22.80	15.00	13.29	11.17			10.63
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		4.54	4.54	4.54	28.31	11.66	9.55	10.15			7.21
REAL RETURN		-2.29	2.20	2.20	4.11	5.71	4.61	3.17			4.14
US CPI +3%		0.22	2.04	2.04	8.77	7.27	5.53	3.96			4.02

Plan	Global Equity	Private Equity	Specialty Credit	Core Fixed Income	Cash	Real Estate	Real Return
CERS INS	45.8	9.5	21.4	11.7	2.3	6.8	2.6
CERS-H INS	45.1	10.7	21.6	11.8	0.5	7.4	2.8

CERS Insurance Relative Weights

Legend: Global Equity, Private Equity, Specialty Credit, Core Fixed, Cash, Real Estate, Real Return

CERS-HAZ Insurance Relative Weights

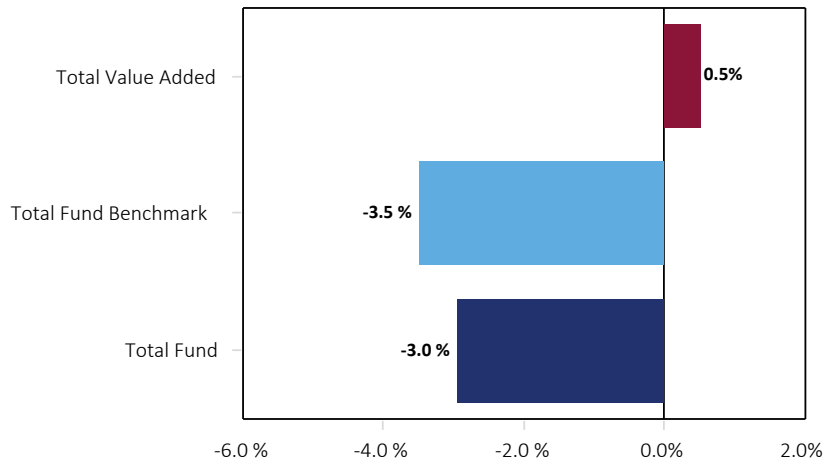
Legend: Global Equity, Private Equity, Specialty Credit, Core Fixed, Cash, Real Estate, Real Return

Total Fund Attribution

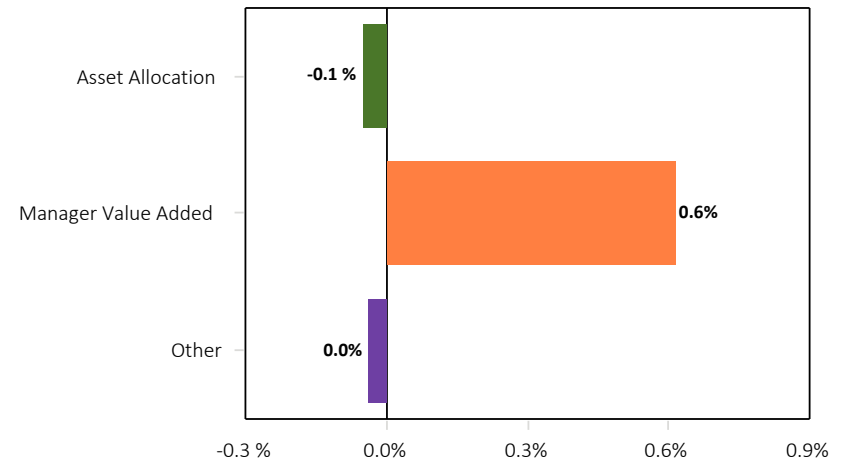
CERS Pension Plan

Periods Ended 1 Quarter Ending September 30, 2022

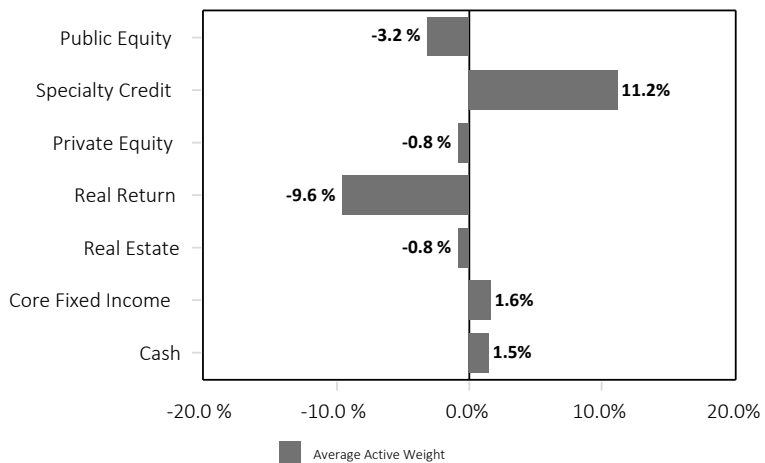
Total Fund Performance



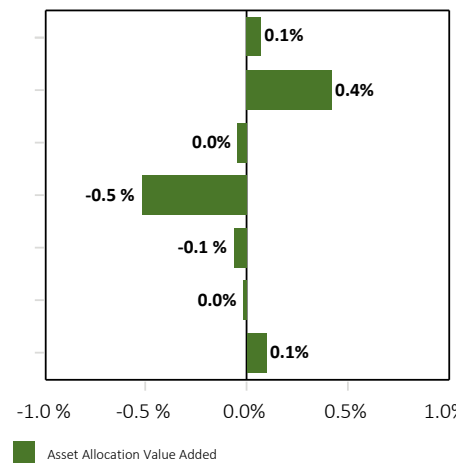
Total Value Added:0.5%



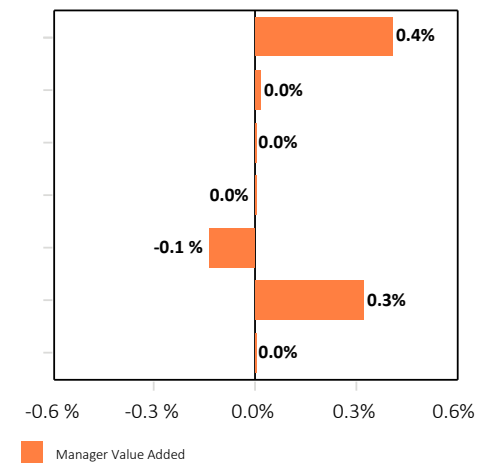
Total Asset Allocation:-0.1 %



Asset Allocation Value Added:-0.1 %



Total Manager Value Added:0.6%

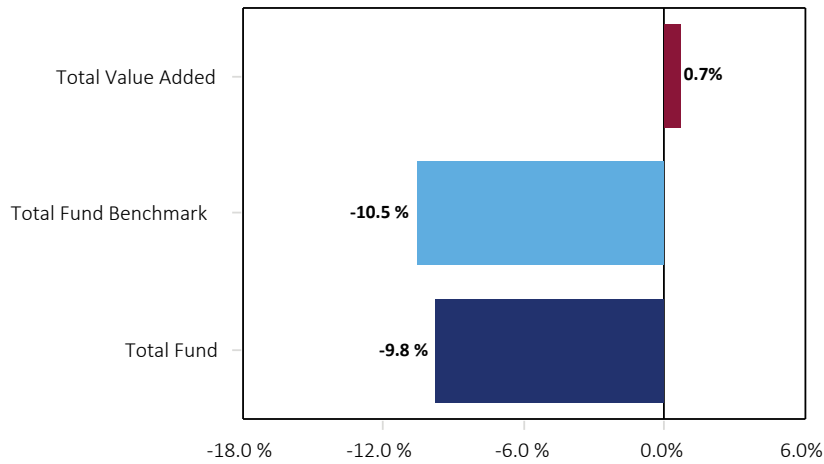


Total Fund Attribution

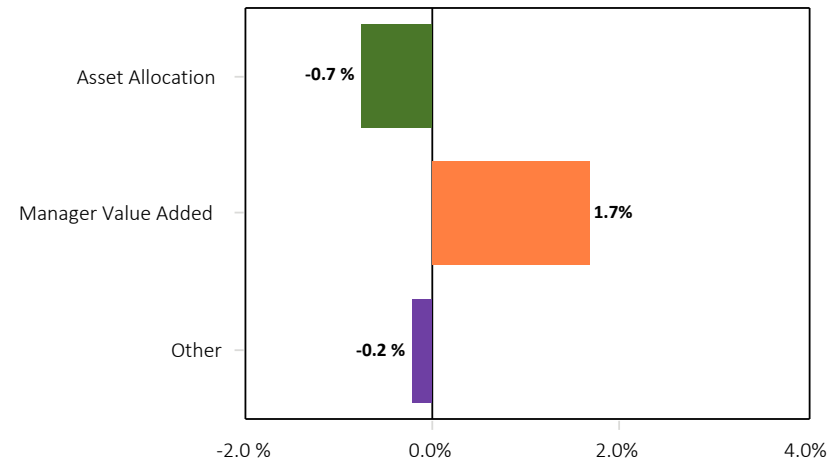
CERS Pension Plan

Periods Ended 1 Year Ending September 30, 2022

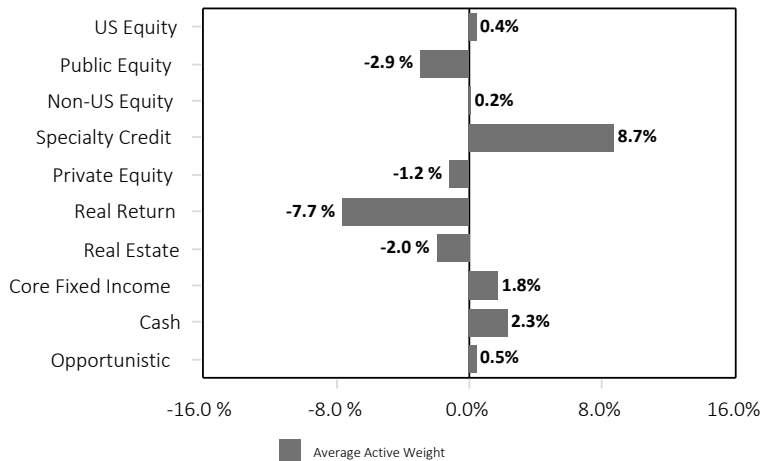
Total Fund Performance



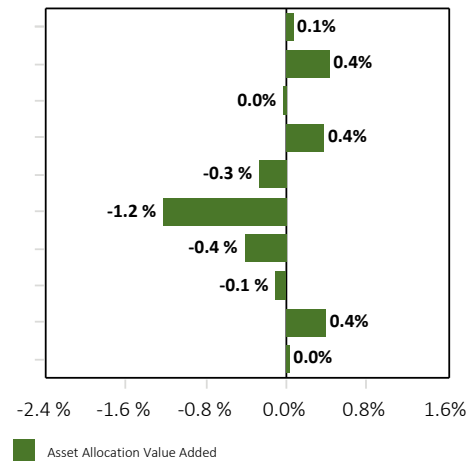
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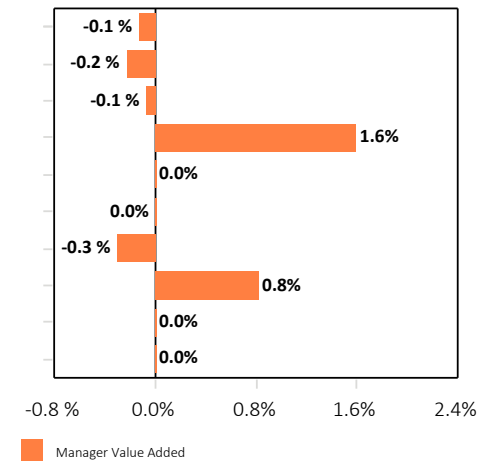
Total Asset Allocation:-0.7%



Asset Allocation Value Added:-0.7%



Total Manager Value Added:1.7%

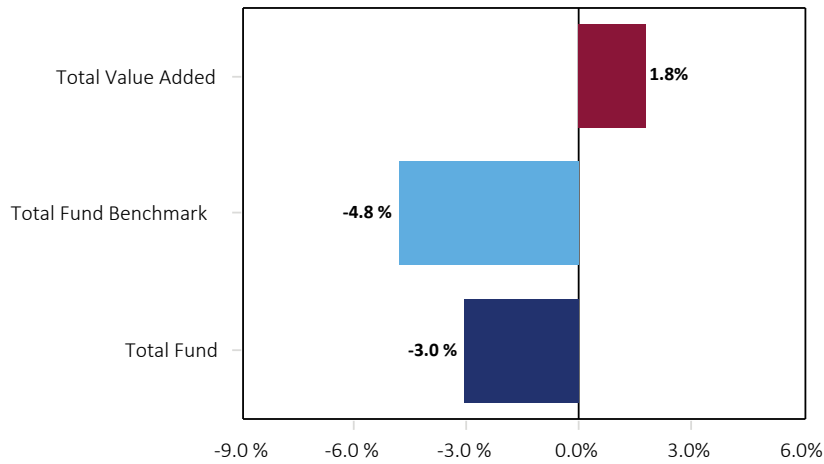


Total Fund Attribution

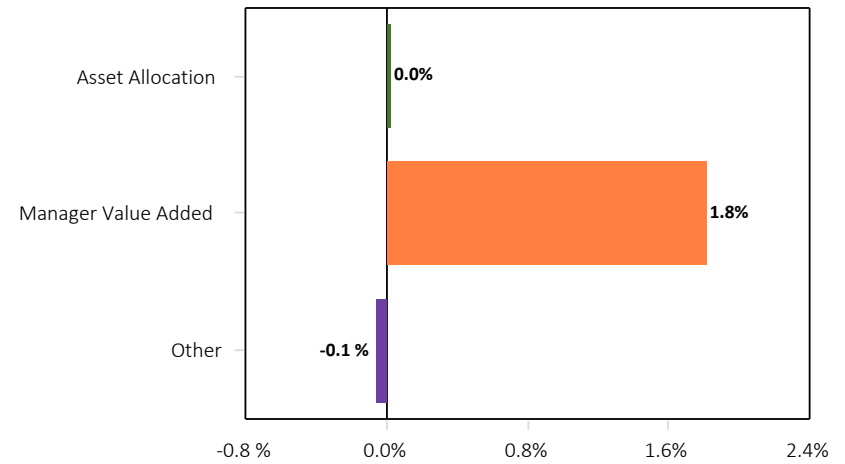
CERS Insurance Plan

Periods Ended 1 Quarter Ending September 30, 2022

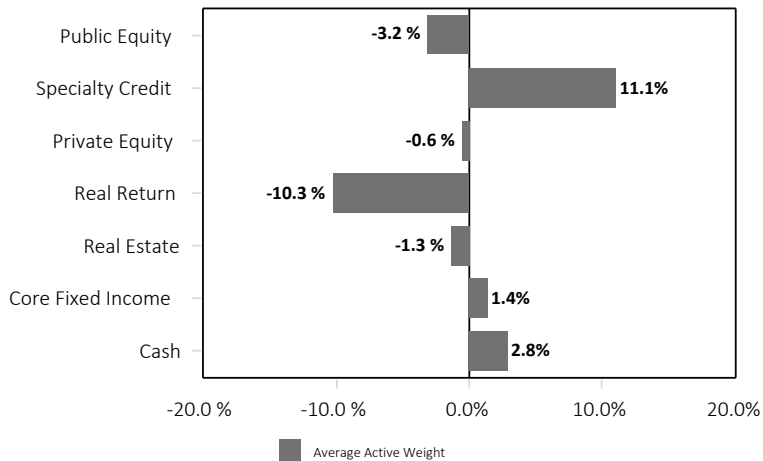
Total Fund Performance



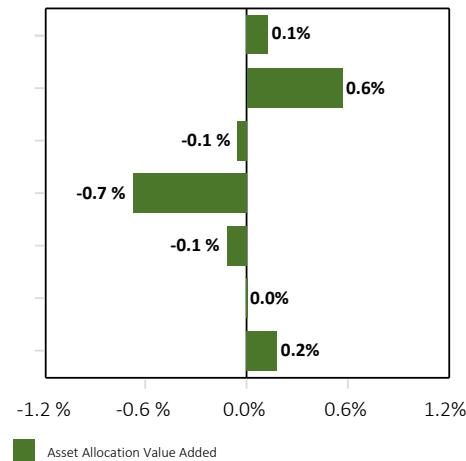
Total Value Added:1.8%



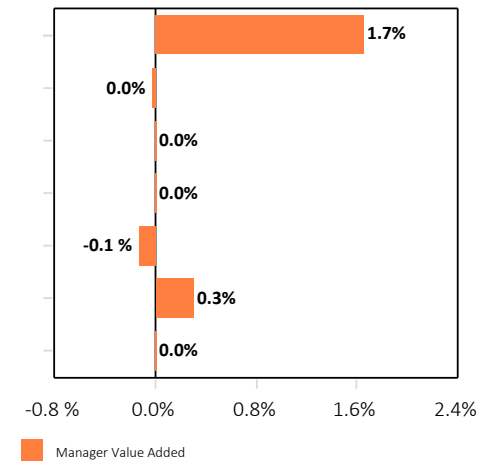
Total Asset Allocation:0.0%



Asset Allocation Value Added:0.0%



Total Manager Value Added:1.8%

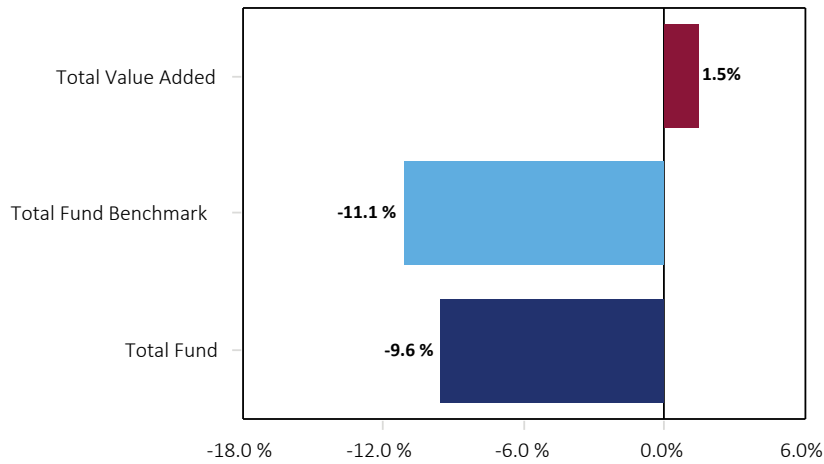


Total Fund Attribution

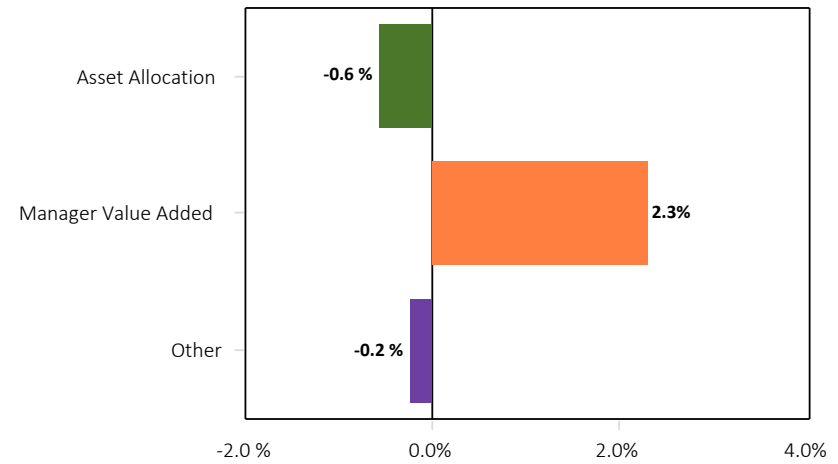
CERS Insurance Plan

Periods Ended 1 Year Ending September 30, 2022

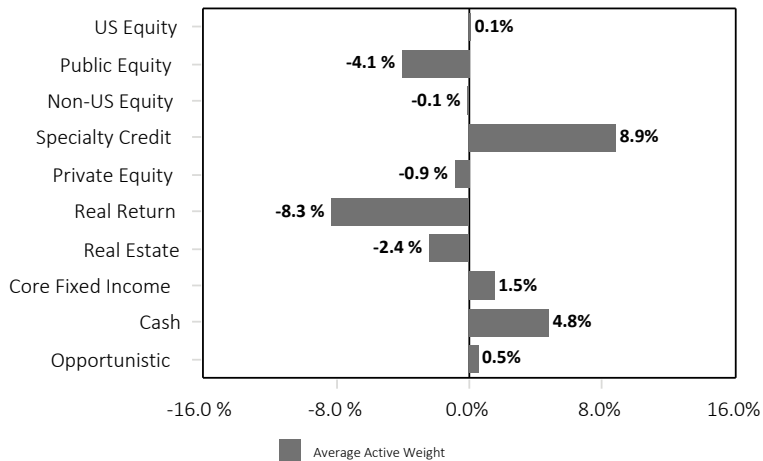
Total Fund Performance



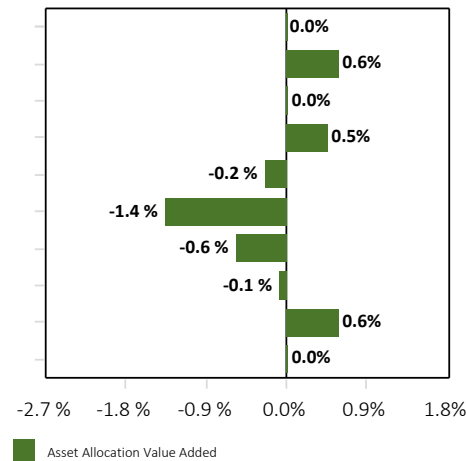
Total Value Added: 1.5%



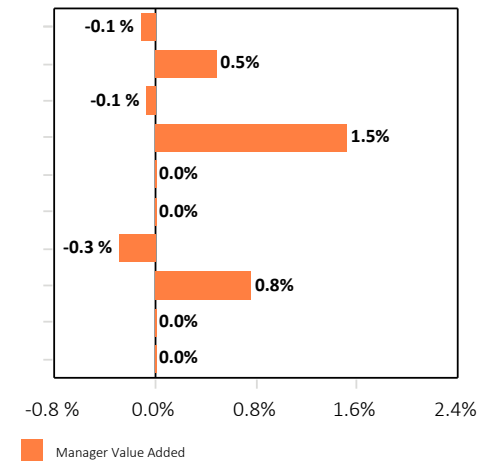
Total Asset Allocation: -0.6%



Asset Allocation Value Added: -0.6%



Total Manager Value Added: 2.3%

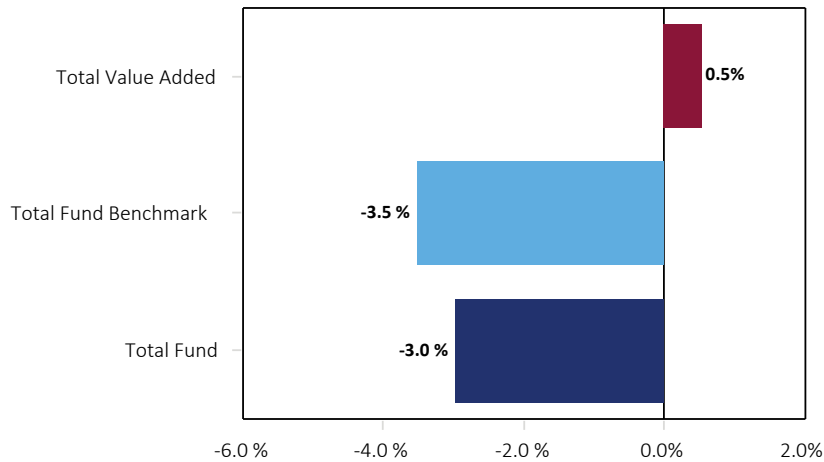


Total Fund Attribution

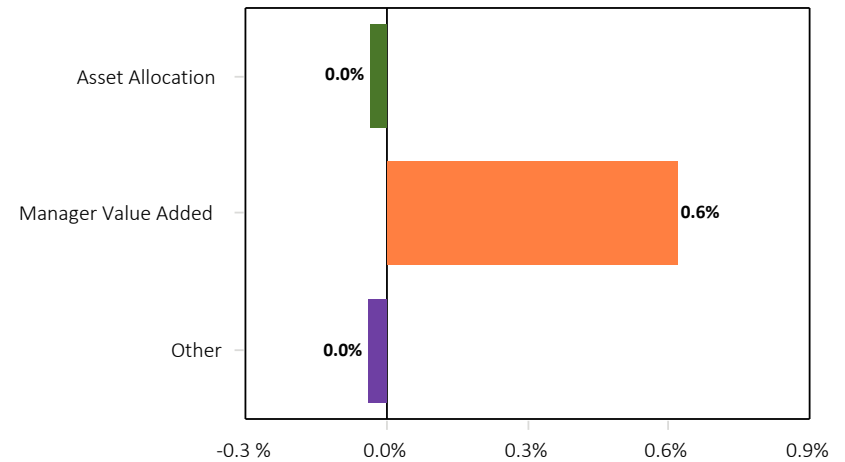
CERS (H) Pension Plan

Periods Ended 1 Quarter Ending September 30, 2022

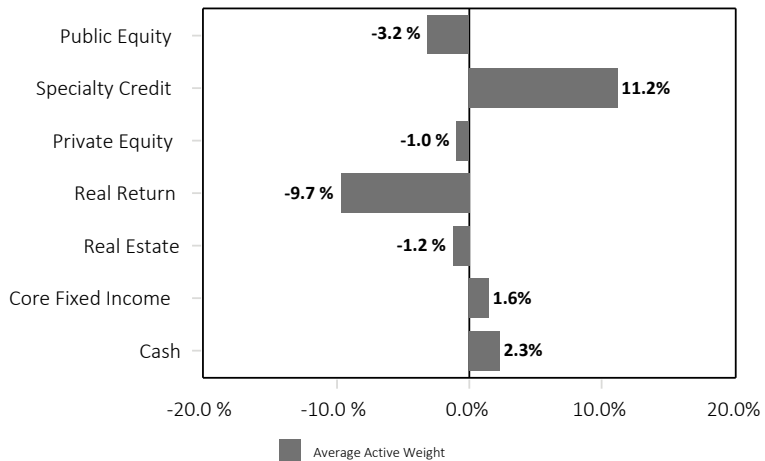
Total Fund Performance



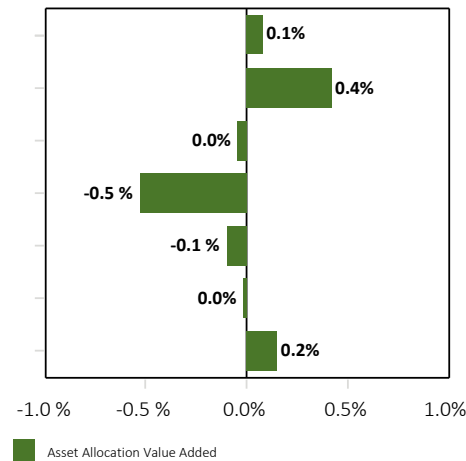
Total Value Added:0.5%



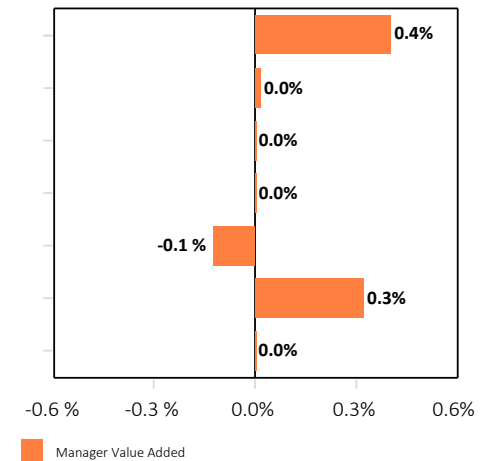
Total Asset Allocation:0.0%



Asset Allocation Value Added:0.0%



Total Manager Value Added:0.6%

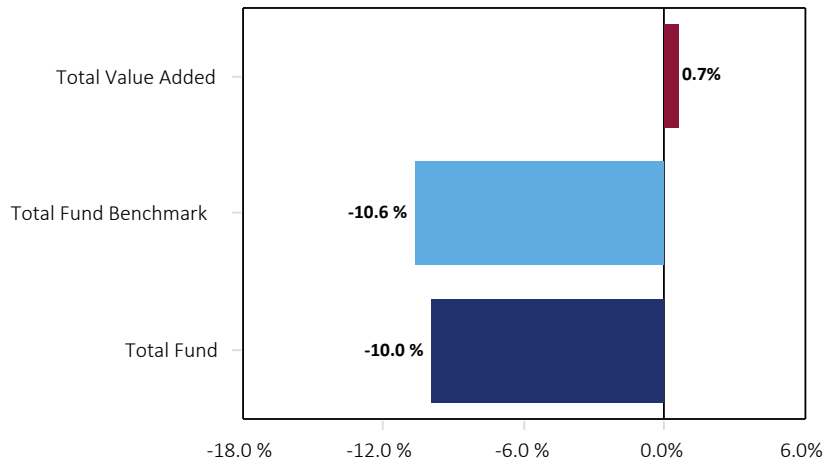


Total Fund Attribution

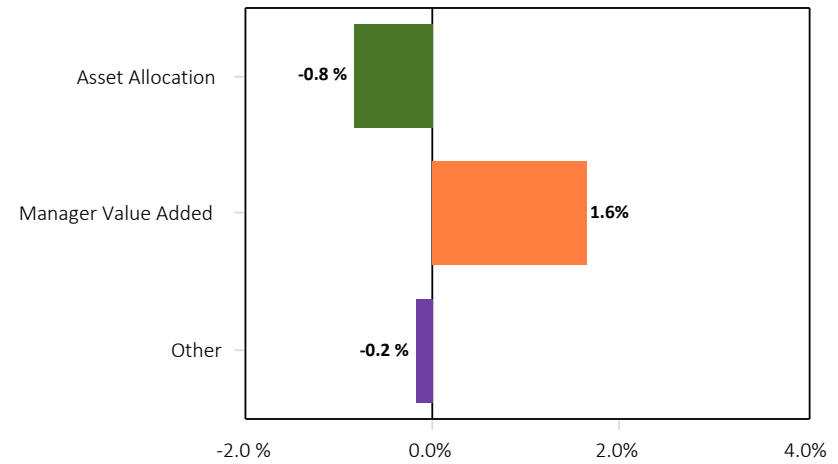
CERS (H) Pension Plan

Periods Ended 1 Year Ending September 30, 2022

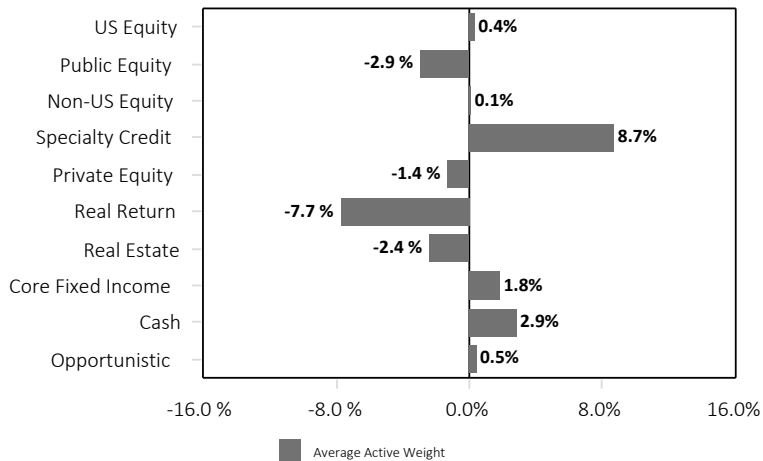
Total Fund Performance



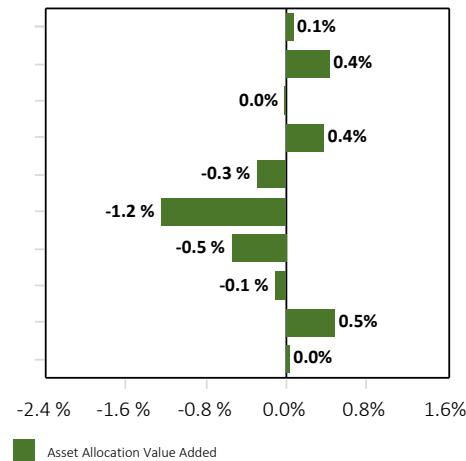
Total Value Added:0.7%



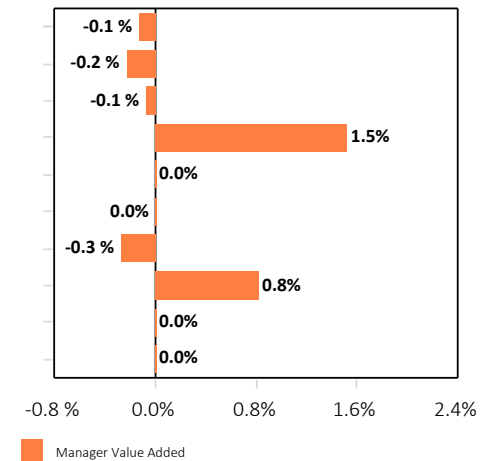
Total Asset Allocation:-0.8%



Asset Allocation Value Added:-0.8%



Total Manager Value Added:1.6%

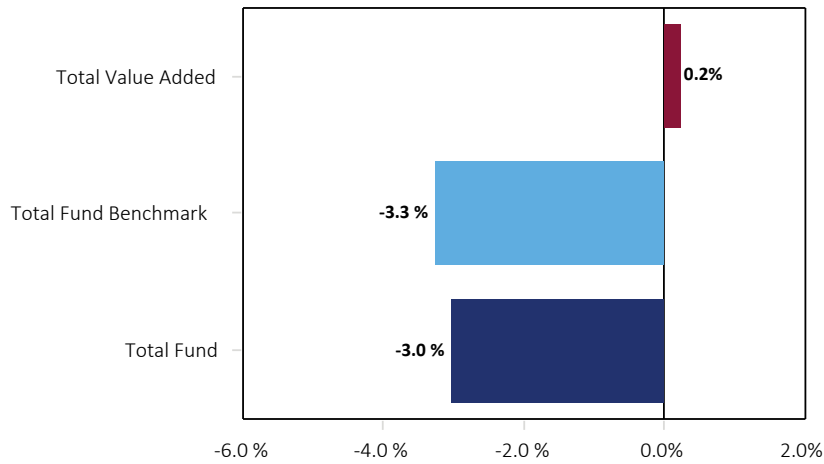


Total Fund Attribution

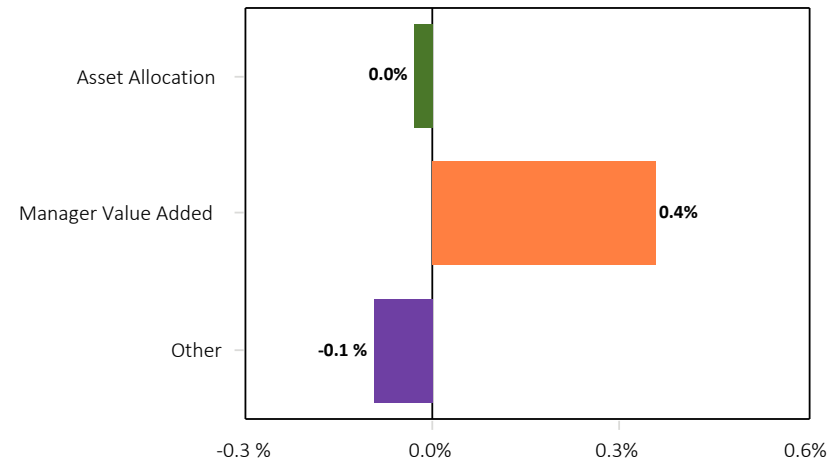
CERS (H) Insurance Plan

Periods Ended 1 Quarter Ending September 30, 2022

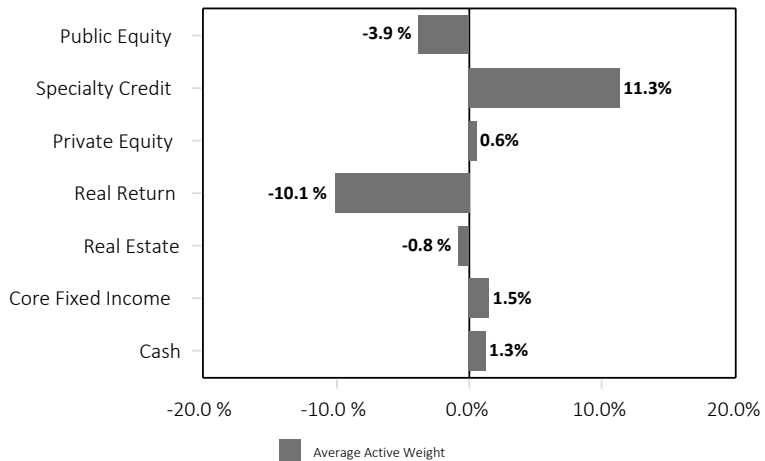
Total Fund Performance



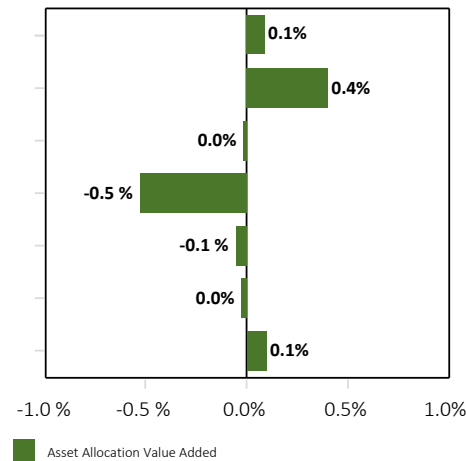
Total Value Added:0.2%



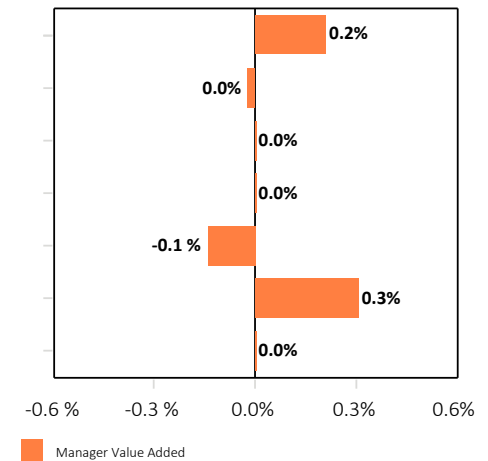
Total Asset Allocation:0.0%



Asset Allocation Value Added:0.0%



Total Manager Value Added:0.4%

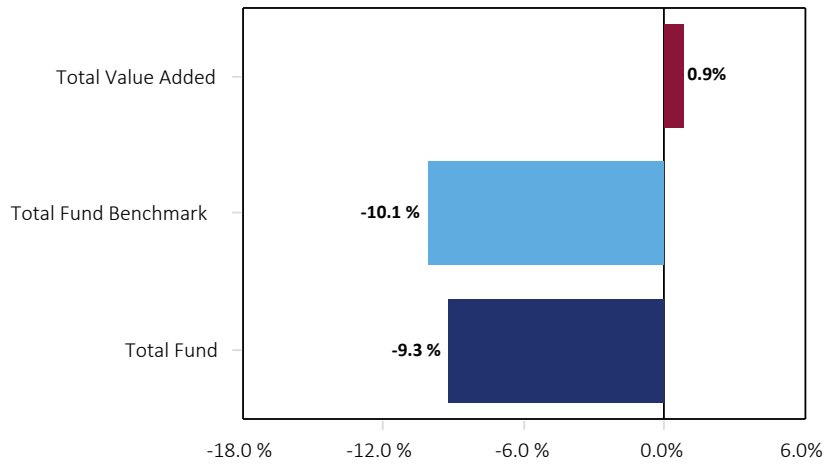


Total Fund Attribution

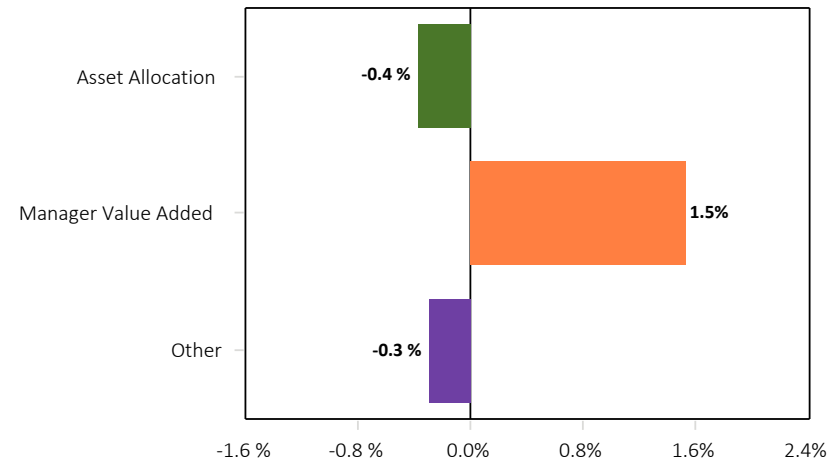
CERS (H) Insurance Plan

Periods Ended 1 Year Ending September 30, 2022

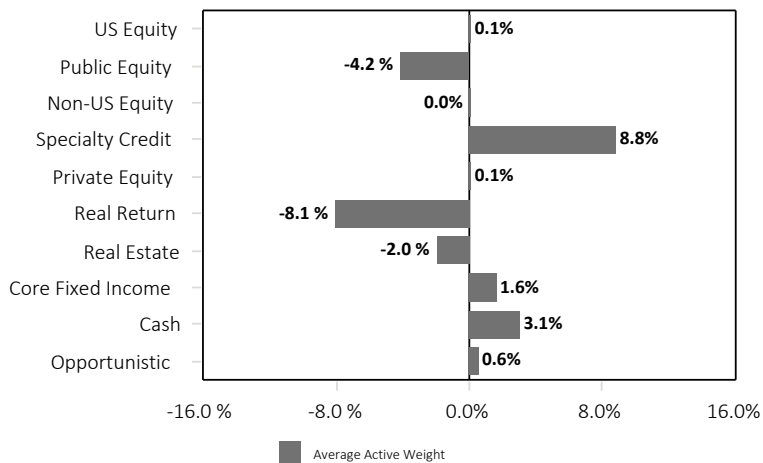
Total Fund Performance



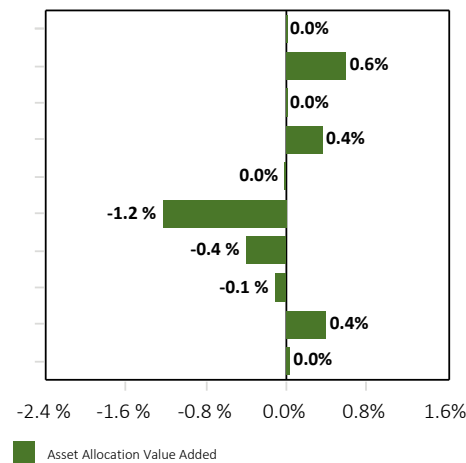
Total Value Added:0.9%



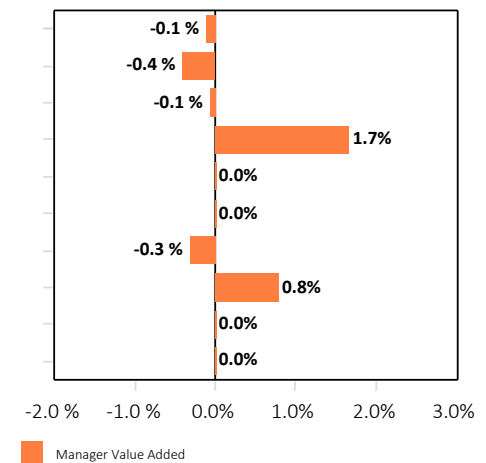
Total Asset Allocation:-0.4%



Asset Allocation Value Added:-0.4%



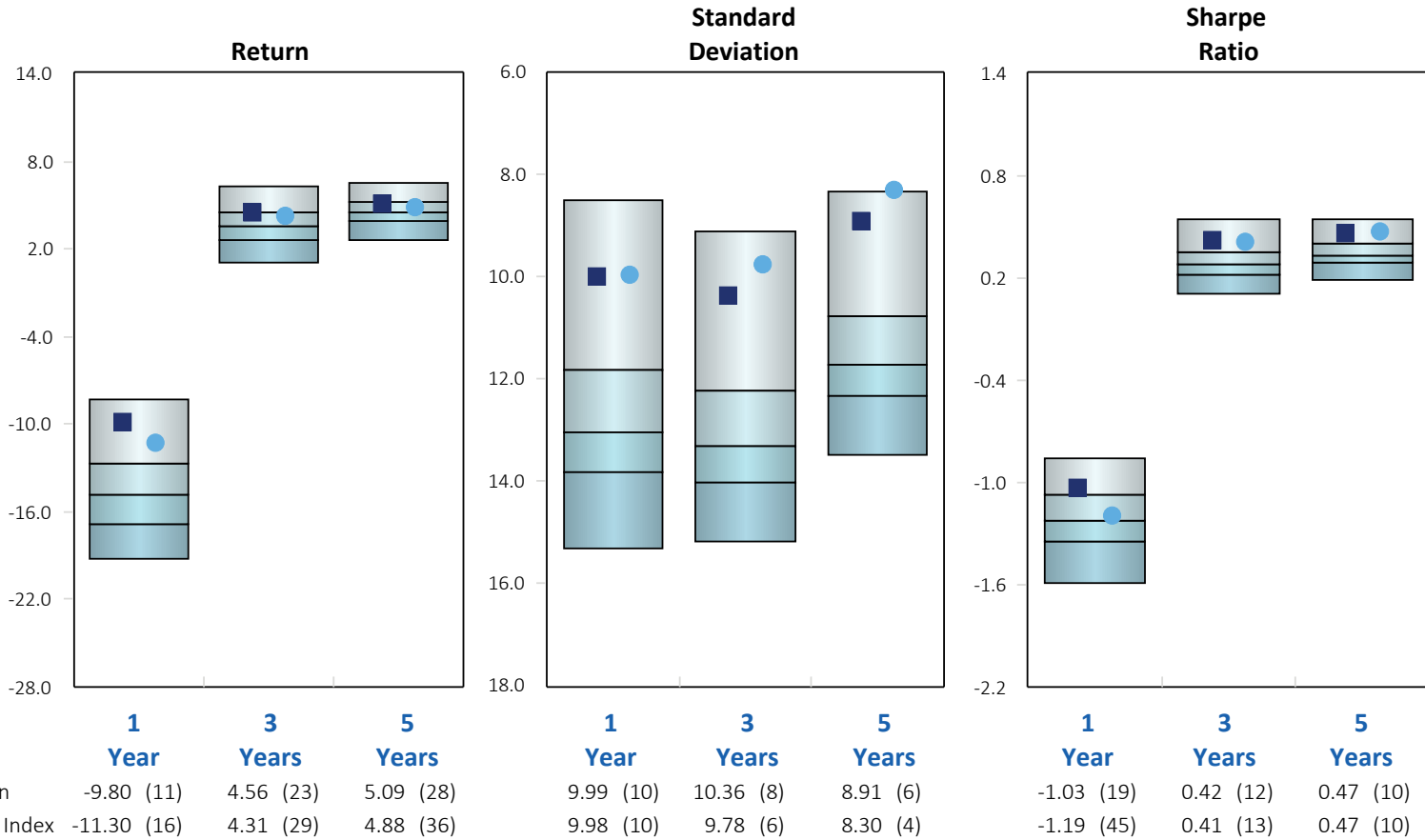
Total Manager Value Added:1.5%



Plan Sponsor Peer Group Analysis - Multi Statistics

CERS Pension Plan vs All Public Plans-Total Fund

Periods Ended September 30, 2022



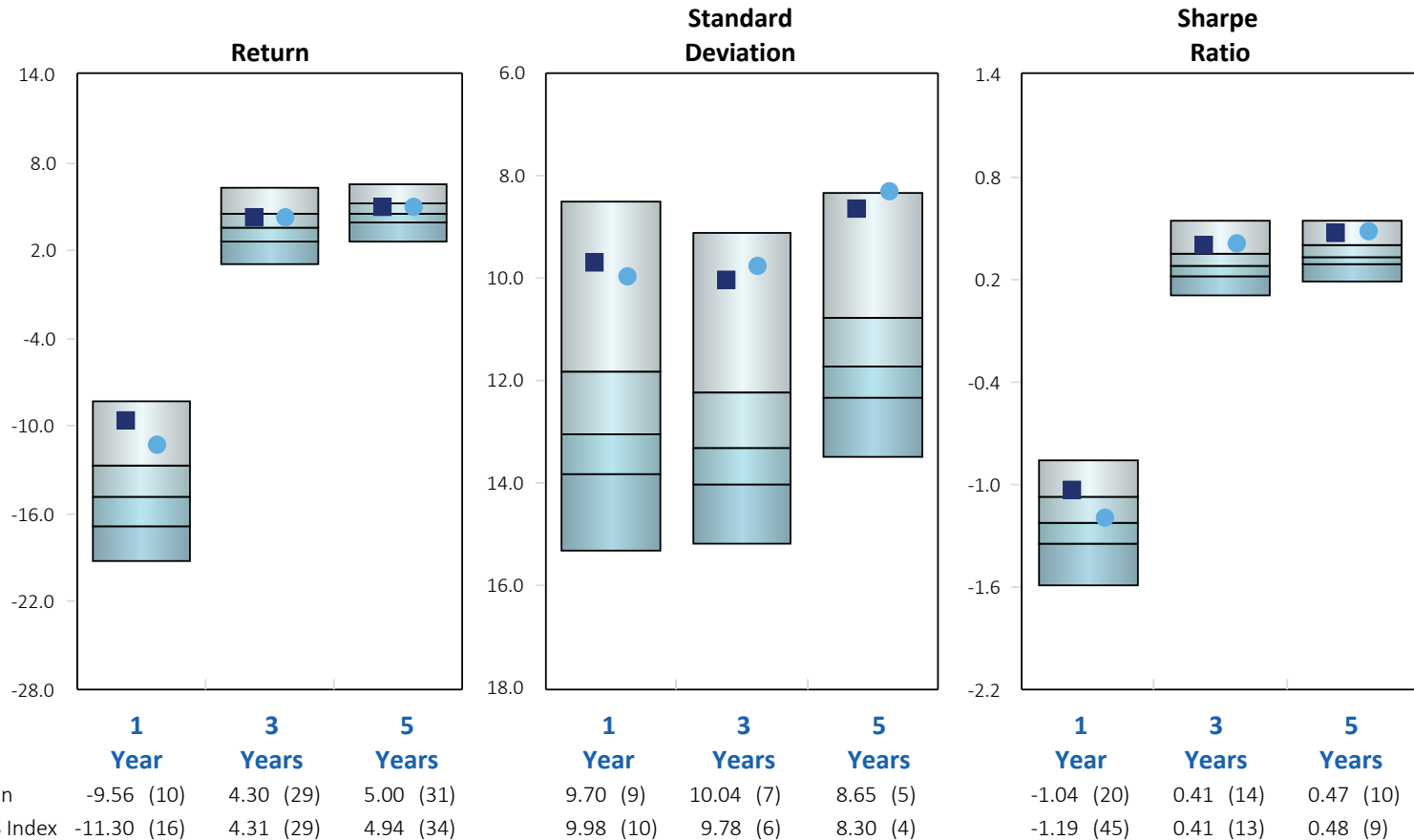
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS Pension Plan	-9.80 (11)	4.56 (23)	5.09 (28)	9.99 (10)	10.36 (8)	8.91 (6)	-1.03 (19)	0.42 (12)	0.47 (10)
● CERS Pension IPS Index	-11.30 (16)	4.31 (29)	4.88 (36)	9.98 (10)	9.78 (6)	8.30 (4)	-1.19 (45)	0.41 (13)	0.47 (10)
5th Percentile	-8.28	6.31	6.47	8.50	9.12	8.36	-0.85	0.55	0.55
1st Quartile	-12.69	4.45	5.19	11.82	12.24	10.78	-1.07	0.35	0.40
Median	-14.82	3.53	4.52	13.05	13.31	11.73	-1.22	0.28	0.33
3rd Quartile	-16.85	2.63	3.91	13.82	14.04	12.33	-1.35	0.22	0.29
95th Percentile	-19.19	1.06	2.64	15.32	15.18	13.50	-1.59	0.11	0.19

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 September 30, 2022



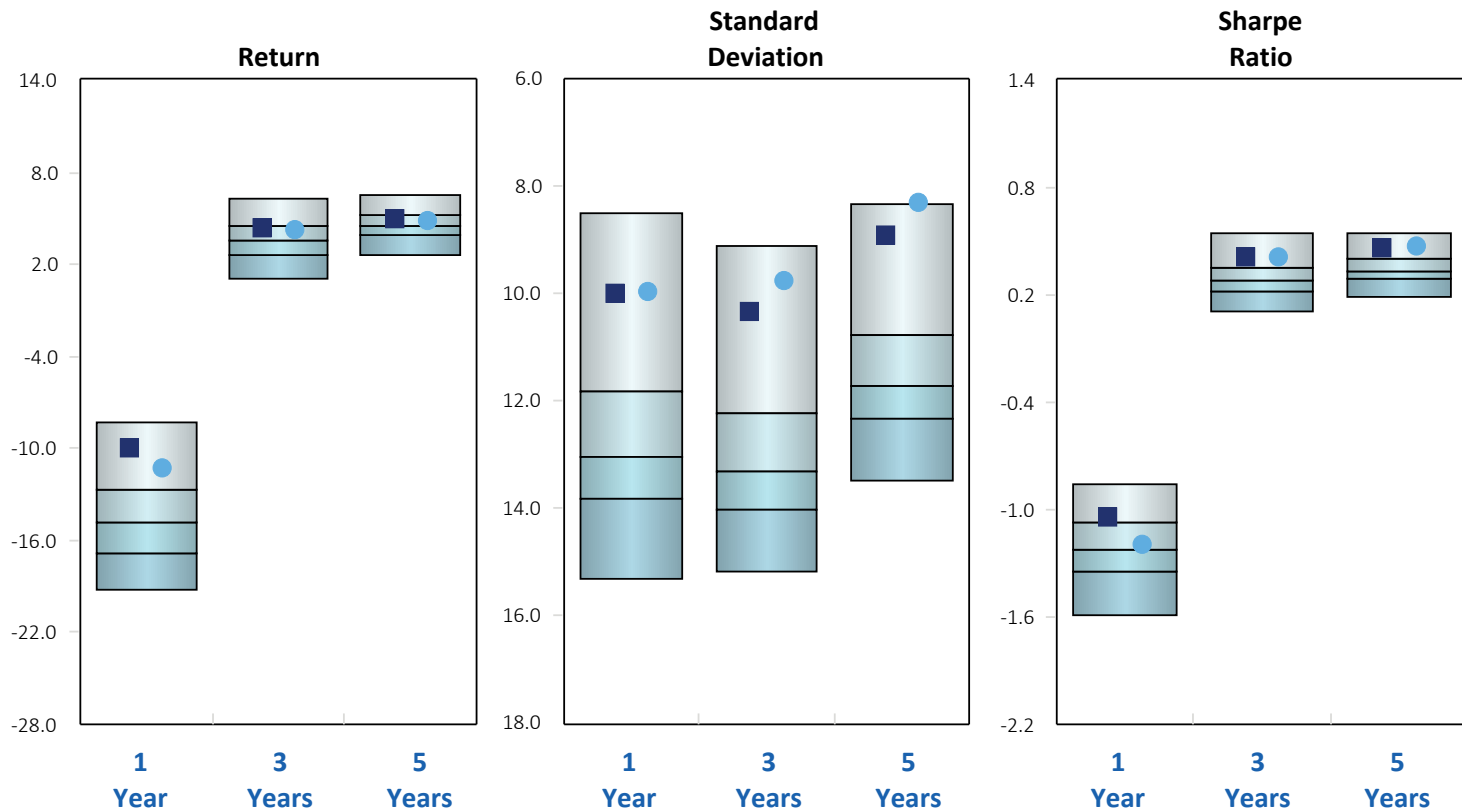
5th Percentile	-8.28	6.31	6.47	8.50	9.12	8.36	-0.85	0.55	0.55
1st Quartile	-12.69	4.45	5.19	11.82	12.24	10.78	-1.07	0.35	0.40
Median	-14.82	3.53	4.52	13.05	13.31	11.73	-1.22	0.28	0.33
3rd Quartile	-16.85	2.63	3.91	13.82	14.04	12.33	-1.35	0.22	0.29
95th Percentile	-19.19	1.06	2.64	15.32	15.18	13.50	-1.59	0.11	0.19

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 September 30, 2022



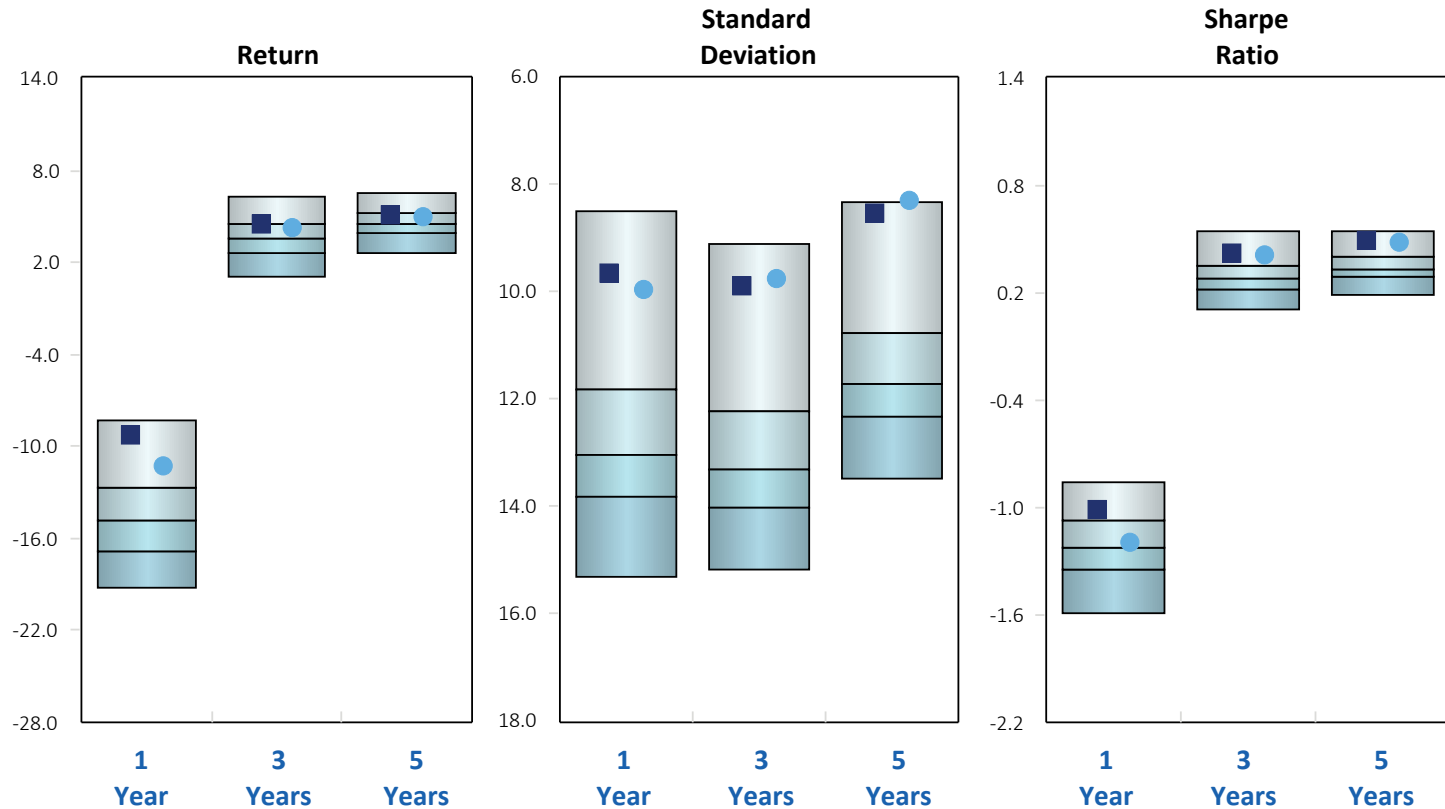
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Pension Plan	-9.96 (11)	4.43 (27)	5.02 (30)	10.01 (10)	10.35 (8)	8.91 (6)	-1.04 (21)	0.41 (14)	0.46 (11)
● CERS (H) Pension IPS Index	-11.30 (16)	4.31 (29)	4.89 (35)	9.98 (10)	9.78 (6)	8.30 (4)	-1.19 (45)	0.41 (13)	0.47 (10)
5th Percentile	-8.28	6.31	6.47	8.50	9.12	8.36	-0.85	0.55	0.55
1st Quartile	-12.69	4.45	5.19	11.82	12.24	10.78	-1.07	0.35	0.40
Median	-14.82	3.53	4.52	13.05	13.31	11.73	-1.22	0.28	0.33
3rd Quartile	-16.85	2.63	3.91	13.82	14.04	12.33	-1.35	0.22	0.29
95th Percentile	-19.19	1.06	2.64	15.32	15.18	13.50	-1.59	0.11	0.19

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 September 30, 2022



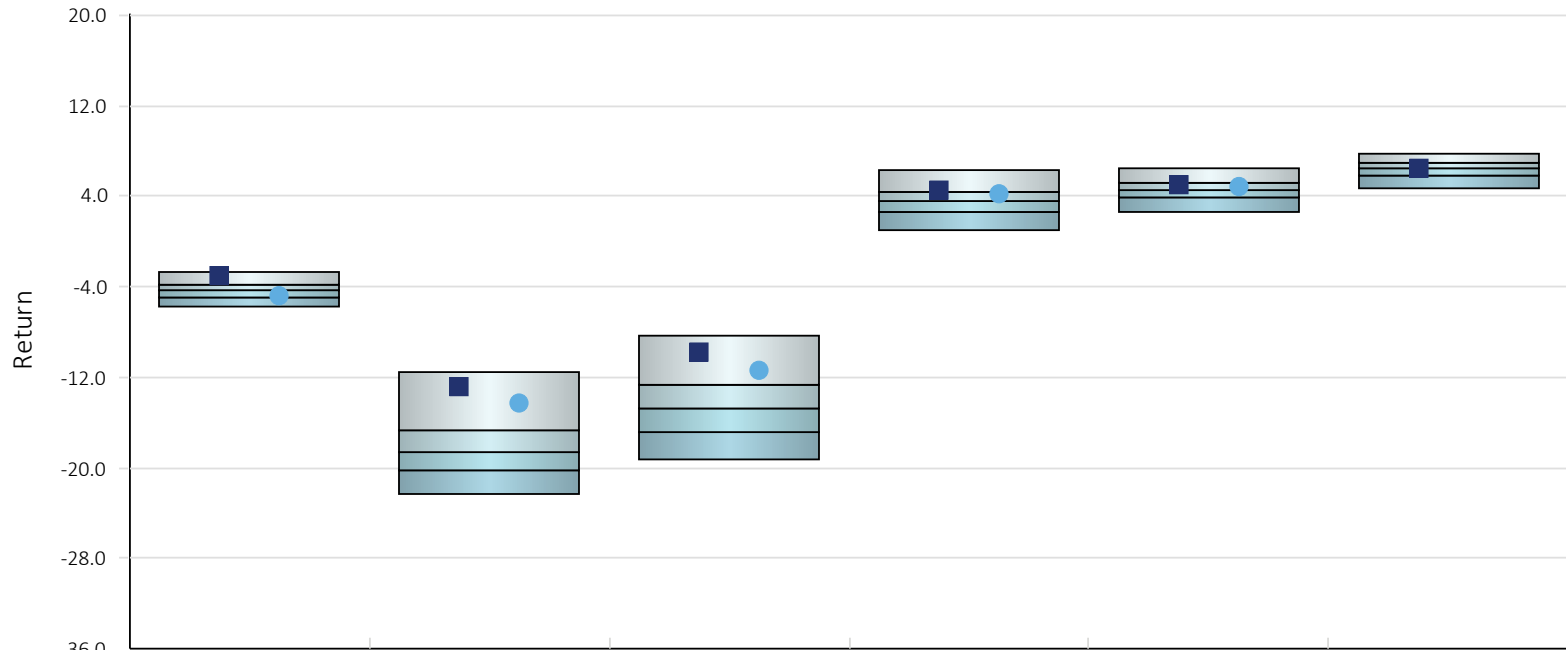
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ CERS (H) Insurance Plan	-9.26 (9)	4.48 (25)	5.14 (27)	9.65 (9)	9.90 (6)	8.55 (5)	-1.01 (16)	0.43 (12)	0.49 (8)
● CERS (H) Insurance IPS Index	-11.30 (16)	4.31 (29)	4.94 (34)	9.98 (10)	9.78 (6)	8.30 (4)	-1.19 (45)	0.41 (13)	0.48 (9)
5th Percentile	-8.28	6.31	6.47	8.50	9.12	8.36	-0.85	0.55	0.55
1st Quartile	-12.69	4.45	5.19	11.82	12.24	10.78	-1.07	0.35	0.40
Median	-14.82	3.53	4.52	13.05	13.31	11.73	-1.22	0.28	0.33
3rd Quartile	-16.85	2.63	3.91	13.82	14.04	12.33	-1.35	0.22	0.29
95th Percentile	-19.19	1.06	2.64	15.32	15.18	13.50	-1.59	0.11	0.19

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 September 30, 2022



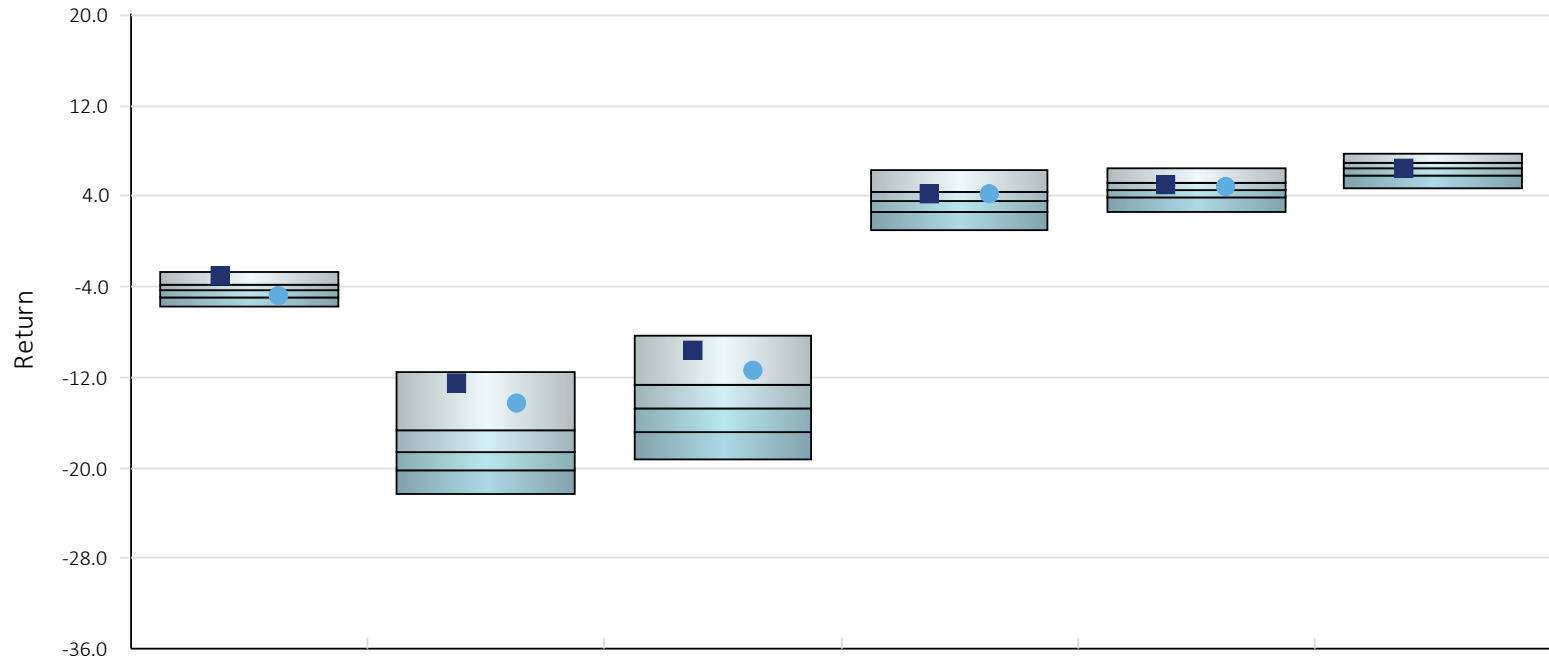
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS Pension Plan	-2.96 (8)	-12.81 (7)	-9.80 (11)	4.56 (23)	5.09 (28)	6.55 (43)
● CERS Pension IPS Index	-4.83 (72)	-14.34 (14)	-11.30 (16)	4.31 (29)	4.88 (36)	
5th Percentile	-2.70	-11.62	-8.28	6.31	6.47	7.76
1st Quartile	-3.82	-16.68	-12.69	4.45	5.19	6.98
Median	-4.34	-18.66	-14.82	3.53	4.52	6.42
3rd Quartile	-4.92	-20.20	-16.85	2.63	3.91	5.86
95th Percentile	-5.69	-22.36	-19.19	1.06	2.64	4.70
Population	641	628	623	602	578	476

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 September 30, 2022



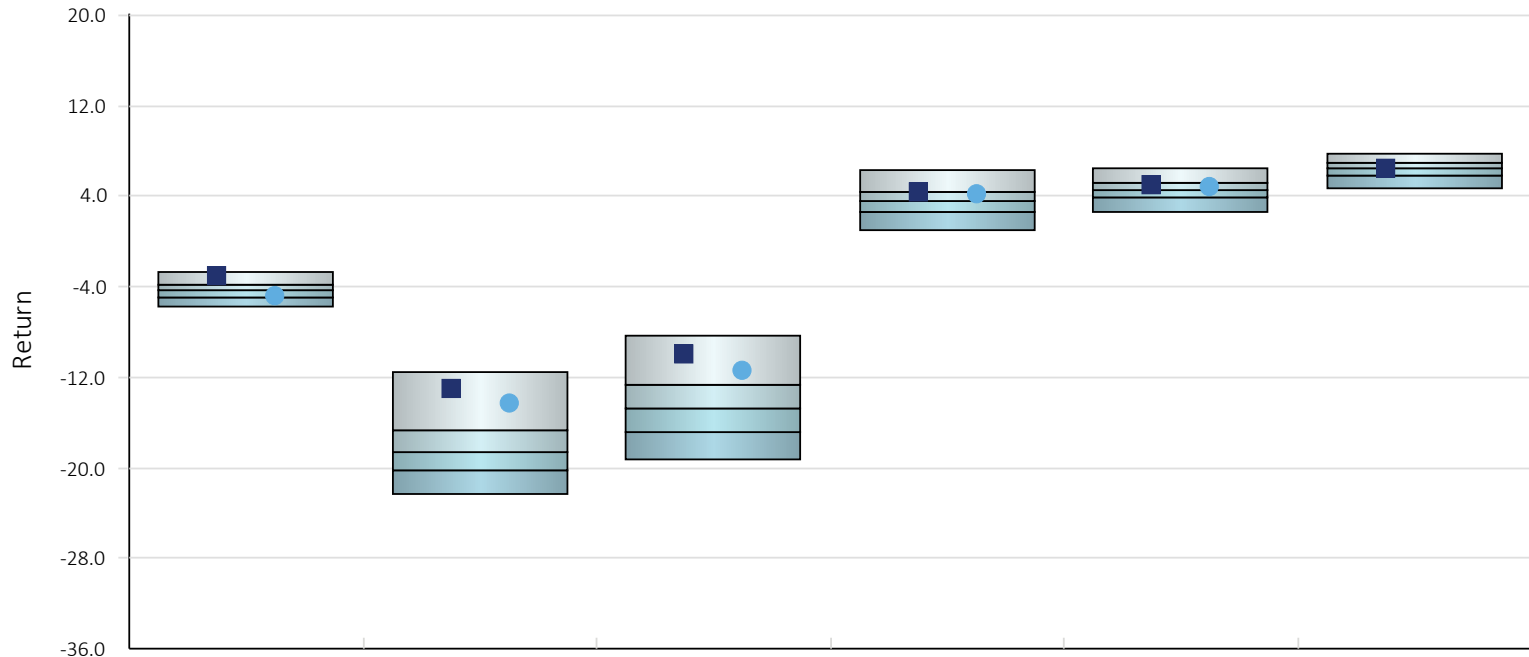
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS Insurance Plan	-3.04 (9)	-12.53 (7)	-9.56 (10)	4.30 (29)	5.00 (31)	6.43 (50)
● CERS Insurance IPS Index	-4.83 (72)	-14.34 (14)	-11.30 (16)	4.31 (29)	4.94 (34)	
5th Percentile	-2.70	-11.62	-8.28	6.31	6.47	7.76
1st Quartile	-3.82	-16.68	-12.69	4.45	5.19	6.98
Median	-4.34	-18.66	-14.82	3.53	4.52	6.42
3rd Quartile	-4.92	-20.20	-16.85	2.63	3.91	5.86
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Population	641	628	623	602	578	476

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 September 30, 2022



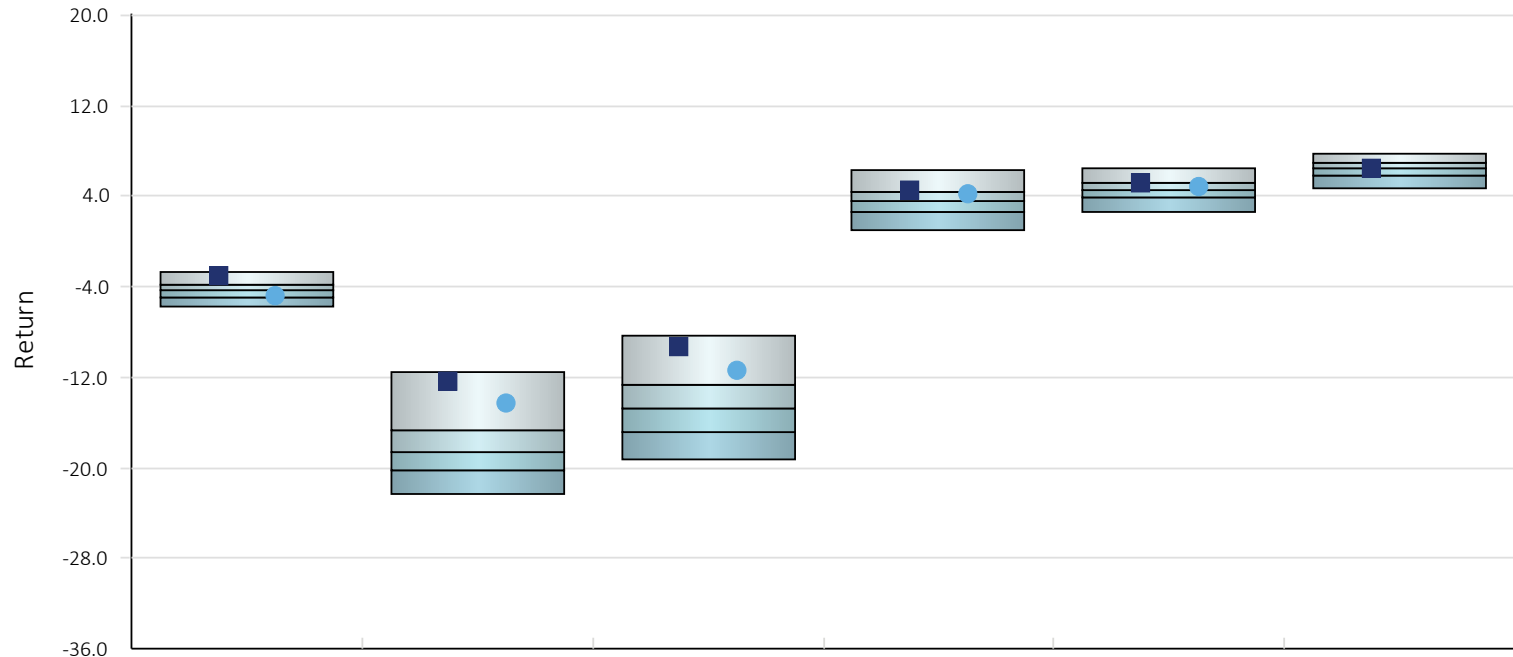
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS (H) Pension Plan	-2.97 (8)	-12.93 (8)	-9.96 (11)	4.43 (27)	5.02 (30)	6.52 (44)
● CERS (H) Pension IPS Index	-4.83 (72)	-14.34 (14)	-11.30 (16)	4.31 (29)	4.89 (35)	
5th Percentile	-2.70	-11.62	-8.28	6.31	6.47	7.76
1st Quartile	-3.82	-16.68	-12.69	4.45	5.19	6.98
Median	-4.34	-18.66	-14.82	3.53	4.52	6.42
3rd Quartile	-4.92	-20.20	-16.85	2.63	3.91	5.86
95th Percentile	-5.69	-22.36	-19.19	1.06	2.64	4.70
Population	641	628	623	602	578	476

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 September 30, 2022



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ CERS (H) Insurance Plan	-3.03 (8)	-12.33 (7)	-9.26 (9)	4.48 (25)	5.14 (27)	6.52 (44)
● CERS (H) Insurance IPS Index	-4.83 (72)	-14.34 (14)	-11.30 (16)	4.31 (29)	4.94 (34)	
5th Percentile	-2.70	-11.62	-8.28	6.31	6.47	7.76
1st Quartile	-3.82	-16.68	-12.69	4.45	5.19	6.98
Median	-4.34	-18.66	-14.82	3.53	4.52	6.42
3rd Quartile	-4.92	-20.20	-16.85	2.63	3.91	5.86
95th Percentile	-5.69	-22.36	-19.19	1.06	2.64	4.70
Population	641	628	623	602	578	476

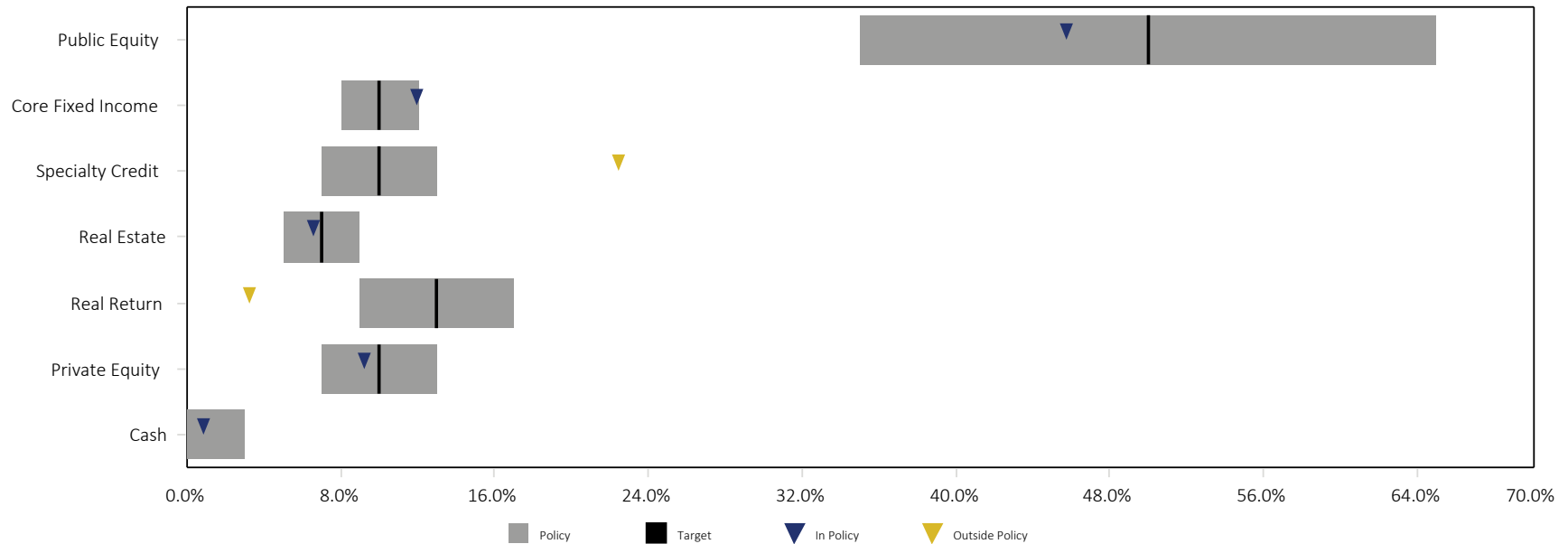
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Asset Allocation Compliance

CERS Pension Plan

Periods Ended As of September 30, 2022

Executive Summary



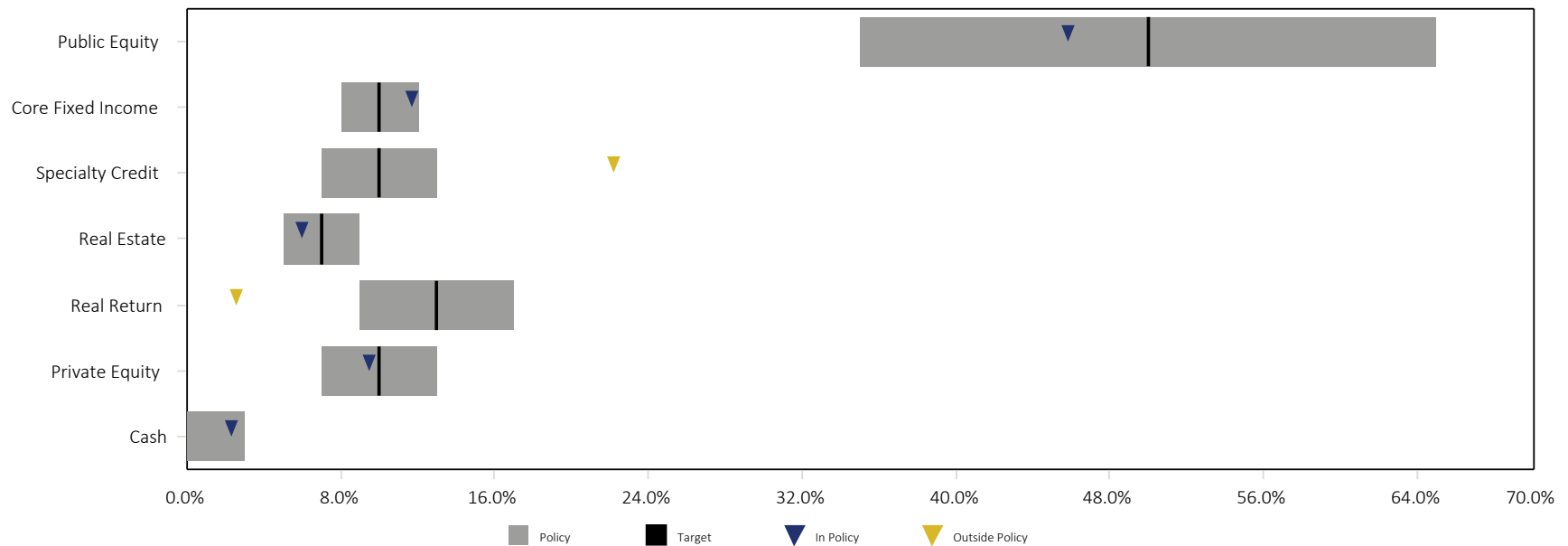
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	3,511,233,425	45.72	35.00	65.00	50.00	328,493,861
Core Fixed Income	918,831,302	11.96	8.00	12.00	10.00	-150,885,844
Specialty Credit	1,721,508,156	22.42	7.00	13.00	10.00	-953,562,699
Real Estate	503,826,850	6.56	5.00	9.00	7.00	33,734,970
Real Return	247,992,492	3.23	9.00	17.00	13.00	750,336,602
Private Equity	710,786,675	9.26	7.00	13.00	10.00	57,158,783
Cash	65,275,673	0.85	0.00	3.00	0.00	-65,275,673
Total Fund	7,679,454,572	100.00			100.00	

Asset Allocation Compliance

CERS Insurance Plan

Periods Ended As of September 30, 2022

Executive Summary



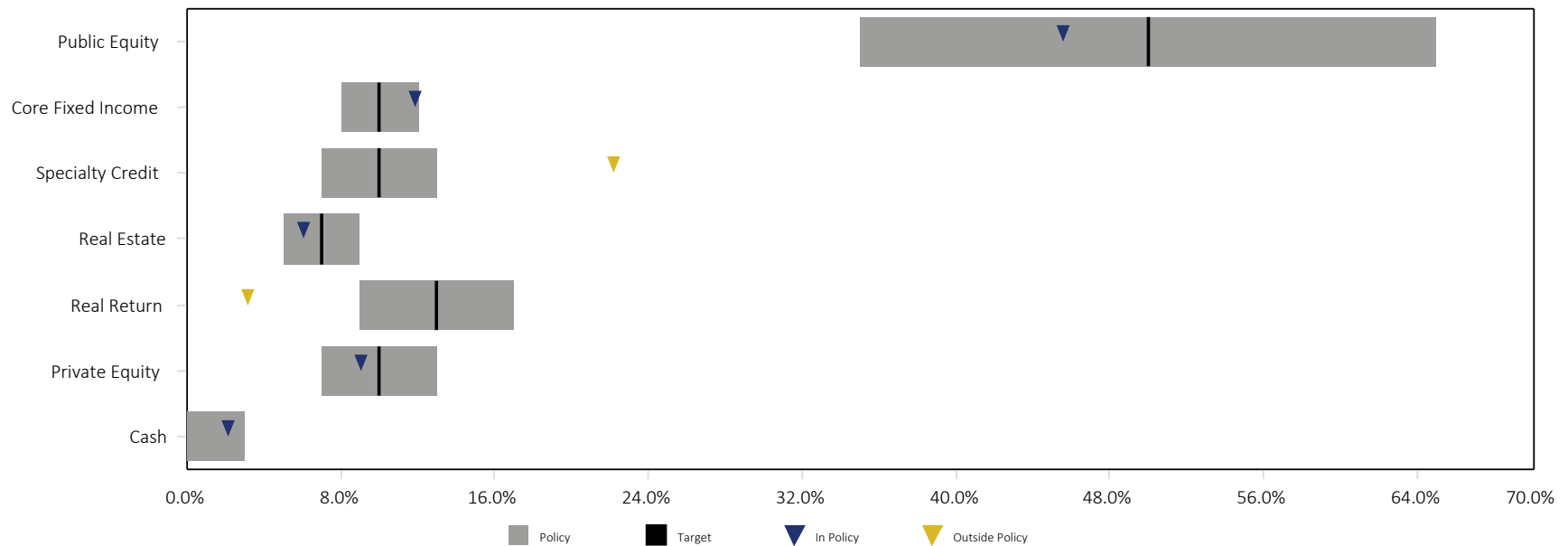
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	1,333,831,490	45.81	35.00	65.00	50.00	122,138,570
Core Fixed Income	340,455,826	11.69	8.00	12.00	10.00	-49,261,814
Specialty Credit	646,548,346	22.20	7.00	13.00	10.00	-355,354,334
Real Estate	174,368,701	5.99	5.00	9.00	7.00	29,467,107
Real Return	75,090,936	2.58	9.00	17.00	13.00	303,461,279
Private Equity	275,341,052	9.46	7.00	13.00	10.00	15,852,960
Cash	66,303,769	2.28	0.00	3.00	0.00	-66,303,769
Total Fund	2,911,940,120	100.00			100.00	

Asset Allocation Compliance

CERS (H) Pension Plan

Periods Ended As of September 30, 2022

Executive Summary



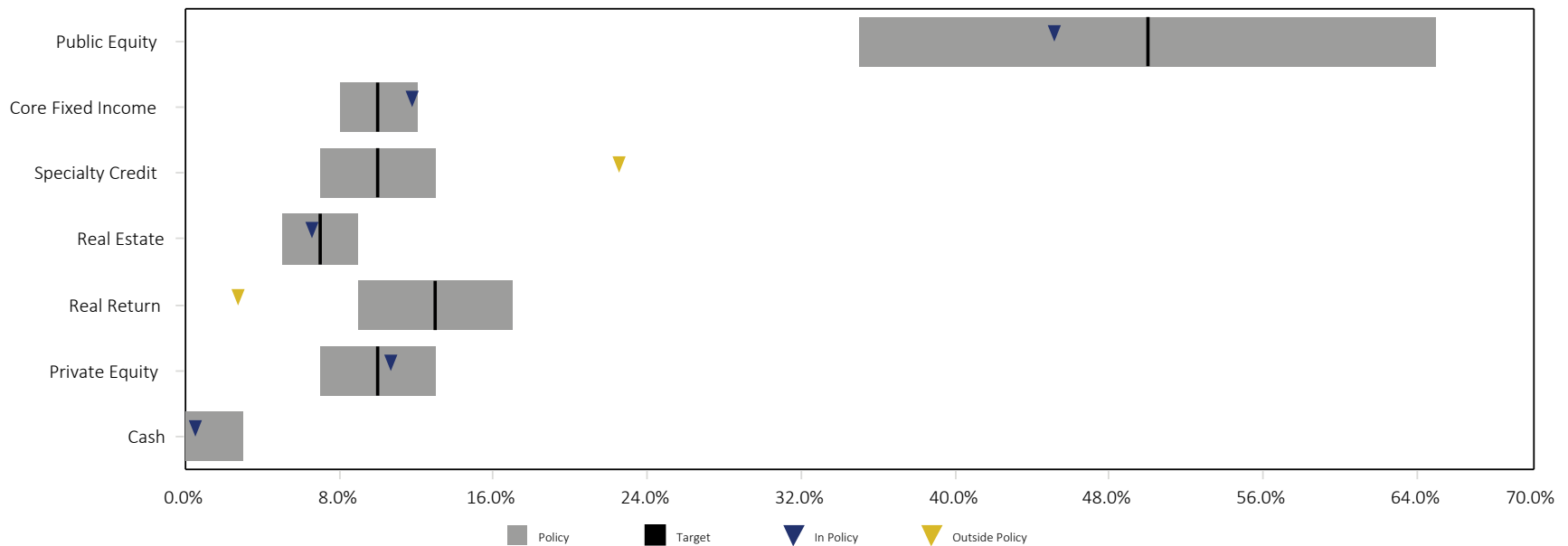
	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	1,199,830,852	45.62	35.00	65.00	50.00	115,273,939
Core Fixed Income	311,229,845	11.83	8.00	12.00	10.00	-48,208,886
Specialty Credit	584,418,643	22.22	7.00	13.00	10.00	-321,397,685
Real Estate	160,387,890	6.10	5.00	9.00	7.00	23,726,781
Real Return	82,028,294	3.12	9.00	17.00	13.00	259,898,952
Private Equity	237,043,023	9.01	7.00	13.00	10.00	25,977,935
Cash	55,271,035	2.10	0.00	3.00	0.00	-55,271,035
Total Fund	2,630,209,581	100.00			100.00	

Asset Allocation Compliance

CERS (H) Insurance Plan

Periods Ended As of September 30, 2022

Executive Summary



	Asset Allocation \$	Asset Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebalance \$
Public Equity	657,413,820	45.17	35.00	65.00	50.00	70,370,399
Core Fixed Income	171,853,078	11.81	8.00	12.00	10.00	-26,296,234
Specialty Credit	327,660,913	22.51	7.00	13.00	10.00	-182,104,069
Real Estate	95,585,931	6.57	5.00	9.00	7.00	6,303,860
Real Return	40,261,610	2.77	9.00	17.00	13.00	148,962,287
Private Equity	155,048,130	10.65	7.00	13.00	10.00	-9,491,286
Cash	7,744,959	0.53	0.00	3.00	0.00	-7,744,959
Total Fund	1,455,568,440	100.00			100.00	

Asset Allocation & Performance

Total Fund

Periods Ended September 30, 2022

	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	7,679,454,572	-2.96	-12.81	-2.96	-9.80	4.56	5.09	8.93	6.87	7.55	8.67	4/1/1984
CERS Pension IPS Index		-4.83	-14.34	-4.83	-11.30	4.31	4.88					
Value Added		1.87	1.53	1.87	1.50	0.25	0.21					
CERS Pension Attribution Index		-3.49	-13.92	-3.49	-10.53	4.03						
Value Added		0.53	1.11	0.53	0.73	0.53						
Assumed Rate 6.25%		1.53	4.65	1.53	6.25	6.25	6.25					
Value Added		-4.49	-17.46	-4.49	-16.05	-1.69	-1.16					
CERS Insurance Plan	2,911,940,120	-3.04	-12.53	-3.04	-9.56	4.30	5.00	6.31	6.80	6.64	7.14	4/1/1987
CERS Insurance IPS Index		-4.83	-14.34	-4.83	-11.30	4.31	4.94					
Value Added		1.79	1.81	1.79	1.74	-0.01	0.06					
CERS Insurance Attribution Index		-4.82	-14.60	-4.82	-11.07	3.68						
Value Added		1.78	2.07	1.78	1.51	0.62						
Assumed Rate 6.25%		1.53	4.65	1.53	6.25	6.25	6.25					
Value Added		-4.57	-17.18	-4.57	-15.81	-1.95	-1.25					
CERS (H) Pension Plan	2,630,209,581	-2.97	-12.93	-2.97	-9.96	4.43	5.02	8.93	6.85	7.54	8.66	4/1/1984
CERS (H) Pension IPS Index		-4.83	-14.34	-4.83	-11.30	4.31	4.89					
Value Added		1.86	1.41	1.86	1.34	0.12	0.13					
CERS (H) Pension Attribution Index		-3.52	-13.98	-3.52	-10.61	3.96						
Value Added		0.55	1.05	0.55	0.65	0.47						
Assumed Rate 6.25%		1.53	4.65	1.53	6.25	6.25	6.25					
Value Added		-4.50	-17.58	-4.50	-16.21	-1.82	-1.23					

Asset Allocation & Performance

Total Fund

Periods Ended September 30, 2022

	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 (H) Insurance Plan	1,455,568,440	-3.03	-12.33	-3.03	-9.26	4.48	5.14	6.31	6.85	6.67	7.16	4/1/1987
CERS (H) Insurance IPS Index		-4.83	-14.34	-4.83	-11.30	4.31	4.94					
Value Added		1.80	2.01	1.80	2.04	0.17	0.20					
CERS (H) Insurance Attribution Index		-3.27	-13.64	-3.27	-10.13	4.02						
Value Added		0.24	1.31	0.24	0.87	0.46						
Assumed Rate 6.25%		1.53	4.65	1.53	6.25	6.25	6.25					
Value Added		-4.56	-16.98	-4.56	-15.51	-1.77	-1.11					

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Public Equity	-9.31	-6.24	-26.21	-6.24				-23.19	12/1/2021
Public Equity Policy Index	-9.53	-6.71	-25.34	-6.71				-22.33	
Value Added	0.22	0.47	-0.87	0.47				-0.86	
US Equity Composite	-9.22	-4.21	-23.81	-4.21	-16.83	7.51	8.25	9.41	7/1/1992
Russell 3000 Index	-9.27	-4.46	-24.62	-4.46	-17.63	7.70	8.62	9.60	
Value Added	0.05	0.25	0.81	0.25	0.80	-0.19	-0.37	-0.19	
S&P 500 Index	-9.14	-4.81	-23.68	-4.81	-15.28	8.51	9.52	7.69	7/1/2001
S&P 500 Index	-9.21	-4.88	-23.87	-4.88	-15.47	8.16	9.24	7.26	
value added	0.07	0.07	0.19	0.07	0.19	0.35	0.28	0.43	
Scientific Beta	-9.09	-5.47	-21.69	-5.47	-14.40	4.46	6.76	8.02	7/1/2016
S&P 500 Index	-9.21	-4.88	-23.87	-4.88	-15.47	8.16	9.24	10.96	
Value Added	0.12	-0.59	2.18	-0.59	1.07	-3.70	-2.48	-2.94	
River Road FAV	-9.83	-6.38	-25.38	-6.38	-21.43	-1.36	2.99	6.87	7/1/2016
Russell 3000 Value Index	-8.86	-5.56	-17.97	-5.56	-11.79	4.37	5.11	7.15	
Value Added	-0.97	-0.82	-7.41	-0.82	-9.64	-5.73	-2.12	-0.28	
Westfield Capital	-9.53	-2.80	-28.70	-2.80	-22.26	10.48	11.58	12.16	7/1/2011
Russell 3000 Growth Index	-9.68	-3.37	-30.57	-3.37	-23.01	10.16	11.57	12.86	
Value Added	0.15	0.57	1.87	0.57	0.75	0.32	0.01	-0.70	
Internal US Mid Cap	-9.16	-2.34	-21.34	-2.34	-15.06	6.35	6.42	8.06	8/1/2014
S&P MidCap 400 Index	-9.19	-2.46	-21.52	-2.46	-15.25	6.01	5.82	7.67	
Value Added	0.03	0.12	0.18	0.12	0.19	0.34	0.60	0.39	
NTGI Structured	-9.76	-3.05	-22.57	-3.05	-19.13	5.82	5.17	9.09	7/1/2011
Russell 2000 Index	-9.58	-2.19	-25.10	-2.19	-23.50	4.29	3.55	7.86	
Value Added	-0.18	-0.86	2.53	-0.86	4.37	1.53	1.62	1.23	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Next Century Growth	-6.40	9.44	-26.09	9.44	-25.80			28.73	11/1/2019
Russell Microcap Growth Index	-9.33	2.14	-31.60	2.14	-37.05			3.67	
Value Added	2.93	7.30	5.51	7.30	11.25			25.06	
Non-US Equity Composite	-9.53	-9.16	-29.17	-9.16	-28.59	-1.41	-0.19	1.76	4/1/2000
MSCI ACWI ex US IMI (10/17)	-10.14	-9.69	-26.92	-9.69	-25.72	-1.27	-0.78	1.93	
Value Added	0.61	0.53	-2.25	0.53	-2.87	-0.14	0.59	-0.17	
BlackRock World Ex US	-9.21	-9.12	-26.02	-9.12	-23.70	-0.98	-0.47	4.42	6/1/2012
MSCI World ex US (11/19)	-9.26	-9.20	-26.23	-9.20	-23.91	-1.13	-0.58	4.32	
value added	0.05	0.08	0.21	0.08	0.21	0.15	0.11	0.10	
American Century	-9.70	-7.88	-35.15	-7.88	-33.41	1.38	3.02	3.43	7/1/2014
MSCI ACWI ex US IMI (10/17)	-10.14	-9.69	-26.92	-9.69	-25.72	-1.27	-0.78	0.72	
Value Added	0.44	1.81	-8.23	1.81	-7.69	2.65	3.80	2.71	
Franklin Templeton	-10.85	-7.40	-38.24	-7.40	-39.55	-5.03	-1.14	1.85	7/1/2014
MSCI ACWI ex US IMI (10/17)	-10.14	-9.69	-26.92	-9.69	-25.72	-1.27	-0.78	0.72	
Value Added	-0.71	2.29	-11.32	2.29	-13.83	-3.76	-0.36	1.13	
Lazard Asset Mgmt	-9.21	-9.80	-25.96	-9.80	-26.25	-1.90	-0.06	1.31	7/1/2014
MSCI ACWI ex US IMI (10/17)	-10.14	-9.69	-26.92	-9.69	-25.72	-1.27	-0.78	0.72	
Value Added	0.93	-0.11	0.96	-0.11	-0.53	-0.63	0.72	0.59	
LSV Asset Mgmt	-8.85	-10.91	-24.88	-10.91	-24.19	-2.52	-1.78	0.05	7/1/2014
MSCI ACWI ex US IMI (10/17)	-10.14	-9.69	-26.92	-9.69	-25.72	-1.27	-0.78	0.72	
Value Added	1.29	-1.22	2.04	-1.22	1.53	-1.25	-1.00	-0.67	
Axiom	-10.01	-7.68	-38.76	-7.68				-35.96	12/1/2021
MSCI AC World ex USA Small Cap (Net)	-11.04	-8.37	-29.37	-8.37				-26.38	
Value Added	1.03	0.69	-9.39	0.69				-9.58	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
JP Morgan Emerging Markets	-10.99	-10.55	-35.24	-10.55	-37.81			-3.73	11/1/2019
MSCI Emerging Markets IMI	-11.46	-10.62	-26.51	-10.62	-27.18			-2.24	
Value Added	0.47	0.07	-8.73	0.07	-10.63			-1.49	
Pzena Emerging Markets	-9.39	-8.00	-18.28	-8.00	-19.76			0.35	11/1/2019
MSCI Emerging Markets (Net)	-11.72	-11.57	-27.16	-11.57	-28.11			-3.50	
Value Added	2.33	3.57	8.88	3.57	8.35			3.85	
Private Equity Composite	0.20	-0.12	9.20	-0.12	15.27	16.70	15.61	11.29	7/1/2002
KRS Short-Term PE Index	0.20	-0.12	9.20	-0.12	15.27	16.70	15.61	11.29	
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Russell 3000 +3% 1 Quarter Lag	-8.14	-16.08	-11.85	-16.08	-11.28	13.07	13.92	11.52	
Value Added	8.34	15.96	21.05	15.96	26.55	3.63	1.69	-0.23	
Core Fixed Income Composite	-2.33	-2.10	-7.59	-2.10	-7.85	-0.41		1.61	10/1/2018
Blmbg. U.S. Aggregate	-4.32	-4.75	-14.61	-4.75	-14.60	-3.26		-0.03	
Value Added	1.99	2.65	7.02	2.65	6.75	2.85		1.64	
NISA	-4.39	-4.73	-14.43	-4.73	-14.38	-3.27	-0.25	1.68	7/1/2011
Blmbg. U.S. Aggregate	-4.32	-4.75	-14.61	-4.75	-14.60	-3.26	-0.27	1.58	
Value Added	-0.07	0.02	0.18	0.02	0.22	-0.01	0.02	0.10	
Loomis Sayles Intrmd	-3.52	-3.87	-11.22	-3.87	-11.69	-1.81		-0.04	2/1/2019
Blmbg. U.S. Intermediate Aggregate	-3.48	-3.84	-11.04	-3.84	-11.49	-2.33		-0.52	
Value Added	-0.04	-0.03	-0.18	-0.03	-0.20	0.52		0.48	
Lord Abbett	-1.67	-1.19	-5.39	-1.19	-5.65	-0.13		1.27	10/1/2018
ICE BofAML 1-3 Year U.S. Corporate	-1.45	-1.30	-5.39	-1.30	-5.91	-0.20		1.16	
Value Added	-0.22	0.11	0.00	0.11	0.26	0.07		0.11	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Specialty Credit Composite	-0.74	0.22	-1.69	0.22	-0.17	4.10		4.88	10/1/2018
Specialty Credit Policy Index	-3.12	0.39	-9.08	0.39	-8.41	0.92		1.86	
Value Added	2.38	-0.17	7.39	-0.17	8.24	3.18		3.02	
Adams St SPC II A	0.56	0.56	14.81	0.56	16.60			15.56	6/1/2020
Adams St SPC II B	2.29	2.29	-0.76	2.29	1.14			9.91	6/1/2020
Blue Torch	2.87	2.87	9.02	2.87	13.28			8.97	8/1/2020
BSP Coinvestment	1.57	1.57	4.88	1.57	6.53	6.44		6.44	10/1/2019
Morningstar LSTA US Leveraged Loan	-2.27	1.37	-3.25	1.37	-2.53	2.21		2.21	
Value Added	3.84	0.20	8.13	0.20	9.06	4.23		4.23	
BSP Private Credit	-1.01	-1.01	2.48	-1.01	5.40	6.73		5.55	2/1/2018
Morningstar LSTA US Leveraged Loan	-2.27	1.37	-3.25	1.37	-2.53	2.21		2.74	
Value Added	1.26	-2.38	5.73	-2.38	7.93	4.52		2.81	
CapitalSpring	-0.55	-0.55	4.45	-0.55	5.08			8.45	2/1/2020
Morningstar LSTA US Leveraged Loan	-2.27	1.37	-3.25	1.37	-2.53			1.62	
Value Added	1.72	-1.92	7.70	-1.92	7.61			6.83	
Cerberus Capital Mgmt	0.83	1.86	7.80	1.86	10.47	11.61	10.58	9.69	9/1/2014
Morningstar LSTA US Leveraged Loan	-2.27	1.37	-3.25	1.37	-2.53	2.21	2.98	3.20	
Value Added	3.10	0.49	11.05	0.49	13.00	9.40	7.60	6.49	
Columbia	-3.73	-0.10	-13.61	-0.10	-12.90	-0.94	1.54	4.83	11/1/2011
Blmbg. U.S. Corp: High Yield	-3.97	-0.65	-14.74	-0.65	-14.14	-0.45	1.57	4.74	
Value Added	0.24	0.55	1.13	0.55	1.24	-0.49	-0.03	0.09	
Manulife Asset Mgmt	-3.86	-1.66	-12.29	-1.66	-12.31	0.30	1.56	3.14	12/1/2011
Policy Index	-4.31	-4.45	-14.90	-4.45	-14.92	-3.11	-0.18	0.64	
Value Added	0.45	2.79	2.61	2.79	2.61	3.41	1.74	2.50	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Marathon Bluegrass	0.76	-3.19	-3.73	-3.19	-0.65	4.37	4.99	6.13	1/1/2016
Blmbg. U.S. Corp: High Yield	-3.97	-0.65	-14.74	-0.65	-14.14	-0.45	1.57	4.60	
Value Added	4.73	-2.54	11.01	-2.54	13.49	4.82	3.42	1.53	
Shenkman Capital	-2.72	0.82	-4.11	0.82	-3.52	1.64	2.64	3.42	7/1/2011
Morningstar LSTA US Leveraged Loan	-2.27	1.37	-3.25	1.37	-2.53	2.21	2.98	3.76	
Value Added	-0.45	-0.55	-0.86	-0.55	-0.99	-0.57	-0.34	-0.34	
Waterfall	-0.03	1.61	-0.25	1.61	2.77	2.10	4.67	7.90	7/1/2011
Policy Index	-2.06	0.43	-8.86	0.43	-8.65	0.34	1.76	3.45	
Value Added	2.03	1.18	8.61	1.18	11.42	1.76	2.91	4.45	
White Oak Yield Spectrum	1.18	1.18	4.44	1.18	5.69	5.90		5.37	3/1/2018
Morningstar LSTA US Leveraged Loan	-2.27	1.37	-3.25	1.37	-2.53	2.21		2.75	
Value Added	3.45	-0.19	7.69	-0.19	8.22	3.69		2.62	
Arrowmark	-0.43	1.69	4.86	1.69	8.10	8.38		8.84	6/1/2018
Morningstar LSTA US Leveraged Loan	-2.27	1.37	-3.25	1.37	-2.53	2.21		2.70	
Value Added	1.84	0.32	8.11	0.32	10.63	6.17		6.14	
H/2 Credit Partner	0.00	0.00	5.07	0.00	1.19	2.46	1.31	4.26	7/1/2011
Mesa West Core Lend	1.02	1.02	3.80	1.02	5.38	5.33	6.30	6.30	5/1/2013
Mesa West IV	-2.35	-2.35	1.12	-2.35	4.26	6.59	6.85	5.96	3/1/2017
Cash Composite	0.21	0.55	0.75	0.55	0.77	0.61	1.24	2.44	7/1/1992
FTSE 3 Month T-Bill	0.20	0.45	0.62	0.45	0.63	0.57	1.13	2.30	
Value Added	0.01	0.10	0.13	0.10	0.14	0.04	0.11	0.14	
Real Estate Composite	-0.30	2.61	17.09	2.61	22.67	15.02	12.69	10.38	5/1/2009
NCREIF ODCE NOF 1 Quarter Lag	4.54	4.54	20.58	4.54	28.31	11.66	9.55		
Value Added	-4.84	-1.93	-3.49	-1.93	-5.64	3.36	3.14		

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Baring	-5.44	-9.10	1.71	-9.10	1.95	14.28		17.71	1/1/2019
Barings Euro RE II	-2.34	-5.28	-4.66	-5.28	18.40			-18.93	12/1/2020
Divcowest IV	0.64	0.64	21.05	0.64	29.68	11.08	16.34	19.29	3/1/2014
Fundamental Partners III	0.90	0.90	15.58	0.90	26.62	20.73	16.09	15.09	5/1/2017
Greenfield Acq VI	-12.58	-12.58	-23.14	-12.58	-7.47	-43.25	-37.99	-17.21	12/1/2012
Greenfield Acq VII	4.48	4.48	23.31	4.48	24.75	20.01	17.91	15.59	7/1/2014
Harrison Street	0.00	6.19	11.83	6.19	14.23	8.79	8.37	8.24	5/1/2012
Lubert Adler VII	-0.35	-0.35	9.56	-0.35	12.49	-2.81	2.66	-0.63	7/1/2014
Lubert Adler VII B	3.06	3.06	17.77	3.06	38.02	24.80	16.67	15.81	7/1/2017
Patron Capital	0.19	-3.63	2.37	-3.63	6.95	6.32	10.08	4.47	8/1/2016
Prologis Targeted US	0.00	5.80	34.55	5.80	50.03	28.27	23.81	19.96	10/1/2014
Rubenstein PF II	-6.16	-6.16	-2.54	-6.16	-2.25	-4.93	2.68	7.38	7/1/2013
Stockbridge Sm/Mkts	0.00	0.00	20.34	0.00	20.34	13.75	11.43	10.71	5/1/2014
Walton St RE VI	3.26	3.26	14.61	3.26	18.32	3.94	4.19	-11.96	5/1/2009
Walton St RE VII	6.24	6.24	6.81	6.24	8.12	-1.01	0.19	6.31	7/1/2013
Real Return Composite	-2.28	2.20	0.90	2.20	4.12	5.72	4.61	4.14	7/1/2011
Real Return (I)	-2.28	2.20	0.90	2.20	4.12	5.72	4.55	3.62	
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.52	
Putnam	-0.51	1.64	-4.10	1.64	0.54			10.94	7/1/2020
Policy Index	-7.28	-4.79	-20.80	-4.79	-16.89			1.60	
Value Added	6.77	6.43	16.70	6.43	17.43			9.34	

Asset Allocation & Performance

Insurance Plan Accounts

Periods Ended September 30, 2022

	Performance (%) net of fees								
	1 Month	QTD	YTD	FYTD	1 Year	3 Years	5 Years	Since Inception	Inception Date
Tortoise Capital	-7.67	8.13	20.16	8.13	22.30	5.85	2.33	8.70	8/1/2009
Alerian MLP Index	-7.62	8.05	18.90	8.05	19.56	4.46	1.90	5.87	
Value Added	-0.05	0.08	1.26	0.08	2.74	1.39	0.43	2.83	
Amerra AGRI Fund II	5.08	5.08	17.17	5.08	17.59	12.68	6.86	6.31	12/1/2012
Amerra AGRI Holdings	-1.38	-1.38	-0.31	-1.38	-0.50	-2.05	-1.92	-1.41	8/1/2015
BTG Pactual	-0.58	-0.58	9.91	-0.58	11.13	3.71	2.20	-2.93	12/1/2014
IFM Infrastructure	0.72	0.72	2.87	0.72	2.89	4.46		4.11	7/1/2019
Magnetar MTP EOF II	4.74	4.74	195.01	4.74	207.78	69.93	42.57	27.47	8/1/2015
Oberland Capital	2.52	2.52	6.54	2.52	15.00	13.48		14.25	8/1/2018
Taurus Mine Finance	17.33	17.33	68.92	17.33	81.53	12.76	14.29	14.94	4/1/2015
TPF II	-1.49	-1.49	34.64	-1.49	34.46	5.82	5.95	-0.44	10/1/2008
Blackstone Strat Opp	0.08	0.40	3.95	0.40	5.78	-3.30	-1.81	-1.59	8/1/2017
Luxor Capital	-0.04	-0.12	0.31	-0.12	10.40	-7.87	0.10	-0.42	4/1/2014
Myriad Opportunities	-0.04	-0.30	-43.21	-0.30	-50.14	-20.02	-13.89	-8.84	5/1/2016
Pine River	-0.17	5.11	-8.85	5.11	-6.46	2.86	4.53	2.83	5/1/2014
PRISMA Capital	-0.25	-0.78	-1.00	-0.78	-2.25	-0.14	0.91	2.41	9/1/2011
SRS Partners US	0.00	0.00	0.00	0.00	-0.01	8.31	6.91	8.74	8/1/2017
Tricadia Select	0.00	0.00	0.00	0.00	0.00	0.00	-4.94	-4.91	9/1/2017

Kentucky Public Pensions Authority

CERS & CERS-Hazardous Unit Holdings

Quarter Ending: September 30, 2022

Kentucky Public Pensions Authority				
Pension: CERS & CERS-H Unit Holdings				
Quarter Ended September 30, 2022				
UNIT OF PARTICIPATION	CERS		CERS-H	
	Shares/Par	Base Market Value	Shares/Par	Base Market Value
Grand Total	45,000,304.882	7,684,172,419.12	15,571,440.430	2,631,618,173.52
KRS ABSOLUTE RETURN UNIT	467,142.467	56,745,048.81	147,973.925	17,974,789.68
KRS ADAMS STREET A1 UNIT	537,201.957	74,802,219.67	181,138.344	25,222,451.30
KRS ADAMS STREET B1 UNIT	493,912.384	61,107,208.61	166,541.597	20,604,650.62
KRS AMERRA AGRI UNIT	286,283.437	25,861,095.36	90,389.048	8,165,193.96
KRS AMERRA UNIT	83,187.980	15,619,293.68	26,265.165	4,931,521.67
KRS ARROWMARK UNIT	1,387,072.461	268,968,431.83	458,544.662	88,916,795.72
KRS BLACKROCK UNIT	3,038,447.035	399,634,684.46	1,044,936.558	137,436,291.24
KRS BLUE TORCH UNIT	482,295.226	71,036,616.60	162,844.338	23,985,124.01
KRS BNYM CUSTODY FEE UNIT	-354,188.926	-354,188.93	-120,357.084	-120,357.08
KRS BTG UNIT	225,179.472	18,203,150.26	72,163.637	5,833,593.60
KRS CASH UNIT	676,879.975	65,615,869.57	571,206.296	55,371,999.76
KRS DB PRIVATE EQ UNIT	16,957.940	5,696,215.48	4,882.071	1,639,900.15
KRS DIVCOWEST IV UNIT	1,775.028	979,574.08	553.116	305,244.82
KRS DOMESTIC EQUITY UNIT	2,776,161.106	618,568,726.66	947,841.614	211,192,779.48
KRS GLOBAL FIXED UNIT	1,516,389.375	188,072,024.03	505,480.883	62,692,877.13
KRS GREENFIELD UNIT	3,105.533	40,637.66	967.716	12,663.11
KRS GREENFIELD VII UNIT	8,253.033	2,529,936.52	2,571.729	788,353.94
KRS HARRISON UNIT	639,390.832	143,515,197.46	199,992.765	44,889,603.86
KRS IFM INFRAST DEBT UNIT	237,800.029	33,144,408.72	81,891.669	11,414,005.96
KRS INTERNAL EQUITY UNIT	5,823,573.799	1,509,660,631.45	1,993,473.840	516,773,562.07
KRS INTERNATIONAL EQUITY UNIT	7,213,232.892	982,528,604.58	2,453,061.943	334,136,380.16
KRS L-A VII UNIT	152,636.219	14,529,146.49	47,573.514	4,528,430.79
KRS LIQUID CORE FIXED UNIT	7,581,574.747	920,525,700.12	2,568,058.278	311,803,777.34
KRS LIQUID CREDIT FIXED UNIT	44,070.529	3.35	13,249.620	1.01
KRS LIQUID HY FI UNIT	1,362,459.923	196,403,002.73	540,525.435	77,918,488.97
KRS MAGNETAR MTP UNIT	319.749	164,495.45	101.107	52,014.68
KRS MESA WEST CORE UNIT	205,495.934	37,227,187.20	64,772.004	11,733,952.45
KRS MESA WEST IV UNIT	57,475.309	5,597,971.75	18,174.289	1,770,136.75
KRS MULTI SECTOR CREDIT FI	1,492,072.539	244,185,443.21	490,250.072	80,231,978.00
KRS OBERLAND UNIT	75,973.800	5,294,175.15	23,718.636	1,652,814.70
KRS PE 2010 UNIT	599,354.056	202,371,038.13	186,574.009	62,996,446.78
KRS PE 2011 UNIT	186,381.087	56,355,254.36	90,116.105	27,248,022.32
KRS PE 2012 A UNIT	10,384.628	6,673,489.76	2,891.166	1,857,954.54
KRS PE 2012 B UNIT	70,319.112	10,304,867.15	19,577.444	2,868,963.41
KRS PE 2013 UNIT	277,228.402	99,523,191.01	94,623.399	33,969,184.05
KRS PE 2014 UNIT	236,569.932	38,876,396.15	80,745.878	13,269,263.40
KRS PE 2015 UNIT	173,577.068	42,571,925.51	59,245.200	14,530,618.99
KRS PE 2016 UNIT	365,391.943	94,650,893.24	113,802.245	29,479,260.14
KRS PE 2017 UNIT	182,453.273	28,196,738.23	56,825.616	8,781,958.21
KRS PE 2018 UNIT	222,319.876	40,098,751.11	69,407.182	12,518,634.71
KRS PE 2019 UNIT	213,621.441	48,159,310.70	66,691.572	15,035,101.92
KRS PE 2021 UNIT	355,647.676	44,382,148.03	120,578.063	15,047,232.98
KRS PERIMETER PARK UNIT	17,188.363	1,682,470.76	18,713.042	1,831,712.89
KRS POST-2015 REAL ESTATE UNIT	668,436.119	98,202,273.73	211,366.442	31,052,578.70
KRS PRIVATE CREDIT FI UNIT	1,573,318.225	293,741,028.34	521,088.869	97,288,125.06
KRS PROLOGIS UNIT	589,178.846	152,732,218.91	186,304.513	48,295,524.96
KRS REAL RETURN UNIT	582,874.757	90,385,634.33	200,725.746	31,126,281.69
KRS RUBENSTEIN PF II UNIT	55,450.515	10,688,449.47	17,278.945	3,330,629.67
KRS SHENKMAN UNIT	827,343.206	124,005,960.82	278,864.190	41,797,432.51
KRS STOCKBRIDGE UNIT	280,090.753	65,618,886.88	89,313.398	20,924,095.84
KRS TAURUS UNIT	8,993.321	2,544,888.89	3,069.595	868,619.97
KRS TPF II UNIT	351.766	37,804.94	117.591	12,637.72
KRS WALTON VI UNIT	38,991.717	6,730,756.74	13,784.580	2,379,496.52
KRS WALTON VII UNIT	37,435.893	6,577,300.98	11,665.409	2,049,554.58
KRS WATERFALL UNIT	895,271.123	153,158,228.94	299,283.444	51,199,822.11

Kentucky Public Pensions Authority				
Insurance: CERS & CERS-H Unit Holdings				
Quarter Ended September 30, 2022				
UNIT OF PARTICIPATION	CERS INS		CERS-H INS	
	Shares/Par	Base Market Value	Shares/Par	Base Market Value
Grand Total	24,639,963.086	2,913,304,661.89	12,393,402.409	1,456,304,234.75
KR3 ARROWMARK UNIT	554,115.798	108,603,720.81	301,875.792	59,166,034.16
KRS INS PE 2014 UNIT	105,061.987	17,294,901.07	56,827.225	9,354,679.68
KRS INS ABSOLUTE RETURN UNIT	152,016.434	18,476,352.23	85,169.799	10,351,691.36
KRS INS ADAMS STREET A1 UNIT	188,094.760	26,191,091.97	99,369.755	13,836,655.48
KRS INS ADAMS STREET B1 UNIT	172,937.453	21,395,950.00	91,362.199	11,303,399.05
KRS INS AMERRA AGRI UNIT	103,554.300	9,355,327.63	57,166.915	5,164,587.27
KRS INS AMERRA UNIT	22,445.700	4,232,027.09	12,391.098	2,336,281.00
KRS INS BLACKROCK UNIT	3,237,957.534	170,212,514.52	1,610,309.295	84,650,521.63
KRS INS BLUE TORCH UNIT	168,732.244	24,852,345.95	88,690.812	13,063,150.77
KRS INS BNYM CUSTODY FEE UNIT	-182,827.047	-182,827.05	-91,481.420	-91,481.42
KRS INS BTG UNIT	66,252.990	5,355,786.30	36,402.518	2,942,721.64
KRS INS CASH UNIT	647,624.910	66,448,291.02	76,391.981	7,838,050.25
KRS INS DB PRIVATE EQ UNIT	30,500.385	10,236,764.73	16,480.257	5,531,225.71
KRS INS DIVCOWEST IV UNIT	514.258	285,419.12	279.422	155,082.43
KRS INS DOMESTIC EQUITY UNIT	1,059,199.449	236,041,223.43	548,016.759	122,124,823.97
KRS INS GLOBAL FIXED UNIT	477,812.423	58,152,160.94	260,465.012	31,699,894.29
KRS INS GREENFIELD UNIT	903.324	11,764.54	490.809	6,392.11
KRS INS GREENFIELD VII UNIT	2,385.535	731,310.85	1,296.149	397,348.11
KRS INS HARRISON UNIT	244,840.322	53,743,968.69	133,920.349	29,396,346.91
KRS INS IFM INFRAST DEBT UNIT	84,318.216	11,605,801.16	43,443.598	5,979,701.47
KRS INS INTERNAL EQUITY UNIT	2,199,673.899	571,523,020.68	1,059,033.413	275,159,865.96
KRS INS INTL EQ UNIT	2,642,452.211	355,725,061.64	1,302,328.581	175,318,559.34
KRS INS L-A-VII UNIT	44,116.449	4,200,359.80	23,970.508	2,282,249.83
KRS INS LIQUID CORE FIXED UNIT	2,837,609.927	341,041,809.59	1,432,350.283	172,148,866.49
KRS INS LIQUID CREDIT FIXED UN	5,562,779.296	5.56	2,995,343.950	3.00
KRS INS LIQUID HY FI UNIT	647,190.002	90,899,202.00	252,073.824	35,404,300.71
KRS INS MAGNETAR MTP	95.017	49,243.01	52.560	27,239.47
KRS INS MESA WEST CORE UNIT	117,798.214	20,902,707.97	65,081.046	11,548,308.36
KRS INS MESA WEST IV UNIT	18,864.849	1,775,562.49	10,352.659	974,393.86
KRS INS MULTI SECTOR CREDIT FI	531,206.774	85,474,053.86	290,366.710	46,721,580.04
KRS INS OBERLAND UNIT	14,385.645	1,035,287.99	7,821.581	562,893.69
KRS INS PE 2010 UNIT	68,484.657	22,595,480.99	36,659.371	12,095,207.26
KRS INS PE 2011 UNIT	126,309.954	39,929,371.82	75,601.647	23,899,353.76
KRS INS PE 2012 A UNIT	3,294.037	2,123,830.62	1,781.717	1,148,762.18
KRS INS PE 2012 B UNIT	28,979.144	4,266,597.23	15,381.575	2,264,628.15
KRS INS PE 2013 UNIT	148,765.450	53,473,620.35	80,466.105	28,923,476.18
KRS INS PE 2015 UNIT	99,765.540	24,312,703.97	53,962.443	13,150,561.83
KRS INS PE 2016 UNIT	211,282.166	54,728,305.79	127,585.865	33,048,497.97
KRS INS PE 2017 UNIT	106,072.833	16,303,715.09	64,053.501	9,845,216.74
KRS INS PE 2018 UNIT	47,133.967	8,746,866.79	25,627.116	4,755,741.65
KRS INS PE 2019 UNIT	22,329.779	5,034,075.20	11,909.211	2,684,839.10
KRS INS PE 2021 UNIT	138,471.156	17,402,993.13	71,248.466	8,954,475.43
KRS INS POST-2015 REAL ESTATE	232,023.689	33,979,597.79	127,330.036	18,647,334.80
KRS INS PRIVATE CREDIT FI UNIT	552,756.673	101,572,595.10	301,468.169	55,396,715.70
KRS INS PROLOGIS UNIT	116,933.241	48,251,117.88	64,170.682	26,479,272.40
KRS INS REAL RETURN UNIT	155,099.374	24,060,972.56	79,929.099	12,399,610.70
KRS INS RUBENSTEIN PF II UNIT	16,254.663	3,114,276.67	8,831.949	1,692,137.99
KRS INS SHENKMAN UNIT	327,773.358	48,678,035.70	121,445.761	18,036,063.47
KRS INS STOCKBRIDGE UNIT	117,767.220	27,471,093.76	64,874.850	15,133,099.74
KRS INS TAURUS UNIT	3,295.449	934,361.32	1,782.484	505,389.13
KRS INS TPF II UNIT	37.089	3,985.88	19.666	2,113.46
KRS INS WALTON VI UNIT	3,937.153	675,577.14	2,109.889	362,036.42
KRS INS WALTON VII UNIT	10,838.188	1,904,215.16	5,888.786	1,034,630.10
KRS INS WATERFALL UNIT	349,745.048	58,071,062.36	183,630.582	30,489,703.97

Kentucky Public Pensions Authority

Internal Asset Holdings Report & Internal Asset Transaction Report

Quarter Ending: September 30, 2022

Reports can be found:

<https://kyret.ky.gov/Investments/Investments-Library/Pages/Internal-Reports.aspx>

Kentucky Public Pensions Authority

Commissions Report

Quarter Ending: September 30, 2022

Reports can be found:

<https://kyret.ky.gov/Investments/Investments-Library/Pages/Commissions-Reports.aspx>

Kentucky Public Pensions Authority

Security Litigation Report

Quarter Ending: September 30, 2022

Claims Filed during the Quarter (pg 3):

13

Proceeds Received during the Quarter (pg 4):

\$41,285.63

Kentucky Retirement Systems	
Quarterly Securities Litigation Report	
Quarter Ended 09/30/22	
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	13
Total Filed	1,638
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	\$41,286
Total Proceeds	\$60,254,971

CERS Investment Committee Meeting - Investment Office Quarterly 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
Exactech Shareholder Securities Litigation	FILED	7/5/2022	4/1/1996	4/15/2018	956765	KRS INS NTGI STRUCTURED
Exactech Shareholder Securities Litigation	FILED	7/5/2022	4/1/1996	4/15/2018	956588	KRS NTGI STRUCTURED
NIELSEN HOLDINGS PLC, Securities Litigation (18CV07143)	FILED	7/12/2022	2/11/2016	7/25/2018	KR2F1011002	KRS INTERNAL EQUITY
NIELSEN HOLDINGS PLC, Securities Litigation (18CV07143)	FILED	7/12/2022	2/11/2016	7/25/2018	KR2F1902002	S&P 500 INDEX
NIELSEN HOLDINGS PLC, Securities Litigation (18CV07143)	FILED	7/12/2022	2/11/2016	7/25/2018	KR3F1011002	KRS INTERNAL EQUITY
MICROCHIP TECHNOLOGY INC., Securities Litigation	FILED	7/23/2022	3/1/2018	11/7/2018	956772	KRS INS KRS INTERNAL EQUITY
MICROCHIP TECHNOLOGY INC., Securities Litigation	FILED	7/23/2022	3/1/2018	11/7/2018	956599	KRS S P 500 INDEX
MICROCHIP TECHNOLOGY INC., Securities Litigation	FILED	7/23/2022	3/1/2018	11/7/2018	956589	KRS SYSTEMATIC
MICROCHIP TECHNOLOGY INC., Securities Litigation	FILED	7/23/2022	3/1/2018	11/7/2018	956766	KRS INS SYSTEMATIC
MICROCHIP TECHNOLOGY INC., Securities Litigation	FILED	7/23/2022	3/1/2018	11/7/2018	956774	KRS INS S P 500 INDEX
MICROCHIP TECHNOLOGY INC., Securities Litigation	FILED	7/23/2022	3/1/2018	11/7/2018	956596	KRS KRS INTERNAL EQUITY
DEPOMED, INC., Securities Litigation (17CV04830)	FILED	8/15/2022	7/29/2015	8/7/2017	956765	KRS INS NTGI STRUCTURED
DEPOMED, INC., Securities Litigation (17CV04830)	FILED	8/15/2022	7/29/2015	8/7/2017	956588	KRS NTGI STRUCTURED
BLACKBERRY LIMITED Securities Litigation (13CV07060)	FILED	8/23/2022	3/28/2013	9/20/2013	KR2F1009002	INVESCO
OVASCIENCE, INC., Securities Litigation	FILED	8/23/2022	12/17/2014	9/28/2015	KR2F1002002	NTGI STRUCTURED
OVASCIENCE, INC., Securities Litigation	FILED	8/23/2022	12/17/2014	9/28/2015	KR3F1002002	NTGI STRUCTURED
CANADIAN IMPERIAL BANK OF COMMERCE Securities Litigation (Canada)	FILED	9/14/2022	5/31/2007	2/28/2008	KR2F2002002	BOSTON CO NON-US VAL
CANADIAN IMPERIAL BANK OF COMMERCE Securities Litigation (Canada)	FILED	9/14/2022	5/31/2007	2/28/2008	KR3F2002002	BOSTON CO NON-US VAL
LIBERTY OILFIELD SERVICES INC Securities Litigation	FILED	9/14/2022	1/11/2018	4/3/2020	956765	KRS INS NTGI STRUCTURED
NISSAN MOTOR CO., LTD., Securities Litigation	FILED	9/14/2022	5/11/2014	11/16/2018	KR3F2901002	NON-US TRANS ACCT
NISSAN MOTOR CO., LTD., Securities Litigation	FILED	9/14/2022	5/11/2014	11/16/2018	KR2F2901002	NON-US TRANS ACCT
Airbus SE : American Depositary Shares, Securities Litigation	FILED	9/15/2022	2/24/2016	7/30/2020	904032	KRS PUTNAM
Airbus SE : American Depositary Shares, Securities Litigation	FILED	9/15/2022	2/24/2016	7/30/2020	904033	KRS INS PUTNAM
Airbus SE : American Depositary Shares, Securities Litigation	FILED	9/15/2022	2/24/2016	7/30/2020	956779	KRS INS AMERICAN CENTURY
Airbus SE : American Depositary Shares, Securities Litigation	FILED	9/15/2022	2/24/2016	7/30/2020	956623	KRS AMERICAN CENTURY
CBS CORPORATION, Securities Litigation (18CV07796)	FILED	9/16/2022	11/29/2017	7/27/2018	956599	KRS S P 500 INDEX
CBS CORPORATION, Securities Litigation (18CV07796)	FILED	9/16/2022	11/29/2017	7/27/2018	956596	KRS KRS INTERNAL EQUITY
CBS CORPORATION, Securities Litigation (18CV07796)	FILED	9/16/2022	11/29/2017	7/27/2018	956774	KRS INS S P 500 INDEX
CBS CORPORATION, Securities Litigation (18CV07796)	FILED	9/16/2022	11/29/2017	7/27/2018	956772	KRS INS KRS INTERNAL EQUITY
CPI AEROSTRUCTURES, INC Securities Litigation	FILED	9/23/2022	3/22/2018	2/14/2020	956588	KRS NTGI STRUCTURED
AMNEAL PHARMACEUTICALS, INC., Securities Litigation	FILED	9/28/2022	5/7/2018	5/5/2021	956765	KRS INS NTGI STRUCTURED
AMNEAL PHARMACEUTICALS, INC., Securities Litigation	FILED	9/28/2022	5/7/2018	5/5/2021	956588	KRS NTGI STRUCTURED
BLACKBERRY LIMITED Securities Litigation (13CV07060)	FILED	9/29/2022	3/28/2013	9/20/2013	KR2F2001002	PYRAMIS NONUS GROWTH
BLACKBERRY LIMITED Securities Litigation (13CV07060)	FILED	9/29/2022	3/28/2013	9/20/2013	KR3F2001002	PYRAMIS NONUS GROWTH



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008

Base Currency: USD

KR2G00000000 - TOTAL FUND

6/30/2022 - 9/30/2022

Status: FINAL

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
CLASS ACTIONS							
CASH & CASH EQUIVALENTS							
U.S. DOLLAR							
CD	0.000 NA9123459	10-00395-BAJ-RBAMEDISYS, INC. (2010) Distribution 2ND DISTRI 20220720S000150 / 0000000000037 KR2F10020002 : NTGI STRUCTURED	7/20/2022 7/20/2022	0.000000 0.000000	446.92 446.92	446.92 446.92	446.92 446.92 Gain/Loss Local Amounts: 446.92 Long Gain/Loss Base Amounts: 446.92 Long
CD	0.000 NA9123459	24119Universal Health Services , Inc. (2016) Distribution 1ST 20220721S000060 / 0000000000008 KR2F10110002 : KRS INTERNAL EQUITY	7/21/2022 7/21/2022	0.000000 0.000000	3,912.70 3,912.70	3,912.70 3,912.70	3,912.70 3,912.70 Gain/Loss Local Amounts: 3,912.70 Long Gain/Loss Base Amounts: 3,912.70 Long
CD	0.000 NA9123459	24119Universal Health Services , Inc. (2016) Distribution 1ST 20220721S000080 / 0000000000008 KR2F19020002 : S&P 500 INDEX	7/21/2022 7/21/2022	0.000000 0.000000	174.63 174.63	174.63 174.63	174.63 174.63 Gain/Loss Local Amounts: 174.63 Long Gain/Loss Base Amounts: 174.63 Long
CD	0.000 NA9123459	WINTHROP REALTY LIQUID TRUST - DISTRIBUTION 20220725S000030 / BE5A378FDBA8 KR2F90010002 : CASH ACCOUNT KR2	7/21/2022 7/21/2022	0.000000 0.000000	1,273.65 1,273.65	1,273.65 1,273.65	1,273.65 1,273.65 Gain/Loss Local Amounts: 1,273.65 Long Gain/Loss Base Amounts: 1,273.65 Long
CD	0.000 NA9123459	2-13-cv-06731-BMSDFC GLOBAL CO RP Distribution 2ND DISTRIBUTI 20220725S000100 / 0000000000000 KR2F10020002 : NTGI STRUCTURED	7/25/2022 7/25/2022	0.000000 0.000000	13.48 13.48	13.48 13.48	13.48 13.48 Gain/Loss Local Amounts: 13.48 Long Gain/Loss Base Amounts: 13.48 Long
CD	0.000 NA9123459	23578TILE SHOP HOLDINGS, INC. (2019) Distribution 1ST DISTRI 20220726S001640 / 0000000000001 KR2F10020002 : NTGI STRUCTURED	7/26/2022 7/26/2022	0.000000 0.000000	695.60 695.60	695.60 695.60	695.60 695.60 Gain/Loss Local Amounts: 695.60 Long Gain/Loss Base Amounts: 695.60 Long



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD
 Status: FINAL

KR2G00000000 - TOTAL FUND

6/30/2022 - 9/30/2022

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	115-cv-11775-GAOENDURANCE INTE	8/3/2022	0.000000	23.76	23.76	23.76
	NA9123459	RNATIONAL GROUP HOLDINGS, INC.		0.000000	23.76	23.76	23.76
		20220803S000110 / 000000000000	8/3/2022				Gain/Loss Local Amounts: 23.76 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 23.76 Long
CD	0.000	SIGNET SECS CLASS ACTION	8/2/2022	0.000000	9,718.01	9,718.01	9,718.01
	NA9123459	20220804S000030 / 19B6BB7F2B00		0.000000	9,718.01	9,718.01	9,718.01
		KR2F20080002 : LAZARD ASSET MGMT	8/2/2022				Gain/Loss Local Amounts: 9,718.01 Long
							Gain/Loss Base Amounts: 9,718.01 Long
CD	0.000	23855BANKRATE, INC. (SEC) Dist	8/12/2022	0.000000	1,520.66	1,520.66	1,520.66
	NA9123459	ribution 1ST DISTRIBUTION PROC		0.000000	1,520.66	1,520.66	1,520.66
		20220812S000600 / 000000000000	8/12/2022				Gain/Loss Local Amounts: 1,520.66 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 1,520.66 Long
CD	0.000	20199ENVISION HEALTHCARE CORPO	8/23/2022	0.000000	553.15	553.15	553.15
	NA9123459	RATION (D. DEL.) Distribution		0.000000	553.15	553.15	553.15
		20220823S000050 / 000000000083	8/23/2022				Gain/Loss Local Amounts: 553.15 Long
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 553.15 Long
CD	0.000	22609Baxter International Inc.	9/15/2022	0.000000	1,313.71	1,313.71	1,313.71
	NA9123459	Distribution 1ST DISTRIBUTION		0.000000	1,313.71	1,313.71	1,313.71
		20220915S000600 / 000000000008	9/15/2022				Gain/Loss Local Amounts: 1,313.71 Long
		KR2F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 1,313.71 Long
CD	0.000	16-cv-00520-RAHEARTWARE INTERN	9/16/2022	0.000000	3,563.78	3,563.78	3,563.78
	NA9123459	ATIONAL, INC. Distribution 2ND		0.000000	3,563.78	3,563.78	3,563.78
		20220916S000510 / 000000000020	9/16/2022				Gain/Loss Local Amounts: 3,563.78 Long
		KR2F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 3,563.78 Long
CD	0.000	212-cv-00604-MHW-KAJBIG LOTS I	9/22/2022	0.000000	492.33	492.33	492.33
	NA9123459	NC. Distribution 2ND DISTRIBUT		0.000000	492.33	492.33	492.33
		20220922S000190 / 000000000000	9/22/2022				Gain/Loss Local Amounts: 492.33 Long
		KR2F90010002 : CASH ACCOUNT KR2					Gain/Loss Base Amounts: 492.33 Long



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD
 Status: FINAL

KR2G00000000 - TOTAL FUND

6/30/2022 - 9/30/2022

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	AMEDISYS INC SEC LIT	9/21/2022	0.000000	294.73	294.73	294.73
	NA9123459	20220923S000190 / 208D52E10B92		0.000000	294.73	294.73	294.73
		KR2F10020002 : NTGI STRUCTURED	9/21/2022				
						Gain/Loss Local Amounts: 294.73 Long Gain/Loss Base Amounts: 294.73 Long	
CD	0.000	21022PERRIGO COMPANY PLC. (201	9/26/2022	0.000000	170.34	170.34	170.34
	NA9123459	9) Distribution 1ST DISTRIBUTI		0.000000	170.34	170.34	170.34
		20220926S005060 / 000000000087	9/26/2022				
		KR2F19020002 : S&P 500 INDEX					
						Gain/Loss Local Amounts: 170.34 Long Gain/Loss Base Amounts: 170.34 Long	
CD	0.000	CLASS ACTION SERVICES LLC FL4	9/22/2022	0.000000	3,276.51	3,276.51	3,276.51
	NA9123459	20221011A000020		0.000000	3,276.51	3,276.51	3,276.51
		KR2F70020002 : PAAMCO	9/22/2022				
						Gain/Loss Local Amounts: 3,276.51 Long Gain/Loss Base Amounts: 3,276.51 Long	
TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:					<u>27,443.96</u>	<u>27,443.96</u>	<u>27,443.96</u>
					<u>27,443.96</u>	<u>27,443.96</u>	<u>27,443.96</u>
TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:					<u>27,443.96</u>	<u>27,443.96</u>	<u>27,443.96</u>
TOTAL CLASS ACTIONS:					<u>27,443.96</u>	<u>27,443.96</u>	<u>27,443.96</u>
TOTAL TRANSACTIONS BASE:					<u>27,443.96</u>	<u>27,443.96</u>	<u>27,443.96</u>



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008

Base Currency: USD

KR3G00000000 - TOTAL FUND

6/30/2022 - 9/30/2022

Status: FINAL

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
CLASS ACTIONS							
CASH & CASH EQUIVALENTS							
U.S. DOLLAR							
CD	0.000	10-00395-BAJ-RBAMEDISYS, INC. NA9123459 (2010) Distribution 2ND DISTRI 20220720S000150 / 0000000000037 KR3F10020002 : NTGI STRUCTURED	7/20/2022 7/20/2022	0.000000 0.000000	22.36 22.36	22.36 22.36	22.36 22.36 Gain/Loss Local Amounts: 22.36 Long Gain/Loss Base Amounts: 22.36 Long
CD	0.000	24119Universal Health Services NA9123459 , Inc. (2016) Distribution 1ST 20220721S000060 / 0000000000009 KR3F10110002 : KRS INTERNAL EQUITY	7/21/2022 7/21/2022	0.000000 0.000000	1,734.99 1,734.99	1,734.99 1,734.99	1,734.99 1,734.99 Gain/Loss Local Amounts: 1,734.99 Long Gain/Loss Base Amounts: 1,734.99 Long
CD	0.000	5 11-CV-05235-RMWOMNIVISION TE NA9123459 CHNOLOGIES, INC (2011) Distrib 20220722S000260 / 0000000000020 KR3F10020002 : NTGI STRUCTURED	7/22/2022 7/22/2022	0.000000 0.000000	24.81 24.81	24.81 24.81	24.81 24.81 Gain/Loss Local Amounts: 24.81 Long Gain/Loss Base Amounts: 24.81 Long
CD	0.000	WINTHROP REALTY LIQUID TRUST - NA9123459 DISTRIBUTION 20220725S000030 / BE5A378FDBA8 KR3F90010002 : CASH ACCOUNT KR3	7/21/2022 7/21/2022	0.000000 0.000000	404.25 404.25	404.25 404.25	404.25 404.25 Gain/Loss Local Amounts: 404.25 Long Gain/Loss Base Amounts: 404.25 Long
CD	0.000	2-13-cv-06731-BMSDFC GLOBAL CO NA9123459 RP Distribution 2ND DISTRIBUTI 20220725S000110 / 0000000000000 KR3F10020002 : NTGI STRUCTURED	7/25/2022 7/25/2022	0.000000 0.000000	16.30 16.30	16.30 16.30	16.30 16.30 Gain/Loss Local Amounts: 16.30 Long Gain/Loss Base Amounts: 16.30 Long
CD	0.000	23578TILE SHOP HOLDINGS, INC. NA9123459 (2019) Distribution 1ST DISTRI 20220726S001070 / 0000000000001 KR3F10020002 : NTGI STRUCTURED	7/26/2022 7/26/2022	0.000000 0.000000	171.01 171.01	171.01 171.01	171.01 171.01 Gain/Loss Local Amounts: 171.01 Long Gain/Loss Base Amounts: 171.01 Long



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD
 Status: FINAL

KR3G00000000 - TOTAL FUND

6/30/2022 - 9/30/2022

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	115-cv-11775-GAOENDURANCE INTE NA9123459 RNATIONAL GROUP HOLDINGS, INC. 20220803S000110 / 000000000000 KR3F10020002 : NTGI STRUCTURED	8/3/2022 8/3/2022	0.000000 0.000000	16.27 16.27	16.27 16.27	16.27 16.27 Gain/Loss Local Amounts: 16.27 Long Gain/Loss Base Amounts: 16.27 Long
CD	0.000	SIGNET SECS CLASS ACTION NA9123459 20220804S000020 / 19B6BB7F2B00 KR3F20080002 : LAZARD ASSET MGMT	8/2/2022 8/2/2022	0.000000 0.000000	3,566.06 3,566.06	3,566.06 3,566.06	3,566.06 3,566.06 Gain/Loss Local Amounts: 3,566.06 Long Gain/Loss Base Amounts: 3,566.06 Long
CD	0.000	23855BANKRATE, INC. (SEC) Dist NA9123459 ribution 1ST DISTRIBUTION PROC 20220812S000610 / 000000000000 KR3F10020002 : NTGI STRUCTURED	8/12/2022 8/12/2022	0.000000 0.000000	681.67 681.67	681.67 681.67	681.67 681.67 Gain/Loss Local Amounts: 681.67 Long Gain/Loss Base Amounts: 681.67 Long
CD	0.000	20199ENVISION HEALTHCARE CORPO NA9123459 RATION (D. DEL.) Distribution 20220823S000050 / 000000000083 KR3F19020002 : S&P 500 INDEX	8/23/2022 8/23/2022	0.000000 0.000000	245.33 245.33	245.33 245.33	245.33 245.33 Gain/Loss Local Amounts: 245.33 Long Gain/Loss Base Amounts: 245.33 Long
CD	0.000	22609Baxter International Inc. NA9123459 Distribution 1ST DISTRIBUTION 20220915S000600 / 000000000008 KR3F19020002 : S&P 500 INDEX	9/15/2022 9/15/2022	0.000000 0.000000	702.75 702.75	702.75 702.75	702.75 702.75 Gain/Loss Local Amounts: 702.75 Long Gain/Loss Base Amounts: 702.75 Long
CD	0.000	14-CV-09662 (JSR)PETROBRAS - P NA9123459 ETROLEO BRASILEIRO S.A (2014) 20220920S000010 / 000000000009 KR3F29010002 : NON-US TRANS ACCT	9/20/2022 9/20/2022	0.000000 0.000000	3,174.16 3,174.16	3,174.16 3,174.16	3,174.16 3,174.16 Gain/Loss Local Amounts: 3,174.16 Long Gain/Loss Base Amounts: 3,174.16 Long
CD	0.000	21878Acer Therapeutics Inc Dis NA9123459 tribution 1ST DISTRIBUTION PRO 20220921S000200 / 000000000007 KR3F10020002 : NTGI STRUCTURED	9/21/2022 9/21/2022	0.000000 0.000000	1,675.67 1,675.67	1,675.67 1,675.67	1,675.67 1,675.67 Gain/Loss Local Amounts: 1,675.67 Long Gain/Loss Base Amounts: 1,675.67 Long



Transaction Detail
Reported By Transaction Category

Report ID: IACS0008
 Base Currency: USD
 Status: FINAL

KR3G0000000 - TOTAL FUND

6/30/2022 - 9/30/2022

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	ASSISTED LIVING CONCEPTS SEC L	9/21/2022	0.000000	338.01	338.01	338.01
	NA9123459	IT		0.000000	338.01	338.01	338.01
		20220923S000190 / 208D52E10B92	9/21/2022				Gain/Loss Local Amounts: 338.01 Long
		KR3F10020002 : NTGI STRUCTURED					Gain/Loss Base Amounts: 338.01 Long
CD	0.000	21022PERRIGO COMPANY PLC. (201	9/26/2022	0.000000	188.85	188.85	188.85
	NA9123459	9) Distribution 1ST DISTRIBUTI		0.000000	188.85	188.85	188.85
		20220926S005060 / 000000000087	9/26/2022				Gain/Loss Local Amounts: 188.85 Long
		KR3F19020002 : S&P 500 INDEX					Gain/Loss Base Amounts: 188.85 Long
CD	0.000	CLASS ACTION SERVICES LLC FL4	9/22/2022	0.000000	879.18	879.18	879.18
	NA9123459	20221011A000020		0.000000	879.18	879.18	879.18
		KR3F70020002 : PAAMCO	9/22/2022				Gain/Loss Local Amounts: 879.18 Long
							Gain/Loss Base Amounts: 879.18 Long
TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:					<u>13,841.67</u>	<u>13,841.67</u>	<u>13,841.67</u>
					13,841.67	13,841.67	13,841.67
TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:					<u>13,841.67</u>	<u>13,841.67</u>	<u>13,841.67</u>
TOTAL CLASS ACTIONS:					13,841.67	13,841.67	13,841.67
TOTAL TRANSACTIONS BASE:					<u>13,841.67</u>	<u>13,841.67</u>	<u>13,841.67</u>

CERS Investment Committee Meeting - Trust Budget

TRUST BUDGET

Account Name	2019	2020	2021	2022	Proposed Trust Budget FY 2023	Q1 FY 2023 (through 9/30/2022)
CONSULTING SERVICES						
Wilshire Associates	1,021,799	1,238,170	1,225,671	1,021,175	1,190,000	288,972
Albourne					270,000	104,250
MercerInsight					160,000	
SUBTOTAL					1,620,000	
LEGAL & AUDITING SERVICES						
Faegre Drinker			96,039	202,502	375,000	3,545
Intelligent Management Solutions (IMS)	620,001	202,140	155,701	69,884	75,000	73,859
McClain/Goldberg			891	0	25,000	
Reinhart	317,909	671,269	663,689	619,509	437,500	23,623
Stoll-Keenon-Ogden	10,314	135,353	254,211	463,560	250,000	89,384
Haystack				0	140,000	
Umberg Zipser			289,101	498,058	360,000	44,952
Frost Brown Todd					50,000	
Miscellaneous					200,000	
SUBTOTAL					1,912,500	
CONTRACTURAL SERVICES						
Bloomberg	68,722	71,810	98,164	102,243	150,000	25,712
BNYM Custodial Fees	2,056,390	2,088,475	2,379,838	2,565,169	4,000,000	568,625
eVestment (Solovis RMS)				30,000	35,000	33,800
Solovis (Reporting & Analytics)				245,000	265,000	257,250
FactSet	222,476	162,295	109,662	140,098	150,000	30,440
Russell Index Subscription	1,075	1,250	1,000	1,000	1,500	250
S&P Global		94,500	26,250	68,250	75,000	
TradeWeb				6,000	7,500	1,200
State Street/Elkins McSherry	10,000	5,000	15,000	10,000	10,000	5,000
ISS	32,050	32,050	28,288	35,813	37,000	4,250
MSCI	1,000	1,000	1,000	1,000	1,000	1,000
KPMG Tax Guarantor Services		7,606	22,050	7,350	7,500	
Jayant Ghevaria and CO		10,050		52,085	55,000	
India Renewal Fee (SEBI)				3,000	3,000	
Miscellaneous & New Services				0	250,000	
SUBTOTAL					5,047,500	

TRUST BUDGET

Account Name	2019	2020	2021	2022	Proposed Trust Budget FY 2023	Q1 FY 2023 (through 9/30/2022)
INACTIVE CONTRACTURAL SERVICES						
Dean Dorton	9,719				0	250
Hirschler		4,794			0	
INFORMA	12,904				0	
Lighthouse Solutions	3,093				0	
London Stock Exchange GBP (GREAT BRITISH POUNDS)	6,467	3,544			0	
Deutsche Bank Trust	3,000		3,000		0	
Morris James LLP	94,192	20,154			0	
Calcaterra Pollack Manatt		90,798	1,200,000	30,757	0	
ORG	162,344				0	
TOTAL	4,653,455	4,576,660	6,251,845	6,459,875	8,580,000	1,556,362

CERS Investment Committee Meeting - Trust Budget

TRUST 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
Reinhart	Bay Hills counsel
Stoll-Keenon-Ogden	Mayberry counsel
Haystack	Conduct Mayberry eDiscovery
Umberg Zipser	PAAMCO-Prisma (California litigation)
Frost Brown Todd	Currently has no investment-related cases
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

KENTUCKY PUBLIC PENSIONS AUTHORITY						
Investment Fees and Expenses						
For the Period Ended September 30, 2022						
Pension						
	2023			2022		
	FYTD Fees	% of MV	Market Value	FYTD Fees	% of MV	Market Value
Core Fixed Income	879,296	0.04%	2,084,448,991	964,078	0.04%	2,367,680,815
<i>Investment Advisory Fees</i>	552,736			618,246		
<i>Performance Fees</i>	313,985			327,140		
<i>Miscellaneous Fees and Expenses</i>	12,575			18,692		
Opportunistic				1,872,113	0.43%	433,477,986
<i>Investment Advisory Fees</i>	<i>Absolute Return was merged with Specialty Credit in December 2021</i>					
<i>Performance Fees</i>				1,872,113		
<i>Miscellaneous Fees and Expenses</i>						
Private Equity	(274,775)	-0.02%	1,209,741,651	24,096,611	1.85%	1,305,498,399
<i>Investment Advisory Fees</i>	1,804,660			1,673,732		
<i>Performance Fees</i>	(2,822,439)			20,395,224		
<i>Miscellaneous Fees and Expenses</i>	743,004			2,027,655		
Public Equity	3,142,570	0.05%	6,065,660,923	3,636,256	0.05%	6,871,426,987
<i>Investment Advisory Fees</i>	3,040,804			3,523,547		
<i>Miscellaneous Fees and Expenses</i>	101,766			112,709		
Real Estate	4,404,144	0.49%	900,610,943	7,779,711	1.15%	677,700,443
<i>Investment Advisory Fees</i>	1,426,364			1,114,665		
<i>Performance Fees</i>	2,332,963			6,615,761		
<i>Miscellaneous Fees and Expenses</i>	644,817			49,285		
Real Return	998,699	0.23%	426,178,862	1,718,974	0.17%	1,010,028,940
<i>Investment Advisory Fees</i>	488,379			1,092,957		
<i>Performance Fees</i>	285,096			372,838		
<i>Miscellaneous Fees and Expenses</i>	225,224			253,179		
Specialty Credit Fixed Income	12,088,166	0.38%	3,152,811,665	11,568,708	0.43%	2,718,991,161
<i>Investment Advisory Fees</i>	4,899,214			3,964,000		
<i>Performance Fees</i>	1,571,969			5,486,542		
<i>Miscellaneous Fees and Expenses</i>	5,616,983			2,118,166		
Cash	781,876	0.10%	799,782,744	858,178	0.15%	572,193,644
<i>Consulting</i>	200,922			338,025		
<i>Trustee</i>	298,991			441,396		
<i>Miscellaneous Fees and Expenses</i>	281,963			78,757		
<small>*FY21 Real Estate fees reflects adjustments for FY 2020*</small>						
Total Investment Mgmt Fees	22,019,976	0.15%	14,639,235,779	52,494,629	0.33%	15,956,998,375

KENTUCKY PUBLIC PENSIONS AUTHORITY								
Investment Fees and Expenses								
For the Period Ended September 30, 2022								
Insurance								
	2023			2022				
	FYTD Fees	% of MV	Market Value	FYTD Fees	% of MV	Market Value		
Core Fixed Income	324,043	0.04%	767,219,317	354,733	0.04%	862,879,050		
<i>Investment Advisory Fees</i>	208,100			230,338				
<i>Performance Fees</i>	112,040			117,337				
<i>Miscellaneous Fees and Expenses</i>	3,903			7,058				
Opportunistic	<i>Absolute Return was merged with Specialty Credit in December 2021</i>			953,291	0.43%	220,729,660		
<i>Investment Advisory Fees</i>								
<i>Performance Fees</i>						953,291		
<i>Miscellaneous Fees and Expenses</i>								
Private Equity	(393,210)	-0.07%	598,395,346	16,466,674	2.67%	616,691,355		
<i>Investment Advisory Fees</i>	1,238,396			1,410,084				
<i>Performance Fees</i>	(1,963,029)			14,392,982				
<i>Miscellaneous Fees and Expenses</i>	331,423			663,608				
Public Equity	1,436,037	0.05%	2,807,242,353	1,625,181	0.05%	3,080,276,960		
<i>Investment Advisory Fees</i>	1,389,622			1,574,855				
<i>Miscellaneous Fees and Expenses</i>	46,415			50,326				
Real Estate	1,799,878	0.47%	380,252,471	3,228,037	1.13%	286,774,553		
<i>Investment Advisory Fees</i>	604,578			482,095				
<i>Performance Fees</i>	919,660			2,722,999				
<i>Miscellaneous Fees and Expenses</i>	275,640			22,943				
Real Return	487,514	0.29%	166,445,599	740,678	0.17%	426,269,531		
<i>Investment Advisory Fees</i>	266,024			484,286				
<i>Performance Fees</i>	116,876			140,229				
<i>Miscellaneous Fees and Expenses</i>	104,614			116,163				
Specialty Credit Fixed Income	5,558,434	0.39%	1,420,316,738	5,016,020	0.42%	1,208,612,993		
<i>Investment Advisory Fees</i>	2,178,608			1,781,734				
<i>Performance Fees</i>	964,003			2,318,174				
<i>Miscellaneous Fees and Expenses</i>	2,415,823			916,112				
Cash	409,706	0.15%	272,226,093	453,829	0.13%	337,944,259		
<i>Consulting</i>	88,051			148,622				
<i>Trustee</i>	195,906			269,240				
<i>Miscellaneous Fees and Expenses</i>	125,750			35,967				
Total Investment Mgmt Fees	\$ 9,622,402	0.15%	\$ 6,412,097,917	\$ 28,838,443	0.41%	\$ 7,040,178,361		

KENTUCKY PUBLIC PENSIONS AUTHORITY Investment Fees and Expenses For the Period Ended September 30, 2022 Pension						
	CERS			CERS Hazardous		
	FYTD Fees	% of MV	Market Value	FYTD Fees	% of MV	Market Value
Core Fixed Income	387,595	0.04%	918,831,301	131,288	0.04%	311,229,844
<i>Investment Advisory Fees</i>	243,647			82,529		
<i>Performance Fees</i>	138,405			46,881		
<i>Miscellaneous Fees and Expenses</i>	5,543			1,878		
Private Equity	245,845	0.03%	710,786,674	(154,333)	-0.07%	237,043,023
<i>Investment Advisory Fees</i>	1,165,281			391,683		
<i>Performance Fees</i>	(1,325,164)			(732,941)		
<i>Miscellaneous Fees and Expenses</i>	405,728			186,925		
Public Equity	1,811,163	0.05%	3,511,233,422	613,772	0.05%	1,199,830,851
<i>Investment Advisory Fees</i>	1,752,868			593,814		
<i>Miscellaneous Fees and Expenses</i>	58,295			19,958		
Real Estate	2,515,735	0.50%	503,826,849	793,779	0.49%	160,387,889
<i>Investment Advisory Fees</i>	830,561			261,139		
<i>Performance Fees</i>	1,319,771			417,156		
<i>Miscellaneous Fees and Expenses</i>	365,403			115,484		
Real Return	656,204	0.29%	229,789,342	210,985	0.28%	76,194,700
<i>Investment Advisory Fees</i>	310,200			100,721		
<i>Performance Fees</i>	197,201			62,145		
<i>Miscellaneous Fees and Expenses</i>	148,804			48,119		
Specialty Credit Fixed Income	6,906,854	0.40%	1,739,711,307	2,325,168	0.39%	590,252,237
<i>Investment Advisory Fees</i>	2,702,550			908,068		
<i>Performance Fees</i>	1,078,923			363,764		
<i>Miscellaneous Fees and Expenses</i>	3,125,381			1,053,336		
Cash	411,391	0.63%	65,275,673	140,258	0.25%	55,271,035
<i>Administrative Expenses</i>	411,391			140,258		
Total Investment Mgmt Fees	12,934,787	0	7,679,454,568	4,060,916	0.15%	2,630,209,580

KENTUCKY PUBLIC PENSIONS AUTHORITY						
Investment Fees and Expenses						
For the Period Ended September 30, 2022						
Insurance						
	CERS			CERS Hazardous		
	FYTD Fees	% of MV	Market Value	FYTD Fees	% of MV	Market Value
Core Fixed Income	143,795	0.04%	340,455,826	72,584	0.04%	171,853,078
<i>Investment Advisory Fees</i>	92,345			46,613		
<i>Performance Fees</i>	-					
<i>Miscellaneous Fees and Expenses</i>	51,450			25,970		
Private Equity	(611,805)	-0.22%	275,341,052	(431,182)	-0.28%	155,048,160
<i>Investment Advisory Fees</i>	584,805			326,753		
<i>Performance Fees</i>	(1,351,268)			(849,884)		
<i>Miscellaneous Fees and Expenses</i>	154,659			91,948		
Public Equity	657,614	0.05%	1,333,831,490	330,038	0.05%	657,413,820
<i>Investment Advisory Fees</i>	635,989			319,408		
<i>Miscellaneous Fees and Expenses</i>	21,626			10,630		
Real Estate	826,691	0.47%	174,368,701	453,143	0.47%	95,585,931
<i>Investment Advisory Fees</i>	277,741			151,969		
<i>Performance Fees</i>	422,360			231,722		
<i>Miscellaneous Fees and Expenses</i>	126,590			69,452		
Real Return	219,276	0.29%	75,090,936	119,393	0.30%	40,261,610
<i>Investment Advisory Fees</i>	119,785			64,996		
<i>Performance Fees</i>	50,955			28,075		
<i>Miscellaneous Fees and Expenses</i>	48,537			26,322		
Specialty Credit Fixed Income	2,525,530	0.39%	646,548,346	1,327,864	0.41%	327,660,913
<i>Investment Advisory Fees</i>	980,905			508,411		
<i>Performance Fees</i>	450,303			241,178		
<i>Miscellaneous Fees and Expenses</i>	1,094,322			578,275		
Cash	199,726		66,303,769	93,178		7,744,959
<i>Administrative Expenses</i>	199,726			93,178		
Total Investment Mgmt Fees	\$ 3,960,827	0.14%	\$ 2,911,940,120	\$ 1,965,017	0.13%	\$ 1,455,568,470



Proxy Voting Policy Update

- Historically the Investment Policy Statements governing Proxy Voting for the CERS Funds delegated the responsibility of voting all proxies to an outside Proxy Voting Service (ISS) or contracted external investment manager.
- The CERS Board adopted the ISS **US Proxy Voting Guidelines** as the CERS approved Proxy Voting Policy for all internally voted proxies.
- Investment Management Agreements with external managers granted discretion for these managers to vote proxies for the funds managed on CERS behalf according to the adopted ISS **US Proxy Voting Guidelines** or in accordance with their own internal policies. The majority of managers elected to vote according to the ISS policy; however, some vote in accordance with their own.
- As directed by the Investment Committee, staff has researched the feasibility and requirements of having all Proxies related to internally and externally managed accounts to be voted in accordance with the revised CERS Proxy Voting Policy.
- For internally managed accounts, staff has engaged with ISS to adopt and implement this new custom policy. ISS has acknowledged its ability to implement the policy and revised language to the existing agreement is nearly finalized and ready to be executed. This change to administering a custom proxy policy will be accompanied by an annual fee increase of \$7,825.00 (current expense of \$15,050.00). Fees will be distributed amongst all plans participating in the investment, pro rata.
- Response for externally managed accounts have varied. The majority of accounts are voted in accordance with an existing ISS policy; however, some are voted based on the manager's internal proxy policy. Further, the majority of external managers have engaged with a third party service provider to vote proxies, the most common being ISS, followed by Glass Lewis. A limited number of the external mandates vote proxies themselves. All external managers have agreed to the new proxy policy adopted by both KRS and CERS. This will require an update or addendum to the current IMAs. Staff will propose language with the external managers in an effort to maintain as much consistency as possible. It should be noted that there will be an additional annual cost to implementing this new custom policy, approaching \$10,000.00 per external relationship (12). This fee is assessed by the third-party service provider, and passed through by the external manager. As noted above, fees will be distributed amongst all plans participating in the investment, pro rata.