

**BOARD OF PENSION TRUSTEES
FOR THE
CITY OF JACKSONVILLE RETIREMENT SYSTEM
Thursday, September 28, 2023, at 2 PM
City Hall Conference Room 3C**

AGENDA

1. CALL TO ORDER

2. PUBLIC COMMENT

3. MINUTES

- a. Copy of July 27, 2023, August 3, 2023, and September 7, 2023, Board of Trustees Minutes; RECOMMENDED ACTION: APPROVAL

4. NEW BUSINESS

- a. GEPP July 2023 and August 2023 Consent; PAC RECOMMENDED ACTION: APPROVAL
- b. COPP July 2023 and August 2023 Consent; COPAC RECOMMENDED ACTION: APPROVAL

5. INVESTMENT AND FINANCIAL MATTERS

- a. Asset/Liability Study
- b. August Investment Performance Review
- c. Staff Update
 - Investment Activity Report

6. OLD BUSINESS

None

7. ADMINISTRATIVE

- a. Staff Update

8. INFORMATION

- a. Financial Discussion with Kayne Anderson – SMID Value scheduled for Thursday, October 5, 2023, at 12:30 PM (meet and greet starts at 12:00)
- b. Next regular BOT meeting scheduled for Thursday, October 26, 2023, at 2 PM

9. PRIVILEGE OF THE FLOOR

10. ADJOURNMENT

**BOARD OF PENSION TRUSTEES
FOR THE
CITY OF JACKSONVILLE RETIREMENT SYSTEM
July 27, 2023**

MINUTES

2:00 PM, held in Person in City Hall Conference Room 3C and via Zoom.

Members Present

Jeffrey Bernardo, Chair
Valerie Gutierrez
David Kilcrease, Secretary
Diane Moser
Jonathan Snell
Mike Weinstein

Members Not Present

Richard Wallace
Julie Bessent
Karen Bowling

Staff Present

Brennan Merrell, Senior Investment Officer
Andy Robinson, Pension Administrator
John Sawyer, OGC
Stephanie Smith, Pension Administration Consultant
Hannah Wells, Assistant Pension Administrator (via Zoom)

Others Present

Cameron Collins, RVK (via Zoom)
Samia Khan, RVK (via Zoom)

1. CALL TO ORDER

Chair Bernardo called the meeting to order at 2:00 PM

2. PUBLIC COMMENT

There was none.

3. MINUTES

Ms. Moser motioned to approve the minutes. Mr. Weinstein seconded the motion. The Chair asked for discussion and there was none. The Chair took a vote and the motion

passed unanimously.

4. NEW BUSINESS

a. Consent agendas

Ms. Moser motioned to approve the consent agendas. Ms. Gutierrez seconded the motion. The Chair asked for discussion. Mr. Robinson spoke about a survivor benefit listed on the consent. The Chair took a vote and the motion passed unanimously.

b. Review of Previously approved disabled child survivor benefit

Mr. Robinson presented an overview of a disabled child benefit that had been previously approved in 2006. He mentioned that there are two other disabled children who are currently receiving this benefit. Mr. Robinson informed the Board about the PAC's recommendation for approval. Ms. Moser motioned to approve the disabled child survivor benefit that had been previously approved. This motion was seconded by Ms. Gutierrez

The Chair asked for discussion and feedback from OGC. Mr. Sawyer provided a detailed explanation of why amendments had been made to the Board's rules to enhance their clarity. He noted that he had consulted with external legal counsel, and it was confirmed that the Board had the authority to approve the benefit with the understanding that they would adhere to the current board rules moving forward. Following the discussion, a vote was called by the Chair, resulting in the motion being unanimously approved.

5. INVESTMENT AND FINANCIAL MATTERS

Mr. Merrell provided an in-depth overview of the preliminary investment report for the month of June. The overall fund value stood at \$2.4 billion, a 3.3% increase for the month, and a FYTD return of approximately 15%. Ms. Khan shared the returns for the current month. MTD the portfolio is up 1.9%, CYTD up 11.24%, and FYTD up 17.34%.

Mr. Merrell introduced the pension payback, while Ms. Khan presented a plan to rebalance the portfolio by redeeming approximately \$140 million from the City's US Equity Portfolio. This move aimed to address the current overweight allocation of 5.3% in US Equity as of June 30, 2023. RVK and Staff recommend utilizing the US Equity portfolio as the primary source for the pension payback, which sparked a discussion among several Board members and staff.

Mr. Kilcrease proposed a motion to authorize the use of US Equity for portfolio rebalancing, which was seconded by Ms. Moser. The Chair called for a discussion, and then initiated a unanimous vote and the motion's approval.

Mr. Merrell provided an overview of the investment activity report and extended an invitation to the new board members to attend investment workshops. He announced the upcoming workshop on August 3, 2023, at 12:30. Mr. Merrell highlighted real estate

redemption requests from Harrison Street, PGIM PRISA II, and Principal. He indicated potential redemptions limitations on the real estate funds and highlighted several capital calls.

b. OLD BUSINESS

There was none.

c. ADMINISTRATIVE

Mr. Robinson updated the Board that, following discussions in the previous Board meeting, he had consulted legal counsel regarding obtaining Life Lock for pensioners affected by the data security issue related to the affidavits. The Office of General Counsel clarified that such an action was not within the Board's purview, but suggested that if any affected members were interested, the Procurement Department could facilitate the process. Mr. Robinson noted that only three members had reached out to inquire about the situation, and they had expressed their approval of the proposed solution.

Mr. Robinson informed the Board about a recent update in the Jax Pension system, specifically to accommodate a dual survivor benefit. He explained that the previous setup only allowed for a pensioner and survivor to receive benefits. However, with the Pension Office's intervention, IT enhancements were made to permit a survivor who had remarried another pensioner to receive a second benefit.

Ms. Gutierrez raised a query about whether the Pension Office had sent out notification letters to the 21 pensioners affected by the affidavit data security issue. Mr. Robinson confirmed that notification letters had indeed been mailed. In response, Ms. Gutierrez proposed the idea of sending another letter to these 21 individuals to inform them of the option of obtaining Life Lock. Mr. Robinson acknowledged the suggestion and assured that staff could begin drafting these additional letters.

Chair Bernardo posed several questions regarding the implementation of the dual survivor benefit, which were addressed by Mr. Sawyer. Mr. Weinstein contributed by clarifying that the pension evaluation focuses on each pension member rather than just the survivor, emphasizing that the dual survivor benefit honors both original pension members. Ms. Gutierrez sought information about the frequency of such occurrences, prompting Mr. Robinson to clarify that this was the first instance of such a case.

d. INFORMATION

The next regular BOT meeting is scheduled for Thursday, August 24, 2023, at 2 PM.

Investment due diligence workshop will be held Thursday, August 3, 2023, at 12:30 PM.

e. PRIVILEGE OF THE FLOOR

Ms. Gutierrez provided the Board with an overview of the recent FPPTA conference. She highlighted her insights into House Bill 3 – ESG and shared perspectives garnered from both FPPTA and various other pension plans. Following her report, Chair Bernardo engaged in a discussion with Ms. Gutierrez concerning ESG investing under House Bill 3.

Chair Bernardo took the opportunity to inform the Board about an article he had come across from Stanford University, which acknowledged the City of Jacksonville. He expressed his intention to distribute this article to all Board members for their reference.

f. ADJOURNMENT

The Chair adjourned the meeting at about 2:33 PM.

**BOARD OF PENSION TRUSTEES
FOR THE
CITY OF JACKSONVILLE RETIREMENT SYSTEM
August 3, 2023**

MINUTES

12:30 PM, held in Person in City Hall Conference Room 3C and via Zoom.

Members Present

Jeffrey Bernardo, Chair
Julie Bessent
David Kilcrease, Secretary
Diane Moser (via Zoom)
Michael Weinstein
Jonathan Snell

Members Not Present

Karen Bowling
Valerie Gutierrez

Staff Present

Brennan Merrell, Senior Investment Officer
Andy Robinson, Pension Administrator
Sheryl Strickland, Pension Coordinator (via Zoom)
Yolanda Tillman, Treasury Analyst III
Hannah Wells, Assistant Pension Administrator
Lakeisha Williams, Manager – Treasury Administration (via Zoom)

Others Present

Adrian V. Meli, Co-CIO, Eagle Capital Management
Will Hyland, Head of Client Team, Eagle Capital Management
Kent Mathis (via Zoom)

1. CALL TO ORDER

Chair Bernardo called the meeting to order at 12:30 PM.

This is a workshop for educational purposes. No votes will take place at the meeting.

2. PUBLIC COMMENT

There was none.

3. INVESTMENT AND FINANCIAL MATTERS

Eagle Capital Management

Mr. Merrell welcomed Adrian V. Meli and Will Hyland from Eagle Capital Management.

Eagle Capital was founded in 1988 and is 100% employee owned with a partnership structure. They currently have 40 employees and \$25.5 billion in AUM as of 6/30/2023.

Mr. Hyland provided an overview of the firm. He discussed attractive double digit returns on a rolling 10-year period and comparison to the S&P 500 and Russell 1000. Additionally, Mr. Hyland reviewed Eagle's long-term alpha creation. Ms. Bessent inquired if Eagle Capital has made any Staff changes. Mr. Hyland discussed one analyst departed after a few years due to the Manhattan commute.

Mr. Meli conducted a comprehensive assessment of the provided materials, offering in-depth insights into their historical performance record and the respective responsibilities of team members. Subsequently, Ms. Bessent and Mr. Meli engaged in a dialogue concerning the fund's performance. Mr. Meli apprised the Board of Eagle's CIO team, highlighting their pivotal role in driving portfolio adjustments. He discussed how the team proactively identifies changes, seizes early opportunities, and leverages market disparities.

During the presentation, Mr. Kilcrease inquired about Eagle Capital's familiarity with Florida's ESG – House Bill 3. This query prompted a discussion involving Mr. Meli, Mr. Hyland, as well as several board members and staff. The presentation was consistently supported by the provided materials, serving as a point of reference for the team. Throughout the session, staff members posed questions, which were promptly addressed by Eagle Capital's representatives.

Mr. Merrell thanked Eagle Capital Management for their presentation. Eagle Capital Management thanked the Board for their time and commitment.

4. OLD BUSINESS

N/A

5. ADMINISTRATIVE

N/A

6. INFORMATION

The next regular BOT meeting is scheduled for Thursday, August 24, 2023, at 2 PM.

Investment due diligence workshop will be held Thursday, September 7, 2023, at 12:30 PM

7. **PRIVILEGE OF THE FLOOR**

None

8. **ADJOURNMENT**

The Chair adjourned the meeting around 2:06 PM.

**BOARD OF PENSION TRUSTEES
FOR THE
CITY OF JACKSONVILLE RETIREMENT SYSTEM
September 7, 2023**

MINUTES

12:30 PM, held in Person in City Hall Conference Room 3C and via Zoom.

Members Present

Jeffrey Bernardo, Chair
Julie Bessent
Karen Bowling

Members Not Present

Valerie Gutierrez
David Kilcrease, Secretary
Diane Moser
Michael Weinstein
Jonathan Snell
Richard Wallace

Staff Present

Chris Cicero, Acting Treasurer
Brennan Merrell, Senior Investment Officer
Robin Adams, Senior Manager – Treasury Administration
Eric Jordan, Financial Specialist
Andy Robinson, Pension Administrator
Stephanie Smith, Pension Administration Consultant (via Zoom)
Hannah Wells, Assistant Pension Administrator

Others Present

Matthew Buxton, Director of Public Fund Relationship Management, Loomis Sayles
John O’Shea, CFA, Investment Director, Growth Equity Strategies, Loomis Sayles
Bob Blanco, COJ Planning Services Manager
Kent Mathis (via Zoom)

1. CALL TO ORDER

Chair Bernardo called the meeting to order at 12:30 PM.

This is a workshop for educational purposes. No votes will take place at the meeting.

2. PUBLIC COMMENT

There was none.

3. INVESTMENT AND FINANCIAL MATTERS

Loomis Sayles

Mr. Merrell welcomed John O'Shea and Matthew Buxton from Loomis Sayles.

Loomis Sayles was founded in 1926 and they currently have \$65.6 billion in AUM as of 6/30/2023.

Mr. Buxton provided an overview of the firm. He discussed their assets under management and reviewed their asset breakdown by fixed income and equity. Mr. O'Shea reviewed the investment team and the technology and operations behind the growth equity strategies team for Loomis Sayles. Mr. O'Shea went into detail explaining their alpha thesis pertaining to their process as of 6/30/2023.

Mr. O'Shea provided a detailed overview of Loomis Sayles Large Cap Growth account and their active risk management regarding their investment process. Mr. O'Shea reviewed the seven-step research framework that their company uses. Sustainable competitive advantage, competitive analysis, financial analysis, management analysis, growth drivers, intrinsic value range, and expectations analysis. He also reviewed how their investment process valuation drives timing and conviction drives weight. Chair Bernardo, Ms. Bessent, and Mr. O'Shea engaged in a dialogue concerning the fund's performance and pivotal role in driving portfolio adjustments. Mr. O'Shea discussed how the team proactively identifies changes, seizes early opportunities, and leverages market disparities. The presentation was consistently supported by the provided materials, serving as a point of reference for the team. Throughout the session, board and staff members posed questions, which were promptly addressed by Mr. Buxton and Mr. O'Shea.

Mr. Merrell thanked Loomis Sayles for their presentation. Loomis Sayles thanked the Board for their time and commitment.

4. OLD BUSINESS

N/A

5. ADMINISTRATIVE

N/A

6. INFORMATION

The next regular BOT meeting is scheduled for Thursday, September 28, 2023, at 2 PM.

Investment due diligence workshop will be held Thursday, October 5, 2023, at 12:30 PM

7. **PRIVILEGE OF THE FLOOR**

None

8. **ADJOURNMENT**

The Chair adjourned the meeting around 1:51 PM.

**GENERAL EMPLOYEES PENSION ADVISORY COMMITTEE
FOR THE
BOARD OF PENSION TRUSTEES**

July 2023

CONSENT AGENDA FOR RECOMMENDED BENEFITS

ALL CALCULATIONS AND DOLLAR AMOUNTS HAVE BEEN AUDITED IN ACCORDANCE WITH ACCEPTED PROCEDURES.

1. TIME SERVICE RETIREMENTS

Martha Bauder, (PA), effective June 17, 2023, in the monthly base amount of \$2,115.53 at the rate of 63.13% (25 years, 3 months), 10% PLOP \$49,133.53

Rosemary Bland, (Tax Collector), effective July 1, 2023, in the monthly base amount of \$1,055.13 at the rate of 33.54% (13 years, 5 months)

Alice Checorski, (PW), effective July 1, 2023, in the monthly base amount of \$3,213.54 at the rate of 57.29% (22 years, 11 months)

George Hester, (Elections), effective July 1, 2023, in the monthly base amount of \$1,440.86 at the rate of 30% (12 years)

Vernon James, (JEA), effective July 1, 2023, in the monthly base amount of \$5,888.92 at the rate of 75% (30 years)

Kenneth Lathrop, (ITD), effective July 1, 2023, in the monthly base amount of \$9,533.17 at the rate of 80% (32 years), 46 months BACKDROP \$470,140.25

Evelyn Denise Lee, (Mayor's Office), effective July 1, 2023, in the monthly base amount of \$1,865.50 at the rate of 19.79% (7 years, 11 months)

Jose Lopez, (Fleet), effective July 1, 2023, in the monthly base amount of \$2,814.39 at the rate of 77.71% (31 years, 1 month), 60 months BACKDROP \$184,485.67

Robert Phillips, (Elections), effective July 1, 2023, in the monthly base amount of \$6,715.85 at the rate of 80% (32 years), 3 months BACKDROP \$20,282.03

Lana Self, (Elections), effective June 24, 2023, in the monthly base amount of \$1,998.37 at the rate of 40.21% (16 years, 1 month)

David Williams, (JSO), effective June 24, 2023, in the monthly base amount of \$5,137.62 at the rate of 75% (30 years)

2. VESTED RETIREMENTS

New Commencements

None

New Deferrals

None

3. SURVIVOR BENEFITS

Christine Burch, (Thomas Burch), effective January 21, 2023, in the monthly COLA base amount of \$3,447.51

Jamie Boucher, (JEA active employee, David Boucher), effective May 30, 2023, in the monthly base amount of \$4,666.93

4. RESTORATION OF SURVIVOR BENEFITS

None

5. CHILDREN/ORPHAN/GUARDIANSHIP BENEFITS

None

6. TIME SERVICE CONNECTIONS COMPLETED

Kevin Beck, (Clerk of Court), 2.87 months in the amount of \$1,086.05

Justin Gicalone, (PA), 76.5 months in the amount of \$54,966.60

7. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2000- 624-E (Independent Agency)

None

8. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2003-573-E (Military)

None

9. REFUNDS

Audrey D Griffin, (JSO), 5 years and 4 months, \$16,472.50

Estate Of Cynthia S Sellers, (Clerk of Courts), 19 years and 11 months, \$ 46,592.03

Estate Of Rose L Jordan, (RPAH), 13 years and 4 months, \$26,983.40

10. DB TO DC TRANSFER

Emily G Davis (Tax Collector) 16 years and 6 months, \$156,429.56

11. OTHER PAYMENTS AND TIME CONNECTIONS

None

12. RE-RETIREE

None

13. DISABILITY

None

PAC Secretary Approval

Date

BOT Secretary Approval

Date

Notes and Comments regarding Approval:

**GENERAL EMPLOYEES PENSION ADVISORY COMMITTEE
FOR THE
BOARD OF PENSION TRUSTEES**

August 2023

CONSENT AGENDA FOR RECOMMENDED BENEFITS

ALL CALCULATIONS AND DOLLAR AMOUNTS HAVE BEEN AUDITED IN ACCORDANCE WITH ACCEPTED PROCEDURES.

1. TIME SERVICE RETIREMENTS

Stanley Bethea, (Elections), effective July 1, 2023, in the monthly base amount of \$8,311.64 at the rate of 80%, 6 months BACKDROP \$50,454.31

Nghi Lee, (ITD), effective July 29, 2023, in the monthly base amount of \$3,760.82 at the rate of 80% (32 years), 38 months \$151,959.06

Richard Mott, (Library), effective July 29, 2023, in the monthly base amount of \$3,087.87 at the rate of 50% (20 years)

Shannon Noland, (JEA), effective July 15, 2023, in the monthly base amount of \$3,239.66 at the rate of 53.75% (21 years, 6 months)

Joann Pressley, (Clerk of Court), effective July 15, 2023, in the monthly base amount of \$3,009.49 at the rate of 80% (32 years, 1 month), 10% PLOP \$57,555.13

Kirk Wendland, (JEJE), effective July 8, 2023, in the monthly base amount of \$9,273.30 at the rate of 61.88% (24 years, 9 months)

2. VESTED RETIREMENTS

New Commencements

Janet Akins, effective July 5, 2023, in the monthly base amount of \$746.78

Richard Dodd, effective July 11, 2023, in the monthly base amount of \$346.00

New Deferrals

None

3. SURVIVOR BENEFITS

Janice Dawkins, (Willie Dawkins), effective July 5, 2023, in the monthly COLA base amount of \$3,943.26

Frank Zahar, (Scarlett Zahar), effective July 22, 2023, in the monthly base amount of \$846.30

4. RESTORATION OF SURVIVOR BENEFITS

None

5. CHILDREN/ORPHAN/GUARDIANSHIP BENEFITS

David Moody, effective February 5, 2023, in the amount of \$300 monthly

6. TIME SERVICE CONNECTIONS COMPLETED

Dinah Coleman Mason, (Procurement), 87.23 months in the amount of \$77,423.25

Lavell Greene, (R&E), 72.57 months in the amount of \$24,878.10

Stacy Jones Duncan, (PA), 19.13 months in the amount of \$7,190.96

Joann Pressley, (Clerk of Court), 11.7 months in the amount of \$4,139.46

Robert Weisback, (JHA), 4.43 months in the amount of \$2,334.80

7. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2000- 624-E (Independent Agency)

None

8. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2003-573-E (Military)

Dinah Mason Coleman, (Procurement), 16 months in the amount of \$28,401.34

Gregory Lyles, (JEA), 24 months in the amount of \$47,899.20

Sandra Moody, (P&R), 24 months in the amount of \$20,524.40

9. REFUNDS

Hipolito V Dela Cruz Jr, (JSO), 4 years and 11 months in the amount of \$16,006.15

Latisha N Hightower, (Library), 6 years and 2 months in the amount of \$15,189.08

Carol K Kelley, (Special Events), 16 years and 3 months in the amount of \$54,709.47

Shanna N Tutson, (Tax Collector), 11 years and 5 months in the amount of \$26,318.93

10. DB TO DC TRANSFER

Rose Baker, (EREQ), 23 years and 8 months in the amount of \$485,055.35

Raymond E Feest, (PWPB), 8 years and 5 months in the amount of \$110,600.36

11. **OTHER PAYMENTS AND TIME CONNECTIONS**
None

12. **RE-RETIREE**
None

13. **DISABILITY**
None

PAC Secretary Approval

Date

BOT Secretary Approval

Date

Notes and Comments regarding Approval:

CORRECTIONAL OFFICERS PENSION ADVISORY COMMITTEE

July 2023

CONSENT AGENDA FOR RECOMMENDED BENEFITS

ALL CALCULATIONS AND DOLLAR AMOUNTS HAVE BEEN AUDITED IN ACCORDANCE WITH ACCEPTED PROCEDURES.

1. TIME SERVICE RETIREMENTS

Mark Farris, effective July 1, 2023, in the monthly COLA base amount of \$3,106.83 at the rate of 60.17% (20 years, 1 month)

John Verwey, effective June 24, 2023, in the monthly base amount of \$7,030.48 at the rate of 60.33% (20 years, 2 months)

2. TIME SERVICE CONNECTIONS COMPLETED

None

3. REFUNDS

Brandon L Freeman, 5 years and 10 months, \$26,868.98

Tyler K Kovacs, 7 years and 3 months, \$30,208.57

Valenica N Mitchell, 8 years and 7 months, \$36,890.44

Michael C Purvis, Jr, 6 years, \$27,784.85

4. SURVIVOR BENEFITS APPLICATION

None

5. CHILDREN/ORPHAN/GUARDIANSHIP BENEFITS

None

6. VESTED BENEFIT

None

7. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2003-573-E (Military)

None

8. OFFICERS ENTERING DROP July 2023

Dennis Mack - 6234

Kristofer Pike - 7341

Holly Shinholser - 5992

Kenya Smith - 5599

Davis Thies - 7143

9. Phase II Biweekly Distribution DROP Program

None

10. DROP Payments

None

COPAC Secretary Approval

Date

BOT Secretary Approval

Date

Notes and Comments regarding Approval:

CORRECTIONAL OFFICERS PENSION ADVISORY COMMITTEE

August 2023

CONSENT AGENDA FOR RECOMMENDED BENEFITS

ALL CALCULATIONS AND DOLLAR AMOUNTS HAVE BEEN AUDITED IN ACCORDANCE WITH ACCEPTED PROCEDURES.

1. TIME SERVICE RETIREMENTS

James Chafen, effective July 26, 2023, in the monthly amount of \$4,776.17 at the rate of 80% (30 years)

Keith Krause, effective July 29, 2023, in the monthly COLA base amount of \$4,837.17, at the rate of 64.5% (22 years, 3 months)

Timothy Means, effective August 5, 2023, in the monthly COLA base amount of \$3,632.22 at the rate of 62% (21 years)

2. TIME SERVICE CONNECTIONS COMPLETED

James Chafen, 199 months in the amount of \$120,554.20

3. REFUNDS

None

4. SURVIVOR BENEFITS APPLICATION

None

5. CHILDREN/ORPHAN/GUARDIANSHIP BENEFITS

None

6. VESTED BENEFIT

None

7. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2003-573-E (Military)

Sandra L Moody, 24 months in the amount of \$20,524.40

Tony P Perry, 12 months in the amount of \$14,298.70

8. OFFICERS ENTERING DROP July 2023

Dennis Mack - 6234

Kristofer Pike - 7341

Holly Shinholser - 5992

Kenya Smith - 5599

Davis Thies - 7143

9. Phase II Biweekly Distribution DROP Program

None

10. DROP Payments

None

COPAC Secretary Approval

Date

BOT Secretary Approval

Date

Notes and Comments regarding Approval:

Memorandum

To	City of Jacksonville Employees' Retirement System
From	RVK, Inc.
Subject	Asset/Liability Study – Executive Summary
Date	September 28, 2023

Introduction

The purpose of this memorandum is to summarize the key inferences we draw from the Asset/Liability (“A/L”) study of the City of Jacksonville Employees’ Retirement System (COJERS, System or Plan). While this memorandum refers directly to points raised within the study, we emphasize that a full understanding of the A/L study and its implications requires a close review of the study in its entirety.

Background and Key Conclusions

As of the fiscal year ending September 30, 2022, the date of the most recent actuarial valuation and the start date of the projections in this study, the System was approximately 49% funded (on a market value basis). Based on a preliminary fiscal year-to-date return of 11.47% through May 31, 2023, we estimate the funded ratio has increased to 50%. In short, this means that assets were available to cover 50% of the System’s liabilities as currently estimated by the System’s actuary. This equates to a shortfall of approximately \$2.1 billion. The System faces a significant challenge and improvements in funding are likely to be slow and occur over the long term. This study suggests that no improvement in funding should be expected over the next decade. After this time, funding levels are projected to increase as surtax revenue is sent to the System.

While the System faces a challenging decade, and as highlighted below, this study suggests that continued diversification in the investment of the System’s assets is desirable. The study, however, suggests caution in assuming that increased pursuit of higher expected returns, through even more aggressive (and hence even more volatile) asset allocations, is always beneficial. High expected return and high expected risk approaches also bring increased risk of large declines in the value of the System’s assets and increased volatility in required contributions.

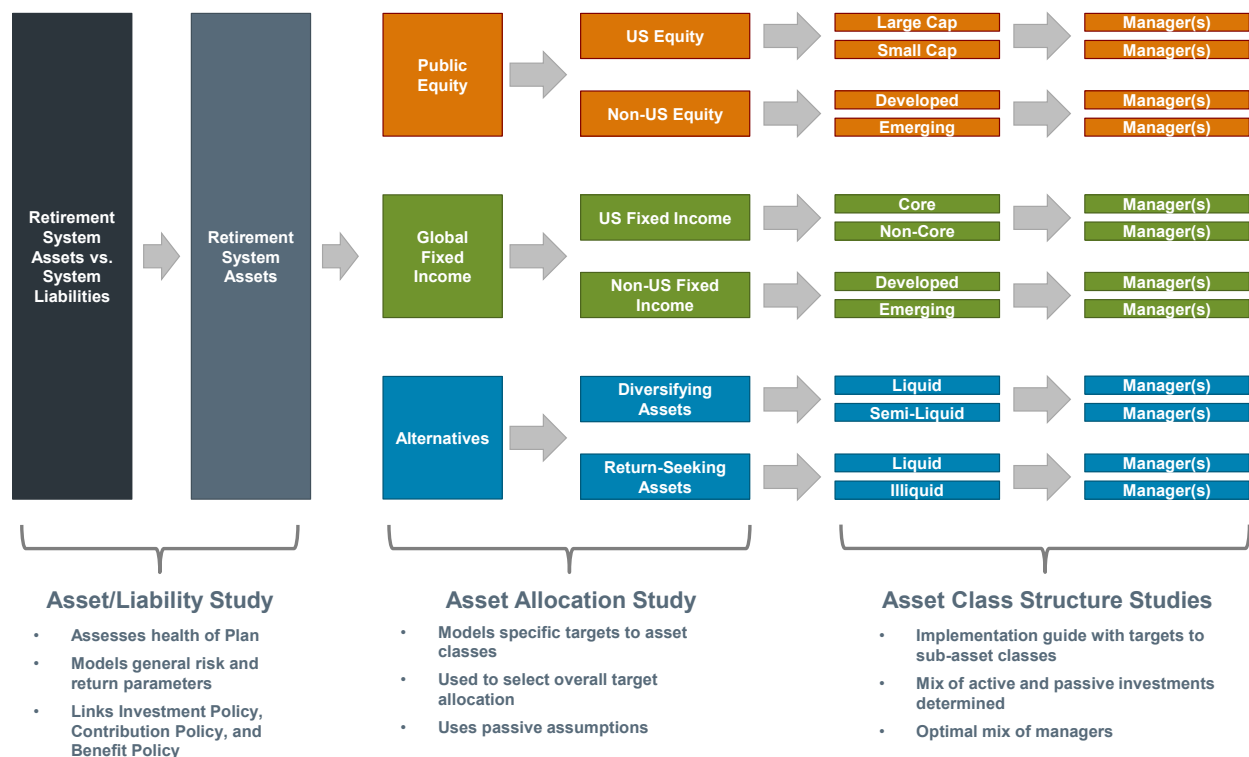
The Purpose of an Asset/Liability Study

The central purpose of an A/L study is to examine the probable future consequences, over extended periods of time, of applying alternative asset allocation strategies to the System’s investment assets in order to fund the liabilities created by the benefit provisions of the System. A/L studies are unique in their ability to combine in a single analysis the three critical factors that drive the financial health of the System—benefit policy (liabilities), contribution policy, and investment strategy (asset allocation). Certainly, this type of forward-looking study cannot indicate with any reliability what will happen in any given year over this extended period of time, and its insights are dependent on the assumptions used. However, we have high conviction that the

results of the study paint a highly reliable view of the core long-term trends in the System’s financial health.

Best practice, in our judgment, is to take the general direction suggested as most appropriate by this study with its unique consideration of liabilities, contribution policy, and trending liquidity needs and refine it in an asset allocation study where implementing the System’s structure can reflect the pragmatic considerations of investing in the capital markets present at any given point in time.

While this study does not suggest modifying the risk profile of the current asset allocation strategy, refinements to asset allocation and asset class structure will be evaluated as the Board moves through the activities and decision points from left to right in the below investment decision framework.



Deterministic versus Stochastic

In this study, we examined a series of related questions associated with this central purpose, projecting future outcomes under two distinctly different methodologies:

1. a **deterministic** basis (all underlying assumptions, liabilities, contributions, and most critically investment returns, are achieved precisely and without variance in each and every year); and
2. a **stochastic** basis (outcomes for investment returns vary each year according to estimated volatility with contribution *requirements* following suit while *actual* contribution policy and liabilities remain in their current form).

Key Results

Below you will find a series of important findings, forecasts, and conclusions drawn from the body of the study. While the remarks are presented here to allow a quick assessment of some of the key findings, they represent only a sampling of the fundamental elements of the study. We emphasize that a solid understanding of each element requires that they be reviewed as they are presented in the study itself within their surrounding context (please note the frequent page references to the full A/L study). This is especially important to understanding the findings which represent *probable, but not certain*, outcomes as analyzed in the stochastic section of the study.

At the Outset:

- As of September 30, 2022 (the date of the actuarial valuation used to model liabilities), the System's market value funded ratio (available assets to fund benefit obligations) was approximately 49% (page 6). Updated through May 31, 2023, we estimate the funded ratio has marginally increased to approximately 50%.
- Given the System is closed to new entrants, demographic challenges exacerbate funding difficulties. The number of active members are expected to continue to rapidly decrease from about 3,400 today to under 400 in 20 years, a 90% decrease (page 8). The number of benefit-receiving members is projected to decrease by about 17% through the projection period. The continued maturing demographics of the System is an important factor when considering the findings on System risk/return options and the projected status of the System's liquidity.

Deterministic Analysis: A deterministic analysis assumes full certainty about the future, in particular, certainty of investment returns. Its virtues are that it is simple and that the findings reflect what will happen if the future turns out to be precisely as forecasted—no better, but also no worse.

- Even with a projected decline in inactive members, inflation causes benefit payments to System participants to increase by 33% over the next 20 years (page 9). Annual increases are projected to average approximately 2%.
- Annual dollar contributions (employer and employee) based on actuarially required rates are expected to materially increase in 2030 as a result of surtax revenue (page 10). *Please note, however, that precise actuarially required rates as they unfold are the purview of the*

System’s actuary and are affected by factors other than investment returns and resulting asset values of the System.

- Aggregate benefit payments are expected to increase by about 33% over the next 20 years but remain roughly constant as a percentage of System assets over this same time period (pages 9 and 11). Increased payout ratios, if they rise sufficiently high, can potentially impose liquidity constraints on the management of the portfolio (inhibiting the ability of the System to invest with a long-term horizon), therefore limiting the opportunity to invest in less liquid asset classes regardless of the return or risk-reducing diversification benefits they offer. The payout ratio is projected to remain at approximately 12-14% through the end of the projection period. These levels do not, in our opinion, materially inhibit investment opportunities for the System. However, should the payout ratio begin to rise, or exceed projections, asset liquidity will need to be carefully monitored. RVK considers a payout ratio above 15% as a cause for concern.
- As assets grow each and every year without exception at the assumed rate of return (6.50%), the funding ratio on a market value basis is expected to gradually increase to approximately 76% by 2042 from the current value of 50% (page 15). Please note, all improvement in funding ratio occurs after 2030 when surtax revenue begins flowing into the System.
- Assuming the current contribution policy remains unchanged, the System would need to experience annual returns in excess of 14.0% over the next 10 years or 8.2% over the next 20 years without exception in each and every year in order to reach full funding (page 16). It is not realistic to expect these returns, especially over the next 10 years.

Value in 2042								
	Base Case	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F	Scenario G
Projected Payout Ratio	12%	13%	13%	14%	14%	12%	12%	12%
Projected Employer Contributions ex Surtax (millions)	\$144.6	\$159.5	\$178.4	\$200.0	\$190.5	\$181.7	\$86.1	\$102.6
Projected Actuarial Accrued Liabilities (billions)	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$4.6	\$3.9	\$3.9
Projected Market Value of Assets (billions)	\$3.0	\$2.7	\$2.7	\$2.5	\$2.5	\$3.4	\$2.9	\$2.9
Projected Surplus/(Deficit) (billions)	(\$0.9)	(\$1.2)	(\$1.2)	(\$1.4)	(\$1.4)	(\$1.2)	(\$1.0)	(\$1.0)
Projected Market Funded Ratio	76%	70%	69%	63%	63%	73%	73%	75%
20 Year Cumulative Total								
Projected Cumulative Employer Contributions ex Surtax (billions)	\$2.94	\$3.06	\$3.46	\$3.73	\$3.52	\$3.39	\$2.56	\$2.29
Change Over Base Case	--	4%	18%	27%	20%	15%	-13%	-22%

- Experiencing a return of 50 basis points below the System’s current assumed rate of return of 6.50% (i.e., 6.00%) each year for the 20-year projection period would result in a moderate decline in the projected market funding ratio to 70% in year 20 versus 76% at the current assumed rate of return (page 17). Additionally, under this scenario, cumulative employer contributions would be approximately \$120 million higher over the 20-year period. Given the widely shared concerns about the prospects for a low-return environment in the capital markets over the foreseeable future, this is a conclusion that should be thoroughly understood and appreciated. In the event that capital markets do not support returns commensurate with the assumed rate of return, reliance on contributions to complete the payout of the System’s liabilities effectively increases, especially in later years.

- Investment strategies that introduce increasing volatility in the Fund's returns over the next 20 years also introduce rising employer contributions. Scenarios B, C, and D shown on page 17 of the full A/L study illustrate this point. These scenarios show a decrease in ending projected funded ratios at 69%, 63%, and 63%, respectively. Scenario B illustrates a V-patterned scenario and assumes a return of -20% in the first projection year and +20% in the second projection year followed by the assumed rate of return thereafter (6.50%). Scenario C projects a W-patterned scenario and assumes a return pattern of -15%, +15%, -15%, +15% followed by the assumed rate of return thereafter (6.50%). Scenario D assumes a 10% loss in the first year of the projection followed by an annual return of 6.00%. The key conclusion from this part of the study is that volatility – specifically declines and subsequent recoveries in the Plan's assets – and *when* they occur can have a significant effect on cumulative plan contributions.
- Scenario E assumes returns of 6.50% per year, similar to the base case scenario. However, in this scenario, the expected return is met but achieved in an environment where inflation is projected to be 5.00% per year rather than the base projection of 2.50%. This scenario, particularly relevant currently, generates a significantly higher projected actuarial accrued liability, approximately 18% higher than the base case. This requires substantially higher contributions during the projection period, \$451 million more during the period. As observed in the previous scenarios, the return pattern matters. This scenario shows that inflation also plays a material role in the outcome of the System going forward. Stated more directly, persistently high inflation (1) increases Plan liabilities, (2) raises employer contribution costs, and (3) weakens the financial health of the System.

Stochastic Analysis: Unlike a deterministic analysis, a stochastic analysis does not assume an unvarying stream of expected investment returns year after year. Instead, it reflects the realistic view that pension plan investment returns are—like the investment markets themselves—volatile and always uncertain. This means that there are a range of possible outcomes for the System; some are more likely, others less likely, but still possible.

The deterministic approach is useful for gauging the general direction of change and associated consequences, but adding the element of uncertainty—more specifically year to year variability in the performance of the capital markets and the value of the System's assets over time—can offer additional insights, albeit along with considerable complexity.

Uncertainty in future investment returns is taken into account via a stochastic analysis of five different investment approaches (in the table below and on page 23) ranging from highly conservative (low risk, asset protective) to highly aggressive (high return-seeking with substantial associated risk), including the current Target Allocation of the System. The reason for testing such a broad range of approaches is that at the heart of the System's situation is a simple question that is difficult to answer: whether the System is better off following a strategy that:

- (A) Falls in the general category of higher prospective return with greater risk (i.e., potential for more widely varying outcomes – good or bad), or

(B) Falls in the general category of lower prospective return with concomitantly lower risk (i.e., a tighter band of likely outcomes).

	Min	Max	1	2	3	4	5	6	7	8	9	10	100% FI	Reduced Risk	Current Target	Increased Risk	100% Equity
Broad US Equity	0	40	31	27	24	24	23	22	22	22	30	40	0	26	30	36	50
Dev'd Large/Mid Int'l Equity	0	20	7	7	5	8	10	12	15	17	17	17	0	13	16	17	40
Emerging Markets Equity	0	10	0	3	3	4	5	6	7	8	8	8	0	6	7	8	10
US Agg Fixed Income	0	20	20	20	19	16	13	10	7	4	0	0	100	14	10	6	0
Custom Core Plus Fixed Income	0	20	20	20	20	20	20	20	20	20	16	6	0	14	10	6	0
Core Real Estate	0	10	10	10	10	10	10	10	10	10	10	10	0	10	10	10	0
Non-Core Real Estate	0	5	5	5	5	5	5	5	5	5	5	5	0	5	5	5	0
Private Equity	0	7	0	1	7	7	7	7	7	7	7	7	0	7	7	7	0
Private Credit	0	7	7	7	7	7	7	7	7	7	7	7	0	5	5	5	0
Total			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Capital Appreciation			50	50	51	54	57	60	63	66	74	84	0	62	70	78	100
Capital Preservation			40	40	39	36	33	30	27	24	16	6	100	28	20	12	0
Alpha			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inflation			10	10	10	10	10	10	10	10	10	10	0	10	10	10	0
Expected Arithmetic Return			6.1	6.2	6.4	6.6	6.8	6.9	7.1	7.3	7.4	7.6	4.0	6.9	7.2	7.4	7.9
Expected Risk (Standard Deviation)			8.6	8.7	9.1	9.6	10.1	10.6	11.0	11.6	12.6	13.8	5.1	10.8	11.9	13.0	16.3
Expected Compound Return			5.8	5.8	6.0	6.2	6.3	6.4	6.5	6.7	6.7	6.7	3.9	6.4	6.5	6.6	6.7
Expected Return (Arithmetic)/Risk Ratio			0.71	0.71	0.70	0.69	0.67	0.65	0.65	0.63	0.59	0.55	0.78	0.64	0.61	0.57	0.48
RVK Expected Eq Beta (LCUS Eq = 1)			0.49	0.50	0.51	0.54	0.56	0.59	0.62	0.65	0.71	0.80	0.07	0.61	0.68	0.75	0.97
RVK Liquidity Metric (T-Bills = 100)			69	68	62	62	62	62	63	63	64	67	85	66	67	69	92

Essential to answering this question is to ask precisely how the System and its broader constituencies define what “better off” means. The metrics we use for each to determine whether the System is “better off” under one approach versus another are as follows:

- (1) The effect on funding ratio (and thus on contribution rates which decline with higher funding ratios).
- (2) The effect on System liquidity (i.e., the System’s ability to pay annual benefits without major disruption of its strategic asset allocation, the driver of its investment strategy).
- (3) The effect on the trend line and stability of annual contributions.
- (4) The risk of large, sudden, and highly disruptive short-term declines in the System’s assets over the course of time and the associated effects on contributions and potential investment decisions as well.

The results of this analysis are displayed on pages 24 through 38 of the accompanying A/L study. For purposes of this summary, the consequences of choosing A versus B, as described on the prior page, are summarized most clearly in the tables on pages 27 and 38 of the study (copied below followed by explanatory comments).

20 Years	Probability of Full Funding in 2042	Probability of < 50% (Current) Funding in 2042	Probability of < 35% Funding in 2042	Maximum 1 Year Investment Loss
100% Fixed Income	0%	51%	2%	-7%
Reduced Risk	15%	25%	6%	-24%
Current Target	19%	26%	8%	-28%
Increased Risk	22%	28%	10%	-31%
100% Equity	32%	34%	17%	-44%

20 Years	Market Funded Ratio in Year 20			Cumulative Employer Contributions in Year 20 (Billions)			Payout Ratios		
	50th	5th	95th	50th	5th	95th	Year 20 Median	Years 1 to 20	
								Peak	Trough
100% Fixed Income	50%	38%	68%	\$4.7	\$5.2	\$4.2	18%	25%	12%
Reduced Risk	66%	33%	125%	\$4.3	\$5.4	\$3.0	14%	32%	7%
Current Target	67%	31%	141%	\$4.3	\$5.5	\$2.7	14%	34%	7%
Increased Risk	68%	29%	157%	\$4.3	\$5.6	\$2.4	13%	37%	6%
100% Equity	69%	22%	262%	\$4.2	\$5.9	\$1.6	13%	53%	3%

- With the exception of the 100% Fixed Income portfolio, all portfolios result in a median expected funding ratio at the end of the 20-year study period that is higher than the current funding level (50%) (pages 26, 27, and 38). The 100% Fixed Income portfolio ends the 20-year projection period with no expected gains in funding ratio. This is supportive of the continued utilization of a diversified investment approach.
- With the exception of the 100% Fixed Income portfolio, all portfolios analyzed show a moderate (from 15% to 32%) probability of full funding in 20 years (page 27). The 100% Fixed Income portfolio has zero probability of full funding in 20 years. Again, this supports a diversified approach.
- The 100% Fixed Income portfolio shows a median payout ratio of 18%, which is not sustainable (page 28). None of the other portfolios show a significant probability of extreme median payout ratios over the next 20 years (pages 29-32 and 38). However, each of the portfolios do indicate liquidity may be a concern at some point in the future following a market decline. Each of the portfolios has at least a 25% probability of payout ratios exceeding 20% at some point during the projection period. High payout ratios severely limit the System’s ability to invest in illiquid strategies and may inhibit the System’s ability to invest with a long-term focus reducing the potential return opportunities. In short, a heavy reliance on illiquid investments risks could turn even normal asset value declines into disruptive events.
- As the expected risk and return of the System are incrementally increased (from the Lower Risk portfolio to Target Allocation to the Higher Risk portfolio), the outcomes do appear to very marginally improve at the cost of reduced worst-case outcomes. This is a direct result of significant increases in portfolio volatility associated with diminishing increases in return. The benefits taper off and costs increase though as expected risk increases. This implies the tradeoff for additional upside likely becomes less attractive the more risk is increased. The range or dispersion of potential outcomes—particularly for the market funded ratio and cumulative employer contributions—increases as incremental risk is added to the plan. This does not, in our opinion, directly support increasing risk at this time.

- The cumulative cost of providing the System's benefits is met through a combination of contributions and the investment returns on those contributions. The most conservative portfolio (100% Fixed Income) requires the largest increase in cumulative contributions (i.e., the direct funding of benefits) (pages 33 and 38). Even under the very unlikely best-case scenario, the System would have a funded ratio of about 68% with the 100% Fixed Income portfolio, far lower than any of the other portfolios and lower than the current value (page 38). The only redeeming virtue of such an ultra-conservative approach is that the potential for large declines in the value of the System's assets is significantly mitigated albeit at much higher ongoing costs (contributions) and chronic poor System financial health.
- The most aggressive portfolio (100% Equity) does appear to have the highest *probability* of producing full funding by 2042 at 32% (page 27). *However*, it also has a maximum theoretical one-year portfolio decline of 44%—a loss of almost half of the System's assets, which we believe is significant by any standard. The likelihood of notably larger one-year declines within the study period gives pause to the desirability of a far more aggressive approach simply from a quantitative viewpoint. It also suggests that it may be a strategy which is extremely difficult for decision-makers to sustain over a long period of time. Declines in the total fund market value of this magnitude are a disruptive event from all aspects of System management. Yet, the benefit of such an aggressive approach that makes it superficially attractive can only be realized with any probability if the aggressive and highly volatile approach is maintained for several decades through good times, bad times, and unnerving times. Furthermore, this type of strategy could prove difficult to maintain in future years should demographic (early retirement incentives for example) or financial events create higher liquidity demands on the System. For all these reasons, it is not an approach that should be seriously considered without full recognition of the significant risks.

Final Comments

Although this A/L study shows that the System currently has a shortfall of approximately \$2.1 billion, it also suggests improvements in financial health are possible under the current assumptions. The System can best meet its objectives through the continued use of a well-diversified investment portfolio. However, positive outcomes are extremely dependent on the contribution policy. This study does not suggest changes to the long-term strategic target allocation. The incremental cost of additional volatility does not justify the potential increase in median outcomes. Additionally, reducing volatility increases contributions and does not improve the expected median outcome.

The study is not supportive of a long-term, ultra-conservative approach as the protection such a strategy provides to current System assets comes with the heavy cost of considerably higher contributions. Conversely, the increasing potential for large one-year declines suggests that there is likely a limit to the net benefits of adding increased risk in pursuit of additional return.

Progress should be monitored periodically through studies such as these, particularly if the System encounters a sustained period of lower returns in the capital markets (and thus for the System's assets) as well as material changes in contribution policy or benefit levels.

Additionally, this study assumes no further changes are made to the benefit policy at any point during the 20-year projection period. Such changes would fall outside the reach of an Asset/Liability study. However, we do note that even small changes to the benefit policy can have a meaningful long-term impact on the likely future outcomes of the System if they are adopted without a corresponding change in assets or contributions.

Asset/Liability Study

City of Jacksonville Employees' Retirement System

August 2023



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Introduction

RVK, Inc. (RVK) has prepared this report for the City of Jacksonville Employees' Retirement System (COJERS, System or Plan) to:

- Present projected valuation results with respect to the funded status of the Plan.
- Present projected benefit payments of the Plan.
- Investigate asset mixes to determine those which best serve to protect and increase funding levels, while providing adequate liquidity for benefit payments.

The valuation projections are shown using both a deterministic and stochastic process.

The deterministic process provides an open group analysis of projected valuation results based on a fixed set of future assumptions (see summary in the Assumptions and Methods section of this report).

The stochastic process provides an open group analysis of projected valuation results under many capital market environments based on expected asset returns and inflation, and their expected volatility. Using a Monte Carlo simulation technique, both assets and liabilities are assumed to vary stochastically, linked together by changes in inflation. Expected values, variances of the returns and inflation, and correlations are used to generate 2,000 trials to produce a distribution of potential outcomes. A stochastic analysis can answer questions about the best/worst case outcomes along with the probability of such outcomes.

Introduction (continued)

What is an Asset/Liability Study?

- Investment programs and the strategy they seek to implement (Investment Policy) do not exist in a vacuum. They seek to satisfy one or more investment objectives and operate within a plan framework that includes the investment objectives (Benefit Policy) and plan funding (Contribution Policy).
- The purpose of an Asset/Liability Study is to examine how well alternative investment strategies (i.e., differing asset allocations) address the objectives served by the Plan—the Plan’s “liabilities” in the context of the Plan’s funding streams—the Plan’s Contribution Policy. It is the only standard analysis that fully links all three aspects of the Plan’s key financial drivers.
- In doing so, it creates an important “guidepost” for the actual asset allocation for the Plan; the asset allocation chosen by the Plan’s fiduciaries will likely reflect the nature of the liabilities but also numerous other factors including risk preferences, liquidity, implementation constraints, etc.
- For the COJERS Asset/Liability Study, we assume the objectives are:
 1. Fund all participants’ benefits over time.
 2. Assure sufficient liquidity to pay benefits at all times.
 3. Foster a stable contribution stream consistent with objectives 1 and 2.
 4. Achieve adequate returns without accepting unnecessary or imprudent levels of risk.

An Asset/Liability Study is NOT . . .

- An actuarial study of the COJERS liabilities—that is the purview of the Plan’s actuary.
- A prescription for Plan benefits—that is the purview of the elected representatives.
- An assessment of the affordability of contribution levels—that is the purview of the elected officials and their constituents.
- The sole determinant of the final asset allocation adopted for the Plan—there are a number of factors, including insights from an Asset/Liability Study, which will bear on the optimal asset allocation.



Introduction (continued)

Asset/Liability Studies in Practice . . .

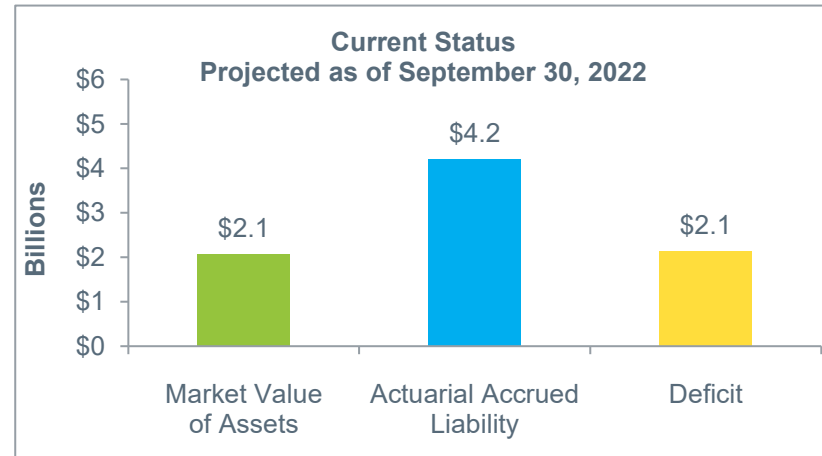
- Begin with a forecast of the financial liabilities (i.e., benefit obligations).
- Include a baseline estimation of the financial contributions to the Plan over time.
- Compare alternative investment strategies (i.e., total fund asset allocations to the Plan's financial needs).
- Draw conclusions regarding how well various investment strategies satisfy the Plan's financial needs.

This Asset/Liability Study . . .

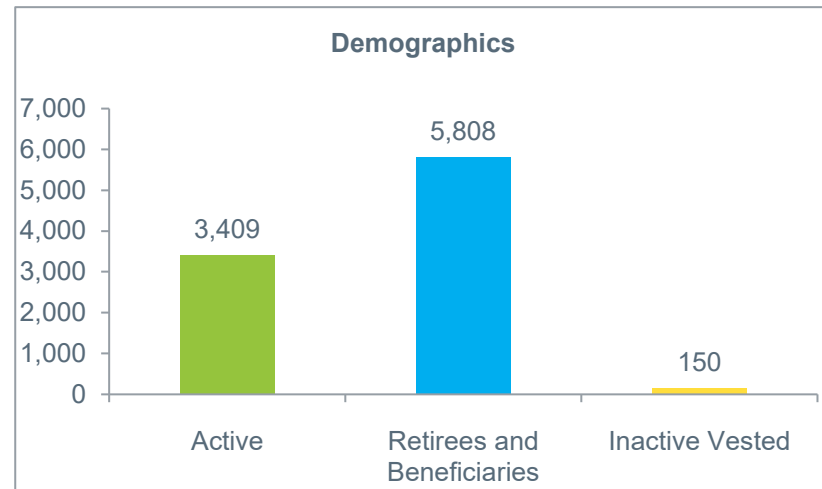
- Uses data from the October 1, 2022 GEPP and COPP Actuarial Valuations provided by Segal to project pension liabilities.
- Uses the actuarial cost method and the actuarial assumptions described in the October 1, 2022 GEPP and COPP Actuarial Valuations prepared by Segal.
- Compares these specific investment strategies—(A) the Target Allocation, (B) a conservative illustrative portfolio (100% Fixed Income), (C) a diversified portfolio with reduced risk and a diversified portfolio with increased risk relative to the Target Allocation (Reduced Risk and Increased Risk), and (D) an aggressive illustrative portfolio (100% Equity).
- Assumes the Plan's current benefit policy throughout the entire projection period—changes to the benefit policy are the purview of the elected representatives.
- Assumes surtax revenue growth and allocation percentages remain unchanged throughout the entire projection period.
- Note: Does not assume any actuarial adjustments that may take place in future years.

Current Status

Plan Summary	September 30, 2022 (Valuation Date)	May 31, 2023 (Projected)*
Market Value of Assets	\$2.06 billion	\$2.14 billion
Actuarial Accrued Liability	\$4.19 billion	\$4.26 billion
Deficit	\$2.13 billion	\$2.12 billion
Market Value Funded Ratio	49%	50%



Demographics	Members
Active Members	3,409
Retirees and Beneficiaries	5,808
Inactive Vested	150
Total	9,367



*Based on preliminary estimated total fund return of 11.47% and estimated inflation of 4.00% for FYTD October 1, 2022 through May 31, 2023. Actual values may differ significantly based on final returns.

Deterministic Analysis

This section provides an analysis of the Plan's assets, liabilities, funded status, and benefit payments based on a fixed set of future assumptions. Each analysis that follows in this deterministic section rests on the critical assumptions below and must be read and interpreted with them in mind.

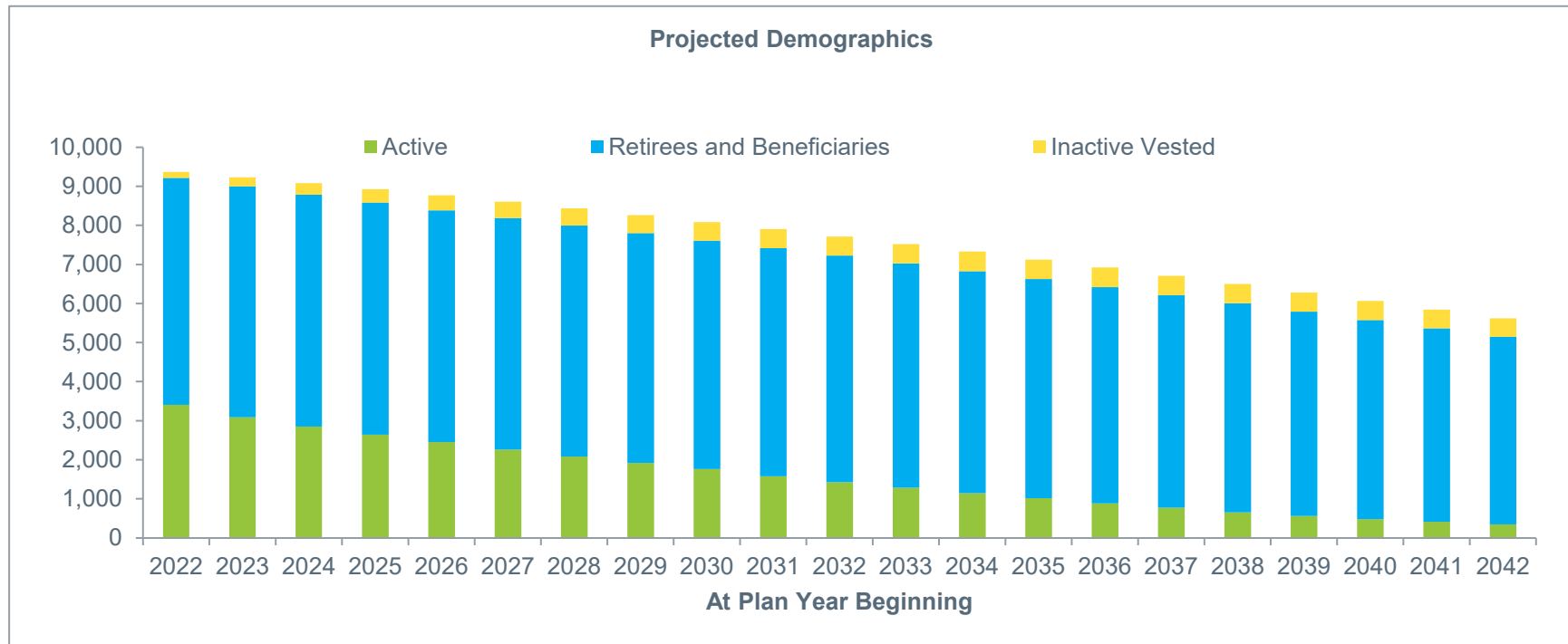
The deterministic assumptions are as follows:

1. Current Plan provisions (see Summary of Plan Provisions in Section 4 Exhibit II of the October 1, 2022 actuarial valuation reports prepared by Segal.)
2. The participant data used in the October 1, 2022 actuarial valuations prepared by Segal.
3. Actuarially assumed rate of return on Plan assets of 6.5% for all projection years.
4. For FYE 2023, GEPP employer contributions were assumed equal to 35.31% of payroll, and COPP employer contributions were assumed equal to \$17,185,973. For all other years, employer contributions are assumed to equal: (1) normal cost less expected employee contributions, plus (2) an amortization of the unfunded actuarial accrued liability (UAAL), (3) plus expected administrative expenses, less 4) discounted allocated surtax revenue.
5. Assumes demographic experience projected in accordance with the assumptions used in the October 1, 2022 actuarial valuations prepared by Segal.
6. Assumes surtax revenue growth and allocation percentages remain unchanged throughout the forecast.
7. Closed group analysis: the plans are closed to employees hired after September 30, 2017.

Deterministic Analysis (continued)

Demographics

Following are the projected number of active and inactive participants at the beginning of each Plan year from 2022 through 2042. These projections are based on a closed group analysis. Using the actuary's assumptions for death, termination, retirement, and disability, current participants are assumed to leave the Plan in the future. The number of active members is expected to decrease from about 3,400 today to under 400 in 20 years. The number of total inactive participants (Retirees and Beneficiaries and Vested Inactive) decreases by approximately 11% during the 20-year projection period shown over. The total number of participants is projected to be 5,600 at the end of the 20-year projection period.

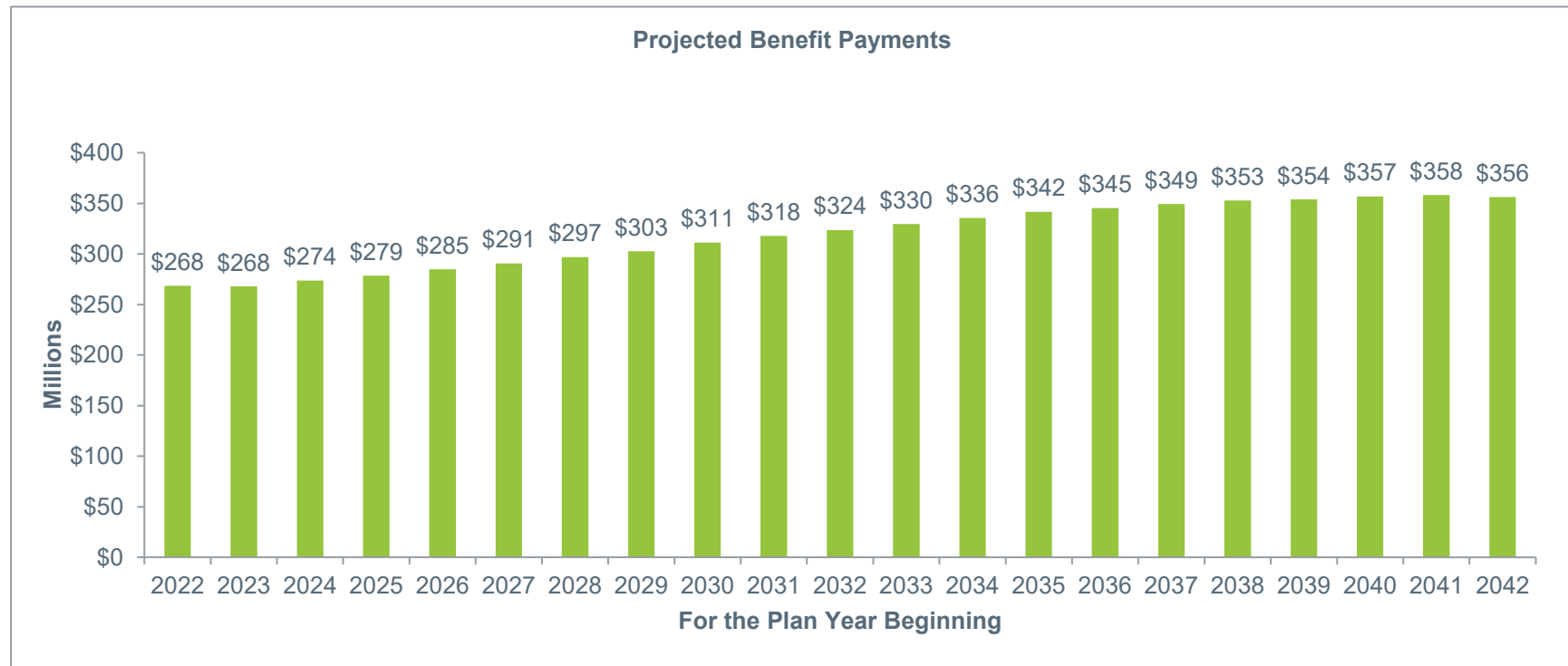


Total Population	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Annual Percent Change	N/A	-1%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-3%	-3%	-3%	-3%	-3%	-3%	-3%	-3%	-4%	-4%

Deterministic Analysis (continued)

Benefit Payments

The Plan's projected annual benefit payments are shown in the chart below. The projected benefit payments are expected to increase by about 33% over the next 20 years. As a percentage of the market value of Plan assets, benefit payments are expected to gradually decline through the end of the projection period (see page 11).

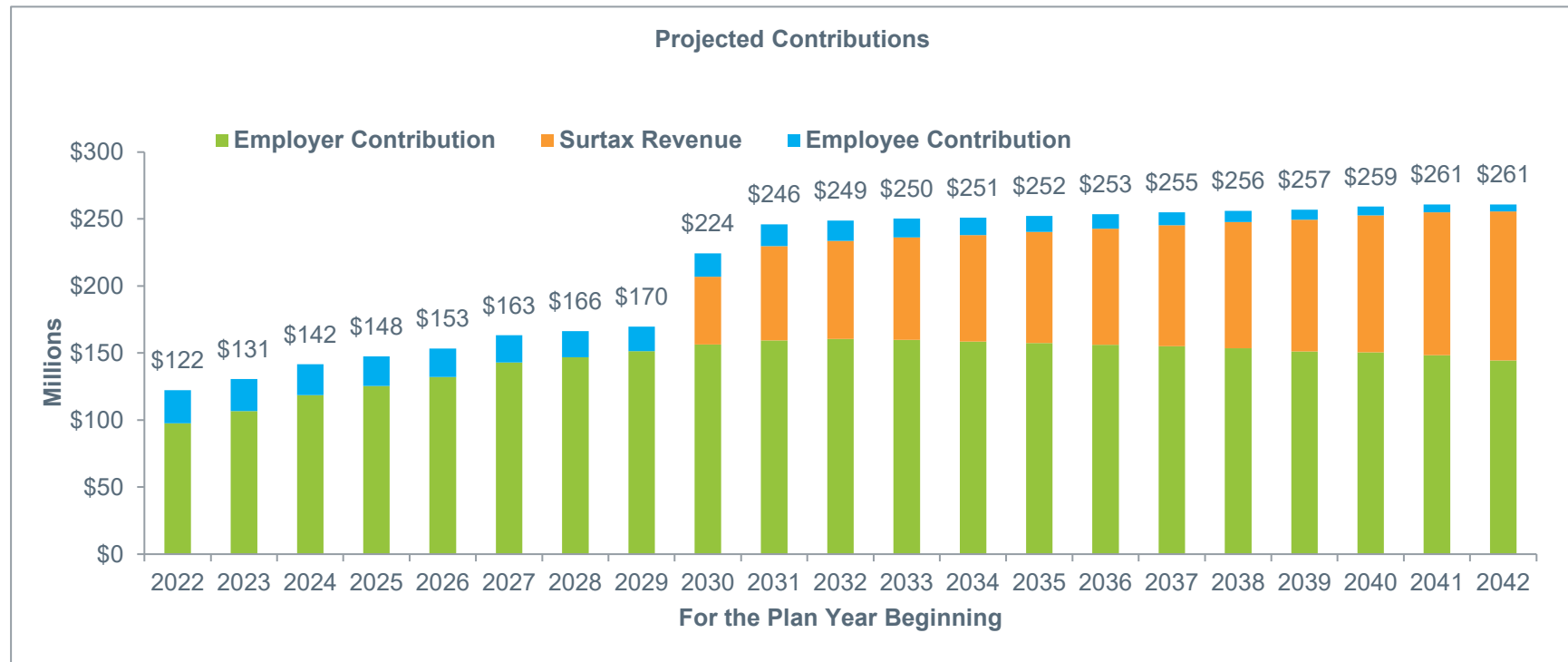


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Annual Percent Change	N/A	0%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	1%	1%	1%	0%	1%	0%	-1%

Deterministic Analysis (continued)

Contributions

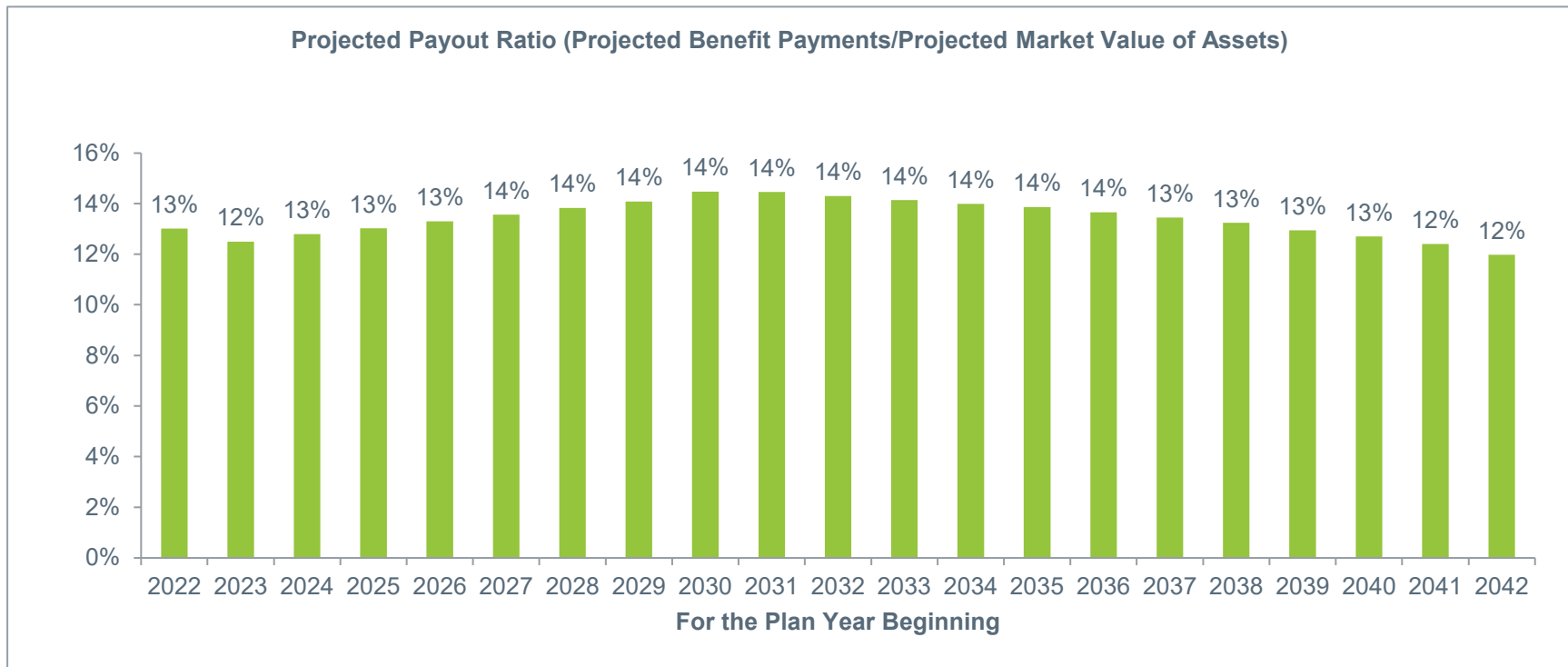
The Plan's projected contributions, expressed as total dollar contributions, are shown in the chart below. The results assume the contribution policy remains unchanged, and that the Plan's assets return precisely the actuarially assumed rate each year without exception for all projection years.



Deterministic Analysis (continued)

Payout Ratio (benefit payments/market value of assets)

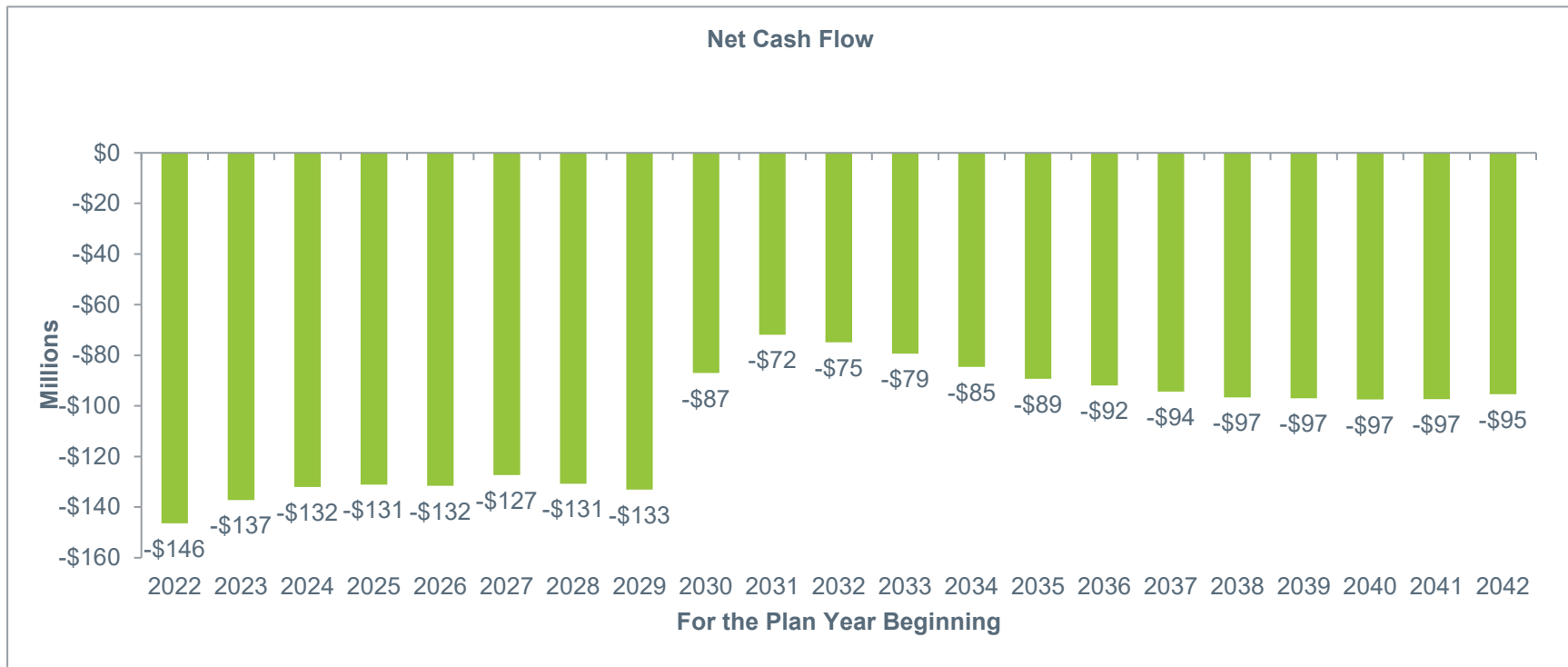
The Plan's projected payout ratios are shown in the chart below. The payout ratio is expected to gradually decline through the end of the projection period. The results assume the current contribution policy remains unchanged and that the Plan's assets return precisely the actuarially assumed rate each year without exception for all projection years.



Deterministic Analysis (continued)

Net Cash Flow (contributions – benefit payments)

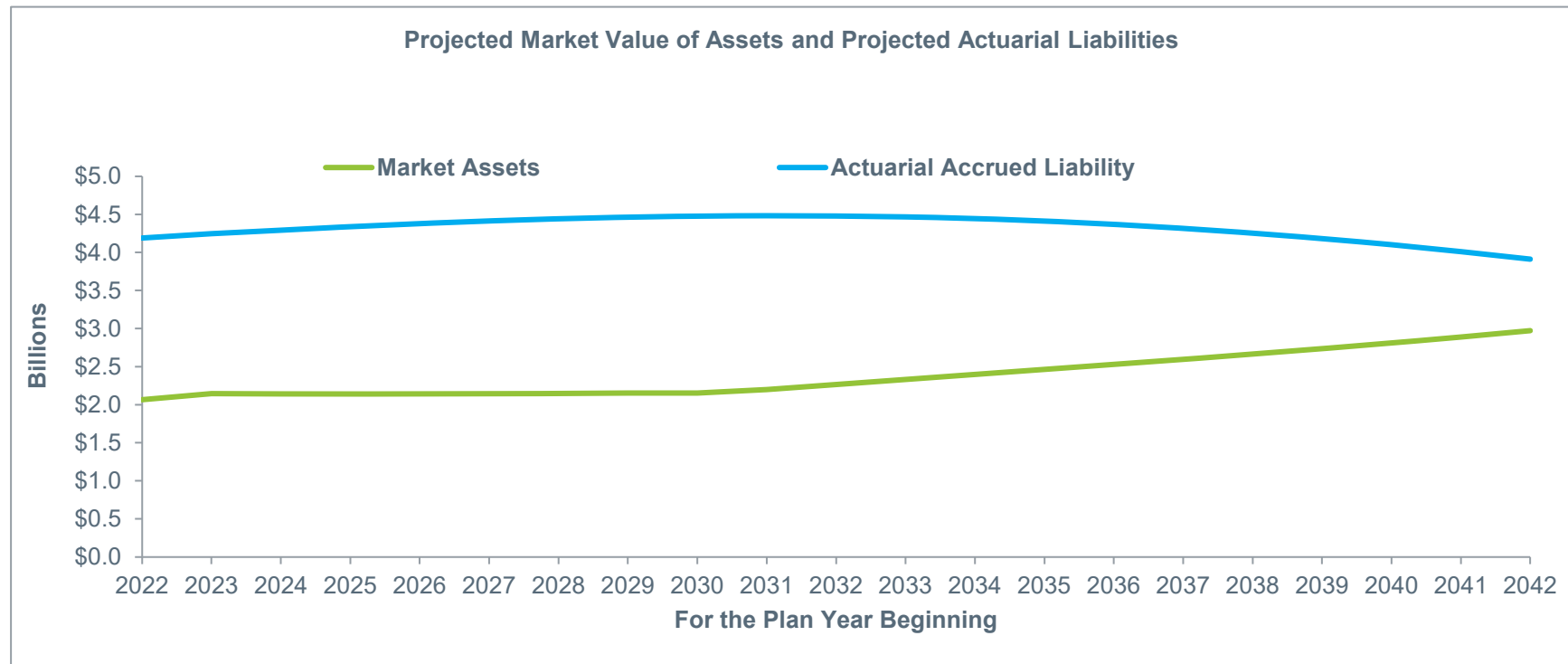
The Plan's projected net cash flow is shown in the chart below. The results assume the contribution policy remains unchanged and Plan assets return precisely the actuarially assumed rate each year without exception for all projection years.



Deterministic Analysis (continued)

Actuarial Accrued Liabilities and Market Value of Assets

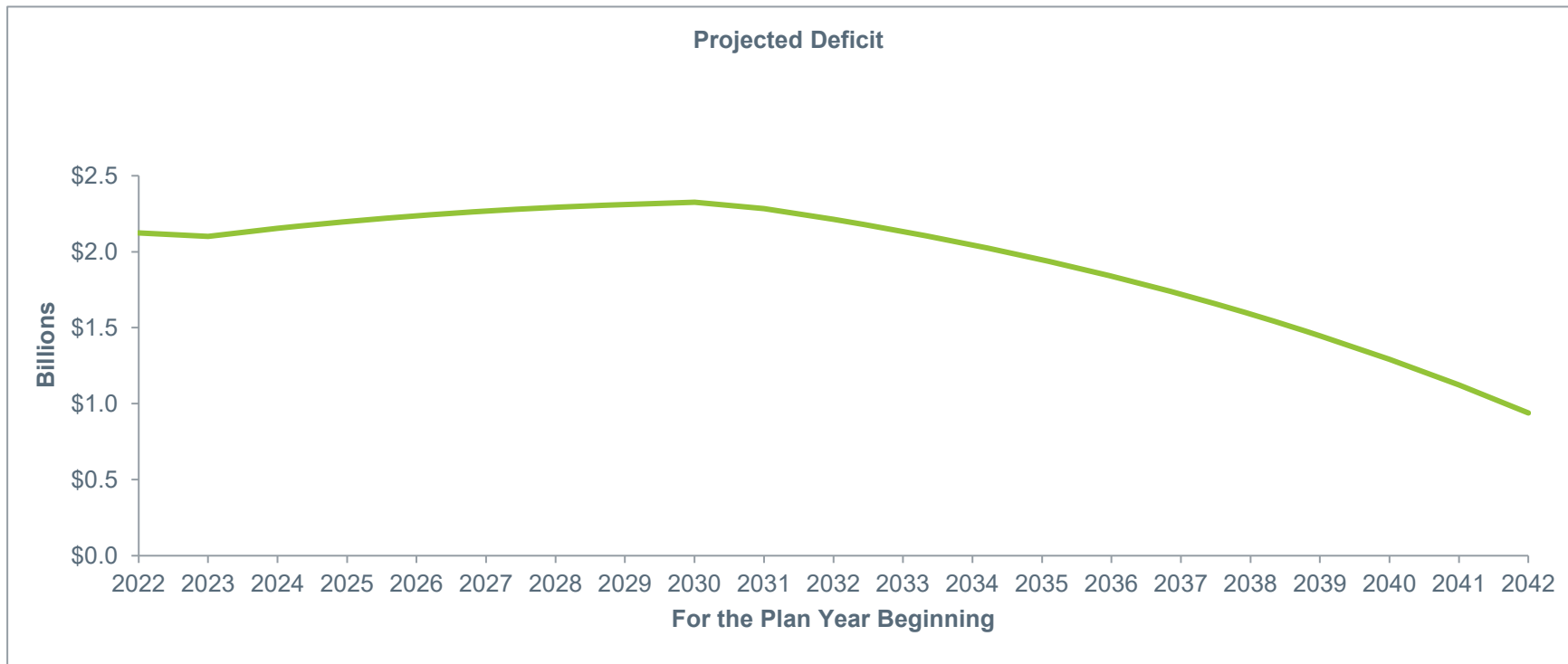
The Plan's projected actuarial accrued liabilities and market value of assets are shown in the chart below. The results assume the contribution policy remains unchanged, and that the Plan's assets return precisely the actuarially assumed rate each year without exception for all projection years. The relative disparity between the market value of assets and Plan liabilities is expected to gradually begin declining in about 2030 through the end of the projection period. The funded ratio (based on market value of assets) is expected to gradually increase to 76%, with the actuarial accrued liability and market value of assets projected to be \$3.9 and \$3.0 billion, respectively by the end of the projection period. This is shown more clearly on the following pages.



Deterministic Analysis (continued)

Deficit (market value of assets – actuarial accrued liabilities)

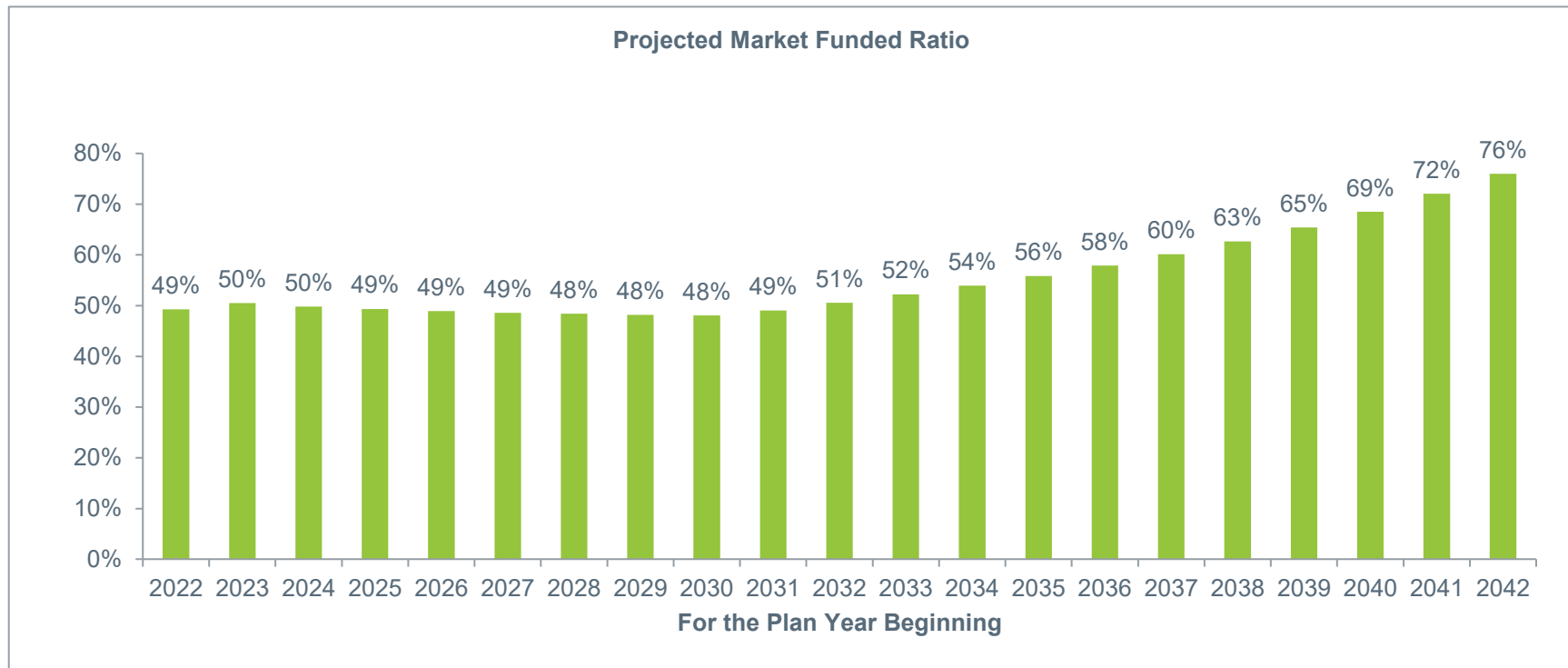
The Plan's projected deficit of assets is shown in the chart below. The results assume the contribution policy remains unchanged, and that the Plan's assets return precisely the actuarially assumed rate each year without exception for all projection years. The deficit is expected to be reduced by 56% to \$0.9 billion by the end of the projection period.



Deterministic Analysis (continued)

Market Funded Ratio (market value of assets/actuarial accrued liability)

The Plan's projected market funded ratio is shown in the chart below. The Plan is expected to end the projection period at approximately 76% funded. The results assume the contribution policy remains unchanged, and that the Plan's assets return precisely the actuarially assumed rate each year without exception for all projection years.

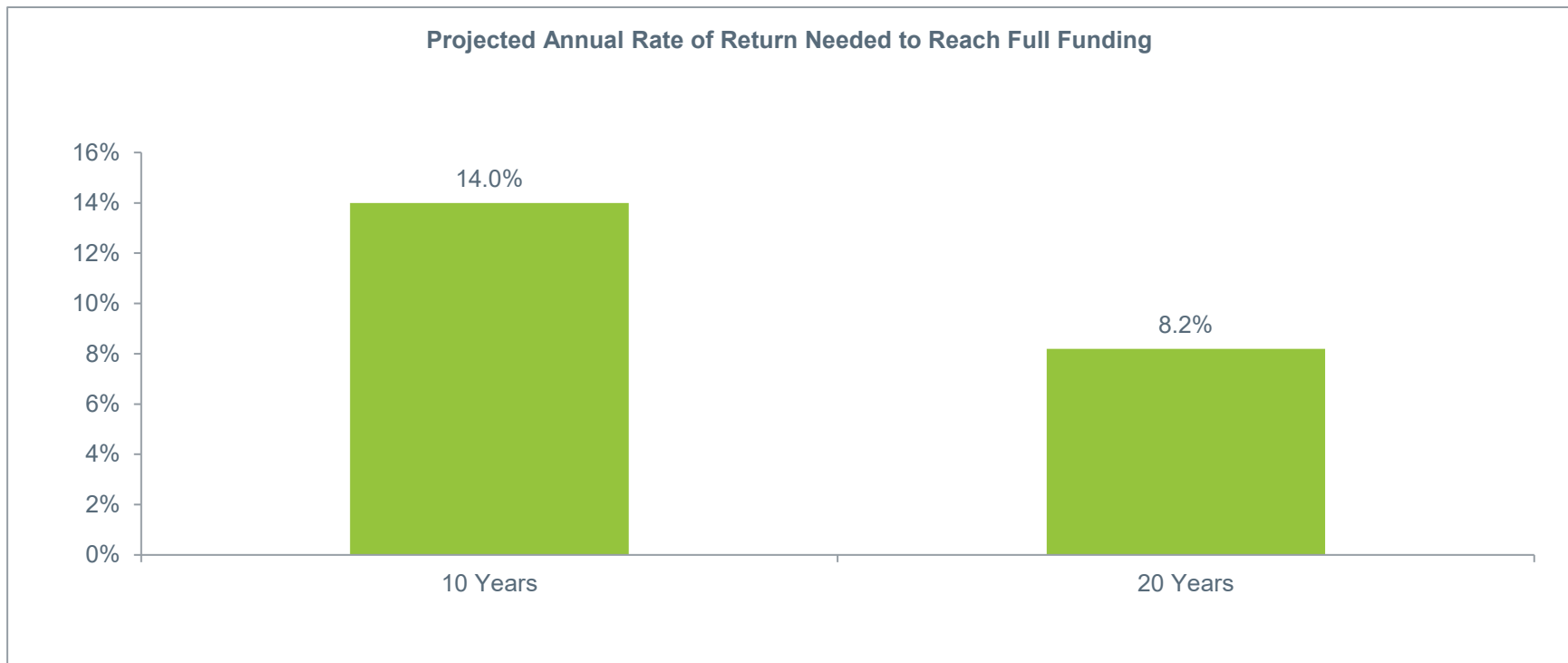


Deterministic Scenario Analysis

Full Funding Implied Returns

The figure below shows the projected investment return for the total fund needed to bring the Plan to 100% funding (on a market value basis) in 10 and 20 years, respectively. The results assume all other actuarial assumptions are precisely met over the time periods shown and that these returns are earned for every year, without variance.

Actuarially assumed rate of return: **6.50%**



Deterministic Scenario Analysis (continued)

Sensitivity Analysis

The table below summarizes the outcomes of the following deterministic scenarios. The Base Case represents the analysis completed in the Deterministic Analysis section of this report and assumes the current actuarially assumed rate of return (6.50%). The results assume all other actuarial assumptions are precisely met over the time periods shown and that these returns are earned for every year, without variance.

- A. 6.00%** – Assets earn 6.00% each and every year.
- B. V Shaped Market Event** – The V scenario assumes a return of -20% in the first projection year and +20% in the second projection year followed by the assumed rate of return thereafter (6.50%).
- C. W Shaped Market Event** – The W scenario assumes a return of -15% in the first projection year, +15% in the second, -15% in the third, +15% in the fourth projection year followed by the assumed rate of return thereafter (6.50%).
- D. Loss then Low** – Immediate 10% loss followed by a lower return environment (6.00%).
- E. Persistent Inflation** – Assets earn 6.50% each and every year but inflation is 5.00% per year during the 20-year projection period.
- F. No Surtax Revenue** – Surtax revenue is not received, assets earn 6.50% each and every year.
- G. Early Surtax Revenue** – Surtax revenue begins in 2026, assets earn 6.50% each and every year.

	Value in 2042							
	Base Case	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F	Scenario G
Projected Payout Ratio	12%	13%	13%	14%	14%	12%	12%	12%
Projected Employer Contributions ex Surtax (millions)	\$144.6	\$159.5	\$178.4	\$200.0	\$190.5	\$181.7	\$86.1	\$102.6
Projected Actuarial Accrued Liabilities (billions)	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$4.6	\$3.9	\$3.9
Projected Market Value of Assets (billions)	\$3.0	\$2.7	\$2.7	\$2.5	\$2.5	\$3.4	\$2.9	\$2.9
Projected Surplus/(Deficit) (billions)	(\$0.9)	(\$1.2)	(\$1.2)	(\$1.4)	(\$1.4)	(\$1.2)	(\$1.0)	(\$1.0)
Projected Market Funded Ratio	76%	70%	69%	63%	63%	73%	73%	75%
	20 Year Cumulative Total							
Projected Cumulative Employer Contributions ex Surtax (billions)	\$2.94	\$3.06	\$3.46	\$3.73	\$3.52	\$3.39	\$2.56	\$2.29
Change Over Base Case	--	4%	18%	27%	20%	15%	-13%	-22%

Stochastic Analysis

In the previous section of this report, we assumed the Plan operated going forward with certain knowledge of the future investment returns earned by the Plan's assets. This section introduces the element of uncertainty in those future investment returns. This part of the analysis examines Plan assets and liabilities under many capital market environments based on expected future asset returns and inflation, and their expected volatility. Using a Monte Carlo simulation technique, both assets and liabilities are assumed to vary stochastically, linked together by changes in inflation.

Using the current expected values and variances of the returns and inflation, along with their correlations, 2,000 trials are generated to produce a distribution of results. A stochastic analysis can answer questions about the best/worst case outcomes along with the probability of such outcomes. This is contrasted with the deterministic analysis that provides an expected value if all current Plan assumptions are exactly met.

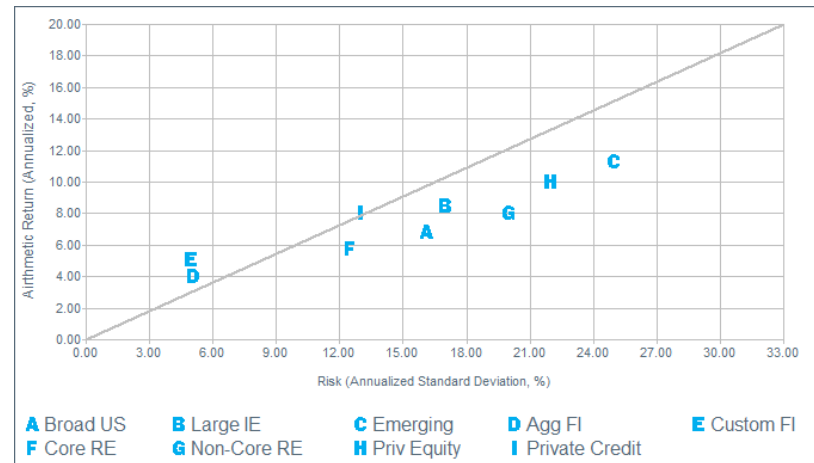
Stochastic Analysis (continued)

Long-Term Return and Risk Assumptions

In order to perform a stochastic analysis and create asset allocation alternatives, it is necessary to estimate, for each asset class, its probable return and risk. The expected returns are our best estimates of the average annual percentage increases in values of each asset class over a prospective long period of time, and assumed to be normally distributed. The risk of an asset class is measured by its standard deviation or volatility. If asset returns are normally distributed, two-thirds (67%) of all returns are expected to lie within one standard deviation on either side of the mean. For example, we expect Broad US Equity to return, annually on average, 6.80% with a standard deviation of 16.10%, meaning that two-thirds of the time we expect its return to lie between -9.30% (= 6.80 – 16.10) and 22.90% (= 6.80 + 16.10). Moreover, we expect 95% of all return outcomes to lie within two standard deviations of the mean return, implying only a one-in-twenty chance that the return on Broad US Equity will either fall below -25.40 % or rise above 39.00%. The long-term risk and return assumptions used in this study are outlined in the below table and chart:

Asset Class	Arithmetic Return Assumption	Standard Deviation Assumption
Broad US Equity	6.80	16.10
Dev'd Large/Mid Int'l Equity	8.50	17.00
Emerging Markets Equity	11.25	25.00
US Agg Fixed Income	4.00	5.00
Custom Core Plus Fixed Income	5.07	4.78
Core Real Estate	5.75	12.50
Non-Core Real Estate	8.00	20.00
Private Equity	10.00	22.00
Private Credit	8.00	13.00

Custom Core Plus Fixed Income represents a blend of the System's current core plus fixed income investments.



Stochastic Analysis (continued)

Correlation Between Asset Classes

Creating a diversified portfolio of asset classes enables the investor to achieve a higher rate of return while minimizing volatility of the portfolio. As defined on the previous page, volatility is “risk” or standard deviation. By minimizing the volatility of a portfolio, we produce asset returns that vary less from year to year. Diversification exists because the returns of different asset classes do not always move in the same direction, at the same time, or with the same magnitude. Correlation values are between 1.00 and –1.00. If returns of two asset classes rise or fall at the same time and in the same magnitude, they have a correlation value of 1.00. Conversely, two asset classes that simultaneously move in opposite directions, and in the same magnitude, have a correlation value of –1.00. A correlation of zero indicates no relationship between returns. The assumed correlations are largely based on historical index data, with some qualitative analysis applied. For instance, where appropriate, we have weighted current history more heavily. The correlation matrix used in this study is shown below:

	Broad US Equity	Dev'd Large/Mid Int'l Equity	Emerging Markets Equity	US Agg Fixed Income	Custom Core Plus Fixed Income	Core Real Estate	Non-Core Real Estate	Private Equity	Private Credit
Broad US Equity	1.00	0.85	0.73	0.21	0.59	0.29	0.24	0.78	0.70
Dev'd Large/Mid Int'l Equity	0.85	1.00	0.80	0.12	0.66	0.35	0.24	0.77	0.79
Emerging Markets Equity	0.73	0.80	1.00	0.10	0.65	0.22	0.17	0.66	0.70
US Agg Fixed Income	0.21	0.12	0.10	1.00	0.61	-0.01	-0.12	-0.06	-0.17
Custom Core Plus Fixed Income	0.59	0.66	0.65	0.61	1.00	0.26	0.12	0.48	0.64
Core Real Estate	0.29	0.35	0.22	-0.01	0.26	1.00	0.81	0.54	0.39
Non-Core Real Estate	0.24	0.24	0.17	-0.12	0.12	0.81	1.00	0.47	0.33
Private Equity	0.78	0.77	0.66	-0.06	0.48	0.54	0.47	1.00	0.84
Private Credit	0.70	0.79	0.70	-0.17	0.64	0.39	0.33	0.84	1.00

Custom Core Plus Fixed Income represents a blend of the System's current core plus fixed income investments.

The fact that the correlations shown in the table are nearly all positive does not imply that these asset classes do not diversify one another. Their correlations are significantly less than 1.00, meaning we expect a measurable number of instances when the underperformance of one or more of the asset classes will be offset by the outperformance of others. This point is demonstrated on the following pages, which illustrate that diversification into less correlated asset classes can decrease the expected overall volatility of a portfolio.

Stochastic Analysis (continued)

Efficient Portfolios

Each frontier portfolio (optimal allocation) is created using target rates of return both above and below the projected rate of return for the current allocation. This range illustrates the trade-off between return and risk; additional return can only be achieved by undertaking additional risk. The table below shows the possible optimal allocations given the selected asset classes and their constraints listed under “Min” and “Max.” The table shows the current Target Allocation and highlights four additional portfolios (100% Fixed Income, Reduced Risk, Increased Risk, and 100% Equity) for consideration throughout this study.

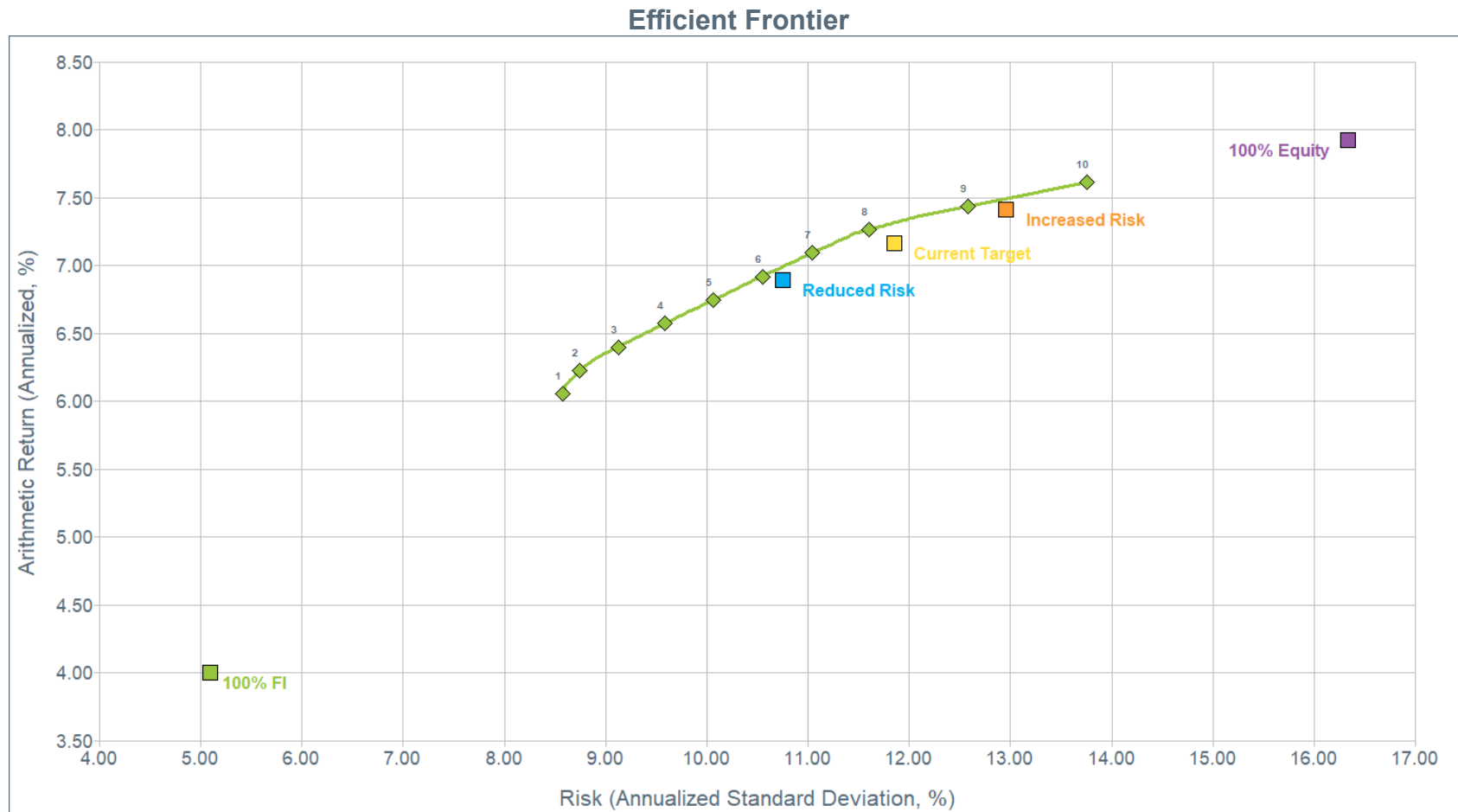
	Min	Max	1	2	3	4	5	6	7	8	9	10	100% FI	Reduced Risk	Current Target	Increased Risk	100% Equity
Broad US Equity	0	40	31	27	24	24	23	22	22	22	30	40	0	26	30	36	50
Dev'd Large/Mid Int'l Equity	0	20	7	7	5	8	10	12	15	17	17	17	0	13	16	17	40
Emerging Markets Equity	0	10	0	3	3	4	5	6	7	8	8	8	0	6	7	8	10
US Agg Fixed Income	0	20	20	20	19	16	13	10	7	4	0	0	100	14	10	6	0
Custom Core Plus Fixed Income	0	20	20	20	20	20	20	20	20	20	16	6	0	14	10	6	0
Core Real Estate	0	10	10	10	10	10	10	10	10	10	10	10	0	10	10	10	0
Non-Core Real Estate	0	5	5	5	5	5	5	5	5	5	5	5	0	5	5	5	0
Private Equity	0	7	0	1	7	7	7	7	7	7	7	7	0	7	7	7	0
Private Credit	0	7	7	7	7	7	7	7	7	7	7	7	0	5	5	5	0
Total			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Capital Appreciation			50	50	51	54	57	60	63	66	74	84	0	62	70	78	100
Capital Preservation			40	40	39	36	33	30	27	24	16	6	100	28	20	12	0
Alpha			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inflation			10	10	10	10	10	10	10	10	10	10	0	10	10	10	0
Expected Arithmetic Return			6.1	6.2	6.4	6.6	6.8	6.9	7.1	7.3	7.4	7.6	4.0	6.9	7.2	7.4	7.9
Expected Risk (Standard Deviation)			8.6	8.7	9.1	9.6	10.1	10.6	11.0	11.6	12.6	13.8	5.1	10.8	11.9	13.0	16.3
Expected Compound Return			5.8	5.8	6.0	6.2	6.3	6.4	6.5	6.7	6.7	6.7	3.9	6.4	6.5	6.6	6.7
Expected Return (Arithmetic)/Risk Ratio			0.71	0.71	0.70	0.69	0.67	0.65	0.65	0.63	0.59	0.55	0.78	0.64	0.61	0.57	0.48
RVK Expected Eq Beta (LCUS Eq = 1)			0.49	0.50	0.51	0.54	0.56	0.59	0.62	0.65	0.71	0.80	0.07	0.61	0.68	0.75	0.97
RVK Liquidity Metric (T-Bills = 100)			69	68	62	62	62	62	63	63	64	67	85	66	67	69	92

Total International Equity cannot exceed 25% of the Total Portfolio or Broad US Equity. Emerging Markets Equity cannot exceed 1/2 Dev'd Large/Mid Int'l Equity. Total Non-Core Real Estate cannot exceed Core Real Estate.

Stochastic Analysis (continued)

Efficient Frontier

The risk of each alternative allocation is plotted against the horizontal axis, while the return is measured on the vertical axis. The line connecting the points represents all the optimal portfolios subject to the given constraints and is known as the “efficient frontier.” The upward slope of the efficient frontier indicates the direct relationship between return and risk.



Stochastic Analysis (continued)

Asset Mixes

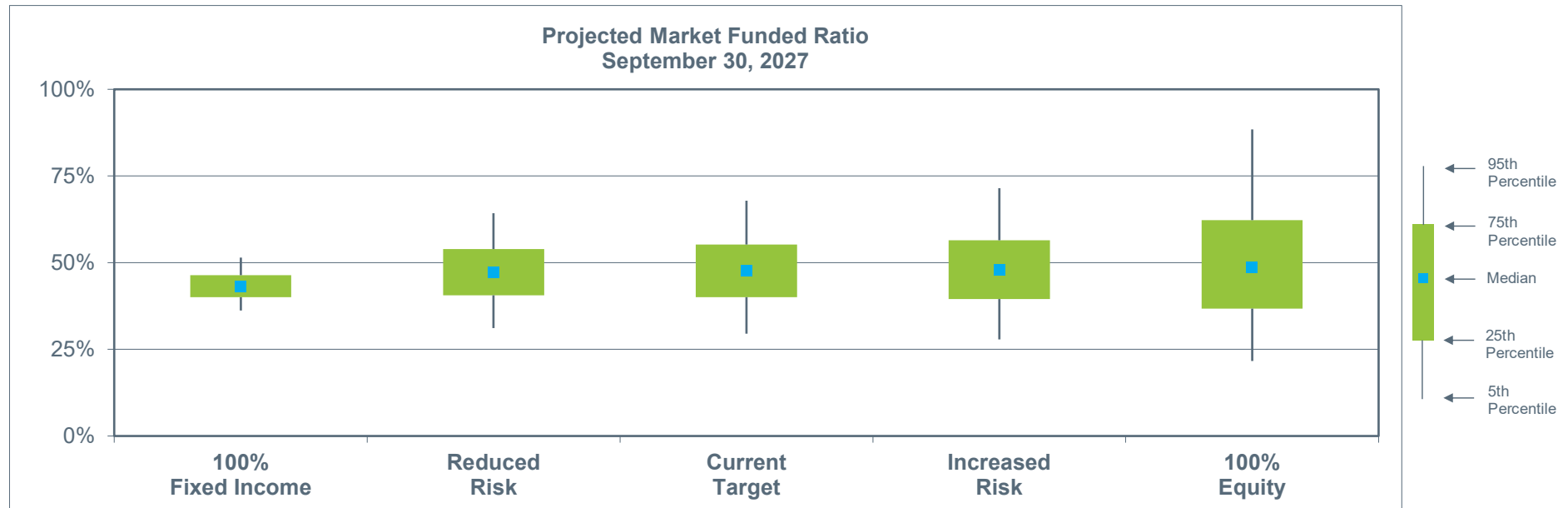
Outlined below are the Target Allocation and four other asset mixes to be examined in this stochastic analysis. The long-term expected return, expected risk (as measured by standard deviation), and RVK Liquidity Metric, for each is also shown.

Asset Class	100% Fixed Income	Reduced Risk	Current Target	Increased Risk	100% Equity
Broad US Equity	0%	26%	30%	36%	50%
Dev'd Large/Mid Int'l Equity	0%	13%	16%	17%	40%
Emerging Markets Equity	0%	6%	7%	8%	10%
US Agg Fixed Income	100%	14%	10%	6%	0%
Custom Core Plus Fixed Income	0%	14%	10%	6%	0%
Core Real Estate	0%	10%	10%	10%	0%
Non-Core Real Estate	0%	5%	5%	5%	0%
Private Equity	0%	7%	7%	7%	0%
Private Credit	0%	5%	5%	5%	0%
Total Equity	0%	52%	60%	68%	100%
Expected Return	4.0%	6.9%	7.2%	7.4%	7.9%
Expected Risk	5.1%	10.8%	11.9%	13.0%	16.3%
RVK Liquidity Metric	85	66	67	69	92

Stochastic Analysis (continued)

Projected Market Funded Ratio (market value of assets/actuarial accrued liability): 5 Years

The graph below shows the distribution of possible market funded ratios five years from now, assuming the five different asset mixes highlighted on the prior pages. The results assume the current contribution policy remains unchanged for all projection years.

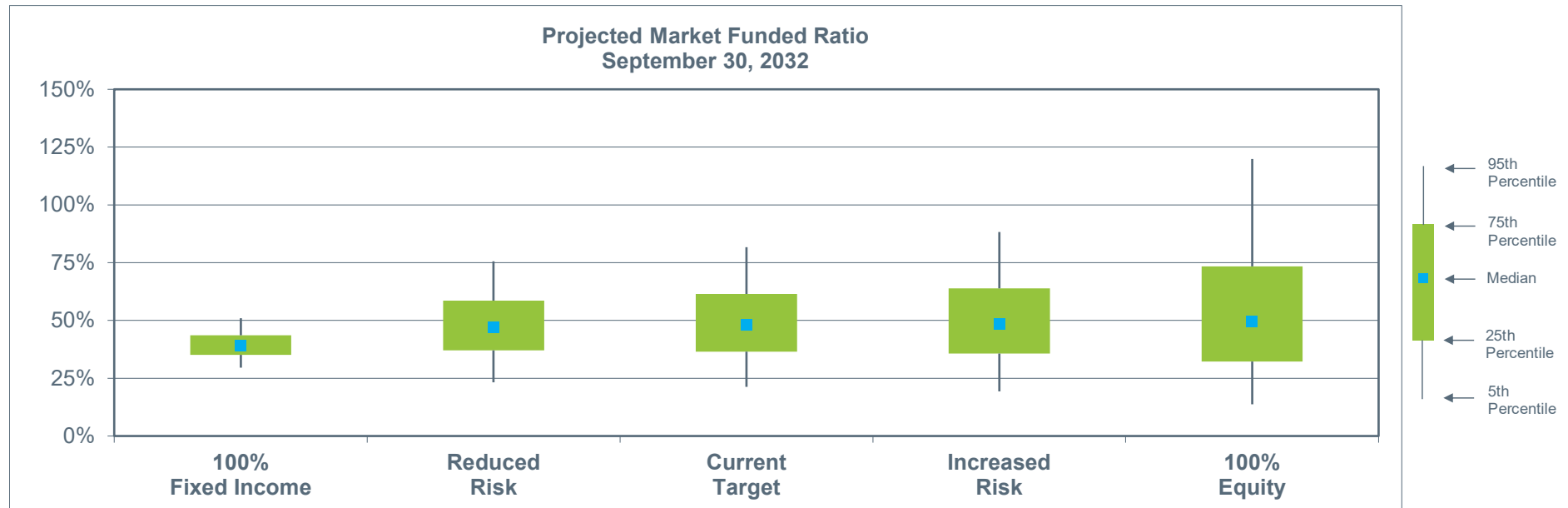


	100% Fixed Income		Reduced Risk		Current Target		Increased Risk		100% Equity	
	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio
5th Percentile	\$2.8	36%	\$3.1	31%	\$3.1	30%	\$3.2	28%	\$3.5	22%
25th Percentile	\$2.6	40%	\$2.6	41%	\$2.6	40%	\$2.7	40%	\$2.8	37%
50th Percentile	\$2.5	43%	\$2.3	47%	\$2.3	48%	\$2.3	48%	\$2.3	49%
75th Percentile	\$2.4	46%	\$2.0	54%	\$2.0	55%	\$1.9	56%	\$1.7	62%
95th Percentile	\$2.1	51%	\$1.6	64%	\$1.4	68%	\$1.3	71%	\$0.5	88%

Stochastic Analysis (continued)

Projected Market Funded Ratio (market value of assets/actuarial accrued liability): 10 Years

The graph below shows the distribution of possible market funded ratios ten years from now, assuming the five different asset mixes highlighted on the prior pages. The results assume the current contribution policy remains unchanged for all projection years.

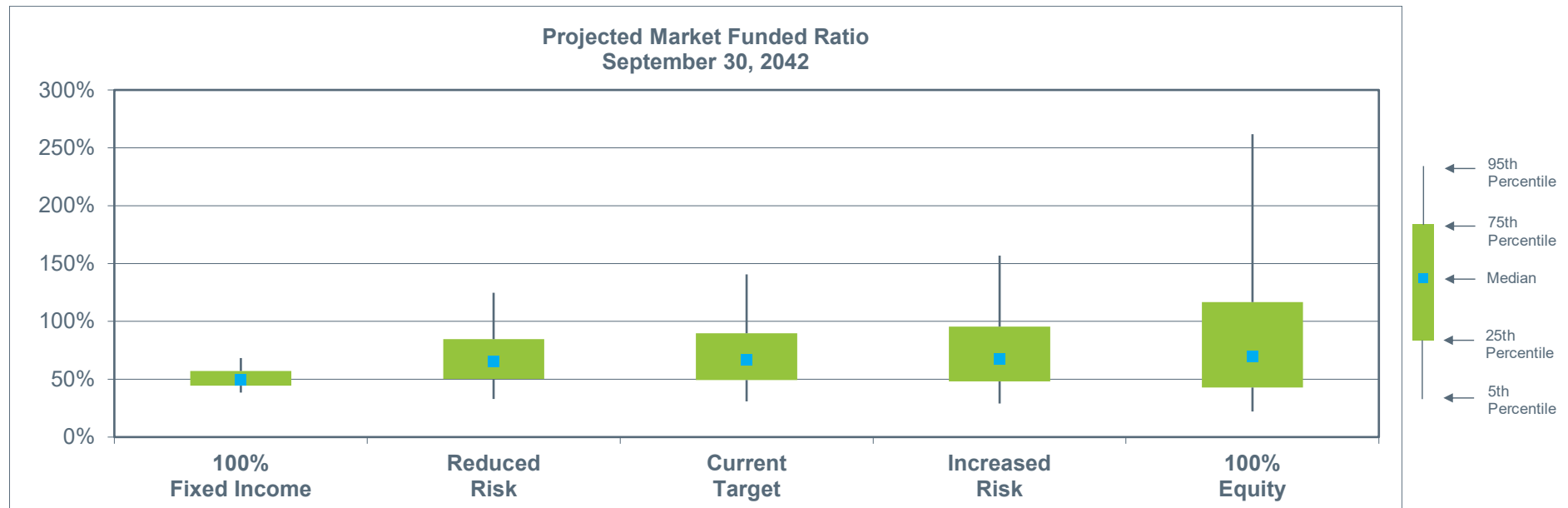


	100% Fixed Income		Reduced Risk		Current Target		Increased Risk		100% Equity	
	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio
5th Percentile	\$3.2	30%	\$3.4	23%	\$3.5	21%	\$3.6	19%	\$3.8	14%
25th Percentile	\$2.9	35%	\$2.8	37%	\$2.9	37%	\$2.9	36%	\$3.1	32%
50th Percentile	\$2.7	39%	\$2.4	47%	\$2.3	48%	\$2.3	48%	\$2.3	50%
75th Percentile	\$2.5	44%	\$1.9	59%	\$1.7	61%	\$1.6	64%	\$1.2	73%
95th Percentile	\$2.2	51%	\$1.1	76%	\$0.8	82%	\$0.5	88%	(\$0.9)	120%

Stochastic Analysis (continued)

Projected Market Funded Ratio (market value of assets/actuarial accrued liability): 20 Years

The graph below shows the distribution of possible market funded ratios twenty years from now, assuming the five different asset mixes highlighted on the prior pages. The results assume the current contribution policy remains unchanged for all projection years.



	100% Fixed Income		Reduced Risk		Current Target		Increased Risk		100% Equity	
	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio	Unfunded Liability (Bil)	Funded Ratio
5th Percentile	\$2.4	38%	\$2.6	33%	\$2.7	31%	\$2.8	29%	\$3.0	22%
25th Percentile	\$2.2	44%	\$2.0	50%	\$2.0	49%	\$2.0	48%	\$2.3	43%
50th Percentile	\$1.9	50%	\$1.3	66%	\$1.3	67%	\$1.3	68%	\$1.2	69%
75th Percentile	\$1.7	57%	\$0.6	85%	\$0.4	90%	\$0.2	95%	(\$0.6)	117%
95th Percentile	\$1.2	68%	(\$1.0)	125%	(\$1.6)	141%	(\$2.2)	157%	(\$6.2)	262%

Stochastic Analysis (continued)

Projected Market Funded Ratio and Maximum 1-Year Investment Loss (market value of assets/actuarial accrued liability)

The tables below show the probability that the Plan will be at various funding levels for each of the five different asset mixes highlighted on the prior pages. The tables also illustrate the maximum 1-year investment loss each portfolio is expected to experience during the given time period. The results assume the current contribution policy remains unchanged for all projection years.

5 Years	Probability of Full Funding in 2027	Probability of < 50% (Current) Funding in 2027	Probability of < 35% Funding in 2027	Maximum 1 Year Investment Loss
100% Fixed Income	0%	93%	3%	-7%
Reduced Risk	0%	61%	9%	-22%
Current Target	0%	59%	12%	-25%
Increased Risk	0%	57%	14%	-29%
100% Equity	2%	53%	21%	-41%

10 Years	Probability of Full Funding in 2032	Probability of < 50% (Current) Funding in 2032	Probability of < 35% Funding in 2032	Maximum 1 Year Investment Loss
100% Fixed Income	0%	94%	25%	-7%
Reduced Risk	1%	58%	20%	-23%
Current Target	2%	55%	22%	-27%
Increased Risk	3%	53%	24%	-30%
100% Equity	10%	51%	30%	-43%

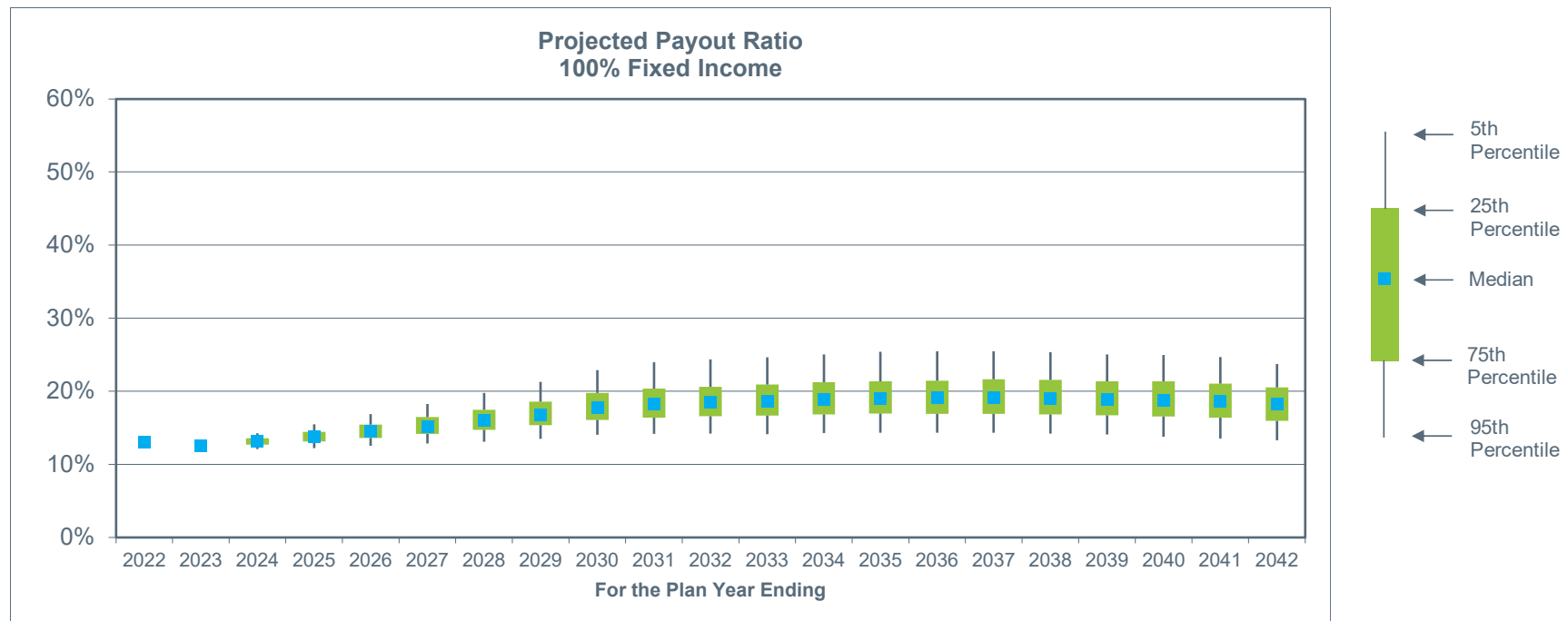
20 Years	Probability of Full Funding in 2042	Probability of < 50% (Current) Funding in 2042	Probability of < 35% Funding in 2042	Maximum 1 Year Investment Loss
100% Fixed Income	0%	51%	2%	-7%
Reduced Risk	15%	25%	6%	-24%
Current Target	19%	26%	8%	-28%
Increased Risk	22%	28%	10%	-31%
100% Equity	32%	34%	17%	-44%

Stochastic Analysis (continued)

Projected Payout Ratio (expected benefit payments/market value of assets): **100% Fixed Income**

The graph below displays the range of possible payout ratios over the next twenty years, assuming the Plan's assets are allocated according to the **100% Fixed Income** portfolio. The results assume the current contribution policy remains unchanged for all projection years.

The median annual benefit payment as percentage of the market value of assets is expected to range between 12% and 19%. The worst-case scenario could reach 25% or higher.



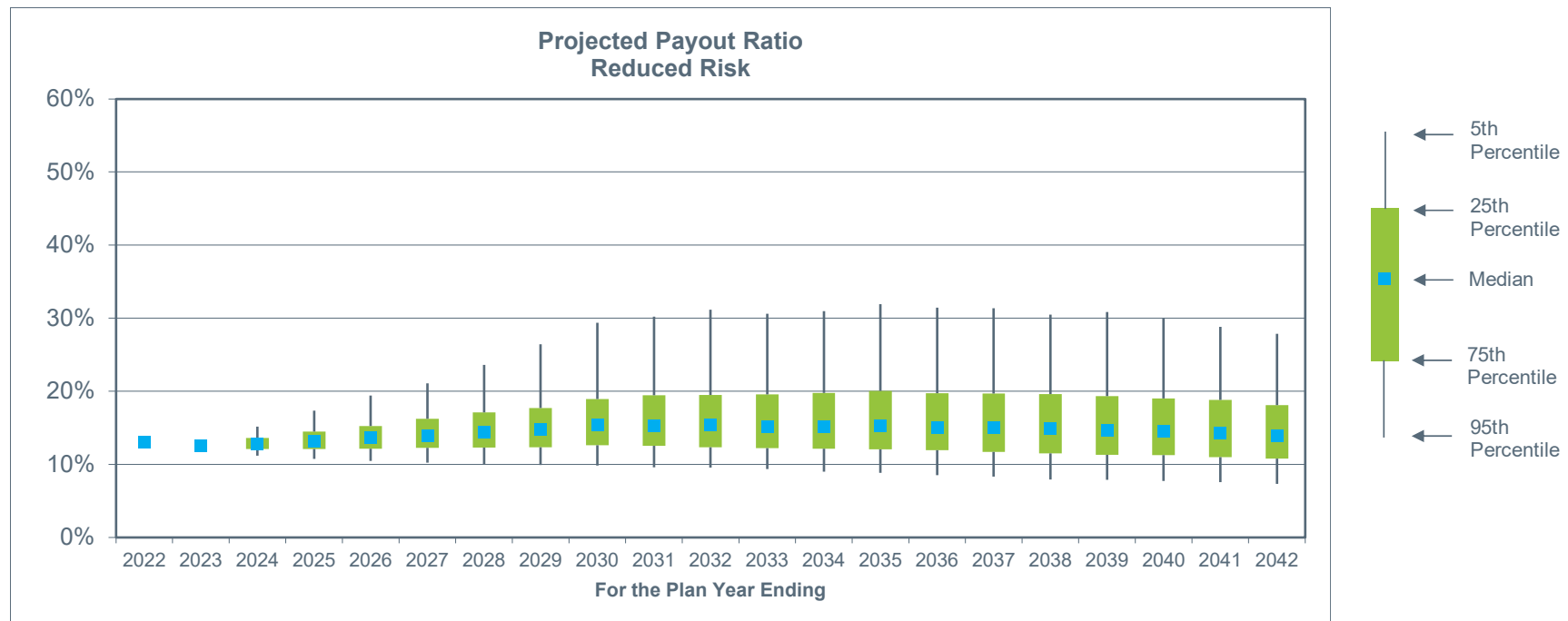
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Median	13%	12%	13%	14%	14%	15%	16%	17%	18%	18%	18%	19%	19%	19%	19%	19%	19%	19%	19%	19%	18%

Stochastic Analysis (continued)

Projected Payout Ratio (expected benefit payments/market value of assets): **Reduced Risk**

The graph below displays the range of possible payout ratios over the next twenty years, assuming the Plan's assets are allocated according to the **Reduced Risk** portfolio. The results assume the current contribution policy remains unchanged for all projection years.

The median annual benefit payment as percentage of the market value of assets is expected to range between 12% and 15%. The worst-case scenario could reach 32% or higher.



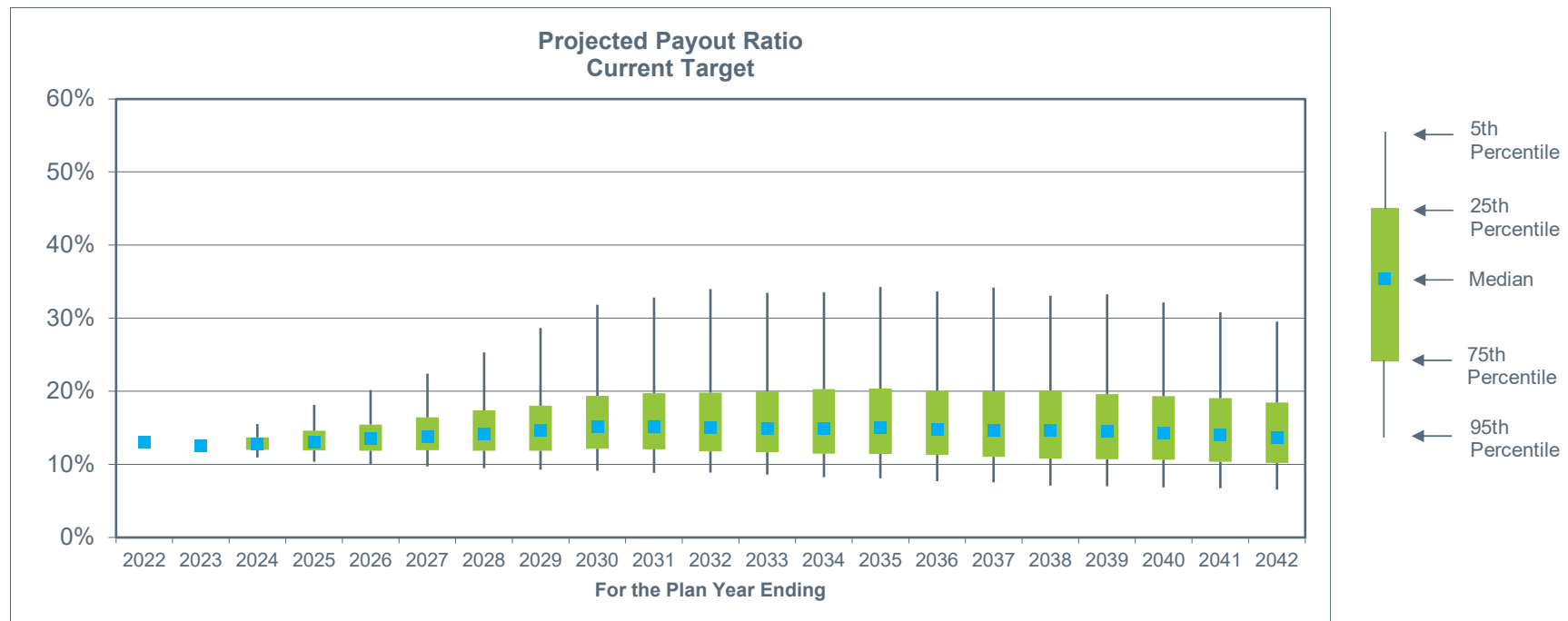
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Median	13%	12%	13%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	14%	14%

Stochastic Analysis (continued)

Projected Payout Ratio (expected benefit payments/market value of assets): **Current Target**

The graph below displays the range of possible payout ratios over the next twenty years, assuming the Plan's assets are allocated according to the **Current Target** allocation. The results assume the current contribution policy remains unchanged for all projection years.

The median annual benefit payment as percentage of the market value of assets is expected to range between 12% and 15%. The worst-case scenario could reach 34% or higher.



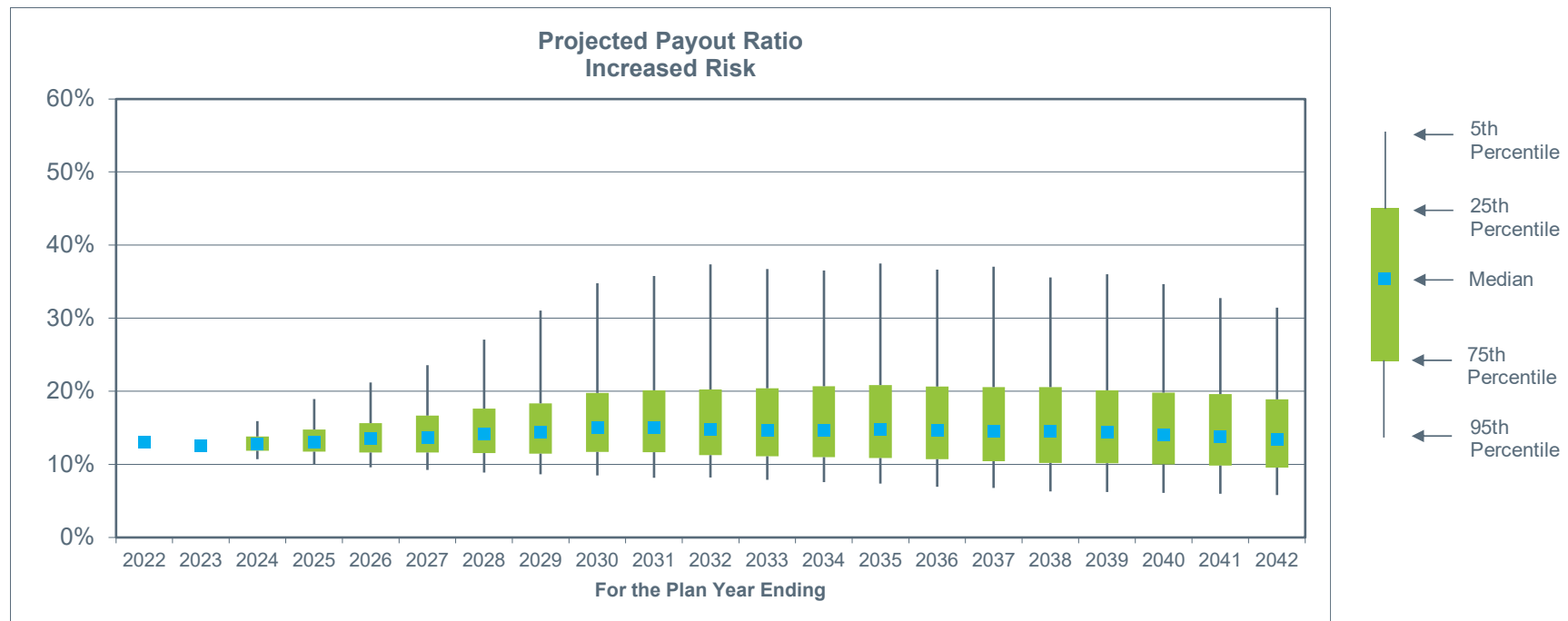
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Median	13%	12%	13%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	14%	14%	14%	14%

Stochastic Analysis (continued)

Projected Payout Ratio (expected benefit payments/market value of assets): **Increased Risk**

The graph below displays the range of possible payout ratios over the next twenty years, assuming the Plan's assets are allocated according to the **Increased Risk** portfolio. The results assume the current contribution policy remains unchanged for all projection years.

The median annual benefit payment as percentage of the market value of assets is expected to range between 12% and 15%. The worst-case scenario could reach 37% or higher.



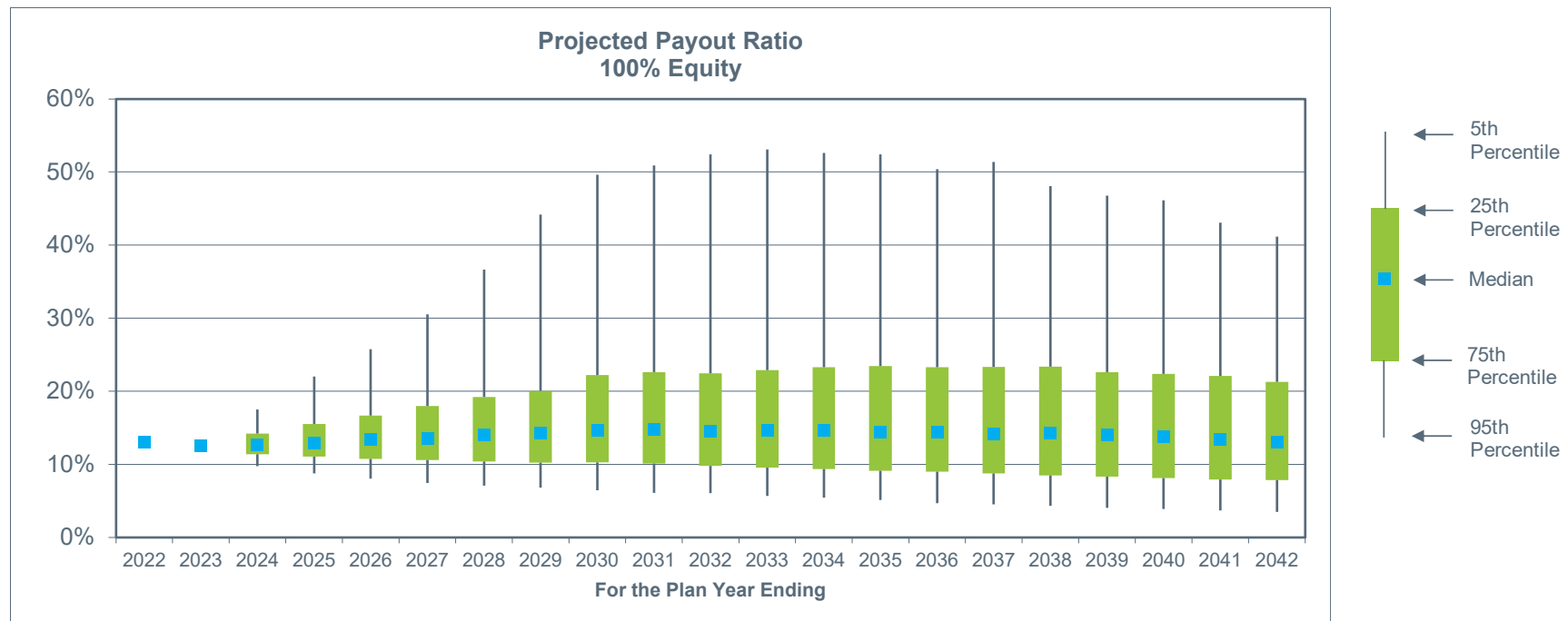
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Median	13%	12%	13%	13%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	14%	14%	14%	13%

Stochastic Analysis (continued)

Projected Payout Ratio (expected benefit payments/market value of assets): **100% Equity**

The graph below displays the range of possible payout ratios over the next twenty years, assuming the Plan's assets are allocated according to the **100% Equity** portfolio. The results assume the current contribution policy remains unchanged for all projection years.

The median annual benefit payment as percentage of the market value of assets is expected to range between 12% and 15%. The worst-case scenario could reach 53% or higher.

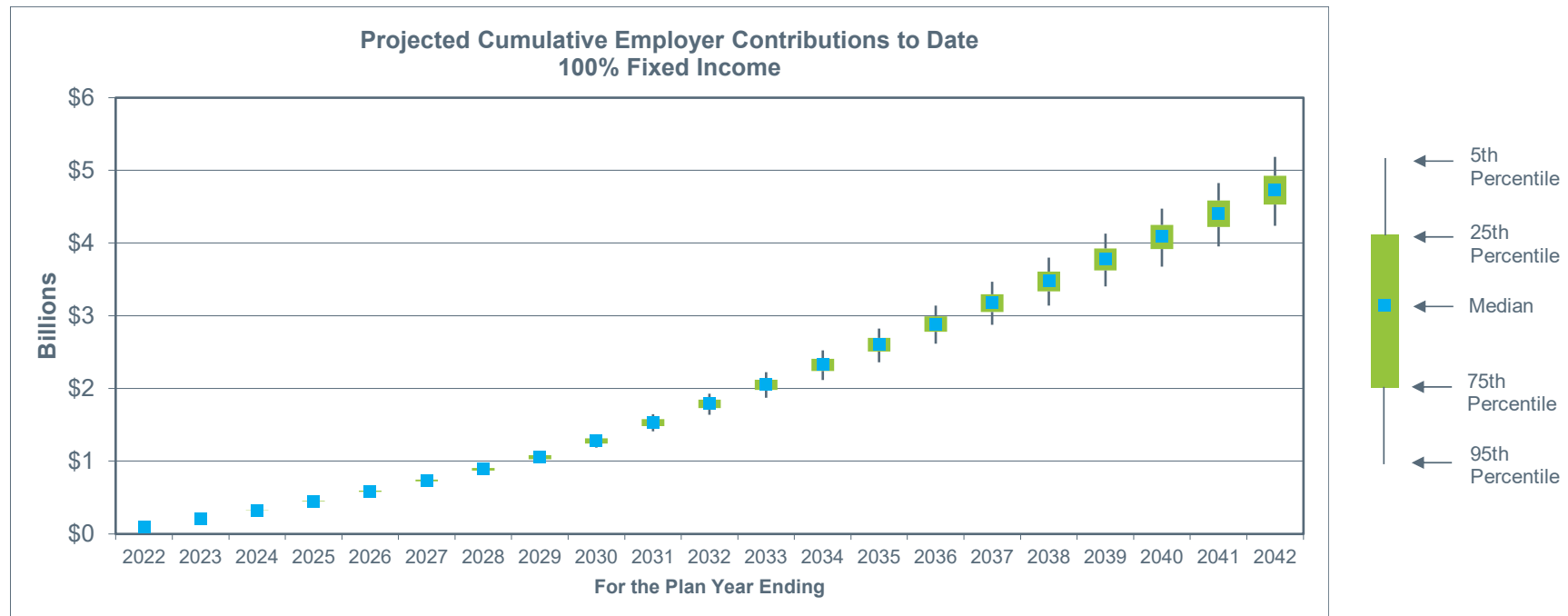


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Median	13%	12%	13%	13%	13%	14%	14%	14%	15%	15%	15%	15%	15%	14%	14%	14%	14%	14%	14%	13%	13%

Stochastic Analysis (continued)

Cumulative Contributions to Date: 100% Fixed Income

The graph and table below show the range of projected cumulative contributions over the next twenty years, assuming the Plan's assets are allocated according to the **100% Fixed Income** portfolio. The results assume the current contribution policy remains unchanged for all projection years.

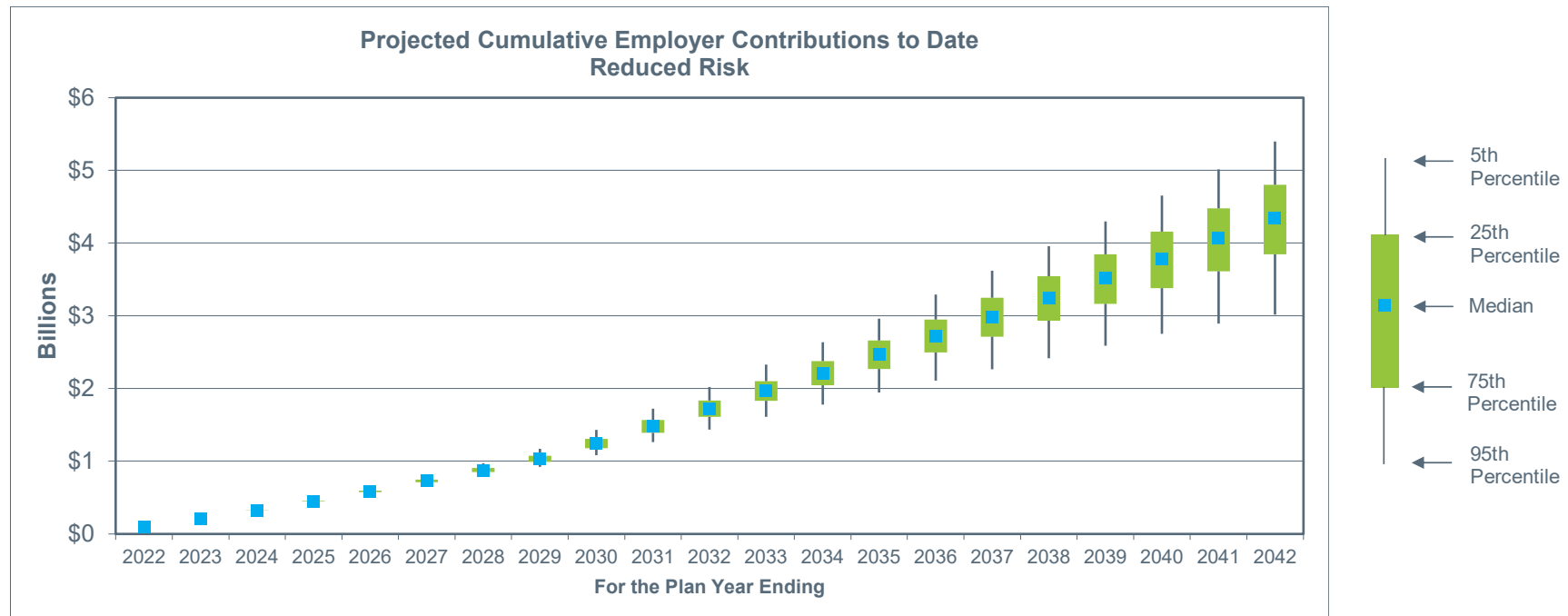


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
5th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.8	\$0.9	\$1.1	\$1.4	\$1.6	\$1.9	\$2.2	\$2.5	\$2.8	\$3.1	\$3.5	\$3.8	\$4.1	\$4.5	\$4.8	\$5.2
25th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.7	\$0.9	\$1.1	\$1.3	\$1.6	\$1.8	\$2.1	\$2.4	\$2.7	\$3.0	\$3.3	\$3.6	\$3.9	\$4.2	\$4.6	\$4.9
Median	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.9	\$1.1	\$1.3	\$1.5	\$1.8	\$2.1	\$2.3	\$2.6	\$2.9	\$3.2	\$3.5	\$3.8	\$4.1	\$4.4	\$4.7
75th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.9	\$1.0	\$1.2	\$1.5	\$1.7	\$2.0	\$2.2	\$2.5	\$2.8	\$3.1	\$3.3	\$3.6	\$3.9	\$4.2	\$4.5
95th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$1.0	\$1.2	\$1.4	\$1.6	\$1.9	\$2.1	\$2.4	\$2.6	\$2.9	\$3.1	\$3.4	\$3.7	\$4.0	\$4.2

Stochastic Analysis (continued)

Cumulative Contributions to Date: Reduced Risk

The graph and table below show the range of projected cumulative contributions over the next twenty years, assuming the Plan's assets are allocated according to the **Reduced Risk** portfolio. The results assume the current contribution policy remains unchanged for all projection years.

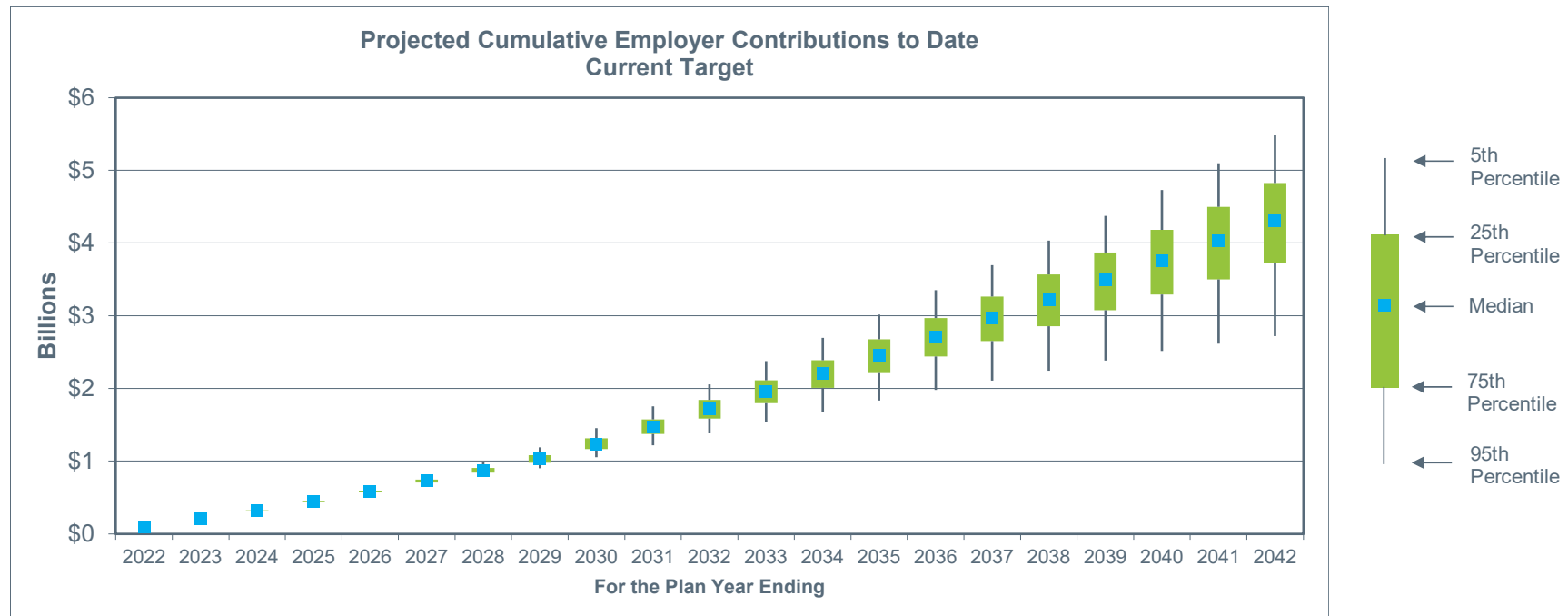


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
5th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.8	\$1.0	\$1.2	\$1.4	\$1.7	\$2.0	\$2.3	\$2.6	\$3.0	\$3.3	\$3.6	\$4.0	\$4.3	\$4.7	\$5.0	\$5.4
25th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.7	\$0.9	\$1.1	\$1.3	\$1.6	\$1.8	\$2.1	\$2.4	\$2.7	\$2.9	\$3.2	\$3.5	\$3.8	\$4.2	\$4.5	\$4.8
Median	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.9	\$1.0	\$1.2	\$1.5	\$1.7	\$2.0	\$2.2	\$2.5	\$2.7	\$3.0	\$3.2	\$3.5	\$3.8	\$4.1	\$4.3
75th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$1.0	\$1.2	\$1.4	\$1.6	\$1.8	\$2.0	\$2.3	\$2.5	\$2.7	\$2.9	\$3.2	\$3.4	\$3.6	\$3.8
95th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$0.9	\$1.1	\$1.3	\$1.4	\$1.6	\$1.8	\$1.9	\$2.1	\$2.3	\$2.4	\$2.6	\$2.7	\$2.9	\$3.0

Stochastic Analysis (continued)

Cumulative Contributions to Date: Current Target

The graph and table below show the range of projected cumulative contributions over the next twenty years, assuming the Plan's assets are allocated according to the **Current Target** allocation. The results assume the current contribution policy remains unchanged for all projection years.

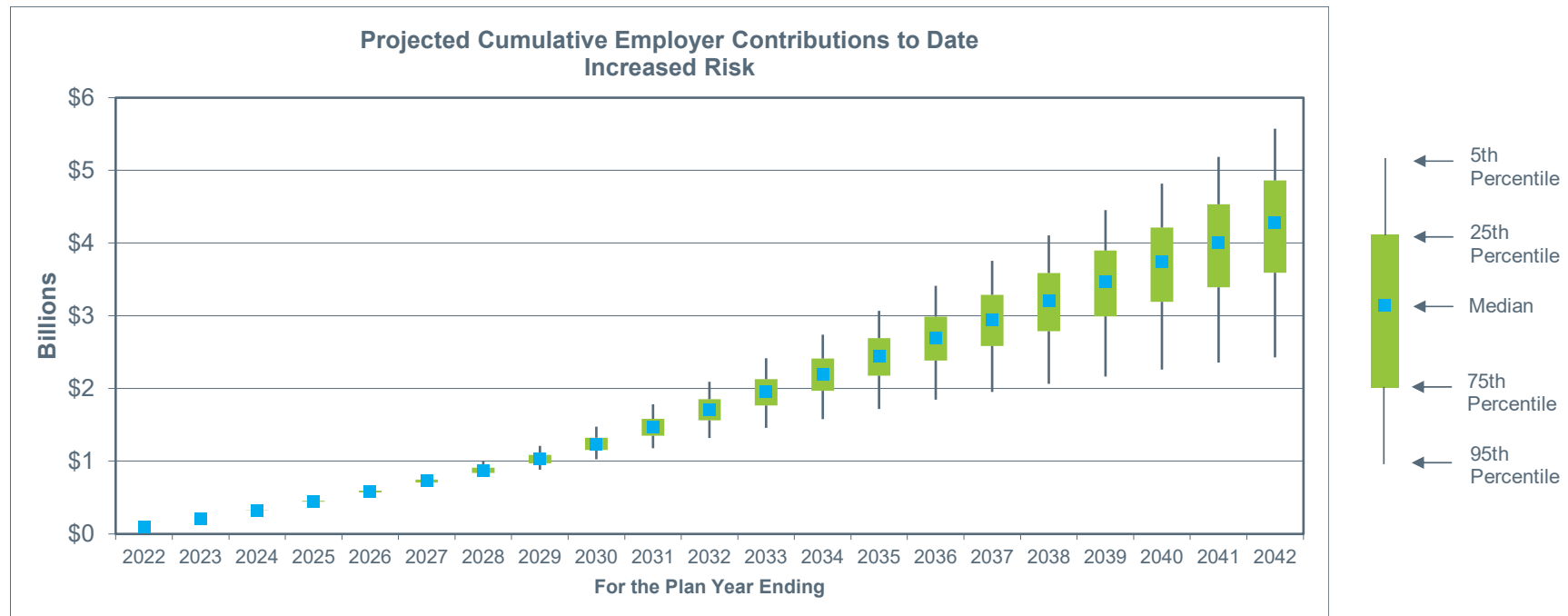


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
5th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.8	\$1.0	\$1.2	\$1.5	\$1.8	\$2.1	\$2.4	\$2.7	\$3.0	\$3.3	\$3.7	\$4.0	\$4.4	\$4.7	\$5.1	\$5.5
25th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.7	\$0.9	\$1.1	\$1.3	\$1.6	\$1.8	\$2.1	\$2.4	\$2.7	\$3.0	\$3.3	\$3.6	\$3.9	\$4.2	\$4.5	\$4.8
Median	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.9	\$1.0	\$1.2	\$1.5	\$1.7	\$2.0	\$2.2	\$2.5	\$2.7	\$3.0	\$3.2	\$3.5	\$3.8	\$4.0	\$4.3
75th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$1.0	\$1.2	\$1.4	\$1.6	\$1.8	\$2.0	\$2.2	\$2.4	\$2.6	\$2.9	\$3.1	\$3.3	\$3.5	\$3.7
95th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$0.9	\$1.1	\$1.2	\$1.4	\$1.5	\$1.7	\$1.8	\$2.0	\$2.1	\$2.2	\$2.4	\$2.5	\$2.6	\$2.7

Stochastic Analysis (continued)

Cumulative Contributions to Date: Increased Risk

The graph and table below show the range of projected cumulative contributions over the next twenty years, assuming the Plan's assets are allocated according to the **Increased Risk** portfolio. The results assume the current contribution policy remains unchanged for all projection years.

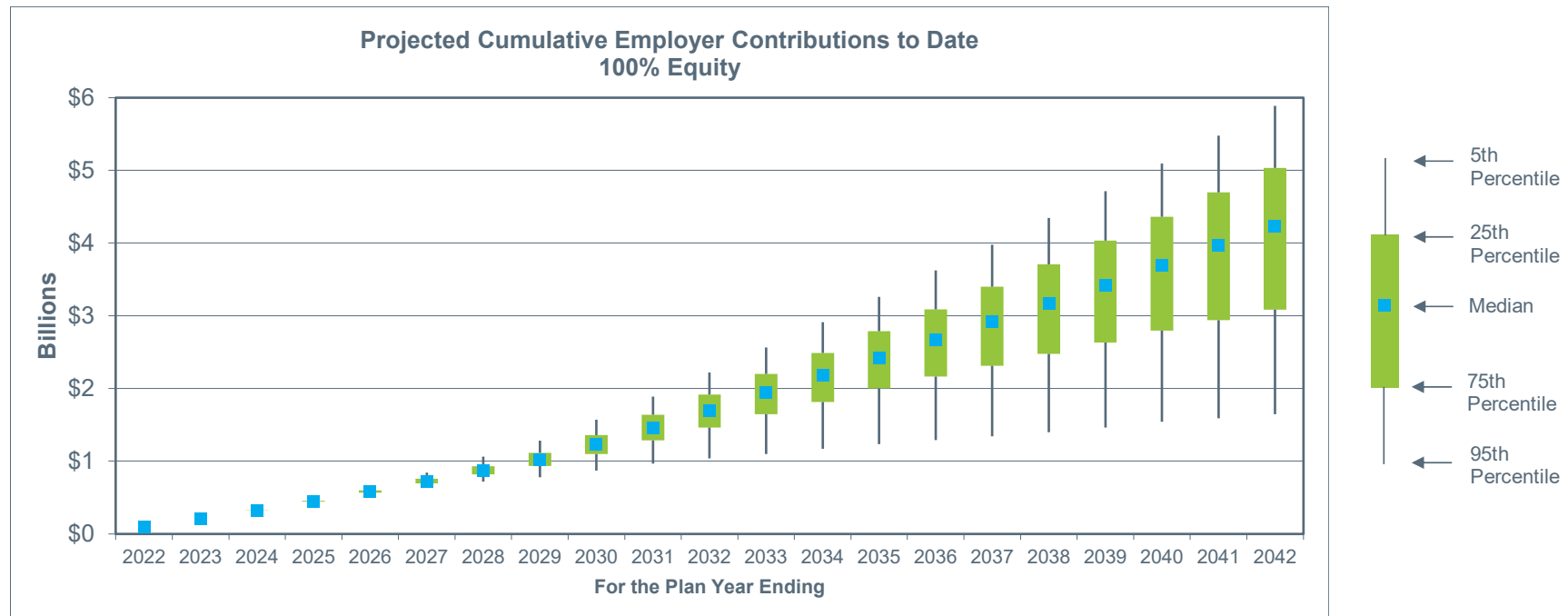


	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
5th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.8	\$1.0	\$1.2	\$1.5	\$1.8	\$2.1	\$2.4	\$2.7	\$3.1	\$3.4	\$3.8	\$4.1	\$4.5	\$4.8	\$5.2	\$5.6
25th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.7	\$0.9	\$1.1	\$1.3	\$1.6	\$1.9	\$2.1	\$2.4	\$2.7	\$3.0	\$3.3	\$3.6	\$3.9	\$4.2	\$4.5	\$4.9
Median	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.9	\$1.0	\$1.2	\$1.5	\$1.7	\$1.9	\$2.2	\$2.4	\$2.7	\$2.9	\$3.2	\$3.5	\$3.7	\$4.0	\$4.3
75th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$1.0	\$1.2	\$1.4	\$1.6	\$1.8	\$2.0	\$2.2	\$2.4	\$2.6	\$2.8	\$3.0	\$3.2	\$3.4	\$3.6
95th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$0.9	\$1.0	\$1.2	\$1.3	\$1.5	\$1.6	\$1.7	\$1.8	\$2.0	\$2.1	\$2.2	\$2.3	\$2.4	\$2.4

Stochastic Analysis (continued)

Cumulative Contributions to Date: 100% Equity

The graph and table below show the range of projected cumulative contributions over the next twenty years, assuming the Plan's assets are allocated according to the **100% Equity** portfolio. The results assume the current contribution policy remains unchanged for all projection years.



	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
5th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.7	\$0.8	\$1.1	\$1.3	\$1.6	\$1.9	\$2.2	\$2.6	\$2.9	\$3.3	\$3.6	\$4.0	\$4.3	\$4.7	\$5.1	\$5.5	\$5.9
25th Percentile	\$0.1	\$0.2	\$0.3	\$0.5	\$0.6	\$0.8	\$0.9	\$1.1	\$1.4	\$1.6	\$1.9	\$2.2	\$2.5	\$2.8	\$3.1	\$3.4	\$3.7	\$4.0	\$4.4	\$4.7	\$5.0
Median	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.9	\$1.0	\$1.2	\$1.5	\$1.7	\$1.9	\$2.2	\$2.4	\$2.7	\$2.9	\$3.2	\$3.4	\$3.7	\$4.0	\$4.2
75th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.6	\$0.7	\$0.8	\$0.9	\$1.1	\$1.3	\$1.5	\$1.6	\$1.8	\$2.0	\$2.2	\$2.3	\$2.5	\$2.6	\$2.8	\$2.9	\$3.1
95th Percentile	\$0.1	\$0.2	\$0.3	\$0.4	\$0.5	\$0.6	\$0.7	\$0.8	\$0.9	\$1.0	\$1.0	\$1.1	\$1.2	\$1.2	\$1.3	\$1.3	\$1.4	\$1.5	\$1.5	\$1.6	\$1.6

Stochastic Analysis (continued)

Drawing Inferences

The tables below compare the projected market funded ratios five, ten, and twenty years from now, under the median (50th percentile), worst-case (5th percentile), and best-case (95th percentile) scenarios, assuming the five different asset mixes highlighted on the prior pages. The tables also display, for comparative purposes, the median, peak, and trough projected payout ratios and cumulative employer contributions for the five asset mixes being examined.

5 Years	Market Funded Ratio in Year 5			Cumulative Employer Contributions in Year 5 (Billions)			Payout Ratios		
	50th	5th	95th	Contributions in Year 5 (Billions)			Year 5	Years 1 to 5	
				50th	5th	95th	Median	Peak	Trough
100% Fixed Income	43%	36%	51%	\$0.7	\$0.8	\$0.7	15%	18%	12%
Reduced Risk	47%	31%	64%	\$0.7	\$0.8	\$0.7	14%	21%	10%
Current Target	48%	30%	68%	\$0.7	\$0.8	\$0.7	14%	22%	10%
Increased Risk	48%	28%	71%	\$0.7	\$0.8	\$0.7	14%	24%	9%
100% Equity	49%	22%	88%	\$0.7	\$0.8	\$0.6	14%	31%	7%

10 Years	Market Funded Ratio in Year 10			Cumulative Employer Contributions in Year 10 (Billions)			Payout Ratios		
	50th	5th	95th	Contributions in Year 10 (Billions)			Year 10	Years 1 to 10	
				50th	5th	95th	Median	Peak	Trough
100% Fixed Income	39%	30%	51%	\$1.8	\$1.9	\$1.6	18%	24%	12%
Reduced Risk	47%	23%	76%	\$1.7	\$2.0	\$1.4	15%	31%	10%
Current Target	48%	21%	82%	\$1.7	\$2.1	\$1.4	15%	34%	9%
Increased Risk	48%	19%	88%	\$1.7	\$2.1	\$1.3	15%	37%	8%
100% Equity	50%	14%	120%	\$1.7	\$2.2	\$1.0	15%	52%	6%

20 Years	Market Funded Ratio in Year 20			Cumulative Employer Contributions in Year 20 (Billions)			Payout Ratios		
	50th	5th	95th	Contributions in Year 20 (Billions)			Year 20	Years 1 to 20	
				50th	5th	95th	Median	Peak	Trough
100% Fixed Income	50%	38%	68%	\$4.7	\$5.2	\$4.2	18%	25%	12%
Reduced Risk	66%	33%	125%	\$4.3	\$5.4	\$3.0	14%	32%	7%
Current Target	67%	31%	141%	\$4.3	\$5.5	\$2.7	14%	34%	7%
Increased Risk	68%	29%	157%	\$4.3	\$5.6	\$2.4	13%	37%	6%
100% Equity	69%	22%	262%	\$4.2	\$5.9	\$1.6	13%	53%	3%

Appendix: Assumptions and Methods

Actuarial Valuation Assumptions and Methods: At the beginning of each projection year, an actuarial valuation is performed to determine employer contributions. The assumptions used in the October 1, 2022 actuarial valuations prepared by Segal were utilized in all years. These methods and assumptions are summarized below:

Actuarial Cost Method	Entry-Age Normal (level % of pay). Funding policies and methods are described in the October 1, 2022 actuarial valuation prepared by Segal.
Liability Discount Rate	6.50% per year, compounded annually.
Administrative Expenses	GEPP: \$1.8 million for FYE 2023, COPP: \$159,000 for FYE 2023.
Inflation (CPI)	2.50% per year.
Interest on BACKDROP	4.00% per year.
Payroll Growth	GEPP: Overall growth of 1.50% per year. COPP: Overall growth of 1.25% per year.
Future Pay Increases	Future pay increases as described in Section 4 Exhibit I of the October 1, 2022 actuarial valuations prepared by Segal.
Retirement	Rates of retirement as described in Section 4 Exhibit I of the October 1, 2022 actuarial valuations prepared by Segal.
Mortality	Rates of mortality as described in Section 4 Exhibit I of the October 1, 2022 actuarial valuations prepared by Segal.
Disability	Rates of disability as described in Section 4 Exhibit I of the October 1, 2022 actuarial valuations prepared by Segal.
Termination/Withdrawal	Rates of termination and withdrawal as described in Section 4 Exhibit I of the October 1, 2022 actuarial valuations prepared by Segal.

Appendix: Assumptions and Methods (continued)

Actuarial Valuation Assumptions and Methods: (continued)

Refund of Contributions	95% of participants that are vested and terminate are assumed to take a refund in lieu of an accrued benefit deferred to age 65
COLA	Benefits after retirement are assumed to increase as follows: GEPP: 3.0% per year after fifth anniversary of benefit commencement COPP: 3.0% per year after initial benefit commencement
Tax Revenue Growth Rate	4.25% per year
Tax Revenue Allocation	GEPP: 35.00% COPP: 6.10%
Asset Valuation Method	Market value, with five-year smoothing of returns in excess or below the expected return.
Contribution Policy	The Florida Chapter 112 determined employer contribution reduced by amortization of discounted allocated surtax revenue. Normal cost and actuarial accrued liability are calculated under the Entry Age Normal cost method (level percent of pay).

Appendix: Assumptions and Methods (continued)

Projection Assumptions (used in the deterministic and stochastic asset/liability projections): These projections begin with the Plans' participant populations as of October 1, 2022, as provided by Segal. Each Plan's population is projected forward and assumed to change as a result of employment separation, death, disability, and retirement, as predicted by the assumptions used in the October 1, 2022 actuarial valuations prepared by Segal (and described on the prior pages). Employee compensation is projected into the future in accordance with the assumptions described on the prior pages. Investment returns are projected into the future in accordance with the assumptions described below.

Employer Contributions

For FYE 2023, GEPP employer contributions were assumed equal to 35.31% of payroll. For FYE 2023, COPP employer contributions were assumed equal to \$17,185,973. For all other years of the projections, employer contributions are assumed to equal: (1) normal cost less expected employee contributions, plus (2) an amortization of the unfunded actuarial accrued liability (UAAL), (3) plus expected administrative expenses, less 4) discounted allocated surtax revenue.

New experience gains and losses were amortized over closed periods that assume a payoff of UAAL over 30 years from October 1, 2017.

Member Contributions

GEPP: 10% of earnable compensation.

COPP: 10% of earnable compensation plus 2% during DROP participation.

New Entrants

None assumed.

Rate of Return on Assets

Deterministic Analysis: 6.50%, compounded annually.

Stochastic Analysis: Returns on the portfolio are based on the expected returns of each asset class and the correlations between each class which are detailed in the Stochastic Analysis section of this report.

Base Wages

Deterministic Analysis: 2.50% increases per year.

Stochastic Analysis: Increases that vary with inflation.

Appendix: Assumptions and Methods (continued)

Inflation

Deterministic Analysis: 2.50%.

Stochastic Analysis: 2.50% with a standard deviation of 2.50%

Surtax Revenue

Actual 2022 surtax revenue was projected using a 4.25% annual increase assumption. The allocation percentages for GEPP and COPP were assumed to remain at their current rates of 35.00% and 6.10%, respectively. Projected revenue for January 1, 2031 through December 31, 2060, was allocated on this basis and was not assumed to change under the deterministic and stochastic forecasts.

Other

All other projection assumptions and methods are the same as those used in the October 1, 2022 actuarial valuations prepared by Segal, with minor exceptions where system restraints required approximations.

Employee contribution rates were not assumed to change in the future.

The active and inactive participant data provided by Segal was used without grouping.



Monthly Investment Performance Analysis

City of Jacksonville Employees' Retirement System

Period Ended: August 31, 2023

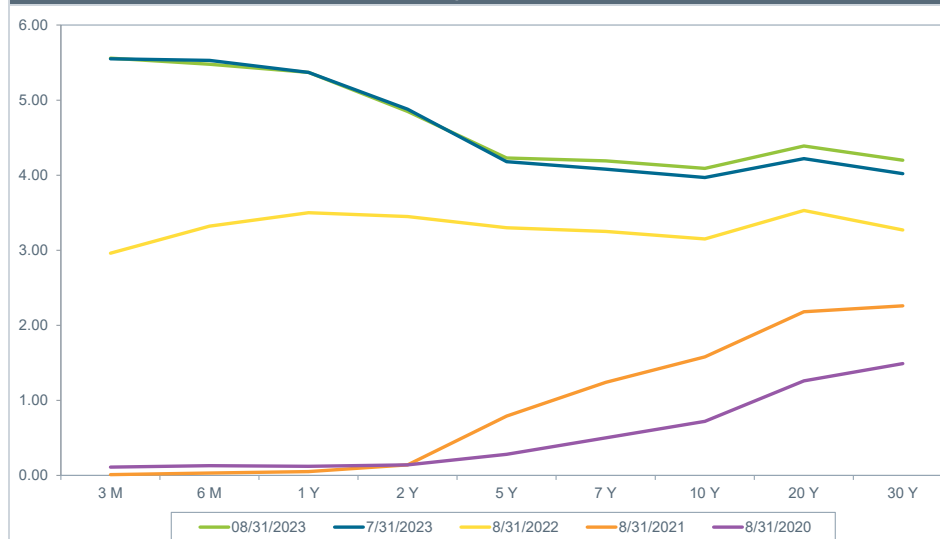


General Market Commentary

- Global equity markets pulled back in August, with most US and international indices experiencing low to mid-single digit losses for the month. In the US, small cap stocks generally underperformed large cap stocks, and internationally emerging markets declined more than developed markets.
- The annual U.S. inflation rate was 3.20% through the end of July, up slightly from 3.00% the month prior. Inflation has moderated considerably since 2022 highs, although still remains higher than the Fed's 2.00% target.
- On August 1, 2023, Fitch Ratings downgraded the US debt rating from AAA to AA+ due to concerns over rising fiscal deficits in the near-term, unsustainable debt and deficit trajectories, increased political dysfunction, and polarization among policymakers in addressing fiscal challenges. The downgrade, along with higher treasury issuance, led to an increase in longer-dated yields during August, as well as heightened bond market volatility.
- China's economic growth concerns also contributed to the pullback in global stocks. Economic and deflation data came in weaker than expected, factory activity continued to decrease, and both consumer and business confidence remain weak. During August, the People's Bank of China lowered interest rates twice in an attempt to address these issues, but China's difficulties continue to weigh on the global economy.
- Equity markets posted negative returns in August as the S&P 500 (Cap Wtd) Index returned -1.59% and the MSCI EAFE (Net) Index returned -3.83%. Emerging markets returned -6.16%, as measured by the MSCI EM (Net) Index.
- The Bloomberg US Aggregate Bond Index returned -0.64% in August, underperforming the 0.05% return by the Bloomberg US Treasury Intermediate Term Index. International fixed income markets returned -2.03%, as measured by the FTSE Non-US World Gov't Bond Index.
- Public real estate returned -3.11% in August and 3.69% over the trailing five-year period, as measured by the FTSE NAREIT Eq REITs Index (TR).
- The Cambridge US Private Equity Index returned -0.36% for the trailing one-year period and 16.18% for the trailing five-year period ending March 2023.
- Absolute return strategies returned -0.15% for the month and 3.26% over the trailing one-year period, as measured by the HFRI FOF Comp Index.
- Crude oil's price increased by 2.24% during the month but has decreased by 6.61% YoY.

Economic Indicators	Aug-23	Jul-23	Aug-22	10 Yr	20 Yr
Federal Funds Rate (%)	5.33	—	5.33	2.33	1.10
Breakeven Inflation - 5 Year (%)	2.20	▼	2.31	2.64	1.89
Breakeven Inflation - 10 Year (%)	2.26	▼	2.39	2.48	1.97
Breakeven Inflation - 30 Year (%)	2.27	▼	2.31	2.35	2.03
Bloomberg US Agg Bond Index - Yield (%)	4.97	▲	4.85	3.96	2.58
Bloomberg US Agg Bond Index - OAS (%)	0.48	▲	0.46	0.50	0.47
Bloomberg US Agg Credit Index - OAS (%)	1.09	▲	1.04	1.30	1.18
Bloomberg US Corp: HY Index - OAS (%)	3.72	▲	3.67	4.84	4.27
Capacity Utilization (%)	79.67	▲	79.30	80.14	77.39
Unemployment Rate (%)	3.80	▲	3.50	3.70	4.99
PMI - Manufacturing (%)	47.60	▲	46.40	52.80	54.14
Baltic Dry Index - Shipping	1,086	▼	1,127	965	1,365
Consumer Conf (Conf Board)	106.10	▼	117.00	103.60	107.78
CPI YoY (Headline) (%)	3.70	▲	3.20	8.30	2.71
CPI YoY (Core) (%)	4.30	▼	4.70	6.30	2.74
PPI YoY (%)	2.20	▲	-1.10	12.80	2.76
M2 YoY (%)	N/A	N/A	-3.70	3.80	7.49
US Dollar Total Weighted Index	120.74	▲	118.34	123.67	112.06
WTI Crude Oil per Barrel (\$)	84	▲	82	90	65
Gold Spot per Oz (\$)	1,944	▼	1,959	1,711	1,469

Treasury Yield Curve (%)



Treasury Yield Curve (%)	Aug-23	Jul-23	Aug-22	Aug-21	Aug-20
3 Month	5.56	5.55	2.96	0.01	0.11
6 Month	5.48	5.53	3.32	0.03	0.13
1 Year	5.37	5.37	3.50	0.05	0.12
2 Year	4.85	4.88	3.45	0.14	0.14
5 Year	4.23	4.18	3.30	0.79	0.28
7 Year	4.19	4.08	3.25	1.24	0.50
10 Year	4.09	3.97	3.15	1.58	0.72
20 Year	4.39	4.22	3.53	2.18	1.26
30 Year	4.20	4.02	3.27	2.26	1.49

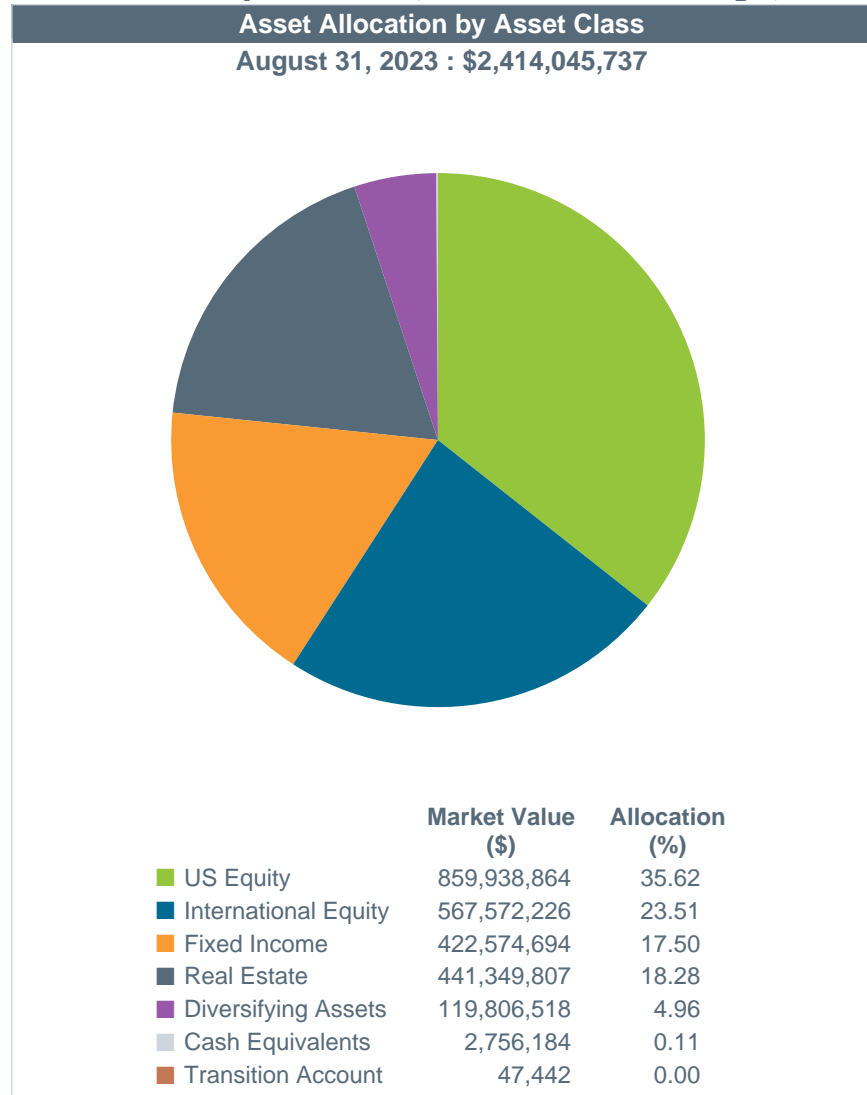
Market Performance (%)	MTD	QTD	CYTD	1 Yr	3 Yr	5 Yr	7 Yr	10 Yr
S&P 500 (Cap Wtd)	-1.59	1.57	18.73	15.94	10.52	11.12	13.03	12.81
Russell 2000	-5.00	0.81	8.96	4.65	8.12	3.14	7.72	7.96
MSCI EAFE (Net)	-3.83	-0.72	10.87	17.92	6.05	4.14	6.00	4.93
MSCI EAFE SC (Net)	-3.33	0.96	6.54	9.18	2.39	1.53	5.08	5.67
MSCI EM (Net)	-6.16	-0.32	4.55	1.25	-1.39	0.98	3.80	2.99
Bloomberg US Agg Bond	-0.64	-0.71	1.37	-1.19	-4.41	0.49	0.27	1.48
ICE BofAML 3 Mo US T-Bill	0.45	0.85	3.13	4.25	1.55	1.65	1.49	1.07
NCREIF ODCE (Gross)	N/A	N/A	-5.76	-9.97	7.99	6.50	6.97	8.74
FTSE NAREIT Eq REITs Index (TR)	-3.11	-0.35	5.00	-2.95	7.08	3.69	3.39	7.05
HFRI FOF Comp Index	-0.15	0.94	3.20	3.26	3.84	3.42	3.88	3.46
Bloomberg Cmtly Index (TR)	-0.77	5.44	-2.77	-8.67	15.18	6.68	5.25	-0.93

NCREIF performance is reported quarterly; MTD and QTD returns are shown as "N/A" on interim-quarter months and until available. Data shown is as of most recent quarter-end. Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service. The previous month's CPI YoY is used as a proxy for the current YoY return until it becomes available.



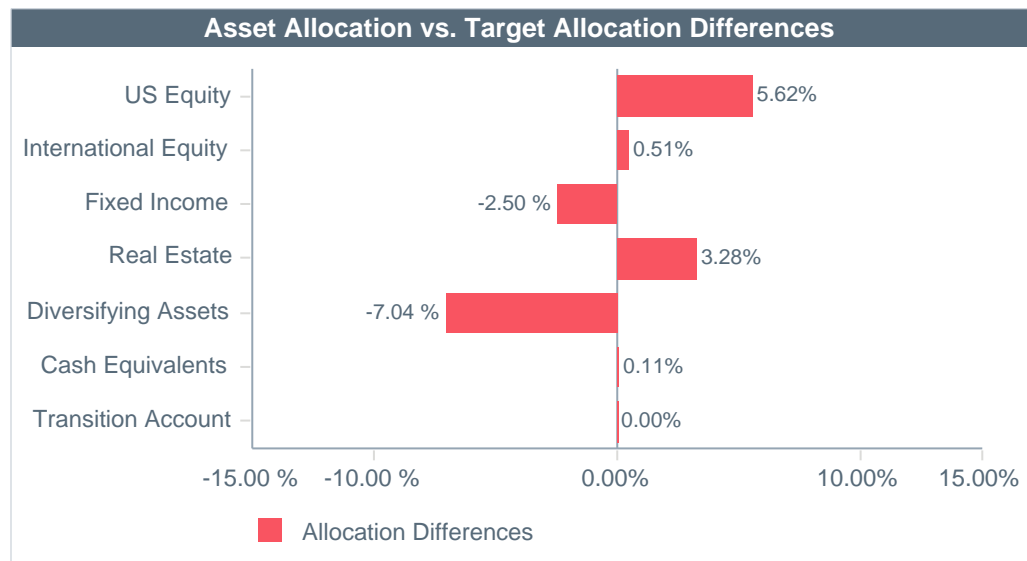
Total Fund

Asset Allocation by Asset Class, Asset Allocation vs. Target, and Schedule of Investable Assets



Asset Allocation vs. Target Allocation

	Market Value (\$)	Allocation (%)	Min (%)	Target (%)	Max (%)
Total Fund	2,414,045,737	100.00	-	100.00	-
US Equity	859,938,864	35.62	20.00	30.00	40.00
International Equity	567,572,226	23.51	13.00	23.00	25.00
Fixed Income	422,574,694	17.50	10.00	20.00	30.00
Real Estate	441,349,807	18.28	0.00	15.00	20.00
Diversifying Assets	119,806,518	4.96	0.00	12.00	20.00
Cash Equivalents	2,756,184	0.11	0.00	0.00	10.00
Transition Account	47,442	0.00	0.00	0.00	0.00



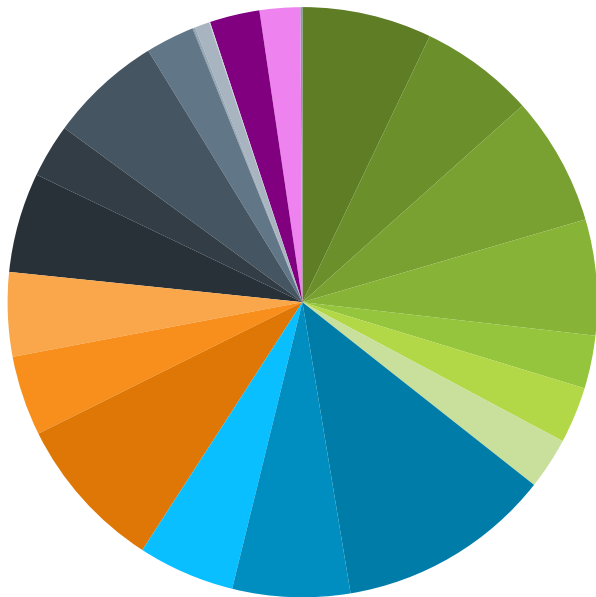
Schedule of Investable Assets

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
CYTD	2,188,723,757	5,133,778	220,188,203	2,414,045,737	10.05

Market values and performance shown are preliminary and subject to change. Performance shown is net of fees. Allocations shown may not sum up to 100% exactly due to rounding.



August 31, 2023 : \$2,414,045,737



	Market Value (\$)	Allocation (%)
Eagle Capital Large Cap Value (SA)	171,566,307	7.11
Wellington Select Equity Income Fund (SA)	151,885,456	6.29
Mellon Large Cap Core Index (CF)	170,784,538	7.07
Loomis Sayles Large Cap Growth (CF)	152,942,476	6.34
Kayne Anderson US SMID Value (SA)	69,976,867	2.90
Systematic Financial US SMID Value (SA)	74,560,529	3.09
Pinnacle Associates US SMID Cap Growth (SA)	68,222,690	2.83
Silchester International Value (CF)	284,055,581	11.77
Baillie Gifford International Growth (BGEFX)	155,569,819	6.44
Acadian Emerging Markets (CF)	127,946,827	5.30
Baird Core Fixed Income (SA)	205,785,730	8.52
Loomis Sayles Multisector Full Discretion (CF)	105,734,146	4.38
Schroder Flexible Secured Income Fund	111,054,818	4.60
Harrison Street Core Property LP	132,248,988	5.48
PGIM Real Estate PRISA II LP	70,803,330	2.93
Principal US Property (CF)	149,459,984	6.19
UBS Trumbull Property	64,633,077	2.68
Vanguard RE Idx;ETF (VNQ)	1,158,419	0.05
Abacus Multi-Family Partners VI LP	2,469,181	0.10
H.I.G. Realty Partners IV (Onshore) LP	19,393,610	0.80
Bell Value-Add Fund VII (CF)	1,183,220	0.05
Hancock Timberland (SA)	28,954	0.00
Adams Street Private Equity (SA)	66,121,657	2.74
Hamilton Lane Private Credit (SA)	53,655,907	2.22
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	2,756,184	0.11
Transition Account	47,442	0.00

Market values shown are preliminary and subject to change. Allocations shown may not sum up to 100% exactly due to rounding.

City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of August 31, 2023

	Allocation		Performance (%)										
	Market Value (\$)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	2,414,045,737	100.00	-2.08	0.83	10.05	16.08	9.10	5.23	4.98	6.80	6.96	6.15	07/01/1999
Total Fund Policy Index			-1.83	0.48	8.56	15.14	7.36	6.13	5.41	6.65	6.91	5.80	
Difference			-0.25	0.35	1.49	0.94	1.74	-0.90	-0.43	0.15	0.05	0.35	
Total Equity	1,427,511,091	59.13	-3.27	1.57	19.02	31.36	18.94	7.39	7.29	9.94	9.32	6.50	07/01/1999
US Equity	859,938,864	35.62	-2.22	1.99	23.48	32.36	20.61	10.19	9.62	12.10	11.48	7.28	07/01/1999
US Equity Index			-1.93	1.59	18.01	26.49	14.76	9.81	10.25	12.45	12.23	7.31	
Difference			-0.29	0.40	5.47	5.87	5.85	0.38	-0.63	-0.35	-0.75	-0.03	
International Equity	567,572,226	23.51	-4.81	0.94	12.92	30.14	16.53	3.01	3.64	6.54	5.71	5.62	07/01/1999
International Equity Index			-4.52	-0.63	8.78	24.31	11.89	3.99	3.33	5.40	4.38	3.86	
Difference			-0.29	1.57	4.14	5.83	4.64	-0.98	0.31	1.14	1.33	1.76	
Fixed Income	422,574,694	17.50	-0.41	0.41	3.71	5.29	1.63	-3.29	0.22	0.58	1.39	4.20	07/01/1999
Fixed Income Index			-0.60	-0.50	1.81	4.09	-0.39	-3.96	0.74	0.44	1.60	3.92	
Difference			0.19	0.91	1.90	1.20	2.02	0.67	-0.52	0.14	-0.21	0.28	
Real Estate	441,349,807	18.28	-0.80	-1.34	-6.60	-7.90	-7.88	6.49	5.08	5.79	7.41	5.61	12/01/2005
Real Estate Index			0.01	0.02	-6.11	-10.96	-10.67	7.07	5.58	6.03	7.78	6.01	
Difference			-0.81	-1.36	-0.49	3.06	2.79	-0.58	-0.50	-0.24	-0.37	-0.40	
Core Real Estate	418,303,796	17.33	-0.85	-1.41	-7.06	-8.48	-8.41	6.15	4.88	5.64	7.31	5.56	12/01/2005
NCREIF ODCE Index (AWA) (Net)			0.00	0.00	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	6.00	
Difference			-0.85	-1.41	-0.90	2.53	2.32	-0.89	-0.68	-0.38	-0.46	-0.44	
Non-Core Real Estate	23,046,011	0.95	0.07	0.07	5.57	9.77	5.29	N/A	N/A	N/A	N/A	42.93	01/01/2022
NCREIF ODCE Index (AWA)(Net) +2%			0.17	0.33	-4.92	-9.38	-8.95	9.18	7.67	8.14	9.93	1.99	
Difference			-0.10	-0.26	10.49	19.15	14.24	N/A	N/A	N/A	N/A	40.94	
Diversifying Assets	119,806,518	4.96	1.88	1.84	6.79	5.33	6.56	26.73	8.23	7.65	6.41	8.27	03/01/2011
Diversifying Assets Index			-0.79	1.91	15.51	24.85	15.84	13.73	1.57	2.48	2.40	3.68	
Difference			2.67	-0.07	-8.72	-19.52	-9.28	13.00	6.66	5.17	4.01	4.59	

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City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of August 31, 2023

	Allocation		Performance (%)										
	Market Value (\$)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Equity													
Eagle Capital Large Cap Value (SA)	171,566,307	7.11	-1.67	3.69	29.11	39.50	26.35	12.27	9.89	13.05	12.23	10.52	02/01/2007
Russell 1000 Val Index			-2.70	0.72	5.88	19.03	8.59	11.59	7.11	8.49	9.15	6.55	
Difference			1.03	2.97	23.23	20.47	17.76	0.68	2.78	4.56	3.08	3.97	
Russell 1000 Index			-1.75	1.63	18.58	27.17	15.40	9.93	10.77	12.78	12.55	9.26	
Difference			0.08	2.06	10.53	12.33	10.95	2.34	-0.88	0.27	-0.32	1.26	
Wellington Select Equity Income Fund (SA)	151,885,456	6.29	-2.33	2.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.98	06/01/2023
Russell 1000 Val Index			-2.70	0.72	5.88	19.03	8.59	11.59	7.11	8.49	9.15	7.41	
Difference			0.37	1.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.57	
Mellon Large Cap Core Index (CF)	170,784,538	7.07	-1.75	1.63	18.60	27.21	15.44	9.90	N/A	N/A	N/A	11.83	05/01/2019
Russell 1000 Index			-1.75	1.63	18.58	27.17	15.40	9.93	10.77	12.78	12.55	11.86	
Difference			0.00	0.00	0.02	0.04	0.04	-0.03	N/A	N/A	N/A	-0.03	
Loomis Sayles Large Cap Growth (CF)	152,942,476	6.34	-1.45	3.12	41.93	50.78	36.64	8.35	13.52	N/A	N/A	14.80	08/01/2017
Russell 1000 Grth Index			-0.90	2.44	32.17	35.07	21.94	8.25	13.81	16.63	15.63	16.05	
Difference			-0.55	0.68	9.76	15.71	14.70	0.10	-0.29	N/A	N/A	-1.25	
Kayne Anderson US SMID Value (SA)	69,976,867	2.90	-2.16	1.96	9.69	16.04	5.52	N/A	N/A	N/A	N/A	-0.96	03/01/2022
Russell 2500 Val Index			-3.85	1.79	7.72	17.64	5.74	13.91	4.81	7.42	8.07	-1.97	
Difference			1.69	0.17	1.97	-1.60	-0.22	N/A	N/A	N/A	N/A	1.01	
Systematic Financial US SMID Value (SA)	74,560,529	3.09	-1.58	3.45	10.24	23.66	12.79	N/A	N/A	N/A	N/A	0.83	03/01/2022
Russell 2500 Val Index			-3.85	1.79	7.72	17.64	5.74	13.91	4.81	7.42	8.07	-1.97	
Difference			2.27	1.66	2.52	6.02	7.05	N/A	N/A	N/A	N/A	2.80	
Pinnacle Associates US SMID Cap Growth (SA)	68,222,690	2.83	-6.76	-5.05	10.34	14.27	3.91	6.10	7.11	10.98	9.90	11.90	03/01/2010
Russell 2500 Grth Index			-4.07	-0.87	12.40	17.70	7.56	2.86	5.04	9.80	9.73	11.80	
Difference			-2.69	-4.18	-2.06	-3.43	-3.65	3.24	2.07	1.18	0.17	0.10	

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City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of August 31, 2023

	Allocation		Performance (%)										
	Market Value (\$)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity													
Silchester International Value (CF)	284,055,581	11.77	-2.77	2.93	14.33	35.65	23.94	10.55	4.89	6.84	6.39	8.69	06/01/2009
MSCI EAFE Val Index (USD) (Net)			-2.96	1.45	10.86	32.63	20.74	9.70	3.41	5.22	3.84	5.07	
Difference			0.19	1.48	3.47	3.02	3.20	0.85	1.48	1.62	2.55	3.62	
Baillie Gifford International Growth (BGEFX)	155,569,819	6.44	-9.17	-3.05	9.92	24.30	9.08	-7.72	2.93	8.02	6.72	8.61	06/01/2009
Baillie Gifford Index			-5.10	-2.14	8.33	22.29	9.32	-0.36	3.49	5.42	5.05	6.64	
Difference			-4.07	-0.91	1.59	2.01	-0.24	-7.36	-0.56	2.60	1.67	1.97	
Baillie Gifford Spliced Index			-4.52	-0.63	8.78	24.31	11.89	3.99	3.47	5.51	4.59	5.97	
Difference			-4.65	-2.42	1.14	-0.01	-2.81	-11.71	-0.54	2.51	2.13	2.64	
Acadian Emerging Markets (CF)	127,946,827	5.30	-3.67	1.67	13.59	25.96	11.00	4.89	3.13	5.05	3.78	2.70	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			-6.16	-0.32	4.55	14.70	1.25	-1.39	0.98	3.80	2.99	1.43	
Difference			2.49	1.99	9.04	11.26	9.75	6.28	2.15	1.25	0.79	1.27	
Fixed Income													
Baird Core Fixed Income (SA)	205,785,730	8.52	-0.58	-0.60	2.08	3.93	-0.49	N/A	N/A	N/A	N/A	-4.48	03/01/2021
Bloomberg US Agg Bond Index			-0.64	-0.71	1.37	3.27	-1.19	-4.41	0.49	0.27	1.48	-4.67	
Difference			0.06	0.11	0.71	0.66	0.70	N/A	N/A	N/A	N/A	0.19	
Loomis Sayles Multisector Full Discretion (CF)	105,734,146	4.38	-0.52	-0.01	2.78	5.40	0.96	-2.16	2.41	2.79	3.73	5.23	10/01/2007
Bloomberg Gbl Agg Bond Index			-1.37	-0.68	0.74	5.32	-0.09	-6.12	-1.21	-1.03	0.06	1.65	
Difference			0.85	0.67	2.04	0.08	1.05	3.96	3.62	3.82	3.67	3.58	
Schroder Flexible Secured Income Fund	111,054,818	4.60	0.00	2.75	7.82	7.81	N/A	N/A	N/A	N/A	N/A	7.81	10/01/2022
SOFR+1.75%			0.59	1.16	4.48	5.88	6.26	3.43	3.44	N/A	N/A	5.88	
Difference			-0.59	1.59	3.34	1.93	N/A	N/A	N/A	N/A	N/A	1.93	
SOFR+5%			0.85	1.69	6.69	8.98	9.65	6.74	6.74	N/A	N/A	8.98	
Difference			-0.85	1.06	1.13	-1.17	N/A	N/A	N/A	N/A	N/A	-1.17	

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City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of August 31, 2023

	Allocation		Performance (%)										
	Market Value (\$)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Estate													
Harrison Street Core Property LP	132,248,988	5.48	0.00	0.15	-1.03	1.11	1.11	7.40	6.87	7.35	N/A	7.37	11/01/2015
NCREIF ODCE Index (AWA) (Net)			0.00	0.00	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	6.29	
Difference			0.00	0.15	5.13	12.12	11.84	0.36	1.31	1.33	N/A	1.08	
PGIM Real Estate PRISA II LP	70,803,330	2.93	-2.47	-2.47	-10.89	-10.04	-10.04	7.63	6.10	6.70	N/A	7.68	01/01/2015
NCREIF ODCE Index (AWA) (Net)			0.00	0.00	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	6.90	
Difference			-2.47	-2.47	-4.73	0.97	0.69	0.59	0.54	0.68	N/A	0.78	
Principal US Property (CF)	149,459,984	6.19	-1.16	-1.30	-6.21	-12.03	-11.76	6.74	5.52	6.47	N/A	8.03	01/01/2014
NCREIF ODCE Index (AWA) (Net)			0.00	0.00	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	7.36	
Difference			-1.16	-1.30	-0.05	-1.02	-1.03	-0.30	-0.04	0.45	N/A	0.67	
UBS Trumbull Property	64,633,077	2.68	0.00	-3.54	-15.33	-15.47	-15.47	2.21	0.78	2.13	4.47	4.32	12/01/2005
NCREIF ODCE Index (AWA) (Net)			0.00	0.00	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	6.00	
Difference			0.00	-3.54	-9.17	-4.46	-4.74	-4.83	-4.78	-3.89	-3.30	-1.68	
Vanguard RE Idx;ETF (VNQ)	1,158,419	0.05	-3.37	-1.42	1.96	6.36	-7.26	3.95	3.41	2.81	6.49	10.59	12/01/2008
Custom REITs Index			-3.27	-1.26	2.23	6.68	-7.01	4.15	3.51	3.23	6.92	11.30	
Difference			-0.10	-0.16	-0.27	-0.32	-0.25	-0.20	-0.10	-0.42	-0.43	-0.71	
Abacus Multi-Family Partners VI LP	2,469,181	0.10	3.50	3.50	-26.44	-26.44	N/A	N/A	N/A	N/A	N/A	-26.44	10/01/2022
NCREIF ODCE Index (AWA)(Net) +2%			0.17	0.33	-4.92	-9.38	-8.95	9.18	7.67	8.14	9.93	-9.38	
Difference			3.33	3.17	-21.52	-17.06	N/A	N/A	N/A	N/A	N/A	-17.06	
H.I.G. Realty Partners IV (Onshore) LP	19,393,610	0.80	-0.40	-0.40	7.14	11.66	11.66	N/A	N/A	N/A	N/A	N/A	01/01/2022
NCREIF ODCE Index (AWA)(Net) +2%			0.17	0.33	-4.92	-9.38	-8.95	9.18	7.67	8.14	9.93	1.99	
Difference			-0.57	-0.73	12.06	21.04	20.61	N/A	N/A	N/A	N/A	N/A	
Bell Value-Add Fund VII (CF)	1,183,220	0.05	0.84	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.89	04/01/2023
NCREIF ODCE Index (AWA) (Net) (Monthly)+2%			0.17	0.33	-4.92	-9.38	-8.95	9.18	7.67	8.14	9.93	-2.08	
Difference			0.67	0.53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.97	

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As of August 31, 2023

	Allocation		Performance (%)										
	Market Value (\$)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Diversifying Assets													
Hancock Timberland (SA)	28,954	0.00	4.70	4.70	-6.24	-11.55	3.96	20.89	12.82	12.10	10.57	6.59	10/01/2006
NCREIF Timberland Index			0.00	0.00	3.49	8.55	11.13	8.67	5.80	5.13	5.90	5.84	
Difference			4.70	4.70	-9.73	-20.10	-7.17	12.22	7.02	6.97	4.67	0.75	
Adams Street Private Equity (SA)	66,121,657	2.74	1.25	1.25	7.53	5.14	6.93	N/A	N/A	N/A	N/A	26.21	11/01/2020
S&P 500 Index+3%			-1.35	2.07	21.09	31.21	19.42	13.84	14.45	16.42	16.19	17.20	
Difference			2.60	-0.82	-13.56	-26.07	-12.49	N/A	N/A	N/A	N/A	9.01	
Hamilton Lane Private Credit (SA)	53,655,907	2.22	2.63	2.53	5.81	6.14	5.33	N/A	N/A	N/A	N/A	0.11	04/01/2021
ICE BofAML Gbl Hi Yld Index +2%			-0.10	1.68	8.11	16.24	10.75	1.81	4.30	5.21	5.68	-0.61	
Difference			2.73	0.85	-2.30	-10.10	-5.42	N/A	N/A	N/A	N/A	0.72	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	2,756,184	0.11	0.45	0.87	3.22	4.12	4.17	1.73	1.66	1.53	1.11	1.44	04/01/2001
FTSE 3 Mo T-Bill Index			0.47	0.92	3.33	4.24	4.44	1.63	1.68	1.50	1.07	1.43	
Difference			-0.02	-0.05	-0.11	-0.12	-0.27	0.10	-0.02	0.03	0.04	0.01	

Private equity funds tend to underperform in the early stages of their maturity; returns tend to improve as funds mature.

Market values and performance shown are preliminary and subject to change. Performance shown is net of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30. Schroder Flexible Secured Income Fund, Harrison Street Core Property, LP, PGIM Real Estate PRISA II LP (CF), UBS Trumbull Property (CF), all non core Real Estate Managers, and Adams Street, LP valuations are available quarterly, adjusted for subsequent cash flows. Asset Valuations for Real Estate and Diversifying Assets are lagged/unlagged as reported by the System's book of record, BNY Mellon. Performance for NCREIF ODCE Index (AWA) (Net) and NCREIF Timberland Index is available on a quarterly basis.

Performance Related Comments:

- Performance is annualized for periods greater than one year.
- Performance and market values shown are preliminary and subject to change.
- The inception date shown indicates the first full month of performance following initial funding.
- The market value shown for the Transition Account includes residual assets from terminated managers held across three transition accounts, BNYM Transition, Loop Cap Transition, and JXP Transition accounts.
- RVK began monitoring the assets of the City of Jacksonville Retirement System on 01/01/2019. Prior historical data was provided by the custodian and previous consultant.

Custom Composite Benchmark Comments:

- **Total Fund Policy Index:** The passive Total Fund Policy Index is calculated monthly and currently consists of 30% Russell 3000 Index, 23% MSCI ACW Ex US Index (USD) (Net), 20% Fixed Income Index, 15% Real Estate Index, and 12% Diversifying Assets Index.
- **US Equity Index:** The passive US Equity Index consists of 100% DJ US TSM Index through 06/2009 and 100% Russell 3000 Index thereafter.
- **International Equity Index:** The passive International Equity Index consists of 100% MSCI EAFE Index (USD) (Gross) through 01/2011 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- **Fixed Income Index:** The passive Fixed Income Index consists of 100% Bloomberg US Agg Bond Index through 10/2017 and 100% Bloomberg US Universal Bond Index thereafter.
- **Real Estate Index:** The active Real Estate Index is calculated monthly using beginning of month investment weights applied to each corresponding primary benchmark return.
- **Diversifying Assets Index:** The Diversifying Assets Index is calculated monthly and consists of 50% S&P MLP Index (TR)/50% NCREIF Timberland Index through 10/2017, 67% S&P MLP Index (TR)/33% NCREIF Timberland Index through 09/2020, and calculated monthly using beginning of month investment weights applied to each corresponding primary benchmark return thereafter.

Custom Manager Benchmark Comments:

- **Baillie Gifford Index:** The passive Baillie Gifford Index consists of 100% MSCI EAFE Grth Index (USD) (Net) through 10/2017 and 100% MSCI ACW Ex US Grth Index (USD) (Net) thereafter.
- **Baillie Gifford Spliced Index:** The passive Baillie Gifford Spliced Index consists of 100% MSCI EAFE Index (USD) (Net) through 11/2019 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- **Custom REITs Index:** The passive Custom REITs Index consists of 100% MSCI US REIT Index (USD) (Gross) through 01/2019 and 100% Vanguard Spl Real Estate Index thereafter.
- **Vanguard Spliced Real Estate Index:** The Vanguard Spl Real Estate Index consists of MSCI US REIT Index (USD) (Gross) adjusted to include a 2% cash position (Lipper Money Market Average) through 04/30/2009, MSCI US REIT Index (USD) (Gross) through 01/31/2018, MSCI US IM Real Estate 25/50 Transition Index through 07/24/2018, and MSCI US IM Real Estate 25/50 Index (Gross) thereafter.

PORTLAND

BOISE

CHICAGO

NEW YORK

Disclaimer of Warranties and Limitation of Liability - This document was prepared by RVK, Inc. (RVK) and may include information and data from some or all of the following sources: client staff; custodian banks; investment managers; specialty investment consultants; actuaries; plan administrators/record-keepers; index providers; as well as other third-party sources as directed by the client or as we believe necessary or appropriate. RVK has taken reasonable care to ensure the accuracy of the information or data, but makes no warranties and disclaims responsibility for the accuracy or completeness of information or data provided or methodologies employed by any external source. This document is provided for the client's internal use only and does not constitute a recommendation by RVK or an offer of, or a solicitation for, any particular security and it is not intended to convey any guarantees as to the future performance of the investment products, asset classes, or capital markets.





Memorandum

To	City of Jacksonville Employees' Retirement System (COJ)
From	RVK, Inc. (RVK)
Subject	Proposed Transition Plan – Annual Pension Reimbursement
Date	September 22, 2023

Background

The purpose of this memo is to discuss a plan to raise approximately \$140M to fund the COJ's annual pension reimbursement due at the end of September 2023. Please note this figure reflects Staff's best estimate at this time, but it is possible the final amount may fluctuate modestly. In turn, any recommendations below would be adjusted accordingly by Staff, in conjunction with RVK, prior to execution.

The portfolio asset allocation vs. target as of August 31, 2023, is shown below in **Figure 1**. Currently, the largest overweight in the portfolio is US Equity, which is 5.7% overweight its target. Given the current overweight, combined with the relative ease of obtaining liquidity within this asset class, RVK and Staff recommend the US Equity allocation be used as the primary source of cash for the upcoming raise. As a result of the rebalance, post-transaction, US and International Equity allocations will be slightly above the respective target allocations, though RVK and Staff anticipate this difference will continue to be reduced as private market commitments are made and funded.

Figure 1: Asset Allocation as of August 31, 2023					
Asset Class	Target Allocation	Current Allocation	Difference vs. Target	Post Transaction Allocation	Post Transaction Difference vs. Target
US Equity	30.0%	35.7%	5.7%	31.8%	1.8%
International Equity	23.0%	23.4%	0.4%	24.8%	1.8%
Fixed Income	20.0%	17.5%	-2.5%	18.6%	-1.4%
Real Estate	15.0%	18.4%	3.4%	19.5%	4.5%
Diversifying Assets	12.0%	4.9%	-7.1%	5.2%	-6.8%
Timber	0.0%	0.0%	0.0%	0.0%	0.0%
Private Equity	7.0%	2.7%	-4.3%	2.9%	-4.1%
Private Credit	5.0%	2.2%	-2.8%	2.3%	-2.7%
Cash & Other	0.0%	0.1%	0.1%	0.1%	0.1%

Transition Plan

Figure 2 details RVK's proposed plan to redeem approximately \$140M from the City's US Equity portfolio. The proposed transactions seek to maintain US equity sub-asset class overweights that are relatively equitable to established targets, inclusive of maintaining the large-cap equity



value/growth target split, which maintains a slight value bias, as well as the existing small-cap equity overweight.

Figure 2: Transition Proposal (Pro Rata)

Pro Asset Class	Current Market Value	% of Asset Class	Total Transition	Post-Transition Market Value	Post-Transition % of Asset Class
US Equity	\$860,789,580	100.0%	(\$140,000,000)	\$720,789,580	100.0%
Eagle Capital Large Cap Value (SA)	\$171,566,300	19.9%	(\$33,500,000)	\$138,066,300	19.2%
Wellington Select Equity Income Fund (SA)	\$151,885,456	17.6%	(\$24,000,000)	\$127,885,456	17.7%
Mellon Large Cap Core Index (CF)	\$170,773,494	19.8%	(\$24,500,000)	\$146,273,494	20.3%
Loomis Sayles Large Cap Growth (CF)	\$153,804,231	17.9%	(\$37,000,000)	\$116,804,231	16.2%
Systematic Financial US SMID Value (SA)	\$74,560,529	8.7%	(\$10,500,000)	\$64,060,529	8.9%
Kayne Anderson US SMID Value (SA)	\$69,976,865	8.1%	(\$6,000,000)	\$63,976,865	8.9%
Pinnacle Associates US SMID Cap Growth (SA)	\$68,222,705	7.9%	(\$4,500,000)	\$63,722,705	8.8%

Market values and allocations as of August 31, 2023. Allocations shown may not sum to 100% exactly due to rounding.

Conclusion & Next Steps

Upon approval by the Board, RVK will assist Staff with finalizing the transactions figures, and Staff will execute the transition accordingly.



City of Jacksonville Employees' Retirement System

INVESTMENT ACTIVITY REPORT: September 2023

Events

Board Due Diligence Meetings

1st Thursday Each Month

Presentation: 12:30-2 PM

City Hall Conference Room 3C

October 5, 2023

Kayne Anderson- SMID Value

November 2, 2023

Baillie Gifford- International Equity

December 7, 2023

Wellington- LCV Equity

January 4, 2024

Acadian- EM Equity

February 1, 2024

Silchester- International Equity

March 7, 2024

Hamilton Lane- PC

April 4, 2024

Baird- Fixed Income??

May 2, 2024

Loomis Sayles- Fixed Income

June 6, 2024

Schroder Secured Fixed Income- Michelle Russell-Dowe

Florida Public Pension Trustees Association- FPPTA

Trustee School

October 1-4, 2023 @ Sawgrass Marriott

Staff Update

Contract Status Update

Ares US Real Estate Opportunity Fund IV- expected 9/30 close

Other

Hancock Timberland:

Final and full liquidation complete 8/25/2023

Received \$733,500

*Real Estate:

6/30 Redemption requests payable after 3Q

Harrison Street: \$30 million

PGIM PRISA II: \$20 million

Principal: \$40 million

Total: \$90 million

*Potential redemption limitations

2023 Pension Payback:

\$140 million sourced from US Equity portfolio on 9/22/2023

Current Managers Meetings

Loomis Sayles- LCG

Potential Managers Meetings

CapRidge Partners- Real Estate

Edgbaston- Equity

Martin Currie- Equity

OakTree

Torray- Equity

Cash Flows

Hamilton Lane-Private Credit

Ares Special Opportunities II: \$0.25 million

Adams Street- Private Equity

Tranche 2: \$0.5 million

Total Called: ~\$2.1 million

Real Estate

Abacus Multi-Family Partners VI: \$1.5 M

Total Called: ~\$4.5 million

Provider Disbursements

7/31/2023 & 8/31/2023

Acadian: \$175,000

Baird: \$115,000

Eagle Capital: \$360,000

Kayne Anderson: \$100,000

Mellon: \$11,000

Pinnacle: \$109,000

Silchester: \$136,000 (monthly)

Systematic: \$105,000

Total Fees: ~\$1.1 million

Provider Income + Redemptions

Hancock Timber: \$075 million

Total: \$0.75 million



Quarterly Investment Performance Analysis

City of Jacksonville Employees' Retirement System

Period Ended: June 30, 2023



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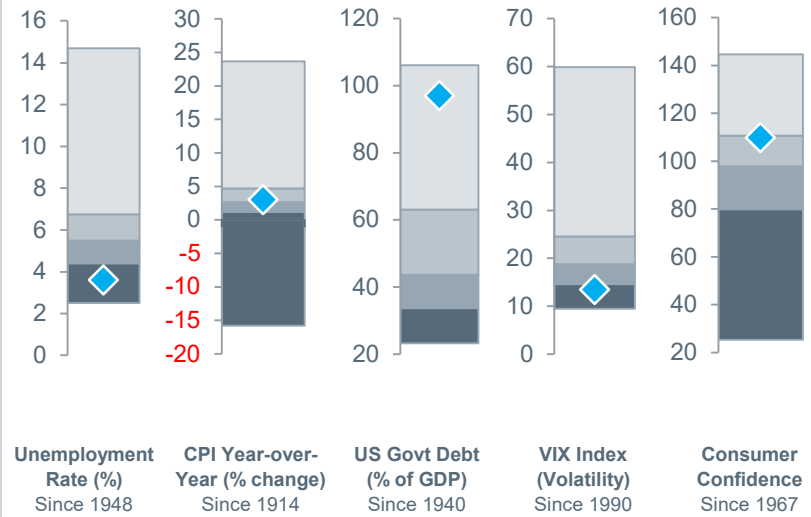
Capital Markets Review



Second Quarter Economic Environment

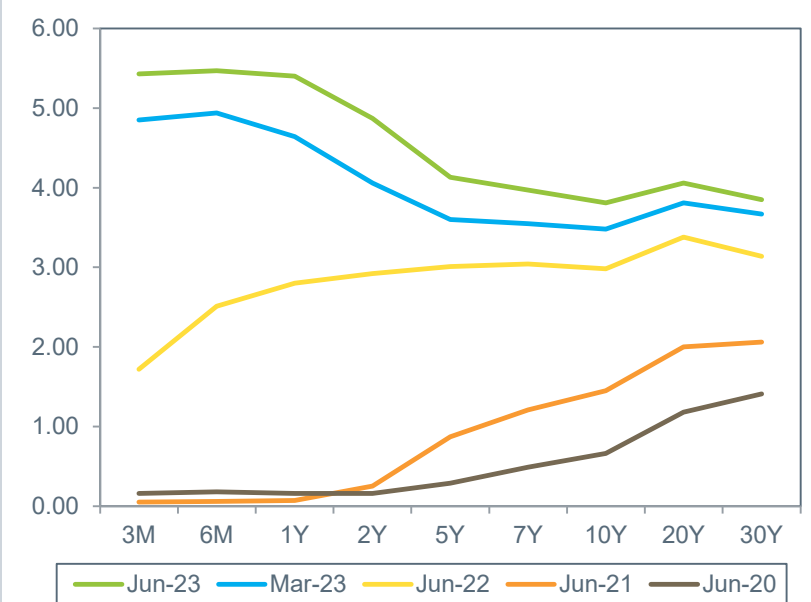
During Q2, investors focused on the uncertainty of the future interest rate path and timing of further actions by the US Federal Reserve and other global central banks. At the start of 2023, the combination of rate hikes and quantitative tightening kept expectations for a near-term US recession embedded in many market forecasts. However, the continued strength of certain indicators, such as consumer spending and job growth, has altered the expected timing of a recession for some market participants. Mid-quarter forecasts and market outlooks were further complicated by the US debt ceiling debate, raising concerns regarding a potential default on the national debt. Ultimately, a deal was struck that suspended the ceiling until 2025. In the June data release, the Consumer Price Index (CPI) slowed to a 3.0% year-over-year rate, its lowest since March 2021. Recent job growth reports in the US provided mixed signals. US equity markets delivered strong results in Q2, primarily driven by the largest growth-oriented companies. US fixed income markets broadly posted negative returns in Q2, as the yield curve inverted further. The economic outlook in China, and its impact on global growth, continued to be a significant topic for investors. As concerns about China have grown, more investors are starting to view India and other south-east Asia countries as the drivers of growth in the region. The World Bank released its 2023 Global Economic Prospects report in June, forecasting subdued global GDP growth of 2.1% in 2023 and 2.4% in 2024, caused by tightening financial conditions and decreases in demand due to continued elevated inflation.

Key Economic Indicators

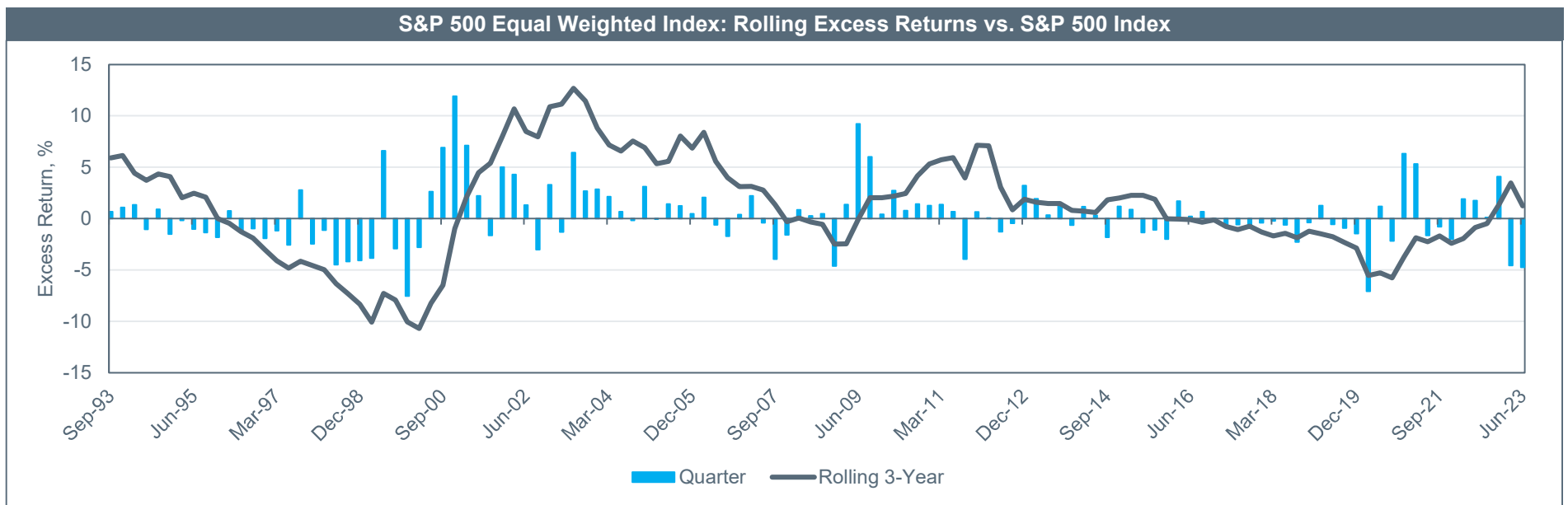
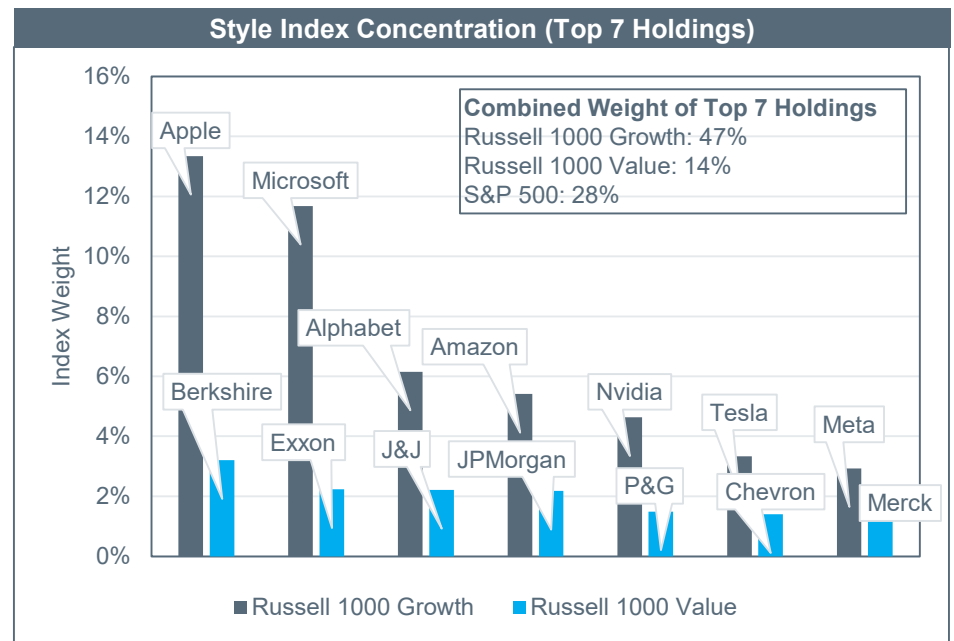
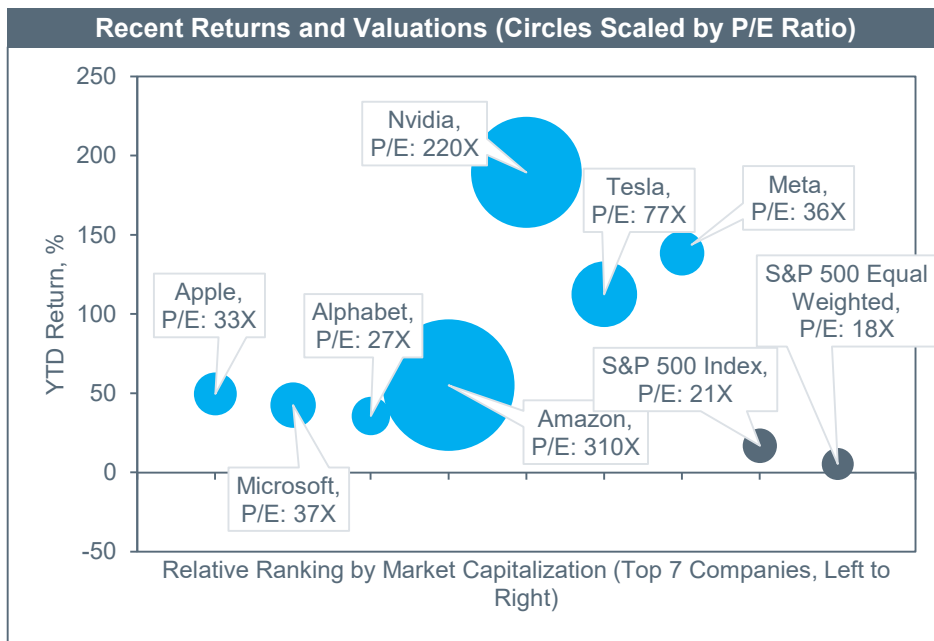


Economic Indicators	Jun-23	Mar-23	Jun-22	Jun-20	20 Yr
Federal Funds Rate (%)	5.08 ▲	4.83	1.58	0.08	1.39
Breakeven Infl. - 5 Yr (%)	2.17 ▼	2.47	2.62	1.17	1.94
Breakeven Infl. - 10 Yr (%)	2.21 ▼	2.33	2.34	1.34	2.09
CPI YoY (Headline) (%)	3.0 ▼	5.0	9.1	0.6	2.6
Unemployment Rate (%)	3.6 ▲	3.5	3.6	11.0	5.9
Real GDP YoY (%)	N/A —	1.8	1.8	-8.4	2.0
PMI - Manufacturing	46.0 ▼	46.3	53.0	52.4	53.6
USD Total Wtd Idx	119.89 ▲	119.48	121.05	120.49	103.57
WTI Crude Oil per Barrel (\$)	70.6 ▼	75.7	105.8	39.3	69.0
Gold Spot per Oz (\$)	1,906 ▼	1,979	1,807	1,781	1,199

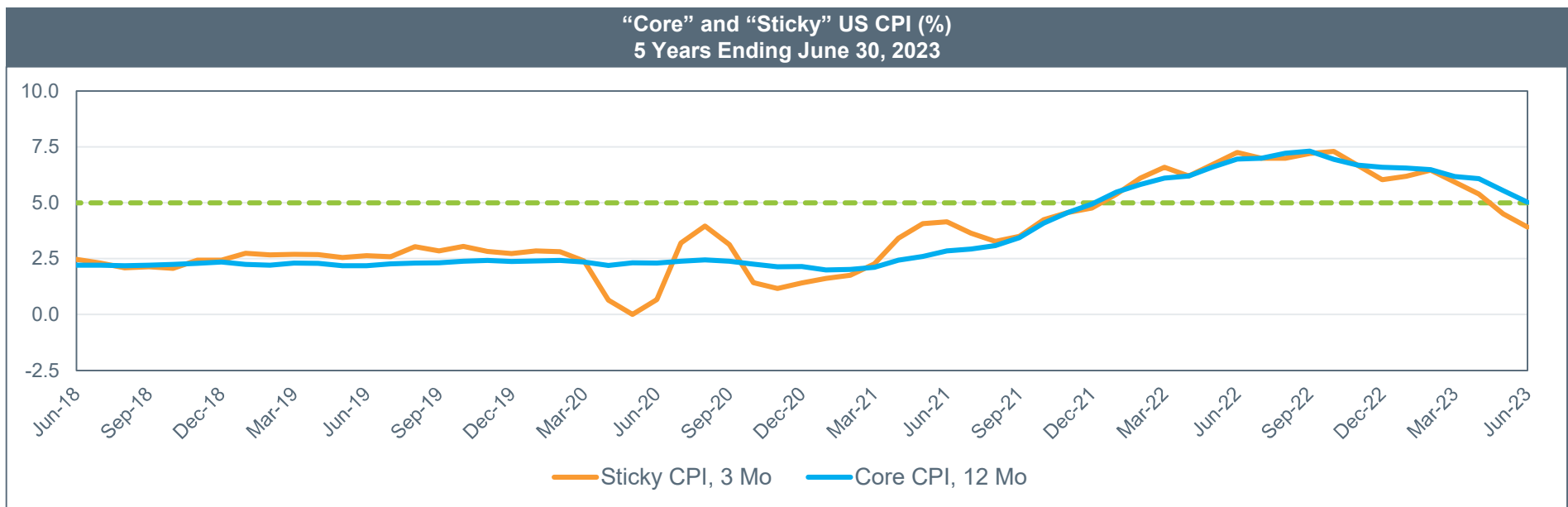
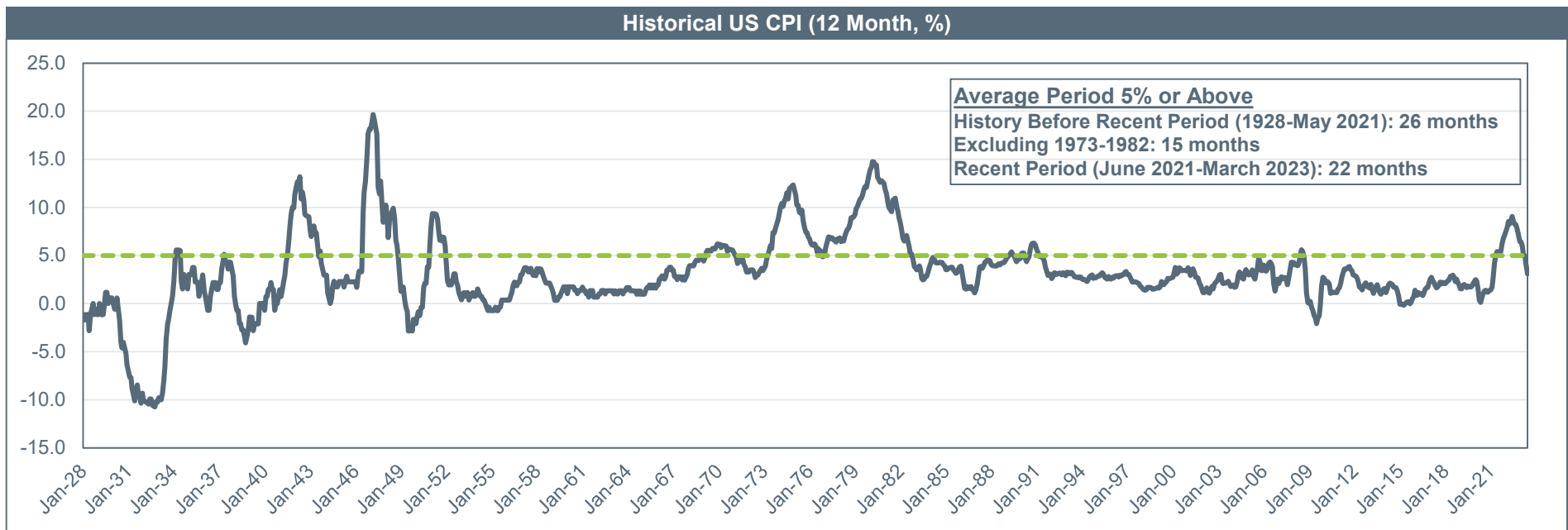
Treasury Yield Curve (%)



Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	8.74	16.89	19.59	12.31	12.86
Russell 2000	5.21	8.09	12.31	4.21	8.26
MSCI EAFE (Net)	2.95	11.67	18.77	4.39	5.41
MSCI EAFE SC (Net)	0.58	5.53	10.18	1.30	6.19
MSCI Emg Mkts (Net)	0.90	4.89	1.75	0.93	2.95
Bloomberg US Agg Bond	-0.84	2.09	-0.94	0.77	1.52
ICE BofAML 3 Mo US T-Bill	1.17	2.25	3.59	1.55	0.98
NCREIF ODCE (Gross)	-2.68	-5.77	-9.98	6.50	8.74
FTSE NAREIT Eq REIT (TR)	2.62	5.37	-0.13	4.55	6.42
HFRI FOF Comp	1.43	2.18	3.58	3.30	3.38
Bloomberg Cmdty (TR)	-2.56	-7.79	-9.61	4.73	-0.99



Sources: Morningstar, Bloomberg, FTSE Russell, and Standard & Poors.



Sources: US Bureau of Labor Statistics, Federal Reserve Bank of Cleveland, and Federal Reserve Bank of Atlanta.
 Core CPI is represented by the Revised FRB Cleveland Trimmed Mean, 12-month. Sticky CPI is represented by the FRB Atlanta Sticky-Price Index, 3-month.

Second Quarter Review

Broad Market

US equity markets continued their recovery in Q2 primarily driven by a handful of mega-cap growth stocks. While all sectors, excluding energy and utilities, in the Russell 1000 Index were positive, roughly half of its returns came from the information technology sector driven by optimism around advancements in artificial intelligence (AI) and related technology. Further, roughly two-thirds of the Russell 1000 Q2 returns can be attributed to the 10 largest companies in the index.

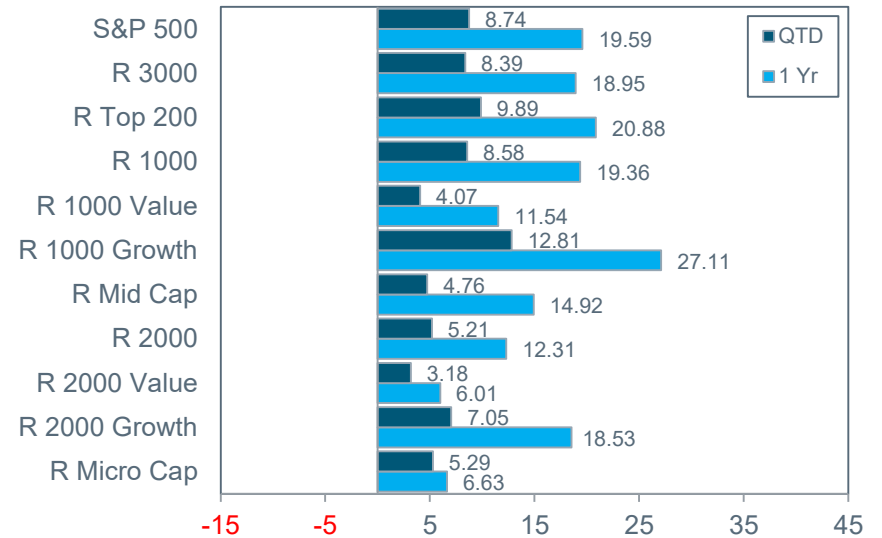
Market Cap

Active large-cap managers continued to struggle to generate excess returns as index concentration rises. Mid-cap managers generally performed well in Q2 while a majority of active small-cap managers failed to outpace their respective benchmarks.

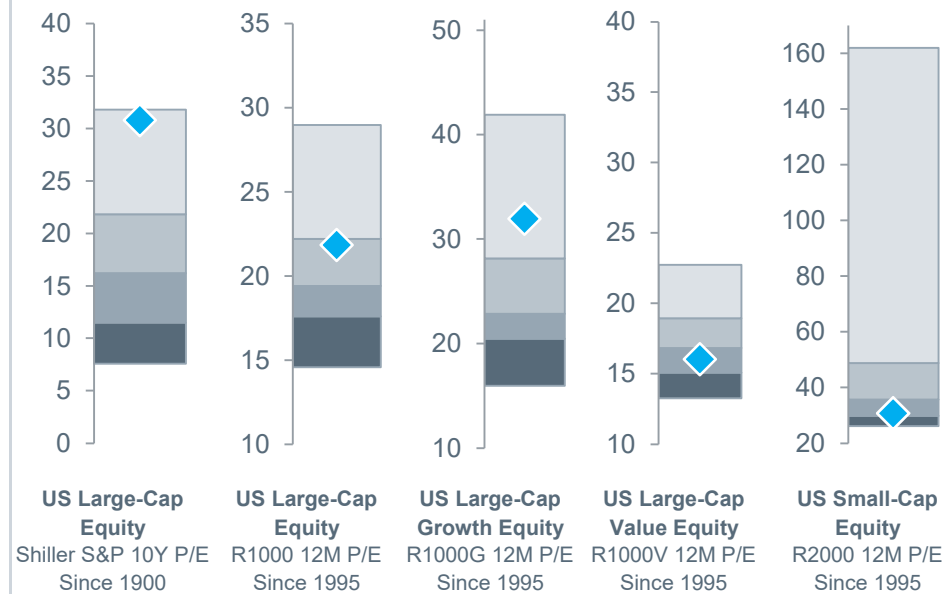
Style and Sector

Growth outperformed value by a significant margin across market caps for the second consecutive quarter. The return spread of the Russell 1000 and Russell 2000 Growth and Value Indexes were 8.7% and 3.9%, respectively. Additionally, the MSCI USA Cyclical Index continued to outperform the MSCI USA Defensive Index by 27.6% year-to-date, indicating improving economic sentiment from investors despite continued near-term uncertainty around inflation and interest rates.

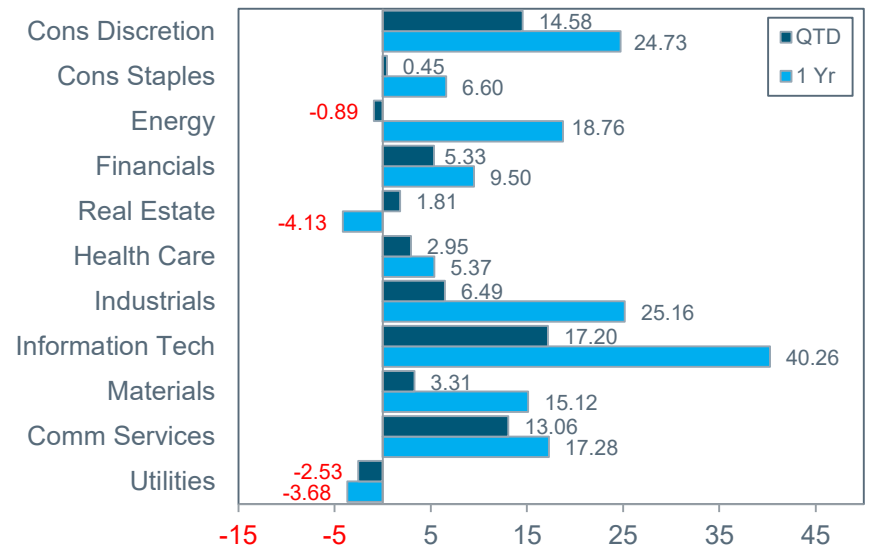
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



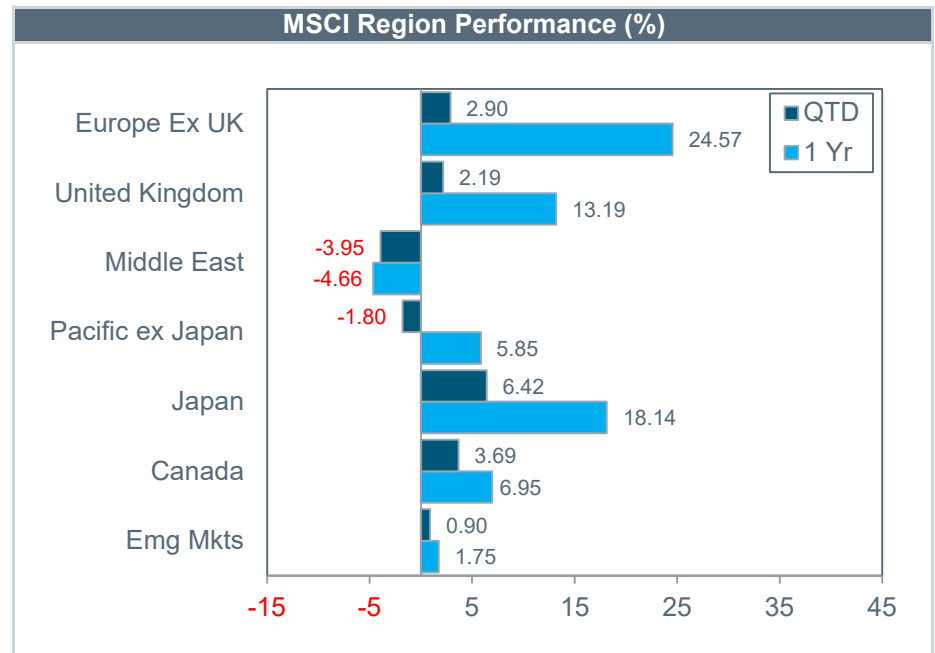
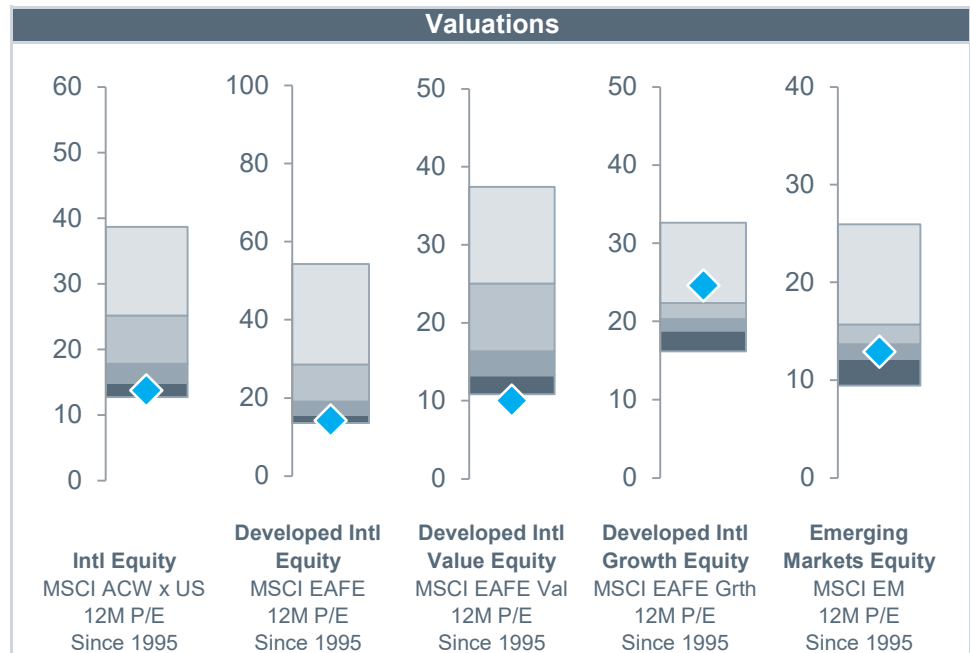
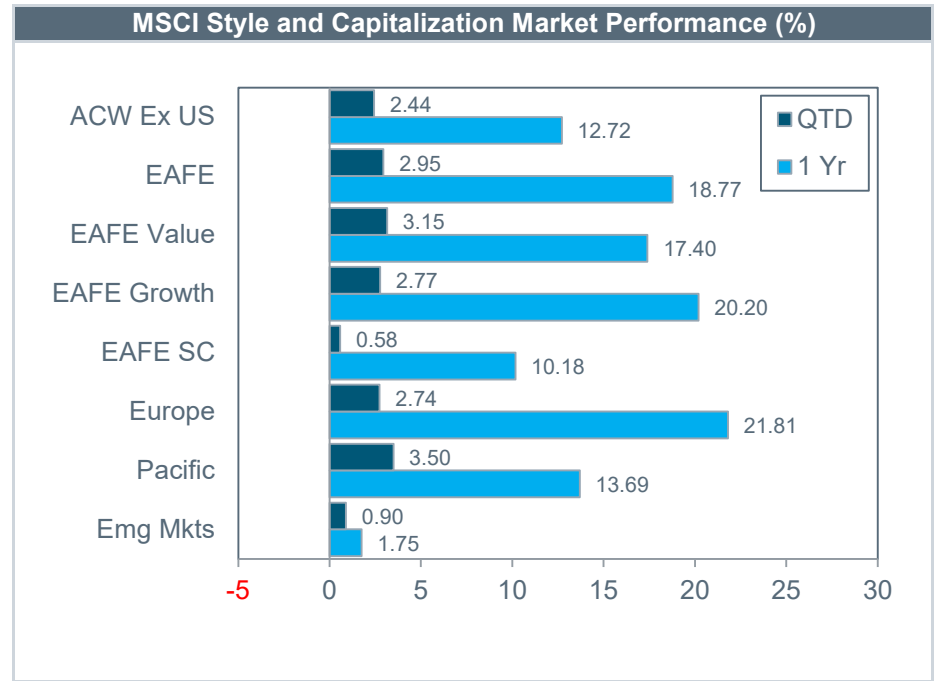
Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

Second Quarter Review

Developed Markets
 Following two consecutive quarters of outperformance, developed equity underperformed the US in Q2, with the MSCI EAFE returning 3.0%. Value stocks outperformed growth stocks, while developed large-cap stocks outperformed small-cap stocks. While most active large-cap managers outperformed the MSCI EAFE Index, small-cap managers broadly underperformed the MSCI EAFE Small Cap Index.

Emerging Markets
 Emerging markets lagged developed markets in Q2, with the MSCI Emerging Market Index returning 0.9% as value outperformed growth and small-cap stocks outperformed large-cap stocks. The majority of active emerging market managers outperformed in Q2.

Market Cap & Style
 While inflation in the US began to show signs of abatement, inflation continued to climb in Europe. Persistent above-target headline inflation combined with a tight labor market led the ECB to raise interest rates to 3.5%, its highest level in over 20 years.



Valuation data courtesy of Bloomberg Professional Service.

P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers. All returns are shown net of foreign taxes on dividends.

Second Quarter Review

Broad Market

In Q2, the Fed maintained its interest rate range, breaking the streak of consecutive rate hikes. However, Fed Chair Powell noted that future rate hikes could still occur based on economic conditions. Treasury yields rose across maturities, with the 10-year yield reaching 3.85%. The yield curve inversion between the 2-year and 10-year yields deepened in Q2, nearing the peak observed in March prior to the bank failures. Against this backdrop, the Bloomberg US Aggregate Bond Index posted a return of -0.84%.

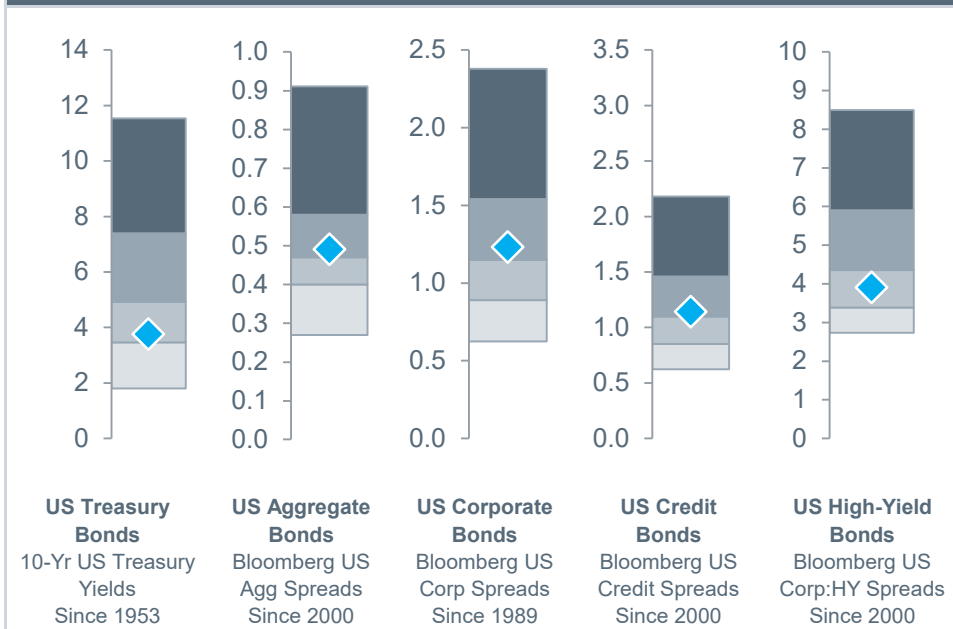
Credit Market

One trend observed in Q1 persisted, with lower-rated bonds delivering better performance. The Bloomberg US Corporate Investment Grade Index returned -0.29% in Q2, lagging the Bloomberg US Corporate High Yield Index return of 1.75%

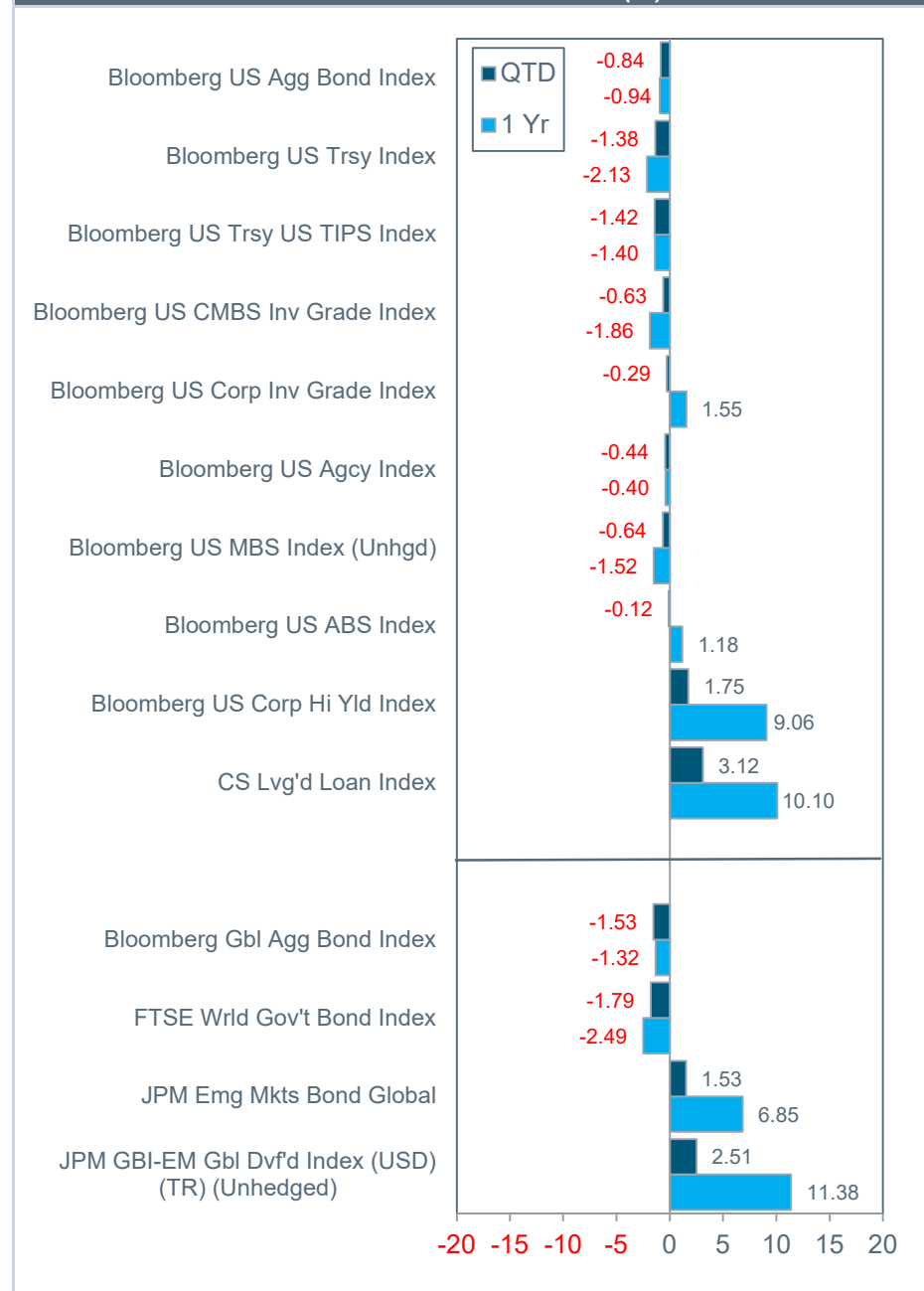
Emerging Market Debt

Emerging markets debt provided positive returns in Q2, with the JPMorgan EMBI Global Diversified Index returning 2.19%. Yields on emerging market sovereign and corporate bonds decreased, while high-yield issuers outperformed investment-grade issuers due to a risk-on environment. Local emerging markets outperformed hard currency, with the JPMorgan GBIEM Global Diversified Index returning 2.51%.

Valuations



Fixed Income Performance (%)



Valuation data courtesy of Bloomberg Professional Service. Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Second Quarter Review - Absolute Return

General Market - Hedge Funds

In Q2, hedge funds delivered a second straight quarter of positive results. The HFRI Fund-Weighted Composite Index reported a net return of 2.2%, highlighted by mixed results from commodity and macro-oriented managers amidst the Fed’s slowing interest rate trajectory and cooling inflation data. While the dispersion of return among strategies has been wide in Q2, market-neutral strategies focusing on relative value, dispersion, and volatility trading have been able to benefit from turbulence caused by the regional banking crisis fallout. However, most have struggled to generate short alpha in technology-oriented industries that have been broadly rallying in recent months.

General Market - Global Tactical Asset Allocation (GTAA)

Global Tactical Asset Allocation (GTAA) strategies that RVK follows closely generally posted positive returns during Q2 with moderate dispersion. However, a US-centric blend of 60% equity and 40% fixed income outperformed most diversified active managers due to larger allocations to mega-cap equity holdings.

Second Quarter Review - Real Assets

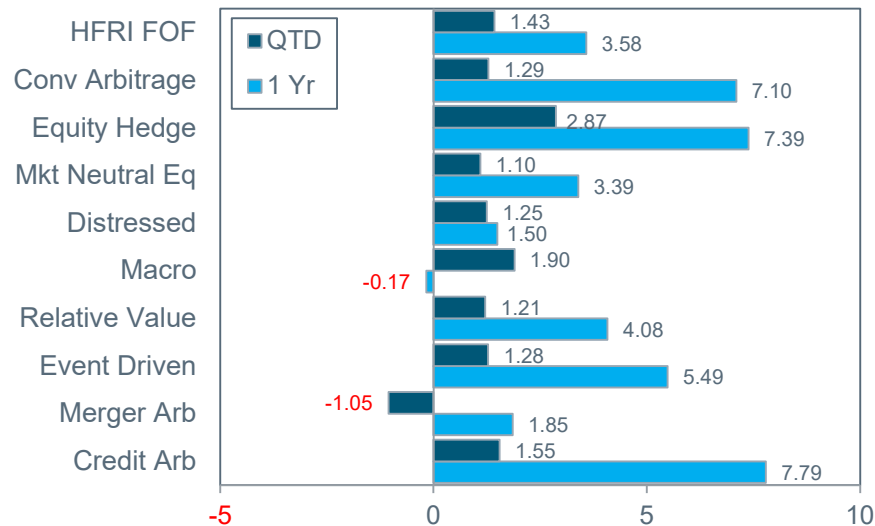
General Market - Diversified Inflation Strategies (DIS)

Diversified Inflation Strategy (DIS) managers tracked closely by RVK broadly underperformed a US-centric blend of 60% equity and 40% fixed income during the quarter. Managers with larger exposures to commodities and TIPS lagged peers most significantly while those with larger REIT and Global Listed Infrastructure allocations tended to outperform peers.

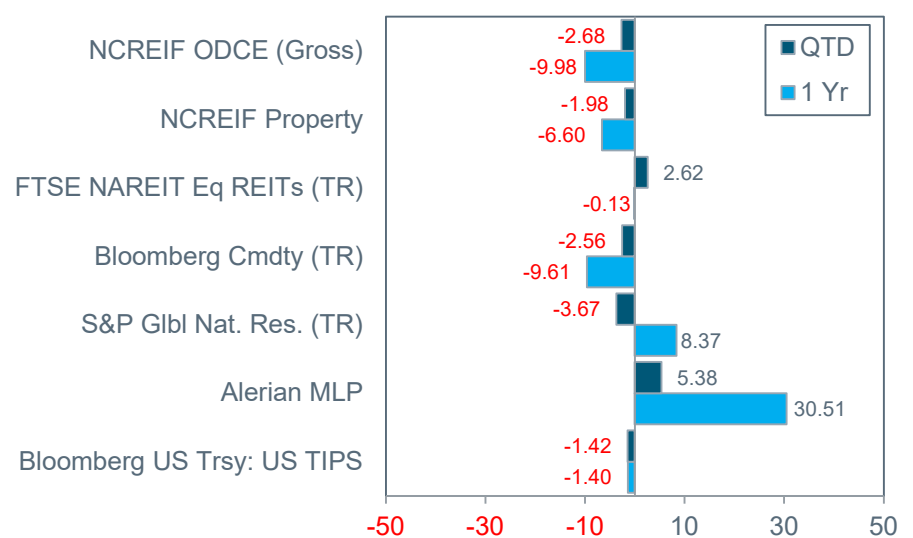
General Market - Real Estate

Core private real estate generated a -2.7% in Q2 (on a preliminary and gross-of-fee basis), as reported by the NFI-ODCE Index, with the total return comprising 0.9% from income and -3.6% from price appreciation. Income returns continue to trend at the lower end of historical levels while price appreciation continues to remain negative. Investors of publicly traded real estate significantly outperformed their private market counterparts by a meaningful margin, with publicly traded real estate delivering a Q2 total return of 1.6%, as measured by FTSE NAREIT All REIT Index. In Q2, private real estate markets continued to experience similar trends as the prior three quarters. Significant headwinds persisted as a direct result of disruptions in the capital markets from 2022.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



Annual Asset Class Performance

As of June 30, 2023

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD
Best	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	31.49	19.96	43.24	16.09	16.89
	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	26.00	18.40	28.71	7.47	11.67
	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	25.53	18.31	27.11	1.46	8.09
	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	24.96	16.12	22.17	-5.31	5.53
	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	22.01	12.34	14.82	-11.19	5.38
	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	19.59	10.99	11.26	-11.85	5.37
	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	18.42	10.88	10.10	-13.01	4.89
	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	14.32	7.82	6.17	-14.45	4.39
	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	8.72	7.51	5.96	-18.11	2.25
	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	8.43	7.11	5.28	-20.09	2.18
	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	8.39	1.19	0.05	-20.44	2.09
	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	7.69	0.67	-1.55	-21.39	1.87
	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.57	5.34	-3.12	-2.52	-24.37	-5.77
Worst	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	2.28	-8.00	-2.54	-27.09	-7.79
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombg US Agg Bond - FI	Bloombg US Corp Hi Yield - FI	Bloombg US Trsy US TIPS - FI	Bloombg US Gov Credit Lng - FI	NCREIF ODCE (Gross) - Real Estate	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloombg Cmdty (TR) - Commod.	ICE BofAML 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.



Total Fund



Watch List Managers	Date Added to Watch List	Benchmark	Peer Group	Inception Date	Quantitative Factors						Qualitative Factors	Last Meeting w/Staff or RVK	Rationale for Addition to Watch List
					Rolling 5-Year Return (NoF) for three consecutive quarters falls below the respective strategy benchmark			Rolling 5-Year Return (GoF) for three consecutive quarters falls in the bottom third of the respective Peer Group Universe			Meaningful Updates		
Real Estate					5-Years Ending Jun-2023	5-Years Ending Mar-2023	5-Years Ending Dec-2022	5-Years Ending Jun-2023	5-Years Ending Mar-2023	5-Years Ending Dec-2022			
Principal US Property (CF)	Jun-23	NCREIF ODCE Index (AWA) (Net)	IM U.S. Open End Private Real Estate (SA+CF) Median	Dec-13	✓	✓	✓	✓	✓	✓	N/A	Jun-23	Investment team turnover
Fixed Income					5-Years Ending Jun-2023	5-Years Ending Mar-2023	5-Years Ending Dec-2022	5-Years Ending Jun-2023	5-Years Ending Mar-2023	5-Years Ending Dec-2022			
Loomis Sayles Multisector Full Discretion (CF)	Jun-23	Bloomberg Gbl Agg Bond Index	IM Global Fixed Income (SA+CF) Median	Sep-07	✓	✓	✓	✓	✓	✓	N/A	Jun-23	Investment team turnover

✓ = strategy exceeds the benchmark / falls in the top two thirds of the peer group over the stated trailing period.
 ✗ = strategy does not exceed the benchmark / falls in the bottom third of the peer group over the stated trailing period.

Organization, Team, Process, and AUM Developments

Principle US Property

Principal announced that Co-PM Meighan Phillips is leaving Principal at the end of the month to pursue a senior executive position at a local Des Moines, Iowa residential developer. Her role is being backfilled by an experienced Principal colleague in Kyle Elfers of ~12 years. Kyle will be joining an already experienced team with Co-PM Darren Kleis, Bridget Lechtenberg, Ross Johnson and Ellen Bennett. Additionally, John Berg, Senior Managing Director and head of Private Equity Portfolio Management will take on a more active role with the USPA Team on a temporary basis to assist in the transition of responsibilities. While Meighan's departure is significant, Principal has staffed the platform accordingly with depth and breadth of experienced professionals that gives RVK comfort in future success of the strategy.

Loomis Salyes Multisector Full Discretion

RVK has been informed of the retirement of Elaine Stokes, Vice President, Portfolio Manager, and Co-Head of the Full Discretion team at Loomis, Sayles & Company, in February 2024. Ms. Stokes boasts an impressive 35-year career in the investment industry and has been an integral part of Loomis Sayles since 1988. During her tenure, she has co-managed various mutual fund and institutional strategies, including the Multisector Full Discretionary portfolio. RVK had a detailed discussion with Co-Portfolio Manager Brian Kennedy on June 2, 2023, to assess the impact of Ms. Stokes' retirement on the current portfolio management team structure. After Elaine's retirement, Matt Eagan, with 32 years of investment industry experience, will lead the Full Discretion team. Brian Kennedy, also with 32 years of experience, and Bryan Hazelton, with 15 years of experience, have been promoted as co-portfolio manager and assistant portfolio manager, respectively. The team is supported by six senior strategists and a large analyst team. Loomis Sayles' team-based approach and strong resources provide stability despite recent changes. We are confident in the team's ability to adapt and minimize the impact of Ms. Stokes' retirement.

City of Jacksonville Employees' Retirement System
Asset Allocation, Performance & Schedule of Investable Assets

As of June 30, 2023

	Allocation		Performance (%)		Allocation		Performance (%)
	Market Value (\$)	%	QTD		Market Value (\$)	%	QTD
US Equity	843,208,475	35.23	9.38	Real Estate	448,132,850	18.72	-2.12
Eagle Capital Large Cap Value (SA)	165,466,201	6.91	11.44	Harrison Street Core Property LP	132,981,888	5.56	-0.47
Wellington Select Equity Income Fund (SA)	148,830,600	6.22	N/A	PGIM Real Estate PRISA II LP	72,592,919	3.03	-2.36
Mellon Large Cap Core Index (CF)	168,042,324	7.02	8.62	Principal US Property (CF)	151,425,100	6.33	-1.86
Loomis Sayles Large Cap Growth (CF)	148,317,808	6.20	13.47	UBS Trumbull Property	68,618,095	2.87	-7.23
Kayne Anderson US SMID Value (SA)	68,628,506	2.87	3.26	Vanguard RE Idx;ETF (VNQ)	1,175,071	0.05	1.74
Systematic Financial US SMID Value (SA)	72,070,984	3.01	4.17	Abacus Multi-Family Partners VI LP	2,385,606	0.10	-28.93
Pinnacle Associates US SMID Cap Growth (SA)	71,852,051	3.00	7.18	H.I.G. Realty Partners IV (Onshore) LP	18,829,231	0.79	7.57
				Bell Value-Add VIII LP	124,939	0.01	0.03
International Equity	562,261,144	23.49	2.50	Diversifying Assets	116,009,266	4.85	1.26
Silchester International Value (CF)	275,965,228	11.53	3.40	Hancock Timberland (SA)	736,141	0.03	-10.67
Baillie Gifford International Growth (BGEFX)	160,455,844	6.70	0.08	Adams Street Private Equity (SA)	65,304,169	2.73	0.57
Acadian Emerging Markets (CF)	125,840,071	5.26	3.71	Hamilton Lane Private Credit (SA)	49,968,956	2.09	2.44
Fixed Income	420,851,463	17.58	0.38	Dreyfus Gvt Csh Mgt;Inst (DGCXX)	3,178,525	0.13	1.22
Baird Core Fixed Income (SA)	207,021,974	8.65	-0.64	Transition Account	109,940	0.00	N/A
Loomis Sayles Multisector Full Discretion (CF)	105,743,780	4.42	-0.61				
Schroder Flexible Secured Income Fund	108,085,709	4.52	3.40				

Schedule of Investable Assets (Total Assets)

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
FYTD	2,073,880,146	5,923,176	313,948,342	2,393,751,664	15.13

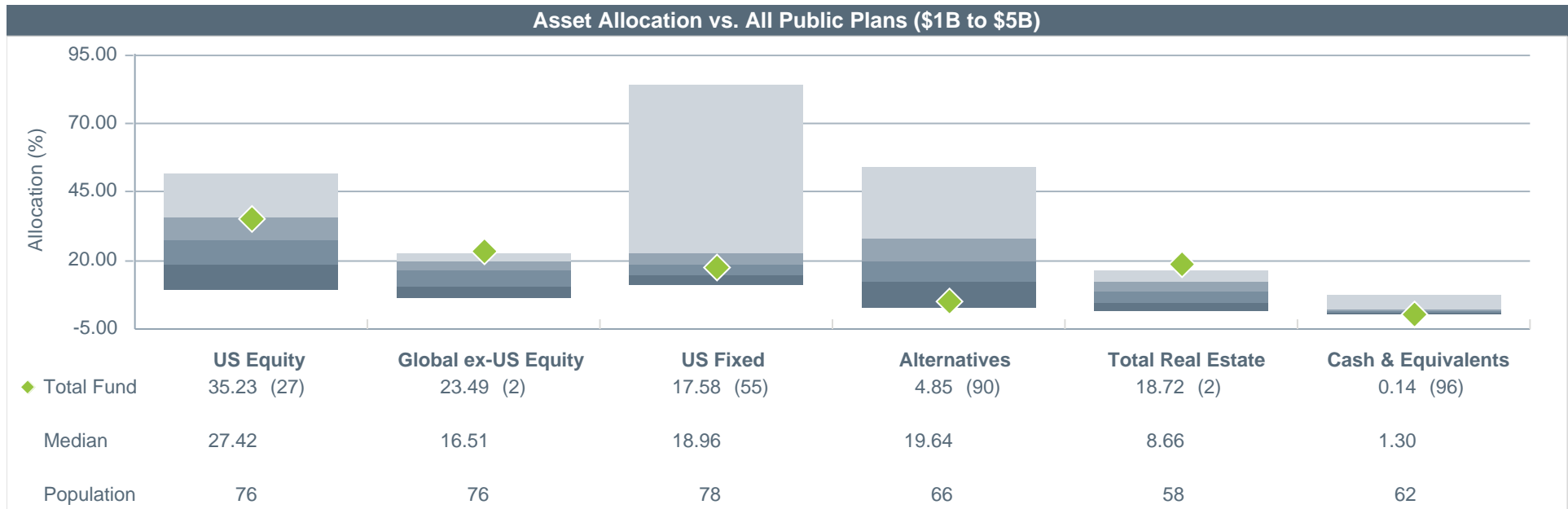
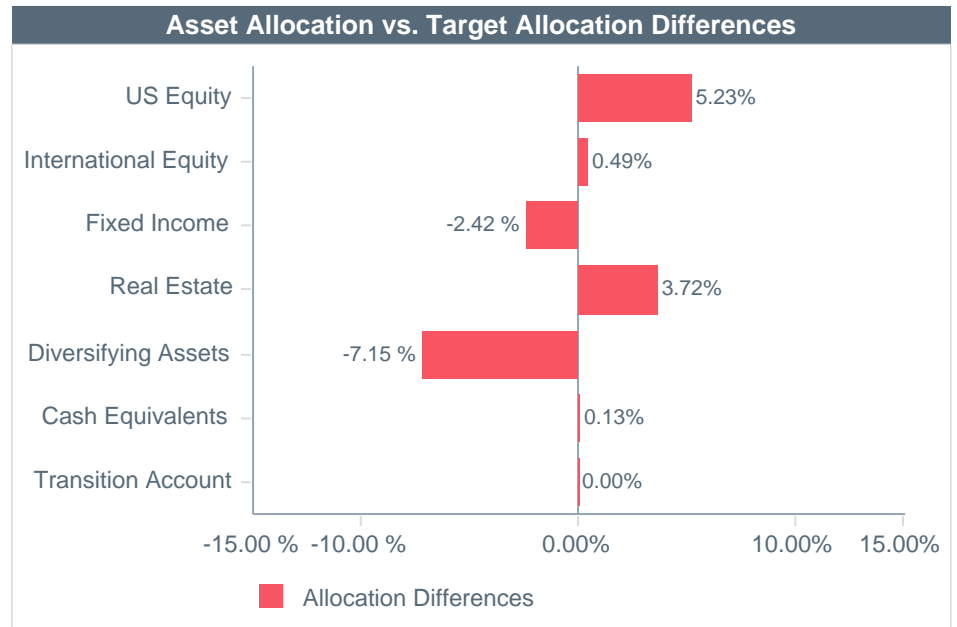
Performance shown is net of fees. Allocations shown may not sum up to 100% exactly due to rounding. During 05/2023, Wellington Select Equity Income Fund (SA) was funded.



City of Jacksonville Employees' Retirement System
Total Fund vs. All Public Plans (\$1B to \$5B)
Asset Allocation vs. Target and Plan Sponsor Peer Group

As of June 30, 2023

Asset Allocation vs. Target Allocation					
	Market Value (\$)	Allocation (%)	Min (%)	Target (%)	Max (%)
Total Fund	2,393,751,664	100.00	-	100.00	-
US Equity	843,208,475	35.23	20.00	30.00	40.00
International Equity	562,261,144	23.49	13.00	23.00	25.00
Fixed Income	420,851,463	17.58	10.00	20.00	30.00
Real Estate	448,132,850	18.72	0.00	15.00	20.00
Diversifying Assets	116,009,266	4.85	0.00	12.00	20.00
Cash Equivalents	3,178,525	0.13	0.00	0.00	10.00
Transition Account	109,940	0.00	0.00	0.00	0.00

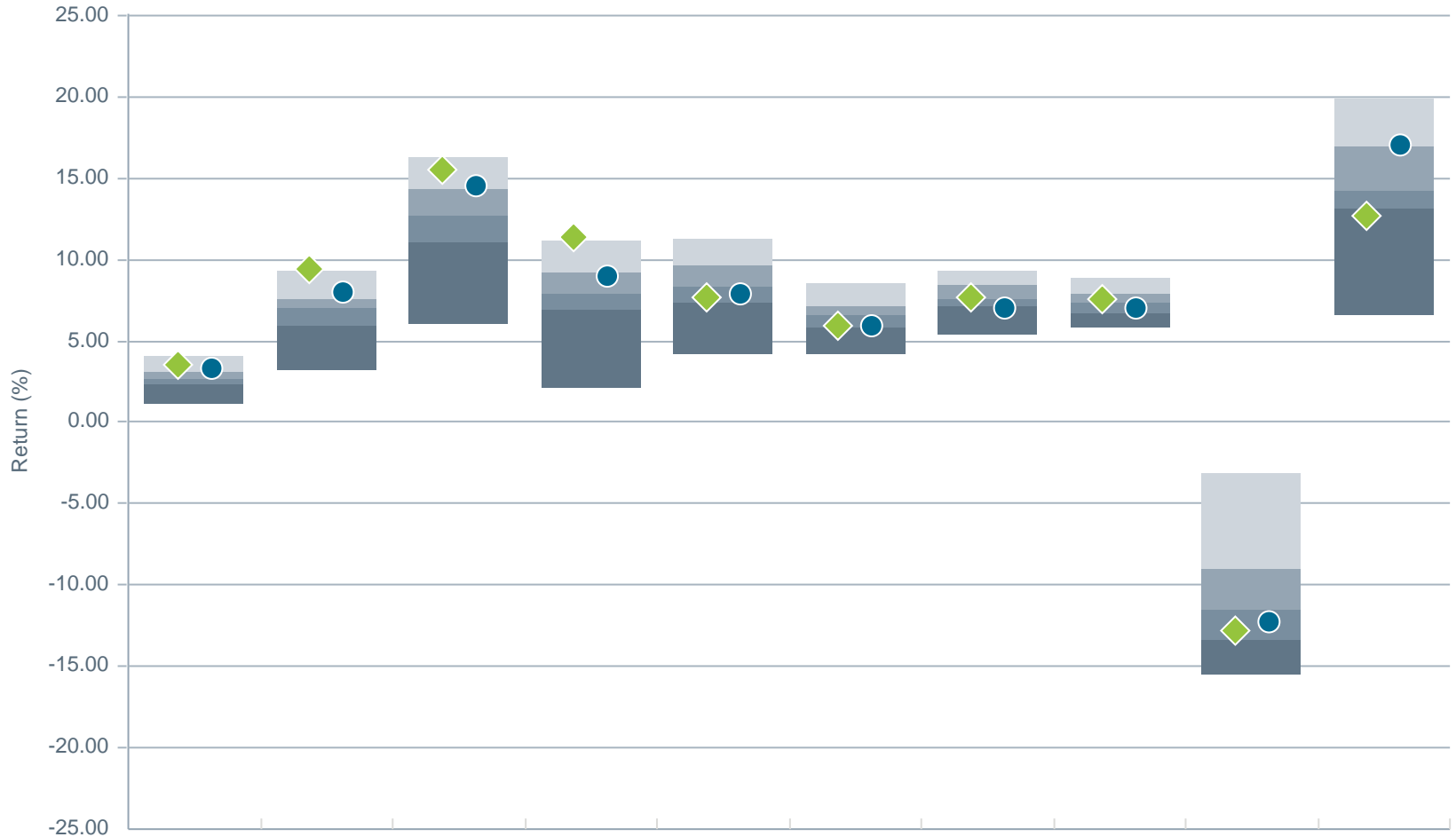


Allocations shown may not sum up to 100% exactly due to rounding. Parentheses contain percentile ranks.



City of Jacksonville Employees' Retirement System
 Total Fund vs. All Public Plans (\$1B to \$5B)
 Plan Sponsor Peer Group Analysis

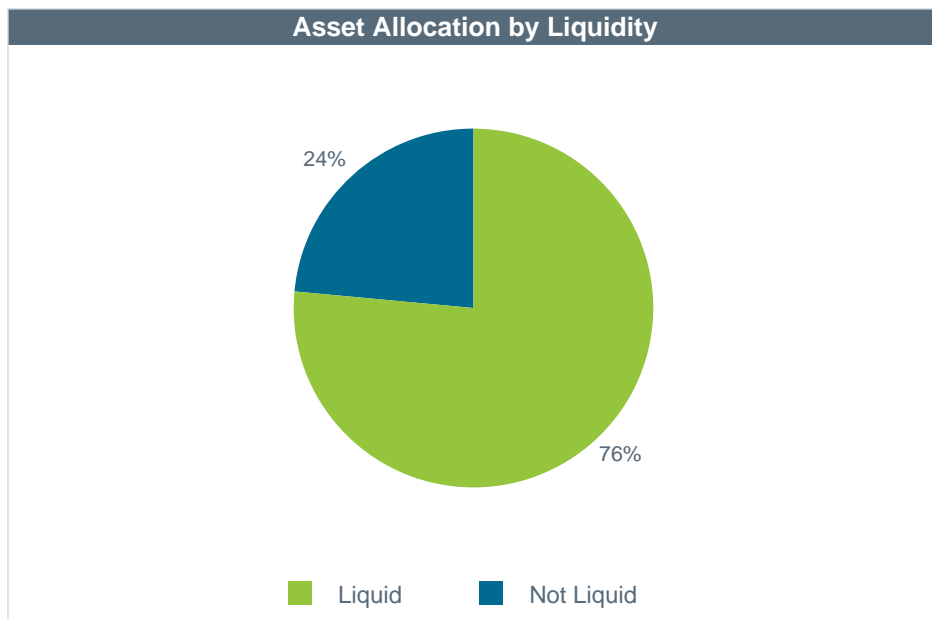
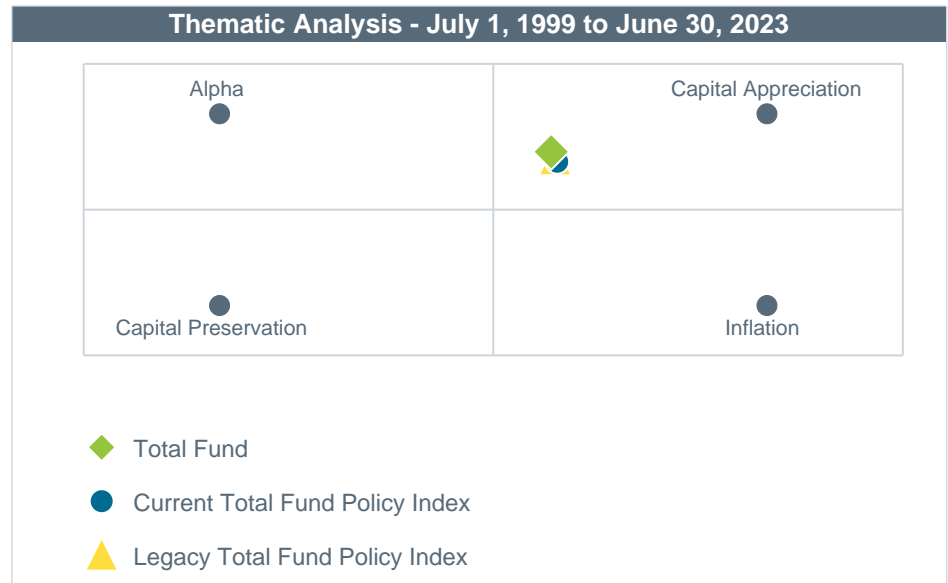
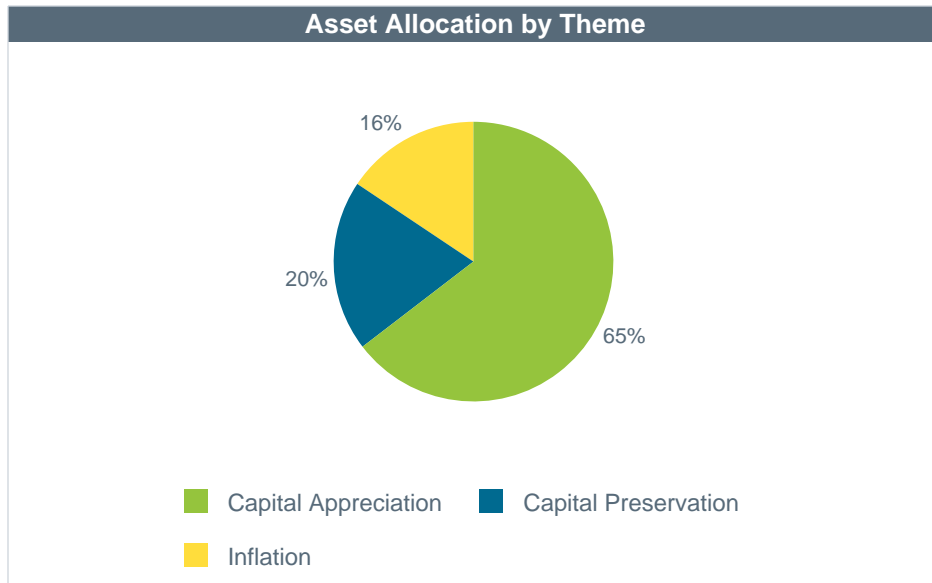
As of June 30, 2023



	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021
◆ Total Fund	3.49 (14)	9.40 (4)	15.54 (14)	11.36 (5)	7.67 (66)	5.93 (70)	7.72 (41)	7.58 (39)	-12.79 (67)	12.64 (81)
● Current Total Fund Policy Index	3.28 (19)	8.04 (16)	14.59 (21)	9.01 (30)	7.95 (62)	5.94 (70)	6.99 (81)	6.99 (61)	-12.23 (62)	17.09 (21)
5th Percentile	4.10	9.27	16.27	11.16	11.28	8.53	9.26	8.87	-3.15	19.92
1st Quartile	3.11	7.56	14.29	9.26	9.60	7.10	8.41	7.88	-9.01	16.91
Median	2.72	6.98	12.70	7.94	8.31	6.61	7.57	7.35	-11.48	14.25
3rd Quartile	2.30	5.98	11.04	6.94	7.37	5.80	7.11	6.68	-13.34	13.11
95th Percentile	1.10	3.18	6.03	2.08	4.14	4.19	5.42	5.88	-15.52	6.64

Performance shown is gross of fees. Parentheses contain percentile ranks. Fiscal year for the COJ ends 09/30.





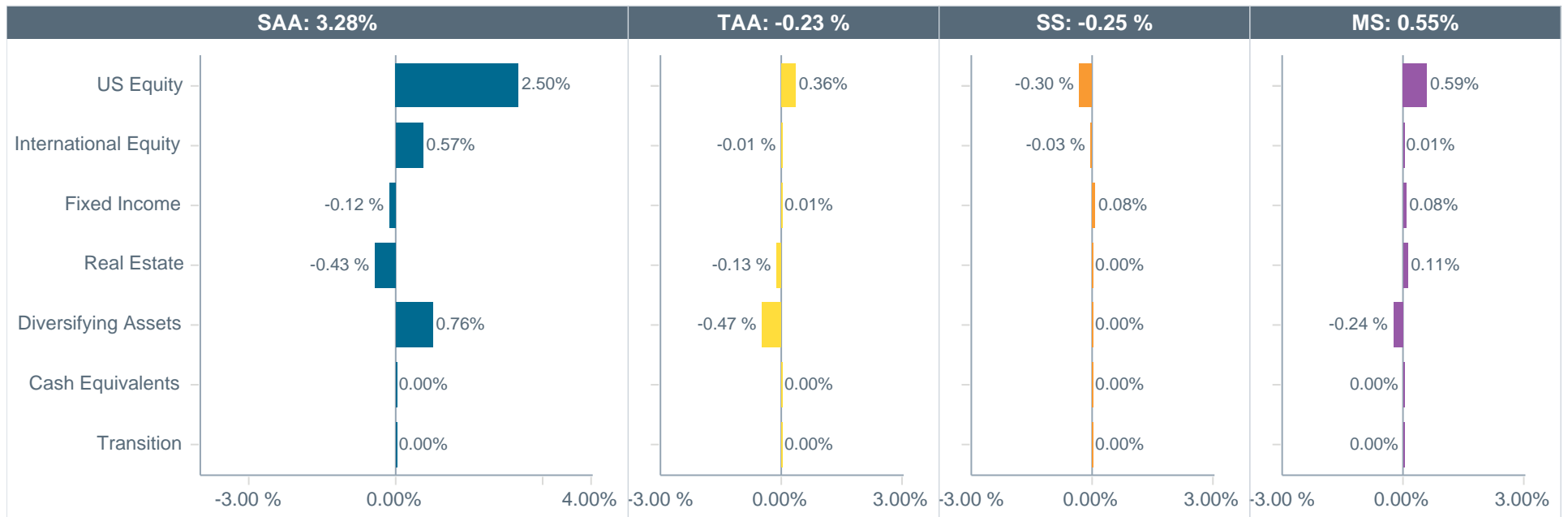
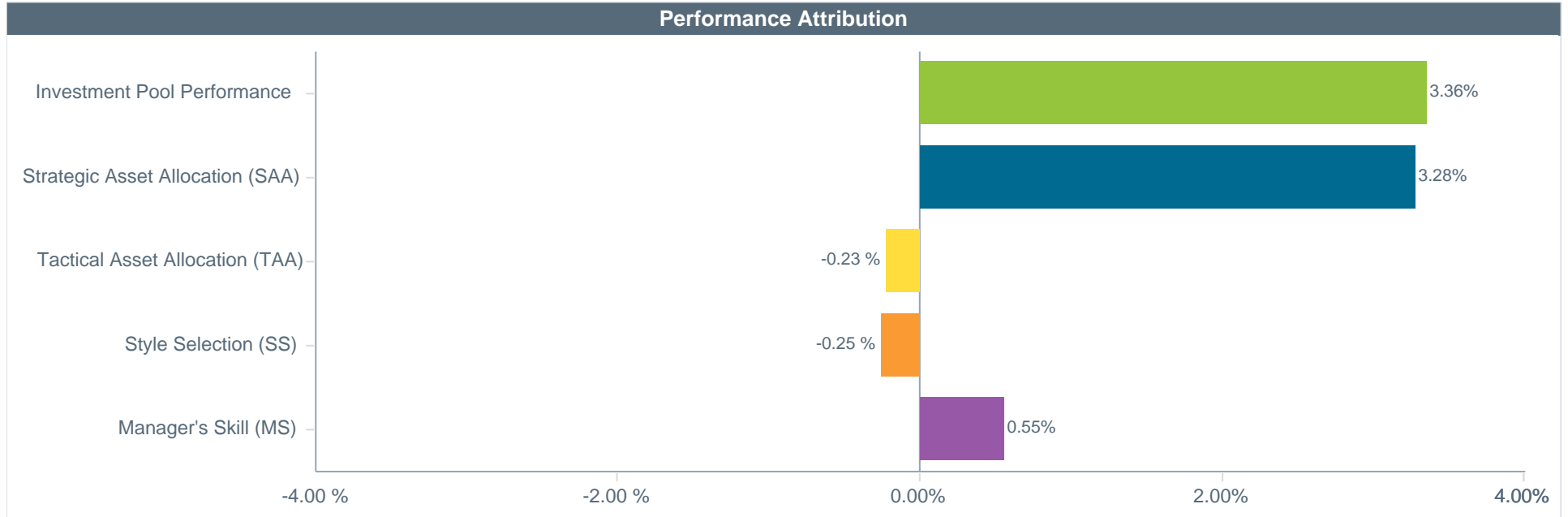
Correlation Matrix - 10 Years

	A	B	C	D
A	1.00			
B	0.52	1.00		
C	-0.15	0.03	1.00	
D	0.47	0.79	0.12	1.00

Legend:

- A = HFRI EH: Equity Market Neutral Index (Alpha)
- B = MSCI ACW Index (USD) (Gross) (Capital Appreciation)
- C = Bloomberg US Gov't Bond Index (Capital Preservation)
- D = Real Return Custom Index (Inflation)

Asset Allocation by Theme is based on dedicated manager allocations; as such, thematic allocations are approximations. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating. Please see the Glossary for additional information regarding liquidity, thematic, and custom index descriptions.

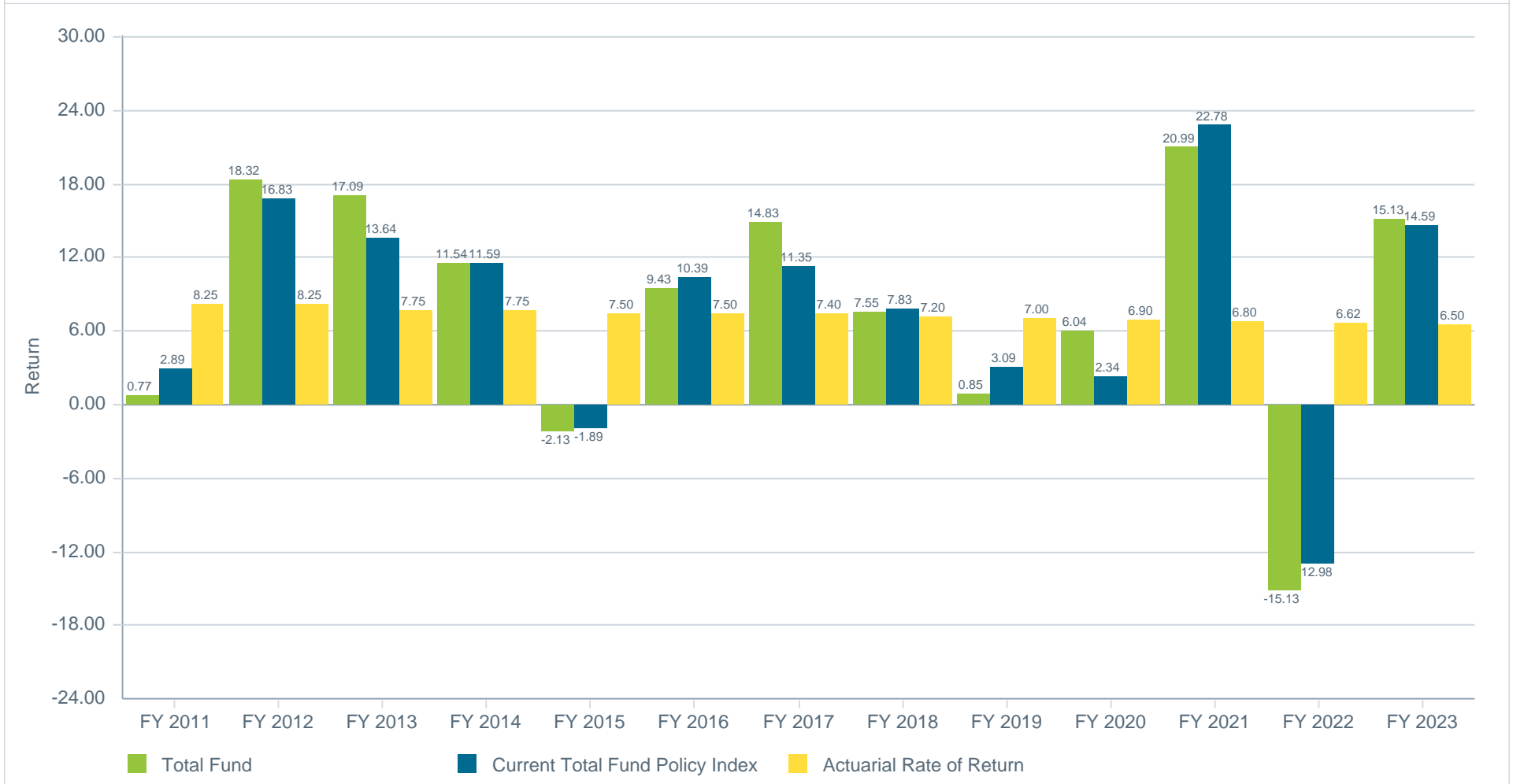


Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

City of Jacksonville Employees' Retirement System
Historical Fiscal Year Returns

As of June 30, 2023

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FYTD
Total Fund	0.77	18.32	17.09	11.54	-2.13	9.43	14.83	7.55	0.85	6.04	20.99	-15.13	15.13
Current Total Fund Policy Index	2.89	16.83	13.64	11.59	-1.89	10.39	11.35	7.83	3.09	2.34	22.78	-12.98	14.59
Difference	-2.12	1.49	3.45	-0.05	-0.24	-0.96	3.48	-0.28	-2.24	3.70	-1.79	-2.15	0.54
Actuarial Rate of Return	8.25	8.25	7.75	7.75	7.50	7.50	7.40	7.20	7.00	6.90	6.80	6.62	6.50
Difference	-7.48	10.07	9.34	3.79	-9.63	1.93	7.43	0.35	-6.15	-0.86	14.19	-21.75	8.63



Performance shown is net of fees. Fiscal year for the COJ ends 09/30. The Fiscal Year Actuarial Rate of Return changed from 8.40% to 8.25% effective 10/01/2010, changed to 7.75% effective 10/01/2012, changed to 7.50% effective 10/01/2014, changed to 7.40% effective 10/01/2016, changed to 7.20% effective 10/01/2017, changed to 7.00% effective 10/01/2018, changed to 6.90% effective 10/01/2019, changed to 6.80% effective 10/01/2020, changed to 6.62% effective 10/01/2021, and then changed to 6.50% effective 10/01/2022. Please see the Addendum for custom index definitions.



City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	2,393,751,664	100.00	3.49	9.40	15.54	11.36	7.67	5.93	7.72	7.58	6.48	07/01/1999
Current Total Fund Policy Index			3.28	8.04	14.59	9.01	7.95	5.94	6.99	6.99	5.82	
Difference			0.21	1.36	0.95	2.35	-0.28	-0.01	0.73	0.59	0.66	
All Public Plans (\$1B to \$5B) (Custom PG) Median			2.72	6.98	12.70	7.94	8.31	6.61	7.57	7.35	6.34	
Rank			14	4	14	5	66	70	41	39	38	
Total Equity	1,405,469,619	58.71	6.63	17.49	29.84	21.40	11.19	8.29	11.01	10.08	6.81	07/01/1999
US Equity	843,208,475	35.23	9.55	21.38	30.30	25.36	14.26	11.13	12.92	12.14	7.56	07/01/1999
US Equity Index			8.39	16.17	24.51	18.95	13.89	11.39	12.86	12.34	7.29	
Difference			1.16	5.21	5.79	6.41	0.37	-0.26	0.06	-0.20	0.27	
IM U.S. Equity (SA+CF) Median			5.71	10.69	20.77	16.52	14.33	9.48	11.81	11.17	9.04	
Rank			16	12	10	12	51	34	37	38	79	
International Equity	562,261,144	23.49	2.64	12.17	29.44	15.11	6.42	3.84	8.01	6.63	5.97	07/01/1999
International Equity Index			2.44	9.47	25.11	12.72	7.22	3.52	6.32	4.75	3.92	
Difference			0.20	2.70	4.33	2.39	-0.80	0.32	1.69	1.88	2.05	
IM International Equity (SA+CF) Median			2.89	11.18	28.18	16.48	8.66	4.59	7.39	6.35	6.24	
Rank			56	40	44	59	74	63	38	45	59	
Fixed Income	420,851,463	17.58	0.48	3.46	5.15	1.34	-2.87	0.49	1.07	1.51	4.38	07/01/1999
Fixed Income Index			-0.59	2.32	4.62	-0.04	-3.43	0.98	0.58	1.62	3.97	
Difference			1.07	1.14	0.53	1.38	0.56	-0.49	0.49	-0.11	0.41	
IM Global Fixed Income (SA+CF) Median			0.35	3.16	7.58	3.73	-0.28	2.11	2.34	2.50	5.56	
Rank			49	47	83	66	73	68	70	61	61	
Real Estate	448,132,850	18.72	-2.00	-5.09	-6.29	-3.13	7.59	6.35	6.88	8.23	6.41	12/01/2005
Real Estate Index			-2.86	-6.13	-10.97	-10.69	7.06	5.57	6.03	7.78	6.06	
Difference			0.86	1.04	4.68	7.56	0.53	0.78	0.85	0.45	0.35	
Core Real Estate	426,793,074	17.83	-2.30	-5.48	-6.80	-3.63	7.26	6.16	6.74	8.13	6.36	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			-2.68	-5.76	-10.44	-9.97	7.99	6.50	6.97	8.74	7.04	
Difference			0.38	0.28	3.64	6.34	-0.73	-0.34	-0.23	-0.61	-0.68	
Non-Core Real Estate	21,339,776	0.89	5.50	5.50	9.69	12.75	N/A	N/A	N/A	N/A	48.65	01/01/2022
NCREIF ODCE Index (AWA)(Gross) +2%			-2.19	-4.83	-9.10	-8.17	10.15	8.63	9.11	10.92	2.86	
Difference			7.69	10.33	18.79	20.92	N/A	N/A	N/A	N/A	45.79	
Diversifying Assets	116,009,266	4.85	1.32	5.00	3.64	5.10	27.04	9.70	8.12	6.59	8.76	03/01/2011
Diversifying Assets Index			6.37	13.35	22.51	17.54	12.46	2.22	2.29	2.08	3.57	
Difference			-5.05	-8.35	-18.87	-12.44	14.58	7.48	5.83	4.51	5.19	

Performance shown is gross of fees except if noted otherwise, and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30. Market Values for Abacus Multi-Family Partners Fund VI (CF), Adams Street, LP, Bell Value-Add Fund VII LP, H.I.G Realty Fund IV (CF), and Hamilton Lane Private Credit are preliminary. During 05/2023, Wellington Select Equity Income Fund (SA) was funded.



City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)

As of June 30, 2023

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date	
US Equity													
Eagle Capital Large Cap Value (SA)	165,466,201	6.91	11.65	24.96	35.29	29.76	16.03	11.31	13.98	12.97	11.11	02/01/2007	
Russell 1000 Val Index			4.07	5.12	18.18	11.54	14.30	8.11	8.94	9.22	6.57		
Difference			7.58	19.84	17.11	18.22	1.73	3.20	5.04	3.75	4.54		
Russell 1000 Index			8.58	16.68	25.13	19.36	14.09	11.92	13.15	12.64	9.25		
Difference			3.07	8.28	10.16	10.40	1.94	-0.61	0.83	0.33	1.86		
IM U.S. Large Cap Value Equity (SA+CF) Median			4.31	5.57	19.00	12.65	15.73	9.43	10.78	10.28	8.11		
Rank			1	2	2	2	47	22	9	7	3		
Wellington Select Equity Income Fund (SA)	148,830,600	6.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.82	06/01/2023	
Russell 1000 Val Index			4.07	5.12	18.18	11.54	14.30	8.11	8.94	9.22	6.64		
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.18		
IM U.S. Large Cap Value Equity (SA+CF) Median			4.31	5.57	19.00	12.65	15.73	9.43	10.78	10.28	6.77		
Rank			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	48		
Mellon Large Cap Core Index (CF)	168,042,324	7.02	8.62	16.71	25.19	19.42	14.09	N/A	N/A	N/A	11.92	05/01/2019	
Russell 1000 Index			8.58	16.68	25.13	19.36	14.09	11.92	13.15	12.64	11.93		
Difference			0.04	0.03	0.06	0.06	0.00	N/A	N/A	N/A	-0.01		
IM U.S. Large Cap Core Equity (SA+CF) Median			7.75	14.41	24.00	18.00	14.08	11.58	13.03	12.68	11.46		
Rank			33	29	36	35	50	N/A	N/A	N/A	41		
Loomis Sayles Large Cap Growth (CF)	148,317,808	6.20	13.76	38.12	47.01	41.11	13.30	15.03	N/A	N/A	15.28	08/01/2017	
Russell 1000 Grth Index			12.81	29.02	31.85	27.11	13.73	15.14	16.91	15.74	16.07		
Difference			0.95	9.10	15.16	14.00	-0.43	-0.11	N/A	N/A	-0.79		
IM U.S. Large Cap Growth Equity (SA+CF) Median			11.73	26.20	29.65	25.32	11.74	13.23	15.39	14.69	14.34		
Rank			23	3	2	1	30	20	N/A	N/A	29		
Kayne Anderson US SMID Value (SA)	68,628,506	2.87	3.41	7.89	14.33	9.58	N/A	N/A	N/A	N/A	-1.99	03/01/2022	
Russell 2500 Val Index			4.37	5.83	15.58	10.37	16.07	5.32	7.97	8.02	-3.51		
Difference			-0.96	2.06	-1.25	-0.79	N/A	N/A	N/A	N/A	1.52		
IM U.S. SMID Cap Value Equity (SA+CF) Median			4.50	7.22	19.16	14.25	17.68	7.82	10.39	9.88	-0.12		
Rank			75	40	87	89	N/A	N/A	N/A	N/A	67		
Systematic Financial US SMID Value (SA)	72,070,984	3.01	4.34	6.88	20.10	13.97	N/A	N/A	N/A	N/A	-1.07	03/01/2022	
Russell 2500 Val Index			4.37	5.83	15.58	10.37	16.07	5.32	7.97	8.02	-3.51		
Difference			-0.03	1.05	4.52	3.60	N/A	N/A	N/A	N/A	2.44		
IM U.S. SMID Cap Value Equity (SA+CF) Median			4.50	7.22	19.16	14.25	17.68	7.82	10.39	9.88	-0.12		
Rank			55	58	41	55	N/A	N/A	N/A	N/A	61		

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**City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)**

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Pinnacle Associates US SMID Cap Growth (SA)	71,852,051	3.00	7.36	16.58	20.95	18.26	11.60	10.52	13.51	11.59	13.26	03/01/2010
Russell 2500 Grth Index			6.41	13.38	18.73	18.58	6.56	7.00	10.95	10.38	12.03	
Difference			0.95	3.20	2.22	-0.32	5.04	3.52	2.56	1.21	1.23	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			5.36	13.46	19.63	18.02	8.26	9.57	13.00	11.57	13.40	
Rank			20	29	39	48	27	33	45	50	62	

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City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity												
Silchester International Value (CF)	275,965,228	11.53	3.54	11.39	32.35	18.17	12.31	4.77	7.87	7.23	9.22	06/01/2009
MSCI EAFE Val Index (USD) (Net)			3.15	9.28	30.74	17.40	11.34	2.93	6.02	4.15	5.03	
Difference			0.39	2.11	1.61	0.77	0.97	1.84	1.85	3.08	4.19	
IM EAFE Value (SA+CF) Median			3.27	12.86	32.40	19.30	11.50	4.33	6.81	5.79	7.11	
Rank			43	74	52	55	29	40	27	11	9	
Baillie Gifford International Growth (BGEFX)	160,455,844	6.70	0.20	13.63	28.66	15.18	-1.71	3.95	10.20	8.40	9.37	06/01/2009
Baillie Gifford Index			1.94	10.70	24.97	13.26	3.96	4.06	6.25	5.62	6.88	
Difference			-1.74	2.93	3.69	1.92	-5.67	-0.11	3.95	2.78	2.49	
Baillie Gifford Spliced Index			2.44	9.47	25.11	12.72	7.22	3.70	6.37	5.06	6.09	
Difference			-2.24	4.16	3.55	2.46	-8.93	0.25	3.83	3.34	3.28	
IM ACWI Ex US Growth (SA+CF) Median			3.06	12.49	28.21	17.96	6.50	5.66	8.30	6.93	8.31	
Rank			98	36	45	83	98	79	20	26	19	
Acadian Emerging Markets (CF)	125,840,071	5.26	3.85	12.03	24.40	8.85	7.43	3.02	6.59	4.02	3.20	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			0.90	4.89	15.07	1.75	2.32	0.93	4.95	2.95	1.47	
Difference			2.95	7.14	9.33	7.10	5.11	2.09	1.64	1.07	1.73	
IM Emerging Markets Equity (SA+CF) Median			2.39	7.35	18.29	6.81	4.15	2.91	6.12	4.39	2.96	
Rank			33	18	17	41	37	48	44	63	40	
Fixed Income												
Baird Core Fixed Income (SA)	207,021,974	8.65	-0.58	2.81	4.73	-0.12	N/A	N/A	N/A	N/A	-4.35	03/01/2021
Bloomberg US Agg Bond Index			-0.84	2.09	4.00	-0.94	-3.97	0.77	0.44	1.52	-4.71	
Difference			0.26	0.72	0.73	0.82	N/A	N/A	N/A	N/A	0.36	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-0.72	2.43	4.29	-0.41	-3.43	1.20	0.94	1.96	-4.41	
Rank			36	18	23	26	N/A	N/A	N/A	N/A	46	
Loomis Sayles Multisector Full Discretion (CF)	105,743,780	4.42	-0.44	2.97	5.71	2.30	-0.90	3.02	3.68	4.07	5.64	10/01/2007
Bloomberg Gbl Agg Bond Index			-1.53	1.43	6.04	-1.32	-4.96	-1.09	-0.90	0.20	1.71	
Difference			1.09	1.54	-0.33	3.62	4.06	4.11	4.58	3.87	3.93	
IM Global Fixed Income (SA+CF) Median			0.35	3.16	7.58	3.73	-0.28	2.11	2.34	2.50	2.95	
Rank			65	55	78	59	54	30	33	26	9	
Schroder Flexible Secured Income Fund	108,085,709	4.52	3.55	5.25	5.40	N/A	N/A	N/A	N/A	N/A	5.40	10/01/2022
1 Month LIBOR+1.75%			1.69	3.27	4.66	5.66	3.16	3.41	3.26	2.87	4.66	
Difference			1.86	1.98	0.74	N/A	N/A	N/A	N/A	N/A	0.74	
1 Month LIBOR+5%			2.49	4.91	7.16	9.03	6.45	6.72	6.56	6.16	7.16	
Difference			1.06	0.34	-1.76	N/A	N/A	N/A	N/A	N/A	-1.76	

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City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Gross of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Estate												
Harrison Street Core Property LP	132,981,888	5.56	-0.47	-1.18	0.96	7.20	7.44	7.63	8.07	N/A	7.83	11/01/2015
NCREIF ODCE Index (AWA) (Gross)			-2.68	-5.76	-10.44	-9.97	7.99	6.50	6.97	8.74	7.40	
Difference			2.21	4.58	11.40	17.17	-0.55	1.13	1.10	N/A	0.43	
PGIM Real Estate PRISA II LP	72,592,919	3.03	-2.21	-8.33	-7.31	-3.14	9.17	7.96	8.30	N/A	8.99	01/01/2015
NCREIF ODCE Index (AWA) (Gross)			-2.68	-5.76	-10.44	-9.97	7.99	6.50	6.97	8.74	8.00	
Difference			0.47	-2.57	3.13	6.83	1.18	1.46	1.33	N/A	0.99	
Principal US Property (CF)	151,425,100	6.33	-1.67	-4.59	-10.33	-9.73	8.23	7.05	7.76	N/A	9.20	01/01/2014
NCREIF ODCE Index (AWA) (Gross)			-2.68	-5.76	-10.44	-9.97	7.99	6.50	6.97	8.74	8.47	
Difference			1.01	1.17	0.11	0.24	0.24	0.55	0.79	N/A	0.73	
UBS Trumbull Property	68,618,095	2.87	-7.05	-11.89	-11.87	-8.28	4.17	2.27	3.49	5.75	5.48	12/01/2005
NCREIF ODCE Index (AWA) (Gross)			-2.68	-5.76	-10.44	-9.97	7.99	6.50	6.97	8.74	7.04	
Difference			-4.37	-6.13	-1.43	1.69	-3.82	-4.23	-3.48	-2.99	-1.56	
Vanguard RE Idx;ETF (VNQ)	1,175,071	0.05	1.74	3.42	7.89	-3.97	5.85	4.36	3.07	6.00	10.82	12/01/2008
Custom REITs Index			1.68	3.54	8.04	-3.82	6.00	4.55	3.47	6.39	11.53	
Difference			0.06	-0.12	-0.15	-0.15	-0.15	-0.19	-0.40	-0.39	-0.71	
Abacus Multi-Family Partners VI LP	2,385,606	0.10	-28.93	-28.93	-28.93	N/A	N/A	N/A	N/A	N/A	-28.93	10/01/2022
NCREIF ODCE Index (AWA) (Net) (Monthly)+2%			-2.40	-5.23	-9.68	-8.95	9.18	7.67	8.14	9.93	-9.68	
Difference			-26.53	-23.70	-19.25	N/A	N/A	N/A	N/A	N/A	-19.25	
H.I.G. Realty Partners IV (Onshore) LP	18,829,231	0.79	7.57	7.57	12.12	20.14	N/A	N/A	N/A	N/A	N/A	01/01/2022
NCREIF ODCE Index (AWA)(Gross) +2%			-2.19	-4.83	-9.10	-8.17	10.15	8.63	9.11	10.92	2.86	
Difference			9.76	12.40	21.22	28.31	N/A	N/A	N/A	N/A	N/A	
Bell Value-Add VIII LP	124,939	0.01	0.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.03	04/01/2023
NCREIF ODCE Index (AWA) (Net) (Monthly)+2%			-2.40	-5.23	-9.68	-8.95	9.18	7.67	8.14	9.93	-2.40	
Difference			2.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.43	

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City of Jacksonville Employees' Retirement System
 Asset Allocation & Performance (Gross of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Diversifying Assets												
Hancock Timberland (SA)	736,141	0.03	-10.67	-10.46	-15.52	-0.58	20.73	12.92	11.66	9.96	6.36	10/01/2006
NCREIF Timberland Index			1.71	3.49	8.55	11.13	8.67	5.80	5.13	5.90	5.90	
Difference			-12.38	-13.95	-24.07	-11.71	12.06	7.12	6.53	4.06	0.46	
Adams Street Private Equity (SA)	65,304,169	2.73	0.57	6.20	3.84	5.61	N/A	N/A	N/A	N/A	27.46	11/01/2020
S&P 500 Index+3%			9.55	18.63	28.55	23.18	18.04	15.68	16.78	16.25	17.46	
Difference			-8.98	-12.43	-24.71	-17.57	N/A	N/A	N/A	N/A	10.00	
Hamilton Lane Private Credit (SA)	49,968,956	2.09	2.61	3.56	4.09	3.96	N/A	N/A	N/A	N/A	5.48	04/01/2021
ICE BofAML Gbl Hi Yld Index +2%			2.13	6.32	14.32	11.88	3.49	4.27	5.68	5.71	-1.39	
Difference			0.48	-2.76	-10.23	-7.92	N/A	N/A	N/A	N/A	6.87	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	3,178,525	0.13	1.25	2.40	3.34	3.74	1.59	1.75	1.51	1.10	1.46	04/01/2001
FTSE 3 Mo T-Bill Index			1.25	2.39	3.28	3.75	1.33	1.57	1.37	0.98	1.39	
Difference			0.00	0.01	0.06	-0.01	0.26	0.18	0.14	0.12	0.07	

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City of Jacksonville Employees' Retirement System
 Asset Allocation & Performance (Net of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	2,393,751,664	100.00	3.36	9.14	15.13	10.82	7.18	5.41	7.18	7.05	6.15	07/01/1999
Current Total Fund Policy Index			3.28	8.04	14.59	9.01	7.95	5.94	6.99	6.99	5.82	
Difference			0.08	1.10	0.54	1.81	-0.77	-0.53	0.19	0.06	0.33	
Total Equity	1,405,469,619	58.71	6.48	17.18	29.33	20.76	10.65	7.75	10.44	9.50	6.48	07/01/1999
US Equity	843,208,475	35.23	9.38	21.07	29.79	24.72	13.74	10.61	12.36	11.58	7.24	07/01/1999
US Equity Index			8.39	16.17	24.51	18.95	13.89	11.39	12.86	12.34	7.29	
Difference			0.99	4.90	5.28	5.77	-0.15	-0.78	-0.50	-0.76	-0.05	
International Equity	562,261,144	23.49	2.50	11.87	28.92	14.49	5.85	3.27	7.41	6.03	5.62	07/01/1999
International Equity Index			2.44	9.47	25.11	12.72	7.22	3.52	6.32	4.75	3.92	
Difference			0.06	2.40	3.81	1.77	-1.37	-0.25	1.09	1.28	1.70	
Fixed Income	420,851,463	17.58	0.38	3.29	4.86	0.98	-3.15	0.21	0.80	1.28	4.21	07/01/1999
Fixed Income Index			-0.59	2.32	4.62	-0.04	-3.43	0.98	0.58	1.62	3.97	
Difference			0.97	0.97	0.24	1.02	0.28	-0.77	0.22	-0.34	0.24	
Real Estate	448,132,850	18.72	-2.12	-5.34	-6.65	-3.62	7.03	5.62	6.16	7.48	5.75	12/01/2005
Real Estate Index			-2.86	-6.13	-10.97	-10.69	7.06	5.57	6.03	7.78	6.06	
Difference			0.74	0.79	4.32	7.07	-0.03	0.05	0.13	-0.30	-0.31	
Core Real Estate	426,793,074	17.83	-2.43	-5.73	-7.17	-4.14	6.71	5.44	6.03	7.38	5.70	12/01/2005
NCREIF ODCE Index (AWA) (Net)			-2.88	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	6.06	
Difference			0.45	0.43	3.84	6.59	-0.33	-0.12	0.01	-0.39	-0.36	
Non-Core Real Estate	21,339,776	0.89	5.50	5.50	9.69	12.75	N/A	N/A	N/A	N/A	48.65	01/01/2022
NCREIF ODCE Index (AWA) (Net) (Monthly)+2%			-2.40	-5.23	-9.68	-8.95	9.18	7.67	8.14	9.93	1.99	
Difference			7.90	10.73	19.37	21.70	N/A	N/A	N/A	N/A	46.66	
Diversifying Assets	116,009,266	4.85	1.26	4.87	3.43	4.80	26.41	9.17	7.60	6.07	8.23	03/01/2011
Diversifying Assets Index			6.37	13.35	22.51	17.54	12.46	2.22	2.29	2.08	3.57	
Difference			-5.11	-8.48	-19.08	-12.74	13.95	6.95	5.31	3.99	4.66	

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City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Equity												
Eagle Capital Large Cap Value (SA)	165,466,201	6.91	11.44	24.52	34.53	28.80	15.17	10.48	13.12	12.12	10.39	02/01/2007
Russell 1000 Val Index			4.07	5.12	18.18	11.54	14.30	8.11	8.94	9.22	6.57	
Difference			7.37	19.40	16.35	17.26	0.87	2.37	4.18	2.90	3.82	
Russell 1000 Index			8.58	16.68	25.13	19.36	14.09	11.92	13.15	12.64	9.25	
Difference			2.86	7.84	9.40	9.44	1.08	-1.44	-0.03	-0.52	1.14	
Wellington Select Equity Income Fund (SA)	148,830,600	6.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.79	06/01/2023
Russell 1000 Val Index			4.07	5.12	18.18	11.54	14.30	8.11	8.94	9.22	6.64	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.15	
Mellon Large Cap Core Index (CF)	168,042,324	7.02	8.62	16.70	25.17	19.40	14.06	N/A	N/A	N/A	11.90	05/01/2019
Russell 1000 Index			8.58	16.68	25.13	19.36	14.09	11.92	13.15	12.64	11.93	
Difference			0.04	0.02	0.04	0.04	-0.03	N/A	N/A	N/A	-0.03	
Loomis Sayles Large Cap Growth (CF)	148,317,808	6.20	13.47	37.64	46.22	40.09	12.59	14.39	N/A	N/A	14.43	07/01/2017
Russell 1000 Grth Index			12.81	29.02	31.85	27.11	13.73	15.14	16.91	15.74	16.33	
Difference			0.66	8.62	14.37	12.98	-1.14	-0.75	N/A	N/A	-1.90	
Kayne Anderson US SMID Value (SA)	68,628,506	2.87	3.26	7.58	13.80	8.91	N/A	N/A	N/A	N/A	-2.51	03/01/2022
Russell 2500 Val Index			4.37	5.83	15.58	10.37	16.07	5.32	7.97	8.02	-3.51	
Difference			-1.11	1.75	-1.78	-1.46	N/A	N/A	N/A	N/A	1.00	
Systematic Financial US SMID Value (SA)	72,070,984	3.01	4.17	6.55	19.53	13.27	N/A	N/A	N/A	N/A	-1.60	03/01/2022
Russell 2500 Val Index			4.37	5.83	15.58	10.37	16.07	5.32	7.97	8.02	-3.51	
Difference			-0.20	0.72	3.95	2.90	N/A	N/A	N/A	N/A	1.91	
Pinnacle Associates US SMID Cap Growth (SA)	71,852,051	3.00	7.18	16.21	20.35	17.49	10.85	9.81	12.78	10.83	12.50	03/01/2010
Russell 2500 Grth Index			6.41	13.38	18.73	18.58	6.56	7.00	10.95	10.38	12.03	
Difference			0.77	2.83	1.62	-1.09	4.29	2.81	1.83	0.45	0.47	

Performance shown is net of fees except if noted otherwise, and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30. Market Values for Abacus Multi-Family Partners Fund VI (CF), Adams Street, LP, Bell Value-Add Fund VII LP, H.I.G Realty Fund IV (CF), and Hamilton Lane Private Credit are preliminary. During 05/2023, Wellington Select Equity Income Fund (SA) was funded.



City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity												
Silchester International Value (CF)	275,965,228	11.53	3.40	11.08	31.79	17.49	11.67	4.17	7.25	6.62	8.58	06/01/2009
MSCI EAFE Val Index (USD) (Net)			3.15	9.28	30.74	17.40	11.34	2.93	6.02	4.15	5.03	
Difference			0.25	1.80	1.05	0.09	0.33	1.24	1.23	2.47	3.55	
Baillie Gifford International Growth (BGEFX)	160,455,844	6.70	0.08	13.37	28.21	14.64	-2.18	3.44	9.65	7.84	8.95	06/01/2009
Baillie Gifford Index			1.94	10.70	24.97	13.26	3.96	4.06	6.25	5.62	6.88	
Difference			-1.86	2.67	3.24	1.38	-6.14	-0.62	3.40	2.22	2.07	
Baillie Gifford Spliced Index			2.44	9.47	25.11	12.72	7.22	3.70	6.37	5.06	6.09	
Difference			-2.36	3.90	3.10	1.92	-9.40	-0.26	3.28	2.78	2.86	
Acadian Emerging Markets (CF)	125,840,071	5.26	3.71	11.72	23.89	8.23	6.83	2.43	5.98	3.41	2.60	02/01/2011
MSCI Emg Mkts Index (USD) (Net)			0.90	4.89	15.07	1.75	2.32	0.93	4.95	2.95	1.47	
Difference			2.81	6.83	8.82	6.48	4.51	1.50	1.03	0.46	1.13	
Fixed Income												
Baird Core Fixed Income (SA)	207,021,974	8.65	-0.64	2.70	4.56	-0.34	N/A	N/A	N/A	N/A	-4.54	03/01/2021
Bloomberg US Agg Bond Index			-0.84	2.09	4.00	-0.94	-3.97	0.77	0.44	1.52	-4.71	
Difference			0.20	0.61	0.56	0.60	N/A	N/A	N/A	N/A	0.17	
Loomis Sayles Multisector Full Discretion (CF)	105,743,780	4.42	-0.61	2.79	5.41	1.92	-1.25	2.62	3.29	3.65	5.29	10/01/2007
Bloomberg Gbl Agg Bond Index			-1.53	1.43	6.04	-1.32	-4.96	-1.09	-0.90	0.20	1.71	
Difference			0.92	1.36	-0.63	3.24	3.71	3.71	4.19	3.45	3.58	
Schroder Flexible Secured Income Fund	108,085,709	4.52	3.40	4.94	4.93	N/A	N/A	N/A	N/A	N/A	4.93	10/01/2022
1 Month LIBOR+1.75%			1.69	3.27	4.66	5.66	3.16	3.41	3.26	2.87	4.66	
Difference			1.71	1.67	0.27	N/A	N/A	N/A	N/A	N/A	0.27	
1 Month LIBOR+5%			2.49	4.91	7.16	9.03	6.45	6.72	6.56	6.16	7.16	
Difference			0.91	0.03	-2.23	N/A	N/A	N/A	N/A	N/A	-2.23	

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City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Estate												
Harrison Street Core Property LP	132,981,888	5.56	-0.47	-1.18	0.96	7.20	7.35	7.14	7.72	N/A	7.52	11/01/2015
NCREIF ODCE Index (AWA) (Net)			-2.88	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	6.43	
Difference			2.41	4.98	11.97	17.93	0.31	1.58	1.70	N/A	1.09	
PGIM Real Estate PRISA II LP	72,592,919	3.03	-2.36	-8.64	-7.77	-3.77	8.53	7.04	7.37	N/A	8.16	01/01/2015
NCREIF ODCE Index (AWA) (Net)			-2.88	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	7.04	
Difference			0.52	-2.48	3.24	6.96	1.49	1.48	1.35	N/A	1.12	
Principal US Property (CF)	151,425,100	6.33	-1.86	-4.97	-10.87	-10.46	7.37	6.20	6.89	N/A	8.32	01/01/2014
NCREIF ODCE Index (AWA) (Net)			-2.88	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	7.50	
Difference			1.02	1.19	0.14	0.27	0.33	0.64	0.87	N/A	0.82	
UBS Trumbull Property	68,618,095	2.87	-7.23	-12.22	-12.37	-8.97	3.45	1.51	2.65	4.84	4.57	12/01/2005
NCREIF ODCE Index (AWA) (Net)			-2.88	-6.16	-11.01	-10.73	7.04	5.56	6.02	7.77	6.06	
Difference			-4.35	-6.06	-1.36	1.76	-3.59	-4.05	-3.37	-2.93	-1.49	
Vanguard RE Idx;ETF (VNQ)	1,175,071	0.05	1.74	3.42	7.89	-3.97	5.85	4.36	3.07	6.00	10.82	12/01/2008
Custom REITs Index			1.68	3.54	8.04	-3.82	6.00	4.55	3.47	6.39	11.53	
Difference			0.06	-0.12	-0.15	-0.15	-0.15	-0.19	-0.40	-0.39	-0.71	
Abacus Multi-Family Partners VI LP	2,385,606	0.10	-28.93	-28.93	-28.93	N/A	N/A	N/A	N/A	N/A	-28.93	10/01/2022
NCREIF ODCE Index (AWA) (Net) (Monthly)+2%			-2.40	-5.23	-9.68	-8.95	9.18	7.67	8.14	9.93	-9.68	
Difference			-26.53	-23.70	-19.25	N/A	N/A	N/A	N/A	N/A	-19.25	
H.I.G. Realty Partners IV (Onshore) LP	18,829,231	0.79	7.57	7.57	12.12	20.14	N/A	N/A	N/A	N/A	N/A	01/01/2022
NCREIF ODCE Index (AWA) (Net) (Monthly)+2%			-2.40	-5.23	-9.68	-8.95	9.18	7.67	8.14	9.93	1.99	
Difference			9.97	12.80	21.80	29.09	N/A	N/A	N/A	N/A	N/A	
Bell Value-Add VIII LP	124,939	0.01	0.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.03	04/01/2023
NCREIF ODCE Index (AWA) (Net) (Monthly)+2%			-2.40	-5.23	-9.68	-8.95	9.18	7.67	8.14	9.93	-2.40	
Difference			2.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.43	

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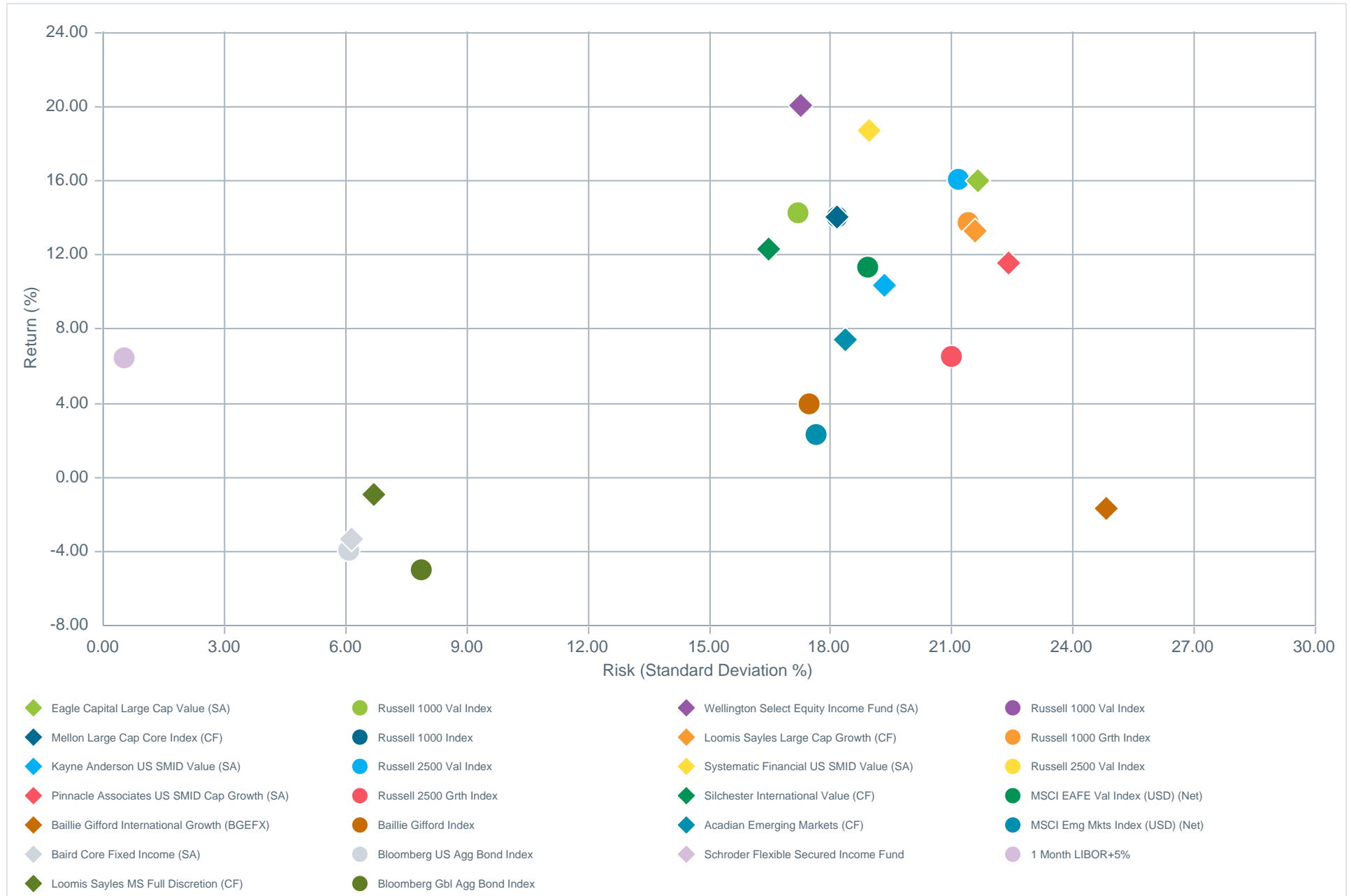
City of Jacksonville Employees' Retirement System
 Asset Allocation & Performance (Net of Fees)

As of June 30, 2023

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Diversifying Assets												
Hancock Timberland (SA)	736,141	0.03	-10.67	-10.46	-15.52	-0.58	20.73	12.92	11.66	9.96	6.36	10/01/2006
NCREIF Timberland Index			1.71	3.49	8.55	11.13	8.67	5.80	5.13	5.90	5.90	
Difference			-12.38	-13.95	-24.07	-11.71	12.06	7.12	6.53	4.06	0.46	
Adams Street Private Equity (SA)	65,304,169	2.73	0.57	6.20	3.84	5.61	N/A	N/A	N/A	N/A	27.46	11/01/2020
S&P 500 Index+3%			9.55	18.63	28.55	23.18	18.04	15.68	16.78	16.25	17.46	
Difference			-8.98	-12.43	-24.71	-17.57	N/A	N/A	N/A	N/A	10.00	
Hamilton Lane Private Credit (SA)	49,968,956	2.09	2.44	3.20	3.52	3.13	N/A	N/A	N/A	N/A	-0.99	04/01/2021
ICE BofAML Gbl Hi Yld Index +2%			2.13	6.32	14.32	11.88	3.49	4.27	5.68	5.71	-1.39	
Difference			0.31	-3.12	-10.80	-8.75	N/A	N/A	N/A	N/A	0.40	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	3,178,525	0.13	1.22	2.33	3.23	3.61	1.44	1.60	1.41	1.03	1.41	04/01/2001
FTSE 3 Mo T-Bill Index			1.25	2.39	3.28	3.75	1.33	1.57	1.37	0.98	1.39	
Difference			-0.03	-0.06	-0.05	-0.14	0.11	0.03	0.04	0.05	0.02	

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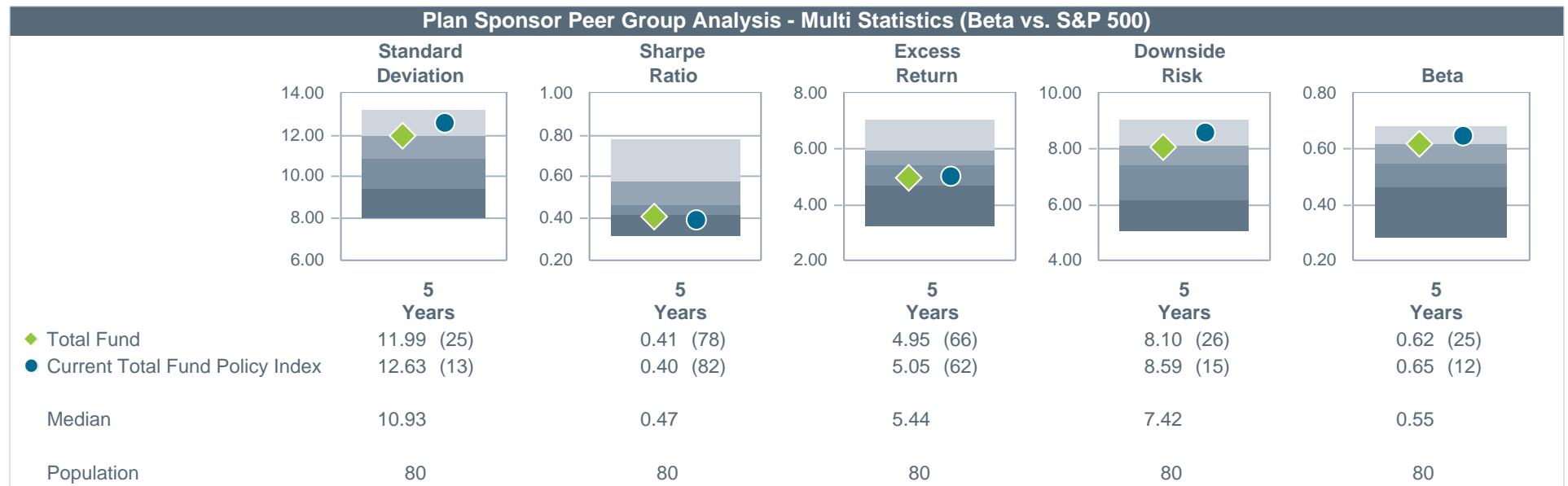
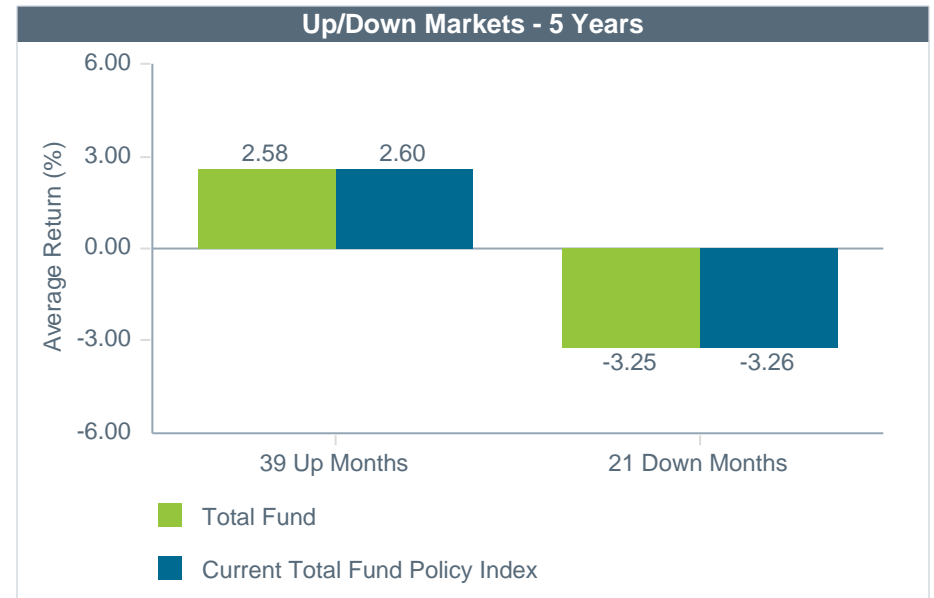
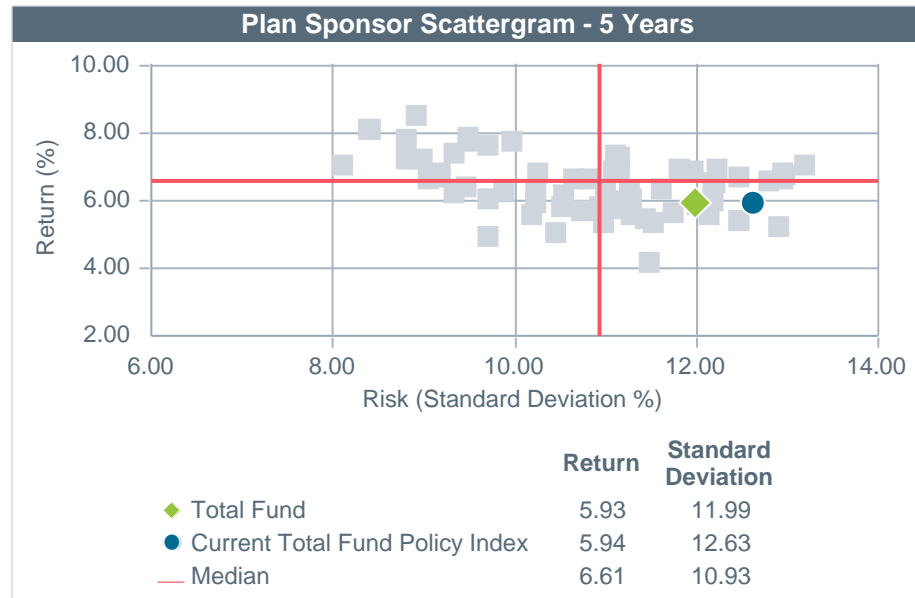




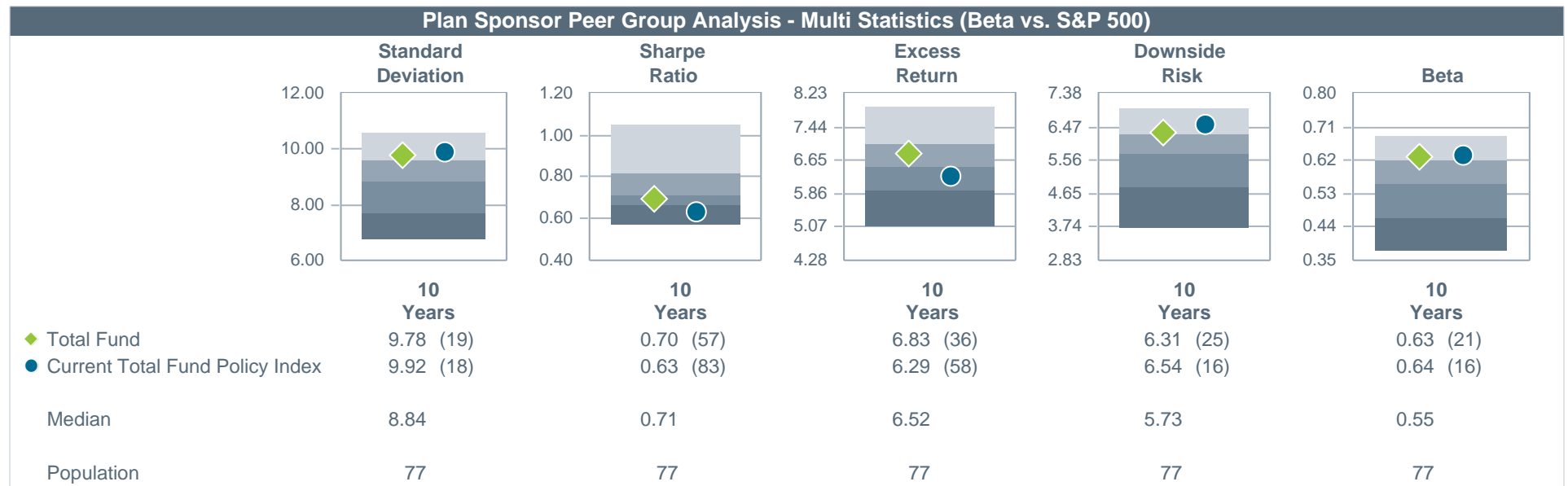
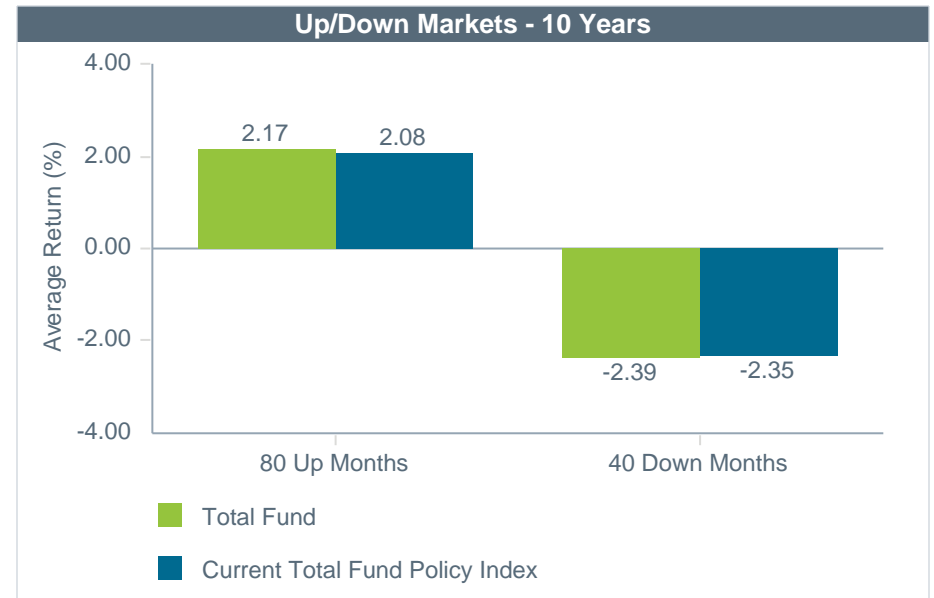
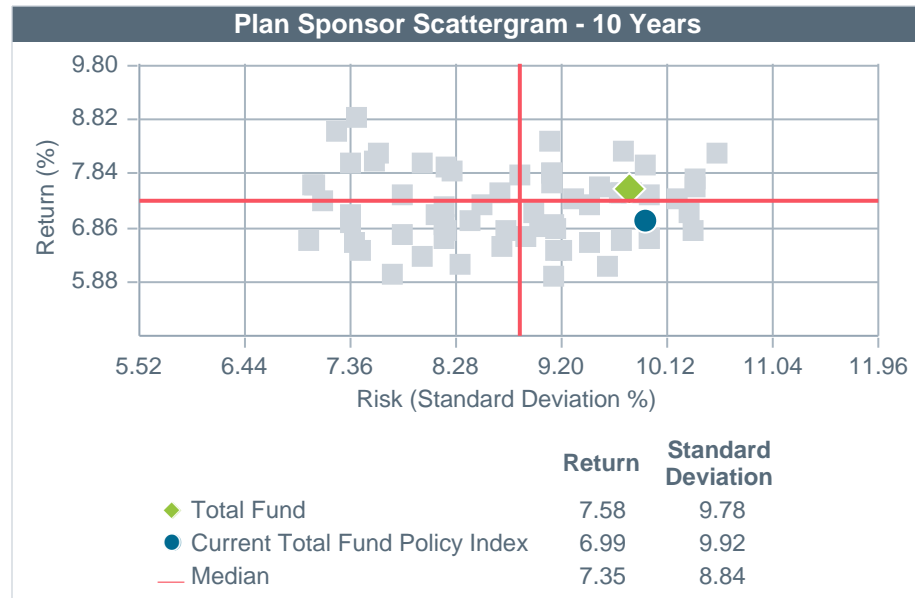
Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Managers with less history than the specified time period are backfilled with product specific performance, except for Schroder Flexible Secured Income Fund. Please see the Addendum for custom index definitions.



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Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



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Composite Profiles



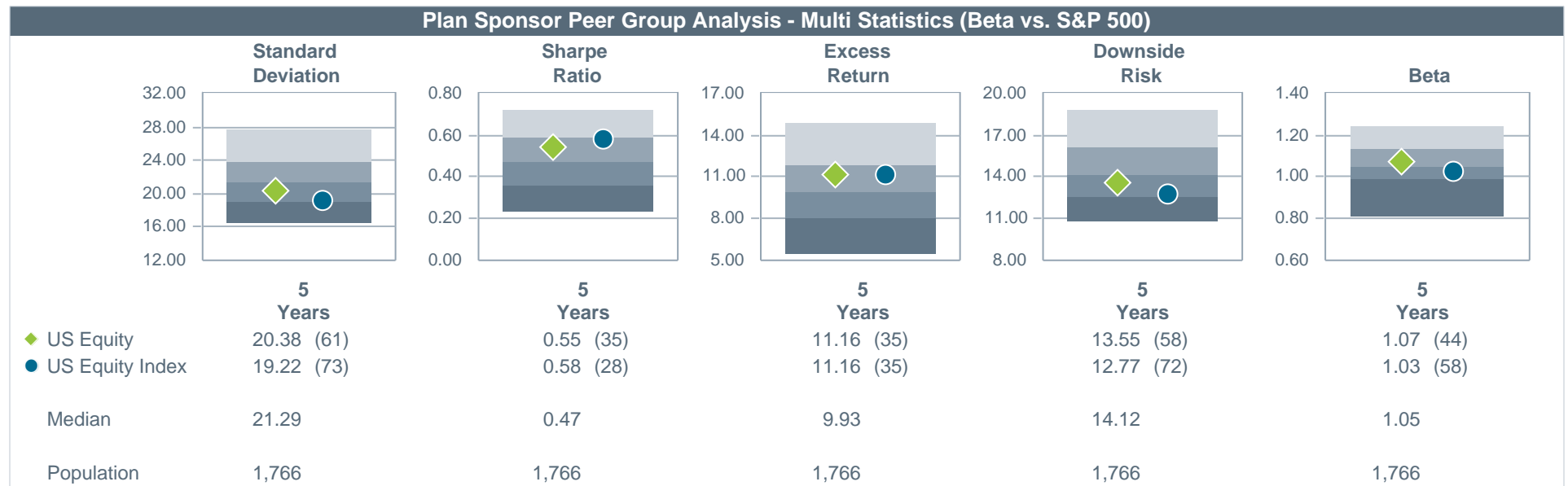
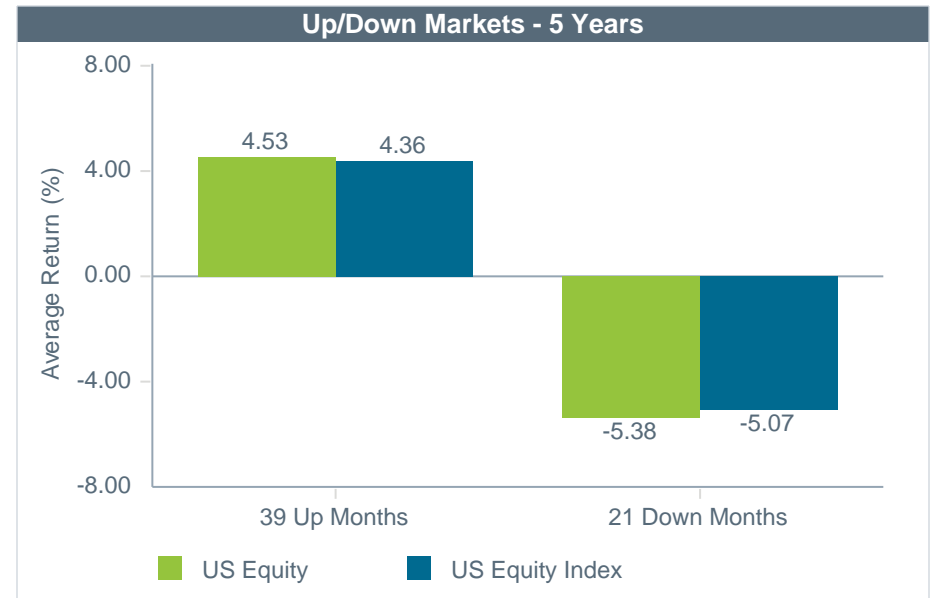
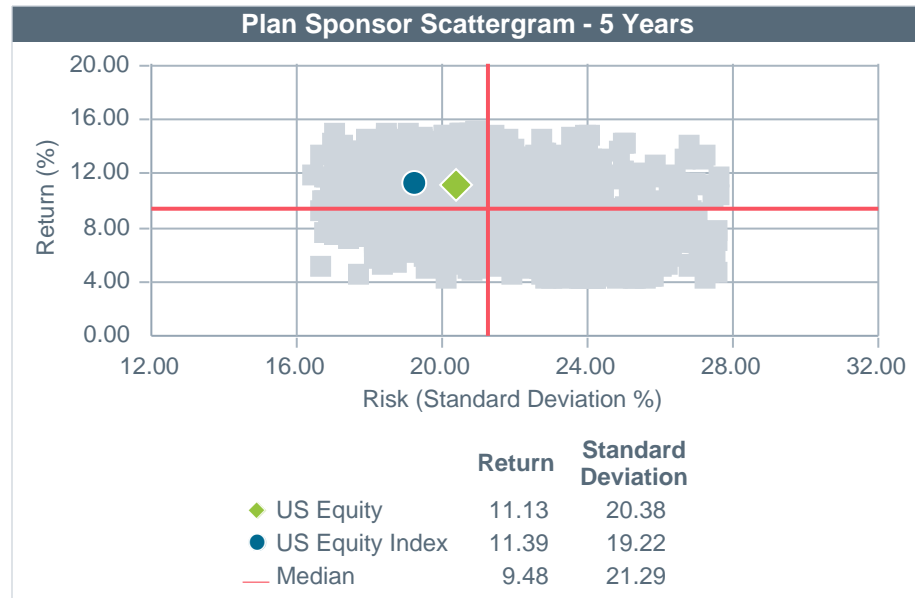
City of Jacksonville Employees' Retirement System
 US Equity vs. IM U.S. Equity (SA+CF)
 Peer Group Analysis

As of June 30, 2023



Performance shown is gross of fees. Parentheses contain percentile ranks. Fiscal year for the COJ ends 09/30.





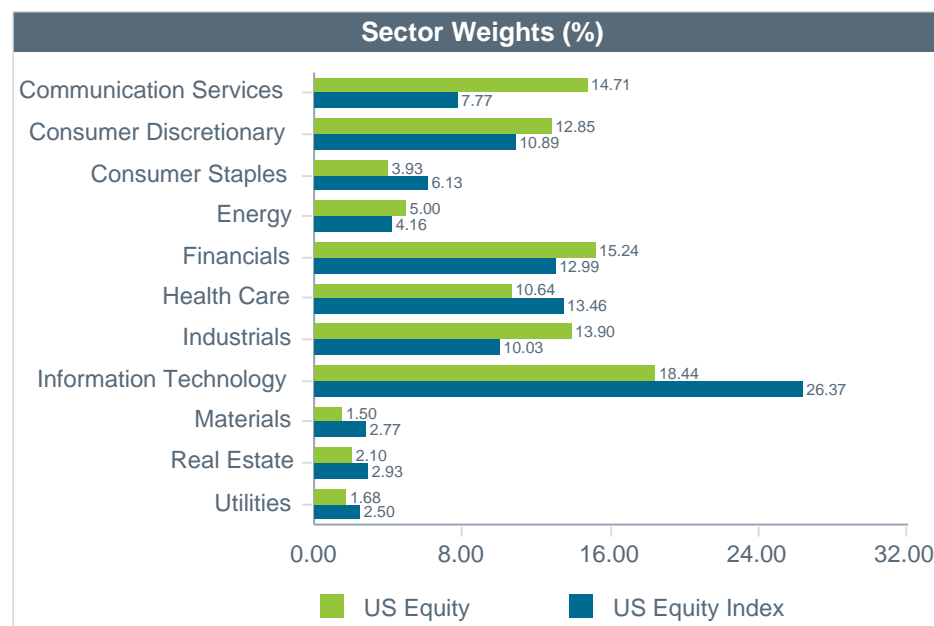
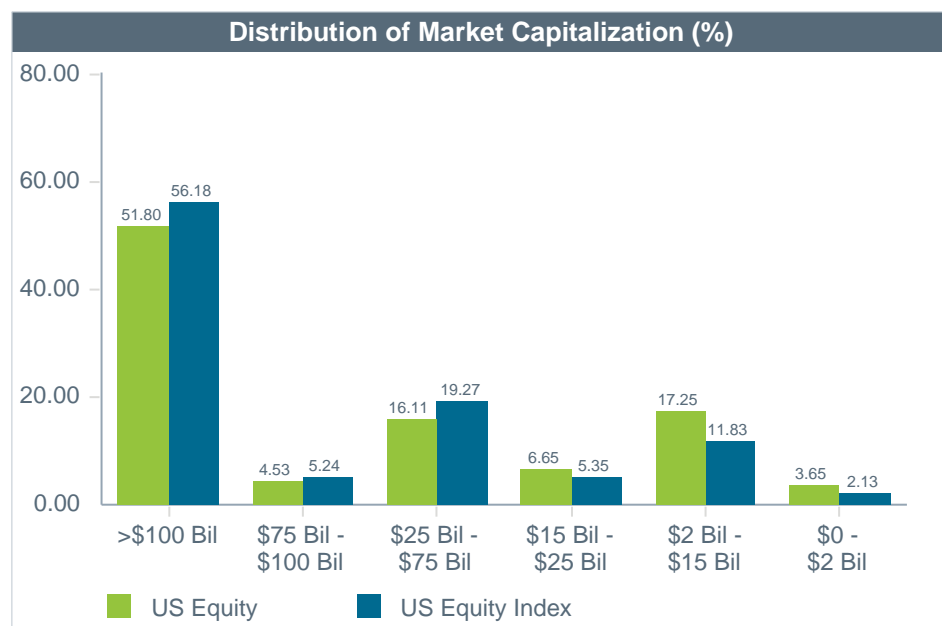
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

City of Jacksonville Employees' Retirement System
 US Equity vs. US Equity Index
 Portfolio Characteristics

As of June 30, 2023

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft Corp	4.08	5.83	-1.75	18.38
Meta Platforms Inc	3.87	1.46	2.41	35.41
Amazon.com Inc	3.59	2.70	0.89	26.21
Alphabet Inc	2.79	1.43	1.36	16.32
Netflix Inc	2.72	0.44	2.28	27.50
Conocophillips	2.63	0.29	2.34	5.59
Unitedhealth Group Inc	1.79	1.03	0.76	1.70
General Electric Co	1.78	0.27	1.51	14.91
NVIDIA Corporation	1.69	2.31	-0.62	52.31
Comcast Corp	1.45	0.40	1.05	10.44
% of Portfolio	26.39	16.16	10.23	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	382,403	580,225
Median Mkt. Cap (\$M)	11,017	1,973
Price/Earnings Ratio	18.88	21.97
Price/Book Ratio	3.60	4.24
5 Yr. EPS Growth Rate (%)	14.33	16.59
Current Yield (%)	1.51	1.53
Beta (5 Years, Monthly)	1.05	1.00
Number of Securities	1,151	3,010
Active Share	57.93	N/A



The Top Ten Domestic Equity Holdings included Visa Inc (2.01%), Apple Inc (1.76%), and Tesla Inc (1.48%) in Q1 2023 which was replaced by Conocophillips (2.63%), Unitedhealth Group Inc (1.79%), and Comcast Corp (1.45%) in Q2 2023.



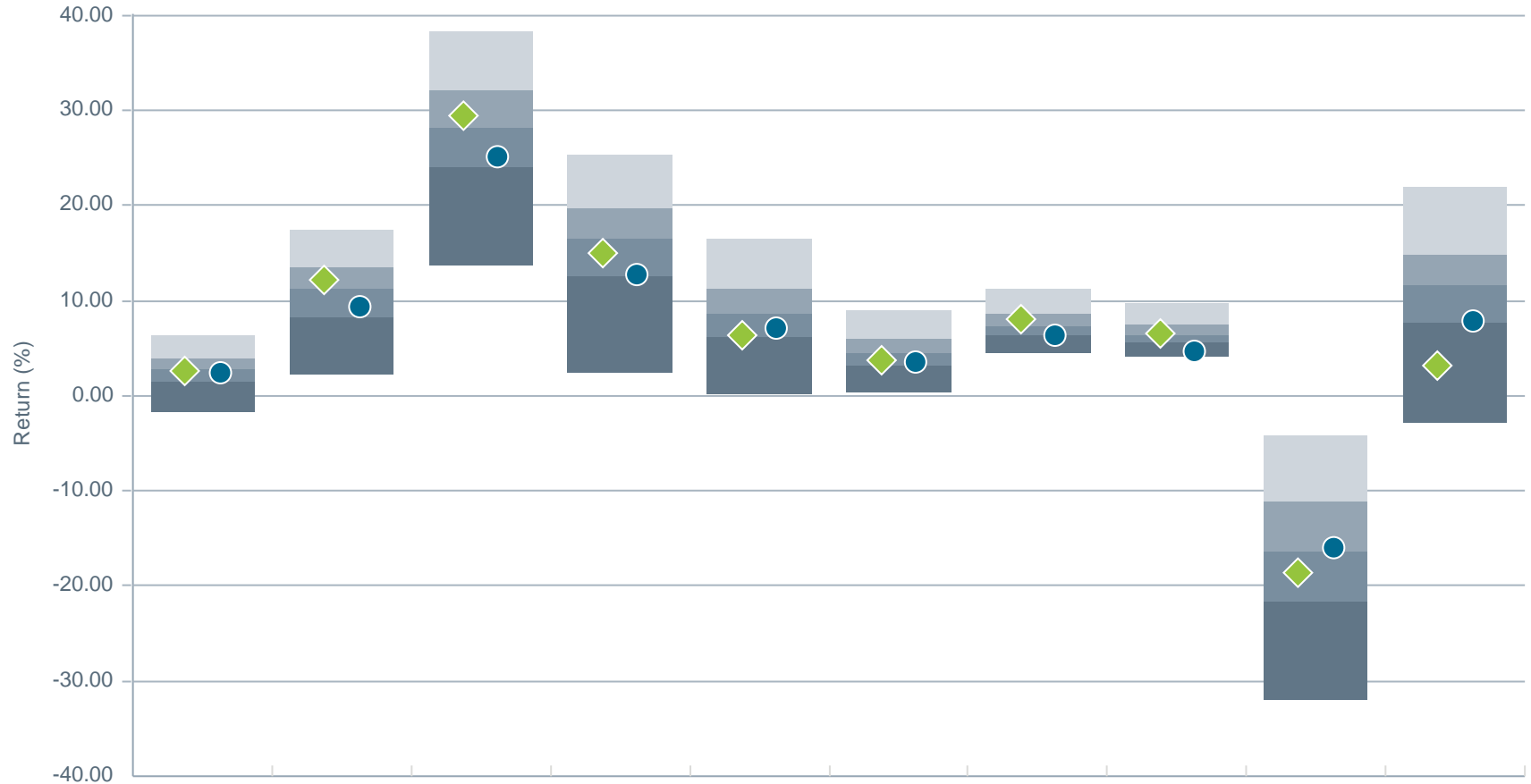
Style Map with History (12 Months)



Calculation is based on monthly periodicity. This is a return based calculation. Performance prior to manager inception date is backfilled with product specific returns.

City of Jacksonville Employees' Retirement System
 International Equity vs. IM International Equity (SA+CF)
 Peer Group Analysis

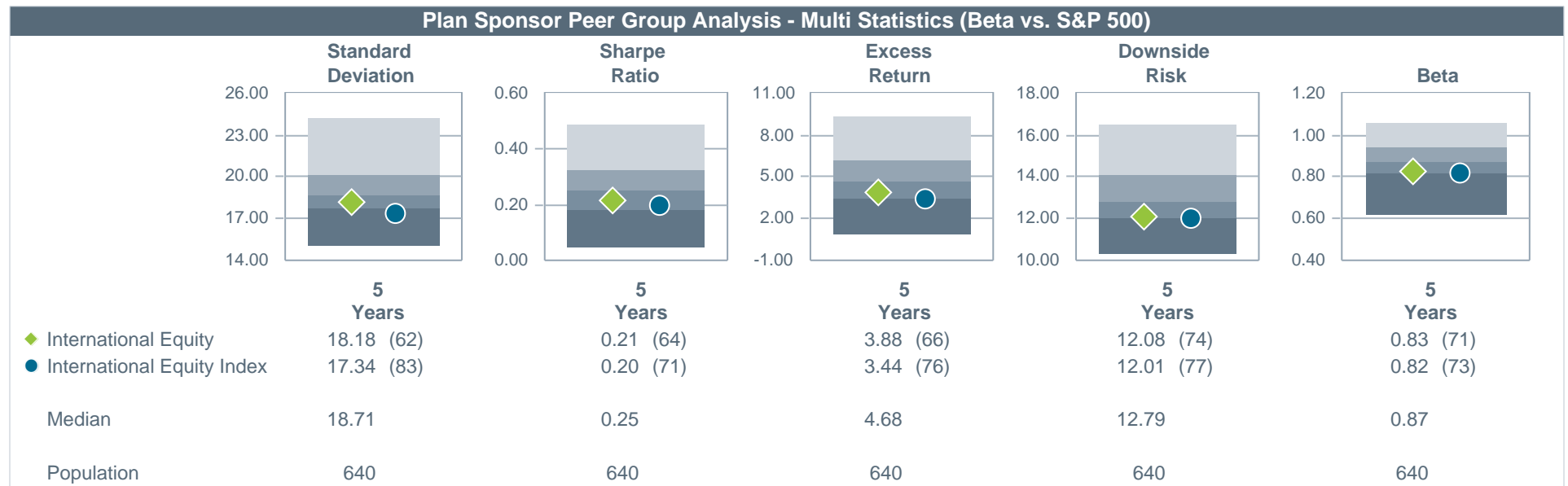
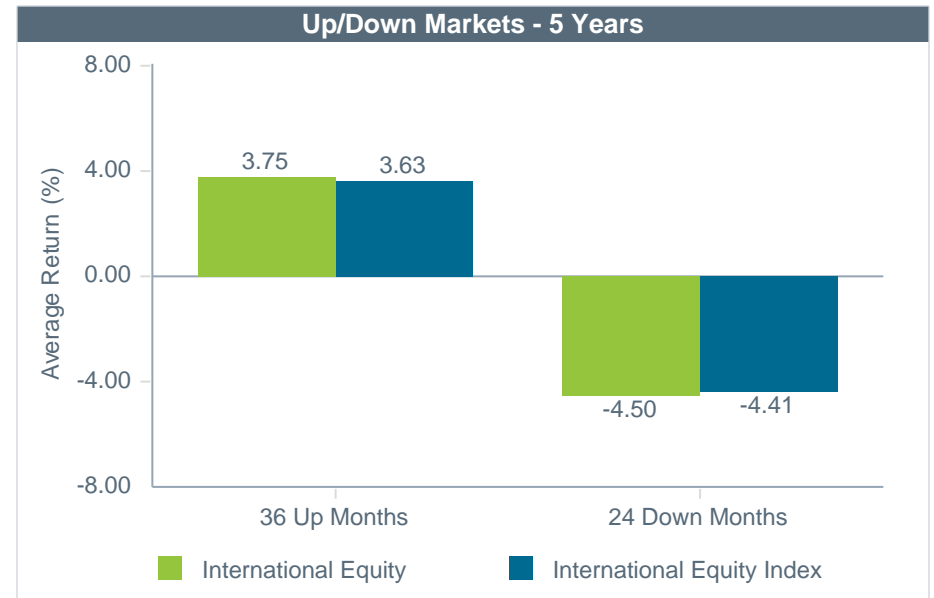
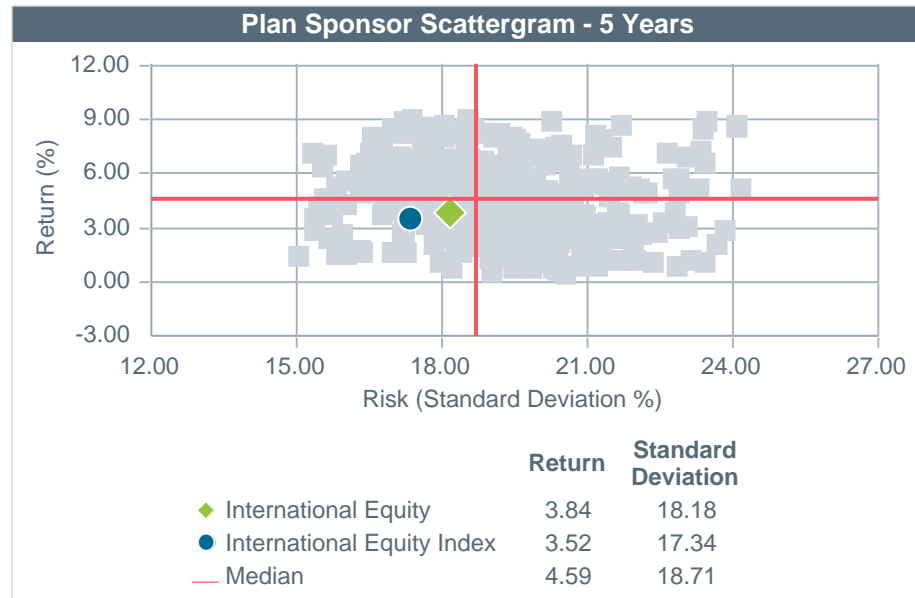
As of June 30, 2023



	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021
◆ International Equity	2.64 (56)	12.17 (40)	29.44 (44)	15.11 (59)	6.42 (74)	3.84 (63)	8.01 (38)	6.63 (45)	-18.57 (63)	3.25 (88)
● International Equity Index	2.44 (61)	9.47 (67)	25.11 (70)	12.72 (74)	7.22 (68)	3.52 (71)	6.32 (75)	4.75 (91)	-16.00 (48)	7.82 (75)
5th Percentile	6.36	17.46	38.28	25.38	16.52	9.04	11.32	9.81	-4.08	22.06
1st Quartile	3.95	13.58	32.12	19.81	11.20	5.99	8.72	7.50	-11.12	14.83
Median	2.89	11.18	28.18	16.48	8.66	4.59	7.39	6.35	-16.30	11.60
3rd Quartile	1.45	8.23	23.95	12.51	6.18	3.17	6.31	5.62	-21.59	7.68
95th Percentile	-1.64	2.21	13.71	2.44	0.18	0.41	4.52	4.15	-31.84	-2.85
Population	693	692	689	688	667	640	597	523	733	764

Performance shown is gross of fees. Parentheses contain percentile ranks. Fiscal year for the COJ ends 09/30.





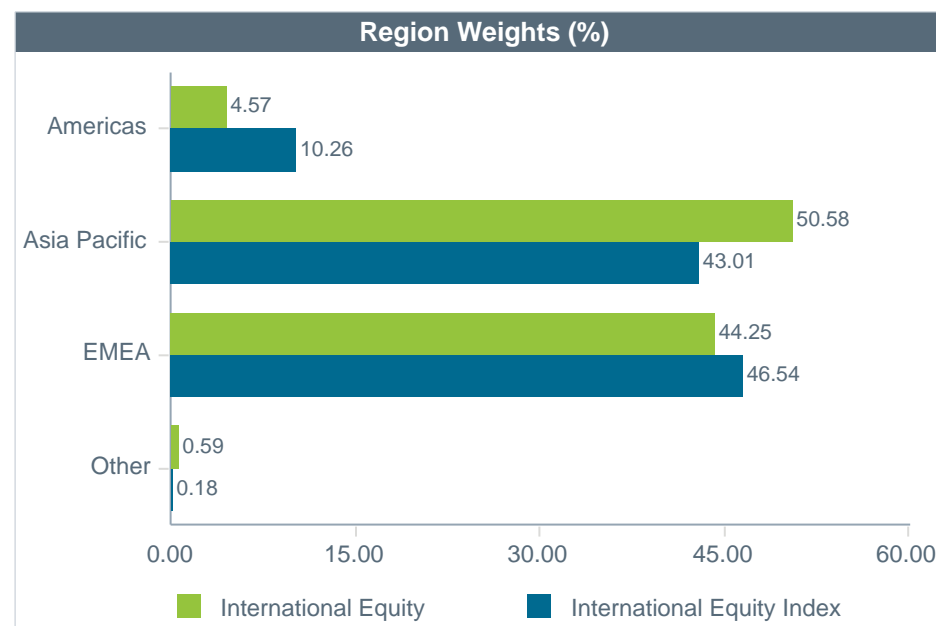
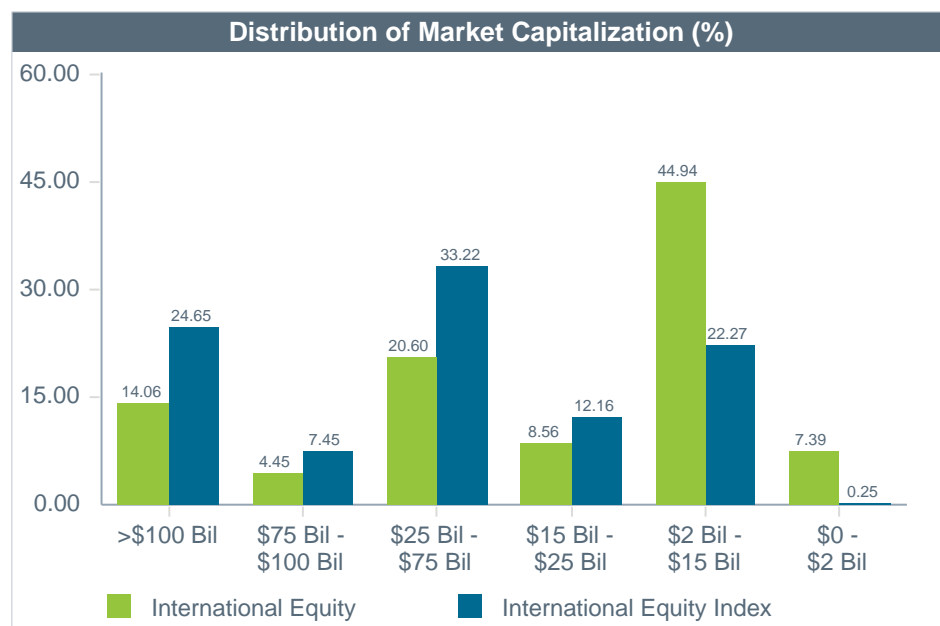
Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

City of Jacksonville Employees' Retirement System
International Equity vs. International Equity Index
Portfolio Characteristics

As of June 30, 2023

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
ASML Holding NV	2.15	1.21	0.94	7.31
Taiwan Semiconductor Mfg	1.95	1.89	0.06	5.65
Honda Motor Co Ltd	1.79	0.19	1.60	13.88
MercadoLibre Inc	1.71	0.00	1.71	-10.13
Adyen N.V	1.62	0.16	1.46	9.13
Ferrari NV	1.53	0.17	1.36	21.50
Sanofi	1.46	0.50	0.96	2.09
Spotify Technology S.A	1.30	0.00	1.30	20.15
Kering	1.28	0.17	1.11	-13.35
Bayerische Motoren Werke AG	1.26	0.17	1.09	21.51
% of Portfolio	16.05	4.46	11.59	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	70,527	87,907
Median Mkt. Cap (\$M)	1,364	9,035
Price/Earnings Ratio	12.14	13.13
Price/Book Ratio	2.47	2.42
5 Yr. EPS Growth Rate (%)	9.35	10.67
Current Yield (%)	3.67	3.26
Beta (5 Years, Monthly)	1.03	1.00
Number of Securities	974	2,308
Active Share	83.24	N/A



The Top Ten International Equity Holdings included Tesco PLC (1.39%) and Novartis AG (1.35%) in Q1 2023 which was replaced by Spotify Technology S.A (1.30%) and Bayerische Motoren Werke AG (1.26%) in Q2 2023.

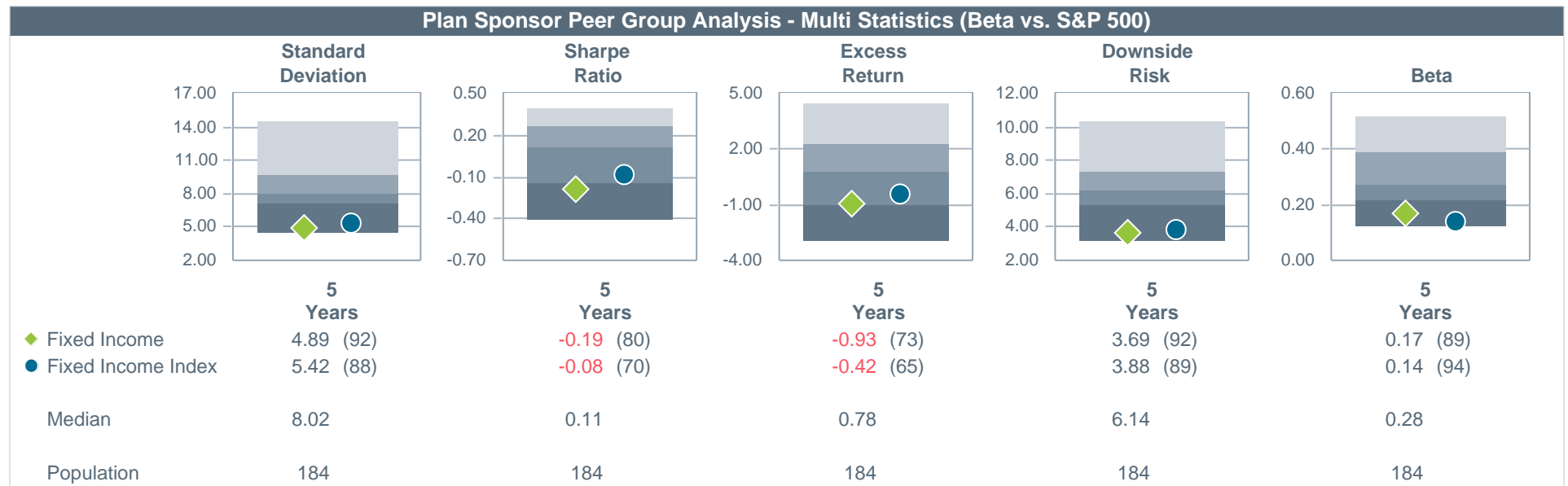
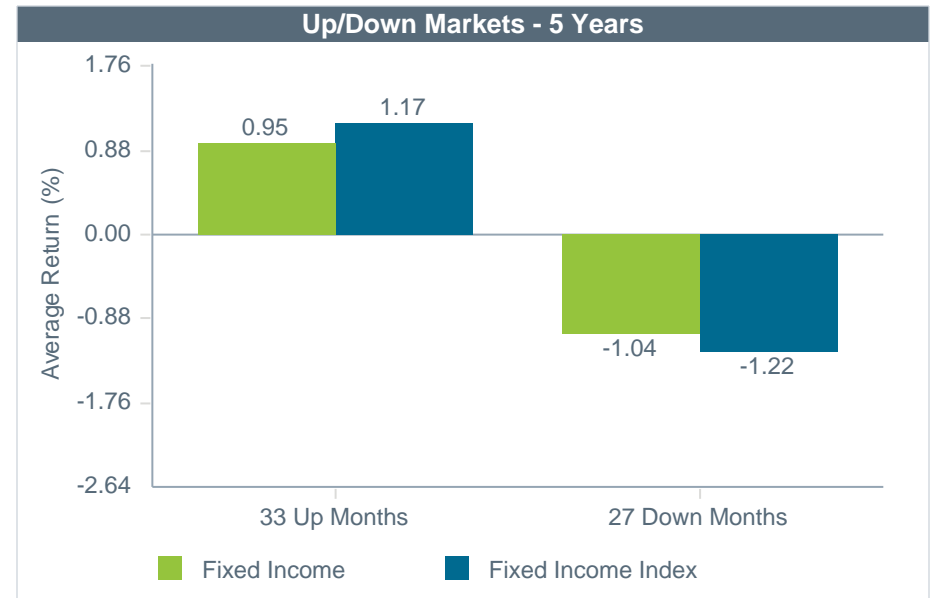
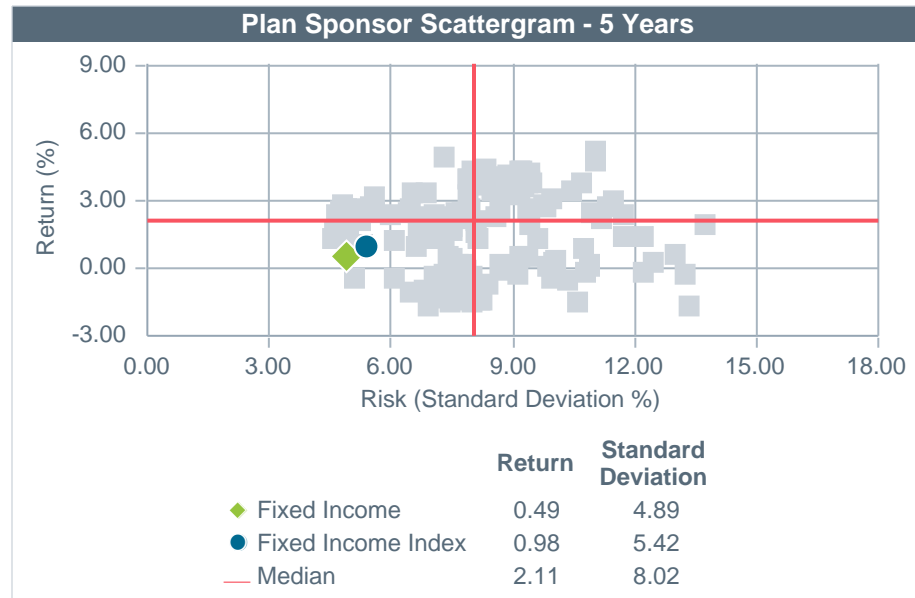
City of Jacksonville Employees' Retirement System
 Fixed Income vs. IM Global Fixed Income (SA+CF)
 Peer Group Analysis

As of June 30, 2023



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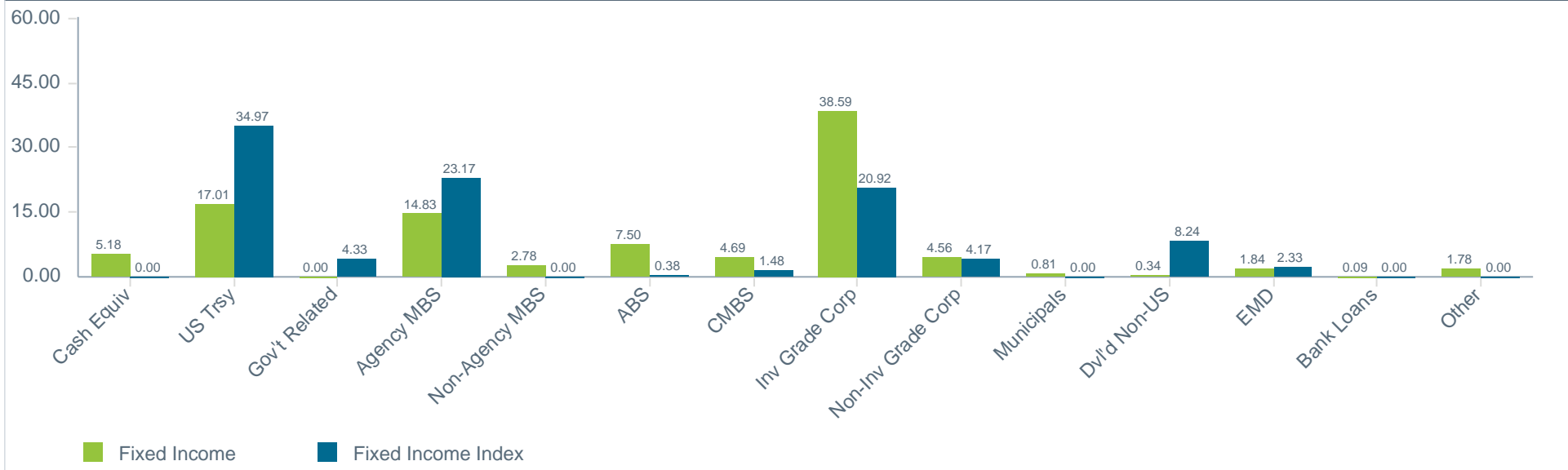


Performance shown is gross of fees. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	6.33	6.06
Avg. Maturity	7.67	8.37
Avg. Quality	A2	N/A
Yield To Maturity (%)	N/A	5.19
Coupon Rate (%)	3.29	3.14
Current Yield (%)	N/A	N/A

Sector Distribution (%)

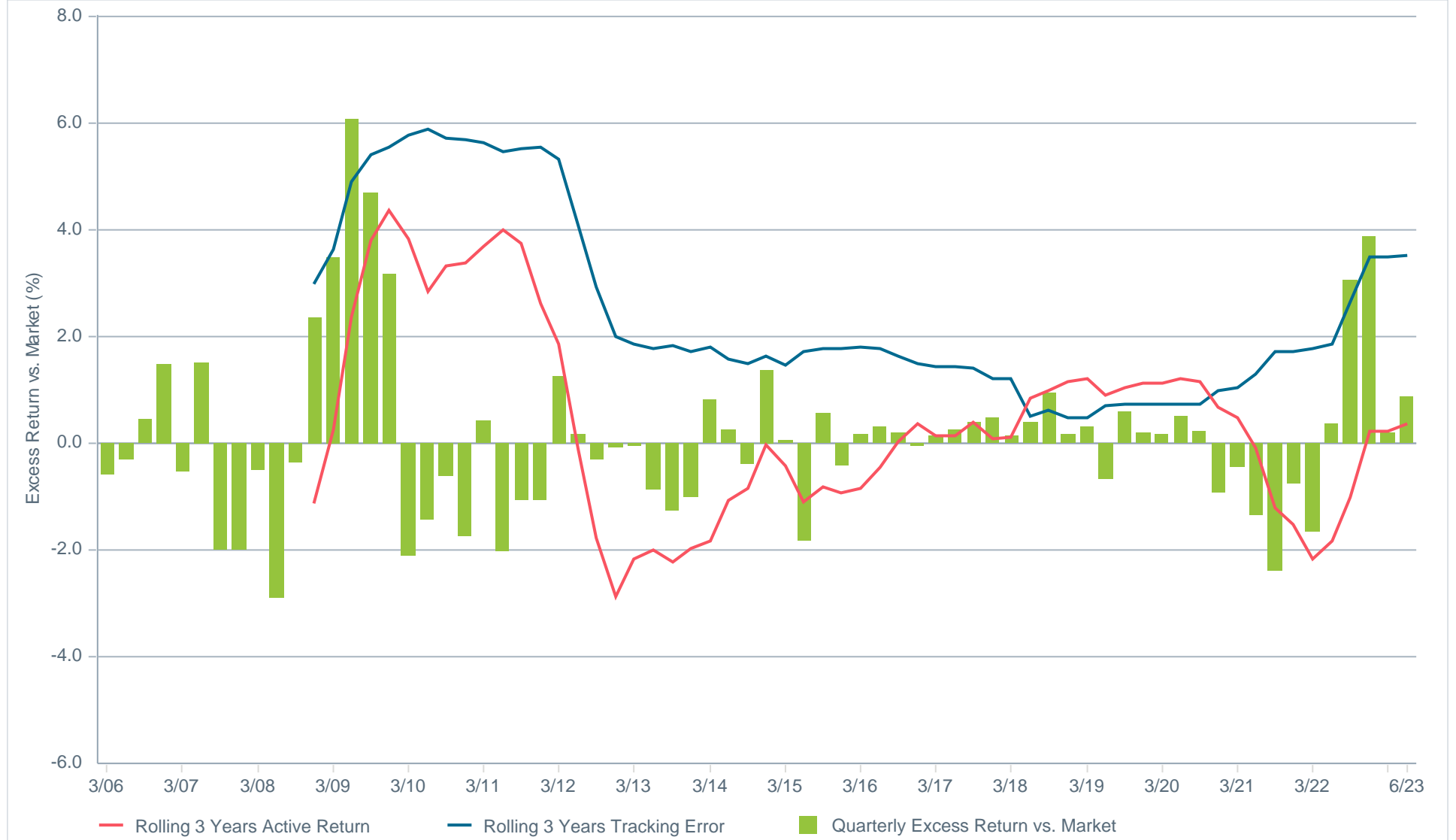


Cash equivalents are defined as any security with duration under one year. Allocation to Other consists of convertibles, preferred securities, and hedge funds.

City of Jacksonville Employees' Retirement System
 Real Estate vs. Real Estate Index
 Comparative Performance & Rolling Return

As of June 30, 2023

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	Since Incep.	Inception Date
Real Estate	-2.00	-5.09	-6.29	-3.13	7.59	6.35	6.88	8.23	12.96	15.43	0.31	6.41	12/01/2005
Real Estate Index	-2.86	-6.13	-10.97	-10.69	7.06	5.57	6.03	7.78	6.57	21.02	0.34	6.06	
Difference	0.86	1.04	4.68	7.56	0.53	0.78	0.85	0.45	6.39	-5.59	-0.03	0.35	



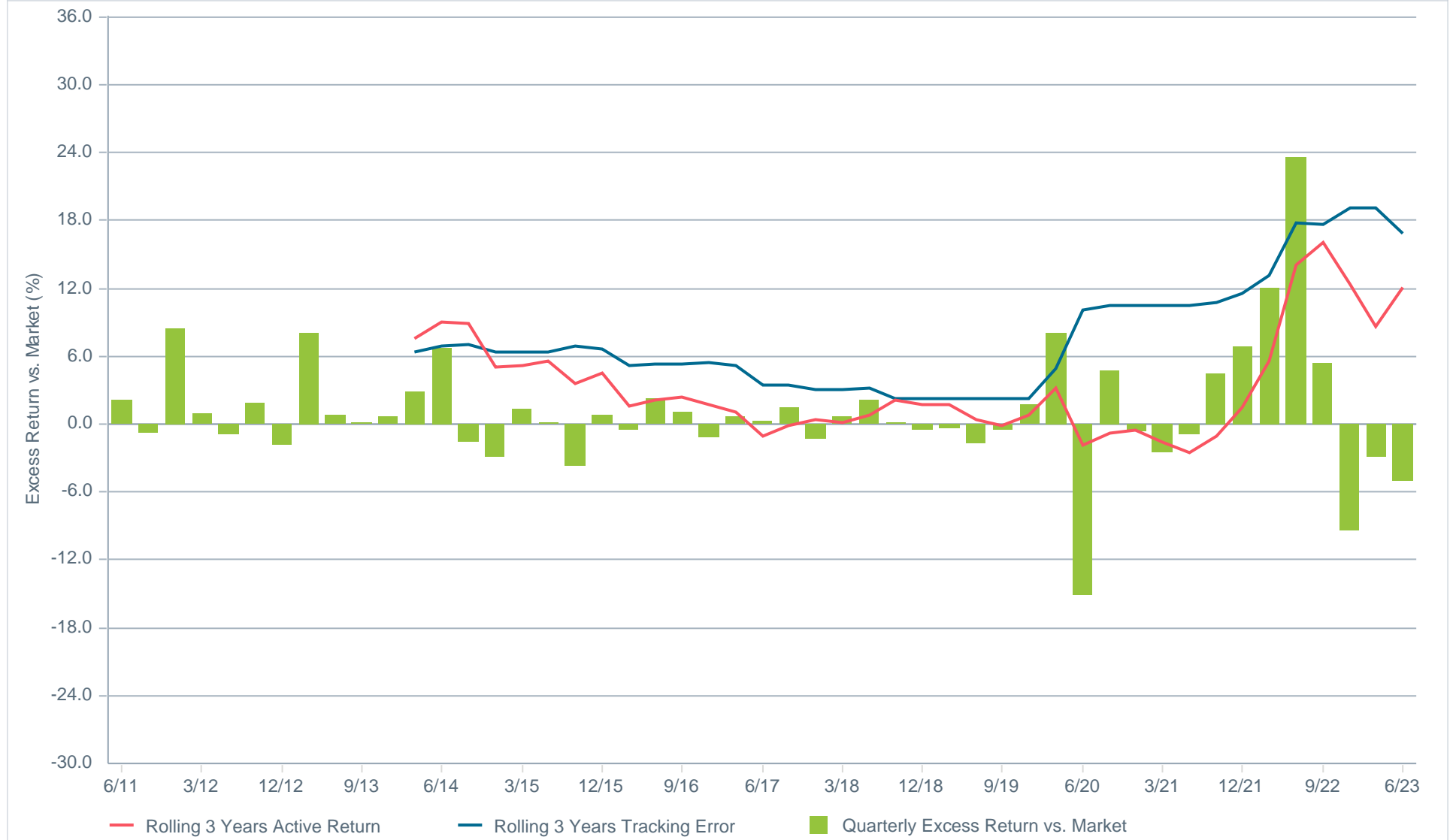
Performance shown is gross of fees. Calculation is based on quarterly periodicity.



City of Jacksonville Employees' Retirement System
 Diversifying Assets vs. Diversifying Assets Index
 Comparative Performance & Rolling Return

As of June 30, 2023

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	Since Incep.	Inception Date
Diversifying Assets	1.32	5.00	3.64	5.10	27.04	9.70	8.12	6.59	22.92	47.46	-14.35	8.76	03/01/2011
Diversifying Assets Index	6.37	13.35	22.51	17.54	12.46	2.22	2.29	2.08	-10.53	36.38	-18.40	3.57	
Difference	-5.05	-8.35	-18.87	-12.44	14.58	7.48	5.83	4.51	33.45	11.08	4.05	5.19	



Performance shown is gross of fees. Calculation is based on quarterly periodicity.



City of Jacksonville Employees' Retirement System
Alternative Investment Real Estate Fund Performance Listing

As of March 31, 2023

Fund Name	Vintage	Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
H.I.G. Realty Partners IV (Onshore) LP	2021	Real Estate - Opportunistic	25,000,000	16,247,314	3,743,508	16,507,922	60.12	N/A	-6.82	1.25
Abacus Multi-Family Partners VI LP	2022	Real Estate - Value Added	20,000,000	1,232,301	0	673,277	N/M	N/A	N/M	0.55
Bell Value-Add VIII LP	2022	Real Estate - Value Added	20,000,000	124,906	0	26,251	N/M	N/A	N/M	0.21
Hammes Partners IV LP	2022	Real Estate - Value Added	15,000,000	0	0	-76,232	N/M	N/A	N/M	
			80,000,000	17,604,521	3,743,508	17,131,218	45.83		-7.32	1.19

Certain valuations (marked with a **) are preliminary estimates of valuation as of the date of reporting and reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Index IRR represents the dollar-weighted returns calculated using the NCREIF ODCE Index (AWA) (Net) (Monthly)+2% assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Preqin.



City of Jacksonville Employees' Retirement System
 Alternative Investment Private Equity Fund Performance Listing

As of March 31, 2023

Fund Name	Vintage	Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
ASP COJ PE Fund LP	2020	Private Equity - Fund of Funds	105,000,000	45,552,892	5,564,720	54,539,632	25.81	N/A	8.57	1.32
			105,000,000	45,552,892	5,564,720	54,539,632	25.81		8.57	1.32

Certain valuations (marked with a **) are preliminary estimates of valuation as of the date of reporting and reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (CW)+3% assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Preqin.



City of Jacksonville Employees' Retirement System
 Alternative Investment Private Credit Fund Performance Listing

As of March 31, 2023

Fund Name	Vintage	Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
Hamilton Lane Private Credit (SA)	2021	Private Credit - Direct Investment	250,000,000	38,271,240	4,730,299	36,335,951	8.45	N/A	1.34	1.07
			250,000,000	38,271,240	4,730,299	36,335,951	8.45		1.34	1.07

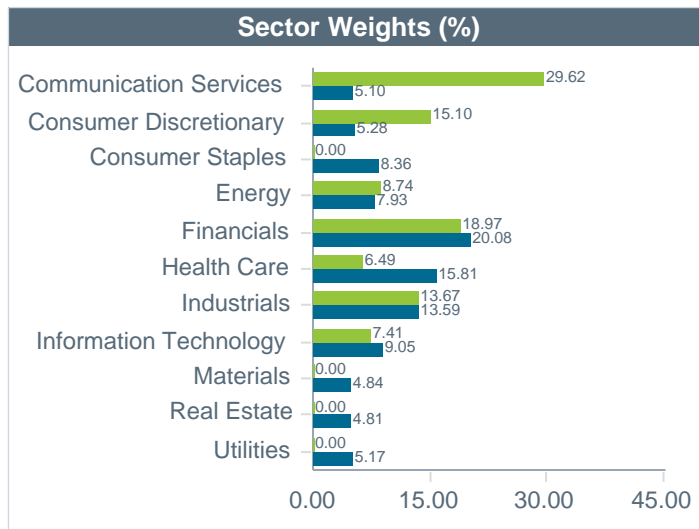
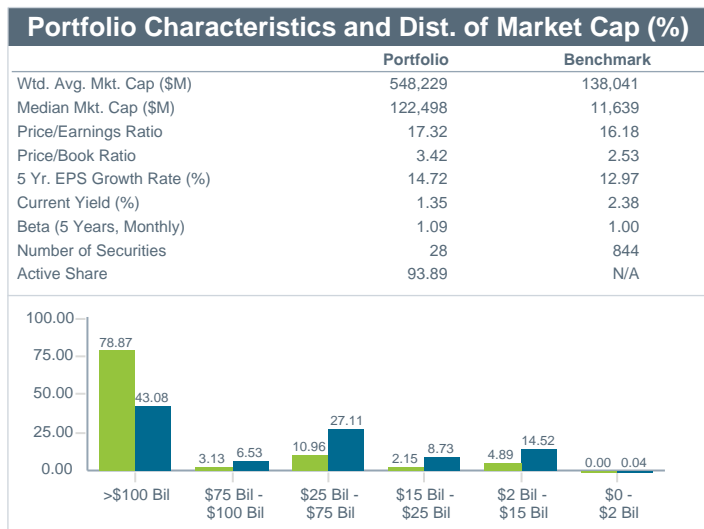
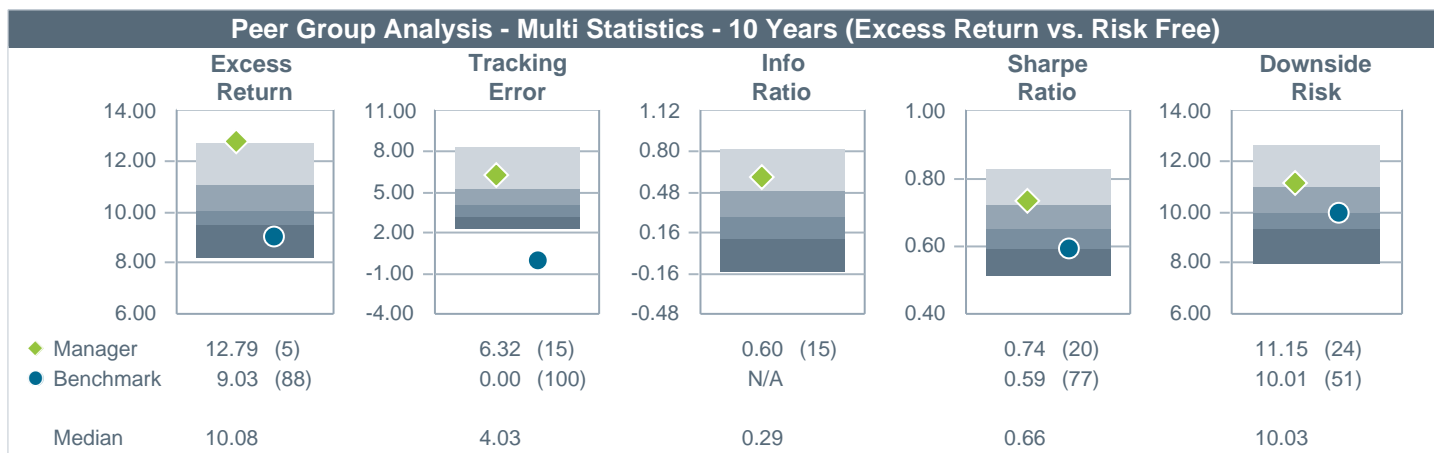
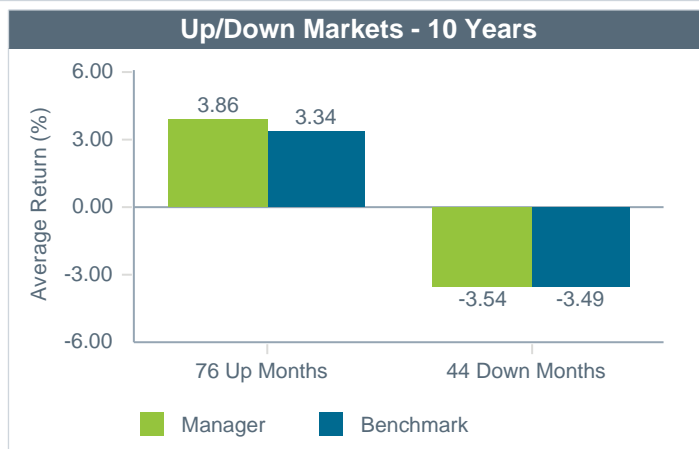
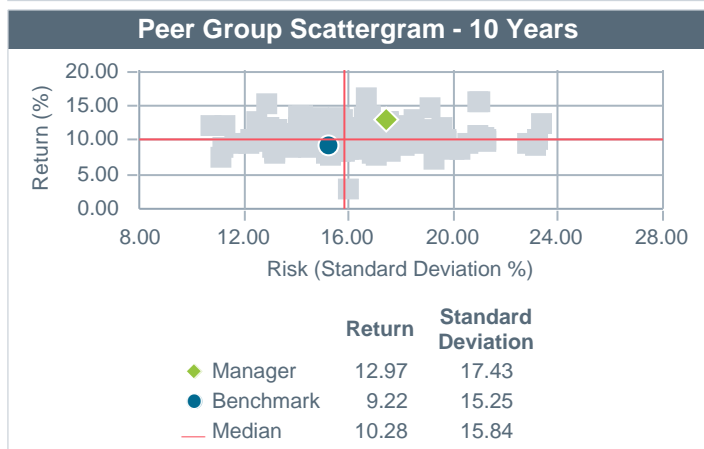
Certain valuations (marked with a **) are preliminary estimates of valuation as of the date of reporting and reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Index IRR represents the dollar-weighted returns calculated using the ICE BofAML Global High Yield Index +2% assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Preqin.



Investment Manager Profiles



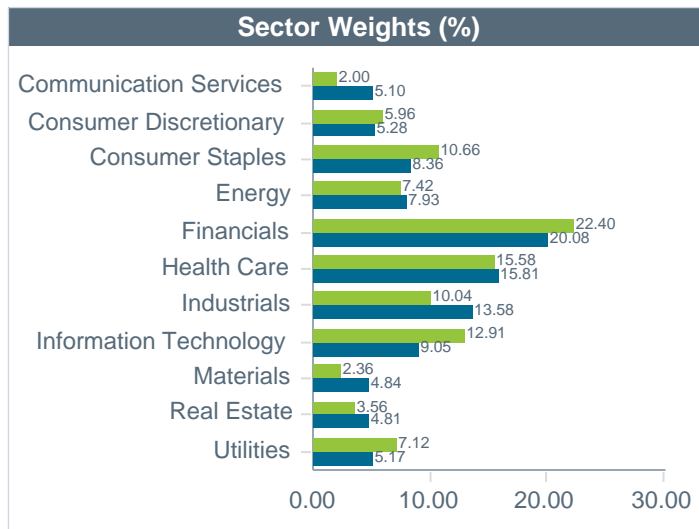
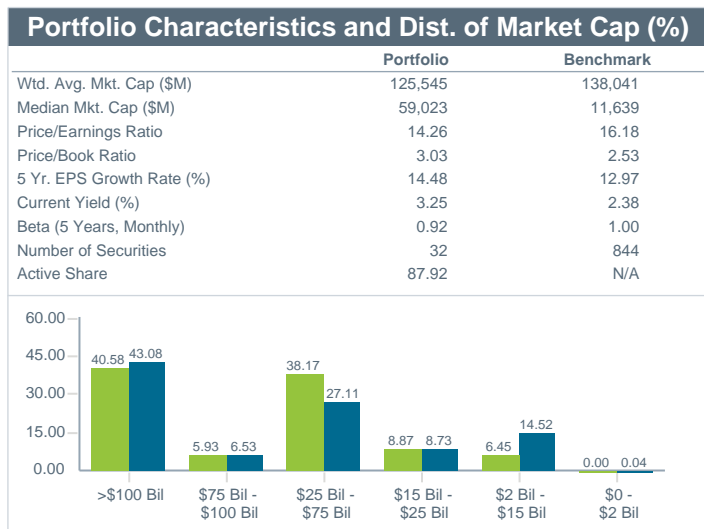
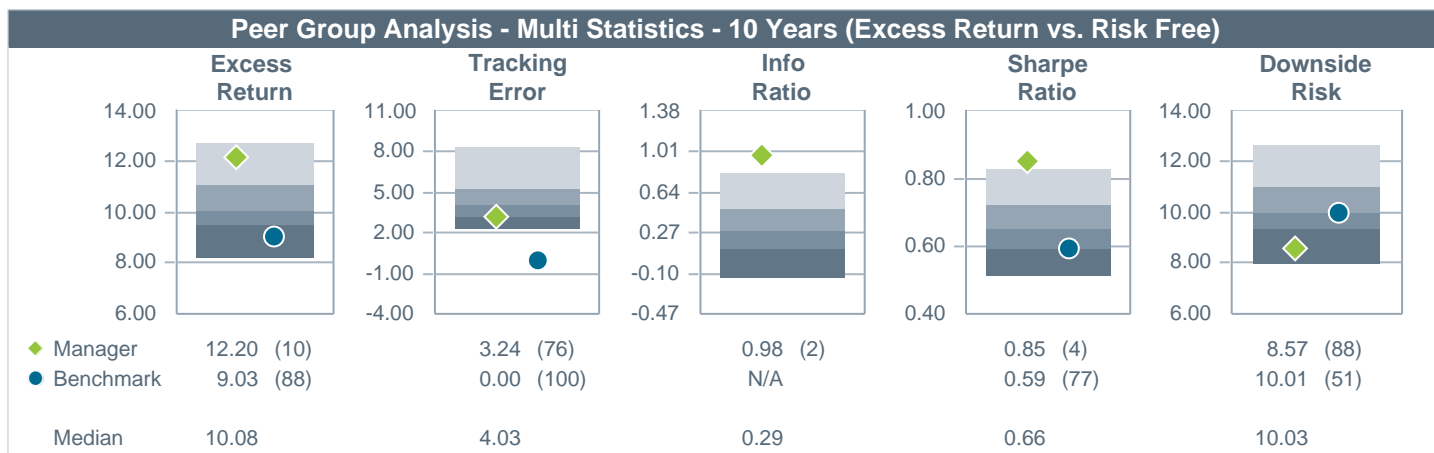
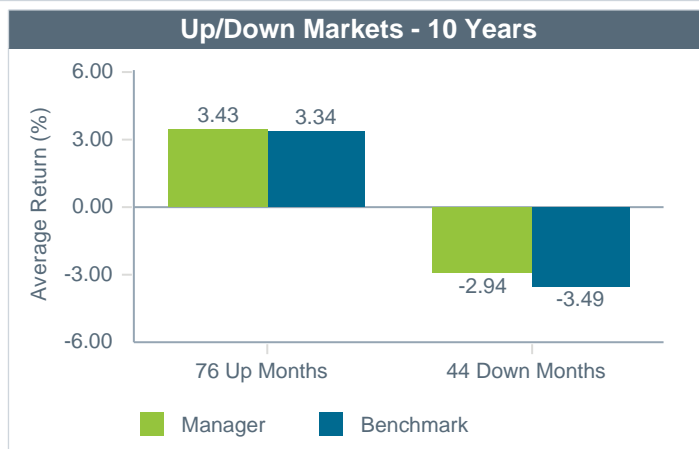
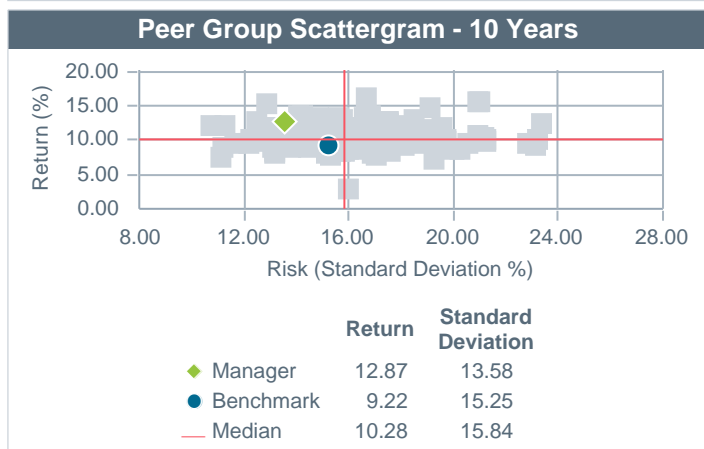
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	11.65	29.76	16.03	11.31	13.98	12.97	-23.92	28.01	15.54	31.94	-3.90
Benchmark	4.07	11.54	14.30	8.11	8.94	9.22	-7.54	25.16	2.80	26.54	-8.27
Difference	7.58	18.22	1.73	3.20	5.04	3.75	-16.38	2.85	12.74	5.40	4.37
Peer Group Median	4.31	12.65	15.73	9.43	10.78	10.28	-5.41	27.92	4.44	27.50	-8.39
Rank	1	2	47	22	9	7	98	50	12	14	16
Population	233	233	226	221	215	206	245	261	277	301	315



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



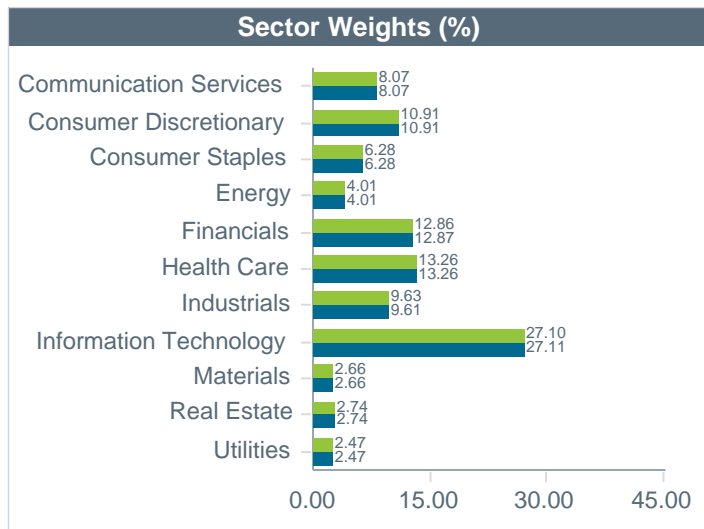
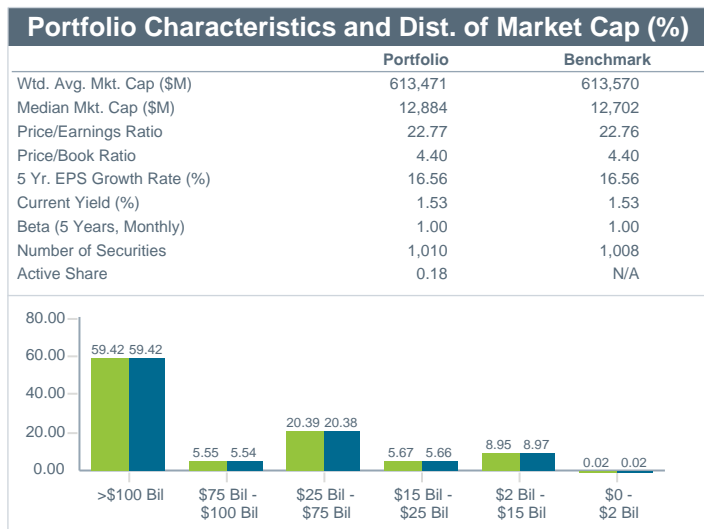
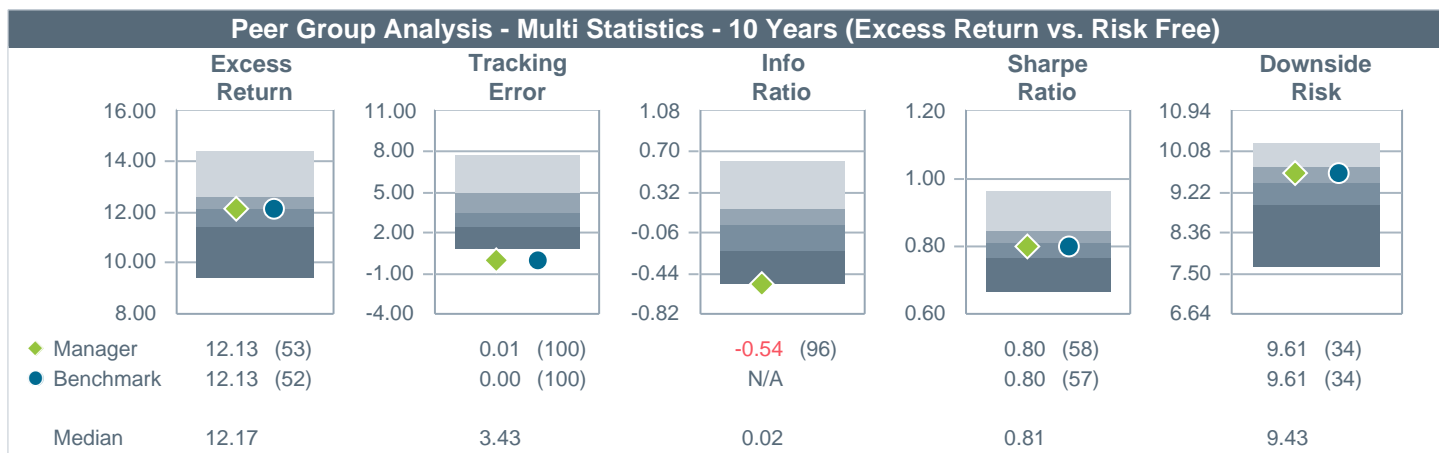
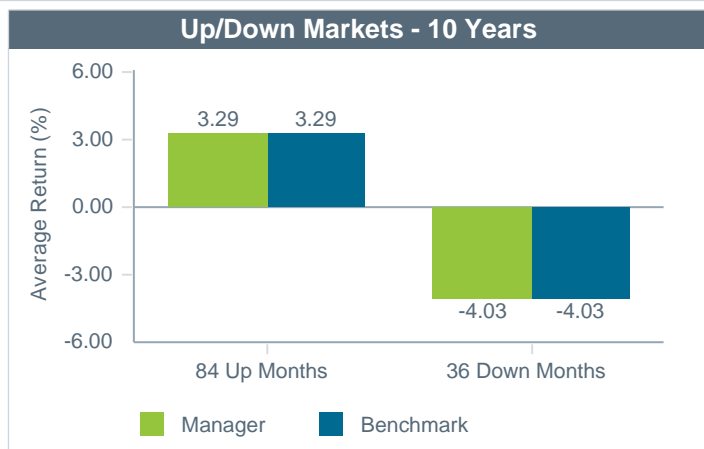
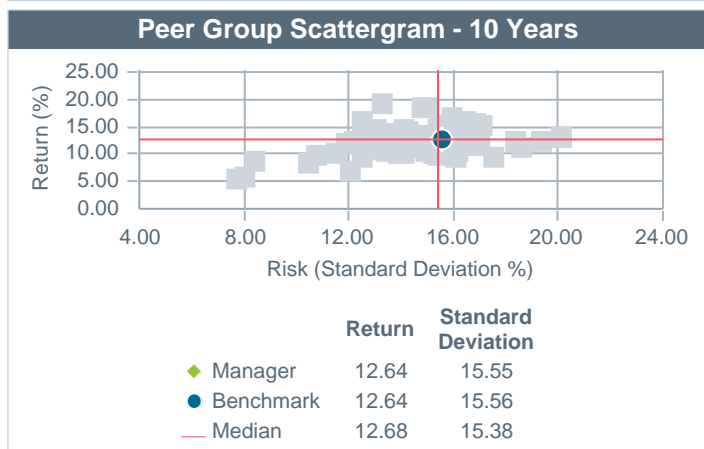
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	4.18	13.50	20.11	13.82	13.65	12.87	4.15	30.58	10.07	31.19	-6.42
Benchmark	4.07	11.54	14.30	8.11	8.94	9.22	-7.54	25.16	2.80	26.54	-8.27
Difference	0.11	1.96	5.81	5.71	4.71	3.65	11.69	5.42	7.27	4.65	1.85
Peer Group Median	4.31	12.65	15.73	9.43	10.78	10.28	-5.41	27.92	4.44	27.50	-8.39
Rank	53	43	12	6	11	7	6	24	28	18	31
Population	233	233	226	221	215	206	245	261	277	301	315



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



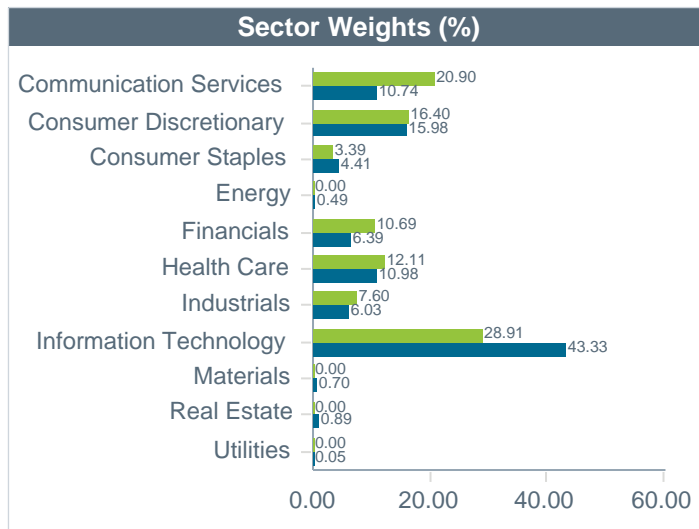
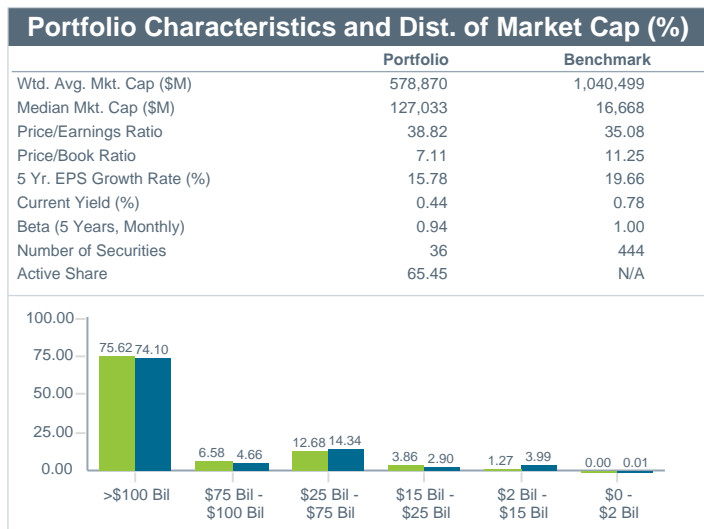
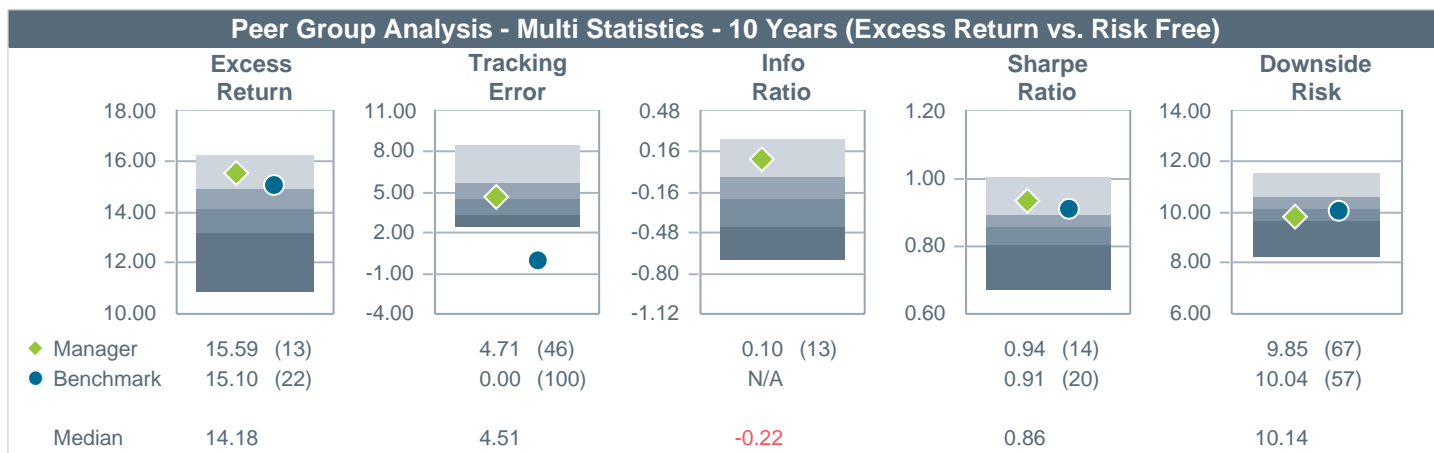
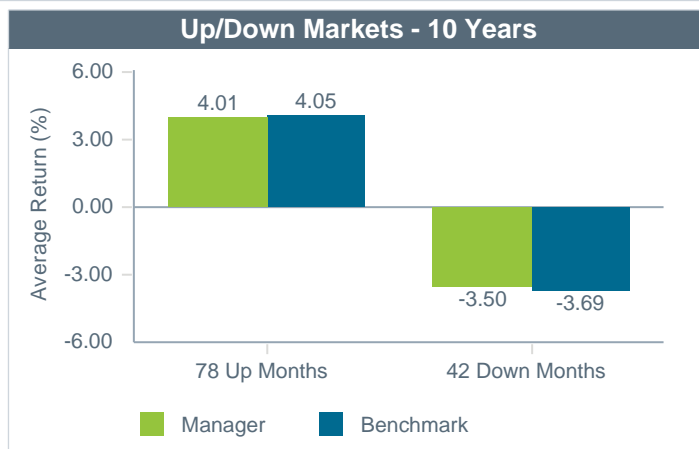
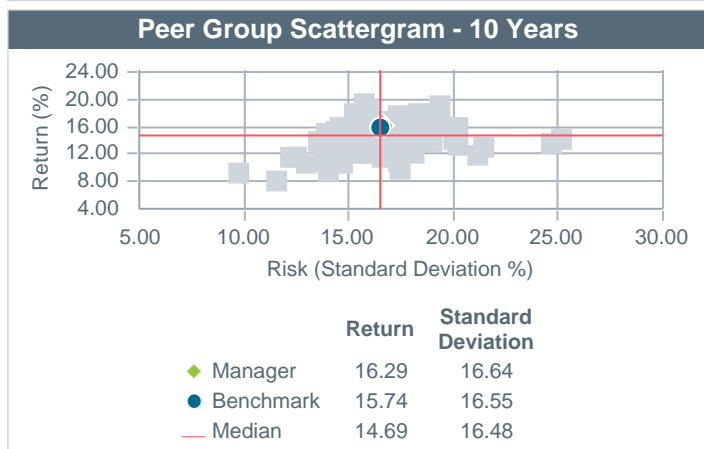
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	8.58	19.35	14.08	11.91	13.14	12.64	-19.14	26.46	20.91	31.42	-4.77
Benchmark	8.58	19.36	14.09	11.92	13.15	12.64	-19.13	26.45	20.96	31.43	-4.78
Difference	0.00	-0.01	-0.01	-0.01	-0.01	0.00	-0.01	0.01	-0.05	-0.01	0.01
Peer Group Median	7.75	18.00	14.08	11.58	13.03	12.68	-16.49	27.75	17.54	30.06	-5.05
Rank	34	35	50	45	46	52	75	60	30	35	46
Population	201	201	192	186	180	161	210	216	233	259	280



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

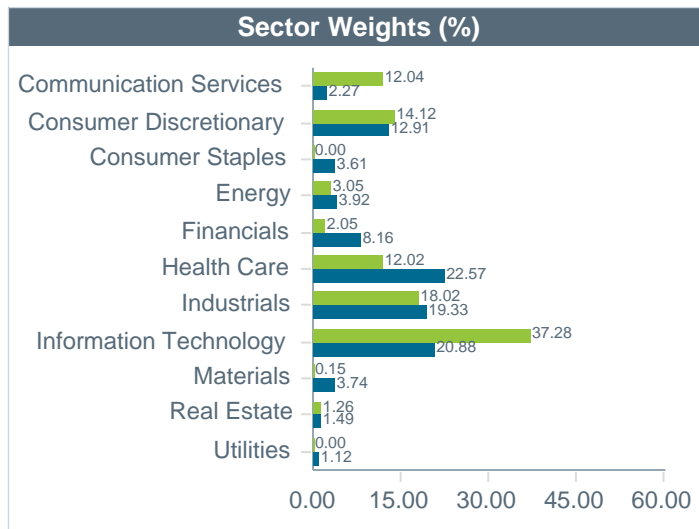
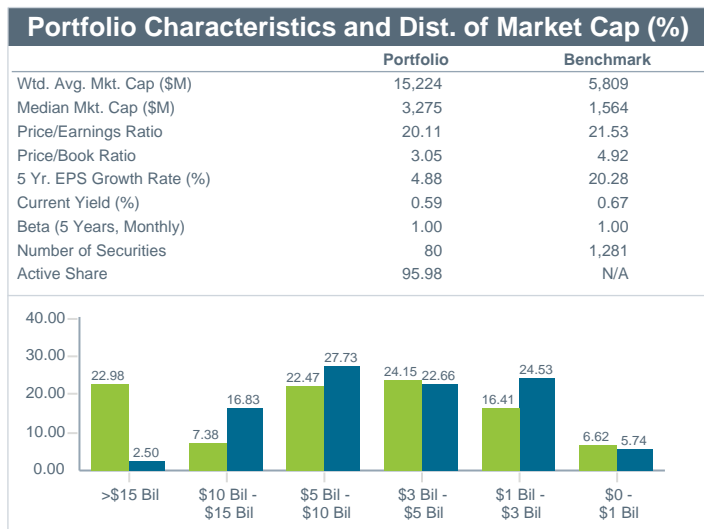
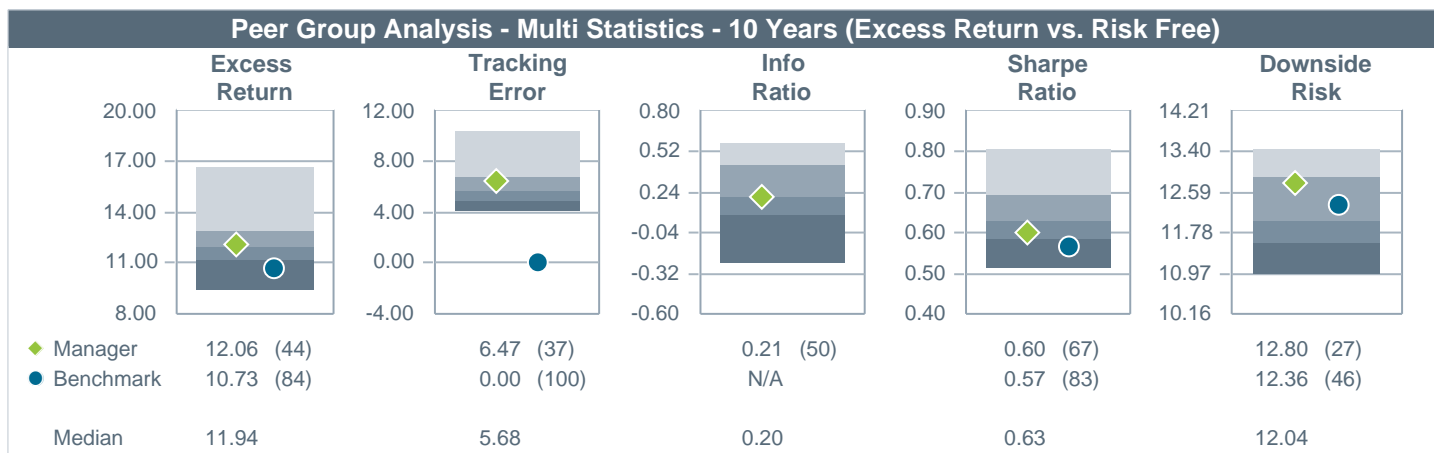
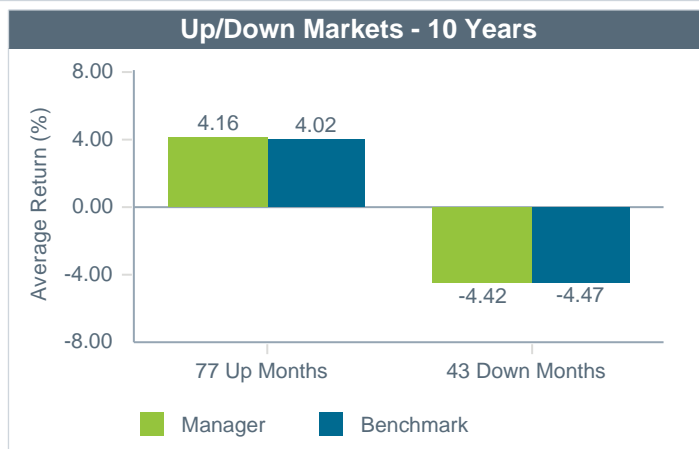
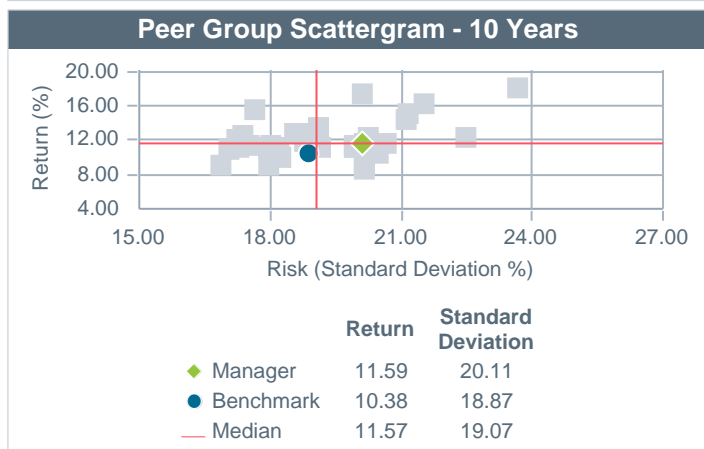


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	13.79	41.08	13.23	15.02	16.45	16.29	-27.15	19.45	32.95	32.71	-1.72
Benchmark	12.81	27.11	13.73	15.14	16.91	15.74	-29.14	27.60	38.49	36.39	-1.51
Difference	0.98	13.97	-0.50	-0.12	-0.46	0.55	1.99	-8.15	-5.54	-3.68	-0.21
Peer Group Median	11.73	25.32	11.74	13.23	15.39	14.69	-29.22	24.95	35.40	33.98	-0.53
Rank	23	1	31	20	29	10	39	81	63	63	59
Population	200	200	196	194	181	173	209	213	225	238	253



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

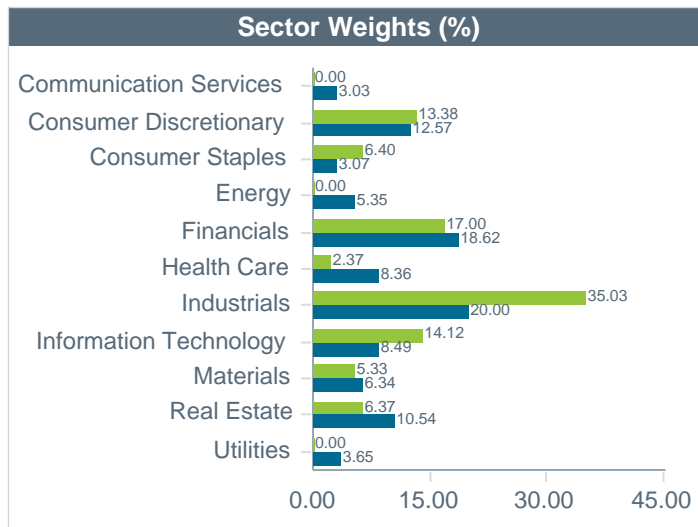
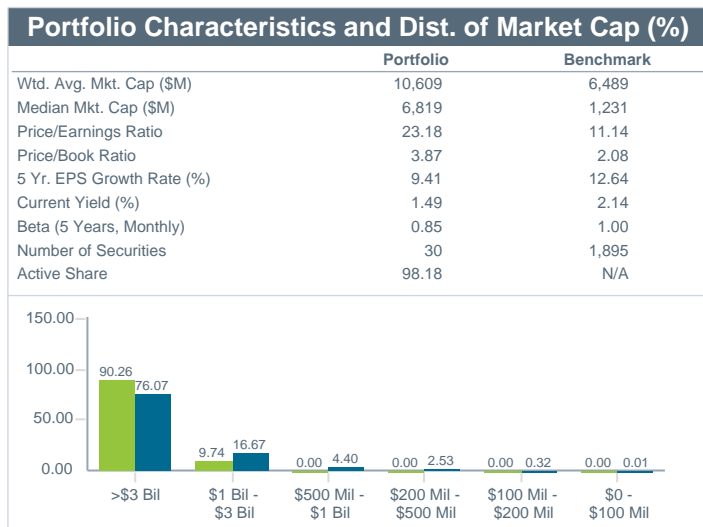
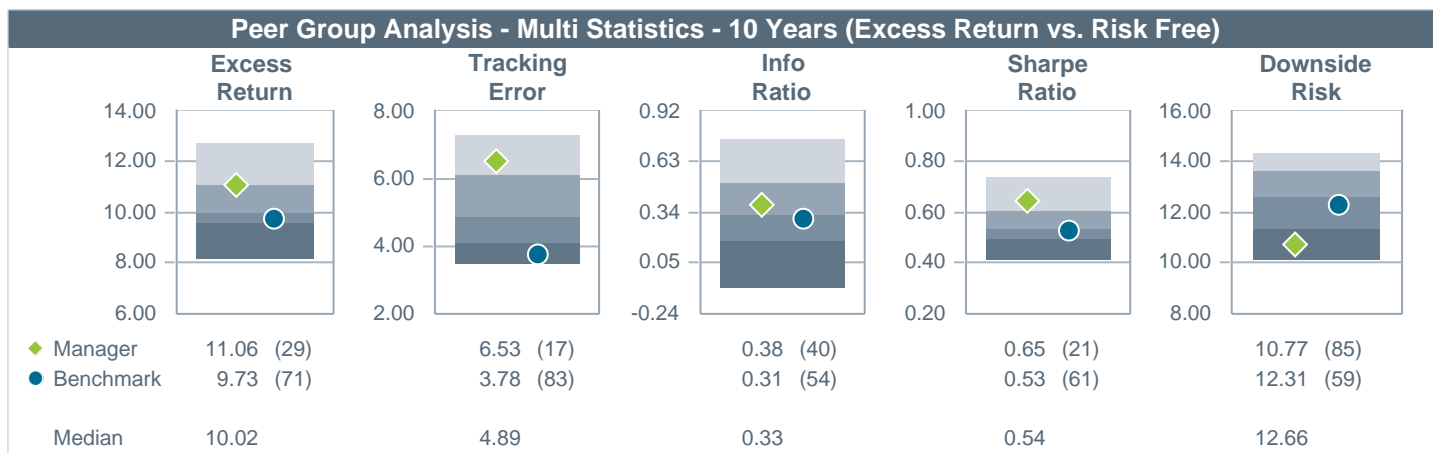
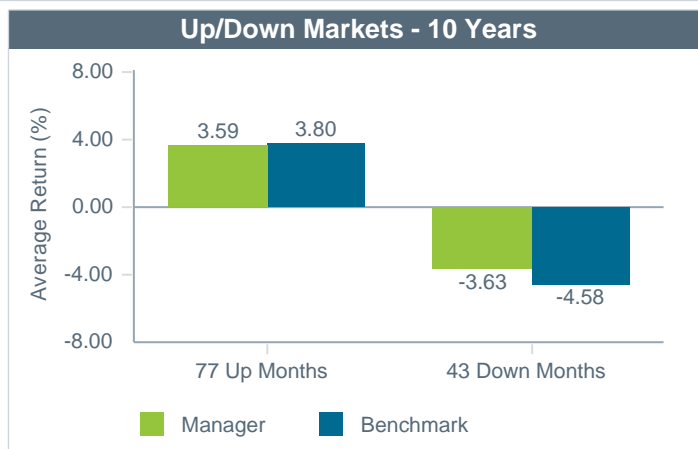
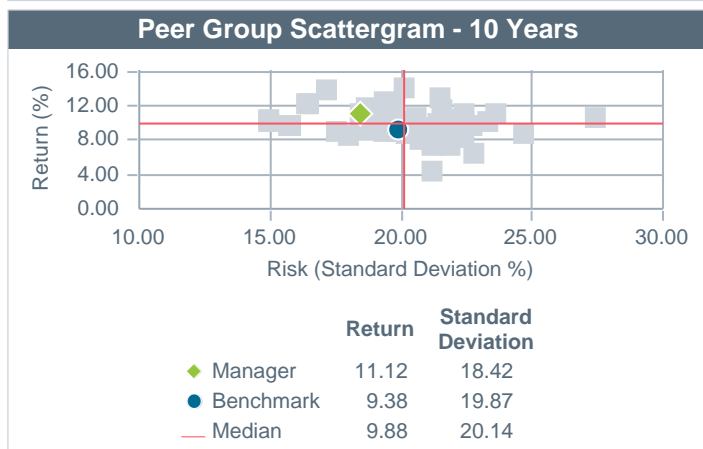
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	7.36	18.26	11.60	10.52	13.51	11.59	-23.95	12.71	33.32	41.57	-10.36
Benchmark	6.41	18.58	6.56	7.00	10.95	10.38	-26.21	5.04	40.47	32.65	-7.47
Difference	0.95	-0.32	5.04	3.52	2.56	1.21	2.26	7.67	-7.15	8.92	-2.89
Peer Group Median	5.36	18.02	8.26	9.57	13.00	11.57	-27.79	13.29	47.90	32.16	-3.57
Rank	20	48	27	33	45	50	33	54	79	3	89
Population	58	58	55	47	43	34	58	60	59	56	57



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



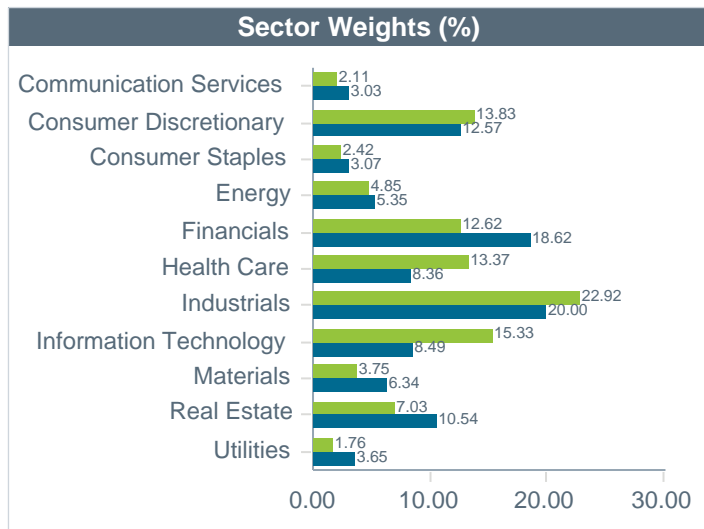
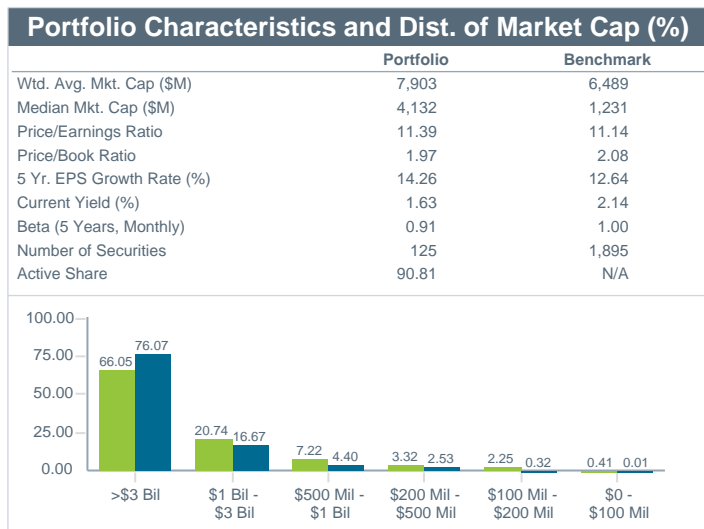
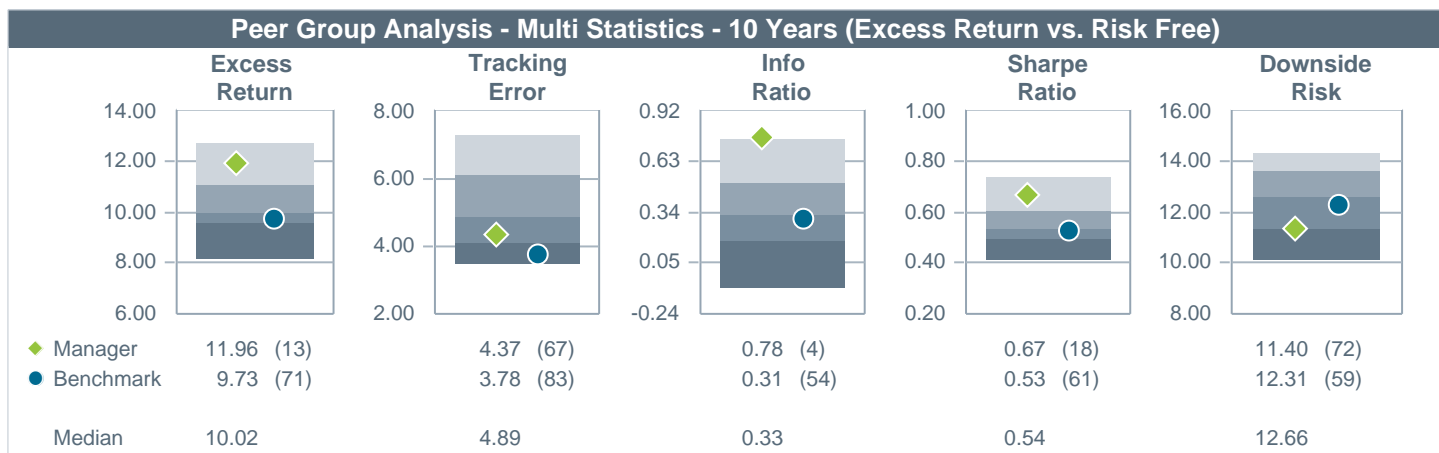
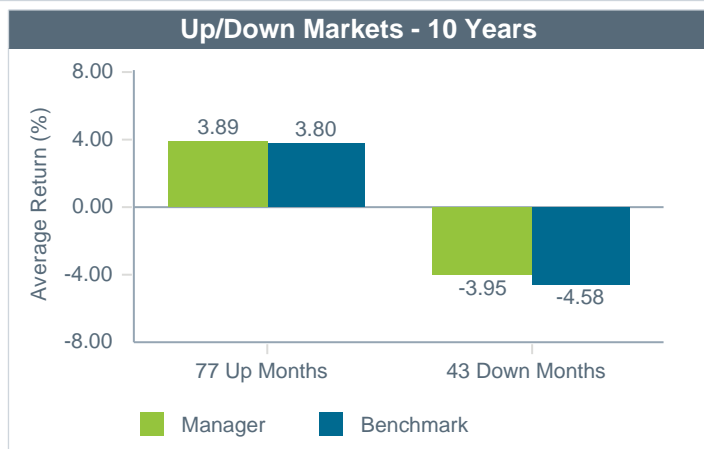
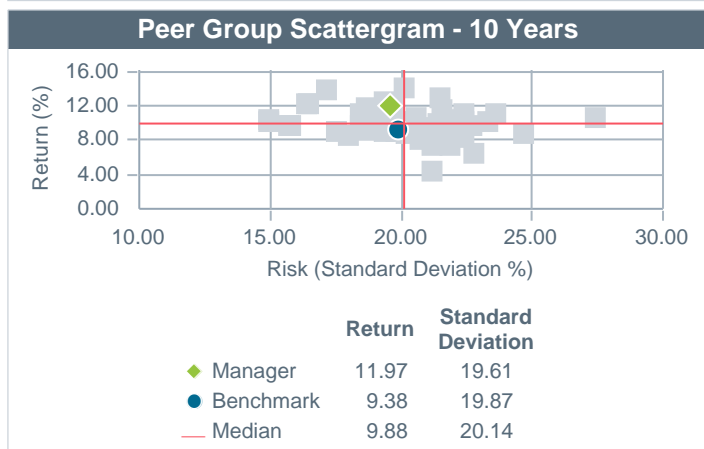
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	3.41	9.58	10.36	8.71	10.36	11.12	-20.00	22.18	24.69	33.20	-11.97
Benchmark	4.37	10.37	16.07	5.32	7.97	8.02	-13.08	27.78	4.88	23.56	-12.36
Difference	-0.96	-0.79	-5.71	3.39	2.39	3.10	-6.92	-5.60	19.81	9.64	0.39
Peer Group Median	4.50	14.25	17.68	7.82	10.39	9.88	-10.29	27.78	7.23	27.19	-12.88
Rank	75	89	96	35	51	21	90	93	5	6	41
Population	66	66	66	62	58	54	73	77	85	85	92



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



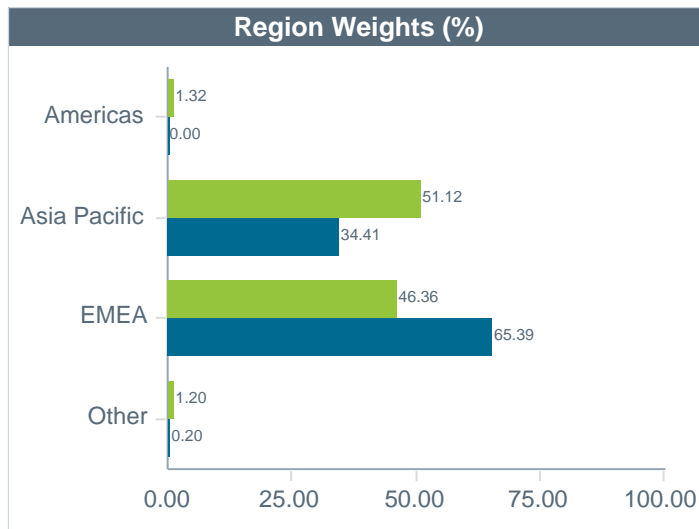
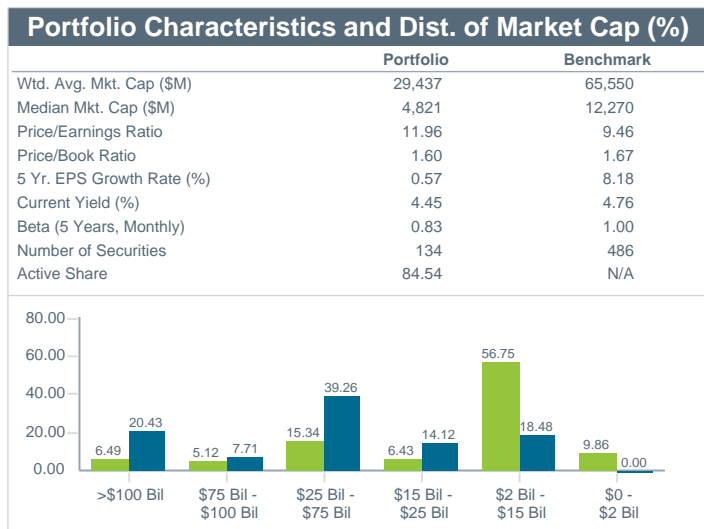
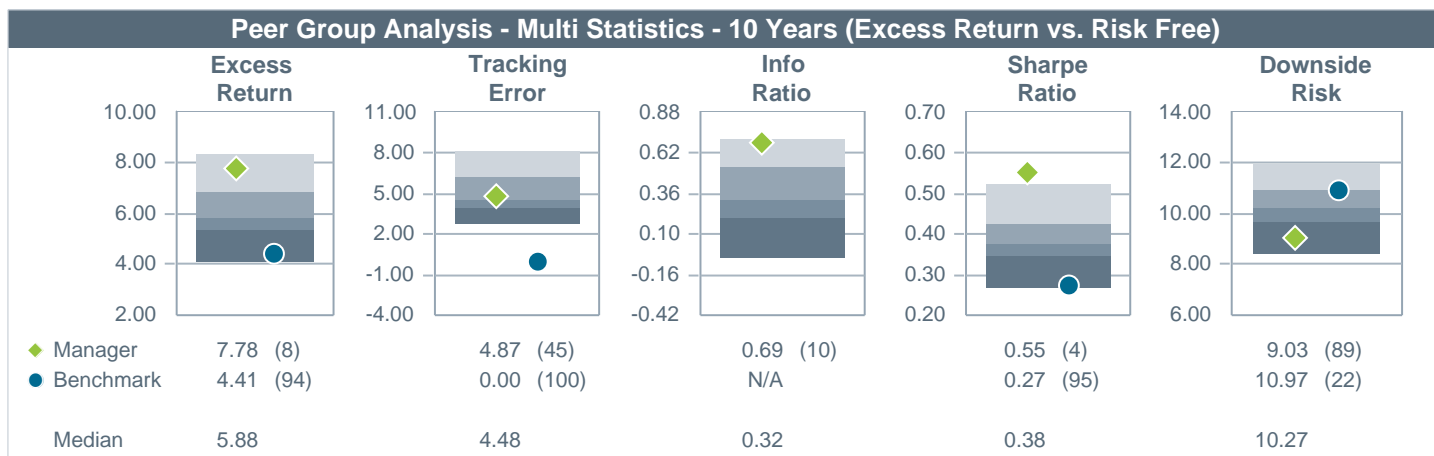
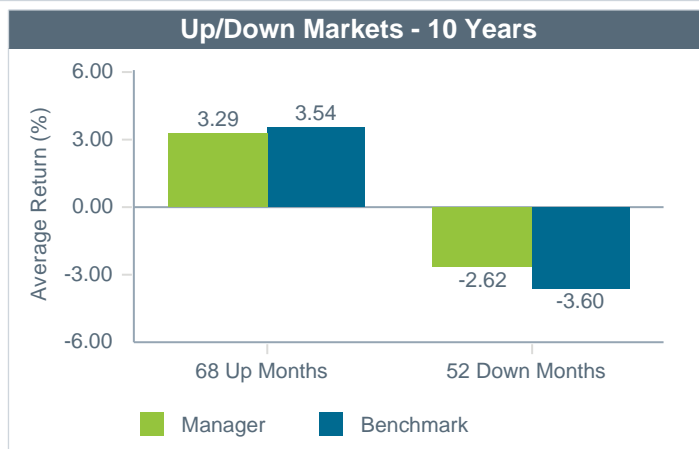
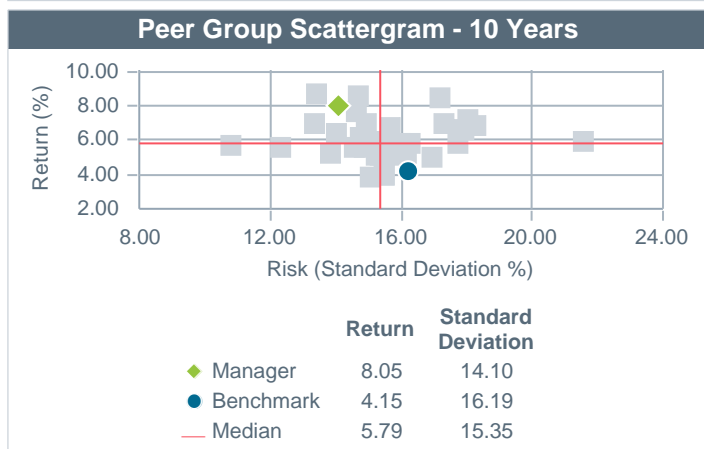
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	4.34	13.97	18.71	7.50	11.58	11.97	-9.07	31.53	7.55	27.80	-14.17
Benchmark	4.37	10.37	16.07	5.32	7.97	8.02	-13.08	27.78	4.88	23.56	-12.36
Difference	-0.03	3.60	2.64	2.18	3.61	3.95	4.01	3.75	2.67	4.24	-1.81
Peer Group Median	4.50	14.25	17.68	7.82	10.39	9.88	-10.29	27.78	7.23	27.19	-12.88
Rank	55	55	33	62	22	14	41	25	49	42	61
Population	66	66	66	62	58	54	73	77	85	85	92



Performance shown is gross of fees and product specific prior to client inception. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

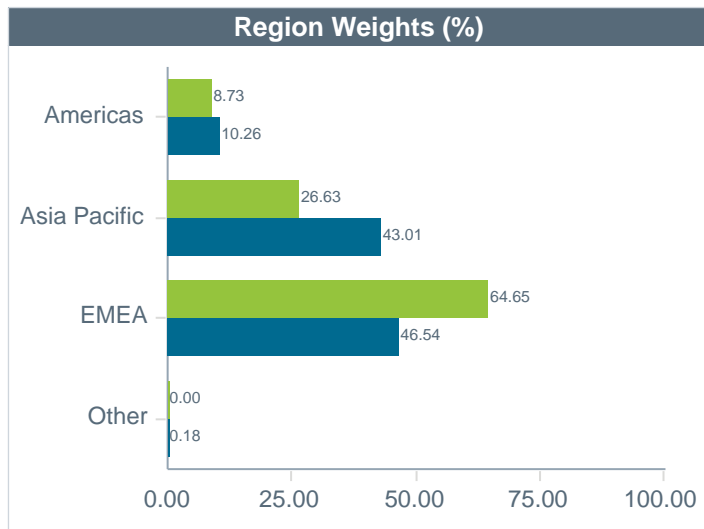
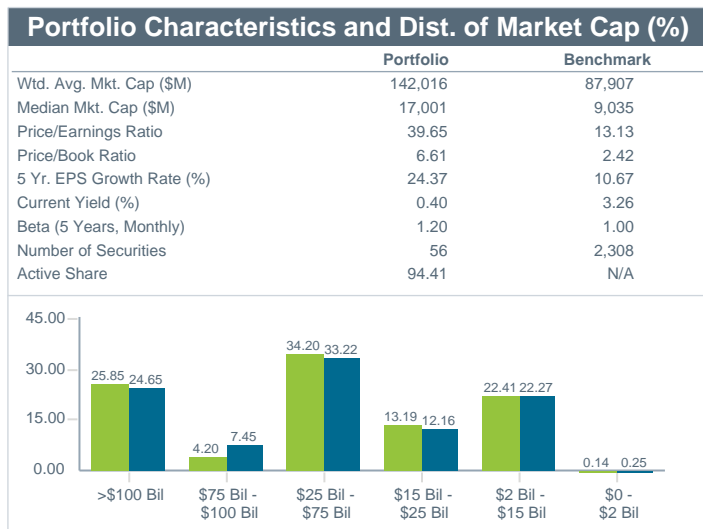
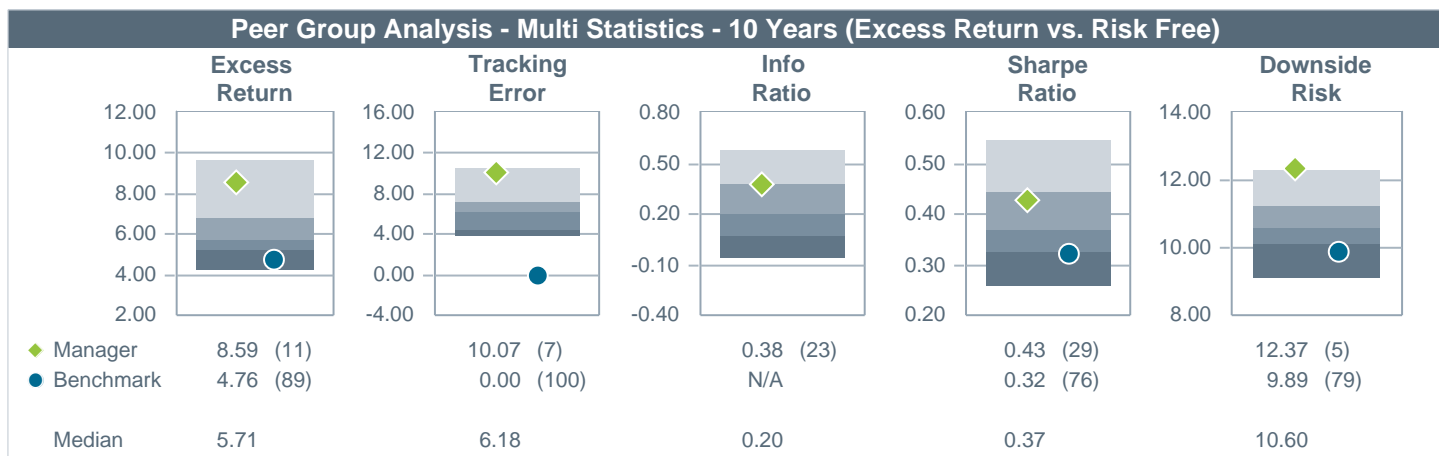
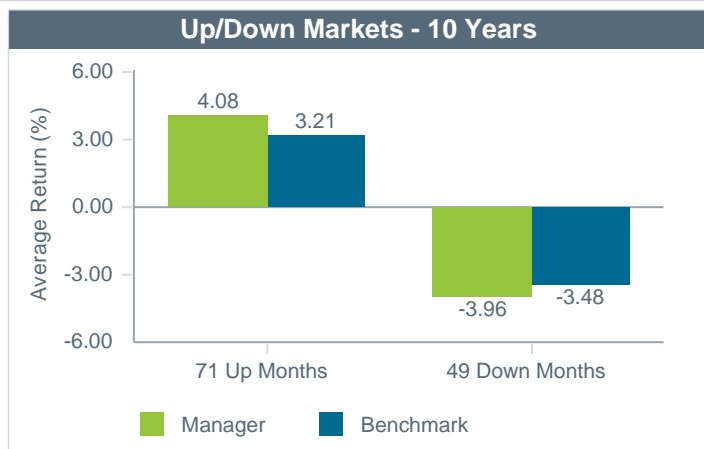
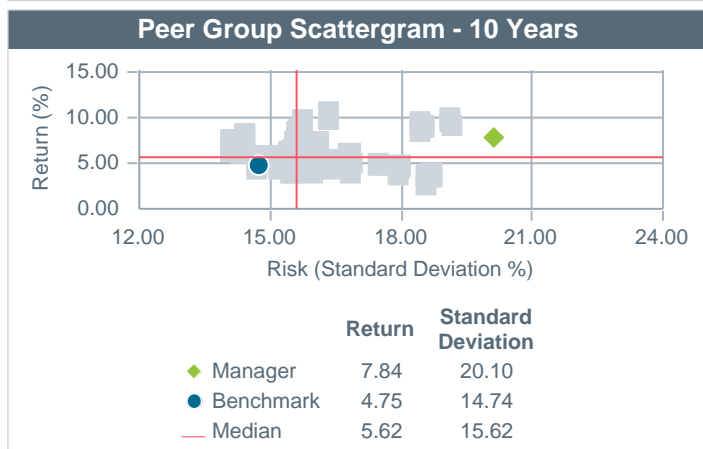


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	11.66	27.43	15.17	6.36	9.04	8.05	-5.23	12.52	0.17	18.05	-13.74
Benchmark	3.15	17.40	11.34	2.93	6.02	4.15	-5.58	10.89	-2.63	16.09	-14.78
Difference	8.51	10.03	3.83	3.43	3.02	3.90	0.35	1.63	2.80	1.96	1.04
Peer Group Median	3.27	19.30	11.50	4.33	6.81	5.79	-9.94	11.65	4.53	21.17	-15.76
Rank	1	5	15	9	12	7	10	42	81	90	41
Population	39	39	39	39	38	38	45	46	51	57	59



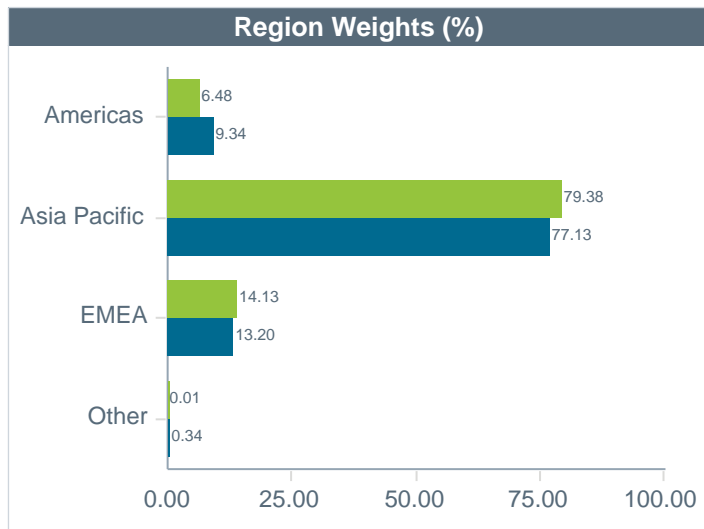
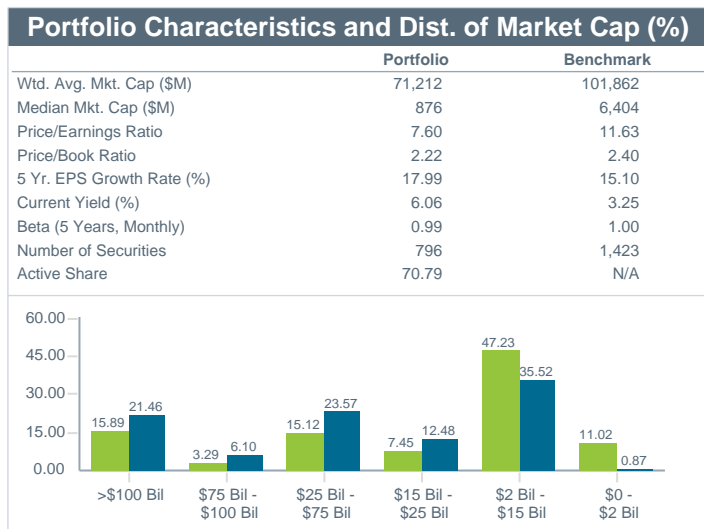
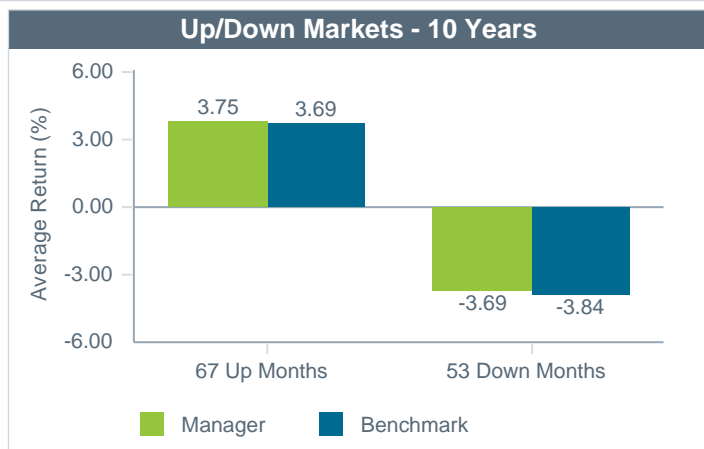
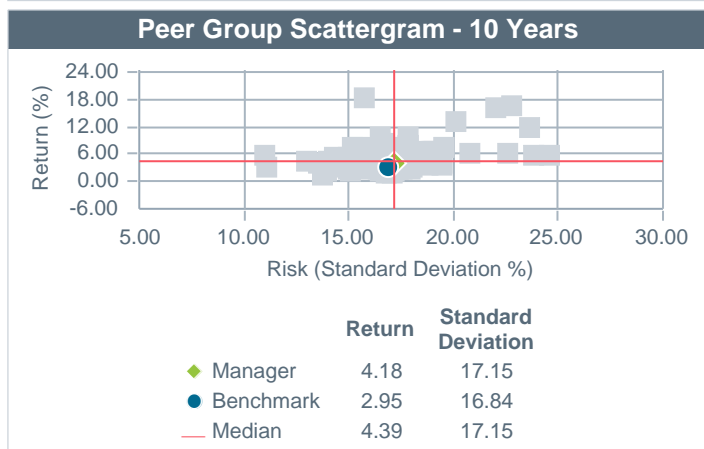
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	0.08	14.64	-2.18	3.44	9.65	7.84	-34.36	-9.32	63.13	37.48	-17.23
Benchmark	2.44	12.72	7.22	3.52	6.32	4.75	-16.00	7.82	10.65	21.51	-14.20
Difference	-2.36	1.92	-9.40	-0.08	3.33	3.09	-18.36	-17.14	52.48	15.97	-3.03
Peer Group Median	2.12	14.85	4.18	4.06	6.74	5.62	-26.63	7.93	22.75	27.84	-14.32
Rank	94	53	95	68	9	15	90	98	1	2	79
Population	170	170	170	170	162	126	170	170	170	172	176



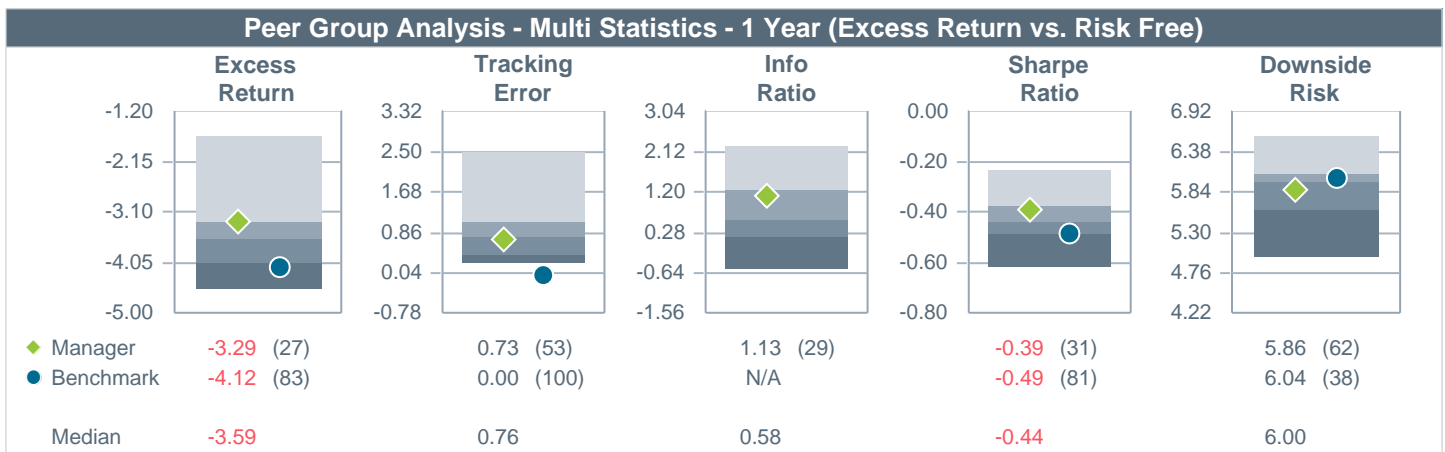
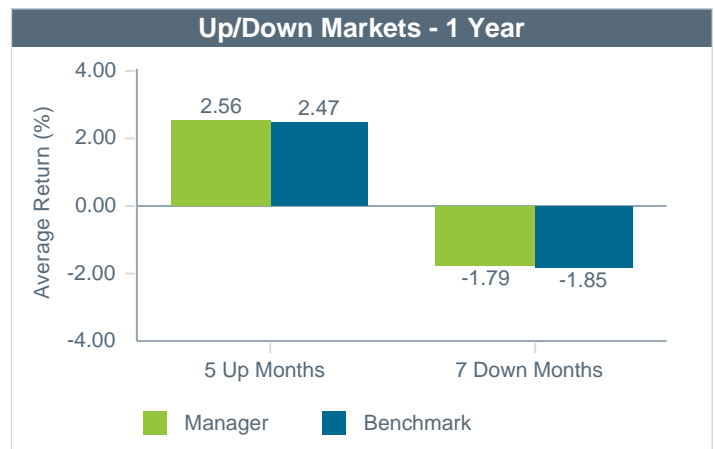
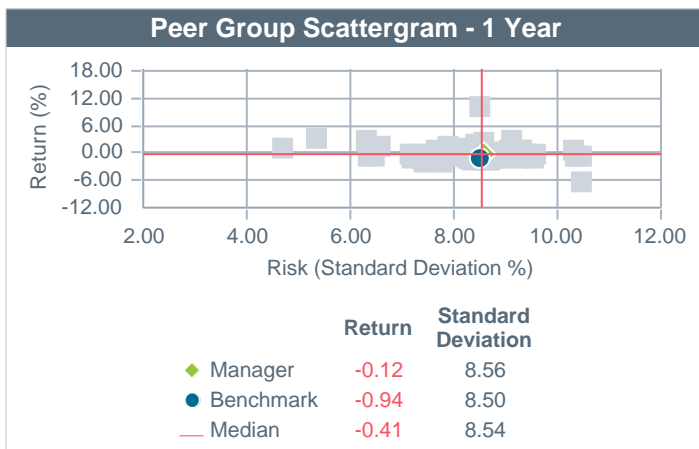
Performance shown is net of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	3.90	9.11	7.63	3.16	6.74	4.18	-19.69	8.75	12.55	18.00	-18.30
Benchmark	0.90	1.75	2.32	0.93	4.95	2.95	-20.09	-2.54	18.31	18.42	-14.57
Difference	3.00	7.36	5.31	2.23	1.79	1.23	0.40	11.29	-5.76	-0.42	-3.73
Peer Group Median	2.39	6.81	4.15	2.91	6.12	4.39	-19.50	0.93	18.34	20.17	-15.23
Rank	32	41	36	44	41	57	51	25	75	66	79
Population	298	292	272	248	230	191	306	317	345	368	368



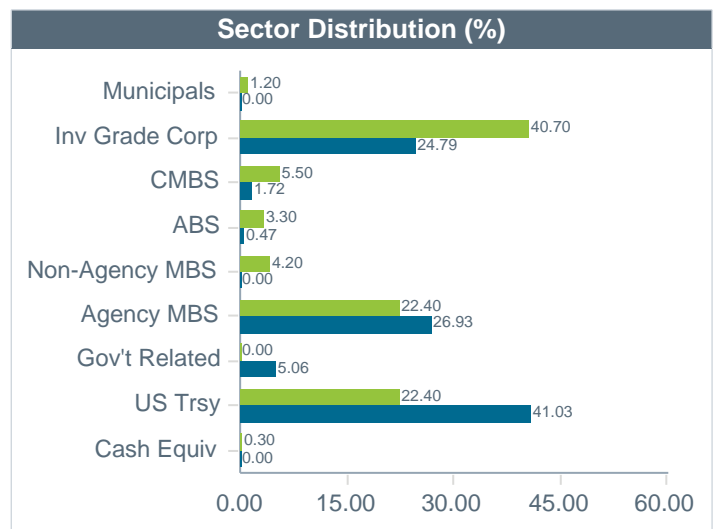
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	-0.58	-0.12	N/A	N/A	N/A	N/A	-13.23	N/A	N/A	N/A	N/A
Benchmark	-0.84	-0.94	-3.97	0.77	0.44	1.52	-13.01	-1.55	7.51	8.72	0.01
Difference	0.26	0.82	N/A	N/A	N/A	N/A	-0.22	N/A	N/A	N/A	N/A
Peer Group Median	-0.72	-0.41	-3.43	1.20	0.94	1.96	-12.95	-1.24	8.49	9.17	0.06
Rank	36	26	N/A	N/A	N/A	N/A	73	N/A	N/A	N/A	N/A
Population	135	135	135	132	130	126	143	150	158	160	167



Portfolio Characteristics

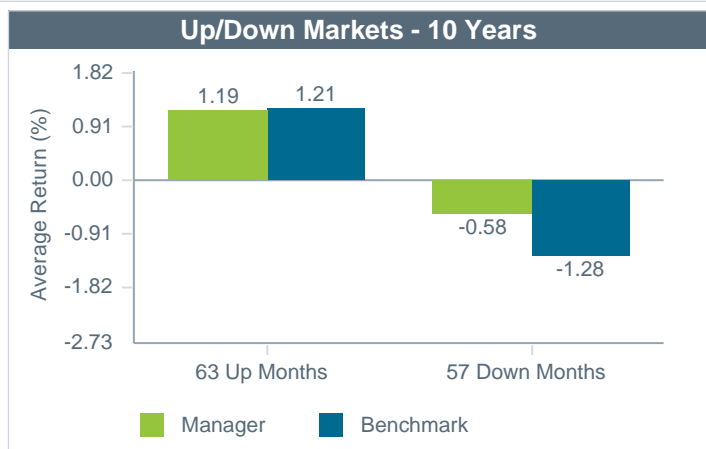
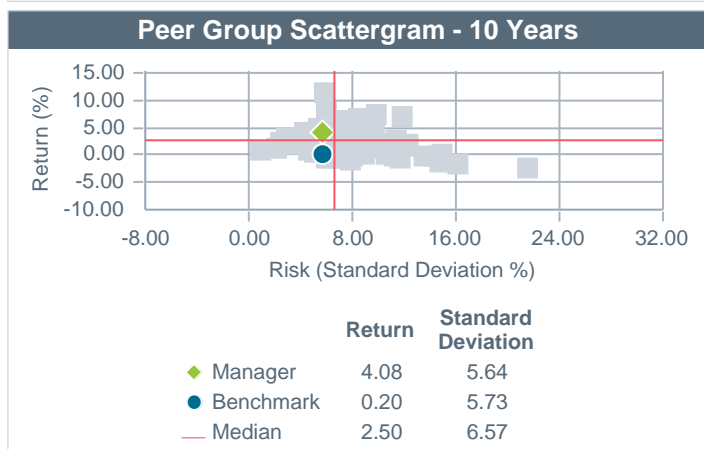
	Portfolio	Benchmark
Effective Duration	6.31	6.31
Spread Duration	3.79	N/A
Avg. Maturity	8.38	8.60
Avg. Quality	Aa3	Aa1/Aa2
Yield To Maturity (%)	N/A	4.81
Coupon Rate (%)	3.23	2.88
Current Yield (%)	N/A	N/A
Holdings Count	289	13,358



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

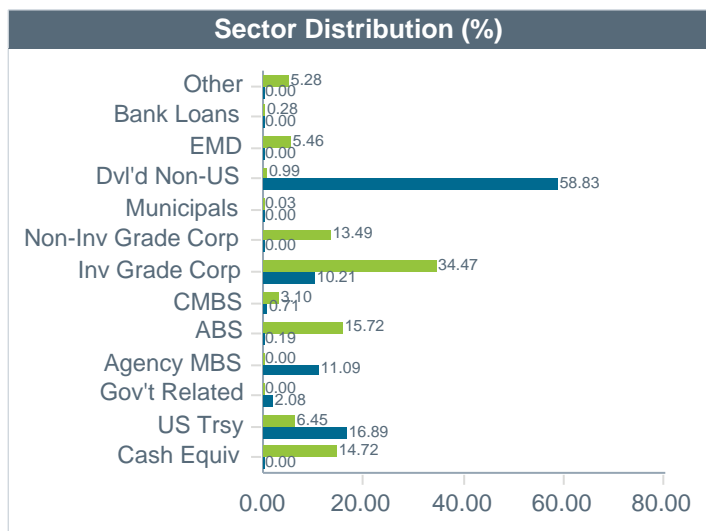


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	-0.44	2.29	-0.86	3.04	3.70	4.08	-12.09	0.55	15.08	9.79	0.09
Benchmark	-1.53	-1.32	-4.96	-1.09	-0.90	0.20	-16.25	-4.71	9.20	6.84	-1.19
Difference	1.09	3.61	4.10	4.13	4.60	3.88	4.16	5.26	5.88	2.95	1.28
Peer Group Median	0.35	3.73	-0.28	2.11	2.34	2.50	-12.28	0.50	8.68	9.73	-1.81
Rank	65	59	54	30	33	25	49	48	7	50	23
Population	202	201	196	184	179	161	212	224	239	249	263



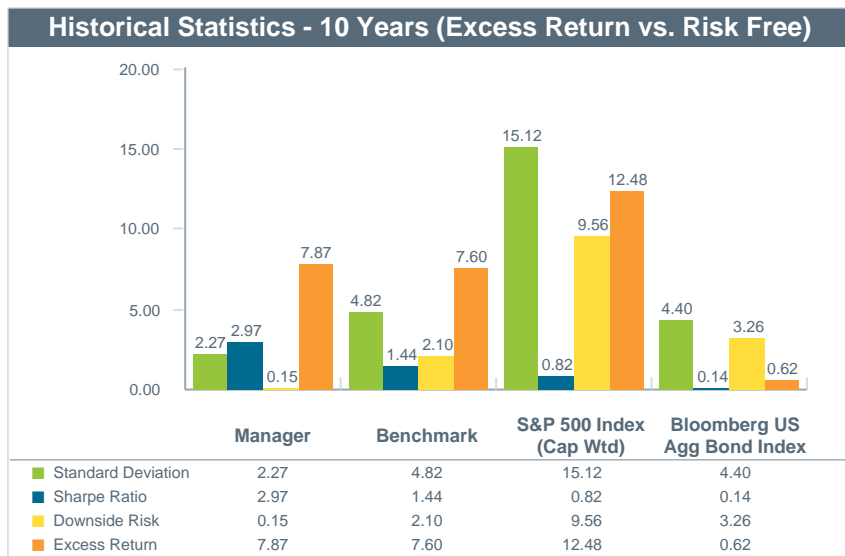
Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	6.38	6.76
Spread Duration	3.58	N/A
Avg. Maturity	6.28	8.65
Avg. Quality	Baa2	N/A
Yield To Maturity (%)	6.52	3.84
Coupon Rate (%)	3.42	2.47
Current Yield (%)	4.08	N/A
Holdings Count	829	29,426



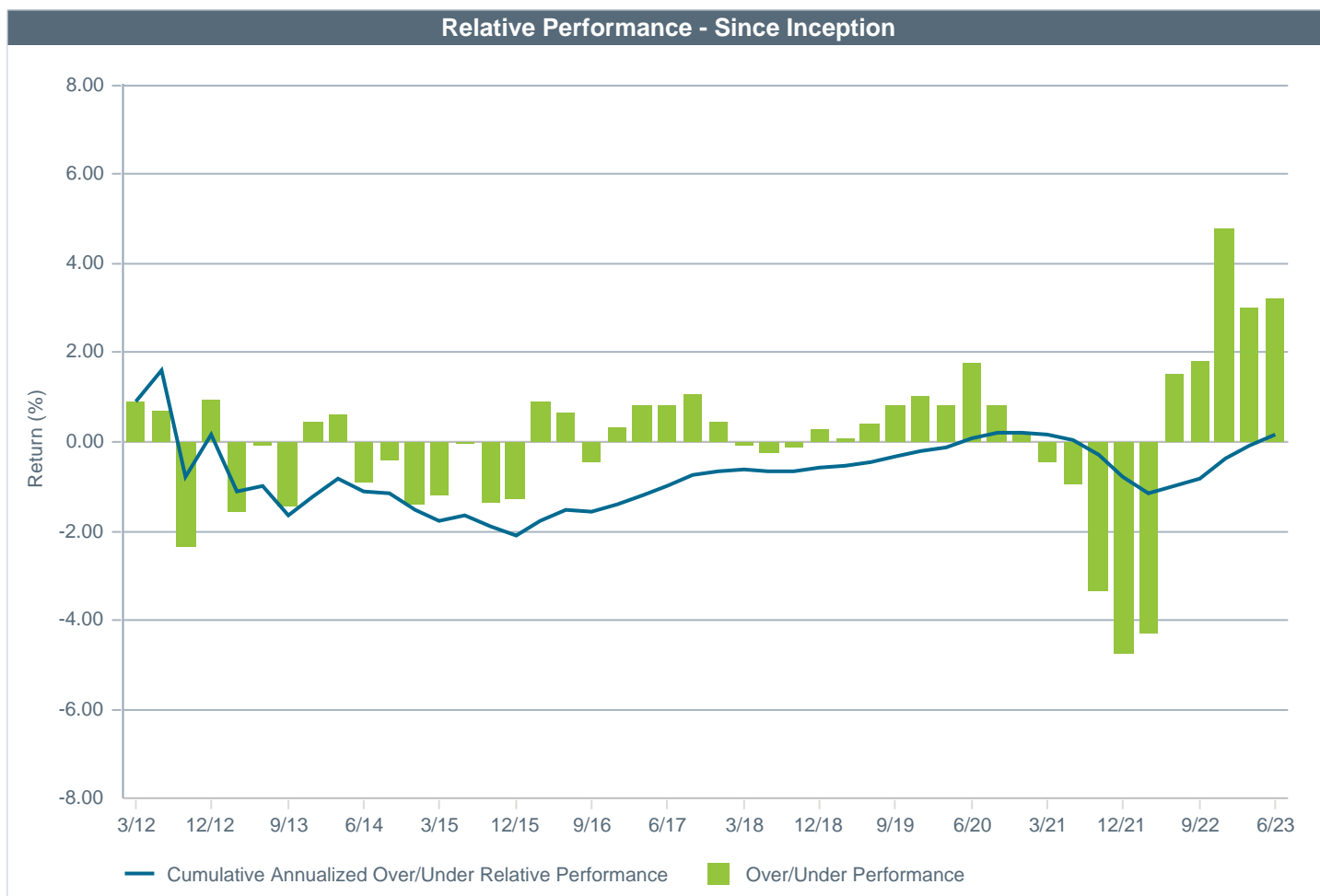
Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of preferred equity and convertibles.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	0.44	2.10	8.41	7.84	8.35	9.12	11.43	10.94	4.91	7.87	8.18
Benchmark	-2.68	-9.97	7.99	6.50	6.97	8.74	7.47	22.17	1.19	5.34	8.35
Difference	3.12	12.07	0.42	1.34	1.38	0.38	3.96	-11.23	3.72	2.53	-0.17



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.71
S&P 500 Index (Cap Wtd)	-0.44
Russell 2000 Index	-0.38
MSCI EAFE Index (USD) (Net)	-0.46
MSCI Emg Mkts Index (USD) (Net)	-0.33
Bloomberg US Agg Bond Index	-0.41
Bloomberg US Trsy US TIPS Index	-0.46
Wilshire US REIT Index	-0.34
HFRI FOF Comp Index	-0.33
Bloomberg Cmdty Index (TR)	0.05
ICE BofAML 3 Mo US T-Bill Index	-0.53
Cons Price Index (Unadjusted)	0.32
NCREIF ODCE Index (AWA) (Gross)	0.71



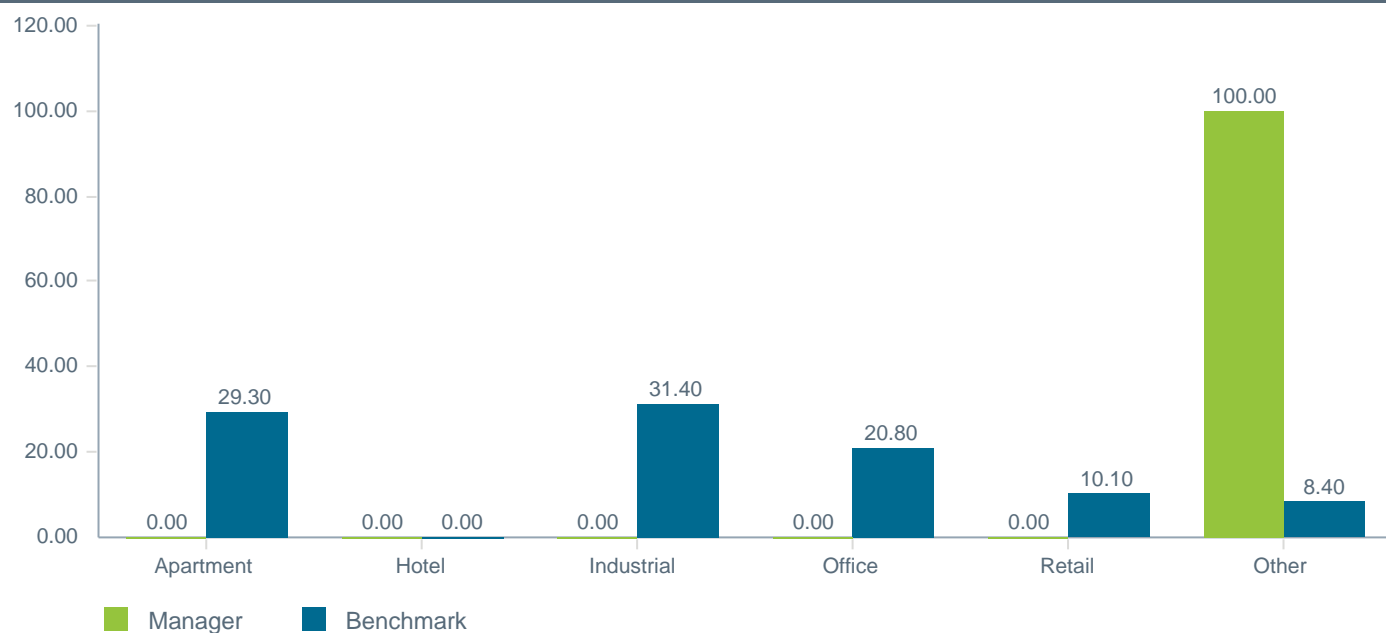
Investment Strategy

The Fund's strategy is on primarily stabilized income-producing investments in niche sectors; Education, Health, and Storage. Within these sectors the fund invests in student housing, seniors housing, medical office buildings, life science buildings, and self-storage. The majority of the return from the Fund is expected to be realized from current income, with a modest portion of the return to be derived from asset appreciation. Harrison Street believes that the primary property types it targets will provide better risk/return profiles than properties in traditional core portfolios across all economic cycles.

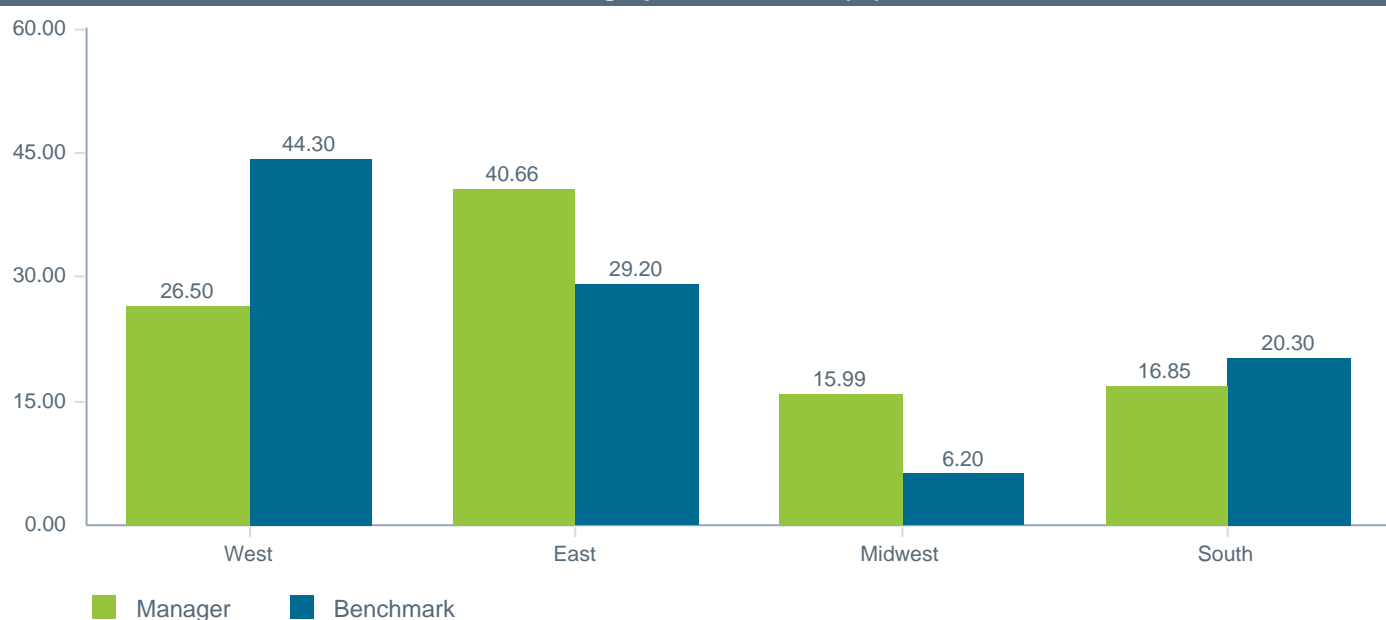
Investment Profile

Fund Inception	2011
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (mm) \$	14,057
Fund Leverage %	23.13
Portfolio Occupancy %	90.10
Cash Reserve %	0.35
Number of Investments	400
Number of Limited Partners	250

Property Type Allocation (%)



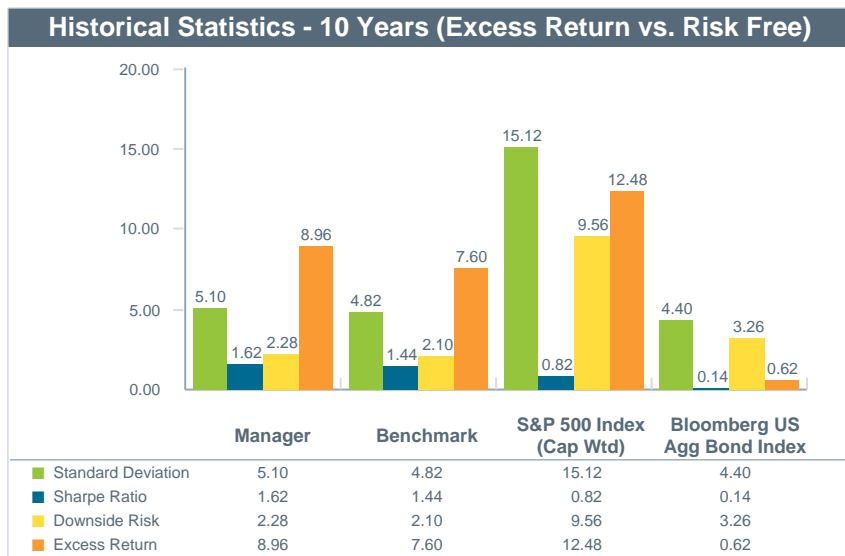
Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of education, healthcare, senior housing, life sciences, and storage real estate. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

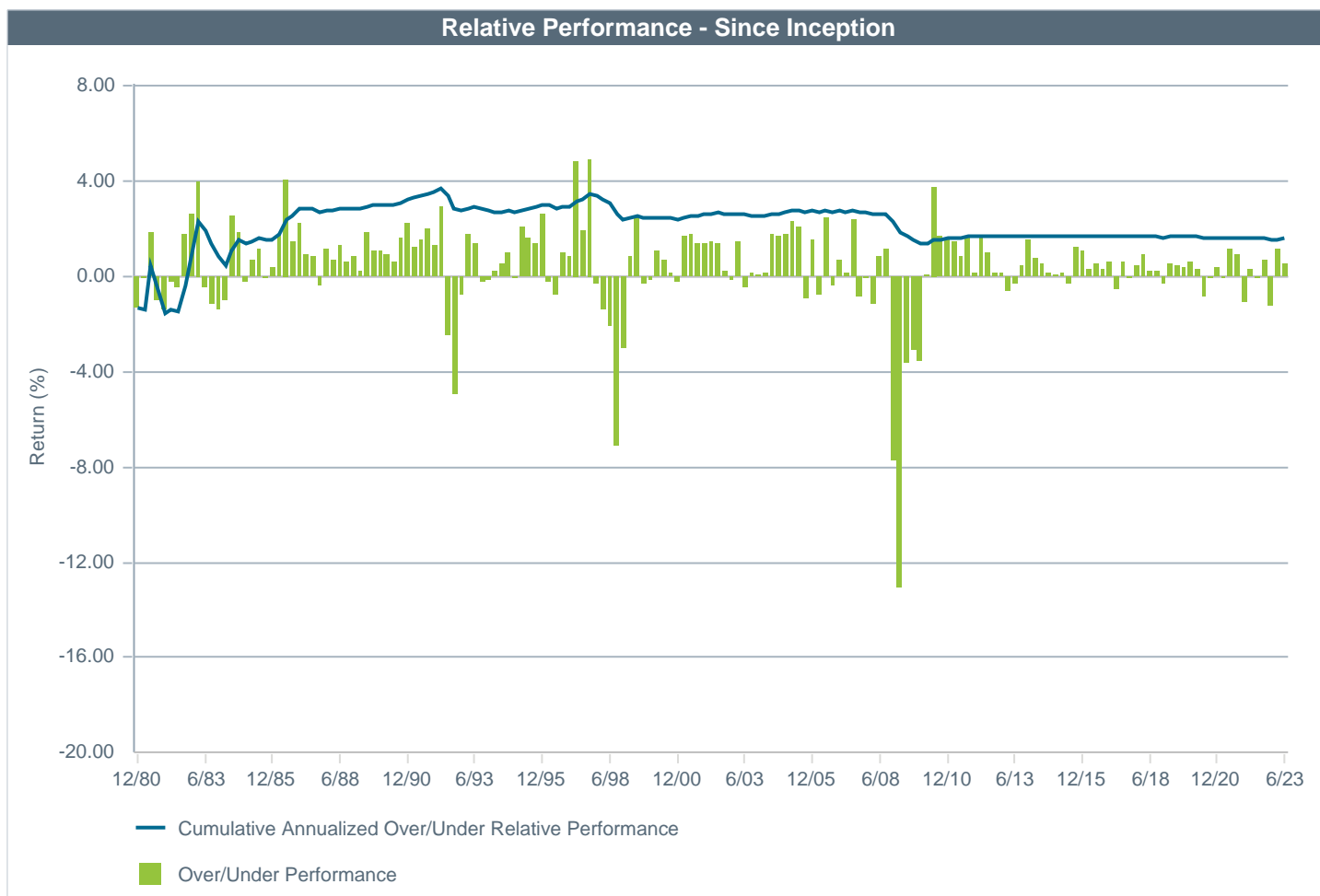


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	-2.13	-8.87	8.98	7.39	7.99	10.18	7.13	23.30	1.03	7.52	9.48
Benchmark	-2.68	-9.97	7.99	6.50	6.97	8.74	7.47	22.17	1.19	5.34	8.35
Difference	0.55	1.10	0.99	0.89	1.02	1.44	-0.34	1.13	-0.16	2.18	1.13



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.97
S&P 500 Index (Cap Wtd)	-0.26
Russell 2000 Index	-0.25
MSCI EAFE Index (USD) (Net)	-0.36
MSCI Emg Mkts Index (USD) (Net)	-0.37
Bloomberg US Agg Bond Index	-0.35
Bloomberg US Trsy US TIPS Index	-0.26
Wilshire US REIT Index	-0.02
HFRI FOF Comp Index	-0.24
Bloomberg Cmnty Index (TR)	0.14
ICE BofAML 3 Mo US T-Bill Index	-0.66
Cons Price Index (Unadjusted)	0.25



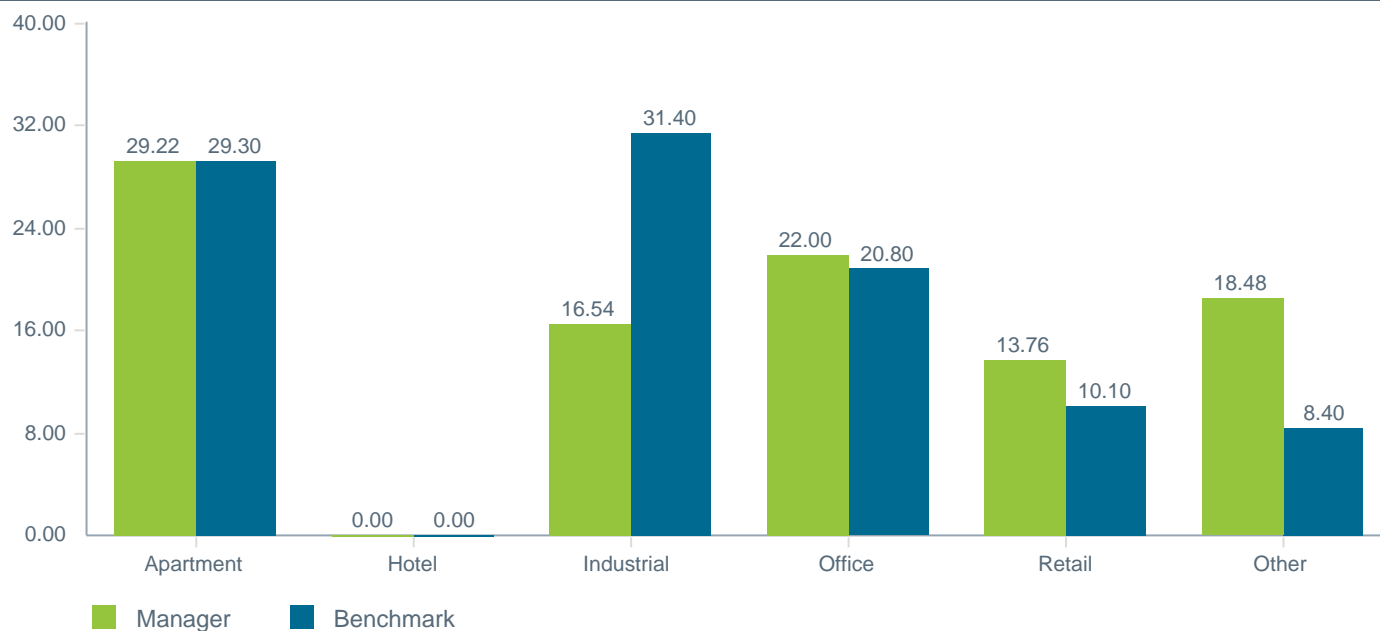
Investment Strategy

The Fund pursues a diversified core-plus real estate strategy that seeks to generate a total return before fees of 9.0% to 12.0% annually by structuring investments to enhance risk-adjusted returns. Investments may be made through direct property ownership or indirectly through such vehicles as joint ventures, general or limited partnerships, limited liability companies, mortgage loans and other loan types, including mezzanine debt, and debt secured by an interest in the borrowing entity or interests in companies or entities that directly or indirectly hold real estate or real estate interests. It operates with a leverage limit of 40% and may invest up to 35% of its gross assets in higher-risk, non-core real estate investment opportunities.

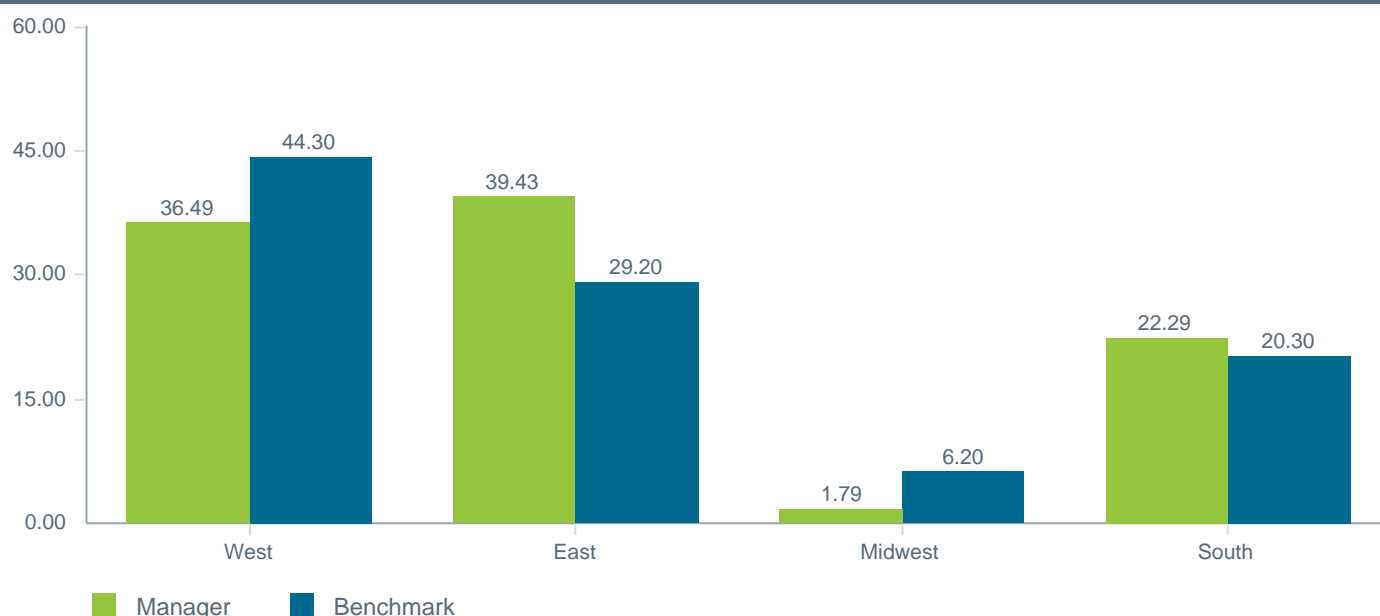
Investment Profile

Fund Inception	1980
Legal Structure	REIT
Fund Structure	Open-End
Gross Real Estate Assets (mm) \$	17,217
Fund Leverage %	34.94
Portfolio Occupancy %	89.65
Cash Reserve %	2.21
Number of Investments	154
Number of Limited Partners	112

Property Type Allocation (%)



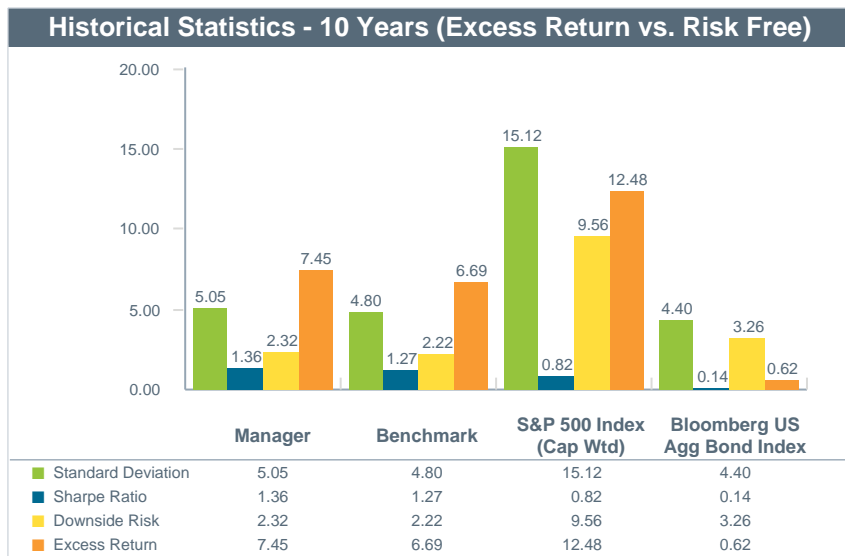
Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of land, student housing, self-storage, and life science/lab space. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

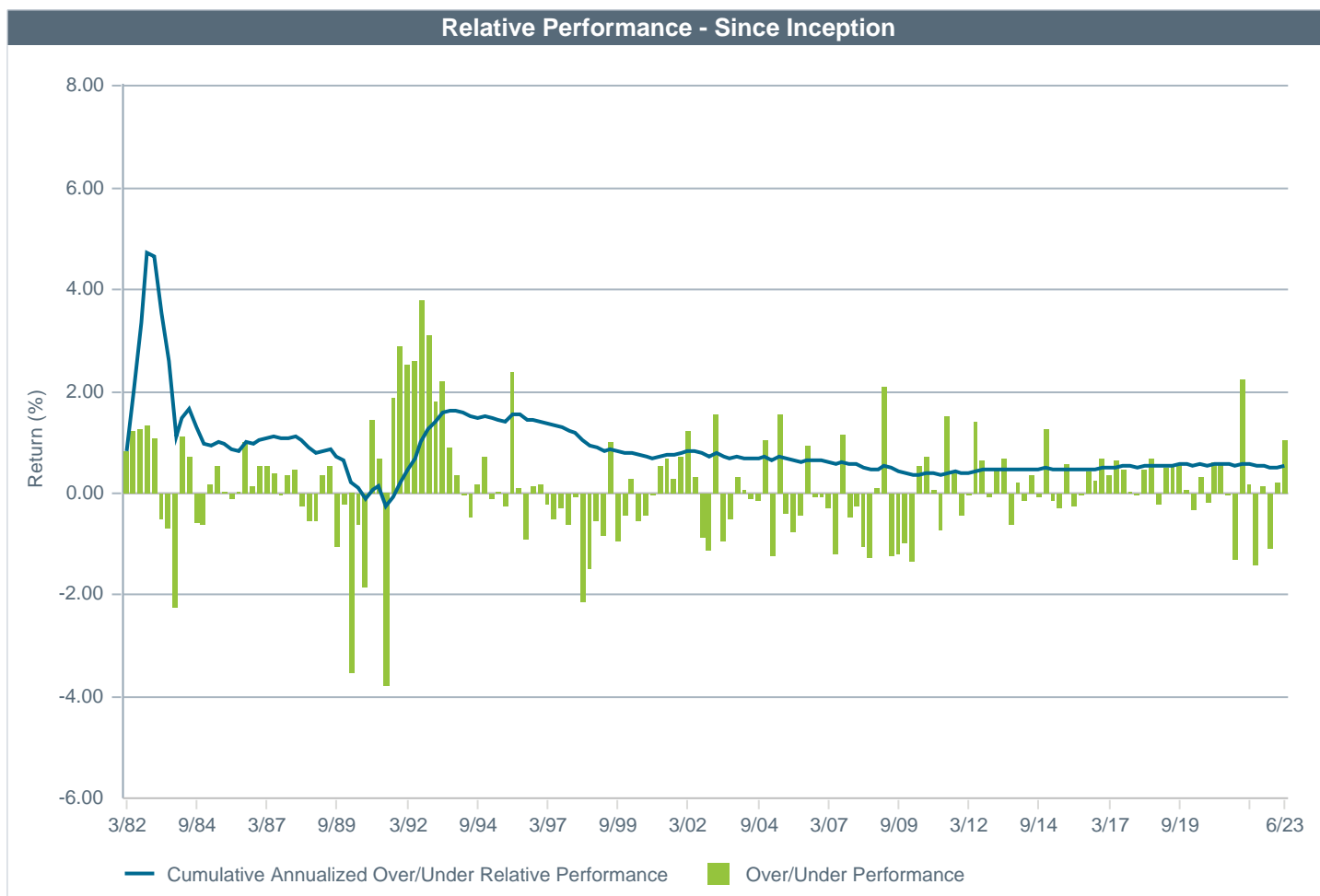


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	-1.85	-10.42	7.42	6.25	6.95	8.57	4.27	22.83	0.81	6.22	8.32
Benchmark	-2.88	-10.73	7.04	5.56	6.02	7.77	6.55	21.02	0.34	4.39	7.36
Difference	1.03	0.31	0.38	0.69	0.93	0.80	-2.28	1.81	0.47	1.83	0.96



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Net)	0.96
S&P 500 Index (Cap Wtd)	-0.13
Russell 2000 Index	-0.15
MSCI EAFE Index (USD) (Net)	-0.30
MSCI Emg Mkts Index (USD) (Net)	-0.29
Bloomberg US Agg Bond Index	-0.32
Bloomberg US Trsy US TIPS Index	-0.20
Wilshire US REIT Index	0.13
HFRI FOF Comp Index	-0.17
Bloomberg Cmdb Index (TR)	0.14
ICE BofAML 3 Mo US T-Bill Index	-0.65
Cons Price Index (Unadjusted)	0.23
NCREIF ODCE Index (AWA) (Gross)	0.97



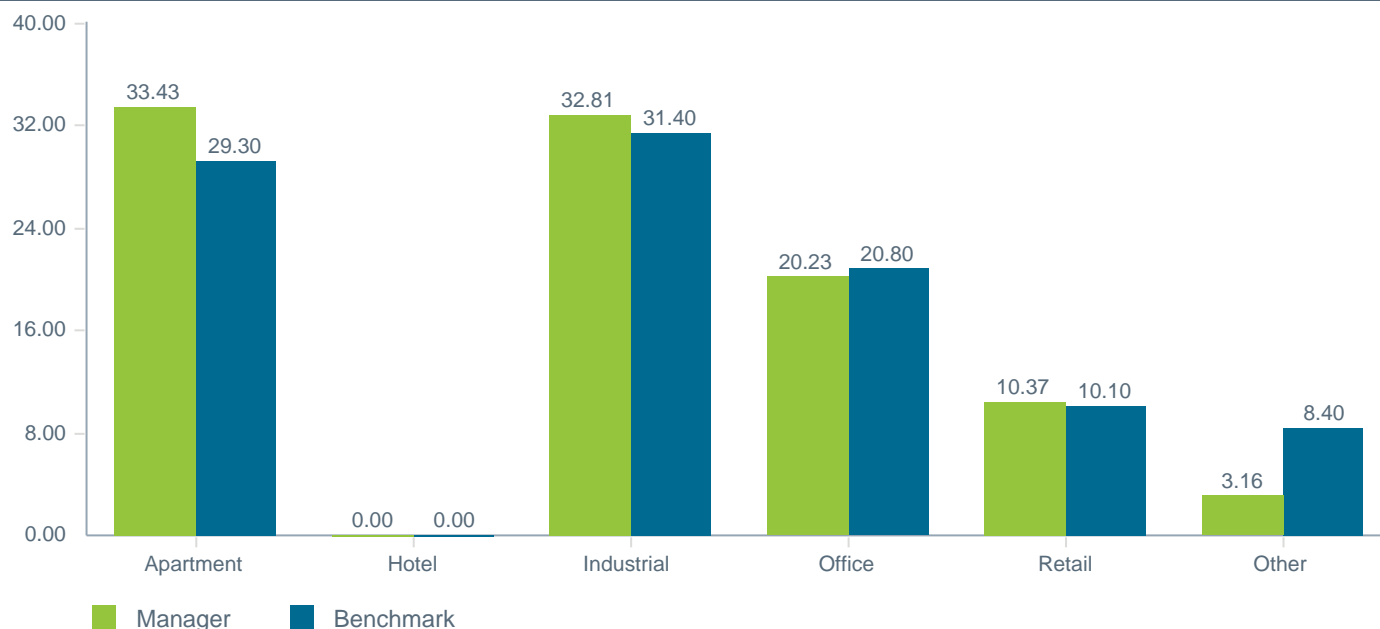
Investment Strategy

The Principal U.S. Property Account is a core real estate account designed to have a low to moderate risk profile consistent with other open-end real estate funds comprising the NFI-ODCE. This risk profile has two components: 1) a low to moderate real estate property risk profile; and 2) a low to moderate risk portfolio level operating profile. Low to moderate real estate property risk is accomplished by investing primarily in well-leased properties on an unleveraged basis. Low to moderate portfolio level risk is accomplished by operating with limited portfolio level obligations and a well-diversified portfolio. The Account invests in the traditional real estate property types; multifamily, office, industrial, and retail.

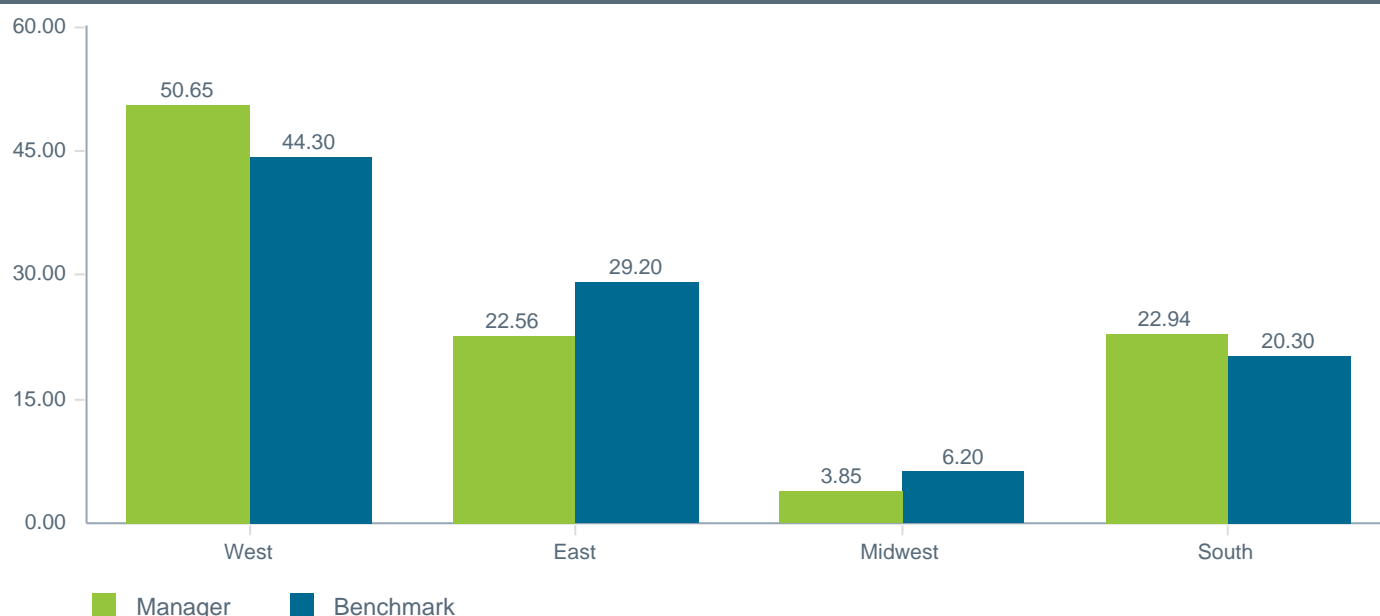
Investment Profile

Fund Inception	1982
Legal Structure	Insurance SA
Fund Structure	Open-End
Gross Real Estate Assets (mm) \$	13,121
Fund Leverage %	24.48
Portfolio Occupancy %	90.59
Cash Reserve %	1.82
Number of Investments	160
Number of Limited Partners	4,677

Property Type Allocation (%)



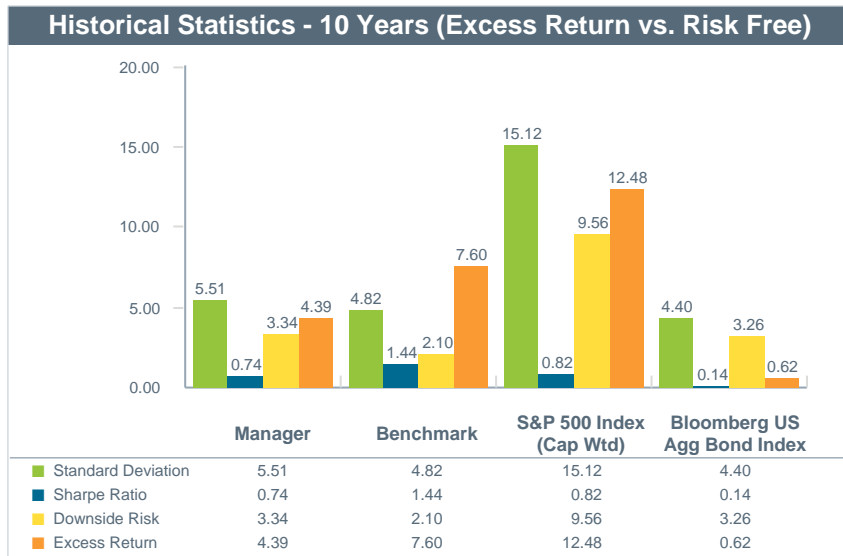
Geographic Allocation (%)



Performance shown is net of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of land, self storage, and data centers. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

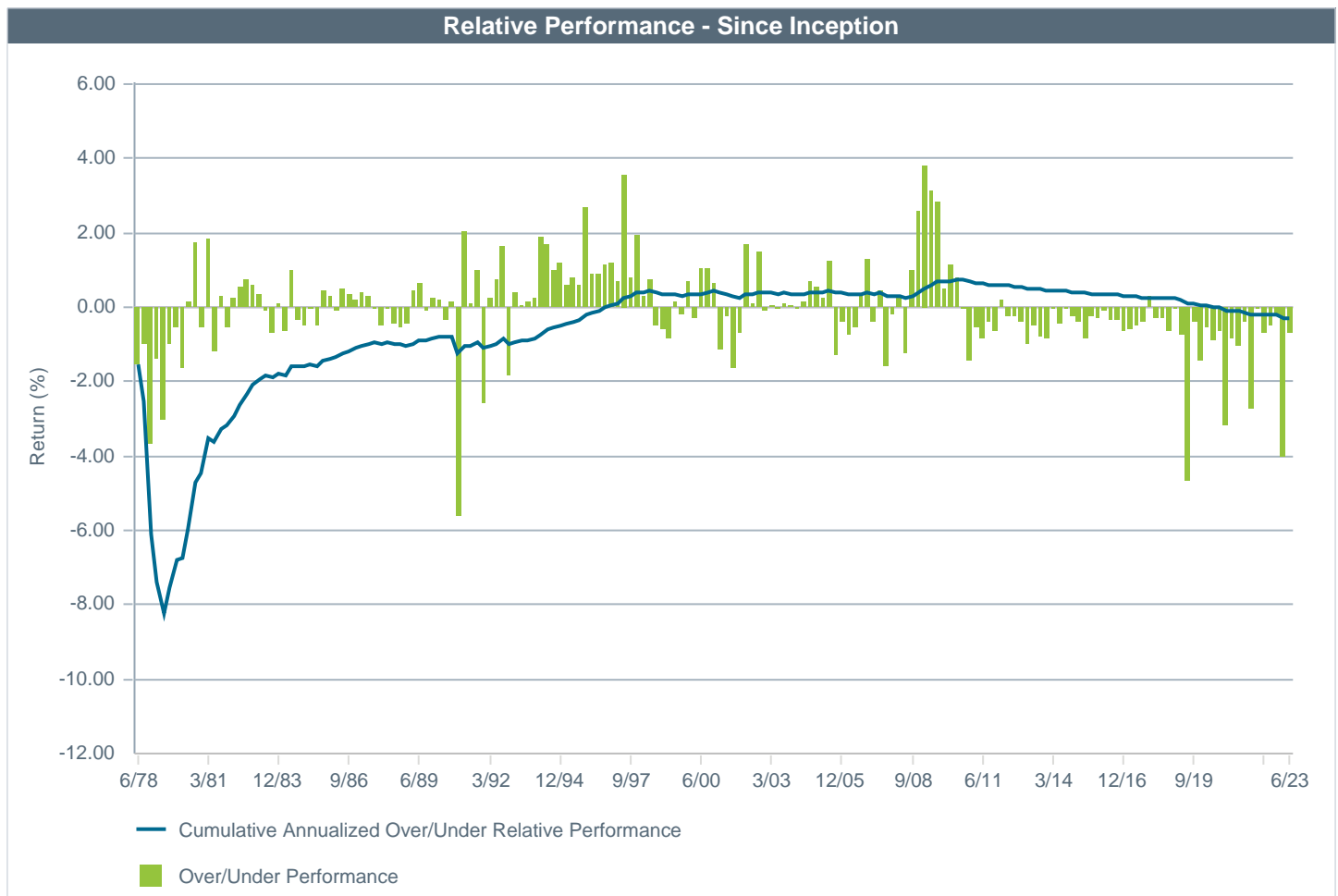


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	-3.37	-14.84	2.69	1.40	2.87	5.32	5.91	16.24	-4.04	-2.10	6.99
Benchmark	-2.68	-9.97	7.99	6.50	6.97	8.74	7.47	22.17	1.19	5.34	8.35
Difference	-0.69	-4.87	-5.30	-5.10	-4.10	-3.42	-1.56	-5.93	-5.23	-7.44	-1.36



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.93
S&P 500 Index (Cap Wtd)	-0.33
Russell 2000 Index	-0.32
MSCI EAFE Index (USD) (Net)	-0.42
MSCI Emg Mkts Index (USD) (Net)	-0.38
Bloomberg US Agg Bond Index	-0.39
Bloomberg US Trsy US TIPS Index	-0.32
Wilshire US REIT Index	-0.07
HFRI FOF Comp Index	-0.31
Bloomberg Comdty Index (TR)	0.12
ICE BofAML 3 Mo US T-Bill Index	-0.71
Cons Price Index (Unadjusted)	0.18



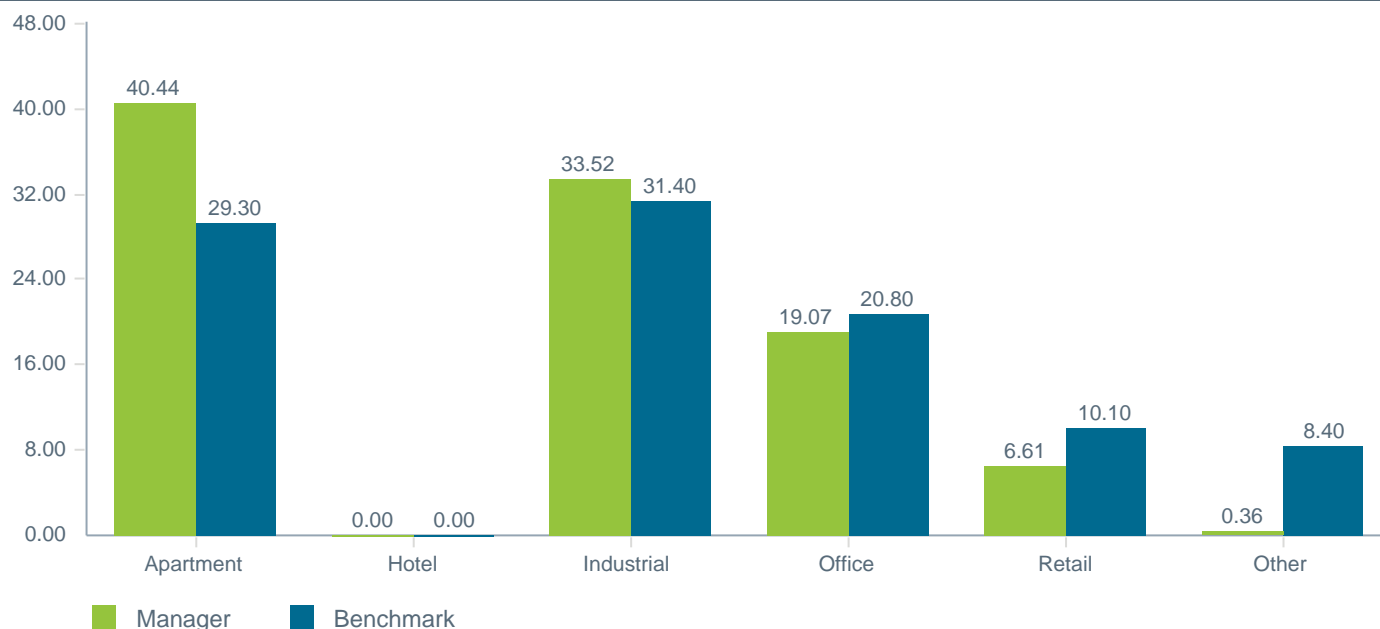
Investment Strategy

The Fund pursues a diversified core real estate strategy that seeks to produce attractive risk-adjusted returns by focusing on selective acquisitions, diversification, active portfolio management, and asset management. The Fund invests in well-leased, stabilized assets in major US metropolitan markets and receives the majority of its return from the income component. Diversification for the Fund is consistently pursued on many levels, including geographic region, property type, and economic sector. The Fund has historically maintained a leverage ratio significantly lower than the NCREIF ODCE Index and invests 5-15% of its gross assets in value-added type real estate investment opportunities.

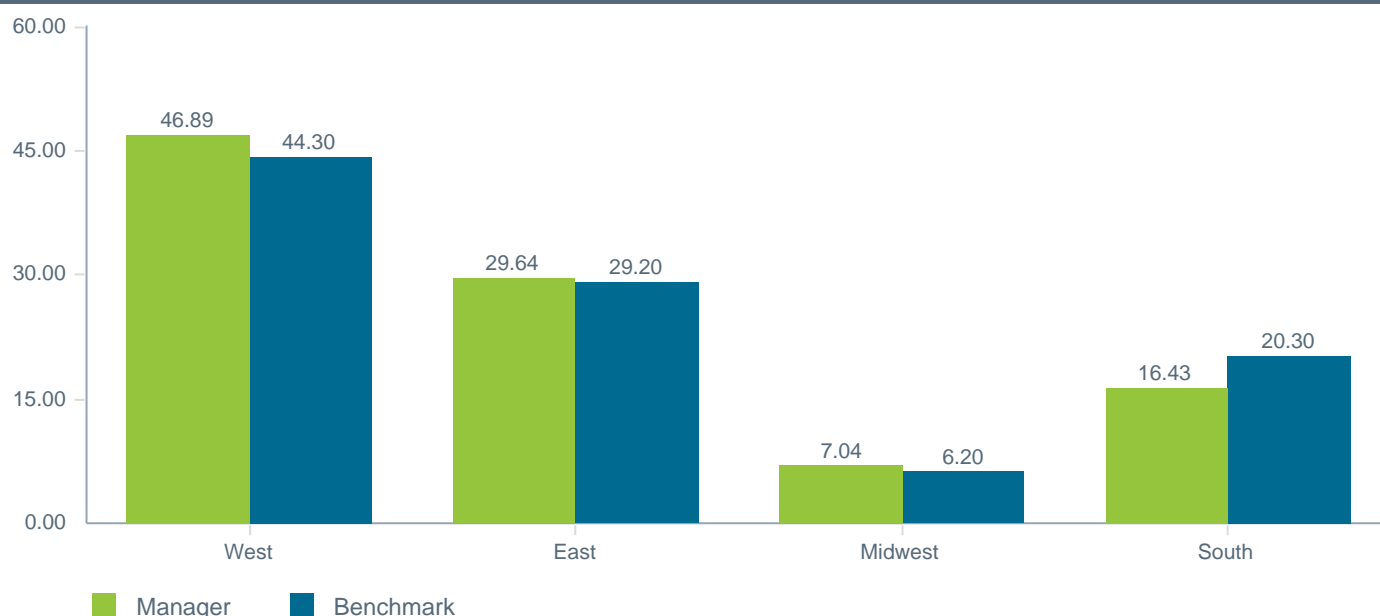
Investment Profile

Fund Inception	1978
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (mm) \$	15,657
Fund Leverage %	19.96
Portfolio Occupancy %	93.00
Cash Reserve %	1.40
Number of Investments	141
Number of Limited Partners	439

Property Type Allocation (%)



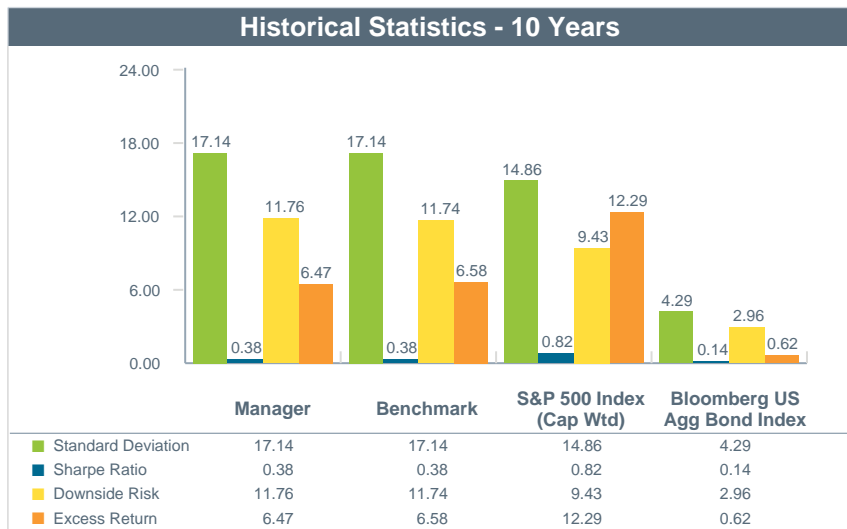
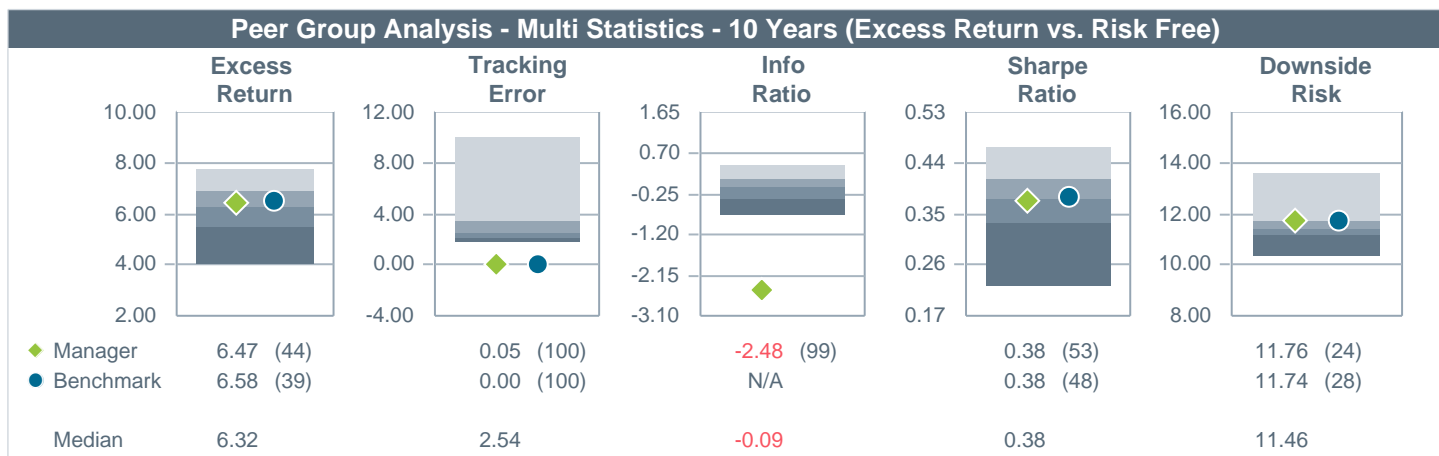
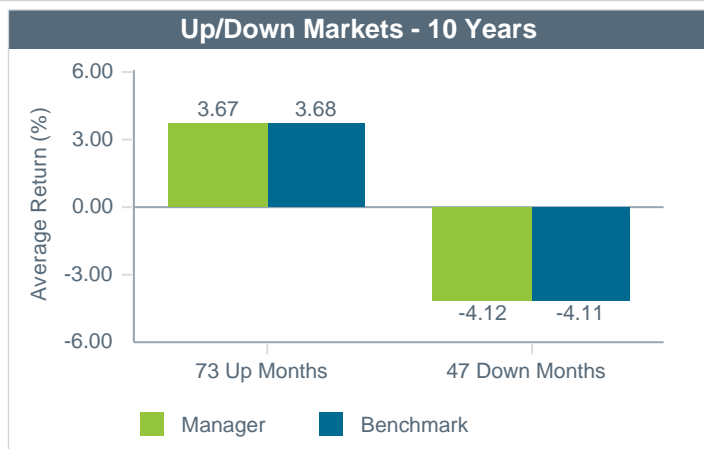
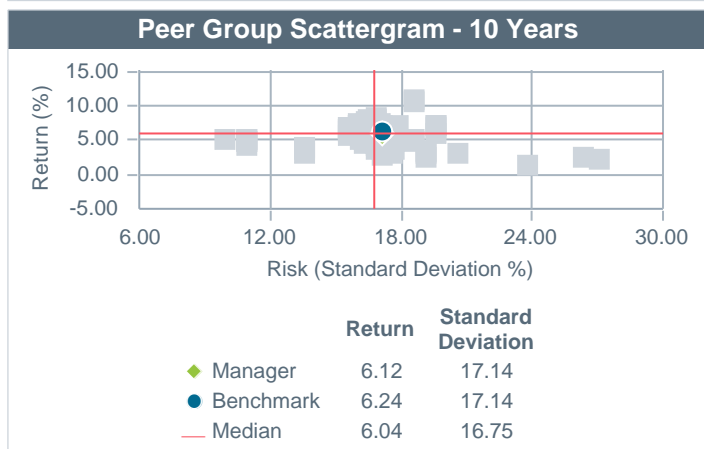
Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of self-storage. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.



Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	1.63	-3.96	5.85	4.36	3.15	6.12	-26.20	40.38	-4.72	28.91	-5.95
Benchmark	1.68	-3.82	6.00	4.48	3.27	6.24	-26.12	40.56	-4.55	29.03	-5.86
Difference	-0.05	-0.14	-0.15	-0.12	-0.12	-0.12	-0.08	-0.18	-0.17	-0.12	-0.09
Peer Group Median	1.68	-2.96	6.84	4.41	3.32	6.04	-26.17	41.32	-4.31	27.32	-5.71
Rank	54	66	73	53	59	47	51	63	55	35	54
Population	248	247	229	211	188	147	247	251	248	256	244



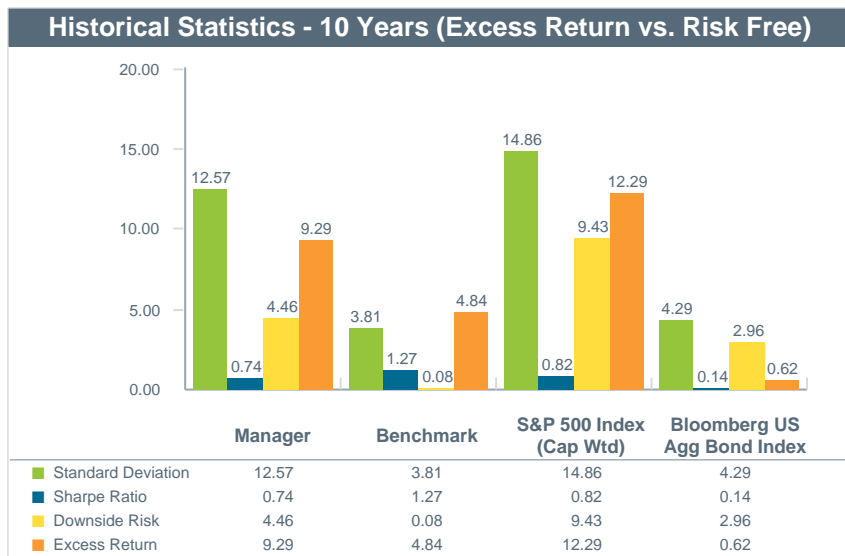
Actual Correlation - 10 Years

Index	Actual Correlation
Vanguard Spl Real Estate Index	1.00
S&P 500 Index (Cap Wtd)	0.72
Russell 2000 Index	0.67
MSCI EAFE Index (USD) (Net)	0.64
MSCI Emg Mkts Index (USD) (Net)	0.52
Bloomberg US Agg Bond Index	0.50
Bloomberg US Trsy US TIPS Index	0.60
Wilshire US REIT Index	0.99
HFRI FOF Comp Index	0.59
Bloomberg Cmnty Index (TR)	0.31
ICE BofAML 3 Mo US T-Bill Index	-0.13
Cons Price Index (Unadjusted)	-0.03

Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Performance shown is calculated using Net Asset Values (NAV). Parentheses contain percentile ranks. Benchmark consists of MSCI US REIT Index (USD) (Gross) adjusted to include a 2% cash position (Lipper Money Market Average) through 04/30/09; MSCI US REIT Index (USD) (Gross) through 01/31/18; MSCI US IM Real Estate 25/50 Transition Index through 07/24/18; and MSCI US IM Real Estate 25/50 Index (Gross) thereafter.

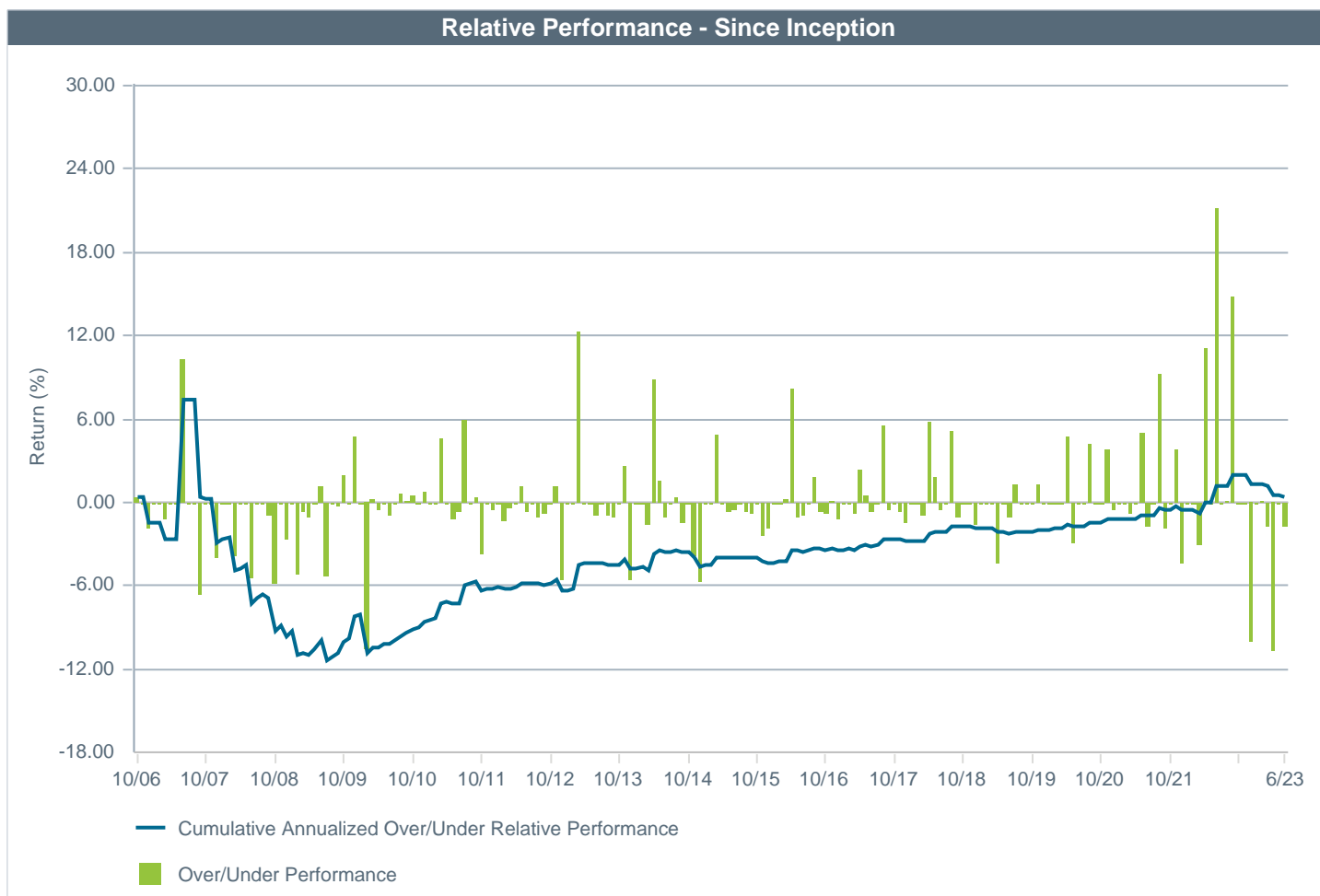


Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	-10.67	-0.58	20.73	12.92	11.66	9.96	52.32	19.14	10.18	-1.69	12.47
Benchmark	1.71	11.13	8.67	5.80	5.13	5.90	12.90	9.17	0.81	1.30	3.21
Difference	-12.38	-11.71	12.06	7.12	6.53	4.06	39.42	9.97	9.37	-2.99	9.26



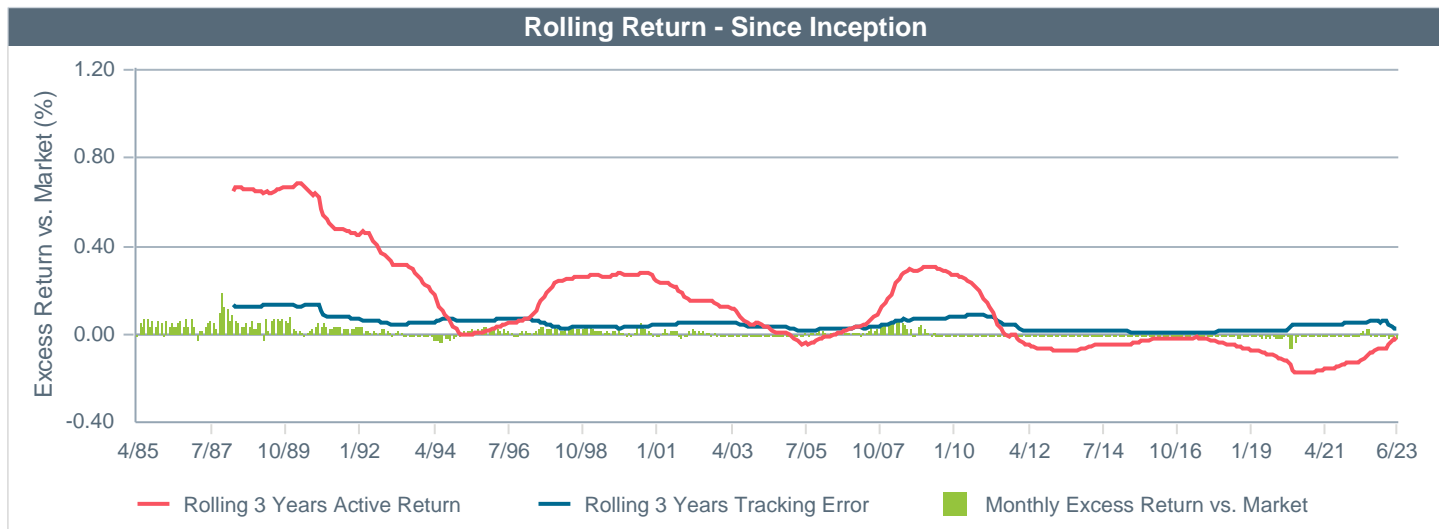
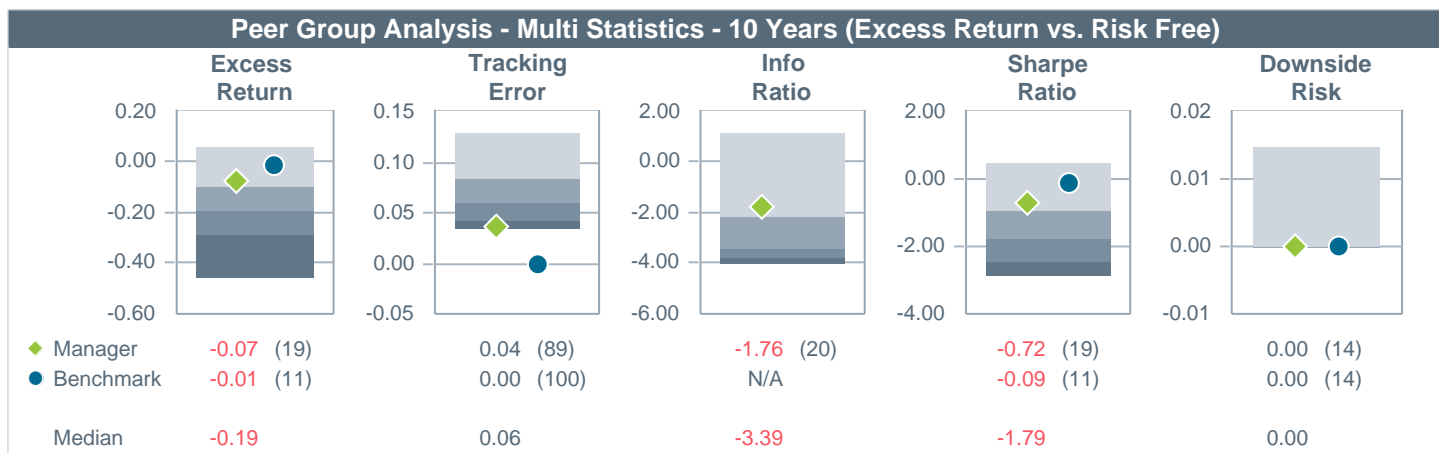
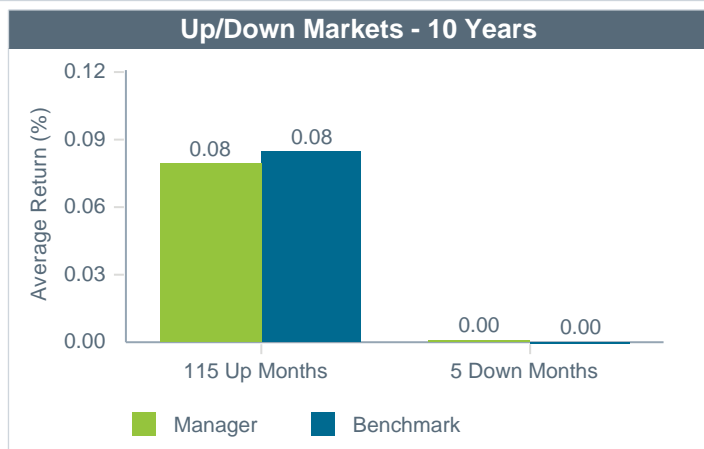
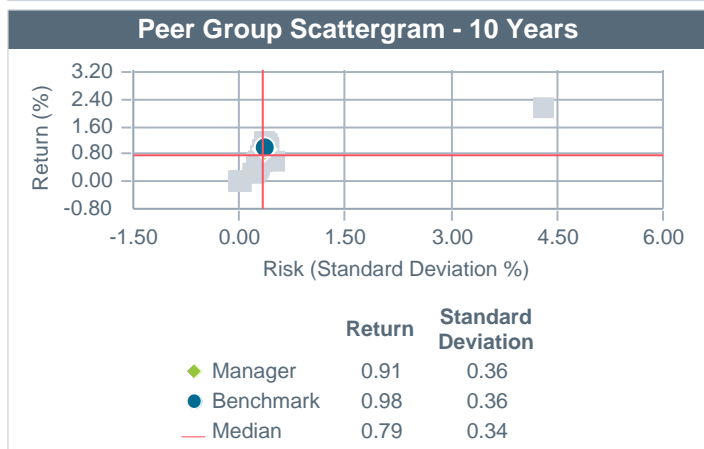
Actual Correlation - 10 Years

	Actual Correlation
NCREIF Timberland Index	0.04
S&P 500 Index (Cap Wtd)	-0.20
Russell 2000 Index	-0.13
MSCI EAFE Index (USD) (Net)	-0.21
MSCI Emg Mkts Index (USD) (Net)	-0.15
Bloomberg US Agg Bond Index	-0.27
Bloomberg US Trsy US TIPS Index	-0.28
Wilshire US REIT Index	-0.16
HFRI FOF Comp Index	-0.09
Bloomberg Cmdty Index (TR)	-0.13
ICE BofAML 3 Mo US T-Bill Index	-0.13
Cons Price Index (Unadjusted)	0.24



Performance shown is gross of fees and client specific. Calculation is based on monthly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	2018
Manager	1.22	3.73	1.30	1.47	1.29	0.91	1.55	0.03	0.37	2.09	1.73
Benchmark	1.25	3.75	1.33	1.57	1.37	0.98	1.50	0.05	0.58	2.25	1.86
Difference	-0.03	-0.02	-0.03	-0.10	-0.08	-0.07	0.05	-0.02	-0.21	-0.16	-0.13
Peer Group Median	1.17	3.53	1.21	1.35	1.13	0.79	1.39	0.01	0.30	1.90	1.54
Rank	18	22	17	19	17	19	21	12	31	20	22
Population	796	779	715	671	617	524	783	772	792	796	820



Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Addendum & Glossary



City of Jacksonville Employees' Retirement System Addendum

Performance Related Comments:

- Performance is annualized for periods greater than one year.
- The inception date shown indicates the first full month of performance following initial funding.
- The market value shown for the Transition Account includes residual assets from terminated managers.
- RVK began monitoring the assets of the City of Jacksonville Retirement System on 01/01/2019. Prior historical data was provided by the custodian and previous consultant.

Custom Composite Benchmark Comments:

- **Current Total Fund Policy Index:** The passive Total Fund Policy Index is calculated monthly and currently consists of 30% Russell 3000 Index, 23% MSCI ACW Ex US Index (USD) (Net), 20% Fixed Income Index, 15% Real Estate Index, and 12% Diversifying Assets Index.
- **US Equity Index:** The passive US Equity Index consists of 100% DJ US TSM Index through 06/2009 and 100% Russell 3000 Index thereafter.
- **International Equity Index:** The passive International Equity Index consists of 100% MSCI EAFE Index (USD) (Gross) through 01/2011 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- **Fixed Income Index:** The passive Fixed Income Index consists of 100% Bloomberg US Agg Bond Index through 10/2017 and 100% Bloomberg US Universal Bond Index thereafter.
- **Real Estate Index:** The active Real Estate Index is calculated monthly using beginning of month investment weights applied to each corresponding primary benchmark return.
- **Diversifying Assets Index:** The Diversifying Assets Index is calculated monthly and consists of 50% S&P MLP Index (TR)/50% NCREIF Timberland Index through 10/2017, 67% S&P MLP Index (TR)/33% NCREIF Timberland Index through 09/2020, and calculated monthly using beginning of month investment weights applied to each corresponding primary benchmark return thereafter.

Custom Manager Benchmark Comments:

- **Baillie Gifford Index:** The passive Baillie Gifford Index consists of 100% MSCI EAFE Grth Index (USD) (Net) through 10/2017 and 100% MSCI ACW Ex US Grth Index (USD) (Net) thereafter.
- **Baillie Gifford Spliced Index:** The passive Baillie Gifford Spliced Index consists of 100% MSCI EAFE Index (USD) (Net) through 11/2019 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- **Custom REITs Index:** The passive Custom REITs Index consists of 100% MSCI US REIT Index (USD) (Gross) through 01/2019 and 100% Vanguard Spl Real Estate Index thereafter.
- **Vanguard Spliced Real Estate Index:** The Vanguard Spl Real Estate Index consists of MSCI US REIT Index (USD) (Gross) adjusted to include a 2% cash position (Lipper Money Market Average) through 04/30/2009, MSCI US REIT Index (USD) (Gross) through 01/31/2018, MSCI US IM Real Estate 25/50 Transition Index through 07/24/2018, and MSCI US IM Real Estate 25/50 Index (Gross) thereafter.

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

Alpha Ratio - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. *Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.* There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers), such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters, such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS), which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector as defined by S&P Capital IQ data. Attribution to "other" is the result of securities based in industries that do not fit into any GICS classification.

Country/Region - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data, and thus may differ from the classification of the investment manager and/or index provider. Attribution to "EMEA" represents securities based in Europe, the Middle East, and Africa. Attribution to "Other" is the result of securities based in countries/regions that do not fit into any MSCI classification.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, and names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category. Stocks are unclassified when there is not enough data to determine a size and style metric.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

Glossary

Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

Consumer Confidence - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.

Federal Funds Rate - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.

Option-Adjusted Spread - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.

Purchasing Managers Index (PMI) - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.

Real Gross Domestic Product (Real GDP) - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.

Unemployment Rate - The percentage of the total labor force that is unemployed but actively seeking employment.

US Dollar Total Weighted Index - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.

VIX - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."

Cash Flow Effect – The composite's active return minus the sum of each managers' active return minus the benchmark effect.

Consistency - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.

Convexity - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.

Correlation - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.

Coupon Rate - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.

Current Yield - The annual income of a security divided by the security's current price.

Down Market Capture - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.

Downside Risk - A measure similar to standard deviation that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. The higher the factor, the riskier the product.

Earnings Per Share - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.

Effective Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield.

Excess Return vs. Market - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.

Excess Return vs. Risk Free - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.

Excess Risk - A measure of the standard deviation of a portfolio's performance relative to the risk-free return.

Expense Ratios - Morningstar is the source for mutual fund expense ratios.

Gain/Loss - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.

Indices - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used, or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability, and/or completeness.

Information Ratio - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.

Glossary

Liability Driven Investing (LDI) - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.

Estimated Funded Status - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.

Estimated PV of Liabilities - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.

Duration of Liabilities - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.

Duration of Assets - The dollar-weighted average duration of all the individual Plan assets.

Estimated Plan Hedge Ratio - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

Modified Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

Mutual Fund Performance - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client performance compiled from consultant and custodian data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value 100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4th percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK calculates performance for investment managers and composites using different methodologies.

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of $\geq 10\%$ of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

Price to Earnings Ratio - The ratio valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

R-Squared - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

Risk Free Benchmark - ICE BofAML 3 Mo US T-Bill Index unless specified otherwise.

Glossary

RVK Liquidity Rating - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasuries	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Stable Value (Plan Sponsor Directed)	50
TIPS	95	Hedge Funds of Funds	35
US Large Cap Equity	95		
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Global Equity	90	<u>Not Liquid Investments</u>	
Non-US Large Cap Equity	90	Core Real Estate	25
Global Tactical Asset Allocation	88	Core Plus Real Estate	15
MLPs	85	Non-Core Real Estate	5
US Mid Cap Equity	85	Private Equity	5
US SMid Cap Equity	85	Private Credit	5
US Small Cap Equity	85		
REITs	85		
Non-US Small Cap Equity	85		
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

Spread Duration - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITs
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Time Period Abbreviations - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

Total Fund Attribution - The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) - The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) - The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) - The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) - The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

Total Fund Beta - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

Glossary

Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

Treynor Ratio - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

Up Market Capture - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolio's return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

PORTLAND

BOISE

CHICAGO

NEW YORK

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