

# **ARKANSAS TEACHER RETIREMENT SYSTEM**

**February 3, 2025**

1400 West Third Street

**BOARD ROOM**

Little Rock, AR 72201

## **Board of Trustees Meeting**

**10:30 a.m.**

### **Trustees**

Danny Knight, Chair

Shawn Higginbotham, Vice Chair

Kelsey Bailey

Anita Bell

Susan Ford

Keri Hamilton

Dr. Mike Hernandez

Michael Johnson

Bobby G. Lester

Chip Martin

Jeff Stubblefield

### **Ex Officio Trustees**

Susannah Marshall, State Bank Commissioner

Jacob Oliva, Secretary, Dept. of Education

Honorable Dennis Milligan, State Auditor

Honorable John Thurston, State Treasurer

**AGENDA**  
**ARKANSAS TEACHER RETIREMENT SYSTEM**  
**BOARD OF TRUSTEES**

**February 3, 2025**  
**10:30 a.m.**  
**1400 West Third Street**  
**Little Rock, AR 72201**

- I. **\*Call to Order/Roll Call.** page 1.
- II. **\*Motion for Excused Absences.**
- III. **\*Adoption of Agenda.** page 2.
- IV. Executive Summary. (Attachment No. 1) page 6.
- V. **\*Approval of December 2, 2024, Minutes.** (Attachment No. 2) page 14.
- VI. Executive Director Report. *Mark White, Executive Director* (Attachment No. 3) page 25.
- VII. **\*Staff Empowerment.**
  - A. **\*Authority to Transact Business.**
    - 1. **\*Resolution 2025-01.** (Attachment No. 4) page 28.
  - B. **\*Specific Powers of Executive Director.**
    - 1. **\*Resolution 2025-02.** (Attachment No. 5) page 29.
  - C. **\*Appointment of ATRS as Manager of LLC's.**
    - 1. **\*Resolution 2025-03.** (Attachment No. 6) page 31.
- VIII. **\*Authority to Reimburse Trustee Expenses for 2025.** *Mark White, Executive Director*
  - A. **\*Resolution 2025-04.** (Attachment No. 7) page 32.
- IX. **\*Authorization for Board Travel and Expense Reimbursement 2025.** *Mark White, Executive Director*

\* Action Item

2025-01-30 09:47:15.224387

- A. **\*Resolution 2025-05.** (Attachment No. 8) page 33.
  
- X. **\*2025-2026 Employer Contribution Rate.** *Mark White, Executive Director*
  - A. **\*Resolution 2025-06.** (Attachment No. 9) page 38.
  
- XI. **\*2025-2026 Member Contribution Rate.** *Mark White, Executive Director*
  - A. **\*Resolution 2025-07.** (Attachment No. 10) page 39.
  
- XII. **\*Surcharge Rate for Outsourced Positions.** *Mark White, Executive Director*
  - A. **\*Resolution 2025-08.** (Attachment No. 11) page 40.
  
- XIII. **\*Actuarial Valuation June 30, 2024.** *Mark White, Executive Director*
  - A. **\*Active and Inactive Members.** (Attachment No. 12) page 41.
  - B. **\*Retirees and Beneficiaries.** (Attachment No. 13) page 119.
  
- XIV. Report of Member Interest Amount Waived Under A.C.A. Sec. 24-7-205. *Mark White, Executive Director*
  
- XV. Report of Employer Penalties and Interest Waived Under A.C.A. Sec. 24-7-411. *Mark White, Executive Director* (Attachment No. 14) page 163.
  
- XVI. **\*Disability Review.** *Ms. Jennifer Liwo, General Counsel*
  - A. **\*In the Matter of Disability Review Applicant ATRS ID# 497875.** (Attachment No. 15) page 164.
  - B. **\*In the Matter of Disability Review Applicant ATRS ID# 327046.** (Attachment No. 16) page 167.
  
- XVII. **\*2025 Board of Trustees Election.** *Mark White, Executive Director*
  - A. **\*Certification of Mr. Arthur "Chip" Martin, III, Member Trustee - Position #3.**
    - 1. **\*Resolution 2025-09.** (Attachment No. 17) page 170.
  
- XVIII. **\*Correction of Resolution 2024-42 - Waiver of Employer Late Fees and Interest Penalties.** *Ms. Jennifer Liwo, General Counsel*
  - A. **\*Resolution 2025-10.** (Attachment No. 18) page 171.
  
- XIX. Investment Committee Report. *Mr. Arthur "Chip" Martin, III, Investment Committee Chair*
  - A. Arkansas Related and Investment Update.

\* Action Item

1. List of Fund Closings.
    - a. Long Wharf Real Estate Partners VII, LP, a real estate fund focused on acquiring a diversified portfolio of assets at significant discounts to values, the Board authorized commitment of up to \$50 million dollars on December 2, 2024 was accepted and closed on December 30, 2024.
    - b. Franklin Park Venture Capital Opportunity Fund II, LP, a private equity fund of funds investing in later stage venture capital funds, the Board authorized commitment of up to \$40 million dollars on June 3, 2024 was accepted and closed on December 20, 2024.
  2. Board Policies Report. (Attachment No. 19) [page 173.](#)
  3. Arkansas Related Update. (Attachment No. 20) [page 176.](#)
  4. **\*Discussion and Recommendation for Frequency of Presentations of Performance Reports for Private Equity and Real Assets.**
- B. Private Equity. Franklin Park.
1. Private Equity Portfolio Review for the Quarter Ending September 30, 2024. (Attachment No. 21) [page 179.](#)
  2. **\*Recommendation to approve for Board adoption Resolution 2025-11 authorizing an additional investment of up to \$40 million dollars in Franklin Park Corporate Finance Access Fund III, LP with Imminent Need.** (Attachment No. 22) [page 226.](#)
    - a. **\*Resolution 2025-11.** (Attachment No. 23) [page 235.](#)
- C. General Investment Consultant. Aon Hewitt Investment Consulting.
1. Preliminary Performance Report for the Quarter Ending December 31, 2024. (Attachment No. 24) [page 237.](#)
  2. **\*Recommendation to approve for Board adoption Resolution 2025-12 approving transition from the Kennedy Capital Management Extended Market Small Cap strategy to the Kennedy Capital Small-Mid Cap Value strategy.** (Attachment No. 25) [page 389.](#)
    - a. **\*Resolution 2025-12.** (Attachment No. 26) [page 394.](#)
  3. Arrowstreet Global Equity ACWI Alpha Extension 130/30/20 LP Update. (Attachment No. 27) [page 395.](#)
- D. Real Assets. Aon Hewitt Investment Consulting.
1. Performance Report for the Quarter Ending September 30, 2024. (Attachment No. 28) [page 396.](#)

\* Action Item

2. **\*Recommendation to approve for Board adoption Resolution 2025-13 authorizing an investment of up to \$100 million dollars in Strategic Partners Infrastructure IV L.P. with Imminent Need.** (Attachment No. 29) page 442.
  - a. **\*Resolution 2025-13.** (Attachment No. 30) page 449.

XX. Operations Committee Report. *Mr. Bobby Lester, Operations Committee Chair*

- A. Open Forum for Potential Rule or Law Changes by Committee Members and Board Members in Attendance.
  1. Open Forum. This is a standard part of the Committee agenda to allow Committee Members and Board Members in attendance to address topics and issues for consideration.
- B. ATRS 2025 Legislative Update. (Attachment No. 31) page 451.
- C. Other 2025 Legislative Update.
- D. ATRS Technology Assessment Update. (Attachment No. 32) page 452.

XXI. **\*Staff Reports.**

- A. **\*Medical Committee Report. 15 Applicants were approved.** *Mr. Willie Kincade, Director of Operations* (Attachment No. 33) page 458.

XXII. Other Business.

XXIII. **\*Adjourn.**

## EXECUTIVE SUMMARY

TO: Board of Trustees  
FROM: ATRS Staff  
RE: Executive Summary  
DATE: February 3, 2025

**VI. Executive Director Report. *Mark White, Executive Director* page 25.**

**VII. \*Staff Empowerment.**

Each year the ATRS Board authorizes ATRS staff to transact certain business to set the specific powers of the executive director and to appoint the executive director to manage and delegate operational duties to the limited liability companies that ATRS uses to manage its investments and Arkansas related property. The three resolutions regarding such actions are attached to this agenda as action items. The resolutions are worded the same as last year.

**A. \*Authority to Transact Business.**

This is the standard Board resolution to authorize staff to take all actions necessary and limit authority of staff with the same authority and restrictions as in previous years. Other than to change the year, this is unchanged from last year.

**1. \*Resolution 2025-01. page 28.**

**B. \*Specific Powers of Executive Director.**

This is the standard Board resolution to authorize the specific powers of the Executive Director and to also limit those powers as in previous years. Other than to change the year, this is unchanged from last year.

**1. \*Resolution 2025-02. page 29.**

**C. \*Appointment of ATRS as Manager of LLC's.**

This is the standard Board resolution to authorize staff to transact business as manager of LLCs. Other than to change the year, this is unchanged from last year.

**1. \*Resolution 2025-03. page 31.**

**VIII. \*Authority to Reimburse Trustee Expenses for 2025. *Mark White, Executive Director***

This is an action item for the Board to adopt a resolution authorizing reimbursement to Trustees for their expenses and costs for serving as Trustees. The resolution is

the same as last year. Other than to change the year, this is unchanged from last year.

**A. \*Resolution 2025-04.** [page 32.](#)

**IX. \*Authorization for Board Travel and Expense Reimbursement 2025.** *Mark White, Executive Director*

This is a standard Resolution for Board reimbursement. Other than to change the year, this is unchanged from last year. You should note that all travel reimbursement requests for both in-state and out-of-state travel can be found on the Federal General Services Administration website at: <http://www.gsa.gov/portal/category/100120>

GSA rates are set by fiscal year, effective October 1 each year. For cities not identified or located on the website, the standard lodging rate is \$110 per day and \$68 per day for meals.

**A. \*Resolution 2025-05.** [page 33.](#)

**X. \*2025-2026 Employer Contribution Rate.** *Mark White, Executive Director*

This is a standard resolution that has been adopted over the years to establish the employer contribution rate for the upcoming fiscal year. The ATRS Board, on November 13, 2017, adopted an employer contribution rate schedule that established the employee contribution rate after FY2023 should be 15.00%. This resolution sets the employer contribution rate at 15.00%.

**A. \*Resolution 2025-06.** [page 38.](#)

**XI. \*2025-2026 Member Contribution Rate.** *Mark White, Executive Director*

This is a standard resolution that has been adopted over the years to establish the member contribution rate for the upcoming fiscal year. The ATRS Board, on November 13, 2017, adopted a member contribution rate schedule that established the member contribution rate after FY2023 should be 7.00%. This resolution sets the member contribution rate at 7.00%.

**A. \*Resolution 2025-07.** [page 39.](#)

**XII. \*Surcharge Rate for Outsourced Positions.** *Mark White, Executive Director*

From the 2017 Legislative session, a surcharge rate applies to outsourced salaries that are embedded positions as defined by that law. The law provides a "phased in" rate over several years. After the full phased in period, the Board has the authority to adjust the rate to a maximum rate 4.00%. This resolution sets the outsourcing surcharge rate at 4.00%.

**A. \*Resolution 2025-08.** [page 40.](#)

**XIII. \*Actuarial Valuation June 30, 2024. Mark White, Executive Director**

These are the annual reports prepared by the actuaries concerning the valuation of liabilities to active and inactive members along with the valuation of liabilities for annuities being paid to current retirees and current beneficiaries. These reports reflect the future liabilities of ATRS to these two groups. The two groups are: (1) Active and Inactive Members; and (2) Members and Beneficiaries of Members currently receiving a monthly annuity. The ATRS Board has already had a presentation by the actuaries on these reports that are now in final form.

**A. \*Active and Inactive Members. [page 41.](#)**

**B. \*Retirees and Beneficiaries. [page 119.](#)**

**XIV. Report of Member Interest Amount Waived Under A.C.A. Sec. 24-7-205. Mark White, Executive Director**

No member interest was waived for this reporting period. This is a standard report for information and is not an action item.

**XV. Report of Employer Penalties and Interest Waived Under A.C.A. Sec. 24-7-411. Mark White, Executive Director [page 163.](#)**

ATRS may also waive employer interest and penalties when reports or payments are late or have issues due to a new bookkeeper, inclement weather, sickness or other situations that justify a waiver. Two (2) employer penalties and interest amounts were waived for this reporting period in the amount of \$450.00. This is a standard report for information and is not an action item.

**XVI. \*Disability Review. Ms. Jennifer Liwo, General Counsel**

Under the Disability Review procedure described in A.C.A.24-7-704(b)(3)(D) the Board shall approve the recommendations of the Medical Committee.

**A. \*In the Matter of Disability Review Applicant ATRS ID# 497875. [page 164.](#)**

**B. \*In the Matter of Disability Review Applicant ATRS ID# 327046. [page 167.](#)**

**XVII. \*2025 Board of Trustees Election. Mark White, Executive Director**

ATRS Board of Trustees has two (2) positions up for election, Position No. 3 - Member Trustee, Third Congressional District, and Position No 10 - Retire Trustee. Position No. 3, Member Trustee, Third Congressional District was unopposed. Position No. 10 is up in this year's Board of Trustees Election.

Position No. 10 - Retiree Trustee. Two (2) candidates filed for the Retiree Trustee position, Mr. Bobby Lester, incumbent, and Ms. Robin Nichols.



Ballots for the election will be mailed March 15, 2025, and are due back no later than April 15, 2025.

**A. \*Certification of Mr. Arthur "Chip" Martin, III, Member Trustee - Position #3.**

1. **\*Resolution 2025-09.** [page 170.](#)

**XVIII. \*Correction of Resolution 2024-42 - Waiver of Employer Late Fees and Interest Penalties.** *Ms. Jennifer Liwo, General Counsel*

In Resolution 2024-42, the Board granted Covered Employer 00211's request for a waiver of an interest penalty that was assessed against it. Resolution 2024-42 incorrectly notes the waived amount as three hundred eighty-three dollars and thirty-nine cents (\$383.39) instead of two hundred sixteen dollars and eighty-two cents (\$216.82). Resolution 2025-10 corrects this error.

- A. \*Resolution 2025-10.** [page 171.](#)

**XIX. Investment Committee Report.** *Mr. Arthur "Chip" Martin, III, Investment Committee Chair*

**A. Arkansas Related and Investment Update.**

1. **List of Fund Closings.**

- a. **Long Wharf Real Estate Partners VII, LP, a real estate fund focused on acquiring a diversified portfolio of assets at significant discounts to values, the Board authorized commitment of up to \$50 million dollars on December 2, 2024 was accepted and closed on December 30, 2024.**

The ATRS full commitment of up to \$50 million dollars was negotiated, accepted, and closed on December 30, 2024.

- b. **Franklin Park Venture Capital Opportunity Fund II, LP, a private equity fund of funds investing in later stage venture capital funds, the Board authorized commitment of up to \$40 million dollars on June 3, 2024 was accepted and closed on December 20, 2024.**

The ATRS full commitment of up to \$40 million dollars was negotiated, accepted, and closed on December 20, 2024.

2. **Board Policies Report.** [page 173.](#)

3. **Arkansas Related Update.** [page 176.](#)

Representatives of Arkansas Capital Corporation will provide the Board an update on Arkansas related investments.

4. **\*Discussion and Recommendation for Frequency of Presentations of Performance Reports for Private Equity and**

### **Real Assets.**

The ATRS real assets and private equity consultants will discuss options for the frequency of presentations of performance reports for these asset classes. Currently these reports are presented at each Board meeting unless the quarterly reports are not available at the time of the Board meeting. Due to the illiquid nature and timing of valuations for these asset classes, ATRS staff is asking for Board direction on the timing of the presentations of these reports.

### **B. Private Equity. Franklin Park.**

#### **1. Private Equity Portfolio Review for the Quarter Ending September 30, 2024. [page 179.](#)**

Michael Bacine of Franklin Park will provide the Board with a portfolio update for the quarter ending September 30, 2024.

#### **2. \*Recommendation to approve for Board adoption Resolution 2025-11 authorizing an additional investment of up to \$40 million dollars in Franklin Park Corporate Finance Access Fund III, LP with Imminent Need. [page 226.](#)**

Franklin Park Corporate Finance Access Fund III is a multi-year fund of funds that was formed to allow other investors to invest in smaller buyout, growth equity and turnaround funds with ATRS as an anchor. Though the fund sizes are smaller, the managers chosen for this fund are experienced investors, often having spun-out from larger successful firms. The managers are usually sector-focused with competitively advantaged domain knowledge. They typically have an operationally intensive, value-add approach. Since 2019, ATRS has committed \$90 million in the first Franklin Park Corporate Finance Fund as well as \$90 million in Fund II. Fund I has generated a net IRR of 17.6% and Fund II is on track to perform very well. Last June, the board authorized an investment of up to \$40 million in Fund III. The additional investment in Fund III presented today is part of the 2025 private equity pacing plan approved by the Board in December.

In Fund II, ATRS paid no management fee while all other limited partners were charged .9% of commitments. Beginning with Fund III, ATRS will pay a reduced management fee of .5% of commitments to help provide a source of incentive compensation for Franklin Park's investment staff and to align ATRS's interests with that of Franklin Park and its other investors. As in Fund II, ATRS will pay carried interest of 4% (for clients with total commitments of at least \$60 million over the 2-3 investment period) while all other limited partners will pay 5%. Due to the fact that there is no scheduled meeting of the Arkansas Legislative Council before the fund's anticipated closing date in February, Imminent Need is requested. ATRS staff concurs with Franklin Park's

recommendation to commit up to \$40 million dollars in Franklin Park Corporate Finance Access Fund III, L.P. with Imminent Need and to the fee structure.

a. **\*Resolution 2025-11.** page 235.

**C. General Investment Consultant. Aon Hewitt Investment Consulting.**

**1. Preliminary Performance Report for the Quarter Ending December 31, 2024.** page 237.

P.J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting will provide the Board with a preliminary portfolio update for the quarter ending December 31, 2024.

**2. \*Recommendation to approve for Board adoption Resolution 2025-12 approving transition from the Kennedy Capital Management Extended Market Small Cap strategy to the Kennedy Capital Small-Mid Cap Value strategy.** page 389.

Kennedy Capital Management has managed assets for ATRS through its Extended Market Small Cap strategy since 1994 and generated returns of 11.6% since inception compared to their benchmark of 9.3%. The account managed by Kennedy is valued around \$450 million dollars as of December 31, 2024. Due to recent changes in personnel at Kennedy, Kennedy has decided to stop utilizing the Extended Market Small Cap strategy. This decision requires investors in the Extended Market Small Cap strategy to evaluate their options and transition assets from the discontinued strategy.

Aon Hewitt Investment Consulting recommends transitioning from the Kennedy Extended Market Small Cap strategy to the Kennedy Small-Mid Cap Value Strategy (SMID) and ATRS staff concurs. The Extended Market Small Cap strategy guidelines allow Kennedy to target investment opportunities in small-, mid- and micro-cap stocks and is benchmarked to the Russell 2000 Value Index. The SMID strategy is similar but will limit the exposure to micro-cap stocks, be benchmarked to the Russell 2500 Value Index, and offer a lower fee structure.

a. **\*Resolution 2025-12.** page 394.

**3. Arrowstreet Global Equity ACWI Alpha Extension 130/30/20 LP Update.** page 395.

ATRS invested approximately \$800 million dollars in the Arrowstreet Global Alpha Extension 130/30/20 strategy in 2023. The fund has grown to around \$1.2 billion dollars with a return of over 25% as of December 31, 2024. The fund manager has informed ATRS of a planned enhancement to the fund's strategy intended to increase the fund's allowable use of equity index

futures from the current 20% to 40%. The fund agreements provide this ability to Arrowstreet and no action is required by ATRS. This item is on the agenda to provide the Board opportunity to ask questions and provide direction to ATRS staff.

**D. Real Assets. Aon Hewitt Investment Consulting.**

**1. Performance Report for the Quarter Ending September 30, 2024. page 396.**

Chae Hong of Aon Hewitt Investment Consulting will provide the Board with a portfolio update for the quarter ending September 30, 2024.

**2. \*Recommendation to approve for Board adoption Resolution 2025-13 authorizing an investment of up to \$100 million dollars in Strategic Partners Infrastructure IV L.P. with Imminent Need. page 442.**

Strategic Partners Infrastructure IV is a fund investing in core and core plus limited partnership assets primarily in energy and digital infrastructure. The strategy seeks to invest in assets at a discount resulting in returns coming from discounted valuation, NAV appreciation, and cash yield. The fund will target a 14% to 16% IRR, previous funds in the series have averaged a 16% IRR. Strategic Partners Funds Solutions Advisors L.P. is the manager, Strategic Partners Fund Solutions Associates Infrastructure IV L.P. is the General Partner. These entities are owned by Blackstone, Inc. which is based in New York, has over 4700 employees and is the largest alternative assets manager in the world.

If approved this investment will be the first Blackstone infrastructure fund for ATRS, however ATRS has previously invested in three Blackstone real estate funds. The first two funds have averaged around 12% IRR while the third fund is too early in the fund life to have a meaningful return measurement. Due to the fact that there is no scheduled meeting of the Arkansas Legislative Council before the fund's anticipated closing date in March, Imminent Need is requested. ATRS staff concurs with Aon Hewitt Investment Consulting's recommendation to commit up to \$100 million dollars in Strategic Partners Infrastructure IV L.P. with Imminent Need.

**a. \*Resolution 2025-13. page 449.**

**XX. Operations Committee Report. *Mr. Bobby Lester, Operations Committee Chair***

**A. Open Forum for Potential Rule or Law Changes by Committee Members and Board Members in Attendance.**

Open Forum for Potential Rule or Law Changes by Committee Members and Board Membes in Attendance.

**1. Open Forum. This is a standard part of the Committee agenda to allow Committee Members and Board Members in attendance to address topics and issues for consideration.**

**B. ATRS 2025 Legislative Update. [page 451.](#)**

The 7 bills in the legislative package previously approved by the Board have been filed by their legislative sponsors and assigned to the Joint Public Retirement Committee. The packet includes a list of the bills with their bill numbers. All of the bills are presently being reviewed by the legislature's actuary for an actuarial cost study.

**C. Other 2025 Legislative Update.**

**D. ATRS Technology Assessment Update. [page 452.](#)**

ATRS staff will provide a summary of the Technology Assessment recently conducted for ATRS by Linea Solutions, along with an outline of planned next steps.

**XXI. \*Staff Reports.**

**A. \*Medical Committee Report. 15 Applicants were approved. *Mr. Willie Kincade, Director of Operations* [page 458.](#)**

The Medical Committee Report is a standard report made by staff on behalf of the Medical Committee approving disability cases. A total of 24 disability applications were received, 15 were approved, 6 were denied, and 6 needed more information. This is not an action item.

**XXII. Other Business.**

**MINUTES**  
**ARKANSAS TEACHER RETIREMENT SYSTEM**  
**BOARD OF TRUSTEES**  
**December 2, 2024**  
**11:00 a.m.**  
**1400 West Third Street**  
**Little Rock, AR 72201**

**ATTENDEES**

**Board Members Present**

Danny Knight, Chair  
Shawn Higginbotham, Vice Chair  
Kelsey Bailey  
Anita Bell  
Susan Ford  
Keri Hamilton  
Dr. Mike Hernandez  
Bobby Lester  
Arthur "Chip" Martin  
Jeff Stubblefield  
Susannah Marshall, Bank Commissioner  
Kelly Griffin, designee for Jacob Oliva, Sec,  
Dept of Ed.  
Jason Brady, designee for Hon, Dennis  
Milligan, State Auditor  
Hon. Larry Walther, State Treasurer

**Reporters Present**

Mike Wickline, AR Dem. Gaz.

*\*Via ZOOM*

**ATRS Staff Present**

Mark White, Executive Director  
Rod Graves, Deputy Director  
Sarah Linam, Deputy Director  
Tammy Porter, Board Secretary  
AnneMarie Berardi, Dir. Outreach/Engagement  
Curtis Carter, Chief Financial Officer  
Kevin Chadwick, Internal Auditor  
Clementine Infante, Staff Attorney  
Willie Kincade, Director of Operations  
Mike Lauro, Information Systems Manager\*  
Jennifer Liwo, General Counsel  
Jerry Meyer, Manager, Real Assets  
Stephanie Lilly-Palmer, HR Director  
Steve Patterson, Director of Operations  
Logan Penter, Attorney Specialist  
Joe Sithong, Information Systems Coordinator\*  
Amber Sevilla, Ex. Assistant to Director  
Misty Yant, Manager, Accounting/Reporting\*

**Guest Present**

PJ Kelly, Aon Hewitt Consulting  
Jack Dowd, Aon Hewitt Consulting  
Katie Comstock, Aon Hewitt Consulting  
Judy Kermans, GRS – Actuaries  
Heidi Berry, GRS – Actuaries  
Derek Henning, GRS – Actuaries  
Eric Munson, State Treasurer's office  
Cyril Espanol, With Intelligence\*  
Mknapp\*  
Mustafa Elgabry, BlackRock\*  
Gar Chung/FIN-News\*  
Hannah D.\*

- I. **Call to Order/Roll Call.** Mr. Danny Knight, Chair, called the Board of Trustees meeting to order at 11:01 a.m. Roll call was taken. All members were present.

**II. Adoption of Agenda.**

**Mr. Martin moved for adoption of the Agenda. Mr. Lester seconded the motion, and the Board unanimously approved the motion.**

**III. Executive Summary.** The Executive Summary was provided for reference with no questions or expansions on the written summary.

**IV. Approval of Prior Meeting Minutes.**

**A. September 30, 2024, Minutes.**

**Mr. Brady moved for approval of the Minutes of the Board of Trustees meeting of September 30, 2024. Ms. Griffin seconded the motion, and the Board unanimously approved the motion.**

**B. October 31, 2024, Minutes.**

**Mr. Higginbotham moved for approval of the Minutes of the Board of Trustees meeting of October 31, 2024. Ms. Hamilton seconded the motion, and the Board unanimously approved the motion.**

**V. Executive Director Report.** Mr. White, Executive Director, gave the Board a report on ATRS activity.

**VI. Preliminary Active Actuarial Valuation – June 30, 2024. Judy Kermans, Heidi Berry, and Derek Henning of Gabriel, Roeder, Smith and Company.** Judy Kermans, Heidi Berry and Derek Henning from Gabriel, Roeder, Smith and Company presented the Board with the Preliminary Actuarial Valuation for June 30, 2024.

**VII. Statement of Financial Interest.** Executive Director Mark White gave the Board a report on when Statement of Financial Interest are due.

**VIII. Proposed 2025 Board of Trustees Schedule.**

**Mr. Martin moved to approve the 2025 Board of Trustees Schedule. Dr. Hernandez seconded the motion and the Board unanimously approved the motion.**

**IX. 2025 Board Election.** Executive Director Mark White gave the Board a report on the 2025 Board Election.

**A. Election Timeline.**

**X. Report of Member Interest Waived Under A.C.A. Sec. 24-7-205. None this reporting period.** Executive Director Mark White presented the member interest amount waived report. ATRS waives interest for members when there is a dispute between ATRS and the member as to whether ATRS made a mistake or otherwise did not do all that was required on the member's account. No member interest was waived for this reporting period.

**XI. Report on Penalties and Interest Waived under A.C.A. Sec 24-7-411.** Director White presented the employer interest and penalties waived report. ATRS may also waive employer interest and penalties when reports or payments are late or have issues due to a new bookkeeper, inclement weather, sickness and other situations that justify a waiver. Four (4) employer penalties and interest amounts were waived for this reporting period in the amount of \$1,656.93.

**XII. Board Waiver of Penalties and Interest Greater than \$1,000 in a Fiscal Year**

**A. Resolution 2024-41.**

**Mr. Stubblefield moved to approve Resolution 2024-41. Ms. Bell seconded the motion, and the Board unanimously approved the motion.**

**B. Resolution 2024-42.**

**Ms. Griffin moved to approve Resolution 2024-42. Mr. Martin seconded the motion, and the Board unanimously approved the motion.**

**XIII. Manifest Injustice Report.** Executive Director Mark White provided the Board with the second report of 2024. This report was for information purposes only and not an action item.

**XIV. Manifest Injustice Claim Referral.** Executive Director Mark White provided the Board with the Manifest Injustice Claim Referral.

Mr. Stubblefield *moved to approve* the Manifest Injustice Claim Referral presented to the Board. Dr. Hernandez *seconded the motion*, and the Board *unanimously approved the motion*.



**XV. Executive Director Review.**

**A. In Re: EDR No. 2024-01**

**Mr. Johnson *moved to approve* Executive Director Review No, 2024-01. Dr. Hernandez *seconded the motion*, and the Board *unanimously approved the motion*.**

**XVI Audit Committee Report. Mr. Jeff Stubblefield, Vice Chair.**

**A. Audit Information Technology Division’s Network Infrastructure Management Process.**

**Mr. Stubblefield *moved to approve* the Audit Information Technology Division’s Network Infrastructure Management Process, and the Board *unanimously approved the motion*.**

**B. Audit of the Benefit Section’s Disability Retirement Application Process.**

**Mr. Stubblefield *moved to approve* the Audit of the Benefit Section’s Disability Retirement Application Process, and the Board *unanimously approved the motion*.**

**XVII Investment Committee Report. Mr. Arthur “Chip” Martin, Chair, gave a report on the Investment Committee meeting.**

**A. Arkansas Related and Investment Update.**

- 1. List of Fund Closing.** Mr. Mark White gave the Board an update on fund closings.
- 2. Board Policy Report.** Mr. Mark White gave the Board a report on Board Policies.
- 3. Arkansas Related Update.**
  - a. Recommendation to approve for Board adoption Resolution 2024-35, authorizing the sale of ATRS owned property located on John Ashley Drive, North Little Rock, Arkansas.**

**1. Resolution 2024-35**

**Mr. Martin *moved to adopt* Resolution 2024-35, authorizing the sale o ATRS owned property located on John Ashley Drive, North Little Rock Arkansas, and the Board *unanimously approved the motion.***

**B. General Investment Consultant Report. *AON Hewitt Consulting***

- 1. Performance Report for the Quarter ended September 30, 2024.** Aon Hewitt Investment Consulting provided the Committee with a Performance Report for the quarter ended September 30, 2024. The report was for information purposes and no action was taken.
- 2. Preliminary Performance Report for the Month Ended October 31, 2024.** Aon Hewitt Investment Consulting provided the Committee with a Performance Report for the quarter ended October 31, 2024. The report was for information purposes and no action was taken.

**C. Real Asset Consultant. *Aon Hewitt Consulting***

- 1. Performance Report for the Quarter Ended June 30, 2024.** Aon Hewitt Investment Consulting provided the Committee with a Performance Report for the quarter ended June 30, 2024. The report was for information purposes and no action was taken.
- 2. Recommendation to approve for Board adoption Resolution 2024-36, authorizing an investment of up to \$50 million dollars in Long Wharf Real Estate Partners VII, L.P.** Aon Hewitt Investment Consulting presented the Committee with the recommendation to authorize an investment of up to \$50 million dollars in Long Wharf Real Estate Partners VII, L.P.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* Resolution 2024-36, authorizing an investment of up to \$50 million dollars in Long Wharf Real Estate Partners VII, L.P., and the Board *unanimously approved the motion.***

3. **Recommendation to approve for Board adoption a motion to revise Board Policy 6 (Real Assets Investment Policy) to adjust by 2% the target allocations of the Real Estate and Infrastructure subasset classes of the Real Asset portfolio.** Aon Hewitt Investment Consulting presented the Committee with the recommendation to revise Board Policy 6 (Real Assets Investment Policy) to adjust by 2% the target allocations of the Real Estate and Infrastructure subasset classes of the Real Asset portfolio.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* the motion to revise Board Policy 6 (Real Assets Investment Policy) to adjust by 2% the target allocations of the Real Estate and Infrastructure subasset classes of the Real Asset portfolio, and the Board *unanimously approved the motion.***

4. **Recommendation to approve for Board adoption a motion to revise Board Policy 4 (Investment Policy) to adjust by 2% the target allocations of the Real Estate and Infrastructure subasset classes of the Real Asset portfolio.** Aon Hewitt Investment Consulting presented the Committee with the recommendation to revise Board Policy 4 (Investment Policy) to adjust by 2% the target allocations of the Real Estate and Infrastructure subasset classes of the Real Asset portfolio.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* the motion to revise Board Policy 4 (Investment Policy) to adjust by 2% the target allocations of the Real Estate and Infrastructure subasset classes of the Real Asset portfolio, and the Board *unanimously approved the motion.***

5. **Recommendation to approve for Board adoption a motion to approved the 2025 Real Assets Commitment Pacing (Total Pacing \$750 Million Dollars).**
  - a. **Core Real Estate \$300 Million Dollars.**

- b. **Value Added and Opportunistic (Non-Core) Real Estate \$100 Million Dollars.**
- c. **Infrastructure \$350 Million Dollars.**

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* the motion for 2025 Real Assets Commitment Pacing (Total Pacing \$750 Million Dollars) and the Board *unanimously approved the motion.***

**D. Private Equity Consultant Report. *Franklin Park.***

- 1. **Preliminary Private Equity Portfolio Review for the Quarter Ended June 30, 2024.** Michael Bacine provided the Preliminary Private Equity Portfolio Review for the Quarter Ended June 30, 2024.
- 2. **Recommendation to approve for Board adoption Resolution 2024-37, authorizing an investment of up to \$35 million dollars in Riverside Value Fund II, L.P.** Michael Bacine provided the Committee with the Recommendation to approve for Board adoption Resolution 2024-37, authorizing an investment of up to \$35 million dollars in Riverside Value Fund II, L.P.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* Resolution 2024-37 authorizing an investment of up to \$35 million dollars in Riverside Value Fund II, L.P, and the Board *unanimously approved the motion.***

- 3. **Recommendation to approve for Board adoption Resolution 2024-38, authorizing an investment of up to \$35 million dollars in NovaCap International Technologies VII, L.P.** Michael Bacine provided the Committee with the Recommendation to approve for Board adoption Resolution 2024-38, authorizing an investment of up to \$35 million dollars in NovaCap International Technologies VII, L.P.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* Resolution 2024-38, authorizing an investment of up to \$35 million dollars**

**in NovaCap International Technologies, VII, L.P., and the Board *unanimously approved the motion.***

4. **Recommendation to approve for Board adoption Resolution 2024-39, authorizing an investment of up to \$35 million dollars in Revelstoke Capital Partners Fund IV, L.P.** Michael Bacine provided the Committee with the Recommendation to approve for Board adoption Resolution 2024-39, authorizing an investment of up to \$35 million dollars in Revelstoke Capital Partners Fund IV, L.P.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* Resolution 2024-39 authorizing an investment of up to \$35 million dollars in Revelstoke Capital Partners Fund, IV, L.P., and the Board *unanimously approved the motion.***

5. **Recommendation to approve for Board adoption Resolution 2024-40, authorizing an investment of up to \$35 million dollars in Peak Rock Capital Fund IV, L.P.** Michael Bacine provided the Committee with the Recommendation to approve for Board adoption Resolution 2024-40, authorizing an investment of up to \$35 million dollars in Peak Rock Capital Fund IV, L.P.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* Resolution 2024-40, authorizing an investment of up to \$35 million dollars in Peak Rock Capital Fund IV, L.P., and the Board *unanimously approved the motion.***

6. **Recommendation to approve for Board adoption a motion to approve the 2025 Private Equity Pacing Schedule (Total Pacing \$400 Million Dollars.)**
  - a. Five to Seven Buyout/Growth/Turnaround \$40 Million Dollars Each Primarily in the U.S. (Total \$280 Million Dollars).

- b. Up to Two Debt/Distressed (Total up to \$80 Million Dollars Depending on the Total Commitment to Buyout/Growth/Turnaround Funds Discussed above).
- c. Franklin Park Corporate Finance Access Fund III, L.P. \$40 Million Dollars.
- d. Franklin Park Venture Fund XV \$40 Million Dollars.
- e. Franklin Park Venture Capital Opportunity Fund II, L.P. \$40 Million Dollars.

Staff concurs with the recommendation.

**Mr. Martin *moved to approve* the 2025 Private Equity Pacing Schedule (Total Pacing \$400 Million Dollars), and the Board *unanimously approved the motion*.**

**XVIII. Operations Committee Report.** Mr. Bobby Lester, Chair, gave a report on the Operations Committee meeting.

**A. Open Forum for potential Rule or Law Changes by Committee Members and board Members in Attendance.**

1. **Open Forum.** None.

**B. ATRS 2025 Legislative Package.** Mr. Mark White, Executive Director, presented the Committee with an update on the 2025 Legislative Package.

**C. Update on ATRS Board Policy 4 – Investment Policy.**

**Mr. Lester *moved to approve* the Update on ATRS Board Policy 4 – Investment Policy, and the Board *unanimously approved the motion*.**

**D. Update on ATRS Board Policy 6 – Real Asset Investment,**

**Mr. Lester *moved to approve* the Update on ATRS Board Policy 6 – Real Asset Investment, and the Board *unanimously approved the motion*.**

**XIX. Staff Reports.**

- A. Medical Committee Report.** Mr. Willie Kincade reported that a total of 11 Disability Retirement Applications were approved.
- Ms. Hamilton moved to approve the Medical Committee Report. Ms. Ford seconded the motion, and the Board unanimously approved the Motion.**
- B. Financial Reports.** Mr. Curtis Carter, chief Financial Officer, provided the financial report for 2024. No action was taken.
- 1. Financial Statement Report.**
  - 2. Travel Report.**
- C. Personnel Report.** The Personnel Report was presented the Board. No action was taken.
- D. Request for Qualifications for Securities Litigation and Class Action Monitoring.** Mark White, Executive Director and Jennifer Liwo, General Counsel presented the Board with request for Qualifications for Securities Litigation and Class Action Monitoring.
- 1. Recommendation for Securities Monitoring and Asset Recovery Litigation Policy.**

**Mr. Lester moved to approve the recommendation for Securities Monitoring and Asset Recovery Litigation Policy. Mr. Brady seconded the motion, and the Board unanimously approved the motion.**
  - 2. Recommendation for Selection of Securities Litigation and Class Action Monitoring Counsel.**

**Mr. Brady moved to approve the recommendation for Selection of Securities Litigation and Class Action Monitoring Counsel. Mr. Martin seconded the motion, and the Board unanimously approved the motion.**
- XX. Other Business:** None.
- XXI. Adjourn.** With no other business, Mr. Danny Knight, Chair, entertained a motion to adjourn the meeting.

**Mr. Martin *moved to adjourn* the Board of Trustees meeting. Mr. Lester *seconded the motion*, and the Board *unanimously approved the motion*.**

**Meeting adjourned at 12:25 p.m.**

\_\_\_\_\_  
Mr. Mark White, Executive Director

\_\_\_\_\_  
Mr. Danny Knight, Chairman

\_\_\_\_\_  
Tammy Porter, Board Secretary

\_\_\_\_\_  
Date



**Executive Director Board Report  
January 23, 2025**

To the ATRS Board of Trustees:

I am pleased to report to you the following highlights of the activities and achievements of your ATRS staff since my last Board Report:

**Operations Improvement**

- The State Cybersecurity Office in the Division of Information Systems notified us last month of their approval of our revised cybersecurity policy. I'm proud of our team for their work and for the praise they received from DIS. The approval letter noted, "Your transition . . . outlines a well-thought-out and achievable roadmap to cyber maturity. It serves as an excellent example of how agencies can approach their cybersecurity journey with intentionality and foresight." DIS has asked us to consider presenting to other agencies on our approach.
- At the same time, we have noted an uptick in attempts by fraudsters to impersonate members and gain access to their accounts. To improve security for our members, we are going to implement new protocols for creating accounts in our online member portal. All members with portal accounts, and all members creating portal accounts in the future, will be required to answer security questions that only they should know. We will freeze existing portal accounts if the person attempting to access it is unable to answer the questions when they log in for the first time after the protocols go into effect.
- IRS 1099 forms for retirees and refunds have been processed and mailed to members, and the forms are now available online in the member portal. This year we mailed 59,152 retiree forms and 3,150 refund forms.

**Member Engagement**

- Beginning this month, we are sending welcome letters to all new members who joined the System in the July-September quarter. The welcome letter includes a link and QR code directing the members to our new Member Handbook. In this first round, we sent welcome letters to 4,195 new members. The next round of welcome letters should go out in March for new employees in the October-December quarter.
- In the last month, ATRS posts on Facebook, Instagram, and LinkedIn have accumulated more than 35,400 views, and 8,000 individuals are actively following the ATRS Facebook page.
- For the monthly Executive Director Update emails, the most recent Update was distributed to 45,913 subscribers, and was opened by at least 55.3% of the recipients.

## Human Resources

- When you come to the February meeting, you may notice that our employees are now wearing photo ID badges. This was a suggestion from staff members who thought that having badges would strengthen our security, and also make it easier to identify and get to know newer employees. In addition to requiring employees to wear badges in the office, we have also published an internal employee directory to help employees get to know each other better.

## Investments

- One bill we expect to see in this legislative session is a restriction on our investments in China. To prepare for this, we are having ongoing discussions with all of our investment consultants to identify any present holdings in China and estimate the impact of any restrictions. Depending on what bill(s) is introduced and passed, we may need to divest a small number of assets and make changes to our investment policy. We may also have to revise one or more of the investment benchmarks we use to evaluate our managers' performance. We have a good initial plan in place, and as legislation develops we will bring recommendations to you as necessary.
- In preparation for the legislative session, we have been gathering data and information on the impact of ATRS on Arkansas's economy. Altogether, between our direct investments and investments made by our fund managers, ATRS has more than \$982 million invested in Arkansas businesses. Each year we distribute more than \$1 billion in benefits to our members. According to the National Institute on Retirement Security, the benefits we pay out to Arkansas residents have an annual economic impact of more than \$1.4 billion on our state, generating more than \$125 million in state and local tax revenue and supporting nearly 8,000 jobs for Arkansans.

## Finance & Reporting

- We have held our Exit Conference with Arkansas Legislative Audit for the FY2024 audit. Because the Legislature is now in session, the audit report will not be presented to the legislative committee until later this year. We expect they will release the report early, so you will likely have it by your April meeting. I do not expect any negative findings in the report.
- We have published the ATRS Annual Comprehensive Financial Report for FY2024 and provided copies to all ATRS employers, and to the Governor and Legislative Council. Publishing this report is an important part of the transparency we owe to our members and to the taxpayers. I'm proud that we issued this ACFR less than 7 months after the end of the fiscal year. That is the fastest that ATRS has issued its annual report in more than two decades; in previous years, it has taken a year or more to issue the report.
- We have received our remaining actuarial reports for FY2024 from the System's actuaries at Gabriel, Roeder, Smith & Company – the GASB Statement Nos. 67 and 68 Accounting and Financial Report, and the Gain/Loss Analysis of Experience. The latter report shows an actuarial gain for FY2024 of \$550.2 million, which was primarily attributable to our strong investment returns. In past years these reports have not been included in the Board's formal agenda, but they will be provided to any Board member upon request.

## Progress on Strategic Plan Objectives and Initiatives

- **Outreach & Engagement:** The new member welcome letters that we have started sending are the first step towards creating a better introduction and orientation experience for new members when they enter ATRS. In the coming months we will identify the IT and other changes needed

to streamline and improve that experience. We are also beginning work on a revamp of the ATRS website, and in the coming months we will conduct another member survey to gauge member satisfaction and priorities.

- **Integrated Systems & Technology:** Linea Solutions has finalized their recommendations for a long-term technology roadmap. The purpose of this work is to help guide our future technology spending. In your February meeting, we will present the findings to the Operations Committee and discuss next steps. In addition, we are beginning a new round of process mapping as we work to complete operational improvements in all departments.
- **Staff Development:** We are wrapping up the development of functional job descriptions for all staff members and beginning work on a comprehensive professional development program. Once the functional job descriptions are complete, we will move to conduct the agency-wide assessment of organizational structure and staffing needs called for in the Strategic Plan.

### Future Plans & Priorities

In the coming months, I will be focused on the following issues:

- **Strategic Plan Implementation** – As noted above, several of the initiatives from the Strategic Plan begin in January and will continue through the year, including a website revamp, implementing recommendations from the technology assessment, and conducting an agency-wide assessment of organizational structure and staffing needs.
- **Legislature** – The 95<sup>th</sup> General Assembly convened at noon on Monday, January 13. The bills in our legislative package have all been introduced, and we are monitoring as other bills are filed. I will be making an initial presentation to the Joint Public Retirement Committee on Tuesday, January 28, and I expect the Committee to begin hearing bills on Tuesday, February 11.

Respectfully submitted,

Mark White  
Executive Director  
Arkansas Teacher Retirement System

**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 West Third Street  
Little Rock, Arkansas 72201**

**RESOLUTION  
No. 2025-01**

**Authority to Transact Business**

***BE IT RESOLVED***, That effective this 3<sup>rd</sup> day of February, 2025, **MARK WHITE**, Executive Director, **SARAH C. LINAM**, Deputy Director, **ROD GRAVES**, Deputy Director, and **WILLIE KINCADE**, Associate Director of Operations, each are authorized to execute, acknowledge and deliver such agreements, documents, and instruments as might be necessary or appropriate in connection with the purchase, sale, pledge, transfer, or other transaction of any kind whatsoever involving any investment approved by the Arkansas Teacher Retirement System Board of Trustees or approved by the Investment Committee of said Board; and

***WHEREAS***, This authority shall continue until after the first regular scheduled Board meeting in 2026; and

***FURTHER RESOLVED***, That the execution, acknowledgment and/or delivery of such agreement, document, or instrument by any one of the four (4) named persons shall constitute the valid, binding and enforceable act of the Arkansas Teacher Retirement System by its Board of Trustees.

**Adopted this 3<sup>rd</sup> day of February 2025.**

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**Mr. Danny Knight, *Chair***  
***Arkansas Teacher Retirement System***

**ARKANSAS TEACHER RETIREMENT SYSTEM**  
**1400 West Third Street**  
**Little Rock, Arkansas 72201**

**RESOLUTION**  
**No. 2025-02**

**Powers of the Executive Director**

**WHEREAS**, Ark. Code Ann. § 24-7-303(c) provides that the Executive Director of the Arkansas Teacher Retirement System (“Executive Director”) shall perform, or cause to be performed, such duties as are required of him under the Arkansas Teacher Retirement System Act, § 24-7-201 et seq., and as the Board of Trustees of the Arkansas Teacher Retirement System (“Board”) shall delegate to him; and

**WHEREAS**, the Board has delegated certain duties to the Executive Director in the policies and rules of the Arkansas Teacher Retirement System (“ATRS” or “the System”); and

**WHEREAS**, the law, rules, and policies applicable to the System do not specifically address the authority of the Executive Director to perform acts that are a natural, necessary, and ancillary extension of the duties prescribed to the Executive Director in the law, rules, and policies applicable to the System, or by resolution or other documented authorization of the Board; and

**WHEREAS**, the law, rules, and policies applicable to the System do not specifically address the authority of the Executive Director to perform those acts that fall within the usual and customary authority of the Executive Director as has been developed through the course of performance of previous Executive Directors over the years; and

**WHEREAS**, the Board has determined that the Executive Director should have the authority to: (1) perform those acts that are a natural, necessary, and ancillary extension of his duties as prescribed by the law, rules, and policies applicable to the System, or by resolution or other documented authorization of the Board, and (2) perform those acts that fall within the usual and customary authority of the Executive Director as has been developed through the course of performance of previous Executive Directors over the years; and

**WHEREAS**, the Board has determined that the Executive Director should notify the Board Chair of any material decision that may be made by the Executive Director under the authority granted to him in this resolution, to ensure that the Board is involved in all material decisions.

***NOW THEREFORE, BE IT RESOLVED***, that the Executive Director shall be and hereby is authorized and empowered to: (1) perform those acts that are a natural, necessary, and ancillary extension of his duties as prescribed by the law, rules, and policies applicable to the System, or by resolution or other documented authorization of the Board, and (2) perform those acts that fall within the usual and customary authority of the Executive Director as has been developed through the course of performance of previous Executive Directors over the years;

***FURTHER BE IT RESOLVED***, that the Executive Director shall notify the Board Chair of any material decision that may be made by the Executive Director under the authority granted to him in this resolution, to ensure that the Board is involved in all material decisions before a final decision is made; and

***FURTHER BE IT RESOLVED***, that this resolution shall be effective upon adoption of the Board and shall remain in effect until the next regularly scheduled meeting of the Board in February 2026, unless otherwise revoked by the Board or prohibited by the law, rules, or policies applicable to the System.

**Adopted this 3<sup>rd</sup> day of February 2025.**

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**Mr. Danny Knight, *Chair***  
***Arkansas Teacher Retirement System***

**ARKANSAS TEACHER RETIREMENT SYSTEM**  
**1400 West Third Street**  
**Little Rock, Arkansas 72201**

**RESOLUTION**  
**No. 2025-03**

**Appointment of ATRS as Manager of LLC's**

**WHEREAS**, The Arkansas Teacher Retirement System (“ATRS”) is the sole member and manager of several LLC's, including: Pinnacle Mountain Holding Company, LLC, Pinnacle Mountain Holding II, LLC, Pinnacle Mountain Holding Company III, LLC, Pinnacle Mountain Holding Company IV, LLC, Pinnacle Mountain Holding Company V, LLC, Pinnacle Mountain Holding Company VI, LLC, Pinnacle Mountain Holding Company VII, LLC, Pinnacle Mountain Holding Company VIII, LLC, all Arkansas limited liability companies; and American Timberland, LLC, a Delaware company (collectively, the “Companies”); and

**WHEREAS**, The ATRS Board of Trustees, acting as a prudent investor for the benefit of all ATRS members, and in recognizing ATRS as sole member and manager of the Companies, adopts the following actions and resolution for, and on behalf of the Companies;

***NOW, THEREFORE, BE IT RESOLVED***, That

1. As managing member of the Companies and pursuant to its authority in A.C.A § 24-2-619, ATRS hereby delegates the authority to the ATRS Executive Director to perform all duties related to the respective Companies consistent with the amended Articles of Organization, Operating Agreements, and other applicable laws and policies of ATRS and further the Executive Director may delegate authority to a Deputy Director or to an investment staff member, when proper, to perform needed actions and executions in his absence.

2. That the Executive Director or his delegate will provide regular reports to the ATRS Board on the Companies.

**Adopted this 3<sup>rd</sup> day of February 2025.**

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**Mr. Danny Knight, *Chair***  
***Arkansas Teacher Retirement System***

**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 West Third Street  
Little Rock, Arkansas 72201**

**RESOLUTION  
No. 2025-04**

**Authority to Reimburse Trustee Expenses for 2025**

**WHEREAS**, The Board of Trustees may reimburse expenses of the Trustees for performing official Board duties under A.C.A. § 24-7-303 (b) and other laws and policies of the State of Arkansas that may apply; and

**WHEREAS**, The Board must pre-approve any expenses incurred for the calendar year at its first meeting under ATRS Board Policy 1 section VIII.

**THEREFORE, BE IT RESOLVED**, That the ATRS Board of Trustees hereby authorizes ATRS to reimburse Trustees for losses in salary resulting from attendance of a Board meeting that would otherwise be paid by the employer, including but not limited to, a Trustee's out of pocket cost associated with employing substitute personnel or losses in salary or compensation and any costs of communication, including long distance, postage, internet access, and other communication charges consistent with ATRS Board Policy 1 section VII.A. upon presentation of a written request by a Trustee, with adequate documentation enclosed.

**Adopted this 3<sup>rd</sup> day of February 2025.**

---

**Mr. Danny Knight, *Chair***  
***Arkansas Teacher Retirement System***



**ARKANSAS TEACHER RETIREMENT SYSTEM**  
**1400 West Third Street**  
**Little Rock, Arkansas 72201**

**RESOLUTION**  
**No. 2025-05**

**Authorization for Board Travel and Expenses for 2025**

**WHEREAS**, Act 1211 of 1995 (A.C.A. § 25-16-901 *et seq.*) provides that every state board may, by a majority vote of the total membership of the board cast during its first regularly scheduled meeting of each calendar year, authorize expense reimbursement for each board member for performing official board duties. Such reimbursement cannot exceed the rate established for state employees by state travel regulations; and

**WHEREAS**, Act 975 of 2011 provides for expense reimbursement for members of the Board of Trustees of the Arkansas Teacher Retirement System; and

**NOW, THEREFORE, BE IT RESOLVED**, That the Board of Trustees of the Arkansas Teacher Retirement System, by a majority vote of its total membership, authorizes expense reimbursement for each Board member for performing official Board duties during the calendar year 2025; and

**FURTHER RESOLVED**, That the expense reimbursement shall not exceed the rate established for state employees by state travel regulations and shall be in compliance with the attached Addendum A to this Resolution, adopted by this Board to reflect changes in state travel regulations; and

**FURTHER RESOLVED**, That Board members, including those who live in the Little Rock area (excluding ex officio trustees), may be reimbursed for mileage and meal expenses incurred while performing official board duties in Little Rock at a rate not exceeding the rate established for state employees; and

**FURTHER RESOLVED**, That the adoption of this resolution authorizes reimbursement for any such expenses including those incurred in 2024 prior to the adoption of this resolution; and

**FURTHER RESOLVED**, That in years in which a Board retreat is held, each Board member shall be reimbursed for up to two (2) out-of-state conferences for the purpose of education; and

**FURTHER RESOLVED**, That in years in which the Board does not have a retreat each Board member shall be reimbursed for up to two (2) out-of-state

conferences for the purpose of education, with one (1) additional out-of-state conference with the approval of the Board Chair.

**Adopted this 3<sup>rd</sup> day of February 2025.**

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**Mr. Danny Knight, *Chair***  
***Arkansas Teacher Retirement System***

*Addendum A*

Resolution 2025-05

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The following regulations have been adopted to provide guidance to board members and employees of the Arkansas Teacher Retirement System (ATRS).

For purposes of these rules, the following definitions shall apply:

1. "Official Station" shall be:
  - (a) For board members, the city or town in which a board member has a permanent address.
  - (b) For employees, the city or town of the employee's actual location of work.
2. Travel expenses will be reimbursed when board members or employees are required to travel away from their official station on ATRS business. Minimization of expenses while traveling should be the same, as a prudent person would exercise if traveling on personal business.
3. A Travel Reimbursement Form (TR-1) must be verified and signed by the traveler, accompanied by the proper receipts, and duly signed by the Executive Director, or designee, before reimbursement may be processed.
4. All travel reimbursement requests, whether for in-state or out-of-state travel, must adhere to the reimbursement rates listed in the Federal Travel Directory unless a waiver is granted. Current rates as of the filing of this Resolution for cities not identified or located in listed cities have a Standard rate of \$110 per day for lodging and \$68 per day for meals. All current rates can be found on the Federal General Services Administration Website:  
  
<http://www.gsa.gov/portal/category/100120>
5. Reimbursement may be claimed for actual expenses only, and must not exceed the Federal Directory maximums. In-state meals will not be reimbursed without overnight lodging. There are no exceptions to the maximum meal rates. The tip reimbursement amount shall not exceed fifteen percent (15%) of the meal amount expended. The total reimbursement for meals and tips shall not exceed the maximum rates prescribed by the Financial Management Guide published by the Office of Accounting of the Department of Finance and Administration.
6. Exceptions to lodging maximums may be allowed only with good justification, e.g., when conference hotel rates exceed area maximums, and staying elsewhere would incur transportation charges. The Executive Director, or designee, must approve all requests for exceptions prior to incurring the expense.

*Addendum A*  
Resolution 2025-05

7. Private vehicle mileage is reimbursable at the current rate per mile authorized by the Arkansas Department of Finance and Administration, currently 52 cents per mile. If a traveler's personal vehicle is used for transportation to and from the airport, a mileage reimbursement may be requested.
8. Reimbursable travel expenses are limited to those expenses authorized and essential to conducting official ATRS business. Telephone, Internet access, and facsimile expenses shall be allowed only when necessary for the completion of official business. Incidental amounts not directly related to travel (such as postage, small emergency supplies, etc.) may be allowed, when necessary, if incurred during the performance of official business while traveling. These necessary incidental expenses shall be itemized on the TR-1 form with receipts attached.
9. If one-way travel exceeds 400 miles from the traveler's official station, reimbursement may be requested for no more than one day prior to, and/or after, the official start/end of an approved conference/convention.
10. Travelers shall not be reimbursed for the purchase of alcoholic beverages, entertainment, flowers, valet service, laundry, cleaning, printing items, or other discretionary purchases.
11. Travel expenses shall not be billed to ATRS by a third-party except for lodging, meals, registration fees, and air transportation, duly approved in advance by the Executive Director.
12. Travel may be achieved by plane, train, bus, private or system-owned vehicle, rented vehicle, or taxi, whichever method serves the requirements of ATRS most economically and advantageously. The maximum allowable mileage will be computed by the shortest major highway route. Flights resulting in the lowest available airfare for ATRS should be used for all business trips, unless there are extenuating circumstances, such as unreasonable arrival/departure times or unusually long layovers.
13. When common carriers (airplane, train, or bus) are needed to transport persons on ATRS business, ATRS will make the travel arrangements, if possible, in order for the system to be billed direct. If this is not possible, the traveler may make and pay for arrangements and request reimbursement. Items that are properly purchased by, and invoiced directly to ATRS, are not reimbursable to the traveler.

*Addendum A*

Resolution 2025-05

14. For out-of-state travel, reimbursement shall be the lesser of coach class air, or the current rate per mile authorized by the Arkansas Department of Finance and Administration.
15. If more than one traveler is transported in the same vehicle, only the owner can claim a mileage reimbursement.
16. When attending out-of-state conferences, travelers should choose the most economical mode of transportation between airports and hotels, i.e., rental car, shuttle, or taxi. Consideration must be given to mileage, fuel, and parking fees when selecting a rental. Vehicle rentals are no longer under a mandatory state contract. Employees requiring a vehicle rental must contact the ATRS fiscal department for assistance. If a rental car is obtained, and two (2) or more board members or employees travel to the same location, rentals should be shared, if possible.
17. Board members and employees of ATRS shall be reimbursed for their own travel expenses only. Board members and employees shall not be reimbursed for expenses incurred by their spouse or guest.

**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 West Third Street  
Little Rock, Arkansas 72201**

**RESOLUTION  
No. 2025-06**

**2025-2026 Employer Contribution Rate**

**WHEREAS**, A.C.A. § 24-7-401(c) authorize the Board of Trustees of the Teacher Retirement System to establish the employer contribution rate paid into the System prospectively for each year; and

**WHEREAS**, A.C.A. § 24-7-401(c) dictates that the rate shall be set by the Board following consultation with its actuary based on the annual actuarial valuation and that the rate shall be based on the actuary's determination of the rate required to fund the plan in accordance with the financial objectives set forth in A.C.A. § 24-7-401(a); and

**WHEREAS**, Arkansas Teacher Retirement System is 85% funded, with an amortization period to pay off unfunded liabilities of 20 years, which shows that ATRS is in a strong financial position as of the last actuarial valuation at the end of the last fiscal year; and

**WHEREAS**, The ATRS Board, on November 13, 2017, adopted an employer contribution rate schedule that established the employee contribution rate for FY2025 should be 15.00%.

**NOW, THEREFORE, BE IT RESOLVED**, That the Board of Trustees in accordance with the legislative restrictions hereby sets the employer contribution rate shall remain at Fifteen percent (15%) after fiscal year 2025 until changed.

**Adopted this 3<sup>rd</sup> day of February 2025.**

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**Mr. Danny Knight, Chair  
Arkansas Teacher Retirement System Board**

**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 West Third Street  
Little Rock, Arkansas 72201**

**RESOLUTION  
No. 2025-07**

**2025-2026 Member Contribution Rate**

**WHEREAS**, A.C.A. § 24-7-406, authorizes the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) to establish and modify the member contribution rate paid into ATRS by contributory members; and

**WHEREAS**, A.C.A. § 24-7-406 dictates that the member contribution rate shall be set by the Board following consultation with its actuary based on the annual actuarial valuation and that the rate shall be set to maintain actuarial soundness;

**WHEREAS**, Arkansas Teacher Retirement System is 85% funded, with an amortization period to pay off unfunded liabilities of 20 years, which shows that ATRS is in a strong financial position as of the last actuarial valuation at the end of the last fiscal year; and

**WHEREAS**, The ATRS Board, on November 13, 2017, adopted a member contribution rate schedule that established the member contribution rate shall remain at Seven percent (7%) after fiscal year 2023 until changed.

**NOW, THEREFORE, BE IT RESOLVED**, That the Board of Trustees in accordance with the legislative restrictions hereby sets the member contribution rate for the fiscal year beginning July 1, 2025, at seven percent (7.00%).

**Adopted this 3<sup>rd</sup> day of February, 2025.**

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**Mr. Danny Knight, Chair**  
***Arkansas Teacher Retirement System Board***

**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 WEST THIRD STREET  
LITTLE ROCK, ARKANSAS 72201**

**RESOLUTION  
No. 2025-08**

**Adoption of Surcharge Rate for Outsourced Positions**

**WHEREAS**, A.C.A. § 24-7-506, authorizes the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) to collect a surcharge on salary paid to certain embedded positions that are outsourced at certain ATRS employers; and

**WHEREAS**, The surcharge rate for outsourced positions is set by law with the option for the ATRS Board to increase the rate after an implementation period; and

**WHEREAS**, The authorized surcharge rate by law for fiscal year 2025 is four percent (4%); and

**WHEREAS**, ATRS should set the surcharge rate for outsourced salary as a part of its regular function.

**NOW, THEREFORE, BE IT RESOLVED**, that the Board of Trustees of the Arkansas Teacher Retirement System hereby declares that the surcharge rate for applicable outsourced salaries for fiscal year 2026 is four percent (4%) in accordance with Arkansas law.

**Adopted this 3<sup>rd</sup> day of February, 2025.**

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**Mr. Danny Knight, Chair**  
***Arkansas Teacher Retirement System Board***



# Arkansas Teacher Retirement System

Annual Actuarial Valuation of  
Active and Inactive Members  
June 30, 2024



# Report of the June 30, 2024 Actuarial Valuation

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E-11	Benefit and Purchasing Power Changes
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November 5, 2024

Board of Trustees  
Arkansas Teacher Retirement System  
Little Rock, Arkansas

Dear Board Members:

Presented in this report are the results of the ***Annual Actuarial Valuation of active and inactive members as of June 30, 2024***. The June 30<sup>th</sup> annual valuation of retired lives receiving monthly benefits indicates the liabilities for future benefit payments to existing retirees. These liabilities are covered in detail in a separate report. They are also covered briefly in this report on page B-4. A gain (loss) analysis of financial experience of the Arkansas Teacher Retirement System covering the period from July 1, 2023 to June 30, 2024 will also be issued in a separate report.

The purposes of the valuation are to measure the System's funding progress and to determine the amortization period that results from the statutory employer and employee rates and the actuarial assumptions that the Board has adopted. This report should not be relied on for any purpose other than the purposes described herein. Financial results associated with the benefits described in this report that are developed for purposes other than those identified above may be significantly different than those in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the Retirement System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

This valuation was based upon census data and financial information provided by the System's administrative staff. Preparation of this data requires considerable staff time. The helpful cooperation of the Arkansas Teacher Retirement System (ATRS) staff in furnishing the data is acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of any data provided by ATRS.

This report was prepared using certain assumptions approved by the Board. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. The combined effect of the assumptions is expected to have no significant bias (i.e., not significantly optimistic or pessimistic). All actuarial assumptions and methods used in the valuation follow the guidance in the applicable Actuarial Standards of Practice. The actuarial assumptions used for valuation purposes are summarized in Section G. These assumptions reflect expectations of future experience under the plan. They were developed in connection with an experience study covering the period July 1, 2015 to June 30, 2020.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. The scope of an actuarial valuation does not contain an analysis of the potential range of such future measurements.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Arkansas Teacher Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. The actuarial assumptions used for the valuation produce results which, individually and in the aggregate, are reasonable.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. Judith A. Kermans, Heidi G. Barry and Derek Henning are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The actuaries submitting this report are independent of the plan sponsor.

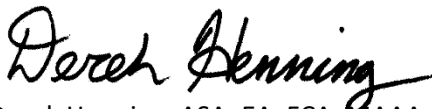
Respectfully submitted,  
Gabriel, Roeder, Smith & Company



Judith A. Kermans, EA, FCA, MAAA



Heidi G. Barry, ASA, FCA, MAAA



Derek Henning, ASA, EA, FCA, MAAA

JAK/HGB/DH:rmn

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## **SECTION A**

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### **EXECUTIVE SUMMARY**

## Executive Summary

**General Financial Objective.** Section 24-7-401 (a) of the Arkansas Code provides as follows (emphasis added):

- (1) The financial objective of the Arkansas Teacher Retirement System is to establish and receive contributions that expressed as percentages of active member payroll will **remain approximately level from generation to generation of Arkansas citizens.**
- (2) Contributions received each year shall be sufficient:
  - (A) To **fully cover the costs of benefit commitments** being made to members for their service being rendered **in that year**; and
  - (B) To **make a level payment** that if paid annually over a reasonable period of future years will **fully cover the unfunded costs** of benefit commitments for service previously rendered.

**Arkansas Teacher Retirement System Status:** Based upon the results of the June 30, 2024 actuarial valuations, **ATRS is satisfying the financial objective of level-contribution-percent financing.**

This report contains the results of the June 30, 2024 valuation. The table below shows a summary of the data used in the valuation. This data was the basis for determining valuation results.

	Number	Average	Type of Average
Active not in T-DROP	68,265	\$47,551	Pay
Active in T-DROP	2,981	71,536	Pay
Deferred Vested	14,775	6,359	Annual Projected Benefit
Retired	56,177	24,988	Annual Current Benefit
<b>Total Members</b>	<b>142,198</b>		

Included in the 2024 valuation were 4,400 reemployed retirees (included in the Retired data file) with total earnings of \$152.2 million. ATRS receives full employer contributions on these individuals per Arkansas Code Section 24-7-708. The actuarial valuation assumes the number of working members will remain constant at the current level. In some recent years, the total number of working members has decreased. A decreasing population means less contribution income for the retirement system than expected and can lead to funding difficulty in extreme cases. ATRS receives employer contributions on behalf of all working members.

**Actuarial Assumptions and Methods:** There were no assumption or method changes in the June 30, 2024 valuation. In our judgement the actuarial assumptions in use, and in particular the 7.25% investment return assumption, are reasonable for the purposes described in this report.

## Executive Summary (Continued)

**Benefit Changes:** There were no benefit provision changes reflected in the June 30, 2024 valuation.

### **Results of the Valuation**

**The amortization period this year is 20 years**, a decrease from last year's period of 26 years. On a market value basis, the amortization period is also 20 years. The amortization period is calculated assuming 7.94% of payroll contributions to finance the unfunded actuarially accrued liability. (Please refer to page B-1 for details).

**The statutory employer contribution rate is 15%.** Statute dictates that the employer contribution rate shall not exceed 14% if the actuarial valuation shows that the amortization period is 18 years or less with a 14% employer contribution rate (A.C.A. § 24-7-401(c)(5)(B)(ii)). The statute does not address the contributory member rate of 7%. As of the June 30, 2024 valuation, the contribution rate based upon an amortization period of 18 years would be approximately 15.6% of payroll. Therefore, no changes in the rate are required at this time. A reduction in contributions would be unfortunate if ATRS is not 100% funded. A careful review of assumptions would be warranted if this situation were to occur in between experience studies. **The statutory employer contribution rate of 15% of payroll is a reasonable actuarially determined contribution rate based on the results of the June 30, 2024 valuation.**

**The Arkansas Teacher Retirement System remains stable with an 84.6% funded position** as of June 30, 2024. If experience is reasonably in line with expectations in Fiscal Year 2025, the amortization period is likely to increase in the next valuation due to the scheduled phase-in of net investment losses in FY 2025. (Please refer to page D-3 for details.)

**The rate of investment return on a market value basis was 11.84%<sup>#</sup>** this year. As of June 30, 2024, the market value of assets exceeded the actuarial value of assets by approximately \$50 million. (Please refer to page D-3 for details.) Investment gains and losses that occur each year are smoothed in over a 4-year period. After considering smoothing, the recognized return this year was 9.75%, compared to an assumed 7.25% return for Fiscal Year 2024. A phase-in of net investment gains is scheduled for the Fiscal Years 2026 and 2027, while a phase-in of net investment losses is scheduled for the Fiscal Year 2025.

<sup>#</sup> *The actuary calculated this return figure which may not exactly match the investment consultant's figure.*

# Executive Summary (Continued)

## Other Observations

### General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.25% on the funding value of assets), it is expected that:

- 1) The employer normal cost as a percentage of pay will remain approximately level;
- 2) The unfunded actuarial accrued liabilities will be fully amortized after 20 years; and
- 3) The funded status of the plan will increase gradually towards a 100% funded ratio.

### Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the funding value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

- 1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations; in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction;
- 2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit); and
- 3) The measurement would produce a different result if the market value of assets were used instead of the funding value of assets, unless the market value of assets is used in the measurement.

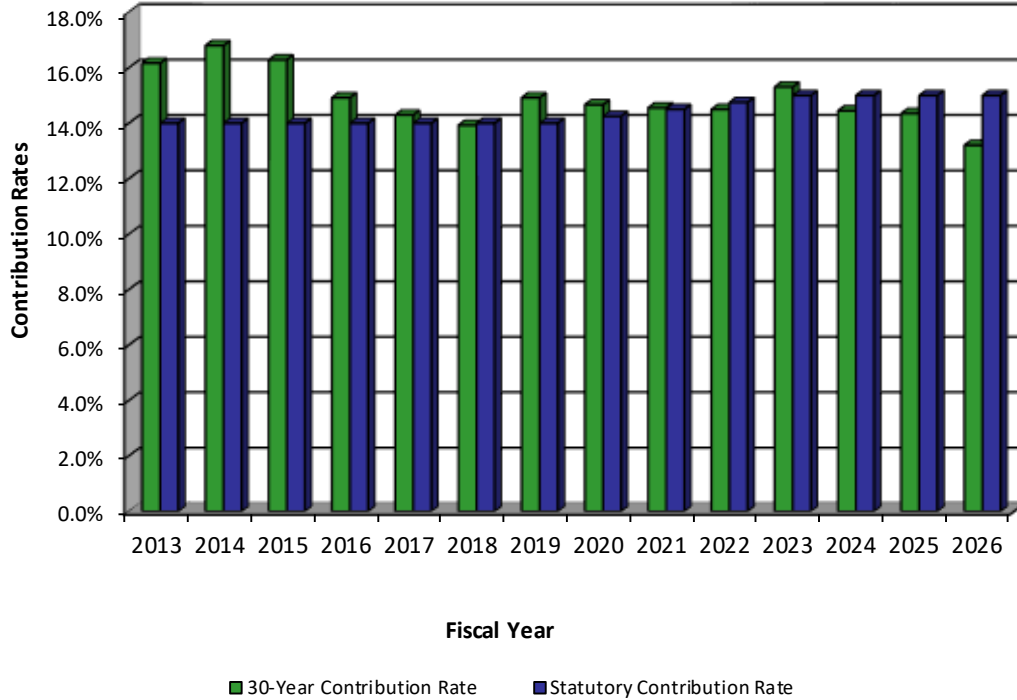
### Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.



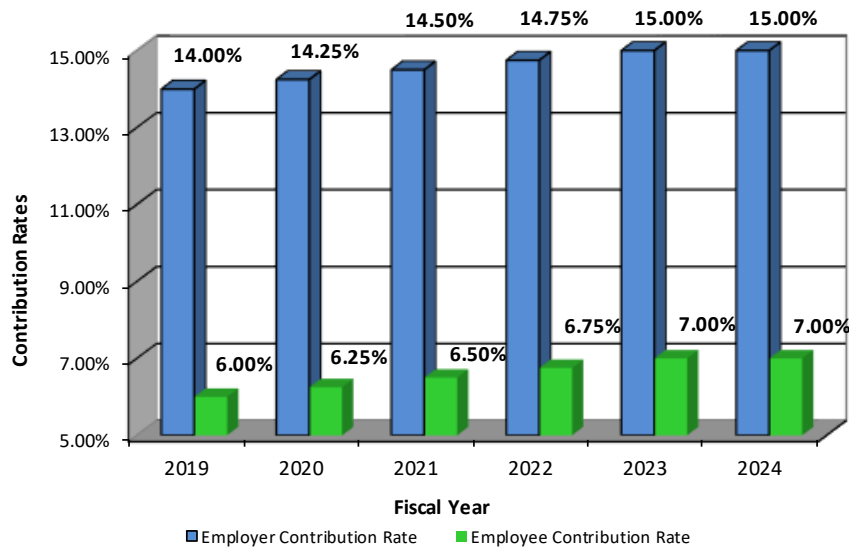
## Executive Summary (Concluded)

The following graph shows a history of the amounts contributed vs. the employer contributions based on a maximum amortization period of 30 years. The results would look different if the Employer Contribution were calculated according to the Board's target of 18 years.



The amount contributed is less than the 30-year contribution in FY 2013-2017, FY 2019-2021 and FY 2023. In FY 2018, FY 2022 and FY 2024 the amount contributed exceeded the 30-year contribution.

The following graph also shows a recent history of the employer and employee amounts contributed.



## **SECTION B**

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### **VALUATION RESULTS**

## Determination of Amortization Period Computed as of June 30, 2024 and June 30, 2023

Computed Contributions for	Percents of Active Member Payroll			
	June 30, 2024			June 30, 2023
	Teachers	Support	Combined	Combined
Normal Cost				
Age & Service Annuities	11.33%	7.61%	<b>10.34%</b>	10.24%
Deferred Annuities	1.49%	2.32%	<b>1.71%</b>	1.71%
Survivor Benefits	0.27%	0.19%	<b>0.25%</b>	0.25%
Disability Benefits	0.41%	0.39%	<b>0.40%</b>	0.40%
Refunds of Member Contributions	0.49%	1.25%	<b>0.69%</b>	0.68%
<b>Total</b>	<b>13.99%</b>	<b>11.76%</b>	<b>13.39%</b>	<b>13.28%</b>
Average Member Contributions	6.71%	5.28%	<b>6.33%</b>	6.23%
Net Employer Normal Cost	7.28%	6.48%	<b>7.06%</b>	7.05%
Unfunded Actuarial Accrued Liabilities			<b>7.94%</b>	7.95%
<b>Employer Contribution Rate</b>			<b>15.00%</b>	15.00%
<b>Amortization Years</b>			<b>20</b>	26

The calculated amortization period of 20 years is based on employer and member contribution rates of 15.00% and 7.00%, respectively. See page A-4 for a recent history of employer and employee contribution rates.

The amortization period is the number of years it will take to pay off the unfunded liability of \$4.0 billion, assuming contributions remain at the Fiscal 2025 level. Since 2000, the period has varied from a low of 19 years to a high of over 100 years. If experience in FY 2025 is reasonably in line with expectations, the amortization period is likely to increase in the next valuation due to the phase-in of net investment losses. Please see additional comments regarding the amortization period on page A-2.

## Employer Contribution Rates 10-Year Comparative Statement

Valuation Date June 30	Active Members in Valuation **		Average Annual Pay		Consumer Price (Inflation) Index % Change	Employer Contributions	
	Number	Annual Payroll (\$ Millions)				Computed Financing Period (Years)	Total Employer Rate
			Amount	% Change			
2015	72,919	\$ 2,777	\$ 38,088	2.7 %	0.1 %	33	14.00 %
2016	72,232	2,785	38,557	1.2 %	1.0 %	29	14.00 %
2017#*	72,148	2,814	38,997	1.1 %	1.6 %	29	14.00 %
2018#	72,341	2,872	39,702	1.8 %	2.9 %	28	14.00 %
2019#	72,164	2,907	40,285	1.5 %	1.6 %	28	14.00 %
2020#	70,539	2,954	41,884	4.0 %	0.6 %	27	14.25 %
2021#*	70,098	3,086	44,030	5.1 %	5.4 %	32	14.50 %
2022#	71,378	3,199	44,811	1.8 %	9.1 %	26	14.75 %
2023#	71,387	3,353	46,963	4.8 %	3.0 %	26	15.00 %
2024	71,246	3,459	48,555	3.4 %	3.0 %	20	15.00 %

\* Revised assumptions.

# Legislated benefit or contribution rate changes.

\*\* Includes T-DROP members and payroll. ATRS also receives contributions on return to work retirees, but they are not included on this schedule.

## Computed Actuarial Liabilities as of June 30, 2024

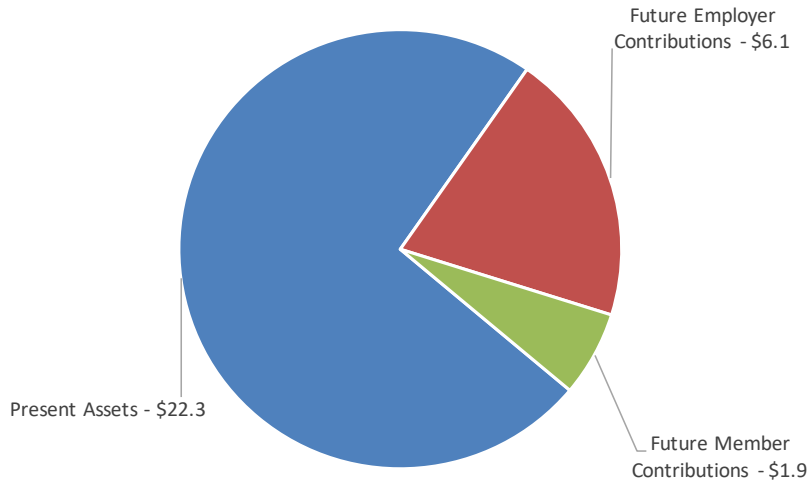
Actuarial Present Value of	(1) Total Present Value	Entry Age Actuarial Cost Method	
		(2) Portion Covered by Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Age and service retirement allowances based on total service likely to be rendered by present active members.	\$ 11,391,881,106	\$ 3,002,705,363	\$ 8,389,175,743
Age and service retirement allowances based on total service likely to be rendered by present T-DROP members.	1,835,540,468	38,416,417	1,797,124,051
Vested deferred benefits likely to be paid present active and inactive members.	1,609,061,513	502,563,006	1,106,498,507
Survivor benefits expected to be paid on behalf of present active members.	191,190,410	73,520,558	117,669,852
Disability benefits expected to be paid on behalf of present active members.	228,152,502	115,281,856	112,870,646
Refunds of member contributions expected to be paid on behalf of present active members.	31,261,606	190,740,077	(159,478,471)
Benefits payable to present retirees and beneficiaries.	14,992,397,409	-	14,992,397,409
<b>Total</b>	<b>\$ 30,279,485,014</b>	<b>\$ 3,923,227,277</b>	<b>\$ 26,356,257,737</b>
Funding Value of Assets.	22,309,329,958	-	22,309,329,958
Liabilities to be covered by future contributions.	\$ 7,970,155,056	\$ 3,923,227,277	\$ 4,046,927,779

## Liabilities for Retirees July 1, 2024 Tabulated by Type of Benefit Being Paid

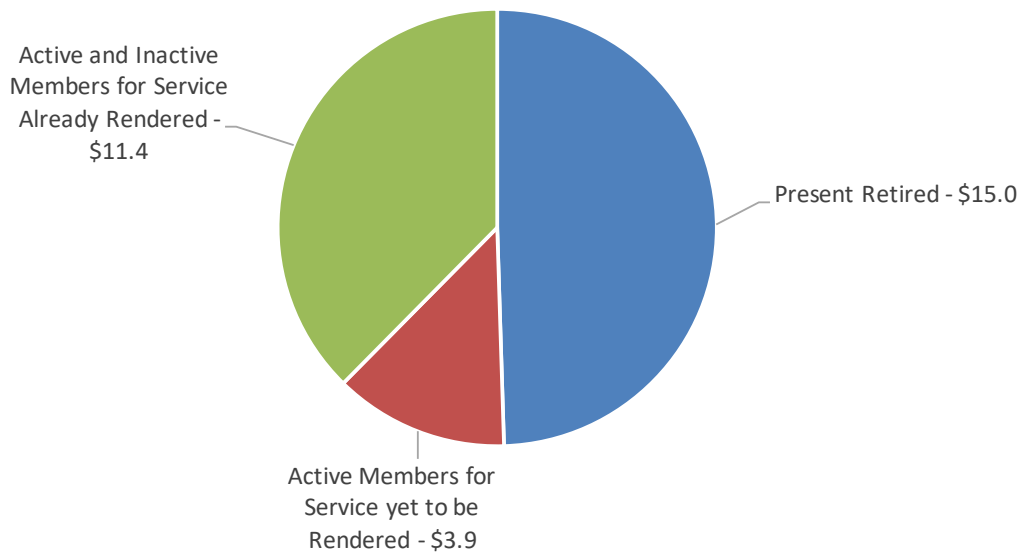
Type of Annuity	Liabilities July 1, 2024		
	Men	Women	Totals
<b>RETIREMENT RESERVE ACCOUNT</b>			
Age and Service Annuities			
Option 1 (Straight Life)	\$ 1,745,026,970	\$ 8,606,168,394	\$ 10,351,195,364
Option A (100% Joint & Survivor)	885,523,315	1,032,012,123	1,917,535,438
Option B (50% Joint & Survivor)	425,602,089	711,408,530	1,137,010,619
Option C (10 Years Certain & Life)	53,211,808	204,917,187	258,128,995
Beneficiaries	80,648,376	232,260,831	312,909,207
Total Age and Service	3,190,012,558	10,786,767,065	13,976,779,623
Disability Annuities			
Option 1	51,681,690	292,428,393	344,110,083
Option A	27,167,139	48,776,449	75,943,588
Option B	7,026,897	12,539,721	19,566,618
Option C	-	-	-
Beneficiaries	21,926,211	25,472,360	47,398,571
Total Disability	107,801,937	379,216,923	487,018,860
Act 793	6,500,750	4,431,239	10,931,989
Retirement Reserve Account	3,304,315,245	11,170,415,227	14,474,730,472
Act 808 Retirement Reserve Account	4,141,313	1,054,833	5,196,146
Total Retirement Reserve Account	3,308,456,558	11,171,470,060	14,479,926,618
<b>SURVIVORS' BENEFIT ACCOUNT</b>			
Beneficiaries of Deceased Members	\$ 58,710,971	\$ 63,503,585	\$ 122,214,556
<b>RETIREMENT SYSTEM TOTALS</b>			
Total Annuity Liabilities	\$ 3,367,167,529	\$ 11,234,973,645	\$ 14,602,141,174
Cash Benefit Account Liabilities			240,202,392
Liabilities for Lump Sum Death Benefits			150,053,843
Total			\$ 14,992,397,409

# Financing \$30.3 Billion of Benefit Promises for Present Active and Retired Members June 30, 2024

### Sources of Funds (\$ Billions)



### Uses of Funds



## Short Condition Test

ATRS' funding objective is to meet long-term benefit promises through contributions that remain approximately level from year to year as a percent of member payroll. If the contributions to the System are level in concept and soundly executed, the System will **pay all promised benefits when due -- the ultimate test of financial soundness**. Testing for level contribution rates is the long-term test.

**A short condition test** is one means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with: 1) Member contributions on deposit; 2) The liabilities for future benefits to present retired lives; and 3) The liabilities for service already rendered by members. In a system that has been following the discipline of level percent-of-payroll financing, the liabilities for member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by members (liability 3) will be partially covered by the remainder of present assets. The larger the funded portion of liability 3, the stronger the condition of the system. Liability 3 being fully funded is unusual, but highly desired.

The schedule below illustrates the history of Liability 3 of the System and is indicative of the ATRS' objective of following the discipline of level percent-of-payroll financing.

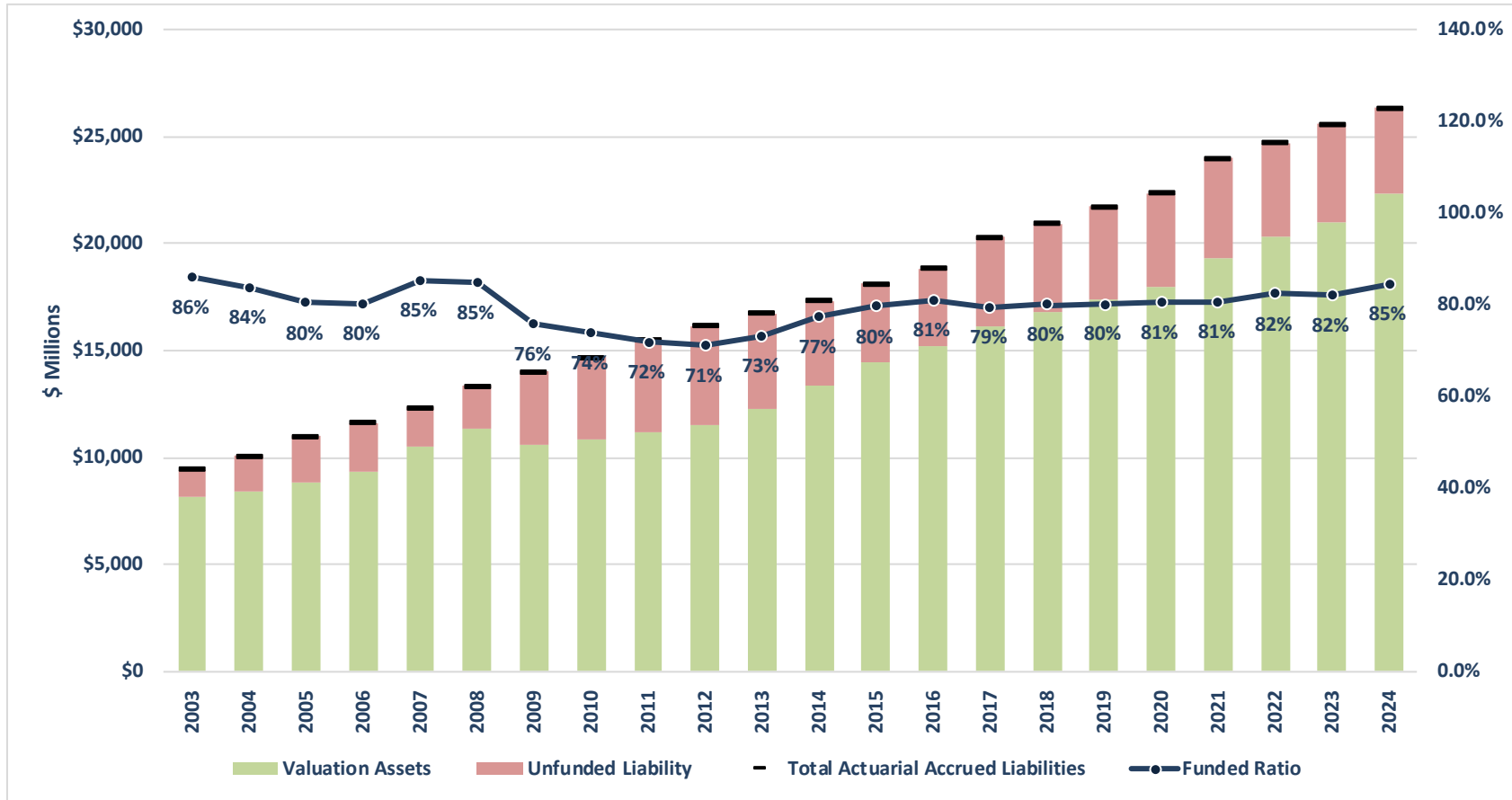
Val. Date June 30	(1) Member Contrib.	(2) Retirees and Benef.	(3) Active and Inactive Members (Employer Financed Portion)	Present Valuation Assets	Portion of Present Values Covered by Present Assets			
					(1)	(2)	(3)	Total
-----\$ Millions-----								
2015	\$ 1,128	\$ 9,778	\$ 7,230	\$ 14,434	100%	100%	49%	80%
2016	1,184	10,430	7,198	15,239	100%	100%	50%	81%
2017#*	1,254	11,337	7,707	16,131	100%	100%	46%	79%
2018#	1,312	11,851	7,772	16,756	100%	100%	46%	80%
2019#	1,377	12,460	7,872	17,413	100%	100%	45%	80%
2020#	1,455	12,890	8,007	18,007	100%	100%	46%	81%
2021#*	1,544	13,596	8,847	19,343	100%	100%	48%	81%
2022#	1,648	14,044	9,005	20,328	100%	100%	51%	82%
2023#	1,751	14,511	9,330	21,015	100%	100%	51%	82%
2024	1,863	14,992	9,501	22,309	100%	100%	57%	85%

\* Revised actuarial assumptions or methods.

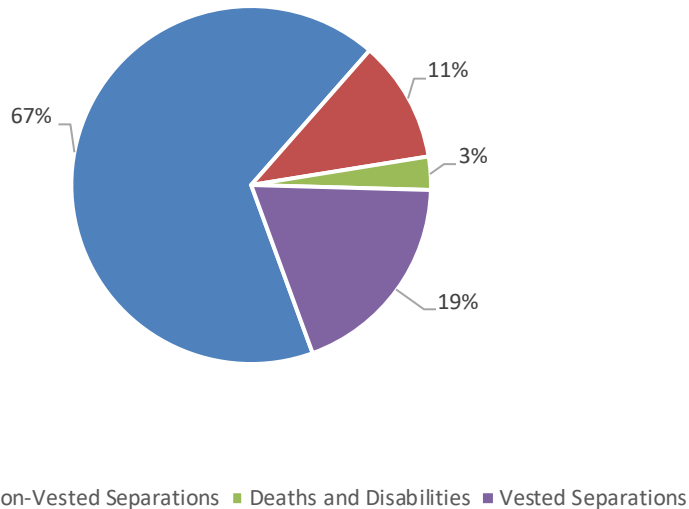
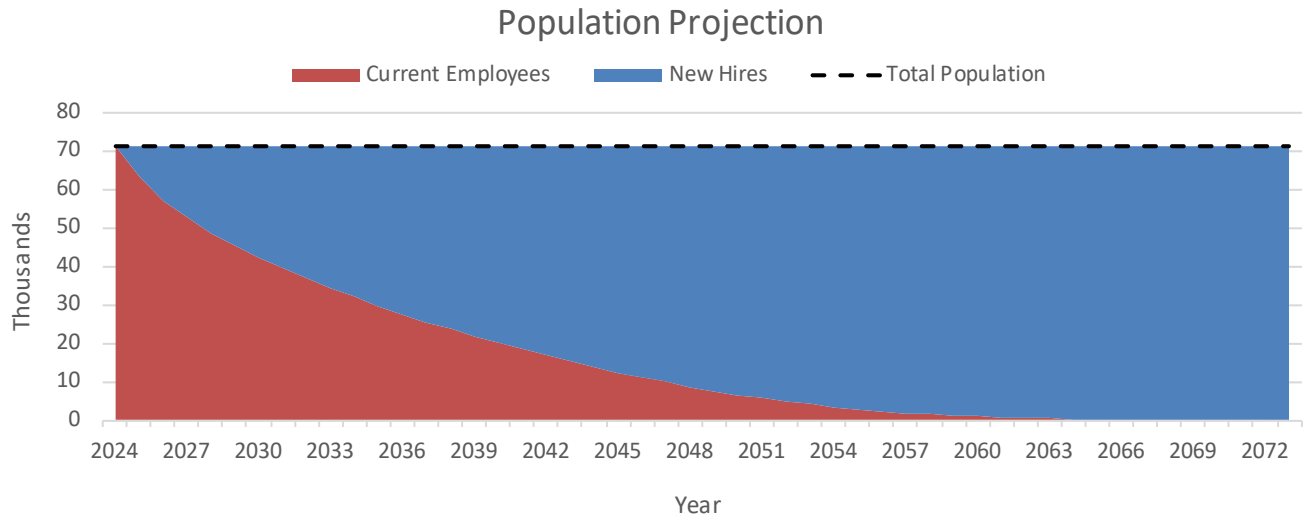
# Legislated benefit or contribution rate changes.



## Actuarial Accrued Liabilities and Valuation Assets



# Expected Development of Present Active Population June 30, 2024 (Excludes Rehired Retirees)



The charts show the expected future development of the present population in simplified terms. The Retirement System presently covers 71,246 active members (includes T-DROP). Eventually, 11% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. Approximately 86% of the present population is expected to receive monthly retirement benefits. Approximately 3% of the present population is expected to become eligible for death-in-service or disability benefits. Within nine years, over half of the covered active membership is expected to consist of new hires.

## SECTION C

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### SUMMARY OF BENEFITS

## Summary of Benefit Provisions

### June 30, 2024

1. **Voluntary Retirement – A.C.A. § 24-7-701.** A member may retire at age 60 with 5 or more years of credited service, or after 28 years of credited service regardless of age.
2. **Early Retirement – A.C.A. § 24-7-702.** A member who has more than 25 but less than 28 years of credited service and has not attained age 60 years may retire and receive an immediate early retirement annuity. The early annuity is an age & service annuity reduced by the lesser of (i) and (ii) below:
  - (i) 10/12 of 1% multiplied by the number of months by which early retirement precedes completion of 28 years of service, or
  - (ii) 10/12 of 1% multiplied by the number of months by which early retirement precedes the attainment of age 60 years.

The ATRS Board is allowed to set by resolution the early annuity reduction at a rate between 5% and 15% per year, to be prorated monthly if the System's actuary certifies that the amortization period to pay the unfunded liabilities exceeds 18 years. The Board adjusted the reduction to 10% per year beginning August 1, 2017 by Resolution 2017-14 on April 17, 2017.

3. **Deferred Retirement – A.C.A. § 24-7-707.** An inactive member who has 5 or more years of credited ATRS service will be entitled to an age & service annuity beginning at age 60, provided accumulated contributions are on deposit with the retirement system.
4. **Disability Retirement – A.C.A. § 24-7-704.** An active member with 5 or more years of actual and reciprocal service, who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age & service annuity. In order to qualify for disability retirement, the member must exhibit symptoms of physical or mental incapacitation while the member is an active member. A member who is eligible for age and service retirement (age 60 and 5 years of service or 28 years of service at any age) is no longer eligible to apply for disability retirement.

An ATRS disability retiree is required to obtain a Social Security Administration determination letter finding that the retiree is disabled within 36 months of the effective date of disability retirement. If a member cannot provide the SSA determination letter within the 36-month period, benefits will be terminated, the member will be returned to active service, and all member history will be restored. The requirement to qualify for SSA disability shall not apply to a disability retiree who was age 57 or older before July 1, 2015, because that member would qualify for age & service benefits prior to requiring the SSA determination of disability. The retiree may apply for an extension of the 36-month deadline if the retiree can demonstrate the SSA determination is in progress. There is a rebuttable presumption that if a Teacher Retirement member is qualified for Social Security Administration disability benefits then they would also qualify for ATRS disability retirement benefits.

A disability retiree may be employed with a covered employer for less than (80) days of actual service during a fiscal year. The covered employer who employs a disability retiree under this subsection shall remit contributions on all salary paid to the disability retiree in an amount equal



## Summary of Benefit Provisions

### June 30, 2024

**Disability Retirement – A.C.A. § 24-7-704 (Cont.)** to the employer contributions rate. The retiree will continue receiving their annuity from the system and shall not accrue additional service credit. If a retiree tries to return to full time employment, and fails, the suspended disability benefit will be restored to what it would have been had they not tried to return to work, or a recomputed benefit using the additional service, whichever is higher.

5. **Final Average Salary (FAS) – A.C.A. § 24-7-736 and A.C.A. § 24-7-601.** The ATRS Board made changes to the final average salary (FAS) by Resolution 2017-33 on November 13, 2017. Effective July 1, 2018, a member's final average salary is the average of the five (5) highest service year salaries (5-year FAS).

Members active in ATRS or a reciprocal system as of June 30, 2018 and with at least 3 full years of service in ATRS can use a benchmark 3-year FAS, which is the average of the three (3) highest service year salaries as of June 30, 2018. The three (3) highest service year salaries are adjusted for anti-spiking before being used in the calculation of the benchmark 3-year FAS.

In calculating the 5-year FAS, if a member has less five (5) years of credited service, the final average salary of the member shall be the total salary paid to the member for his or her years of credited service divided by the member's total credited years of service.

The Board may adjust the final average salary anti-spiking parameters by board resolution provided that the anti-spiking percentage range is no lower than 105% nor higher than 120% per year; and the anti-spiking amount is no lower than \$1,250 nor higher than \$5,000. The ATRS Board set the anti-spiking percentage to 110% and the anti-spiking amount to \$5,000 by Resolution 2017-13 on April 17, 2017.

If a member has at least five (5) years of credited service the five (5) highest service year salaries shall be adjusted for anti-spiking and the final average salary will be calculated as follows:

- a. The service year salaries are ranked from lowest to highest.
- b. The lowest service year salary in the ranking shall be the base salary.
- c. The next-highest-ranked service year salary shall be compared to the base salary.
- d. The next-highest service year salary in the calculation of final average salary that is less than eight (8) years from the base salary year, shall not exceed the base salary value plus \$5,000 unless the next-highest year's value is less than or equal to 110% of the base salary.
- e. After comparison of the base salary to the next-highest service year salary, a reduction to the next-highest service year salary is made if required to satisfy the conditions of the prior step.
- f. The next-highest service year salary, with any required reduction, becomes the new base salary to compare to the next succeeding highest service year salary in the ranking until all service year salaries in the ranking have been compared.
- g. The total value of the base salaries shall then be divided by the applicable number of years to be used in computing final average salary.

## Summary of Benefit Provisions

### June 30, 2024

**Final Average Salary (FAS) – A.C.A. § 24-7-736 and A.C.A. § 24-7-601 (Cont.)** ATRS members with reciprocal service credit will also have a reciprocal FAS calculated. The reciprocal FAS is generally a value calculated by the non-ATRS reciprocal system. Effective March 2, 2021, ATRS will use the value calculated by the non-ATRS reciprocal system only if the member has at least two (2) years of service credit in that system.

The highest of the 5-year FAS, benchmark 3-year FAS, or reciprocal FAS will be used to calculate retirement benefits for the member.

6. **Age & Service Annuity and Disability Annuity – A.C.A. §§ 24-7-705, 24-7-727 (stipend).** The annuity payable will not be less than the total of: years of contributory service times 2.15% of FAS; plus years of noncontributory service times 1.39% of FAS (1.25% for service earned after 2019); plus a stipend for all members with 10 or more years of ATRS actual service. The ATRS Board is allowed to set the contributory multiplier for service credit earned after June 30, 2013, within a range of 1.75% to 2.15%. Also, the noncontributory multiplier for service credit earned after June 30, 2013, may be set within a range of 0.5% and 1.39%. In addition, the Board is allowed to set special multiplier rates for the first 10 years of ATRS service earned after June 30, 2013, for both contributory and noncontributory service. By Board Resolution 2017-31 on November 13, 2017, the noncontributory multiplier was set to 1.25% beginning in FY 2020. By Board Resolution 2017-32 on November 13, 2017, the contributory multiplier and noncontributory multiplier for the first 10 years of service was set to 1.75% and 1.0% respectively beginning July 1, 2018. Once a member accrues 10 years of service, all service including the first 10 years is then credited at the standard multiplier rate in place at the time the service was earned.
7. **T-DROP – A.C.A. §§ 24-7-1301–1316.** A member with 28 or more years of service may participate in the Teacher Deferred Retirement Option Plan (T-DROP). T-DROP participants do not make member contributions. A T-DROP deposit is made monthly to the participant's T-DROP account. The T-DROP deposit is the amount that would have been paid had the member retired, reduced by 1% for each year of contributory, noncontributory, and reciprocal service. Members who enter T-DROP with less than 30 years of service are subject to an additional 6% reduction for each year less than 30 years. T-DROP deposits are increased each year by 3% of the member's initial T-DROP deposit. T-DROP Deposits cease at the earlier of 10 years of T-DROP participation or separation from service. T-DROP participants may continue in covered employment after 10 years of T-DROP participation, but do not accumulate additional T-DROP deposits.

T-DROP participants receive interest annually on the balance of the T-DROP account. Regular T-DROP interest is credited for 10 or less years of participation. Post 10-year T-DROP interest is credited for more than 10 years of participation.

Regular T-DROP interest is a combination of a fixed interest rate and an incentive interest rate. An incentive rate may be approved by the Board to encourage continued participation in T-DROP, if the estimated ATRS rate of return is 2% greater than the ATRS actuarial assumed rate of return in the preceding calendar year. Beginning in fiscal year 2019, the Board has set the Regular T-DROP fixed interest rate at 3% and the maximum incentive rate at 3% by Resolution 2017-35 on November 13, 2017.

## Summary of Benefit Provisions

### June 30, 2024

**T-DROP – A.C.A. §§ 24-7-1301–1316 (Cont.)** The fixed and incentive interest rates may be adopted by board resolution before the first quarter of the fiscal year and would apply to subsequent fiscal years unless modified by the Board. For fiscal year 2024, the Board set the Regular T-DROP fixed interest rate at 3% and the incentive interest rate at 0%, resulting in a total interest rate of 3%, by Resolution 2023-35 on September 25, 2023.

Post 10-year T-DROP interest has been in effect since July 1, 2010. The Post 10-year T-DROP interest rate can be determined as appropriate by the Board and adopted by the resolution prior to the first quarter of the fiscal year in which the interest rate shall apply. Post 10-year T-DROP interest is a combination of a variable interest rate and an incentive interest rate, to encourage continued participation in T-DROP. The Post 10-year T-DROP variable interest rate formula is based on investment returns and other factors. On November 13, 2017, the ATRS Board by Resolution 2017-36 set the formula for the variable interest rate and the maximum combined variable and incentive interest rate for fiscal year 2019 and beyond. The Post 10-year T-DROP variable interest rate is calculated as 2% less than the system's rate of return, but not less than 4%, nor greater than 6%. The maximum Post 10-year T-DROP combined interest rate including the incentive interest rate is 7.5%. The Post 10-year T-DROP incentive interest rate can be awarded if the estimated ATRS rate of T-DROP – A.C.A. § 24-7-1301-1316 return is 2% greater than the ATRS actuarial assumed rate of return in the preceding calendar year. For fiscal year 2024, the Board set the Post 10-year T-DROP variable interest rate at 4% and the incentive interest rate at 0%, resulting in a combined interest rate of 4%, by Resolution 2023-36 on September 25, 2023.

Upon actual retirement, the member may receive the T-DROP account balance in the form of a lump sum, a Cash Balance Account (CBA), or as an additional annuity. The T-DROP distribution may be a combination of lump sum, CBA, and additional annuity.

8. **Post-Retirement Increases – A.C.A. §§ 24-7-713, 24-7-727 (compound COLA).** Each July 1, annuities are adjusted to be equal to the base annuity times 100% plus 3% for each full year in the period from the effective date of the base annuity to the current July 1. The base annuity is the amount of the member's annuity on the later of July 1, 2001 or the effective date of retirement. The July 1, 2009 cost of living adjustment for retirees was compounded. The annuity was set to 103% of the June 30, 2009 retirement benefit amount. After it was calculated on July 1, 2009, the base amount was reset to be the July 1, 2009 benefit amount. Future cost of living raises will be established by the new updated base amount. Future cost of living adjustments will be evaluated on an annual basis to determine if a simple or compound cost of living increase will be given, depending on the financial condition of the System.
9. **Survivor Benefits – A.C.A. § 24-7-710.** Upon the death of an active member, who has 5 or more years of actual and reciprocal service, the following annuities are payable:
  - (a) The surviving spouse receives an annuity computed in the same manner as if the member had (i) retired the date of his death with entitlement to an annuity, (ii) elected Option A - 100% Survivor Annuity, and (iii) nominated the spouse as joint beneficiary. If the member has attained age 60 and has acquired 5 years of credited service or has acquired 25 years of

# Summary of Benefit Provisions

## June 30, 2024

### Survivor Benefits – A.C.A. § 24-7-710. (Cont.)

- (a) credited service regardless of age, the annuity begins immediately; otherwise the annuity begins the month following the date the member would have attained age 60. Under certain circumstances, a lump sum distribution may be made to the beneficiary(ies) of the deceased member.
  
- (b) A surviving child's benefit is prorated to an amount equal to 1% of the member's highest salary year for each quarter of a year credited as actual service in the system, up to 20% or up to a maximum of \$20,000 per year. If there is more than 1 surviving dependent, the benefits are capped to the lesser of 60% of the member highest salary or \$60,000 per year to be divided equally among the dependents. A child is dependent until the child's death, marriage, or attainment of age 18 (age 23 if the child is a full-time student).

A child of a deceased member is considered a dependent child and is eligible for the dependent child annuity to eighteen years of age or older, but no older than twenty-three years of age if the dependent child stays continuously enrolled as a full-time student at an accredited school, college, university or vocational-technical school.

- 10. **Lump Sum Death Benefit – A.C.A. § 24-7-720.** Beneficiaries of deceased active members or retirees with 10 or more years of ATRS credited service are eligible to receive a lump sum death benefit of up to \$10,000. Resolution 2020-27 on September 28, 2021 set the minimum amount of the lump sum death benefit for all eligible members to six thousand six hundred sixty-seven dollars (\$6,667); retired members who retired on or before July 1, 2007 will receive an additional six hundred sixty-six dollars and sixty cents (\$666.60) for each contributory year of service credit up to the maximum amount of ten thousand dollars (\$10,000); and all other members will receive an additional three hundred thirty-three dollars and thirty cents (\$333.30) for each contributory year of service credit up to the maximum amount of ten thousand dollars (\$10,000).
  
- 11. **Member Contributions – A.C.A. § 24-7-406.** Contributory members pay 7% of their salaries. Through FY 2019, contributory members contributed 6% of their salaries. Members that are participating in the T-DROP program or are working retirees do not make member contributions. If a member leaves service prior to becoming eligible to retire, the accumulated member contributions are returned upon request. No interest is credited to a member's contributions for the first year of membership; after 1 year, interest is credited. The ATRS Board set the interest rate on refunded contributions to 0.08% for fiscal year 2017 and beyond by Resolution 2017-17 on April 17, 2017. By Resolution 2017-30 on November 13, 2017, the Board set the member contribution rate to 6.25%, 6.50%, 6.75%, and 7.00% for FY 2020, FY 2021, FY 2022, and FY 2023 respectively and 7.00% thereafter. Effective July 1, 1986, a noncontributory plan was created. Effective July 1, 1999 the default choice for new members is contributory. Effective July 1, 1997, all future member contributions are tax deferred in accordance with §414(h) of the Internal Revenue Code of the United States. Each July 1, members who previously elected to be noncontributory may elect to change to contributory status. The election is irrevocable.

A member, who was reported as non-contributory and should have been contributory, may remain in a non-contributory status for the current fiscal year and will be pending for the next fiscal year as



# Summary of Benefit Provisions

## June 30, 2024

**Member Contributions – A.C.A. § 24-7-406 (Cont.)** contributory. If the member owes contributions, he or she may have the system convert the contributory service to noncontributory service rather than pay the balance due.

Members who are contracted for 181 days or more in a fiscal year must be contributory. Effective July 1, 2021 the number of contracted days increased to 185.

12. **Act 808 Retirement – A.C.A. § 24-4-732.** Any employee of a state agency who was an active member of the Arkansas Teacher Retirement System on April 8, 1987, and who qualified for retirement before January 1, 1988, could become a member of the Arkansas Public Employees Retirement System and retire from that system. All credited service was transferred to that system but the member's contributions were retained by the Arkansas Teacher Retirement System and the benefit amount is transferred monthly to the Arkansas Public Employees Retirement System. Each July 1, annuities are adjusted by 3% (compound escalator).
13. **Act 793 Retirement – A.C.A. § 24-4-522.** Any employee who was a member of the rehabilitation services in 1977 was permitted to become a member of the Arkansas Public Employees Retirement System. Liabilities associated with prior service earned through June 30, 1978 remain in the Arkansas Teacher Retirement System. Future service is allocated to the Arkansas Public Employees Retirement System. Each July 1, annuities are adjusted by 3% (compound escalator).
14. **Retiree Benefit Stipend – A.C.A. § 24-7-713.** The current stipend amount is \$50 per month. Each retired member as of June 30, 2008, with 5 or more years of ATRS credited service receives a \$75 per month stipend. Members in T-DROP do not receive the \$75 per month stipend until actual retirement. For all members retiring on or after July 1, 2008, a minimum of 10 years of ATRS credited service is required to receive the \$75 per month stipend. The ATRS Board is allowed to set the stipend to a minimum of \$1 per month and a maximum of \$75 per month. By Board Resolution 2017-34 on November 13, 2017 the benefit stipend is removed from the base amount for all retirees and beneficiaries beginning in fiscal year 2019 and the benefit stipend will be reduced to \$50.00 for fiscal year 2020 and beyond. The Resolution contains a "hold harmless" provision that prevents the lowering of the stipend if it would actually reduce the total monthly benefit. This would only affect retirees when the COLA is less than \$25 per month.
15. **Optional Forms of Benefits – A.C.A. § 24-7-706:**
  - Option 1 (Straight Life Annuity)**

A member will receive the maximum monthly benefit for which he/she qualifies, throughout his/her lifetime. No monthly benefits will be paid to his/her beneficiary after the member's death. Should a member die before he/she has drawn in benefits an amount equal to his/her contributions plus earned interest, the balance will be paid to a designated beneficiary. The designated beneficiary may be anyone chosen by the member.

# Summary of Benefit Provisions

## June 30, 2024

### **Option A (100% Survivor Annuity)**

Under this option a member will receive a reduced annuity throughout his/her lifetime. Upon the member's death, the designated beneficiary(ies) will receive (equal shares of) the same annuity for the balance of his/her lifetime.

### **Option B (50% Survivor Annuity)**

Under this option a member will receive a reduced annuity throughout his/her lifetime. Upon the member's death, the designated beneficiary(ies) will receive (equal shares of) one-half (1/2) of this annuity for the balance of his/her lifetime.

### **Option C (Annuity for Ten Years Certain and Life Thereafter)**

A reduced monthly benefit payable for 120 months. After that time, a member's monthly allowance will revert to the amount he/she would have received under the regular plan and continue for life. If the member dies before receiving 120 payments, the designated beneficiary will receive a monthly benefit in the same amount until monthly benefits to both the member and the beneficiary equal 120 monthly payments. No further benefits are then payable to the beneficiary.

### **Pop-Up Election**

Following the death of or a divorce from the member's designated beneficiary, his or her benefit reverts (pops-up) to the straight life annuity amount from the elected optional annuity amount. The member may then elect new beneficiaries in accordance with Arkansas Code and rules adopted by the ATRS board.

Option Factors are based upon a 5.0% interest rate and the PUB-2010 General Healthy Retiree/MP-2020 tables (generational projections using retirement year 2025) adjusted with a 50% unisex mix.

16. **Refund of Member Contributions – A.C.A. § 24-7-711.** Any termination refund made to a member or a lump sum payout made to a surviving spouse after July 1, 2011, cancels all service credit, including noncontributory service credit; any repurchase of refunded service will be as contributory years at actuarial cost. All membership rights (including noncontributory service credit) and beneficiary designations to the ATRS are cancelled when a member gets a refund of his or her contributions.
17. **Contract Buyout – A.C.A. § 24-7-735.** During periods of contract buyout/litigation/termination, members will not receive service credit if no on-call service or on-site work is performed. ATRS will not allow the purchase of the time between actual work and the settlement unless the settlement was made to resolve a claim of wrongful termination.
18. **Actuarial Cost of Service – A.C.A. §§ 24-1-107, 24-2-502, 24-7-202, 24-7-406, 24-7-501, 24-7-502, 24-7-612, 24-7-602, 24-7-603, 24-7-604, 24-7-606, 24-7-607, 24-7-610, 24-7-611.** Effective July 1, 2011, all service purchases will be at actuarial cost. Act 279 of 2021 allows inactive members to purchase service at actuarial cost before monthly retirement benefits or T-DROP deposits begin.
19. **Deceased Member Refund of Contributions – § 24-7-711.** Effective July 1, 2011, if a beneficiary is not eligible for survivor benefits, or if a surviving spouse is eligible and chooses a contribution refund, the interest on the refund stops the July 1 following the member's death.

## Summary of Benefit Provisions

### June 30, 2024

20. **Look-back Period – A.C.A. §§ 24-7-202, 24-7-205.** Effective July 1, 2011, absent intentional nondisclosure, fraud, misrepresentation, criminal act, or obvious/documentated error by an employer of ATRS members can no longer establish old service previously unreported unless such service is acquired by purchase at actuarial cost. ATRS is allowed to correct an understated service credit error upon which all required contributions have been paid or when understated service credit is well documented and undisputed, even if beyond the 5-year look-back period.
21. **Service Credit Requirements – A.C.A. §§ 24-7-501, 24-7-502, 24-7-601, 24-7-603, 24-7-604, 24-7-606, 24-7-607, 24-7-611.** Effective July 1, 2011, members must receive 160 days of service to be credited with a year of service credit.
22. **T-DROP Cash Balance Account.** Effective July 1, 2012, a T-DROP cash balance account was established that allows members exiting (retiring) from T-DROP to place all or a portion of their T-DROP proceeds into a Cash Balance Account (CBA) at ATRS. On November 13, 2017, by Resolution 2017-38 the Board set the CBA interest rate schedule based on years of participation as follows: 2.50% for year one, 2.75% for year two, 3.00% for year three, 3.25% for year four, 3.50% for year five, and 4.00% for year six and beyond. Each fiscal year, the Board can grant an incentive interest rate to encourage continued participation in the CBA program. For fiscal year 2024, the Board granted CBA participants an incentive rate of 0%, by Resolution 2023-38 on September 25, 2023.
23. **Purchase of “Air Time” as a Result of Wrongful Termination – A.C.A. §§ 24-7-702, 24-7-735, 6-17-413.** A member is allowed to purchase service credit under a settlement agreement or court order to resolve a claim of wrong termination if the service credit is purchased from the date of termination by an ATRS employer to the date of the resolution of the dispute. This service credit would be purchased at actuarial cost.
24. **Buyout of Inactive Members – A.C.A. § 24-7-505.** The ATRS Board created a voluntary "buyout plan" for inactive vested members. The System will make a one-time lump sum payment to a member, a surviving spouse, or an alternate payee in exchange for a member, surviving spouse, or alternate payee's cancellation of membership and retirement benefit rights. The buyout plan will be established by Board rules. Rule 16 Cash and Savings Help Program for Members (CASH) defines the terms of the "buyout plan". Depending upon the success of the plan, it may be extended by the Board. The ATRS Board expanded the CASH program to include all inactive vested members, regardless of service type by Resolution 2017-18 on May 10, 2017. The ATRS Board offered the FY 2022 CASH program for all inactive vested members to end on June 30, 2022 by Resolution 2021-37 on September 27, 2021. The ATRS Board offered the FY 2025 CASH program for all inactive vested members to end on June 30, 2025 by Resolution 2024-33 on September 30, 2024.
25. **Private School Service – A.C.A. § 24-7-607.** Prior to 2015, private school service had to be recognized by the Arkansas Department of Education as positions that required the issuance of teaching licenses. The certification of this service credit was performed by one employee of the Arkansas Department of Education, and that one employee retired. Upon that employee's retirement, the Arkansas Department of Education no longer certified private school service credit. No certifications occurred for approximately a year until legislation could be passed to allow ATRS to make this determination. In addition, a distinction was made between certified and noncertified private school service credit. Certified private school service (basically administrative and teaching) could be purchased at actuarial

# Summary of Benefit Provisions

## June 30, 2024

**Private School Service – A.C.A. § 24-7-607 (Cont.)** cost, up to 15 years. Noncertified private school service could be purchased at actuarial cost, up to 5 years.

26. **Military Service Credit – A.C.A. § 24-7-602.** Act 301 of 2015 made technical corrections to the ATRS laws. In the military service credit section, ATRS was not in compliance with a state law that was passed in 2009, Act 295, which repealed the requirement for free military service credit to be granted only if the service was not credited under any other plan except Social Security and the requirement that receipt of a pension from the federal military retirement system paid solely for disability shall not be considered as having service with another retirement plan. The military technical corrections bill raised questions by some of the legislators, and Act 558 of 2015 was passed to further clarify military service credit. Compulsory military service was changed throughout the law to read: "federal military draft". The word "honorable" was inserted before discharge in order for the member to obtain free military service credit throughout the law.
27. **Pension Advance Prohibition – A.C.A. § 24-7-715.** Prohibits a pension advance company from obtaining a retiree's benefit to repay a loan.
28. **Accrued Sick Leave – A.C.A. § 24-7-601.** Unused accrued sick leave, whether paid or unpaid, is allowed to count as service credit to determine retirement eligibility for survivor benefits and lump sum death benefits. One day of service shall be added to the service credit for the fiscal year of the member's death for each day of unused sick leave. This does not include catastrophic leave and other unused donated leave.
29. **Spousal Survivor Benefit – A.C.A. § 24-7-710.** Members may direct an alternative residual beneficiary to receive a lump sum payment of the member's residue amount or T-DROP balance. No spousal survivor benefits will be payable if an alternative beneficiary who is not the surviving spouse is designated by the member.
30. **Settlement Agreements – A.C.A. § 24-7-202, § 24-7-735.** Salary or service credit may be purchased as part of a settlement agreement between a member and their employer. Salary will be added to the salary at the time of purchase and will be determined using the same factors used to calculate an additional monthly benefit in the annuitization of a T-DROP distribution. It is assumed the member would have retired immediately at the time of the purchase.
31. **Outsourcing – A.C.A. § 24-7-506.** Outsourcing is defined to mean employment for an ATRS covered employer through a third party, private employer, independent contractor, or other contractual relationship. A person who performs services that are necessary for the normal daily operation for an ATRS covered employer is considered an Embedded Employee. The ATRS covered employer has a one-time decision to choose between two options for handling their Embedded Employees. The first option for the ATRS covered employer is to become a participating employer and make embedded employees participating members of ATRS. The second option for the ATRS covered employer is to become a Surcharge Employer and opt to pay a surcharge on the Embedded Employee's salary to ATRS to help cover the actuarial cost. The surcharge starts at ½% the first year and slowly rises to 3% over 4 years with a hard cap of 4%. The Embedded Employees of a Surcharge Employer will not be

## Summary of Benefit Provisions

### June 30, 2024

**Outsourcing – A.C.A. § 24-7-506 (Cont.)** members of ATRS. The services necessary for normal daily operations include: substitute teaching, teacher's aides, food service, transportation service, custodial service, security services, and school nursing. Only those working on the premises are subject to the surcharge. The surcharge is ONLY on SALARY of embedded employees. All salary is reported in the aggregate with the contractor's salary amount being the final word unless it is clearly in error. The Division of Youth Services shall be a participating Employer and may designate any or all Embedded Employees as members of ATRS. The law does not apply to post-secondary higher education institutions.

32. **Concurrent Reciprocal Service Credit – A.C.A. § 24-7-601.** ATRS members have the option of waiving their ATRS service in the event the member had concurrent service in two (2) state supported retirement systems. The member has the option to surrender either ATRS service or the reciprocal plan service. If a member worked full-time under a reciprocal retirement system and only part-time under ATRS, the member can to waive the ATRS service to obtain a higher benefit based upon the full-time service in the other system. Concurrent reciprocal members have the option to voluntarily elect to waive service in ATRS.
33. **Employer Contribution Rate – A.C.A. § 24-7-401.** Employer contributions are collected on active members, T-DROP participants (even those who work beyond the 10-year participation period), and working retirees. Through fiscal year 2019, the employer contribution rate is 14%. For the fiscal year beginning July 1, 2018, the Board may modify the employer contribution rate for future fiscal years above 14% in increments of 0.25% per fiscal year provided the system has a greater than 18-year amortization period to pay unfunded liabilities without an employer contribution rate of more than 14% limited to a maximum employer contribution rate of 15%. By Resolution 2017-40 on November 13, 2017, the Board set the employer contribution rate to 14.25%, 14.50%, 14.75%, and 15.00% for FY 2020, FY 2021, FY 2022, and FY 2023 respectively and 15.00% thereafter.
34. **Forfeiture of Benefits by Certain Persons – A.C.A. §§ 24-1-301, 302, 303, 304, 305.** A beneficiary's benefits under a public retirement system can be forfeited when the beneficiary unlawfully kills a member or retiree.
35. **Socially responsible investments – A.C.A. § 24-7-105.** A decision on whether to invest, not invest, or withdraw from investment the funds of the Arkansas Teacher Retirement System or an alternate retirement plan of the system shall not be based on a consideration that the location of the investment, fund, company, or any other type of investment vehicle is in the State of Israel.
36. **Normal Retirement Age & Separation Period – A.C.A. §§ 24-7-202, 24-7-502.** In order for a member to start drawing retirement benefits the IRS requires them to have a bona fide termination of employment or have attained the "normal retirement age". ATRS ensures the bona fide termination of employment by requiring a member stay separated from covered employment for six (6) months before returning to work for an ATRS covered employer. The ATRS "normal retirement age" is defined as age 65 with 5 years of actual service OR at least age 60 years of age or older if the member's age and the member's combined years of actual service, T-DROP service and reciprocal service total 98. A member who has attained the normal retirement age may draw full retirement benefits and remain employed without separating from employment.

## Sample Benefit Calculations for a Member Retiring June 30, 2024

The data for the Example member is shown below:

A.	\$35,000	Final Average Compensation
B.	32	Total Service Credit
C.	27	Contributory Service Credit
D.	60	Age of Retiree
E.	55	Age of Spouse
F.	100%	Percentage of Retirement Allowance to Continue to Spouse after Retiree's Death (Retiree Chooses this Percentage)

The computations that would be made for this case are:

	<u>Annual</u>
G. Non-Contributory Base: $1.39\% \times A \times B$	\$15,568
H. Extra for Contributory: $0.76\% \times A \times C$	<u>7,182</u>
I. Subtotal Benefit: G + H	22,750
J. Health Stipend	<u>600</u>
K. Total Benefit: I + J	23,350
L. Adjustment for Line F election: $(1 - 0.78571) \times I$	<u>4,875</u>
M. Annual Amount Payable	\$18,475

Projected Benefits, taking into account increases after retirement would be:

<u>Year Ended June 30</u>	<u>Annual Amount</u>
2025	\$18,475
2026	19,011
2027	19,547
2028	20,083
2029	20,619

Thereafter, the amount would increase by \$536 annually for life.

## Sample T-DROP Benefit Calculations for a Member Entering T-DROP June 30, 2024

The data for the Example member is shown below:

A.	\$35,000	Final Average Compensation
B.	28	Total Service Credit
C.	28	Contributory Service Credit
D.	55	Age of Retiree

The computations that would be made for this case are:

		<b>Annual Amount</b>
E.	Non-Contributory Base: $1.39\% \times A \times B$	\$13,622
F.	Extra for Contributory: $0.76\% \times A \times C$	7,448
G.	Reduction for T-DROP Plan: (1% for each year of service) $0.28 \times (E+F)$	5,900
H.	Reduction for Entering T-DROP with less than 30 years of service (6% for each year less than 30): $0.12 \times (E + F - G)$	<u>1,820</u>
I.	Annual Deposit $E + F - G - H$	\$13,350

Projected Deposits, taking into account increases after DROP, and 5 years duration would be:

Year Ended June 30	Amount Deposited
2025	\$13,350
2026	13,751
2027	14,151
2028	14,552
2029	14,952
Total	\$70,756

The amount deposited, plus credited interest, can be paid as a lump sum or as an annuity. A portion of the deposits can also be placed into a Cash Balance account.

## SECTION D

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### **FINANCIAL INFORMATION**

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items the auditor changes so that we may maintain consistency with the System's financial statements.



## Asset Valuation Method

An essential step in the valuation process is comparing valuation assets with computed liabilities. Valuation assets are those assets that are recognized for funding purposes.

Asset valuation methods are distinguished by the timing of the recognition of investment income. Total investment income is the sum of ordinary income and capital value changes. Under a pure market value approach, ordinary investment income and all capital value changes would be recognized immediately. Because of market volatility, use of pure market values in retirement funding can result in volatile contribution rates and unstable financial ratios, contrary to ATRS' objectives.

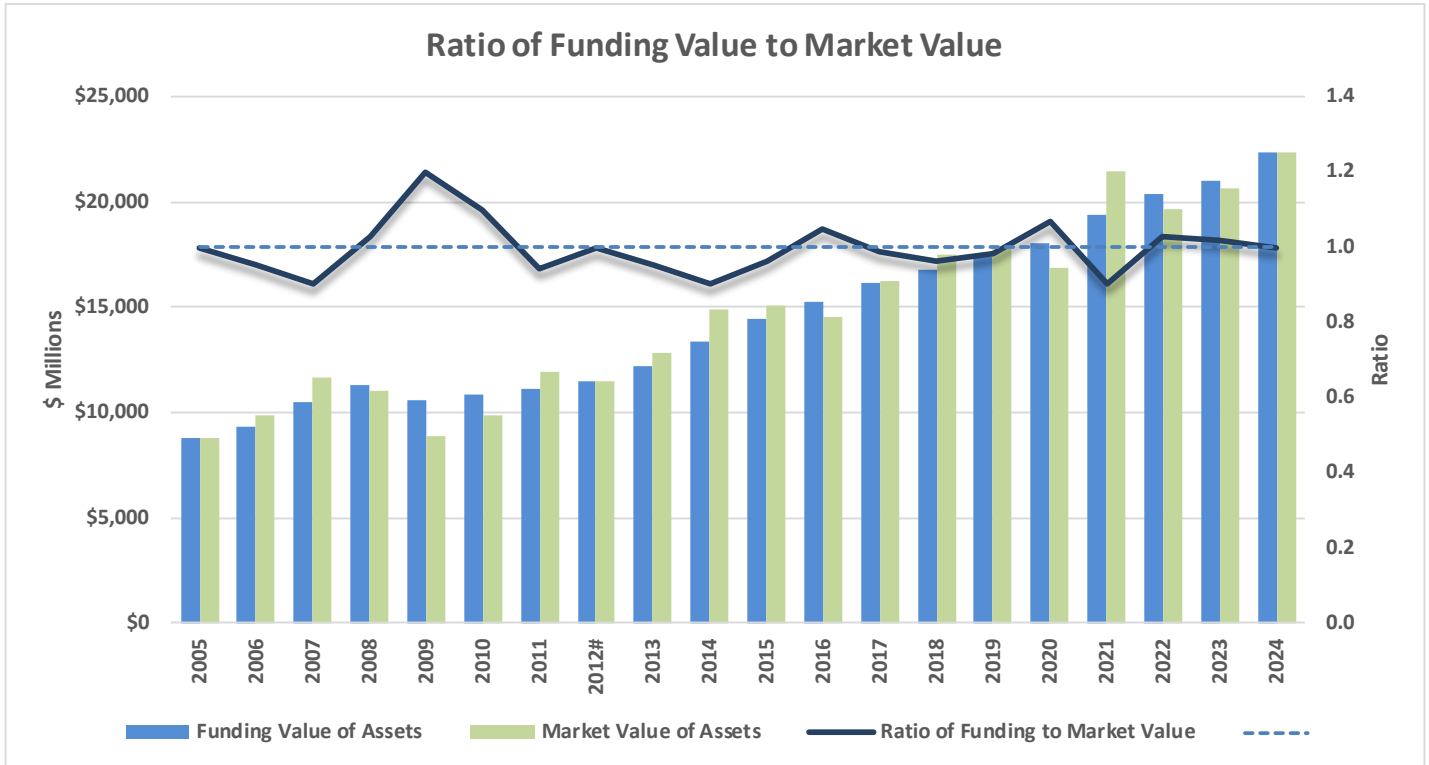
Under the ATRS asset valuation method (see page D-3), assumed investment return is recognized fully each year. Differences between actual and assumed investment return are phased-in over a closed four-year period. During periods when investment performance exceeds the assumed rate, the funding value will tend to be less than the market value. Conversely, during periods when investment performance is less than the assumed rate, funding value will tend to be greater than market value. If assumed rates are exactly realized for three consecutive years, funding value will become equal to market value.

A multi-year comparison of market value to funding (actuarial) value is below and on the following pages.

Valuation Date June 30	Market Value of Assets (1)	Funding Value of Assets (2)	Ratio of FV to MV (2) / (1)
2005	\$ 8,811	\$ 8,817	100%
2006	9,868	9,332	95%
2007	11,637	10,519	90%
2008	11,018	11,319	103%
2009	8,847	10,617	120%
2010	9,884	10,845	110%
2011	11,895	11,146	94%
2012#	11,484	11,484	100%
2013	12,830	12,247	95%
2014	14,856	13,375	90%
2015	15,036	14,434	96%
2016	14,559	15,239	105%
2017	16,285	16,131	99%
2018	17,493	16,756	96%
2019	17,742	17,413	98%
2020	16,902	18,007	107%
2021	21,469	19,343	90%
2022	19,679	20,328	103%
2023	20,675	21,015	102%
2024	22,359	22,309	100%

# Funding Value set equal to Market Value.

# Asset Valuation Method



# Funding Value set equal to Market Value.

This year the market value of assets exceeded the funding value (see page A-2 for a more detailed explanation). To prevent unreasonably large differences between market value and funding value, there is a requirement that the recognized assets must always be between 80% and 120% of the market value (see page D-3).

## Development of Funding Value of Assets

Year Ended June 30:	2021	2022	2023	2024	2025	2026	2027
A. Funding Value Beginning of Year	\$ 18,007,255,143	\$ 19,342,870,512	\$ 20,328,281,484	\$ 21,014,908,823			
B. Market Value End of Year	21,468,772,872	19,679,467,252	20,675,051,918	22,359,231,384			
C. Market Value Beginning of Year	16,902,076,224	21,468,772,872	19,679,467,252	20,675,051,918			
D. Non-Investment Net Cash Flow	(676,930,006)	(192,363,759) *	(688,831,775)	(720,213,715)			
E. Investment Return							
E1. Market Total: B - C - D	5,243,626,654	(1,596,941,861)	1,684,416,441	2,404,393,181			
E2. Assumed Rate	7.50%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%
E3. Amount for Immediate Recognition	\$ 1,325,159,261	\$ 1,395,384,926	\$ 1,448,830,256	\$ 1,497,473,142			
E4. Amount for Phased-In Recognition: E1-E3	3,918,467,393	(2,992,326,787)	235,586,185	906,920,039			
F. Phased-In Recognition of Investment Return							
F1. Current Year: 0.25 x E4	979,616,848	(748,081,697)	58,896,546	226,730,010	Unknown	Unknown	Unknown
F2. First Prior Year	(363,802,838)	979,616,848	(748,081,697)	58,896,546	\$ 226,730,010	Unknown	Unknown
F3. Second Prior Year	(85,342,509)	(363,802,838)	979,616,848	(748,081,697)	58,896,546	\$ 226,730,010	Unknown
F4. Third Prior Year	156,914,613	(85,342,508)	(363,802,839)	979,616,849	(748,081,696)	58,896,547	\$ 226,730,009
<b>F5. Total Recognized Investment Gain</b>	<b>687,386,114</b>	<b>(217,610,195)</b>	<b>(73,371,142)</b>	<b>517,161,708</b>	<b>(462,455,140)</b>	<b>285,626,557</b>	<b>226,730,009</b>
G. Funding Value End of Year:							
G1. Preliminary Funding Value End of Year: A+D+E3+F5	<b>19,342,870,512</b>	<b>20,328,281,484</b>	<b>21,014,908,823</b>	<b>22,309,329,958</b>			
G2. Upper Corridor Limit: 120% x B	<b>25,762,527,446</b>	<b>23,615,360,702</b>	<b>24,810,062,302</b>	<b>26,831,077,661</b>			
G3. Lower Corridor Limit: 80% x B	<b>17,175,018,297</b>	<b>15,743,573,802</b>	<b>16,540,041,535</b>	<b>17,887,385,107</b>			
<b>G4. Funding Value End of Year</b>	<b>19,342,870,512</b>	<b>20,328,281,484</b>	<b>21,014,908,823</b>	<b>22,309,329,958</b>			
H. Actual/Projected Difference between Market and Funding Value	2,125,902,360	(648,814,232)	(339,856,905)	49,901,426	512,356,566	226,730,009	-
I. Market Rate of Return	31.66 %	(7.47)%	8.71 %	11.84 %			
J. Funding Rate of Return	11.39 %	6.12 %	6.88 %	9.75 %			
K. Ratio of Funding Value to Market Value	90.10 %	103.30 %	101.64 %	99.78 %			

\* Includes \$507.4 million from the settlement of a lawsuit.

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed four-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than Market Value. **The Funding Value of Assets is unbiased with respect to Market Value.** At any time, it may be either greater or less than Market Value. If assumed rates (applied to the funding value of assets) are exactly realized for three consecutive years, it will become equal to Market Value.

**The assets** of the Retirement System, as of June 30, 2024, were reported to your actuary to be \$22,359,231,384. This amount, reduced by a funding value adjustment of \$49,901,426 this year, is used to finance the Retirement System liability.

Accounts	Assets as of June 30	
	2024	2023
Regular Accounts		
Members' Deposit Accounts		
Contributions	\$ 1,830,533,728	\$ 1,718,903,627
Interest	13,013,551,141	11,599,922,370
Total	14,844,084,869	13,318,825,997
T-DROP Member Deposit Accounts		
Contributions	32,961,427	32,472,783
Interest	17,836,421	18,548,379
Total	50,797,848	51,021,162
Cash Balance Account	240,202,392	226,279,957
Employer's Accumulation Account	(7,498,915,914)	(7,256,480,855)
Retirement Reserve Account	14,288,978,608	13,886,819,183
Act 808 Retirement Reserve Account	5,192,191	6,235,877
T-Lump Sum Payable	299,014,864	320,171,587
Survivors Benefit Account	119,259,431	112,186,981
Total Regular Accounts	22,348,614,289	20,665,059,889
Other Accounts		
Income Expense Account	10,617,095	9,992,029
Other Special Reserves	-	-
Miscellaneous	-	-
Total Other Accounts	10,617,095	9,992,029
Total Accounting Value of Assets	22,359,231,384	20,675,051,918
Funding Value Adjustment	(49,901,426)	339,856,905
Funding Value of Assets	\$ 22,309,329,958	\$ 21,014,908,823

## Market Value of Assets

The net market value of assets at year-end was \$22,359,231,384 and was invested as shown below:

	Market Value at June 30	
	2024	2023
Cash	\$ 382,291,377	\$ 349,165,471
Receivables		
Unsettled Trades and Accrued Return	57,267,479	58,090,474
Member Contributions	10,702,302	11,023,509
Employer Contributions	32,164,260	33,734,466
Other	698,897	669,443
Total Receivables	100,832,938	103,517,892
Investments		
Public Equity	4,294,178,732	3,715,263,524
Fixed Income	1,842,669,015	1,686,126,493
Real Estate	167,593,445	175,694,289
Pooled	5,654,476,103	5,555,585,690
State Recycling Tax Credits	203,200,000	129,552,000
Derivative	14,174	(17,623)
Alternative	9,851,978,883	9,005,490,511
Other	(288,933)	(133,457)
Total Investments	22,013,821,419	20,267,561,427
Invested Securities Lending	427,105,534	457,448,502
Net Equipment	194,149	210,730
Deferred Outflows Related to OPEB	262,602	493,831
Total Assets	22,924,508,019	21,178,397,853
Liabilities		
Survivor Benefits for Minors	9,048	14,148
Other Payables	6,412,743	6,576,235
Securities Related Payables	130,273,772	37,647,135
Securities Lending Collateral	427,105,534	457,448,502
Deferred Inflows Related to OPEB	1,475,538	1,659,915
Total Liabilities	565,276,635	503,345,935
Net Market Value	\$ 22,359,231,384	\$ 20,675,051,918
Change from Prior Year	1,684,179,466	995,584,666

## Market Value Reconciliation

Assets developed during the year as follows:

	Year Ended June 30	
	2024	2023
Net Market Value July 1	\$ 20,675,051,918	\$ 19,679,467,252
<b>Additions</b>		
Employer Contributions	554,738,036	536,619,031
Employee Contributions	211,036,048	200,610,721
Other (Including Settlement)	-	-
Appreciation	2,273,170,605	1,550,226,801
Interest	90,172,675	66,655,648
Dividends	115,400,128	128,765,267
Real Estate	6,369,111	6,437,924
Other	3,368,925	1,244,319
Securities Lending Activity	2,501,792	3,789,883
<b>Total Additions</b>	<b>3,256,757,320</b>	<b>2,494,349,594</b>
<b>Deductions</b>		
Age and Service Benefits	1,228,650,953	1,183,189,280
Disability Benefits	41,027,658	40,457,469
Option Benefits	42,609,573	39,659,615
Survivor Benefits	13,191,438	12,949,173
Reciprocal Service	70,173,668	67,375,786
Act 808	1,421,578	1,605,876
Refunds	12,116,533	12,583,767
Active Member Death	379,839	396,423
T-DROP Benefits	46,757,375	47,464,578
CBA Benefits	25,927,024	17,726,519
CASH Benefit Program	3,732,160	2,653,041
Investment Expense	78,162,659	64,810,579
Administrative Expense	8,427,396	7,892,822
<b>Total Deductions</b>	<b>1,572,577,854</b>	<b>1,498,764,928</b>
Miscellaneous	-	-
<b>Net Market Value June 30</b>	<b>\$ 22,359,231,384</b>	<b>\$ 20,675,051,918</b>

## Schedule of Funding Progress (Dollar Amounts in Millions)

Valuation Date June 30	(1) Funding Value of Assets	(2) Entry Age AAL	(3) UAAL (2)-(1)	(4) Funding Ratio (1)/(2)	(5) Annual Payroll	Liabilities as a % of Payroll		
						Unfunded (3)/(5)	Funded (1)/(5)	Total (2)/(5)
2004	\$ 8,424	\$ 10,050	\$ 1,626	83.8%	\$ 1,748	93.0%	481.9%	574.9%
2005	8,817	10,973	2,156	80.4%	1,962	109.9%	449.4%	559.3%
2006	9,332	11,623	2,291	80.3%	2,080	110.1%	448.7%	558.8%
2007+	10,519	12,329	1,810	85.3%	2,191	82.6%	480.1%	562.7%
2008+	11,319	13,334	2,015	84.9%	2,268	88.8%	499.1%	587.9%
2009	10,617	14,019	3,402	75.7%	2,318	146.8%	458.0%	604.8%
2010+	10,845	14,697	3,852	73.8%	2,381	161.8%	455.5%	617.3%
2011+*	11,146	15,521	4,375	71.8%	2,728	160.4%	408.6%	569.0%
2012	11,484	16,139	4,655	71.2%	2,714	171.5%	423.2%	594.7%
2013+*	12,247	16,718	4,471	73.3%	2,727	164.0%	449.1%	613.1%
2014	13,375	17,310	3,935	77.3%	2,758	142.7%	484.9%	627.6%
2015	14,434	18,136	3,702	79.6%	2,777	133.3%	519.8%	653.1%
2016	15,239	18,812	3,573	81.0%	2,785	128.3%	547.2%	675.5%
2017+*	16,131	20,298	4,167	79.5%	2,814	148.1%	573.2%	721.3%
2018+*	16,756	20,935	4,179	80.0%	2,872	145.5%	583.4%	728.9%
2019+	17,413	21,709	4,296	80.2%	2,907	147.8%	599.0%	746.8%
2020+	18,007	22,352	4,345	80.6%	2,954	147.1%	609.6%	756.7%
2021+*	19,343	23,987	4,644	80.6%	3,086	150.5%	626.8%	777.3%
2022+	20,328	24,697	4,369	82.3%	3,199	136.6%	635.4%	772.0%
2023+	21,015	25,592	4,577	82.1%	3,353	136.5%	626.8%	763.3%
2024	22,309	26,356	4,047	84.6%	3,459	117.0%	645.0%	762.0%

+ Legislated benefit or contribution rate changes.

\* Revised actuarial assumptions.

A system with a high ratio of assets or liabilities to payroll will tend to experience more volatility than a system with a lesser ratio, assuming a similar asset allocation.

## Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base. In a fixed rate plan with unfunded liabilities, a reduction in covered payroll can have a negative effect on the system as actual employer contributions are based on a lower than expected payroll;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected. Teacher shortages and reductions in school age populations may have an effect on the System other than expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.



## Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures are discussed below and on the following pages. An additional historical summary of plan maturity measures can be found on page D-11.

	2024	2023	2022	2021	2020
Ratio of the Market Value of Assets to Total Payroll	6.2	5.9	5.9	6.7	5.7
Ratio of Actuarial Accrued Liability to Payroll	7.3	7.3	7.4	7.5	7.6
Ratio of Actives to Retirees and Beneficiaries	1.3	1.3	1.4	1.4	1.4
Ratio of Net Cash Flow to Market Value of Assets	-3.2%	-3.3%	-1.0%*	-3.2%	-3.9%
Duration of the Present Value of Future Benefits	14.17	14.16	14.03	14.02	13.83

\* The net cash flow for 2022 includes \$507.4 million from the settlement of a lawsuit.

### Ratio of the Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. The market value of assets is currently 6.2 times the payroll indicating that a return on assets 2% different from assumed would equal approximately 12% of payroll. Such a change could affect the amortization period by approximately four years based on 2024 results. While asset smoothing would reduce the effect, asset gains and losses much larger than 2% are common. An increasing level of this maturity measure generally indicates an increasing volatility in the amortization period.

### Ratio of Actuarial Accrued Liability to Payroll

As the ratio of actuarial accrued liability to payroll increases, the amortization period becomes increasingly sensitive to the effects of demographic gains and losses, and assumption changes. For example, a 1% demographic gain or loss would correspond to 7.3% of payroll and would affect the amortization period by two years based on the 2024 results.

### Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

### Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means benefits and expenses exceed contributions, and existing funds may be used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

# Plan Maturity Measures

## Duration of Present Value of Future Benefits

The modified duration of the present value of future benefits may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, the current duration of 14.2 (which is based on a 7.25% discount rate) indicates that the present value of future benefits would increase approximately 14.2% if the assumed rate of return were lowered 1%. Such a change could affect the amortization period by 20 years or more.

## Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

## Plan Maturity Measures (Based on Market Value of Assets)

Valuation Date June 30	(1) Accrued Liabilities (AAL)	(2) Market Value of Assets	(3) Unfunded AAL (1)-(2)	(4) Valuation Payroll <sup>^</sup>	(5) % Change in Payroll	(6) Funded Ratio (2)/(1)	(7) Annuitant Liabilities (AnnLiab)	(8) AnnLiab/AAL (7)/(1)	(9) Liability/Payroll (1)/(4)	(10) Assets/Payroll (2)/(4)	(11) Est. Portfolio Std. Dev.	(12) Std. Dev. % of Pay (10)x(11)	(13) Unfunded/Payroll (3)/(4)	(14) External Net Cash Flow (NECF)	(15) NECF/Assets (14)/(2)	(16) Portfolio Rate of Return	(17) 10-year Trailing Average
2012	\$ 16,139	\$ 11,484	\$ 4,655	\$ 2,803		71.2%	\$ 7,649	47.4%	575.8%	409.7%			166.1%	\$ (285)	-2.5%	-1.1%	6.6%
2013#	16,718	12,830	3,888	2,819	0.6%	76.7%	8,181	48.9%	593.0%	455.1%			137.9%	(337)	-2.6%	14.9%	8.0%
2014	17,310	14,856	2,454	2,851	1.1%	85.8%	8,777	50.7%	607.2%	521.1%			86.1%	(395)	-2.7%	19.2%	8.2%
2015	18,136	15,036	3,100	2,874	0.8%	82.9%	9,778	53.9%	631.0%	523.1%			107.9%	(445)	-3.0%	4.3%	7.7%
2016	18,812	14,559	4,253	2,888	0.5%	77.4%	10,430	55.4%	651.3%	504.0%			147.3%	(505)	-3.5%	0.2%	6.3%
2017#*	20,298	16,285	4,013	2,922	1.2%	80.2%	11,337	55.9%	694.7%	557.4%			137.3%	(556)	-3.4%	16.0%	6.0%
2018	20,935	17,493	3,442	2,986	2.2%	83.6%	11,851	56.6%	701.1%	585.8%	12.7%	77.3%	115.3%	(607)	-3.5%	11.4%	7.6%
2019	21,709	17,742	3,967	3,027	1.4%	81.7%	12,460	57.4%	717.2%	586.1%	12.5%	76.3%	131.1%	(642)	-3.6%	5.2%	10.4%
2020	22,352	16,902	5,450	3,078	1.7%	75.6%	12,890	57.7%	726.2%	549.1%	12.5%	71.5%	177.1%	(665)	-3.9%	-1.0%	8.8%
2021*	23,987	21,469	2,518	3,205	4.1%	89.5%	13,596	56.7%	748.4%	669.8%	13.8%	92.1%	78.6%	(677)	-3.2%	31.7%	9.6%
2022	24,697	19,679	5,018	3,320	3.6%	79.7%	14,044	56.9%	743.8%	592.7%	13.7%	81.1%	151.1%	(192)	-1.0%	-7.5%	8.9%
2023	25,592	20,675	4,917	3,492	5.2%	80.8%	14,511	56.7%	732.9%	592.1%	13.9%	82.3%	140.8%	(689)	-3.3%	8.7%	8.3%
2024	26,356	22,359	3,997	3,612	3.4%	84.8%	14,992	56.9%	729.8%	619.1%	13.9%	86.1%	110.7%	(720)	-3.2%	11.8%	7.6%

(\*) ATRS had experience studies in these years leading to a change or "true up" in actuarial assumptions. A pattern of periodic studies is a sign of a well-run system and suggests the extent to which the liability measures the actuary provides are likely to be realistic.

(#) ATRS had benefit changes in these years. Benefit increases cause liabilities to rise; benefit decreases cause liabilities to fall. In either case, benefit changes affect the year by year comparability of the measures on this page.

(^) Includes payroll for return to work retirees.

(6). The Funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

(9) and (10) The ratios of liabilities and assets to payroll gives an indication of both maturity and volatility. Many systems have values between 500% and 700%. Values significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll or an increased level of volatility in results.

(13) The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A value above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.

(14) and (15) The ratio of Net External Cash Flow to assets is an important measure of sustainability. Negative ratios are common and expected for a maturing system. In the longer term, this ratio should be on the order of approximately -4%. A ratio that is significantly more negative than that for an extended period could be a leading indicator of potential exhaustion of assets.

(16) and (17) Investment return is probably the largest single risk that most systems face. The year by year return and the 10-year geometric average give an indicator of the past performance of the investment program. Of course, past performance is not a guarantee of future results. Some of the trailing averaged are distorted by the extraordinary events of 2008 and 2021.

# Low-Default-Risk Obligation Measure

## Introduction

In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the “Low-Default-Risk Obligation Measure” (LDRM). The rationale that the ASB cited for the calculation and disclosure of the LDRM was included in the Transmittal Memorandum of ASOP No. 4 and is presented below:

“The ASB believes that the calculation and disclosure of this measure provides appropriate, useful information for the intended user regarding the funded status of a pension plan. The calculation and disclosure of this additional measure is not intended to suggest that this is the “right” liability measure for a pension plan. However, the ASB does believe that this additional disclosure provides a more complete assessment of a plan’s funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date.”

## Comparing the Accrued Liabilities and the LDRM

One of the fundamental financial objectives of ATRS is to finance each member’s retirement benefits over the period from the member’s date of hire until the member’s projected date of retirement (entry age actuarial cost method) as a level percentage of payroll. To fulfill this objective, the discount rate that is used to value the accrued liabilities of ATRS is set equal to the expected return on the System’s diversified portfolio of assets (referred to sometimes as the investment return assumption). For ATRS, the investment return assumption is 7.25%.

The LDRM is meant to approximately represent the lump sum cost to secure benefits by purchasing low-default-risk fixed income securities whose resulting cash flows essentially replicate in timing and amount the benefits earned (or the costs accrued) as of the measurement date. The LDRM is very dependent upon market interest rates at the time of the LDRM measurement. The lower the market interest rates, the higher the LDRM, and vice versa. The LDRM results presented in this report are based on the projected unit credit actuarial cost method and discount rates based upon the June 2024 Treasury Yield Curve Spot Rates (monthly average). The 1-, 5-, 10- and 30-year rates follow: 5.12%, 4.34%, 4.22% and 4.45%.

Presented below are the actuarial accrued liability and the LDRM as of June 30, 2024 for ATRS.

Type of Member	Valuation Accrued Liabilities	LDRM
Retirees	\$14,992,397,409	\$19,042,974,700
Deferreds	755,402,602	1,248,120,685
Actives	10,608,457,726	15,063,938,913
<b>Totals</b>	<b>\$26,356,257,737</b>	<b>\$35,355,034,298</b>

# Low-Default-Risk Obligation Measure

## Commentary Regarding the LDROM

Some ways in which the LDROM can assist the ATRS Board of Trustees in a decision-making process include:

- (1) It provides information to potentially allow for better risk management for ATRS.
- (2) It places the appropriateness of potential employer contribution rate reductions or benefit enhancements in a better context.
- (3) It provides more complete information regarding the benefit security of the membership's benefits earned as of the measurement date.

**Potentially Allows for Better Risk Management:** A very useful risk metric to exhibit potential contribution rate volatility (or amortization period volatility for fixed rate plans) is the ratio of assets to payroll or AAL to payroll. How could we reduce that potential contribution rate volatility (or amortization period volatility for fixed rate plans)? The LDROM and Liability Driven Investing (LDI) are closely related concepts.

Other than reducing benefits, all other things being equal, the only way to reduce that volatility is to immunize (i.e., LDI) a portion of the System's liability. This does not mean that the System needs to immunize all of the liability. For example, if it could immunize half of it, it could reduce the contribution rate volatility in half. This would require the actuary to use a cash flow matching method to value that portion of the liabilities. This means that the actuary would not use the System's investment return assumption for this portion of the liability, but the yield curve resulting from the fixed income portfolio that is being used to immunize the liability. The value of the assets (i.e., fixed income portfolio) and the value of the immunized liability would move in tandem with any changes (up or down) in future interest rates. The result being that the immunized portion of the System's liability would reduce the potential of producing new unfunded actuarial accrued liabilities. However, the fixed income portfolio would still have the potential for credit default risk.

**Places the Appropriateness of Potential Employer Contribution Rate Reductions or Benefit Enhancements in a Better Context:** Many Public Employees Retirement Systems have adopted a funding policy. Many funding policies already take into account the System's funded ratio (based upon the AAL) when considering whether to allow for benefit enhancements or contribution rate reductions. For example, a System may not allow for a benefit enhancement if the funded ratio does not exceed a certain threshold. Similarly, a System may not allow for an employer contribution rate reduction in some circumstances. For example, a reduction to the employer normal cost contribution may not be allowed until the System reaches a funded ratio of 120%. Given the fact that most criteria are based upon the expectation of earning the investment return assumption, a System may want to also consider information based upon the LDROM criteria.

**Provides more Complete Information Regarding the Benefit Security of the Membership's Benefits Earned as of the Measurement Date:** Too often a high funded ratio (e.g., 100% funded) on an AAL basis is interpreted as benefit security for the participants. The fact that this funded ratio is based upon an expected measure is many times overlooked. If the AAL and LDROM measures are relatively close, then the System could consider securing benefits by investing in a low-default-risk laddered bond portfolio.

## SECTION E

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### COVERED MEMBER DATA

**Active Members in Valuation June 30, 2024  
by Attained Age and Years of Service  
(Excludes T-DROP and Rehired Retirees)**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	728							728	\$ 2,501,264
20-24	2,353	12						2,365	70,076,388
25-29	4,851	1,300	7					6,158	277,448,620
30-34	3,209	3,353	920	4				7,486	345,920,113
35-39	2,891	2,320	2,601	667	8			8,487	406,553,526
40-44	2,513	2,098	1,719	2,477	727	3		9,537	488,176,775
45-49	1,916	1,708	1,485	1,718	2,084	521	2	9,434	508,981,825
50-54	1,618	1,341	1,299	1,574	1,600	1,944	74	9,450	517,606,577
55-59	1,279	1,031	967	1,188	1,283	1,082	135	6,965	337,229,400
60	254	194	156	260	226	225	23	1,338	59,143,315
61	262	186	147	206	180	170	20	1,171	50,433,841
62	238	199	130	165	188	142	24	1,086	47,025,822
63	191	160	113	129	133	108	20	854	35,649,846
64	194	136	82	94	90	95	13	704	27,559,024
65	145	110	84	67	67	83	12	568	22,018,756
66	146	72	44	28	27	14	7	338	11,084,496
67	120	90	20	15	13	13	8	279	8,449,708
68	122	59	21	9	8	7	5	231	6,277,888
69	116	44	17	10	4	7	2	200	4,907,662
70 & Up	520	236	81	19	11	6	13	886	19,052,429
<b>Totals</b>	<b>23,666</b>	<b>14,649</b>	<b>9,893</b>	<b>8,630</b>	<b>6,649</b>	<b>4,420</b>	<b>358</b>	<b>68,265</b>	<b>\$3,246,097,275</b>

Group Averages:

Age: 44.1 years

Service: 10.1 years



**FEMALE Active Members in Valuation June 30, 2024**  
**by Attained Age and Years of Service**  
**(Excludes T-DROP and Rehired Retirees)**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	321							321	\$ 1,351,122
20-24	1,772	8						1,780	54,847,129
25-29	3,641	998	4					4,643	201,949,407
30-34	2,547	2,561	702	2				5,812	257,182,610
35-39	2,348	1,815	1,931	524	4			6,622	301,170,046
40-44	2,066	1,748	1,359	1,934	560	2		7,669	375,244,062
45-49	1,481	1,423	1,199	1,350	1,652	397	1	7,503	386,255,513
50-54	1,192	1,033	1,055	1,301	1,309	1,504	54	7,448	392,072,193
55-59	899	751	735	976	1,096	876	96	5,429	253,623,184
60	177	132	112	200	194	191	13	1,019	42,892,825
61	176	135	104	158	152	147	15	887	37,699,879
62	168	136	91	124	161	122	16	818	34,896,781
63	116	118	79	93	113	87	15	621	25,022,297
64	134	80	60	69	71	80	9	503	18,964,050
65	81	74	56	54	55	75	12	407	15,582,615
66	74	46	28	20	20	13	5	206	6,695,852
67	74	56	14	11	10	12	6	183	5,283,152
68	68	33	14	8	8	5	4	140	3,821,194
69	76	20	11	7	2	7	1	124	2,778,788
70 & Up	296	104	47	14	8	3	7	479	10,158,468
<b>Totals</b>	<b>17,707</b>	<b>11,271</b>	<b>7,601</b>	<b>6,845</b>	<b>5,415</b>	<b>3,521</b>	<b>254</b>	<b>52,614</b>	<b>\$ 2,427,491,167</b>

Group Averages:

Age: 44.0 years

Service: 10.4 years





**MALE Active Members in Valuation June 30, 2024**  
**by Attained Age and Years of Service**  
**(Excludes T-DROP and Rehired Retirees)**

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	407							407	\$ 1,150,142
20-24	581	4						585	15,229,259
25-29	1,210	302	3					1,515	75,499,213
30-34	662	792	218	2				1,674	88,737,503
35-39	543	505	670	143	4			1,865	105,383,480
40-44	447	350	360	543	167	1		1,868	112,932,713
45-49	435	285	286	368	432	124	1	1,931	122,726,312
50-54	426	308	244	273	291	440	20	2,002	125,534,384
55-59	380	280	232	212	187	206	39	1,536	83,606,216
60	77	62	44	60	32	34	10	319	16,250,490
61	86	51	43	48	28	23	5	284	12,733,962
62	70	63	39	41	27	20	8	268	12,129,041
63	75	42	34	36	20	21	5	233	10,627,549
64	60	56	22	25	19	15	4	201	8,594,974
65	64	36	28	13	12	8		161	6,436,141
66	72	26	16	8	7	1	2	132	4,388,644
67	46	34	6	4	3	1	2	96	3,166,556
68	54	26	7	1		2	1	91	2,456,694
69	40	24	6	3	2		1	76	2,128,874
70 & Up	224	132	34	5	3	3	6	407	8,893,961
<b>Totals</b>	<b>5,959</b>	<b>3,378</b>	<b>2,292</b>	<b>1,785</b>	<b>1,234</b>	<b>899</b>	<b>104</b>	<b>15,651</b>	<b>\$ 818,606,108</b>

Group Averages:

Age: 44.2 years

Service: 9.4 years



## Summary of Active Members (Excludes T-DROP and Rehired Retirees)

	Educational		Support		Total Active Members	
	No.	Valuation Payroll	No.	Valuation Payroll	No.	Valuation Payroll
Female	29,171	\$ 1,741,329,426	23,443	\$ 686,161,741	52,614	\$ 2,427,491,167
Male	8,452	570,167,316	7,199	248,438,792	15,651	818,606,108
All	37,623	\$ 2,311,496,742	30,642	\$ 934,600,533	68,265	\$ 3,246,097,275

	Educational	Support	Total
Members Contributing Now	36,354	18,989	55,343
Members Not Contributing	1,269	11,653	12,922
All	37,623	30,642	68,265

June 30	Number	Group Averages			Active Member Payroll (\$ Millions)
		Age	Years of Service	Annual Earnings	
2005	65,793	44.2	9.4	\$29,826	\$1,962
2006	67,710	44.3	9.3	30,714	2,080
2007	69,226	44.4	9.3	31,645	2,191
2008	70,172	44.5	9.4	32,319	2,268
2009	70,655	44.7	9.5	32,804	2,318
2010	72,208	44.7	9.7	32,980	2,381
2011	72,293	44.8	9.9	33,995	2,458
2012	71,195	45.0	10.1	34,362	2,446
2013	70,660	45.0	10.2	34,920	2,467
2014	70,225	44.7	10.2	35,673	2,505
2015	68,945	44.6	10.3	36,717	2,531
2016	68,368	44.4	10.2	37,235	2,546
2017	68,337	44.3	10.2	37,707	2,577
2018	68,645	44.2	10.2	38,477	2,641
2019	68,457	44.1	10.1	39,065	2,674
2020	66,900	44.3	10.3	40,709	2,723
2021	66,633	44.2	10.5	42,901	2,859
2022	68,127	44.1	10.2	43,758	2,981
2023	68,249	44.0	10.2	45,897	3,132
2024	68,265	44.1	10.1	47,551	3,246

## Deferred Vested Members at June 30, 2024 by Attained Age

Age	Number	Estimated Annual Benefits	Contribution Balance
Below 40	2,122	\$ 11,897,035	\$ 31,470,016
40	368	2,571,560	6,315,030
41	348	2,612,067	6,339,630
42	361	2,790,235	6,850,231
43	398	3,205,911	7,705,543
44	402	3,361,445	7,974,808
45	437	3,448,390	8,150,699
46	355	2,801,907	6,581,771
47	413	3,414,973	8,178,866
48	417	3,207,469	7,369,697
49	427	3,579,109	8,097,035
50	502	3,829,245	8,757,151
51	459	3,549,121	7,649,035
52	511	3,847,055	8,350,029
53	570	4,107,838	8,249,275
54	559	3,953,867	7,718,123
55	519	3,806,127	7,863,202
56	571	4,276,615	8,689,607
57	577	3,784,496	7,098,984
58	578	3,958,007	7,597,694
59	627	4,301,054	8,407,319
60 & Up	3,200	11,303,875	17,891,297
Future Beneficiaries #	54	351,626	0
<b>Totals</b>	<b>14,775</b>	<b>\$ 93,959,027</b>	<b>\$ 203,305,042</b>

# These are beneficiaries of deceased active members who are eligible for a pension at age 62.

An inactive member is no longer actively working in a position covered by ATRS but has sufficient service credit to qualify for a monthly benefit at retirement age.

## All Members Participating in T-DROP at June 30, 2024 by Attained Age

Age	Number	Current T-DROP Contribution	Original T-DROP Contribution	T-DROP Account Balance	Pay
47	1	\$ 12,186	\$ 11,831	\$ 12,023	\$ 35,141
49	3	59,135	56,510	90,779	206,239
50	6	111,249	106,366	169,663	397,809
51	24	565,802	548,736	579,344	1,789,021
52	76	1,829,371	1,763,231	2,558,292	5,465,969
53	164	4,153,472	3,948,629	7,190,932	12,598,985
54	193	4,869,857	4,588,956	10,233,057	14,470,362
55	221	5,255,596	4,862,947	15,272,187	16,316,516
56	253	6,356,342	5,788,122	21,437,755	19,027,157
57	262	6,192,580	5,544,999	25,200,684	19,077,582
58	276	6,504,616	5,778,597	29,344,005	19,967,433
59	265	6,274,237	5,566,755	33,675,931	19,399,676
60	273	6,088,880	5,662,372	37,171,345	19,677,433
61	276	5,999,624	5,476,770	37,088,296	19,578,773
62	216	4,322,759	4,128,864	28,838,777	14,895,882
63	157	2,883,349	2,804,352	17,350,635	9,920,426
64	112	1,959,094	1,931,941	12,746,223	7,267,112
65	104	1,825,268	1,828,467	13,611,139	7,019,662
66	45	662,838	739,726	6,223,871	2,726,666
67	21	232,256	309,093	2,488,214	1,278,443
68	16	254,988	268,406	2,417,393	1,068,064
69	6	44,077	55,229	531,706	290,370
70	2	16,841	33,438	463,733	122,958
71	2	49,980	39,849	419,221	156,837
72	2	33,023	26,006	267,164	118,511
73	1	21,693	17,081	204,092	63,000
74	1	-	9,665	184,715	40,440
75	1	18,460	14,536	173,681	36,268
77	2	-	50,179	758,472	236,564
<b>Totals</b>	<b>2,981</b>	<b>\$ 66,597,573</b>	<b>\$ 61,961,653</b>	<b>\$ 306,703,329</b>	<b>\$ 213,249,299</b>

A T-DROP member continues to work, but does not accrue additional retirement benefits and does not make member contributions. A reduced benefit is paid into the T-DROP account (see pages C-3 and C-4) during T-DROP participation. Deposits to T-DROP cease at 10 years of T-DROP participation. ATRS receives full employer contributions on behalf of T-DROP participants.



## All Members Participating in T-DROP at June 30, 2024 by Years in T-DROP

Years in T-DROP	Number	Current T-DROP Contribution	Original T-DROP Contribution	T-DROP Account Balance	Pay
1	500	\$ 11,674,274	\$ 11,376,057	\$ 11,560,918	\$ 35,804,087
2	502	11,345,221	10,733,340	22,466,096	35,227,474
3	392	8,841,413	8,128,954	26,417,442	27,493,369
4	331	7,456,782	6,667,145	29,889,874	23,671,545
5	322	7,030,695	6,124,075	35,485,795	22,524,666
6	301	7,533,288	6,390,558	45,945,755	22,587,078
7	208	5,143,346	4,261,419	37,032,825	14,947,769
8	178	4,479,376	3,620,124	37,186,934	13,257,185
9	132	3,093,178	2,463,907	29,441,418	9,399,140
10	88	-	1,634,589	22,469,597	6,447,284
11	9	-	200,484	2,906,031	714,399
12	6	-	139,771	2,137,595	444,319
13	6	-	126,219	2,046,193	385,930
14	3	-	51,901	888,223	167,030
15	1	-	14,652	265,039	78,785
16	1	-	9,665	184,715	40,440
17	1	-	18,793	378,879	58,799
<b>Totals</b>	<b>2,981</b>	<b>\$ 66,597,573</b>	<b>\$ 61,961,653</b>	<b>\$ 306,703,329</b>	<b>\$ 213,249,299</b>

A T-DROP member continues to work, but does not accrue additional retirement benefits and does not make member contributions. A reduced benefit is paid into the T-DROP account (see pages C-3 and C-4) during T-DROP participation. Deposits to T-DROP cease at 10 years of T-DROP participation. ATRS receives full employer contributions on behalf of T-DROP participants.

## Active, T-DROP and Return to Work Members as of June 30, 2024

June 30	Number				Total Payroll
	Active	T-DROP	RTW	Total	\$ Millions
2015	68,945	3,974	3,741	76,660	\$ 2,874
2016	68,368	3,864	3,829	76,061	2,888
2017	68,337	3,811	3,881	76,029	2,922
2018	68,645	3,696	4,029	76,370	2,986
2019	68,457	3,707	4,077	76,241	3,027
2020	66,900	3,639	4,019	74,558	3,078
2021	66,633	3,465	3,575	73,673	3,205
2022	68,127	3,251	3,643	75,021	3,320
2023	68,249	3,138	4,108	75,495	3,492
2024	68,265	2,981	4,400	75,646	3,612

The actuarial valuation assumes the number of working members will remain constant at the current level. In some recent years the total number of working members has decreased. A decreasing population means less contribution income for the Retirement System than expected and can lead to funding difficulties in extreme cases.

## Annuities Being Paid Retirees and Beneficiaries July 1, 2024 by Type of Annuity Being Paid

Type of Annuity	No.	Annual Amounts		
		Original Annuities	Base Annuities	Current Annuities
<b>RETIREMENT RESERVE ACCOUNT</b>				
Age and Service				
Option 1 (Basic single life)	41,319	\$ 674,115,602	\$ 751,382,658	\$ 1,027,112,303
Option A (Joint & 100% Survivor)	5,745	98,843,205	110,095,621	152,039,803
Option B (Joint & 50% Survivor)	2,797	64,254,084	73,757,700	102,144,498
Option C (10-year certain)	842	15,869,897	15,799,405	19,552,347
Beneficiaries	1,577	31,052,264	26,885,088	38,921,702
Totals	52,280	884,135,052	977,920,472	1,339,770,653
Disability				
Option 1	2,182	24,214,056	25,546,544	35,273,376
Option A	357	4,093,205	4,080,239	5,492,655
Option B	78	1,216,130	1,273,816	1,729,809
Option C	-	-	-	-
Beneficiaries	286	3,595,842	3,441,060	5,060,653
Totals	2,903	33,119,233	34,341,659	47,556,493
Act 793	123	705,677	1,555,572	1,555,572
Retirement Reserve Account	55,306	917,959,962	1,013,817,703	1,388,882,718
Act 808 Retirement Reserve Account	23	416,115	1,379,738	1,379,738
Total Retirement Reserve Account	55,329	918,376,077	1,015,197,441	1,390,262,456
<b>SURVIVOR'S BENEFIT ACCOUNT</b>				
Beneficiaries of Deceased Members				
Age 0 - 17	134	\$ 1,260,642	\$ 1,259,851	\$ 1,394,610
Age 18 - 23	74	692,381	691,367	789,881
Other	640	7,535,988	8,242,672	11,305,739
Totals	848	9,489,011	10,193,890	13,490,230
<b>RETIREMENT SYSTEM TOTALS</b>				
Total Annuities Being Paid	56,177	\$ 927,865,088	\$ 1,025,391,331	\$ 1,403,752,686

**The Original Annuity** is the annuity at the date of retirement.

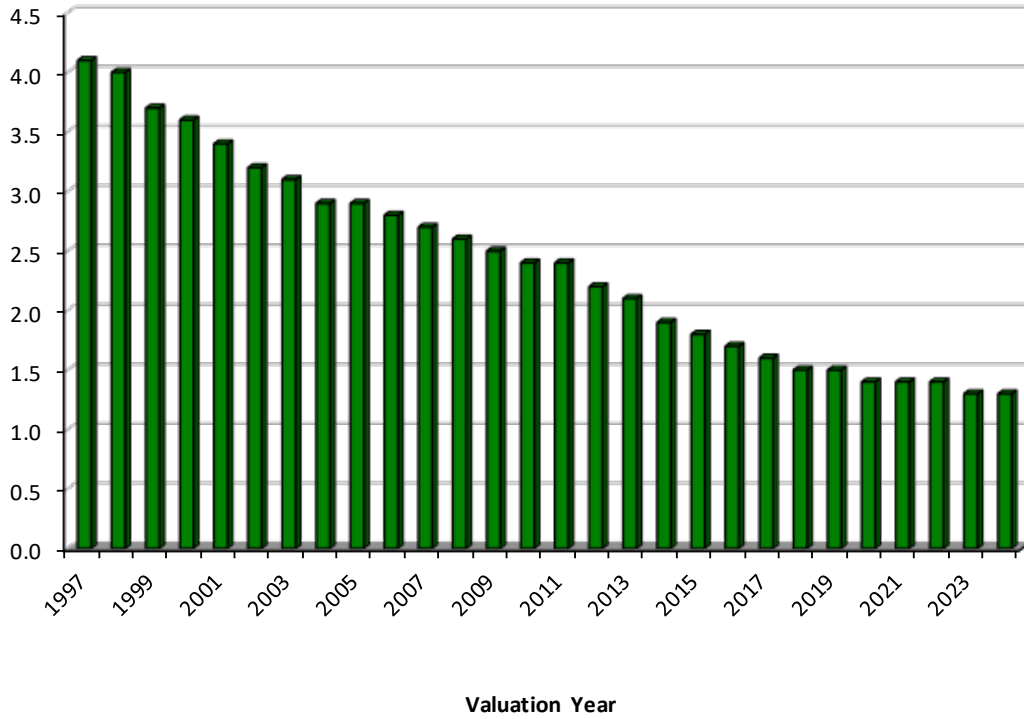
**The Base Annuity** is the amount from which the 3.0% COLA is calculated.

**The Current Annuity** is the annuity payable at July 1, 2024 (includes July 1 COLA).

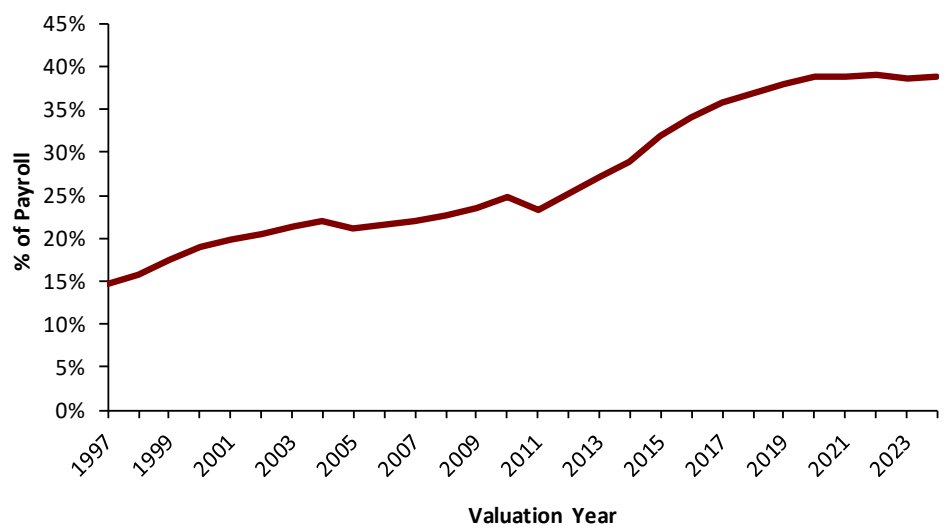


# Historical Graphs

**Active Members Per Retired Life \***



**Retirement Benefits Being Paid as a Percent of Member Payroll \***



\* Beginning with the June 30, 2011 valuation, active members include T-DROP participants in payroll.





## Benefit Changes During Recent Years of Retirement and Related Changes in Purchasing Power (1990 \$)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				1990 \$	% of 1990
1990	\$ - - - -	\$ 11,000	- - - -	\$ 11,000	100%
1991	330	11,330	(4.7)%	10,822	98%
1992	1,005	12,335	(3.1)%	11,429	104%
1993	1,045	13,380	(3.0)%	12,036	109%
1994	1,082	14,462	(2.5)%	12,693	115%
1995	400	14,862	(3.0)%	12,660	115%
1996	400	15,262	(2.8)%	12,652	115%
1997	772	16,034	(2.3)%	12,993	118%
1998	481	16,515	(1.7)%	13,161	120%
1999	1,383	17,898	(2.0)%	13,989	127%
2000	1,129	19,027	(3.7)%	14,336	130%
2001	1,406	20,433	(3.2)%	14,911	136%
2002	807	21,240	(1.1)%	15,337	139%
2003	562	21,802	(2.1)%	15,417	140%
2004	562	22,364	(3.3)%	15,314	139%
2005	562	22,926	(2.5)%	15,312	139%
2006	562	23,488	(4.3)%	15,037	137%
2007	562	24,050	(2.7)%	14,994	136%
2008	562	24,612	(5.0)%	14,611	133%
2009	562	25,174	1.4 %	15,161	138%
2010	755	25,929	(1.1)%	15,453	140%
2011	778	26,707	(3.6)%	15,370	140%
2012	778	27,485	(1.7)%	15,558	141%
2013	778	28,263	(1.8)%	15,723	143%
2014	778	29,041	(2.1)%	15,828	144%
2015	778	29,819	(0.1)%	16,232	148%
2016	778	30,597	(1.0)%	16,491	150%
2017	778	31,375	(1.6)%	16,638	151%
2018	778	32,153	(2.9)%	16,575	151%
2019	751	32,904	(1.6)%	16,687	152%
2020+	451	33,355	(0.6)%	16,807	153%
2021	751	34,106	(5.4)%	16,306	148%
2022	751	34,857	(9.1)%	15,281	139%
2023	751	35,608	(3.0)%	15,160	138%
2024	751	36,359	(3.0)%	15,033	137%
2025	751	37,110			

\* The \$11,000 benefit used to begin this schedule is an arbitrary amount. A smaller beginning amount could show a smaller purchasing power loss in percent loss.

# Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).

+ The Retiree Benefit Stipend was reduced by \$300 in FY 2020.

## Benefit Changes During Recent Years of Retirement and Related Changes in Purchasing Power (2000 \$)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				2000 \$	% of 2000
2000	\$ ----	\$ 11,600	----	\$ 11,600	100%
2001	1,003	12,603	(3.2)%	12,207	105%
2002	523	13,126	(1.1)%	12,579	108%
2003	372	13,498	(2.1)%	12,668	109%
2004	372	13,870	(3.3)%	12,605	109%
2005	372	14,242	(2.5)%	12,624	109%
2006	372	14,614	(4.3)%	12,417	107%
2007	372	14,986	(2.7)%	12,400	107%
2008	372	15,358	(5.0)%	12,100	104%
2009	372	15,730	1.4 %	12,573	108%
2010	472	16,202	(1.1)%	12,815	110%
2011	486	16,688	(3.6)%	12,746	110%
2012	486	17,174	(1.7)%	12,902	111%
2013	486	17,660	(1.8)%	13,039	112%
2014	486	18,146	(2.1)%	13,125	113%
2015	486	18,632	(0.1)%	13,460	116%
2016	486	19,118	(1.0)%	13,675	118%
2017	486	19,604	(1.6)%	13,797	119%
2018	486	20,090	(2.9)%	13,745	118%
2019	459	20,549	(1.6)%	13,831	119%
2020+	159	20,708	(0.6)%	13,848	119%
2021	459	21,167	(5.4)%	13,431	116%
2022	459	21,626	(9.1)%	12,582	108%
2023	459	22,085	(3.0)%	12,479	108%
2024	459	22,544	(3.0)%	12,371	107%
2025	459	23,003			

\* The \$11,600 benefit used to begin this schedule is an arbitrary amount. A smaller beginning amount could show a smaller purchasing power loss in percent loss.

# Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).

+ The Retiree Benefit Stipend was reduced by \$300 in FY 2020.

## Benefit Changes During Recent Years of Retirement and Related Changes in Purchasing Power (2010 \$)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				2010 \$	% of 2010
2010	\$ ----	\$ 11,900	----	\$ 11,900	100%
2011	357	12,257	(3.6)%	11,836	99%
2012	357	12,614	(1.7)%	11,981	101%
2013	357	12,971	(1.8)%	12,108	102%
2014	357	13,328	(2.1)%	12,188	102%
2015	357	13,685	(0.1)%	12,499	105%
2016	357	14,042	(1.0)%	12,699	107%
2017	357	14,399	(1.6)%	12,812	108%
2018	357	14,756	(2.9)%	12,764	107%
2019	330	15,086	(1.6)%	12,837	108%
2020+	30	15,116	(0.6)%	12,780	107%
2021	330	15,446	(5.4)%	12,391	104%
2022	330	15,776	(9.1)%	11,605	98%
2023	330	16,106	(3.0)%	11,506	97%
2024	330	16,436	(3.0)%	11,403	96%
2025	330	16,766			

\* The \$11,900 benefit used to begin this schedule is an arbitrary amount. A smaller beginning amount could show a smaller purchasing power loss in percent loss.

# Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).

+ The Retiree Benefit Stipend was reduced by \$300 in FY 2020.

## SECTION F

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### FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES

## Financial Principles and Operational Techniques

**Promises Made and to Be Paid For.** As each year is completed, the System, in effect, hands an “IOU” to each member then acquiring a year of service credit. The “IOU” says: “The Arkansas Teacher Retirement System owes you one year’s worth of retirement benefits, payments in cash commencing when you qualify for retirement.”

The related **key financial questions** are:

**Which generation of taxpayers contributes the money to cover the IOU?**

**The present taxpayers**, who receive the benefit of the member’s present year of service?

**Or the future taxpayers**, who happen to be in Arkansas at the time the IOU becomes a cash demand?

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The financial objective of the ATRS is that this year’s taxpayers contribute the money to cover the IOUs being handed out this year so that **the employer contribution rate will remain approximately level from generation to generation** -- our children and our grandchildren will not have to contribute greater percents of pay than we contribute now. This objective was set forth in Act 793 of 1977.

(There are systems which have **a design for deferring contributions to future taxpayers**, lured by a lower contribution rate now and putting aside the fact that the contribution rate must then relentlessly grow much greater over decades of time -- consume now, and let your children face higher contribution rates after you retire.)

An inevitable byproduct of the level-cost design is the accumulation of reserve assets for decades and the income produced when the assets are invested. **Investment income** becomes the **third and largest contributor** for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

Normal Cost (the cost of members’ service being rendered this year)

... plus ...

Interest on Unfunded Actuarial Accrued Liabilities (unfunded accrued liabilities are the difference between (i) liabilities for service already rendered and (ii) the accrued assets of the plan).

**Computing Contributions to Support System Benefits.** From a given schedule of benefits and from the employee data and asset data furnished, the actuary determines the contribution rates to support the benefits, by means of **an actuarial valuation**. An actuarial valuation has a number of ingredients such as: the rate of investment income which plan assets will earn; the rates of withdrawal of active members who leave covered employment before qualifying for any monthly benefit; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement. In an actuarial valuation, assumptions must be made as to what the above rates will be, for the next year and for decades in the future. Only the subsequent actual experience of the System can indicate the degree of accuracy of the assumptions.

**Reconciling Differences Between Assumed Experience and Actual Experience.** Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the accuracy of the various financial assumptions or the skill of the actuary and the precision of the calculations made. The System copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is continual adjustments in financial position.

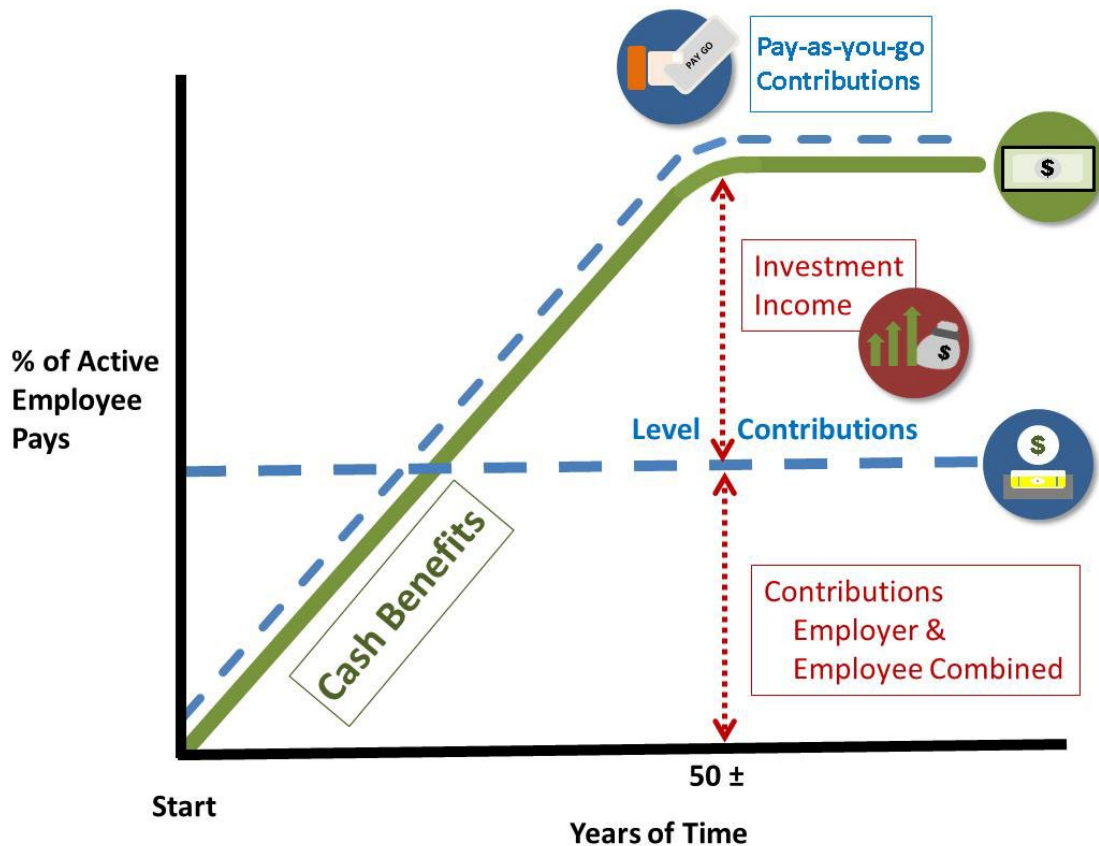
## Actuarial Valuation Process

*The financing diagram* on the next page shows the relationship between the two fundamentally different philosophies of paying for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program), and is thus an *increasing contribution method*; and the *level contribution method* which equalizes contributions between the generations.

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*The actuarial valuation* is the mathematical process by which the level contribution rate is determined, and the flow of activity constituting the valuation may be summarized as follows:

- A. **Census Data**, furnished by plan administrator
  - Retired lives now receiving benefits
  - Former employees with vested benefits not yet payable
  - Active employees
  
- B. + **Asset data** (cash & investments), furnished by plan administrator
  
- C. + **Benefit provisions** that establish eligibility and amounts of payments to members
  
- D. + **Assumptions concerning future financial experiences in various risk areas**, which assumptions are established by the Board of Trustees after consulting with the actuary
  
- E. + **The funding method** for employer contributions (the long-term planned pattern for employer contributions)
  
- F. + **Mathematically combining the assumptions, the funding method, and the data**
  
- G. = Determination of:
  - Plan financial position**, and/or
  - New Employer Contribution Rate**



**CASH BENEFITS LINE.** This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

**LEVEL CONTRIBUTION LINE.** Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

- **Economic Risk Areas**
  - Rates of investment return
  - Rates of pay increase
  - Changes in active member group size
- **Non-Economic Risk Areas**
  - Ages at actual retirement
  - Rates of mortality
  - Rates of withdrawal of active members (turnover)
  - Rates of disability

## **SECTION G**

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### **ACTUARIAL ASSUMPTIONS**



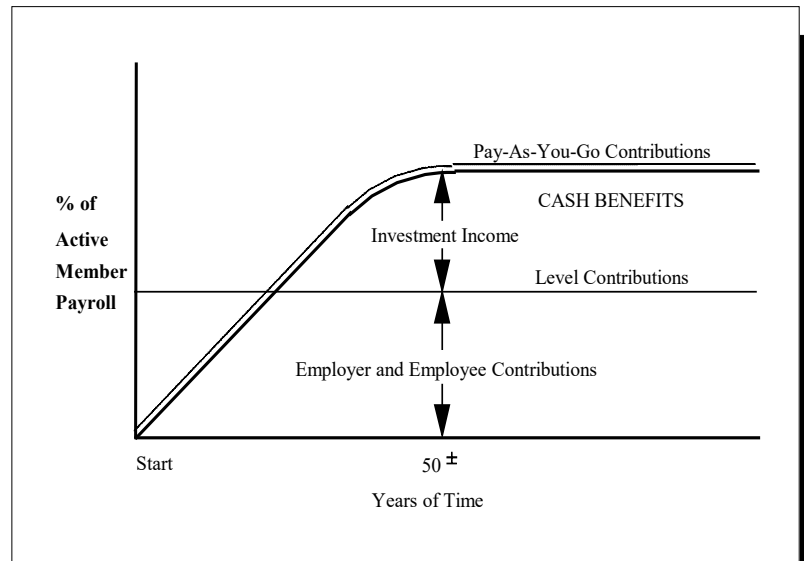
# Selection of Assumptions Used in Actuarial Valuations

## Economic Assumptions

Investment return  
Pay increases to individual employees  
Active member group size and total payroll growth

## Demographic Assumptions

Actual ages at service retirement  
Disability while actively employed  
Separations before retirement  
Mortality after retirement  
Mortality before retirement



## Relationship Between Plan Governing Body and the Actuary

The actuary should have the primary responsibility for choosing the **demographic** assumptions used in the actuarial valuation, making use of specialized training and experience.

Guidance regarding the selection of economic assumptions for measuring pension obligations is provided by Actuarial Standards of Practice (ASOP) No. 27. The standard requires that the selected economic assumptions be consistent with each other. That is, the selection of the investment return assumption should be consistent with the selection of the payroll growth and inflation assumptions.

ASOP No. 27 defines a reasonable economic assumption as an assumption that has the following characteristics: (a) It is appropriate for the purpose of the measurement; (b) It reflects the actuary's professional judgment; (c) It takes into account historical and current economic data that is relevant as of the valuation date; (d) It reflects the actuary's estimate of future experience, the actuary's observation of the estimates inherent in market data, or a combination thereof; and (e) It has no significant bias (i.e., it is not significantly optimistic or pessimistic), except when provisions for adverse deviation or plan provisions that are difficult to measure are included and disclosed under Section 3.5.1, or when alternative assumptions are used for the assessment of risk.

# Summary of Assumptions Used in Actuarial Valuations for the Arkansas Teacher Retirement System Assumptions Adopted by the Board of Trustees After Consulting with Actuary

The actuarial assumptions used in the valuation are shown in this section. The rationale for the assumptions is provided in the Experience Study covering the period July 1, 2010 through June 30, 2015. The Board of Trustees adopts the actuarial assumptions used for actuarial valuation purposes after consulting with the actuary. The actuarial assumptions represent estimates of future experience.

## Economic Assumptions

The **price inflation** assumption is 2.50%. It is assumed that the 3% COLA will always be paid.

**The investment return rate** used in the valuation was 7.25% per year, compounded annually (net after administrative expenses). This rate was first used for the **June 30, 2021** valuation. The assumed real rate of return over price inflation is 4.75%.

The **wage inflation** assumption is 2.75%. This consists of 2.50% related to pure price inflation and 0.25% related to general economic improvements. This assumption was first used for the **June 30, 2017** valuation.

**Pay increase assumptions** for individual active members are shown on page G-9. Part of the assumption for each service year is for a merit and/or seniority increase, and the other 2.75% recognizes wage inflation. These rates were first used for the **June 30, 2021** valuation.

The Active Member Group (Active, T-DROP, RTW) size is assumed to remain constant at its present level.

**Total active member payroll** is assumed to increase 2.75% per year, which is the portion of the individual pay increase assumptions attributable to wage inflation. This rate was first used for the **June 30, 2017** valuation.

## Non-Economic Assumptions

**The mortality tables** used were the Pub-2010 General Healthy Retired, General Disabled Retiree and General Employee Mortality amount weighted tables for males and females. Mortality rates were adjusted for future mortality improvements using projection scale MP-2020 from 2010.

A limited fluctuation credibility procedure was used to determine the appropriate scaling factor of each gender and each member classification (see the 2015-2020 Experience Study), and are shown below:

	<b>Scaling Factor</b>
Healthy Male Retirees	<b>105%</b>
Healthy Female Retirees	<b>105%</b>
Disabled Male Retirees	<b>104%</b>
Disabled Female Retirees	<b>104%</b>
Male Active Members	<b>100%</b>
Female Active Members	<b>100%</b>

Related values are shown on page G-4. These tables were first used for the **June 30, 2021** valuation.

**The probabilities of retirement** for members eligible to retire are shown on pages G-5 and G-6. The rates for full retirement and reduced retirement were first used in the **June 30, 2021** valuation.

**The probabilities of withdrawal from service, death-in-service and disability** are shown for sample ages on pages G-7 and G-8. These rates were first used in the **June 30, 2021** valuation.

**The entry age actuarial cost method of valuation** was used in determining accrued liabilities and normal cost. T-DROP members are treated as active members. Normal cost runs from the date of entry to the date of retirement.

Differences in the past between assumed experience and actual experience (“actuarial gains and losses”) become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (the total of principal & interest) which are level percents of payroll contributions.

These cost methods were first used in the June 30, 1986 valuation.

The Fiscal Year 2024 employer and member contribution rates were 15% and 7%, respectively.

**Asset Valuation Method.** A market value related asset method is used as described on page D-1. This method was first used in the June 30, 1995 valuation. It was modified following the 1997-2002 Experience Study to include an 80% - 120% market value corridor.

**The data about persons now covered and about present assets** was furnished by the System’s administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary. Members whose dates of birth were not supplied were assumed to be 40 years old on the valuation date. Members whose salaries were not supplied and that entered T-DROP were assumed to have the group average pay of those with salary data as of the valuation date that entered T-DROP.

## Single Life Retirement Values\*

Sample Attained Ages in 2024	Present Value of \$1.00 Monthly for Life		Present Value of \$1 Monthly for Life Increasing 3.0% Simple Annually		Future Life Expectancy (Years)*		Percent Dying within Next Year*	
	Male	Female	Male	Female	Male	Female	Male	Female
	40	\$160.03	\$162.55	\$213.61	\$218.42	45.45	48.45	0.09 %
45	155.66	158.89	205.22	211.11	40.21	43.16	0.13 %	0.07 %
50	149.99	154.08	194.84	202.00	35.10	37.99	0.29 %	0.22 %
55	143.10	148.30	182.69	191.30	30.23	33.04	0.43 %	0.30 %
60	134.34	140.66	168.05	177.99	25.52	28.19	0.66 %	0.42 %
65	123.42	130.67	150.82	161.67	21.04	23.47	0.96 %	0.61 %
70	109.91	117.95	130.82	142.23	16.79	18.95	1.48 %	0.98 %
75	93.95	102.44	108.69	120.08	12.89	14.74	2.49 %	1.74 %
80	76.31	84.72	85.74	96.39	9.46	10.96	4.47 %	3.21 %
85	58.84	66.25	64.31	73.21	6.67	7.77	8.24 %	6.13 %
Base	2705 x 1.05	2706 x 1.05	2705 x 1.05	2706 x 1.05				
Projection	964	965	964	965				

\* Rates and life expectancies in future years are determined by the MP-2020 projection scale.

Age	Benefit Increasing 3.0% Simple Annually	Portion of Age 60 Lives Still Alive	
		Male	Female
60	\$100.00	100%	100%
65	115.00	96%	98%
70	130.00	91%	94%
75	145.00	84%	89%
80	160.00	73%	81%
Ref		2705 x 1.05	2706 x 1.05

## Probabilities of Retirement for Members

Retirement Ages	% of Active Participants Retiring with Unreduced Benefits			
	Education		Support	
	Male	Female	Male	Female
48	8%	7%	8%	8%
49	8%	7%	8%	8%
50	8%	7%	8%	8%
51	8%	7%	8%	8%
52	8%	7%	8%	8%
53	8%	7%	8%	8%
54	8%	7%	8%	8%
55	8%	8%	8%	8%
56	10%	8%	8%	8%
57	10%	10%	8%	11%
58	10%	12%	8%	11%
59	14%	15%	8%	15%
60	17%	18%	13%	15%
61	24%	20%	13%	16%
62	27%	29%	28%	26%
63	27%	26%	25%	20%
64	27%	28%	25%	24%
65	60%	57%	57%	59%
66	60%	57%	47%	49%
67	50%	42%	44%	40%
68	45%	42%	44%	40%
69	45%	42%	44%	40%
70	45%	42%	44%	40%
71	45%	42%	44%	40%
72	45%	42%	44%	40%
73	45%	42%	44%	40%
74	45%	42%	44%	40%
75	100%	100%	100%	100%
Ref	3245	3246	3247	3248

These rates are based upon data presented in the 2015-2020 experience study and were first used in the 2021 valuation.

## Probabilities of Reduced Retirement for Members

Retirement Ages	% of Active Participants Retiring with Reduced Benefits			
	Education		Support	
	Male	Female	Male	Female
45	1.0%	1.0%	2.0%	3.0%
46	1.0%	1.0%	2.0%	3.0%
47	1.0%	1.0%	2.0%	3.0%
48	1.0%	1.0%	2.0%	3.0%
49	1.0%	1.0%	2.0%	3.0%
50	2.0%	2.0%	3.0%	4.0%
51	3.0%	2.0%	3.0%	4.0%
52	3.0%	3.0%	4.0%	4.0%
53	4.0%	4.0%	4.0%	4.0%
54	5.0%	4.0%	5.0%	4.0%
55	6.0%	5.0%	6.0%	4.0%
56	6.0%	5.0%	7.0%	6.0%
57	8.0%	5.0%	7.0%	6.0%
58	9.0%	6.0%	7.0%	6.0%
59	6.0%	6.0%	7.0%	6.0%
Ref	3249	3250	3251	3252

These rates are based upon data presented in the 2015-2020 experience study and were first used in the 2021 valuation.

## Duration of T-DROP for Members

Present T-DROP members are assumed to remain in T-DROP according to the following table:

Entry Age	Assumed Duration Years
50-56	7
57	6
58	5
59+	4

## T-DROP Participation

It was assumed that active members will participate in the T-DROP at the time in which entering the T-DROP would provide the highest value of benefits.

## Teachers Separations from Active Employment Before Age and Service Retirement

Sample Ages in 2024	Percent of Active Members Separating within the Next Year						
	Years of Service	Death *		Disability		Other	
		Male	Female	Male	Female	Male	Female
	0					17.00%	13.00%
	1					13.80%	11.30%
	2					11.30%	10.50%
	3					8.90%	8.30%
	4					6.30%	6.50%
25	5 & Up	0.03%	0.01%	0.02%	0.02%	5.80%	6.50%
30		0.05%	0.02%	0.02%	0.02%	4.20%	4.80%
35		0.07%	0.03%	0.02%	0.03%	2.90%	3.20%
40		0.09%	0.04%	0.04%	0.07%	2.00%	2.10%
45		0.11%	0.06%	0.13%	0.17%	1.70%	1.70%
50		0.14%	0.08%	0.31%	0.37%	1.60%	1.70%
55		0.21%	0.12%	0.61%	0.63%	1.60%	1.70%
60	0.32%	0.19%	0.82%	0.89%	1.50%	1.60%	
65	0.47%	0.28%	0.82%	0.89%	1.20%	1.30%	
Ref:						1364	1365
		2723 x 1.00	2724 x 1.00	1217 x 1	1218 x 1	1574	1575

\* Rates and life expectancies in future years are determined by the MP-2020 projection scale.

## Support Employees Separations from Active Employment Before Age and Service Retirement

Sample Ages in 2024	Percent of Active Members Separating within the Next Year						
	Years of Service	Death *		Disability		Other	
		Male	Female	Male	Female	Male	Female
	0					54.50%	48.50%
	1					29.90%	27.20%
	2					19.80%	19.00%
	3					15.50%	15.30%
	4					12.00%	12.80%
25	5 & Up	0.03%	0.01%	0.02%	0.01%	10.60%	9.90%
30		0.05%	0.02%	0.05%	0.03%	7.80%	7.00%
35		0.07%	0.03%	0.10%	0.04%	5.70%	5.10%
40		0.09%	0.04%	0.13%	0.08%	4.40%	4.30%
45		0.11%	0.06%	0.21%	0.16%	3.70%	4.00%
50		0.14%	0.08%	0.45%	0.33%	3.50%	3.90%
55		0.21%	0.12%	0.88%	0.61%	3.50%	3.70%
60		0.32%	0.19%	1.36%	0.79%	3.40%	3.20%
65		0.47%	0.28%	1.36%	0.79%	2.70%	2.50%
Ref:						1366	1367
		2723 x 1.00	2724 x 1.00	1219 x 1	1220 x 1	1576	1577

\* Rates and life expectancies in future years are determined by the MP-2020 projection scale.



## Individual Pay Increases

Education			
Years of Service	Pay Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	2.50%	2.75%	5.25%
2	2.20%	2.75%	4.95%
3	1.90%	2.75%	4.65%
4	1.80%	2.75%	4.55%
5	1.70%	2.75%	4.45%
6	1.60%	2.75%	4.35%
7	1.50%	2.75%	4.25%
8	1.40%	2.75%	4.15%
9	1.30%	2.75%	4.05%
10	1.25%	2.75%	4.00%
11	1.20%	2.75%	3.95%
12	1.15%	2.75%	3.90%
13	1.10%	2.75%	3.85%
14	1.05%	2.75%	3.80%
15	1.00%	2.75%	3.75%
16	0.95%	2.75%	3.70%
17	0.85%	2.75%	3.60%
18	0.75%	2.75%	3.50%
19	0.65%	2.75%	3.40%
20	0.55%	2.75%	3.30%
21	0.50%	2.75%	3.25%
22	0.45%	2.75%	3.20%
23	0.40%	2.75%	3.15%
24	0.30%	2.75%	3.05%
25	0.20%	2.75%	2.95%
26	0.15%	2.75%	2.90%
27	0.10%	2.75%	2.85%
28	0.25%	2.75%	3.00%
29+	0.00%	2.75%	2.75%
Ref:	931		

Support			
Years of Service	Pay Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	3.00%	2.75%	5.75%
2	2.60%	2.75%	5.35%
3	1.60%	2.75%	4.35%
4	1.45%	2.75%	4.20%
5	1.35%	2.75%	4.10%
6	1.25%	2.75%	4.00%
7	1.20%	2.75%	3.95%
8	1.15%	2.75%	3.90%
9	1.10%	2.75%	3.85%
10	1.05%	2.75%	3.80%
11	1.00%	2.75%	3.75%
12	0.95%	2.75%	3.70%
13	0.90%	2.75%	3.65%
14	0.80%	2.75%	3.55%
15	0.75%	2.75%	3.50%
16	0.70%	2.75%	3.45%
17	0.65%	2.75%	3.40%
18	0.60%	2.75%	3.35%
19	0.50%	2.75%	3.25%
20	0.45%	2.75%	3.20%
21	0.40%	2.75%	3.15%
22	0.35%	2.75%	3.10%
23	0.30%	2.75%	3.05%
24	0.25%	2.75%	3.00%
25	0.25%	2.75%	3.00%
26	0.25%	2.75%	3.00%
27	0.25%	2.75%	3.00%
28	0.40%	2.75%	3.15%
29+	0.00%	2.75%	2.75%
Ref:	932		

# Miscellaneous and Technical Assumptions

## June 30, 2024

<b>Marriage Assumption:</b>	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male members are assumed to have a beneficiary three years younger and female members are assumed to have a beneficiary two years older.
<b>Pay Increase Timing:</b>	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
<b>Decrement Timing:</b>	Decrements are assumed to occur mid-year, with the exception of normal and early retirement, which are assumed to occur at the beginning of the year. This implies that people who worked the entire school year are reported as active members even if they retired at the end of the year.
<b>Eligibility Testing:</b>	Eligibility for benefits is determined based upon the age nearest birthday and the service nearest whole year on the date of the valuation.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Decrement Operation:</b>	Disability does not operate during the first 5 years of service. Disability and turnover do not operate during retirement eligibility.
<b>Normal Form of Benefit:</b>	The assumed normal form of benefit is the straight life form.
<b>Incidence of Contributions:</b>	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. The payroll used for this purpose is payroll for all active members plus payroll for members in the T-DROP and retirees who returned to work.
<b>Minimum Salary:</b>	The actuarial valuation reflects a minimum base salary for teachers of \$50,000 due to ACT 237, also known as the LEARNS Act
<b>Liability Adjustments:</b>	The liability calculations assume that the non-contributory and contributory multipliers for the first ten years of service are at the standard rate at the time the service is earned.
<b>Data Adjustments:</b>	Members whose dates of birth were not supplied were assumed to be 40 years old on the valuation date.  Members whose salaries were not supplied and that entered the T-DROP were assumed to have the group average pay of those with salary data as of the valuation that entered the T-DROP.

## **SECTION H**

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### **GLOSSARY**

## Glossary

**Accrued Service.** The service credited under the plan which was rendered before the date of the actuarial valuation.

**Accumulated Benefit Obligation.** The actuarial present value of vested and non-vested benefits based on service to date and past and current salary levels.

**Actuarial Accrued Liability.** The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.”

**Actuarial Assumptions.** Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**Actuarial Cost Method.** A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

**Actuarial Equivalent.** A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

**Actuarial Present Value.** The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

**Actuarial Present Value of Credited Projected Benefits or Pension Benefit Obligation.** The present value of future benefits based on service to date and the effect projected salary increases.

**Actuary.** A person who is trained in the applications of probability and compound interest to solve problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries. The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation A.S.A. and ultimately to Fellowship with the designation F.S.A. The federal government certifies actuaries to practice under ERISA with the designation of E.A.

**Amortization.** Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

## Glossary

**Experience Gain (Loss).** A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

**Immunize.** Immunization is a risk-mitigation strategy that matches asset and liability duration so portfolio values are protected against interest rate changes.

**LDRM.** The Low-Default-Risk Obligation Measure (LDRM) is meant to approximately represent the lump sum cost to secure benefits by purchasing low-default-risk fixed income securities whose resulting cash flows essentially replicate in timing and amount the benefits earned (or the costs accrued) as of the measurement date. The LDRM is very dependent upon market interest rates at the time of the LDRM measurement. The lower the market interest rates, the higher the LDRM, and vice versa.

**Normal Cost.** The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

**Plan Termination Liability.** The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a “going concern” basis and is not normally determined in a routine actuarial valuation.

**Reserve Account.** An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

**Unfunded Actuarial Accrued Liability.** The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability.”

**Valuation Assets.** The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.



November 5, 2024

Mr. Mark White  
Executive Director  
Arkansas Teacher Retirement System  
1400 West Third  
Little Rock, Arkansas 72201

**Re: Report of June 30, 2024 Actuarial Valuation of Active and Inactive Members**

Dear Mr. White:

Enclosed are 15 copies of the report. If you need anything else, please call.

Sincerely,  
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink that reads "Judith A. Kermans". The signature is written in a cursive, flowing style.

Judith A. Kermans, EA, FCA, MAAA

JAK:rmn  
Enclosures

# Arkansas Teacher Retirement System

Annual Actuarial Valuation of Annuities Being Paid to  
Retirees and Beneficiaries

June 30, 2024



# OUTLINE OF CONTENTS

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November 12, 2024

Board of Trustees  
Arkansas Teacher Retirement System  
Little Rock, Arkansas

Dear Board Members:

Presented in this report are the results of the **Annual Actuarial Valuation of annuities being paid to retirees and beneficiaries** of the Arkansas Teacher Retirement System (ATRS).

The purpose of this document is to provide a summary of the liabilities of the System's retirees and beneficiaries. This is one of multiple documents comprising the actuarial results. Funding of the System's liabilities as well as calculations of the liabilities of active and inactive members is provided in a separate report. The other documents include the active and inactive valuation dated November 5, 2024 and the presentation (available in December).

**The date of the valuation** was June 30, 2024 (using amounts payable as of July 1, 2024).

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the Retirement System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The valuation was based upon census data and financial information provided by the System's administrative staff. Preparation of this data requires considerable staff time. The helpful cooperation of the Arkansas Teacher Retirement System staff in furnishing the data is acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the data provided by ATRS.

This report was prepared using certain assumptions approved by the Board. The actuarial assumptions used for valuation purposes are summarized in the Appendix. These assumptions reflect experience during the period July 1, 2015 to June 30, 2020 and expectations for the future.


This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. The scope of an actuarial valuation does not contain an analysis of the potential range of such future measurements.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Arkansas Teacher Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. The actuarial assumptions used for the valuation produce results which, individually and in the aggregate, are reasonable. The combined effect of the assumptions, excluding prescribed assumptions or methods set by law, is expected to have no significant bias (i.e., not significantly optimistic or pessimistic).

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. Judith A. Kermans, Heidi G. Barry and Derek Henning are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The actuaries submitting this report are independent of the plan sponsor.


Respectfully submitted,  
Gabriel, Roeder, Smith & Company



Judith A. Kermans, EA, FCA, MAAA



Heidi G. Barry, ASA, FCA, MAAA



Derek Henning, ASA, EA, FCA, MAAA

JAK/HGB/DH:rl

## Comments

As expected, during the year ended June 30, 2024 the number of retired lives increased, as did the total amount being paid monthly to retired lives.

**The financing diagram** on page 6 shows the general pattern in which cash benefits increase (the green line). The schedule below shows how ATRS history illustrates the general pattern.

June 30	Retired Lives Receiving Benefits		
	No.	Annual Amounts (Millions)	% of Active Payroll
1967	3,846	\$ 6.27	
1972	5,453	11.08	
1977	7,524	23.96	
1982	8,828	36.64	
1987	10,526	66.45	10.0%
1992	12,033	115.50	10.7%
1997	14,233	194.90	15.0%
2002	19,199	334.15	20.5%
2003	20,271	359.98	21.4%
2004	21,428	386.23	22.1%
2005	22,680	415.04	21.1%
2006	24,153	449.77	21.6%
2007	25,611	484.55	22.1%
2008	26,801	515.56	22.7%
2009	28,818	564.59	23.5%
2010	30,587	612.77	24.8%
2011	32,099	657.08	23.3%
2012	34,160	709.17	25.3%
2013	36,254	763.76	27.1%
2014	38,478	822.19	28.8%
2015	40,748	916.62	31.9%
2016	43,095	983.87	34.1%
2017	45,092	1,044.74	35.8%
2018	46,824	1,099.35	36.8%
2019	48,677	1,146.74	37.9%
2020	50,133	1,194.82	38.8%
2021	51,405	1,242.70	38.8%
2022	52,748	1,293.75	39.0%
2023	54,646	1,346.62	38.6%
2024	56,177	1,403.75	38.9%

**A significant financial goal** for the Arkansas Teacher Retirement System was to reach a point in time where System assets fully covered the liabilities for future benefit payments to retirees and beneficiaries then on rolls. This goal was achieved in 1980 and retired life liabilities continue to be 100% funded.

# Subset of the Annual Actuarial Valuation of Active and Inactive Members

## Other Observations

### General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.25% on the actuarial value of assets), it is expected that:

- 1) The employer normal cost as a percentage of pay will remain approximately level;
- 2) The unfunded actuarial accrued liabilities will be fully amortized after 20 years; and
- 3) The funded status of the plan will increase gradually towards a 100% funded ratio.

### Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

- 1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations; in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
- 2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
- 3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

### Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

## **FINANCIAL PRINCIPLES (SUBSET OF THE ANNUAL ACTUARIAL VALUATION OF ACTIVE AND INACTIVE MEMBERS)**

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# Financial Principles and Operational Techniques

**Promises Made and To Be Paid For.** As each year is completed, the System in effect hands an “IOU” to each member then acquiring a year of service credit. The “IOU” says: “The Arkansas Teacher Retirement System owes you one year’s worth of retirement benefits, payments in cash commencing when you qualify for retirement.”

The related *key financial questions* are:

**Which generation of taxpayers contributes the money to cover the IOU?**

**The present taxpayers**, who receive the benefit of the member’s present year of service?

**Or the future taxpayers**, who happen to be in Arkansas at the time the IOU becomes a cash demand?

---

The financial objective of the ATRS is that this year’s taxpayers contribute the money to cover the IOUs being handed out this year so that **the employer contribution rate will remain approximately level from generation to generation** -- our children and our grandchildren will not have to contribute greater percents of pay than we contribute now. This objective was set forth in Act 793 of 1977.

(There are systems which have **a design for deferring contributions to future taxpayers**, lured by a lower contribution rate now and putting aside the fact that the contribution rate must then relentlessly grow much greater over decades of time -- consume now, and let your children face higher contribution rates after you retire.)

An inevitable byproduct of the level-cost design is the accumulation of reserve assets for decades and the income produced when the assets are invested. **Investment income** becomes the **third and largest contributor** for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

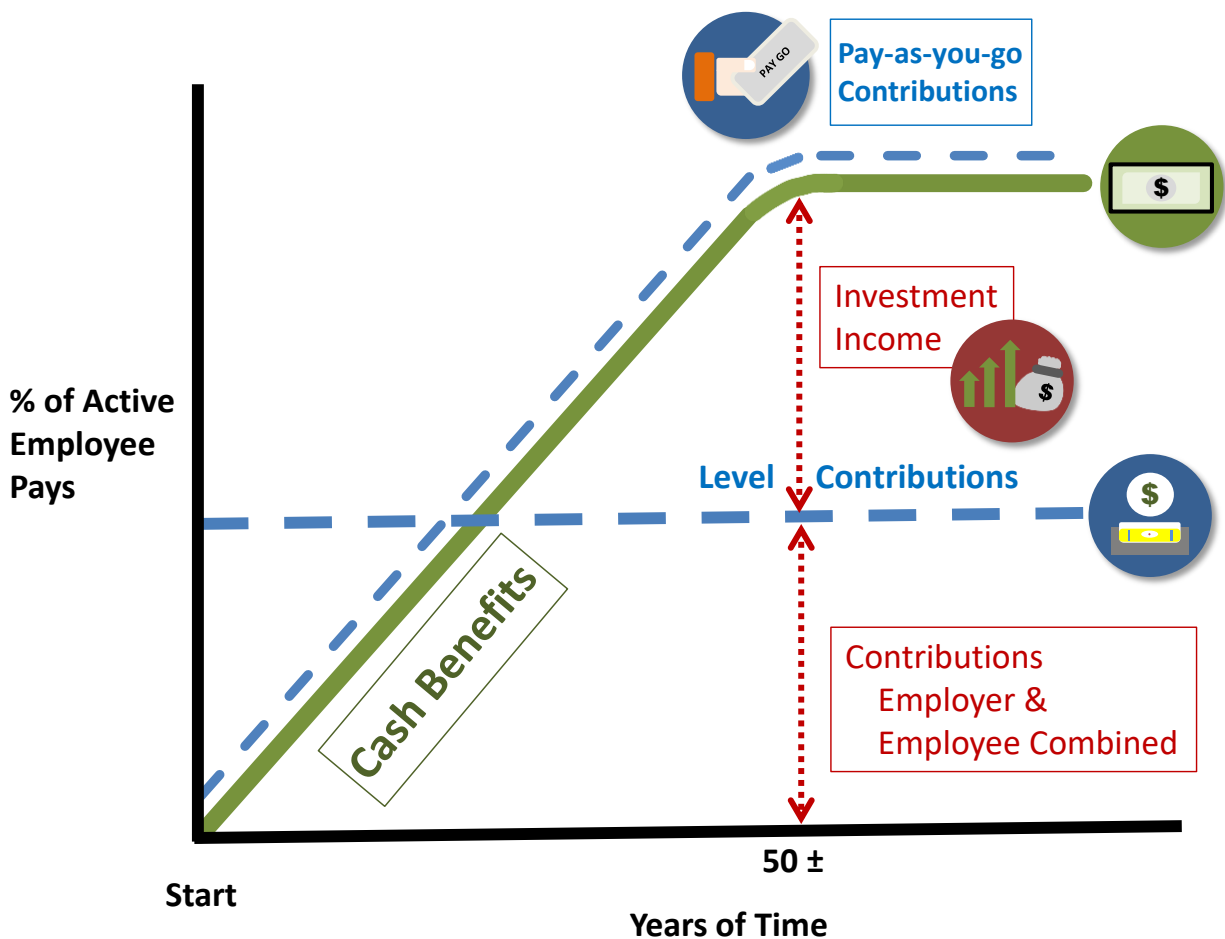
Normal Cost (the cost of members’ service being rendered this year)

... plus ...

Interest on Unfunded Actuarial Accrued Liabilities (unfunded accrued liabilities are the difference between (i) liabilities for service already rendered and (ii) the accrued assets of the plan).

**Computing Contributions to Support System Benefits.** From a given schedule of benefits and from the employee data and asset data furnished, the actuary determines the contribution rates to support the benefits, by means of **an actuarial valuation**. An actuarial valuation has a number of ingredients such as: the rate of investment income which plan assets will earn; the rates of withdrawal of active members who leave covered employment before qualifying for any monthly benefit; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement. In an actuarial valuation, assumptions must be made as to what the above rates will be, for the next year and for decades in the future. Only the subsequent actual experience of the System can indicate the degree of accuracy of the assumptions.

**Reconciling Differences Between Assumed Experience and Actual Experience.** Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the accuracy of the assumptions or the skill of the actuary and the precision of the calculations made. The System copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is continual adjustments in financial position.



**CASH BENEFITS LINE.** This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

**LEVEL CONTRIBUTION LINE.** Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

- **Economic Risk Areas**
  - Rates of investment return
  - Rates of pay increase
  - Changes in active member group size
- **Non-Economic Risk Areas**
  - Ages at actual retirement
  - Rates of mortality
  - Rates of withdrawal of active members (turnover)
  - Rates of disability

## Actuarial Valuation Process

*The financing diagram* on the preceding page shows the relationship between the two fundamentally different philosophies of paying for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program), and is thus an *increasing contribution method*; and the *level contribution method* which equalizes contributions between the generations.

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*The actuarial valuation* is the mathematical process by which the level contribution rate is determined, and the flow of activity constituting the valuation may be summarized as follows:

- A. **Census data**, furnished by plan administrator
  - Retired lives now receiving benefits
  - Former employees with vested benefits not yet payable
  - Active employees
- B. + **Asset data** (cash & investments), furnished by plan administrator
- C. + **Benefit provisions** that establish eligibility and amounts of payments to members
- D. + **Assumptions concerning future financial experience in various risk areas**, which assumptions are established by the Board of Trustees after consulting with the actuary
- E. + **The funding method** for employer contributions (the long-term planned pattern for employer contributions)
- F. + **Mathematically combining the assumptions, the funding method, and the data**
- G. = Determination of:
  - Plan financial position**, and/or
  - New Employer Contribution Rate**



## Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base. In a fixed rate plan with unfunded liabilities, a reduction in covered payroll can have a negative effect on the system as actual employer contributions are based on a lower than expected payroll;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected. Teacher shortages and reductions in school age populations may have an effect on the System other than expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

## Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures are discussed below and on the following pages. An additional historical summary of plan maturity measures can be found on page 11.

	2024	2023	2022	2021	2020
Ratio of the Market Value of Assets to Total Payroll	6.2	5.9	5.9	6.7	5.7
Ratio of Actuarial Accrued Liability to Payroll	7.3	7.3	7.4	7.5	7.6
Ratio of Actives to Retirees and Beneficiaries	1.3	1.3	1.4	1.4	1.4
Ratio of Net Cash Flow to Market Value of Assets	-3.2%	-3.3%	-1.0%*	-3.2%	-3.9%
Duration of the Present Value of Future Benefits	14.17	14.16	14.03	14.02	13.83

\* The net cash flow for 2022 includes \$507.4 million from the settlement of a lawsuit.

### Ratio of the Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. The market value of assets is currently 6.2 times the payroll indicating that a return on assets 2% different from assumed would equal approximately 12% of payroll. Such a change could affect the amortization period by approximately four years based on 2024 results. While asset smoothing would reduce the effect, asset gains and losses much larger than 2% are common. An increasing level of this maturity measure generally indicates an increasing volatility in the amortization period.

### Ratio of Actuarial Accrued Liability to Payroll

As the ratio of actuarial accrued liability to payroll increases, the amortization period becomes increasingly sensitive to the effects of demographic gains and losses, and assumption changes. For example, a 1% demographic gain or loss would correspond to 7.3% of payroll and would affect the amortization period by two years based on the 2024 results.

### Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

### Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means benefits and expenses exceed contributions, and existing funds may be used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

## Plan Maturity Measures (Concluded)

### Duration of Present Value of Future Benefits

The modified duration of the present value of future benefits may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, the current duration of 14.2 (which is based on a 7.25% discount rate) indicates that the present value of future benefits would increase approximately 14.2% if the assumed rate of return were lowered 1%. Such a change could affect the amortization period by 20 years or more.

### Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

## Plan Maturity Measures (Based on Market Value of Assets)

Valuation Date June 30	(1) Accrued Liabilities (AAL)	(2) Market Value of Assets	(3) Unfunded AAL (1)-(2)	(4) Valuation Payroll <sup>^</sup>	(5) % Change in Payroll	(6) Funded Ratio (2)/(1)	(7) Annuitant Liabilities (AnnLiab)	(8) AnnLiab/AAL (7)/(1)	(9) Liability/Payroll (1)/(4)	(10) Assets/Payroll (2)/(4)	(11) Est. Portfolio Std. Dev.	(12) Std. Dev. % of Pay (10)x(11)	(13) Unfunded/Payroll (3)/(4)	(14) Net External Cash Flow (NECF)	(15) NECF/Assets (14)/(2)	(16) Portfolio Rate of Return	(17) 10-year Trailing Average
2012	\$ 16,139	\$ 11,484	\$ 4,655	\$ 2,803		71.2%	\$ 7,649	47.4%	575.8%	409.7%			166.1%	\$ (285)	-2.5%	-1.1%	6.6%
2013#	16,718	12,830	3,888	2,819	0.6%	76.7%	8,181	48.9%	593.0%	455.1%			137.9%	(337)	-2.6%	14.9%	8.0%
2014	17,310	14,856	2,454	2,851	1.1%	85.8%	8,777	50.7%	607.2%	521.1%			86.1%	(395)	-2.7%	19.2%	8.2%
2015	18,136	15,036	3,100	2,874	0.8%	82.9%	9,778	53.9%	631.0%	523.1%			107.9%	(445)	-3.0%	4.3%	7.7%
2016	18,812	14,559	4,253	2,888	0.5%	77.4%	10,430	55.4%	651.3%	504.0%			147.3%	(505)	-3.5%	0.2%	6.3%
2017#*	20,298	16,285	4,013	2,922	1.2%	80.2%	11,337	55.9%	694.7%	557.4%			137.3%	(556)	-3.4%	16.0%	6.0%
2018	20,935	17,493	3,442	2,986	2.2%	83.6%	11,851	56.6%	701.1%	585.8%	12.7%	77.3%	115.3%	(607)	-3.5%	11.4%	7.6%
2019	21,709	17,742	3,967	3,027	1.4%	81.7%	12,460	57.4%	717.2%	586.1%	12.5%	76.3%	131.1%	(642)	-3.6%	5.2%	10.4%
2020	22,352	16,902	5,450	3,078	1.7%	75.6%	12,890	57.7%	726.2%	549.1%	12.5%	71.5%	177.1%	(665)	-3.9%	-1.0%	8.8%
2021*	23,987	21,469	2,518	3,205	4.1%	89.5%	13,596	56.7%	748.4%	669.8%	13.8%	92.1%	78.6%	(677)	-3.2%	31.7%	9.6%
2022	24,697	19,679	5,018	3,320	3.6%	79.7%	14,044	56.9%	743.8%	592.7%	13.7%	81.1%	151.1%	(192)	-1.0%	-7.5%	8.9%
2023	25,592	20,675	4,917	3,492	5.2%	80.8%	14,511	56.7%	732.9%	592.1%	13.9%	82.3%	140.8%	(689)	-3.3%	8.7%	8.3%
2024	26,356	22,359	3,997	3,612	3.4%	84.8%	14,992	56.9%	729.8%	619.1%	13.9%	86.1%	110.7%	(720)	-3.2%	11.8%	7.6%

(\* ) ATRS had experience studies in these years leading to a change or "true up" in actuarial assumptions. A pattern of periodic studies is a sign of a well-run system and suggests the extent to which the liability measures the actuary provides are likely to be realistic.

(#) ATRS had benefit changes in these years. Benefit increases cause liabilities to rise; benefit decreases cause liabilities to fall. In either case benefit changes affect the year by year comparability of the measures on this page.

(^ ) Includes payroll for return to work retirees.

(6) The Funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

(9) and (10) The ratios of liabilities and assets to payroll gives an indication of both maturity and volatility. Many systems have values between 500% and 700%. Values significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll or an increased level of volatility in results.

(13) The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A value above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.

(14) and (15) The ratio of Net External Cash Flow to assets is an important measure of sustainability. Negative ratios are common and expected for a maturing system. In the longer term, this ratio should be on the order of approximately -4%. A ratio that is significantly more negative than that for an extended period could be a leading indicator of potential exhaustion of assets.

(16) and (17) Investment return is probably the largest single risk that most systems face. The year by year return and the 10-year geometric average give an indicator of the past performance of the investment program. Of course, past performance is not a guarantee of future results. Some of the trailing averaged are distorted by the extraordinary events of 2008 and 2021.

# **BENEFIT PROVISIONS**

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# Summary of Benefit Provisions

## June 30, 2024

- 1. Post-Retirement Increases – A.C.A. §§ 24-7-713, 24-7-727 (compound COLA).** Each July 1, annuities are adjusted to be equal to the base annuity times 100% plus 3% for each full year in the period from the effective date of the base annuity to the current July 1. The base annuity is the amount of the member's annuity on the later of July 1, 2001 or the effective date of retirement. The July 1, 2009 cost of living adjustment for retirees was compounded. The annuity was set to 103% of the June 30, 2009 retirement benefit amount. After it was calculated on July 1, 2009, the base amount was reset to be the July 1, 2009 benefit amount. Future cost of living raises will be established by the new updated base amount. Future cost of living adjustments will be evaluated on an annual basis to determine if a simple or compound cost of living increase will be given, depending on the financial condition of the System.
- 2. Lump Sum Death Benefit – A.C.A. § 24-7-720.** Beneficiaries of deceased active members or retirees with 10 or more years of ATRS credited service are eligible to receive a lump sum death benefit of up to \$10,000. Resolution 2020-27 on September 28, 2021 set the minimum amount of the lump sum death benefit for all eligible members to six thousand six hundred sixty-seven dollars (\$6,667); retired members who retired on or before July 1, 2007 will receive an additional six hundred sixty-six dollars and sixty cents (\$666.60) for each contributory year of service credit up to the maximum amount of ten thousand dollars (\$10,000); and all other members will receive an additional three hundred thirty-three dollars and thirty cents (\$333.30) for each contributory year of service credit up to the maximum amount of ten thousand dollars (\$10,000).
- 3. Act 808 Retirement – A.C.A. § 24-4-732.** Any employee of a state agency who was an active member of the Arkansas Teacher Retirement System on April 8, 1987, and who qualified for retirement before January 1, 1988, could become a member of the Arkansas Public Employees Retirement System and retire from that system. All credited service was transferred to that system but the member's contributions were retained by the Arkansas Teacher Retirement System and the benefit amount is transferred monthly to the Arkansas Public Employees Retirement System. Each July 1, annuities are adjusted by 3% (compound escalator).
- 4. Act 793 Retirement – A.C.A. § 24-4-522.** Any employee who was a member of the rehabilitation services in 1977 was permitted to become a member of the Arkansas Public Employees Retirement System. Liabilities associated with prior service earned through June 30, 1978 remain in the Arkansas Teacher Retirement System. Future service is allocated to the Arkansas Public Employees Retirement System. Each July 1, annuities are adjusted by 3% (compound escalator).

## Summary of Benefit Provisions

### June 30, 2024

5. **Retiree Benefit Stipend – A.C.A. § 24-7-713.** Each retired member as of June 30, 2008, with 5 or more years of ATRS credited service receives a \$75 per month stipend. Members in T-DROP do not receive the \$75 per month stipend until actual retirement. For all members retiring on or after July 1, 2008, a minimum of 10 years of ATRS credited service is required to receive the \$75 per month stipend. The ATRS Board is allowed to set the stipend to a minimum of \$1 per month and a maximum of \$75 per month. By Board Resolution 2017-34 on November 13, 2017 the benefit stipend is removed from the base amount for all retirees and beneficiaries beginning in fiscal year 2019 and the benefit stipend will be reduced to \$50.00 for fiscal year 2020 and beyond. The Resolution contains a "hold harmless" provision that prevents the lowering of the stipend if it would actually reduce the total monthly benefit. This would only affect retirees when the COLA is less than \$25 per month.
6. **T-DROP Cash Balance Account.** Effective July 1, 2012, a T-DROP cash balance account was established that allows members exiting (retiring) from T-DROP to place all or a portion of their T-DROP proceeds into a Cash Balance Account (CBA) at ATRS. On November 13, 2017, by Resolution 2017-38 the Board set the CBA interest rate schedule based on years of participation as follows: 2.50% for year one, 2.75% for year two, 3.00% for year three, 3.25% for year four, 3.50% for year five, and 4.00% for year six and beyond. Each fiscal year, the Board can grant an incentive interest rate to encourage continued participation in the CBA program. For fiscal year 2024, the Board granted CBA participants an incentive rate of 0%, by Resolution 2023-38 on September 25, 2023.

7. **Optional Forms of Benefits – A.C.A. § 24-7-706:**

**Option 1 (Straight Life Annuity)**

A member will receive the maximum monthly benefit for which he/she qualifies, throughout his/her lifetime. No monthly benefits will be paid to his/her beneficiary after the member's death. Should a member die before he/she has drawn benefits in an amount equal to his/her contributions plus earned interest, the balance will be paid to a designated beneficiary. The designated beneficiary may be anyone chosen by the member.

**Option A (100% Survivor Annuity)**

Under this option a member will receive a reduced annuity throughout his/her lifetime. Upon the member's death, the designated beneficiary(ies) will receive (equal shares of) the same annuity for the balance of his/her lifetime.

**Option B (50% Survivor Annuity)**

Under this option a member will receive a reduced annuity throughout his/her lifetime. Upon the member's death, the designated beneficiary(ies) will receive (equal shares of) one-half (1/2) of this annuity for the balance of his/her lifetime.

# Summary of Benefit Provisions

## June 30, 2024

### **Option C (Annuity for Ten Years Certain and Life Thereafter)**

A reduced monthly benefit payable for 120 months. After that time, or if the beneficiary dies prior to 120 months, a member's monthly allowance will revert to the amount he/she would have received under the regular plan and continue for life. If the member dies before receiving 120 payments, the designated beneficiary will receive a monthly benefit in the same amount until monthly benefits to both the member and the beneficiary equal 120 monthly payments. No further benefits are then payable to the beneficiary.

### **Pop-Up Election**

Following the death of or a divorce from the member's designated beneficiary, his or her benefit reverts (pops-up) to the straight life annuity amount from the elected optional annuity amount. The member may then elect new beneficiaries in accordance with Arkansas Code and rules adopted by the ATRS board.

Option Factors are based upon a 5.0% interest rate and the PUB-2010 General Healthy Retiree/MP-2020 tables (generational projections using retirement year 2025) adjusted with a 50% unisex mix.



## Sample Benefit Computations for a Member Retiring July 1, 2024 with a Simple 3% COLA

Data for an example member is shown below.

Annual retirement benefit as of July 1, 2024 (excluding stipend): \$30,000

Projected benefits, taking into account increases after retirement would be:

Year Ended June 30	Annual Amount		
	Base	Current	\$ Increase
2025	\$30,000	\$30,000	\$ 0
2026	30,000	30,900	900
2027	30,000	31,800	900
2028	30,000	32,700	900
2029	30,000	33,600	900

Thereafter, the amount would increase by \$900 annually for life. Act 793 members and Act 808 members receive compound COLAs.

## **CHANGES IN PURCHASING POWER**

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## Benefit Changes During Recent Years of Retirement and Related Changes in Purchasing Power (1990 \$)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				1990 \$	% of 1990
1990	\$ ----	\$ 11,000	----	\$ 11,000	100%
1991	330	11,330	(4.7)%	10,822	98%
1992	1,005	12,335	(3.1)%	11,429	104%
1993	1,045	13,380	(3.0)%	12,036	109%
1994	1,082	14,462	(2.5)%	12,693	115%
1995	400	14,862	(3.0)%	12,660	115%
1996	400	15,262	(2.8)%	12,652	115%
1997	772	16,034	(2.3)%	12,993	118%
1998	481	16,515	(1.7)%	13,161	120%
1999	1,383	17,898	(2.0)%	13,989	127%
2000	1,129	19,027	(3.7)%	14,336	130%
2001	1,406	20,433	(3.2)%	14,911	136%
2002	807	21,240	(1.1)%	15,337	139%
2003	562	21,802	(2.1)%	15,417	140%
2004	562	22,364	(3.3)%	15,314	139%
2005	562	22,926	(2.5)%	15,312	139%
2006	562	23,488	(4.3)%	15,037	137%
2007	562	24,050	(2.7)%	14,994	136%
2008	562	24,612	(5.0)%	14,611	133%
2009	562	25,174	1.4 %	15,161	138%
2010	755	25,929	(1.1)%	15,453	140%
2011	778	26,707	(3.6)%	15,370	140%
2012	778	27,485	(1.7)%	15,558	141%
2013	778	28,263	(1.8)%	15,723	143%
2014	778	29,041	(2.1)%	15,828	144%
2015	778	29,819	(0.1)%	16,232	148%
2016	778	30,597	(1.0)%	16,491	150%
2017	778	31,375	(1.6)%	16,638	151%
2018	778	32,153	(2.9)%	16,575	151%
2019	751	32,904	(1.6)%	16,687	152%
2020+	451	33,355	(0.6)%	16,807	153%
2021	751	34,106	(5.4)%	16,306	148%
2022	751	34,857	(9.1)%	15,281	139%
2023	751	35,608	(3.0)%	15,160	138%
2024	751	36,359	(3.0)%	15,033	137%
2025	751	37,110			

\* The \$11,000 benefit used to begin this schedule is an arbitrary amount. A different beginning amount could show a different purchasing power amount, but the same in percent loss.

# Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).

+ The Retiree Benefit Stipend was reduced by \$300 in FY 2020.

## Benefit Changes During Recent Years of Retirement and Related Changes in Purchasing Power (2000 \$)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				2000 \$	% of 2000
2000	\$ ----	\$ 11,600	----	\$ 11,600	100%
2001	1,003	12,603	(3.2)%	12,207	105%
2002	523	13,126	(1.1)%	12,579	108%
2003	372	13,498	(2.1)%	12,668	109%
2004	372	13,870	(3.3)%	12,605	109%
2005	372	14,242	(2.5)%	12,624	109%
2006	372	14,614	(4.3)%	12,417	107%
2007	372	14,986	(2.7)%	12,400	107%
2008	372	15,358	(5.0)%	12,100	104%
2009	372	15,730	1.4 %	12,573	108%
2010	472	16,202	(1.1)%	12,815	110%
2011	486	16,688	(3.6)%	12,746	110%
2012	486	17,174	(1.7)%	12,902	111%
2013	486	17,660	(1.8)%	13,039	112%
2014	486	18,146	(2.1)%	13,125	113%
2015	486	18,632	(0.1)%	13,460	116%
2016	486	19,118	(1.0)%	13,675	118%
2017	486	19,604	(1.6)%	13,797	119%
2018	486	20,090	(2.9)%	13,745	118%
2019	459	20,549	(1.6)%	13,831	119%
2020+	159	20,708	(0.6)%	13,848	119%
2021	459	21,167	(5.4)%	13,431	116%
2022	459	21,626	(9.1)%	12,582	108%
2023	459	22,085	(3.0)%	12,479	108%
2024	459	22,544	(3.0)%	12,371	107%
2025	459	23,003			

\* The \$11,600 benefit used to begin this schedule is an arbitrary amount. A different beginning amount could show a different purchasing power amount, but the same in percent loss.

# Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).

+ The Retiree Benefit Stipend was reduced by \$300 in FY 2020.

## Benefit Changes During Recent Years of Retirement and Related Changes in Purchasing Power (2010 \$)

Year Ended June 30	Increase Beginning of Year	Benefit Dollars in Year*	Inflation (Loss) in Year#	Purchasing Power at Year End	
				2010 \$	% of 2010
2010	\$ ----	\$ 11,900	----	\$ 11,900	100%
2011	357	12,257	(3.6)%	11,836	99%
2012	357	12,614	(1.7)%	11,981	101%
2013	357	12,971	(1.8)%	12,108	102%
2014	357	13,328	(2.1)%	12,188	102%
2015	357	13,685	(0.1)%	12,499	105%
2016	357	14,042	(1.0)%	12,699	107%
2017	357	14,399	(1.6)%	12,812	108%
2018	357	14,756	(2.9)%	12,764	107%
2019	330	15,086	(1.6)%	12,837	108%
2020+	30	15,116	(0.6)%	12,780	107%
2021	330	15,446	(5.4)%	12,391	104%
2022	330	15,776	(9.1)%	11,605	98%
2023	330	16,106	(3.0)%	11,506	97%
2024	330	16,436	(3.0)%	11,403	96%
2025	330	16,766			

\* The \$11,900 benefit used to begin this schedule is an arbitrary amount. A different beginning amount could show a different purchasing power amount, but the same in percent loss.

# Based on Consumer Price Index, All Urban Consumers, United States City Average (June values).

+ The Retiree Benefit Stipend was reduced by \$300 in FY 2020.

## VALUATION DATA

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## Summary of Annuities Being Paid Retirees and Beneficiaries July 1, 2024 by Disbursing Account and Gender

Disbursing Account	Men		Women		Totals	
	No.	Annual Annuities	No.	Annual Annuities	No.	Annual Annuities
<b>RETIREMENT RESERVE ACCOUNT</b>						
Age & Service Annuities						
Retirees	10,955	\$303,715,679	39,748	\$ 997,133,272	50,703	\$1,300,848,951
Beneficiaries	466	10,574,304	1,111	28,347,398	1,577	38,921,702
Totals	11,421	314,289,983	40,859	1,025,480,670	52,280	1,339,770,653
Disability						
Retirees	508	8,258,414	2,109	34,237,426	2,617	42,495,840
Beneficiaries	145	2,377,307	141	2,683,346	286	5,060,653
Totals	653	10,635,721	2,250	36,920,772	2,903	47,556,493
Act 793	63	1,018,980	60	536,592	123	1,555,572
Retirement Reserve Account	12,137	325,944,684	43,169	1,062,938,034	55,306	1,388,882,718
Act 808 Retirement Reserve Account	15	1,067,493	8	312,245	23	1,379,738
<b>Total Retirement Reserve Account</b>	12,152	327,012,177	43,177	1,063,250,279	55,329	1,390,262,456
<b>SURVIVOR'S BENEFIT ACCOUNT</b>						
Beneficiaries of Deceased Members	441	6,693,653	407	6,796,577	848	13,490,230
<b>RETIREMENT SYSTEM TOTALS</b>						
<b>Total Annuities Being Paid</b>	<b>12,593</b>	<b>\$333,705,830</b>	<b>43,584</b>	<b>\$1,070,046,856</b>	<b>56,177</b>	<b>\$1,403,752,686</b>
Prior Year Totals	12,330	\$323,142,251	42,316	\$1,023,473,463	54,646	\$1,346,615,714
<b>Average Age</b>	<b>72.4</b>		<b>72.3</b>		<b>72.3</b>	

## Summary of Annuities Being Paid Retirees and Beneficiaries July 1, 2024 by Disbursing Account and Source of Financing

Disbursing Account	Annual Annuities		Total	
	Employee Financed	Employer Financed	No.	Annual Annuities
<b>RETIREMENT RESERVE ACCOUNT</b>				
Age & Service Annuities				
Retirees	\$ 67,871,697	\$ 1,232,977,254	50,703	\$ 1,300,848,951
Beneficiaries	297,785	38,623,917	1,577	38,921,702
Totals	68,169,482	1,271,601,171	52,280	1,339,770,653
Disability				
Retirees	1,241,502	41,254,338	2,617	42,495,840
Beneficiaries	127,305	4,933,348	286	5,060,653
Totals	1,368,807	46,187,686	2,903	47,556,493
Act 793	92,594	1,462,978	123	1,555,572
Retirement Reserve Account	69,630,883	1,319,251,835	55,306	1,388,882,718
Act 808 Retirement Reserve Account	51,592	1,328,146	23	1,379,738
Total Retirement Reserve Account	69,682,475	1,320,579,981	55,329	1,390,262,456
<b>SURVIVOR'S BENEFIT ACCOUNT</b>				
Beneficiaries of Deceased Members	379,801	13,110,429	848	13,490,230
<b>RETIREMENT SYSTEM TOTALS</b>				
<b>Total Annuities Being Paid</b>	<b>\$ 70,062,276</b>	<b>\$ 1,333,690,410</b>	<b>56,177</b>	<b>\$ 1,403,752,686</b>
Prior Year Totals	\$ 69,437,273	\$ 1,277,178,441	54,646	\$ 1,346,615,714



## Annuities Being Paid Retirees and Beneficiaries July 1, 2024 by Type of Annuity Being Paid

Type of Annuity	No.	Annual Amounts		
		Original Annuities	Base Annuities	Current Annuities
<b>RETIREMENT RESERVE ACCOUNT</b>				
Age & Service				
Option 1 (Basic single life)	41,319	\$ 674,115,602	\$ 751,382,658	\$1,027,112,303
Option A (Joint & 100% Survivor)	5,745	98,843,205	110,095,621	152,039,803
Option B (Joint & 50% Survivor)	2,797	64,254,084	73,757,700	102,144,498
Option C (10-year certain)	842	15,869,897	15,799,405	19,552,347
Beneficiaries	1,577	31,052,264	26,885,088	38,921,702
Totals	52,280	884,135,052	977,920,472	1,339,770,653
Disability				
Option 1	2,182	24,214,056	25,546,544	35,273,376
Option A	357	4,093,205	4,080,239	5,492,655
Option B	78	1,216,130	1,273,816	1,729,809
Option C	0	-	-	-
Beneficiaries	286	3,595,842	3,441,060	5,060,653
Totals	2,903	33,119,233	34,341,659	47,556,493
Act 793	123	705,677	1,555,572	1,555,572
Retirement Reserve Account	55,306	917,959,962	1,013,817,703	1,388,882,718
Act 808 Retirement Reserve Account	23	416,115	1,379,738	1,379,738
Total Retirement Reserve Account	55,329	918,376,077	1,015,197,441	1,390,262,456
<b>SURVIVOR'S BENEFIT ACCOUNT</b>				
Beneficiaries of Deceased Members				
Age 0-17	134	1,260,642	1,259,851	1,394,610
Age 18-23	74	692,381	691,367	789,881
Other	640	7,535,988	8,242,672	11,305,739
Totals	848	9,489,011	10,193,890	13,490,230
<b>RETIREMENT SYSTEM TOTALS</b>				
Total Annuities Being Paid	56,177	\$ 927,865,088	\$1,025,391,331	\$1,403,752,686

**The Original Annuity** is the annuity at the date of retirement (includes stipend).

**The Base Annuity** is the amount from which the 3.0% COLA is calculated.

**The Current Annuity** is the annuity payable at July 1, 2024 including the COLA granted on July 1.

**Annuities Being Paid July 1, 2024**  
**from the Retirement Reserve Account to**  
**AGE AND SERVICE Retirees and Beneficiaries**  
**by Attained Ages**

Attained Age	Annual Amounts			
	No.	Original Annuities	Base Annuities	Current Annuities
Under 40	11	\$ 194,268	\$ 164,609	\$ 222,941
40-44	4	110,351	92,043	121,656
45-49	18	311,612	300,938	326,817
50-54	419	12,922,360	12,650,193	13,764,299
55-59	1,322	37,629,138	37,133,753	43,511,196
60-64	6,663	126,159,186	126,563,447	155,258,965
65-69	11,705	208,317,355	214,339,695	278,468,400
70-74	12,614	212,571,578	230,930,577	322,816,663
75-79	10,219	161,996,901	188,201,559	275,344,718
80-84	5,544	78,269,868	99,418,742	148,192,667
85-89	2,522	32,325,433	45,062,329	67,302,853
90-94	966	10,721,097	17,670,703	26,399,511
95 & Up	273	2,605,905	5,391,884	8,039,967
<b>Totals</b>	<b>52,280</b>	<b>\$884,135,052</b>	<b>\$977,920,472</b>	<b>\$1,339,770,653</b>
<b>Avg. Age</b>	<b>72.3</b>			

Amounts in the Original Annuities column include the original \$900 Retiree Benefit Stipend. Amounts in the Base Annuities column exclude this amount for purposes of determining the COLA. Amounts in the Current Annuities column include the current \$600 Retiree Benefit Stipend.

**Annuities Being Paid July 1, 2024  
from the Retirement Reserve Account to  
DISABILITY Retirees and Beneficiaries by Attained Ages**

Attained Age	Annual Amounts			
	No.	Original Annuities	Base Annuities	Current Annuities
Under 40	8	\$ 83,419	\$ 79,006	\$ 92,739
40-44	30	366,972	351,072	390,336
45-49	99	1,292,947	1,239,421	1,448,398
50-54	182	2,592,585	2,477,637	2,915,487
55-59	334	4,668,770	4,457,508	5,472,043
60-64	518	5,761,346	5,461,351	7,258,756
65-69	580	6,378,868	6,130,037	8,696,992
70-74	496	5,115,433	5,273,187	7,906,117
75-79	388	4,175,840	4,972,866	7,507,900
80-84	186	2,015,871	2,659,790	4,003,975
85-89	53	491,092	795,538	1,195,925
90-94	23	142,570	349,360	525,343
95 & Up	6	33,520	94,886	142,482
<b>Totals</b>	<b>2,903</b>	<b>\$33,119,233</b>	<b>\$34,341,659</b>	<b>\$47,556,493</b>
<b>Avg. Age</b>	<b>66.8</b>			

Amounts in the Original Annuities column include the original \$900 Retiree Benefit Stipend. Amounts in the Base Annuities column exclude this amount for purposes of determining the COLA. Amounts in the Current Annuities column include the current \$600 Retiree Benefit Stipend.

**Annuities Being Paid July 1, 2024  
from the Retirement Reserve Account to  
ACT 793 Retirees and Beneficiaries by Attained Ages**

Attained Age	Annual Amounts		
	No.	Original Annuities	Current Annuities
Under 40	-	\$ -	\$ -
40-44	-	-	-
45-49	-	-	-
50-54	-	-	-
55-59	-	-	-
60-64	-	-	-
65-69	3	5,222	9,881
70-74	23	74,363	136,344
75-79	35	172,194	349,279
80-84	36	258,298	567,602
85-89	19	130,837	311,801
90-94	7	64,763	180,665
95 & Up	-	-	-
<b>Totals</b>	<b>123</b>	<b>\$705,677</b>	<b>\$1,555,572</b>
<b>Avg. Age</b>	<b>79.7</b>		

Base annuities are equal to current annuities since the COLA is compounded.

**Annuities Being Paid July 1, 2024  
from the Retirement Reserve Account to  
SURVIVOR BENEFICIARIES by Attained Ages**

Attained Age	Annual Amounts			
	No.	Original Annuities	Base Annuities	Current Annuities
Under 40	217	\$2,004,448	\$ 2,000,990	\$ 2,251,608
40-44	4	20,910	20,760	28,619
45-49	5	45,869	46,248	60,080
50-54	16	292,972	280,997	317,371
55-59	32	457,832	452,798	556,728
60-64	100	1,221,228	1,150,790	1,419,231
65-69	148	1,890,493	1,880,087	2,509,602
70-74	129	1,355,051	1,428,920	2,029,619
75-79	99	1,285,495	1,490,099	2,165,676
80-84	55	524,938	737,815	1,101,177
85-89	29	273,084	439,487	655,855
90-94	13	112,717	245,370	365,531
95 & Up	1	3,974	19,529	29,133
<b>Totals</b>	<b>848</b>	<b>\$9,489,011</b>	<b>\$10,193,890</b>	<b>\$13,490,230</b>
<b>Avg. Age</b>	<b>56.3</b>			

Amounts in the Original Annuities column include the original \$900 Retiree Benefit Stipend. Amounts in the Base Annuities column exclude this amount for purposes of determining the COLA. Amounts in the Current Annuities column include the current \$600 Retiree Benefit Stipend.

**Annuities Being Paid July 1, 2024  
from the ACT 808 Retirement Reserve Account to  
ACT 808 Retirees and Beneficiaries by Attained Ages**

Attained Age	Annual Amounts		
	No.	Original Annuities	Current Annuities
Under 40	-	\$ -	\$ -
40-44	-	-	-
45-49	-	-	-
50-54	-	-	-
55-59	-	-	-
60-64	-	-	-
65-69	-	-	-
70-74	-	-	-
75-79	-	-	-
80-84	-	-	-
85-89	7	153,070	540,640
90-94	12	199,498	688,309
95 & Up	4	63,547	150,789
<b>Totals</b>	<b>23</b>	<b>\$416,115</b>	<b>\$1,379,738</b>
<b>Avg. Age</b>	<b>91.7</b>		

Base annuities are the same as current annuities since the COLA is compounded.

## Retiree and Beneficiary Data as of June 30

Year	Estimated Number		Total Retirees*	Annual Allowances (Millions)	% Increase in Annual Allowances@	Average Annual Allowances
	Added	Removed				
1992	455	312	12,033	\$ 115.50	10.4%	\$ 9,599
1993	589	316	12,306	129.71	12.3%	10,540
1994	846	512	12,640	141.87	9.4%	11,224
1995	908	342	13,206	156.59	10.4%	11,857
1996	1,107	654	13,659	170.59	8.9%	12,489
1997	1,049	475	14,233	194.90	14.3%	13,694
1998	809	240	14,802	220.38	13.1%	14,888
1999	1,582	497	15,887	248.75	12.9%	15,658
2000	1,249	479	16,657	280.14	12.6%	16,818
2001	1,571	450	17,778	309.03	10.3%	17,383
2002	1,989	568	19,199	334.15	8.1%	17,404
2003	1,621	549	20,271	359.98	7.7%	17,758
2004	1,685	528	21,428	386.23	7.3%	18,025
2005	1,822	570	22,680	415.04	7.5%	18,300
2006	1,958	485	24,153	449.77	8.4%	18,622
2007	2,017	559	25,611	484.55	7.7%	18,920
2008	1,703	513	26,801	515.56	6.4%	19,237
2009	2,721	704	28,818	564.59	9.5%	19,591
2010	2,588	819	30,587	612.77	8.5%	20,034
2011	2,394	882	32,099	657.08	7.2%	20,470
2012	2,932	871	34,160	709.17	7.9%	20,760
2013	3,039	945	36,254	763.76	7.7%	21,067
2014	3,156	932	38,478	822.19	7.7%	21,368
2015	3,326	1,056	40,748	916.62	11.5%	22,495
2016	3,272	925	43,095	983.87	7.3%	22,830
2017	2,996	999	45,092	1,044.74	6.2%	23,169
2018	2,927	1,195	46,824	1,099.35	5.2%	23,478
2019	2,849	996	48,677	1,146.74	4.3%	23,558
2020	2,811	1,355	50,133	1,194.82	4.2%	23,833
2021	2,852	1,580	51,405	1,242.70	4.0%	24,175
2022	2,788	1,445	52,748	1,293.75	4.1%	24,527
2023	3,389	1,491	54,646	1,346.62	4.1%	24,643
2024	2,879	1,348	56,177	1,403.75	4.2%	24,988

\* T-DROP participants are classified as active members for purposes of the valuation and are not included in this schedule.

@ Upon actual retirement, T-DROP account balances may be paid in the form of an additional annuity – a “T-DROP Annuity.” Annual annuities shown include T-DROP annuities beginning in 2015.

**REPORTED ASSETS**

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## Reported Assets

**The assets** of the Retirement System, as of June 30, 2024, were reported to your actuary to be \$22,359,231,384. This amount, reduced by a funding value adjustment of \$49,901,426 this year, is used to finance the Retirement System liability.

Accounts	Assets as of June 30	
	2024	2023
Regular Accounts		
Members' Deposit Accounts		
Contributions	\$ 1,830,533,728	\$ 1,718,903,627
Interest	13,013,551,141	11,599,922,370
Total	14,844,084,869	13,318,825,997
T-DROP Member Deposit Accounts		
Contributions	32,961,427	32,472,783
Interest	17,836,421	18,548,379
Total	50,797,848	51,021,162
Cash Balance Account	240,202,392	226,279,957
Employer's Accumulation Account	(7,498,915,914)	(7,256,480,855)
Retirement Reserve Account	14,288,978,608	13,886,819,183
Act 808 Retirement Reserve Account	5,192,191	6,235,877
T-Lump Sum Payable	299,014,864	320,171,587
Survivors Benefit Account	119,259,431	112,186,981
Total Regular Accounts	22,348,614,289	20,665,059,889
Other Accounts		
Income Expense Account	10,617,095	9,992,029
Other Special Reserves	-	-
Miscellaneous	-	-
Total Other Accounts	10,617,095	9,992,029
Total Accounting Value of Assets	22,359,231,384	20,675,051,918
Funding Value Adjustment	(49,901,426)	339,856,905
Funding Value of Assets	\$ 22,309,329,958	\$ 21,014,908,823

## VALUATION RESULTS

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## Liabilities for Annuities Being Paid July 1, 2024 Tabulated by Type of Annuity Being Paid

Type of Annuity	Liabilities July 1, 2024		
	Men	Women	Totals
<b>RETIREMENT RESERVE ACCOUNT</b>			
Age & Service Annuities			
Option 1 (Straight Life)	\$ 1,745,026,970	\$ 8,606,168,394	\$10,351,195,364
Option A (100% Joint & Survivor)	885,523,315	1,032,012,123	1,917,535,438
Option B ( 50% Joint & Survivor)	425,602,089	711,408,530	1,137,010,619
Option C (10 Years Certain & Life)	53,211,808	204,917,187	258,128,995
Beneficiaries	80,648,376	232,260,831	312,909,207
<b>Total Age &amp; Service</b>	<b>3,190,012,558</b>	<b>10,786,767,065</b>	<b>13,976,779,623</b>
Disability Annuities			
Option 1	51,681,690	292,428,393	344,110,083
Option A	27,167,139	48,776,449	75,943,588
Option B	7,026,897	12,539,721	19,566,618
Option C	-	-	-
Beneficiaries	21,926,211	25,472,360	47,398,571
<b>Total Disability</b>	<b>107,801,937</b>	<b>379,216,923</b>	<b>487,018,860</b>
Act 793	6,500,750	4,431,239	10,931,989
Retirement Reserve Account	3,304,315,245	11,170,415,227	14,474,730,472
Act 808 Retirement Reserve Account	4,141,313	1,054,833	5,196,146
<b>Total Retirement Reserve Account</b>	<b>3,308,456,558</b>	<b>11,171,470,060</b>	<b>14,479,926,618</b>
<b>SURVIVORS' BENEFIT ACCOUNT</b>			
Beneficiaries of Deceased Members	58,710,971	63,503,585	122,214,556
<b>RETIREMENT SYSTEM TOTALS</b>			
Total Annuity Liabilities	3,367,167,529	11,234,973,645	14,602,141,174
Cash Benefit Account Liabilities			240,202,392
Liabilities for Lump Sum Death Benefits			150,053,843
<b>Total</b>	<b>\$ 3,367,167,529</b>	<b>\$11,234,973,645</b>	<b>\$14,992,397,409</b>

## Annual Reserve Transfers

The annual accounting transfers listed below are recommended so that retired life accounts will be fully funded as of the valuation date.

Reserve Account	June 30, 2024 Balance Reported	Transfer Amount	June 30, 2024 Balance After Transfer
Retiree Accounts			
RRA	\$ 14,288,978,608	\$ 185,751,864	\$ 14,474,730,472
808 RRA	5,192,191	3,955	5,196,146
SBA	119,259,431	2,955,125	122,214,556
Total Retiree Accounts	14,413,430,230	188,710,944	14,602,141,174
EAA	(7,498,915,914)	(188,710,944)	(7,687,626,858)
<b>Total</b>	<b>\$ 6,914,514,316</b>	<b>\$ -</b>	<b>\$ 6,914,514,316</b>

Lump sum death benefits for retirees are paid from the Employer Accumulation Account and are not included in the figures shown in this report. The actuarial accrued liabilities for lump sum death benefits for retirees are currently \$150.1 million. The Cash Balance Account includes an additional \$240.2 million of retiree liabilities and is not included in the schedule above. No reserve transfers are required for this account.

## Retirement Reserve Account

### Comparative Statement of Annuities, Accrued Liabilities and Assets (\$ Millions)

Valuation Date June 30	Annual Annuities Being Paid			Average	Computed Liabilities	Applicable Assets	Unfunded Retired Life Liabilities	Ratio of Assets to Liabilities
	No.	Amount	% Incr.					
1980*#	8,001	\$ 30.10	3.5%	\$ 3,761	\$ 280.70	\$ 280.7	none	100.0%
1985*+	9,331	51.49	13.6%	5,518	479.9	479.9	none	100.0%
1990	11,054	87.84	7.2%	7,946	847.7	847.7	none	100.0%
1995	12,622	150.45	10.8%	11,920	1,428.6	1,428.6	none	100.0%
2000* ##	16,172	275.65	14.6%	17,045	2,828.8	2,828.8	none	100.0%
2005	22,147	409.42	7.5%	18,486	4,148.1	4,148.1	none	100.0%
2006	23,606	443.98	8.4%	18,808	4,483.4	4,483.4	none	100.0%
2007	25,038	478.30	7.7%	19,103	4,816.4	4,816.4	none	100.0%
2008	26,258	509.29	6.5%	19,396	5,391.3	5,391.3	none	100.0%
2009	28,228	557.83	9.5%	19,762	5,891.9	5,891.9	none	100.0%
2010	29,969	605.55	8.6%	20,206	6,358.0	6,358.0	none	100.0%
2011^	31,498	649.47	7.3%	20,619	6,972.6	6,972.6	none	100.0%
2012	33,533	701.09	7.9%	20,907	7,481.0	7,481.0	none	100.0%
2013	35,622	755.26	7.7%	21,202	8,004.8	8,004.8	none	100.0%
2014	37,824	813.33	7.7%	21,503	8,561.9	8,561.9	none	100.0%
2015@	40,070	907.09	11.5%	22,638	9,515.7	9,515.7	none	100.0%
2016	42,395	973.78	7.4%	22,969	10,157.2	10,157.2	none	100.0%
2017* ^	44,394	1,034.17	6.2%	23,295	11,026.4	11,026.4	none	100.0%
2018	46,108	1,088.30	5.2%	23,603	11,515.7	11,515.7	none	100.0%
2019	47,979	1,137.79	4.5%	23,714	12,094.6	12,094.6	none	100.0%
2020	49,365	1,182.98	4.0%	23,964	12,494.4	12,494.4	none	100.0%
2021^	50,633	1,230.58	4.0%	24,304	13,163.2	13,163.2	none	100.0%
2022	51,944	1,281.16	4.1%	24,664	13,580.5	13,580.5	none	100.0%
2023	53,809	1,333.49	4.1%	24,782	14,019.7	14,019.7	none	100.0%
2024	55,329	1,390.26	4.3%	25,127	14,479.9	14,479.9	none	100.0%

\* After plan amendments.

# After change in interest assumption from 6.0% to 7.0%, change in post-retirement adjustments from 1.5% to 3.0% and recommended reserve transfer.

+ After redetermination of base, retroactive application of new minimum benefit formula and reserve transfers.

## Includes Act 808 and Act 793 retirees beginning in 2000.

^ After changes in assumptions.

@ Upon actual retirement, T-DROP account balances maybe paid in the form of an additional annuity – a “T-DROP Annuity.” Annual annuities shown include T-DROP annuities beginning in 2015.

## Survivors' Benefit Account Accrued Liabilities and Assets Comparative Statement

Valuation Date June 30	Annual Annuities Being Paid		Computed Liabilities	Applicable Assets	Unfunded Accrued Liabilities	Ratio of Assets to Liabilities
	No.	Amount				
1980*#	393	\$ 772,631	\$ 7,042,644	\$ 7,042,644	none	100.0%
1985*+	421	1,240,399	12,411,800	12,411,800	none	100.0%
1990	424	1,830,743	18,117,244	18,117,244	none	100.0%
1995	416	2,723,940	26,220,218	26,220,218	none	100.0%
2000*	485	4,487,519	43,701,138	43,701,138	none	100.0%
2005	533	5,619,675	56,257,745	56,257,745	none	100.0%
2006	547	5,791,974	57,605,939	57,605,939	none	100.0%
2007	573	6,250,603	63,481,565	63,481,565	none	100.0%
2008	543	6,269,551	66,496,539	66,496,539	none	100.0%
2009	590	6,761,034	70,857,161	70,857,161	none	100.0%
2010	618	7,224,585	75,108,334	75,108,334	none	100.0%
2011^	601	7,605,212	81,150,385	81,150,385	none	100.0%
2012	627	8,081,913	84,930,745	84,930,745	none	100.0%
2013	632	8,491,667	88,139,802	88,139,802	none	100.0%
2014	654	8,861,734	89,793,996	89,793,996	none	100.0%
2015	678	9,530,889	95,272,795	95,272,795	none	100.0%
2016	700	10,084,359	98,960,258	98,960,258	none	100.0%
2017* ^	698	10,574,602	104,668,995	104,668,995	none	100.0%
2018	716	11,042,074	107,043,067	107,043,067	none	100.0%
2019	741	11,313,962	106,306,434	106,306,434	none	100.0%
2020	768	11,843,667	108,528,929	108,528,929	none	100.0%
2021^	772	12,116,736	113,740,676	113,740,676	none	100.0%
2022	804	12,596,386	115,961,127	115,961,127	none	100.0%
2023	837	13,120,866	119,954,069	119,954,069	none	100.0%
2024	848	13,490,230	122,214,556	122,214,556	none	100.0%

\* Includes plan amendments.

# After change in interest assumption from 6.0% to 7.0%, change in post-retirement adjustments from 1.5% to 3.0% and recommended reserve transfer.

+ After redetermination of base annuity, retroactive application of new minimum benefit formula and recommended reserve transfer.

^ After changes in assumptions.

## Annual Allowances of Retired Lives by Year of Retirement as of June 30, 2024

Calendar Year of Retirement	No.	Annual Amount Being Paid			Average
		Original	Total Increase	Current	
2024*	660	\$ 8,240,864	\$ 449,516	\$ 8,690,380	\$13,167
2023	2,836	51,340,213	5,779,181	57,119,394	20,141
2022	3,208	50,905,340	7,393,020	58,298,360	18,173
2021	2,667	47,382,648	9,505,342	56,887,990	21,330
2020	2,680	45,425,834	10,248,893	55,674,727	20,774
2019	2,682	43,623,965	11,567,251	55,191,216	20,578
2018	2,663	44,564,105	12,917,684	57,481,789	21,585
2017	2,681	44,575,501	15,467,547	60,043,048	22,396
2016	2,721	44,769,569	17,082,927	61,852,496	22,732
2015	2,899	48,109,208	19,975,591	68,084,799	23,486
2014	2,827	48,371,690	21,864,417	70,236,107	24,845
2013	2,596	44,648,399	22,034,671	66,683,070	25,687
2012	2,521	41,805,187	22,246,451	64,051,638	25,407
2011	2,263	37,731,530	20,943,341	58,674,871	25,928
2010	1,901	31,855,299	20,088,923	51,944,222	27,325
2009	1,947	33,165,754	22,009,849	55,175,603	28,339
2008	1,871	30,354,804	19,782,920	50,137,724	26,797
2007	1,732	27,938,484	18,656,042	46,594,526	26,902
2006	1,491	24,475,828	17,842,218	42,318,046	28,382
2005	1,468	24,545,590	20,017,893	44,563,483	30,357
2004	1,284	20,543,740	16,287,295	36,831,035	28,685
2003	1,142	18,170,277	15,225,005	33,395,282	29,243
2002	1,067	17,386,174	14,548,194	31,934,368	29,929
2001	1,014	15,736,313	13,540,448	29,276,761	28,873
2000	912	15,389,013	13,971,645	29,360,658	32,194
1999	761	11,879,390	12,267,367	24,146,757	31,730
1998	710	10,447,122	11,255,213	21,702,335	30,567
1997	521	8,585,606	9,879,933	18,465,539	35,442
1996	386	6,682,583	8,046,494	14,729,077	38,158
1995	429	7,014,323	8,725,050	15,739,373	36,689
1994	408	6,713,162	9,136,228	15,849,390	38,847
1993	281	4,911,796	6,954,987	11,866,783	42,231
1992	162	2,170,495	3,381,390	5,551,885	34,271
1991	120	1,552,902	2,362,773	3,915,675	32,631
1990	131	1,421,474	2,731,578	4,153,052	31,703
Before 1989	535	5,430,906	11,700,321	17,131,227	32,021
<b>TOTAL</b>	<b>56,177</b>	<b>\$927,865,088</b>	<b>\$475,887,598</b>	<b>\$1,403,752,686</b>	<b>\$24,988</b>

\* Reporting for calendar year 2024 is not yet complete. The July 1<sup>st</sup> retirees are not included in the schedule.



## **APPENDIX**

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## APPENDIX

### Single Life Retirement Values Based on PubG-2010 Mortality Amount-Weighted Tables Adjusted Using MP-2020 Projection Scale and 7.25% Interest

Sample Attained Ages in 2024*	Present Value of \$1.00 Monthly for Life		Present Value of \$1 Monthly for Life Increasing 3.0% Annually		Future Life Expectancy (Years)		Percent Dying within Next Year	
	Men	Women	Men	Women	Men	Women	Men	Women
40	\$160.03	\$162.55	\$213.61	\$218.42	45.45	48.45	0.09 %	0.05 %
45	155.66	158.89	205.22	211.11	40.21	43.16	0.13 %	0.07 %
50	149.99	154.08	194.84	202.00	35.10	37.99	0.29 %	0.22 %
55	143.10	148.30	182.69	191.30	30.23	33.04	0.43 %	0.30 %
60	134.34	140.66	168.05	177.99	25.52	28.19	0.66 %	0.42 %
65	123.42	130.67	150.82	161.67	21.04	23.47	0.96 %	0.61 %
70	109.91	117.95	130.82	142.23	16.79	18.95	1.48 %	0.98 %
75	93.95	102.44	108.69	120.08	12.89	14.74	2.49 %	1.74 %
80	76.31	84.72	85.74	96.39	9.46	10.96	4.47 %	3.21 %
85	58.84	66.25	64.31	73.21	6.67	7.77	8.24 %	6.13 %
Base	2705 x 1.05	2706 x 1.05	2705 x 1.05	2706 x 1.05				
Projection	964	965	964	965				

\* Rates and life expectancies in future years are determined by the MP-2020 projection scale.

Age	Benefit Increasing 3.0% Yearly	Portion of Age 60 Lives Still Alive	
		Men	Women
60	\$100.00	100%	100%
65	115.00	96%	98%
70	130.00	91%	94%
75	145.00	84%	89%
80	160.00	73%	81%
Ref		2705 x 1.05	2706 x 1.05

The above chart is an illustration for a member who retires at age 60 in 2024.



November 12, 2024

Mr. Mark White  
Executive Director  
Arkansas Teacher Retirement System  
1400 West Third Street  
Little Rock, Arkansas 72201

**Re: Report of the June 30, 2024 Actuarial Valuation of Retirees and Beneficiaries**

Dear Mr. White:

Attached is a copy of this report. Please let us know if anything else is needed.

Sincerely,  
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink that reads "Judith A. Kermans". The signature is written in a cursive, flowing style.

Judith A. Kermans, EA, FCA, MAAA

JAK:rl  
Enclosures

**Waiver of Employer Penalties Report**  
*A.C.A. Sec. 24-7-411*

**Date:** January 15, 2025  
**Prepared By:** Misty Yant, Accounting Reporting Section Manager

**Employer Delinquent Report Penalties Waived**

ATRS Employer #	Amount Waived
1-318	\$ 150.00
02049	\$ 300.00
<b>Total Employer Delinquent Report Penalties Waived:</b>	<b>\$ 450.00</b>

**Employer Delinquent Contribution Interest Penalties Waived**

ATRS Employer #	Amount Waived
<b>Total Employer Delinquent Contribution Interest Penalties Waived:</b>	<b>\$ 0.00</b>

**BEFORE THE  
BOARD OF TRUSTEES OF THE ARKANSAS TEACHER RETIREMENT SYSTEM**

**IN RE DISABILITY RETIREE – ATRS ID # 497875  
DR Case No. 2025-01**

---

**ORDER FINDING DISABILITY RETIREE QUALIFIED TO RECEIVE DISABILITY RETIREMENT  
BENEFITS**

At its meeting on February 3, 2025, the Board of Trustees of the Arkansas Teacher Retirement System (“Board”) considered the review application filed by disability retiree - ATRS ID # 497875 (“Disability Retiree”) and the Medical Committee’s recommendation concerning the review application. In accordance with the Administrative Procedures Act, Ark. Code Ann. § 25-15-101 et seq., the Board finds as follows:

**I. FINDINGS OF FACT**

1. The Disability Retiree was approved for disability retirement under the Arkansas Teacher Retirement System (“ATRS”) on February 2, 2022.
2. The Disability Retiree was required to provide ATRS with a Social Security Administration determination letter (“SSA determination letter”) finding her unable to perform her work duties within thirty-six (36) months from the effective date of her effective date of disability retirement.
3. The Disability Retiree’s effective date of disability retirement was January 1, 2022.
4. As such, the Disability Retiree was required to provide ATRS with the SSA determination letter December 31, 2024.
5. On February 3, 2022, February 11, 2022, and September 22, 2022, ATRS notified the Disability Retiree that she was required to provide ATRS with a SSA determination letter finding her unable to perform her former work duties within thirty-six (36) months of the Disability Retiree’s effective date of disability retirement in order to continue receiving disability retirement benefits.
6. On or about May 22, 2024, ATRS received a SSA determination letter from the Disability Retiree. The SSA determination letter denied the Disability Retiree’s application for Social Security disability benefits.
7. On August 28, 2024, ATRS sent a written reminder to the Disability Retiree advising that the SSA determination letter would need to be submitted to ATRS by December 31, 2024, in order for the Disability Retiree to continue receiving disability retirement benefits.

8. On or about November 19, 2024, the Disability Retiree applied for a review by the Medical Committee of her disability benefits ceasing due to the lack of a SSA determination letter finding the Disability Retiree unable to perform her former work duties.
9. On December 4, 2024, the Medical Committee met and considered the Disability Retiree's application for review.
10. After reviewing the Disability Retiree's application for review, the Medical Committee requested additional medical documentation from the Disability Retiree.
11. On December 20, 2024, the Disability Retiree submitted the additional medical documentation requested by the Medical Committee following the December 4, 2024, meeting.
12. On December 26, 2024, the Disability Retiree submitted a SSA determination letter finding the Disability Retiree unable to perform her former work duties.
13. On January 8, 2025, the Medical Committee met and considered the Disability Retiree's application for review.
14. After reviewing the Disability Retiree's application for review, the Medical Committee decided to recommend that the Board:
  - a. Find the Disability Retiree qualified to receive disability retirement benefits under ATRS;  
and
  - b. Continue disability retirement benefit payments to the Disability Retiree.

## **II. CONCLUSIONS OF LAW**

Ark. Code Ann. § 24-7-704 provides as follows:

1. In order to continue receiving disability retirement benefits under ATRS, a disability retiree is required to provide ATRS with a SSA determination letter finding the disability retiree unable to perform his or her work duties;
2. A disability retiree must provide ATRS with a SSA determination letter finding the disability retiree unable to perform his or her work duties within thirty-six (36) months of the applicable time period provided by Ark. Code Ann. § 24-7-704;
3. ATRS is required to terminate disability retirement benefit payments to a disability retiree who does not either:

- a. Provide or receive an extension to provide ATRS with a SSA determination letter finding the disability retiree unable to perform his or her former work duties; or
  - b. Apply for a review by the Medical Committee;
4. The Medical Committee must hear all applications for review concerning the termination of disability retirement benefit payments to a disability retiree due to the lack of a SSA determination letter finding the disability retiree unable to perform his or her former work duties; and
5. The Medical Committee's recommendation to find a disability retiree qualified to continue receiving disability retirement benefits must be consistent with finding that the:
  - a. Disability retiree is physically or mentally incapacitated;
  - b. Disability retiree exhibits symptoms of physical or mental incapacitation while he or she was employed by a system employer as an active member;
  - c. Disability retiree is unable to perform his or her work duties;
  - d. Disability retiree's incapacity will most likely be permanent; and
  - e. Disability retiree should be retired.

### **III. ORDER**

1. Upon consideration of Ark. Code Ann. § 24-7-701 et seq., applicable ATRS rules, and the evidence presented at the meeting, the Board voted to approve the Medical Committee's recommendation concerning the Disability Retiree's application for review.
2. The Board finds the Disability Retiree qualified to receive disability retirement benefits under ATRS and orders ATRS to continue disability retirement benefit payments to the Disability Retiree.

IT IS SO ORDERED

---

Danny Knight, Chairman  
February 3, 2025

**BEFORE THE  
BOARD OF TRUSTEES OF THE ARKANSAS TEACHER RETIREMENT SYSTEM**

**IN RE DISABILITY RETIREE – ATRS ID # 327046  
DR Case No. 2025-02**

---

**ORDER FINDING DISABILITY RETIREE QUALIFIED TO RECEIVE DISABILITY RETIREMENT  
BENEFITS**

At its meeting on February 3, 2025, the Board of Trustees of the Arkansas Teacher Retirement System (“Board”) considered the review application filed by disability retiree - ATRS ID # 327046 (“Disability Retiree”) and the Medical Committee’s recommendation concerning the review application. In accordance with the Administrative Procedures Act, Ark. Code Ann. § 25-15-101 et seq., the Board finds as follows:

**I. FINDINGS OF FACT**

1. The Disability Retiree was approved for disability retirement under the Arkansas Teacher Retirement System (“ATRS”) on December 6, 2023.
2. The Disability Retiree was required to provide ATRS with a Social Security Administration determination letter (“SSA determination letter”) finding her unable to perform her work duties within thirty-six (36) months from the effective date of her effective date of disability retirement.
3. The Disability Retiree’s effective date of disability retirement was January 1, 2022.
4. As such, the Disability Retiree was required to provide ATRS with the SSA determination letter by December 31, 2024.
5. On December 7, 2023 and January 18, 2024, ATRS notified the Disability Retiree that she was required to provide ATRS with a SSA determination letter finding her unable to perform her former work duties within thirty-six (36) months of the Disability Retiree’s effective date of disability retirement in order to continue receiving disability retirement benefits.
6. On August 28, 2024, ATRS sent a written reminder to the Disability Retiree advising that the SSA determination letter would need to be submitted to ATRS by December 31, 2024, in order for the Disability Retiree to continue receiving disability retirement benefits.
7. On December 10, 2024, ATRS received a SSA determination letter from the Disability Retiree. The SSA determination letter denied the Disability Retiree’s application for Social Security disability benefits.

8. On or about December 10, 2024, the Disability Retiree applied for a review by the Medical Committee of her disability benefits ceasing due to the lack of a SSA determination letter finding the Disability Retiree unable to perform her former work duties.
9. On January 8, 2025, the Medical Committee met and considered the Disability Retiree's application for review.
10. After reviewing the Disability Retiree's application for review, the Medical Committee decided to recommend that the Board:
  - a. Find the Disability Retiree qualified to receive disability retirement benefits under ATRS; and
  - b. Continue disability retirement benefit payments to the Disability Retiree.

## **II. CONCLUSIONS OF LAW**

Ark. Code Ann. § 24-7-704 provides as follows:

1. In order to continue receiving disability retirement benefits under ATRS, a disability retiree is required to provide ATRS with a SSA determination letter finding the disability retiree unable to perform his or her work duties;
2. A disability retiree must provide ATRS with a SSA determination letter finding the disability retiree unable to perform his or her work duties within thirty-six (36) months of the applicable time period provided by Ark. Code Ann. § 24-7-704;
3. ATRS is required to terminate disability retirement benefit payments to a disability retiree who does not either:
  - a. Provide or receive an extension to provide ATRS with a SSA determination letter finding the disability retiree unable to perform his or her former work duties; or
  - b. Apply for a review by the Medical Committee;
4. The Medical Committee must hear all applications for review concerning the termination of disability retirement benefit payments to a disability retiree due to the lack of a SSA determination letter finding the disability retiree unable to perform his or her former work duties; and
5. The Medical Committee's recommendation to find a disability retiree qualified to continue receiving disability retirement benefits must be consistent with finding that the:



- a. Disability retiree is physically or mentally incapacitated;
- b. Disability retiree exhibits symptoms of physical or mental incapacitation while he or she was employed by a system employer as an active member;
- c. Disability retiree is unable to perform his or her work duties;
- d. Disability retiree's incapacity will most likely be permanent; and
- e. Disability retiree should be retired.

**III. ORDER**

1. Upon consideration of Ark. Code Ann. § 24-7-701 et seq., applicable ATRS rules, and the evidence presented at the meeting, the Board voted to approve the Medical Committee's recommendation concerning the Disability Retiree's application for review.
2. The Board finds the Disability Retiree qualified to receive disability retirement benefits under ATRS and orders ATRS to continue disability retirement benefit payments to the Disability Retiree.

IT IS SO ORDERED

\_\_\_\_\_  
Danny Knight, Chairman  
February 3, 2025

**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 WEST THIRD STREET  
LITTLE ROCK, ARKANSAS 72201**

**RESOLUTION  
No. 2025-09**

**Certification of Mr. Arthur “Chip” Martin, III, Certified Member Trustee  
3<sup>rd</sup> Congressional District**

**WHEREAS**, Arthur “Chip” Martin, III, ran unopposed for Position #3 – Certified Member Trustee, 3<sup>rd</sup> Congressional District, and ATRS Board policy provides that should only one qualified candidate file a timely and verified petition, that person shall be declared by the Board of Trustees as elected to fill the vacant trustee position; and

**NOW, THEREFORE, BE IT RESOLVED**, that the Board of Trustees of the Arkansas Teacher Retirement System hereby declares and certifies Mr. Arthur “Chip” Martin, III, to be winner for Position #3. This position will become effective July 1, 2025 and shall expire on June 30, 2031.

**Adopted this \_\_\_\_ day of February, 2025**

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**Mr. Danny Knight, Chair**  
***Arkansas Teacher Retirement System Board***

**ARKANSAS TEACHER RETIREMENT SYSTEM**  
**1400 West Third Street**  
**Little Rock, Arkansas 72201**

**RESOLUTION**  
**No. 2025-10**

**Waiver of Employer Late Fees and Interest Penalties – Correction of Resolution  
2024-42**

---

**WHEREAS**, Arkansas Code § 24-7-411(a)(1) authorizes the Arkansas Teacher Retirement System (“ATRS” or “System”) to impose an interest penalty when a covered employer fails to timely remit money to ATRS as required by law or rule; and

**WHEREAS**, Arkansas Code § 24-7-411(b)(1) authorizes ATRS to impose late fees as a penalty when a covered employer fails to timely file with the System a report required by the Board of Trustees of the Arkansas Teacher Retirement System (“Board”); and

**WHEREAS**, ATRS Rule 7-106(c)(2)(B) prohibits one (1) or more interest penalties assessed against a covered employer from being waived if the amount of interest penalties assessed against the covered employer will exceed one thousand dollars (\$1,000) for the fiscal year; and

**WHEREAS**, Arkansas Code § 24-7-411(c) provides that the Board or its designee may waive penalties and interest if the Board or its designee determines that the covered employer’s failure to remit money or submit a report to the System was not the result of the covered employer’s nondisclosure, fraud, or misrepresentation and requiring payment by the covered employer under the circumstances would be unduly penal, burdensome, or result in a manifest injustice; and

**WHEREAS**, in Resolution 2024-42, the Board granted covered employer 00211’s (“Covered Employer”) request for a waiver of an interest penalty that was assessed against the Covered Employer; and

**WHEREAS**, Resolution 2024-42 incorrectly noted the assessed interest penalty that was waived by the Board as three hundred eighty-three dollars and thirty-nine cents (\$383.39) instead of two hundred sixteen dollars and eighty-two cents (\$216.82).

**NOW, THEREFORE, BE IT RESOLVED**, that the Board finds that Resolution 2024-42 incorrectly noted the assessed interest penalty that was waived by the Board as three hundred eighty-three dollars and thirty-nine cents (\$383.39) instead of two hundred sixteen dollars and eighty-two cents (\$216.82); and

***FURTHER, BE IT RESOLVED***, that the Board waives the interest penalty of two hundred sixteen dollars and eighty-two cents (\$216.82) that was assessed against the Covered Employer.

**Adopted this 3rd day of February 2025.**

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**Mr. Danny Knight, *Chair***  
**Arkansas Teacher Retirement System**

## ATRS Private Equity Investment Guidelines - 3Q24

### 2025 Commitments

Investment	Strategy	Region	ATRS Board Approval	ATRS
None				-
<b>2025 commitments previously approved by ATRS' board</b>				<b>\$0</b>
FP CF Access III	Mid Market Corporate Finance	U.S.	Feb-25	40,000,000
<b>2025 commitments being considered during current board meeting</b>				<b>\$40,000,000</b>
Additional commitments to be completed in 2025				\$360,000,000
<b>Total targeted 2025 commitments</b>				<b>\$400,000,000</b>

Private Equity Allocation	Target	9/30/2024
Private Equity Value		\$2,984,397,094
Total Assets		\$22,892,000,691
<b>Private Equity Value as a % of Total Assets</b>	<b>12.0%</b>	<b>13.0%</b>

### Other Guidelines

The following sub-allocations shall be used as an overall target for commitment levels within the portfolio.

#### ATRS Strategy/Region Guidelines (% of Commitments)

Strategy	Target %	Post-2006 Portfolio Commitments (as of 9/30/24)	% of Total
Corporate Finance (buyout, growth and debt strategies)	80-100%	3,773,323,718	88%
Venture Capital	0-20%	525,000,000	12%
<b>Total (Post-2006 Portfolio)</b>		<b>4,298,323,718</b>	<b>100%</b>

Region	Target %	Post-2006 Portfolio Commitments (as of 9/30/24)	% of Total
U.S. and Western Europe	80-100%	4,011,477,035	93%
Other <sup>1</sup>	0-20%	286,846,683	7%
<b>Total (Post-2006 Portfolio)</b>		<b>4,298,323,718</b>	<b>100%</b>

<sup>1</sup> Other represents ATRS' % of commitments made outside of the U.S. and Western Europe in FP VC and FP International vehicles

**ATRS shall, in general, make commitments of at least \$10 million.**

100% of the commitments made to primary funds since 2006

**In general, ATRS shall not make commitments to primary funds which exceed an amount equal to 15% of the total amount raised for a proposed fund, but in no event shall investments exceed 35% of the amount raised for a primary fund.**

100% of the commitments made to primary funds since 2006

**ATRS shall limit aggregate new commitments to a single investment sponsor to 35% of total Program allocation.**

Manager	Aggregate Commitment	2025 Commitments to Single Sponsor Notes
FP CF Access III	40,000,000	< 3.0% Expected to include 4-6 investment sponsors
Other commitments to be c	360,000,000	
<b>Total</b>	<b>\$400,000,000</b>	

Note: % of 2025 Commitments for FP CF Access III represents ATRS' % of the estimated commitments to underlying investment

As of September 30, 2024	ATRS' Portfolio \$ in Millions
Number of Investments	93
Total Commitments	4,752.8
Unfunded Commitments	739.0
Total Paid-In Capital	4,315.2
Total Distributions	3,746.8
Net Asset Value	2,674.4
Gross Asset Value	4,021.2
DPI	0.9x
TVPI	1.5x
Since Inception IRR	6.7%

*\*Active and Liquidated*

PORTFOLIO COMPOSITION TARGETS (As of September 30, 2024)		
	Target	Actual Funded
<b>Target Real Asset Allocation</b>	15%	11.7%
<b>Portfolio Style Composition</b>		
<b>Real Estate</b>	8%	6.7%
<b>Core*</b>	50%-70%	53.5%
<b>Non-Core</b>	30%-50%	46.5%
<b>Value-Added**</b>	N/A	26.5%
<b>Opportunistic**</b>	N/A	20.0%
<b>Agriculture</b>	1%	1.1%
<b>Timber</b>	2%	1.6%
<b>Infrastructure</b>	4%	2.3%
<b>Leverage</b>	50%	33.5%

RISK MANAGEMENT						
<b>Property Type - Real Estate</b>	<b>NFI-ODCE</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Actual</b>	<b>Compliant?</b>
Office	16.90	NFI-ODCE +/- 50%	8.45	25.35	16.03	Yes
Retail	10.90	NFI-ODCE +/- 50%	5.45	16.35	6.94	Yes
Industrial	33.90	NFI-ODCE +/- 50%	16.95	50.85	31.42	Yes
Apartment	29.30	NFI-ODCE +/- 50%	14.65	43.95	31.39	Yes
Other	9.00	20%	0.00	20.00	14.22	Yes
<b>Geography - Real Estate</b>	<b>NFI-ODCE</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Actual</b>	<b>Compliant?</b>
West	43.70	NFI-ODCE +/- 50%	21.85	65.55	45.18	Yes
East	29.00	NFI-ODCE +/- 50%	14.50	43.50	24.90	Yes
Midwest	5.80	NFI-ODCE +/- 50%	2.90	8.70	7.45	Yes
South	21.50	NFI-ODCE +/- 50%	10.75	32.25	12.63	Yes
Other2,3	0.00	n/a	n/a	n/a	2.79	Yes
Non-U.S.	0.00	40%	0.00	40.00	7.05	Yes
<b>Geography - Timber</b>	<b>NCREIF Timberland</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Actual</b>	<b>Compliant?</b>
Lake States	3.81	0%-20%	0.00	20.00	0.00	Yes
Northeast	4.64	0%-20%	0.00	20.00	0.97	Yes
Northwest	26.96	0%-50%	0.00	50.00	15.61	Yes
South	63.97	40%-80%	40.00	80.00	73.05	Yes
Other	0.00	0%-20%	0.00	20.00	10.37	Yes
<b>Geography - Agriculture</b>	<b>NCREIF Farmland</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Actual</b>	<b>Compliant?</b>
Appalachian	0.67		0.00	50.00	0.00	Yes
Corn Belt	10.88		0.00	50.00	10.13	Yes
Delta States	19.89		0.00	50.00	37.29	Yes
Lake States	2.68		0.00	50.00	16.48	Yes
Mountain	8.54		0.00	50.00	13.03	Yes
Northeast	0.00		0.00	50.00	0.00	Yes
Northern Plains	2.06		0.00	50.00	1.56	Yes
Pacific Northwest	8.11		0.00	50.00	4.51	Yes
Pacific West	39.50		0.00	50.00	8.08	Yes
Southeast	5.67		0.00	50.00	6.93	Yes
Southern Plains	1.93		0.00	50.00	2.00	Yes
Other	0.00		0.00	50.00	0.00	Yes
Non-U.S.	0.00		0.00	50.00	0.00	Yes
<b>Geography - Infrastructure</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Actual</b>	<b>Compliant?</b>	
U.S.		40.00	100.00	43.49	Yes	
Non-U.S.		0.00	60.00	56.51	Yes	
<b>Asset Type - Infrastructure</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Actual</b>	<b>Compliant?</b>	
Energy/Utilities		0.00	70.00	49.69	Yes	
Transportation		0.00	70.00	29.79	Yes	
Social		0.00	70.00	3.85	Yes	
Communications		0.00	70.00	12.19	Yes	
Other		0.00	70.00	4.47	Yes	
<b>Manager</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Max</b>	<b>Compliant?</b>	
		0.00	30.00	14.06	Yes	
<b>Style - Real Estate</b>	<b>Target/Constraint</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Actual</b>	<b>Compliant?</b>	
Core		50.00	70.00	53.46	Yes	
Non-Core		30.00	50.00	46.54	Yes	

As of 12/31/2024 (9/30/24 for Illiquid Asset Classes)

	Actual	Interim Target**	Difference (Actual vs. Interim)	Long-Term Target	Difference* (Actual vs. Long-Term)	Range***
<b>Total Equity</b>	50.1%	51.2%	-1.1%	48.0%	2.1%	43 - 53%
<b>Fixed Income</b>	20.1%	20.0%	0.1%	20.0%	0.1%	18 - 22%
<b>Opportunistic/Alternatives</b>	5.0%	5.1%	0.0%	5.0%	0.0%	NA
<b>Real Assets<sup>1</sup></b>	11.7%	11.8%	0.0%	15.0%	-3.3%	NA
<i>Real Estate</i>	6.7%	7.8%	-1.1%	8.0%	-1.3%	NA
<i>Core RE</i>	3.6%	4.7%	-1.1%	4.8%	-1.2%	4.0 - 5.6%
<i>Non-Core</i>	3.1%	3.1%	0.0%	3.2%	-0.1%	2.4 - 4.0%
<i>Agriculture</i>	1.1%	1.6%	-0.5%	1.0%	0.1%	NA
<i>Timber</i>	1.6%	0.8%	0.8%	2.0%	-0.4%	NA
<i>Infrastructure<sup>1</sup></i>	2.3%	1.6%	0.7%	4.0%	-1.7%	NA
<b>Private Equity</b>	12.9%	12.0%	0.9%	12.0%	0.9%	NA
<b>Cash</b>	0.2%	0.0%	0.2%	0.0%	0.2%	0 - 5%
	100.0%	100.0%	--	100.0%	--	--

\* Uninvested assets/commitments for the Opportunistic, Real Assets and Private Equity asset classes are invested in public equities.

\*\* The interim target reflects the beginning period actual allocation to this asset class

\*\*\* The actual allocation to equity may exceed the range to account for uninvested assets/commitments for the Opportunistic, Real Assets and Private Equity Asset Classes

<sup>1</sup>Real Estate and Infrastructure updated targets were approved on December 2, 2024. The targets were revised from 10% Real Estate and 2% Infrastructure.

Real Assets Breakdown	Absolute	%	2024 Pacing Commitment		Commitment Progress (\$M)
				(\$M)	As of 9/30/2024
Real Estate	8%	66.7%		\$400	\$100
<i>Core</i>	5-7%	50-70%		\$250	\$0
<i>Non-Core</i>	3-5%	30-50%		\$150	\$100
<i>Ag</i>	1%	6.7%		\$0	\$0
<i>Timber</i>	2%	13.3%		\$0	\$0
<i>Infrastructure</i>	4%	13.3%		\$50	\$100
<b>Total Real Assets</b>	<b>15%</b>	<b>100.0%</b>	<b>\$</b>	<b>450</b>	<b>\$ 200</b>



## EMPOWERING ENTREPRENEURS

January 21, 2025

Mr. Mark White  
Executive Director  
Arkansas Teacher Retirement System  
1400 West Third Street  
Little Rock, AR 72201

Re: Update for Highland LP Investment

Dear Mr. White:

As a consultant to Arkansas Teacher Retirement System ("ATRS"), Arkansas Capital Corporation ("ACC") delivers this letter as an update related to prior ATRS investments into Highland LP.

### **Background**

Highland LP (the "Fund") invests in biomass-related industries in the United States. The Fund owns, directly or through subsidiaries, Highland LLC, Highland Pellets Holdco LLC, Highland Pellets Subholdco LLC, Highland Pellets, LLC, Highland Port LLC, Highland Pellets South LLC, and Highland FR LLC.

Highland Pellets, LLC is the main operational asset of the Fund. It owns two wood pellet production plants in Pine Bluff, Arkansas, which produce pellets under offtake agreements for a major UK utility customer (through 2026) and a major Danish utility customer (through 2027). Highland Port LLC owns approximately 54 acres of development property at the Port of Pine Bluff. Highland Pellets South LLC owns approximately 350 acres of development property in Ogemaw, Arkansas.

On January 14, 2025, ACC staff met with senior management of Highland Pellets to receive general updates on the companies operational and financial progress and discussed a site visit of the facility.

Highland Pellets, LLC continues to see operational improvements with increasing production levels. During our last update on September 17, 2024, the company was focused on achieving target production of 50,000 tonnes per month and the consultant believed by the end of Q4 2024 that goal would be achievable, and it would be possible to sustain that production level for 2025. These improvements in



Mr. Mark White  
Re: Transactions Related to Highland LP Fund  
January 21, 2025  
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stable production at higher levels are expected to generate cash flow improvements.

The company has continued to make progress on operating at higher production levels with December seeing production of 48,969 tonnes for their main facility (target 50,000 tonnes). Management believes they can maintain these production levels consistently at the larger facility. The operations side does appear to be making progress on the maintenance issues that were the root cause of missing production targets. The company implemented the consultants' recommendations to stay ahead of maintenance issues before they impact production. Personnel and policy changes made in the past year appear to have helped improve production and managing maintenance issues.

Highland FR acquired the property, plant and equipment of another Pine Bluff based production facility in September 2023 to begin producing wood pellets for retail customers and entered into a long-term agreement with a Danish company to purchase substantially all of the plants production through 2027. The facility production capacity is 150,000 tonnes per year (81,841 tonnes produced through December) and they have continued shipping products from this facility to their customer. Management has been satisfied with the results of this facility to date and focused on getting the production output closer to the plant's 150,000 tonne capacity following the last capex improvement works completed in December 2024.

Highland Pellets, LLC has an offtake agreement through 2026. The company is currently negotiating for an offtake agreement for post 2026. The new offtake agreement would utilize full production of the facility and provide cash flow improvements. Delays in the offtake agreement execution are largely due to UK policy decision making. The company is still awaiting decisions on carbon capture public policy in the UK which has been delayed a few months. The company anticipates this will be resolved in the next 3 to 4 months.

Management has been able to pay down debt and settle outstanding legal claims resulting in some financial savings. The company appears to be generating tangible progress on operational improvements, and management believes they have a pathway for refinancing of debt and/or an equity raise targeting the 3<sup>rd</sup> quarter of 2025. They remain in discussions with capital providers on a variety of financing options. The main drivers for future capital raises continue to be executing the offtake agreement for post 2026 production which is pending UK government action (expected in 3-4 months) and at least 4 consecutive months of stable production at

Mr. Mark White  
Re: Transactions Related to Highland LP Fund  
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the higher production levels. The company continues to work on these points and the major debt provider appears to remain patient and has extended their forbearance agreement through 2025.

The company is reviewing incentives to further align the company's production output to employees' compensation so that there is an alignment of interests between the people, the procedures to keep the facility properly maintained, and the production output.

Lastly, management has identified cost savings in fiber mix and repair and maintenance expenses totaling \$11m dollars at Highland Pellets and \$2m at Highland FR LLC. This, in addition to higher production/revenue, should result in EBITDA results that allow for debt service and a profitable operation. The company provided unaudited financials indicate improvements in cash flow were achieved during the second half of 2024.



Arkansas Teacher Retirement System  
Private Equity Portfolio Review  
Third Quarter 2024

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## Portfolio Overview

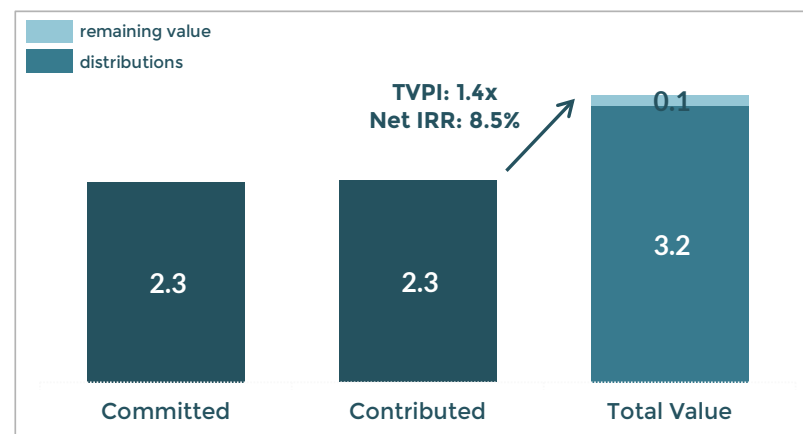
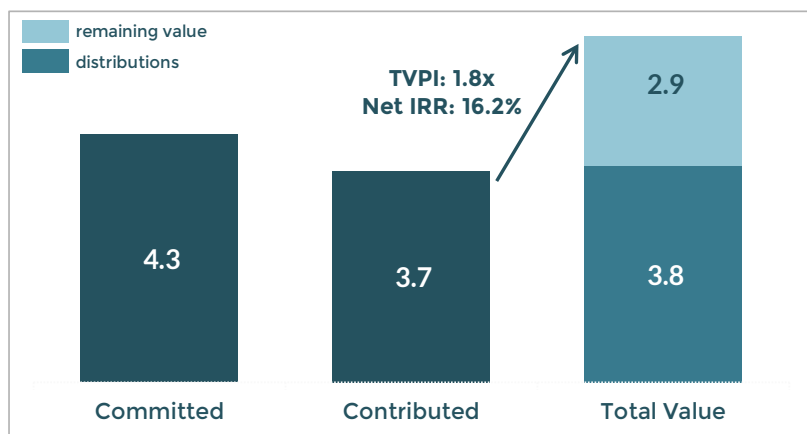
The Post 2006 Fund Portfolio has generated a net IRR of 16.2% as of September 30, 2024

### Post 2006 Fund Portfolio

Inception	2007
Total Commitments	\$4.3 billion
Number of Funds	128
% Contributed/Committed	85%
% Distributed/Contributed	102%

### Rest of Portfolio

Inception	1996
Total Commitments	\$2.3 billion
Number of Investments	29
% Contributed/Committed	101%
% Distributed/Contributed	137%



Notes:

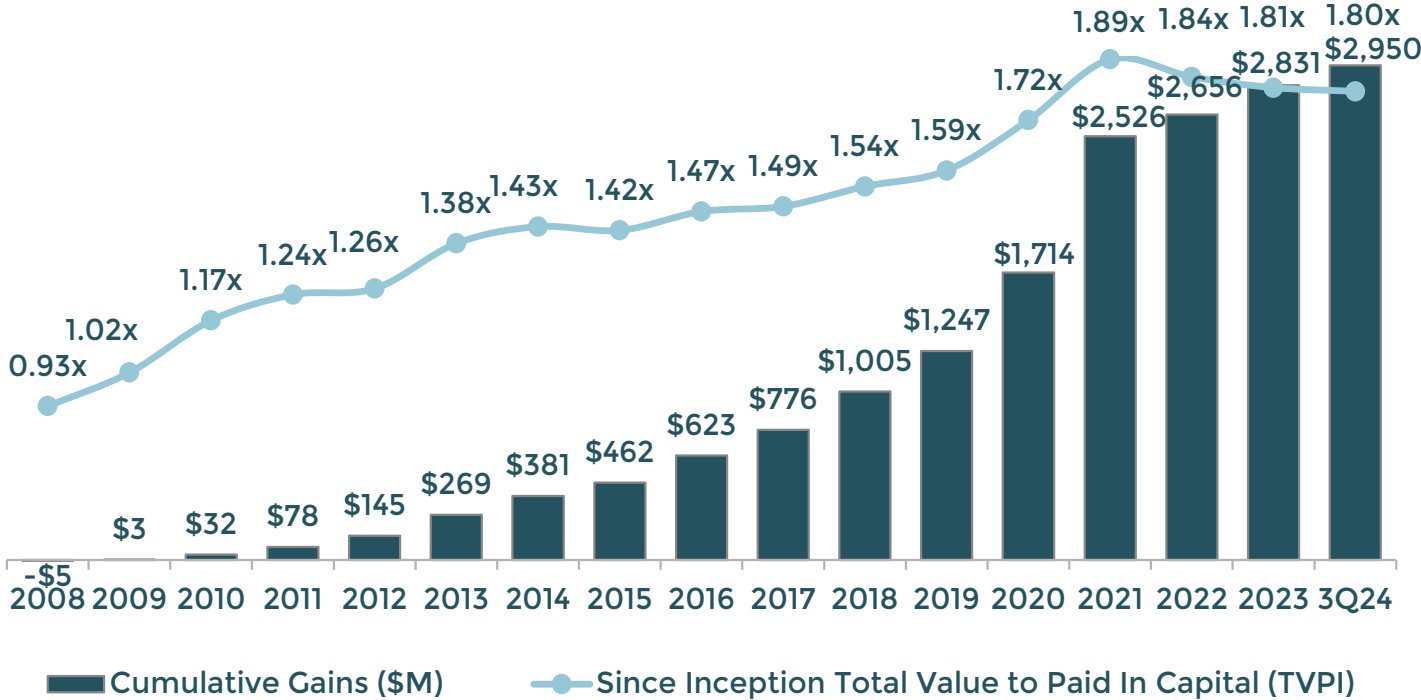
(1) Data as of September 30, 2024. \$Billions

(2) Performance information is net of portfolio funds' management fees, expenses and carried interest, but gross of fees and expenses paid to Franklin Park.

(3) TVPI = total value to paid-in multiple, or remaining value plus distributions divided by contributed capital.

# Post 2006 Fund Portfolio Performance Summary

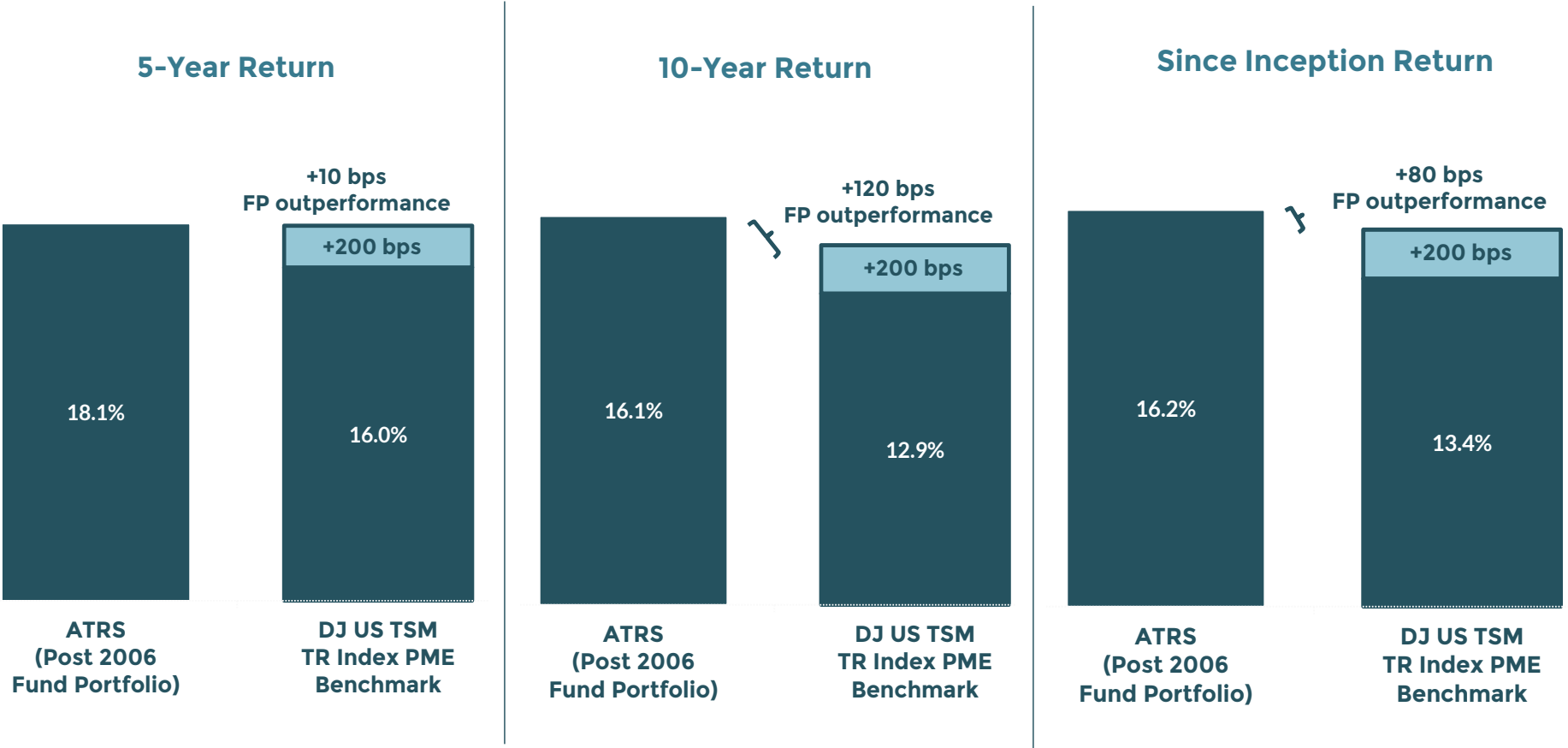
The portfolio since 2006 has generated cumulative gains of \$2.95 billion since inception



Notes:  
 (1) Performance data is net of portfolio funds' management fees, expenses and carried interest, but gross of fees and expenses paid to Franklin Park.  
 (2) Cumulative gains represent total distributions plus remaining value less total contributions. \$ Millions.

# Post 2006 Fund Portfolio Benchmarking

The portfolio since 2006 has exceeded the benchmark in the 5-Year, 10-Year and Since Inception periods



Notes:  
 (1) Data as of September 30, 2024  
 (2) Performance data is net of portfolio funds' management fees, expenses and carried interest; but gross of fees and expenses paid to Franklin Park.  
 (3) The public market equivalent (PME) represents the performance of a public market index expressed in terms of an IRR, using the same cash flows and timing as the investor's investment activity in private equity; the PME serves as a proxy for the return ATRS could have achieved by investing in the public market. The PME return assumes cash flows are invested at the end of each day.

## Post 2006 Fund Portfolio Breakdown

ATRS makes commitments directly to funds as well as through specialized vehicles managed by Franklin Park

Strategy	Method of Access	% of Post-2006 Portfolio Exposure	ATRS Net IRR 9/30/24
U.S. corporate finance (core funds)	Direct Commitments	57.3%	15.7%
U.S. corporate finance (smaller funds)	Franklin Park Corporate Finance Access Funds	5.2%	18.7%
Corporate finance (co-investments)	Franklin Park Co-Investment Funds & ATRS/FP	15.7%	18.5%
Non-U.S. corporate finance	Franklin Park International Funds	7.8%	10.6%
Global Venture Capital (all stage)	Franklin Park Venture Capital Funds	14.0%	19.2%
<b>Total</b>		<b>100.0%</b>	<b>16.2%</b>

*Notes:*

(1) Data as of September 30, 2024

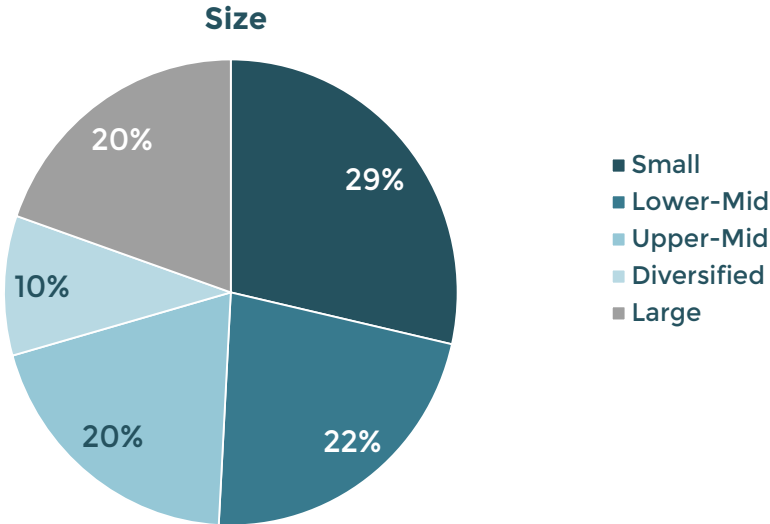
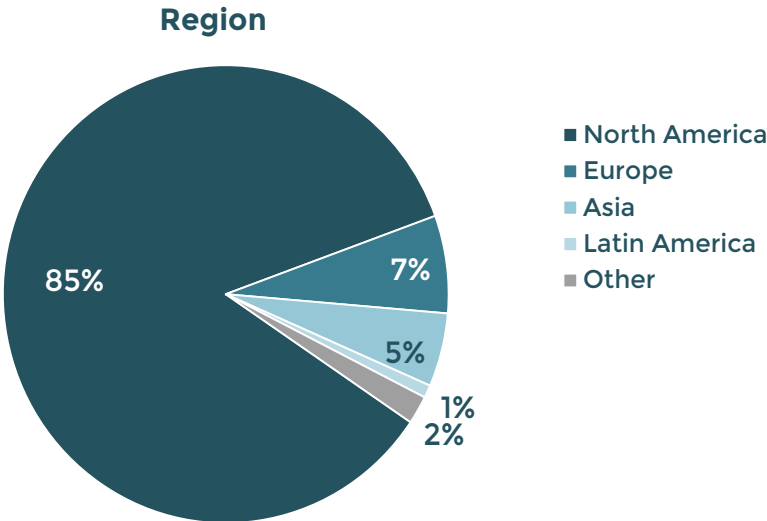
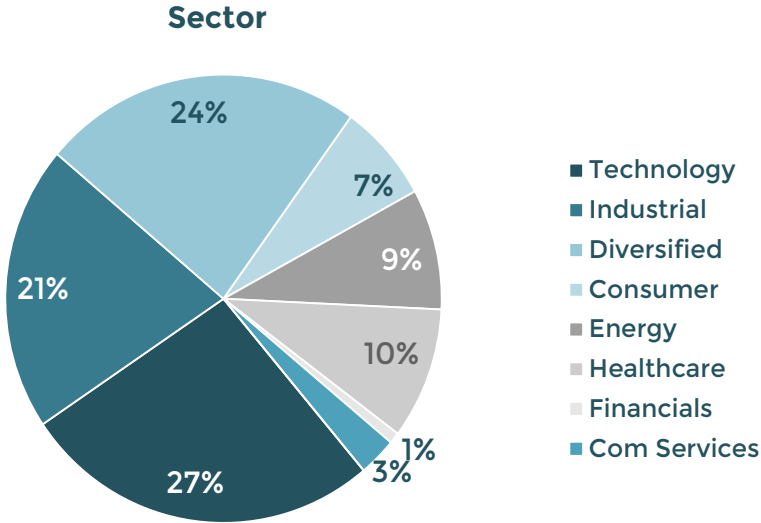
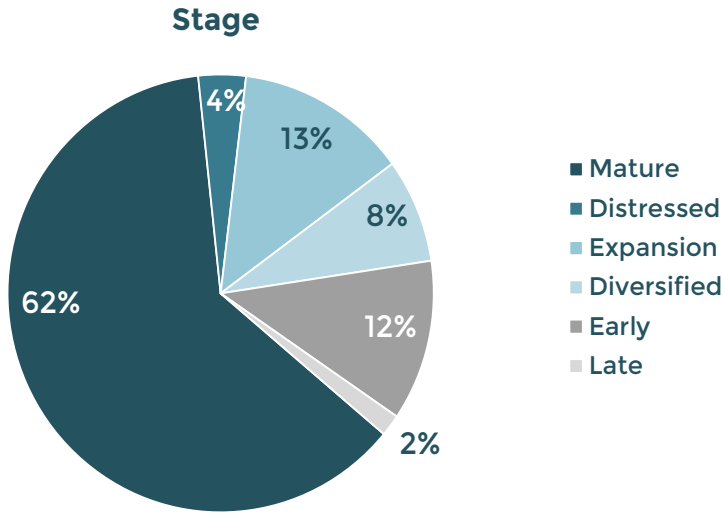
(2) Performance data for all Franklin Park-managed funds are net of portfolio funds' management fees, expenses and carried interest, as well as fees and expenses paid to Franklin Park by the managed funds.

(3) Performance data for core funds (Direct Commitments) is net of portfolio funds' management fees, expenses and carried interest, but gross of fees and expenses paid to Franklin Park.



# Portfolio Composition

The aggregate portfolio is diversified by stage, sector, region and size as expected



Note: Data is as of September 30, 2024, and based on unrealized value of holdings as reported by portfolio fund managers. Values are estimated based on the investor's percent interest in each fund's portfolio holdings. Values are converted to USD where applicable, as of September 30, 2024.

## 2025 Commitment Plan

### Progress of commitment plan to date

Investment	Strategy	Region	ATRS Commitment	Board Approval
Fund 1	Buyout, Growth, Turnaround	U.S.	\$40m	TBD
Fund 2	Buyout, Growth, Turnaround	U.S.	\$40m	TBD
Fund 3	Buyout, Growth, Turnaround	U.S.	\$40m	TBD
Fund 4	Buyout, Growth, Turnaround	U.S.	\$40m	TBD
Fund 5	Buyout, Growth, Turnaround	U.S.	\$40m	TBD
Fund 6	Buyout, Growth, Turnaround/Debt	U.S.	\$40m	TBD
Fund 7	Buyout, Growth, Turnaround/Debt	U.S.	\$40m	TBD
FP CF Access III	Buyout/Growth/Turnaround	U.S.	\$40m	Feb 2025*
FP Venture XV	Early Stage VC	U.S./Non-U.S.	\$40m	TBD
FP Venture Opps II	Mid/Late Stage VC	U.S./Non-U.S.	\$40m	TBD
<b>Total</b>			<b>\$400m</b>	

\* FP CF Access III is to be presented for approval at the February 2025 ATRS IC and board meetings.

# Arkansas Teacher Retirement System Private Equity Portfolio Review

September 30, 2024

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## Portfolio Overview

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## Portfolio Summary



Group	Num.	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	Remaining Value (%)	Exposure (\$)	DPI	TVPI	Net IRR
<b>By Vehicle</b>											
1996-2000: Legacy Portfolio	13	1,106,390,461	1,070,676,238	0	1,641,243,527	0	0.0%	0	1.5 x	1.5 x	9.2%
2005-2006: CSFB Portfolio	2	654,300,000	690,134,581	63,149,115	1,087,576,661	32,325,751	1.1%	95,474,866	1.6 x	1.6 x	8.9%
Post 2006 Fund Portfolio	128	4,298,323,718	3,667,005,690	1,300,157,754	3,754,145,924	2,863,069,400	95.9%	4,163,227,154	1.0 x	1.8 x	16.2%
Big River Steel	8	257,880,449	257,940,356	0	430,039,782	1,863,004	0.1%	1,863,004	1.7 x	1.7 x	14.4%
Blue Oak Arkansas	1	18,000,000	19,740,000	0	5,385,136	0	0.0%	0	0.3 x	0.3 x	-34.8%
Highland LLC	3	258,244,727	274,114,727	0	31,674,525	16,938,440	0.6%	16,938,440	0.1 x	0.2 x	-61.8%
GTLA Holdings	1	20,700,000	20,700,000	0	0	70,000,000	2.3%	70,000,000	0.0 x	3.4 x	22.6%
Hybar LLC	1	206,200	206,200	0	129,200	200,500	0.0%	200,500	0.6 x	1.6 x	68.9%
<b>Total</b>	<b>157</b>	<b>6,614,045,555</b>	<b>6,000,517,793</b>	<b>1,363,306,869</b>	<b>6,950,194,754</b>	<b>2,984,397,094</b>	<b>100.0%</b>	<b>4,347,703,963</b>	<b>1.2 x</b>	<b>1.7 x</b>	<b>11.1%</b>
<b>By Fund Type</b>											
Co-Investment Fund	2	388,823,718	476,198,925	214,598,816	436,213,561	438,978,590	14.7%	653,577,406	0.9 x	1.8 x	18.5%
Fund-of-Funds	32	1,744,300,000	1,376,838,577	488,605,829	1,696,433,288	771,872,336	25.9%	1,260,478,165	1.2 x	1.8 x	11.2%
Operating Company	14	555,031,376	572,701,284	0	467,228,642	89,001,944	3.0%	89,001,944	0.8 x	1.0 x	-1.1%
Primary Fund	109	3,925,890,461	3,574,779,007	660,102,224	4,350,319,263	1,684,544,225	56.4%	2,344,646,449	1.2 x	1.7 x	11.2%
<b>Total</b>	<b>157</b>	<b>6,614,045,555</b>	<b>6,000,517,793</b>	<b>1,363,306,869</b>	<b>6,950,194,754</b>	<b>2,984,397,094</b>	<b>100.0%</b>	<b>4,347,703,963</b>	<b>1.2 x</b>	<b>1.7 x</b>	<b>11.1%</b>

## Portfolio Summary



Group	Num.	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	Remaining Value (%)	Exposure (\$)	DPI	TVPI	Net IRR
<b>By Strategy</b>											
Buyout	82	3,242,390,461	2,759,937,062	745,260,861	3,195,787,578	1,584,933,435	53.1%	2,330,194,296	1.2 x	1.7 x	11.7%
Distressed Debt	3	100,000,000	93,881,464	37,207,326	118,684,109	16,376,593	0.5%	53,583,919	1.3 x	1.4 x	6.5%
Growth Equity	4	150,000,000	114,004,590	39,253,511	255,327,348	33,438,437	1.1%	72,691,948	2.2 x	2.5 x	20.6%
Hard Assets	13	586,444,727	615,400,353	11,972,874	362,871,806	224,240,712	7.5%	236,213,585	0.6 x	1.0 x	-1.3%
Infrastructure	9	271,086,649	272,882,870	0	427,328,827	2,063,504	0.1%	2,063,504	1.6 x	1.6 x	12.3%
Mezzanine	8	315,000,000	232,977,734	29,405,101	248,569,218	61,272,090	2.1%	90,677,191	1.1 x	1.3 x	10.2%
Multi-Strategy	6	974,123,718	1,182,676,973	203,779,715	1,559,394,456	416,361,917	14.0%	620,141,632	1.3 x	1.7 x	9.1%
Special Assets	1	30,000,000	31,905,954	2,090,420	9,767,652	31,318,318	1.0%	33,408,738	0.3 x	1.3 x	10.7%
Structured Capital	6	180,000,000	143,681,422	63,511,593	103,465,437	86,227,502	2.9%	149,739,095	0.7 x	1.3 x	11.5%
Turnaround	9	240,000,000	199,373,975	63,393,779	226,213,254	114,098,489	3.8%	177,492,268	1.1 x	1.7 x	15.6%
Venture Capital	16	525,000,000	353,795,396	167,431,689	442,785,069	414,066,098	13.9%	581,497,787	1.3 x	2.4 x	19.2%
<b>Total</b>	<b>157</b>	<b>6,614,045,555</b>	<b>6,000,517,793</b>	<b>1,363,306,869</b>	<b>6,950,194,754</b>	<b>2,984,397,094</b>	<b>100.0%</b>	<b>4,347,703,963</b>	<b>1.2 x</b>	<b>1.7 x</b>	<b>11.1%</b>
<b>By Sub-Asset Class</b>											
Corporate Finance	127	5,534,014,179	5,074,021,113	1,195,875,180	6,040,181,043	2,481,329,053	83.1%	3,677,204,233	1.2 x	1.7 x	11.1%
Direct Investments	14	555,031,376	572,701,284	0	467,228,642	89,001,944	3.0%	89,001,944	0.8 x	1.0 x	-1.1%
Venture Capital	16	525,000,000	353,795,396	167,431,689	442,785,069	414,066,098	13.9%	581,497,787	1.3 x	2.4 x	19.2%
<b>Total</b>	<b>157</b>	<b>6,614,045,555</b>	<b>6,000,517,793</b>	<b>1,363,306,869</b>	<b>6,950,194,754</b>	<b>2,984,397,094</b>	<b>100.0%</b>	<b>4,347,703,963</b>	<b>1.2 x</b>	<b>1.7 x</b>	<b>11.1%</b>

- Remaining Value is defined as the investor's value as reported by the fund's manager.
- Exposure is defined as the sum of the investor's Remaining Value plus Unfunded Commitment.
- DPI is the ratio of Distributed Capital to Contributed Capital.
- TVPI is the ratio of Distributed Capital plus Remaining Value to Contributed Capital.
- Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Remaining Value as of the Report Date, net of fees and expenses, including late closing interest.
- Results include fully liquidated investments (if applicable).
- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date.

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# Performance Analysis

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## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>1996</b>								
HMTF III *	Buyout	76,743,018	76,799,039	0	87,834,289	0	1.1 x	1.8%
<b>Total 1996</b>		<b>76,743,018</b>	<b>76,799,039</b>	<b>0</b>	<b>87,834,289</b>	<b>0</b>	<b>1.1 x</b>	<b>1.8%</b>
<b>1997</b>								
Doughty Hanson III *	Buyout	100,000,000	99,374,207	0	197,482,184	0	2.0 x	13.5%
<b>Total 1997</b>		<b>100,000,000</b>	<b>99,374,207</b>	<b>0</b>	<b>197,482,184</b>	<b>0</b>	<b>2.0 x</b>	<b>13.5%</b>
<b>1998</b>								
HMTF IV *	Buyout	100,000,000	98,010,015	0	67,130,479	0	0.7 x	-6.1%
Second Cinven *	Buyout	65,281,010	65,281,010	0	104,700,661	0	1.6 x	9.3%
<b>Total 1998</b>		<b>165,281,010</b>	<b>163,291,025</b>	<b>0</b>	<b>171,831,140</b>	<b>0</b>	<b>1.1 x</b>	<b>0.9%</b>
<b>1999</b>								
Blackstone Mezzanine I *	Mezzanine	100,000,000	73,353,517	0	96,729,026	0	1.3 x	10.2%
Cypress MBP II *	Buyout	50,000,000	52,304,562	0	50,857,200	0	1.0 x	-0.5%
Diamond State *	Multi-Strategy	2,000,000	2,000,000	0	3,097,200	0	1.5 x	5.5%
DLJ Investment II *	Mezzanine	80,000,000	43,611,022	0	60,468,989	0	1.4 x	10.4%
Oak Hill I *	Buyout	50,000,000	50,786,497	0	91,264,962	0	1.8 x	10.6%
<b>Total 1999</b>		<b>282,000,000</b>	<b>222,055,598</b>	<b>0</b>	<b>302,417,377</b>	<b>0</b>	<b>1.4 x</b>	<b>7.7%</b>
<b>2000</b>								
21st Century Group I *	Buyout	25,000,000	27,141,173	0	22,841,928	0	0.8 x	-3.8%
DH Tech I *	Multi-Strategy	50,000,000	61,471,034	0	21,987,447	0	0.4 x	-16.5%
DLJ MBP III *	Buyout	200,000,000	215,345,711	0	458,746,671	0	2.1 x	19.4%
HMTF V *	Buyout	207,366,433	205,198,451	0	378,102,491	0	1.8 x	17.6%
<b>Total 2000</b>		<b>482,366,433</b>	<b>509,156,369</b>	<b>0</b>	<b>881,678,537</b>	<b>0</b>	<b>1.7 x</b>	<b>14.8%</b>
<b>2005</b>								
CSFB-ATRS 2005-1 Series	Multi-Strategy	250,000,000	277,788,144	10,753,678	414,962,130	14,513,900	1.5 x	7.5%
<b>Total 2005</b>		<b>250,000,000</b>	<b>277,788,144</b>	<b>10,753,678</b>	<b>414,962,130</b>	<b>14,513,900</b>	<b>1.5 x</b>	<b>7.5%</b>

## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>2006</b>								
Boston Ventures VII	Buyout	50,000,000	43,016,769	8,258,947	48,914,085	843,411	1.2 x	2.6%
CSFB-ATRS 2006-1 Series	Multi-Strategy	404,300,000	412,346,437	52,395,437	672,614,531	17,811,851	1.7 x	10.1%
<b>Total 2006</b>		<b>454,300,000</b>	<b>455,363,206</b>	<b>60,654,384</b>	<b>721,528,616</b>	<b>18,655,262</b>	<b>1.6 x</b>	<b>9.4%</b>
<b>2007</b>								
Diamond State II	Multi-Strategy	4,000,000	3,517,000	483,000	11,617,000	649,291	3.5 x	12.3%
NGP IX	Hard Assets	50,000,000	54,229,094	201,825	77,660,463	4,358	1.4 x	10.8%
Vista Equity III	Buyout	50,000,000	54,395,135	3,835,547	131,285,918	2,458,371	2.5 x	28.5%
<b>Total 2007</b>		<b>104,000,000</b>	<b>112,141,229</b>	<b>4,520,372</b>	<b>220,563,381</b>	<b>3,112,020</b>	<b>2.0 x</b>	<b>20.4%</b>
<b>2008</b>								
Advent GPE VI-A	Buyout	40,000,000	40,167,228	0	80,492,730	3,214,001	2.1 x	16.4%
FP Venture 2008	Venture Capital	30,000,000	30,000,000	298,834	79,155,724	14,452,144	3.1 x	17.5%
LLR III	Growth Equity	50,000,000	48,504,590	4,357,033	108,800,951	342,391	2.3 x	16.5%
<b>Total 2008</b>		<b>120,000,000</b>	<b>118,671,818</b>	<b>4,655,867</b>	<b>268,449,405</b>	<b>18,008,536</b>	<b>2.4 x</b>	<b>16.7%</b>
<b>2009</b>								
FP Venture 2009	Venture Capital	25,000,000	24,650,862	722,201	54,532,997	7,115,377	2.5 x	16.6%
Insight Equity II	Turnaround	30,000,000	31,028,312	884,343	42,854,623	5,675,775	1.6 x	8.0%
Insight Mezzanine I	Mezzanine	10,000,000	9,971,470	479,507	11,860,178	2,076,775	1.4 x	6.5%
KPS III Supplemental *	Turnaround	40,000,000	37,785,704	0	80,540,979	0	2.1 x	22.8%
Riverside IV *	Buyout	40,000,000	31,433,665	0	74,838,992	0	2.4 x	21.3%
<b>Total 2009</b>		<b>145,000,000</b>	<b>134,870,013</b>	<b>2,086,051</b>	<b>264,627,769</b>	<b>14,867,927</b>	<b>2.1 x</b>	<b>16.7%</b>
<b>2010</b>								
Altus Capital II	Buyout	20,000,000	20,436,560	2,714,467	31,904,309	5,222,140	1.8 x	13.5%
EnCap VIII	Hard Assets	47,500,000	54,152,031	0	38,717,540	17,208,268	1.0 x	0.6%
FP Venture 2010	Venture Capital	25,000,000	16,187,500	1,566,055	24,813,446	23,516,044	3.0 x	14.8%
Mason Wells III *	Buyout	30,000,000	28,553,580	0	86,225,697	0	3.0 x	20.6%
TA XI	Growth Equity	40,000,000	39,400,000	600,000	144,526,273	4,753,104	3.8 x	26.7%
Tennenbaum VI	Distressed Debt	40,000,000	38,075,687	32,716,981	53,999,291	162,551	1.4 x	7.3%
<b>Total 2010</b>		<b>202,500,000</b>	<b>196,805,358</b>	<b>37,597,503</b>	<b>380,186,556</b>	<b>50,862,107</b>	<b>2.2 x</b>	<b>15.4%</b>

## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>2011</b>								
Audax Mezzanine III	Mezzanine	25,000,000	25,962,085	6,675,000	33,085,160	1,369,047	1.3 x	9.7%
Castlelake II	Distressed Debt	35,000,000	32,656,036	2,625,461	39,522,275	7,231,679	1.4 x	5.9%
FP Intl 2011	Buyout	25,000,000	23,611,111	1,924,302	30,836,171	11,004,578	1.8 x	9.8%
FP Venture 2011	Venture Capital	25,000,000	24,946,429	399,726	137,673,627	28,126,848	6.6 x	34.1%
JF Lehman III	Buyout	39,000,000	49,474,799	204,884	52,405,737	26,264,684	1.6 x	10.6%
Wellspring V	Buyout	40,000,000	46,519,845	13,745,308	67,847,674	12,960,118	1.7 x	16.0%
Wicks IV	Buyout	40,000,000	43,050,453	3,757,221	88,101,911	7,367,271	2.2 x	20.8%
<b>Total 2011</b>		<b>229,000,000</b>	<b>246,220,758</b>	<b>29,331,902</b>	<b>449,472,555</b>	<b>94,324,225</b>	<b>2.2 x</b>	<b>16.8%</b>
<b>2012</b>								
ATRS-FP PE	Multi-Strategy	263,823,718	425,554,358	140,147,600	435,116,148	383,386,875	1.9 x	18.6%
BV VIII	Buyout	30,000,000	27,933,054	2,348,133	54,778,564	8,640,554	2.3 x	44.1%
Court Square III	Buyout	40,000,000	45,022,583	1,199,811	77,867,810	31,471,104	2.4 x	20.9%
DW Healthcare III	Buyout	40,000,000	37,138,408	2,861,592	77,701,910	1,410,653	2.1 x	19.0%
FP Intl 2012	Buyout	25,000,000	17,607,143	7,721,993	18,408,702	4,875,982	1.3 x	6.1%
FP Venture 2012	Venture Capital	25,000,000	22,515,625	2,758,373	45,613,360	26,949,882	3.2 x	19.3%
NGP X	Hard Assets	35,000,000	36,623,245	70,485	33,350,506	3,144,932	1.0 x	-0.1%
<b>Total 2012</b>		<b>458,823,718</b>	<b>612,394,416</b>	<b>157,107,987</b>	<b>742,837,000</b>	<b>459,879,982</b>	<b>2.0 x</b>	<b>17.8%</b>
<b>2013</b>								
EnCap IX	Hard Assets	25,000,000	28,785,857	972,514	38,038,597	5,479,271	1.5 x	10.8%
FP Intl 2013	Buyout	20,000,000	14,515,464	5,700,007	9,498,340	13,280,242	1.6 x	7.0%
FP Venture 2013	Venture Capital	20,000,000	18,528,736	1,656,403	33,520,144	30,512,340	3.5 x	22.2%
Levine Leichtman V	Structured Capital	20,000,000	28,041,672	2,968,199	53,758,393	853,180	1.9 x	17.2%
Riverside V	Buyout	35,000,000	37,668,888	1,308,498	46,375,254	24,507,957	1.9 x	12.2%
Vista Foundation II	Buyout	15,000,000	17,140,578	5,994,058	25,854,133	6,317,829	1.9 x	13.8%
<b>Total 2013</b>		<b>135,000,000</b>	<b>144,681,195</b>	<b>18,599,679</b>	<b>207,044,861</b>	<b>80,950,819</b>	<b>2.0 x</b>	<b>14.3%</b>

## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>2014</b>								
Atlas Capital II	Turnaround	15,000,000	22,313,168	4,282,425	33,507,539	7,653,304	1.8 x	19.2%
Big River - Equity	Infrastructure	151,090,000	151,090,000	0	296,427,836	1,863,004	2.0 x	15.0%
Big River - Mezzanine *	Mezzanine	5,000,000	5,003,686	0	8,225,290	0	1.6 x	17.3%
Blue Oak Arkansas *	Infrastructure	18,000,000	19,740,000	0	5,385,136	0	0.3 x	-34.8%
Castlelake III	Distressed Debt	25,000,000	23,149,741	1,864,884	25,162,543	8,982,363	1.5 x	6.4%
FP Intl 2014	Buyout	25,000,000	18,389,175	6,839,145	17,242,688	13,071,819	1.6 x	11.7%
FP Venture 2014	Venture Capital	25,000,000	24,005,376	1,207,405	28,790,653	43,405,820	3.0 x	17.9%
KPS IV	Turnaround	25,000,000	22,169,590	4,185,449	35,525,659	11,211,456	2.1 x	23.1%
Lime Rock Resources III	Hard Assets	25,000,000	25,868,274	28,346	17,328,278	18,170,246	1.4 x	4.0%
NGP XI	Hard Assets	30,000,000	30,908,097	947,387	37,220,664	12,357,522	1.6 x	10.0%
Sycamore Partners II	Turnaround	25,000,000	23,853,852	2,272,890	13,705,544	15,899,389	1.2 x	5.0%
Thoma Bravo XI	Buyout	20,000,000	20,785,558	2,135,646	58,204,339	16,380,362	3.6 x	26.3%
<b>Total 2014</b>		<b>389,090,000</b>	<b>387,276,517</b>	<b>23,763,577</b>	<b>576,726,168</b>	<b>148,995,285</b>	<b>1.9 x</b>	<b>13.0%</b>
<b>2015</b>								
Big River - Sr Secured Debt *	Infrastructure	26,910,000	26,966,221	0	35,699,565	0	1.3 x	14.7%
EnCap X	Hard Assets	30,000,000	31,421,401	1,006,687	43,079,654	21,797,846	2.1 x	16.4%
FP Intl 2015	Buyout	25,000,000	21,548,673	3,630,228	13,180,753	17,106,258	1.4 x	7.8%
FP Venture 2015	Venture Capital	25,000,000	24,015,487	1,176,269	12,762,562	27,814,184	1.7 x	9.2%
Siris III	Buyout	25,000,000	33,804,471	1,368,254	25,586,430	10,623,614	1.1 x	2.5%
<b>Total 2015</b>		<b>131,910,000</b>	<b>137,756,254</b>	<b>7,181,438</b>	<b>130,308,964</b>	<b>77,341,902</b>	<b>1.5 x</b>	<b>10.9%</b>
<b>2016</b>								
American Industrial VI	Buyout	20,000,000	25,482,923	3,099,340	35,797,065	31,900,784	2.7 x	23.3%
Arlington IV	Buyout	23,000,000	25,396,671	766,655	25,617,601	36,252,846	2.4 x	22.1%
DW Healthcare IV	Buyout	30,000,000	30,628,235	900,731	28,157,299	19,052,652	1.5 x	14.2%
FP Intl 2016	Buyout	25,000,000	20,695,876	4,516,697	9,858,880	15,567,608	1.2 x	4.5%
FP Venture 2016	Venture Capital	25,000,000	22,759,146	2,474,189	12,056,318	33,896,575	2.0 x	15.5%
Highland Equity	Hard Assets	66,000,000	81,870,000	0	16,674,525	-200,527,003	-2.2 x	N/A
JF Lehman IV	Buyout	30,000,000	30,057,014	2,469,471	76,720,645	4,962,333	2.7 x	35.0%
PineBridge Structured III	Structured Capital	30,000,000	28,724,946	9,545,478	16,912,151	9,633,935	0.9 x	-2.4%
Thoma Bravo Discover	Buyout	10,000,000	11,411,862	1,705,917	29,623,745	5,898,294	3.1 x	35.0%
Thoma Bravo XII	Buyout	30,000,000	32,733,395	7,380,854	33,981,416	38,324,691	2.2 x	16.1%
Vista Foundation III	Buyout	30,000,000	35,831,228	5,612,970	35,542,977	31,994,609	1.9 x	20.0%
<b>Total 2016</b>		<b>319,000,000</b>	<b>345,591,295</b>	<b>38,472,302</b>	<b>320,942,622</b>	<b>26,957,324</b>	<b>1.0 x</b>	<b>0.2%</b>

## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>2017</b>								
Altaris Constellation	Buyout	20,000,000	16,329,789	5,543,214	25,996,773	23,822,180	3.1 x	24.3%
Big River - Funding *	Infrastructure	3,750,000	3,750,000	0	3,812,795	0	1.0 x	4.3%
Big River - Holdings Note *	Infrastructure	12,000,000	12,000,000	0	13,343,726	0	1.1 x	11.0%
Big River - Preferred Equity *	Infrastructure	41,980,449	41,980,449	0	51,702,368	0	1.2 x	12.5%
Bison V	Structured Capital	35,000,000	40,121,868	2,647,666	31,989,767	25,455,433	1.4 x	12.7%
BV IX	Buyout	30,000,000	30,651,433	5,348,568	36,775,586	33,695,110	2.3 x	28.1%
EnCap XI	Hard Assets	35,000,000	34,026,817	3,316,439	21,189,052	42,114,906	1.9 x	21.4%
FP Intl 2017	Buyout	25,000,000	23,558,674	1,669,224	12,011,440	27,612,728	1.7 x	14.8%
FP Venture 2017	Venture Capital	25,000,000	17,621,681	7,528,629	5,445,962	26,162,761	1.8 x	15.1%
Greyrock IV	Mezzanine	30,000,000	28,919,594	2,216,392	29,662,751	14,753,272	1.5 x	12.6%
NGP XII	Hard Assets	30,000,000	24,570,809	5,429,191	24,612,527	17,024,923	1.7 x	15.1%
One Rock II	Buyout	30,000,000	27,364,015	7,053,505	11,260,894	28,669,551	1.5 x	8.0%
<b>Total 2017</b>		<b>317,730,449</b>	<b>300,895,130</b>	<b>40,752,828</b>	<b>267,803,641</b>	<b>239,310,864</b>	<b>1.7 x</b>	<b>16.4%</b>
<b>2018</b>								
Altaris IV	Buyout	24,000,000	23,814,600	1,907,548	24,433,179	24,556,883	2.1 x	26.0%
Big River - Holdings Note 2023 *	Infrastructure	12,000,000	12,000,000	0	14,582,469	0	1.2 x	5.6%
Big River - Holdings Note 2023-2 *	Infrastructure	5,150,000	5,150,000	0	6,245,733	0	1.2 x	6.5%
Clearlake V	Buyout	30,000,000	44,517,797	5,261,821	60,085,356	34,181,487	2.1 x	36.5%
FP Intl 2018	Buyout	25,000,000	23,549,618	1,756,232	4,123,986	27,774,471	1.4 x	8.4%
FP Venture 2018	Venture Capital	25,000,000	24,021,739	1,206,586	3,982,862	34,856,427	1.6 x	13.7%
GTLA Holdings	Hard Assets	20,700,000	20,700,000	0	0	70,000,000	3.4 x	22.6%
Highland Contingent Note	Hard Assets	152,244,727	152,244,727	0	15,000,000	171,488,825	1.2 x	5.1%
SK Capital V	Buyout	30,000,000	33,520,705	5,356,579	9,141,060	31,430,967	1.2 x	6.2%
Sycamore Partners III	Turnaround	25,000,000	25,317,037	9,325,538	9,642,575	28,923,314	1.5 x	17.8%
Thoma Bravo Discover II	Buyout	17,000,000	18,184,658	4,726,837	12,228,968	27,098,888	2.2 x	23.8%
<b>Total 2018</b>		<b>366,094,727</b>	<b>383,020,881</b>	<b>29,541,141</b>	<b>159,466,188</b>	<b>450,311,262</b>	<b>1.6 x</b>	<b>13.8%</b>

## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>2019</b>								
American Industrial VII	Buyout	30,000,000	34,895,554	6,763,725	11,628,334	46,315,148	1.7 x	23.7%
Arlington V	Buyout	25,000,000	24,720,524	3,056,838	7,858,995	39,479,162	1.9 x	26.5%
DW Healthcare V	Buyout	30,000,000	25,507,523	4,492,477	0	40,753,749	1.6 x	15.8%
FP Intl 2019	Buyout	30,000,000	24,765,957	5,598,329	23,120,896	31,733,996	2.2 x	35.2%
FP Venture 2019	Venture Capital	30,000,000	19,788,820	10,434,784	2,425,138	27,671,261	1.5 x	12.6%
KPS Mid-Market I	Turnaround	20,000,000	11,779,651	6,131,605	4,308,348	15,513,940	1.7 x	18.2%
Riverside VI	Buyout	30,000,000	27,586,550	2,413,450	456,893	34,574,937	1.3 x	8.0%
Siris IV	Buyout	30,000,000	33,330,457	2,925,057	9,342,322	35,240,174	1.3 x	9.8%
Thoma Bravo XIII	Buyout	30,000,000	36,599,355	2,495,077	26,665,874	44,394,639	1.9 x	24.6%
WNG II	Special Assets	30,000,000	31,905,954	2,090,420	9,767,652	31,318,318	1.3 x	10.7%
<b>Total 2019</b>		<b>285,000,000</b>	<b>270,880,345</b>	<b>46,401,762</b>	<b>95,574,453</b>	<b>346,995,324</b>	<b>1.6 x</b>	<b>18.4%</b>
<b>2020</b>								
BV X	Buyout	30,000,000	29,252,962	6,747,037	12,811,603	37,743,348	1.7 x	34.4%
Clearlake VI	Buyout	30,000,000	31,327,201	1,487,323	4,787,600	45,567,557	1.6 x	16.8%
FP CF Access	Buyout	90,000,000	82,541,333	30,308,059	24,523,284	96,176,660	1.5 x	20.8%
FP Venture XIII	Venture Capital	60,000,000	43,827,684	16,558,987	1,889,824	50,999,478	1.2 x	8.0%
Greyrock V	Mezzanine	35,000,000	33,069,133	3,121,429	8,513,355	30,817,475	1.2 x	8.2%
JF Lehman V	Buyout	30,000,000	27,963,576	2,036,424	363,774	44,006,499	1.6 x	16.6%
KPS V	Turnaround	30,000,000	25,126,661	6,311,529	6,127,987	29,221,311	1.4 x	17.6%
Thoma Bravo Explore I	Buyout	20,000,000	19,635,848	5,248,416	4,884,264	26,740,977	1.6 x	22.3%
<b>Total 2020</b>		<b>325,000,000</b>	<b>292,744,398</b>	<b>71,819,204</b>	<b>63,901,691</b>	<b>361,273,305</b>	<b>1.5 x</b>	<b>17.4%</b>
<b>2021</b>								
Alpine Investors VIII	Buyout	30,000,000	19,025,389	10,974,611	0	27,032,823	1.4 x	21.2%
FP Intl X	Buyout	60,000,000	33,582,734	26,675,599	3,038,424	38,456,603	1.2 x	12.4%
Greenbriar V	Buyout	30,000,000	30,435,733	838,996	1,277,373	34,575,773	1.2 x	8.0%
LLR VI	Growth Equity	30,000,000	26,100,000	4,296,478	2,000,124	29,109,543	1.2 x	8.0%
Revelstoke III	Buyout	30,000,000	19,720,738	12,908,836	2,782,796	17,399,038	1.0 x	1.4%
Riverside Value Fund I	Buyout	30,000,000	18,451,879	14,393,453	2,404,140	29,433,413	1.7 x	68.9%
Thoma Bravo Discover III	Buyout	20,000,000	20,136,476	779,357	915,833	25,873,638	1.3 x	10.6%
Thoma Bravo XIV	Buyout	20,000,000	21,447,212	2,941,651	4,388,868	21,948,945	1.2 x	7.7%
<b>Total 2021</b>		<b>250,000,000</b>	<b>188,900,161</b>	<b>73,808,981</b>	<b>16,807,558</b>	<b>223,829,775</b>	<b>1.3 x</b>	<b>12.4%</b>

## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>2022</b>								
Bison VI	Structured Capital	30,000,000	16,071,502	14,007,288	98,438	17,045,009	1.1 x	8.0%
Clearlake VII	Buyout	30,000,000	17,354,956	12,692,538	80,684	19,804,093	1.1 x	7.0%
FP CF Access II	Buyout	90,000,000	20,379,845	69,620,155	226,818	21,155,647	1.0 x	3.5%
FP Intl XI	Buyout	60,000,000	8,162,997	52,065,055	1,176	7,663,895	0.9 x	-6.3%
FP Venture Opp	Venture Capital	60,000,000	24,600,000	35,548,894	0	23,479,258	1.0 x	-2.9%
FP Venture XIV	Venture Capital	60,000,000	14,358,589	45,821,469	121,725	13,145,519	0.9 x	-7.2%
Thoma Bravo Discover IV	Buyout	15,000,000	8,577,024	6,422,976	0	10,870,414	1.3 x	19.1%
Thoma Bravo XV	Buyout	15,000,000	10,697,712	4,302,288	3,250	13,899,152	1.3 x	15.0%
<b>Total 2022</b>		<b>360,000,000</b>	<b>120,202,625</b>	<b>240,480,663</b>	<b>532,091</b>	<b>127,062,987</b>	<b>1.1 x</b>	<b>4.2%</b>
<b>2023</b>								
Alpine Investors IX	Buyout	30,000,000	4,483,894	25,516,106	0	4,716,530	1.1 x	NMF
Arlington VI	Buyout	30,000,000	15,312,754	14,687,246	51,222	17,877,716	1.2 x	NMF
BV XI	Buyout	30,000,000	13,350,503	16,649,497	0	14,077,409	1.1 x	NMF
FP Co-Invest VI	Buyout	125,000,000	50,644,567	74,451,216	1,097,413	55,591,715	1.1 x	NMF
Greenbriar VI	Buyout	30,000,000	10,648,115	19,351,885	2,059	11,046,372	1.0 x	NMF
Greyrock VI	Mezzanine	30,000,000	13,087,227	16,912,773	24,468	12,255,521	0.9 x	NMF
Highland Note 2025	Hard Assets	40,000,000	40,000,000	0	0	45,976,617	1.1 x	NMF
Hybar LLC	Infrastructure	206,200	206,200	0	129,200	200,500	1.6 x	NMF
JF Lehman VI	Buyout	30,000,000	10,389,952	19,610,048	477,475	12,258,520	1.2 x	NMF
Post Road III	Structured Capital	30,000,000	23,180,580	6,819,420	706,689	26,067,983	1.2 x	NMF
SK Capital VI	Buyout	30,000,000	12,825,446	21,182,932	4,726,324	18,788,807	1.8 x	NMF
<b>Total 2023</b>		<b>405,206,200</b>	<b>194,129,237</b>	<b>215,181,123</b>	<b>7,214,850</b>	<b>218,857,690</b>	<b>1.2 x</b>	<b>NMF</b>
<b>2024</b>								
Clearlake VIII	Buyout	35,000,000	0	35,000,000	0	-80,944	N/A	NMF
Enlightenment Capital Solutions V	Structured Capital	35,000,000	7,540,854	27,523,542	0	7,171,962	N/A	NMF
FP Venture XV	Venture Capital	40,000,000	1,967,722	38,072,885	727	1,962,180	N/A	NMF
<b>Total 2024</b>		<b>110,000,000</b>	<b>9,508,576</b>	<b>100,596,427</b>	<b>727</b>	<b>9,053,198</b>	<b>N/A</b>	<b>NMF</b>

## Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
<b>2025</b>								
Beekman V	Buyout	35,000,000	0	35,000,000	0	0	N/A	NMF
FP CF Access III	Buyout	40,000,000	0	40,000,000	0	0	N/A	NMF
KPS Mid Cap II	Turnaround	30,000,000	0	30,000,000	0	0	N/A	NMF
LLR VII	Growth Equity	30,000,000	0	30,000,000	0	-766,601	N/A	NMF
Thoma Bravo Explore II	Buyout	15,000,000	0	15,000,000	0	0	N/A	NMF
<b>Total 2025</b>		<b>150,000,000</b>	<b>0</b>	<b>150,000,000</b>	<b>0</b>	<b>-766,601</b>	<b>N/A</b>	<b>NMF</b>
<b>Total Portfolio</b>		<b>6,614,045,555</b>	<b>6,000,517,793</b>	<b>1,363,306,869</b>	<b>6,950,194,754</b>	<b>2,984,397,094</b>	<b>1.7 x</b>	<b>11.1%</b>

- Remaining Value is defined as the investor's value as reported by the fund's manager.
- TVPI is the ratio of Distributed Capital plus Remaining Value to Contributed Capital.
- Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Remaining Value as of the Report Date, net of fees and expenses, including late closing interest.
- An asterisk indicates an investment that is fully liquidated, if applicable.
- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.
- Returns calculated for funds in the early years of their lives are particularly not meaningful given the J-curve effect. During these early years, due to illiquidity, stagnant valuations, fees and expenses, fund performance tends to be negative (the bottom of the "J").

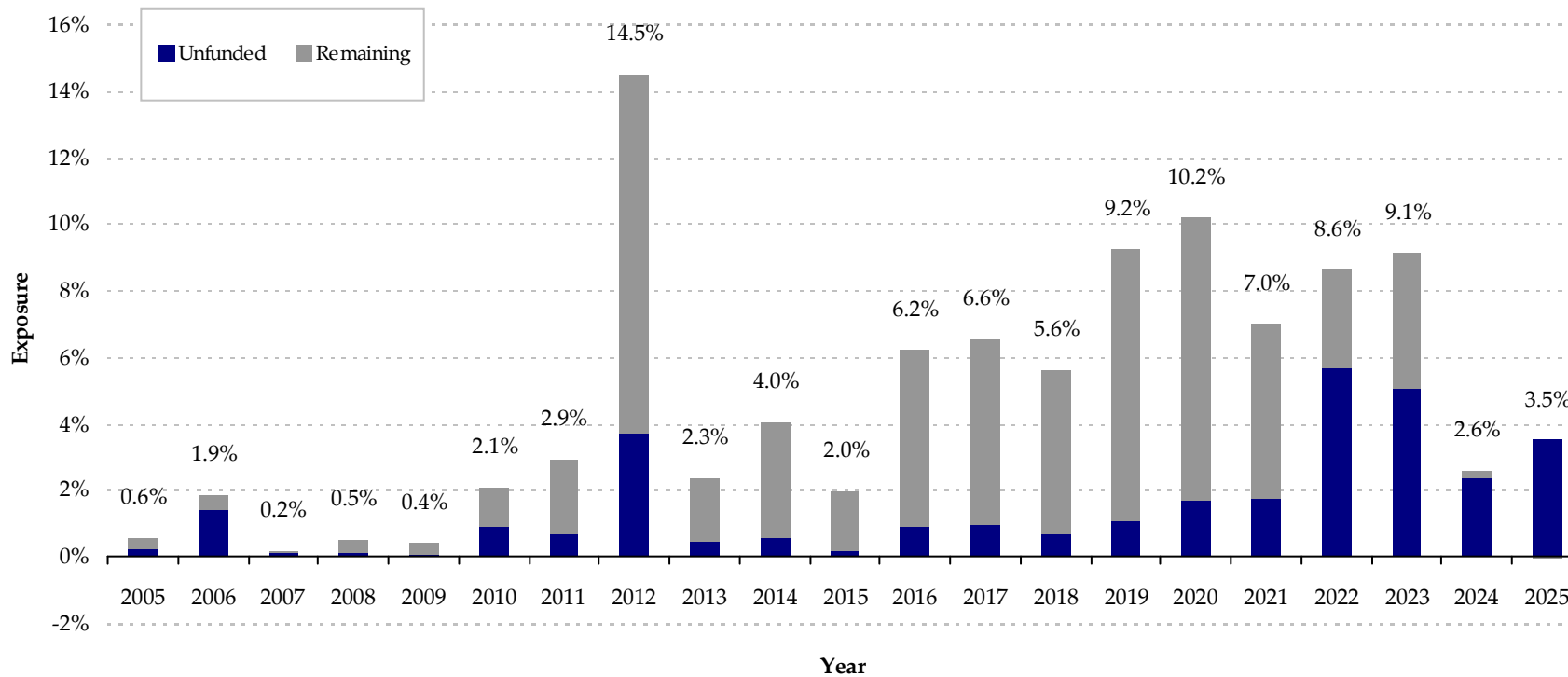


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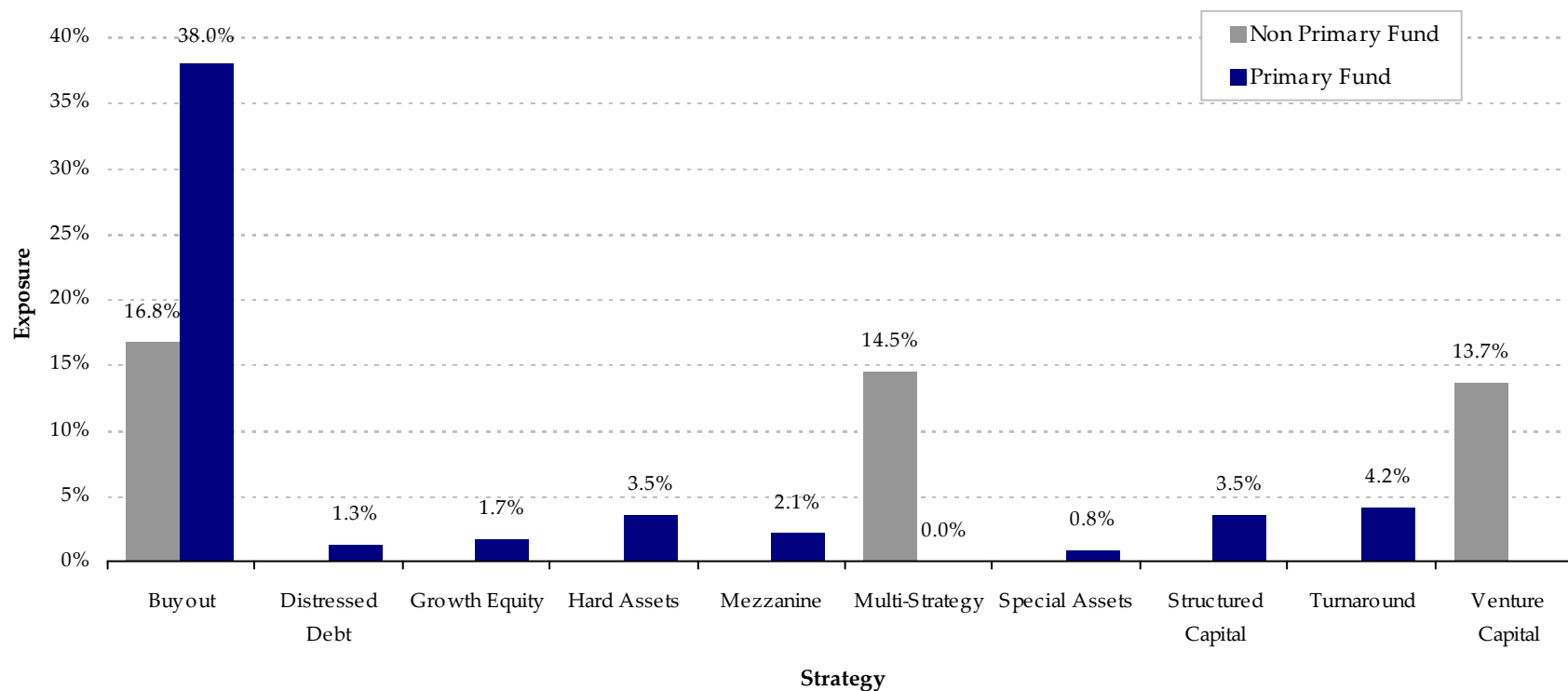
# Diversification Analysis

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# Exposure By Vintage Year

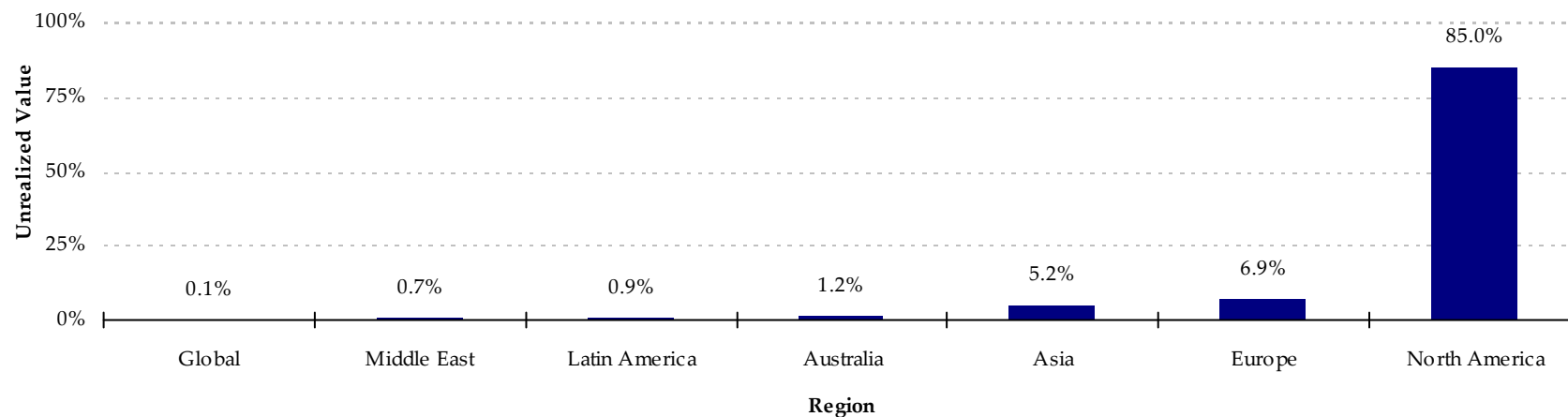


- Exposure is defined as the sum of the investor's Remaining Value plus Unfunded Commitment.
- Data includes commitments through the Report Date.

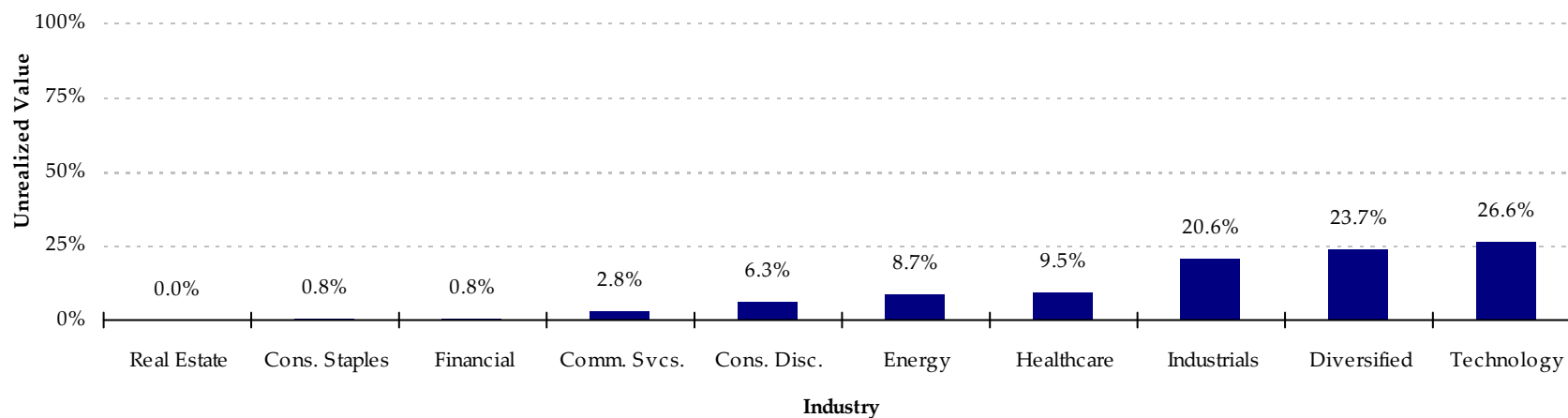


- Exposure is defined as the sum of the investor's Remaining Value plus Unfunded Commitment.
- Primary Fund represents interests in private equity funds acquired directly from the seller (i.e. fund manager). Non Primary Fund represents interests in private equity funds acquired through a commitment to a fund-of-funds or secondary fund-of-funds.

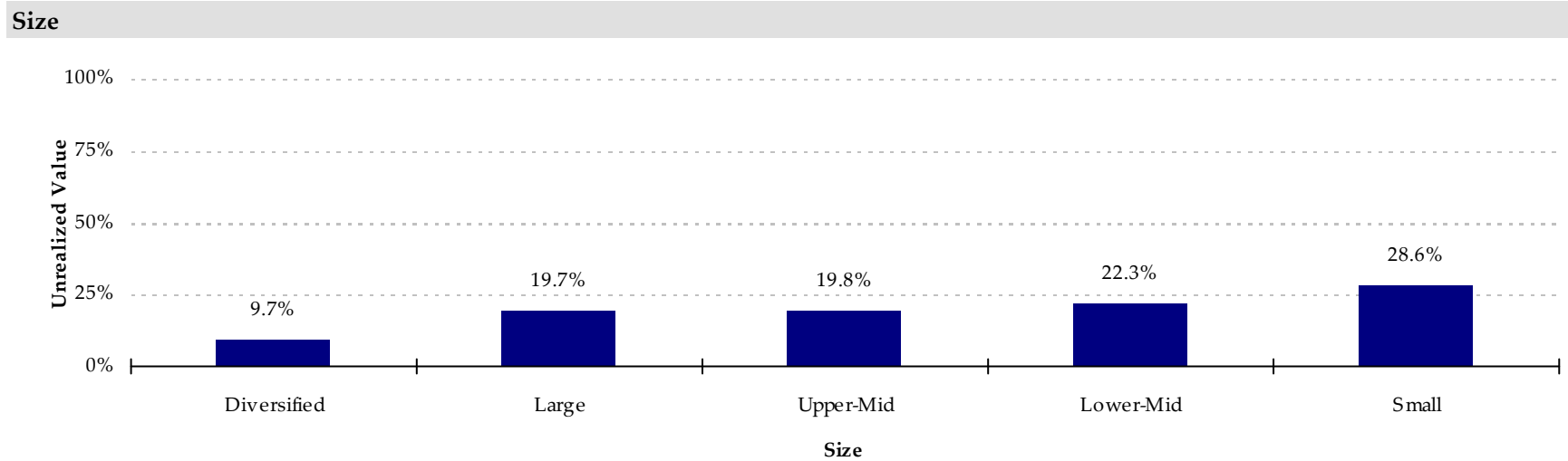
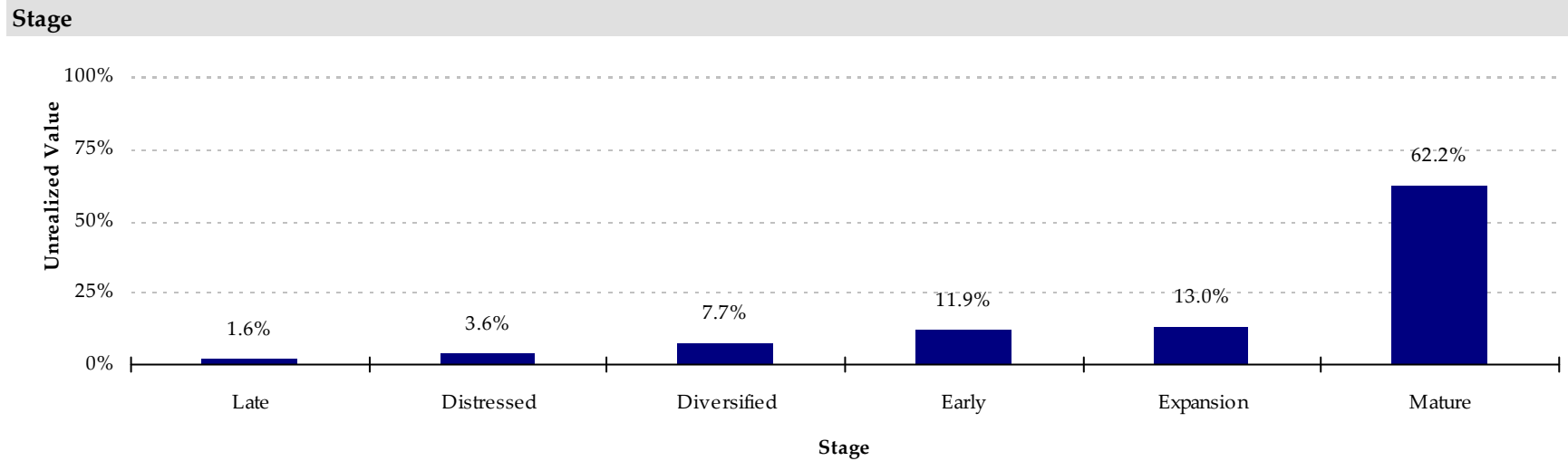
**Region**



**Industry**



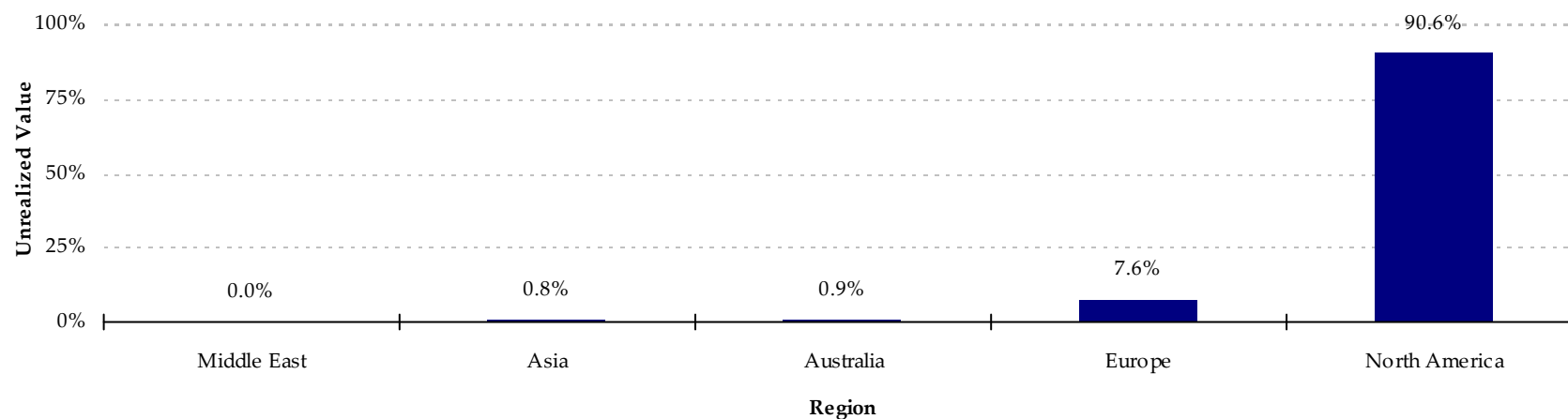
- Unrealized Value represents the value of portfolio holdings as reported by fund managers.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values are converted to the investor's currency, when applicable, as of the Report Date.



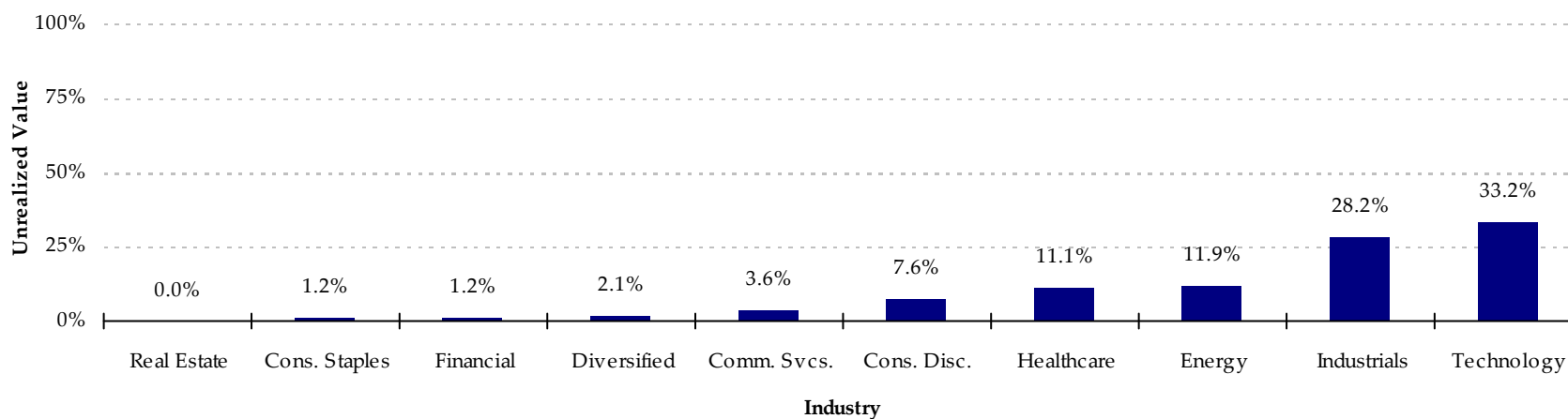
- Unrealized Value is the value of portfolio holdings as reported by the fund manager.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values converted to the investor's currency, when applicable, as of the Report Date.

## Holdings by Region and Industry (ex Fund Holdings)

### Region

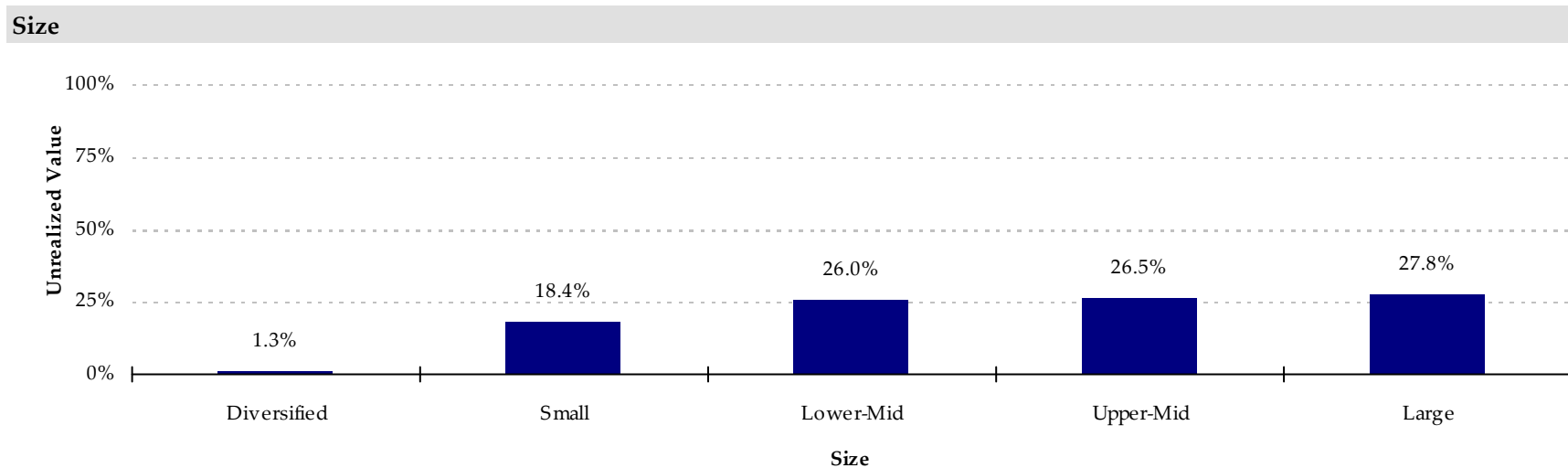
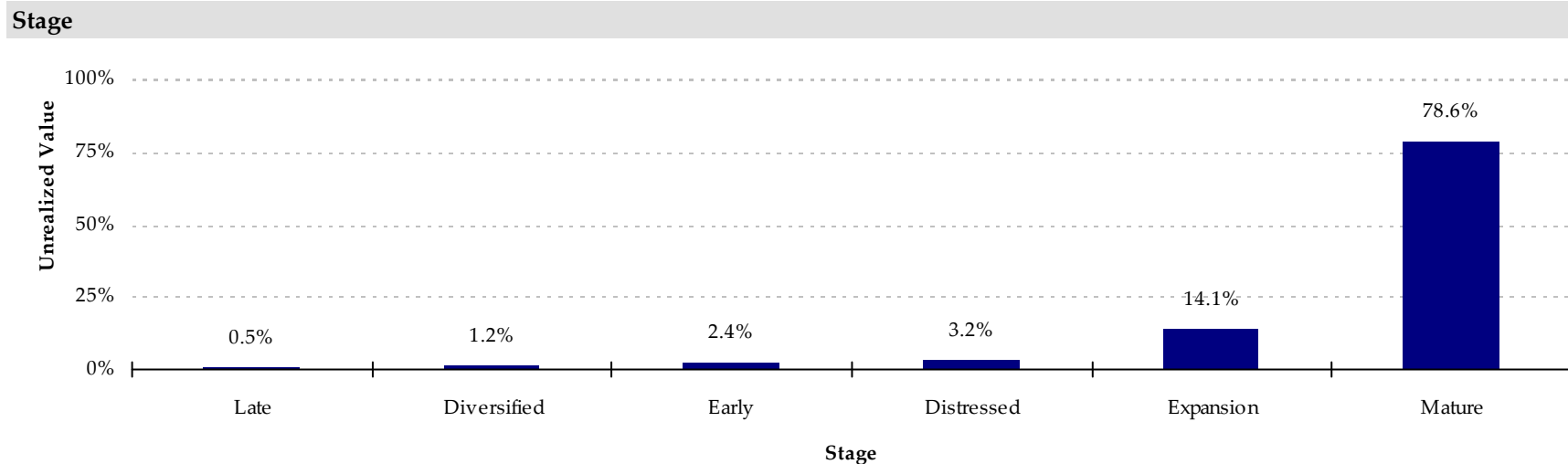


### Industry



- Fund investments in other funds were excluded from this analysis.
- Unrealized Value represents the value of portfolio holdings as reported by fund managers.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values are converted to the investor's currency, when applicable, as of the Report Date.

## Holdings by Stage and Size (ex Fund Holdings)



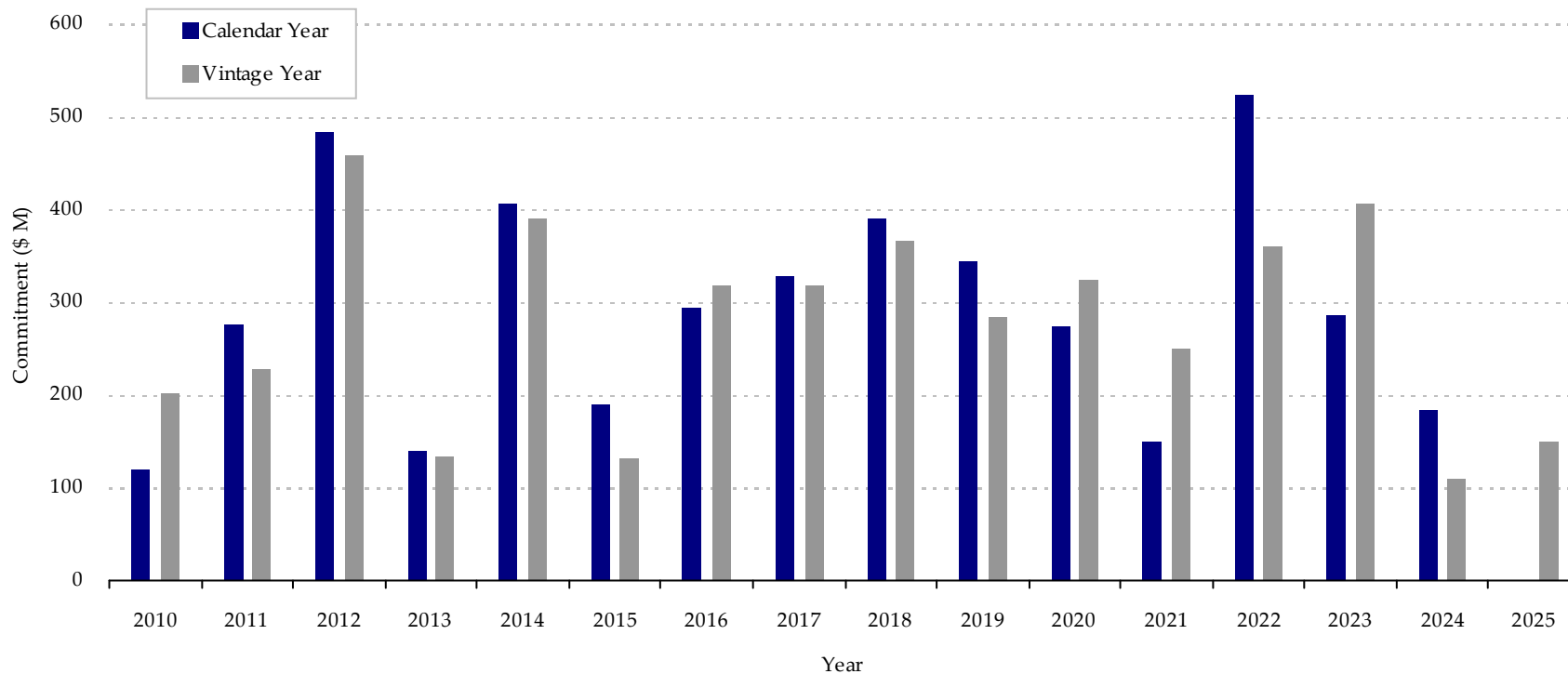
- Fund investments in other funds were excluded from this analysis.
- Unrealized Value represents the value of portfolio holdings as reported by fund managers.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values are converted to the investor's currency, when applicable, as of the Report Date.

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## Recent Activity

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- Vintage Year represents the year in which investors first contribute capital to a fund.
- Calendar Year represents the year in which a commitment to a fund formally closed.
- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.
- Commitments were compiled through the Report Date.

## Recent Commitments



### Commitments for Year Ended December 31, 2024

Fund	Strategy	Date	Commitment (\$)
Beekman V	Buyout	Jan 2024	35,000,000
Clearlake VIII	Buyout	Jan 2024	35,000,000
FP Venture XV	Venture Capital	Feb 2024	40,000,000
Enlightenment Capital Solutions V	Structured Capital	Jul 2024	35,000,000
FP CF Access III	Buyout	Jul 2024	40,000,000
FP Venture Opp II	Venture Capital	Dec 2024	40,000,000
<b>Total</b>			<b>225,000,000</b>

### Year to Date Commitments as of January 9, 2025

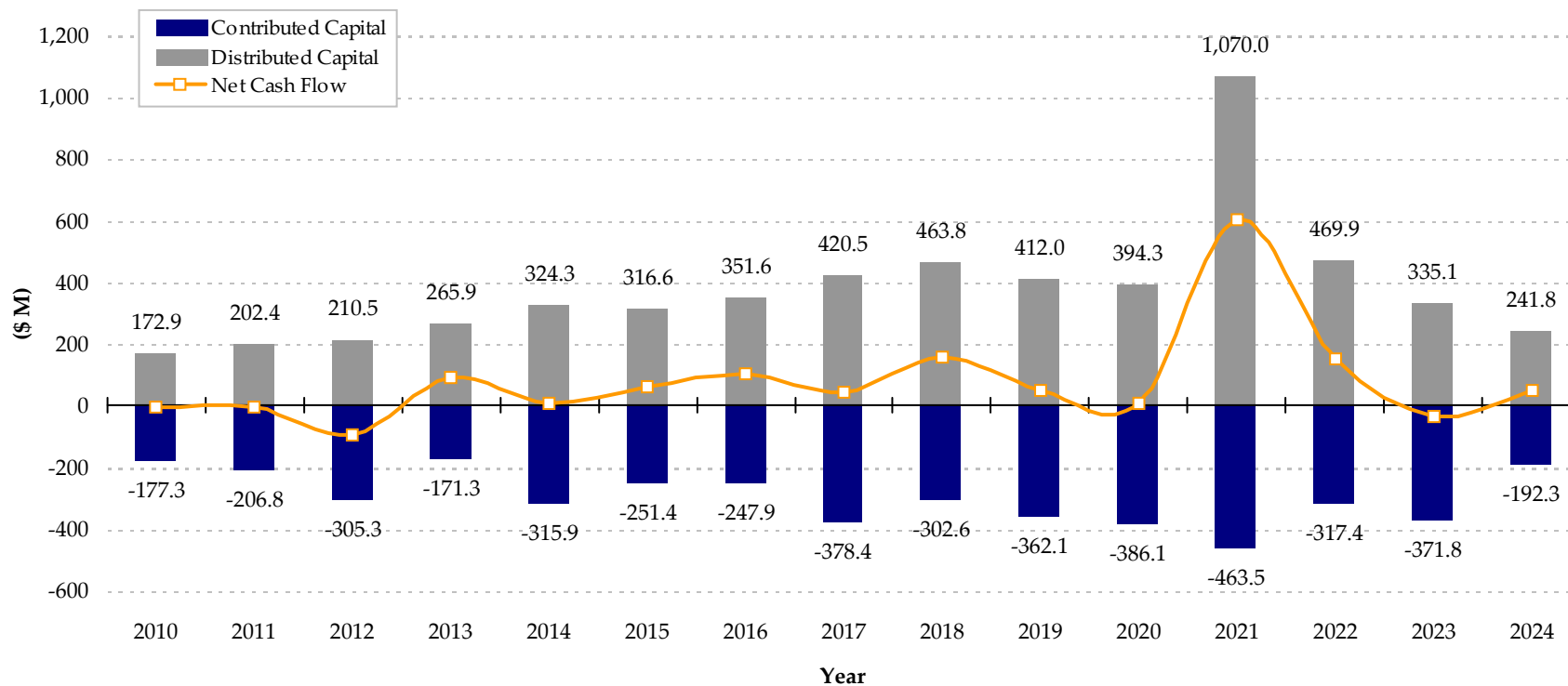
Not Applicable

### Approved and Pending Commitments as of January 9, 2025

Fund	Strategy	Date	Target Commitment (\$)
Revelstoke IV	Buyout	N/A	35,000,000
Peak Rock IV	Turnaround	N/A	35,000,000
Novacap Technologies VII	Buyout	N/A	35,000,000
Riverside Value Fund II	Buyout	N/A	35,000,000
Veritas IX	Buyout	N/A	35,000,000

- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.
- In January 2024, ATRS closed on an additional \$60.0 million commitment to FP Co-Invest VI, bringing total commitments to the Fund to \$125.0 million.

# Annual Cash Flow

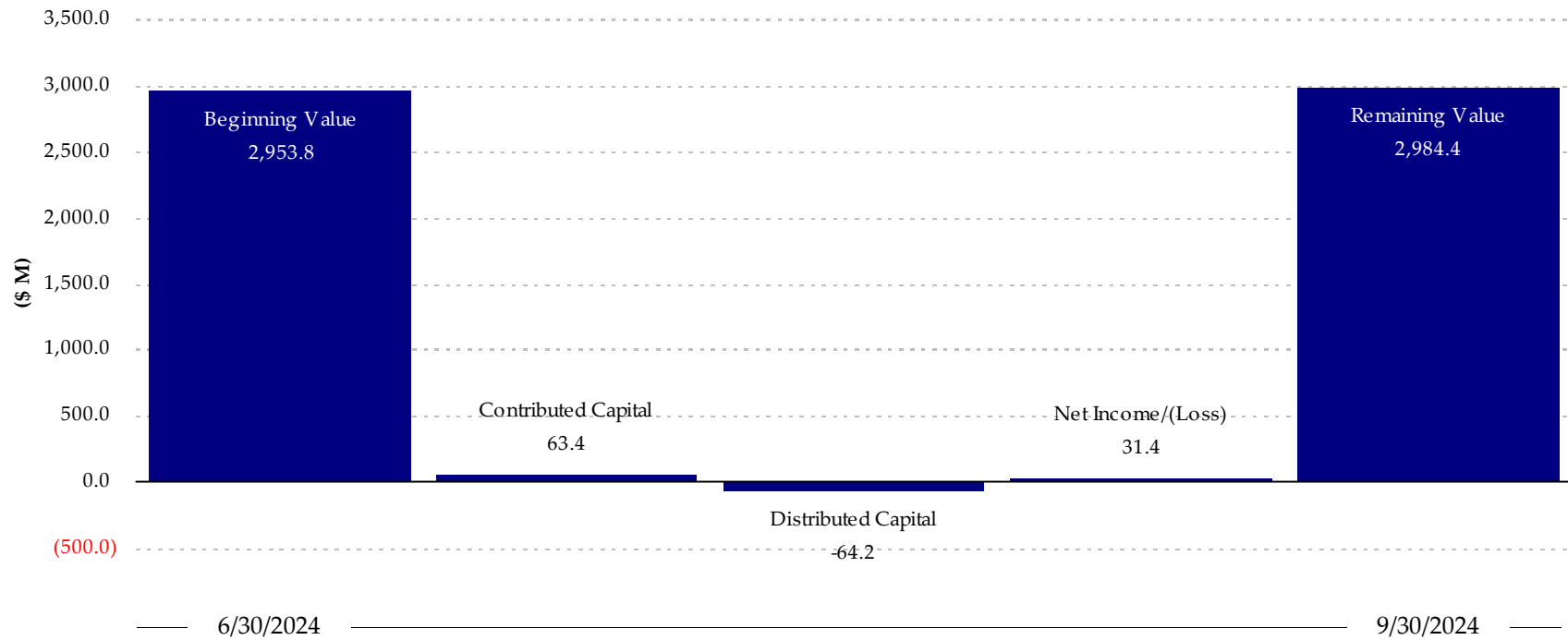


2024 (\$)		
Distributed	Contributed	Net Cash Flow
241,797,228	-192,271,756	49,525,472

▫ Cash flow data was compiled through the Report Date.

# Capital Account Change Since Prior Quarter

## Quarterly Portfolio Activity



Percent Change in Value	1.1%
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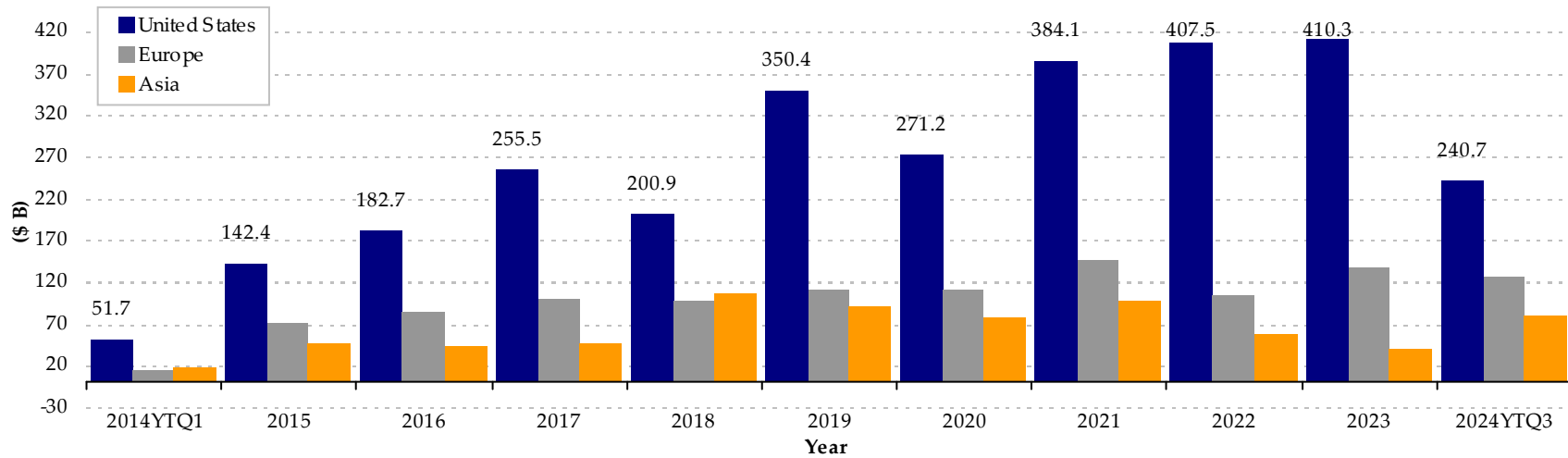
- Beginning Value represents the aggregate Remaining Value of the portfolio as of the prior quarter-end.
- Percent Change in Value is calculated by dividing Net Income / (Loss) by Beginning Value.

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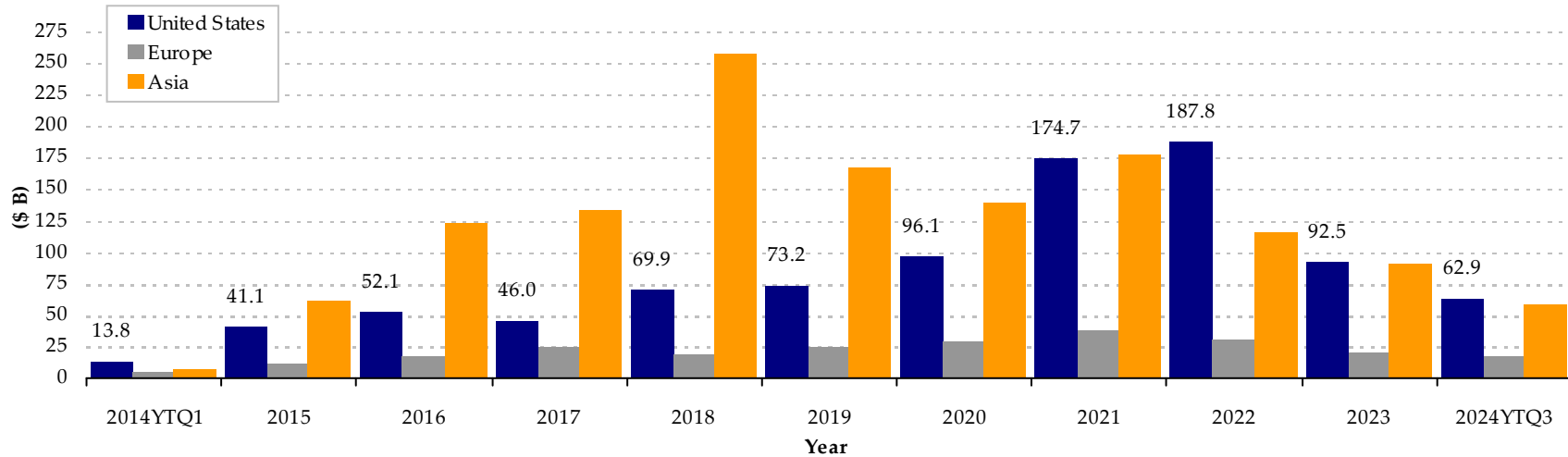
**Market Update**

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Buyout Funds

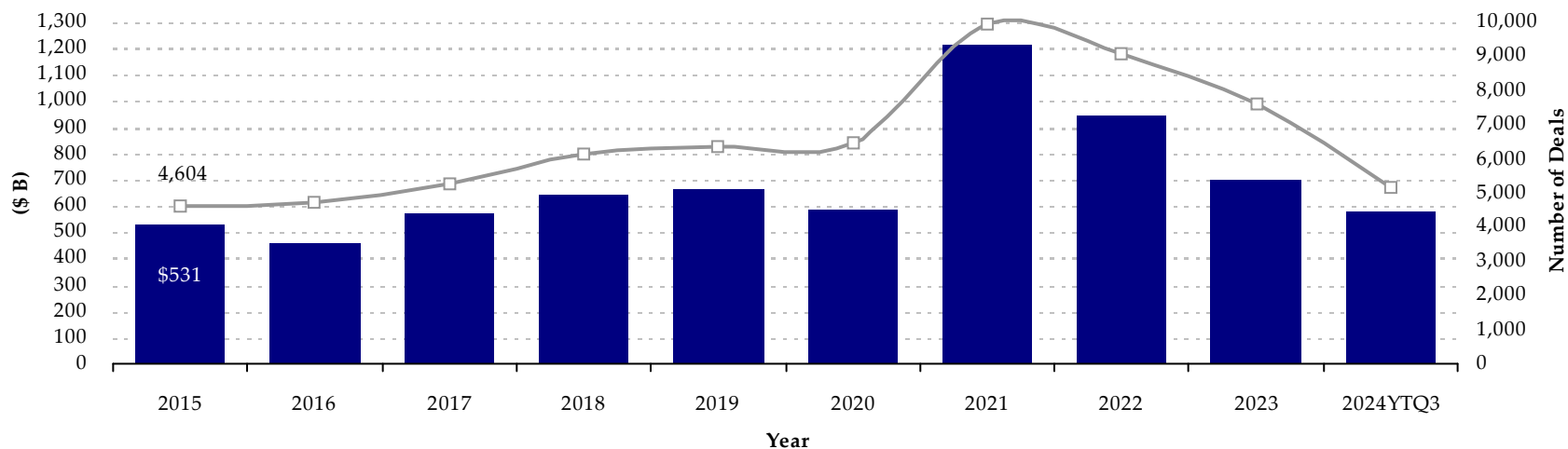


Venture Funds

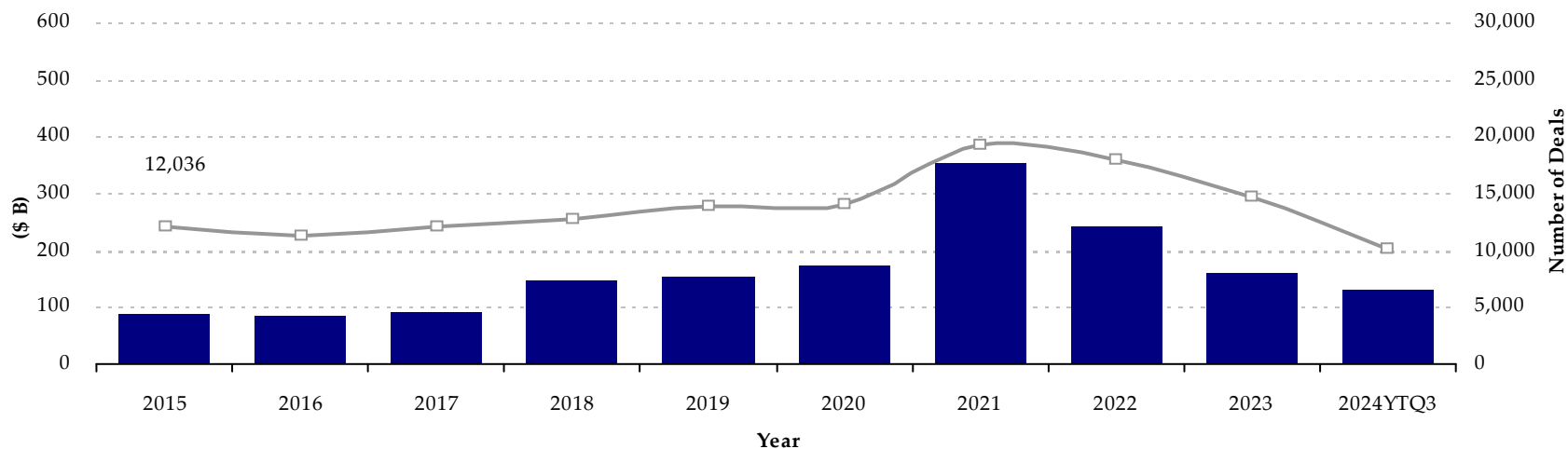


- Source: Pitchbook.
- Data compiled through Q3 2024.

U.S. Buyout

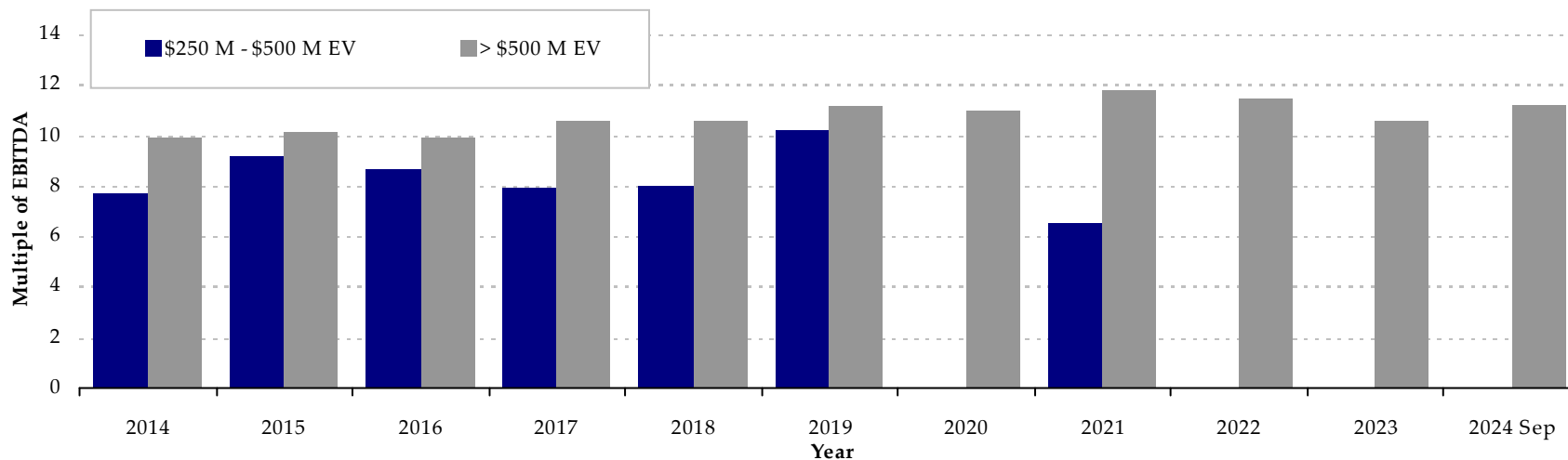


U.S. Venture

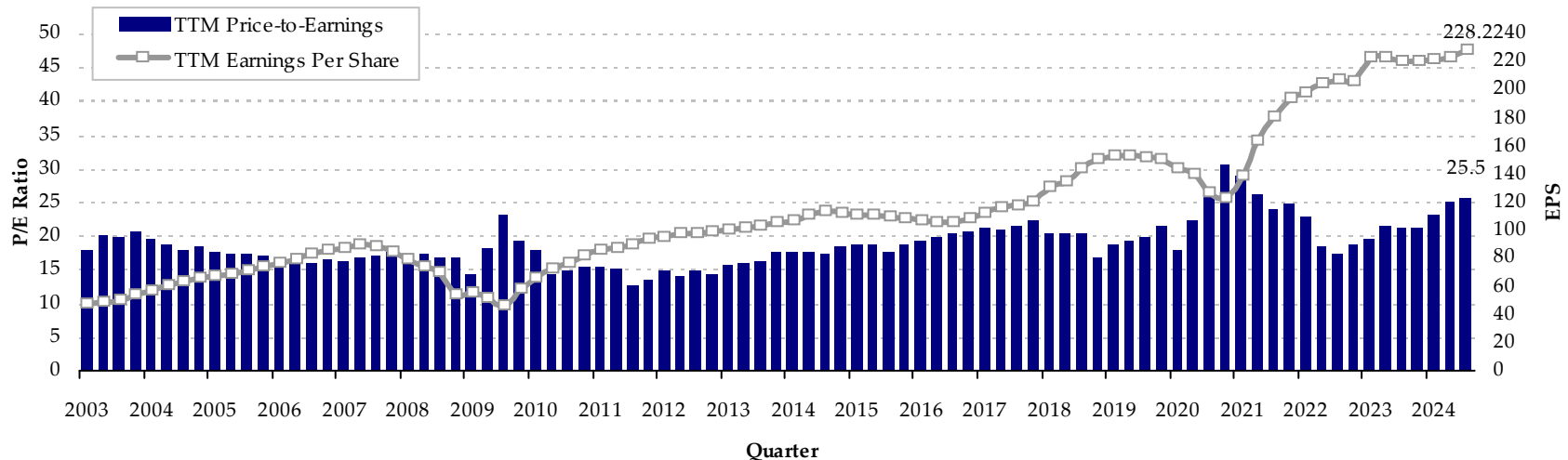


- Source: Pitchbook.
- Data compiled through Q3 2024.

U.S. LBO Pricing Multiples



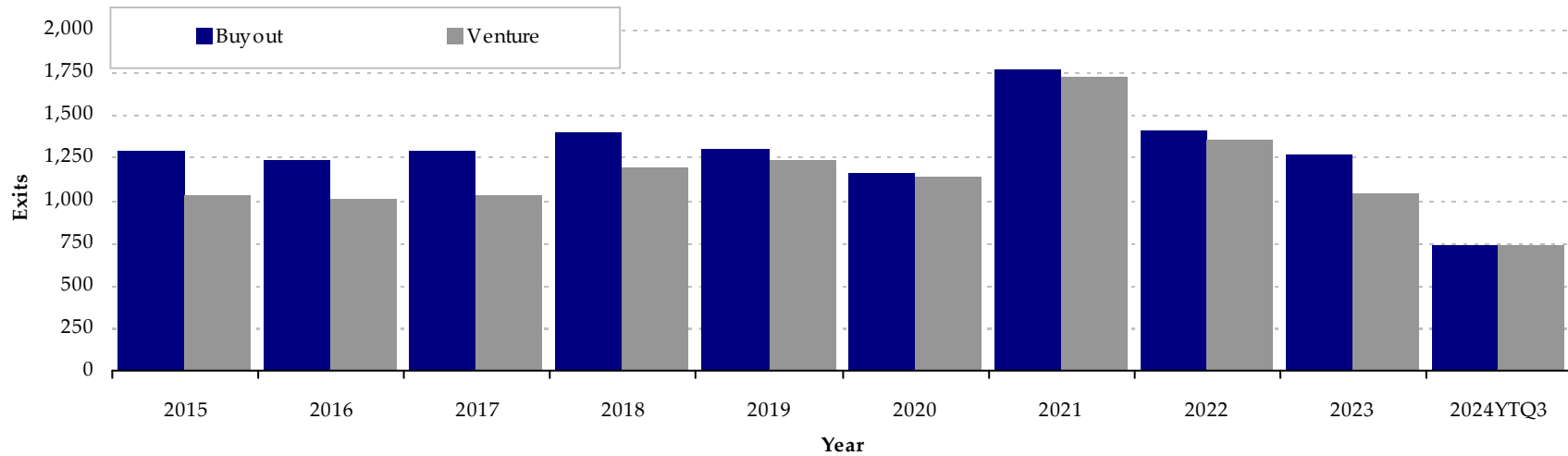
S&P 500 Valuation and Earnings



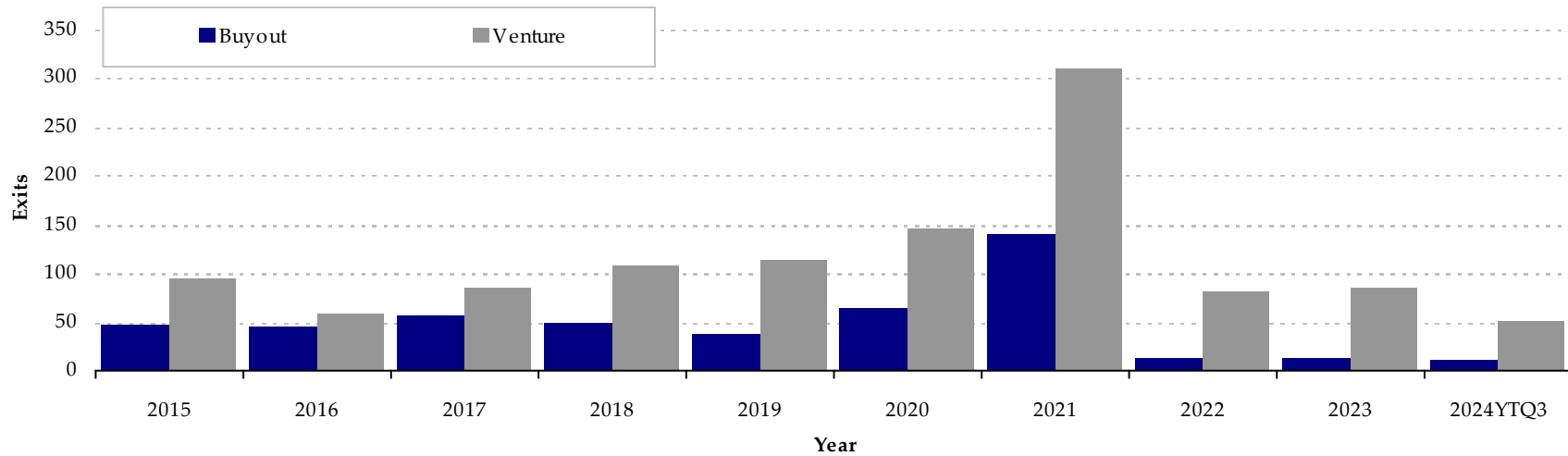
Source: Pitchbook's Leveraged Commentary; Bloomberg.



U.S. Mergers and Acquisitions



U.S. Initial Public Offerings



- Source: Pitchbook.
- Data compiled through Q3 2024.

## Vintage Returns

Group	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
U.S. ALL PD Median	7.4%	6.8%	8.0%	8.7%	8.4%	9.1%	11.0%	9.5%	11.5%	12.1%
U.S. ALL PD Top Quartile	9.8%	8.5%	11.7%	10.4%	13.1%	11.7%	15.6%	12.3%	14.4%	14.6%
U.S. All PE Median	13.0%	15.8%	15.2%	16.4%	17.3%	15.1%	13.6%	9.6%	2.8%	2.5%
U.S. All PE Top Quartile	18.8%	22.3%	20.9%	21.3%	24.4%	20.8%	19.4%	15.0%	11.2%	14.3%
U.S. Buyout Median	14.3%	18.4%	17.9%	19.4%	22.4%	16.9%	15.3%	13.2%	8.2%	7.7%
U.S. Buyout Top Quartile	25.1%	23.5%	24.7%	24.8%	28.5%	23.5%	22.3%	19.3%	13.5%	15.5%
U.S. Energy Median	6.9%	9.2%	8.1%	8.4%	15.7%	10.7%	16.5%	16.6%	N/A	N/A
U.S. Energy Top Quartile	14.9%	12.0%	17.4%	8.8%	20.7%	19.5%	23.4%	28.5%	N/A	N/A
U.S. Real Assets Median	9.5%	9.6%	9.7%	9.4%	10.7%	10.4%	9.5%	10.3%	4.4%	5.4%
U.S. Real Assets Top Quartile	16.6%	13.1%	14.3%	14.5%	17.7%	16.4%	15.6%	14.5%	8.8%	12.6%
U.S. Real Estate Median	10.6%	10.3%	10.0%	10.5%	9.3%	10.4%	8.8%	9.9%	4.2%	-2.1%
U.S. Real Estate Top Quartile	17.4%	13.9%	14.1%	14.6%	16.5%	15.9%	11.7%	12.5%	8.0%	9.4%
U.S. Venture Median	13.9%	16.0%	13.8%	16.4%	18.0%	14.5%	11.5%	6.2%	-1.2%	-2.9%
U.S. Venture Top Quartile	22.9%	25.8%	19.8%	20.4%	24.4%	20.8%	18.6%	12.5%	4.3%	7.3%

▫ Source: Cambridge Associates.

▫ Data compiled through June 30, 2024.

▫ Benchmark data is not available for 2021 and 2022 U.S. Energy

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## Glossary

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Term	Definition	Term	Definition
Barclays US Corporate High Yield Index	The Barclays US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Barclays EM country definition, are excluded.	Dow Jones US Total Stock Market Total Return Index	The Dow Jones US Total Stock Market Total Return Index measures all U.S. equity securities with readily available prices. It is a free float-adjusted market capitalization weighted index and is calculated with dividend reinvestment.
Bridge Financing	Temporary funding that will eventually be replaced by permanent capital from equity investors or debt lenders	DPI	Ratio of Distributed Capital to Contributed Capital
Buyout	Fund whose strategy is to acquire controlling interests in companies	Early Stage	A company's first Stage of development. Company is generally generating modest or no revenues
Co/Direct Investment	Investment made directly into a company, rather than indirectly through a fund	Equity	Security type that signifies ownership of a company (e.g. common stock, preferred stock, warrants, etc.)
Committed Capital	Total dollar amount of capital pledged to a fund	Expansion Stage	A company's third Stage of development. Company is generally experiencing high growth and nearing profitability
Contributed Capital	Total capital contributed to a fund for investments, fees and expenses, including late closing interest paid, less returns of excess capital called	Exposure	Sum of Remaining Value plus Unfunded Commitment
Cost Basis	Remaining amount of invested capital	Fund-of-Funds	Fund whose strategy is to make investments in other funds
Debt	Security type that signifies a repayment obligation by a company (e.g. senior debt, subordinated debt, bridge loan etc.)	Geographic Region	Market location of a company: North America, Western Europe, Africa/Middle East, Latin America, Asia/Pacific Rim
Distressed	A company's final Stage of development. Company is generally experiencing operational or financial distress	Growth Equity	Fund whose strategy is to invest in companies to expand or restructure operations, enter new markets or finance an acquisition without a change of control of the business
Distressed Debt	<ul style="list-style-type: none"> <li>• Distressed Trading – Fund whose strategy is to invest and trade debt of financially stressed companies</li> <li>• Distressed Restructuring – Fund whose strategy is to acquire and restructure debt of financially stressed companies</li> <li>• Opportunistic Credit – Fund whose strategy is to flexibly invest in debt securities and income-producing assets of any kind, where the issuer or holder is financially stressed</li> <li>• Structured Capital – Fund whose strategy is to issue hybrid debt and equity securities to mature companies</li> </ul>	Hard Assets	Fund whose strategy is to invest in natural resources or infrastructure
Distributed Capital	Capital distributed to the limited partners, including late closing interest earned	Infrastructure	Fund whose strategy is to acquire interests in physical structures and networks that provide the essential services for society's economic and social needs (e.g. roads, tunnels, communication networks, etc.)
		Internal Rate of Return (IRR)	The discount rate that results in a net present value of zero of a series of cash flows. The IRR considers both cash flow timing and amount and is the preferred performance measure for private market funds
		Invested Capital	Capital invested by a fund in portfolio holdings
		Investment Type	Classification of an investment vehicle: Primary Fund, Secondary Fund, Fund-of-Funds

Term	Definition	Term	Definition
J-Curve	Refers to the shape of the curve illustrating a fund's performance over time. During the initial years of a fund's life, as a result of illiquidity, stagnant valuations, fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio companies are realized or increase in value and fees become a smaller percentage of overall contributions, performance improves and investors' returns move up the "J" shaped curve	Net IRR	Annualized effective compound rate of return using daily contributions, distributions and Remaining Value as of the Report Date, net of all fees and expenses, including late closing interest
Large	Company with a Size greater than \$1 billion	Percent Interest	Represents an investor's economic interest in a fund based upon the investor's commitment divided by total fund commitments
Late Stage	A company's second Stage of development. Company is generally generating high revenue growth and high losses	Primary Investment	An interest in a private equity fund acquired directly from the fund manager during the fundraising period
Lower-Mid	Company with a Size greater than \$100 million, but less than \$250 million	Public Market Equivalent (PME)	A private equity benchmark that represents the performance of a public market index expressed in terms of an IRR, using the same cash flows and timing as the investor's investment activity in private equity. The PME serves as a proxy for the return the investor could have achieved by investing in the public market. The PME benchmark return assumes cash flows are invested at the end of each day
Mature	A company's fourth Stage of development. Company is generally generating modest to no growth and operating profitably	Publication Date	Refers to the date this report was created as reflected in the Executive Summary
Mezzanine	<ul style="list-style-type: none"> <li>• Sponsored Mezzanine – Fund whose strategy is to issue subordinated loans to companies owned by private equity fund sponsors</li> <li>• Non-Sponsored Mezzanine – Fund whose strategy is to issue subordinated loans to companies not owned by private equity fund sponsors</li> </ul>	Real Assets	Fund whose strategy is to invest in assets that are tangible or physical in nature such as land, machinery, and livestock
MSCI ACWI Index - Total Return	The MSCI ACWI Total Return is a reflection of the performance of the MSCI ACWI Index, including dividend reinvestment, as calculated by Bloomberg. The MSCI ACWI Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 45 country indices comprising 24 developed and 21 emerging market country indices.	Real Estate	Fund whose strategy is to acquire interests in real estate property
Natural Resources	Fund whose strategy is to acquire interests in naturally-occurring, economically valuable raw materials and all physical facilities and capabilities required for the extraction, refinement, and delivery to end users (e.g. oil and gas properties, timberland, etc.)	Realized Capital	Capital distributed to a fund from portfolio holdings
NCREIF Property Index	The NCREIF Property Index is a quarterly, unleveraged composite total return for private commercial real estate properties held for investment purposes only.	Recallable / Recyclable Capital	Capital that has been previously distributed by a fund to investors but may be called again for investment purposes. It is generally associated with realizations that have occurred in the early years of a fund or refers to uninvested capital that has been temporarily returned (i.e. returns of excess capital)
		Recapitalization	The reorganization of a company's capital structure
		Remaining Value	Capital account balance as reported by the General Partner, generally on a fair value basis
		Report Date	Refers to the end date of the reporting period as reflected on the cover page
		Return on Investment (ROI)	Ratio of Realized Capital plus Unrealized Value to Invested Capital

Term	Definition	Term	Definition
Russell 1000® Total Return Index	The Russell 1000® Total Return Index measures the performance, including dividend reinvestment, of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market.	Size	Capitalization size of a company: Large, Upper-Mid, Lower-Mid, Small
Russell 3000® Total Return Index	The Russell 3000® Total Return Index measures the performance, including dividend reinvestment, of the largest 3000 U.S. companies representing approximately 98% of the investable U.S. equity market.	Small	Company with a Size of less than \$100 million
S&P 500 Price Index	The S&P 500 Price Index is a capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.	Small Business Investment Company (SBIC)	Lending and investment firms that are licensed and regulated by the Small Business Administration (SBA). The licensing enables them to borrow from the federal government to supplement the private funds of their investors
S&P 500 Total Return Index	The S&P 500 Total Return Index is a reflection of the performance of the S&P 500 Index, including dividend reinvestment. All regular cash dividends are assumed to be reinvested in the S&P 500 Index on the ex-date. Special cash dividends trigger a price adjustment in the price return index.	Small Buyout	Fund whose strategy is to acquire or recapitalize Small businesses
Secondary Investment	Investments that involve the purchase of private equity fund interests or portfolios of direct investments in privately held companies from existing institutional investors	Special Assets	<ul style="list-style-type: none"> <li>• Healthcare Royalties – Fund whose strategy is to acquire royalty or revenue interests, or issue loans, backed by approved life science products</li> <li>• Music Royalties – Fund whose strategy is to acquire royalty or revenue interests, or issue loans, backed by music copyright assets</li> <li>• Aircraft Leasing – Fund whose strategy is to acquire and lease commercial aircraft</li> <li>• Life Settlement - Fund whose strategy is to acquire life insurance policies</li> <li>• Shipping – Fund whose strategy is to acquire and charter commercial shipping vessels</li> <li>• Asset Backed Securities – Fund whose strategy is to acquire or structure securities that are backed by income-producing assets</li> </ul>
Sector	Industry in which the company operates: technology, telecommunications, healthcare, financial services, diversified, industrial, consumer, energy, etc.	Stage	The course of development through which a company passes from its inception to its termination: Early, Late, Expansion, Mature, Distressed
Senior Debt	<ul style="list-style-type: none"> <li>• Direct Lending – Fund whose strategy is to issue senior loans to mature companies</li> <li>• Unitranche – Fund whose strategy is to issue hybrid senior and subordinated loans to mature companies</li> <li>• Venture Debt – Fund whose strategy is to issue loans to venture stage companies</li> <li>• Asset Based Lending – Fund whose strategy is to issue loans to companies where the amount of allowable borrowing outstanding is based on asset collateral value</li> <li>• Rescue Financing – Fund whose strategy is to issue loans to financially stressed companies</li> </ul>	Sub-Asset Class	Private equity investments are generally classified as Buyout, Venture Capital, Mezzanine, Distressed/Turnaround, and Fund-of-Funds
		TVPI	Ratio of Distributed Capital plus Remaining Value to Contributed Capital
		Unfunded Commitment	Amount of capital that remains to be contributed to a fund as defined in a fund's limited partnership agreement
		Unrealized Value	Holding value of a portfolio company assigned by the General Partner, which generally represents fair value
		Upper-Mid	Company with a Size greater than \$250 million but less than \$1 billion
		Venture Capital	Fund whose strategy is to make investments in Early Stage and/or Late Stage companies

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<b>Term</b>	<b>Definition</b>
Vintage Year	The calendar year in which an investor first contributes capital to a fund

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## End Notes

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The information contained in this report is confidential and may contain proprietary information and trade secret information. The information contained herein is prepared by Franklin Park and is not reviewed or approved by the general partners or affiliates of underlying portfolio fund investments and is strictly for the use of Arkansas Teacher Retirement System and, subject to applicable law, may not be reproduced, transmitted or used in whole or in part for any other purpose without the expressed written consent of Franklin Park. Franklin Park requests that investors maintain this information in confidence and that this report is not disclosed to any person other than affiliates, advisers, and accountants, who agree to maintain this information in similar confidence, without the prior written consent of Franklin Park.

Information regarding the Arkansas Teacher Retirement System portfolio, trends and performance returns are based on or derived from information and data provided by third-party sources, including Arkansas Teacher Retirement System's historical records. Franklin Park assumes that such information is accurate and that the sources from which it has been obtained are reliable. For example, the performance figures contained within this report are calculated by Franklin Park based on information provided by the managers of Arkansas Teacher Retirement System's private equity fund investments (General Partners). The General Partners have not verified the performance figures presented by Franklin Park and such figures may differ from those calculated by General Partners or other investors.

Franklin Park presents Net IRR performance as recommended by the CFA Institute. The IRR calculation is a dollar-weighted return measurement, which considers both cash flow timing and amount, and is net of fees, expenses and carried interest. The total portfolio Net IRR presented herein is net of fees, expenses and carried interest paid by underlying private equity fund investments, but is gross of fees and expenses paid to Franklin Park. The IRR is most commonly used for measuring the performance of private equity funds. Until a fund is liquidated, typically over 10 to 12 years, the IRR is only an interim estimated return. An IRR is particularly not meaningful in the first two years of a fund's life given the J-curve effect (see footnote). The actual IRR of any private equity fund investment is not known until final liquidation.

---

▫ The J-curve refers to the shape of the curve that illustrates a private equity fund's performance over time. During the initial years of a fund's life, due to fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio company investments increase in value, fund performance improves and returns move up the "J" shaped curve.



Arkansas Teacher Retirement System  
Franklin Park  
Corporate Finance Access III, L.P.

February 2025

## Disclaimer

This Presentation (this “Presentation”) has been prepared by Franklin Park Associates, LLC (“Franklin Park”) solely for informational purposes for the exclusive use of the party to whom Franklin Park delivers this Presentation (the “Recipient”). This Presentation is not to be construed as a solicitation, invitation or an offer by Franklin Park or any of its members, officers, employees or agents to buy or sell any securities or related financial instruments. This Presentation is furnished on a confidential and limited basis for the sole and exclusive purpose of providing general and background information concerning Franklin Park Corporate Finance Access Fund III, L.P. (“CF Access Fund III” or the “Fund”) as well as Franklin Park and its activities. This Presentation is not an offer or sale of, or a solicitation to any person to buy, any security or investment product or investment advice. Any such offer, sale or solicitation of interests in the Fund will be made only pursuant to the Fund’s definitive documents, and will be subject to the terms and conditions contained in such documents. This Presentation is qualified in its entirety by reference to the Fund’s definitive documents.

This Presentation is as of January 13, 2025 (unless an earlier date is otherwise indicated). The information in this Presentation has been obtained from Franklin Park’s proprietary research and other publicly available sources and has not been independently verified by Franklin Park or any of its members, officers, employees, agents, representatives or advisers or any other person. Any valuations, projections, estimates, forecasts, targets, prospects, returns and/or opinions contained herein involve elements of subjective judgment and analysis. Any opinions expressed in this material are subject to change without notice. This Presentation may contain forward-looking statements. Any estimates or projections as to events that may occur in the future are based upon the reasonable expectation of Franklin Park as of January 13, 2025. No obligation is undertaken by Franklin Park or any other person to provide the Recipient with additional information or to update, revise or reaffirm the information contained in

this Presentation or to correct any inaccuracies therein which may become apparent.

Past or projected performance information contained in this Presentation is not necessarily indicative of future results. There can be no assurance that the Fund will ultimately achieve comparable performance results.

This Presentation is not intended to be relied upon as legal, tax, accounting or investment advice or a recommendation and is not, and should not be assumed to be, complete. The Recipient agrees that Franklin Park and its affiliates, members, partners, stockholders, managers, directors, officers, employees and agents shall have no liability for any misstatement or omission of fact or any opinion expressed herein. The contents herein are not to be construed as legal, business or tax advice, and the Recipient should consult its own attorney, business advisor and tax advisor as to legal, business and tax advice. Recipient is expected to rely on its own due diligence if it wishes to proceed further.

The Recipient further agrees that it will (i) not copy, reproduce or distribute the Presentation, in whole or in part, to any person or party without the prior written consent of Franklin Park, (ii) keep permanently confidential all information contained herein not already public and (iii) use the Presentation solely for the purpose set forth in the first paragraph above, and (iv) to return the Presentation to Franklin Park promptly upon request.

By accepting this Presentation the Recipient agrees to be bound by the foregoing obligations and limitations.

# Strategy Overview

CF Access Fund III is a fund of funds providing investors with exposure to corporate finance funds sized \$1 billion and less<sup>1</sup>

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## Less Efficient Market

- Small and lower mid market funds (generally ≤\$1B in size) pursuing growth capital, buyouts or turnarounds where incentives are aligned
- Smaller companies (typically <\$250M in value) where a financial partner can drive performance
- Conservative entry multiples and use of leverage

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## Experience & Aligned Teams

- Experienced private equity investors, including spin-outs, first institutional capital, re-starts
- Team is aligned and incentivized

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## Competitive Advantages

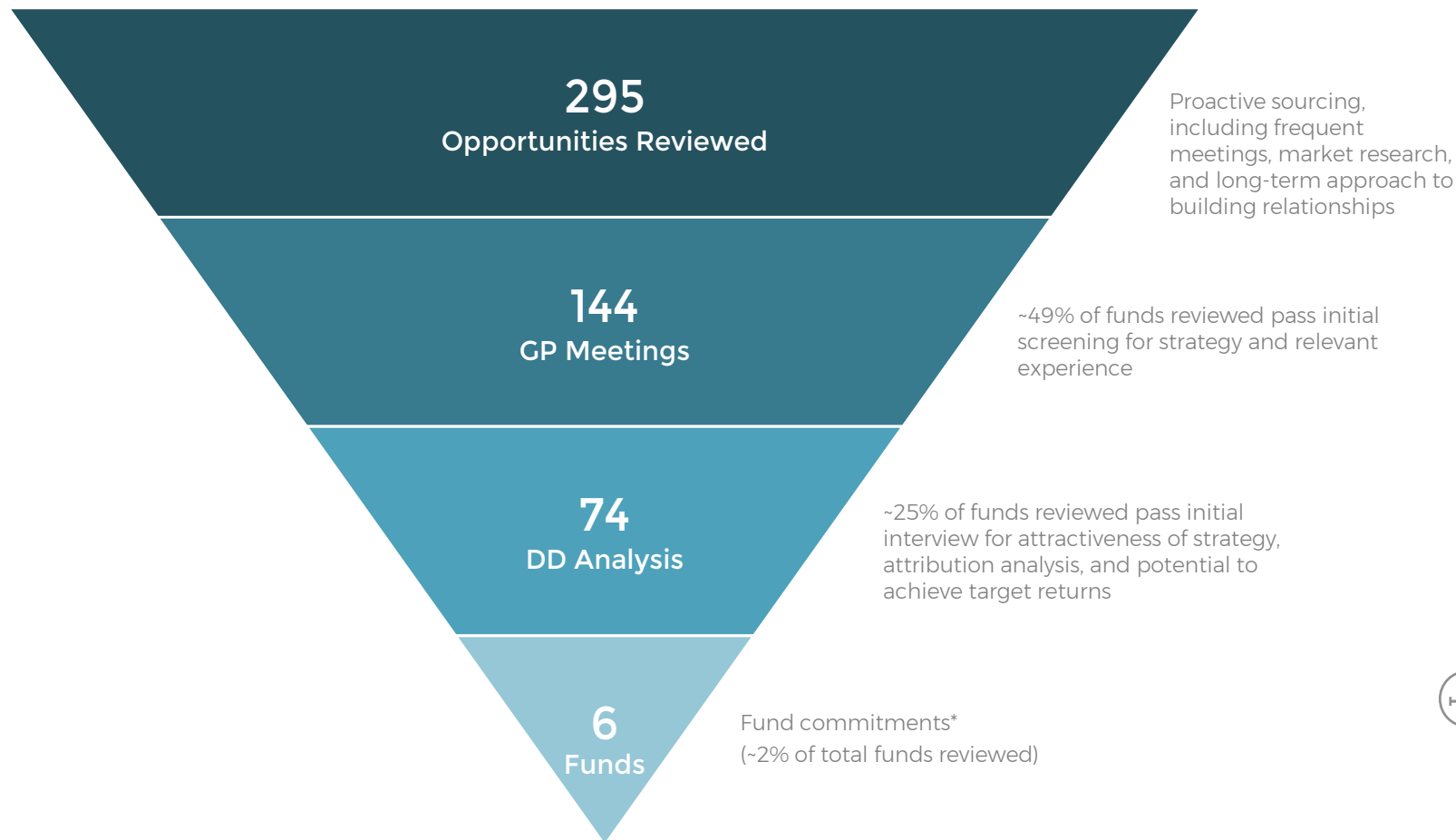
- Sector-focused with competitively advantaged domain knowledge and relationships
  - Deep value with operationally intensive value add approach
  - Small buyout with differentiated deal sourcing and growth strategy
- 

The information and descriptions provided are for illustrative purposes only and is designed to provide an overview of Franklin Park's philosophy and investment processes; however, there may be deviations based on a particular investment and Franklin Park may change its process in its discretion. Investments in private funds such as the Fund are illiquid, high-risk investments. No assurance can be given that the Fund will achieve its investment objectives or avoid substantial losses. See additional discussion of risks and limitations in the Footnotes beginning on page 7.

<sup>1</sup>The Fund targets investments of funds of \$1B or less in size, however fund investments may ultimately have a fund size larger than \$1B.

# Deal Flow (2024, Corporate Finance Funds <\$1 billion in size)

Broad market coverage with highly selective decision making



The information and descriptions provided are for illustrative purposes only. The information is designed to provide an overview of Franklin Park's investment philosophy and investment processes, however, there may be deviations based on a particular investment and Franklin Park may change its viewpoints and processes in its discretion. No assurance can be given that Franklin Park's sourcing efforts will gain the Fund access, or obtain preferred allocation amounts, to investments for which a commitment is sought. See additional discussion of risks and limitations in the Footnotes in the Appendix

\* "6 Funds" represents only funds to which the CF Access vehicles committed during the calendar year.

# Corporate Finance Track Record

Franklin Park's discretionary track record for U.S. focused small and lower middle market corporate finance funds

Fund	Vintage Year	Fund Investments	Committed Capital	Invested Capital	Distributed Capital	Remaining Value	ROI	TVPI	Gross IRR	Net IRR
Other Relevant Portfolio	2010-2024	71	1,288.0	899.5	1,025.0	787.9	2.0x	1.8x	19.8%	17.0%
CF Access Fund I	2019	16	147.0	125.7	37.2	148.1	1.5x	1.4x	22.8%	17.6%
CF Access Fund II	2022	15	113.7	27.4	0.6	29.8	1.1x	1.0x	NMF	NMF
<b>Total</b>		<b>102</b>	<b>1,548.7</b>	<b>1,052.5</b>	<b>1,062.8</b>	<b>965.8</b>	<b>1.9x</b>	<b>1.7x</b>	<b>19.9%</b>	<b>16.9%</b>

Data in the table is as of June 30, 2024. \$ in millions.

Other Relevant Portfolio (the "OR Portfolio") represents a composite portfolio of U.S. private fund commitments made by discretionary separate accounts that are consistent with the Fund's strategy. No individual investor received the performance presented. Additional details on the OR Portfolio are provided in the Footnotes in the Appendix.

ROI and Gross IRR performance is presented net of underlying private fund manager fees, portfolio fund expenses and carried interest charges, but calculated excluding Franklin Park's investment advisory fees, carried interest and vehicle expenses.

TVPI and Net IRR are net performance calculations based on the expected fee structure of the Fund applied to the OR Portfolio, CF Access Fund I and CF Access Fund II investment activity ("Model Performance"). No individual investor received the net performance returns presented. Hypothetical performance results have inherent limitations and no representation is being made that any Franklin Park investor, fund, or investment portfolio will or is likely to achieve profits similar to those shown. There will be differences between hypothetical performance and actual results achieved. Hypothetical performance is for illustrative purposes only and does not reflect the actual returns of any Franklin Park investor, fund, or investment portfolio. Hypothetical performance as presented is from more than one portfolio and may not be a meaningful comparison for a single investment fund due to a variety of reasons including vehicle specific investment criteria, diversification, investment allocation, risk, time horizon, leverage, certain commingled fund expenses and market conditions. The performance information is for illustrative purposes only and may not be a meaningful indicator of FP CF Access III's performance. IRR performance of CF Access Fund II is considered not yet meaningful ("NMF") given the young age of the portfolio and is not presented.

See additional important definitions, disclosures and information regarding returns and performance calculation methodologies, including Model Performance in the Footnotes section in the Appendix.

Investments in private funds such as the Fund are illiquid, high-risk investments and involve substantial risk of loss. Past results are not necessarily indicative of future performance. Wherever there is the potential for profit, there is the potential for loss. There can be no assurance that investments made by Franklin Park will realize the rates of returns indicated in this Presentation.

# Proposal

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**CF Access Fund III will provide ATRS with continued exposure to smaller corporate finance funds**

---

**ATRS to consider a \$40 million commitment as part of the 2025 pacing plan**

---

**Terms (same as approved on the commitment as part of the 2024 pacing plan):**

- **Management Fees: 0.5% for ATRS (0.9% of commitments for all other LPs)**
- **Carried Interest: 4% for \$60m+ commitment (5% for all other LPs)**

---

The Fund terms are subject to change. Refer to the Fund's governing documents for a complete listing of terms.

## Footnotes

Based in Bala Cynwyd, Pennsylvania, Franklin Park was formed in April 2003. Franklin Park is an independent, registered investment adviser with the U.S. Securities and Exchange Commission. Franklin Park assists its clients in building and managing customized investment portfolios of private market investments.

**Vintage Year** represents the year in which a private fund first called capital.

**Fund Investments** represents the number of underlying portfolio fund investments (the "Portfolio Funds")

**Committed Capital** represents the aggregate commitments to Portfolio Funds.

**Invested Capital** represents the amount of capital contributed to Portfolio Funds.

**Distributed Capital** represents the amount of capital distributed from Portfolio Funds.

**Remaining Value** represents the remaining unrealized value of Portfolio Funds.

**ROI** is the ratio of Distributed Capital plus Remaining Value to Invested Capital.

**TVPI** is the ratio of distributions plus remaining value to contributed capital on a net basis.

**IRR** is the discount rate that results in a net present value of zero of a series of cash flows and considers both cash flow timing and amount.

### **Liquidity Risk:**

Private fund investments such as the Fund are long-term, illiquid investments. Private funds such as the Fund generally have a term of ten years or more, and investors are generally not able to redeem their interests in private funds. Please refer to the Fund's governing documents for complete terms and conditions.

### **Valuation Risk:**

There can be no assurance that investments with an unrealized value will be realized at the valuations shown, as actual realized returns will depend on, among other factors, future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs, and the timing and manner of sale, all of which may differ from the assumptions on which the valuations contained herein are based. Accordingly, the actual realized return of these unrealized investments may differ materially from the returns indicated herein.

### **Risk of Loss:**

Past performance is not a guarantee. Investments in private equity funds such as the Fund are speculative and involve a substantial risk of loss. No assurance can be given that the Fund will achieve its investment objectives or avoid substantial losses. Information about other investments made by Franklin Park, including the past performance of other Franklin Park vehicles and investments, is provided solely to illustrate Franklin Park's investment experience, and processes and strategies used by

Franklin Park in the past with respect to other Franklin Park vehicles and investments. The performance information relating to Franklin Park's previous investments is not intended to be indicative of the Fund's future results. Past performance is not necessarily indicative, or a guarantee, of future results. There can be no assurance that the Fund will achieve comparable results as those presented or that investors in the Fund will not lose any of their invested capital.

Please refer to the Fund's Private Placement Memorandum and other governing documents for discussion of additional risk factors.

### **Model Performance:**

In order to approximate the impact on performance utilizing the applicable fee structure of the Fund, had it been charged to other Franklin Park- managed vehicles, a model is utilized to calculate performance. The model is based on the investment activity of Franklin Park-managed vehicles (the "Gross Activity").

Gross Activity represents the cash flows and capital account balances of the Portfolio Funds as reported by the Portfolio Fund managers, and is net of the Portfolio Fund expenses, management fees and carried interest.

The model applies the highest expected management fee and carried interest rates of the Fund, and estimated annual expenses, to Gross Activity to produce a resulting stream of cash flows net of estimated expenses, and anticipated investment advisory fees and carried interest (the "Net Activity"). The Net Activity is utilized to calculate TVPI and Net IRR performance returns ("Model Performance") approximating the impact of the Fund's fee structure to Franklin Park-managed vehicles. Model Performance is measured in U.S. dollars on an inception to date basis through June 30, 2024. No individual investor received the Model Performance returns.

Model Performance is not based on actual fees and expenses of other Franklin Park-managed vehicles and does not account for management fee offsets, capital recycling, use of credit facilities, or other terms and conditions which may have an impact on performance results.

Model Performance is hypothetical performance. Hypothetical performance results have inherent limitations and no representation is being made that any Franklin Park investor, fund, or investment portfolio will or is likely to achieve profits similar to those shown. There will be differences between hypothetical performance and actual results achieved. Hypothetical performance is for illustrative purposes only and does not reflect the actual returns of any Franklin Park investor, fund, or investment portfolio. Additional information on the risks and limitations of using model performance calculations in making investment decisions is available upon request.



## Footnotes

### Corporate Finance Track Record (p.5):

Other Relevant Portfolio (the "OR Portfolio") represents a hypothetical composite portfolio of U.S. private equity fund commitments made by discretionary separate accounts (the "Separate Accounts"), to private funds with fund sizes of \$1.0 billion or less with corporate finance strategies and Vintage Years 2010-2024. The OR Portfolio represents seven Separate Accounts that are structured like private funds and managed by Franklin Park with varying investment strategies and fee and expense terms. The investments in the OR Portfolio are all of the investments from the Separate Accounts meeting the criteria above, however the Separate Accounts made other investments that are not included. Franklin Park manages other accounts that make investments meeting the criteria, however, only investments made by Separate Accounts structured like private funds are included. The OR Portfolio performance information is provided to illustrate Franklin Park's experience investing in funds that are consistent with the Fund's strategy. Hypothetical performance results have inherent limitations, and no representation is being made that any Franklin Park investor, fund, or investment portfolio will or is likely to achieve profits similar to those shown. There will be differences between hypothetical performance and actual results achieved. Hypothetical performance is for illustrative purposes only and does not reflect the actual returns of any Franklin Park investor, fund, or investment portfolio. The hypothetical performance as presented is from more than one portfolio and may not be a meaningful comparison for a single investment fund due to a variety of reasons including vehicle specific investment criteria, diversification, investment allocation, risk, time horizon, leverage, certain commingled fund expenses and market conditions. The performance information is for illustrative purposes only and may not be a meaningful indicator of the Fund's performance.

OR Portfolio ROI and Gross IRR are based on the actual Gross Activity of the Separate Accounts in U.S. Dollars since inception (December 23, 2010) through June 30, 2024. OR Portfolio TVPI and Net IRR are calculated using Model Performance as described above using the highest anticipated management fee and carried interest rate of the Fund. No individual investor received the performance results presented.

Vintage Years for the OR Portfolio represent the Vintage Years of the Portfolio Funds in the composite.

There are Portfolio Funds held by more than one Franklin Park Separate Account or private fund. The Franklin Park Separate Accounts and private funds hold 84 unique Portfolio Funds as of June 30, 2024.

CF Access Fund I and CF Access Fund II invest in U.S. corporate finance focused private funds of about \$1 billion in size or less. CF Access Fund I and CF Access Fund II ROI and Gross IRR are based on CF Access Fund I's and CF Access Fund II's Gross Activity in U.S. Dollars since inception (October 15, 2019, and March 1, 2022, respectively) through June 30, 2024. CF Access Fund I and CF Access Fund II TVPI and Net IRR are Model Performance as described above using the highest anticipated management fee and carried interest rate of the Fund. No individual investor received the performance results presented.

Total performance is hypothetical performance as presented from more than one portfolio and may not be a meaningful comparison for a single investment fund due to a variety of reasons including vehicle specific investment criteria, diversification, investment allocation, risk, time horizon, leverage, certain commingled fund expenses and market conditions. The performance information is for illustrative purposes only and may not be a meaningful indicator of FP CF Access III's performance.

## Franklin Park Associates, LLC

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Bala Cynwyd, PA 19004

For more information, please contact us at [info@franklinparkllc.com](mailto:info@franklinparkllc.com)

Franklin Park Associates, LLC is an SEC registered investment advisor pursuant to the Investment Advisers Act of 1940

**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 West Third Street  
Little Rock, Arkansas 72201**

**RESOLUTION  
No. 2025-11**

**Approving Additional Investment in Franklin Park Corporate  
Finance Access Fund III, LP with Imminent Need**

**WHEREAS**, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

**WHEREAS**, the ATRS Board has reviewed the recommendation of its private equity consultant, Franklin Park Associates, LLC, along with the recommendation of the Investment Committee and ATRS staff regarding a potential additional investment in **Franklin Park Corporate Finance Access Fund III, LP**, a fund of funds managed by Franklin Park investing in smaller buyout, growth and turnaround private equity funds; and

**WHEREAS**, the ATRS Board approves an additional investment of up to **\$40 million dollars (\$40,000,000.00)** in **Franklin Park Corporate Finance Access Fund III, LP** and the Board, after its review of the timing in which the closing of the investment in **Franklin Park Corporate Finance Access Fund III, LP** may need to occur, has determined that there is an imminent need to immediately enter into the partial equity ownership agreement prior to the next scheduled meeting of the Arkansas Legislative Council. The Board also deems it financially appropriate to enter into the partial equity ownership agreement and concludes that to forego the opportunity to promptly implement its investment directives under the prudent investor rule would be inconsistent with its fiduciary duty of care to the members and annuitants.

**NOW, THEREFORE, BE IT RESOLVED**, that the ATRS Board approves an additional investment of up to **\$40 million dollars (\$40,000,000.00)** in **Franklin Park Corporate Finance Access Fund III, LP** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **Franklin Park Corporate Finance Access Fund III, LP**. The total investment amount is to be determined by the private equity consultant and ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the Board; and

***FURTHER, BE IT RESOLVED***, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment using the Imminent Need process, if acceptable terms are reached.

**Adopted this 3rd day of February 2025**

---

**Mr. Danny Knight, *Chair***  
**Arkansas Teacher Retirement System**

**AON**

# **Preliminary Quarterly Investment Review**

**Arkansas Teacher Retirement  
System**

**Fourth Quarter 2024**

Investment advice and consulting services provided by Aon Investments  
US Inc.

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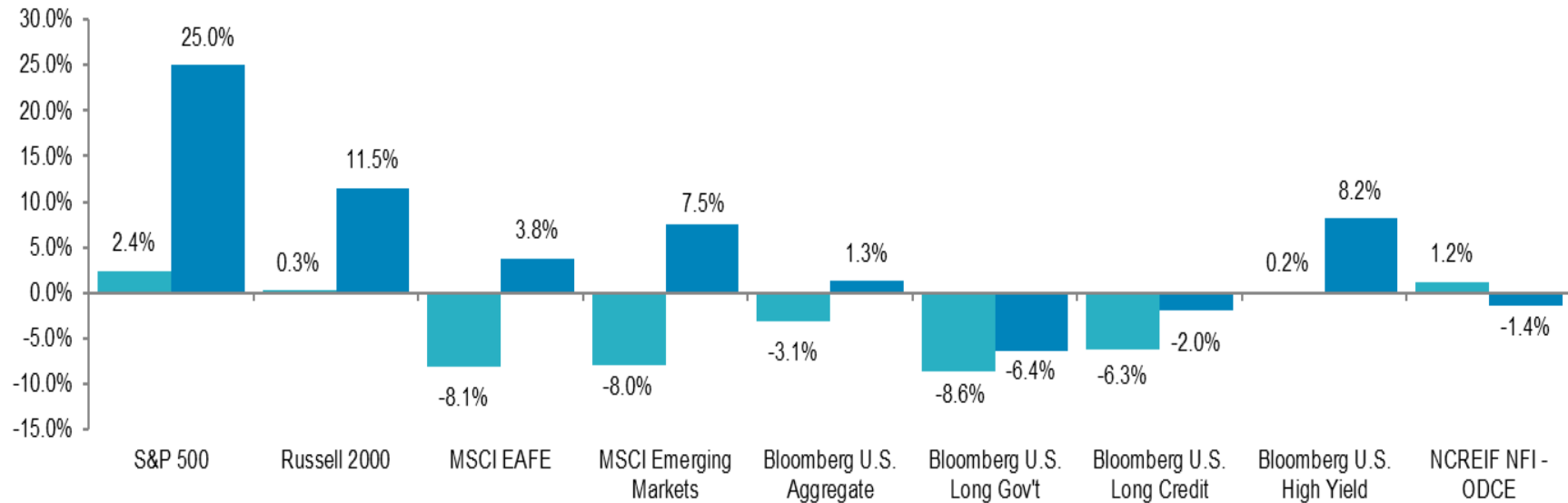
Executive Summary



# Market Highlights

## SHORT TERM RETURNS AS OF 12/31/2024

■ Fourth Quarter 2024 ■ One-Year



Source: Russell, MSCI, Bloomberg

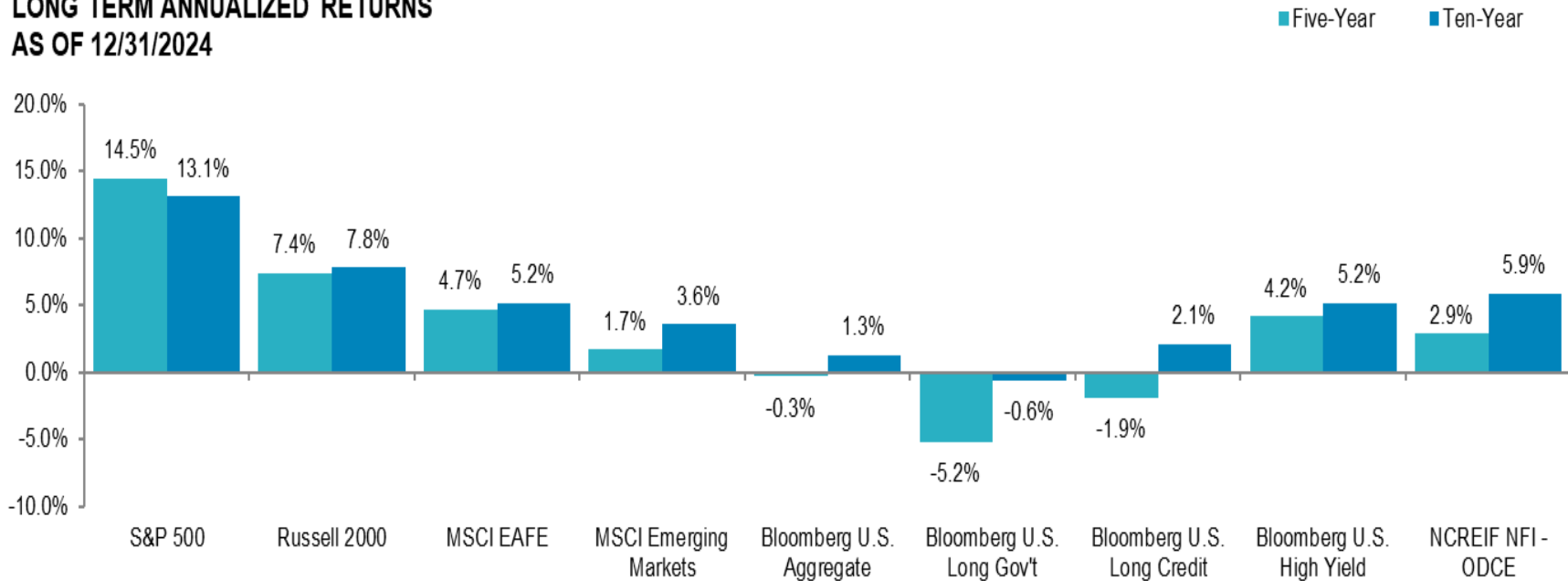
MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

**Past performance is no guarantee of future results.** Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.



# Market Highlights

## LONG TERM ANNUALIZED RETURNS AS OF 12/31/2024



Source: Russell, MSCI, Bloomberg

**Past performance is no guarantee of future results.** Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect fees and expenses. Please see appendix for index definitions and other general disclosures.

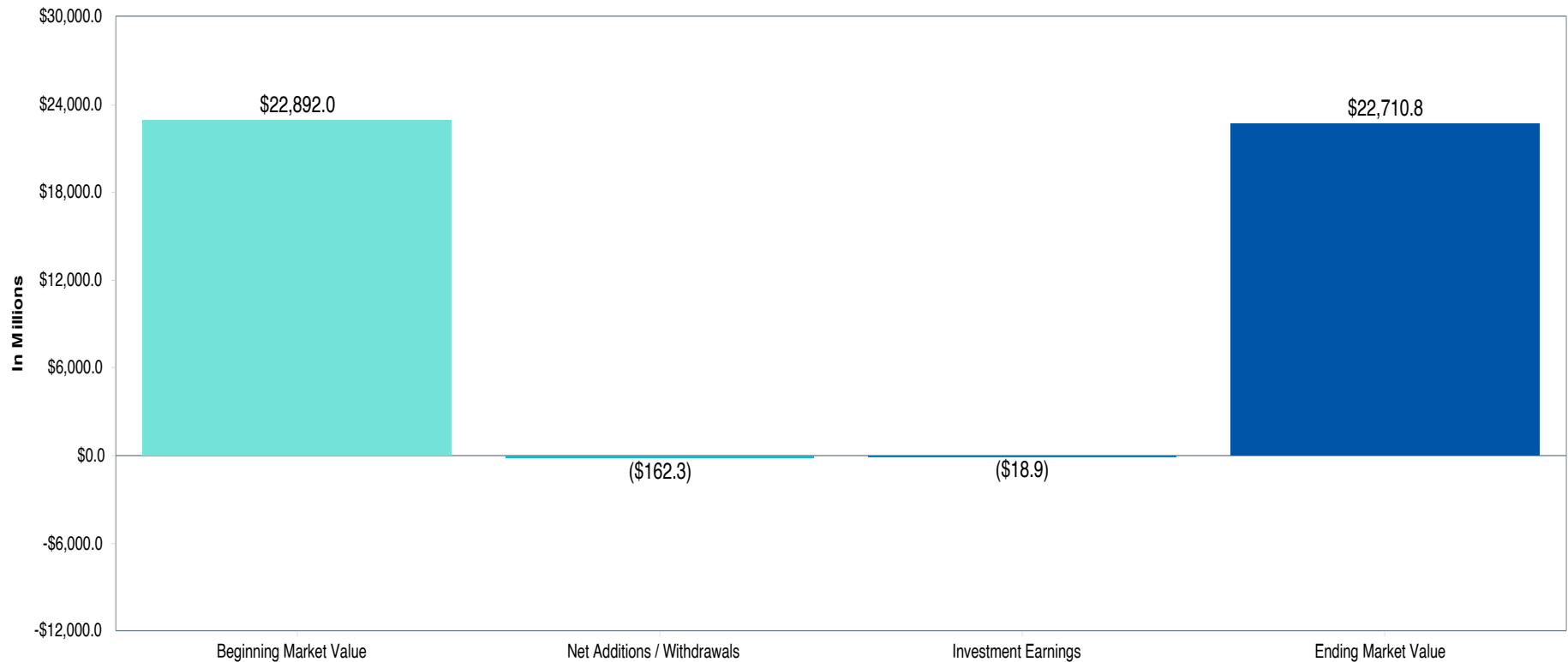
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Total Fund



# Total Plan Asset Summary

As of December 31, 2024



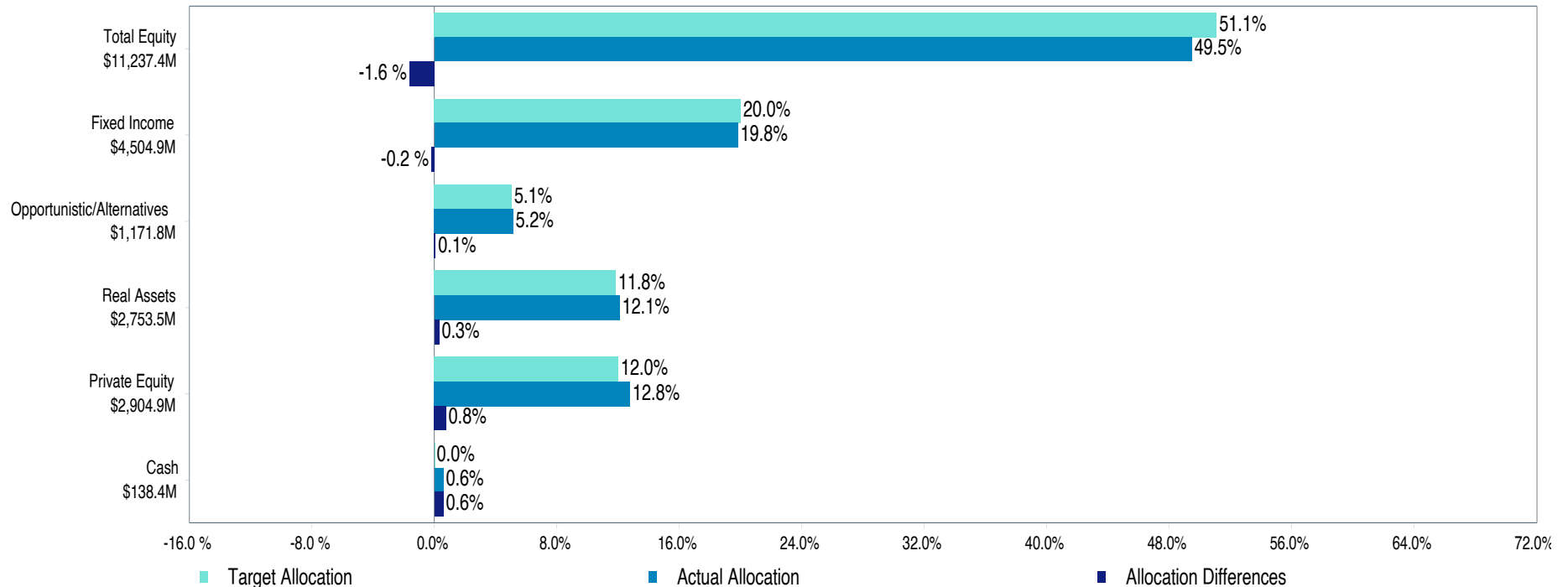
## Summary of Cash Flows

	1 Quarter	FYTD	1 Year
<b>Total Fund</b>			
Beginning Market Value	22,892,000,691	22,387,955,711	21,289,300,596
+ Additions / Withdrawals	-162,334,442	-433,595,587	-688,645,606
+ Investment Earnings	-18,865,911	756,440,214	2,110,145,347
<b>= Ending Market Value</b>	<b>22,710,800,338</b>	<b>22,710,800,338</b>	<b>22,710,800,338</b>

# Asset Allocation Compliance

As of December 31, 2024

	Market Value \$M	ATRS Current Allocation %	ATRS Benchmark Policy %	ATRS Long-Term Target Allocation %	Minimum Allocation %	Maximum Allocation %
<b>Total Fund</b>	<b>22,710.8</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>-</b>	<b>-</b>
Total Equity	11,237.4	49.48	51.11	48.00	43.00	53.00
Fixed Income	4,504.9	19.84	20.00	20.00	18.00	22.00
Opportunistic/Alternatives	1,171.8	5.16	5.07	5.00	0.00	100.00
Real Assets	2,753.5	12.12	11.83	15.00	0.00	100.00
Private Equity	2,904.9	12.79	12.00	12.00	0.00	100.00
Cash	138.4	0.61	0.00	-	0.00	5.00

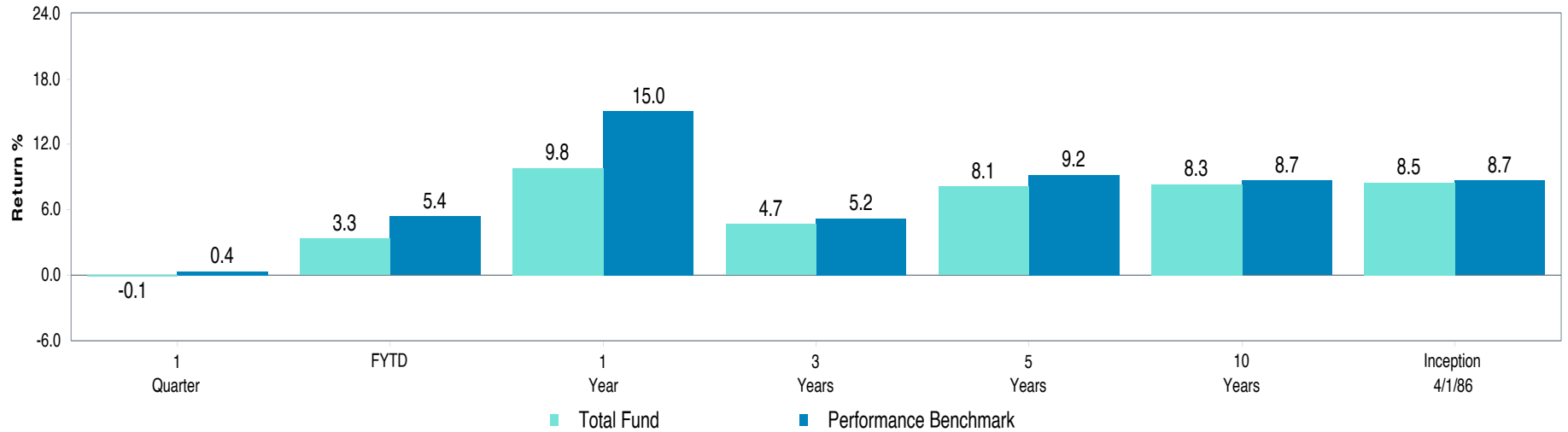


\*Market values and allocation percentages may not add to the sum total due to rounding.

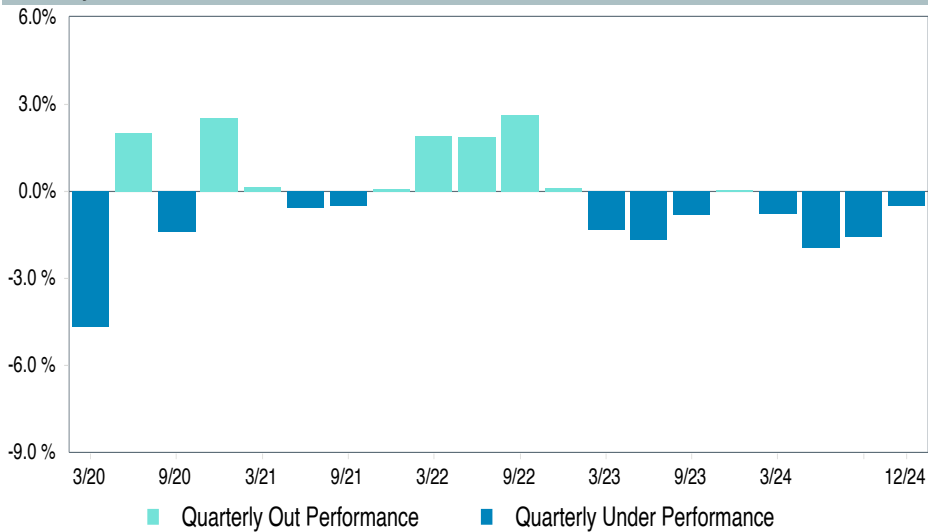
# Total Plan Performance Summary

As of December 31, 2024

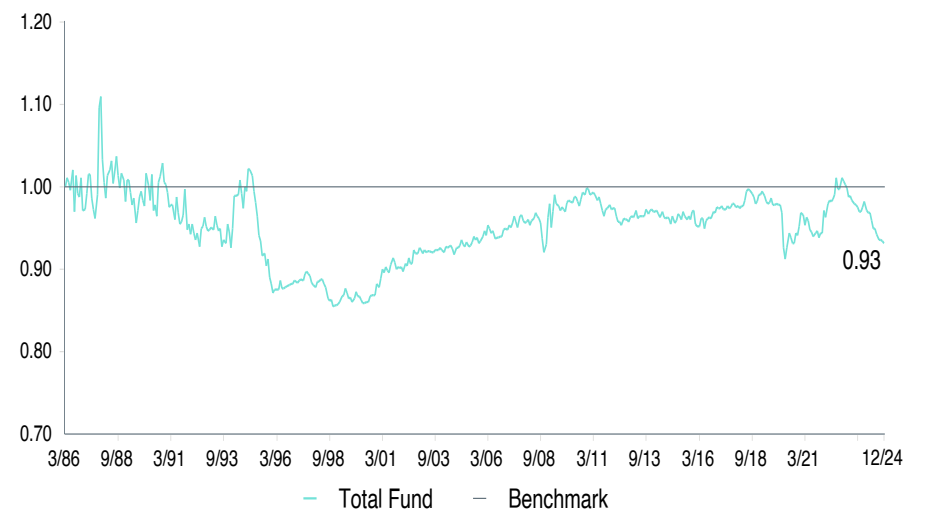
## Return Summary



## Quarterly Excess Performance



## Ratio of Cumulative Wealth - Since Inception



# Asset Allocation & Performance

As of December 31, 2024

	Allocation			Performance %							
	Market Value \$ (\$)	%	Policy %	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Total Fund</b>	22,710,800,338	100.0	100.0	-0.1	3.3	9.8	4.7	8.1	8.3	8.5	04/01/1986
<i>Performance Benchmark</i>				0.4	5.4	15.0	5.2	9.2	8.7	8.7	
<b>Total Equity</b>	11,237,431,720	49.5	51.1	-0.3	5.0	15.8	6.3	9.7		9.5	07/01/2015
<i>Total Equity Performance Benchmark</i>				0.0	6.6	18.8	5.9	11.0		10.4	
<b>Fixed Income</b>	4,504,903,249	19.8	20.0	-1.9	2.7	3.3	0.2	1.4	2.6	4.8	07/01/1992
<i>Performance Benchmark</i>				-2.7	2.3	2.0	-2.0	0.1	1.7	4.8	
<b>Opportunistic/Alternatives</b>	1,171,757,626	5.2	5.1	2.3	4.7	11.9	9.4	5.7	3.7	4.4	05/01/2011
<i>Custom Alternatives Benchmark</i>				1.1	2.6	8.5	5.0	4.4	2.9	2.8	
<b>Real Assets</b>	2,753,476,430	12.1	11.8	1.1	1.0	0.2	3.1	4.2	6.2	6.6	07/01/2013
<i>Total Real Assets Benchmark</i>				0.5	0.7	-1.6	3.3	4.5	5.9	6.6	
<b>Real Estate</b>	1,567,234,442	6.9		0.0	-0.6	-5.3	-0.6	1.8	5.2	7.5	12/01/1998
<i>NFI-ODCE (Net)</i>				0.0	-0.6	-8.0	-1.0	1.6	4.9	7.6	
<b>Timber</b>	376,144,271	1.7		3.3	4.9	11.6	7.9	7.2	6.0	7.2	06/01/1998
<i>Timberland Property Benchmark</i>				1.5	3.3	10.0	10.9	7.7	5.7		
<b>Agriculture</b>	247,861,359	1.1		-0.5	-0.8	2.5	7.5	6.4	5.5	5.9	09/01/2011
<i>Agriculture Benchmark</i>				-0.2	-0.4	2.6	6.2	5.5	5.1		
<b>Infrastructure</b>	562,236,358	2.5		3.5	3.7	8.2	10.2	12.5		12.6	07/01/2018
<i>Infrastructure Benchmark</i>				1.6	3.4	7.5	9.2	8.8		8.5	
<b>Private Equity</b>	2,904,872,404	12.8	12.0	1.1	-0.4	2.1	2.9	9.5	11.8	11.9	03/01/1997
<i>Private Equity Policy</i>				6.7	10.7	37.9	12.3	17.5	15.0	11.7	
<b>Cash</b>	138,358,908	0.6	0.0								

\*The Real Assets and Private Equity market values, returns and their benchmark returns are shown on a one-quarter lag. Market values have been adjusted for current quarter cash flows.

\*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 151 of this report.

\*The inception date above for infrastructure reflects the inception date for the calculation and reporting of time-weighted returns. The Infrastructure program began in July 2014 and the full history of Infrastructure returns are included in Total Real Assets and Total Fund performance.

Total Equity and Total Fund Performance includes investment earnings from Allianz Security Litigation Income received on February 28, 2022

\*Market values and allocation percentages may not add to the sum total due to rounding.

# Asset Allocation & Performance

As of December 31, 2024

	Allocation		Performance %							
	Market Value \$	%	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Total Fund</b>	<b>22,710,800,338</b>	<b>100.0</b>	<b>-0.1</b>	<b>3.3</b>	<b>9.8</b>	<b>4.7</b>	<b>8.1</b>	<b>8.3</b>	<b>8.5</b>	<b>04/01/1986</b>
<i>Performance Benchmark</i>			0.4	5.4	15.0	5.2	9.2	8.7	8.7	
<b>Total Equity</b>	<b>11,237,431,720</b>	<b>49.5</b>	<b>-0.3 (20)</b>	<b>5.0 (33)</b>	<b>15.8 (33)</b>	<b>6.3 (22)</b>	<b>9.7 (35)</b>		<b>9.5 (36)</b>	<b>07/01/2015</b>
<i>Total Equity Performance Benchmark</i>			0.0 (18)	6.6 (17)	18.8 (23)	5.9 (26)	11.0 (25)		10.4 (23)	
<b>Jacobs Levy 130/30</b>	<b>1,301,823,750</b>	<b>5.7</b>	<b>4.0 (22)</b>	<b>9.1 (34)</b>	<b>23.3 (26)</b>	<b>16.1 (2)</b>	<b>20.5 (2)</b>	<b>17.6 (1)</b>	<b>13.4 (3)</b>	<b>01/01/2008</b>
<i>Russell 3000 Index</i>			2.6 (31)	9.0 (35)	23.8 (25)	8.0 (24)	13.9 (22)	12.5 (22)	10.5 (29)	
<b>Kennedy Capital Management</b>	<b>450,457,798</b>	<b>2.0</b>	<b>0.1 (44)</b>	<b>7.9 (50)</b>	<b>10.4 (51)</b>	<b>0.7 (94)</b>	<b>8.4 (65)</b>	<b>7.4 (75)</b>	<b>11.6 (12)</b>	<b>01/01/1994</b>
<i>Russell 2000 Value Index</i>			-1.1 (66)	9.0 (39)	8.1 (71)	1.9 (83)	7.3 (81)	7.1 (85)	9.3 (100)	
<b>Stephens</b>	<b>438,245,905</b>	<b>1.9</b>	<b>2.2 (37)</b>	<b>8.2 (65)</b>	<b>15.8 (41)</b>	<b>0.0 (37)</b>	<b>9.6 (40)</b>	<b>9.8 (65)</b>	<b>9.8 (71)</b>	<b>08/01/2006</b>
<i>Russell 2000 Growth Index</i>			1.7 (39)	10.3 (40)	15.2 (47)	0.2 (35)	6.9 (79)	8.1 (95)	8.8 (90)	
<b>Voya Absolute Return</b>	<b>1,008,662,596</b>	<b>4.4</b>	<b>-0.7 (25)</b>	<b>5.1 (33)</b>	<b>18.6 (23)</b>	<b>6.1 (25)</b>	<b>10.7 (27)</b>	<b>9.8 (30)</b>	<b>10.7 (13)</b>	<b>10/01/2008</b>
<i>Performance Benchmark</i>			-1.0 (27)	5.6 (27)	17.5 (25)	5.4 (33)	10.1 (32)	9.6 (34)	10.5 (16)	
<b>Voya U.S. Convertibles</b>	<b>883,762,977</b>	<b>3.9</b>	<b>4.6 (19)</b>	<b>10.4 (22)</b>	<b>14.4 (56)</b>	<b>0.8 (85)</b>	<b>11.0 (44)</b>	<b>10.6 (42)</b>	<b>10.3 (31)</b>	<b>12/01/1998</b>
<i>Performance Benchmark</i>			3.4 (24)	8.8 (38)	11.1 (74)	0.7 (85)	9.7 (61)	9.0 (64)	8.2 (83)	
<b>Pershing Square Holdings</b>	<b>341,314,916</b>	<b>1.5</b>	<b>0.3 (54)</b>	<b>-9.7 (100)</b>	<b>3.6 (98)</b>	<b>6.1 (40)</b>	<b>21.4 (1)</b>	<b>8.0 (79)</b>	<b>9.7 (85)</b>	<b>01/01/2013</b>
<i>Dow Jones U.S. Total Stock Market Index</i>			2.7 (30)	9.0 (35)	23.9 (25)	7.9 (25)	13.8 (23)	12.5 (23)	14.1 (21)	
<b>Triar Partners</b>	<b>104,335,976</b>	<b>0.5</b>	<b>-2.5</b>	<b>11.1</b>	<b>20.0</b>	<b>5.9</b>	<b>7.4</b>		<b>8.4</b>	<b>11/01/2015</b>
<i>S&amp;P 500 Index</i>			2.4	8.4	25.0	8.9	14.5		14.0	
<b>Triar Co-Investments</b>	<b>75,421,197</b>	<b>0.3</b>	<b>-5.9</b>	<b>5.6</b>	<b>24.3</b>	<b>11.1</b>	<b>10.0</b>		<b>9.2</b>	<b>01/01/2017</b>
<i>S&amp;P 500 Index</i>			2.4	8.4	25.0	8.9	14.5		14.8	
<b>SSgA Global Index</b>	<b>946,118,442</b>	<b>4.2</b>	<b>-1.1 (29)</b>	<b>5.6 (27)</b>	<b>16.5 (30)</b>	<b>5.1 (35)</b>	<b>10.0 (32)</b>	<b>9.3 (38)</b>	<b>7.6 (45)</b>	<b>04/01/2008</b>
<i>MSCI AC World IMI (Net)</i>			-1.2 (30)	5.5 (27)	16.4 (30)	4.9 (37)	9.7 (36)	9.0 (42)	7.2 (48)	
<b>BlackRock MSCI ACWI IMI Fund</b>	<b>926,629,125</b>	<b>4.1</b>	<b>-1.2 (30)</b>	<b>5.5 (27)</b>	<b>16.6 (29)</b>	<b>5.3 (34)</b>	<b>10.0 (32)</b>	<b>9.3 (38)</b>	<b>9.1 (43)</b>	<b>07/01/2011</b>
<i>MSCI AC World IMI (Net)</i>			-1.2 (30)	5.5 (27)	16.4 (30)	4.9 (37)	9.7 (36)	9.0 (42)	8.8 (50)	
<b>Wellington Global Perspectives</b>	<b>731,931,841</b>	<b>3.2</b>	<b>-4.6 (69)</b>	<b>3.0 (58)</b>	<b>6.6 (73)</b>	<b>1.3 (69)</b>	<b>7.4 (63)</b>	<b>7.8 (61)</b>	<b>11.7 (25)</b>	<b>07/01/2009</b>
<i>Performance Benchmark</i>			-3.3 (52)	5.3 (31)	7.7 (67)	0.8 (73)	6.7 (74)	7.3 (68)	9.9 (59)	



# Asset Allocation & Performance

As of December 31, 2024

	Allocation		Performance %							
	Market Value \$	%	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>T. Rowe Price Global Equity</b>	1,261,439,923	5.6	-1.1 (28)	1.4 (73)	17.3 (26)	2.3 (58)	12.5 (12)	13.6 (4)	13.1 (7)	09/01/2009
<i>MSCI AC World Index (Net)</i>			-1.0 (27)	5.6 (27)	17.5 (25)	5.4 (33)	10.1 (32)	9.2 (39)	9.6 (52)	
<i>MSCI AC World Index Growth (net)</i>			2.6 (7)	6.8 (16)	24.2 (8)	5.7 (30)	13.1 (10)	11.9 (8)	11.8 (16)	
<b>Lazard</b>	881,002,849	3.9	-2.5 (41)	3.1 (57)	14.7 (36)	0.6 (76)	7.1 (68)	7.5 (65)	8.7 (72)	09/01/2009
<i>MSCI AC World Index (Net)</i>			-1.0 (27)	5.6 (27)	17.5 (25)	5.4 (33)	10.1 (32)	9.2 (39)	9.6 (52)	
<b>Harris Global Equity</b>	715,594,288	3.2	-3.7 (57)	3.9 (49)	5.2 (80)	2.3 (58)	7.4 (65)	7.2 (68)	6.7 (68)	06/01/2014
<i>MSCI World Index (Net)</i>			-0.2 (18)	6.2 (20)	18.7 (23)	6.3 (21)	11.2 (23)	9.9 (28)	9.4 (27)	
<i>MSCI World Value (Net)</i>			-4.2 (65)	5.0 (34)	11.5 (50)	5.1 (35)	7.0 (71)	6.7 (79)	6.1 (77)	
<b>Arrowstreet Global Equity - Alpha Extension Fund</b>	1,154,640,138	5.1	0.3 (23)	5.7 (36)	26.3 (8)				25.5 (10)	04/01/2023
<i>MSCI AC World IMI Index (Net)</i>			-1.2 (35)	5.5 (38)	16.4 (30)				17.3 (29)	
<b>Westrock Equity Fund</b>	16,050,000	0.1	-1.2	-37.2	-37.1				-28.5	09/01/2023
<i>Total Equity Performance Benchmark</i>			0.0	6.6	18.8				19.4	
<b>Fixed Income</b>	4,504,903,249	19.8	-1.9	2.7	3.3	0.2	1.4	2.6	4.8	07/01/1992
<i>Performance Benchmark</i>			-2.7	2.3	2.0	-2.0	0.1	1.7	4.8	
<b>BlackRock</b>	264,990,242	1.2	-3.1 (82)	2.0 (67)	1.8 (72)	-2.2 (76)	0.1 (77)	1.7 (69)	3.5 (42)	10/01/2003
<i>Performance Benchmark</i>			-2.7 (70)	2.3 (55)	2.0 (69)	-2.0 (70)	0.1 (77)	1.7 (66)	3.4 (46)	
<b>Loomis Sayles</b>	719,343,754	3.2	-1.3 (48)	4.5 (12)	6.2 (21)	0.4 (42)	3.0 (20)	3.8 (20)	6.6 (8)	09/01/2008
<i>Performance Benchmark</i>			-1.9 (60)	3.1 (28)	3.6 (40)	-0.7 (57)	1.4 (46)	2.8 (26)	4.4 (28)	
<b>SSgA Aggregate Bond Index</b>	1,326,462,177	5.8	-3.0 (81)	2.0 (68)	1.4 (80)	-2.4 (83)	-0.3 (85)	1.4 (86)	2.2 (72)	06/01/2010
<i>Barclays Aggregate Index</i>			-3.1 (82)	2.0 (69)	1.3 (82)	-2.4 (83)	-0.3 (85)	1.3 (86)	2.2 (72)	
<b>Wellington Global Total Return</b>	432,759,266	1.9	3.6 (8)	4.6 (28)	8.5 (43)	6.8 (12)	4.4 (37)	3.4 (57)	3.2 (50)	05/01/2014
<i>BofA Merrill Lynch 3 Month US T-Bill</i>			1.2 (36)	2.6 (46)	5.3 (69)	3.9 (37)	2.5 (86)	1.8 (79)	1.7 (73)	
<b>Reams Core Plus Bond Fund</b>	589,961,208	2.6	-3.5 (89)	1.9 (71)	1.4 (79)	-1.5 (64)	2.0 (35)	2.7 (28)	2.6 (32)	05/01/2014
<i>Barclays Aggregate Index</i>			-3.1 (82)	2.0 (69)	1.3 (82)	-2.4 (83)	-0.3 (85)	1.3 (86)	1.6 (83)	
<b>Baird Core Plus Bond</b>	811,566,836	3.6	-2.7						-1.3	09/01/2024
<i>Blmbg. U.S. Universal Index</i>			-2.7						-1.4	
<b>BRS Recycling Tax Credit</b>	186,500,000	0.8								
<b>BRS Recycling Tax Credit Phase 2</b>	91,200,000	0.4								
<b>BRS Recycling Tax Credit Phase 3</b>	82,119,766	0.4								

# Asset Allocation & Performance

As of December 31, 2024

	Allocation		Performance %							
	Market Value \$	%	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Opportunistic/Alternatives</b>	1,171,757,626	5.2	2.3	4.7	11.9	9.4	5.7	3.7	4.4	05/01/2011
<i>Custom Alternatives Benchmark</i>			1.1	2.6	8.5	5.0	4.4	2.9	2.8	
<b>Anchorage</b>	21,687,698	0.1	2.3	3.9	6.2	5.8	7.5	4.6	5.8	05/01/2011
<i>Credit Suisse Event Driven</i>			3.0	6.8	13.0	4.8	6.8	4.0	3.8	
<b>York</b>	1,409,477	0.0	1.8	51.1	143.7	44.2	8.6	3.2	4.3	05/01/2011
<i>Credit Suisse Event Driven</i>			3.0	6.8	13.0	4.8	6.8	4.0	3.8	
<b>Capula</b>	109,023,409	0.5	2.8	5.3	7.9	10.4	7.9	7.2	6.8	05/01/2011
<i>HFRI Macro (Total) Index</i>			0.8	0.2	5.7	4.7	5.4	3.1	2.2	
<b>Graham</b>	108,006,387	0.5	3.5	0.7	11.9	14.9	11.4	6.6	5.7	05/01/2011
<i>HFRI Macro (Total) Index</i>			0.8	0.2	5.7	4.7	5.4	3.1	2.2	
<b>Circumference Group Core Value</b>	45,528,793	0.2	5.5	7.4	8.5	5.5	9.3	8.8	8.8	08/01/2015
<i>Russell 2000 Index</i>			0.3	9.6	11.5	1.2	7.4	7.9	7.9	
<b>Aeolus Keystone Fund</b>	19,096,718	0.1	5.5	8.8	14.1	10.3	2.9	0.9	0.9	12/01/2015
<i>FTSE 3 Month T-Bill</i>			1.2	2.6	5.4	4.1	2.5	2.0	2.0	
<i>Eurekahedge ILS Advisers Index</i>			3.3	8.5	13.2	8.0	5.7	2.7	2.7	
<b>Parametric Global Defensive Equity Fund</b>	242,196,027	1.1	0.8	3.8	12.3	6.0	6.8	6.4	6.4	05/01/2017
<i>Performance Benchmark</i>			0.1	4.1	11.4	5.1	6.6	6.4	6.4	
<i>MSCI AC World Index</i>			-0.9	5.8	18.0	5.9	10.6	10.8	10.8	
<b>Man Alternative Risk Premia</b>	127,994,697	0.6	-1.6	-2.6	8.5	8.6	5.3	3.9	3.9	06/01/2018
<i>SG Multi Alternative Risk Premia Index</i>			1.0	1.3	9.4	6.9	2.3	1.9	1.9	
<b>CFM Systematic Global Macro Fund</b>	122,355,592	0.5	11.8	16.4	16.4	11.2		11.1	11.1	12/01/2021
<i>HFRI Macro: Systematic Diversified Index</i>			0.1	-3.5	4.1	3.9		3.9	3.9	
<b>Pillar Opportunity</b>	121,731,863	0.5	1.7	9.3	15.1	8.6		8.4	8.4	12/01/2021
<i>FTSE 3 Month T-Bill</i>			1.2	2.6	5.4	4.1		3.9	3.9	
<i>Eurekahedge ILS Advisers Index</i>			3.3	8.5	13.2	8.0		7.9	7.9	
<b>Chatham PDSC III</b>	75,819,444	0.3	-0.4	1.0	9.6	15.0		14.1	14.1	11/01/2021
<i>HFRI Event-Driven (Total) Index</i>			1.6	6.2	9.3	4.7		4.4	4.4	
<b>Silver Point Capital Fund</b>	59,239,260	0.3	1.8	4.5	12.4			6.7	6.7	04/01/2022
<i>HFRI ED: Distressed/Restructuring Index</i>			2.5	6.2	11.1			4.6	4.6	
<b>Prophet Mtg. Servicing Opportunities</b>	50,484,615	0.2	3.4	7.2	16.4			17.3	17.3	05/01/2023
<i>Credit Suisse Hedge Fund Index</i>			0.7	2.0	9.0			8.6	8.6	
<b>Chatham PDSC IV</b>	67,183,647	0.3	-2.2	2.3	7.4			20.5	20.5	06/01/2023
<i>HFRI Event-Driven (Total) Index</i>			1.6	6.2	9.3			12.4	12.4	

# Asset Allocation & Performance

As of December 31, 2024

	Allocation		Performance %							
	Market Value \$	%	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Real Assets</b>	2,753,476,430	12.1	1.1	1.0	0.2	3.1	4.2	6.2	6.6	07/01/2013
<i>Total Real Assets Benchmark</i>			0.5	0.7	-1.6	3.3	4.5	5.9	6.6	
<b>Real Estate</b>	1,567,234,442	6.9	0.0	-0.6	-5.3	-0.6	1.8	5.2	7.5	12/01/1998
<i>NFI-ODCE (Net)</i>			0.0	-0.6	-8.0	-1.0	1.6	4.9	7.6	
<b>Timber</b>	376,144,271	1.7	3.3	4.9	11.6	7.9	7.2	6.0	7.2	06/01/1998
<i>Timberland Property Benchmark</i>			1.5	3.3	10.0	10.9	7.7	5.7		
<b>BTG Timber Separate Account</b>	120,688,564	0.5								
<b>BTG U.S. Timberland Fund, L.P.</b>	255,455,707	1.1								
<b>Agriculture</b>	247,861,359	1.1	-0.5	-0.8	2.5	7.5	6.4	5.5	5.9	09/01/2011
<i>Agriculture Benchmark</i>			-0.2	-0.4	2.6	6.2	5.5	5.1		
<b>HFMS Farmland</b>	183,176,688	0.8	-0.7	-1.4	1.5	7.8	6.7	5.7	6.0	09/01/2011
<i>HFMS custom NCREIF Farmland Index</i>			-0.2	-0.4	2.6	6.2	5.7	4.9		
<b>UBS Agrivest Core Farmland Fund</b>	64,684,671	0.3	0.0	0.9	5.2	7.1	5.7		5.2	07/01/2015
<i>UBS Agrivest custom NCREIF Farmland Index</i>			-0.2	-0.4	2.6	6.2	5.7		5.8	
<b>Infrastructure</b>	562,236,358	2.5	3.5	3.7	8.2	10.2	12.5		12.6	07/01/2018
<i>Infrastructure Benchmark</i>			1.6	3.4	7.5	9.2	8.8		8.5	
<b>Private Equity</b>	2,904,872,404	12.8	1.1	-0.4	2.1	2.9	9.5	11.8	12.0	04/01/1997
<i>Private Equity Policy</i>			6.7	10.7	37.9	12.3	17.5	15.0	11.8	
<b>Cash</b>	138,358,908	0.6								

\*The Real Assets and Private Equity market values, returns and their benchmark returns are shown on a one-quarter lag. Market values have been adjusted for current quarter cash flows.

\*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 151 of this report.

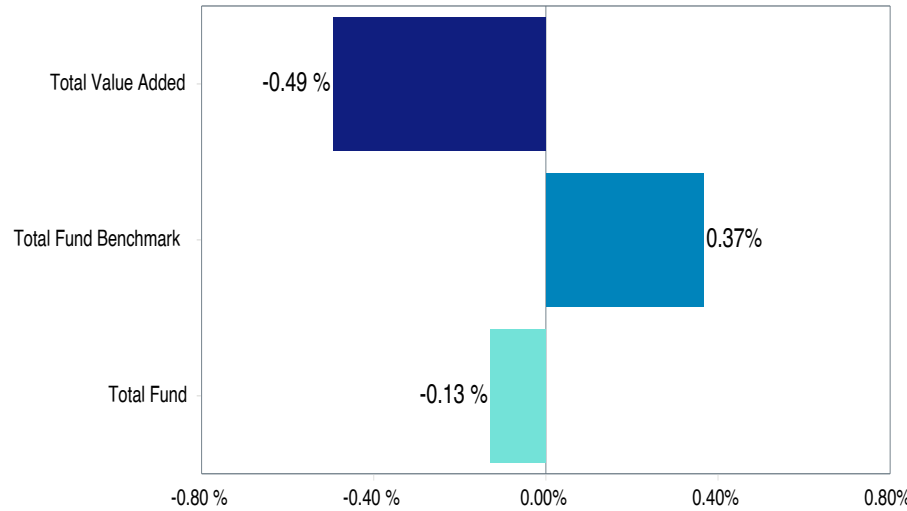
\*The inception date above for infrastructure reflects the inception date for the calculation and reporting of time-weighted returns. The Infrastructure program began in July 2014 and the full history of Infrastructure returns are included in Total Real Assets and Total Fund performance.

\*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance with GASB Statement 72, representing the 14 years of annual income, and has been incorporated into Total Fixed Income and Total Fund performance.

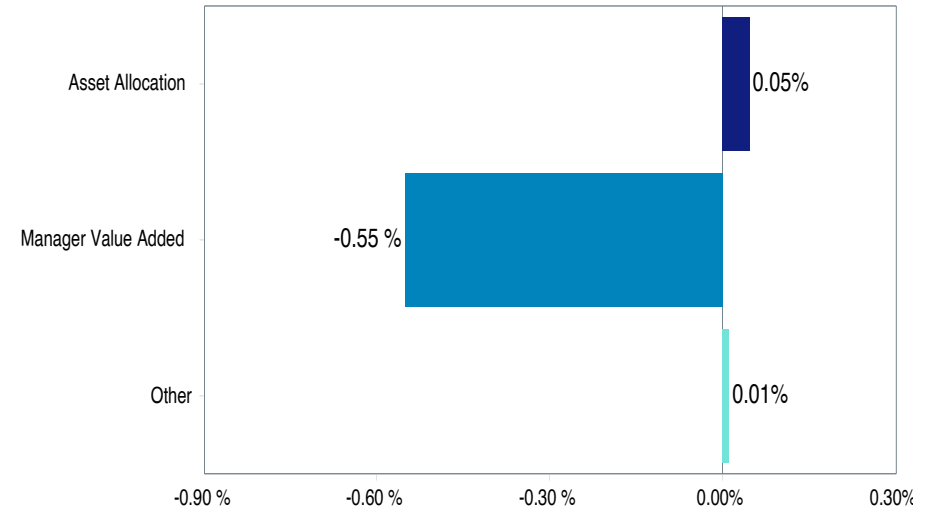
# Total Fund Attribution

1 Quarter Ending December 31, 2024

## Total Fund Performance

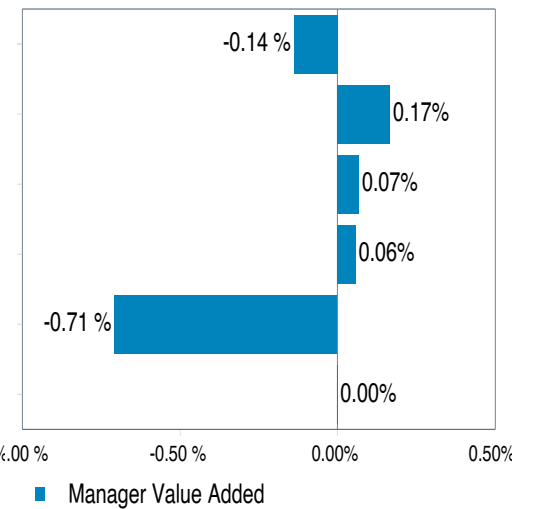
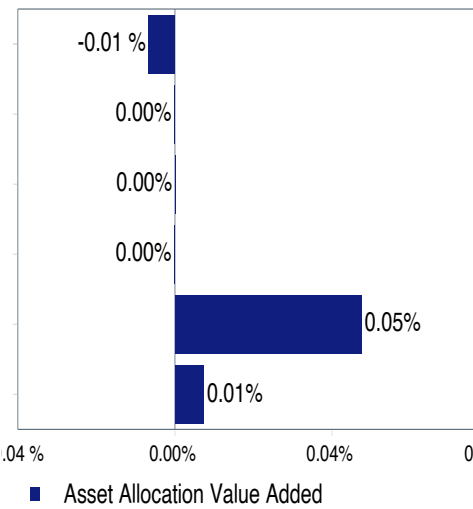
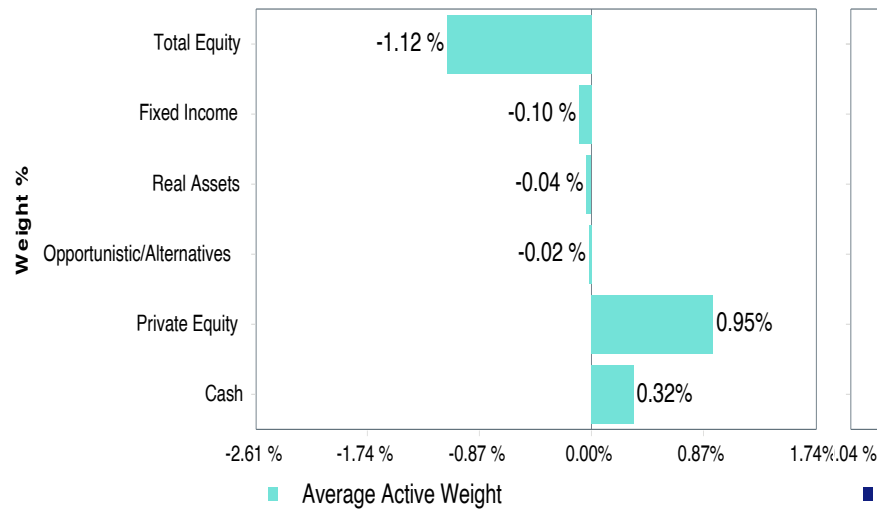


## Total Value Added: -0.49 %



## Total Asset Allocation: 0.05%

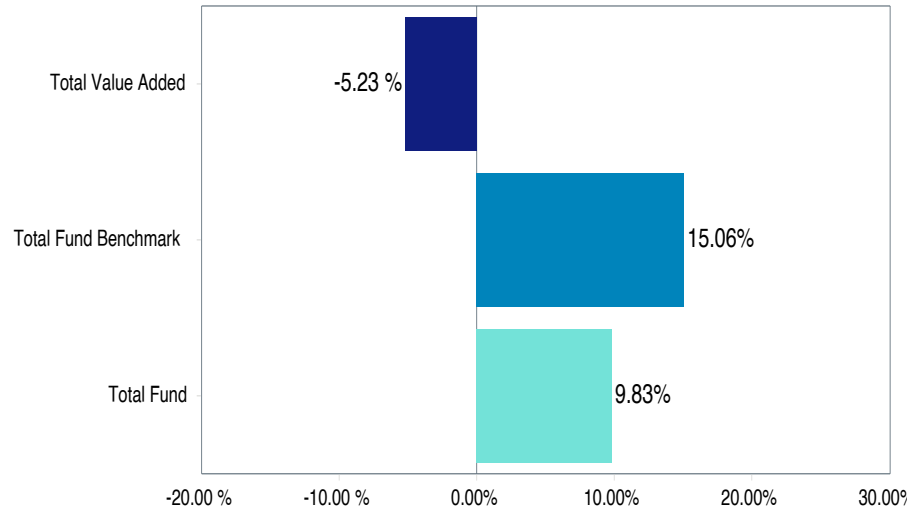
## Total Manager Value Added: -0.55 %



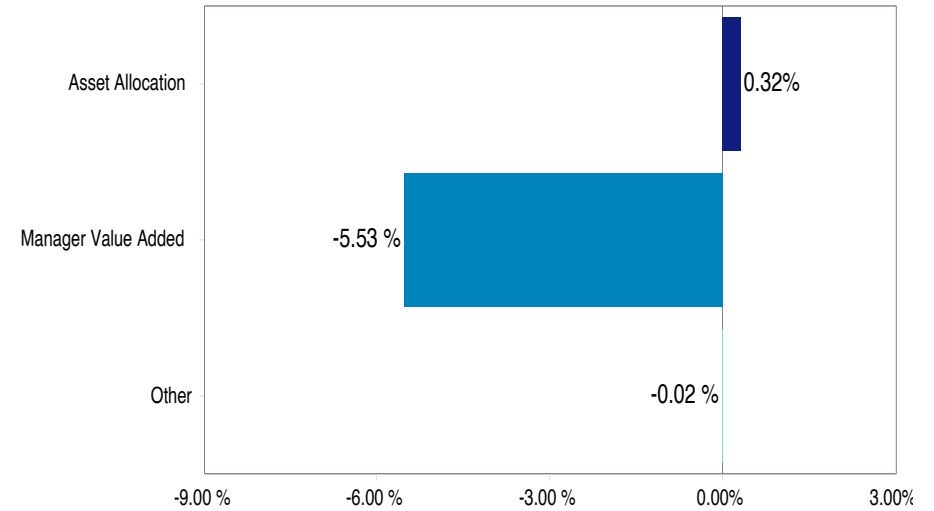
# Total Fund Attribution

1 Year Ending December 31, 2024

## Total Fund Performance

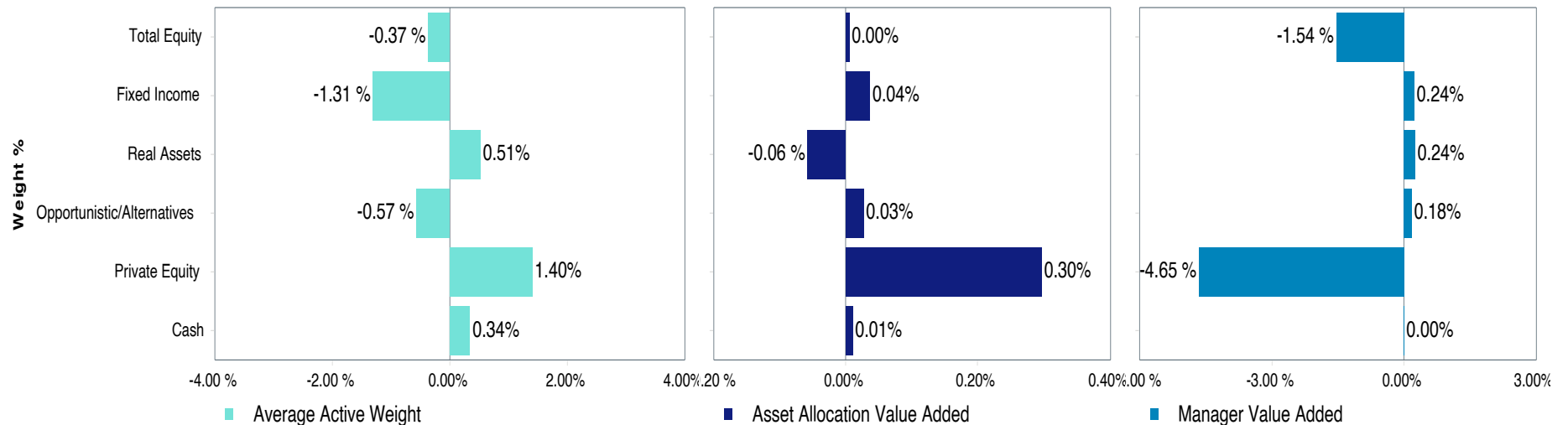


## Total Value Added: -5.23%



## Total Asset Allocation: 0.32%

## Total Manager Value Added: -5.53%



# Asset Allocation & Performance

## Calendar Year Performance

	Performance %									
	Fiscal Year 2025	Fiscal Year 2024	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
<b>Total Fund</b>	3.3	11.4 (16)	9.2 (16)	-3.9 (29)	31.9 (9)	-1.4 (93)	5.3 (68)	11.7 (2)	16.1 (2)	-0.5 (70)
<i>Performance Benchmark</i>	5.4	15.3 (1)	9.2 (16)	-7.2 (56)	31.2 (13)	2.3 (38)	7.1 (14)	9.2 (21)	13.2 (30)	1.8 (12)
<b>Total Equity</b>	5.0 (33)	19.5 (31)	15.7 (54)	-13.4 (37)	47.4 (24)	-6.4 (78)	4.1 (59)	13.4 (30)	22.1 (27)	-4.8 (57)
<i>Total Equity Performance Benchmark</i>	6.6 (17)	20.1 (29)	17.0 (44)	-15.8 (48)	42.0 (42)	2.7 (44)	5.9 (49)	12.2 (35)	19.0 (46)	-1.5 (38)
<b>Jacobs Levy 130/30</b>	9.1 (34)	28.7 (13)	18.0 (38)	12.1 (1)	50.3 (42)	0.2 (47)	5.5 (51)	19.9 (23)	24.6 (18)	8.3 (4)
<i>Russell 3000 Index</i>	9.0 (35)	23.1 (26)	19.0 (31)	-13.9 (52)	44.2 (57)	6.5 (32)	9.0 (32)	14.8 (45)	18.5 (56)	2.1 (23)
<b>Kennedy Capital Management</b>	7.9 (50)	10.8 (59)	6.6 (87)	-11.9 (55)	72.4 (30)	-16.2 (51)	-7.8 (68)	12.2 (49)	24.2 (36)	-4.9 (66)
<i>Russell 2000 Value Index</i>	9.0 (39)	10.9 (57)	6.0 (88)	-16.3 (83)	73.3 (28)	-17.5 (60)	-6.2 (59)	13.1 (41)	24.9 (30)	-2.6 (43)
<b>Stephens</b>	8.2 (65)	14.5 (22)	13.6 (73)	-25.8 (32)	40.2 (87)	7.8 (53)	8.4 (38)	29.5 (27)	18.3 (84)	-7.8 (42)
<i>Russell 2000 Growth Index</i>	10.3 (40)	9.1 (49)	18.5 (36)	-33.4 (64)	51.4 (59)	3.5 (63)	-0.5 (79)	21.9 (65)	24.4 (43)	-10.8 (60)
<b>Voya Absolute Return</b>	5.1 (33)	22.2 (20)	15.6 (55)	-14.1 (41)	41.9 (42)	0.1 (55)	4.0 (59)	9.9 (53)	20.3 (37)	1.9 (21)
<i>Performance Benchmark</i>	5.6 (27)	19.4 (31)	16.5 (47)	-15.8 (48)	39.3 (54)	2.1 (47)	5.7 (50)	10.7 (48)	18.8 (48)	1.1 (23)
<b>Voya U.S. Convertibles</b>	10.4 (22)	5.9 (91)	9.5 (84)	-19.8 (70)	47.3 (49)	20.1 (10)	12.5 (15)	16.4 (36)	15.9 (75)	-7.1 (79)
<i>Performance Benchmark</i>	8.8 (38)	6.2 (90)	10.6 (79)	-20.6 (71)	45.7 (53)	15.3 (16)	7.8 (39)	12.0 (64)	16.8 (69)	-4.7 (66)
<b>Pershing Square Holdings</b>	-9.7 (100)	47.9 (1)	23.5 (14)	-17.9 (66)	57.0 (26)	36.5 (1)	21.7 (1)	-2.7 (100)	8.3 (96)	-49.1 (100)
<i>Dow Jones U.S. Total Stock Market Index</i>	9.0 (35)	23.2 (25)	18.9 (32)	-14.2 (54)	44.3 (56)	6.4 (33)	8.9 (33)	14.8 (45)	18.5 (56)	2.0 (23)
<b>Triar Partners</b>	11.1	12.2	18.5	-19.0	33.4	-2.3	13.1	2.8	9.5	
<i>S&amp;P 500 Index</i>	8.4	24.6	19.6	-10.6	40.8	7.5	10.4	14.4	17.9	
<b>Triar Co-Investments</b>	5.6	25.2	22.6	-10.9	34.5	-3.4	14.4	-5.6		
<i>S&amp;P 500 Index</i>	8.4	24.6	19.6	-10.6	40.8	7.5	10.4	14.4	17.9	
<b>SSgA Global Index</b>	5.6 (27)	18.5 (34)	16.5 (47)	-16.2 (51)	41.3 (45)	1.6 (49)	4.8 (54)	11.4 (42)	19.4 (42)	-3.4 (48)
<i>MSCI AC World IMI (Net)</i>	5.5 (27)	18.4 (35)	16.1 (50)	-16.5 (52)	40.9 (46)	1.2 (51)	4.6 (56)	11.1 (44)	19.0 (45)	-3.9 (51)
<b>BlackRock MSCI ACWI IMI Fund</b>	5.5 (27)	18.8 (33)	16.6 (46)	-16.2 (51)	41.4 (45)	1.5 (49)	4.5 (56)	11.4 (42)	19.1 (45)	-3.4 (48)
<i>MSCI AC World IMI (Net)</i>	5.5 (27)	18.4 (35)	16.1 (50)	-16.5 (52)	40.9 (46)	1.2 (51)	4.6 (56)	11.1 (44)	19.0 (45)	-3.9 (51)
<b>Wellington Global Perspectives</b>	3.0 (58)	11.8 (63)	13.4 (69)	-17.1 (56)	60.0 (9)	-11.7 (91)	-3.8 (90)	15.7 (20)	24.8 (15)	-4.2 (52)
<i>Performance Benchmark</i>	5.3 (31)	10.6 (70)	13.0 (70)	-21.8 (77)	54.1 (14)	-5.5 (76)	-3.0 (88)	13.8 (27)	20.5 (36)	-4.7 (56)

# Asset Allocation & Performance

## Calendar Year Performance

	Performance %									
	Fiscal Year 2025	Fiscal Year 2024	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
<b>T. Rowe Price Global Equity</b>	1.4 (73)	24.0 (15)	20.0 (23)	-28.7 (91)	52.0 (15)	22.8 (6)	8.0 (35)	21.3 (8)	28.8 (8)	-0.6 (33)
MSCI AC World Index (Net)	5.6 (27)	19.4 (31)	16.5 (47)	-15.8 (48)	39.3 (54)	2.1 (47)	5.7 (50)	10.7 (48)	18.8 (48)	-3.7 (49)
MSCI AC World Index Growth (net)	6.8 (16)	24.7 (13)	23.1 (12)	-23.5 (81)	39.7 (52)	16.6 (10)	7.2 (41)	16.1 (19)	18.6 (49)	-2.7 (44)
<b>Lazard</b>	3.1 (57)	20.0 (30)	10.4 (79)	-25.6 (86)	47.5 (24)	1.6 (49)	2.7 (69)	9.8 (53)	26.2 (12)	-10.7 (88)
MSCI AC World Index (Net)	5.6 (27)	19.4 (31)	16.5 (47)	-15.8 (48)	39.3 (54)	2.1 (47)	5.7 (50)	10.7 (48)	18.8 (48)	-3.7 (49)
<b>Harris Global Equity</b>	3.9	5.9	18.4	-17.0	56.6	-6.6	-2.0	5.0	38.9	-12.8
MSCI World Index (Net)	6.2	20.2	18.5	-14.3	39.0	2.8	6.3	11.1	18.2	-2.8
MSCI World Value (Net)	5.0	13.9	10.7	-6.6	37.9	-11.3	4.2	5.6	18.7	-3.7
<b>Arrowstreet Global Equity - Alpha Extension Fund</b>	5.7 (36)	31.4 (7)								
MSCI AC World IMI Index (Net)	5.5 (38)	18.4 (31)								
<b>Westrock Equity Fund</b>										
Total Equity Performance Benchmark	6.6									
<b>Fixed Income</b>	2.7	3.9	1.4	-7.5	3.1	6.4	6.4	1.3	5.2	3.5
Performance Benchmark	2.3	3.5	0.0	-10.9	1.1	7.9	8.1	-0.3	0.9	5.8
<b>BlackRock</b>	2.0 (67)	3.4 (66)	-0.4 (76)	-10.9 (69)	0.9 (73)	9.0 (18)	8.0 (26)	-0.3 (75)	0.3 (69)	6.0 (22)
Performance Benchmark	2.3 (55)	3.5 (65)	0.0 (70)	-10.9 (69)	1.1 (69)	7.9 (29)	8.1 (24)	-0.3 (73)	0.9 (55)	5.8 (25)
<b>Loomis Sayles</b>	4.5 (12)	7.1 (23)	3.3 (26)	-12.5 (82)	9.3 (21)	7.6 (31)	7.4 (37)	1.8 (26)	8.1 (16)	1.9 (69)
Performance Benchmark	3.1 (28)	5.4 (36)	2.7 (31)	-11.5 (75)	4.9 (33)	6.6 (39)	8.2 (21)	0.5 (48)	4.0 (26)	5.0 (35)
<b>SSgA Aggregate Bond Index</b>	2.0 (68)	2.7 (79)	-1.0 (85)	-10.4 (62)	-0.3 (93)	8.7 (21)	7.9 (28)	-0.4 (77)	-0.3 (83)	6.0 (22)
Barclays Aggregate Index	2.0 (69)	2.6 (80)	-0.9 (85)	-10.3 (61)	-0.3 (93)	8.7 (21)	7.9 (28)	-0.4 (77)	-0.3 (84)	6.0 (22)
<b>Wellington Global Total Return</b>	4.6 (28)	6.2 (81)	4.8 (50)	3.8 (6)	1.7 (88)	2.1 (43)	5.3 (28)	5.1 (46)	-0.7 (88)	1.3 (41)
BofA Merrill Lynch 3 Month US T-Bill	2.6 (46)	5.4 (83)	3.6 (62)	0.2 (15)	0.1 (90)	1.6 (47)	2.3 (58)	1.4 (78)	0.5 (86)	0.2 (46)
<b>Reams Core Plus Bond Fund</b>	1.9	2.6	2.6	-10.7	2.1	15.3	8.6	0.0	0.0	6.1
Barclays Aggregate Index	2.0	2.6	-0.9	-10.3	-0.3	8.7	7.9	-0.4	-0.3	6.0
<b>Baird Core Plus Bond</b>										
Bmbg. U.S. Universal Index										
<b>BRS Recycling Tax Credit</b>										
<b>BRS Recycling Tax Credit Phase 2</b>										
<b>BRS Recycling Tax Credit Phase 3</b>										

# Asset Allocation & Performance

## Calendar Year Performance

	Performance %									
	Fiscal Year 2025	Fiscal Year 2024	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
<b>Opportunistic/Alternatives</b>	4.7	12.7	7.9	0.2	10.4	-5.3	-0.2	0.6	6.8	-1.7
<i>Custom Alternatives Benchmark</i>	2.6	8.7	4.9	-0.2	11.5	-2.8	2.4	3.4	2.8	-3.7
<b>Anchorage</b>	3.9	6.1	6.9	0.1	23.9	-5.4	1.4	6.2	5.9	-3.9
<i>Credit Suisse Event Driven</i>	6.8	11.0	5.2	-5.4	27.5	-6.9	1.9	3.8	9.3	-10.4
<b>York</b>	51.1	19.6	35.5	-9.1	5.3	-45.2	-5.9	12.2	14.3	-12.9
<i>Credit Suisse Event Driven</i>	6.8	11.0	5.2	-5.4	27.5	-6.9	1.9	3.8	9.3	-10.4
<b>Capula</b>	5.3	8.2	11.8	6.6	2.5	9.8	6.3	3.8	7.8	6.1
<i>HFRI Macro (Total) Index</i>	0.2	5.9	-0.4	7.9	15.0	0.8	2.4	1.1	-2.4	1.8
<b>Graham</b>	0.7	14.9	3.7	23.6	27.4	-5.6	2.1	6.5	-3.2	-1.0
<i>HFRI Macro (Total) Index</i>	0.2	5.9	-0.4	7.9	15.0	0.8	2.4	1.1	-2.4	1.8
<b>Circumference Group Core Value</b>	7.4	4.7	16.4	-10.1	27.9	5.0	2.7	15.9	14.0	
<i>Russell 2000 Index</i>	9.6	10.1	12.3	-25.2	62.0	-6.6	-3.3	17.6	24.6	
<b>Aeolus Keystone Fund</b>	8.8	4.4	11.3	-8.2	-0.2	5.1	-5.8	-17.9	11.2	
<i>FTSE 3 Month T-Bill</i>	2.6	5.6	3.7	0.2	0.1	1.6	2.3	1.3	0.5	
<i>Eurekahedge ILS Advisers Index</i>	8.5	11.2	4.2	0.4	3.6	2.9	-5.5	-6.6	5.0	
<b>Parametric Global Defensive Equity Fund</b>	3.8	12.7	12.6	-5.5	22.6	-4.2	3.9	5.8		
<i>Performance Benchmark</i>	4.1	12.6	10.4	-7.8	18.5	2.4	4.4	6.0		
<i>MSCI AC World Index</i>	5.8	19.9	17.1	-15.4	39.9	2.6	6.3	11.3		
<b>Man Alternative Risk Premia</b>	-2.6	15.3	8.5	12.1	2.8	-7.9	1.8			
<i>SG Multi Alternative Risk Premia Index</i>	1.3	10.9	6.1	4.0	3.1	-11.6	0.4			
<b>CFM Systematic Global Macro Fund</b>	16.4	7.4	-4.8							
<i>HFRI Macro: Systematic Diversified Index</i>	-3.5	4.4	-3.4							
<b>Pillar Opportunity</b>	9.3	17.9	-3.0							
<i>FTSE 3 Month T-Bill</i>	2.6	5.6	3.7							
<i>Eurekahedge ILS Advisers Index</i>	8.5	11.2	4.2							
<b>Chatham PDSC III</b>	1.0	17.7	18.8							
<i>HFRI Event-Driven (Total) Index</i>	6.2	10.8	5.3							
<b>Silver Point Capital Fund</b>	4.5	10.3	8.0							
<i>HFRI ED: Distressed/Restructuring Index</i>	6.2	10.3	1.6							
<b>Prophet Mtg. Servicing Opportunities</b>	7.2	19.3								
<i>Credit Suisse Hedge Fund Index</i>	2.0	11.0								
<b>Chatham PDSC IV</b>	2.3	19.3								
<i>HFRI Event-Driven (Total) Index</i>	6.2	10.8								



# Asset Allocation & Performance

## Calendar Year Performance

	Performance %									
	Fiscal Year 2025	Fiscal Year 2024	Fiscal Year 2023	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
<b>Real Assets</b>	1.0	-2.4	1.5	16.0	4.7	3.9	5.6	9.4	7.5	9.5
<i>Total Real Assets Benchmark</i>	0.7	-3.9	1.7	21.0	2.6	4.1	5.7	6.2	6.6	10.1
<b>Real Estate</b>	-0.6	-7.8	-3.5	21.7	0.8	2.0	5.7	11.1	6.9	12.0
<i>NFI-ODCE (Net)</i>	-0.6	-12.0	-3.9	27.3	-0.7	3.9	6.5	7.1	7.4	12.6
<b>Timber</b>	4.9	4.5	7.1	13.2	4.9	12.2	-0.3	1.2	8.0	0.4
<i>Timberland Property Benchmark</i>	3.3	9.8	11.3	11.8	1.6	3.1	0.1	2.6	3.7	2.5
<b>BTG Timber Separate Account</b>										
<b>BTG U.S. Timberland Fund, L.P.</b>										
<b>Agriculture</b>	-0.8	4.3	10.1	12.8	6.0	1.8	3.5	3.3	4.3	9.8
<i>Agriculture Benchmark</i>	-0.4	3.6	9.1	9.7	4.1	3.3	5.4	3.5	4.5	5.6
<b>HFMS Farmland</b>	-1.4	3.5	11.4	14.1	7.0	1.4	3.4	2.9	3.9	10.7
<i>HFMS custom NCREIF Farmland Index</i>	-0.4	3.6	9.1	9.7	4.4	4.6	4.9	2.0	4.0	4.8
<b>UBS Agrivest Core Farmland Fund</b>	0.9	6.4	6.9	9.4	3.5	3.1	4.0	4.5	5.0	6.2
<i>UBS Agrivest custom NCREIF Farmland Index</i>	-0.4	3.6	9.1	9.7	4.2	4.7	6.2	5.0	5.5	8.4
<b>Infrastructure</b>	3.7	6.7	12.6	16.3	21.2	7.2	14.6			
<i>Infrastructure Benchmark</i>	3.4	8.6	10.2	12.3	6.4	7.4	7.0			
<b>Private Equity</b>	-0.4	1.5	2.1	16.6	33.3	4.9	12.8	22.3	16.7	7.7
<i>Private Equity Policy</i>	10.7	31.9	-6.9	13.9	65.9	-7.5	10.8	16.1	20.4	1.6
<b>Cash</b>	5.6	19.5	7.8	2.1	0.8	3.8	6.5	1.2	5.0	3.2

\*The Real Assets and Private Equity returns and their benchmark returns are shown on a one-quarter lag.

\*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 151 of this report.

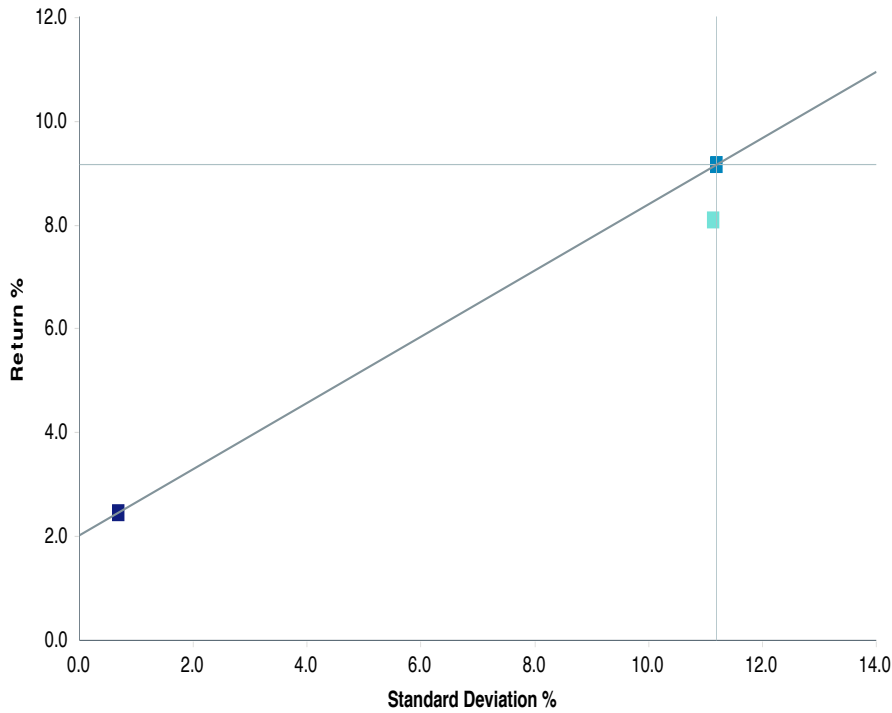
\*The inception date above for infrastructure reflects the inception date for the calculation and reporting of time-weighted returns. The Infrastructure program began in July 2014 and the full history of Infrastructure returns are included in Total Real Assets and Total Fund performance.

\*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance with GASB Statement 72, representing the 14 years of annual income, and has been incorporated into Total Fixed Income and Total Fund performance.

# Risk Profile Total Fund

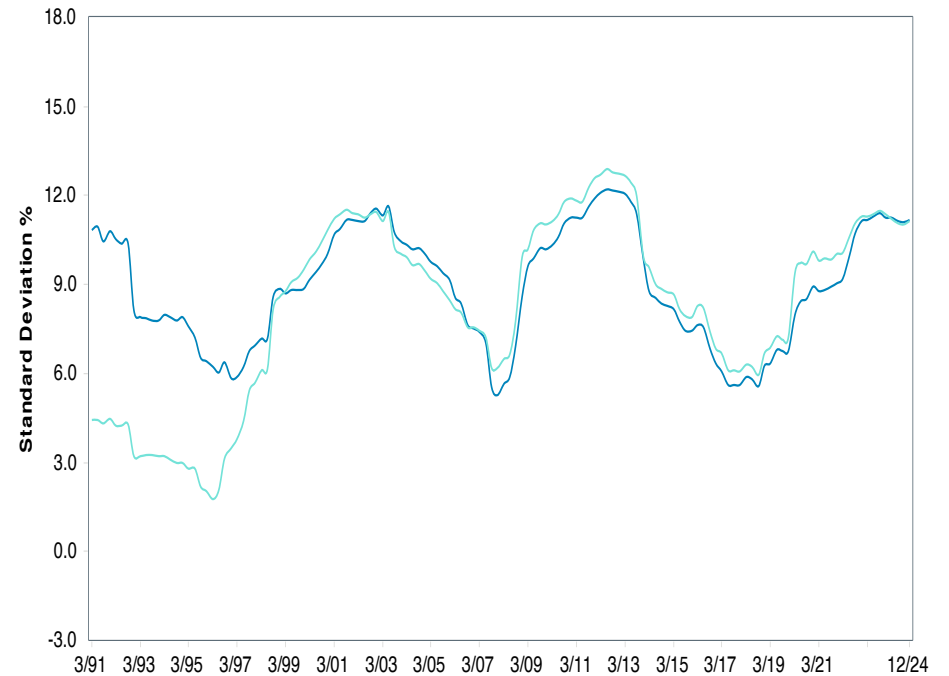
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



■ Total Fund      ■ Performance Benchmark      ■ 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



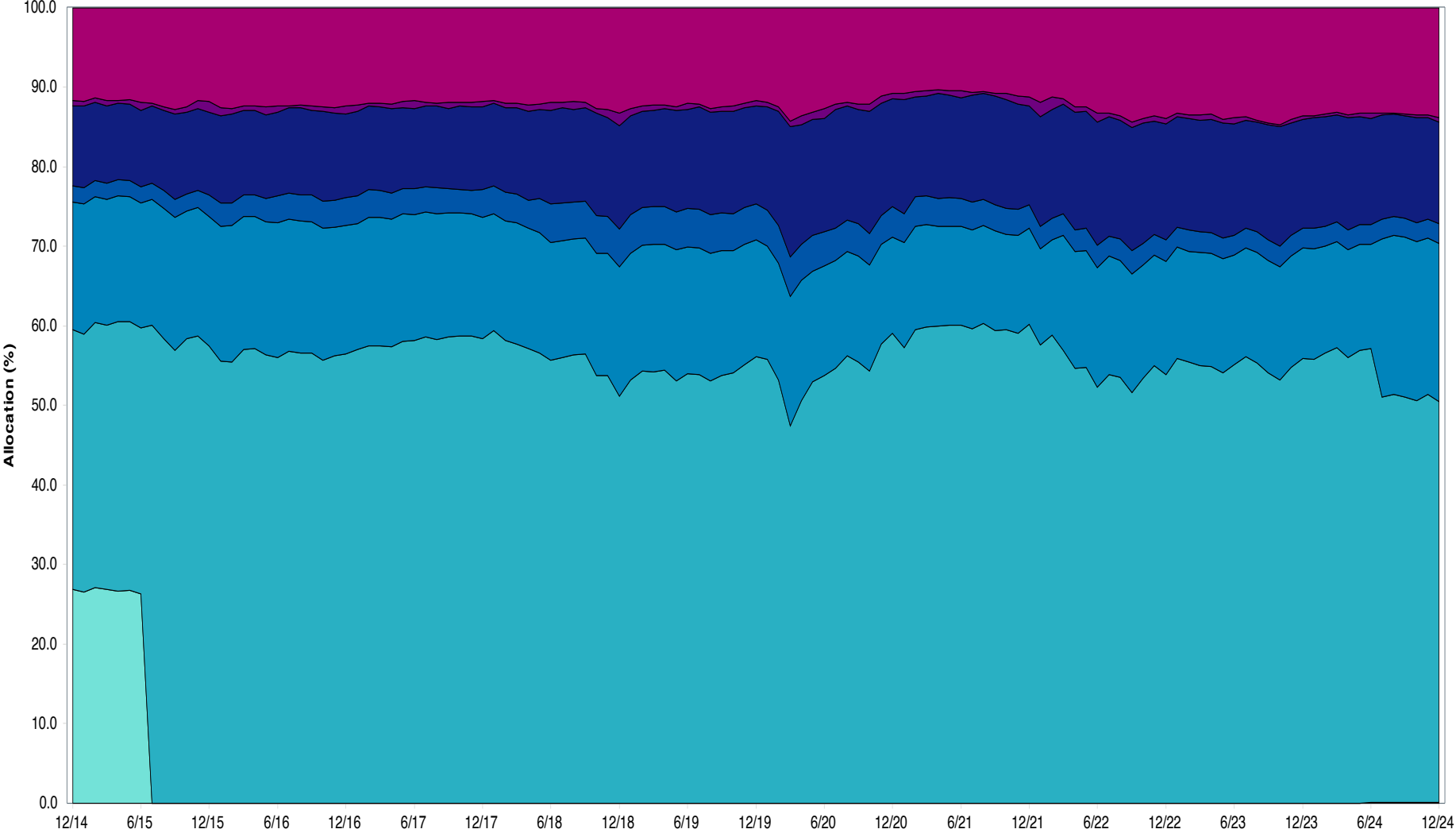
— Total Fund      — Performance Benchmark

5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
<b>Total Fund</b>	<b>-0.99</b>	<b>3.67</b>	<b>-0.27</b>	<b>0.89</b>	<b>0.53</b>	<b>-0.43</b>	<b>0.94</b>	<b>8.10</b>	<b>11.13</b>	<b>0.95</b>
Performance Benchmark	0.00	0.00	-	1.00	0.62	0.00	1.00	9.17	11.19	1.00
90 Day U.S. Treasury Bill	-6.98	11.23	-0.62	0.00	-	2.48	0.00	2.46	0.68	-0.03

# Historical Asset Allocation by Segment

10 Years Ending December 31, 2024



- Domestic Equity
- Global Equity
- Fixed Income
- Opportunistic/Alternatives
- Private Equity
- Cash
- Real Assets



# Total Fund Asset Allocation

Asset Allocation as of 12/31/2024							Values in \$1,000			
	Total Equity	U.S. Bond	Real Estate	Private Equity	Cash	Total	Percent of Total	Interim Policy	Long-Term Target	
Jacobs Levy 130/30	\$1,301,823.8	--	--	--	--	\$1,301,823.8	5.73%			
Kennedy Capital Management	\$450,457.8	--	--	--	--	\$450,457.8	1.98%			
Stephens	\$438,245.9	--	--	--	--	\$438,245.9	1.93%			
Voya Absolute Return	\$1,008,662.6	--	--	--	--	\$1,008,662.6	4.44%			
Voya U.S. Convertibles	\$883,763.0	--	--	--	--	\$883,763.0	3.89%			
Pershing Square Holdings	\$341,314.9	--	--	--	--	\$341,314.9	1.50%			
SSgA Global Index	\$946,118.4	--	--	--	--	\$946,118.4	4.17%			
BlackRock MSCI ACWI IMI Fund	\$926,629.1	--	--	--	--	\$926,629.1	4.08%			
Wellington Global Perspectives	\$731,931.8	--	--	--	--	\$731,931.8	3.22%			
T. Rowe Price Global Equity	\$1,261,439.9	--	--	--	--	\$1,261,439.9	5.55%			
Lazard	\$881,002.8	--	--	--	--	\$881,002.8	3.88%			
Harris Global Equity	\$715,594.3	--	--	--	--	\$715,594.3	3.15%			
Triam Partners	\$104,336.0	--	--	--	--	\$104,336.0	0.46%			
Triam Partners Co-Investments	\$75,421.2	--	--	--	--	\$75,421.2	0.33%			
Global Equity Transition Account	\$0.0	--	--	--	--	\$0.0	0.00%			
Arrowstreet	\$1,154,640.1	--	--	--	--	\$1,154,640.1	5.08%			
Westrock Equity Fund	\$16,050.0	--	--	--	--	\$16,050.0	0.07%			
<b>Total Equity</b>						<b>\$11,237,431.7</b>	<b>49.48%</b>	<b>54.84%</b>	<b>53.00%</b>	
BlackRock	--	\$264,990.2	--	--	--	\$264,990.2	1.17%			
Loomis Sayles	--	\$719,343.8	--	--	--	\$719,343.8	3.17%			
SSgA Aggregate Bond Index	--	\$1,326,462.2	--	--	--	\$1,326,462.2	5.84%			
Wellington Global Total Return	--	\$432,759.3	--	--	--	\$432,759.3	1.91%			
Reams Core Plus Bond Fund	--	\$589,961.2	--	--	--	\$589,961.2	2.60%			
Baird Core Plus Bond Fund	--	\$811,566.8	--	--	--	\$811,566.8	3.57%			
BRS Recycling Tax Credit	--	\$186,500.0	--	--	--	\$186,500.0	0.82%			
BRS Recycling Tax Credit Phase 2	--	\$91,200.0	--	--	--	\$91,200.0	0.40%			
BRS Recycling Tax Credit Phase 3	--	\$82,119.8	--	--	--	\$82,119.8	0.36%			
<b>Total Fixed Income</b>						<b>\$4,504,903.2</b>	<b>19.84%</b>	<b>15.00%</b>	<b>15.00%</b>	
Anchorage	--	--	--	\$21,687.7	--	\$21,687.7	0.10%			
Capula	--	--	--	\$109,023.4	--	\$109,023.4	0.48%			
Graham	--	--	--	\$108,006.4	--	\$108,006.4	0.48%			
York	--	--	--	\$1,409.5	--	\$1,409.5	0.01%			
Circumference Group Core Value	--	--	--	\$45,528.8	--	\$45,528.8	0.20%			
Aeolus Keystone Fund	--	--	--	\$19,096.7	--	\$19,096.7	0.08%			
Nephila Rubik Holdings	--	--	--	\$0.0	--	\$0.0	0.00%			
Parametric Global Defensive Equity	--	--	--	\$242,196.0	--	\$242,196.0	1.07%			
Man Alternative Risk Premia	--	--	--	\$127,994.7	--	\$127,994.7	0.56%			
CFM Systematic Global Macro	--	--	--	\$122,355.6	--	\$122,355.6	0.54%			
Juniperus	--	--	--	\$121,731.9	--	\$121,731.9	0.54%			
Chatham PDSC III	--	--	--	\$75,819.4	--	\$75,819.4	0.33%			
Silver Point Capital	--	--	--	\$59,239.3	--	\$59,239.3	0.26%			
Chatham PDSC IV	--	--	--	\$67,183.6	--	\$67,183.6	0.30%			
Prophet	--	--	--	\$50,484.6	--	\$50,484.6	0.22%			
<b>Total Opportunistic/Alternatives</b>						<b>\$1,171,757.6</b>	<b>5.16%</b>	<b>5.23%</b>	<b>5.00%</b>	
<b>Real Estate</b>			\$1,567,234.4			\$1,567,234.4	6.90%			
<b>Timber</b>			\$376,144.3			\$376,144.3	1.66%			
<b>Agriculture</b>			\$247,861.4			\$247,861.4	1.09%			
<b>Infrastructure</b>			\$562,236.4			\$562,236.4	2.48%			
<b>Total Real Assets</b>						<b>\$2,753,476.4</b>	<b>12.12%</b>	<b>12.92%</b>	<b>15.00%</b>	
<b>Total Private Equity</b>				\$2,904,872.4		<b>\$2,904,872.4</b>	<b>12.79%</b>	<b>12.00%</b>	<b>12.00%</b>	
<b>Total Cash</b>					\$138,358.9	<b>\$138,358.9</b>	<b>0.61%</b>	<b>0.00%</b>	<b>0.00%</b>	
<b>Total Fund</b>	<b>\$11,237,431.7</b>	<b>\$4,504,903.2</b>	<b>\$2,753,476.4</b>	<b>\$4,076,630.0</b>	<b>\$138,358.9</b>	<b>\$22,710,800.3</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	

\*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the total due to rounding.

# Real Estate Asset Allocation

Asset Allocation as of 12/31/2024				Values in \$1,000			
	Real Estate	Percent of Real Estate	Percent of Total Fund		Real Estate	Percent of Real Estate	Percent of Total Fund
Almanac Realty Securities Fund V	\$44.0	0.00%	0.00%	LaSalle Asia Opportunity Fund VI	\$11,039.5	0.70%	0.05%
Almanac Realty Securities Fund VI	\$2,947.2	0.19%	0.01%	LaSalle Income & Growth Fund VI	\$2,236.9	0.14%	0.01%
Almanac Realty Securities Fund VII	\$19,047.0	1.22%	0.08%	LaSalle Income & Growth Fund VII	\$5,029.8	0.32%	0.02%
Almanac Realty Securities Fund VIII	\$25,321.5	1.62%	0.11%	LaSalle Income & Growth Fund VIII	\$34,455.4	2.20%	0.15%
Almanac Realty Securities Fund IX	\$9,455.5	0.60%	0.04%	LaSalle US Value Partners IX	-\$4,486.8	-0.29%	-0.02%
American Center	\$31,204.8	1.99%	0.14%	LBA Logistics Value Fund	\$41,715.0	2.66%	0.18%
AR Insurance	\$2,380.7	0.15%	0.01%	Lone Star Real Estate Fund IV	\$6,933.4	0.44%	0.03%
AR Teachers Retirement Building	\$4,827.6	0.31%	0.02%	Lone Star Real Estate Fund VII	-\$1,487.3	-0.09%	-0.01%
Blackstone Real Estate Partners VII	\$6,957.9	0.44%	0.03%	Long Wharf Real Estate Partners V	\$14,297.0	0.91%	0.06%
Blackstone RE Europe VI	\$43,767.0	2.79%	0.19%	Long Wharf Real Estate Partners VI	\$32,873.6	2.10%	0.14%
Blackstone RE Europe VII	\$9,091.1	0.58%	0.04%	Mesa West Income Fund V	\$17,037.9	1.09%	0.08%
Blackston RE X	\$22,383.8	1.43%	0.10%	Metropolitan RE Co-Investments	\$6,402.9	0.41%	0.03%
Carlyle Realty Partners VII	\$5,793.4	0.37%	0.03%	Met Life Commercial Mtg Inc Fund	\$43,195.0	2.76%	0.19%
Carlyle Realty VIII	\$10,651.7	0.68%	0.05%	Morgan Stanley Prime Property Fund	\$56,959.4	3.63%	0.25%
Carlyle Realty IX	\$15,376.2	0.98%	0.07%	New Boston Fund VII	\$14,903.7	0.95%	0.07%
CBREI SP U.S. Opportunity V	\$115.1	0.01%	0.00%	O'Connor NAPP II	\$2,930.5	0.19%	0.01%
CBREI SP VIII	\$10,967.1	0.70%	0.05%	PRISA	\$259,802.6	16.58%	1.14%
CBREI SP IX	\$41,971.2	2.68%	0.18%	Recoveries Land	\$65.0	0.00%	0.00%
Cerberus Institutional RE Partners III	\$7,070.5	0.45%	0.03%	Rockwood Capital RE Partners IX	\$1,329.0	0.08%	0.01%
Calmwater	\$10,840.3	0.69%	0.05%	Rockwood Capital RE XI	\$28,463.4	1.82%	0.13%
Fletcher Properties	\$1,081.5	0.07%	0.00%	Rose Law Firm	\$4,564.5	0.29%	0.02%
FPA Core Plus IV	\$34,630.2	2.21%	0.15%	RREEF Core Plus Industrial Fund	\$64,461.8	4.11%	0.28%
GCP GLP IV	\$38,629.8	2.46%	0.17%	Torchlight Debt Opportunity Fund IV	\$1,186.0	0.08%	0.01%
Harbert European Real Estate	\$1,177.5	0.08%	0.01%	Torchlight Debt Opportunity Fund V	\$2,550.8	0.16%	0.01%
Heitman European Property IV	\$287.5	0.02%	0.00%	Torchlight Debt Opportunity Fund VI	\$19,423.3	1.24%	0.09%
JP Morgan Strategic Property Fund	\$148,591.7	9.48%	0.65%	Torchlight Debt Opportunity Fund VII	\$50,345.7	3.21%	0.22%
Kayne Anderson V	\$16,541.3	1.06%	0.07%	UBS Trumbull Property Fund	\$116,970.5	7.46%	0.52%
Kayne Anderson VI	\$49,255.9	3.14%	0.22%	UBS Trumbull Property Income Fund	\$52,344.1	3.34%	0.23%
Kayne Anderson VII	\$8,499.6	0.54%	0.04%	Victory	\$33,258.5	2.12%	0.15%
Landmark Fund VI	\$115.9	0.01%	0.00%	Walton Street Real Estate Debt II	\$21,407.7	1.37%	0.09%
Landmark Real Estate IX	\$8,235.7	0.53%	0.04%	West Mphs. DHS	\$0.0	0.00%	0.00%
Landmark Real Estate VIII	\$13,570.8	0.87%	0.06%	Westbrook IX	\$3,956.6	0.25%	0.02%
LaSalle Asia Opportunity Fund IV	\$1,824.7	0.12%	0.01%	Westbrook Real Estate Fund X	\$5,824.0	0.37%	0.03%
LaSalle Asia Opportunity Fund V	\$14,589.4	0.93%	0.06%				
<b>Total Real Estate</b>					<b>\$1,567,234.4</b>	<b>100.00%</b>	<b>6.90%</b>

\*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the total due to rounding.

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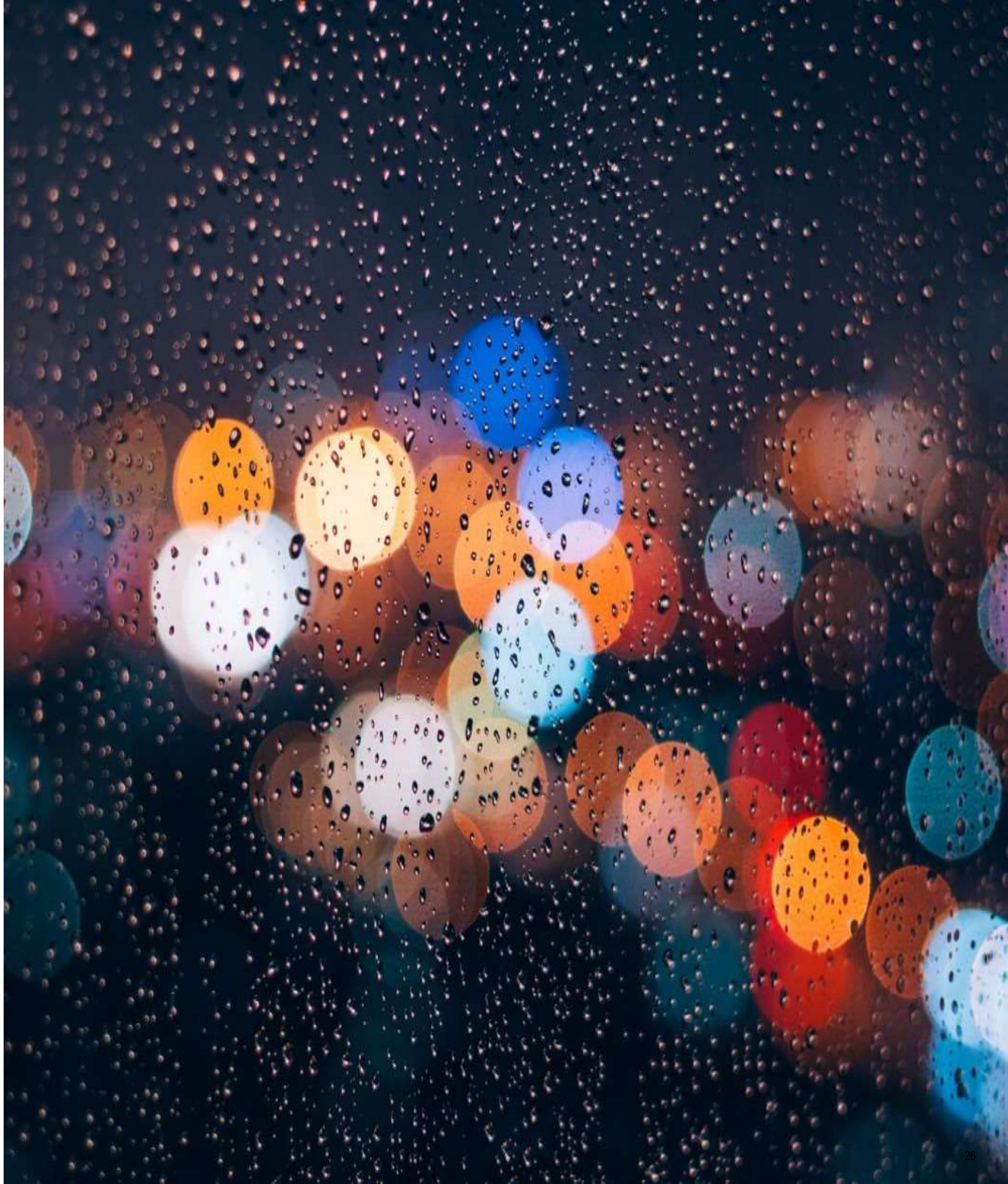
# Private Equity Asset Allocation

Asset Allocation as of 12/31/2024				Values in \$1,000			
	Private Equity	Percent of Private Equity	Percent of Total Fund		Private Equity	Percent of Private Equity	Percent of Total Fund
Alpine IX	\$7,248.4	0.25%	0.03%	Insight Equity II	\$5,675.8	0.20%	0.02%
Alpine VIII	\$27,835.4	0.96%	0.12%	Insight Mezzanine I	\$2,076.8	0.07%	0.01%
Arlington Capital IV	\$36,305.6	1.25%	0.16%	JF Lehman III	\$26,264.7	0.90%	0.12%
Arlington Capital V	\$39,632.4	1.36%	0.17%	JF Lehman IV	\$5,031.2	0.17%	0.02%
Arlington Capital VI	\$21,179.8	0.73%	0.09%	JF Lehman V	\$43,876.8	1.51%	0.19%
Advent GPE VI	\$3,214.0	0.11%	0.01%	JF Lehman VI	\$9,261.3	0.32%	0.04%
Altus Capital II	\$5,222.1	0.18%	0.02%	KPS III	\$0.0	0.00%	0.00%
American Industrial Partners VI	\$29,171.9	1.00%	0.13%	KPS IV	\$11,211.5	0.39%	0.05%
American Industrial Partners VII	\$47,376.7	1.63%	0.21%	KPS V	\$22,812.0	0.79%	0.10%
Altaris Constellation Partners	\$23,822.2	0.82%	0.10%	KPS Mid-Cap	\$20,017.9	0.69%	0.09%
Altaris Health Partners IV	\$24,556.9	0.85%	0.11%	Levine Leichtman V	\$853.2	0.03%	0.00%
Atlas Capital II	\$5,399.9	0.19%	0.02%	Lime Rock III	\$17,194.9	0.59%	0.08%
Audax Mezzanine III	\$1,369.0	0.05%	0.01%	LLR III	\$242.8	0.01%	0.00%
Big River - Equity	\$1,863.0	0.06%	0.01%	LLR VI	\$29,109.5	1.00%	0.13%
Big River - Holdings Note 2023	\$0.0	0.00%	0.00%	LLR VII	-\$766.6	-0.03%	0.00%
Big River - Holdings Note 3/16/23	\$0.0	0.00%	0.00%	Mason Wells III	\$0.0	0.00%	0.00%
Bison V	\$26,449.5	0.91%	0.12%	NGP IX	-\$1.5	0.00%	0.00%
Bison VI	\$17,142.1	0.59%	0.08%	NGP X	\$3,043.5	0.10%	0.01%
Boston Ventures VII	\$843.4	0.03%	0.00%	NGP XI	\$11,592.1	0.40%	0.05%
Boston Ventures IX	\$27,225.3	0.94%	0.12%	NGP XII	\$17,304.0	0.60%	0.08%
Boston Ventures X	\$34,672.7	1.19%	0.15%	One Rock Capital Partners II	\$27,757.5	0.96%	0.12%
Boston Ventures XI	\$15,639.4	0.54%	0.07%	PineBridge	\$9,633.9	0.33%	0.04%
BV VIII	\$8,640.6	0.30%	0.04%	Revelstoke	\$23,870.2	0.82%	0.11%
Castlelake II	\$5,796.1	0.20%	0.03%	Post Road	\$19,279.8	0.66%	0.08%
Castlelake III	\$8,363.3	0.29%	0.04%	Riverside Value Fund I	\$26,799.1	0.92%	0.12%
Clearlake V	\$32,610.0	1.12%	0.14%	Riverside V	\$24,512.6	0.84%	0.11%
Clearlake VI	\$45,567.6	1.57%	0.20%	Riverside VI	\$35,079.3	1.21%	0.15%
Clearlake VII	\$22,435.2	0.77%	0.10%	Siris III	\$10,678.1	0.37%	0.05%
Clearlake VIII	\$1,655.0	0.06%	0.01%	Siris IV	\$33,428.8	1.15%	0.15%
Court Square III	\$21,918.9	0.75%	0.10%	SK Capital V	\$31,515.1	1.08%	0.14%
CSFB-ATRS 2005-1 Series	\$14,513.9	0.50%	0.06%	Sk Capital VI	\$18,801.7	0.65%	0.08%
CSFB-ATRS 2006-1 Series	\$16,294.4	0.56%	0.07%	Sycamore Partners II	\$15,899.4	0.55%	0.07%
Diamond State Ventures II	\$74.3	0.00%	0.00%	Sycamore Partners III	\$26,862.8	0.92%	0.12%
DW Healthcare III	\$1,410.7	0.05%	0.01%	TA XI	\$4,725.9	0.16%	0.02%
DW Healthcare IV	\$19,052.7	0.66%	0.08%	Tennenbaum VI	\$0.0	0.00%	0.00%
DW Healthcare V	\$36,579.5	1.26%	0.16%	Thoma Bravo Discover	\$5,396.9	0.19%	0.02%
EnCap IX	\$5,440.1	0.19%	0.02%	Thoma Bravo Discover II	\$19,084.8	0.66%	0.08%
EnCap VIII	\$16,642.5	0.57%	0.07%	Thoma Bravo Discover III	\$25,873.6	0.89%	0.11%
EnCap X	\$15,066.7	0.52%	0.07%	Thomas Bravo Discover IV	\$13,133.2	0.45%	0.06%
EnCap XI	\$27,313.3	0.94%	0.12%	Thoma Bravo Explore I	\$29,128.1	1.00%	0.13%
Enlightenment Capital Solutions V	\$5,110.7	0.18%	0.02%	Thoma Bravo XI	\$16,380.4	0.56%	0.07%
Franklin Park Series	\$1,161,552.8	39.99%	5.11%	Thoma Bravo XII	\$34,749.6	1.20%	0.15%
Greenbriar V	\$33,454.5	1.15%	0.15%	Thoma Bravo XIII	\$37,345.6	1.29%	0.16%
Greenbriar VI	\$11,046.4	0.38%	0.05%	Thoma Bravo XIV	\$21,773.7	0.75%	0.10%
Green & Clean Power	-\$1,000.0	-0.03%	0.00%	Thoma Bravo XV	\$15,196.2	0.52%	0.07%
GCG IV	\$14,526.9	0.50%	0.06%	Vista Equity III	\$2,458.4	0.08%	0.01%
GCG V	\$30,417.1	1.05%	0.13%	Vista Foundation II	\$6,317.8	0.22%	0.03%
GCG VI	\$14,485.1	0.50%	0.06%	Vista Foundation III	\$27,503.6	0.95%	0.12%
GTLA Holdings	\$70,000.0	2.41%	0.31%	Wellspring V	\$10,834.0	0.37%	0.05%
Highland	\$34,800.5	1.20%	0.15%	Wicks IV	\$7,367.3	0.25%	0.03%
Hybar LLC	\$200.5	0.01%	0.00%	WNG II	\$28,546.6	0.98%	0.13%
<b>Total Private Equity</b>					<b>\$2,904,872.4</b>	<b>100.00%</b>	<b>12.79%</b>

\*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the total due to rounding.

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# Total Equity



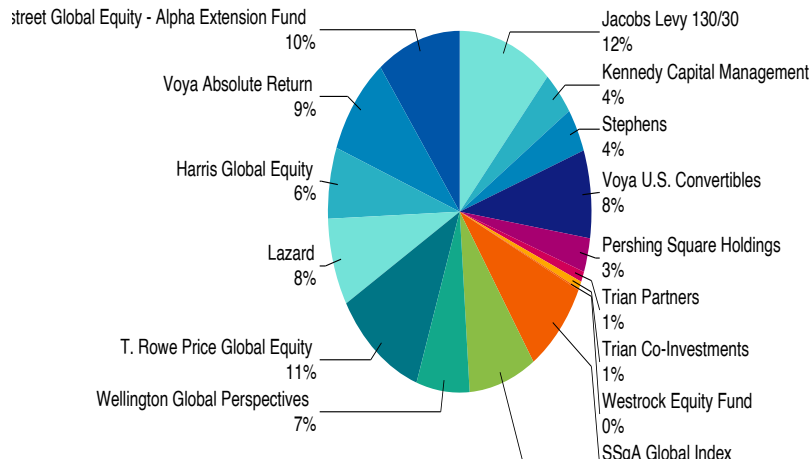


# Composite Portfolio Overview Total Equity

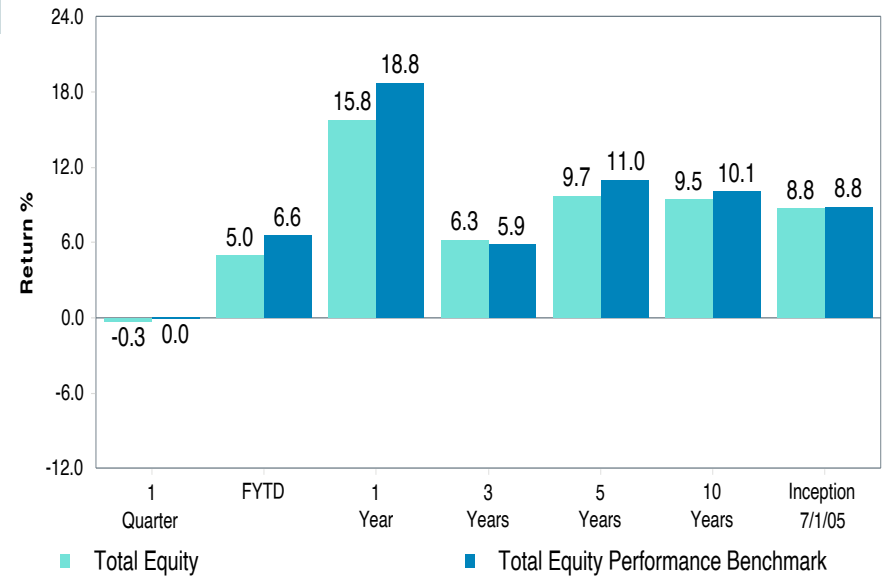
As of December 31, 2024

## Current Allocation

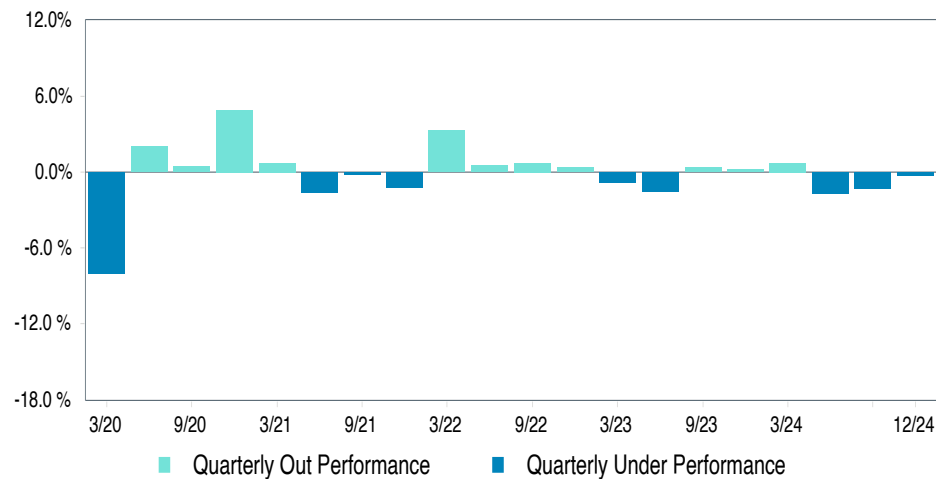
December 31, 2024 : \$11,237,431,720



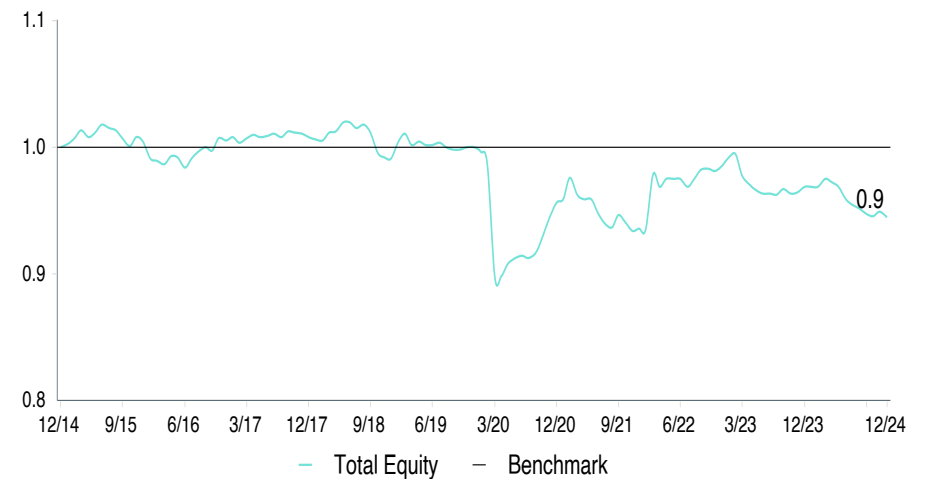
## Return Summary



## Quarterly Excess Performance



## Ratio of Cumulative Wealth - 10 Years

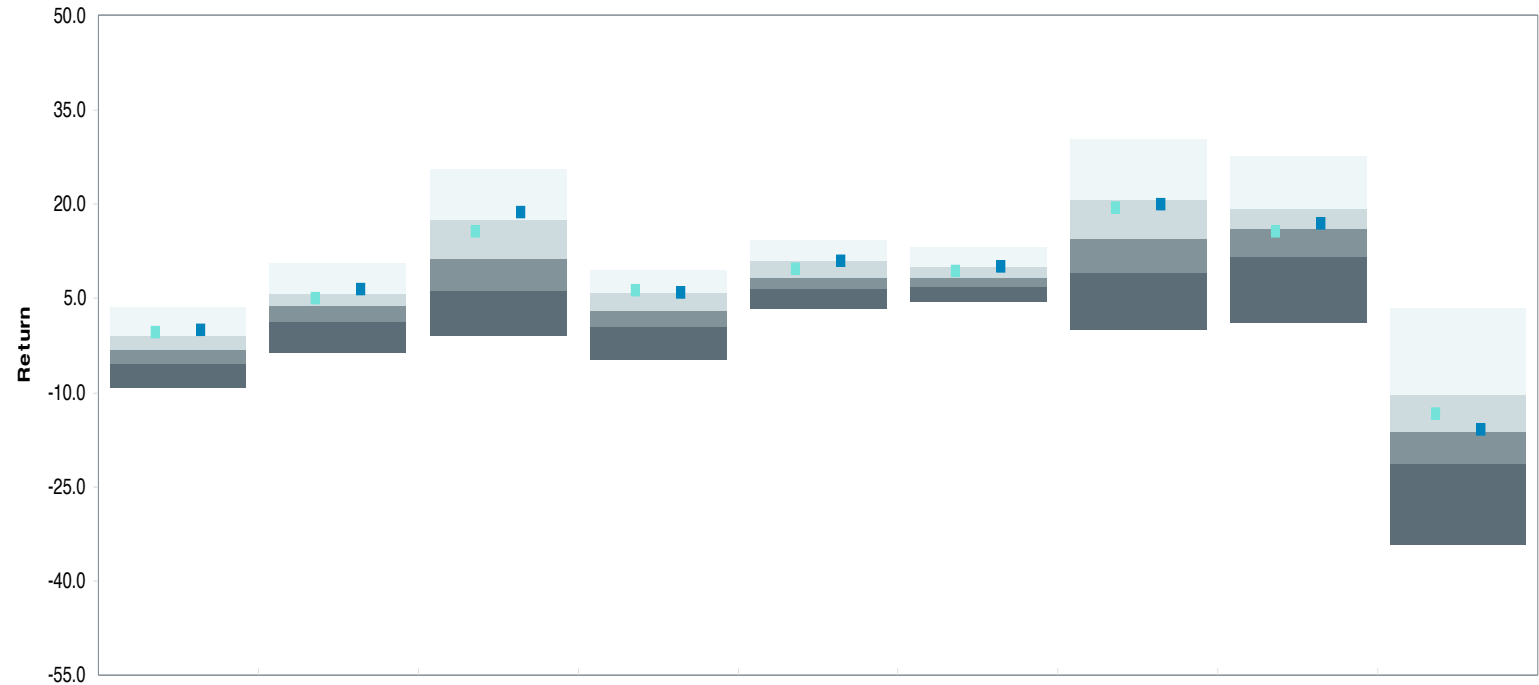


Note: April 1, 2004 represents the inception of the Global Equity Custom Benchmark as the primary performance objective for the Global Equity portfolio.

# Peer Group Analysis

As of December 31, 2024

IM Global Equity (SA+CF)



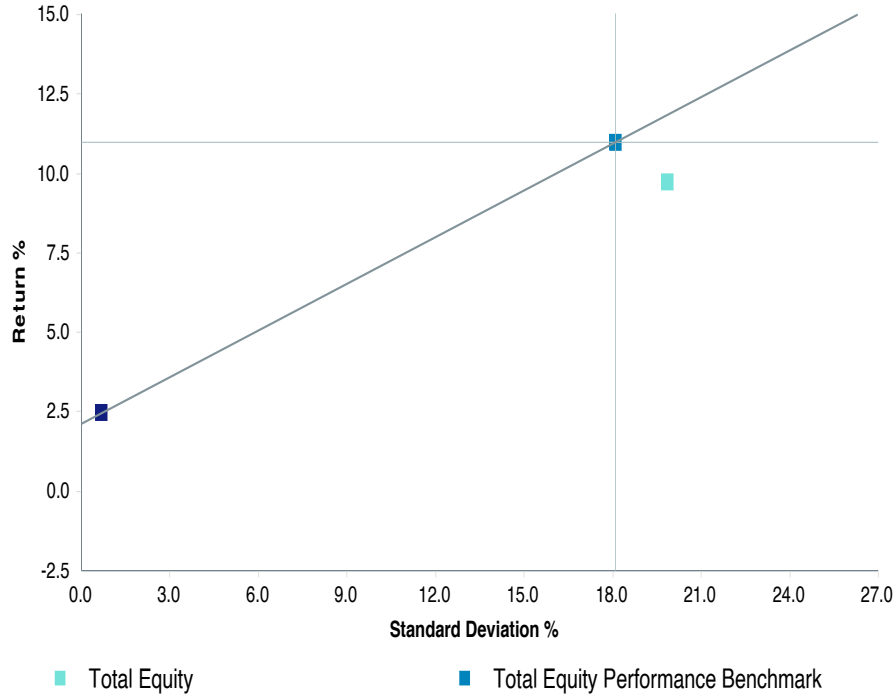
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	Fiscal Year 2024	Fiscal Year 2023	Fiscal Year 2022
Total Equity	-0.3 (20)	5.0 (33)	15.8 (33)	6.3 (22)	9.7 (35)	9.5 (36)	19.5 (31)	15.7 (54)	-13.4 (37)
Total Equity Performance Benchmark	0.0 (18)	6.6 (17)	18.8 (23)	5.9 (26)	11.0 (25)	10.1 (25)	20.1 (29)	17.0 (44)	-15.8 (48)
5th Percentile	3.6	10.7	25.6	9.5	14.2	13.2	30.3	27.6	3.4
1st Quartile	-0.8	5.7	17.5	5.9	10.9	10.1	20.8	19.2	-10.3
Median	-3.1	3.7	11.4	3.1	8.3	8.4	14.5	16.0	-16.2
3rd Quartile	-5.3	1.3	6.2	0.6	6.6	6.9	9.1	11.8	-21.3
95th Percentile	-9.1	-3.6	-0.9	-4.9	3.5	4.5	0.1	1.2	-34.3
Population	349	348	347	333	305	234	516	540	538

Parentheses contain percentile rankings.

# Risk Profile Total Equity

As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



**Standard Deviation  
Rolling 5 Years**



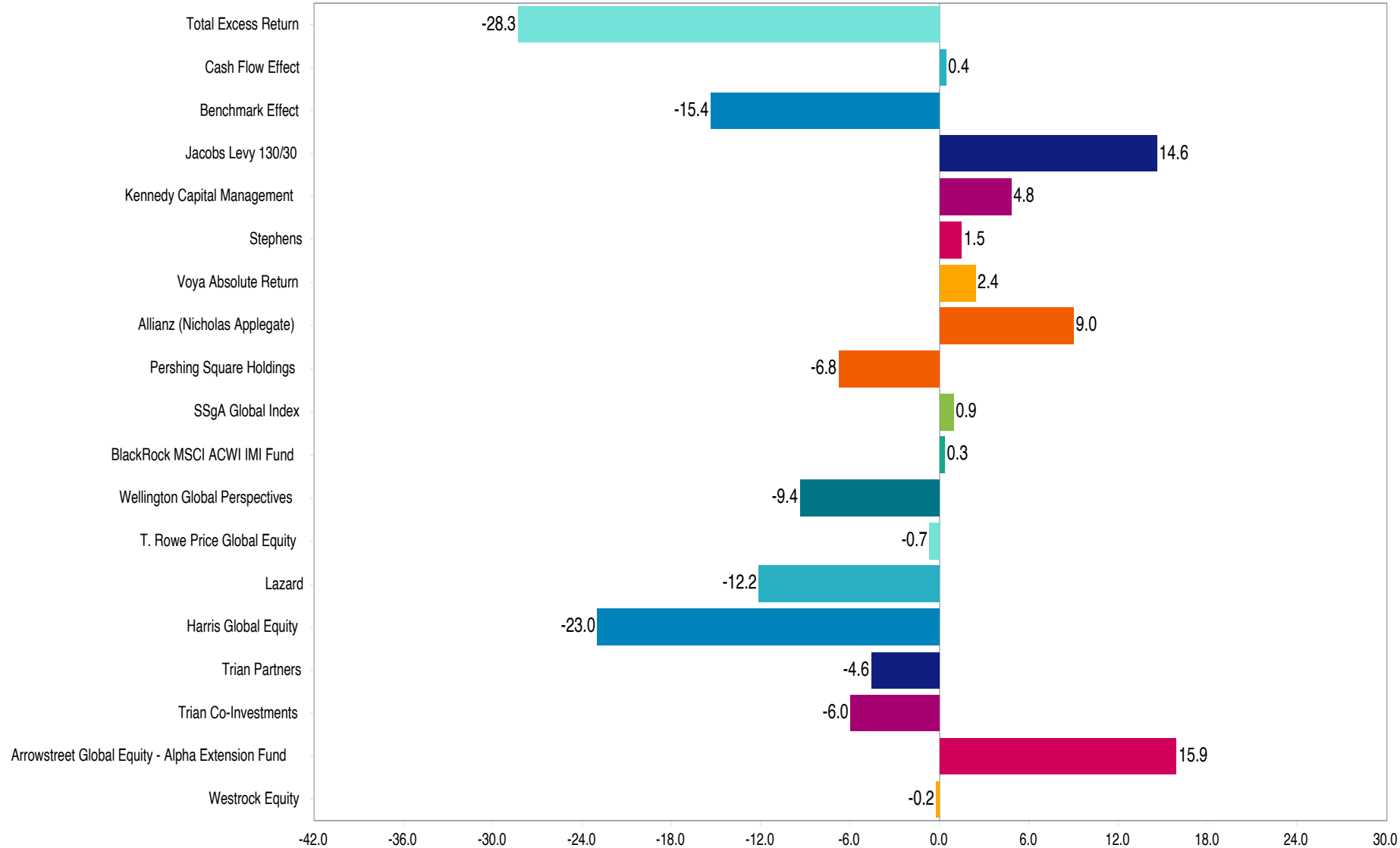
5 Years Historical Statistics										
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Total Equity	-0.77	4.72	-0.16	0.95	0.45	-1.57	1.07	9.72	19.84	0.97
Total Equity Performance Benchmark	0.00	0.00	-	1.00	0.53	0.00	1.00	10.98	18.10	1.00
90 Day U.S. Treasury Bill	-9.65	18.13	-0.53	0.00	-	2.48	0.00	2.46	0.68	-0.03



# Asset Class Attribution

1 Quarter Ending December 31, 2024

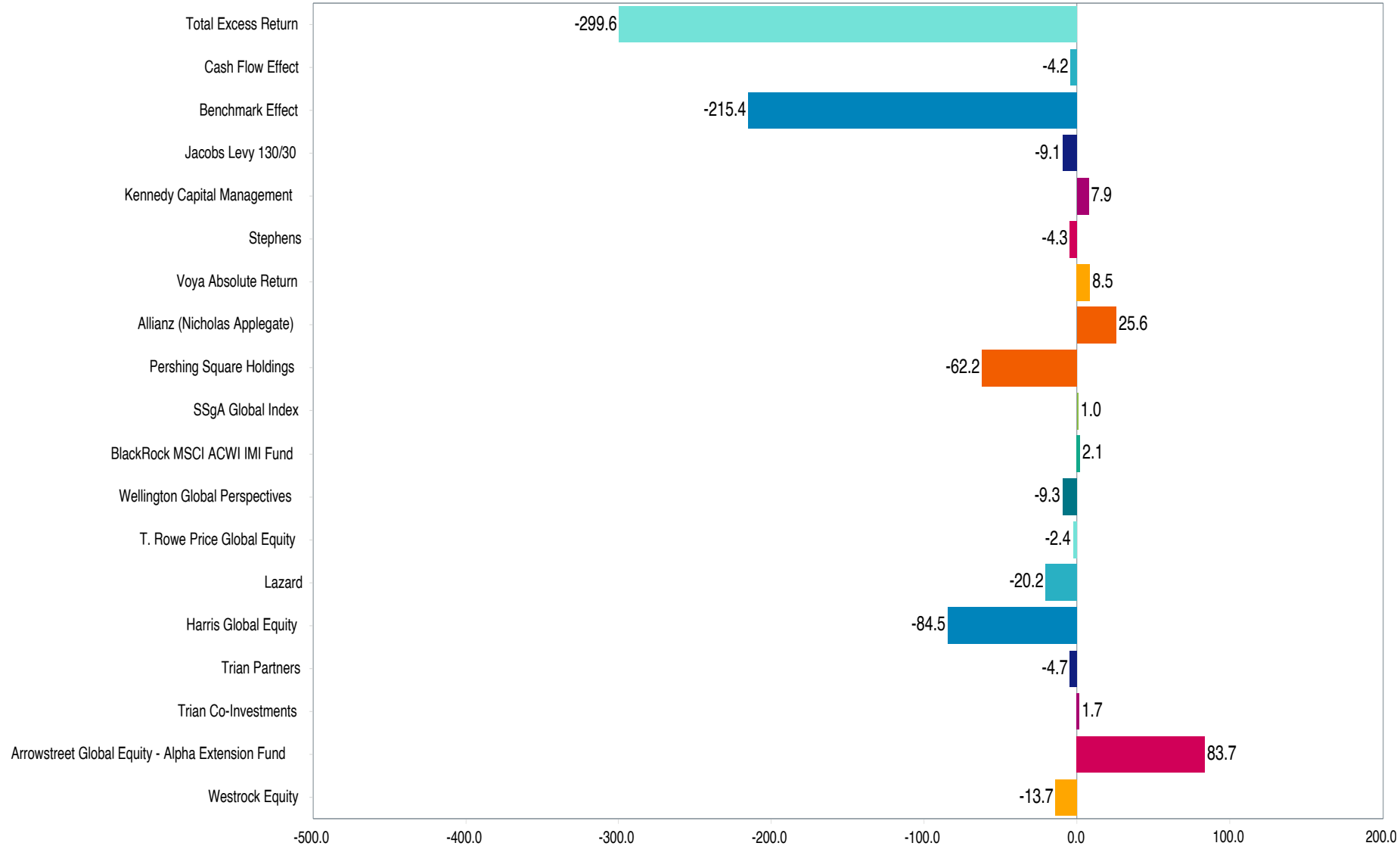
1 Quarter



# Asset Class Attribution

1 Year Ending December 31, 2024

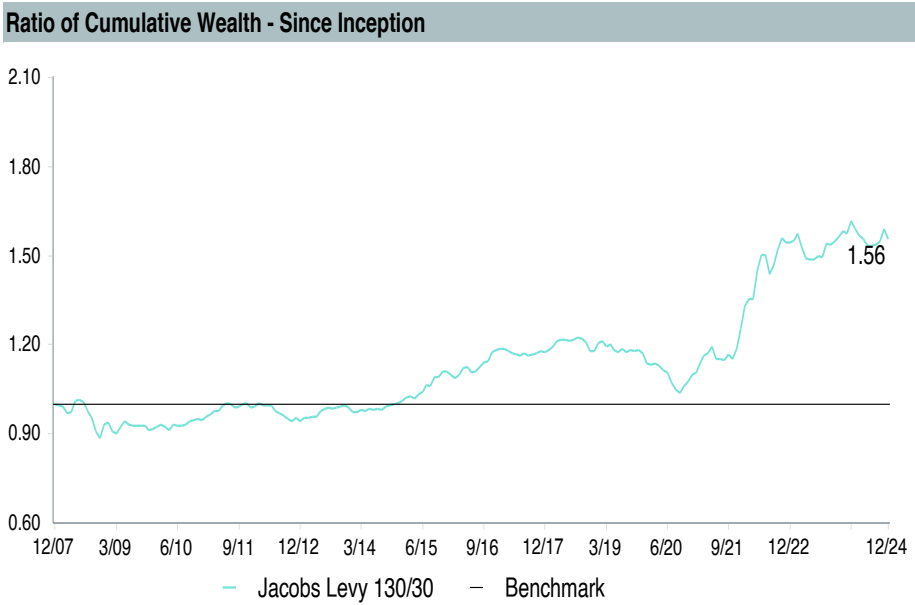
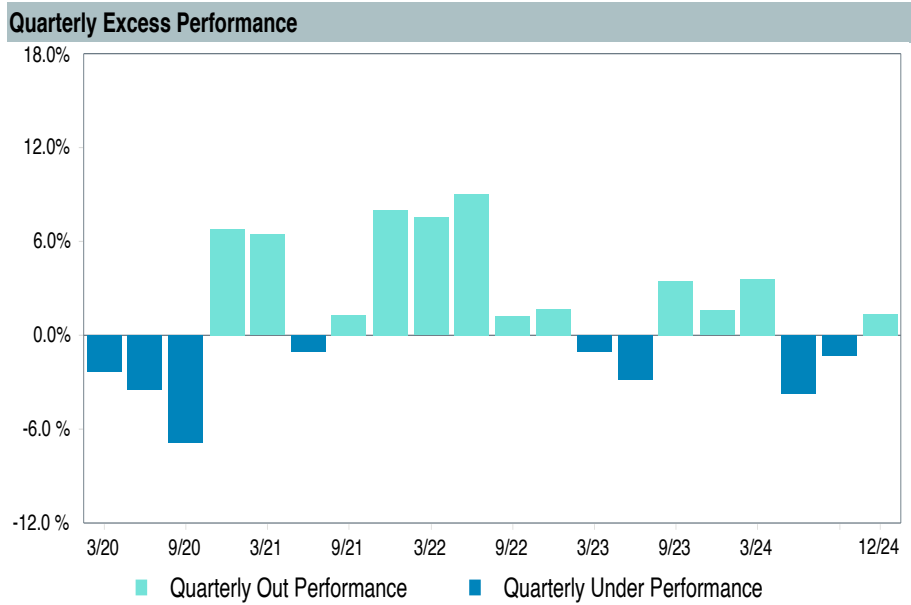
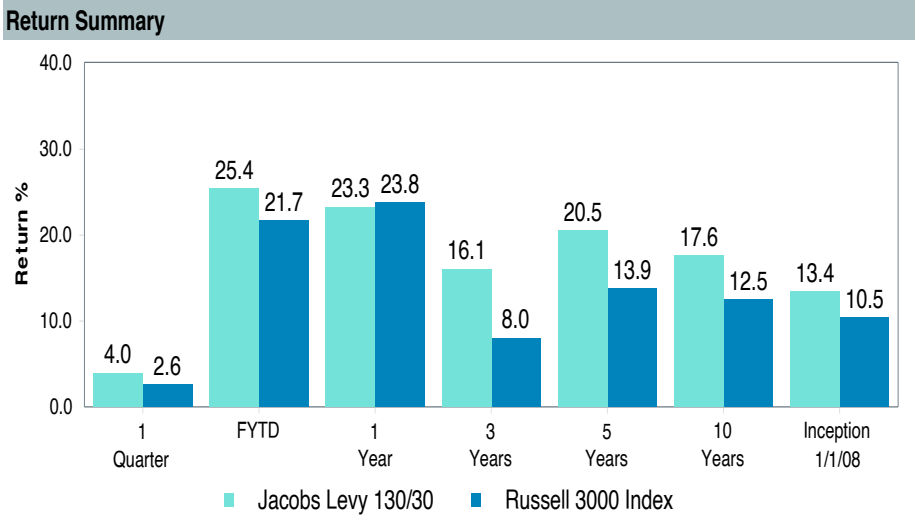
1 Year



# Manager Performance Summary Jacobs Levy 130/30

As of December 31, 2024

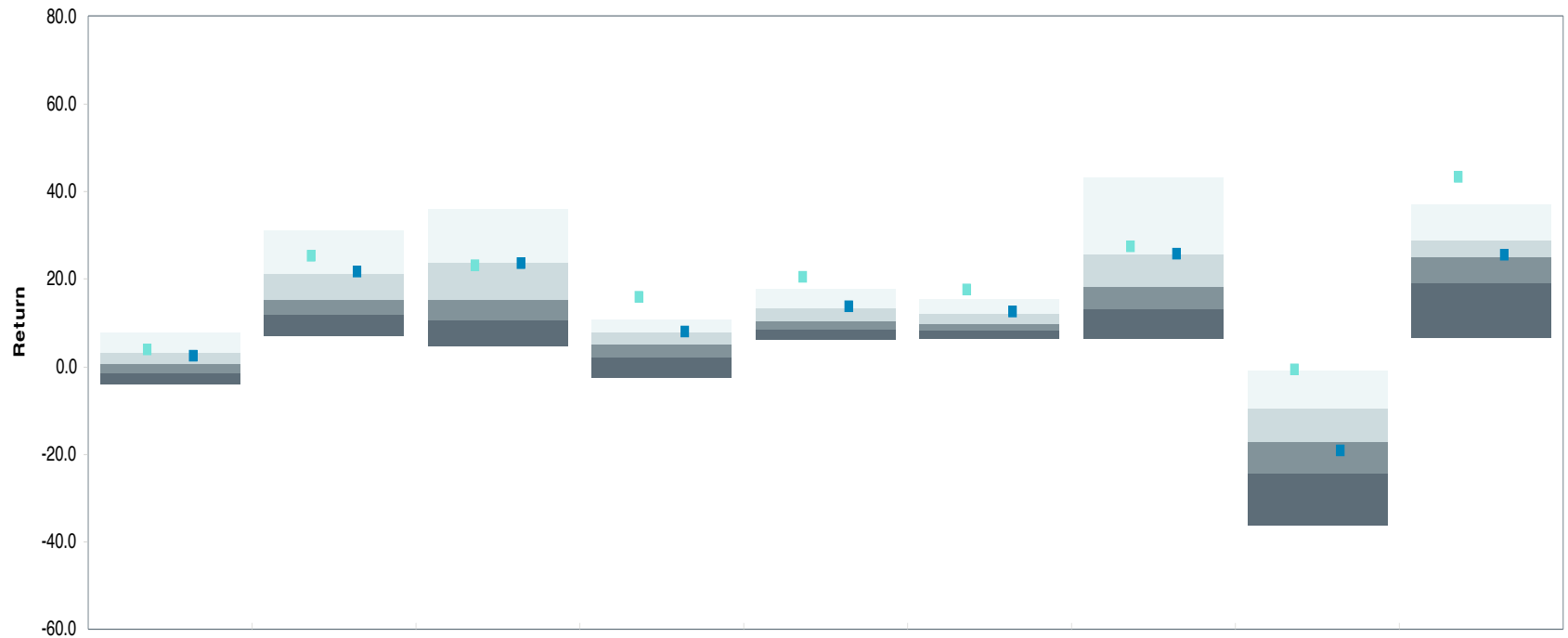
Account Information	
Account Name	Jacobs Levy 130/30
Inception Date	12/31/2007
Account Structure	Commingled Fund
Asset Class	US Equity
Benchmark	Russell 3000 Index
Peer Group	IM U.S. Equity (SA+CF)



# Jacobs Levy 130/30

As of December 31, 2024

## IM U.S. Equity (SA+CF)



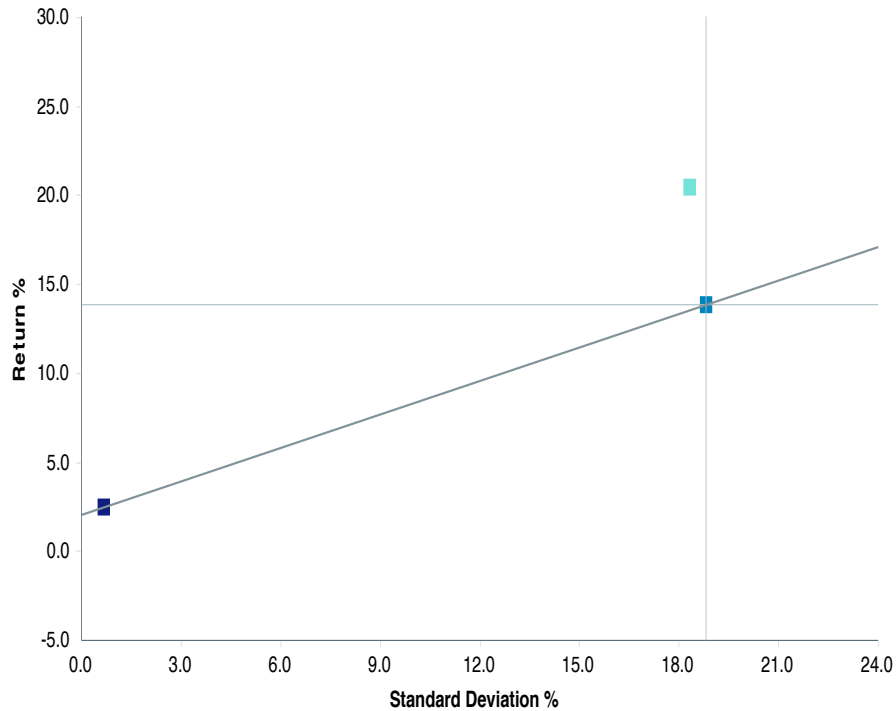
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Jacobs Levy 130/30	4.0 (22)	25.4 (14)	23.3 (26)	16.1 (2)	20.5 (2)	17.6 (1)	27.6 (19)	-0.5 (5)	43.5 (2)
Russell 3000 Index	2.6 (31)	21.7 (23)	23.8 (25)	8.0 (24)	13.9 (22)	12.5 (22)	26.0 (24)	-19.2 (62)	25.7 (46)
5th Percentile	7.8	31.1	36.0	10.8	17.7	15.5	43.1	-0.7	37.2
1st Quartile	3.3	21.3	23.7	7.9	13.4	12.2	25.7	-9.6	29.0
Median	0.6	15.4	15.2	5.2	10.5	9.8	18.5	-17.1	25.1
3rd Quartile	-1.4	11.9	10.8	2.0	8.5	8.3	13.1	-24.4	19.1
95th Percentile	-4.0	7.1	4.7	-2.5	6.2	6.4	6.5	-36.3	6.5
Population	1,345	1,316	1,343	1,285	1,229	1,039	2,022	2,094	2,130

Parentheses contain percentile rankings.

# Risk Profile Jacobs Levy 130/30

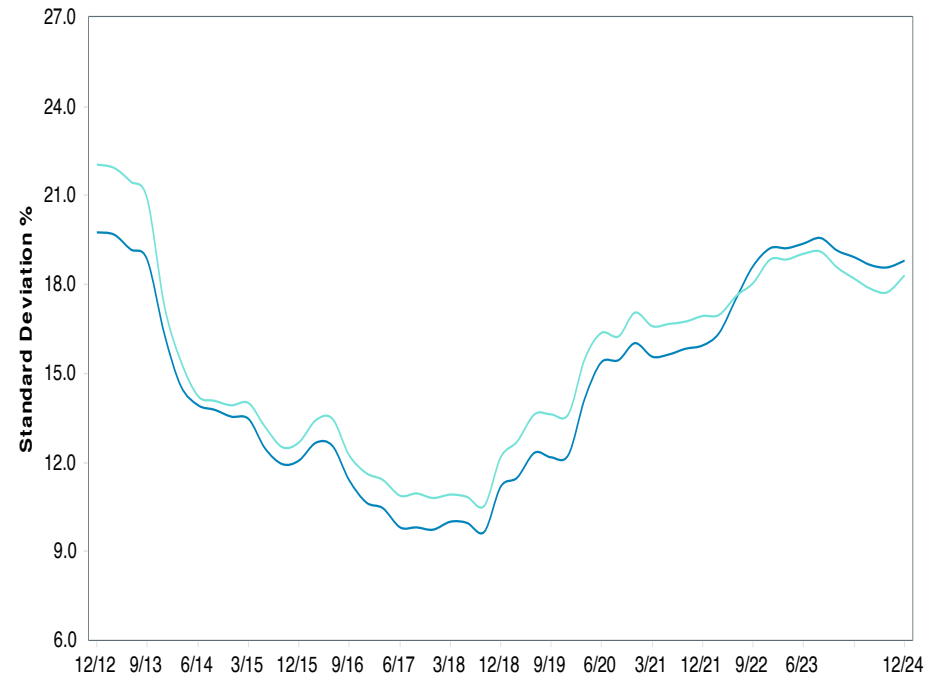
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



■ Jacobs Levy 130/30   ■ Russell 3000 Index   ■ 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 5 Years**



— Jacobs Levy 130/30   — Russell 3000 Index

**5 Years Historical Statistics**

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Jacobs Levy 130/30	5.63	7.86	0.72	0.83	0.98	7.56	0.89	20.50	18.33	0.91
Russell 3000 Index	0.00	0.00	-	1.00	0.66	0.00	1.00	13.86	18.82	1.00
90 Day U.S. Treasury Bill	-12.36	18.86	-0.66	0.00	-	2.48	0.00	2.46	0.68	-0.03

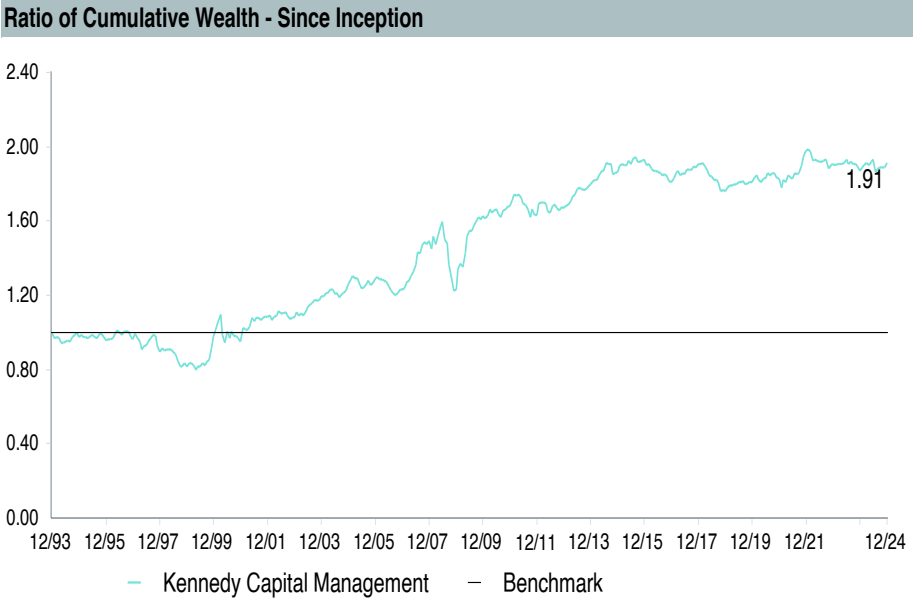
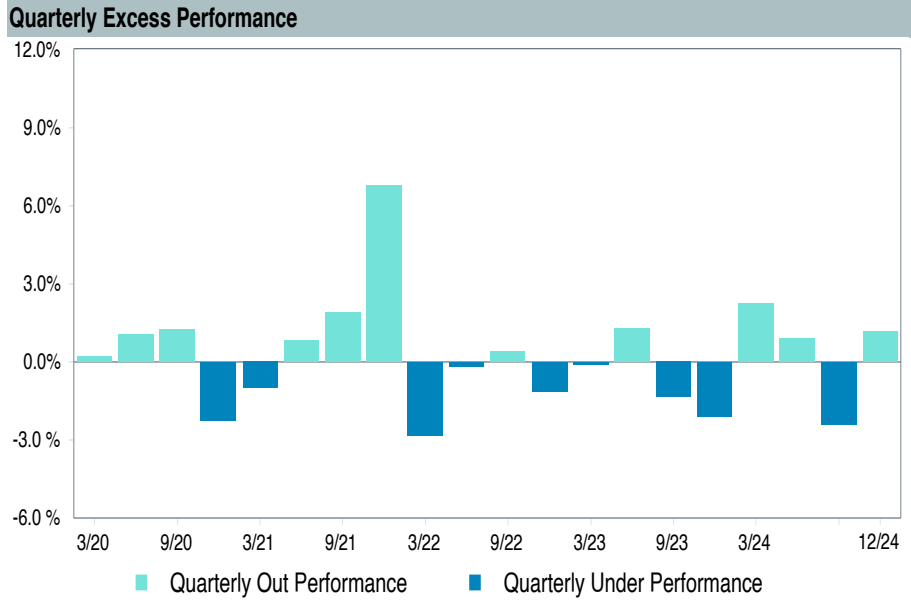
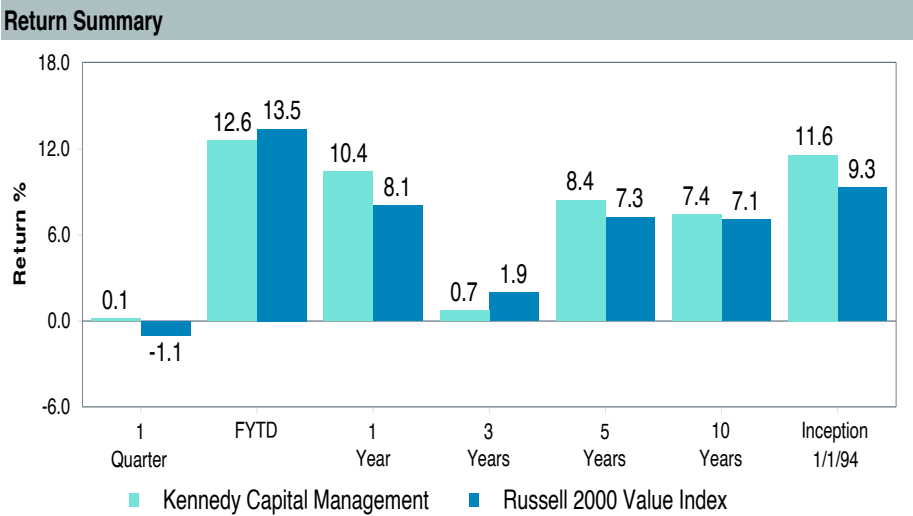




# Manager Performance Summary Kennedy Capital Management

As of December 31, 2024

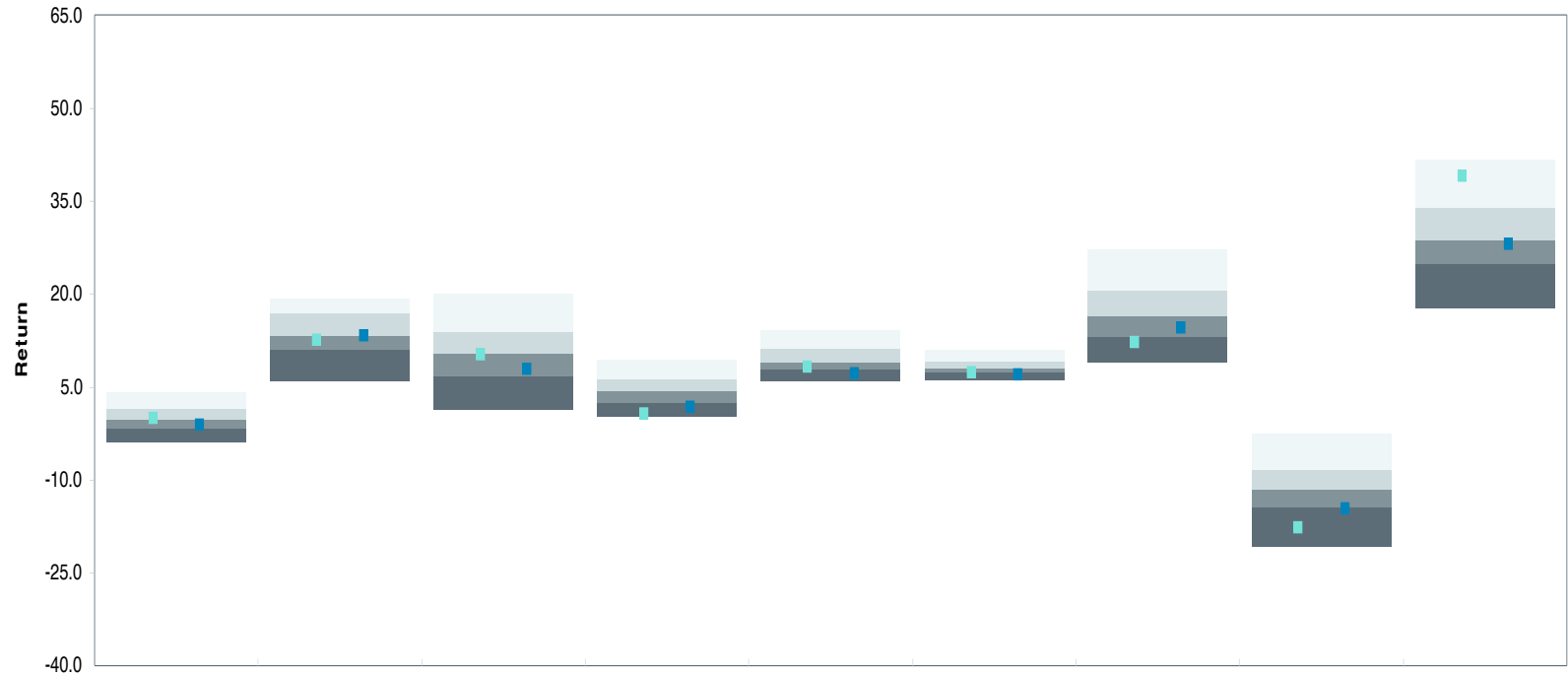
Account Information	
Account Name	Kennedy Capital Management
Inception Date	12/31/1993
Account Structure	Separate Account
Asset Class	US Equity
Benchmark	Russell 2000 Value Index
Peer Group	IM U.S. Small Cap Value Equity (SA+CF)



# Kennedy Capital Management

As of December 31, 2024

## IM U.S. Small Cap Value Equity (SA+CF)



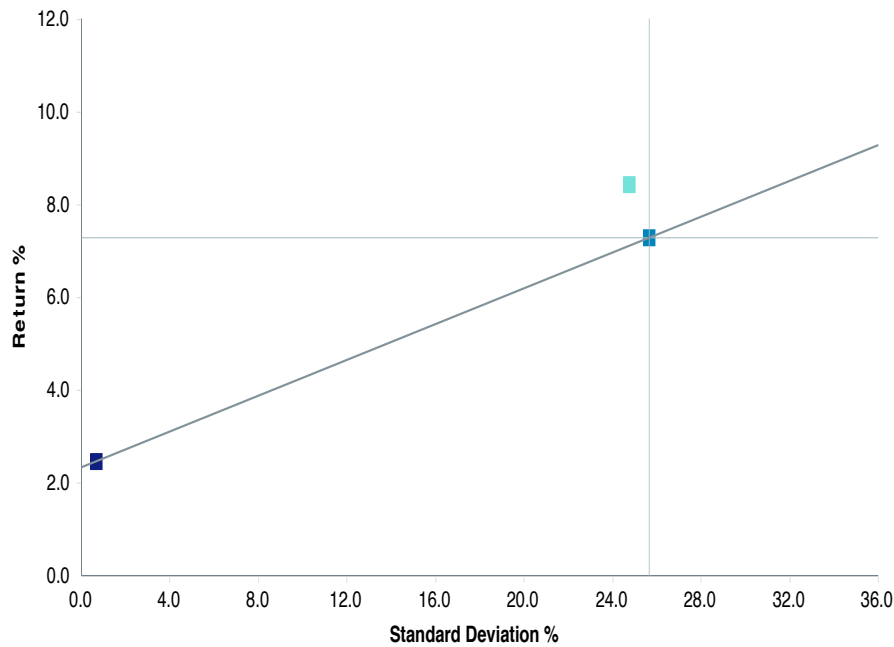
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Kennedy Capital Management	0.1 (44)	12.6 (56)	10.4 (51)	0.7 (94)	8.4 (65)	7.4 (75)	12.3 (82)	-17.6 (89)	39.2 (11)
Russell 2000 Value Index	-1.1 (66)	13.5 (49)	8.1 (71)	1.9 (83)	7.3 (81)	7.1 (85)	14.6 (65)	-14.5 (76)	28.3 (53)
5th Percentile	4.2	19.3	20.0	9.5	14.1	11.0	27.3	-2.5	41.8
1st Quartile	1.6	16.9	13.9	6.4	11.2	9.3	20.6	-8.3	34.0
Median	-0.2	13.2	10.6	4.3	9.1	8.0	16.4	-11.6	28.8
3rd Quartile	-1.5	11.0	6.8	2.5	7.8	7.4	13.2	-14.5	25.0
95th Percentile	-3.9	6.0	1.4	0.2	6.0	6.3	9.0	-20.6	17.7
Population	118	118	118	116	109	99	172	177	178

Parentheses contain percentile rankings.

# Risk Profile Kennedy Capital Management

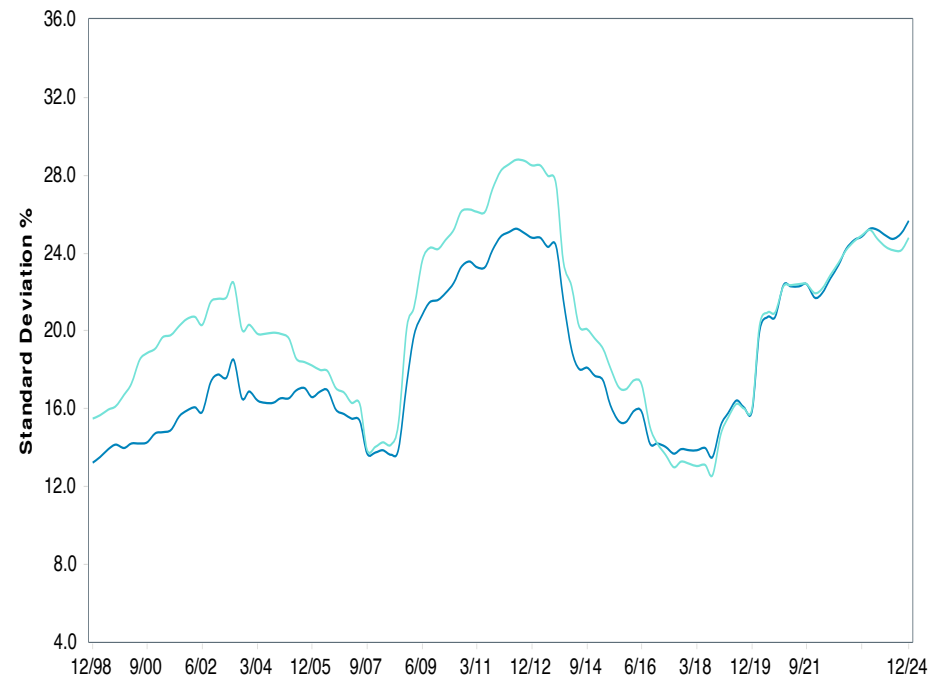
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- Kennedy Capital Management
- Russell 2000 Value Index
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- Kennedy Capital Management
- Russell 2000 Value Index

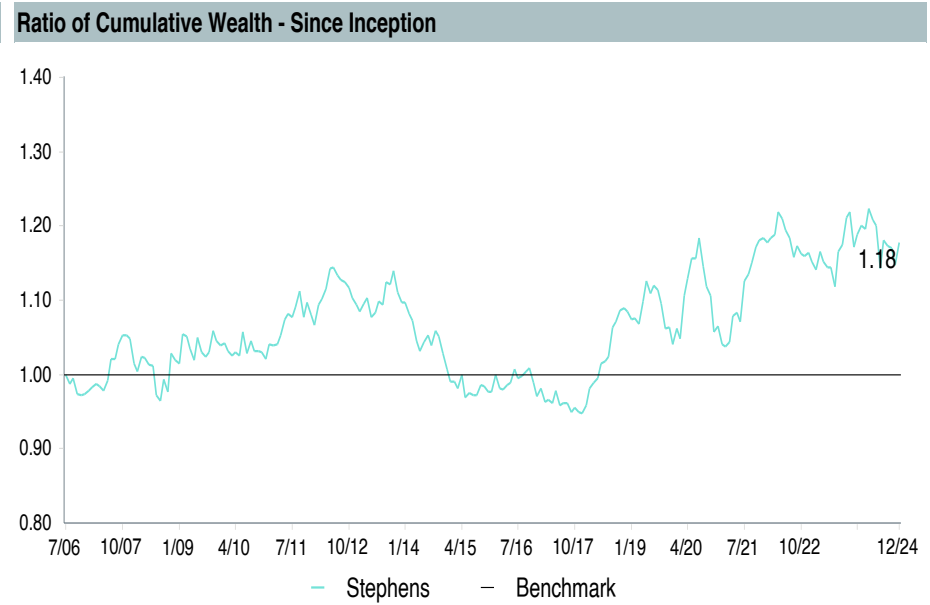
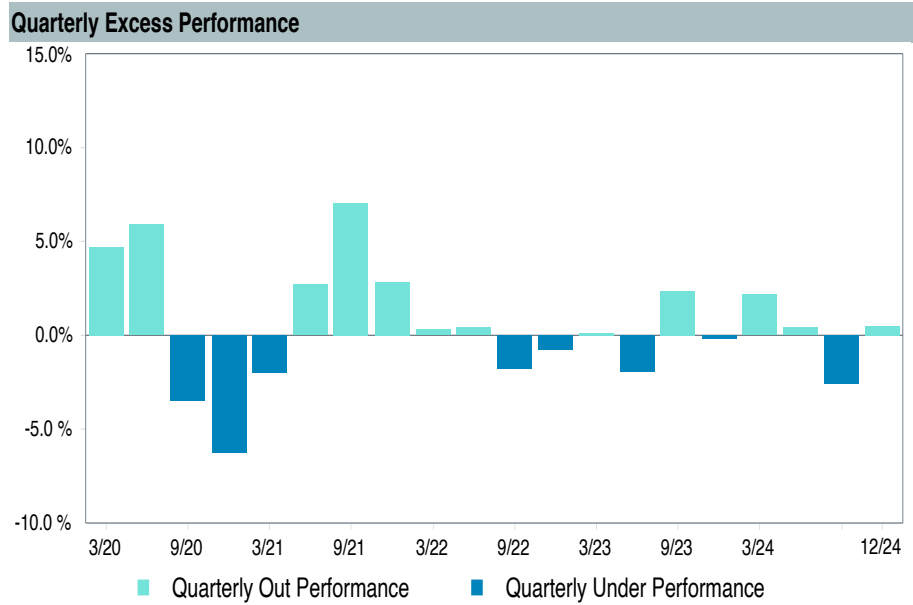
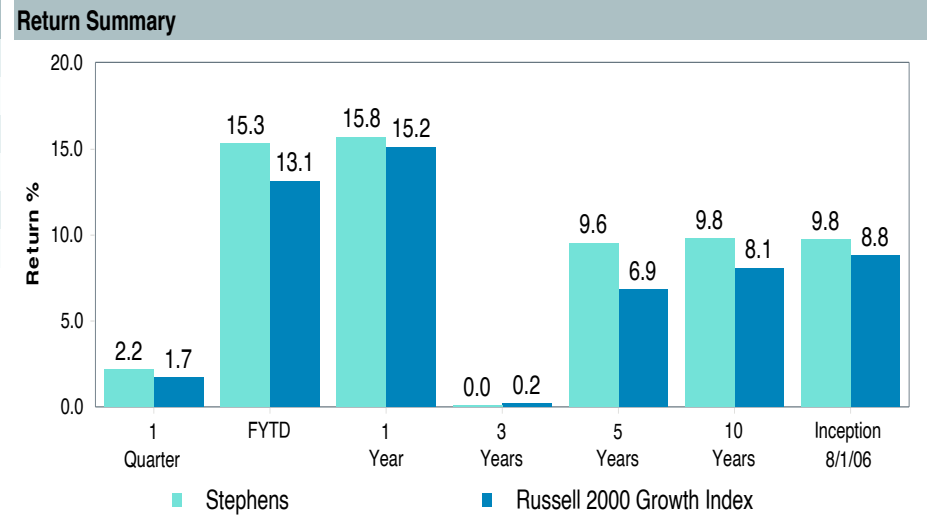
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Kennedy Capital Management	0.88	4.24	0.21	0.97	0.35	1.38	0.95	8.43	24.77	0.99
Russell 2000 Value Index	0.00	0.00	-	1.00	0.31	0.00	1.00	7.29	25.66	1.00
90 Day U.S. Treasury Bill	-7.92	25.75	-0.31	0.01	-	2.50	0.00	2.46	0.68	-0.12

# Manager Performance Summary Stephens

As of December 31, 2024

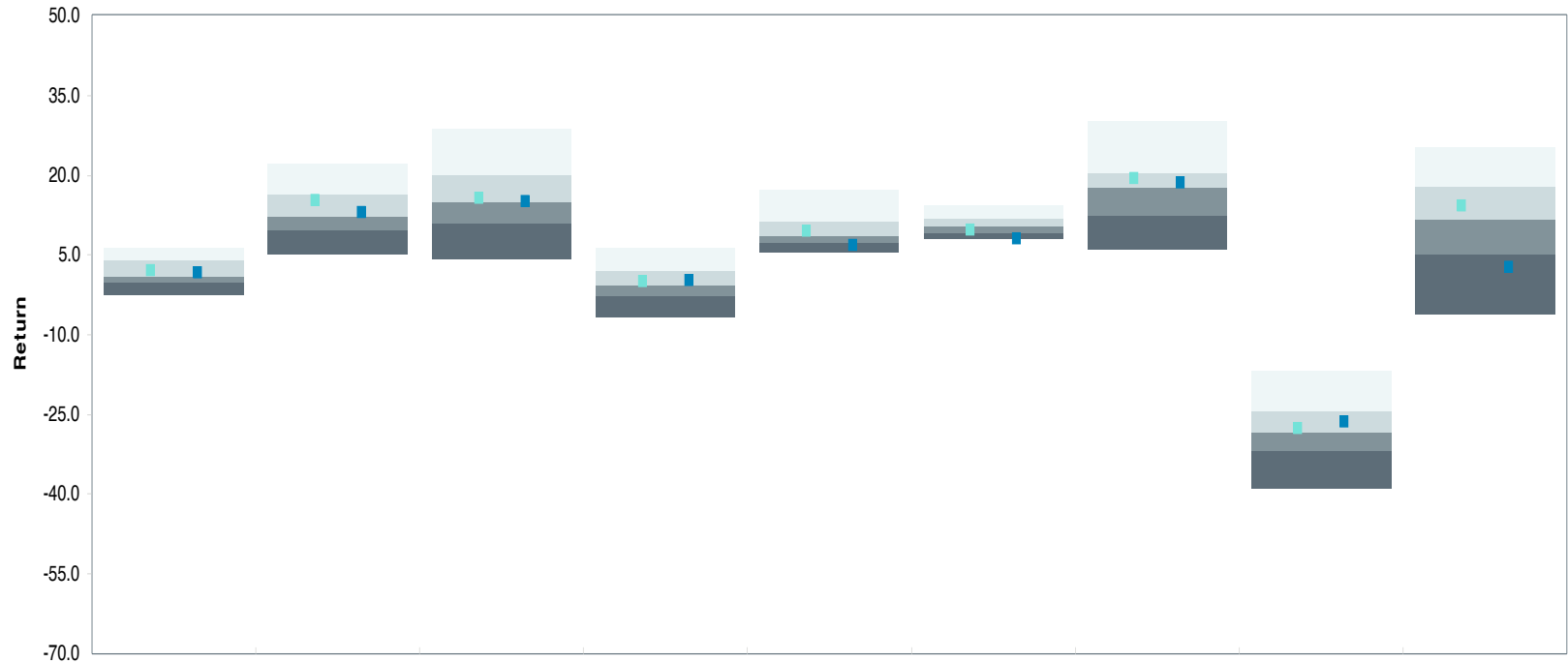
Account Information	
Account Name	Stephens
Inception Date	07/31/2006
Account Structure	Separate Account
Asset Class	US Equity
Benchmark	Russell 2000 Growth Index
Peer Group	IM U.S. Small Cap Growth Equity (SA+CF)



# Stephens

As of December 31, 2024

## IM U.S. Small Cap Growth Equity (SA+CF)



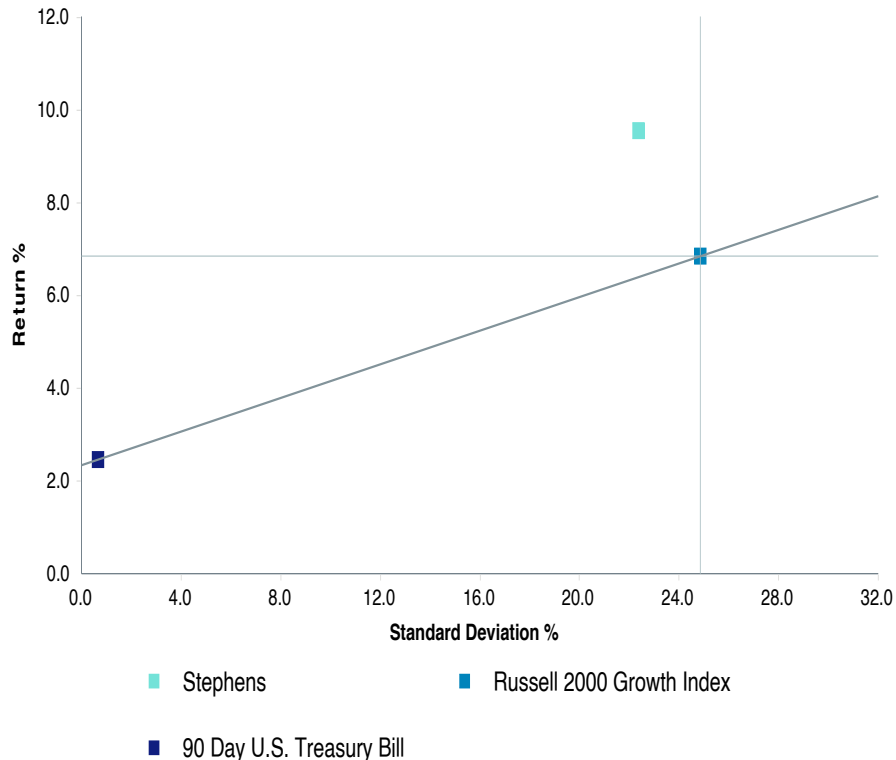
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Stephens	2.2 (37)	15.3 (32)	15.8 (41)	0.0 (37)	9.6 (40)	9.8 (65)	19.4 (35)	-27.6 (43)	14.3 (45)
Russell 2000 Growth Index	1.7 (39)	13.1 (41)	15.2 (47)	0.2 (35)	6.9 (79)	8.1 (95)	18.7 (41)	-26.4 (36)	2.8 (84)
5th Percentile	6.4	22.1	28.8	6.3	17.2	14.4	30.3	-16.7	25.2
1st Quartile	3.9	16.4	20.2	1.9	11.2	11.9	20.6	-24.4	17.9
Median	0.9	12.2	14.9	-0.7	8.5	10.3	17.6	-28.3	11.6
3rd Quartile	-0.1	9.6	11.1	-2.5	7.3	9.2	12.5	-31.9	5.2
95th Percentile	-2.6	5.1	4.2	-6.7	5.5	8.0	6.1	-38.9	-6.1
Population	87	87	87	86	82	79	134	139	140

Parentheses contain percentile rankings.

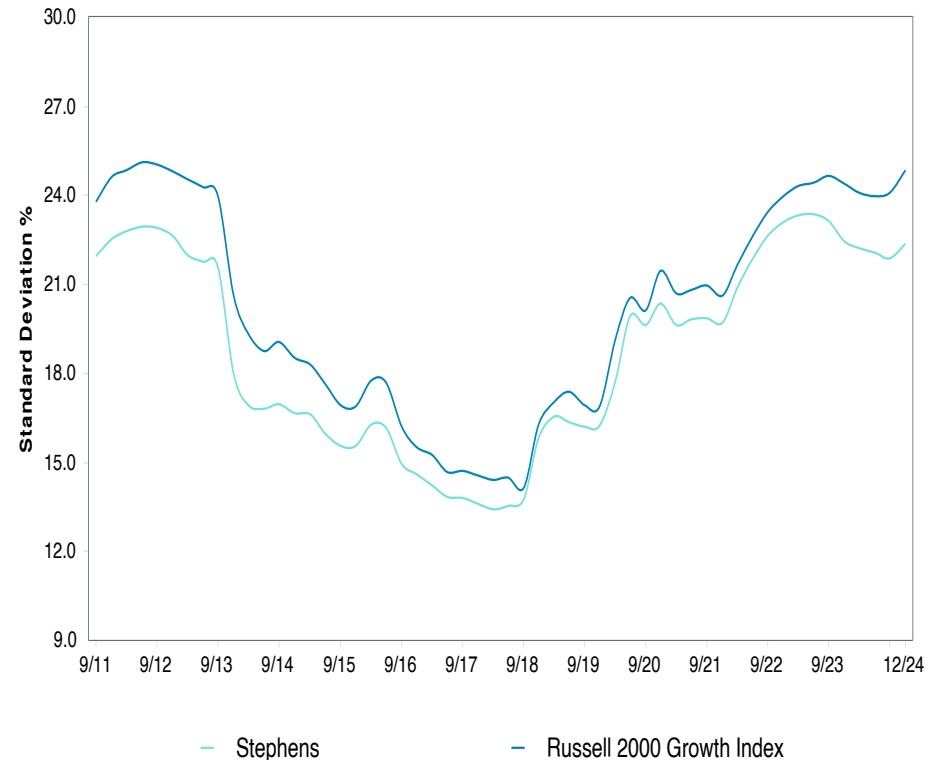
# Risk Profile Stephens

As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



**Standard Deviation  
Rolling 5 Years**



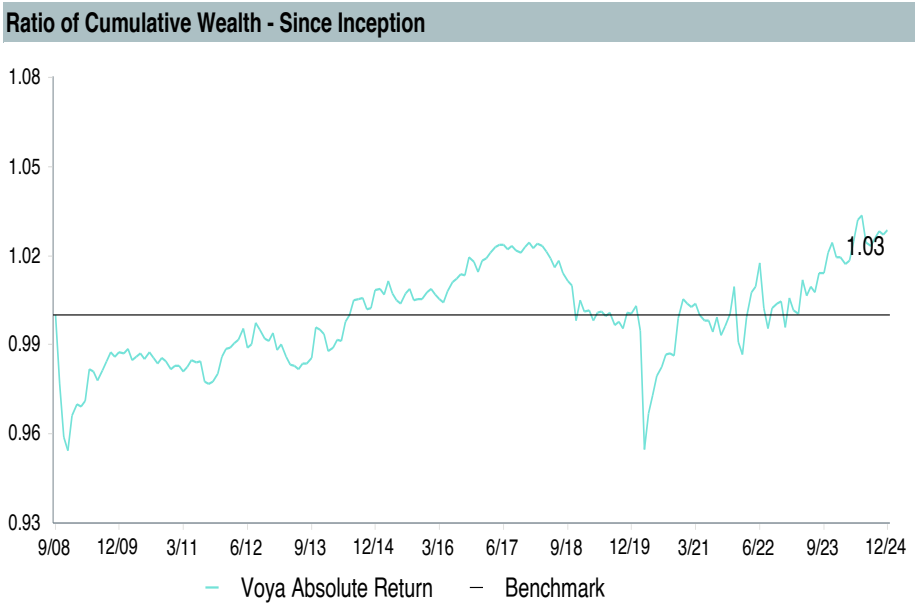
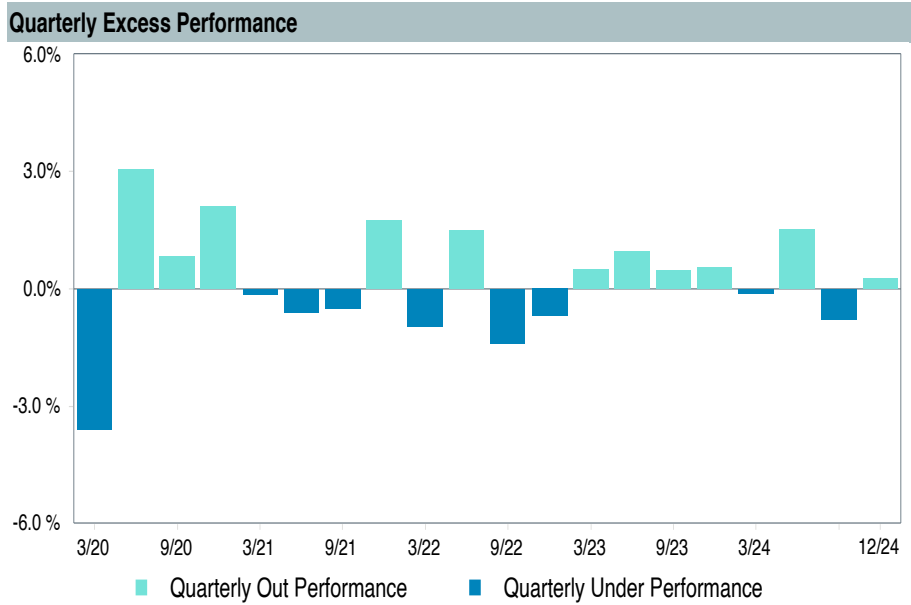
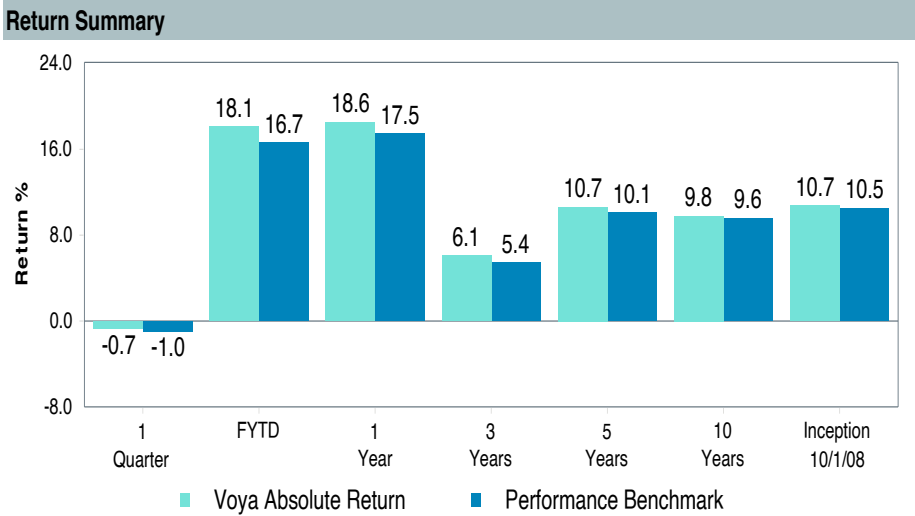
5 Years Historical Statistics										
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Stephens	1.91	7.43	0.26	0.91	0.41	3.31	0.86	9.55	22.38	0.96
Russell 2000 Growth Index	0.00	0.00	-	1.00	0.29	0.00	1.00	6.86	24.87	1.00
90 Day U.S. Treasury Bill	-7.26	24.91	-0.29	0.00	-	2.48	0.00	2.46	0.68	-0.05



# Manager Performance Summary Voya Absolute Return

As of December 31, 2024

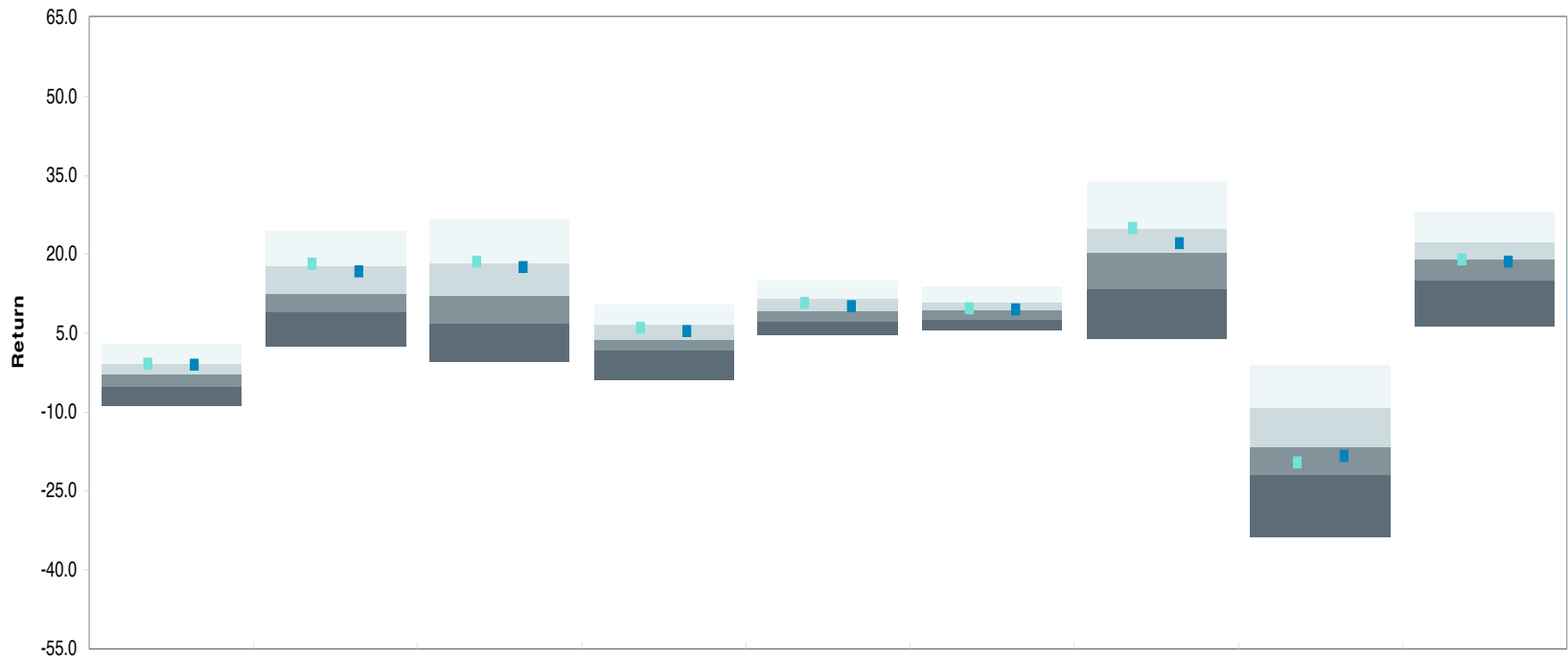
Account Information	
Account Name	Voya Absolute Return
Inception Date	09/30/2008
Account Structure	Commingled Fund
Asset Class	Global Equity
Benchmark	Performance Benchmark
Peer Group	IM Global Equity (MF)



# Voya Absolute Return

As of December 31, 2024

IM Global Equity (SA+CF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Voya Absolute Return	-0.7 (25)	18.1 (24)	18.6 (25)	6.1 (32)	10.7 (34)	9.8 (42)	25.1 (24)	-19.5 (66)	19.0 (51)
Performance Benchmark	-1.0 (29)	16.7 (30)	17.5 (30)	5.4 (39)	10.1 (41)	9.6 (44)	22.2 (41)	-18.4 (61)	18.5 (55)
5th Percentile	2.9	24.4	26.7	10.3	14.9	13.9	33.8	-1.2	28.2
1st Quartile	-0.8	17.8	18.3	6.7	11.6	10.9	24.7	-9.2	22.4
Median	-2.9	12.4	12.2	3.9	9.2	9.2	20.2	-16.6	19.1
3rd Quartile	-5.1	9.2	6.8	1.6	7.4	7.6	13.5	-21.8	15.1
95th Percentile	-8.9	2.6	-0.3	-3.9	4.6	5.6	3.9	-33.7	6.3
Population	358	355	356	348	322	246	558	577	572

Parentheses contain percentile rankings.

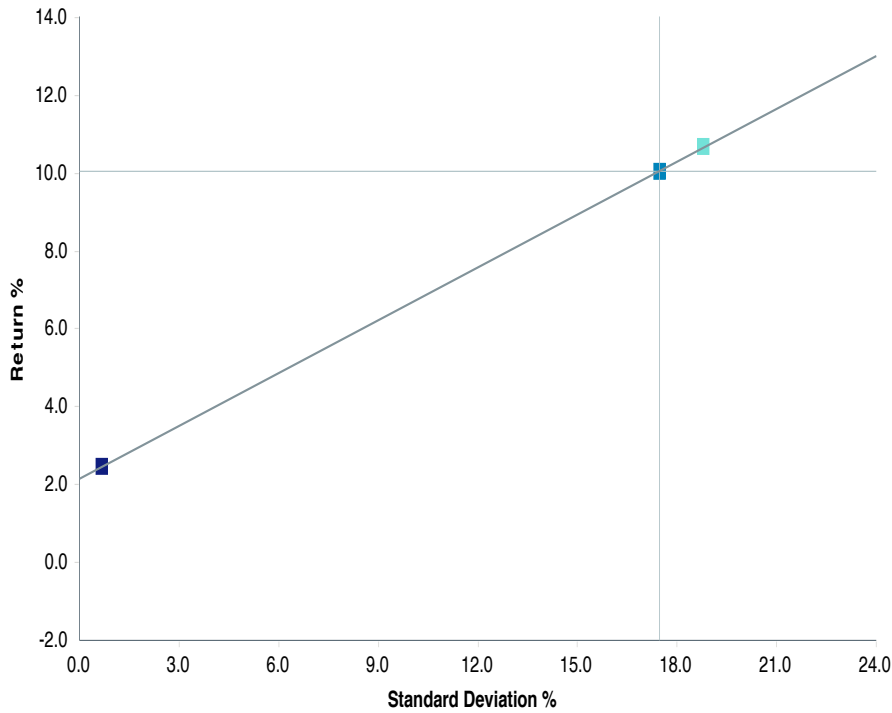




# Risk Profile Voya Absolute Return

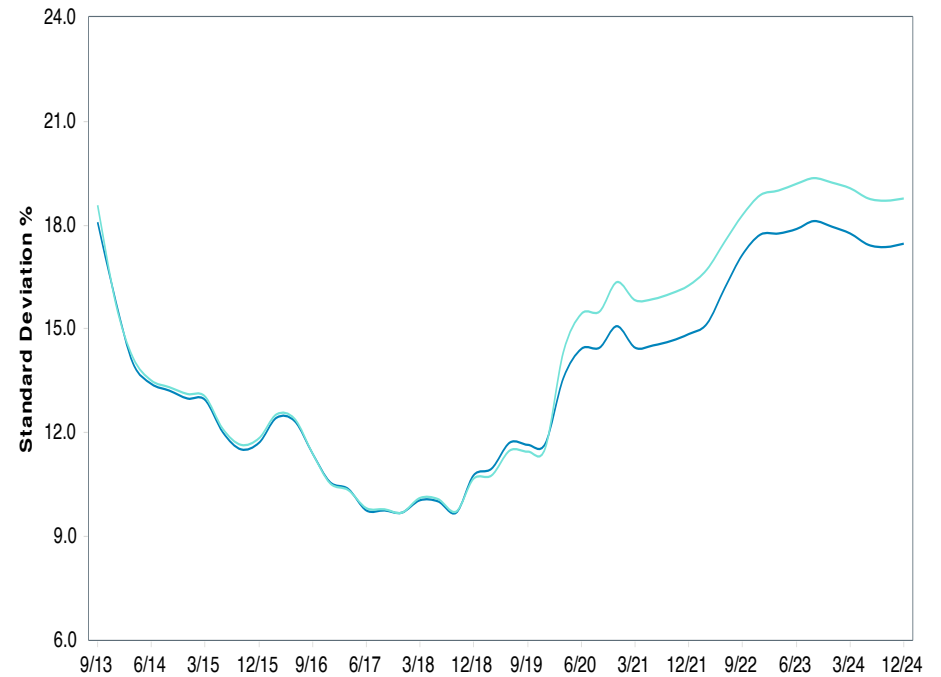
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



■ Voya Absolute Return   ■ Performance Benchmark   ■ 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



— Voya Absolute Return   — Performance Benchmark

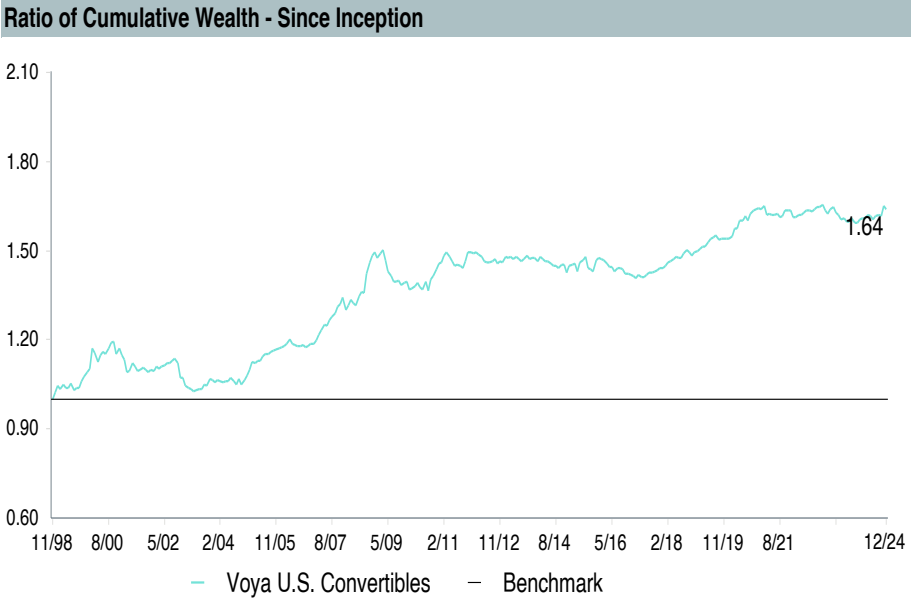
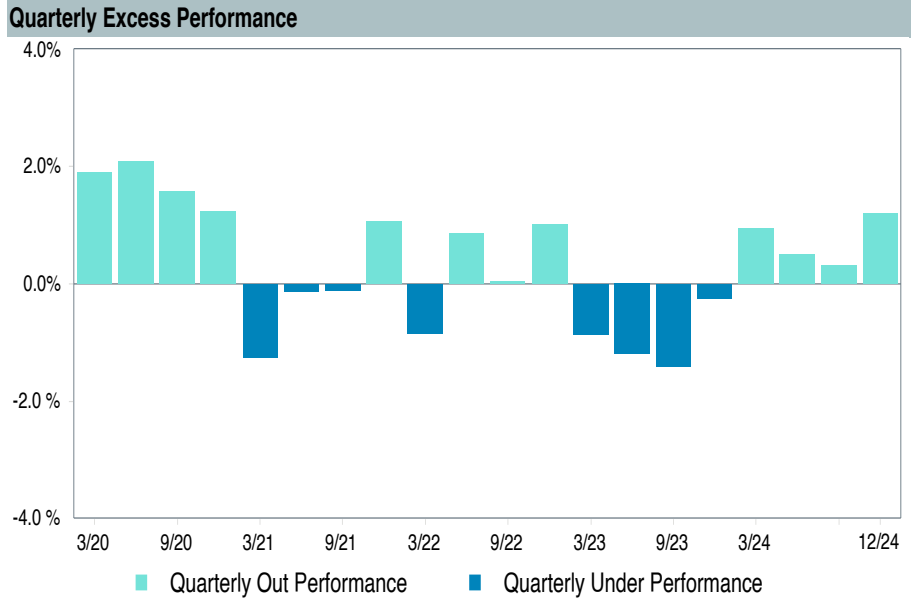
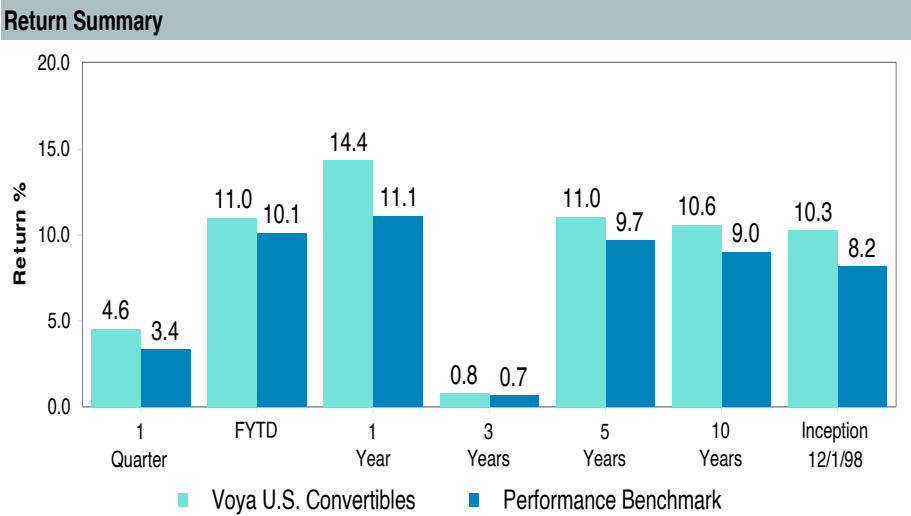
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Voya Absolute Return	0.80	2.73	0.29	0.98	0.51	0.08	1.07	10.68	18.78	0.99
Performance Benchmark	0.00	0.00	-	1.00	0.50	0.00	1.00	10.06	17.48	1.00
90 Day U.S. Treasury Bill	-8.70	17.50	-0.50	0.00	-	2.47	0.00	2.46	0.68	-0.02

# Manager Performance Summary Voya U.S. Convertibles

As of December 31, 2024

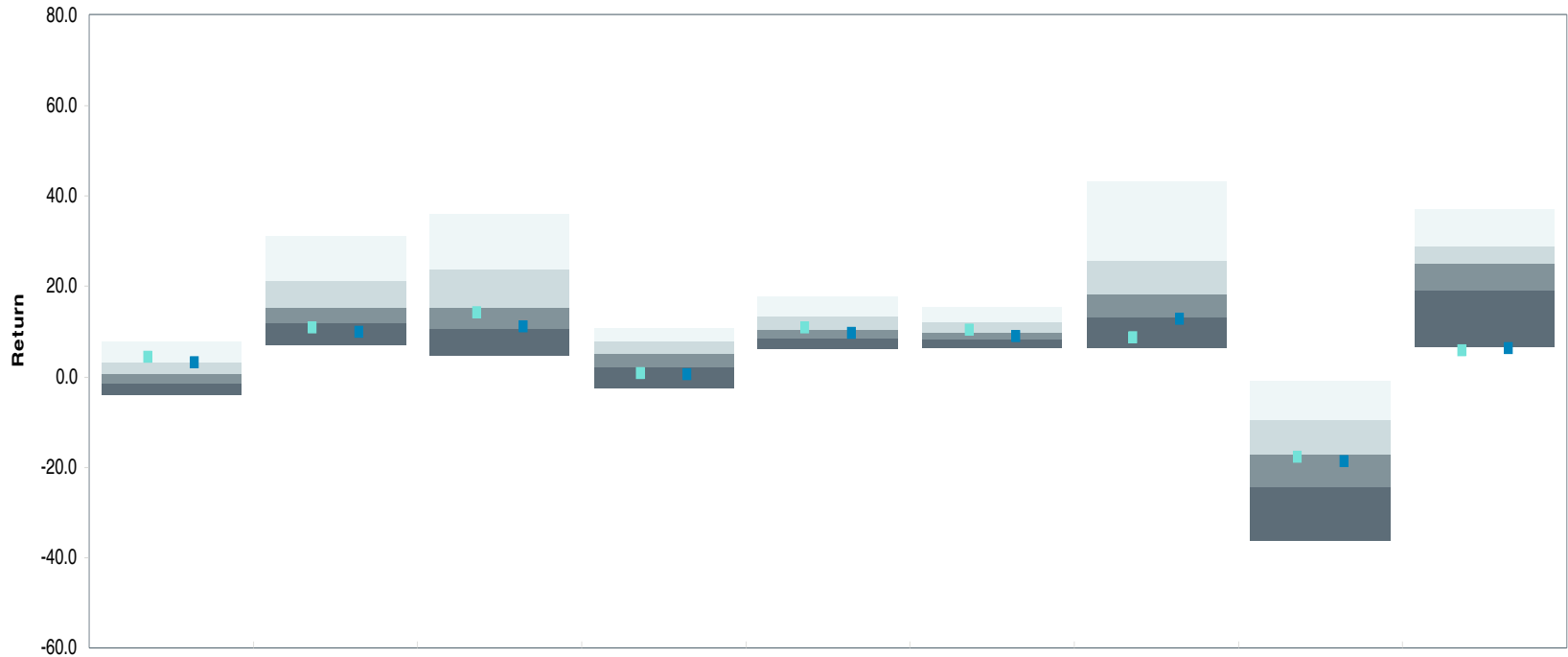
Account Information	
Account Name	Voya U.S. Convertibles
Inception Date	11/30/1998
Account Structure	Separate Account
Asset Class	US Equity
Benchmark	Performance Benchmark
Peer Group	IM U.S. Equity (SA+CF)



# Voya U.S. Convertibles

As of December 31, 2024

IM U.S. Equity (SA+CF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Voya U.S. Convertibles	4.6 (19)	11.0 (82)	14.4 (56)	0.8 (85)	11.0 (44)	10.6 (42)	8.8 (91)	-17.7 (54)	5.9 (96)
Performance Benchmark	3.4 (24)	10.1 (87)	11.1 (74)	0.7 (85)	9.7 (61)	9.0 (64)	12.9 (76)	-18.7 (59)	6.3 (96)
5th Percentile	7.8	31.1	36.0	10.8	17.7	15.5	43.1	-0.7	37.2
1st Quartile	3.3	21.3	23.7	7.9	13.4	12.2	25.7	-9.6	29.0
Median	0.6	15.4	15.2	5.2	10.5	9.8	18.5	-17.1	25.1
3rd Quartile	-1.4	11.9	10.8	2.0	8.5	8.3	13.1	-24.4	19.1
95th Percentile	-4.0	7.1	4.7	-2.5	6.2	6.4	6.5	-36.3	6.5
Population	1,345	1,316	1,343	1,285	1,229	1,039	2,022	2,094	2,130

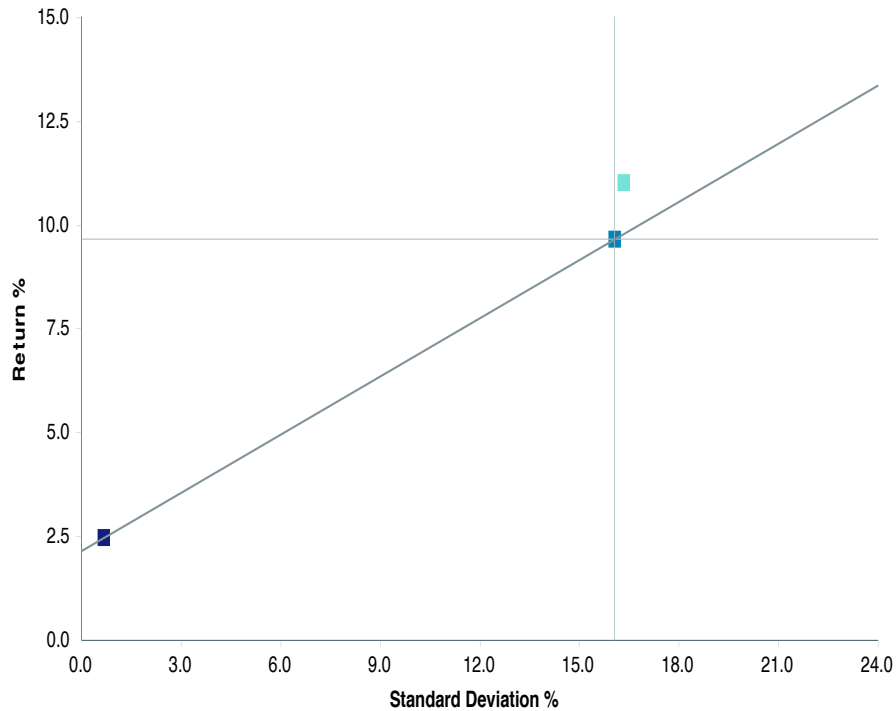
Parentheses contain percentile rankings.



# Risk Profile Voya U.S. Convertibles

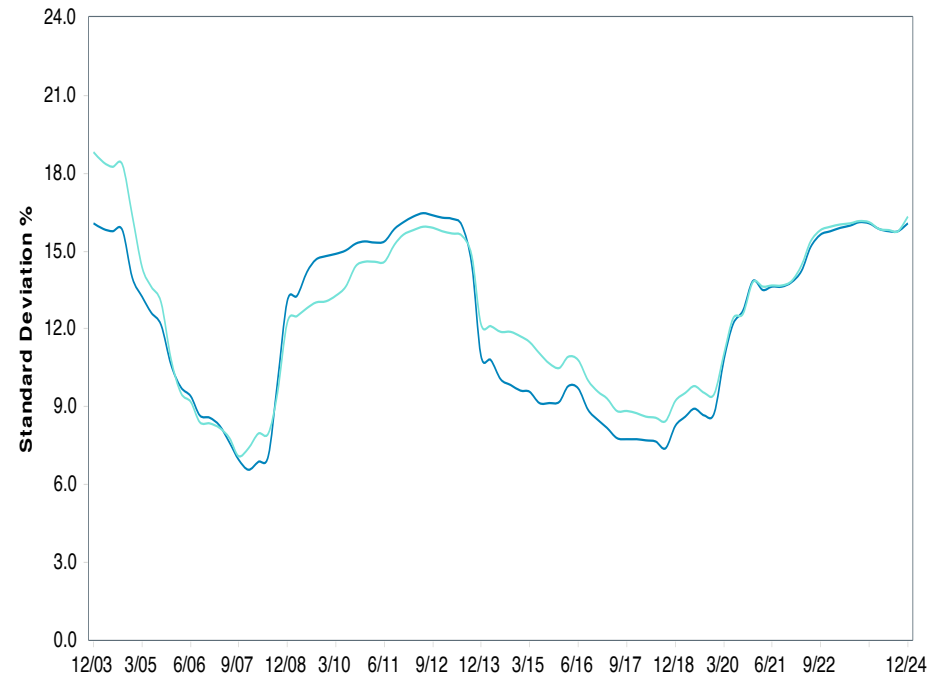
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation 5 Years**



■ Voya U.S. Convertibles   ■ Performance Benchmark   ■ 90 Day U.S. Treasury Bill

**Standard Deviation Rolling 5 Years**



— Voya U.S. Convertibles   — Performance Benchmark

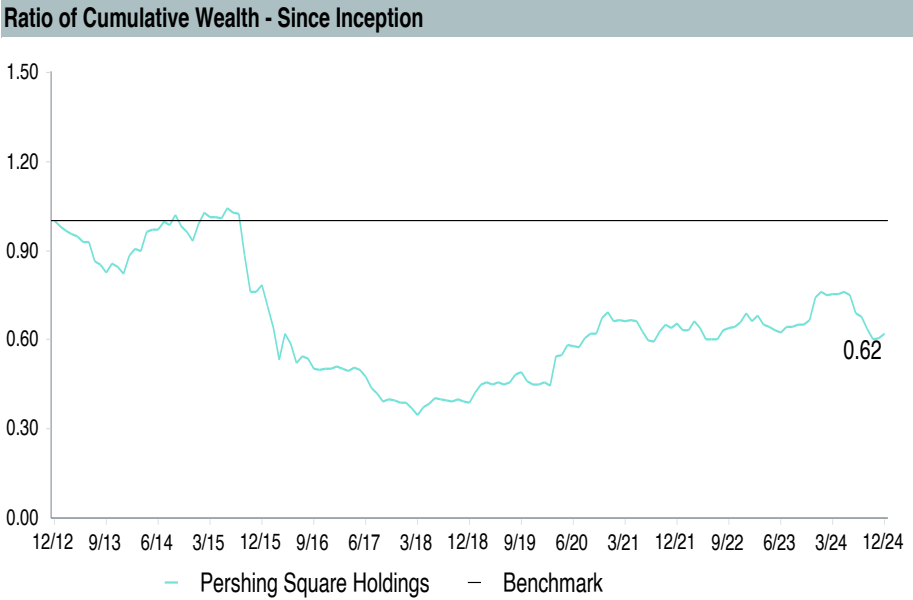
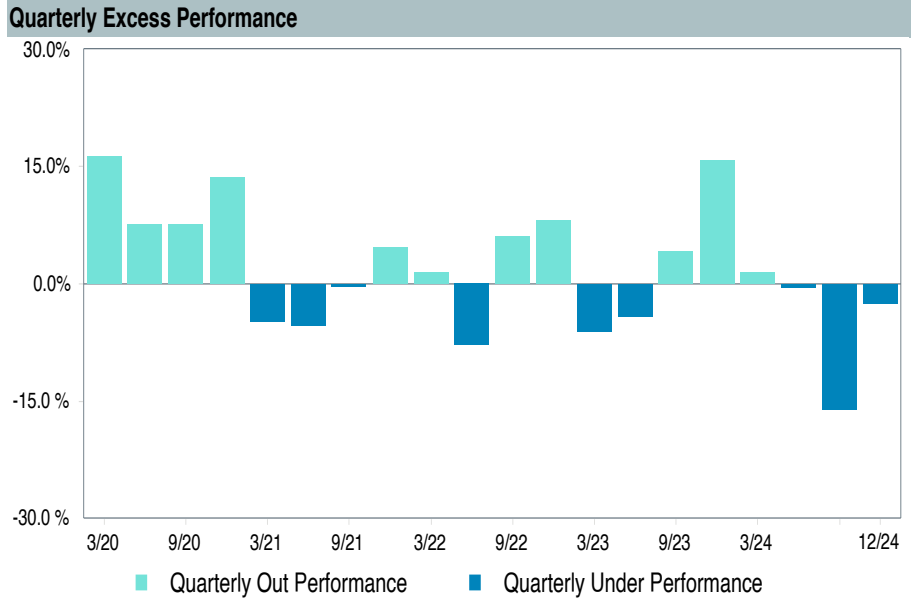
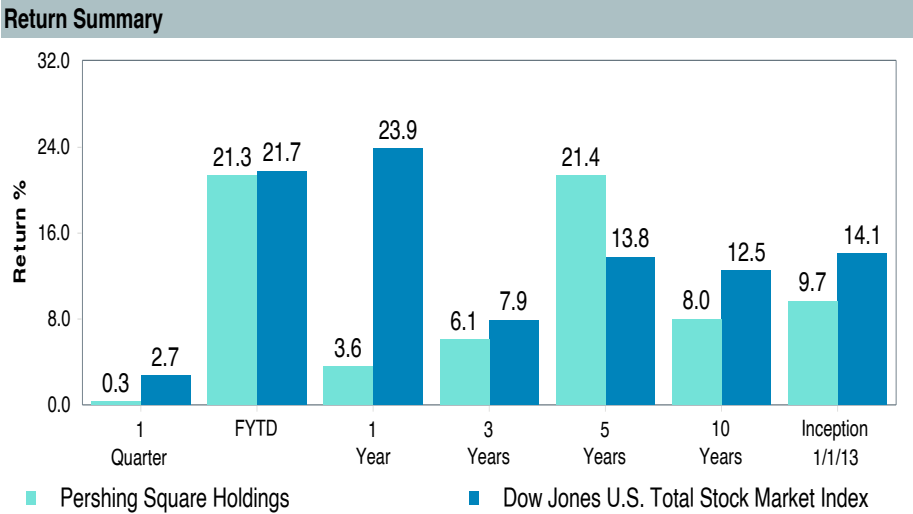
**5 Years Historical Statistics**

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Voya U.S. Convertibles	1.29	2.64	0.49	0.97	0.57	1.27	1.00	11.03	16.32	0.99
Performance Benchmark	0.00	0.00	-	1.00	0.50	0.00	1.00	9.66	16.07	1.00
90 Day U.S. Treasury Bill	-8.08	16.15	-0.50	0.01	-	2.51	0.00	2.46	0.68	-0.11

# Manager Performance Summary Pershing Square Holdings

As of December 31, 2024

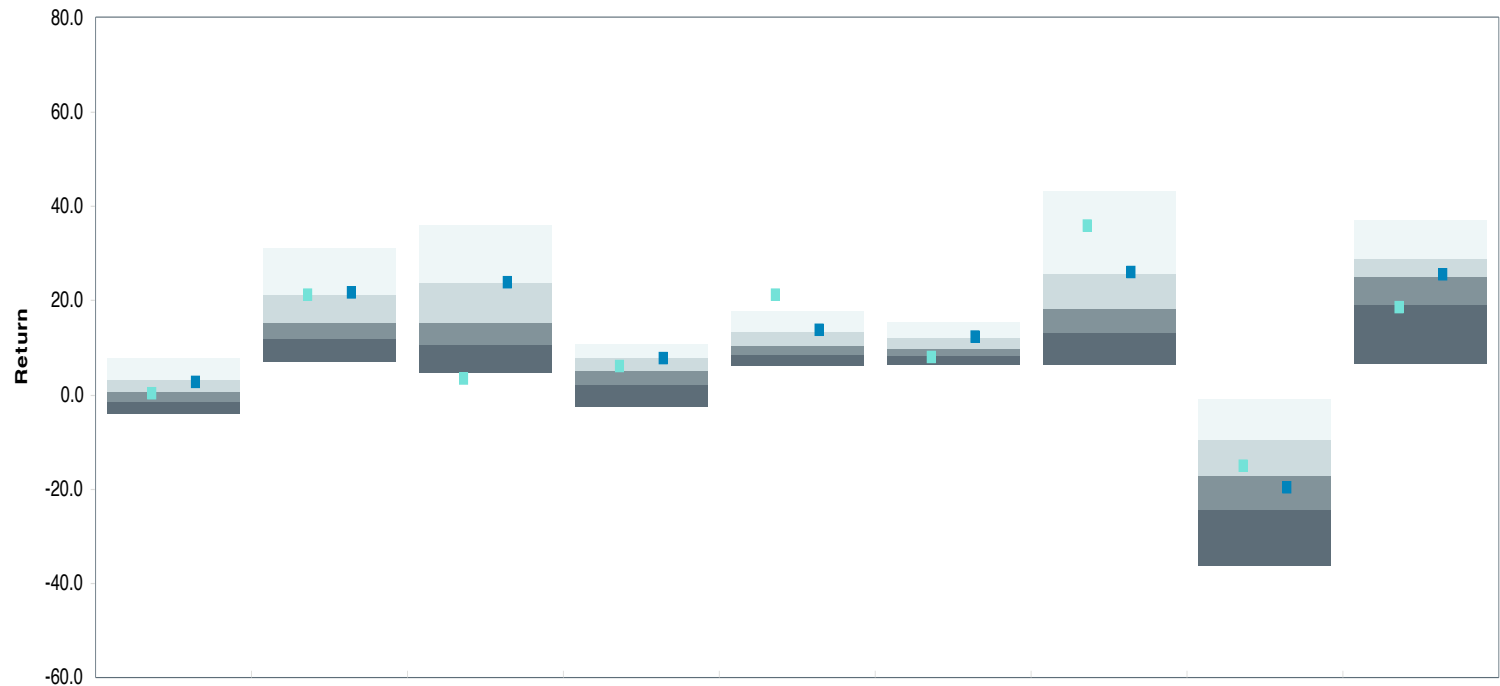
Account Information	
Account Name	Pershing Square Holdings
Inception Date	12/31/2012
Account Structure	Commingled Fund
Asset Class	US Equity
Benchmark	Dow Jones U.S. Total Stock Market Index
Peer Group	IM U.S. Equity (SA+CF)



# Pershing Square Holdings

As of December 31, 2024

IM U.S. Equity (SA+CF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Pershing Square Holdings	0.3 (54)	21.3 (25)	3.6 (98)	6.1 (40)	21.4 (1)	8.0 (79)	36.0 (11)	-15.1 (44)	18.7 (77)
Dow Jones U.S. Total Stock Market Index	2.7 (30)	21.7 (23)	23.9 (25)	7.9 (25)	13.8 (23)	12.5 (23)	26.1 (24)	-19.5 (63)	25.7 (46)
5th Percentile	7.8	31.1	36.0	10.8	17.7	15.5	43.1	-0.7	37.2
1st Quartile	3.3	21.3	23.7	7.9	13.4	12.2	25.7	-9.6	29.0
Median	0.6	15.4	15.2	5.2	10.5	9.8	18.5	-17.1	25.1
3rd Quartile	-1.4	11.9	10.8	2.0	8.5	8.3	13.1	-24.4	19.1
95th Percentile	-4.0	7.1	4.7	-2.5	6.2	6.4	6.5	-36.3	6.5

Population

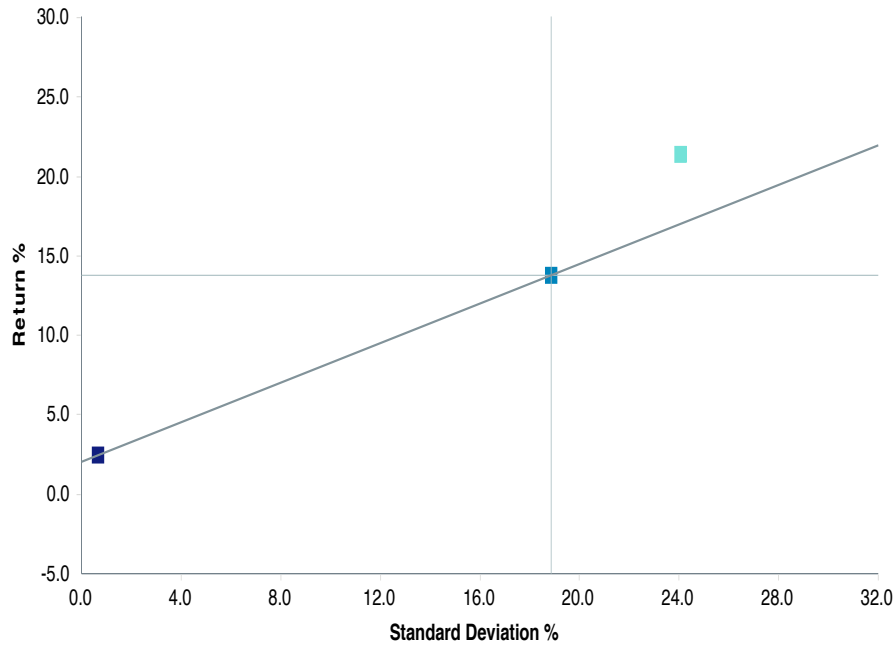
1,345      1,316      1,343      1,285      1,229      1,039      2,022      2,094      2,130

Parentheses contain percentile rankings.

# Risk Profile Pershing Square Holdings

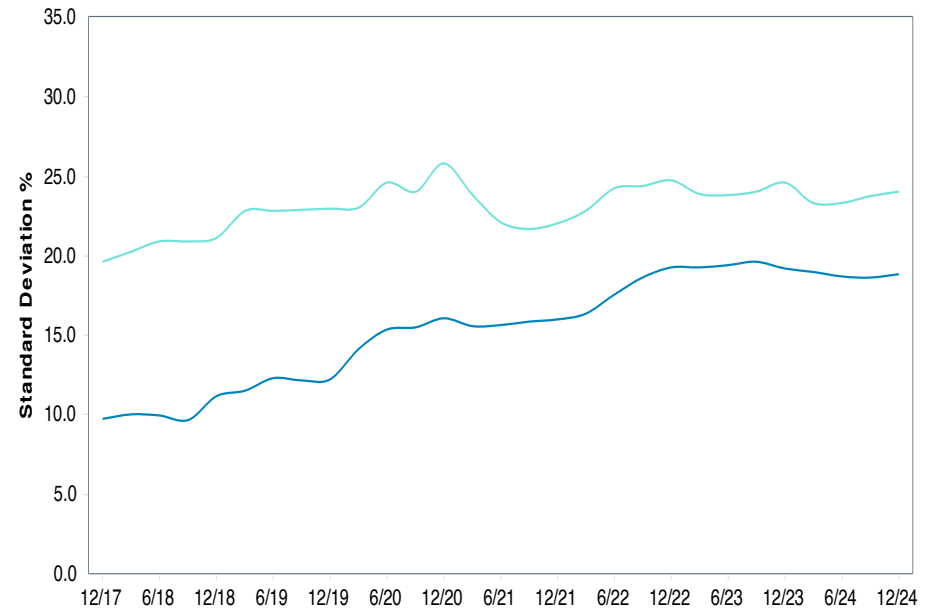
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



- Pershing Square Holdings
- Dow Jones U.S. Total Stock Market Index
- 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 5 Years**



- Pershing Square Holdings
- Dow Jones U.S. Total Stock Market Index

**5 Years Historical Statistics**

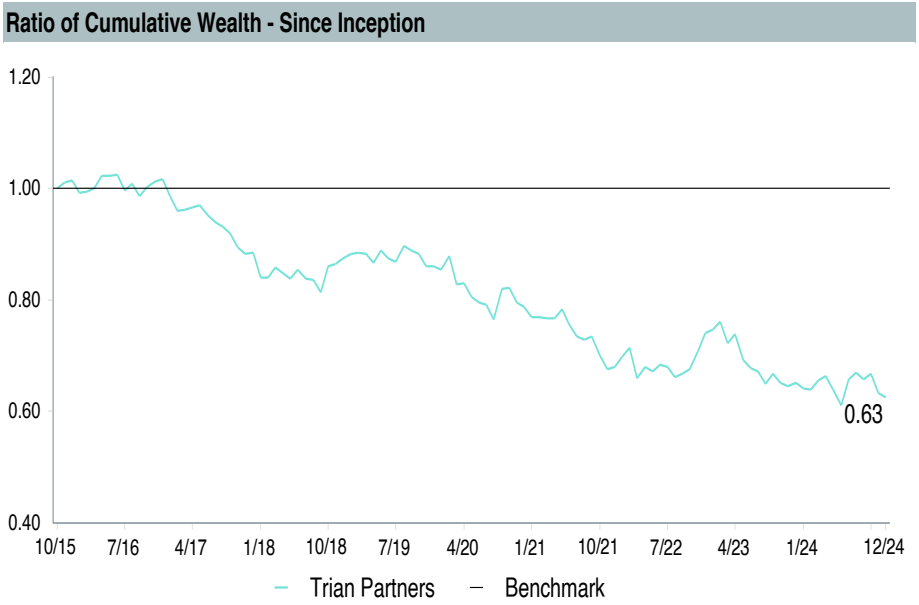
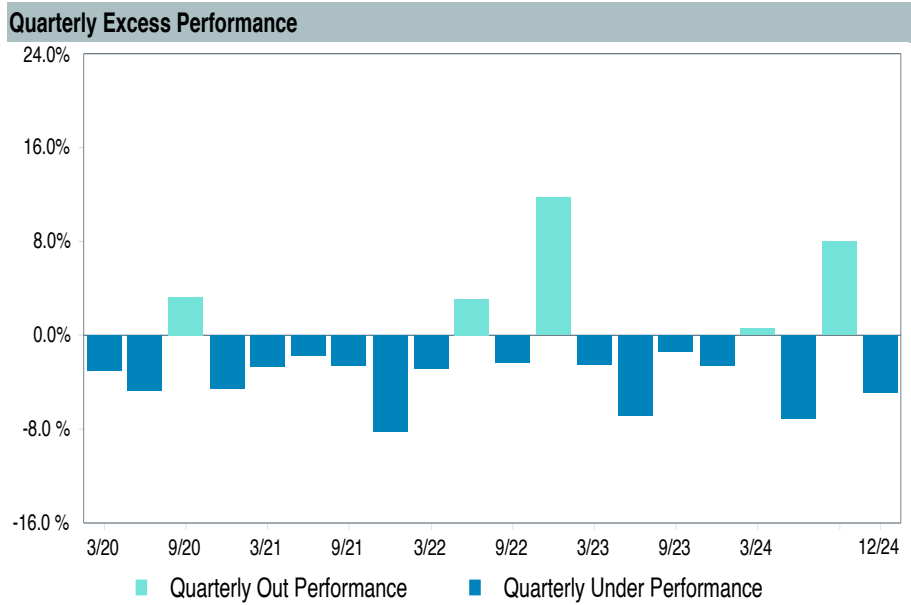
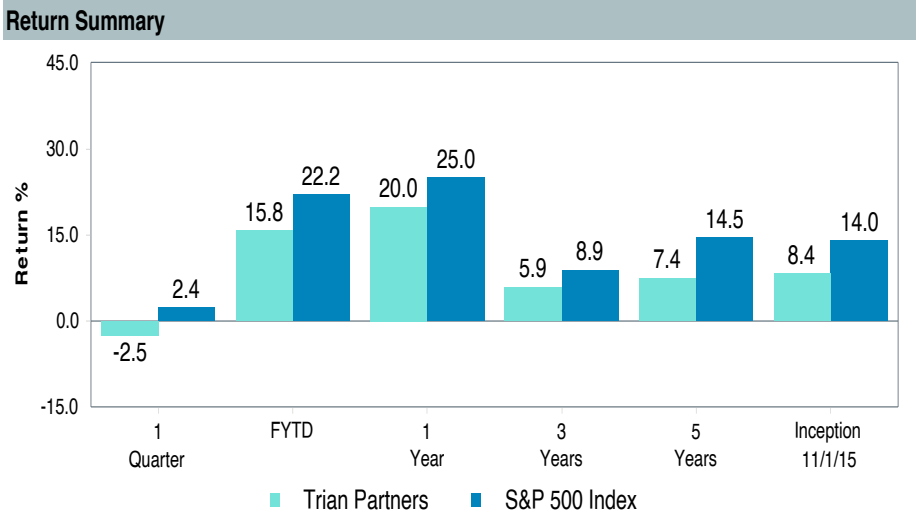
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Pershing Square Holdings	7.55	15.42	0.49	0.59	0.82	8.16	0.98	21.39	24.05	0.77
Dow Jones U.S. Total Stock Market Index	0.00	0.00	-	1.00	0.65	0.00	1.00	13.78	18.88	1.00
90 Day U.S. Treasury Bill	-12.30	18.91	-0.65	0.00	-	2.48	0.00	2.46	0.68	-0.03



# Manager Performance Summary Trian Partners

As of December 31, 2024

Account Information	
Account Name	Trian Partners
Inception Date	11/01/2015
Account Structure	Commingled Fund
Asset Class	US Equity
Benchmark	S&P 500 Index
Peer Group	IM U.S. Equity (SA+CF)

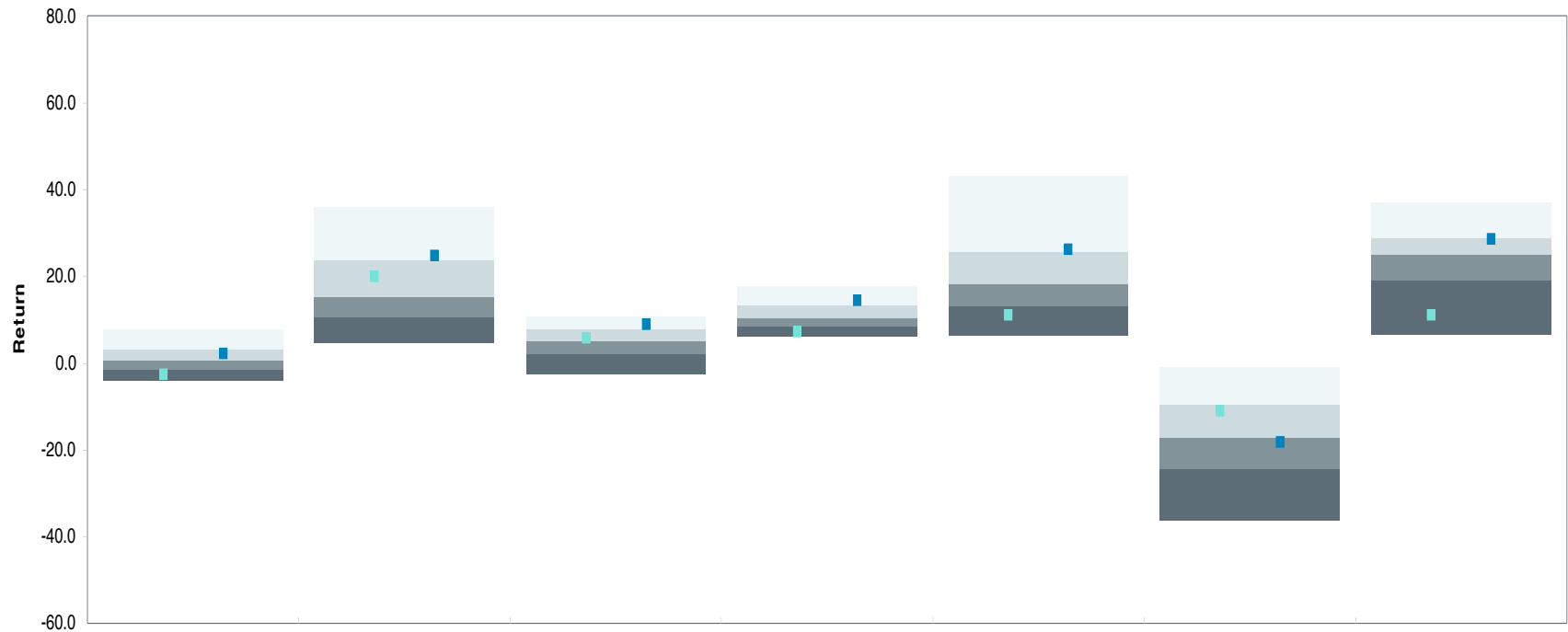




# Trian Partners

As of December 31, 2024

## IM U.S. Equity (SA+CF)



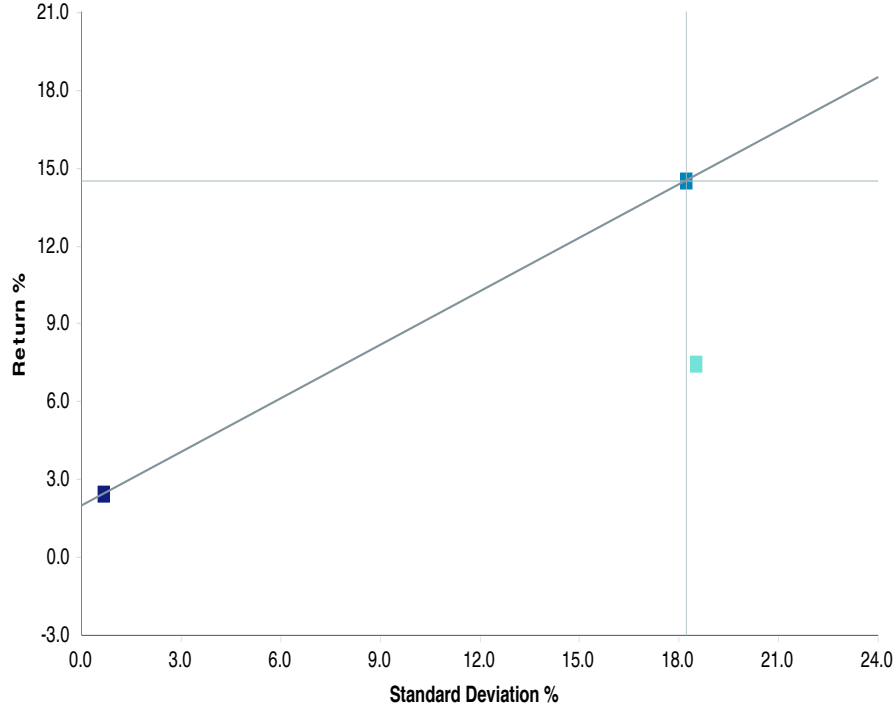
	1 Quarter	1 Year	3 Years	5 Years	2023	2022	2021
Trian Partners	-2.5 (85)	20.0 (33)	5.9 (42)	7.4 (86)	11.2 (83)	-10.9 (30)	11.2 (92)
S&P 500 Index	2.4 (33)	25.0 (20)	8.9 (17)	14.5 (18)	26.3 (22)	-18.1 (55)	28.7 (27)
5th Percentile	7.8	36.0	10.8	17.7	43.1	-0.7	37.2
1st Quartile	3.3	23.7	7.9	13.4	25.7	-9.6	29.0
Median	0.6	15.2	5.2	10.5	18.5	-17.1	25.1
3rd Quartile	-1.4	10.8	2.0	8.5	13.1	-24.4	19.1
95th Percentile	-4.0	4.7	-2.5	6.2	6.5	-36.3	6.5
Population	1,345	1,343	1,285	1,229	2,022	2,094	2,130

Parentheses contain percentile rankings.

# Risk Profile Trian Partners

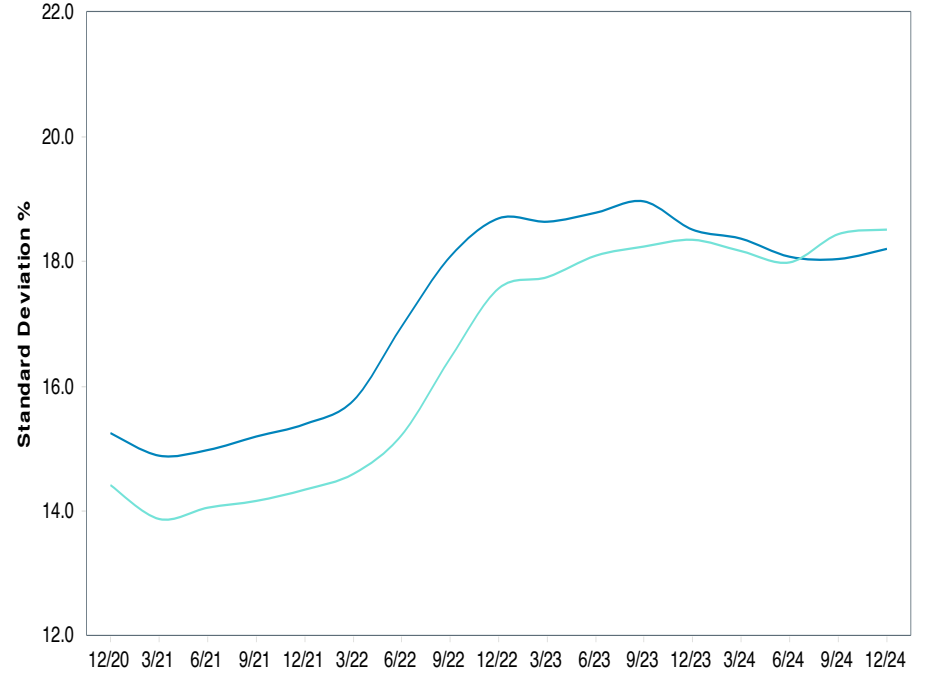
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



■ Trian Partners    ■ S&P 500 Index    ■ 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 5 Years**



— Trian Partners    — S&P 500 Index

**5 Years Historical Statistics**

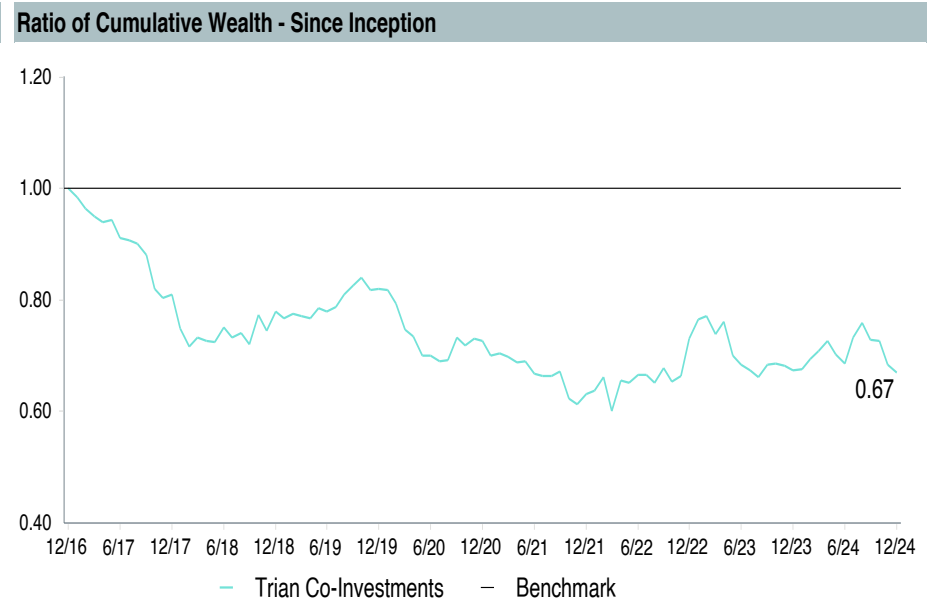
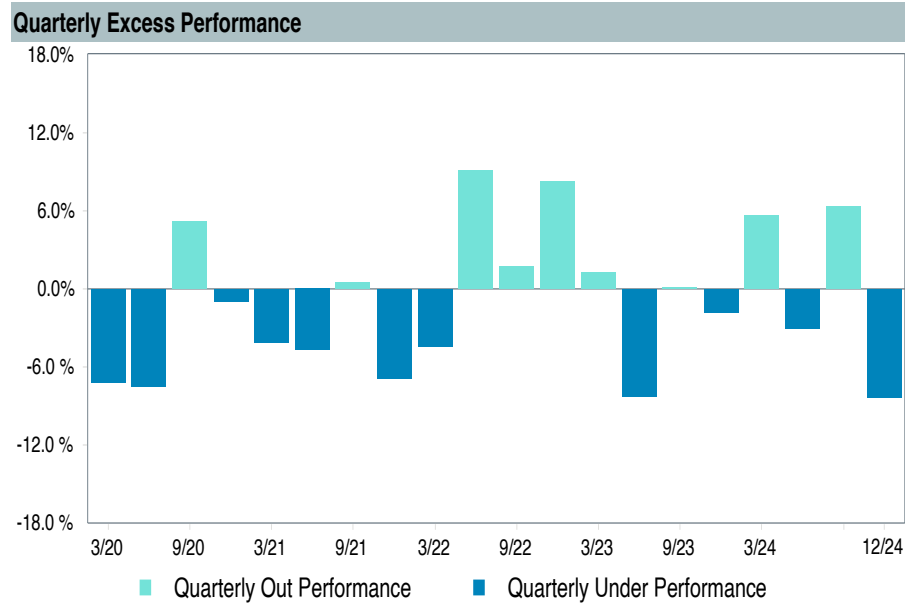
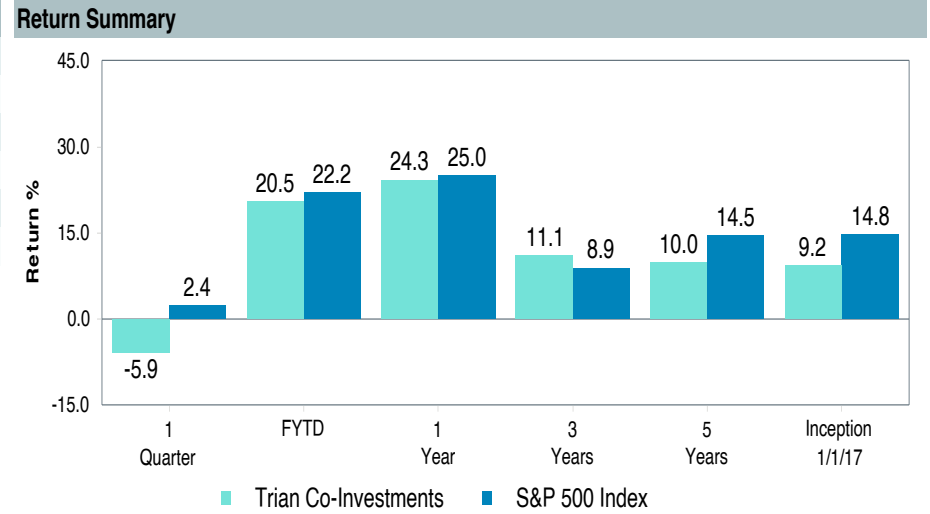
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Trian Partners	-6.38	10.66	-0.60	0.69	0.35	-3.95	0.85	7.44	18.52	0.83
S&P 500 Index	0.00	0.00	-	1.00	0.70	0.00	1.00	14.53	18.21	1.00
90 Day U.S. Treasury Bill	-12.84	18.24	-0.70	0.00	-	2.48	0.00	2.46	0.68	-0.03



# Manager Performance Summary Trian Co-Investments

As of December 31, 2024

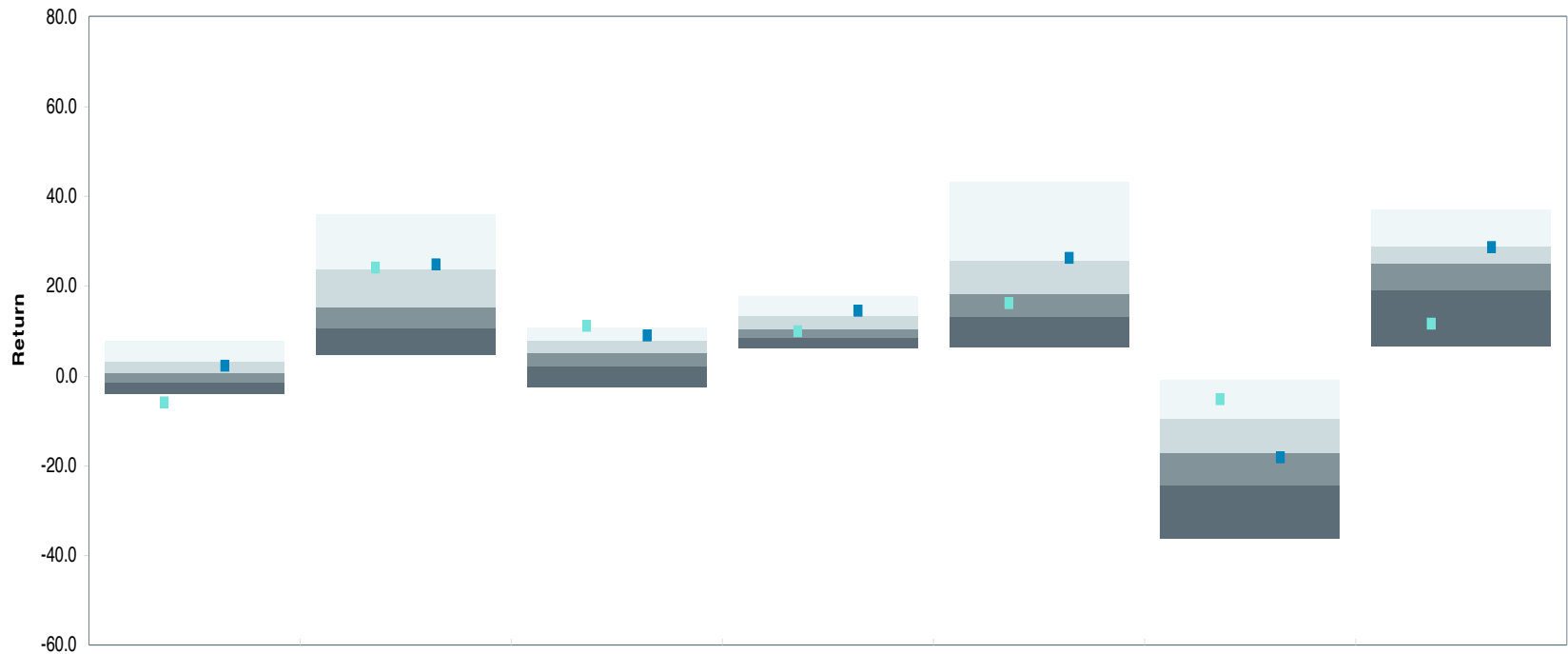
Account Information	
Account Name	Trian Co-Investments
Inception Date	01/01/2017
Account Structure	Commingled Fund
Asset Class	US Equity
Benchmark	S&P 500 Index
Peer Group	IM U.S. Equity (SA+CF)



# Trian Co-Investments

As of December 31, 2024

## IM U.S. Equity (SA+CF)



	1 Quarter	1 Year	3 Years	5 Years	2023	2022	2021
Trian Co-Investments	-5.9 (100)	24.3 (23)	11.1 (5)	10.0 (57)	16.3 (62)	-5.1 (15)	11.6 (91)
S&P 500 Index	2.4 (33)	25.0 (20)	8.9 (17)	14.5 (18)	26.3 (22)	-18.1 (55)	28.7 (27)
5th Percentile	7.8	36.0	10.8	17.7	43.1	-0.7	37.2
1st Quartile	3.3	23.7	7.9	13.4	25.7	-9.6	29.0
Median	0.6	15.2	5.2	10.5	18.5	-17.1	25.1
3rd Quartile	-1.4	10.8	2.0	8.5	13.1	-24.4	19.1
95th Percentile	-4.0	4.7	-2.5	6.2	6.5	-36.3	6.5

Population

1,345

1,343

1,285

1,229

2,022

2,094

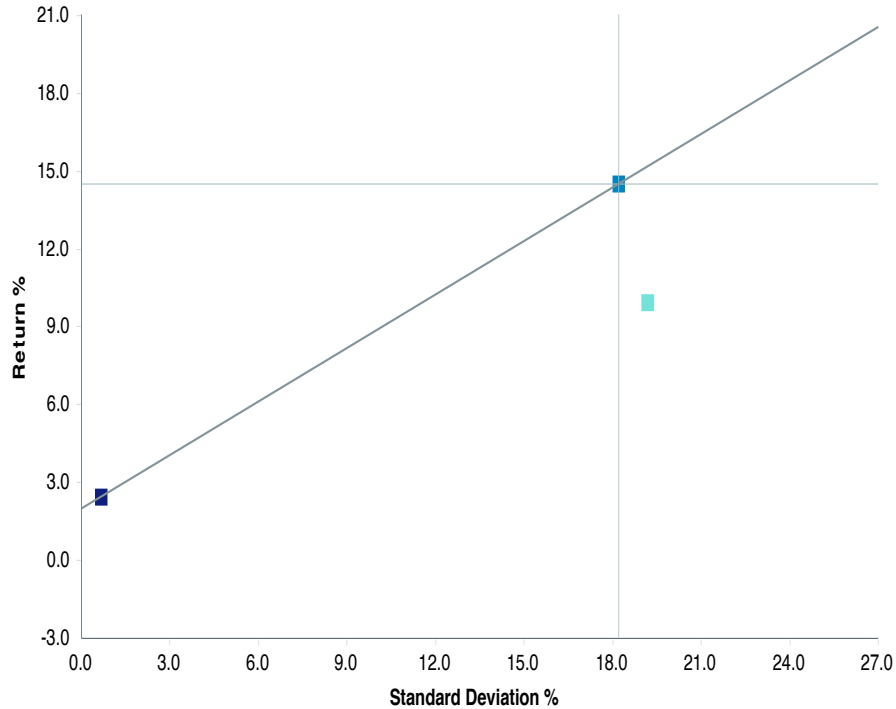
2,130

Parentheses contain percentile rankings.

# Risk Profile Trian Co-Investments

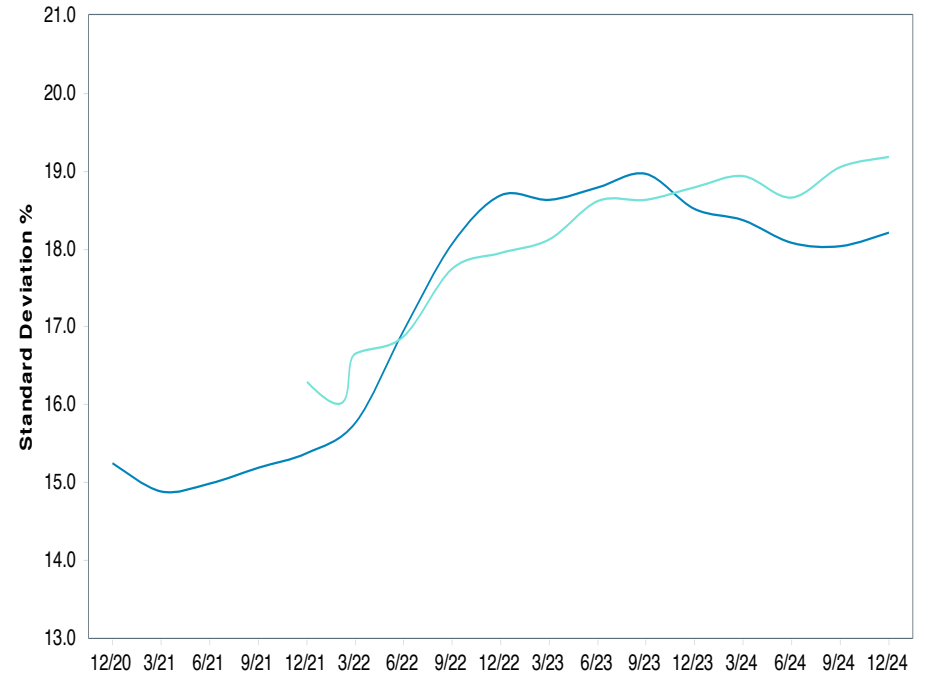
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



■ Trian Co-Investments    ■ S&P 500 Index    ■ 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 5 Years**



— Trian Co-Investments    — S&P 500 Index

**5 Years Historical Statistics**

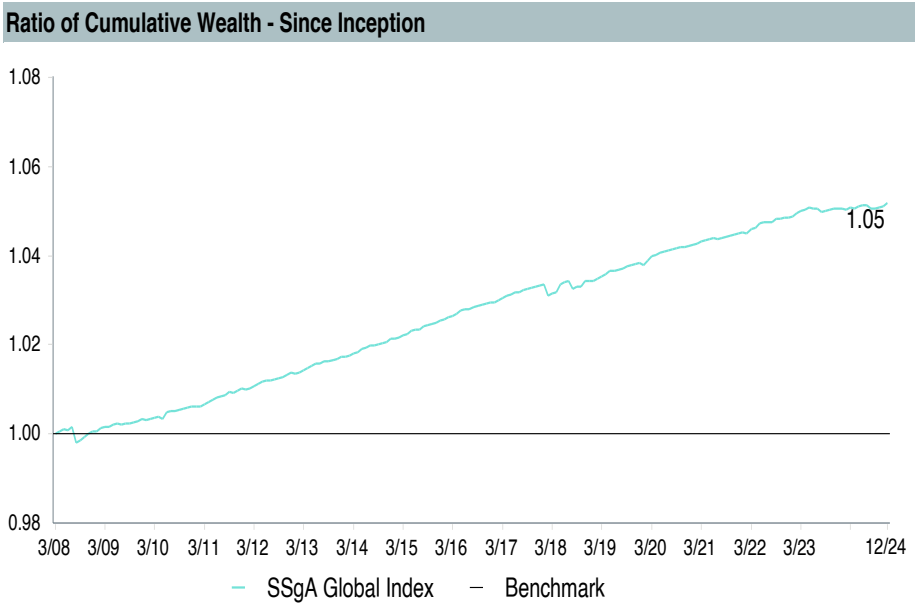
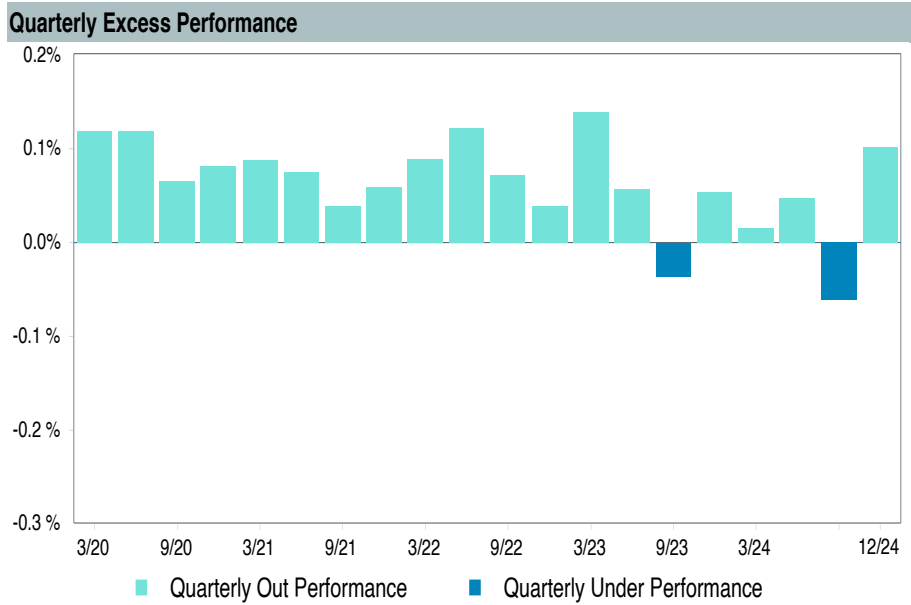
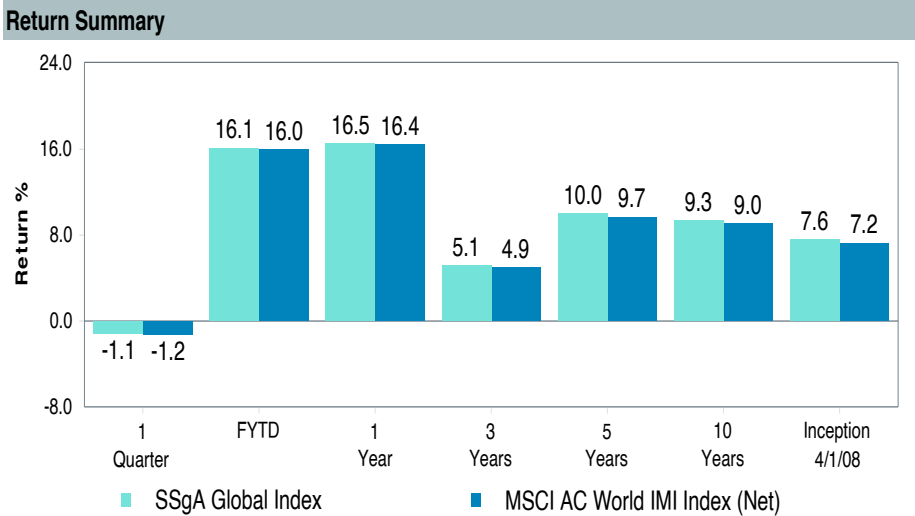
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Trian Co-Investments	-3.92	12.78	-0.31	0.59	0.46	-0.99	0.81	9.96	19.18	0.77
S&P 500 Index	0.00	0.00	-	1.00	0.70	0.00	1.00	14.53	18.21	1.00
90 Day U.S. Treasury Bill	-12.84	18.24	-0.70	0.00	-	2.48	0.00	2.46	0.68	-0.03



# Manager Performance Summary SSgA Global Index

As of December 31, 2024

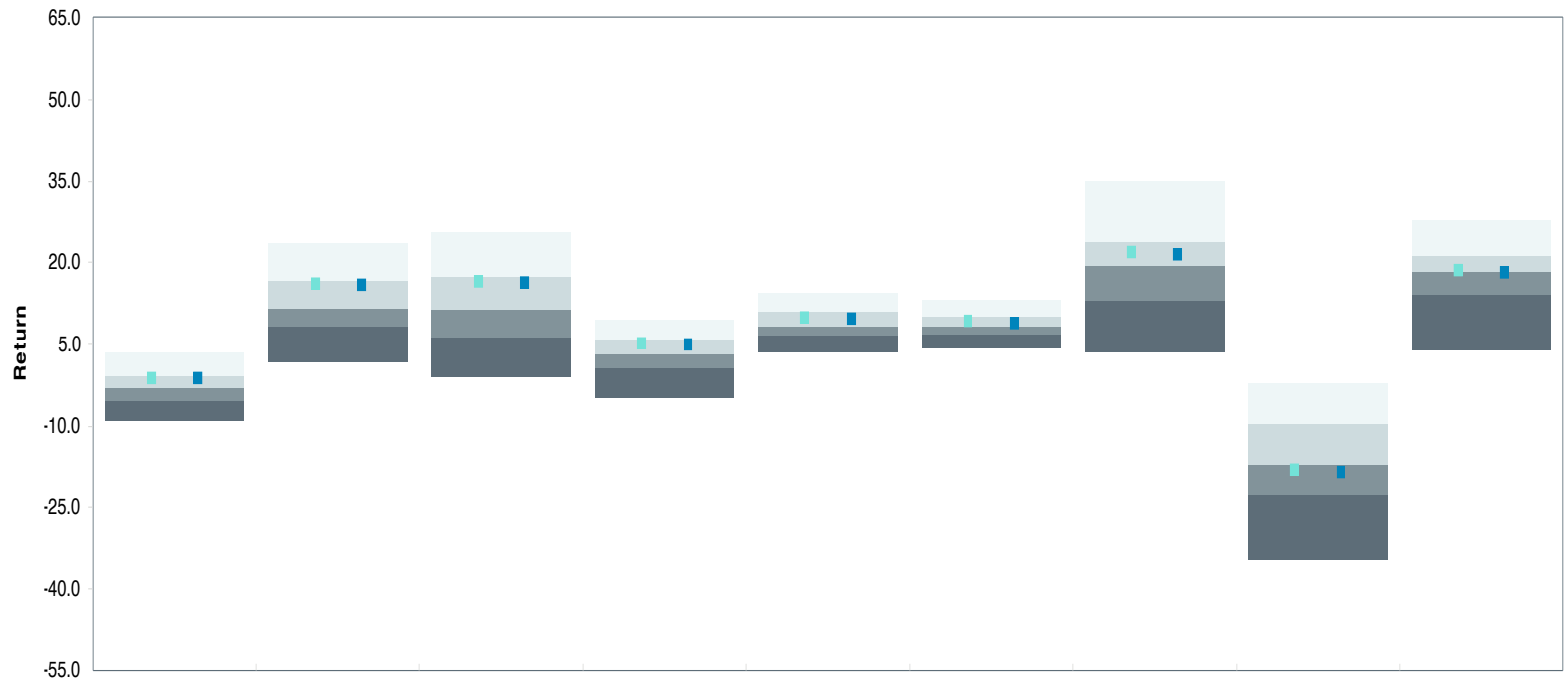
Account Information	
Account Name	SSgA Global Index
Inception Date	03/31/2008
Account Structure	Commingled Fund
Asset Class	Global Equity
Benchmark	MSCI AC World IMI Index (Net)
Peer Group	IM Global Equity (SA+CF)



# SSgA Global Index

As of December 31, 2024

IM Global Equity (SA+CF)



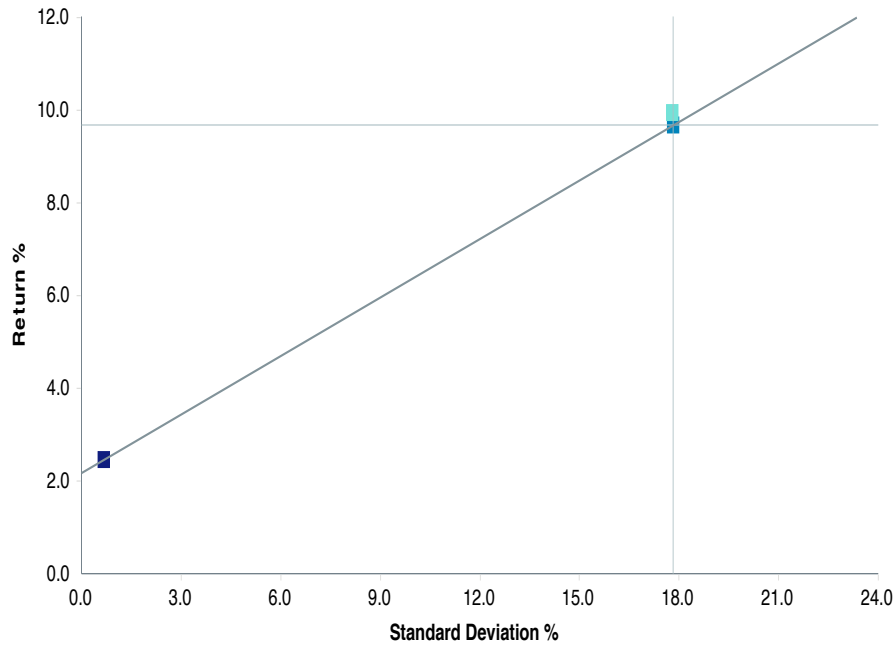
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
SSgA Global Index	-1.1 (29)	16.1 (29)	16.5 (30)	5.1 (35)	10.0 (32)	9.3 (38)	21.8 (38)	-18.1 (53)	18.5 (48)
MSCI AC World IMI Index (Net)	-1.2 (30)	16.0 (29)	16.4 (30)	4.9 (37)	9.7 (36)	9.0 (42)	21.6 (40)	-18.4 (54)	18.2 (50)
5th Percentile	3.6	23.5	25.6	9.5	14.2	13.2	34.9	-2.2	27.8
1st Quartile	-0.8	16.8	17.5	5.9	10.9	10.1	23.9	-9.7	21.3
Median	-3.1	11.6	11.4	3.1	8.3	8.4	19.5	-17.3	18.1
3rd Quartile	-5.3	8.3	6.2	0.6	6.6	6.9	13.0	-22.7	14.1
95th Percentile	-9.1	1.8	-0.9	-4.9	3.5	4.5	3.5	-34.7	4.0
Population	349	344	347	333	305	234	531	536	535

Parentheses contain percentile rankings.

# Risk Profile SSgA Global Index

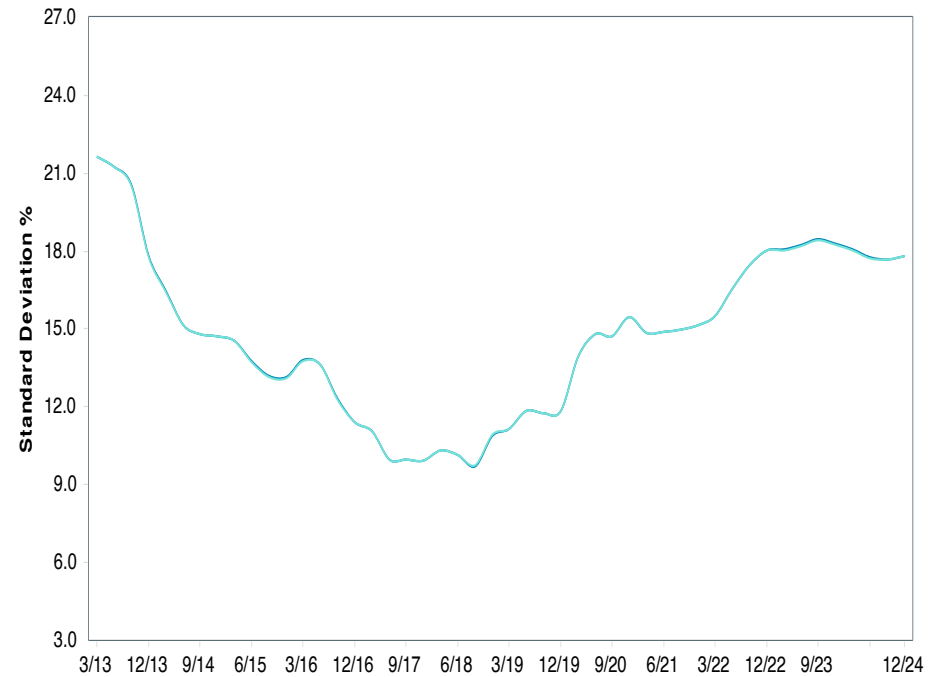
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- SSgA Global Index
- MSCI AC World IMI Index (Net)
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- SSgA Global Index
- MSCI AC World IMI Index (Net)

5 Years Historical Statistics

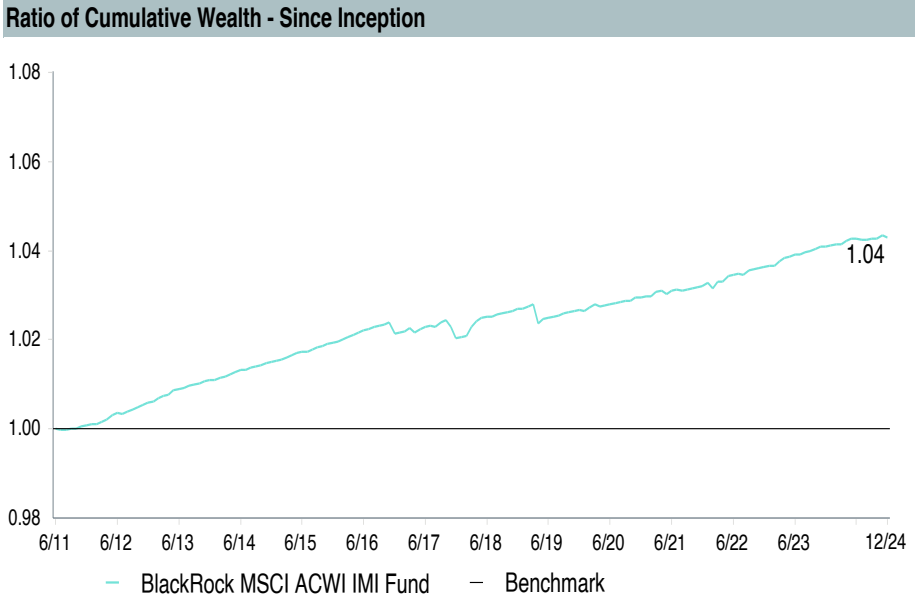
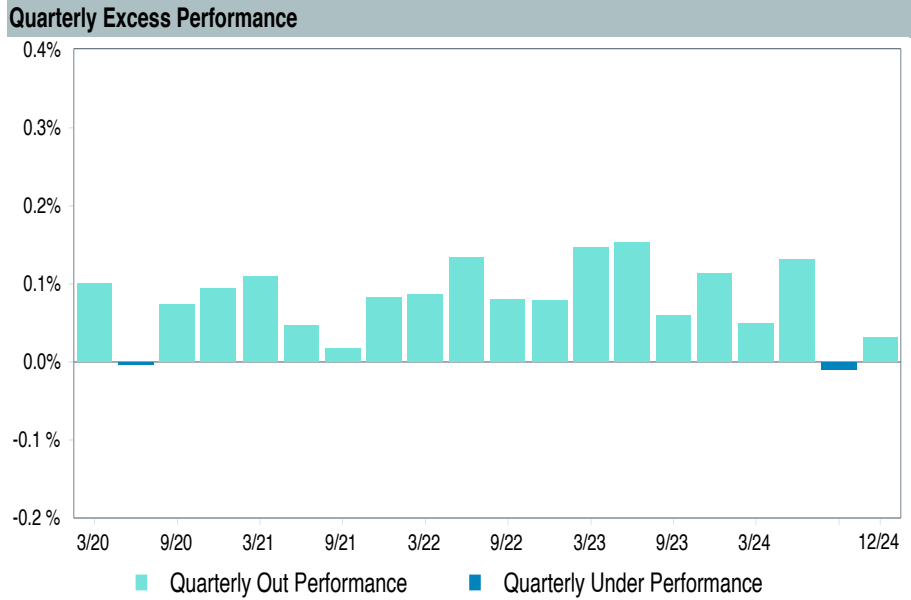
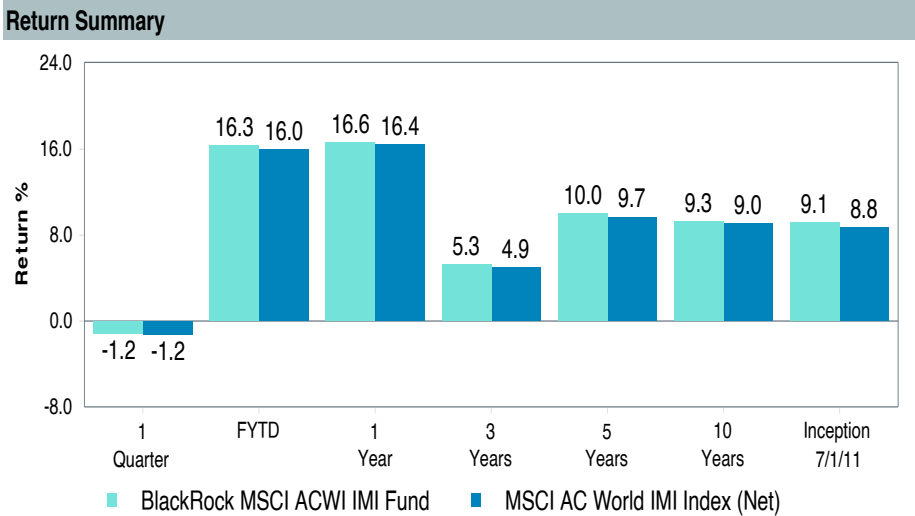
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Global Index	0.25	0.11	2.35	1.00	0.49	0.27	1.00	9.95	17.79	1.00
MSCI AC World IMI Index (Net)	0.00	0.00	-	1.00	0.47	0.00	1.00	9.67	17.81	1.00
90 Day U.S. Treasury Bill	-8.40	17.84	-0.47	0.00	-	2.48	0.00	2.46	0.68	-0.03



# Manager Performance Summary BlackRock MSCI ACWI IMI Fund

As of December 31, 2024

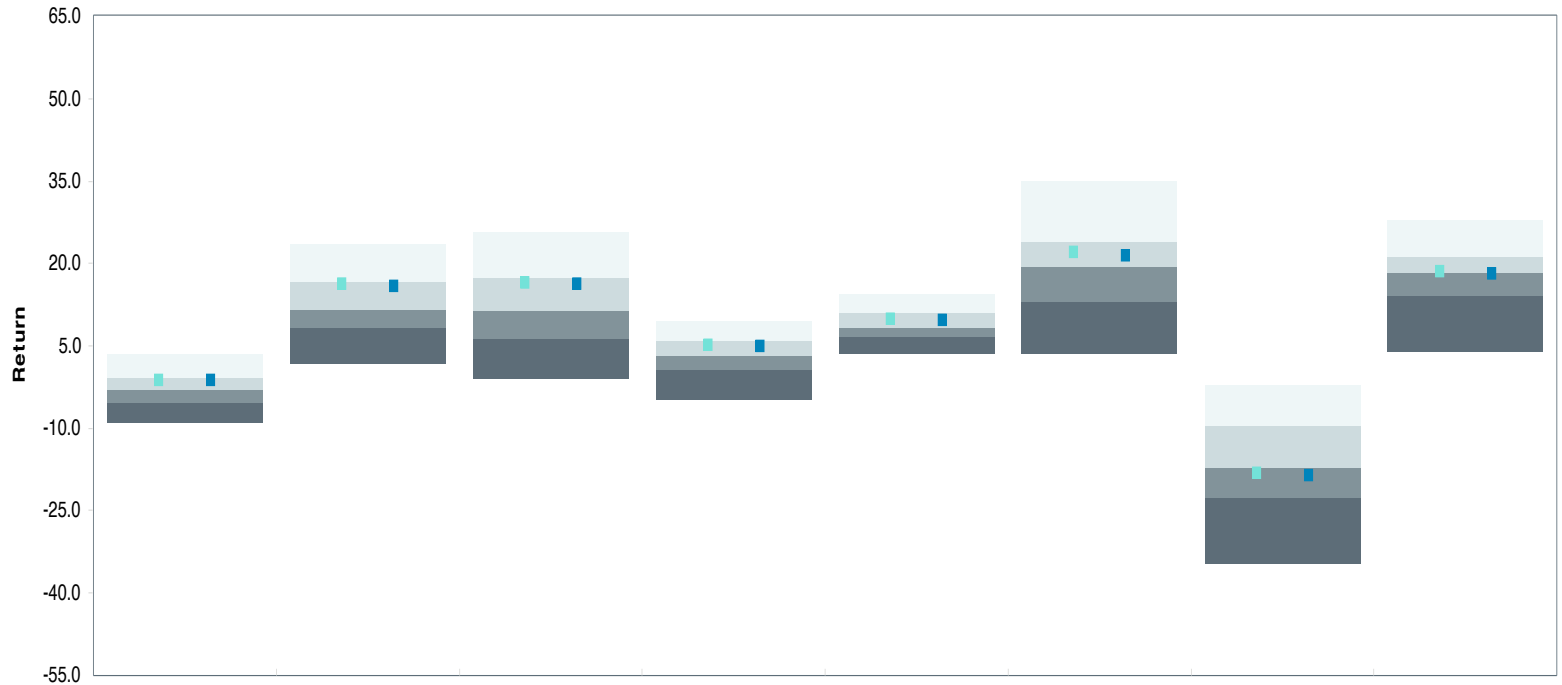
Account Information	
Account Name	BlackRock MSCI ACWI IMI Fund
Inception Date	06/30/2011
Account Structure	Commingled Fund
Asset Class	Global Equity
Benchmark	MSCI AC World IMI Index (Net)
Peer Group	IM Global Equity (SA+CF)



# BlackRock MSCI ACWI IMI Fund

As of December 31, 2024

IM Global Equity (SA+CF)



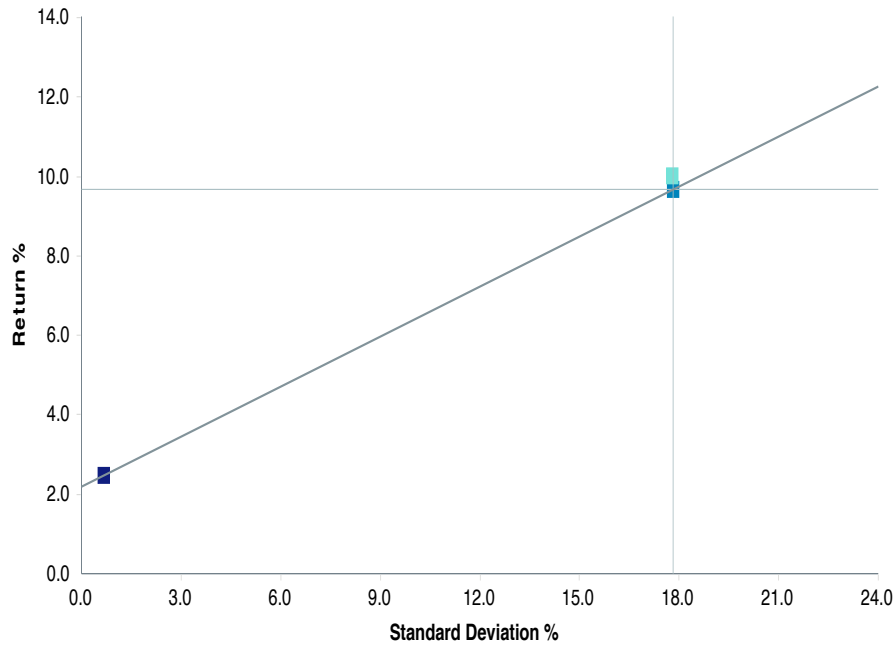
	1 Quarter	FYTD	1 Year	3 Years	5 Years	2023	2022	2021
BlackRock MSCI ACWI IMI Fund	-1.2 (30)	16.3 (28)	16.6 (29)	5.3 (34)	10.0 (32)	22.1 (37)	-18.1 (53)	18.5 (48)
MSCI AC World IMI Index (Net)	-1.2 (30)	16.0 (29)	16.4 (30)	4.9 (37)	9.7 (36)	21.6 (40)	-18.4 (54)	18.2 (50)
5th Percentile	3.6	23.5	25.6	9.5	14.2	34.9	-2.2	27.8
1st Quartile	-0.8	16.8	17.5	5.9	10.9	23.9	-9.7	21.3
Median	-3.1	11.6	11.4	3.1	8.3	19.5	-17.3	18.1
3rd Quartile	-5.3	8.3	6.2	0.6	6.6	13.0	-22.7	14.1
95th Percentile	-9.1	1.8	-0.9	-4.9	3.5	3.5	-34.7	4.0
Population	349	344	347	333	305	531	536	535

Parentheses contain percentile rankings.

# Risk Profile BlackRock MSCI ACWI IMI Fund

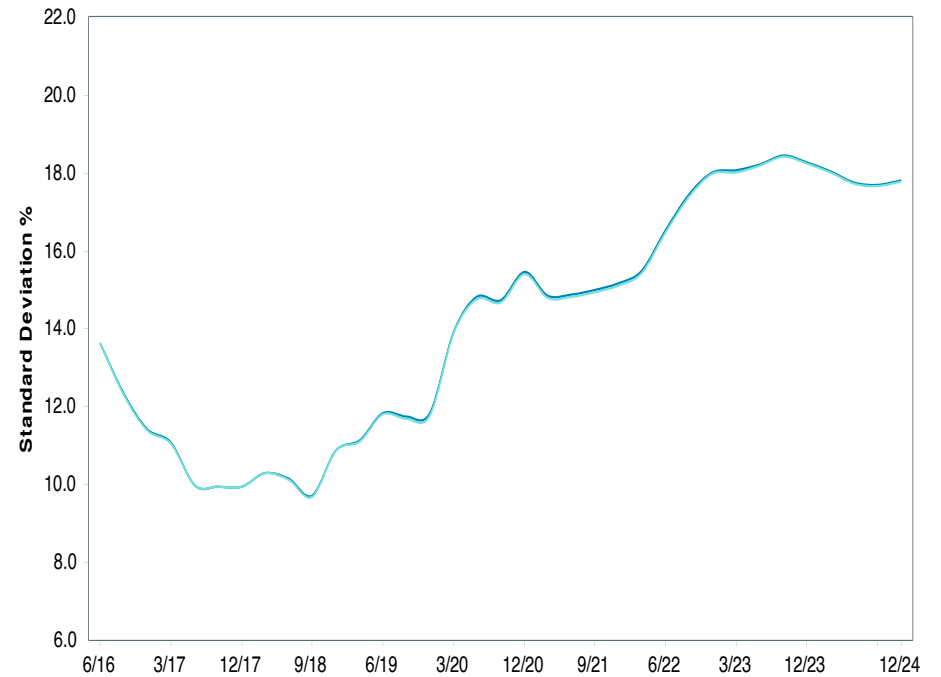
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



- BlackRock MSCI ACWI IMI Fund
- MSCI AC World IMI Index (Net)
- 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 5 Years**



- BlackRock MSCI ACWI IMI Fund
- MSCI AC World IMI Index (Net)

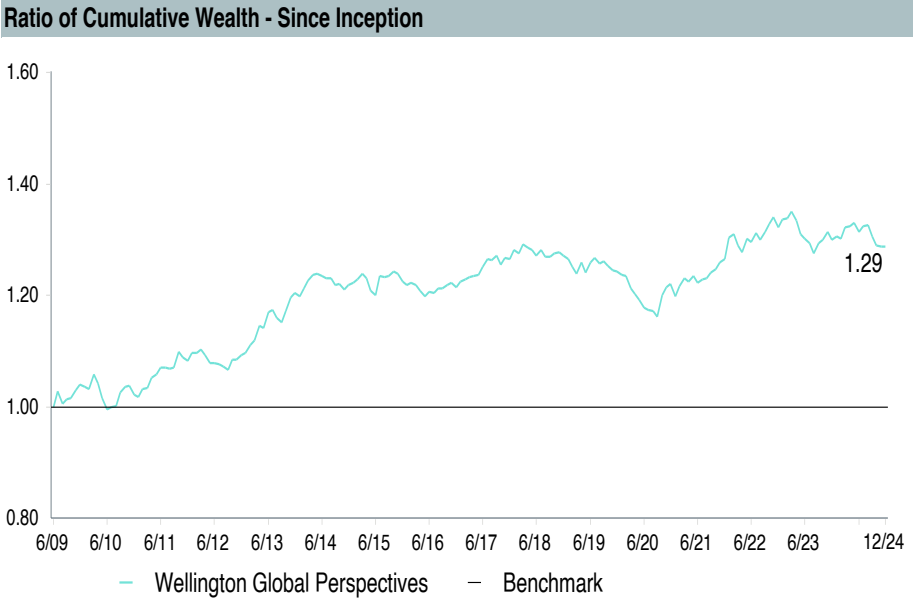
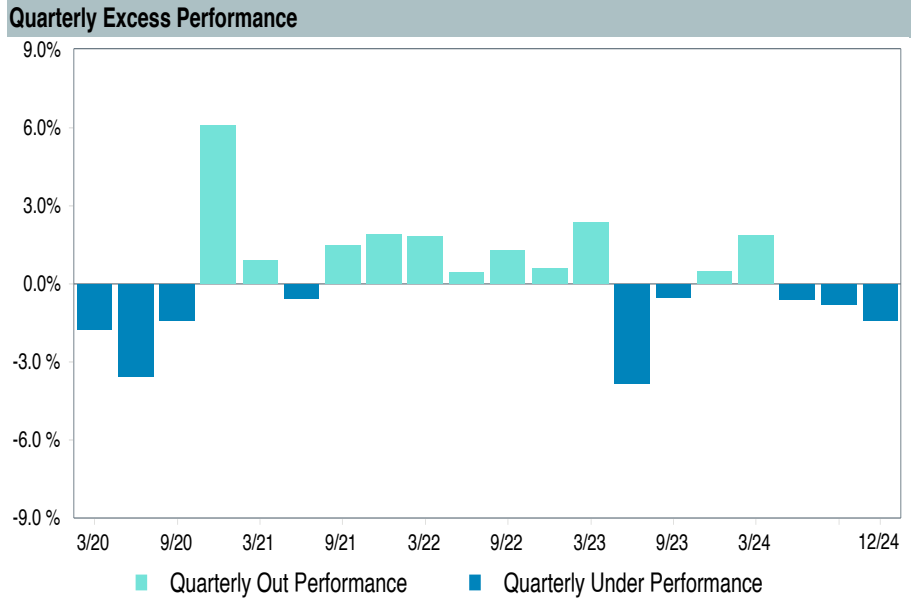
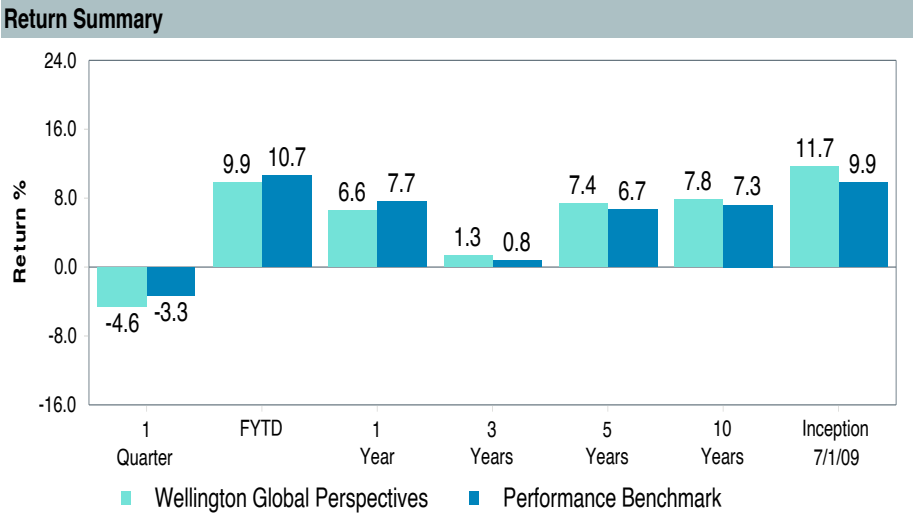
**5 Years Historical Statistics**

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock MSCI ACWI IMI Fund	0.31	0.15	2.11	1.00	0.49	0.32	1.00	10.02	17.80	1.00
MSCI AC World IMI Index (Net)	0.00	0.00	-	1.00	0.47	0.00	1.00	9.67	17.81	1.00
90 Day U.S. Treasury Bill	-8.40	17.84	-0.47	0.00	-	2.48	0.00	2.46	0.68	-0.03

# Manager Performance Summary Wellington Global Perspectives

As of December 31, 2024

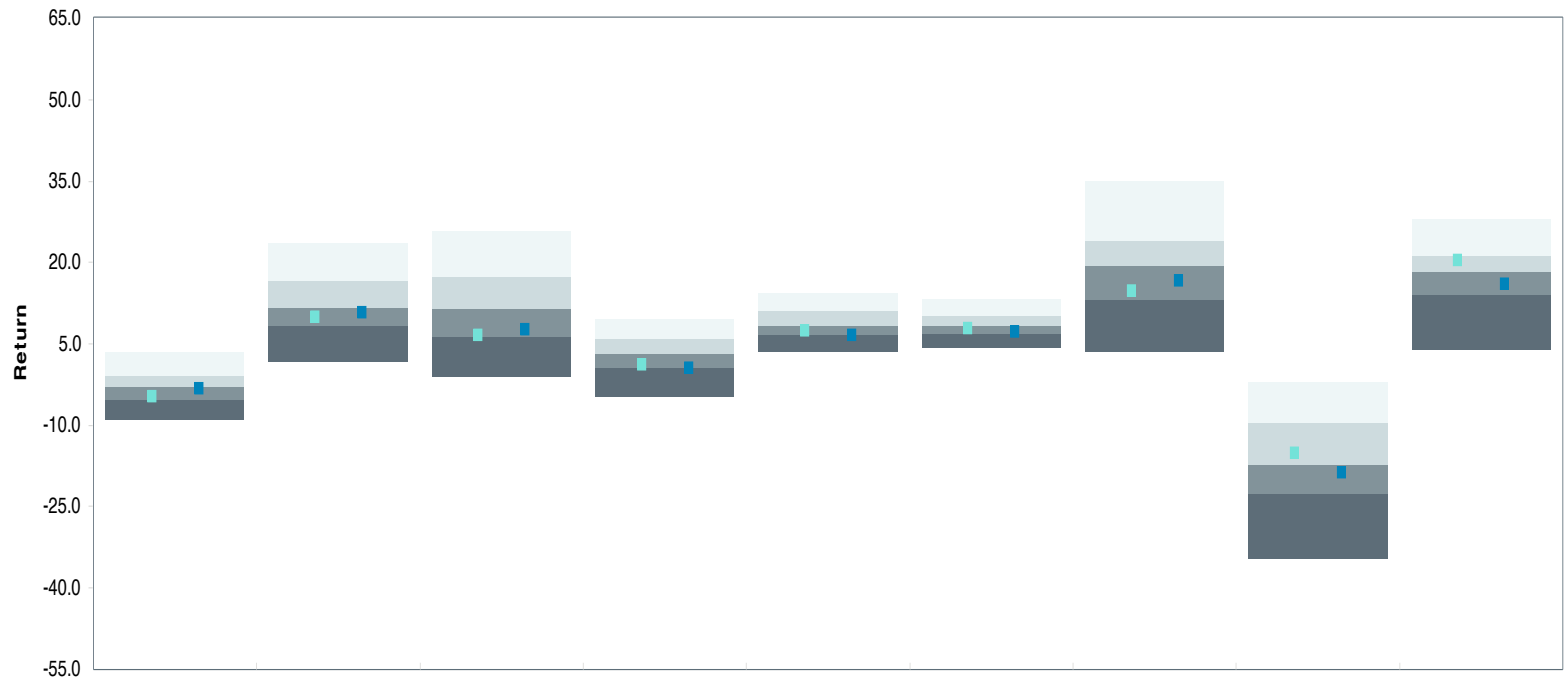
Account Information	
Account Name	Wellington Global Perspectives
Inception Date	06/30/2009
Account Structure	Separate Account
Asset Class	Global Equity
Benchmark	Performance Benchmark
Peer Group	IM Global Equity (SA+CF)



# Wellington Global Perspectives

As of December 31, 2024

## IM Global Equity (SA+CF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Wellington Global Perspectives	-4.6 (69)	9.9 (62)	6.6 (73)	1.3 (69)	7.4 (63)	7.8 (61)	14.9 (68)	-15.0 (39)	20.4 (31)
Performance Benchmark	-3.3 (52)	10.7 (56)	7.7 (67)	0.8 (73)	6.7 (74)	7.3 (68)	16.8 (62)	-18.7 (57)	16.1 (63)
5th Percentile	3.6	23.5	25.6	9.5	14.2	13.2	34.9	-2.2	27.8
1st Quartile	-0.8	16.8	17.5	5.9	10.9	10.1	23.9	-9.7	21.3
Median	-3.1	11.6	11.4	3.1	8.3	8.4	19.5	-17.3	18.1
3rd Quartile	-5.3	8.3	6.2	0.6	6.6	6.9	13.0	-22.7	14.1
95th Percentile	-9.1	1.8	-0.9	-4.9	3.5	4.5	3.5	-34.7	4.0
Population	349	344	347	333	305	234	531	536	535

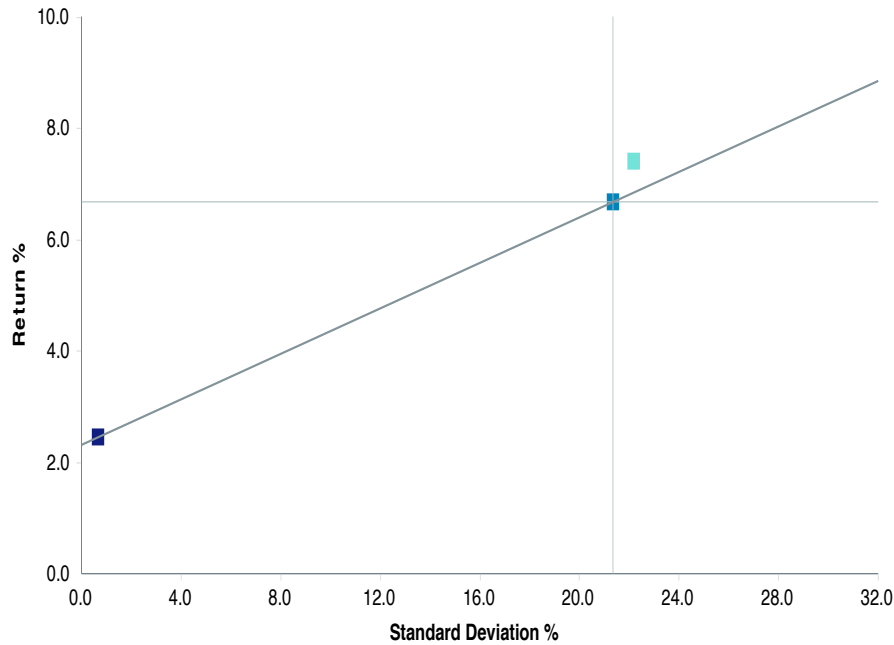
Parentheses contain percentile rankings.



# Risk Profile Wellington Global Perspectives

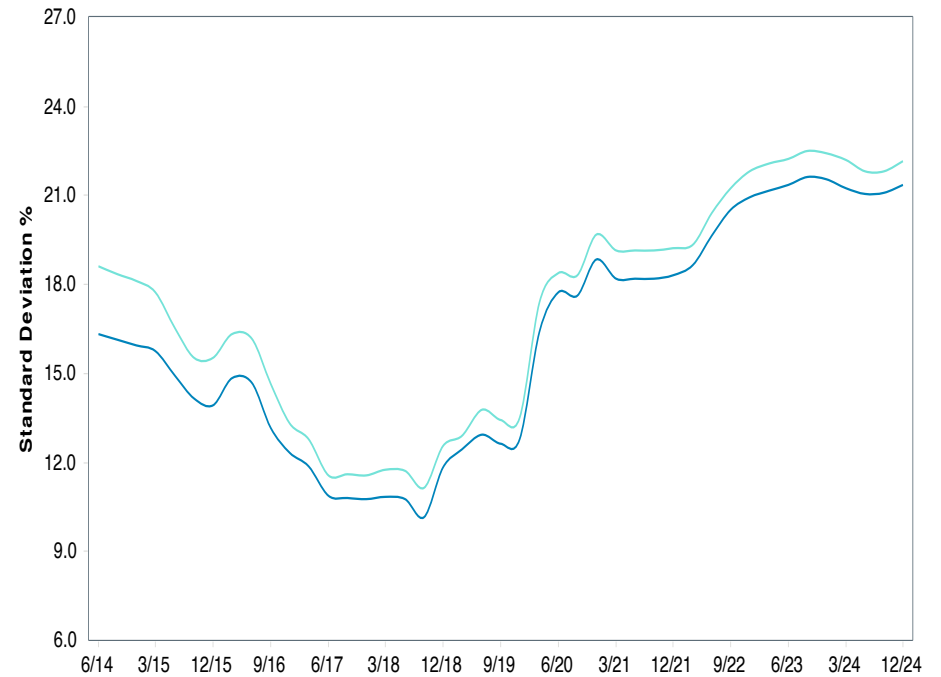
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- Wellington Global Perspectives
- Performance Benchmark
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- Wellington Global Perspectives
- Performance Benchmark

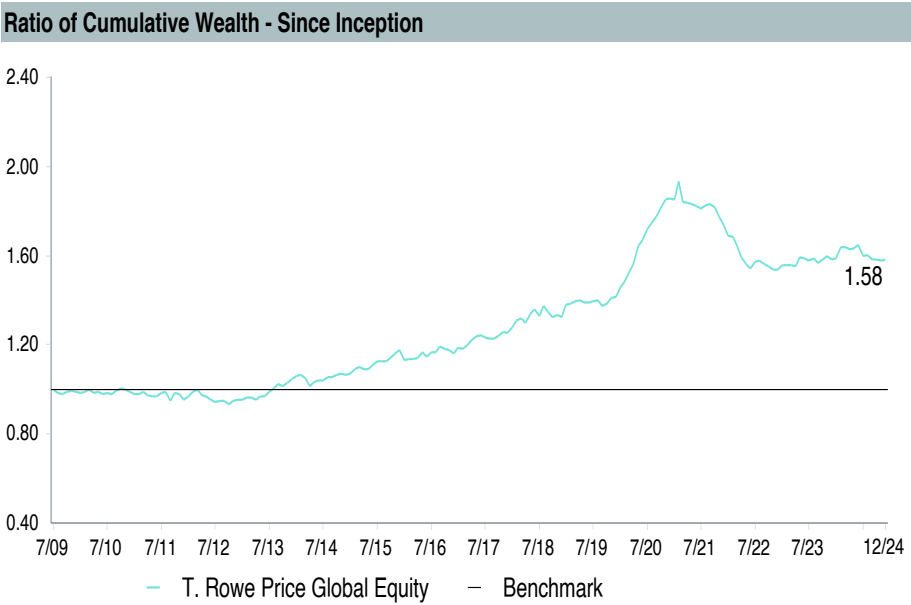
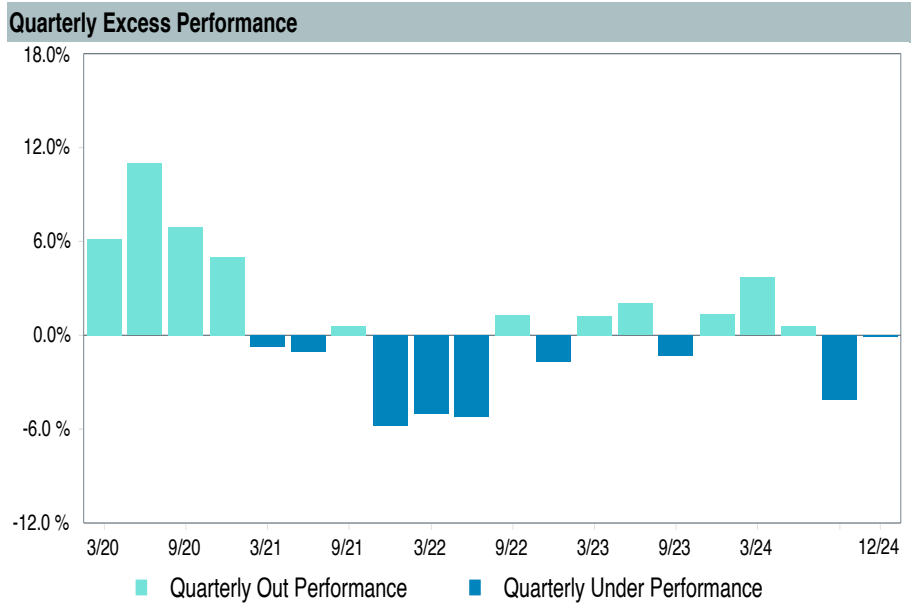
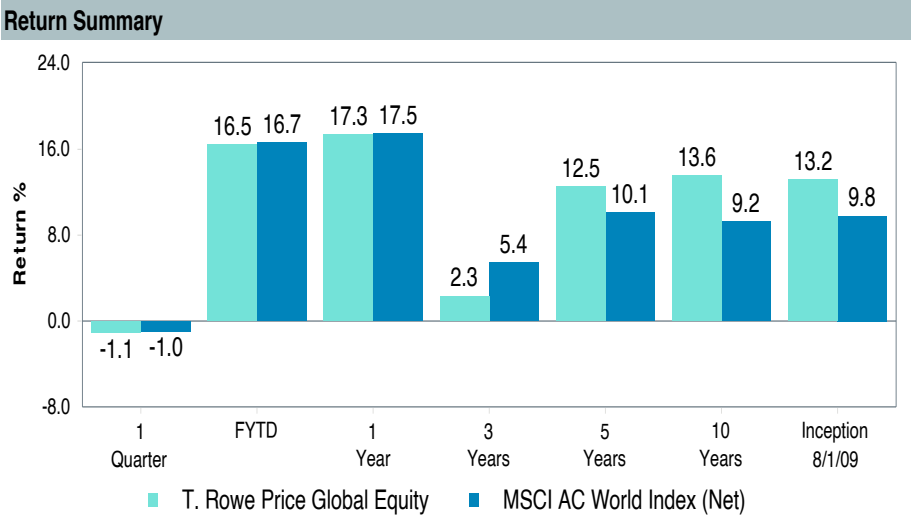
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Perspectives	0.88	3.88	0.23	0.97	0.32	0.68	1.02	7.42	22.16	0.98
Performance Benchmark	0.00	0.00	-	1.00	0.30	0.00	1.00	6.68	21.34	1.00
90 Day U.S. Treasury Bill	-6.33	21.41	-0.30	0.01	-	2.49	0.00	2.46	0.68	-0.09

# Manager Performance Summary T. Rowe Price Global Equity

As of December 31, 2024

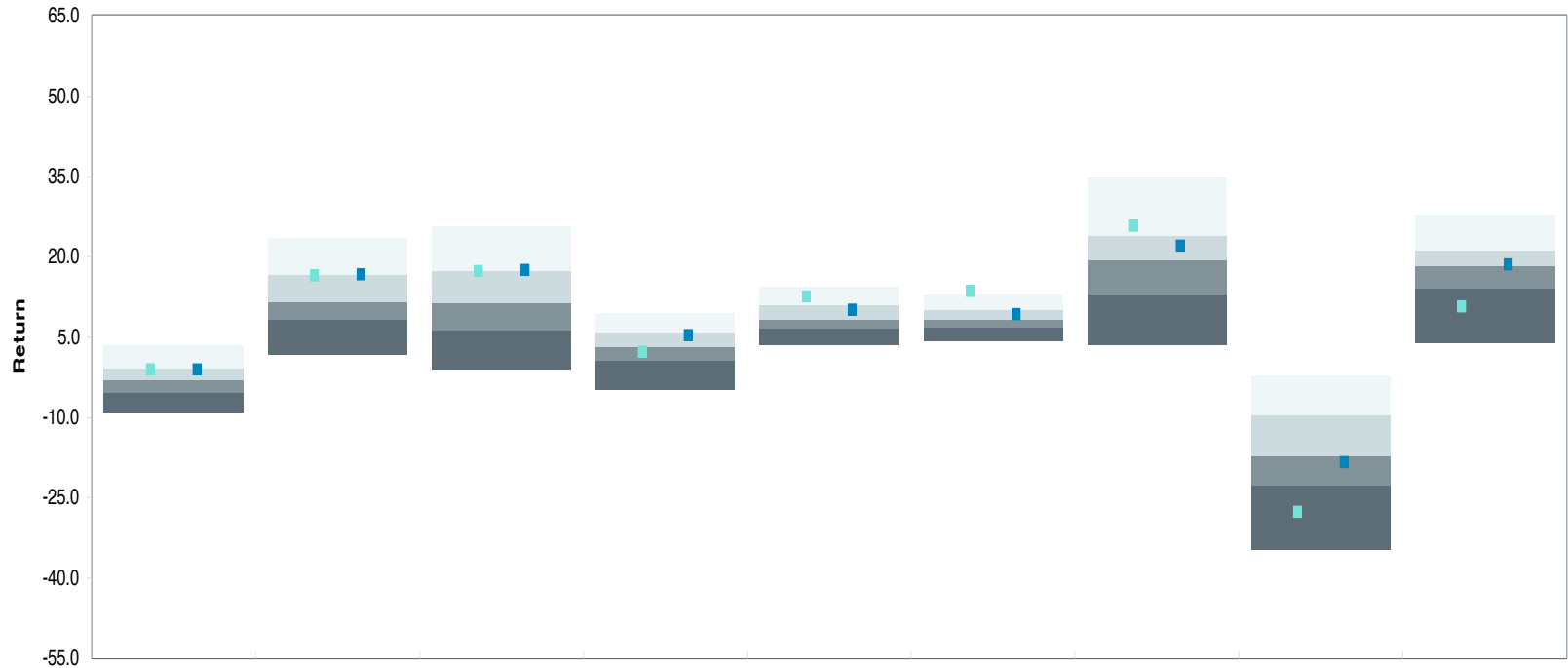
Account Information	
Account Name	T. Rowe Price Global Equity
Inception Date	08/31/2009
Account Structure	Separate Account
Asset Class	Global Equity
Benchmark	MSCI AC World Index (Net)
Peer Group	IM Global Equity (SA+CF)



# T. Rowe Price Global Equity

As of December 31, 2024

IM Global Equity (SA+CF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
T. Rowe Price Global Equity	-1.1 (28)	16.5 (27)	17.3 (26)	2.3 (58)	12.5 (12)	13.6 (4)	25.8 (19)	-27.5 (87)	10.8 (88)
MSCI AC World Index (Net)	-1.0 (27)	16.7 (27)	17.5 (25)	5.4 (33)	10.1 (32)	9.2 (39)	22.2 (37)	-18.4 (54)	18.5 (48)
5th Percentile	3.6	23.5	25.6	9.5	14.2	13.2	34.9	-2.2	27.8
1st Quartile	-0.8	16.8	17.5	5.9	10.9	10.1	23.9	-9.7	21.3
Median	-3.1	11.6	11.4	3.1	8.3	8.4	19.5	-17.3	18.1
3rd Quartile	-5.3	8.3	6.2	0.6	6.6	6.9	13.0	-22.7	14.1
95th Percentile	-9.1	1.8	-0.9	-4.9	3.5	4.5	3.5	-34.7	4.0
Population	349	344	347	333	305	234	531	536	535

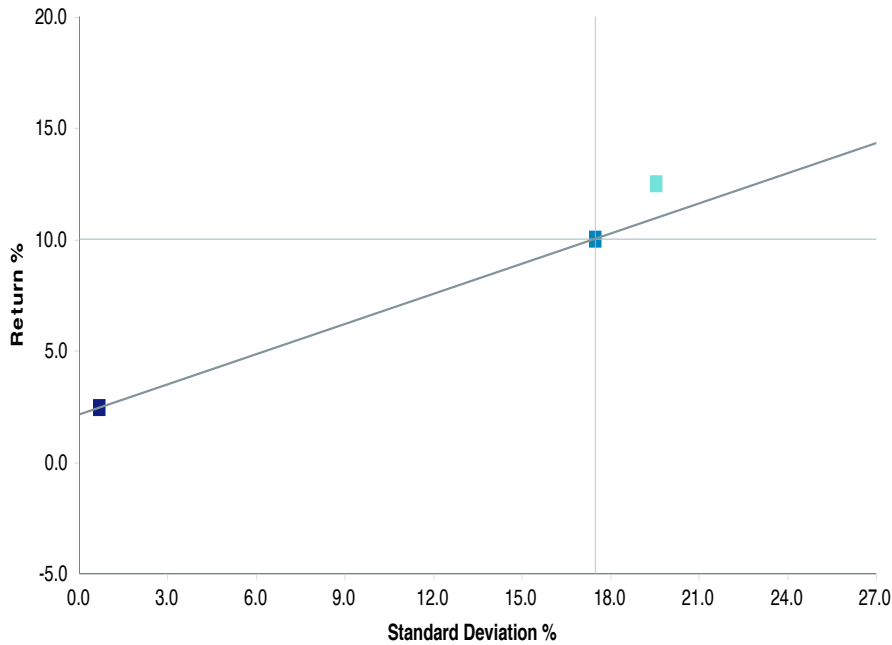
Parentheses contain percentile rankings.



# Risk Profile T. Rowe Price Global Equity

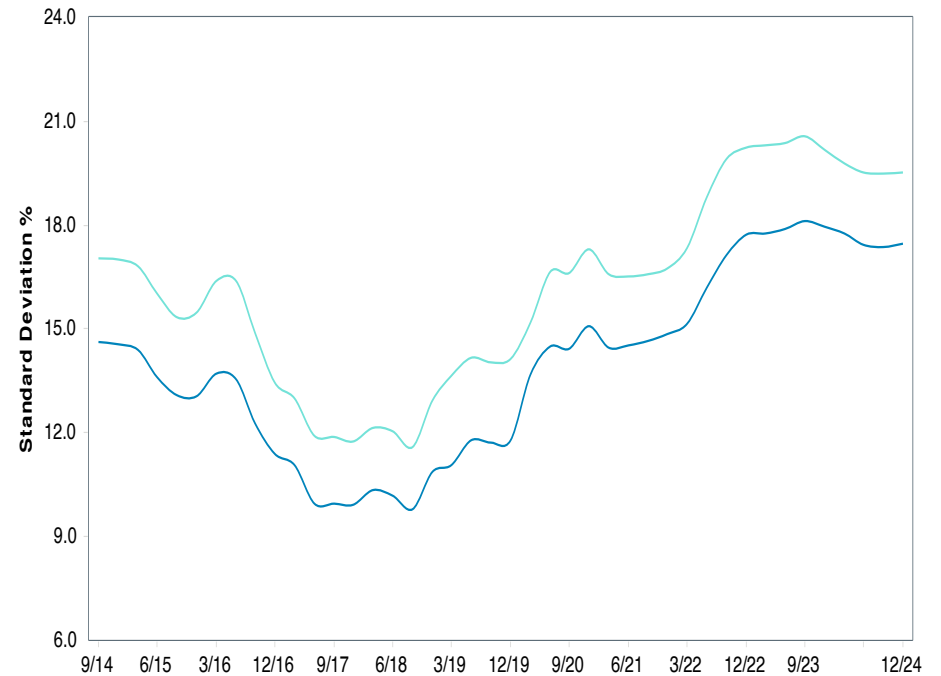
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- T. Rowe Price Global Equity
- MSCI AC World Index (Net)
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- T. Rowe Price Global Equity
- MSCI AC World Index (Net)

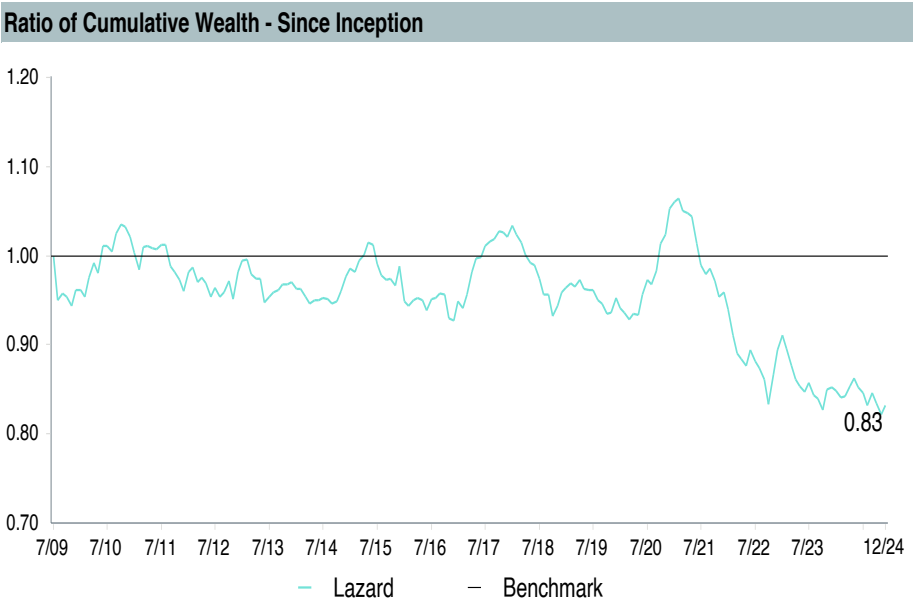
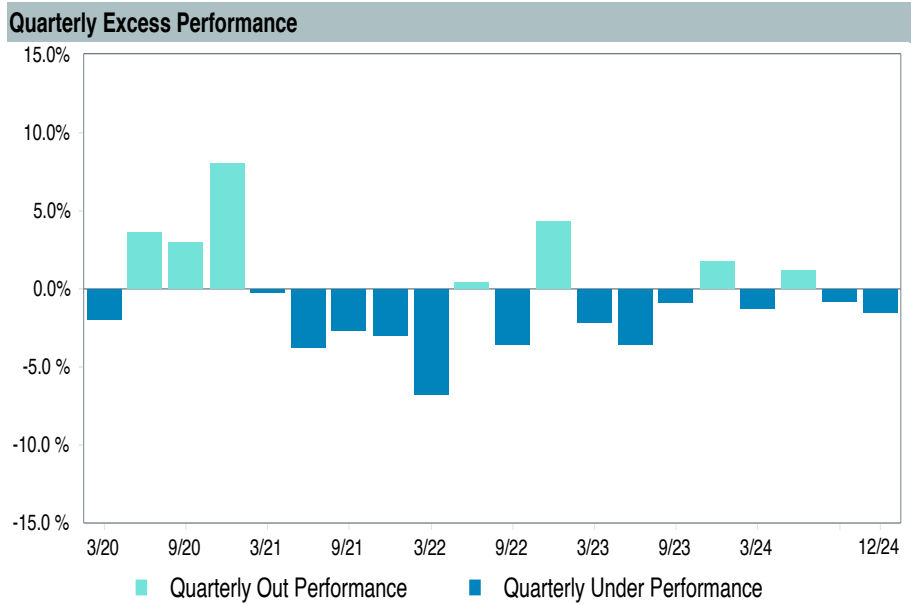
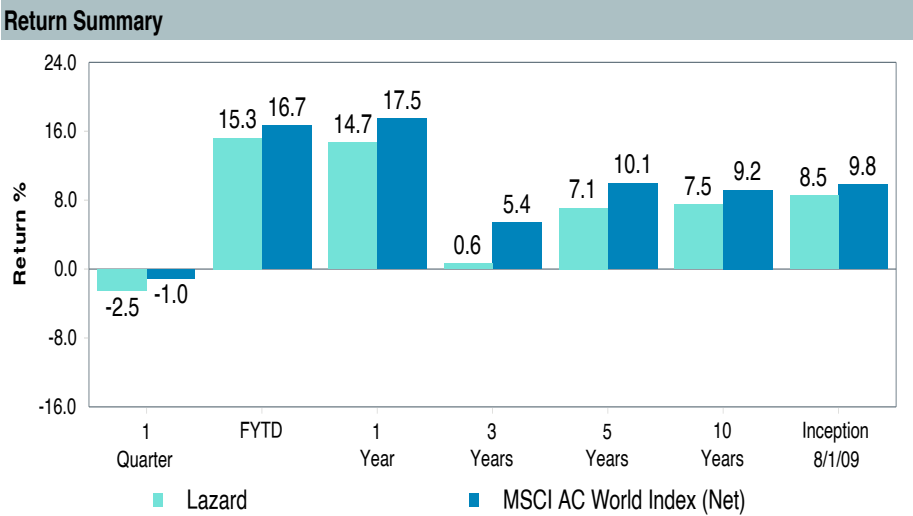
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
T. Rowe Price Global Equity	2.59	6.51	0.40	0.89	0.58	2.00	1.06	12.54	19.54	0.94
MSCI AC World Index (Net)	0.00	0.00	-	1.00	0.50	0.00	1.00	10.06	17.48	1.00
90 Day U.S. Treasury Bill	-8.70	17.50	-0.50	0.00	-	2.47	0.00	2.46	0.68	-0.02

# Manager Performance Summary Lazard

As of December 31, 2024

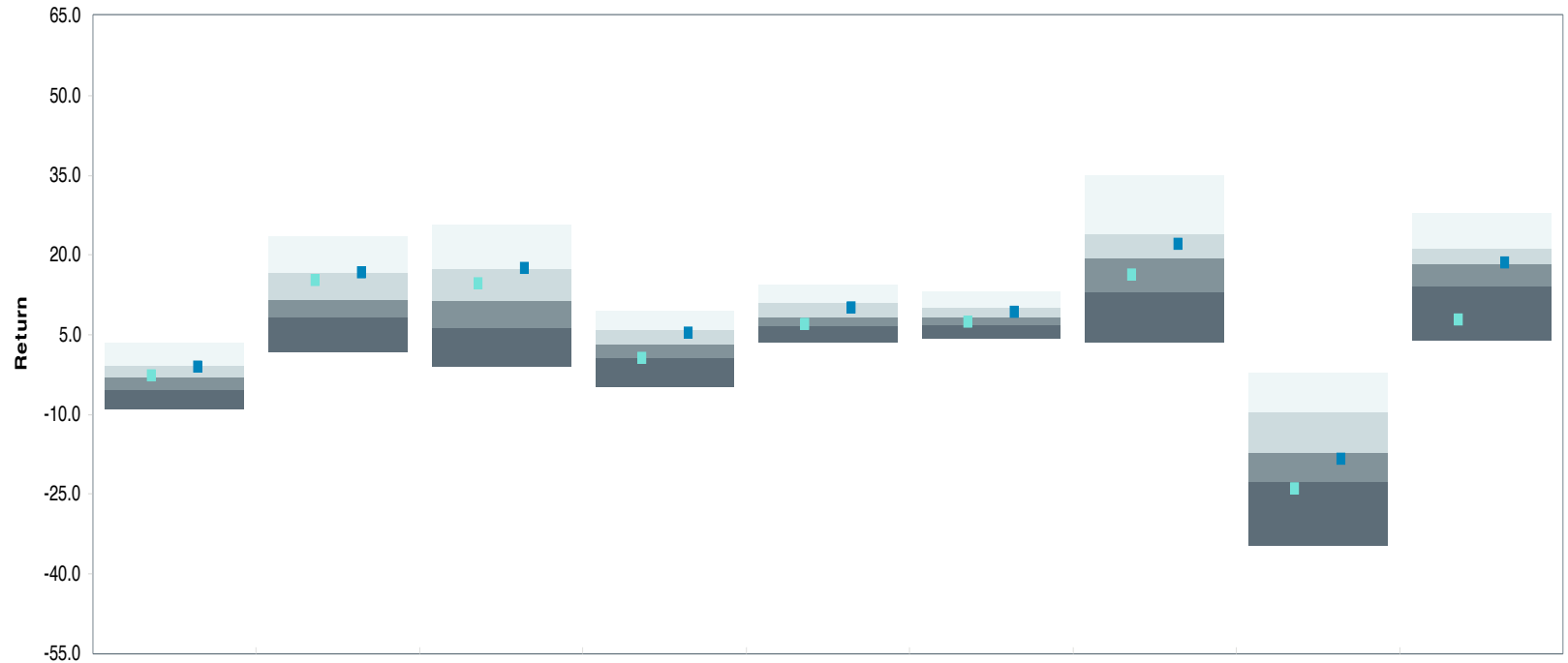
Account Information	
Account Name	Lazard
Inception Date	08/31/2009
Account Structure	Separate Account
Asset Class	Global Equity
Benchmark	MSCI AC World Index (Net)
Peer Group	IM Global Equity (SA+CF)



# Lazard

As of December 31, 2024

## IM Global Equity (SA+CF)



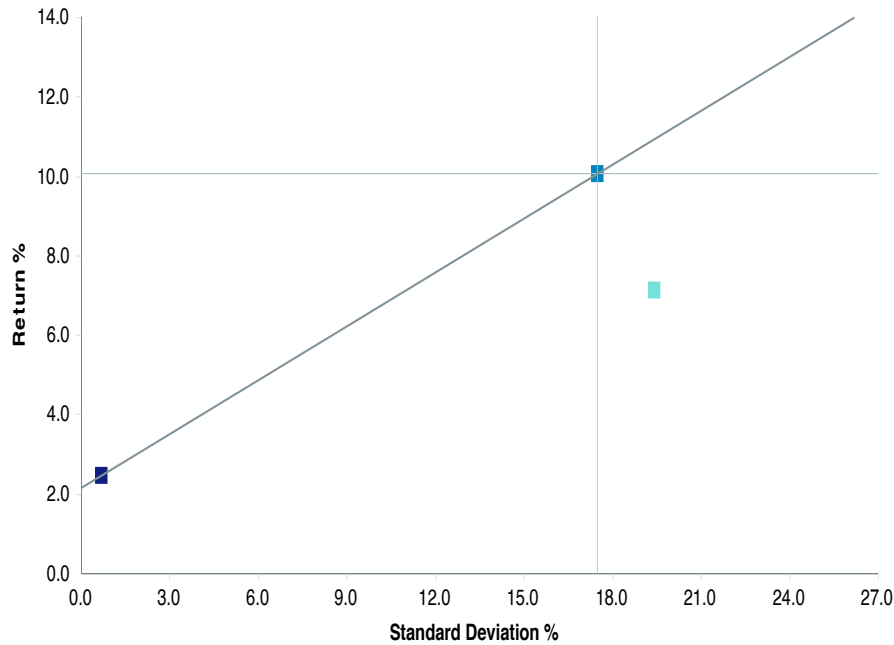
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Lazard	-2.5 (41)	15.3 (31)	14.7 (36)	0.6 (76)	7.1 (68)	7.5 (65)	16.4 (63)	-23.8 (79)	8.0 (92)
MSCI AC World Index (Net)	-1.0 (27)	16.7 (27)	17.5 (25)	5.4 (33)	10.1 (32)	9.2 (39)	22.2 (37)	-18.4 (54)	18.5 (48)
5th Percentile	3.6	23.5	25.6	9.5	14.2	13.2	34.9	-2.2	27.8
1st Quartile	-0.8	16.8	17.5	5.9	10.9	10.1	23.9	-9.7	21.3
Median	-3.1	11.6	11.4	3.1	8.3	8.4	19.5	-17.3	18.1
3rd Quartile	-5.3	8.3	6.2	0.6	6.6	6.9	13.0	-22.7	14.1
95th Percentile	-9.1	1.8	-0.9	-4.9	3.5	4.5	3.5	-34.7	4.0
Population	349	344	347	333	305	234	531	536	535

Parentheses contain percentile rankings.

# Risk Profile Lazard

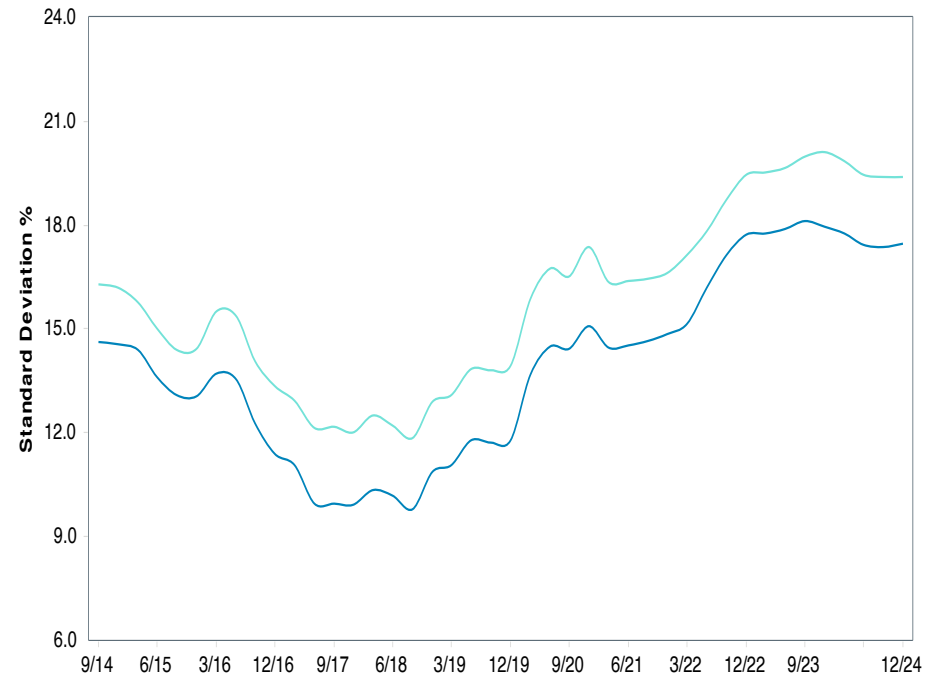
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- Lazard
- MSCI AC World Index (Net)
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- Lazard
- MSCI AC World Index (Net)

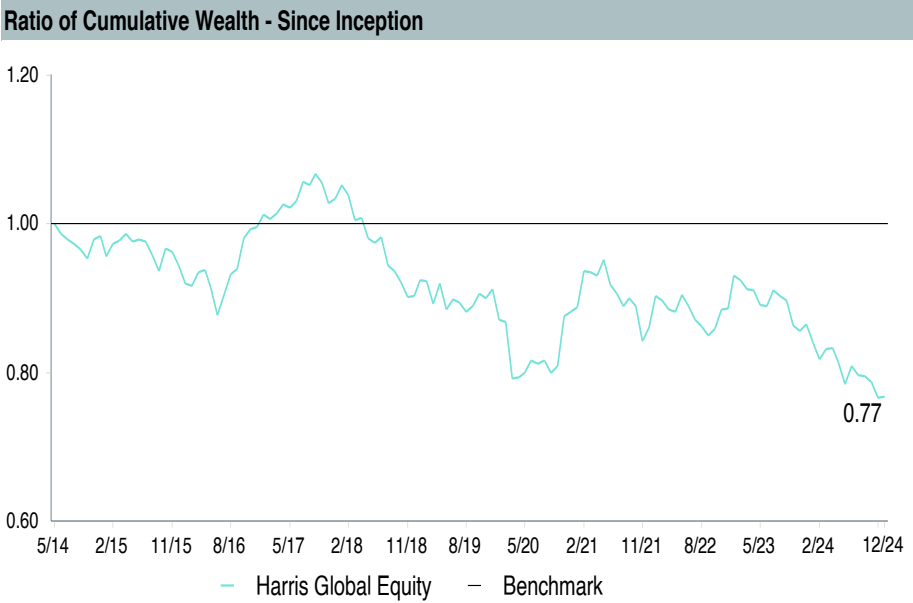
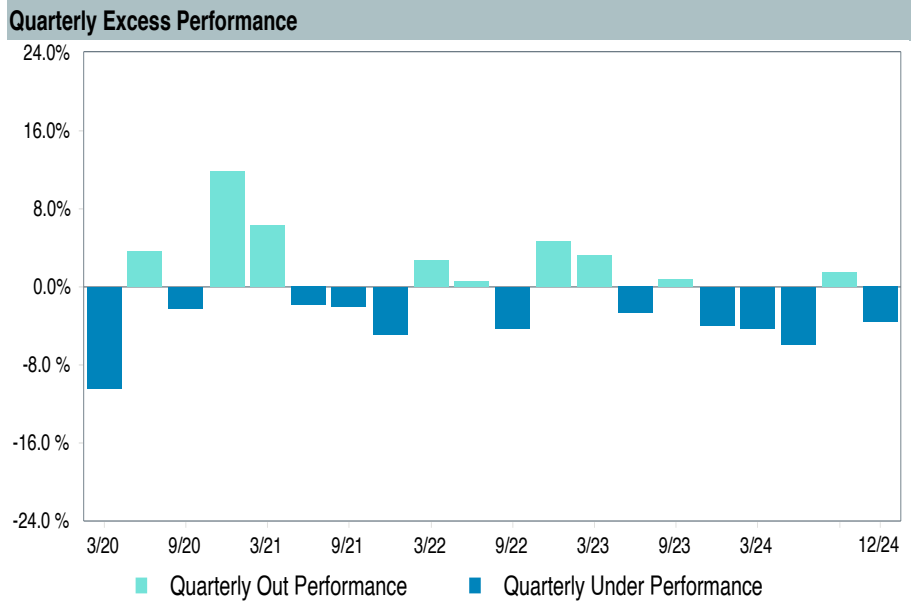
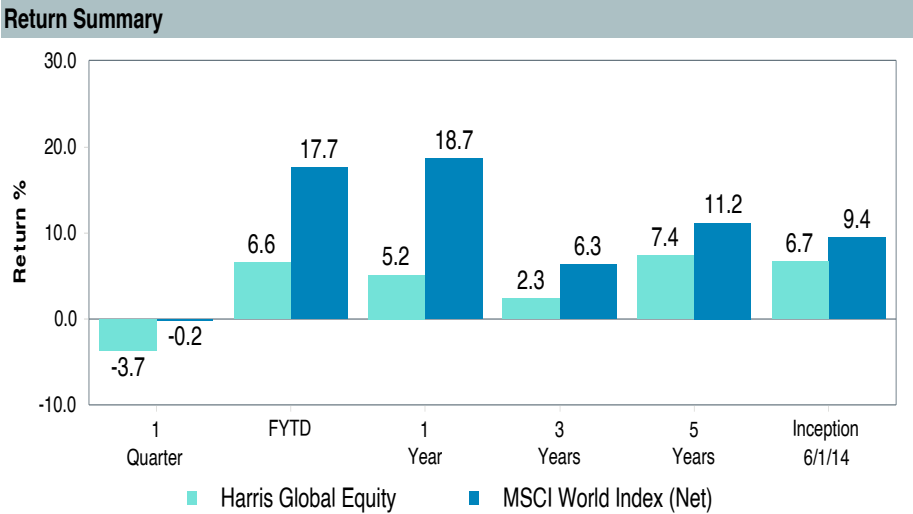
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Lazard	-2.39	5.91	-0.40	0.91	0.33	-2.99	1.06	7.13	19.39	0.95
MSCI AC World Index (Net)	0.00	0.00	-	1.00	0.50	0.00	1.00	10.06	17.48	1.00
90 Day U.S. Treasury Bill	-8.70	17.50	-0.50	0.00	-	2.47	0.00	2.46	0.68	-0.02

# Manager Performance Summary Harris Global Equity

As of December 31, 2024

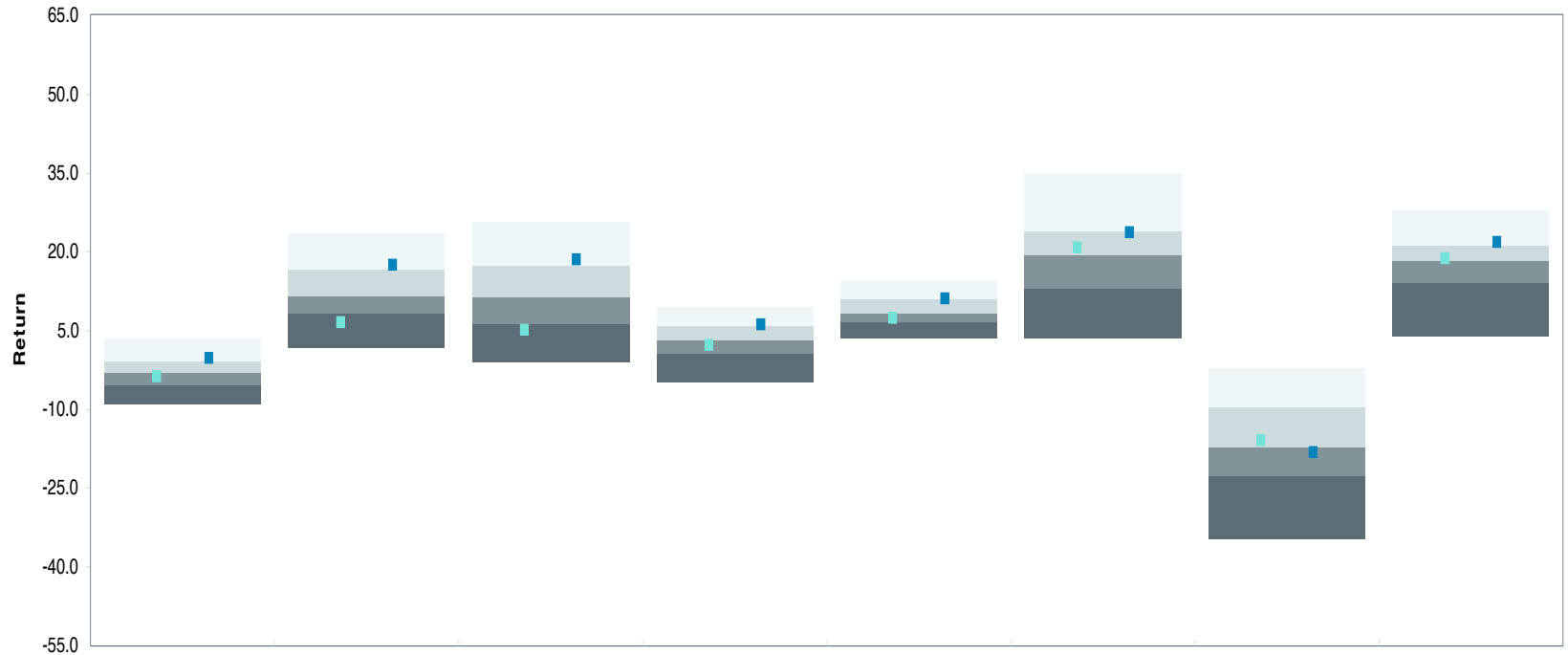
Account Information	
Account Name	Harris Global Equity
Inception Date	06/01/2014
Account Structure	Separate Account
Asset Class	Global Equity
Benchmark	MSCI World Index (Net)
Peer Group	IM Global Equity (SA+CF)



# Harris Global Equity

As of December 31, 2024

## IM Global Equity (SA+CF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	2023	2022	2021
Harris Global Equity	-3.7 (57)	6.6 (84)	5.2 (80)	2.3 (58)	7.4 (65)	20.9 (43)	-15.7 (42)	18.8 (45)
MSCI World Index (Net)	-0.2 (18)	17.7 (21)	18.7 (23)	6.3 (21)	11.2 (23)	23.8 (26)	-18.1 (54)	21.8 (24)
5th Percentile	3.6	23.5	25.6	9.5	14.2	34.9	-2.2	27.8
1st Quartile	-0.8	16.8	17.5	5.9	10.9	23.9	-9.7	21.3
Median	-3.1	11.6	11.4	3.1	8.3	19.5	-17.3	18.1
3rd Quartile	-5.3	8.3	6.2	0.6	6.6	13.0	-22.7	14.1
95th Percentile	-9.1	1.8	-0.9	-4.9	3.5	3.5	-34.7	4.0
Population	349	344	347	333	305	531	536	535

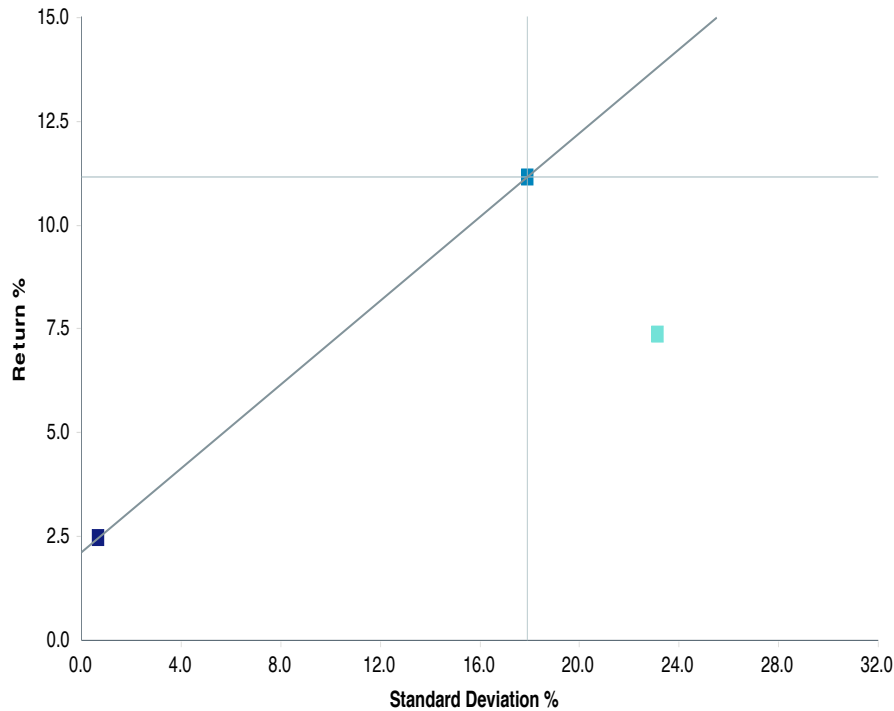
Parentheses contain percentile rankings.



# Risk Profile Harris Global Equity

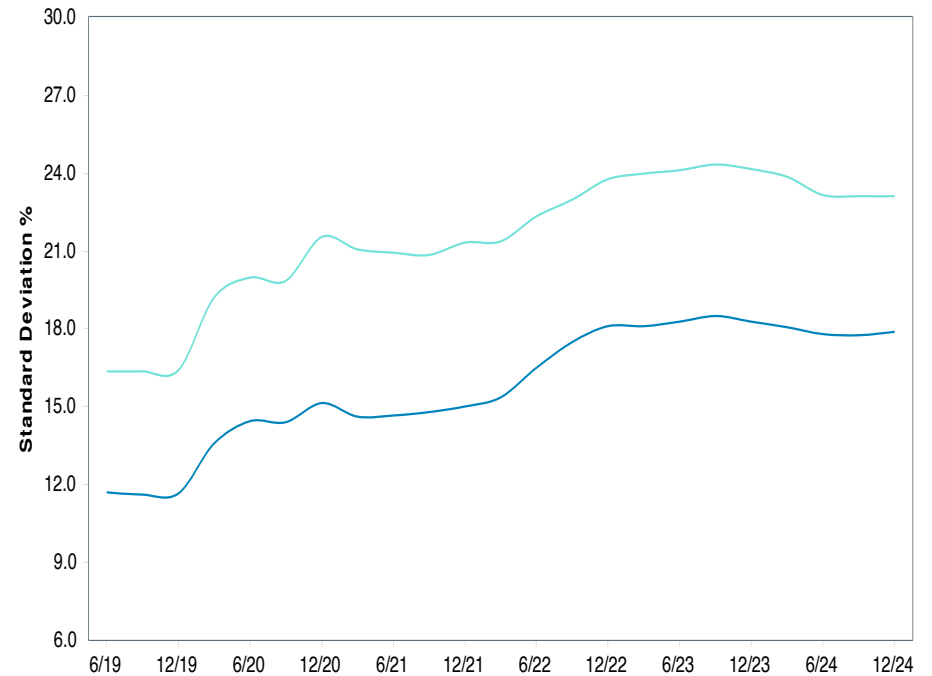
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



■ Harris Global Equity   ■ MSCI World Index (Net)   ■ 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



— Harris Global Equity   — MSCI World Index (Net)

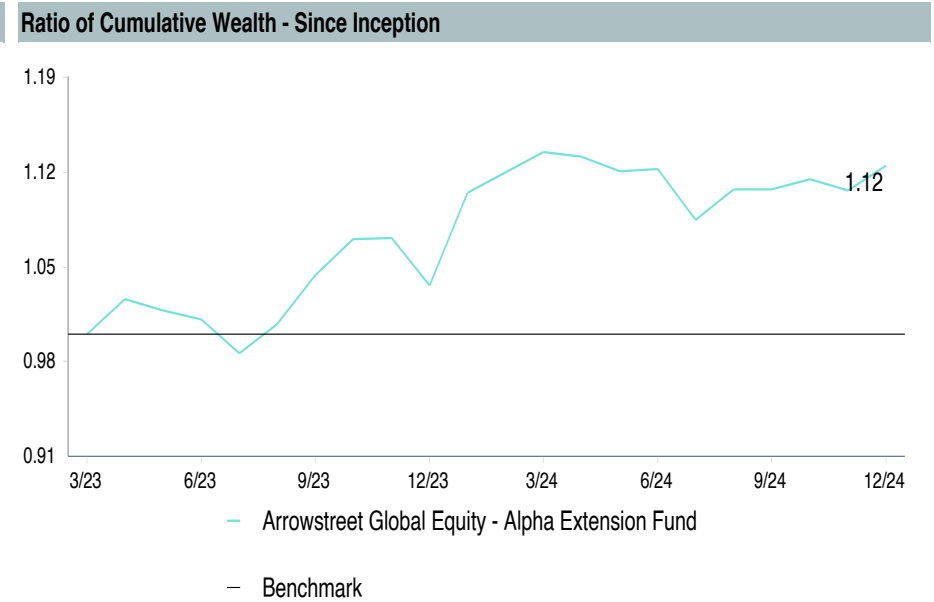
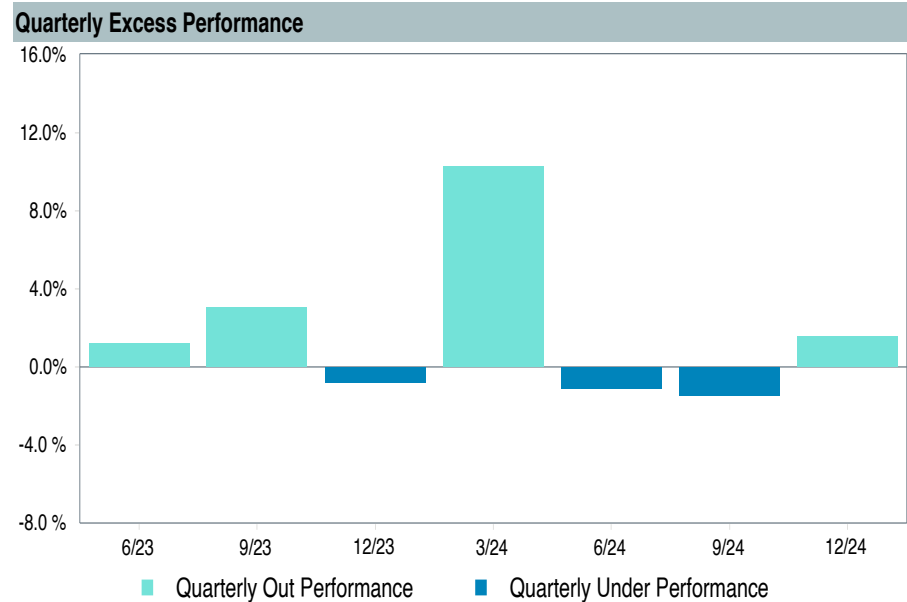
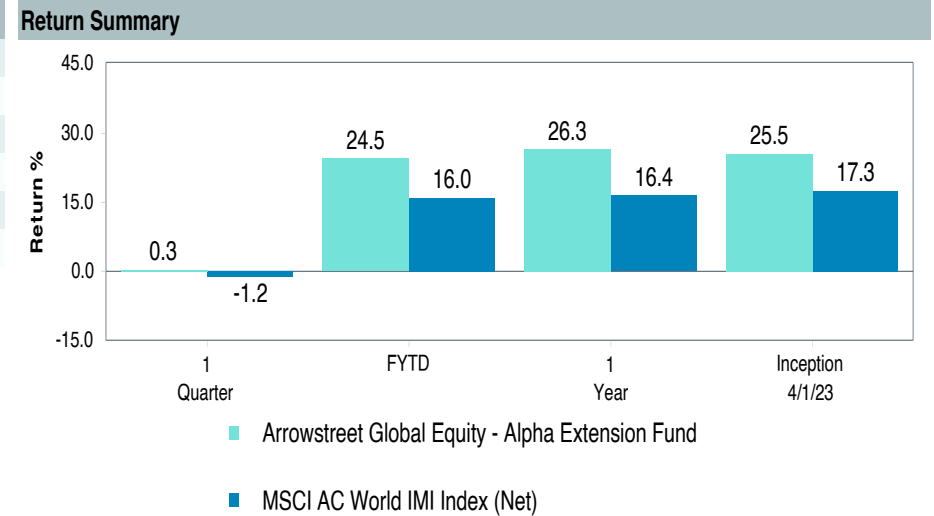
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Harris Global Equity	-2.43	9.48	-0.26	0.85	0.32	-4.69	1.19	7.39	23.12	0.92
MSCI World Index (Net)	0.00	0.00	-	1.00	0.55	0.00	1.00	11.17	17.91	1.00
90 Day U.S. Treasury Bill	-9.78	17.93	-0.55	0.00	-	2.48	0.00	2.46	0.68	-0.02

# Manager Performance Summary Arrowstreet Global Equity - Alpha I

As of December 31, 2024

Account Information	
Account Name	Arrowstreet Global Equity - Alpha Extension Fund
Inception Date	03/01/2023
Account Structure	Separate Account
Asset Class	Global Equity
Benchmark	MSCI AC World IMI Index (Net)
Peer Group	IM Global Equity (MF)

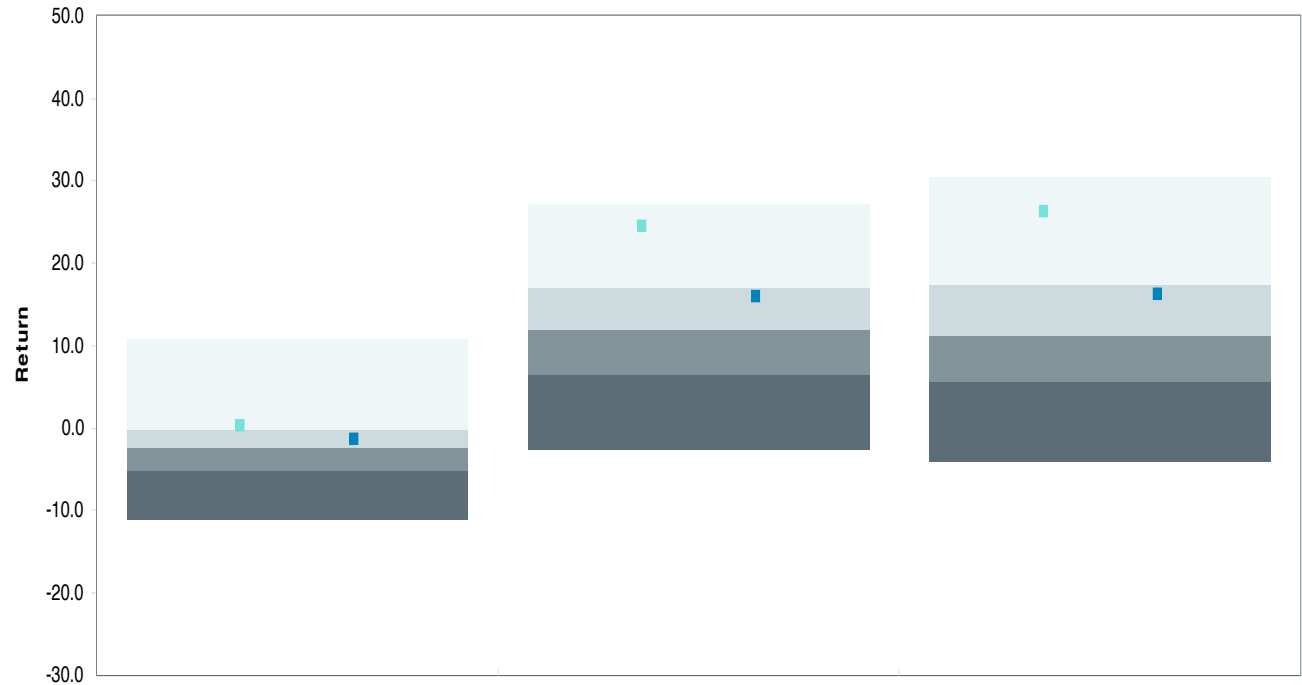




# Arrowstreet Global Equity - Alpha Extension Fund

As of December 31, 2024

IM Global Equity (MF)



	1 Quarter	FYTD	1 Year
Arrowstreet Global Equity - Alpha Extension Fund	0.3 (23)	24.5 (9)	26.3 (8)
MSCI AC World IMI Index (Net)	-1.2 (35)	16.0 (31)	16.4 (30)
5th Percentile	10.9	27.2	30.4
1st Quartile	-0.1	17.0	17.4
Median	-2.4	11.9	11.3
3rd Quartile	-5.2	6.6	5.5
95th Percentile	-11.1	-2.7	-4.1

Population

449

449

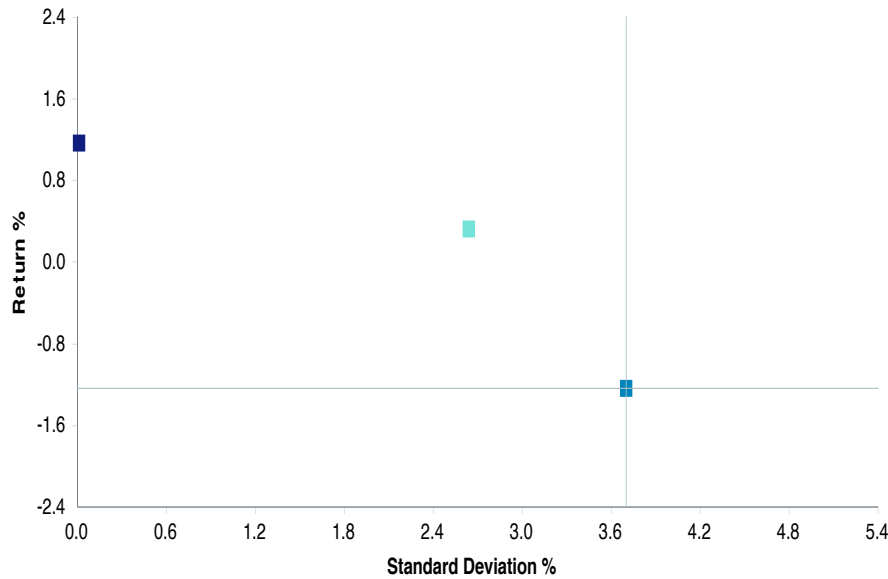
449

Parentheses contain percentile rankings.

# Risk Profile Arrowstreet Global Equity - Alpha Extension

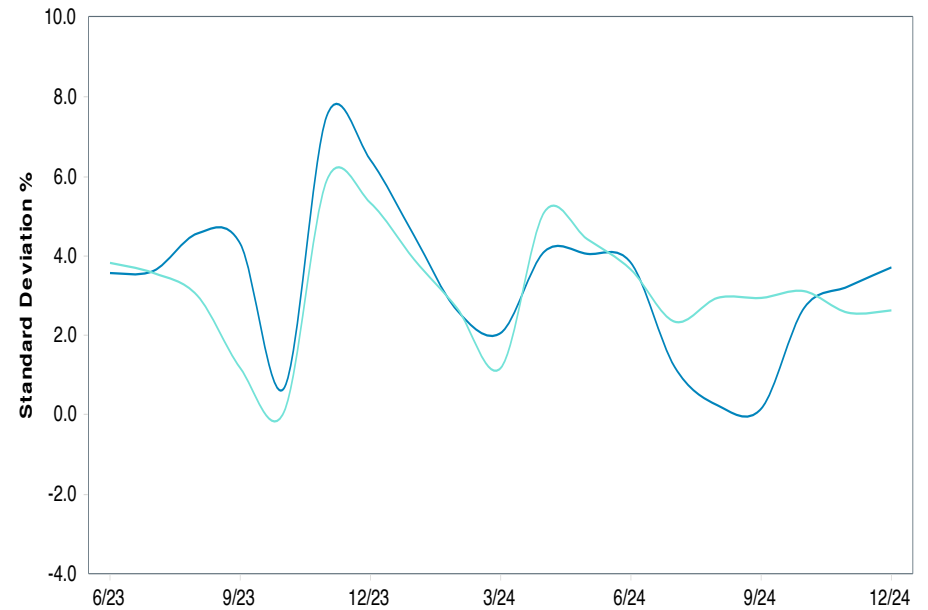
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
1 Quarter



- Arrowstreet Global Equity - Alpha Extension Fund
- MSCI AC World IMI Index (Net)
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 0.25 Year



- Arrowstreet Global Equity - Alpha Extension Fund
- MSCI AC World IMI Index (Net)

1 Quarter Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Arrowstreet Global Equity - Alpha Extension Fund	0.50	1.18	0.42	0.97	-0.10	0.39	0.70	0.32	2.64	0.99
MSCI AC World IMI Index (Net)	0.00	0.00	-	1.00	-0.20	0.00	1.00	-1.24	3.70	1.00
90 Day U.S. Treasury Bill	0.76	3.71	0.20	0.22	-	0.39	0.00	1.17	0.01	-0.47

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# Fixed Income

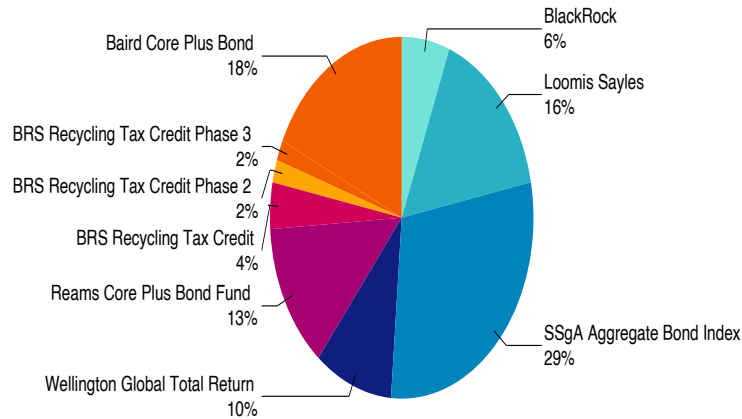


# Composite Portfolio Overview Fixed Income

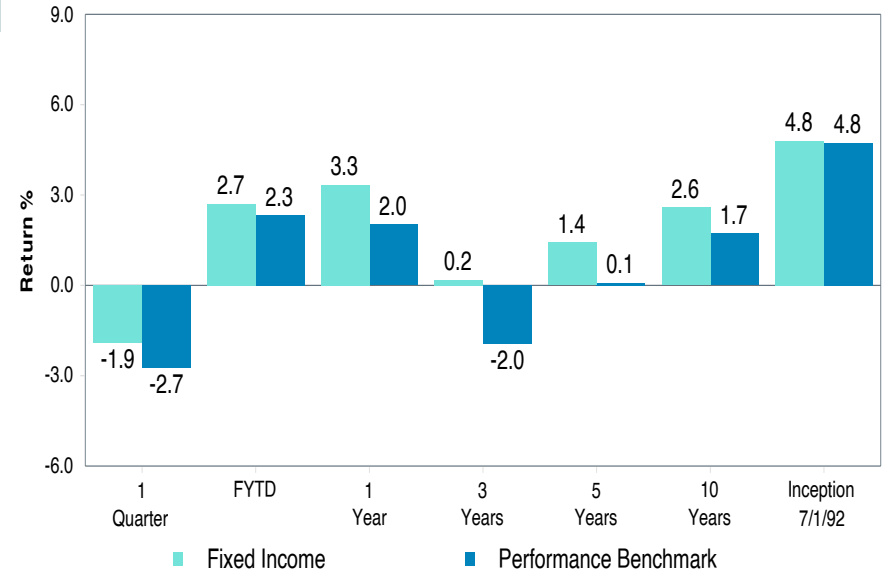
As of December 31, 2024

## Current Allocation

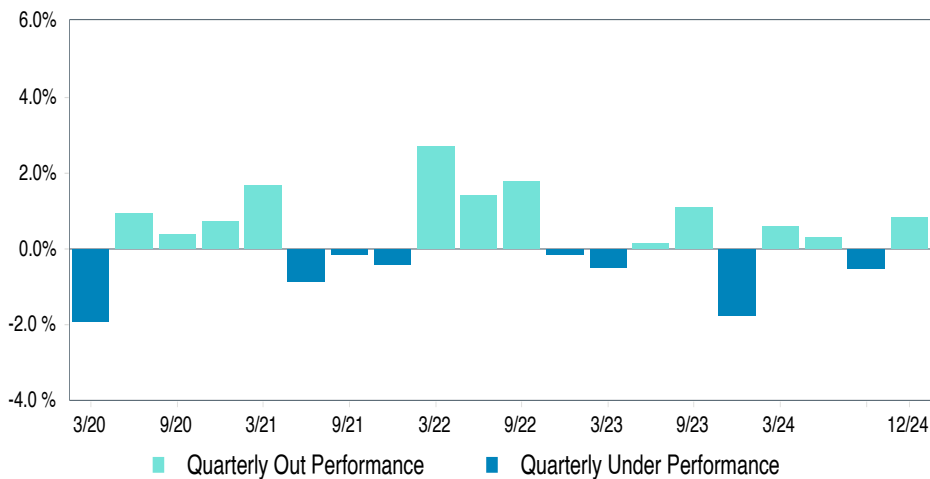
December 31, 2024 : \$4,504,903,249



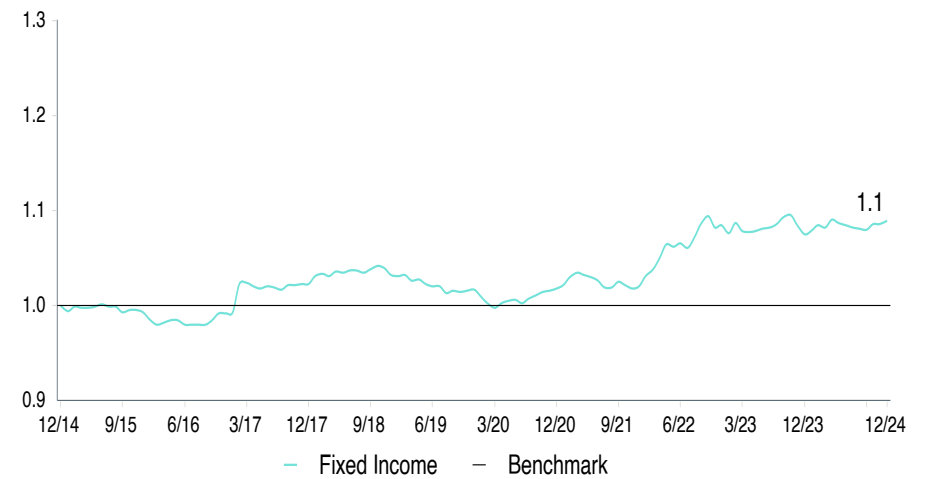
## Return Summary



## Quarterly Excess Performance



## Ratio of Cumulative Wealth - 10 Years

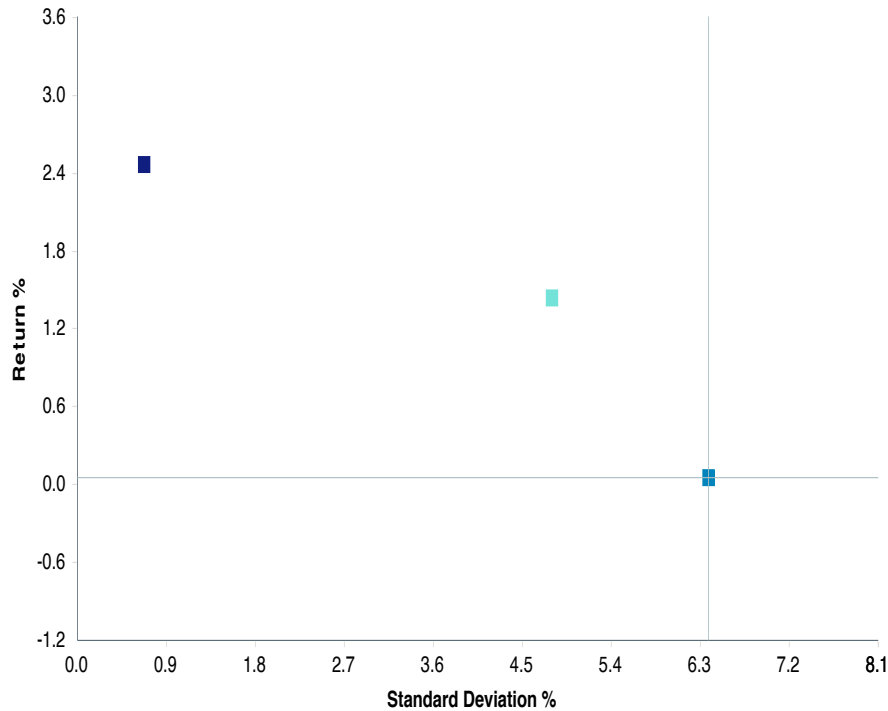


Note: April 1, 2004 represents the inception of the Global Equity Custom Benchmark as the primary performance objective for the Global Equity portfolio.

# Risk Profile Fixed Income

As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



■ Fixed Income      ■ Performance Benchmark      ■ 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



— Fixed Income      — Performance Benchmark

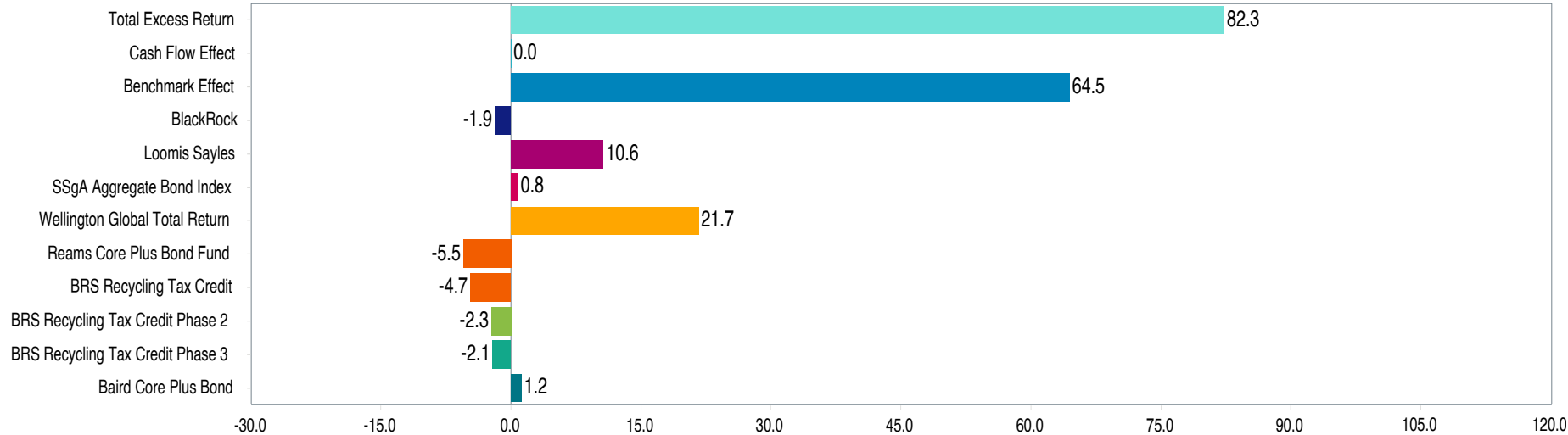
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Fixed Income	1.28	1.99	0.65	0.95	-0.19	1.36	0.73	1.44	4.80	0.98
Performance Benchmark	0.00	0.00	-	1.00	-0.34	0.00	1.00	0.06	6.39	1.00
90 Day U.S. Treasury Bill	2.18	6.33	0.34	0.02	-	2.46	0.02	2.46	0.68	0.14

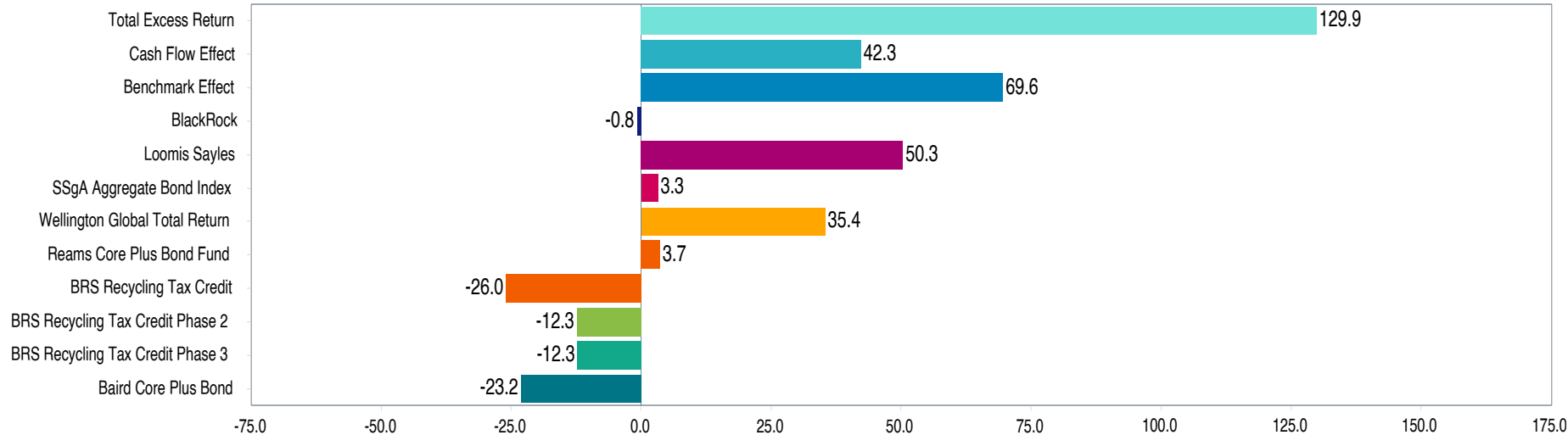
# Asset Class Attribution

As of December 31, 2024

## 1 Quarter



## 1 Year



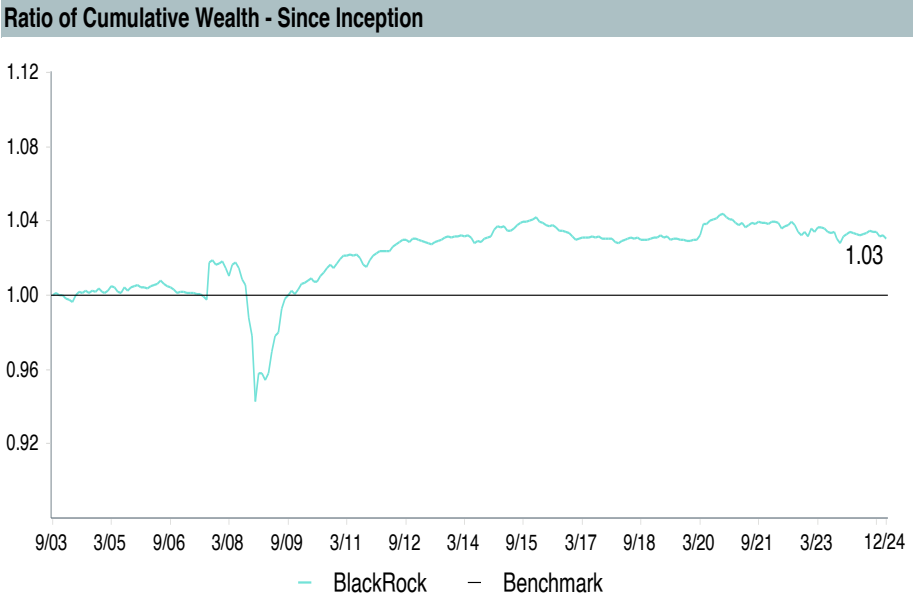
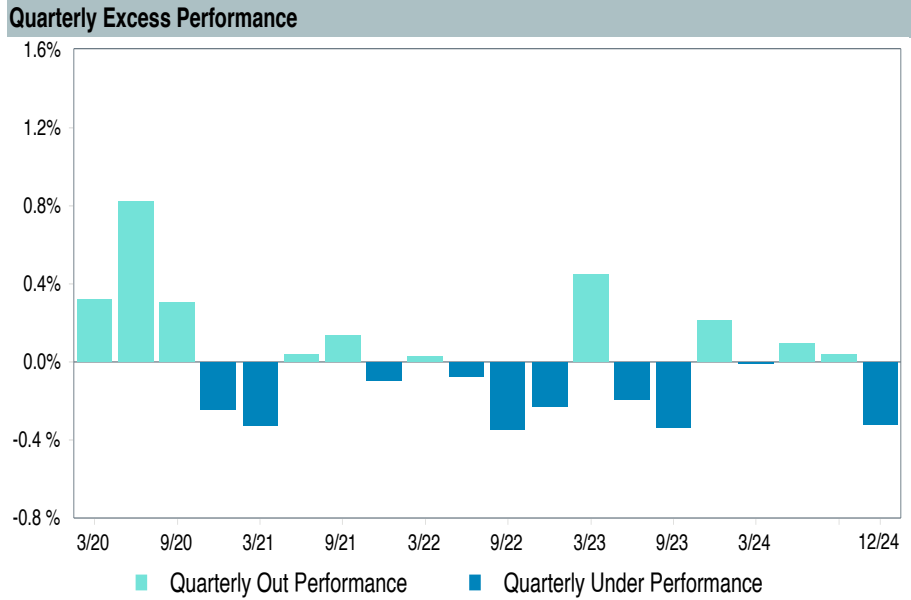
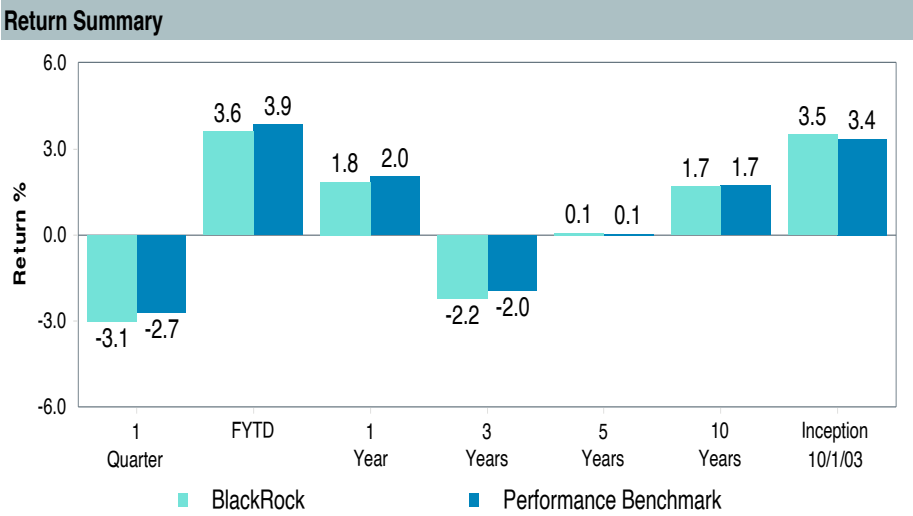
\*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance with GASB Statement 72, representing the 14 years of annual income, and has been incorporated into Total Fixed Income and Total Fund performance.



# Manager Performance Summary BlackRock

As of December 31, 2024

Account Information	
Account Name	BlackRock
Inception Date	09/30/2003
Account Structure	Separate Account
Asset Class	US Fixed Income
Benchmark	Performance Benchmark
Peer Group	IM U.S. Fixed Income (SA+CF)

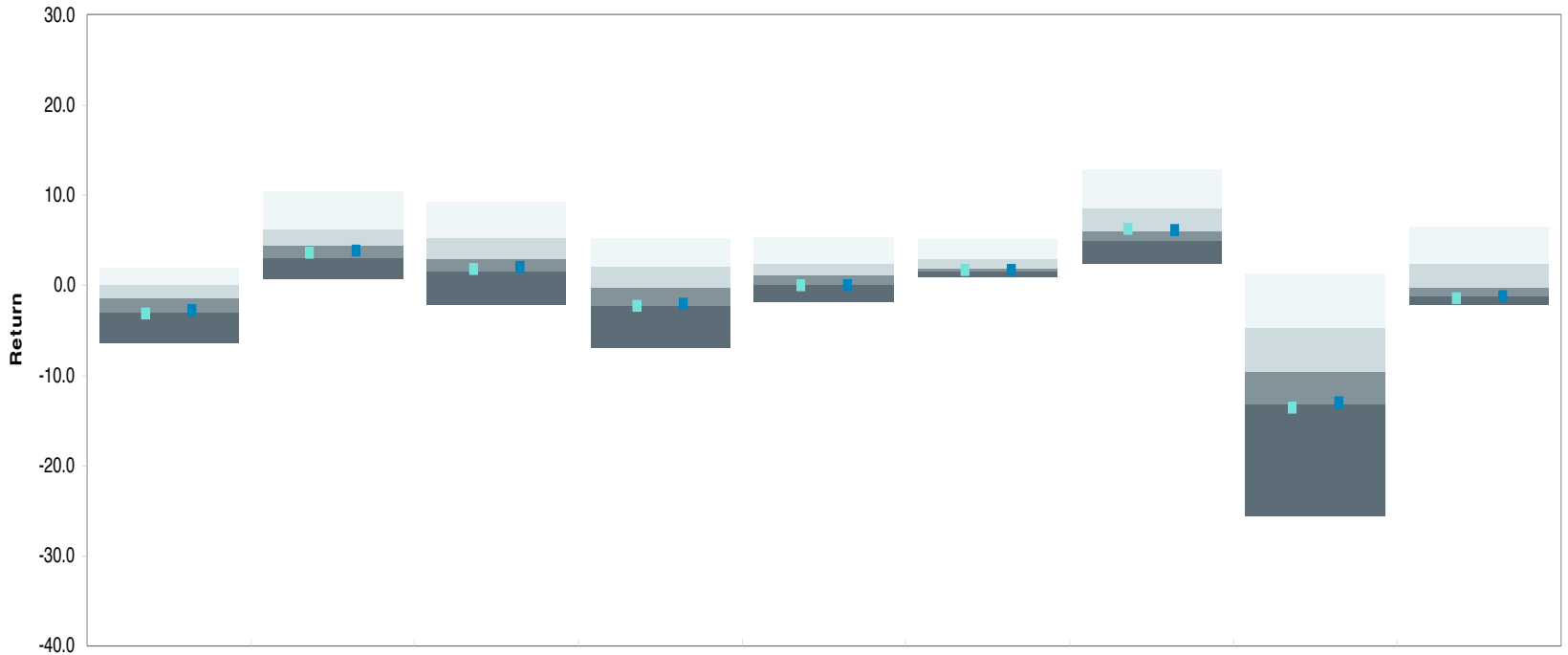




# BlackRock

As of December 31, 2024

## IM U.S. Fixed Income (SA+CF)



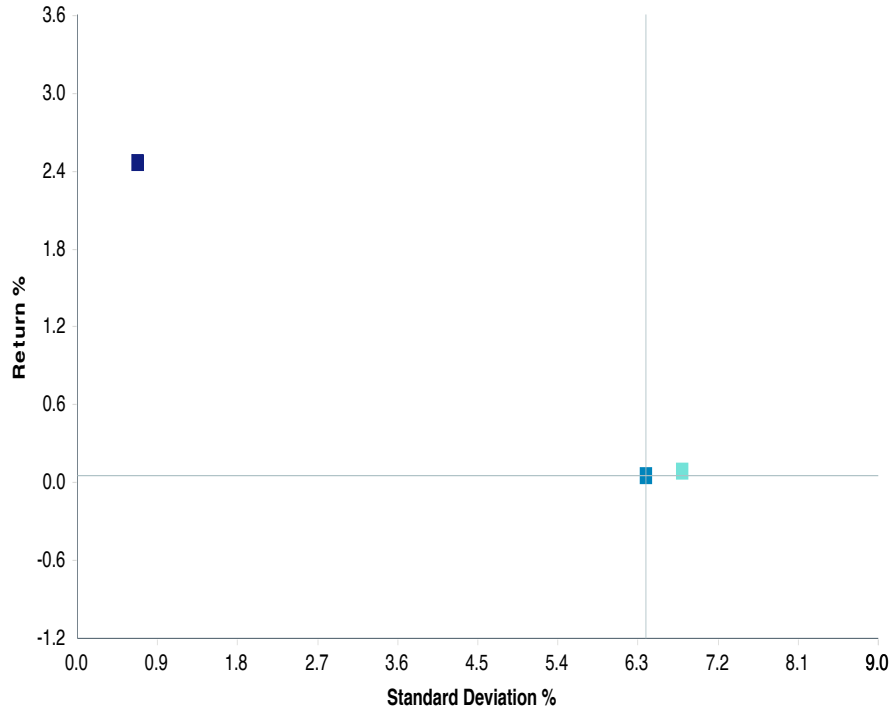
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
BlackRock	-3.1 (82)	3.6 (64)	1.8 (72)	-2.2 (76)	0.1 (77)	1.7 (69)	6.3 (46)	-13.5 (79)	-1.4 (81)
Performance Benchmark	-2.7 (70)	3.9 (60)	2.0 (69)	-2.0 (70)	0.1 (77)	1.7 (66)	6.2 (48)	-13.0 (72)	-1.1 (74)
5th Percentile	2.0	10.6	9.4	5.3	5.3	5.2	12.9	1.4	6.5
1st Quartile	0.2	6.3	5.4	2.1	2.5	2.9	8.6	-4.7	2.5
Median	-1.4	4.5	3.0	-0.2	1.1	2.0	6.0	-9.5	-0.1
3rd Quartile	-2.9	3.0	1.6	-2.2	0.1	1.6	5.0	-13.2	-1.1
95th Percentile	-6.3	0.7	-2.1	-6.9	-1.7	0.9	2.5	-25.6	-2.1
Population	779	772	778	763	740	646	1,329	1,373	1,402

Parentheses contain percentile rankings.

# Risk Profile BlackRock

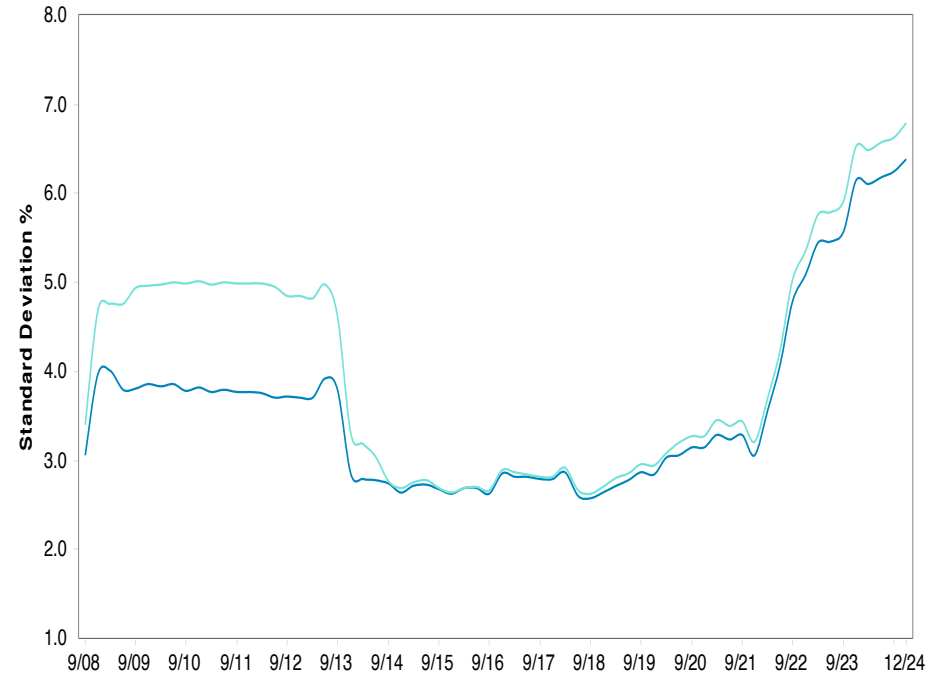
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation 5 Years**



■ BlackRock      ■ Performance Benchmark      ■ 90 Day U.S. Treasury Bill

**Standard Deviation Rolling 5 Years**



— BlackRock      — Performance Benchmark

**5 Years Historical Statistics**

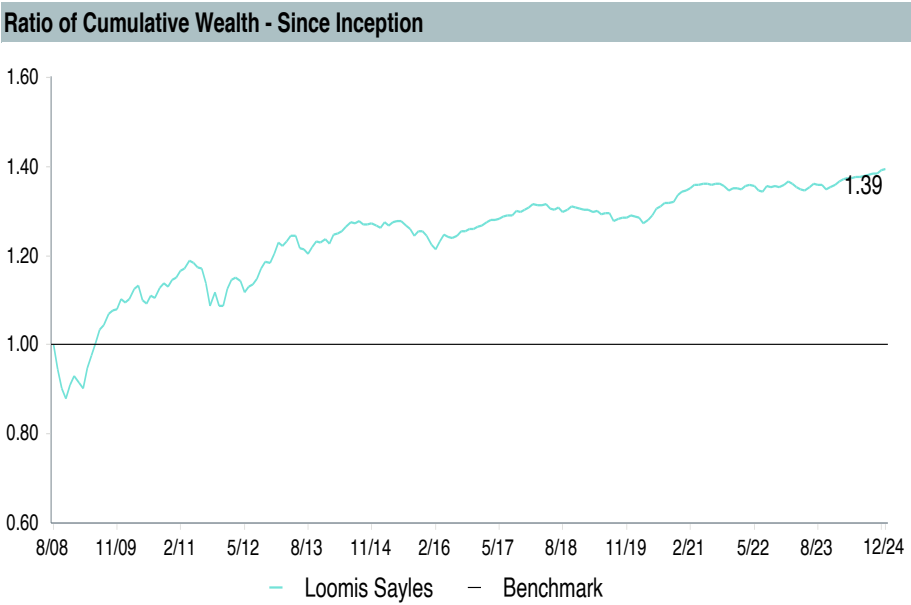
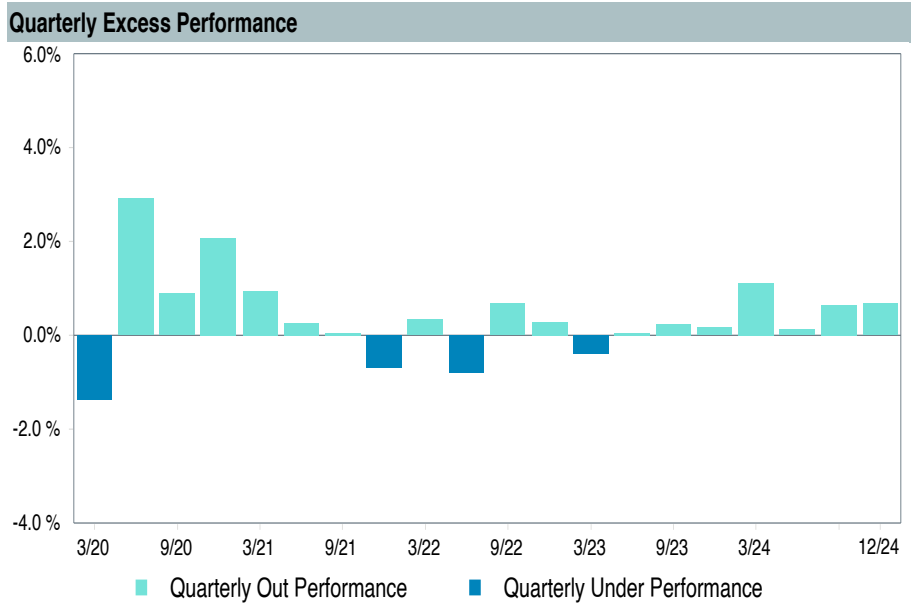
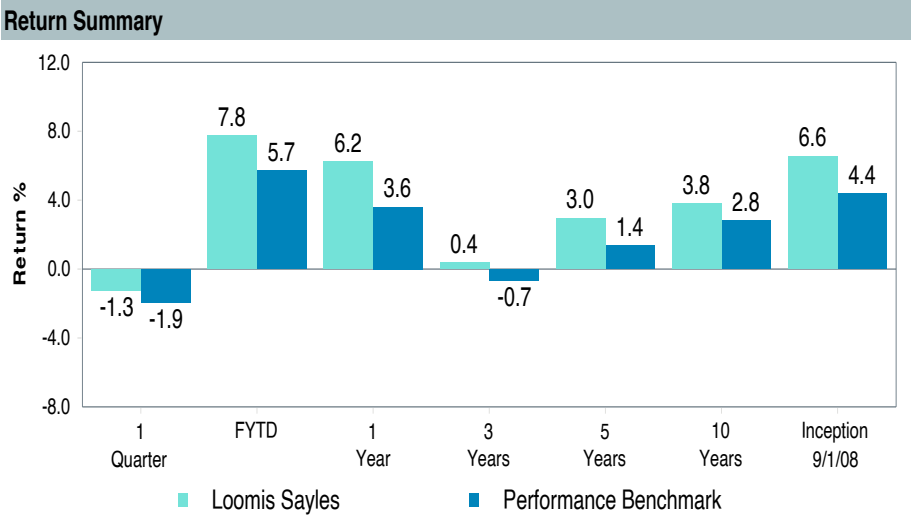
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock	0.06	0.60	0.10	1.00	-0.31	0.05	1.06	0.09	6.79	1.00
Performance Benchmark	0.00	0.00	-	1.00	-0.34	0.00	1.00	0.06	6.39	1.00
90 Day U.S. Treasury Bill	2.18	6.33	0.34	0.02	-	2.46	0.02	2.46	0.68	0.14



# Manager Performance Summary Loomis Sayles

As of December 31, 2024

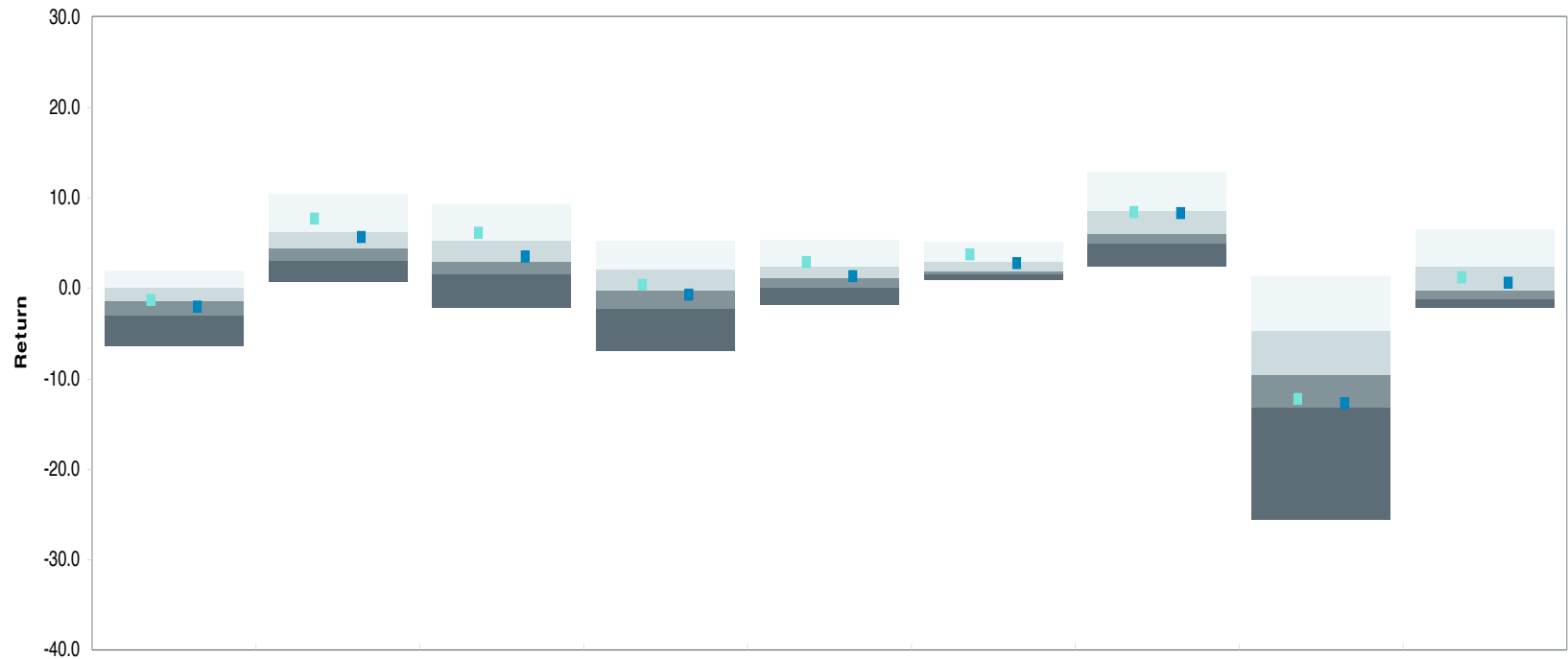
Account Information	
Account Name	Loomis Sayles
Inception Date	06/30/2008
Account Structure	Separate Account
Asset Class	US Fixed Income
Benchmark	Performance Benchmark
Peer Group	IM U.S. Fixed Income (SA+CF)



# Loomis Sayles

As of December 31, 2024

## IM U.S. Fixed Income (SA+CF)



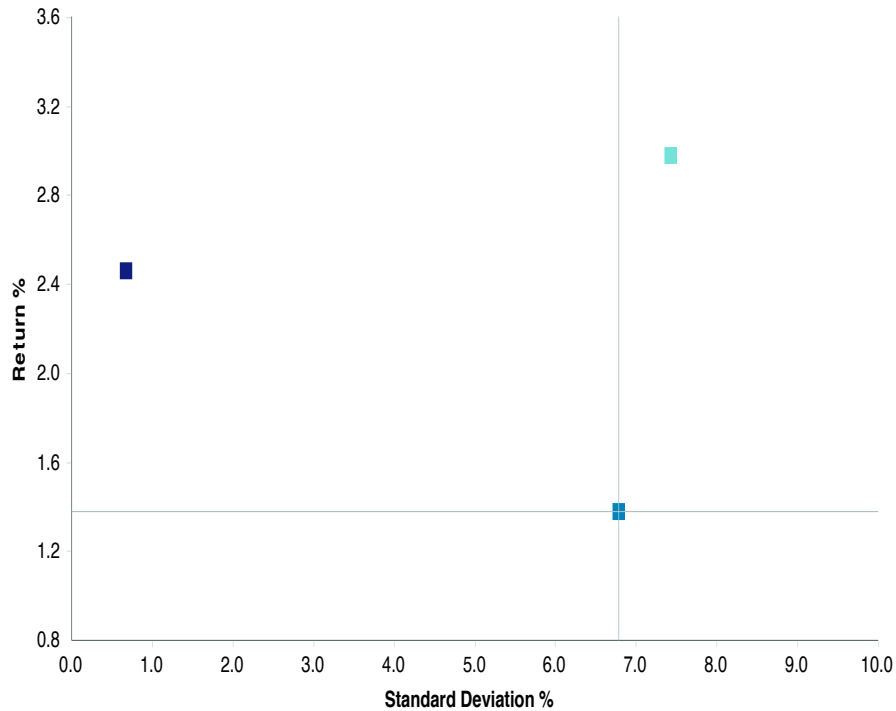
	1 Quarter	FYTD	1 Year	3 Years	5 Years	10 Years	2023	2022	2021
Loomis Sayles	-1.3 (48)	7.8 (20)	6.2 (21)	0.4 (42)	3.0 (20)	3.8 (20)	8.5 (26)	-12.3 (65)	1.2 (33)
Performance Benchmark	-1.9 (60)	5.7 (31)	3.6 (40)	-0.7 (57)	1.4 (46)	2.8 (26)	8.4 (27)	-12.7 (69)	0.7 (37)
5th Percentile	2.0	10.6	9.4	5.3	5.3	5.2	12.9	1.4	6.5
1st Quartile	0.2	6.3	5.4	2.1	2.5	2.9	8.6	-4.7	2.5
Median	-1.4	4.5	3.0	-0.2	1.1	2.0	6.0	-9.5	-0.1
3rd Quartile	-2.9	3.0	1.6	-2.2	0.1	1.6	5.0	-13.2	-1.1
95th Percentile	-6.3	0.7	-2.1	-6.9	-1.7	0.9	2.5	-25.6	-2.1
Population	779	772	778	763	740	646	1,329	1,373	1,402

Parentheses contain percentile rankings.

# Risk Profile Loomis Sayles

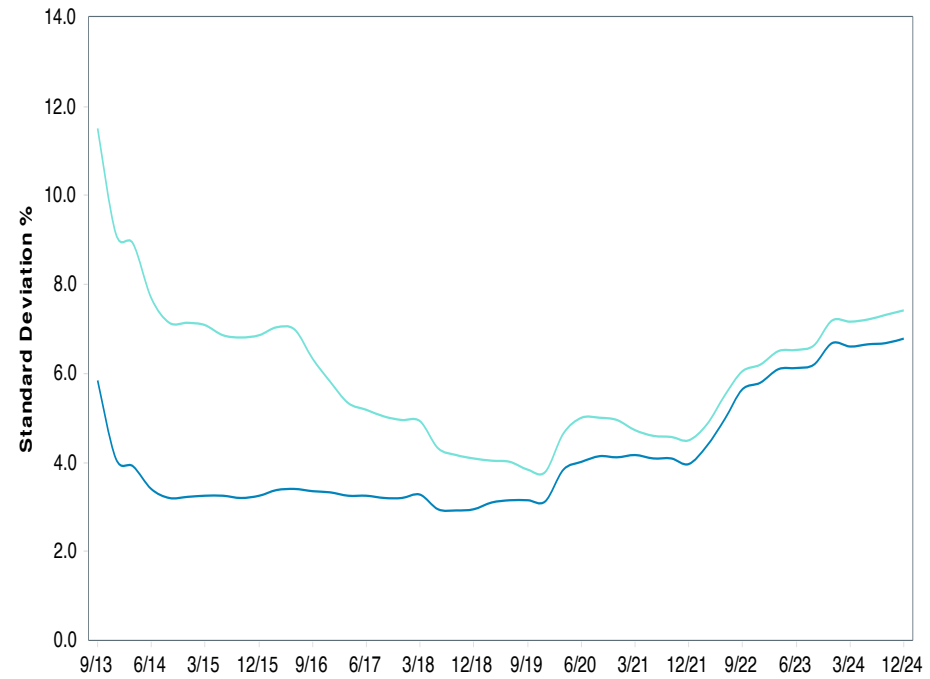
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



■ Loomis Sayles    ■ Performance Benchmark    ■ 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 5 Years**



— Loomis Sayles    — Performance Benchmark

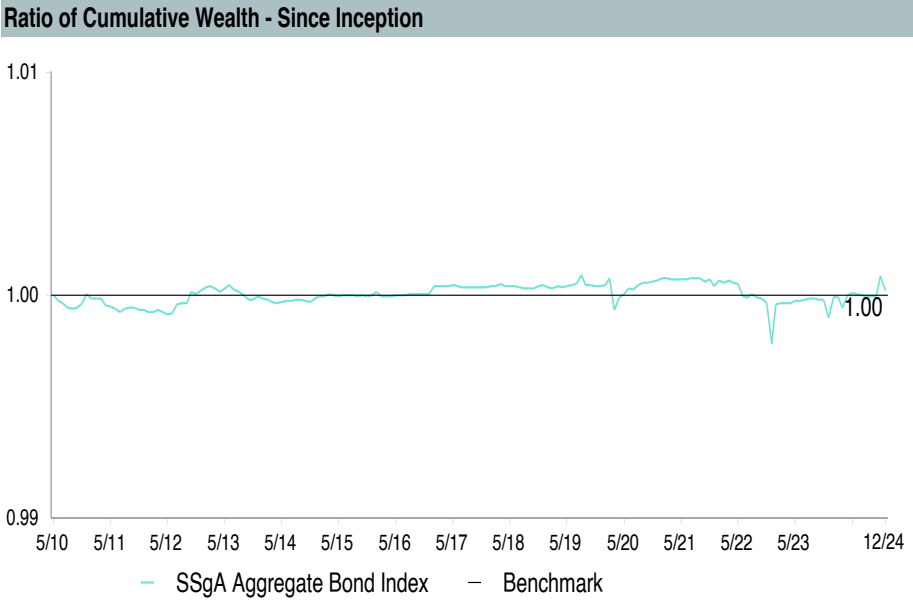
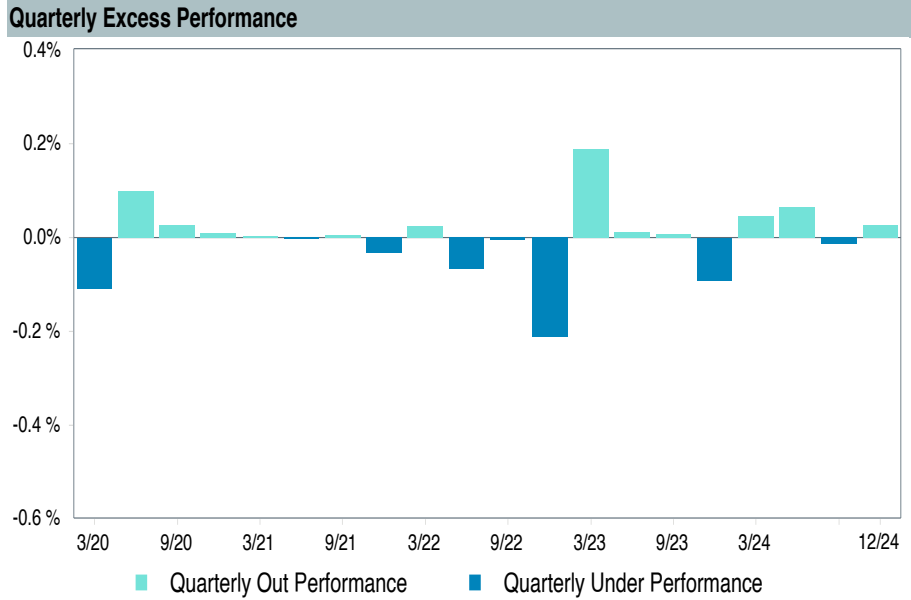
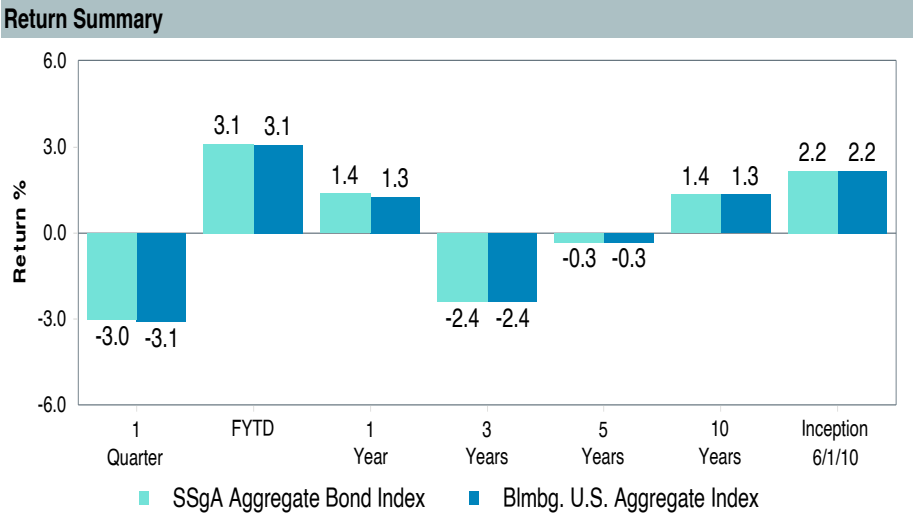
**5 Years Historical Statistics**

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Loomis Sayles	1.62	1.54	1.05	0.96	0.10	1.51	1.07	2.98	7.43	0.98
Performance Benchmark	0.00	0.00	-	1.00	-0.12	0.00	1.00	1.38	6.78	1.00
90 Day U.S. Treasury Bill	0.84	6.75	0.12	0.01	-	2.45	0.01	2.46	0.68	0.10

# Manager Performance Summary SSgA Aggregate Bond Index

As of December 31, 2024

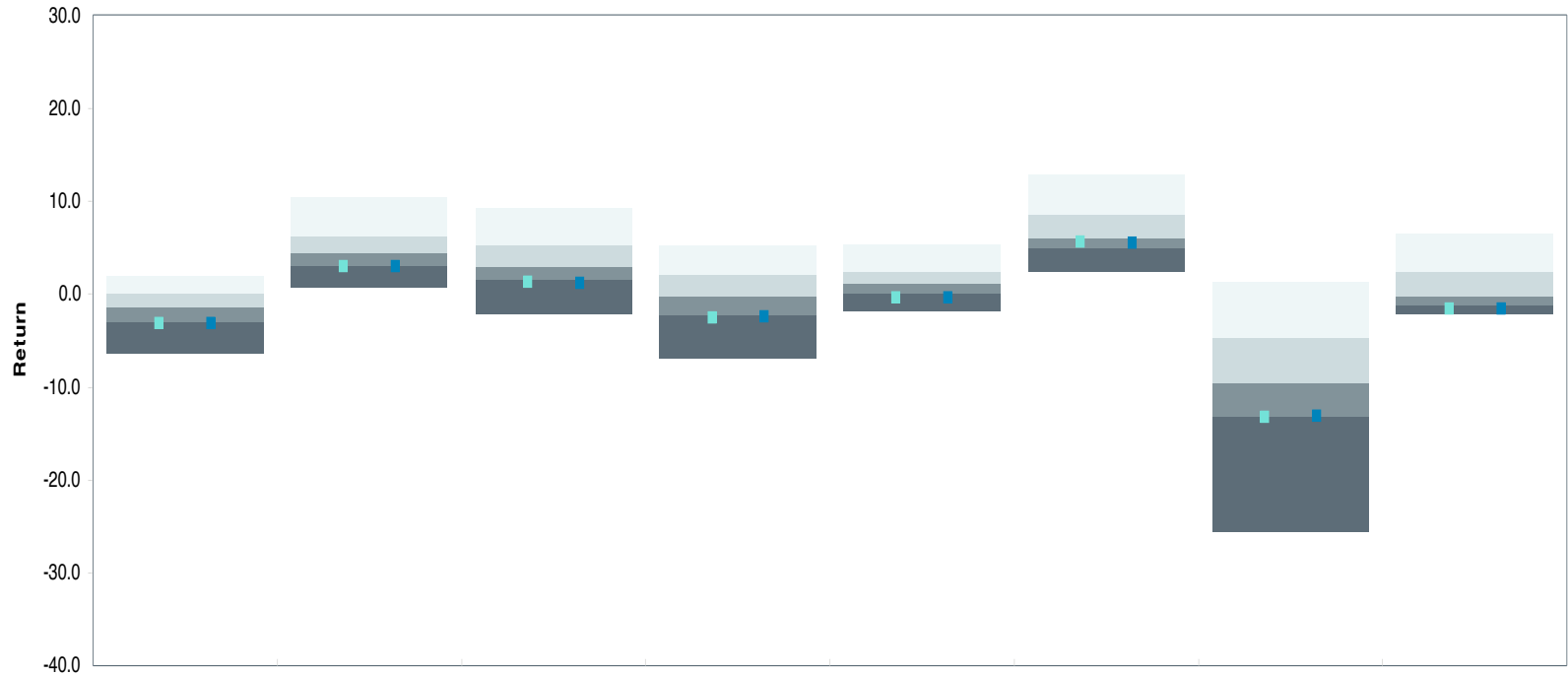
Account Information	
Account Name	SSgA Aggregate Bond Index
Inception Date	01/01/1901
Account Structure	Commingled Fund
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	IM U.S. Fixed Income (SA+CF)



# SSgA Aggregate Bond Index

As of December 31, 2024

## IM U.S. Fixed Income (SA+CF)



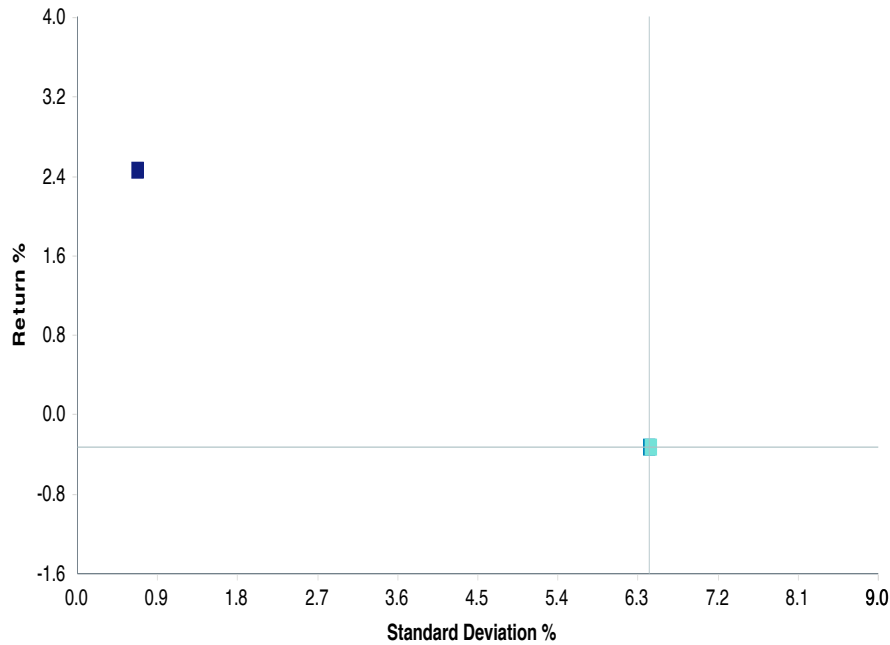
	1 Quarter	FYTD	1 Year	3 Years	5 Years	2023	2022	2021
SSgA Aggregate Bond Index	-3.0 (81)	3.1 (73)	1.4 (80)	-2.4 (83)	-0.3 (85)	5.7 (59)	-13.2 (76)	-1.6 (86)
Blmbg. U.S. Aggregate Index	-3.1 (82)	3.1 (74)	1.3 (82)	-2.4 (83)	-0.3 (85)	5.5 (62)	-13.0 (72)	-1.5 (86)
5th Percentile	2.0	10.6	9.4	5.3	5.3	12.9	1.4	6.5
1st Quartile	0.2	6.3	5.4	2.1	2.5	8.6	-4.7	2.5
Median	-1.4	4.5	3.0	-0.2	1.1	6.0	-9.5	-0.1
3rd Quartile	-2.9	3.0	1.6	-2.2	0.1	5.0	-13.2	-1.1
95th Percentile	-6.3	0.7	-2.1	-6.9	-1.7	2.5	-25.6	-2.1
Population	779	772	778	763	740	1,329	1,373	1,402

Parentheses contain percentile rankings.

# Risk Profile SSgA Aggregate Bond Index

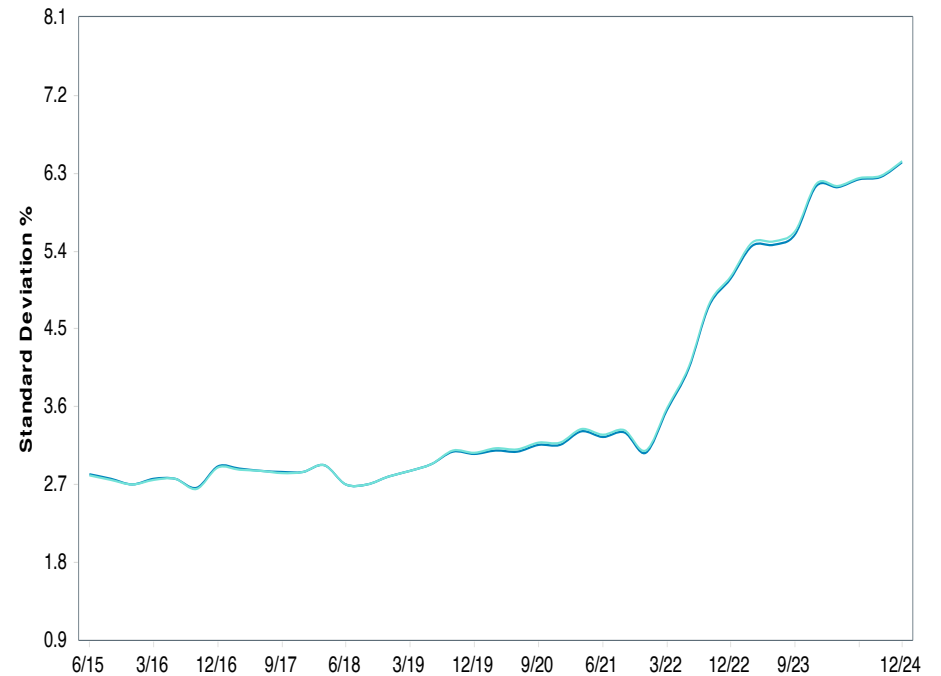
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- SSgA Aggregate Bond Index
- Blmbg. U.S. Aggregate Index
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- SSgA Aggregate Bond Index
- Blmbg. U.S. Aggregate Index

5 Years Historical Statistics

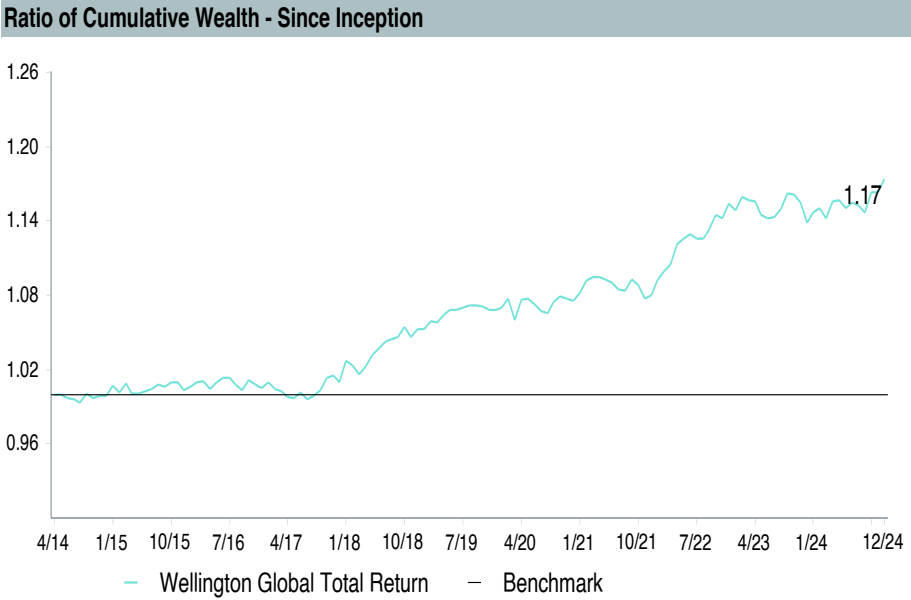
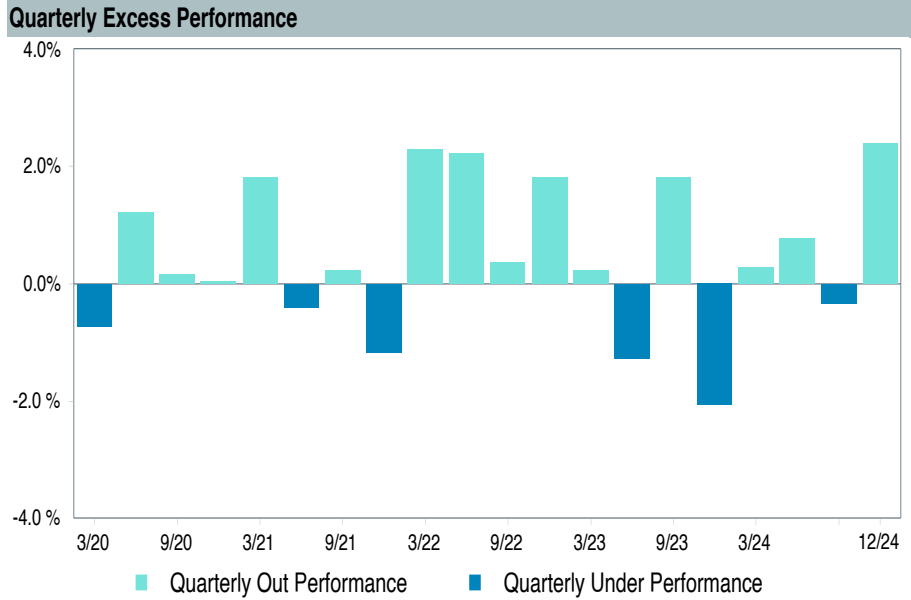
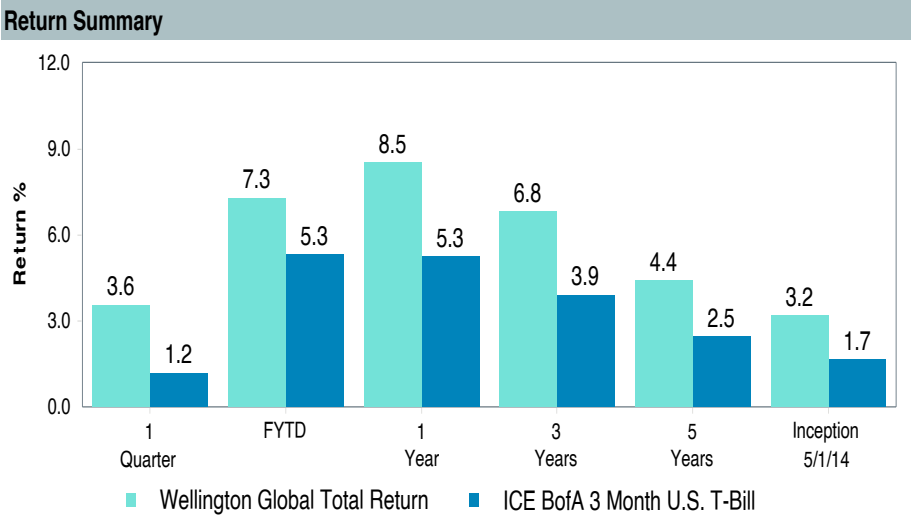
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Aggregate Bond Index	0.00	0.16	-0.02	1.00	-0.40	0.00	1.00	-0.33	6.44	1.00
Blmbg. U.S. Aggregate Index	0.00	0.00	-	1.00	-0.40	0.00	1.00	-0.33	6.42	1.00
90 Day U.S. Treasury Bill	2.56	6.36	0.40	0.02	-	2.47	0.02	2.46	0.68	0.15



# Manager Performance Summary Wellington Global Total Return

As of December 31, 2024

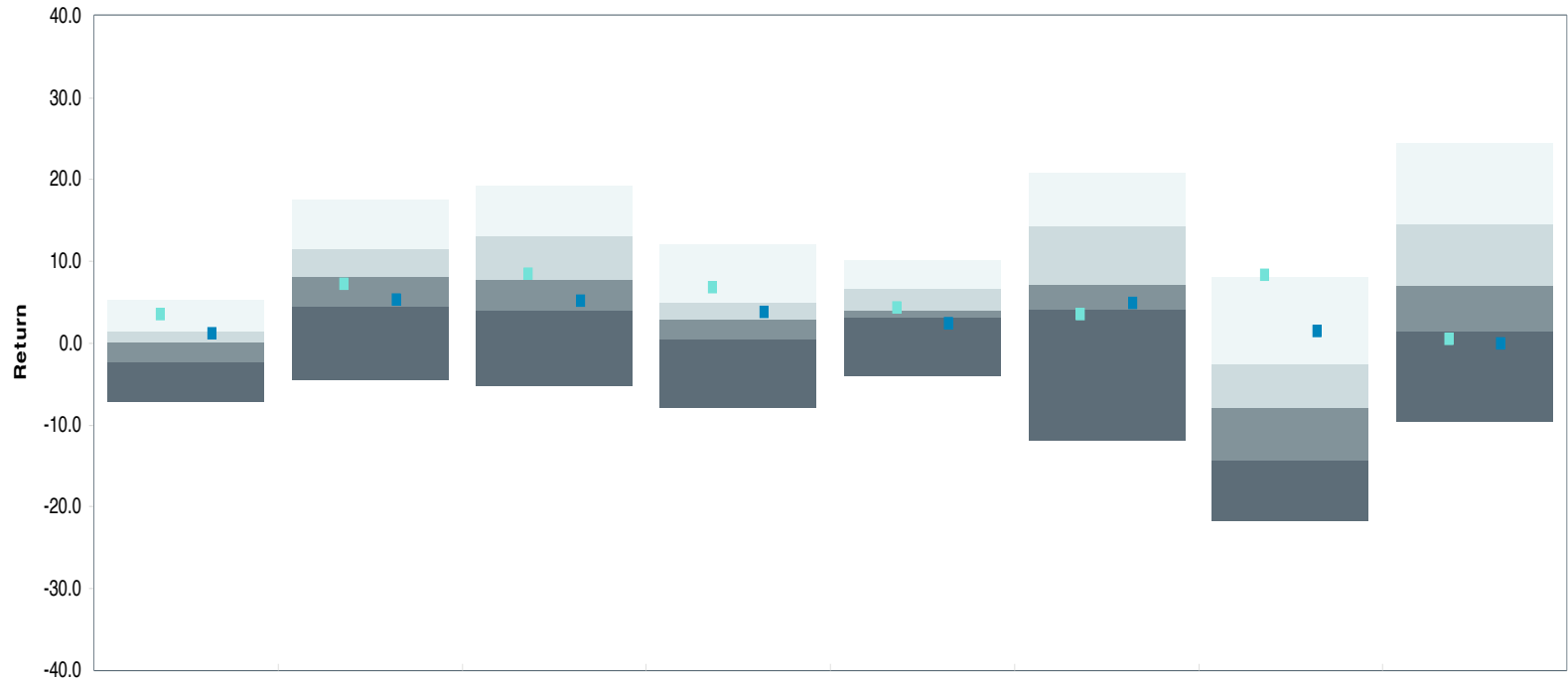
Account Information	
Account Name	Wellington Global Total Return
Inception Date	05/13/2014
Account Structure	Commingled Fund
Asset Class	Global Fixed Income
Benchmark	ICE BofA 3 Month U.S. T-Bill
Peer Group	IM Absolute Return (MF)



# Wellington Global Total Return

As of December 31, 2024

IM Absolute Return (MF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	2023	2022	2021
Wellington Global Total Return	3.6 (8)	7.3 (60)	8.5 (43)	6.8 (12)	4.4 (37)	3.6 (77)	8.4 (5)	0.5 (82)
ICE BofA 3 Month U.S. T-Bill	1.2 (36)	5.3 (71)	5.3 (69)	3.9 (37)	2.5 (86)	5.0 (65)	1.5 (13)	0.0 (82)
5th Percentile	5.3	17.6	19.2	12.1	10.2	20.7	8.2	24.4
1st Quartile	1.5	11.6	13.1	4.9	6.7	14.4	-2.5	14.6
Median	0.1	8.1	7.8	2.9	4.0	7.2	-7.9	7.1
3rd Quartile	-2.3	4.6	3.9	0.6	3.2	4.1	-14.3	1.5
95th Percentile	-7.2	-4.6	-5.2	-7.8	-3.9	-11.8	-21.8	-9.7
Population	36	36	36	36	34	39	45	48

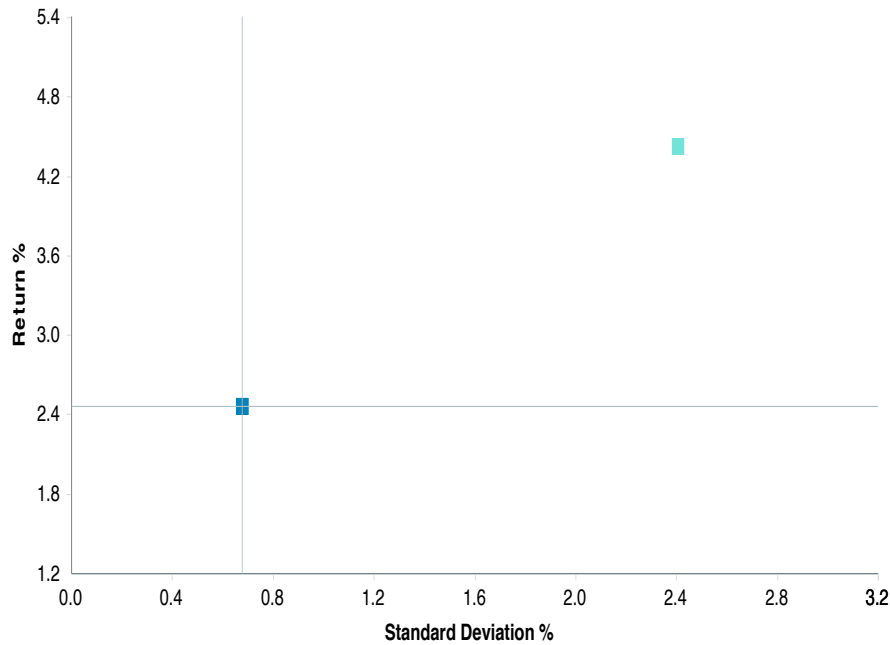
Parentheses contain percentile rankings.



# Risk Profile Wellington Global Total Return

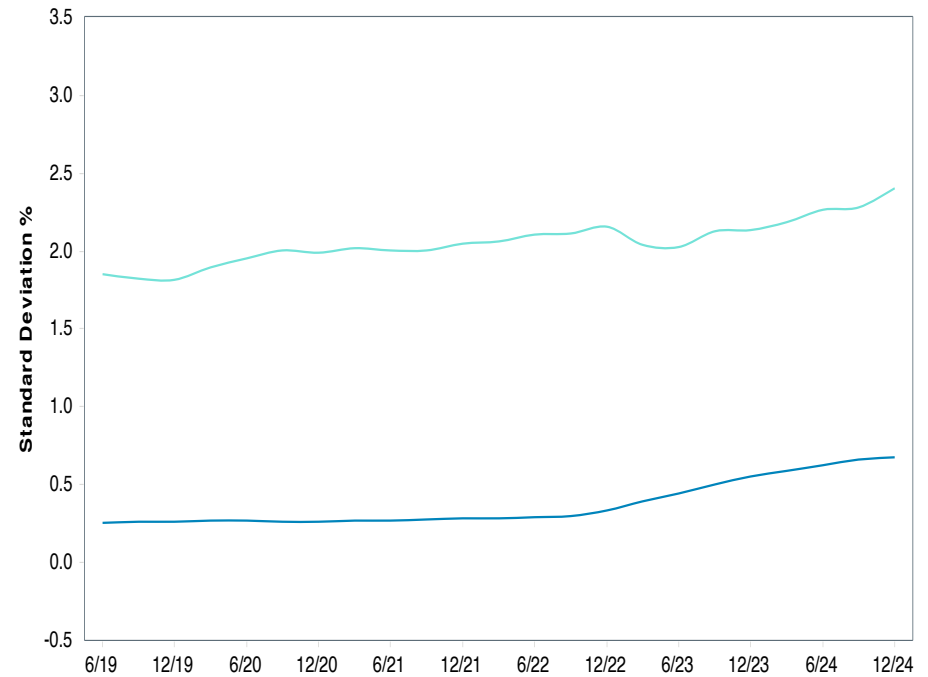
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- Wellington Global Total Return
- ICE BofA 3 Month U.S. T-Bill
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- Wellington Global Total Return
- ICE BofA 3 Month U.S. T-Bill

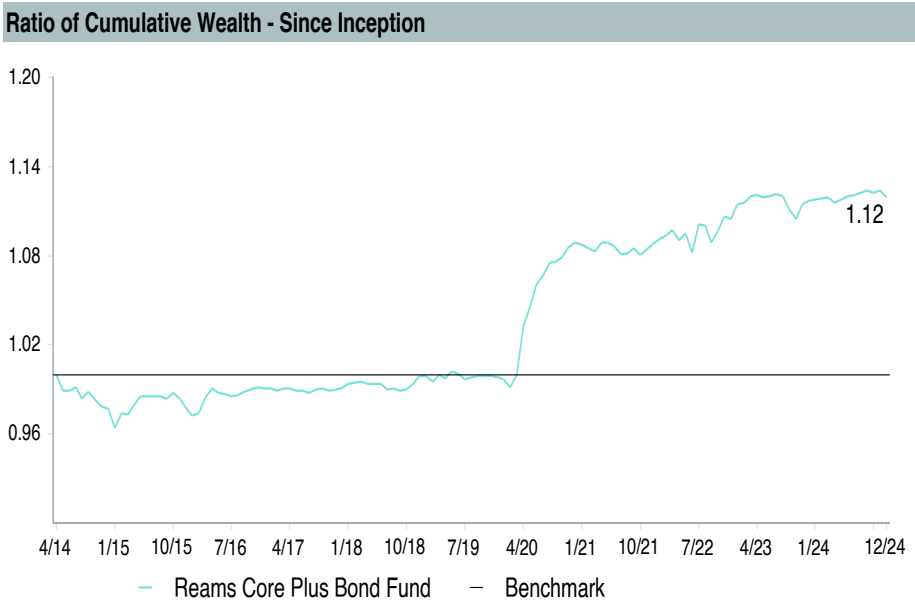
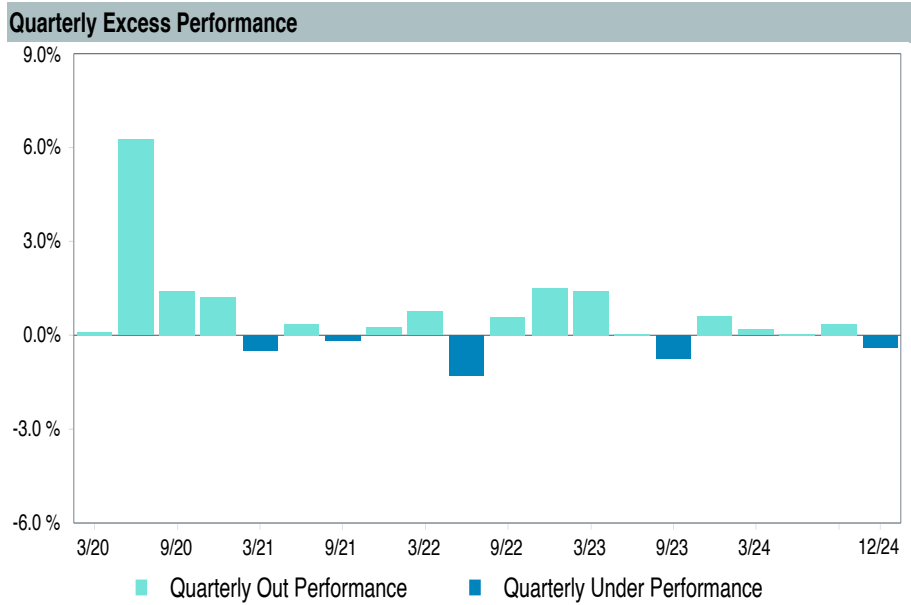
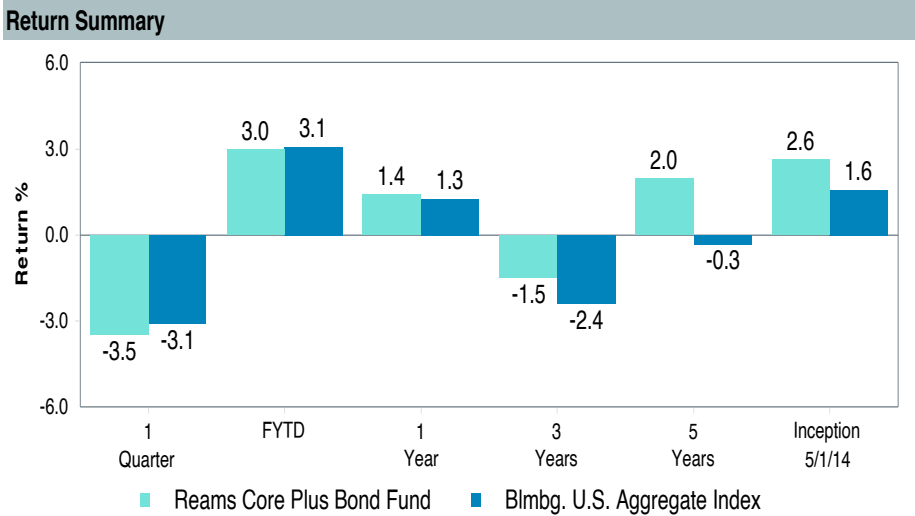
## 5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Total Return	1.93	2.39	0.81	0.03	0.81	3.01	0.57	4.43	2.40	0.16
ICE BofA 3 Month U.S. T-Bill	0.00	0.00	-	1.00	-	0.00	1.00	2.46	0.68	1.00
90 Day U.S. Treasury Bill	0.00	0.00	-	1.00	-	0.00	1.00	2.46	0.68	1.00

# Manager Performance Summary Reams Core Plus Bond Fund

As of December 31, 2024

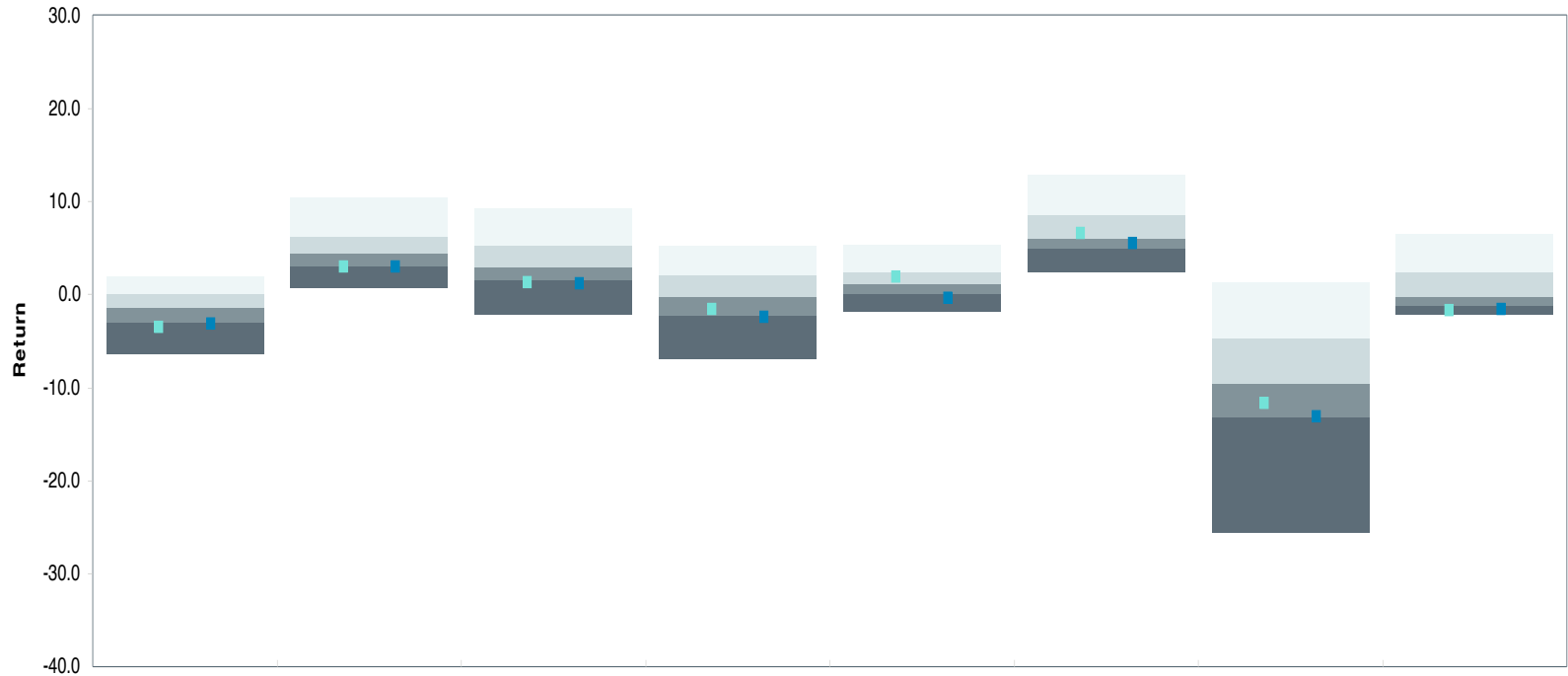
Account Information	
Account Name	Reams Core Plus Bond Fund
Inception Date	05/08/2014
Account Structure	Commingled Fund
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	IM U.S. Fixed Income (SA+CF)



# Reams Core Plus Bond Fund

As of December 31, 2024

IM U.S. Fixed Income (SA+CF)



	1 Quarter	FYTD	1 Year	3 Years	5 Years	2023	2022	2021
Reams Core Plus Bond Fund	-3.5 (89)	3.0 (75)	1.4 (79)	-1.5 (64)	2.0 (35)	6.7 (41)	-11.7 (61)	-1.6 (88)
Blmbg. U.S. Aggregate Index	-3.1 (82)	3.1 (74)	1.3 (82)	-2.4 (83)	-0.3 (85)	5.5 (62)	-13.0 (72)	-1.5 (86)
5th Percentile	2.0	10.6	9.4	5.3	5.3	12.9	1.4	6.5
1st Quartile	0.2	6.3	5.4	2.1	2.5	8.6	-4.7	2.5
Median	-1.4	4.5	3.0	-0.2	1.1	6.0	-9.5	-0.1
3rd Quartile	-2.9	3.0	1.6	-2.2	0.1	5.0	-13.2	-1.1
95th Percentile	-6.3	0.7	-2.1	-6.9	-1.7	2.5	-25.6	-2.1

Population	779	772	778	763	740	1,329	1,373	1,402
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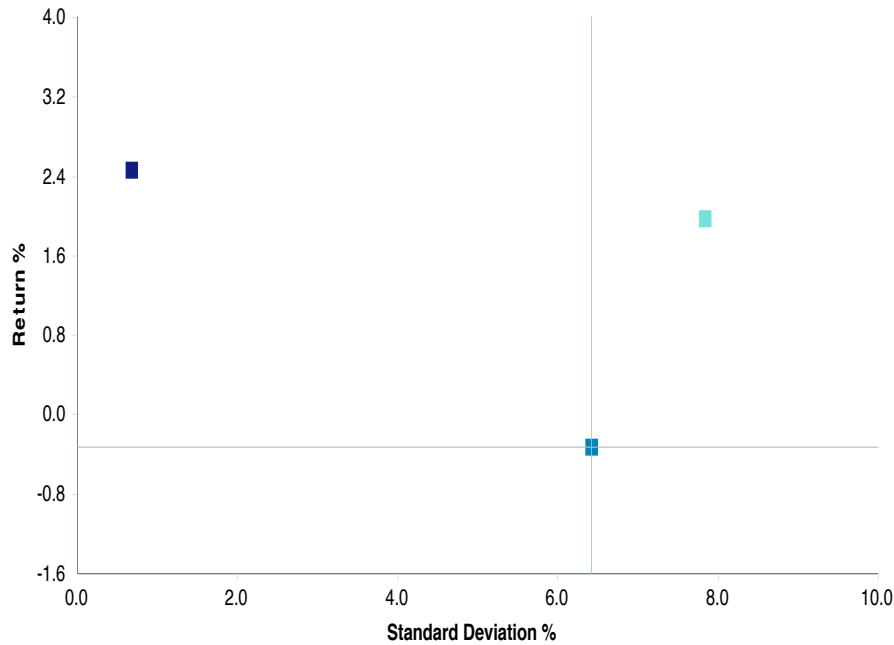
Parentheses contain percentile rankings.



# Risk Profile Reams Core Plus Bond Fund

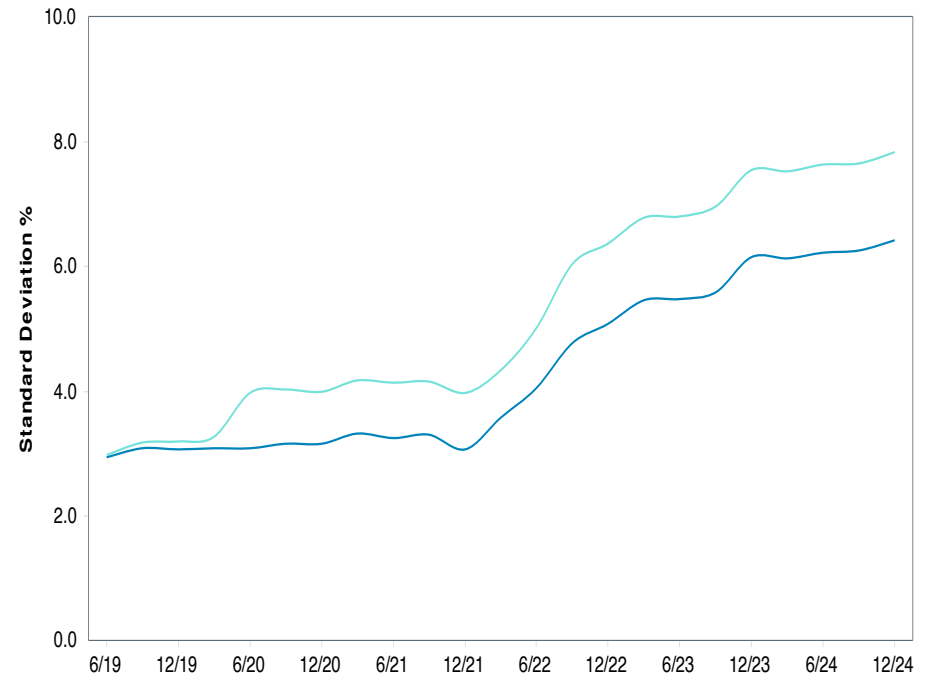
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- Reams Core Plus Bond Fund
- Blmbg. U.S. Aggregate Index
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years

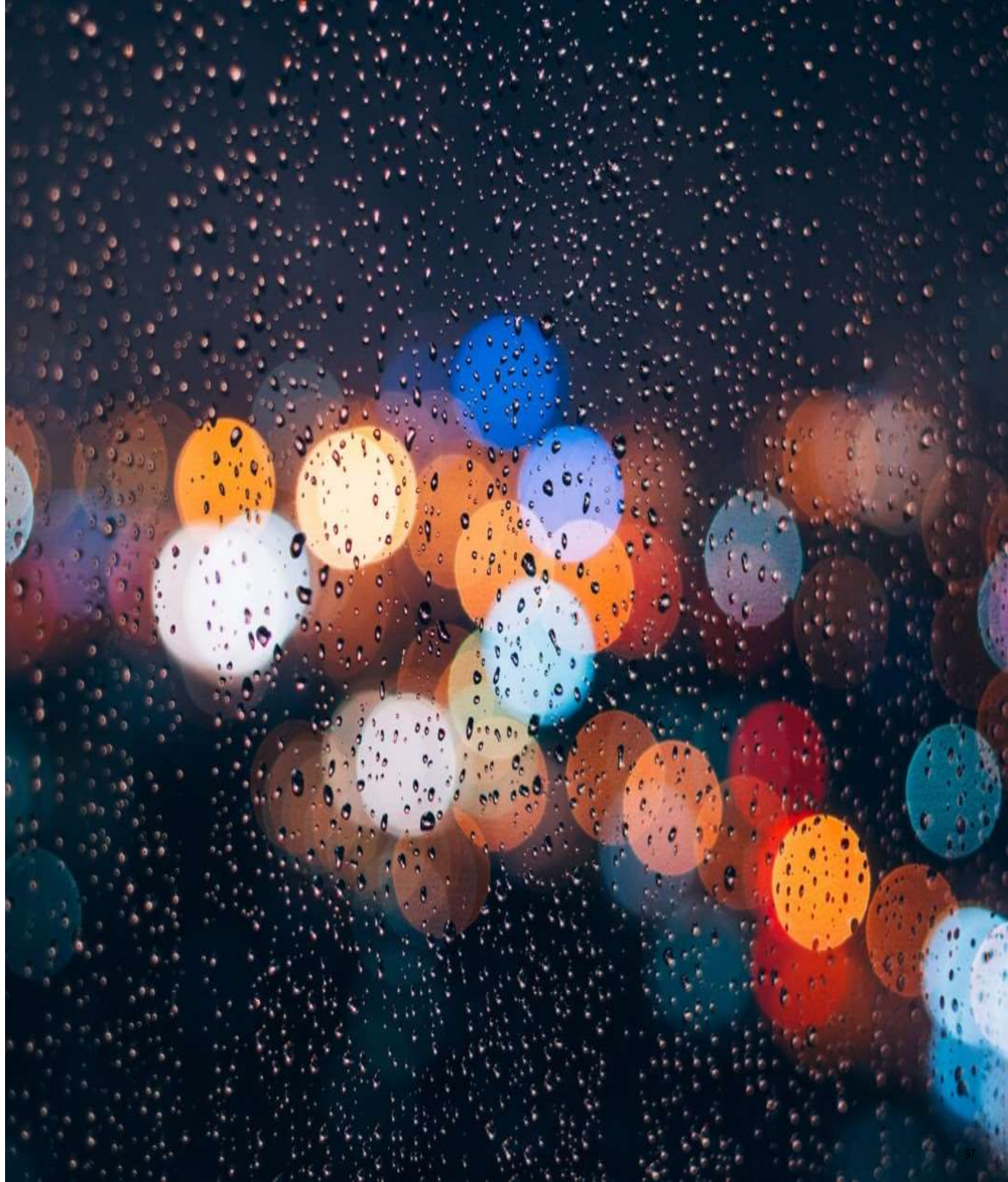


- Reams Core Plus Bond Fund
- Blmbg. U.S. Aggregate Index

## 5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Reams Core Plus Bond Fund	2.38	2.36	1.01	0.93	-0.02	2.43	1.18	1.97	7.84	0.96
Blmbg. U.S. Aggregate Index	0.00	0.00	-	1.00	-0.40	0.00	1.00	-0.33	6.42	1.00
90 Day U.S. Treasury Bill	2.56	6.36	0.40	0.02	-	2.47	0.02	2.46	0.68	0.15

# Opportunistic/ Alternatives

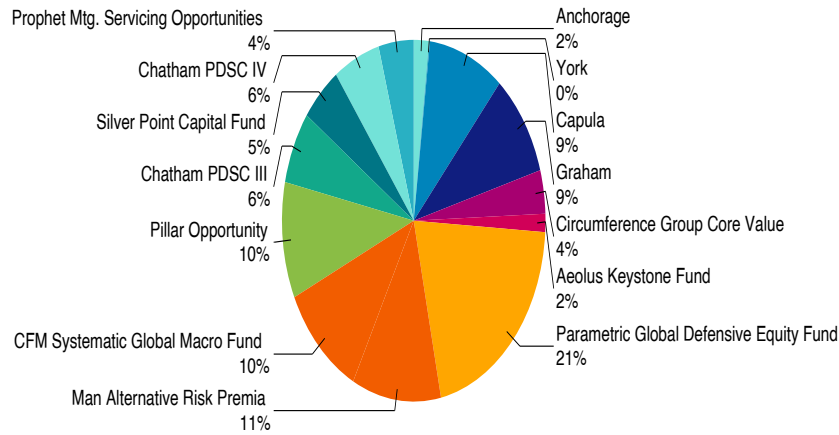


# Composite Portfolio Overview Opportunistic/Alternatives

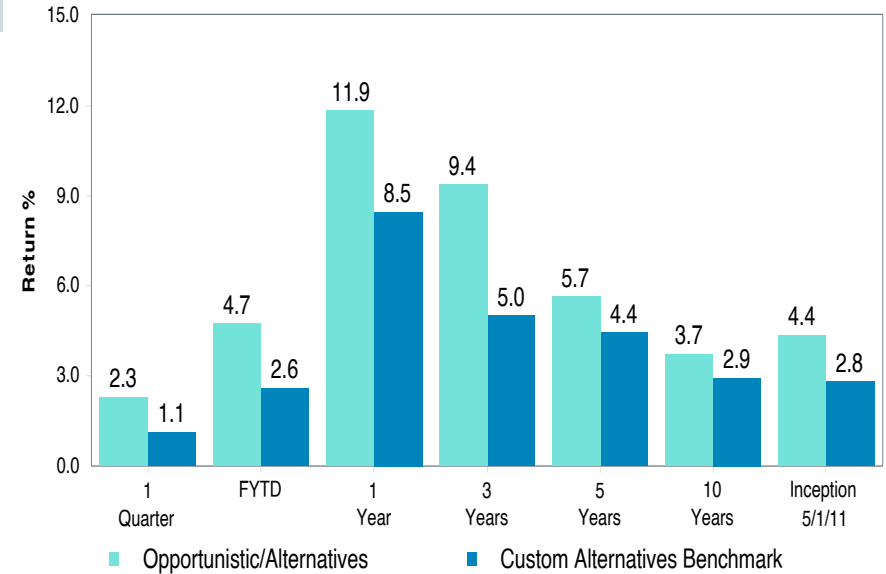
As of December 31, 2024

## Current Allocation

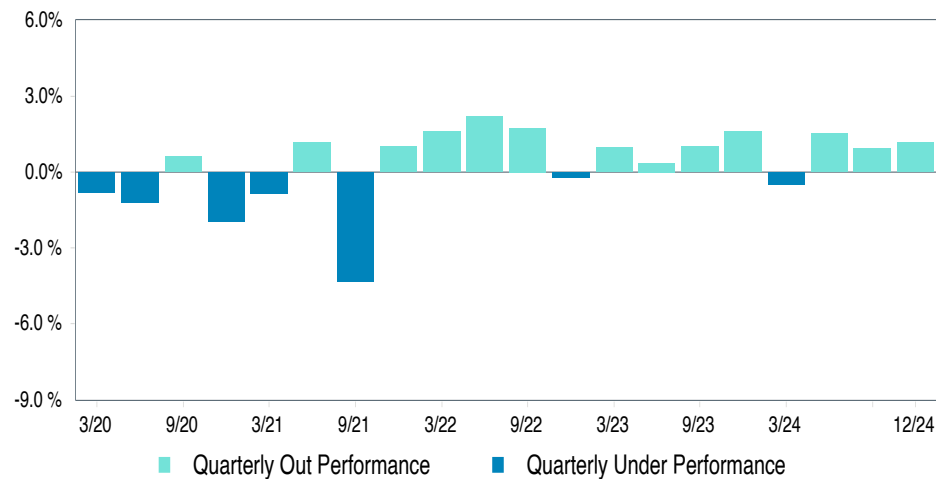
December 31, 2024 : \$1,171,757,626



## Return Summary



## Quarterly Excess Performance



## Ratio of Cumulative Wealth - 10 Years



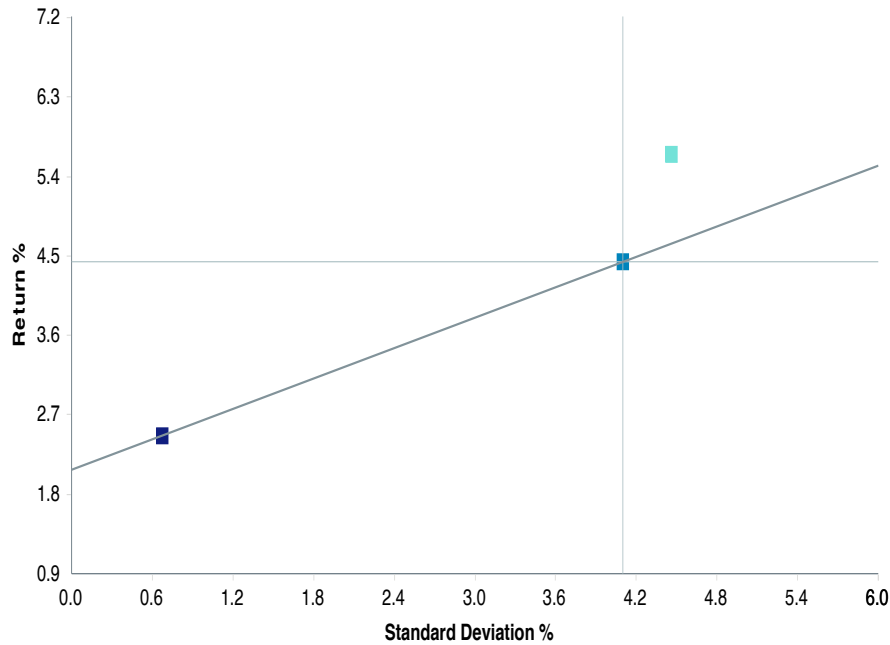
Note: April 1, 2004 represents the inception of the Global Equity Custom Benchmark as the primary performance objective for the Global Equity portfolio.



# Risk Profile Opportunistic/Alternatives

As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- Opportunistic/Alternatives
- Custom Alternatives Benchmark
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



- Opportunistic/Alternatives
- Custom Alternatives Benchmark

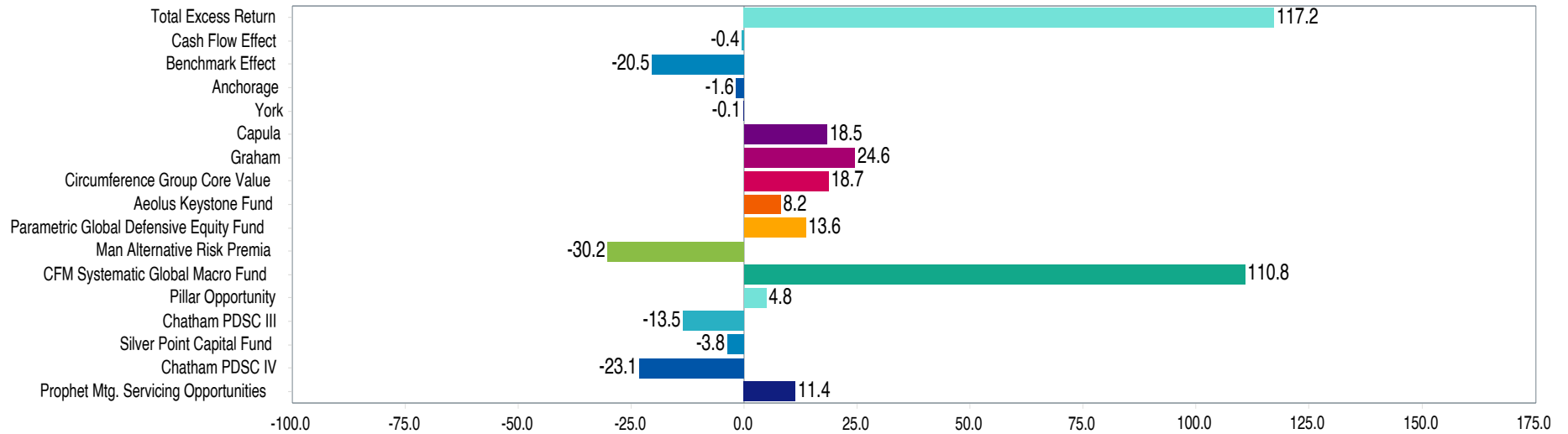
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
<b>Opportunistic/Alternatives</b>	<b>1.18</b>	<b>2.98</b>	<b>0.40</b>	<b>0.58</b>	<b>0.72</b>	<b>1.97</b>	<b>0.83</b>	<b>5.65</b>	<b>4.46</b>	<b>0.76</b>
Custom Alternatives Benchmark	0.00	0.00	-	1.00	0.48	0.00	1.00	4.43	4.10	1.00
90 Day U.S. Treasury Bill	-1.99	4.16	-0.48	0.00	-	2.47	0.00	2.46	0.68	-0.01

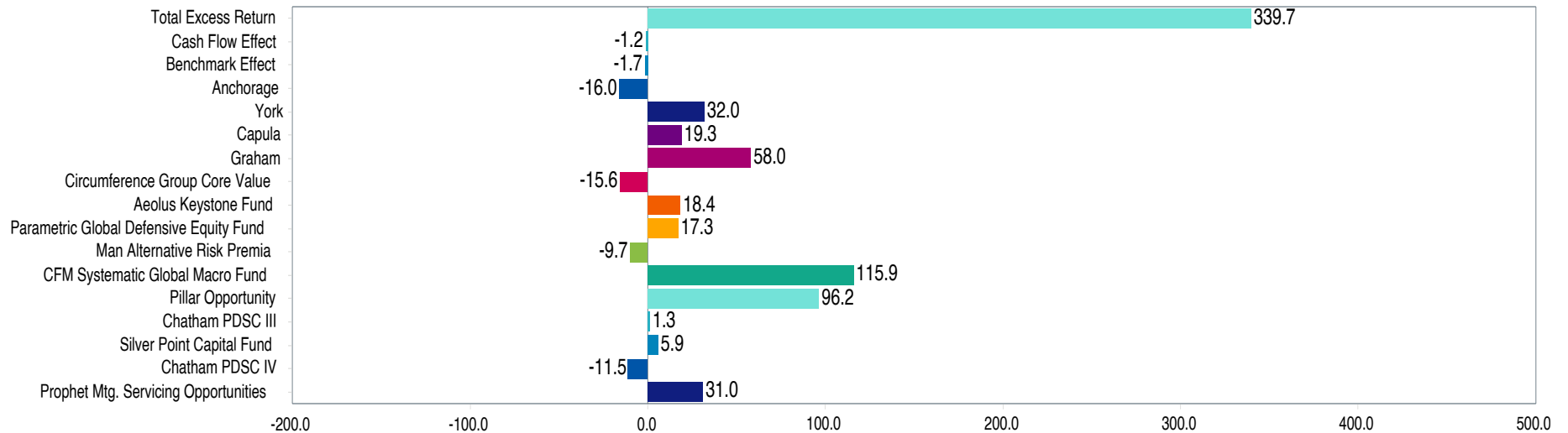
# Asset Class Attribution

As of December 31, 2024

## 1 Quarter



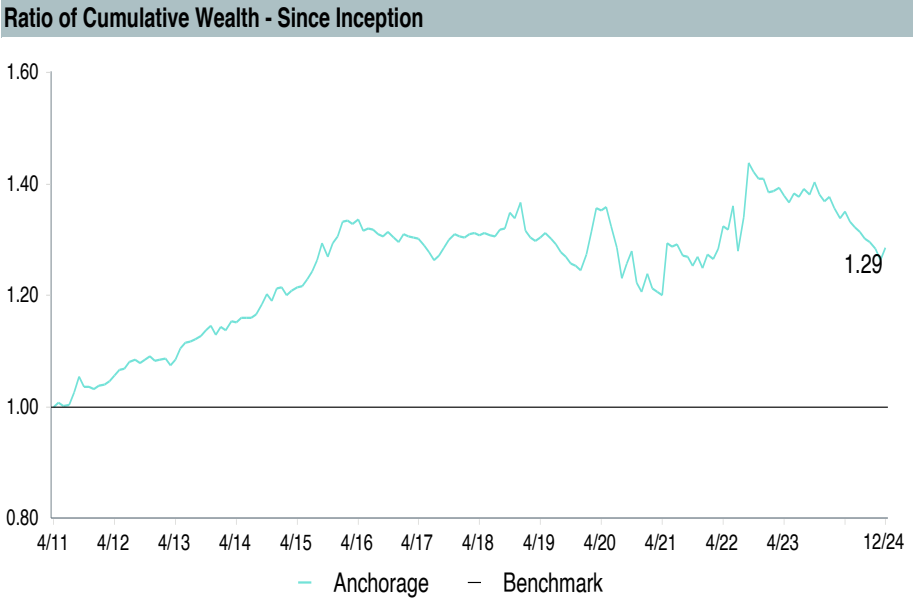
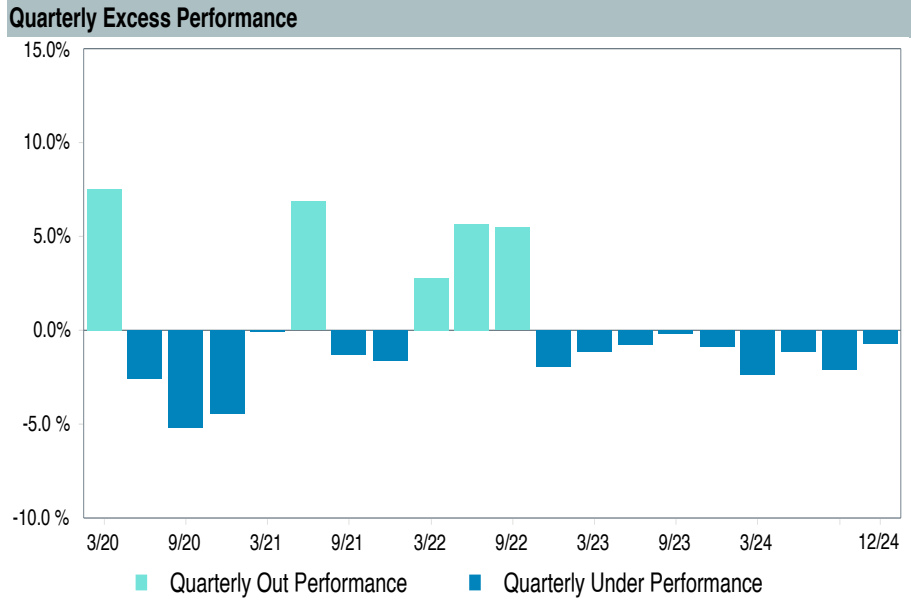
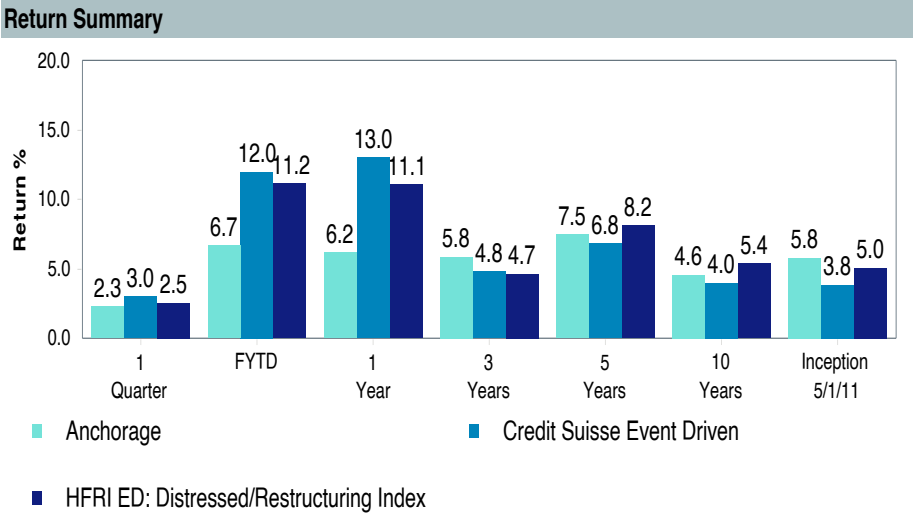
## 1 Year



# Manager Performance Summary Anchorage

As of December 31, 2024

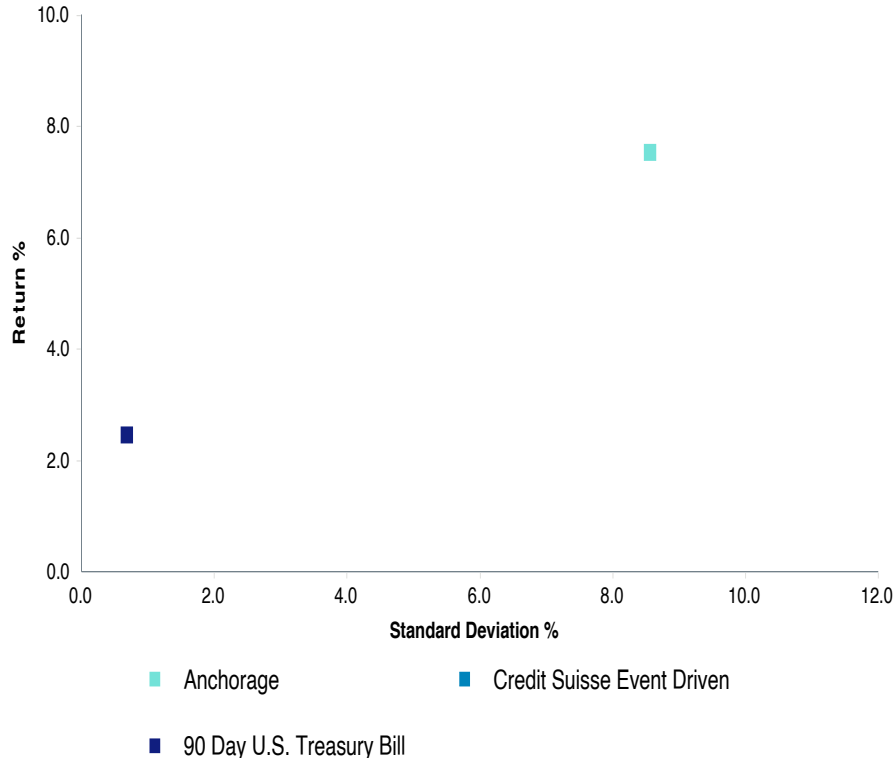
Account Information	
Account Name	Anchorage
Inception Date	05/01/2011
Account Structure	Hedge Fund
Asset Class	US Hedge Fund
Benchmark	Credit Suisse Event Driven
Peer Group	



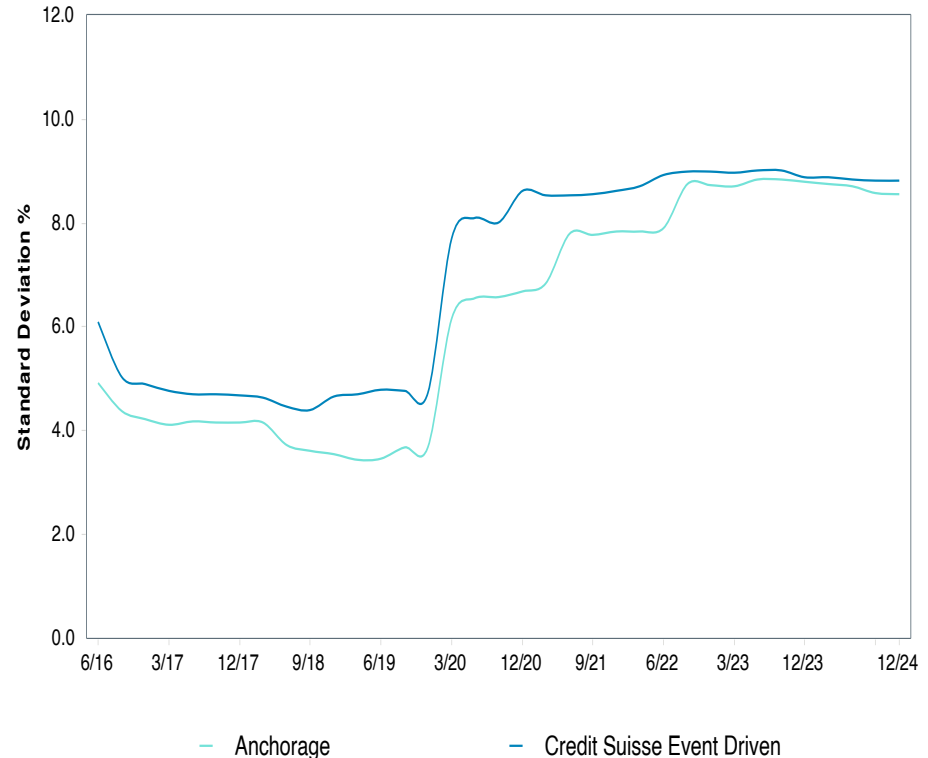
# Risk Profile Anchorage

As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



**Standard Deviation  
Rolling 5 Years**



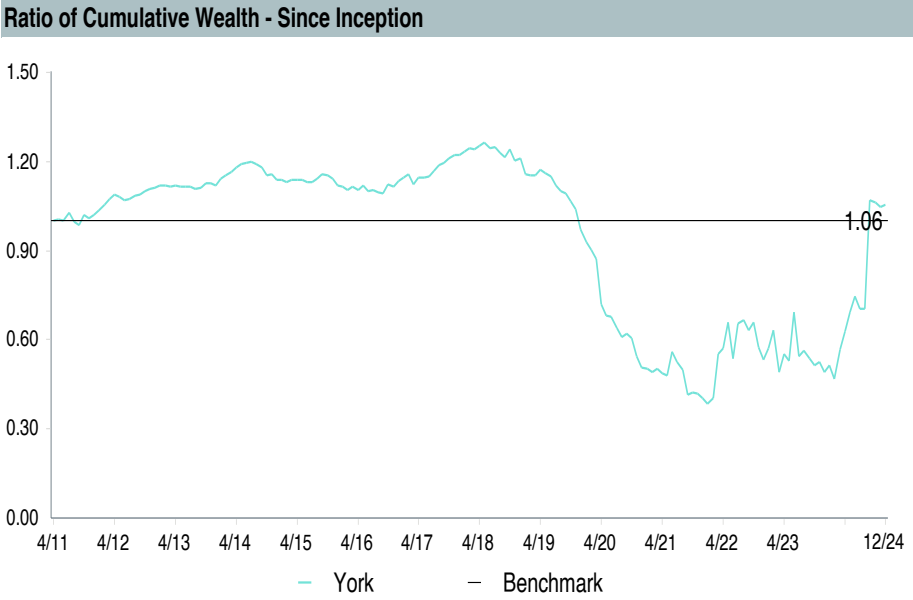
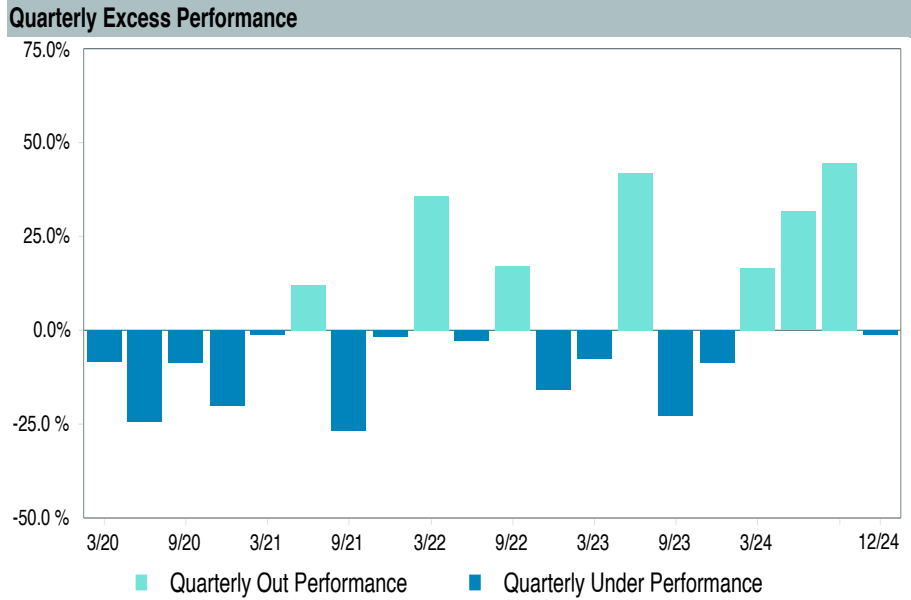
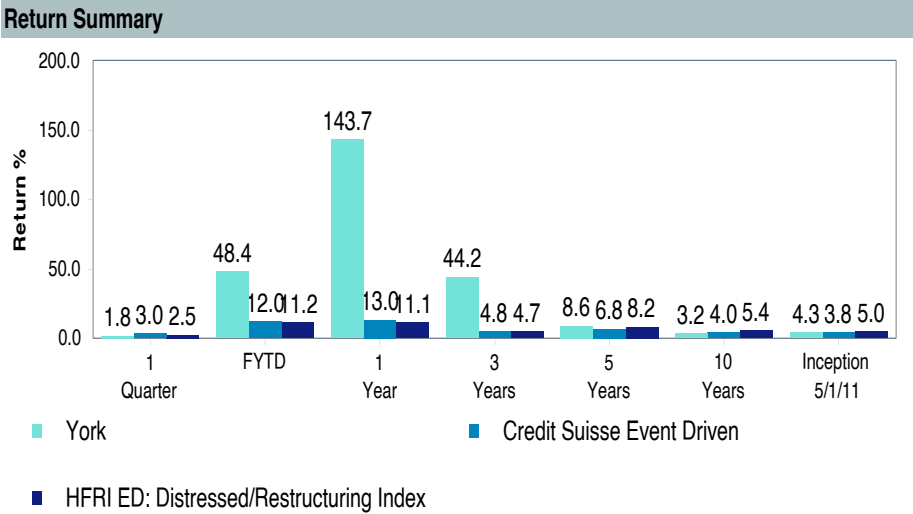
5 Years Historical Statistics										
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Anchorage	-	-	-	-	0.60	-	-	7.53	8.56	-
Credit Suisse Event Driven	-	-	-	-	0.51	-	-	6.82	8.82	-
90 Day U.S. Treasury Bill	-	-	-	-	-	-	-	2.46	0.68	-



# Manager Performance Summary York

As of December 31, 2024

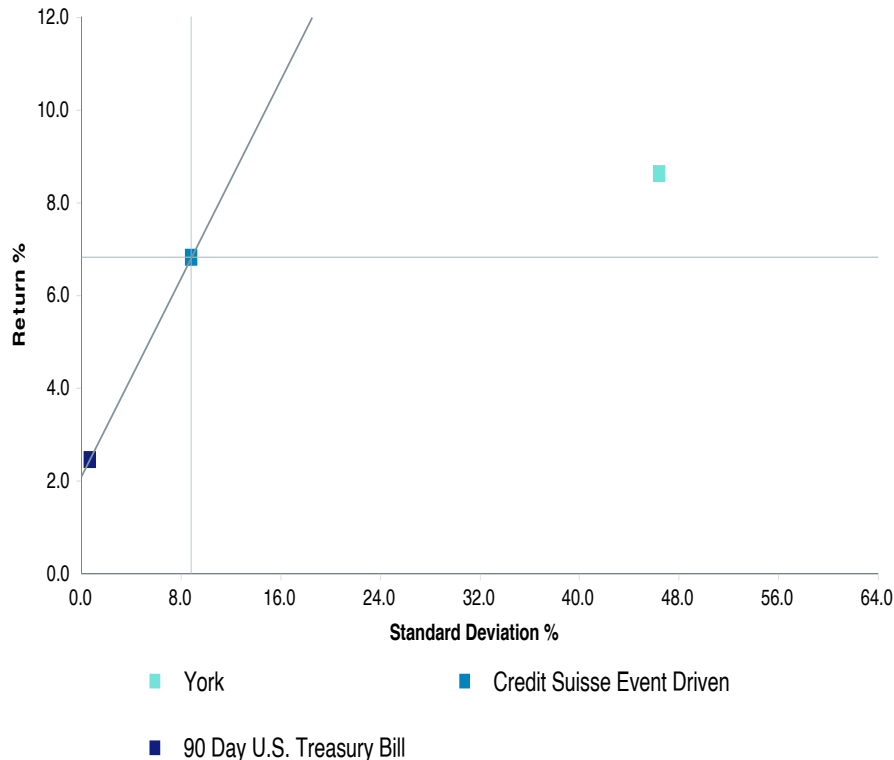
Account Information	
Account Name	York
Inception Date	05/01/2011
Account Structure	Hedge Fund
Asset Class	US Hedge Fund
Benchmark	Credit Suisse Event Driven
Peer Group	



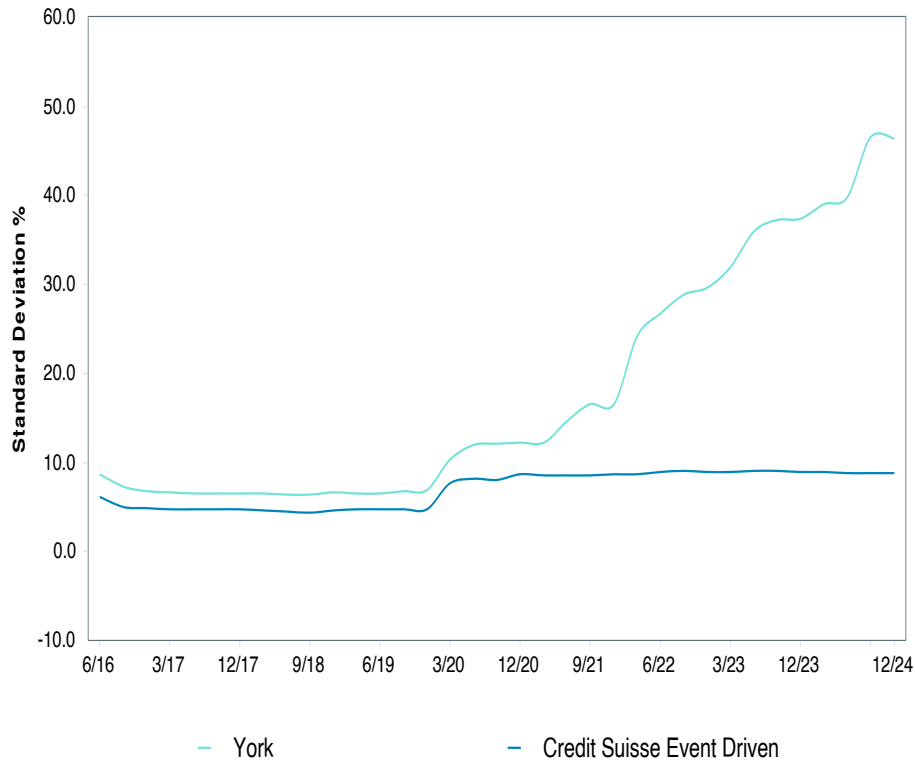
# Risk Profile York

As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



**Standard Deviation  
Rolling 5 Years**



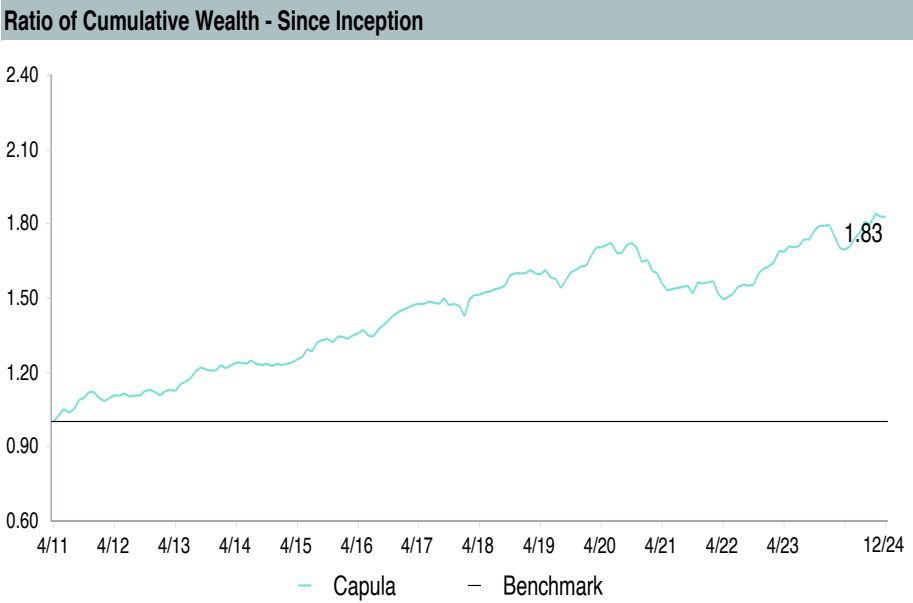
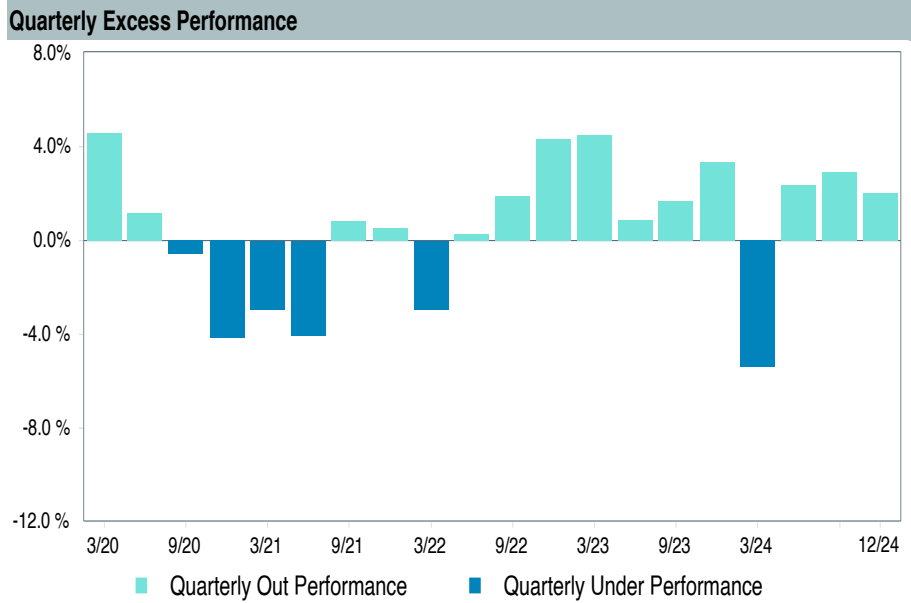
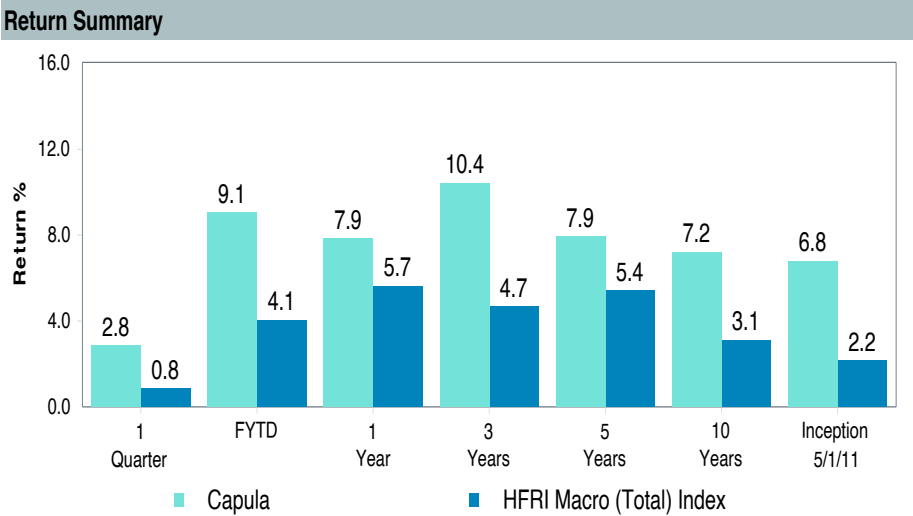
**5 Years Historical Statistics**

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
York	10.86	45.39	0.24	0.04	0.33	10.57	1.11	8.62	46.42	0.21
Credit Suisse Event Driven	0.00	0.00	-	1.00	0.51	0.00	1.00	6.82	8.82	1.00
90 Day U.S. Treasury Bill	-4.58	8.91	-0.51	0.01	-	2.51	-0.01	2.46	0.68	-0.08

# Manager Performance Summary Capula

As of December 31, 2024

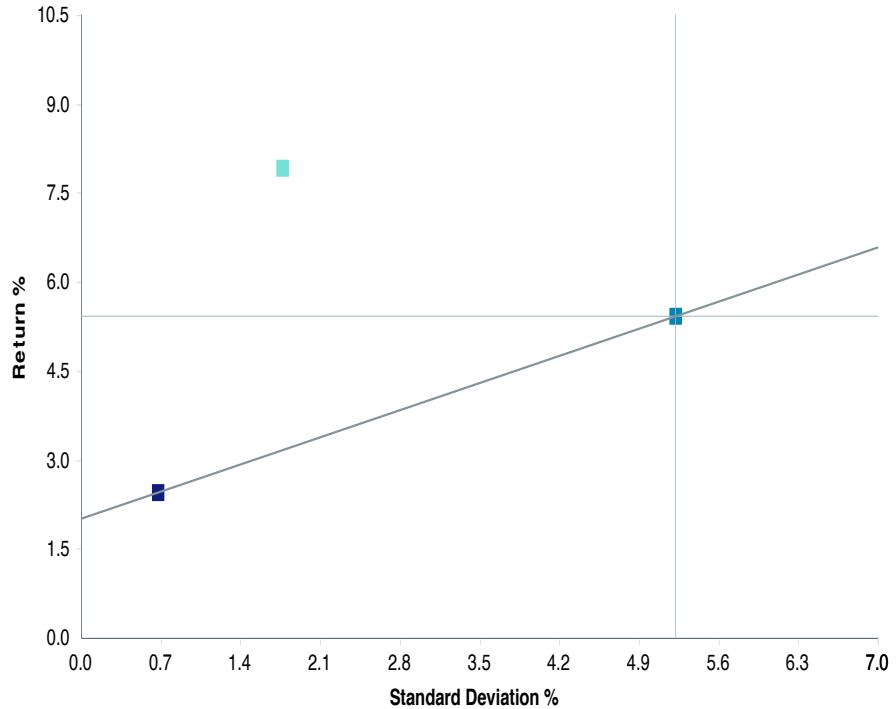
Account Information	
Account Name	Capula
Inception Date	05/01/2011
Account Structure	Hedge Fund
Asset Class	US Hedge Fund
Benchmark	HFRI Macro (Total) Index
Peer Group	



# Risk Profile Capula

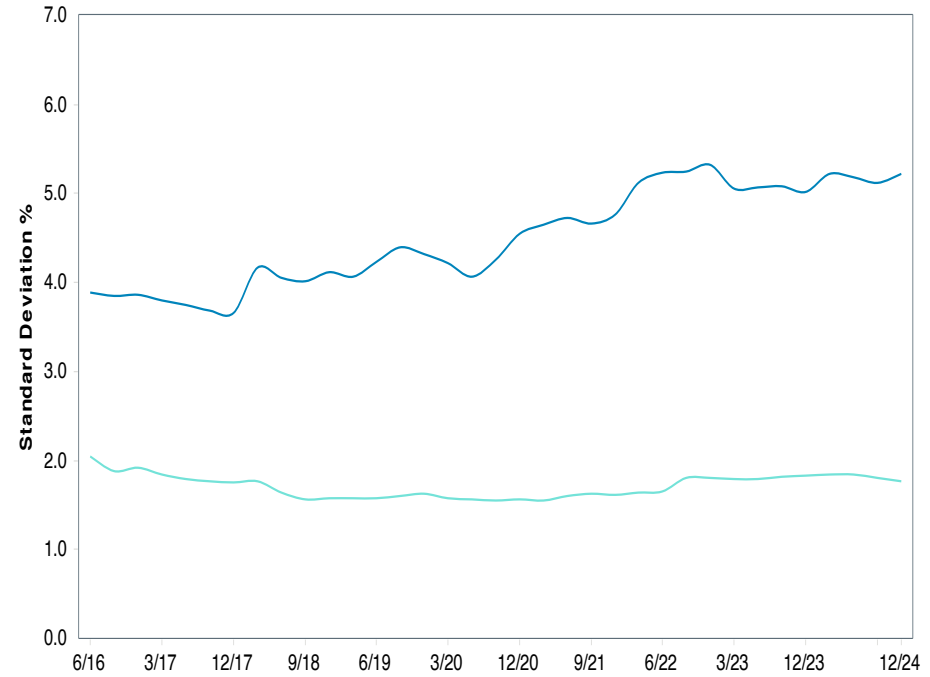
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



■ Capula      ■ HFRI Macro (Total) Index      ■ 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 5 Years**



— Capula      — HFRI Macro (Total) Index

**5 Years Historical Statistics**

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Capula	2.23	5.60	0.40	0.00	3.09	8.04	-0.02	7.92	1.77	-0.05
HFRI Macro (Total) Index	0.00	0.00	-	1.00	0.55	0.00	1.00	5.43	5.22	1.00
90 Day U.S. Treasury Bill	-2.99	5.40	-0.55	0.04	-	2.61	-0.03	2.46	0.68	-0.20

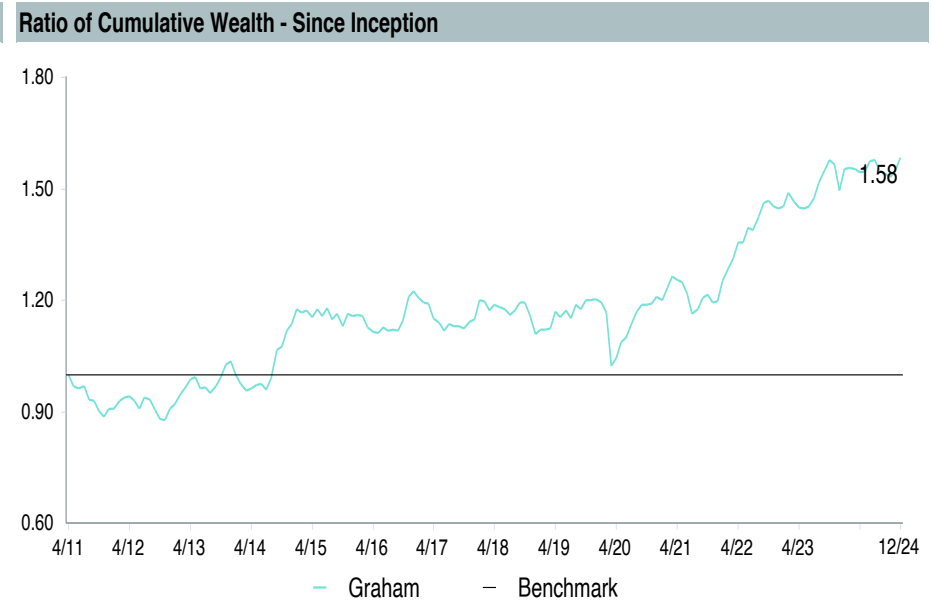
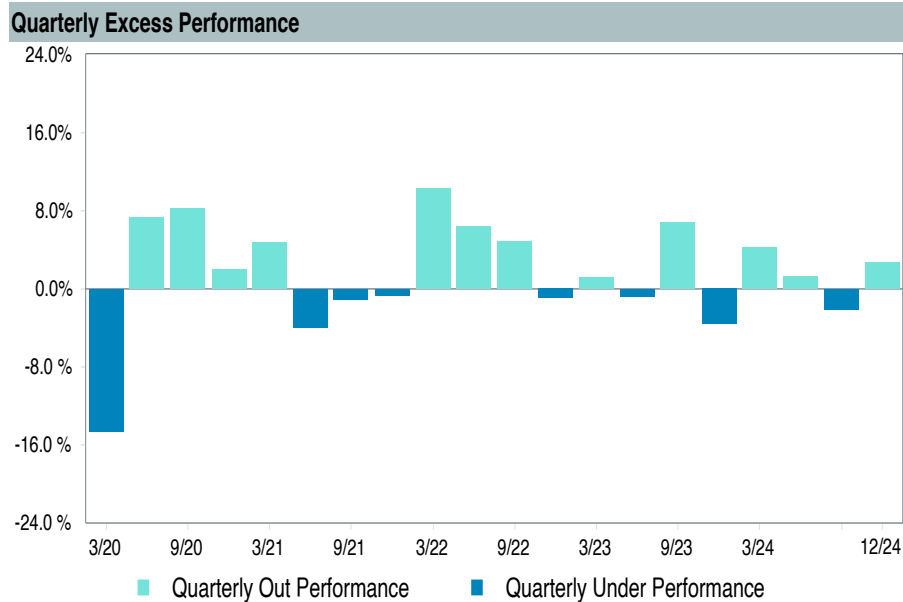
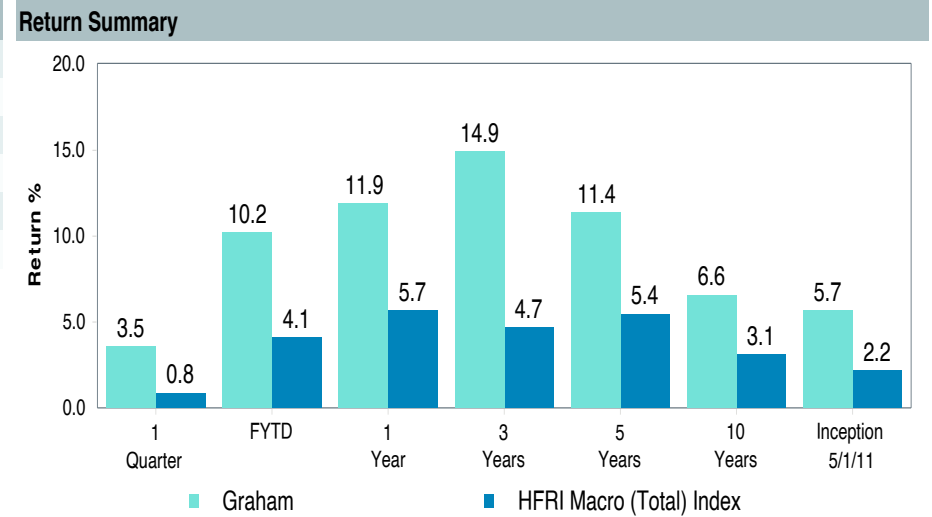




# Manager Performance Summary Graham

As of December 31, 2024

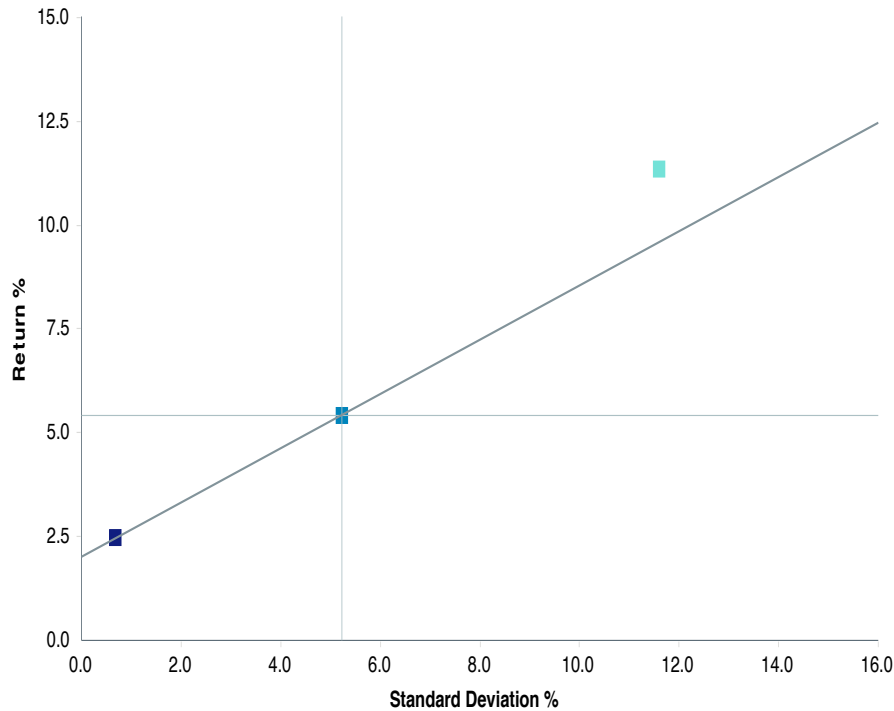
Account Information	
Account Name	Graham
Inception Date	05/01/2011
Account Structure	Hedge Fund
Asset Class	Hedge Fund
Benchmark	HFRI Macro (Total) Index
Peer Group	



# Risk Profile Graham

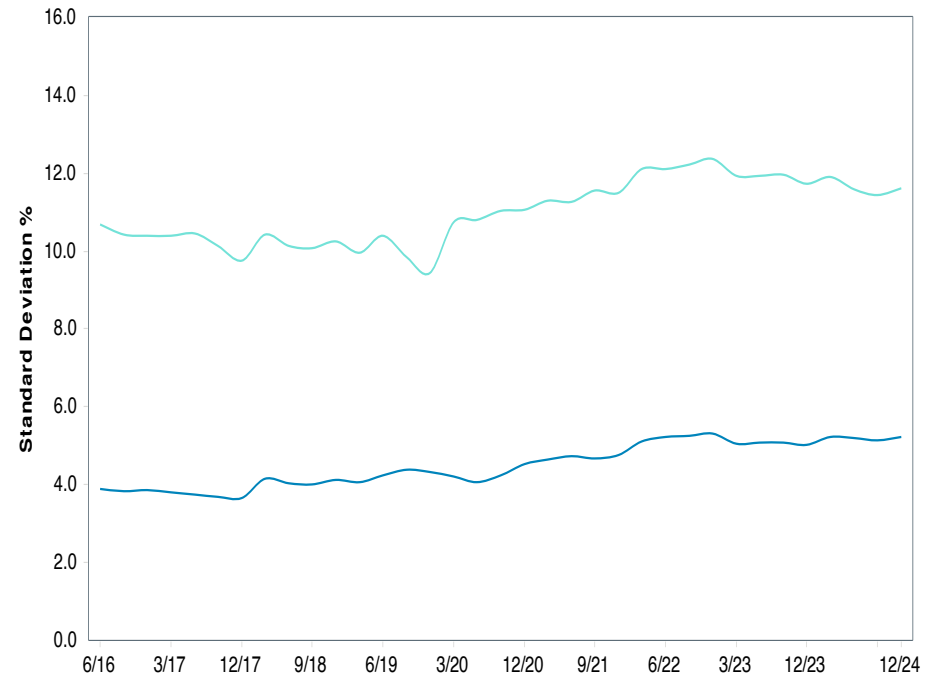
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



■ Graham      ■ HFRI Macro (Total) Index      ■ 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 5 Years



— Graham      — HFRI Macro (Total) Index

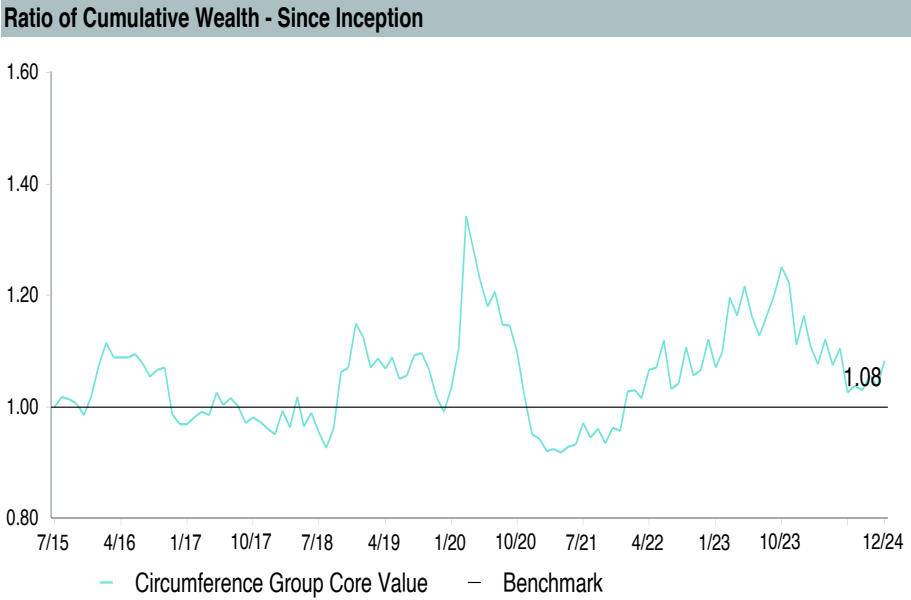
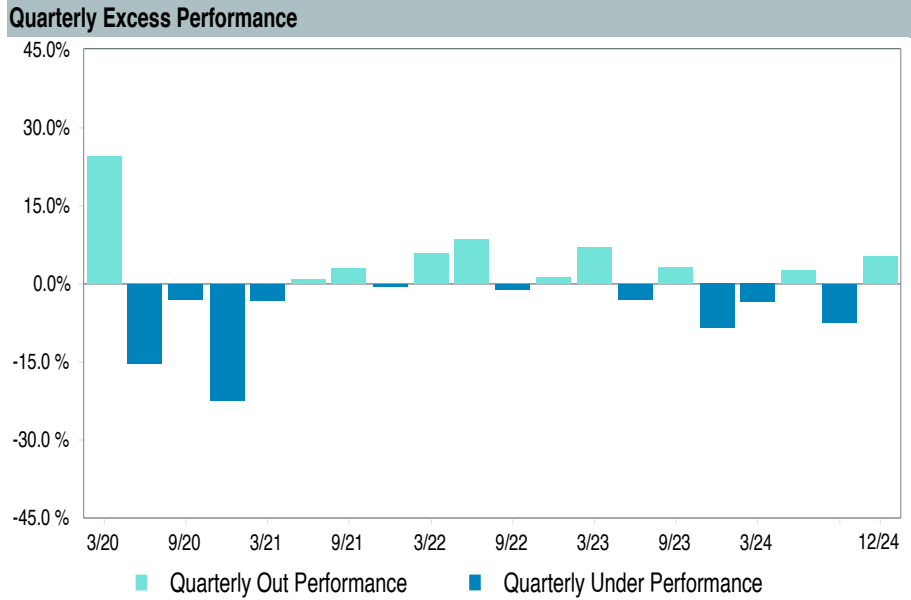
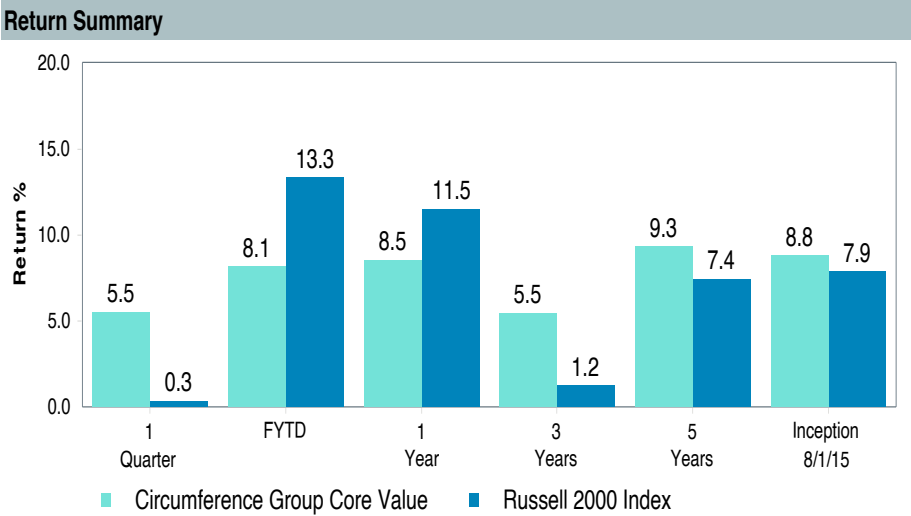
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Graham	6.05	8.84	0.68	0.48	0.77	3.20	1.53	11.36	11.60	0.69
HFRI Macro (Total) Index	0.00	0.00	-	1.00	0.55	0.00	1.00	5.43	5.22	1.00
90 Day U.S. Treasury Bill	-2.99	5.40	-0.55	0.04	-	2.61	-0.03	2.46	0.68	-0.20

# Manager Performance Summary Circumference Group Core Value

As of December 31, 2024

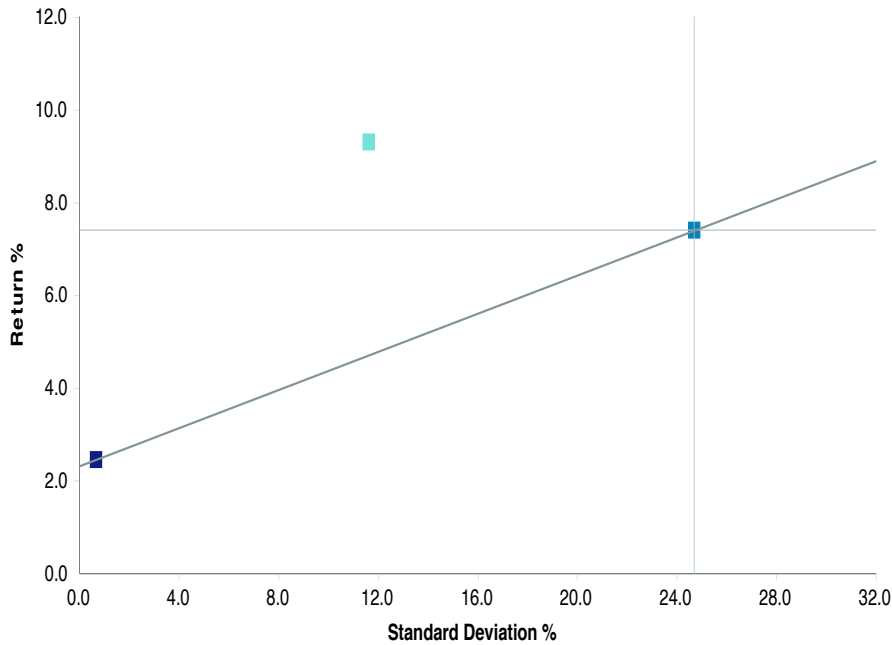
Account Information	
Account Name	Circumference Group Core Value
Inception Date	08/31/2015
Account Structure	Hedge Fund
Asset Class	US Hedge Fund
Benchmark	Russell 2000 Index
Peer Group	



# Risk Profile Circumference Group Core Value

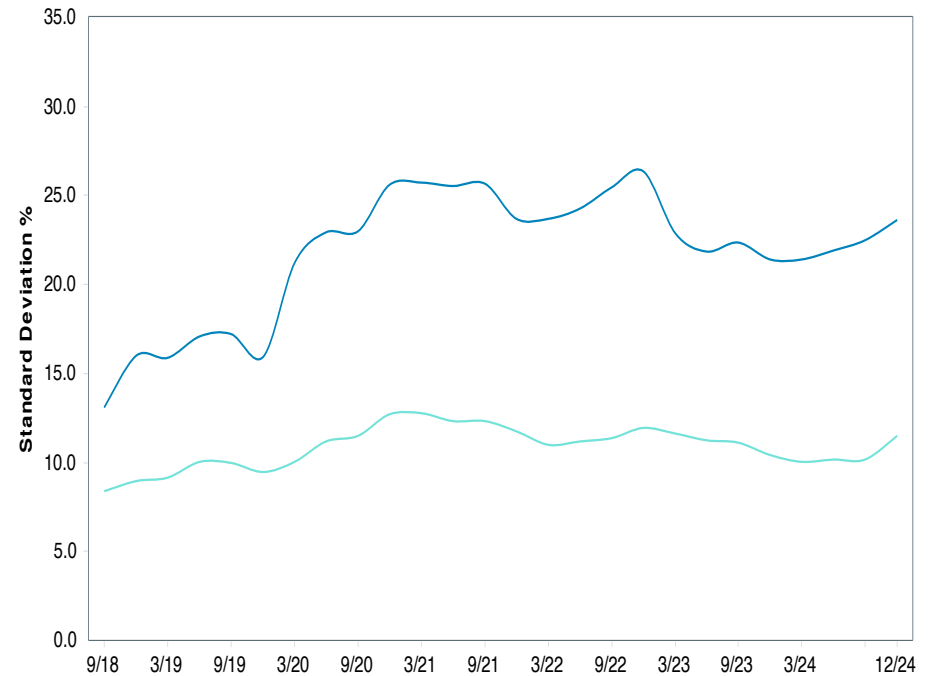
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
5 Years



- Circumference Group Core Value
- Russell 2000 Index
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 3 Years



- Circumference Group Core Value
- Russell 2000 Index

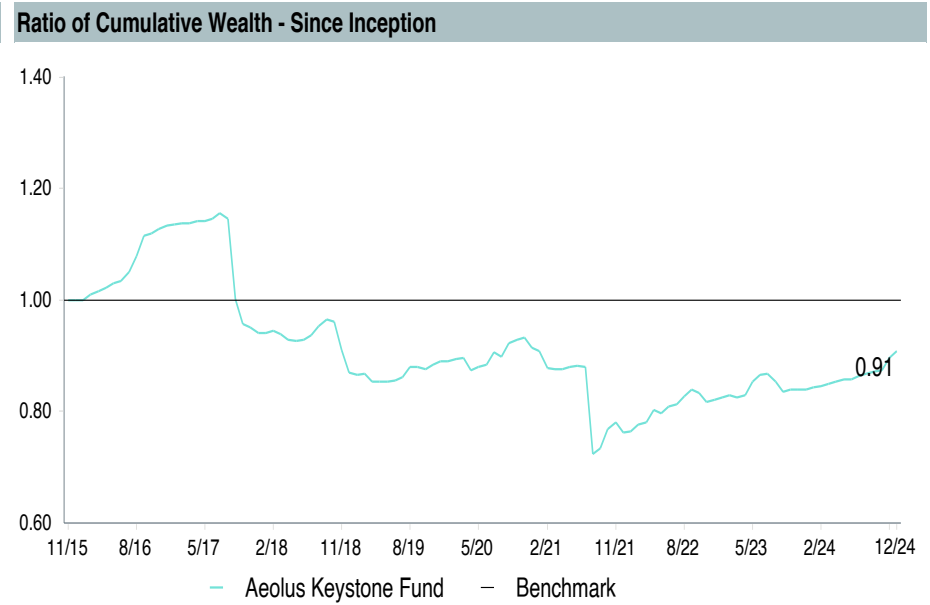
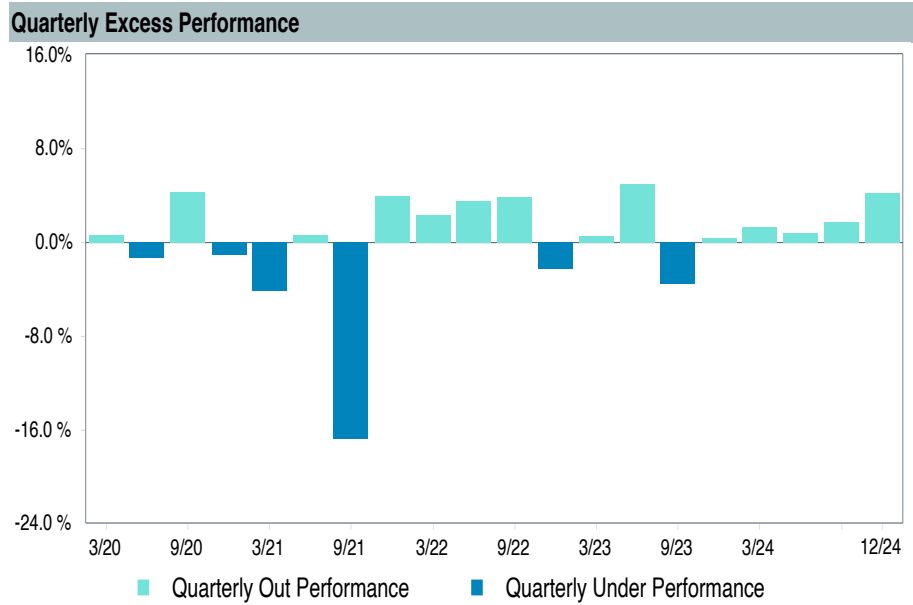
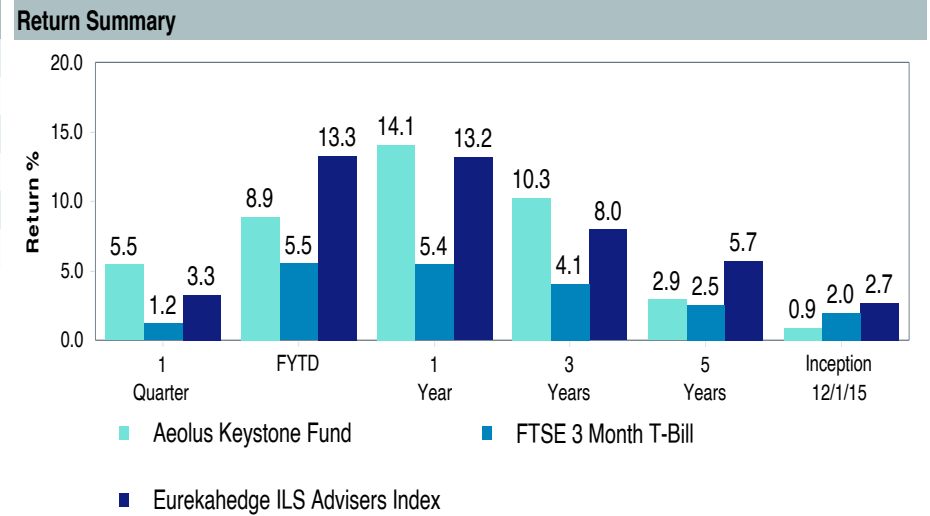
5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Circumference Group Core Value	-0.60	16.72	-0.04	0.66	0.61	5.85	0.38	9.31	11.63	0.81
Russell 2000 Index	0.00	0.00	-	1.00	0.31	0.00	1.00	7.40	24.69	1.00
90 Day U.S. Treasury Bill	-7.75	24.75	-0.31	0.01	-	2.49	0.00	2.46	0.68	-0.08

# Manager Performance Summary Aeolus Keystone Fund

As of December 31, 2024

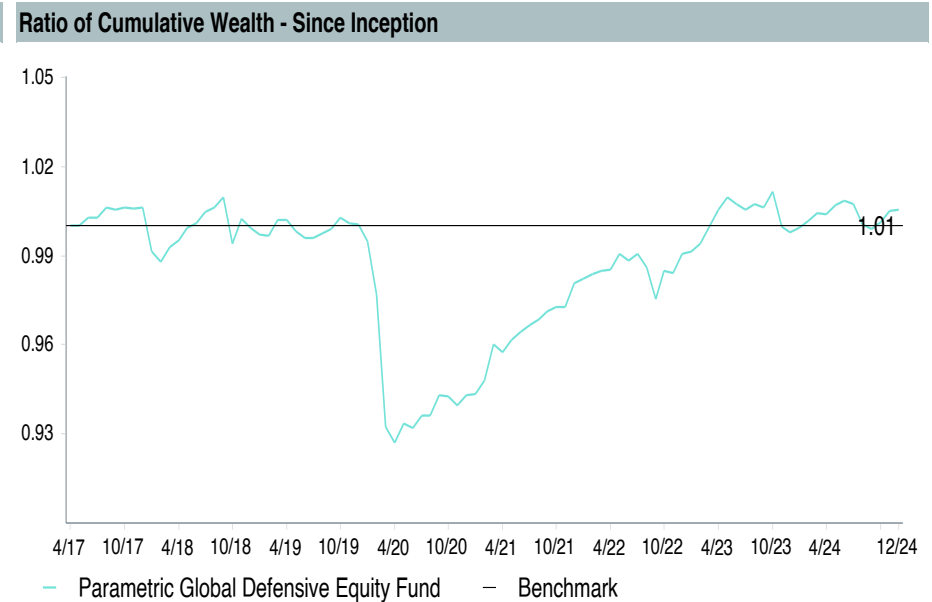
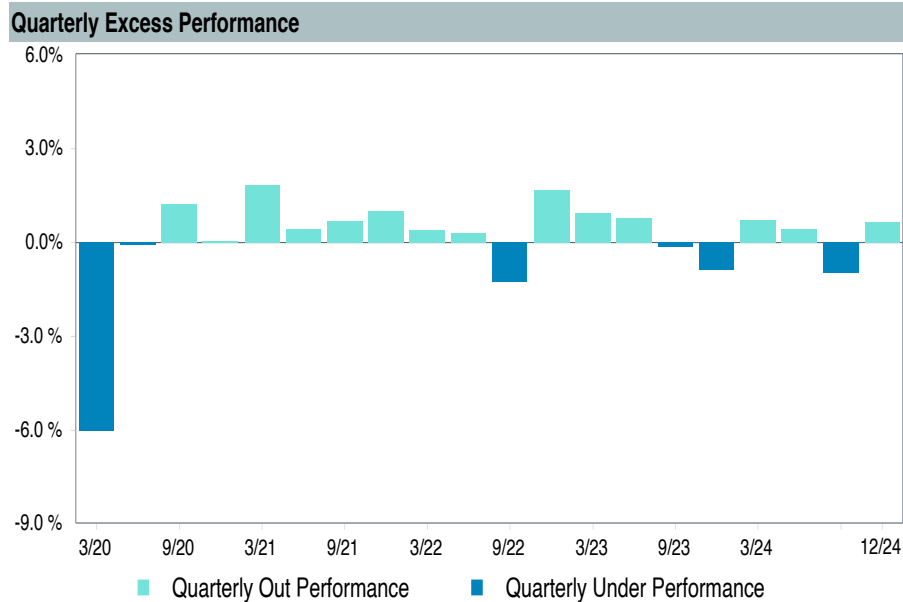
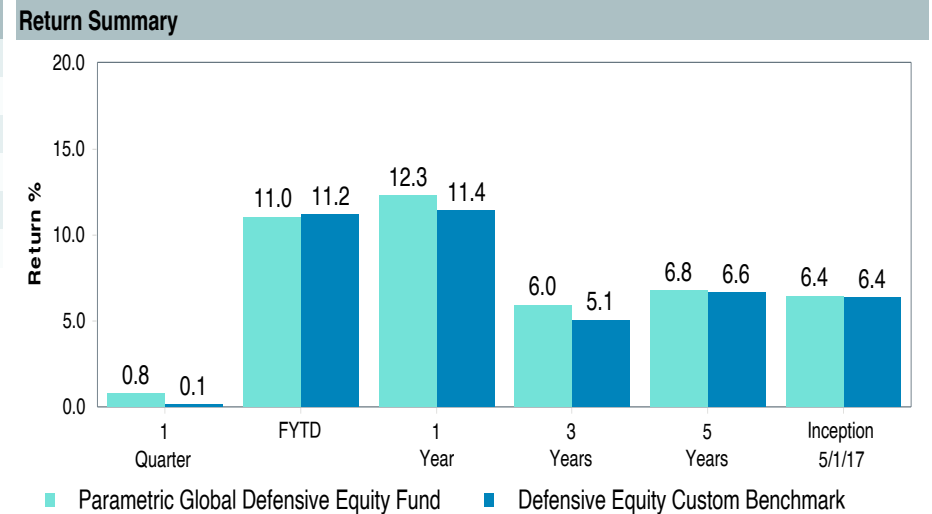
Account Information	
Account Name	Aeolus Keystone Fund
Inception Date	12/01/2015
Account Structure	Hedge Fund
Asset Class	Hedge Fund
Benchmark	FTSE 3 Month T-Bill
Peer Group	



# Manager Performance Summary Parametric Global Defensive Equity

As of December 31, 2024

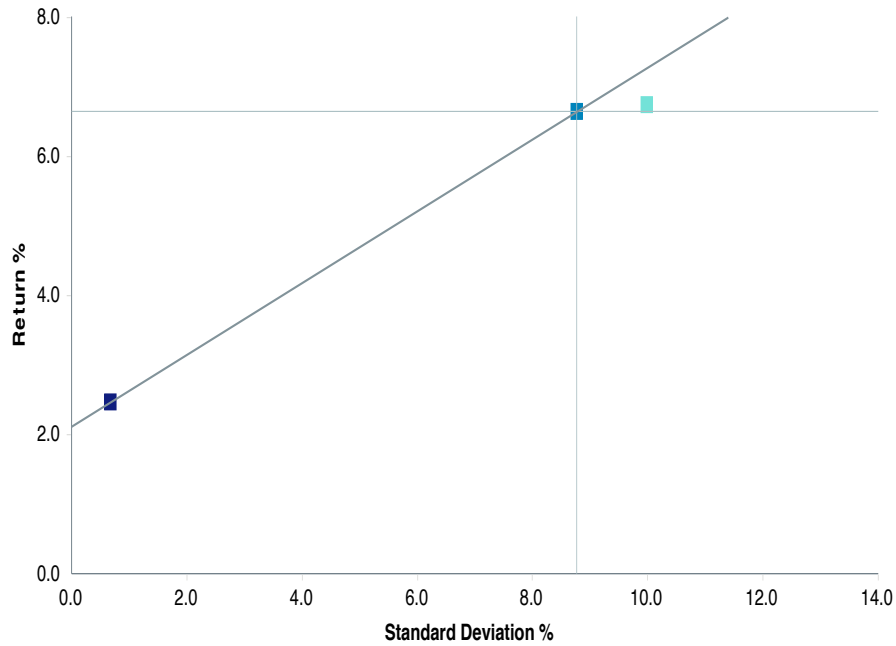
Account Information	
Account Name	Parametric Global Defensive Equity Fund
Inception Date	06/01/2017
Account Structure	Commingled Fund
Asset Class	Global Equity
Benchmark	Defensive Equity Custom Benchmark
Peer Group	



# Risk Profile Parametric Global Defensive Equity Fund

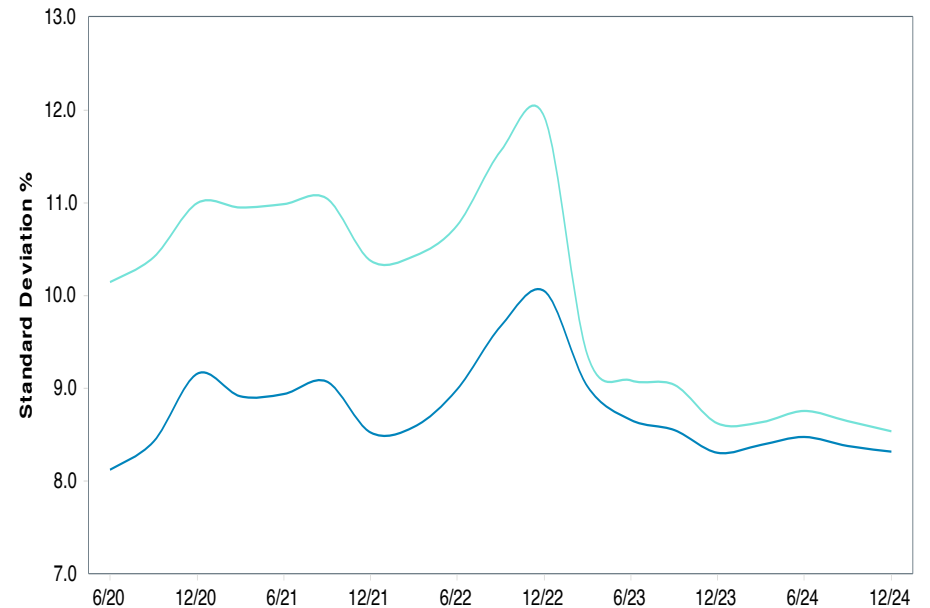
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
5 Years**



- Parametric Global Defensive Equity Fund
- Defensive Equity Custom Benchmark
- 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 3 Years**



- Parametric Global Defensive Equity Fund
- Defensive Equity Custom Benchmark

**5 Years Historical Statistics**

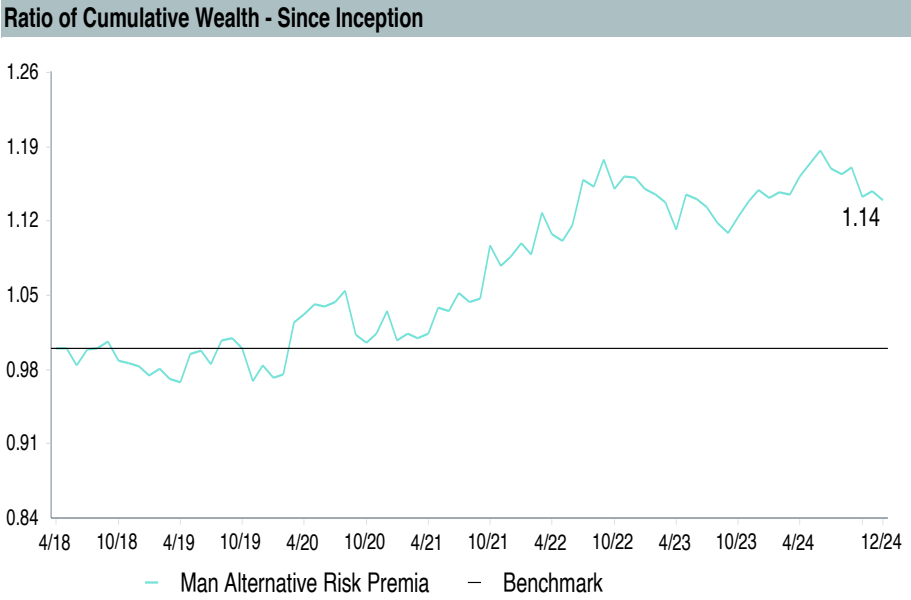
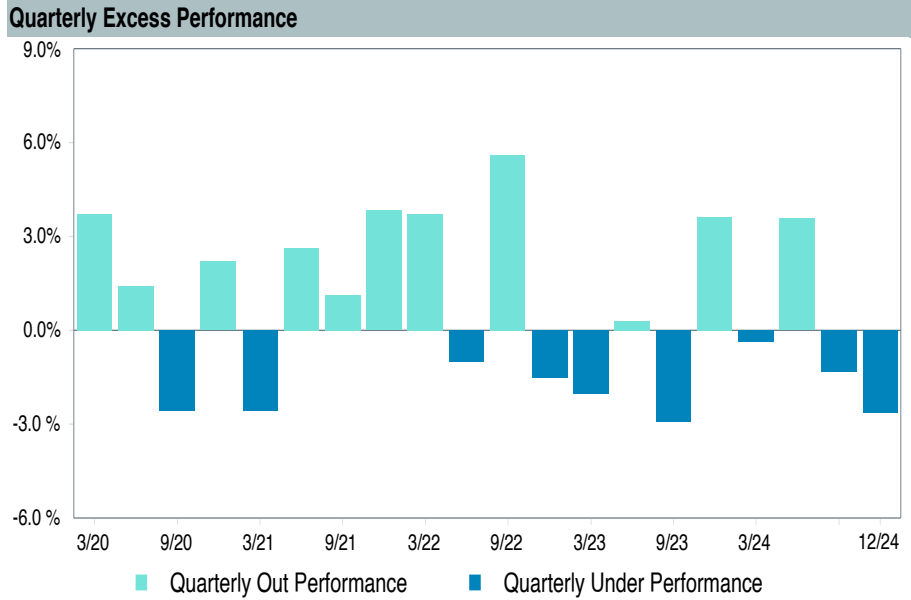
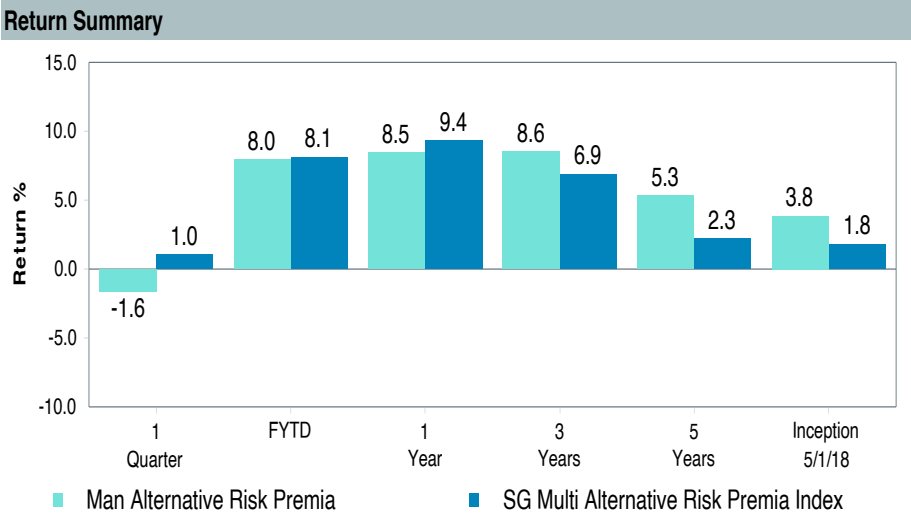
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Parametric Global Defensive Equity Fund	0.22	2.61	0.09	0.94	0.46	-0.48	1.10	6.75	9.97	0.97
Defensive Equity Custom Benchmark	0.00	0.00	-	1.00	0.50	0.00	1.00	6.64	8.77	1.00
90 Day U.S. Treasury Bill	-4.39	8.78	-0.50	0.00	-	2.45	0.00	2.46	0.68	0.02



# Manager Performance Summary Man Alternative Risk Premia

As of December 31, 2024

Account Information	
Account Name	Man Alternative Risk Premia
Inception Date	06/01/2018
Account Structure	Commingled Fund
Asset Class	US Equity
Benchmark	SG Multi Alternative Risk Premia Index
Peer Group	

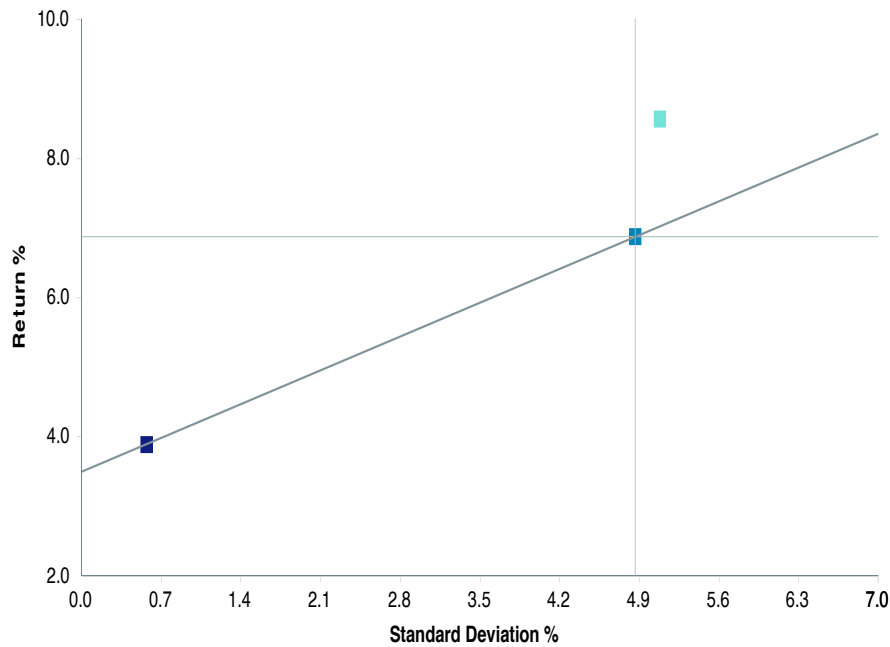




# Risk Profile Man Alternative Risk Premia

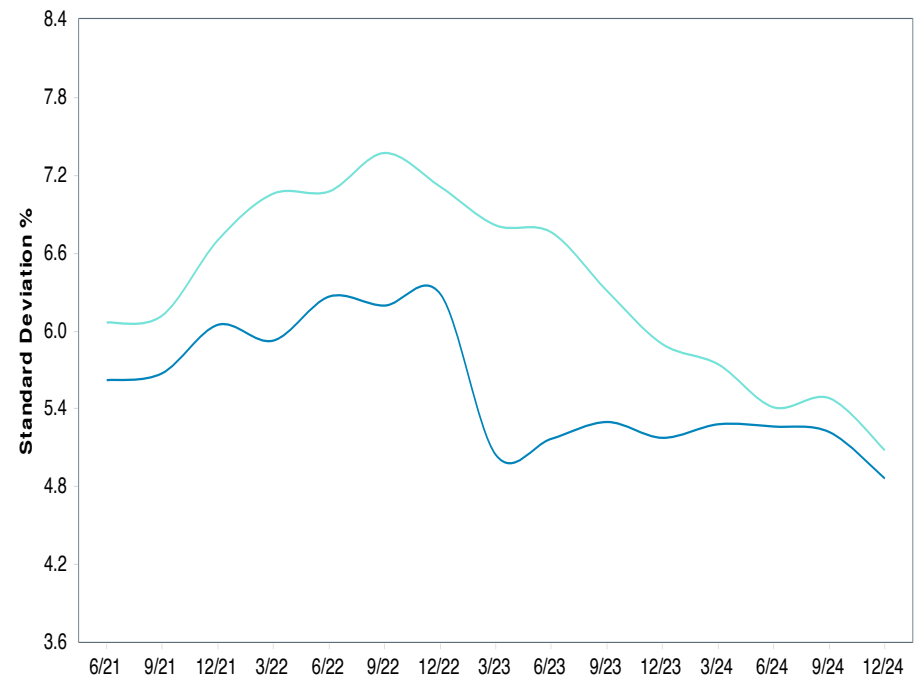
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
3 Years



- Man Alternative Risk Premia
- SG Multi Alternative Risk Premia Index
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 3 Years



- Man Alternative Risk Premia
- SG Multi Alternative Risk Premia Index

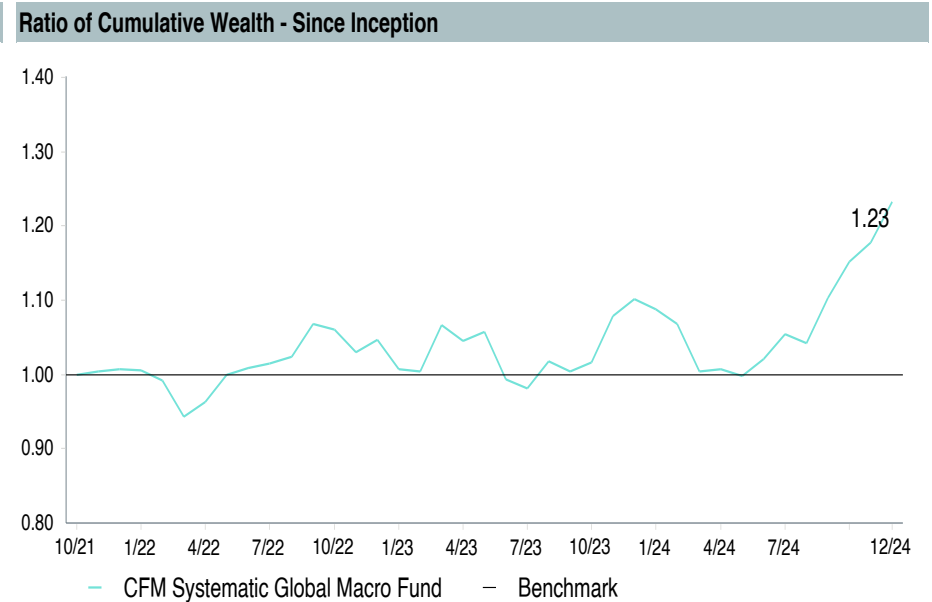
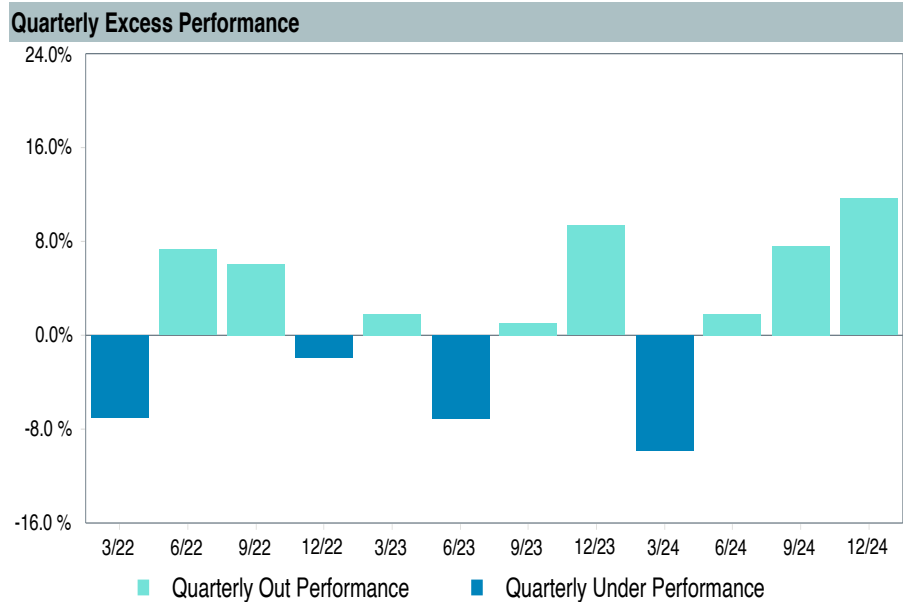
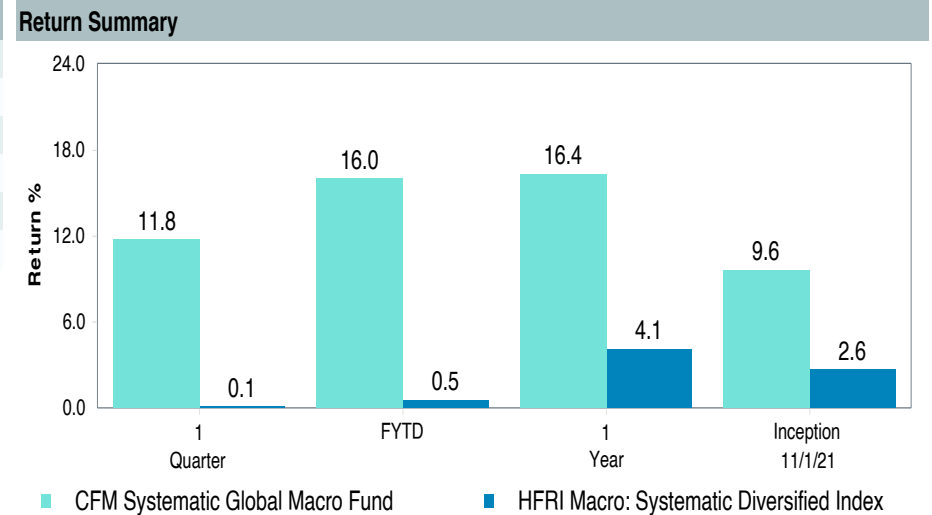
## 3 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Man Alternative Risk Premia	1.60	5.34	0.30	0.18	0.88	5.52	0.44	8.58	5.08	0.42
SG Multi Alternative Risk Premia Index	0.00	0.00	-	1.00	0.61	0.00	1.00	6.87	4.86	1.00
90 Day U.S. Treasury Bill	-2.95	4.86	-0.61	0.00	-	3.84	0.01	3.89	0.57	0.07

# Manager Performance Summary CFM Systematic Global Macro Fund

As of December 31, 2024

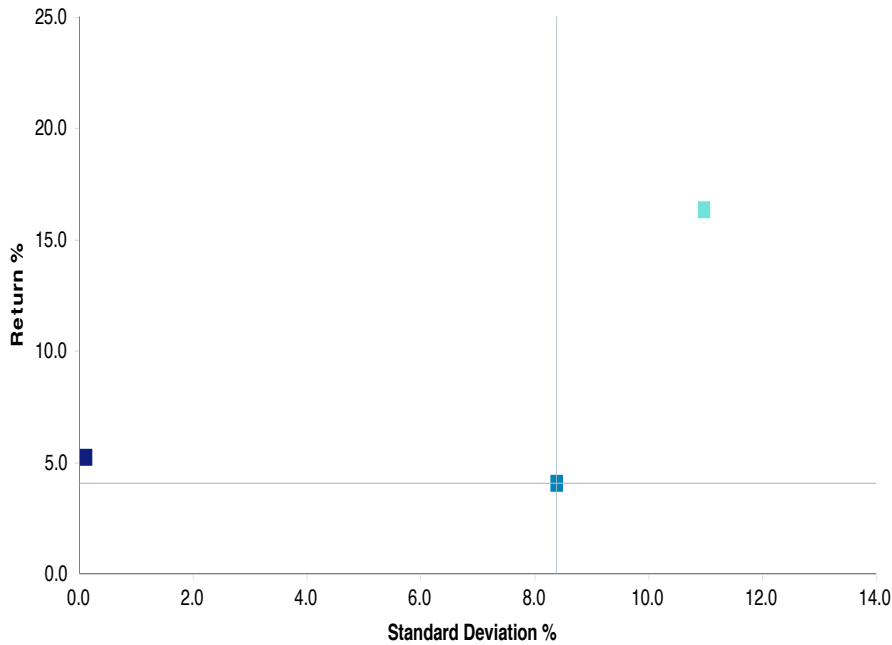
Account Information	
Account Name	CFM Systematic Global Macro Fund
Inception Date	11/01/2021
Account Structure	Commingled Fund
Asset Class	US Equity
Benchmark	HFRI Macro: Systematic Diversified Index
Peer Group	



# Risk Profile CFM Systematic Global Macro Fund

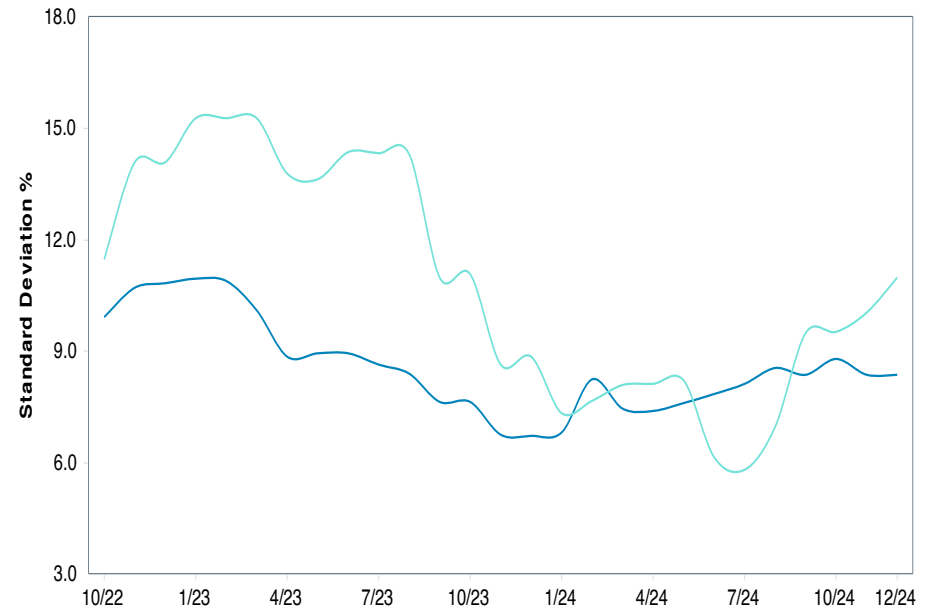
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
1 Year



- CFM Systematic Global Macro Fund
- HFRI Macro: Systematic Diversified Index
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 1 Year



- CFM Systematic Global Macro Fund
- HFRI Macro: Systematic Diversified Index

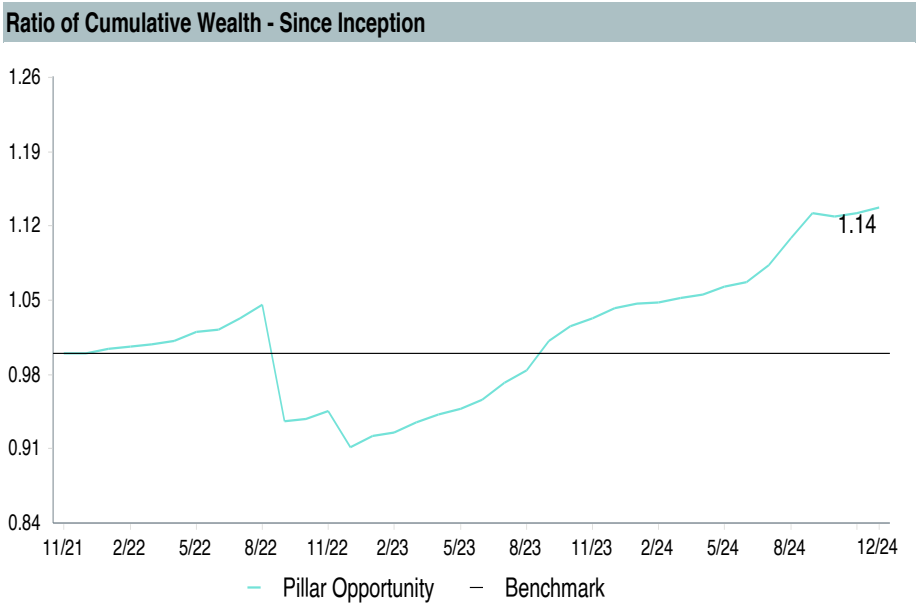
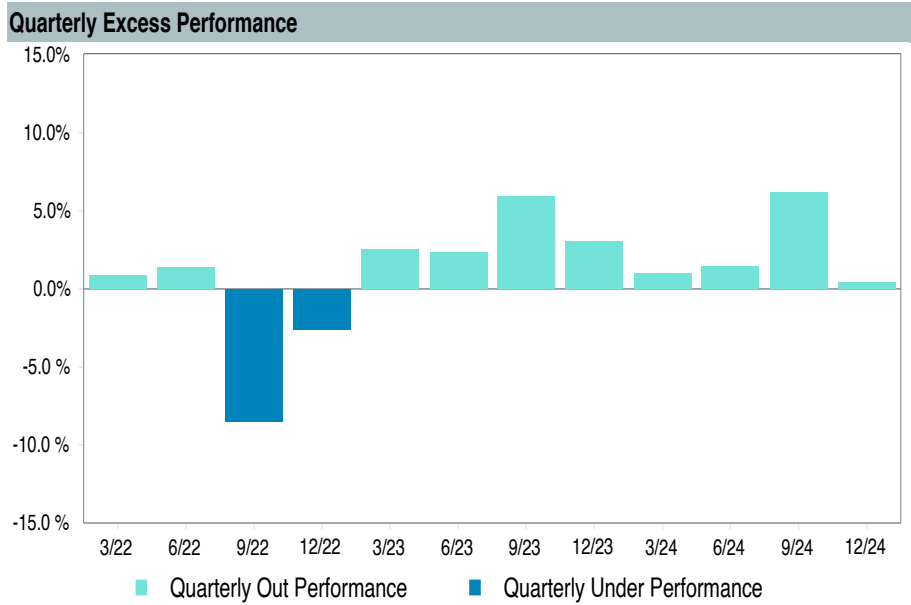
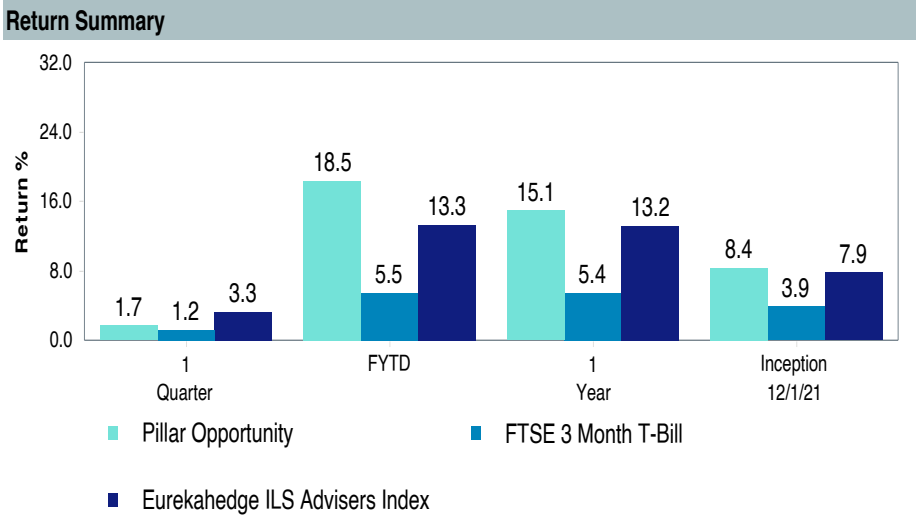
## 1 Year Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
CFM Systematic Global Macro Fund	11.46	11.98	0.96	0.07	0.97	15.32	0.33	16.36	10.97	0.26
HFRI Macro: Systematic Diversified Index	0.00	0.00	-	1.00	-0.09	0.00	1.00	4.09	8.38	1.00
90 Day U.S. Treasury Bill	0.80	8.40	0.09	0.03	-	5.26	0.00	5.25	0.11	-0.18

# Manager Performance Summary Pillar Opportunity

As of December 31, 2024

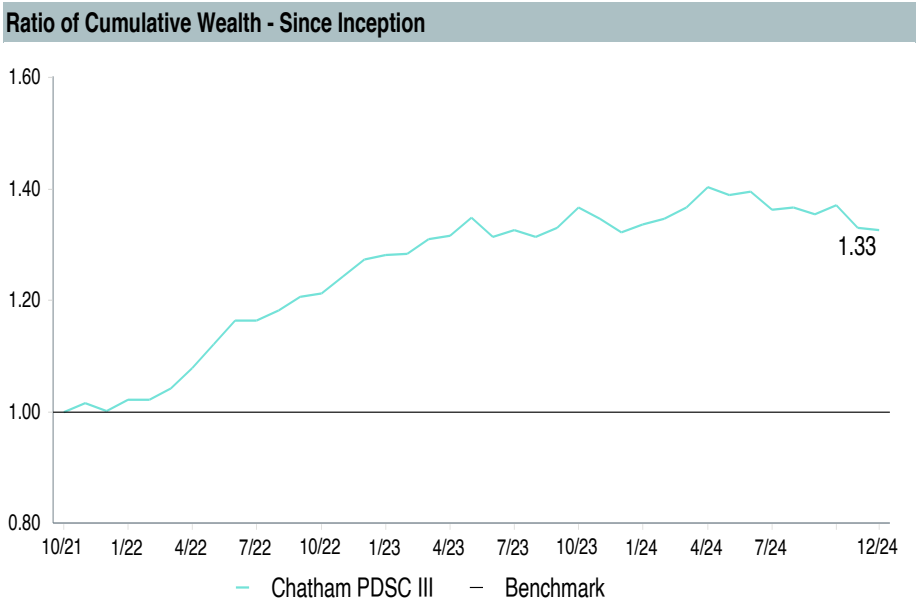
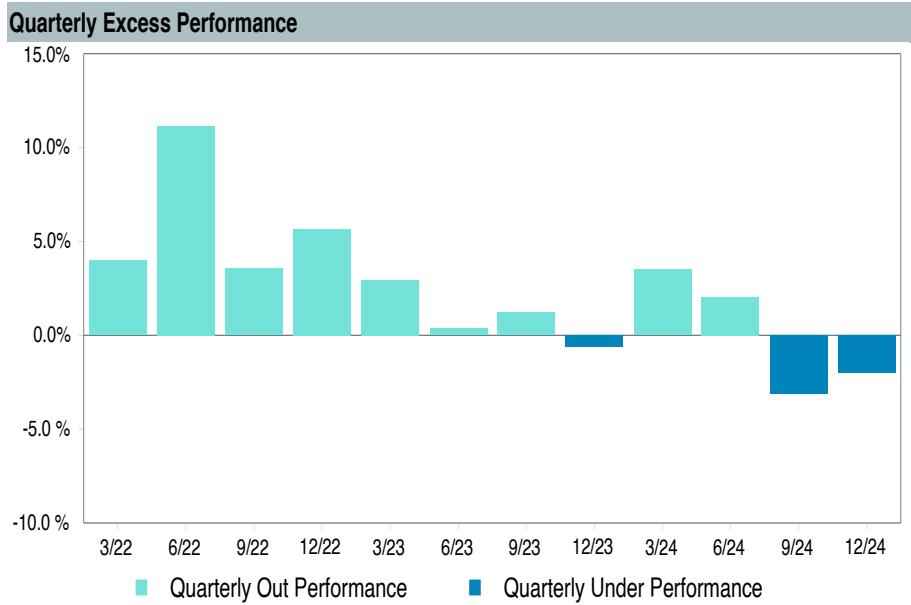
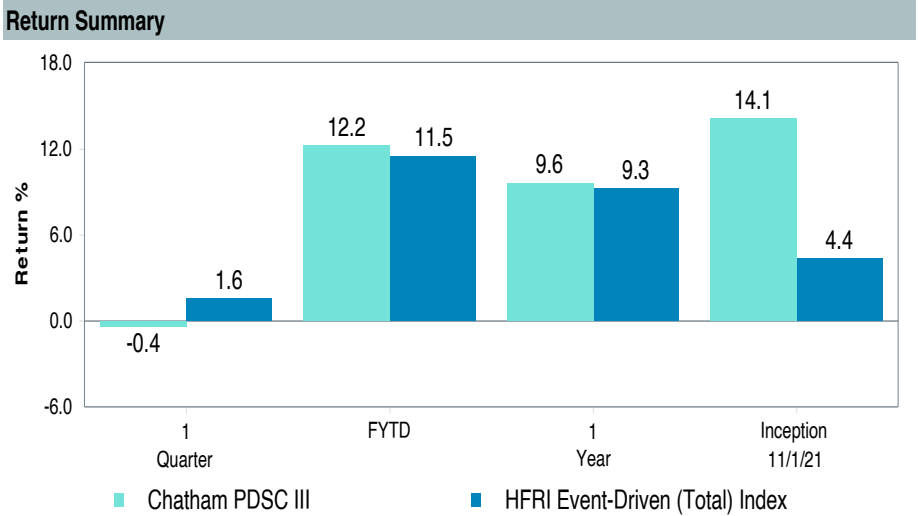
Account Information	
Account Name	Pillar Opportunity
Inception Date	12/01/2021
Account Structure	Commingled Fund
Asset Class	US Equity
Benchmark	FTSE 3 Month T-Bill
Peer Group	



# Manager Performance Summary Chatham PDSC III

As of December 31, 2024

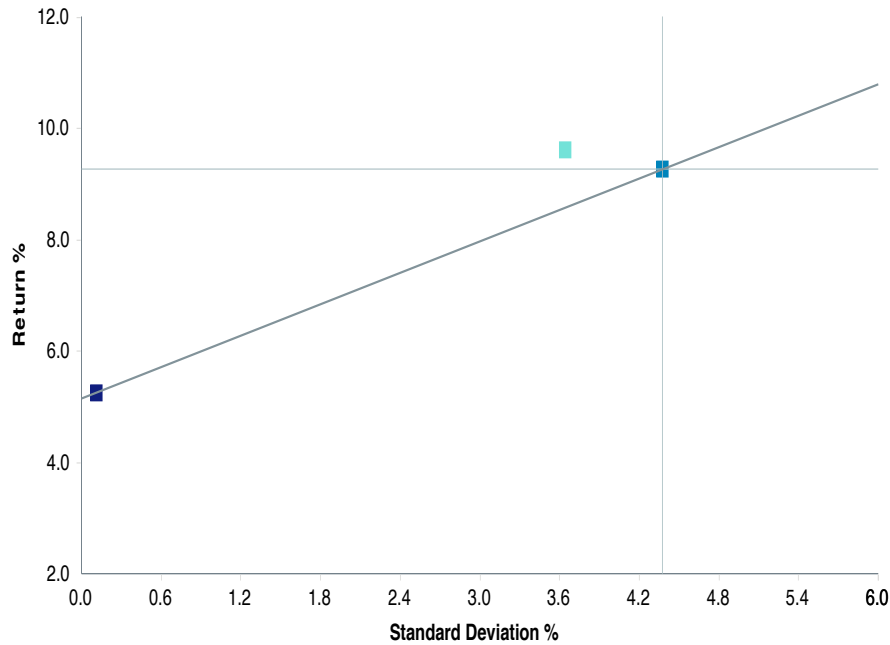
Account Information	
Account Name	Chatham PDSC III
Inception Date	11/01/2021
Account Structure	Separate Account
Asset Class	Hedge Fund
Benchmark	HFRI Event-Driven (Total) Index
Peer Group	



# Risk Profile Chatham PDSC III

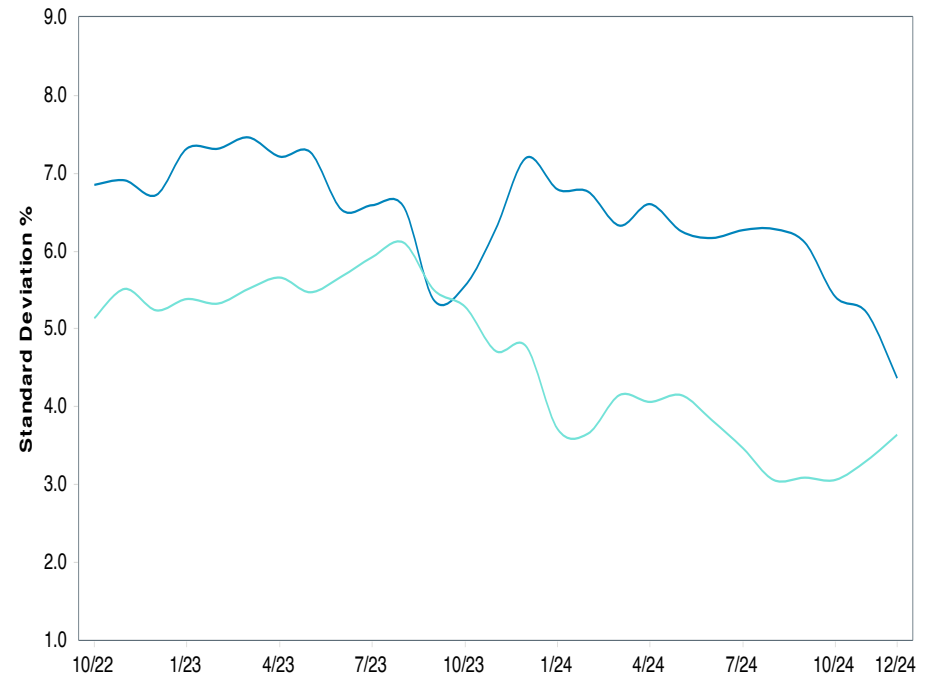
As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
1 Year



- Chatham PDSC III
- HFRI Event-Driven (Total) Index
- 90 Day U.S. Treasury Bill

Standard Deviation  
Rolling 1 Year



- Chatham PDSC III
- HFRI Event-Driven (Total) Index

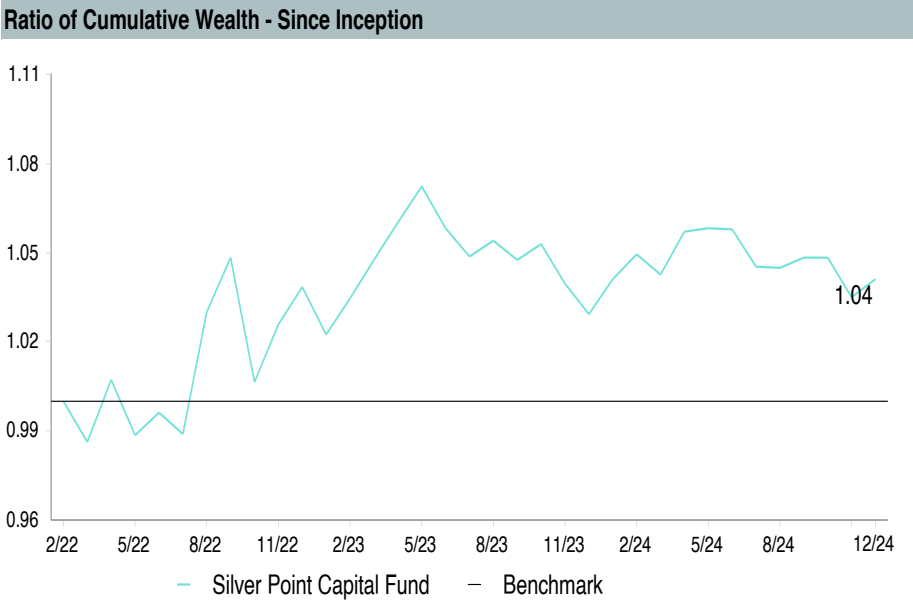
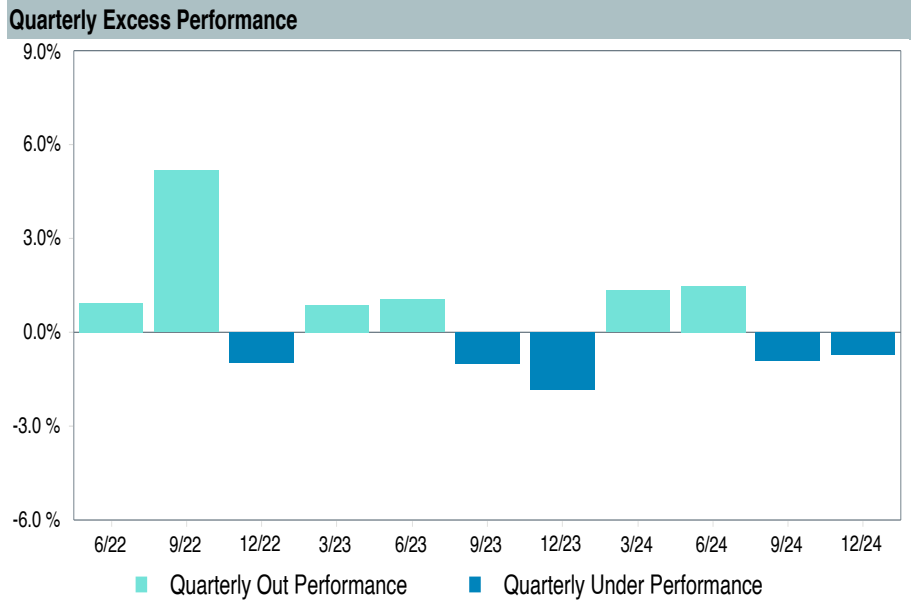
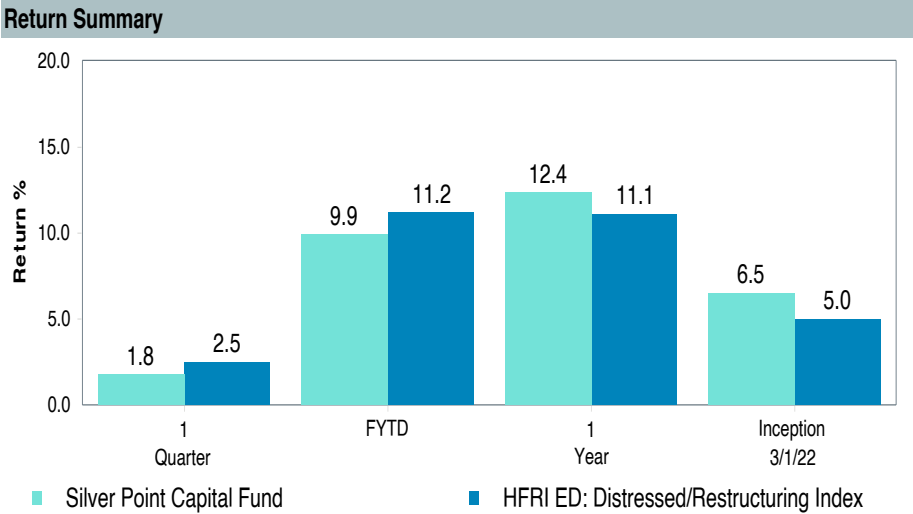
## 1 Year Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Chatham PDSC III	0.30	5.66	0.05	0.00	1.15	9.62	0.01	9.63	3.64	0.01
HFRI Event-Driven (Total) Index	0.00	0.00	-	1.00	0.89	0.00	1.00	9.27	4.37	1.00
90 Day U.S. Treasury Bill	-3.85	4.35	-0.89	0.04	-	5.20	0.01	5.25	0.11	0.21

# Manager Performance Summary Silver Point Capital Fund

As of December 31, 2024

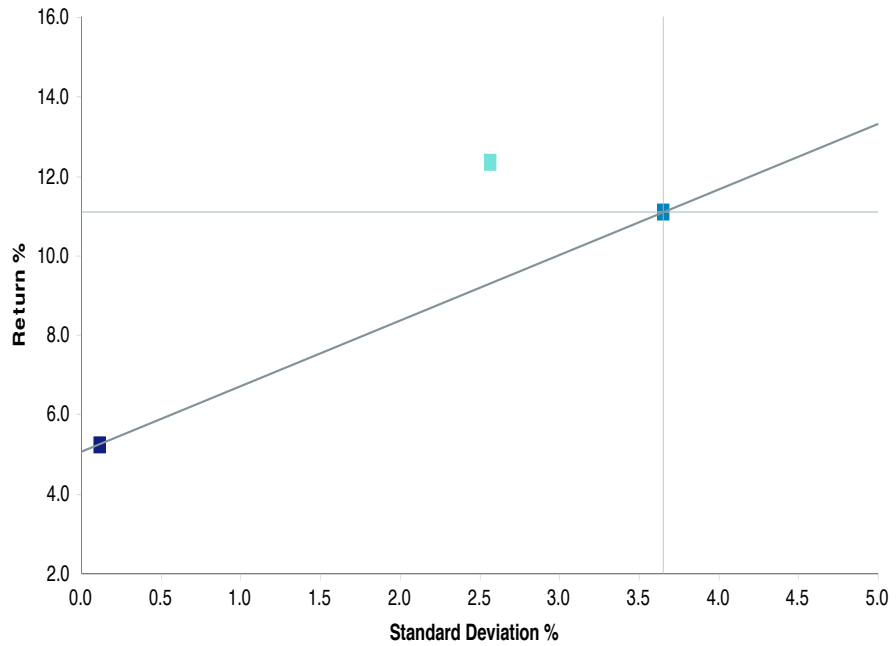
Account Information	
Account Name	Silver Point Capital Fund
Inception Date	03/01/2022
Account Structure	Separate Account
Asset Class	Hedge Fund
Benchmark	HFRI ED: Distressed/Restructuring Index
Peer Group	



# Risk Profile Silver Point Capital Fund

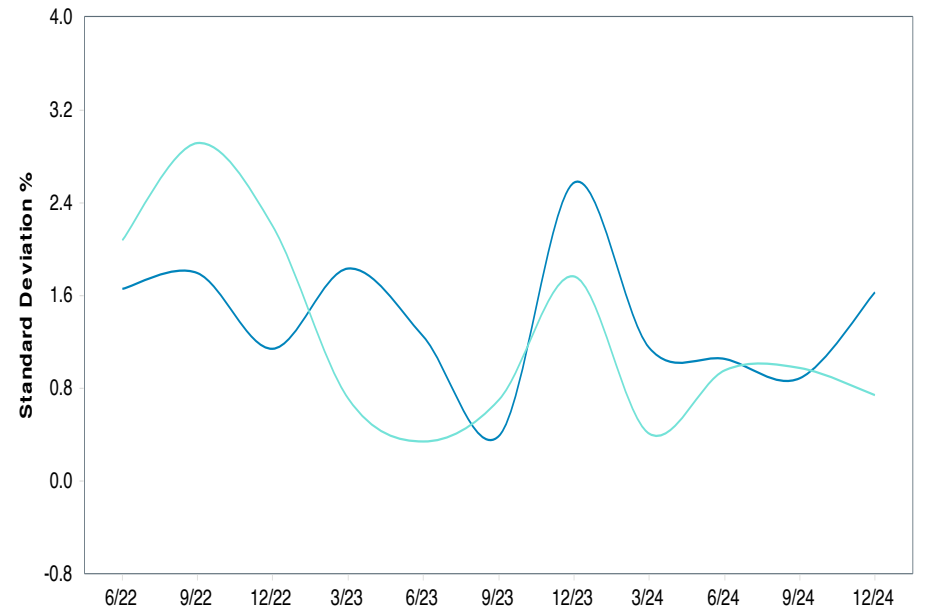
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
1 Year**



- Silver Point Capital Fund
- HFRI ED: Distressed/Restructuring Index
- 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 0.25 Year**



- Silver Point Capital Fund
- HFRI ED: Distressed/Restructuring Index

1 Year Historical Statistics										
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Silver Point Capital Fund	1.12	2.95	0.38	0.36	2.61	7.52	0.42	12.37	2.56	0.60
HFRI ED: Distressed/Restructuring Index	0.00	0.00	-	1.00	1.51	0.00	1.00	11.10	3.65	1.00
90 Day U.S. Treasury Bill	-5.50	3.64	-1.51	0.03	-	5.19	0.01	5.25	0.11	0.17

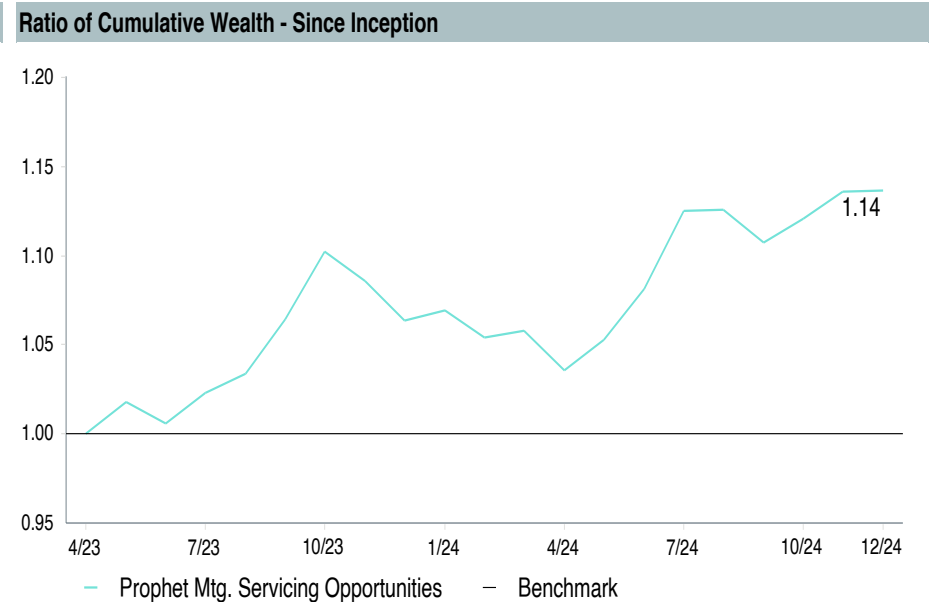
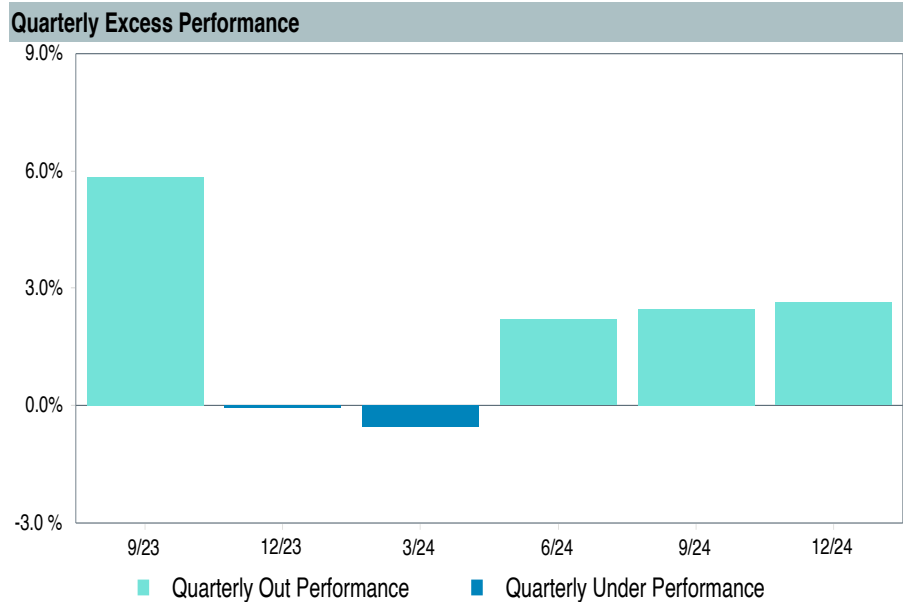
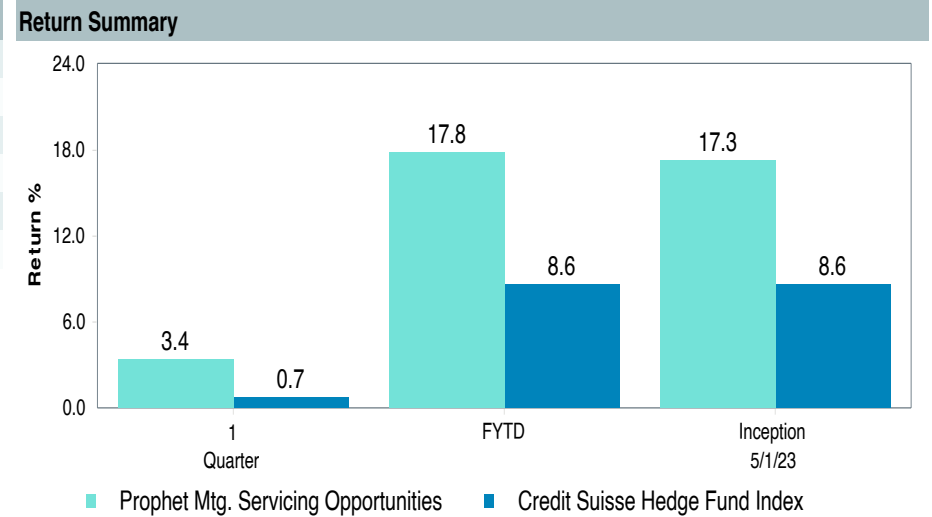




# Manager Performance Summary Prophet Mtg. Servicing Opportunit

As of December 31, 2024

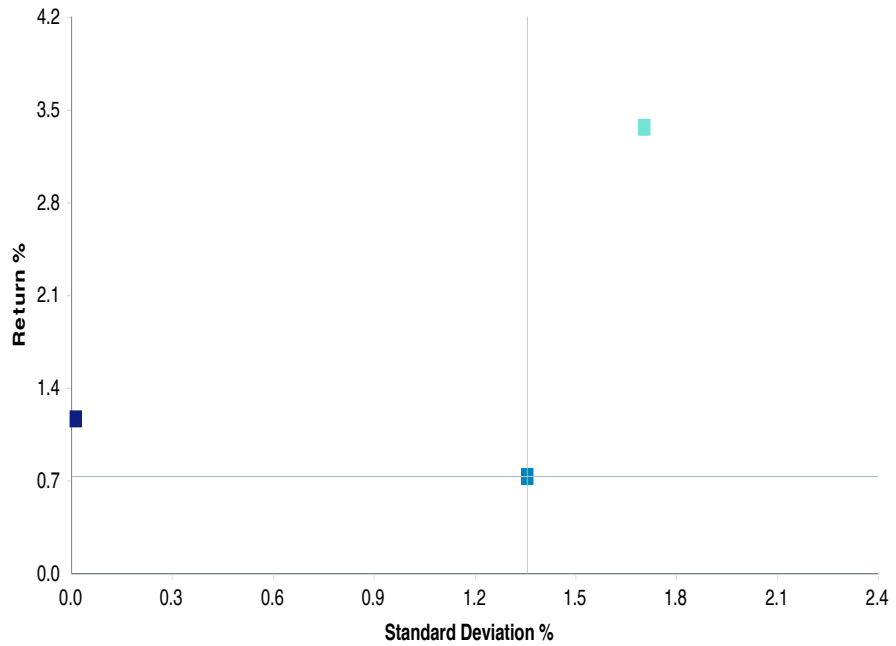
Account Information	
Account Name	Prophet Mtg. Servicing Opportunities
Inception Date	04/01/2023
Account Structure	Separate Account
Asset Class	Hedge Fund
Benchmark	Credit Suisse Hedge Fund Index
Peer Group	



# Risk Profile Prophet Mtg. Servicing Opportunities

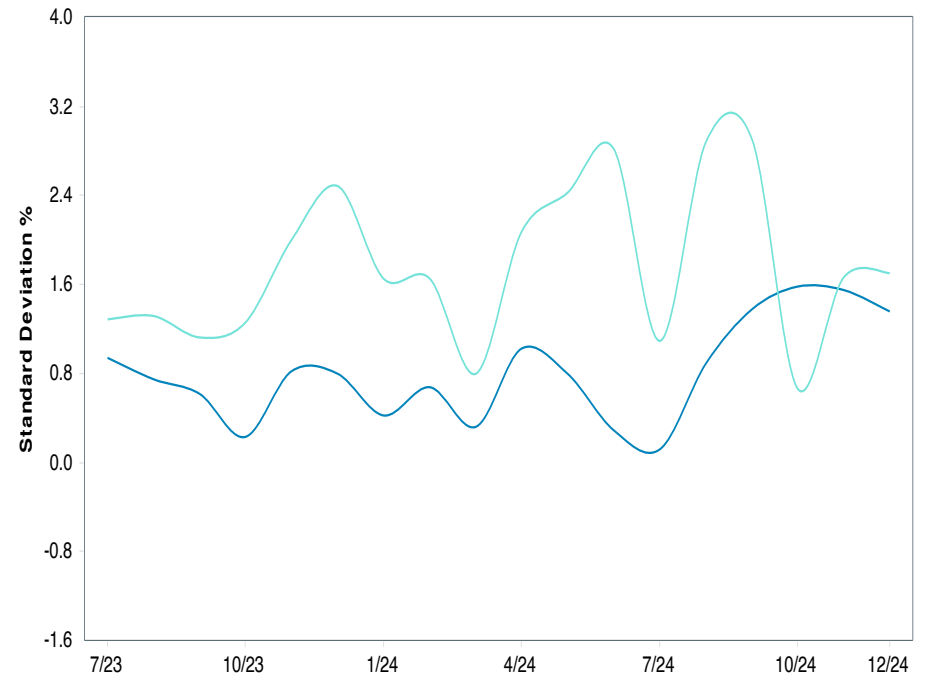
As of December 31, 2024

**Annualized Return vs. Annualized Standard Deviation  
1 Quarter**



- Prophet Mtg. Servicing Opportunities
- Credit Suisse Hedge Fund Index
- 90 Day U.S. Treasury Bill

**Standard Deviation  
Rolling 0.25 Year**



- Prophet Mtg. Servicing Opportunities
- Credit Suisse Hedge Fund Index

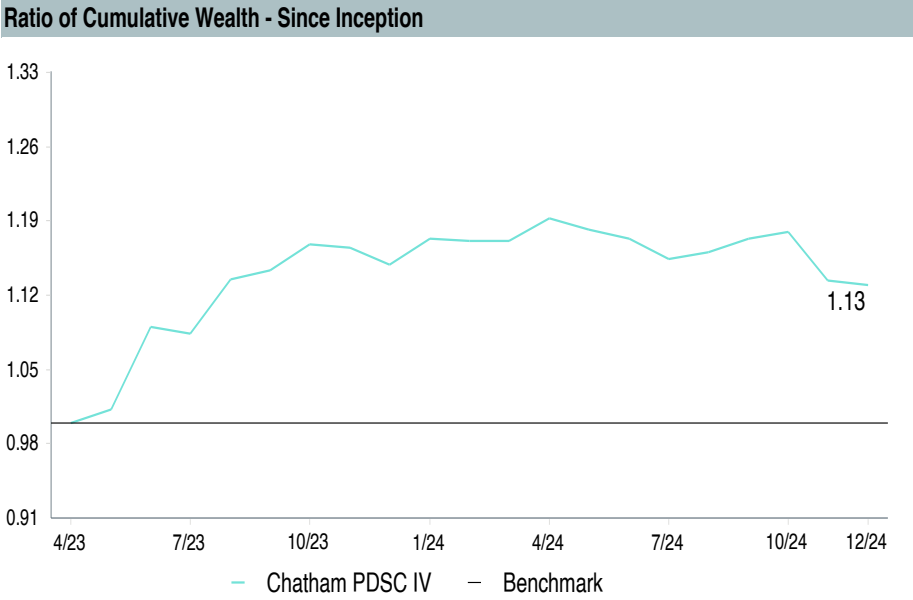
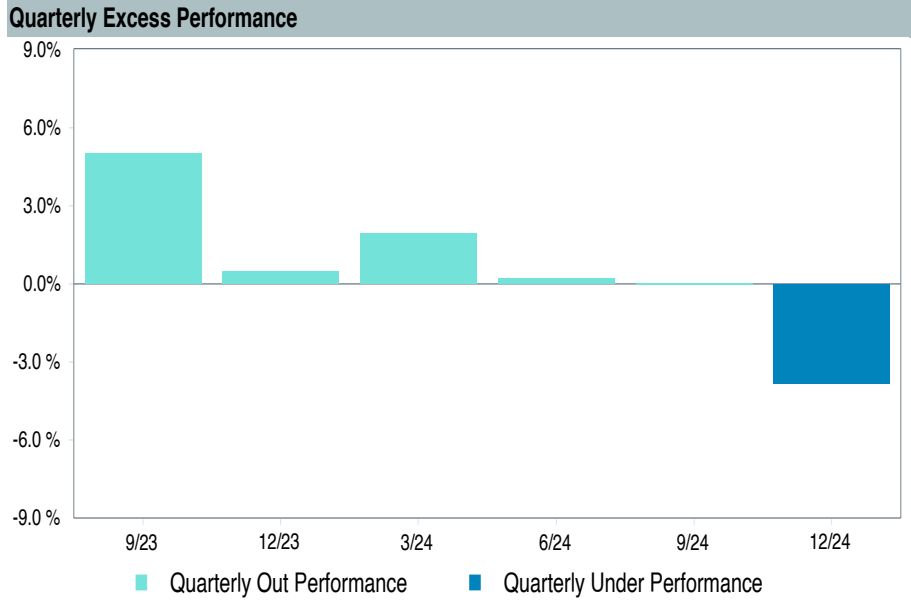
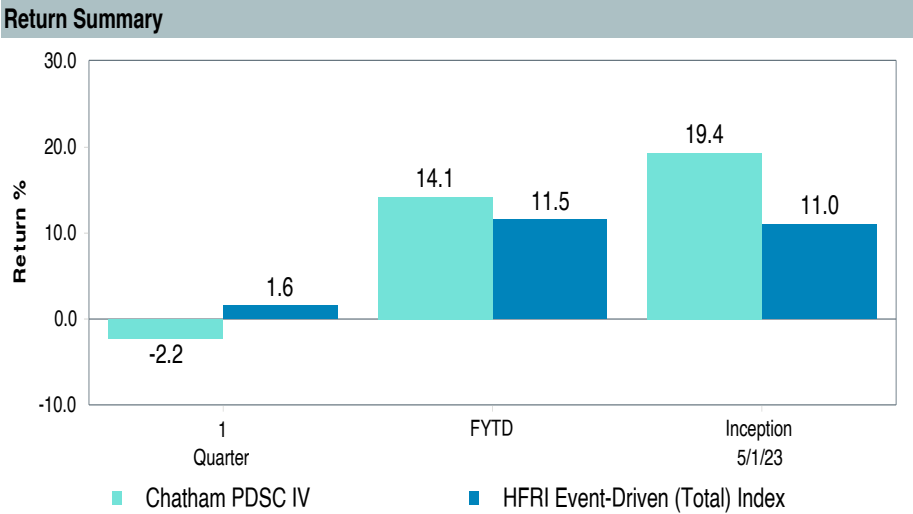
1 Quarter Historical Statistics										
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Prophet Mtg. Servicing Opportunities	0.87	0.72	1.22	0.84	0.43	0.83	1.15	3.38	1.70	0.92
Credit Suisse Hedge Fund Index	0.00	0.00	-	1.00	-0.10	0.00	1.00	0.73	1.36	1.00
90 Day U.S. Treasury Bill	0.14	1.36	0.10	0.01	-	0.39	0.00	1.17	0.01	-0.11



# Manager Performance Summary Chatham PDSC IV

As of December 31, 2024

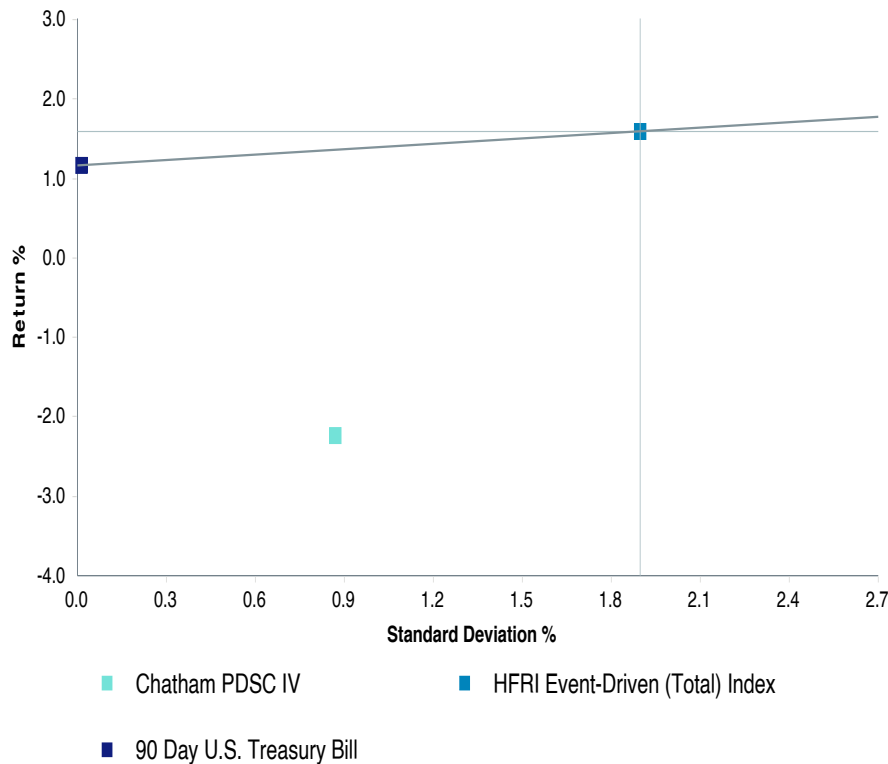
Account Information	
Account Name	Chatham PDSC IV
Inception Date	05/01/2023
Account Structure	Separate Account
Asset Class	Hedge Fund
Benchmark	HFRI Event-Driven (Total) Index
Peer Group	



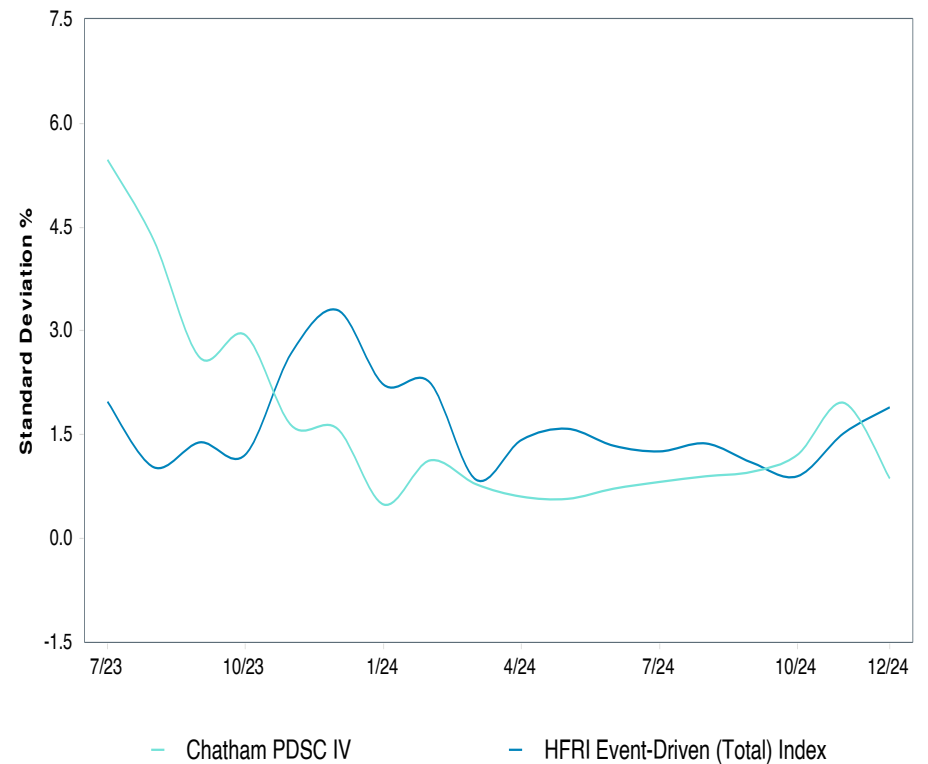
# Risk Profile Chatham PDSC IV

As of December 31, 2024

Annualized Return vs. Annualized Standard Deviation  
1 Quarter



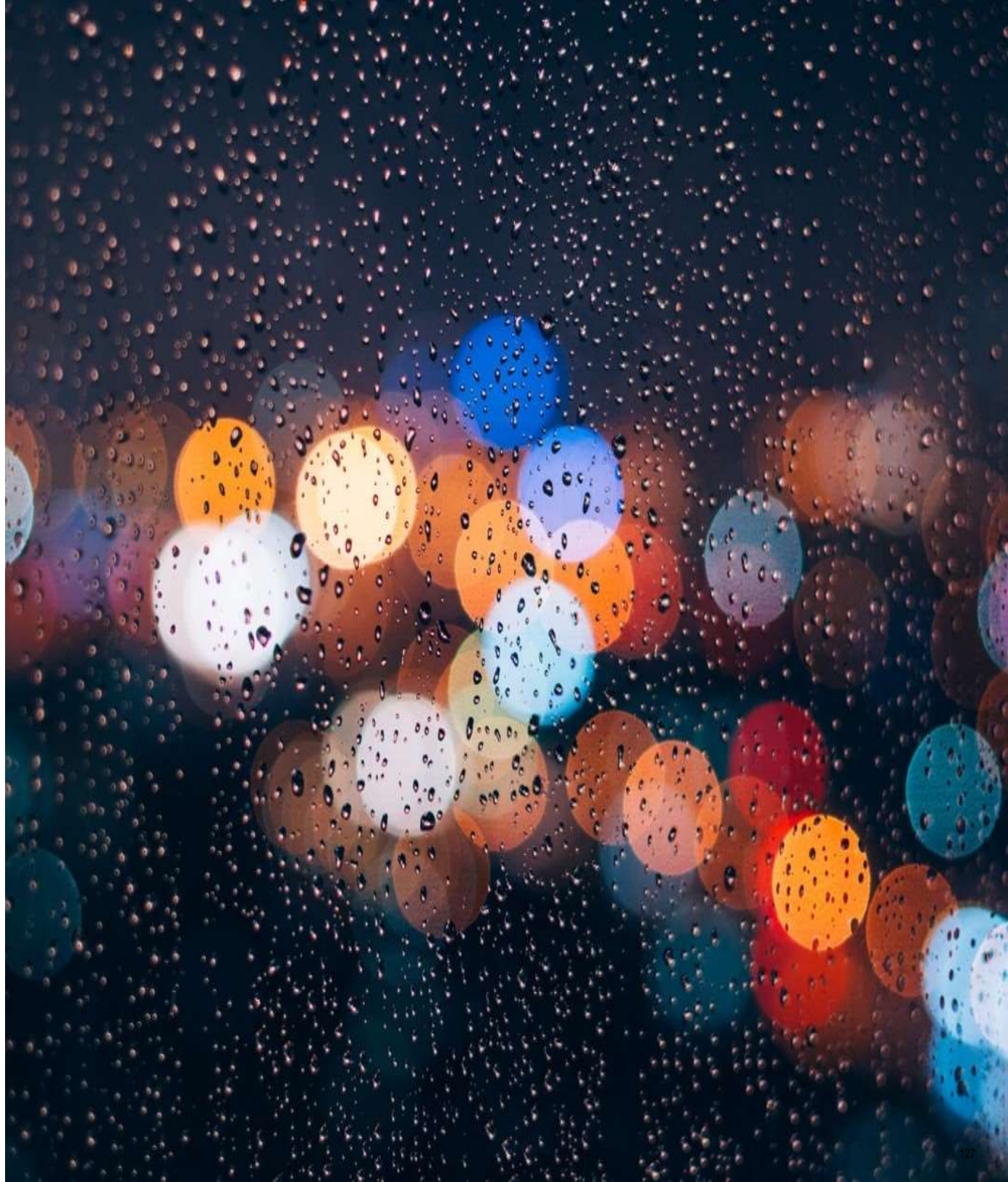
Standard Deviation  
Rolling 0.25 Year



1 Quarter Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Chatham PDSC IV	-1.29	2.40	-0.54	0.17	-1.29	-0.64	-0.19	-2.23	0.87	-0.42
HFRI Event-Driven (Total) Index	0.00	0.00	-	1.00	0.08	0.00	1.00	1.59	1.90	1.00
90 Day U.S. Treasury Bill	-0.15	1.90	-0.08	0.28	-	0.39	0.00	1.17	0.01	-0.53

# Private Equity

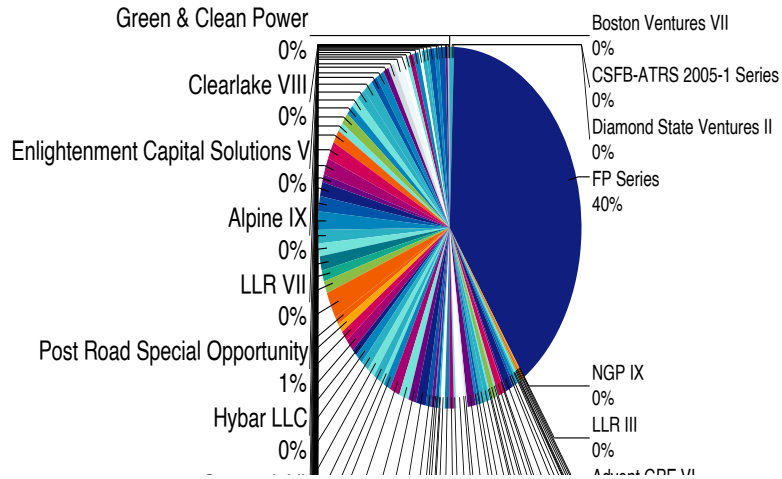


# Composite Portfolio Overview Private Equity

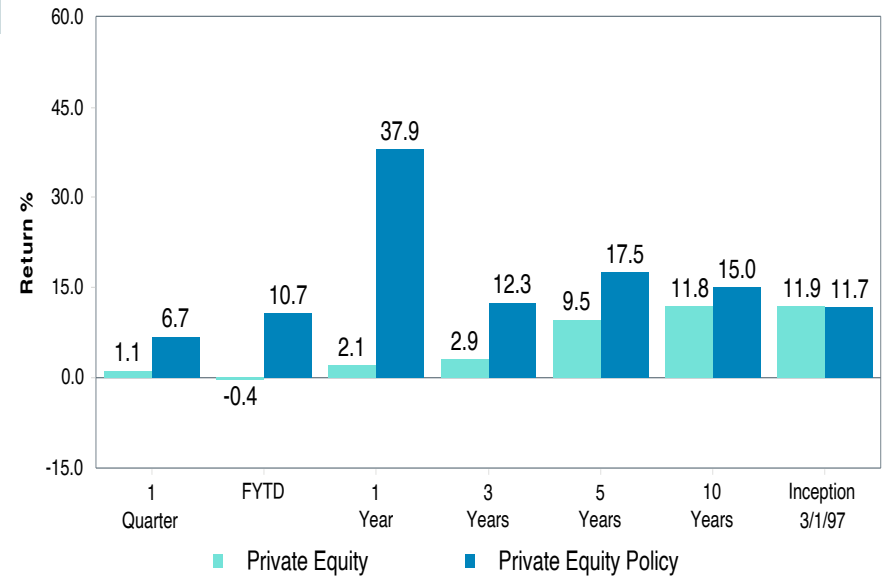
As of December 31, 2024

## Current Allocation

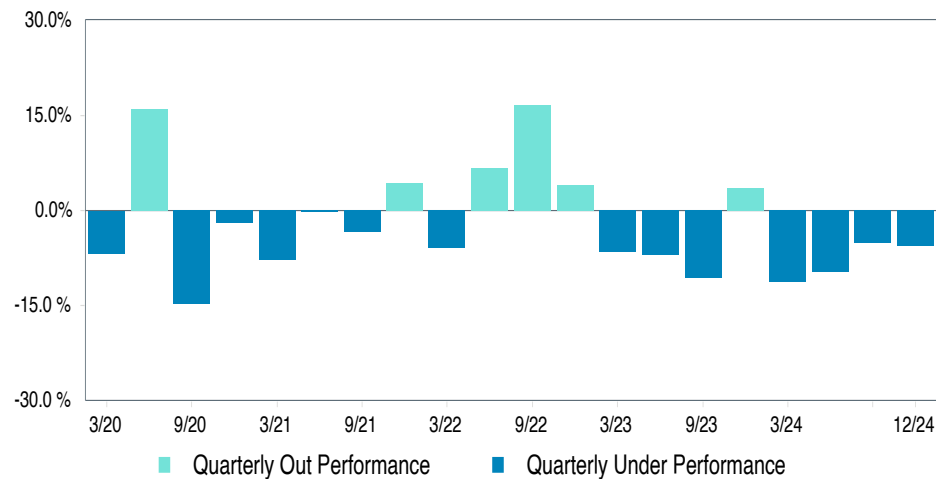
December 31, 2024 : \$2,904,872,404



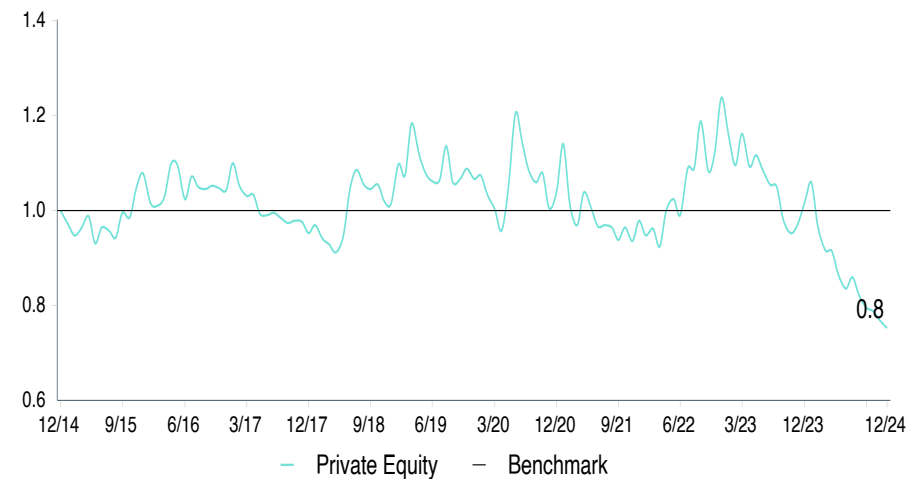
## Return Summary



## Quarterly Excess Performance

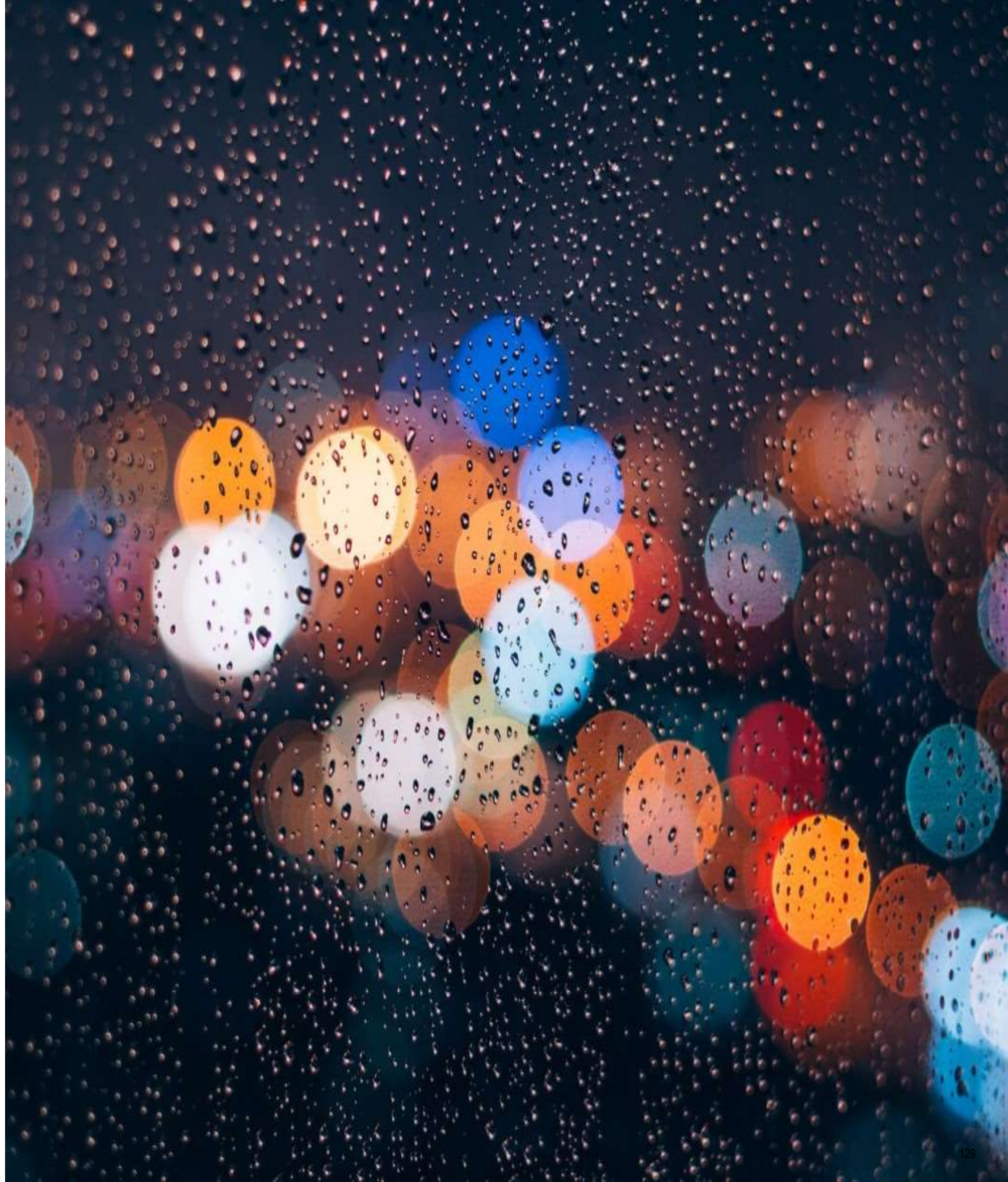


## Ratio of Cumulative Wealth - 10 Years



Note: April 1, 2004 represents the inception of the Global Equity Custom Benchmark as the primary performance objective for the Global Equity portfolio.

# Real Assets

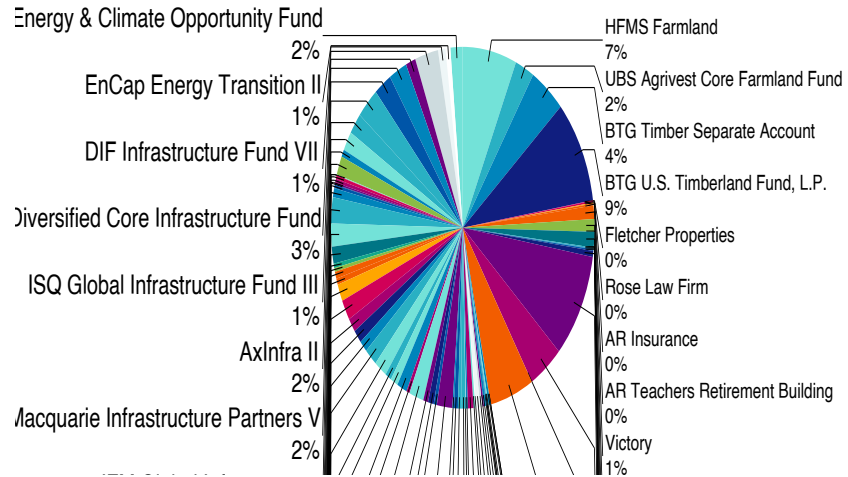


# Composite Portfolio Overview Real Assets

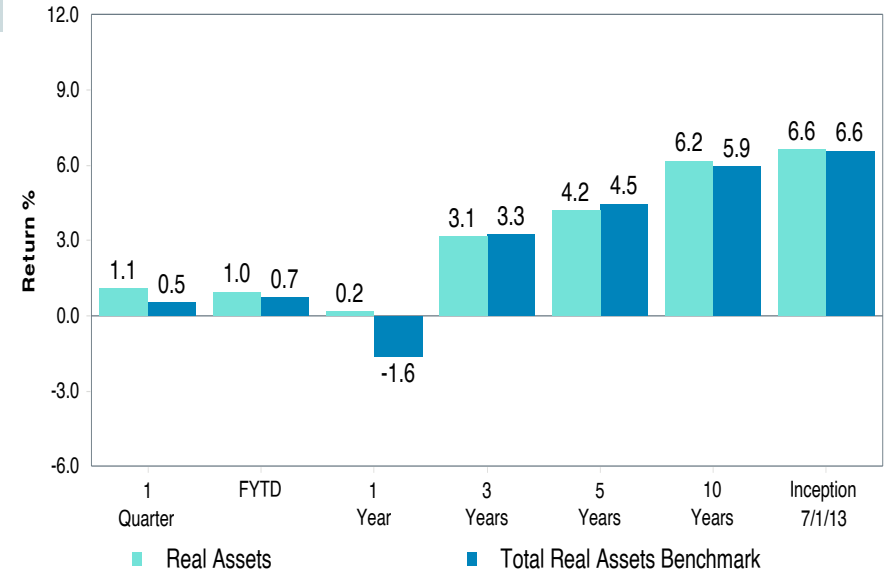
As of December 31, 2024

## Current Allocation

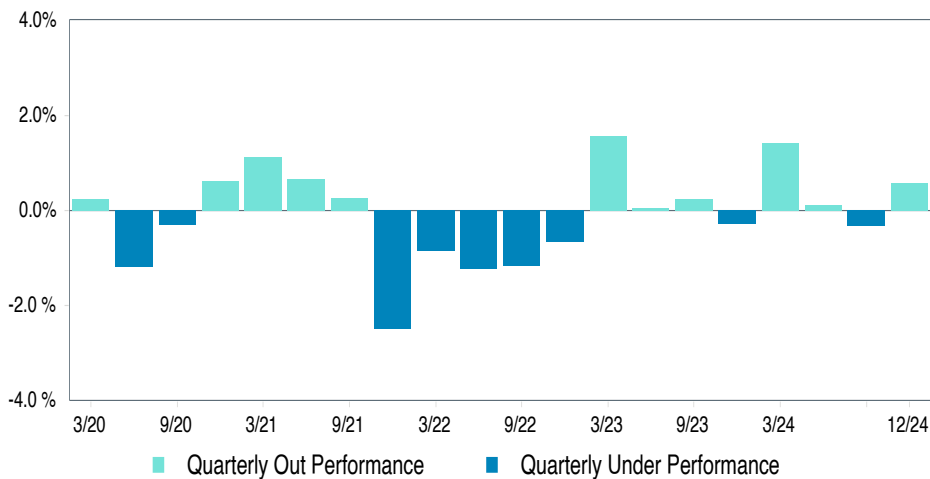
December 31, 2024 : \$2,753,476,430



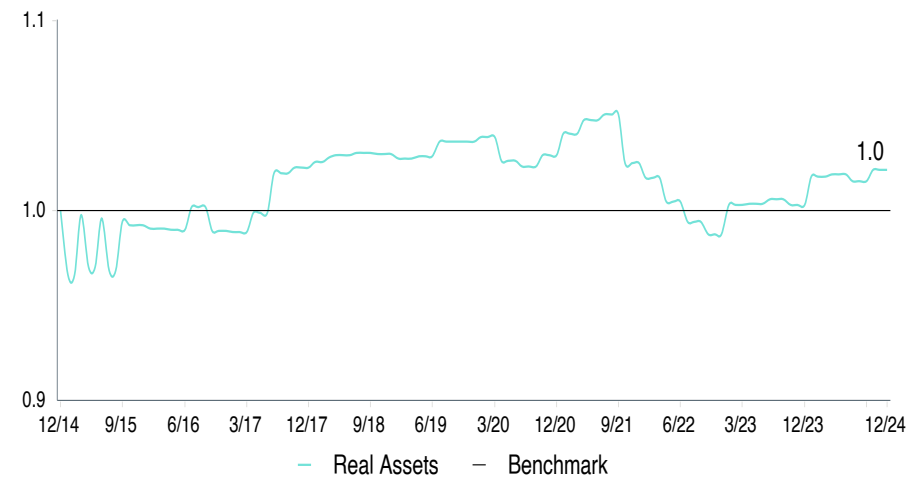
## Return Summary



## Quarterly Excess Performance



## Ratio of Cumulative Wealth - 10 Years

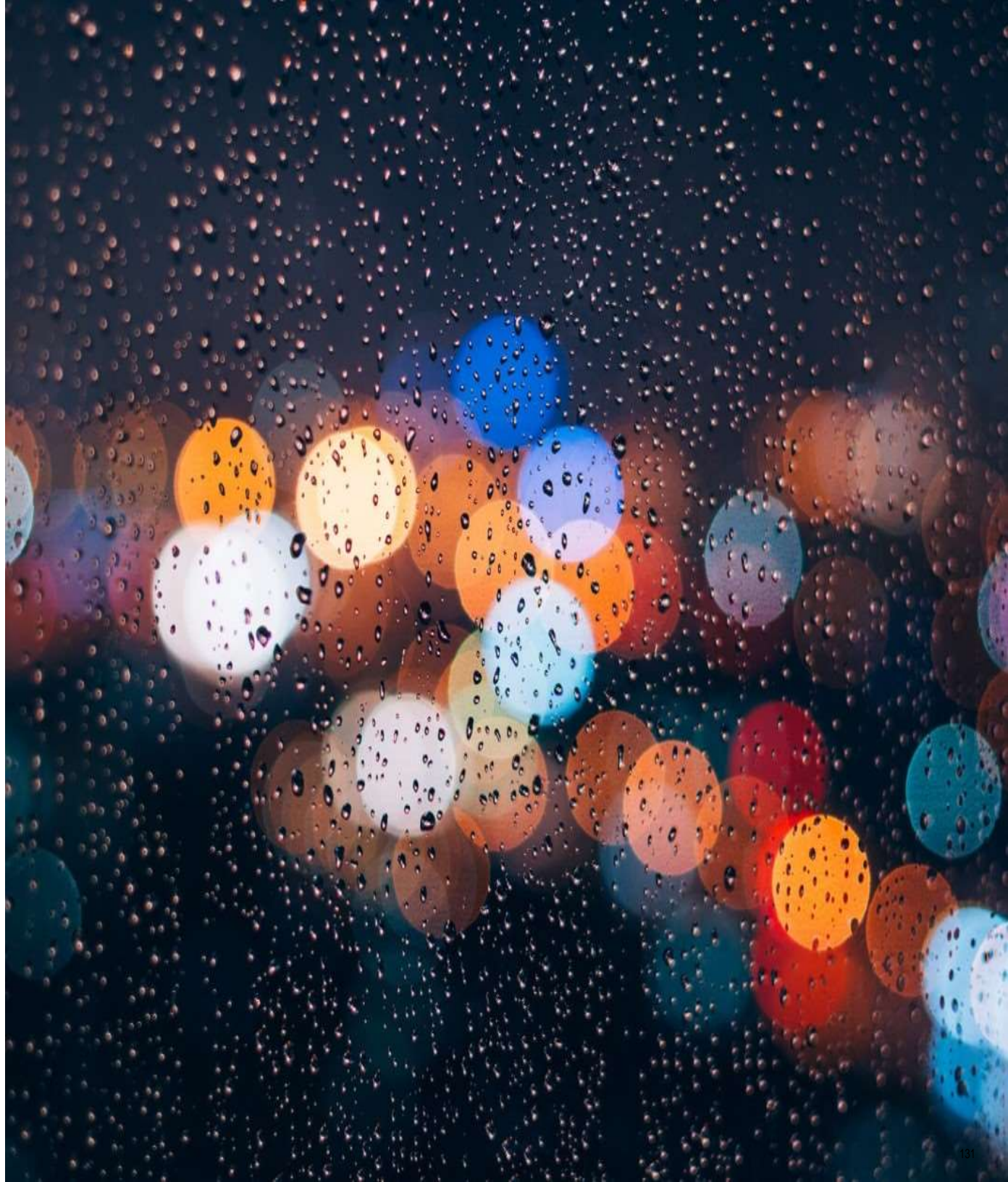


Note: April 1, 2004 represents the inception of the Global Equity Custom Benchmark as the primary performance objective for the Global Equity portfolio.





# Fee Schedule



# Fee Schedule

As of December 31, 2024

	Fee Schedule	Market Value \$000	Estimated Annual Fee \$000	Estimated Annual Fee %
<b>Total Equity</b>		<b>11,237,432</b>	<b>46,965</b>	<b>0.42</b>
Jacobs Levy 130/30	0.60 % of First \$200 M 0.35 % of Next \$300 M 0.30 % Thereafter	1,301,824	4,655	0.36
Kennedy Capital Management	0.60 % of First \$100 M 0.50 % Thereafter	450,458	2,352	0.52
Stephens	0.75 % of First \$150 M 0.70 % of Next \$50 M 0.65 % Thereafter	438,246	3,024	0.69
Voya Absolute Return	0.60 % of First \$250 M 0.40 % Thereafter	1,008,663	4,535	0.45
Voya U.S. Convertibles	0.40 % of First \$100 M 0.30 % of Next \$100 M 0.25 % of Next \$100 M 0.20 % Thereafter	883,763	2,118	0.24
Pershing Square Holdings	1.50 % of Assets	341,315	5,120	1.50
Triam Partners	1.50 % of Assets	104,336	1,565	1.50
Triam Co-Investments	0.50 % of Assets	75,421	377	0.50
SSgA Global Index	0.04 % of First \$1000 M 0.03 % Thereafter	946,118	378	0.04
BlackRock MSCI ACWI IMI Fund	0.04 % of First \$250 M 0.03 % Thereafter	926,629	269	0.03
Wellington Global Perspectives	0.80 % of Assets	731,932	5,855	0.80
T. Rowe Price Global Equity	0.43 % of First \$500 M 0.40 % Thereafter	1,261,440	5,171	0.41
Lazard	0.68 % of First \$300 M 0.65 % Thereafter	881,003	5,817	0.66
Harris Global Equity	0.60 % of First \$100 M 0.50 % of Next \$100 M 0.45 % Thereafter	715,594	3,420	0.48
Arrowstreet Global Equity - Alpha Extension Fund	Performance Based 0.20 % and 20.00 %	1,154,640	2,309	0.20

Above fees reflect only the current base management fee and excludes any performance fee arrangement.

# Fee Schedule

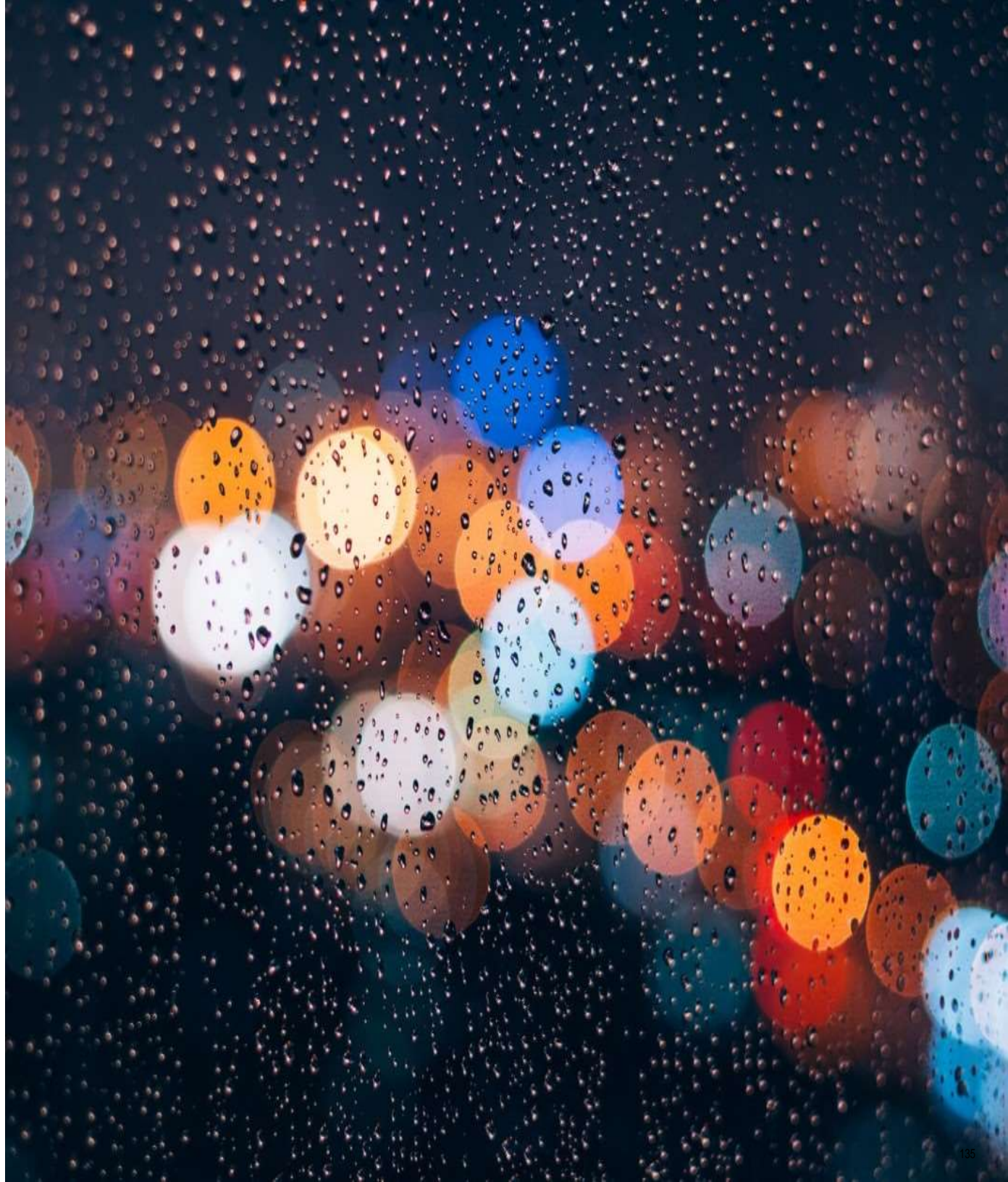
As of December 31, 2024

	Fee Schedule	Market Value \$000	Estimated Annual Fee \$000	Estimated Annual Fee %
<b>Fixed Income</b>		<b>4,504,903</b>	<b>6,901</b>	<b>0.15</b>
BlackRock	0.20 % of First \$200 M 0.15 % of Next \$200 M 0.10 % of Next \$400 M 0.08 % Thereafter	264,990	497	0.19
Loomis Sayles	0.50 % of First \$20 M 0.40 % of Next \$30 M 0.30 % Thereafter	719,344	2,228	0.31
SSgA Aggregate Bond Index	0.04 % of First \$100 M 0.02 % Thereafter	1,326,462	280	0.02
Wellington Global Total Return	0.30 % of Assets	432,759	1,298	0.30
Reams Core Plus Bond Fund	0.20 % of Assets	589,961	1,180	0.20
Baird Core Plus Bond	0.30 % of First \$100 M 0.20 % of Next \$100 M 0.15 % Thereafter	811,567	1,417	0.17
BRS Recycling Tax Credit		186,500	-	-
BRS Recycling Tax Credit Phase 2		91,200	-	-
BRS Recycling Tax Credit Phase 3		82,120	-	-
<b>Opportunistic/Alternatives</b>		<b>1,171,758</b>	<b>11,264</b>	<b>0.96</b>
Anchorage	2.00 % of Assets	21,688	434	2.00
York	1.50 % of Assets	1,409	21	1.50
Capula	2.00 % of Assets	109,023	2,180	2.00
Graham	2.00 % of Assets	108,006	2,160	2.00
Circumference Group Core Value	1.50 % of Assets	45,529	683	1.50
Aeolus Keystone Fund	2.00 % of Assets	19,097	382	2.00
Parametric Global Defensive Equity Fund	0.40 % of First \$150 M 0.35 % Thereafter	242,196	923	0.38
Man Alternative Risk Premia	0.85 % of Assets	127,995	1,088	0.85
CFM Systematic Global Macro Fund	0.36 % of Assets	122,356	440	0.36
Pillar Opportunity	1.30 % of Assets	121,732	1,583	1.30
Chatham PDSC III	0.33 % of Assets	75,819	250	0.33
Prophet Mtg. Servicing Opportunities	0.84 % of Assets	50,485	424	0.84
Chatham PDSC IV	0.33 % of Assets	67,184	222	0.33

Above fees reflect only the current base management fee and excludes any performance fee arrangement.

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## Disclaimers and Notes



# Arkansas Teacher Retirement System

## Description of Benchmarks

**Total Fund** - The Performance Benchmark for the Total Fund reflects a weighted average of the underlying asset class benchmarks, weighted as follows: Opportunistic/Alternatives and Real Assets at the weight of the previous month's ending market values, Fixed Income at its long-term Policy Target of 15%, and Total Equity at its long-term Policy Target of 55% plus the balance of the unfunded or uncommitted assets of the Opportunistic/Alternatives and Real Assets categories. These targets can be found on page 21 of the this report. From October 2007 to July 2013, the Performance Benchmark was the performance of the asset class benchmarks as a weighted average of the previous month's ending market values. The historical components of the benchmark are shown in the table below. Returns prior to September 30, 1996, consist of the actual allocations to the seven different asset classes included in the Arkansas Teacher Retirement System over time. The historical benchmarks used for each asset class are noted below.

Date	DJ Total Stock Market Index	Russell 3000 Index	MSCI ACW ex-U.S. Index	MSCI All Country World Index	BC Universal Bond Index	BC Aggregate Bond Index	Alternative Policy*
03/2004-9/2007	40.0 %	--	17.5 %	--	25.0 %	--	17.5 %
06/2003-02/2004	40.0	--	17.5	--	--	25.0 %	17.5
10/2001-07/2003	--	40.0 %	17.5	--	--	25.0	17.5
08/1998-09/2001	--	40.0	17.0	--	--	28.0	15.0
10/1996-07/1998	--	40.0	20.0	--	--	28.0	12.0

\*Historically, the Alternative Policy was comprised of the weighted averages of the Private Equity, Real Estate, and Alternatives policy benchmarks. Prior to July 31, 2003 the alternative benchmark consisted of 57.0% of the Russell 3000 + a 2% Premium per year, 8.5% of the NCREIF Southeast Timberland Index, 28.5% of the Real Estate Index, 6% of the EnnisKnupp STIF Index.

# Benchmark Descriptions

**Total Equity** - A weighted average of the Dow Jones U.S. Total Stock Market Index and the MSCI All Country World IMI Index based on weights of the underlying investment manager allocations. As of December 1, 2024, the Total Equity Performance Benchmark was comprised of 32.6% DJ U.S. Total Stock Market Index and 67.4% MSCI ACWI IMI.

**Fixed Income** - The Barclays U.S. Universal Bond Index as of March 1, 2004.

**Opportunistic/Alternatives** - A custom benchmark consisting of 25% DJ/CS Event-Driven Index, 25% HFR Macro Index, and 50% South Timberland NCREIF Index until June 30, 2013; 60% HFRI Macro Index and 40% DJ/CS Event-Driven Index until July 31, 2015; 56% HFRI Macro Index, 38% DJ/CS Event-Driven Index, and 6% Russell 2000 Index until March 31, 2016; 45% HFRI Macro Index, 30% DJ/CS Event-Driven Index, 5% Russell 2000 Index, and 20% Citigroup 3 Month T-bill until May 31, 2016; 37% HFRI Macro Index, 25% DJ/CS Event-Driven Index, 5% Russell 2000 Index, and 33% Citigroup 3 Month T-bill until May 31, 2017; 28% HFRI Macro Index, 20% DJ/CS Event-Driven Index, 4% Russell 2000 Index, 25% Citigroup 3 Month T-bill, and 23% Parametric Performance Benchmark thereafter.

**Real Assets** - A custom benchmark consisting of a weighted average of the net asset values at previous month's end of the sub-categories' benchmarks, defined as Real Estate Benchmark, Timber Benchmark, Agriculture Benchmark and Infrastructure Benchmark.

**Real Estate**- NFI-ODCE - NCREIF Fund Index Open-end Diversified Core Equity Index is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy; underlying funds are leveraged with gross and net returns available.

**Timber Property Benchmark** - NCREIF Timberland Property Index (NTPI) weighted according to ATRS' regional exposure based on net asset value.

**Agriculture Benchmark** - NCREIF Farmland Index (NFI) weighted according to ATRS' regional and crop type exposure based on net asset value.

**Infrastructure Benchmark** - Consumer Price Index (CPI) plus 500 basis points annually.

**Private Equity** - The Dow Jones U.S. Total Stock Market Index + a 2% premium per year.

**Cash Equivalents** - The Citigroup 90 day T-bill.

# Benchmark Descriptions

**BlackRock Performance Benchmark** - The Barclays Universal Bond Index as of March 1, 2004. Previously it was the Barclays Aggregate Bond Index.

**Jacobs Levy Performance Benchmark** - On January 1, 2008, the benchmark for the portfolio was changed to the Russell 3000 Index. Prior to January 1, 2008, the portfolio benchmark was the Russell 1000 Growth Index.

**Loomis Sayles Performance Benchmark** - An Index that splices 65% of the Barclays Government/Credit Index and 35% Barclays High Yield Index.

**Voya U.S. Convertibles Performance Benchmark** - On January 1, 2005, the benchmark for the portfolio was changed to the Merrill Lynch Convertible Bond (All Quality) Index. Prior to January 1, 2005, the performance benchmark for the Voya U.S. Convertibles portfolio was the CSFB Convertible Securities Index. Prior to May 1, 2004, the performance benchmark consisted of 90% CSFB Convertible Securities Index and 10% Salomon High Yield Index.

**Parametric Performance Benchmark** - 50% MSCI All Country World Index (net) and 50% Citigroup 90 day T-Bill Index as of June 1, 2017.

**Wellington Global Performance Benchmark** - As of July 1, 2012 the benchmark was changed to MSCI All Country World Small Cap Index. Prior to July 1, 2012, the benchmark was MSCI All Country World Small/Mid Cap Index.

**Voya Absolute Return Performance Benchmark** - As of December 1, 2015 the benchmark was changed to MSCI All Country World Index. Prior to December 1, 2015, the benchmark was the S&P 500 Stock Index.

**Barclays Aggregate Bond Index** - A market-value weighted index consisting of the Barclays Corporate, Government and Mortgage-Backed Securities Indices. The Index also includes credit card-, auto- and home equity loan-backed securities, and is the broadest available measure of the aggregate U.S. fixed income market.

**Barclays Government/Credit Index** - The Barclays Government/Credit Index measures the investment return of all medium and larger public issues of U.S. Treasury, agency, investment-grade corporate, and investment-grade international dollar-denominated bonds.

**Barclays High Yield Index** - The Barclays High Yield Index covers the universe of fixed rate, non-investment grade debt. Pay-in-kind (PIK) bonds, Eurobonds, and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

**Barclays U.S. Universal Bond Index** - A market-value weighted index consisting of the components of the Barclays Aggregate Bond Index, plus EuroDollar bonds, emerging markets bonds, 144A fixed income securities, and U.S. corporate high yield securities.



# Benchmark Descriptions

**Barclays Mortgage Index** - A market value-weighted index consisting of the mortgage pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA) and Freddie Mac (FHLMC).

**Citigroup 90 day T-bill Index** - Treasury bill rates of return, as reported by Citigroup (Salomon Smith Barney), for bills with a maximum time remaining to maturity of 90 days.

**Dow Jones U.S. Total Stock Market Index** - A capitalization-weighted stock index representing all U.S. common stocks traded regularly on the organized exchanges. The Index is the broadest measure of the aggregate U.S. stock market.

**FTSE Europe** - A tradable index, designed to represent the performance of the 100 most highly capitalized blue chip companies in Europe.

**Merrill Lynch Convertible Bond (All Quality) Index** - The Merrill Lynch All Convertibles All Qualities Index is a widely used index that measures convertible securities' performance. It measures the performance of U.S. dollar-denominated convertible securities not currently in bankruptcy with a total market value greater than \$50 million at issuance.

**MSCI All Country World ex-U.S. Index** - A capitalization-weighted index consisting of 22 developed and 23 emerging countries, but excluding the U.S. Covers approximately 85% of global equity opportunity set outside of the U.S.

**MSCI All Country World Index** - A capitalization-weighted index of stocks representing 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

**MSCI All Country World IMI Index** - A capitalization-weighted index representing large and small cap stock from 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

**MSCI Europe, Australasia, Far East (EAFE) Non-U.S. Stock Index** - A capitalization-weighted index of stocks representing 21 developed and emerging country markets in Europe, Australia, Asia and the Far East.

**MSCI World Index** - A capitalization-weighted index of stocks representing 22 developed stock markets in Europe, Asia and Canada.

**NFI-ODCE Index**- NCREIF Fund Index Open-end Diversified Core Equity Index is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy; underlying funds are leveraged with gross and net returns available

**DJ/CS Event-Driven Index** - Event driven funds typically invest in various asset classes and seek to profit from potential mispricing of securities related to a specific corporate or market event. Such events can include: mergers, bankruptcies, financial or operational stress, restructurings, asset sales, recapitalizations, spin-offs, litigation, regulatory and legislative changes as well as other types of corporate events. Event driven funds can invest in equities, fixed income instruments (investment grade, high yield, bank debt, convertible debt and distressed), options and various other derivatives. Many event driven fund managers use a combination of strategies and adjust exposures based on the opportunity sets in each subsector.

# Benchmark Descriptions

**LIBOR Index** - London Interbank Offered Rate. A filtered average of the world's most creditworthy banks' interbank deposit rates with maturities between overnight and one full year.

**Russell 3000 Index** - An index that measures the performance of the 3,000 stocks that make up the Russell 1000 and Russell 2000 Indices.

**Russell 1000 Index** - An index that measures the performance of the largest 1,000 stocks contained in the Russell 3000 Index.

**Russell 1000 Value Index** - An index that measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower I/B/E/S growth forecasts.

**Russell 2000 Index** - An index that measures the performance of the smallest 2,000 companies contained in the Russell 3000 Index.

**Russell 2000 Growth Index** - An index that measures the performance of those Russell 2000 companies with greater price-to-book ratios and greater I/B/E/S growth forecasts.

**Russell 2000 Value Index** - An index that measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower I/B/E/S growth forecasts.

**Russell Mid Cap Value Index** - An index that measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

**S&P 500 Stock Index** - A capitalization-weighted stock index consisting of the 500 largest publicly traded U.S. stocks.

**South Timberland Index** - The largest regional subindex of the NCREIF Timberland Index, consisting of timberland properties held in the U.S. South. This includes close to 300 properties with more than 10 million cumulative acres of timberland in the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Calculations are based on quarterly returns at the individual property level. Performance is reported on an all-cash, unlevered basis, gross of investment management fees.

**HFR Macro Index** - Macro: Investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Primary investment thesis is predicated on predicted or future movements in the underlying instruments.

**HFR Distressed/Restructuring Index** - Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings. Distressed Strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure. Hedge Fund Research, Inc. (HFR) utilizes a UCITSIII compliant methodology to construct the HFR Hedge Fund Indices. The methodology is based on defined and predetermined rules and objective criteria to select and rebalance components to maximize representation of the Hedge Fund Universe.

# Arkansas Teacher Retirement System

## Historical U.S. Equity and Global Equity composite returns

As of June 30, 2015	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
U.S. Equity	6.7	18.1	16.4	9.4	10.5	04/01/1988
Dow Jones U.S. Total Stock Market Index	7.2	17.6	17.5	8.3	-	
Global Equity	1.8	14.6	12.1	-	2.5	11/01/2007
MSCI AC World Index (Net)	0.7	13.0	11.9	6.4	2.1	

In June 2015, the ATRS Board approved the combination of the U.S. and Global equity asset classes to a single Total Equity asset class. Total Equity performance reporting began in July 2015. In the table above, we show the historical returns for the U.S. Equity and Global Equity asset classes since inception through June 2015. Performance for the Total Equity asset class prior to July 2015 represents a weighted average of the U.S. Equity and Global Equity historical performance.

# Index Definitions

Name	Description
<b>Bloomberg U.S. Corporate High Yield Bond Index</b>	An index that covers the USD-dominated, non-investment grade, fixed rate, taxable corporate bond market. Debt issues from emerging market countries are excluded. Securities are classified as high-yield if the middle rating is Ba1/BB+ or below.
<b>Bloomberg Emerging Markets Index</b>	An unmanaged index that tracks total returns for external-currency-denominated debt instruments of the emerging markets.
<b>Bloomberg Global Aggregate</b>	Provides a broad-based measure of the global investment-grade fixed income markets. The three major components of this index are the U.S. Aggregate, the Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds, Canadian government, agency and corporate securities, and USD investment grade 144A securities.
<b>Bloomberg Global Treasury Ex-US</b>	The Global Treasury ex US Index is a subset of the flagship Global Treasury Index that does not have any exposure to US debt. This multi-currency benchmark includes investment grade, fixed-rate bonds issued by governments in their native currencies.
<b>Bloomberg Universal Index</b>	A market value-weighted index which is the union of the U.S. Aggregate Index, U.S. High Yield Corporate Index, Eurodollar Index, U.S. Emerging Markets Index and the CMBS High Yield Index. The Index is appropriate for core plus fixed income mandates.
<b>Bloomberg U.S. Government Index</b>	A market value weighted index of U.S. government and government agency securities (other than mortgage securities) with maturities of one year or more.
<b>Bloomberg U.S. Government/Credit Index</b>	A subcomponent of the Capital Aggregate Index, this benchmark includes treasury securities, government related issues, and high-quality corporate bonds with an outstanding par value of \$250 million or greater and at least one year of maturity remaining.
<b>Bloomberg U.S. High Yield Index</b>	An index composed of non-investment grade corporate debt denominated in U.S. dollars. The issues have to have an outstanding par value of \$150 million or greater and at least one year of maturity remaining.
<b>Bloomberg U.S. Inflation Index</b>	Measures the performance of the U.S. Treasury Inflation Protected Securities ("TIPS") market.
<b>Bloomberg U.S. Intermediate Aggregate Bond Index</b>	A market value-weighted index consisting of U.S. Treasury securities, corporate bonds and mortgage-related and asset-backed securities with one to ten years to maturity and an outstanding par value of \$250 million or greater
<b>Bloomberg U.S. Intermediate Government/Credit Index</b>	A market-value weighted index consisting of government bonds and SEC-registered corporate bonds with one to ten years to maturity and an outstanding par value of \$150 million or greater.
<b>Bloomberg U.S. Intermediate Government Bond Index</b>	An unmanaged index considered representative of intermediate- term fixed-income obligations issued by the U.S. treasury, government agencies and quasi-federal corporations.

# Index Definitions

Name	Description
<b>Bloomberg U.S. Intermediate Treasury</b>	An unmanaged index considered representative of intermediate-term fixed- income obligations issued by the U.S. treasury.
<b>Bloomberg U.S. Aggregate Bond Index</b>	A market value-weighted index consisting of government bonds, SEC-registered corporate bonds and mortgage-related and asset-backed securities with at least one year to maturity and an outstanding par value of \$250 million or greater. This index is a broad measure of the performance of the investment grade U.S. fixed income market.
<b>Bloomberg U.S. Long Credit Bond Index</b>	An unmanaged index considered representative of long-term fixed-income obligations issued by U.S. corporate, specified foreign debentures, and secured notes that meet the specified maturity, liquidity, and quality requirements. To qualify, bonds must be SEC-registered.
<b>Bloomberg U.S. Long Government/Credit Index</b>	The Capital U.S. Government/ Credit Bond Index measures performance of U.S. dollar denominated U.S. treasuries, government-related, and investment grade U.S. corporate securities that have a remaining maturity of greater than or equal to 1 year. In addition, the securities have \$250 million or more of outstanding face value, and must be fixed rate and non-convertible.
<b>Bloomberg U.S. Long-Term Government Bond Index</b>	An unmanaged index considered representative of long-term fixed- income obligations issued by the U.S. treasury, government agencies and quasi-federal corporations.
<b>Bloomberg U.S. TIPS</b>	A market value-weighted index consisting of U.S. Treasury Inflation Protected Securities with one or more years remaining until maturity with total outstanding issue size of \$500m or more.
<b>Bloomberg U.S. Treasury 20-30 Year STRIPS Index</b>	A subcomponent of the Aggregate Index, this benchmark includes long-term treasury STRIPS.
<b>Bloomberg Commodity Index</b>	Consists of 22 exchange-traded futures on physical commodities, which are weighted to account for economic significance and market liquidity. Performance is calculated on an excess return basis and reflects commodity future price movements.
<b>BofA Merrill Lynch 3 Month Treasury Bill</b>	An index that measures the average return of the last three-month U.S. Treasury Bill issues .
<b>BofA Merrill Lynch High Yield Master</b>	A market capitalization-weighted index that tracks the performance of U.S. dollar- denominated, below investment grade corporate debt publicly issued in the U.S. domestic market.

# Index Definitions

Name	Description
<b>Citigroup 90-Day T-Bill Index</b>	An index that measures the average return of the last three-month U.S. Treasury Bill issues
<b>CRSP US Large Growth Cap Index</b>	An index comprised of nearly 330 US large cap growth companies and includes securities traded on NYSE, NYSEMarket, NASDAQ, or ARCA, representing nearly 45% of the U.S. investable equity market. The index is reconstituted quarterly after the market close on the third Fridays of March, June, September, and December. CRSP classifies growth securities using the following factors: future long-term growth in earnings per share (EPS), future short-term growth in EPS, 3-year historical growth in EPS, 3-year historical growth in sales per share, current investment-to-assets ratio, and return on assets.
<b>CRSP US Total Market Index</b>	An index comprised of nearly 4,000 constituents across mega, large, small, and micro capitalizations and includes securities traded on NYSE, NYSE Market, NASDAQ, or ARCA, representing nearly 100% of the U.S. investable equity market. The index is reconstituted quarterly after the market close on the third Fridays of March, June, September, and December.
<b>Credit Suisse Leveraged Loan Index</b>	Designed to mirror the investable universe of the U.S. dollar denominated leveraged loan market.
<b>DJ U.S. Completion Total Stock Market Index</b>	A capitalization-weighted index that consists of the stocks in the Dow Jones U.S. Total Stock Market Index less the stocks in the S&P 500 Stock Index.
<b>DJ U.S. Total Stock Market Index</b>	A capitalization-weighted stock index representing all domestic common stocks traded regularly on the organized exchanges. The index is the broadest measure of the aggregate domestic stock market and includes approximately 5,000 stocks.
<b>FTSE 4Good U.S. Select Index</b>	A socially responsible investment (SRI) index of US stocks that excludes companies with certain business activities such as weapons, tobacco, gambling, alcohol, nuclear power, and adult entertainment
<b>FTSE All-World ex-U.S. Index</b>	A capitalization-weighted stock index representing 46 developed market countries and emerging market countries excluding the U.S.
<b>FTSE EPRA NAREIT Global ex-U.S. Index</b>	Designed to represent general trends in eligible real estate equities worldwide. Relevant real estate activities are defined as the ownership, disposal and development of income-producing real estate.
<b>FTSE Global All Cap ex US Index</b>	A market-capitalization weighted index representing the performance of roughly 5350 large, mid and small cap companies in 46 Developed and Emerging markets worldwide, excluding the USA.
<b>FTSE Global Core Infrastructure Index</b>	Represents the performance of infrastructure and infrastructure-related securities companies in a set of industries that FTSE defines as being involved in infrastructure. The series is based on the FTSE Global Equity Index Series and both developed and emerging markets are included.

# Index Definitions

Name	Description
<b>FTSE NAREIT U.S. Equity REITS</b>	Free float adjusted, market capitalization weighted index of US based equity real estate investment trusts (REITs).
<b>Goldman Sachs Commodity Index</b>	A composite index of commodity sector returns which represents a broadly diversified, unleveraged, long-only position in commodity futures.
<b>HFR Fund-of-Fund Index.</b>	This index is equity-weighted including 800 constituents. It includes both domestic and offshore accounts and is valued in U.S. dollars. Only fund-of-fund products are included in the index that have at least \$50 million under managements and have been actively trading for at least one year. All funds report net returns on a monthly basis.
<b>HFRI Fund Weighted Composite Index</b>	The HFRI Fund Weighted Composite Index is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
<b>Hueler Stable Value Index</b>	The Hueler Analytics Stable Value Pooled Fund Comparative Universe represents investment strategies of \$96 billion in stable value assets, across 24 pooled funds, invested in contracts universe across a universe of 16 general account issuers and 14 synthetic wrap providers. The allocation of pooled fund assets is dominated by synthetic contracts issued by insurance companies and banks.
<b>J.P. Morgan EMBI Global Diversified</b>	Comprised of dollar-denominated Brady bonds, traded loans and Eurobonds issued by emerging market sovereign and quasi-sovereign entities. The Diversified version limits the weights of the index countries by only including a specified portion of those countries' eligible current face amounts of debt outstanding, providing for a more even distribution of weights within the countries in the index.
<b>iMoneyNet All Taxable Money Funds Index</b>	An index made up of the entire universe of money market mutual funds. The index currently represents over 1,300 funds, or approximately 99 percent of all money fund assets.
<b>iMoneyNet Money Fund Average.</b>	An index made up of the entire universe of money market mutual funds. The index currently represents over 1,300 funds, or approximately 99 percent of all money fund assets.
<b>MSCI All Country World ex-U.S. Index</b>	A capitalization-weighted index of stocks representing 44 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America. Index consists of 23 developed and 21 emerging countries, but excludes the U.S.
<b>MSCI All Country World ex-U.S. Index IMI-.</b>	A capitalization-weighted index of large, mid and small cap stocks representing 22 developed (excluding the United States) and 24 emerging market countries. The index is the broadest measure of the aggregate non-US stock market, covering approximately 99% of the global equity investment opportunity set outside of the United States.

# Index Definitions

Name	Description
<b>MSCI All Country World ex-U.S. Small Cap Index</b>	Covers all investable small cap securities with a market capitalization below that of the companies in the MSCI Standard Indices (excluding U.S.), and target approximately 14% of each market's free-float adjusted market capitalization.
<b>MSCI All Country World Index IMI</b>	A capitalization-weighted index of large, mid and small cap stocks representing 23 developed and 24 emerging market countries. The index is the broadest measure of the aggregate global stock market, covering approximately 99% of the global equity investment opportunity set.
<b>MSCI All Country World Index</b>	A capitalization-weighted index of stocks representing 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.
<b>MSCI EAFE Growth Index</b>	A capitalization-weighted index of 21 stock markets in Europe, Australia, Asia and the Far East designed to capture the growth-oriented companies.
<b>MSCI EAFE Small Cap Index</b>	A capitalization-weighted index of small cap stocks representing 23 developed country markets in Europe, Australia, Asia, and the Far East.
<b>MSCI EAFE Value Index</b>	A capitalization-weighted index of 21 stock markets in Europe, Australia, Asia and the Far East designed to capture the value-oriented companies.
<b>MSCI Emerging Markets Index</b>	A capitalization-weighted index of stocks representing 22 emerging country markets.
<b>MSCI U.S. Broad Market Index</b>	A capitalization-weighted stock index that aggregates the MSCI U.S. Large Cap 300, Mid Cap 450, Small Cap 1,750 and Micro-Cap Indices. This index represents approximately 99.5% of the capitalization of the U.S. Equity market and includes approximately 3,562 companies.
<b>MSCI U.S. REIT Index</b>	A broad index that fairly represents the equity REIT opportunity set with proper invest ability screens to ensure that the index is investable and replicable. The index represents approximately 85% of the U.S. REIT universe
<b>MSCI World Index</b>	A free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets, representing 24 developed market country indices.
<b>NCREIF Property Index</b>	NCREIF Property Index - A capitalization-weighted index of privately owned investment grade income-producing properties representing approximately \$269 billion in assets.



# Index Definitions

Name	Description
<b>NFI ODCE Index</b>	NFI ODCE Index - A capitalization weighted index comprised of open-end, Core funds investing in commercial real estate properties. The funds that constitute the index are subject to certain geographic and property type diversification requirements as well as leverage restrictions. The index reflects the impact of leverage on investment results. The returns shown in this report are net of management fees of the respective funds included in the index.
<b>Rolling 3-year Constant Maturity Treasury Index</b>	An index published by the Federal Reserve Board based on the monthly average yield of a range of Treasury securities, all adjusted to the equivalent of a three-year maturity.
<b>Russell 1000 Growth Index</b>	An index that measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher I/B/E/S growth forecasts.
<b>Russell 1000 Index</b>	A capitalization-weighted index of the 1,000 largest publicly traded U.S. stocks by capitalization.
<b>Russell 1000 Value Index.</b>	An index that measures the performance of those stocks included in the Russell 1000 Index with lower price-to-book ratios and lower I/B/E/S earnings growth forecasts.
<b>Russell 2000 Growth Index</b>	A capitalization-weighted index of those stocks in the Russell 2000 Index with higher price-to-book ratios and higher I/B/E/S earnings growth forecasts.
<b>Russell 2000 Index</b>	A capitalization-weighted index of the smallest 2,000 stocks in the Russell 3000 Index. The index excludes the largest- and smallest-capitalization issues in the domestic stock market.
<b>Russell 2000 Value Index</b>	An index that measures the performance of those stocks included in the Russell 2000 Index with lower price-to-book ratios and lower I/B/E/S earnings growth forecasts.
<b>Russell 2500 Growth Index</b>	A capitalization-weighted index representing those companies within the Russell 2500 Index with higher price-to-book ratios and higher I/B/E/S earnings growth forecasts.
<b>Russell 2500 Index</b>	The Index is constructed by first identifying the 3,000 largest-capitalization U.S. stocks and ranking them by market capitalizations, choosing the bottom 2,500 names on the list.
<b>Russell 2500 Value Index.</b>	an index that measures the performance of those stocks included in the Russell 2500 Index with lower price-to-book ratios and lower I/B/E/S earnings growth forecasts.

# Index Definitions

Name	Description
<b>Russell 3000 Growth Index</b>	A capitalization-weighted index consisting of those Russell 3000 Index stocks that have higher price-to-book ratios and higher I/B/E/S earnings growth forecasts.
<b>Russell 3000 Index</b>	A capitalization-weighted index consisting of the 3,000 largest publicly traded U.S. stocks by capitalization. This index is a broad measure of the performance of the aggregate domestic equity market.
<b>Russell 3000 Value Index</b>	A capitalization-weighted index consisting of those Russell 3000 Index stocks that have lower price-to-book ratios and lower I/B/E/S earnings growth forecasts.
<b>Russell Mid Cap Growth Index</b>	A capitalization-weighted index representing those stocks in the Russell MidCap Index with higher price-to-book ratios and higher I/B/E/S earnings growth forecasts.
<b>Russell Mid Cap Value Index</b>	A capitalization-weighted index consisting of those Russell MidCap Index stocks that have lower price-to-book ratios and lower I/B/E/S earnings growth forecasts.
<b>S&amp;P 500 Index</b>	A capitalization-weighted index representing stocks chosen by Standard & Poor's, Inc. for their size, liquidity, stability and industry group representation. The companies in the S&P 500 Index are generally among the largest in their industries.
<b>S&amp;P Completion Index</b>	The S&P Completion Index is a sub-index of the S&P Total Market Index, including all stocks eligible for the S&P TMI and excluding all current constituents of the S&P 500. The index covers approximately 4,000 constituents, offering investors broad exposure to mid, small, and micro-cap companies.
<b>S&amp;P GSCI®</b>	Both the first major investable commodity index and one of the most widely recognized benchmarks, the S&P GSCI® is broad-based, production weighted, and meant to be representative of the global commodity market beta.
<b>S&amp;P Leverage Loan Index</b>	A daily total return index that uses LSTA/LPC Mark-to-Market Pricing to calculate market value change.
<b>S&amp;P Midcap 400 Index</b>	A market-capitalization-weighted index of stocks in all major industries in the mid-range of the U.S. stock market.
<b>Wilshire REIT</b>	A measure of the types of U.S. real estate securities that represent the ownership and operation of commercial or residential real estate. To be included in the index, a company must have a market capitalization of \$200 million and have at least 75% of the total revenue derived from the ownership and operation of the real estate assets.

- Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect our fees or expenses.
- Past performance is no guarantee of future results.

## Notes

- The rates of return contained in this report are shown on an after-fees basis unless otherwise noted. They are geometric and time-weighted. Returns for periods longer than one year are annualized.
- Universe percentiles are based upon an ordering system in which 1 is the best ranking and 100 is the worst ranking.
- Due to rounding throughout the report, percentage totals displayed may not sum to 100%. Additionally, individual fund totals in dollar terms may not sum to the plan total.

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## **Past performance is not necessarily indicative of future results.**

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Aon Investments USA Inc.  
200 East Randolph Street  
Suite 700  
Chicago, IL 60601  
ATTN: Aon Investments Compliance Officer



## Memo

### Kennedy Capital Mandate Change

---

Date: January 22, 2025  
To: Arkansas Teacher Retirement System (ATRS)  
From: PJ Kelly, Katie Comstock, Robert Lopez, Tim Quinn

#### Background

ATRS has been an investor in the Kennedy Extended Market Small Cap strategy since 1994. As of December 31, 2024, ATRS had approximately \$450M invested in the strategy, which provides U.S. small cap value exposure to the ATRS Total Equity portfolio and complements ATRS's exposure to the Stephens portfolio which has a small cap growth bias. At the end of December 31, 2024, the Extended Market Small Cap strategy had a since inception return of 11.6%, outperforming its benchmark (Russell 2000 Value Index) by approximately 230 basis points, annualized.

In April 2024, Kennedy Capital Management (Kennedy) notified ATRS of the upcoming retirement of the Extended Small Cap Portfolio Manager, Michael Bertz, at the end of February 2025. Given the retirement, Kennedy decided to cease managing the Extended Market Small Cap strategy, effectively requiring investors to transition assets. Since the announcement of Michael Bertz's retirement, Aon and the ATRS Investment Team have analyzed the best solution for the \$450M that needs a new home. Our analysis included several discussions with Kennedy, including key individuals at the firm to discuss alternative Kennedy products as well.

Following multiple discussions on the most appropriate path forward, Kennedy proposed transitioning the assets in the Extended Market Small Cap strategy to the Kennedy Small-Mid (SMID) Cap Value strategy.

#### Summary Recommendation

Aon recommends ATRS transition the assets currently invested in the Extended Market Small Cap strategy to Kennedy's SMID Cap Value strategy. The U.S. SMID Value strategy is led by portfolio manager Frank Latuda, who has been with Kennedy since 1997 and has managed the U.S. SMID Value product since 2010. This strategy will maintain exposure to the U.S. small to mid-cap (SMID) value opportunity set which is similar to the current strategy; however, the new SMID strategy will have less exposure to the micro-cap space versus the current strategy. Given that ATRS has a notable small cap bias in the Total Equity portfolio, we are comfortable with the slight reduction to the very small section of the U.S. market, as it will modestly shift the Total Equity portfolio towards a more neutral stance from a market capitalization perspective. Additionally, the strategy change



results in investment management fee savings for ATRS. Kennedy has offered a fee reduction during the initial three years of ATRS exposure to the new strategy, which would provide an estimated savings of approximately \$1 million for the first year and gradually phasing down to approximately \$525,000 (or approximately 12 bps in savings) in ongoing annual savings thereafter from the current strategy's fee structure based on December 31, 2024 market value of assets. The new strategy will be benchmarked to the Russell 2500 Value Index to align with the opportunity set yet will play the same role in the ATRS portfolio, offering U.S. small- and mid- cap value exposure and complementing the remaining ATRS equity mandates.

The SMID Value strategy has consistently demonstrated strong performance, ranking within the top quartile (or better) over the 1-, 3-, and 5-year trailing periods. Trailing annualized performance has also provided greater value-add than the current strategy over the 1-, 3-, and 5-year trailing periods. Aon supports the transition of the current Kennedy Extended Small cap strategy to the Kennedy SMID Cap Value strategy.

In the Appendix of this memo we provide a risk and return comparison of the two strategies.

## **Research Review: Kennedy Capital Management (U.S. SMID Value)**

Aon Investment Manager Research (IMR) has conducted a review to assess Kennedy Capital Management's (Kennedy Capital) proposed US SMID Value strategy and we do not see any material deficiencies in the proposed strategy. We believe the proposed Kennedy Capital strategy is a prudent and reasonable investment. Kennedy's approach to portfolio construction and the utilization of the firm's central research team has been historically additive to investors. Kennedy's U.S. SMID Value strategy has an Aon research quantitative ranking of "Qualified," as of 3Q24.

- **Business**

Kennedy Capital, as of 3Q24, manages a total of \$4.8 billion in equity assets. The firm has maintained its focus on the smaller end of the U.S. equity market and has avoided areas that do not complement their core competency of fundamental stock selection.

The US SMID Value strategy has \$275 million in assets under management, as of 3Q24. AUM levels for the referenced strategy are low relative to other offerings at the firm. The proposed strategy has had a stable asset base for several calendar years and experienced strong inflows during 2023 following several years of favorable relative performance.

- **Staff**

The US SMID Value strategy is led by portfolio manager Frank Latuda. The lead PM has significant experience managing assets within Kennedy Capital as well as utilizing the resources provided by the firm's central research team of analysts. We believe the boutique structure of the



organization allows for strong communication between the portfolio managers and the research analysts, facilitating strong understanding of the fundamental research and drivers of the companies covered.

- **Investment Process**

The investment process utilizes a flexible market cap approach that allows it to opportunistically invest in both mid- and micro-cap securities along with small cap stocks. The portfolio will be diversified by number of stocks as strategies at the firm can tend to gradually scale into position sizes over time. We believe the Kennedy investment team continues to develop differentiated viewpoints on under followed stocks relative to consensus expectations. Given the number of holdings in the portfolio, the portfolio manager must rely on the insights developed by the investment analysts at the firm. We believe that they implement a methodical approach that exhibits both patience and discipline when constructing this portfolio. We find this approach to be above average relative to peers.

- **Risk Management**

The Kennedy Capital investment team primarily controls risk through its bottom-up, fundamental research process. Additionally, strategies at the firm utilize traditional portfolio constraints in order to reduce relative risk to a strategy's respective benchmark. The firm does not have an independent risk team but they do utilize Barra Risk models to evaluate portfolio risk characteristics.

- **Performance**

Kennedy's US SMID Value strategy has consistently outperformed its respective benchmark. The strategy will typically perform best when company fundamentals are the primary drivers of performance, and we believe that the strategy will add alpha for clients going forward. Clients should be aware that this approach is largely benchmark agnostic and can experience meaningful volatility, and clients should take a long-term perspective.

- **Terms and Conditions**

We have found fees for strategies offered at the firm as average when compared to other small/mid cap peers, likely due to the premium on micro-cap exposures. We have also found the new fee structure for the proposed strategy to be competitive relative to the US SMID Value universe. Client service has been satisfactory and we have had routine interactions with the firm's key investment professionals.



## APPENDIX: Risk and Return Comparison

Key: EXT = Current Strategy (Extended Small Cap) / SMV = Proposed Strategy (SMID Value)

### Strategy Analysis - updated - 12/31/24

	EXT	SMV
<u>Performance vs Bench (% diff - net)</u>		
1	2.01	4.44
3	(1.42)	2.24
5	1.13	3.78
10	0.17	2.08
<u>Performance vs Peers (%ile)*</u>		
1	48	5
3	79	18
5	56	15
10	75	19
<u>Return-based Statistics (last 12 qtrs, Gross of Fees)</u>		
Batting Average	50%	75%
Information Ratio	-0.27	0.64
UCR	96.5	122.3
DCR	103.1	99.7
UCR/DCR	0.9	1.2
<u>Exposure by mkt cap (%)</u>		
<\$1B	15%	1%
\$1-4B	44%	20%
\$4-7B	22%	23%
>\$7B	18%	56%
<u>Selection effect (% Net of Fees)</u>		
3yr	(4.54)	6.32
5yr	5.53	25.83
Holdings	236	85
EXT Overlap (% of EXT MV in other strategies)	100%	11%
Overlap with EXT (% of strategy's MV in EXT)	100%	21%
Turnover	50%	56%
Active Share	83.6	90.5
Foreign Holdings	6.7%	3.6%

\* as of 9/30/24

*past performance is not indicative of future results*

Notes: Statistics provided by Kennedy Capital Management.

Notes: EXT benchmark is the Russell 2000 Value Index. SMV benchmark is the Russell 2500 Value Index.





## APPENDIX: Disclaimers

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**ARKANSAS TEACHER RETIREMENT SYSTEM  
1400 West Third Street  
Little Rock, Arkansas 72201**

**RESOLUTION  
No. 2025-12**

**Approving Transition from the Kennedy Capital Management  
Extended Market Small Cap Strategy to the Kennedy Capital  
Small-Mid Cap Value Strategy**

**WHEREAS**, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

**WHEREAS**, the Board has reviewed the recommendation of its investment consultant, Aon Hewitt Investment Consulting, Inc, along with the recommendation of the Investment Committee and ATRS staff regarding a potential transition from the Kennedy Capital Extended Market Small Cap strategy to the Kennedy Capital Small-Mid Cap Value strategy.

**THEREFORE, BE IT RESOLVED**, that the ATRS Board approves the transition from the Kennedy Capital Extended Market Small Cap strategy to the Kennedy Capital Small-Mid Cap Value strategy. The transition is expected to include changes in guidelines and the benchmark for the mandate; and

**FURTHER, BE IT RESOLVED**, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this transition, if acceptable terms are reached.

**Adopted this 3rd day of February, 2025.**

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**Mr. Danny Knight, Chair**  
**Arkansas Teacher Retirement System**

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## Memo

### Arrowstreet Alpha Extension – Equity Futures Limit Increase

---

Date: January 21, 2025

To: Arkansas Teacher Retirement System (ATRS)

From: PJ Kelly, Katie Comstock

#### Background and Summary Recommendation

As of December 31, 2024, ATRS had \$1.2B invested in the Arrowstreet Global Alpha Extension strategy. This fund sits in ATRS's Total Equity portfolio and deploys a quantitative global equity strategy. Since ATRS's inception in April 2023, the strategy has earned an annualized return of 25.5%, ranking in the top decile of its peer universe and outperforming its benchmark, the MSCI All Country World Investable Market Index (ACWI IMI), by 8.2 percentage points annualized.

The Arrowstreet Alpha Extension strategy employs a 130/30/20 strategy, meaning it has the flexibility to hold up to 130% in long global public equities, up to 30% in short global public equities and to use equity index futures for up to an additional 20% of long market exposure to maintain market-like beta. In Q3 2024, Arrowstreet informed ATRS and the other investors in the 130/30/20 strategy of its intention to increase the allowable use of equity futures to 40%, from 20%.

Arrowstreet uses equity index futures as part of their Futures Beta Management feature of their Alpha Extension strategy, with the goal of maintaining market-like Beta (meaning, the Arrowstreet strategy will have a similar level of volatility as the global equity market), while taking equity bets they believe will add value. Ultimately, Arrowstreet is looking to expand their ability to add value and their analysis has shown that a limit of 40% is the optimal futures limit to execute their strategy. This limit has been set to balance the goal of generating alpha with the risk from taking leverage through the futures exposure. Based on conversations with Arrowstreet and Aon's Global Investment Manager Research Team, the change is expected to increase both return and volatility by approximately 50bps, ultimately expecting higher risk-adjusted returns, which could also lead to higher incentive fees as well.

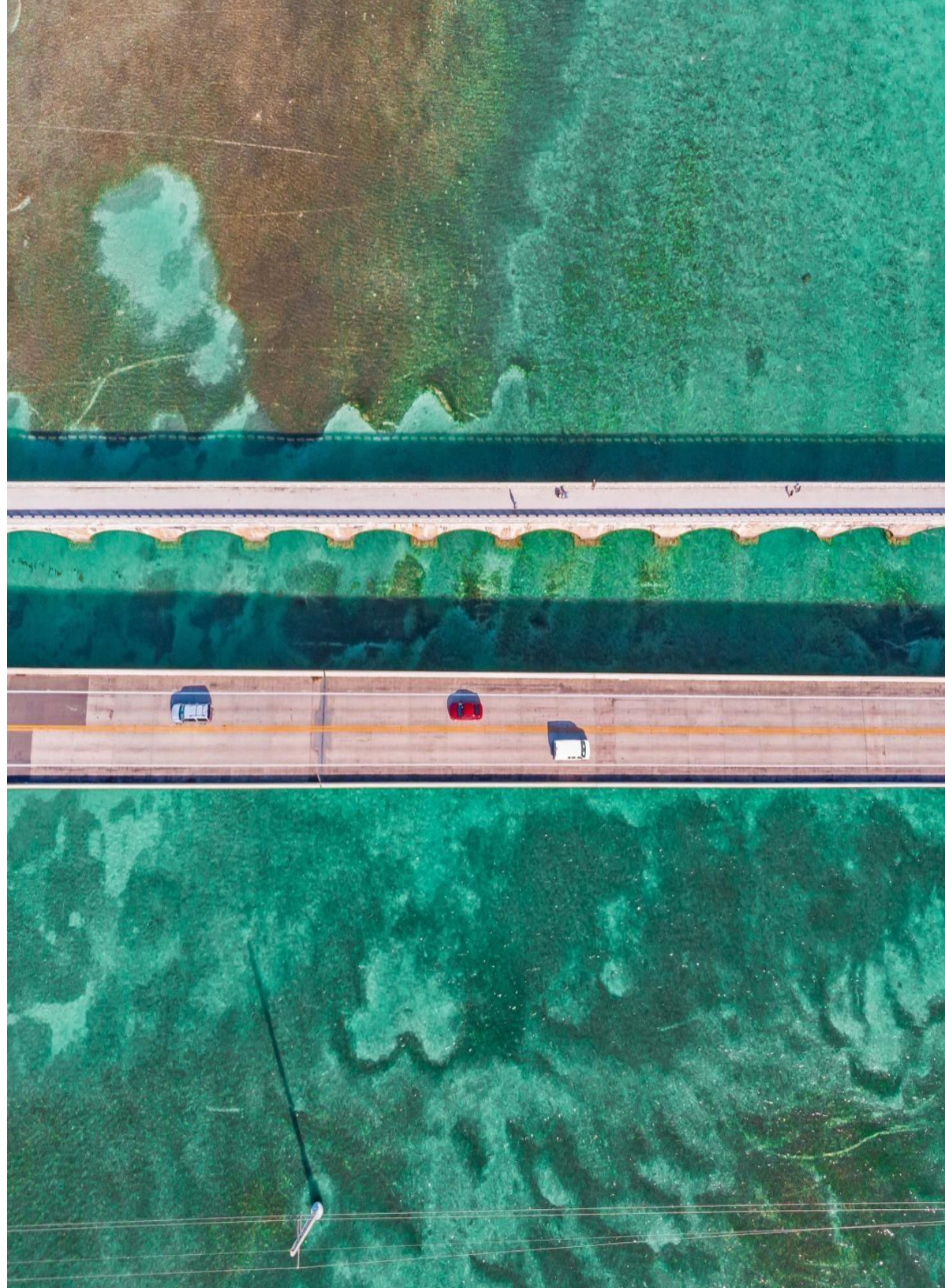
Under the current fund terms, Arrowstreet has the discretion to increase the amount of equity futures and thus no modifications to the fund documents are needed. Thus far, the vast majority of other investors have been comfortable with the new limit of 40% leverage and have not elected to make a change. ATRS's client team and Aon's Global Investment Manager Research Team discussed the change with Arrowstreet and are comfortable with the futures limit increasing from 20% to 40%. Arrowstreet continues to be one of Aon's highest conviction strategies and has consistently delivered significant alpha. The change to 130/30/40 limits maintains an alignment of interest between clients and Arrowstreet and allows a top tier manager additional tools to deliver value-add to its clients.



# 3Q 2024 Real Assets Performance Review

## Arkansas Teacher Retirement System

February 2025



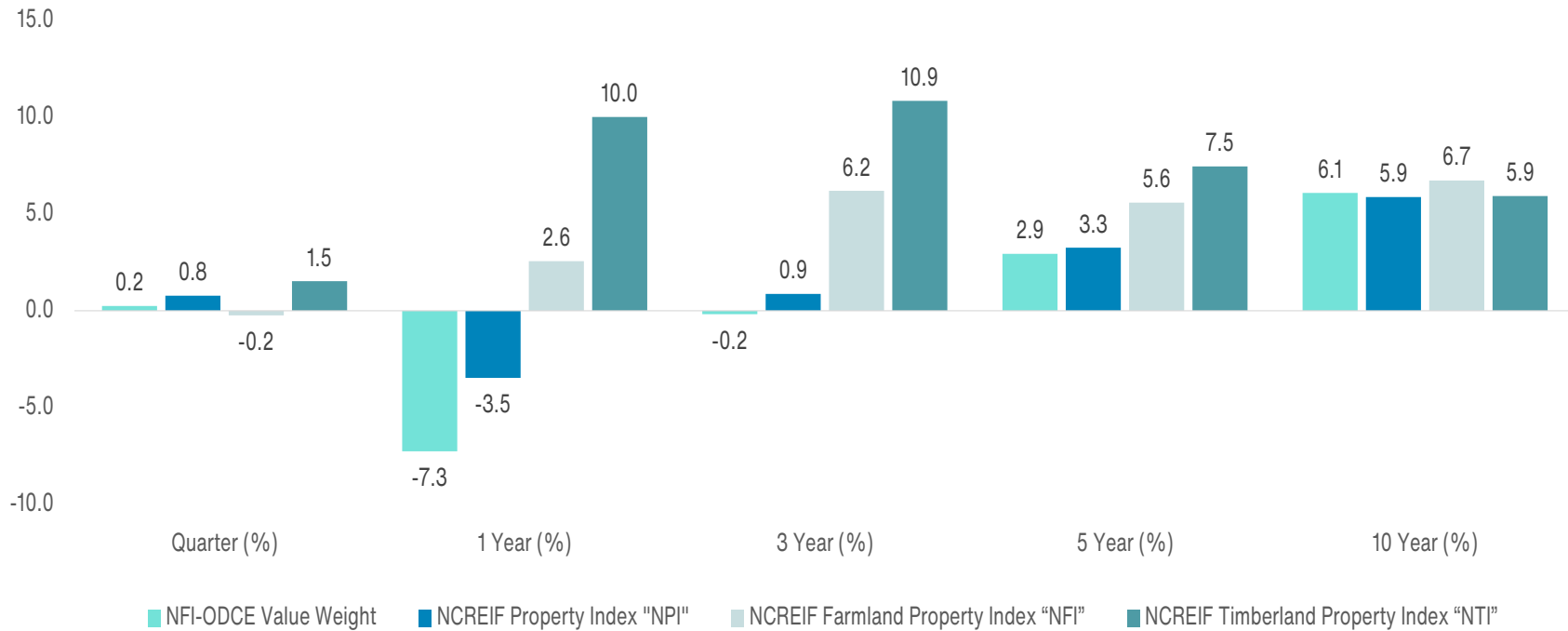
# 1

## Executive Summary



# Real Assets Markets Performance and Overview

Performance Summary	Quarter (%)		1 Year (%)		3 Year (%)		5 Year (%)		10 Year (%)	
	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET
NFI-ODCE Value Weight	0.2	0.0	-7.3	-8.0	-0.2	-1.0	2.9	2.1	6.1	5.2
NCREIF Property Index "NPI"	0.8		-3.5		0.9		3.3		5.9	
NCREIF Farmland Property Index "NFI"	-0.2		2.6		6.2		5.6		6.7	
NCREIF Timberland Property Index "NTI"	1.5		10.0		10.9		7.5		5.9	



# Portfolio Funding Status and Composition

As of September 30, 2024

ATRS' Portfolio <sup>1</sup> (\$ in Millions)	
Number of Investments	93
Total Commitments	4,752.8
Unfunded Commitments	739.0
Total Paid-In Capital	4,315.2
Total Distributions	3,746.8
Net Asset Value	2,674.4
Gross Asset Value	4,021.2
DPI	0.9x
TVPI	1.5x
Since Inception IRR	6.7%

Portfolio Composition to Targets		
	Target	Actual Funded
Target Real Asset Allocation	15%	11.7%
Portfolio Style Composition		
Real Estate <sup>4</sup>	8%	6.7%
Core <sup>2</sup>	50%-70%	53.5%
Non-Core	30%-50%	46.5%
Value-Added <sup>3</sup>	N/A	26.5%
Opportunistic <sup>3</sup>	N/A	20.0%
Agriculture	1%	1.1%
Timber	2%	1.6%
Infrastructure <sup>4</sup>	4%	2.3%
Leverage	50%	33.5%

The portfolio is in compliance with its Statement of Investment Policy.

<sup>1</sup> Active and liquidated

<sup>2</sup> Includes Arkansas Investments

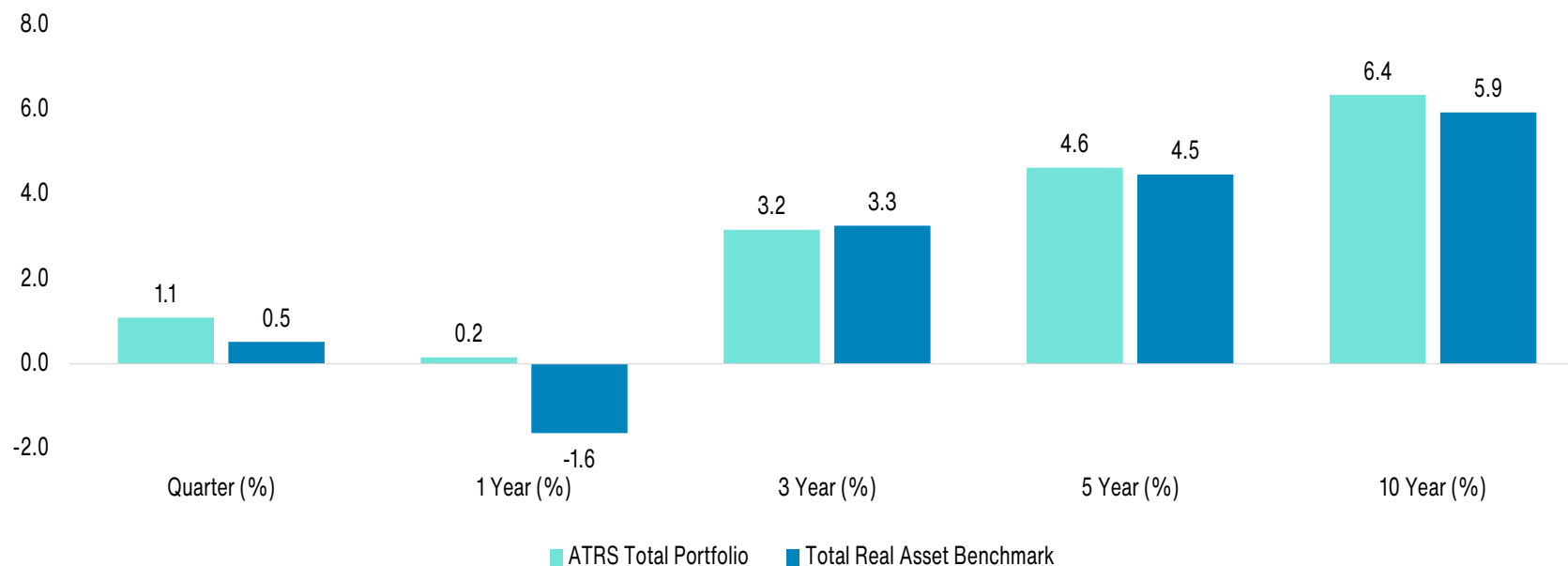
<sup>3</sup> No stated targets

<sup>4</sup> Approved December 2, 2024, revised targets from 10% Real Estate and 2% Infrastructure

# ATRS' Real Assets Performance

Performance Summary	Quarter (%)		1 Year (%)		3 Year (%)		5 Year (%)		10 Year (%)		Net IRR	Equity Multiple
	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET		
ATRS Total Portfolio	1.5	1.1	1.5	0.2	4.6	3.2	6.1	4.6	7.8	6.4	6.7	1.5
Total Real Assets Benchmark <sup>1</sup>		0.5		-1.6		3.3		4.5		5.9		

## Gross Time Weighted Returns



<sup>1</sup> The ATRS Total Real Assets Benchmark was comprised of the NFI-ODCE returns, the NCREIF Timberland returns, the NCREIF Agriculture returns, and CPI plus 500 weighted by the allocations based on Net Asset Values across the various sub-categories, and thus defined as Real Assets benchmark, Timber benchmark, Agriculture benchmark, and Infrastructure benchmarks prior to 3Q2020. As of 3Q2020, the Timberland and Agriculture benchmarks going forward will no longer be weighted and are just the NCREIF Timberland and NCREIF Farmland returns, gross of fees.



# ATRS' Real Asset Performance Summary

Performance Summary	Quarter (%)		1 Year (%)		3 Year (%)		5 Year (%)		10 Year (%)		Net IRR	Equity Multiple
	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET		
Real Estate	0.4	0.0	-4.1	-5.3	0.6	-0.6	3.1	1.8	6.6	5.2	6.9	1.4
NFI-ODCE Value Weight	0.2	0.0	-7.3	-8.0	-0.2	-1.0	2.9	2.1	6.1	5.2		
Timberland	3.5	3.3	12.6	11.6	8.8	7.9	8.2	7.2	6.9	6.0	5.5	2.1
Timberland Benchmark <sup>1</sup>	1.5		10.0		10.9		7.5		5.9			
Agriculture	-0.2	-0.5	3.6	2.5	8.7	7.5	7.5	6.4	6.6	5.5	5.8	1.5
Agriculture Benchmark <sup>1</sup>	-0.2		2.6		6.2		5.6		6.7			
Infrastructure	4.1	3.5	10.6	8.2	12.8	10.2	14.9	12.3	15.1	11.2	12.2	1.5
Infrastructure Benchmark <sup>1</sup>	1.6		7.5		9.2		8.8		7.5			

<sup>1</sup> The ATRS Total Real Assets Benchmark was comprised of the NFI-ODCE returns, the NCREIF Timberland returns, the NCREIF Agriculture returns, and CPI plus 500 weighted by the allocations based on Net Asset Values across the various sub-categories, and thus defined as Real Assets benchmark, Timber benchmark, Agriculture benchmark, and Infrastructure benchmarks prior to 3Q2020. As of 3Q2020, the Timberland and Agriculture benchmarks going forward will no longer be weighted and are just the NCREIF Timberland and NCREIF Farmland returns, gross of fees.

# ATRS' Real Assets Portfolio Highlights

## Commitment activity update

- ATRS made the following commitments during, or subsequent to quarter end:
  - Long Wharf Real Estate Partners VII: \$50 million
- ATRS is in the queue with a partial redemption of UBS TPF
  - As of September 30, 2024, the TPF redemption queue is \$5.2 billion and expect full repayment by YE27

# Significant Events

- In Q1 of 2025, UBS announced the hiring of a new Chief Investment Officer responsible for the UBS Trumbull Funds. Larissa Belova, has joined the UBS team as the new Chief Investment Officer of the UBS U.S. Real Estate business, coming from her former role as Portfolio Manager of CBRE's flagship core real estate fund.

# 2

## Market Overview



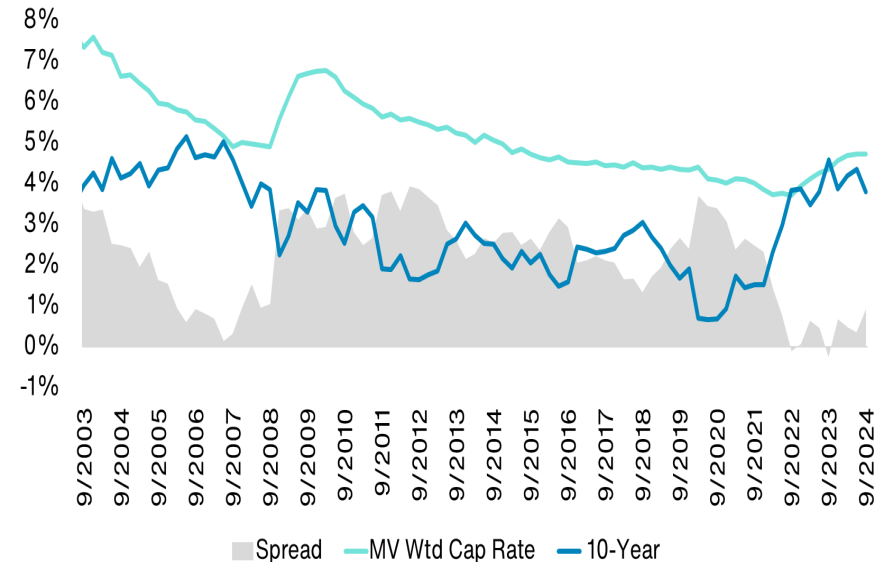
# United States Real Estate Market Update

3Q 2024

## General

- The economy remained resilient in the third quarter while inflation continued to moderate from its June 2022 high. The Fed has since to indicate its intentions to cut interest rates, albeit at a slower pace than previously indicated, keeping interest rates within the 5.00%-4.75% target.
- During the third quarter, GDP increased at an annualized rate of 2.8%, relatively unchanged from second quarter. Growth was led by increases in consumer spending, exports, federal government spending, and nonresidential fixed investment partially offset by imports. Investors will continue to monitor economic growth, coupled with headline inflation, as an indication of a soft landing out of the current cycle.

NPI Current Value Cap Rate versus 10yr Treasury



Sources: Bureau of Economic Analysis, U.S. Census Bureau, St. Louis Fed, NCREIF, Real Capital Analytics, Bloomberg LP., Preqin.

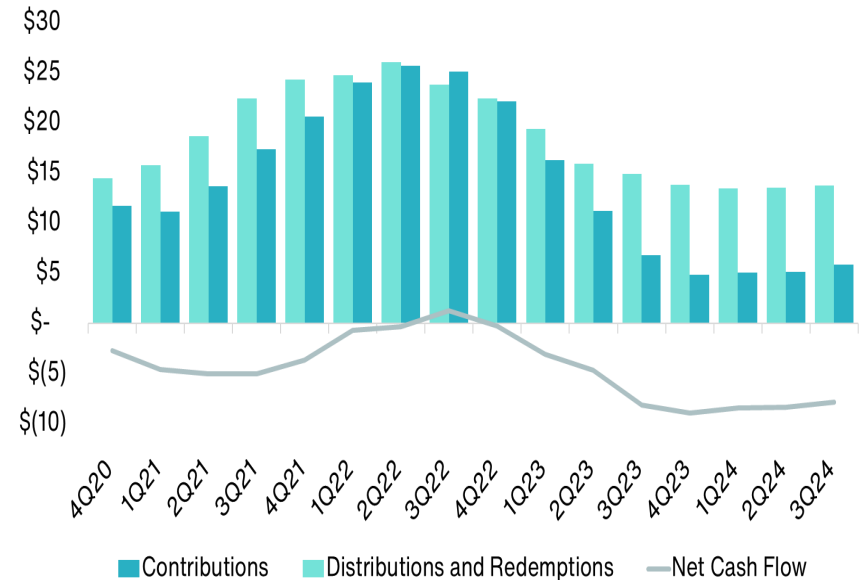
# United States Real Estate Market Update

3Q 2024

## Commercial Real Estate

- 10yr Treasury bond yields have declined from prior quarter, ending the quarter at 3.8%. However, recent hawkish sentiment from the Fed could indicate a potentially protracted plateau, and subsequent recovery, from a multi-year high. Additionally, the spread between the 10yr Treasury and current value cap rates remain relatively tight, indicating minimal risk premium for commercial real estate investors.
- Capital flows in and out of US stabilized commercial real estate remain negative, albeit at a modestly improving rate. Contributions are showing signs of growth, with distributions and redemptions plateauing. Current investor redemption queues remain elevated at around \$39 billion (or 18-19% of the index), manager payouts remain the range of 5-10% of a given funds' redemption queue.

NFI-ODCE: Rolling 4 Quarter Cash Flows



Sources: Bureau of Economic Analysis, U.S. Census Bureau, St. Louis Fed, NCREIF, Real Capital Analytics, Bloomberg LP., Preqin.

# United States Property Detail

## 3Q 2024

### Industrial

Strong NOI growth continues to support capital values despite cap rates moving out. Softening demand contributed to slowing rent growth; however, fundamentals still present resilience for industrial properties.

### Residential

Expanded NPI now includes manufactured housing, single-family rental, and student housing along with apartments. Outsized deliveries continue to forecast weak rental growth for multifamily properties; however, positive appreciation from the new property subtypes helped support overall returns.

### Office

Expanded NPI now includes life sciences and medical office along with traditional office. Losses were broad-based across subtypes.

### Retail

Malls entered this cycle at depressed values, offering investors a value proposition which supported property valuations. NOI growth has also been strong at select properties. Necessity based retail (i.e., grocery and pharmacy anchored) has outperformed the other subtypes.

### Other Property Types

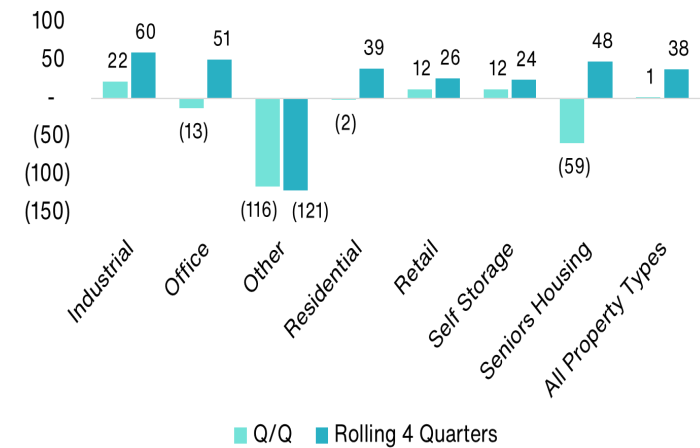
Seniors Housing: as seniors delay assisted living, independent living outperforms due to relative demand

Self-Storage: tends to do well in down cycles when tenants require more storage space

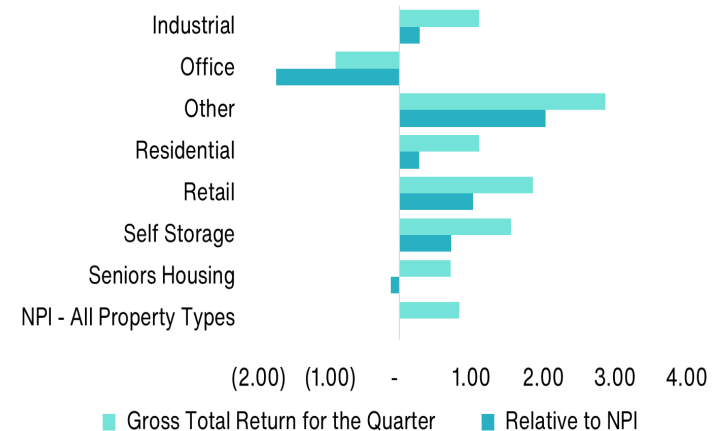
Other: roughly 1.5% of NPI and is made up of data centers, land, parking, and other

Source: NCREIF

**Current Value Cap Rate Change by Property Type**  
(in basis points)

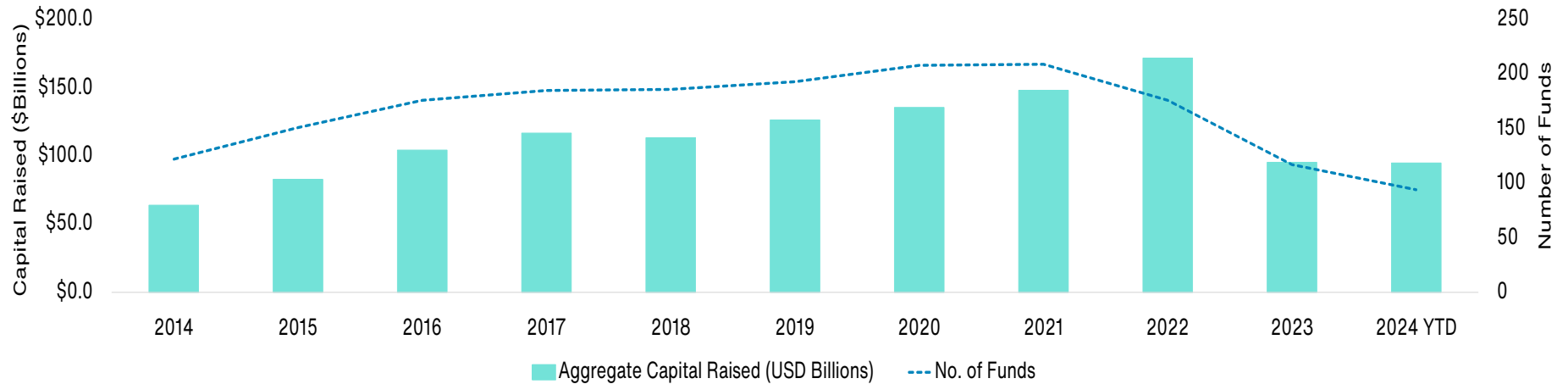


**NPI - Property Type Returns**



# Infrastructure

## Global Infrastructure Fundraising



## Fundraising

- \$18.1 billion of capital was raised by 20 funds in Q3 2024 compared to \$18.6 billion of capital raised by 27 funds in Q2 2024. This fell short of the five-year quarterly average of \$33.3 billion. By primary region focus, approximately 29% of funds closed in Q3 2024 were targeting Europe and 27% of funds closed were targeting the United States.
  - Stonepeak Opportunities Fund was the largest fund to hold a final close during 3Q24 raising \$3.15 billion in commitments.
- Despite a slow down in fundraising, the market remains competitive and should see strong capital deployment in the coming quarters stemming from sidelined capital and investor appetite.
- Falling interest rates in key regions such as Europe and initiatives in North America such as the Inflation Reduction Act provide framework conducive towards a healthy growth environment for infrastructure growth in 2025.
  - Additionally, infrastructure valuations have continued to moderate due to its inverse correlation with interest rates and positive relationship with inflation.

Chart source: Preqin, Macquarie Asset Management



# Infrastructure

## Infrastructure Deals Completed

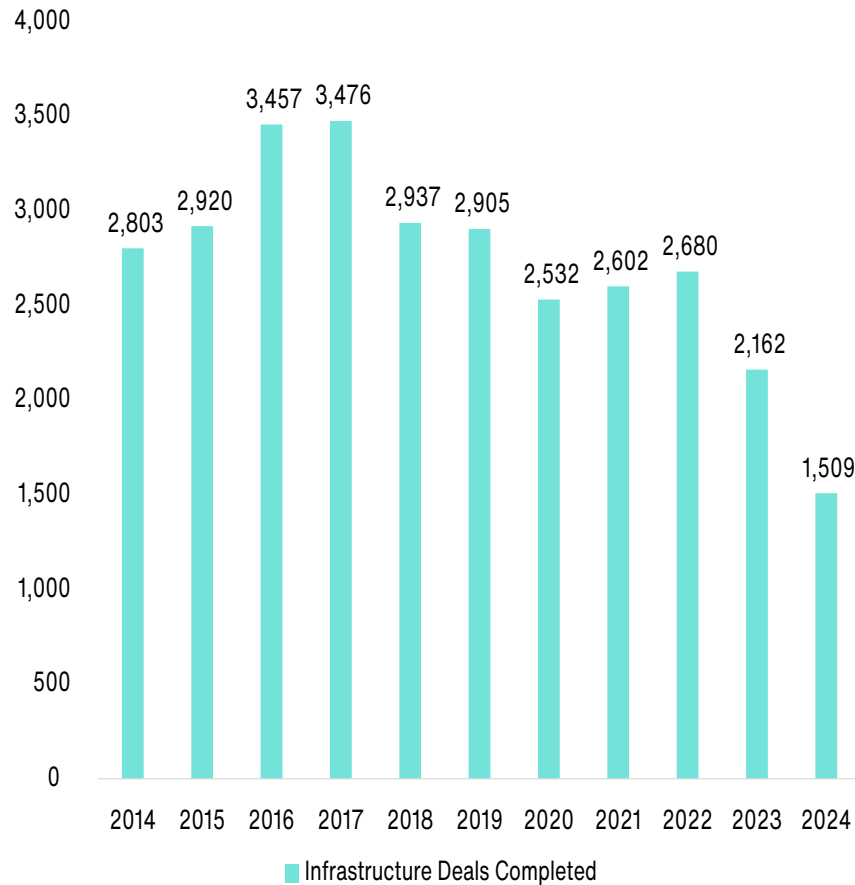


Chart source: Prequin, Macquarie Asset Management

## Activity

- Infrastructure managers completed 540 deals for an aggregate deal value of \$105.5 billion in Q3 2024, compared to 435 deals totaling \$65.0 billion in Q2 2024. Q3 2024's total outpaced the five-year quarterly average of \$99.9 billion in deal value signaling a positive outlook heading into 2025.

## Opportunity

- Mid-market core+ and value-add infrastructure as well as a platform investing approach continue to offer the best relative value.
- Assess funds with pre-specified assets with caution due to possible lag in and uncertainty around valuation impact.
- Blind-pool funds may be better positioned to take advantage of the market dislocation in certain sub-sectors, however careful review of such strategies is required.
- Build-to-core greenfield strategies particularly in the social / PPP infrastructure space offer a premium for investors willing to take on construction / development risk.
- From a sector perspective, transport infrastructure recognizes favorable tailwinds in periods of higher expected economic growth.

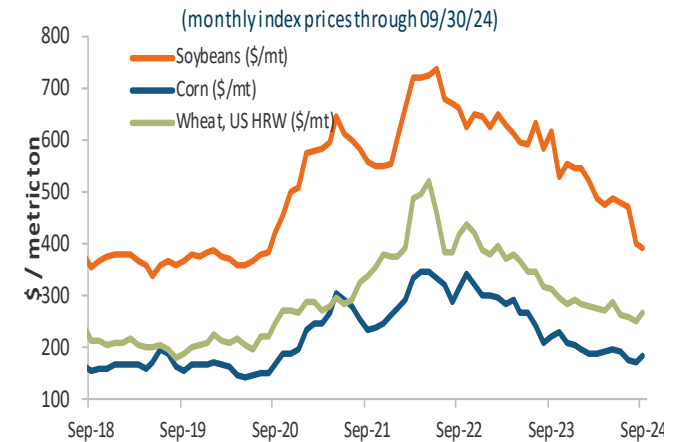
# Farmland

## Third Quarter 2024 Market Update

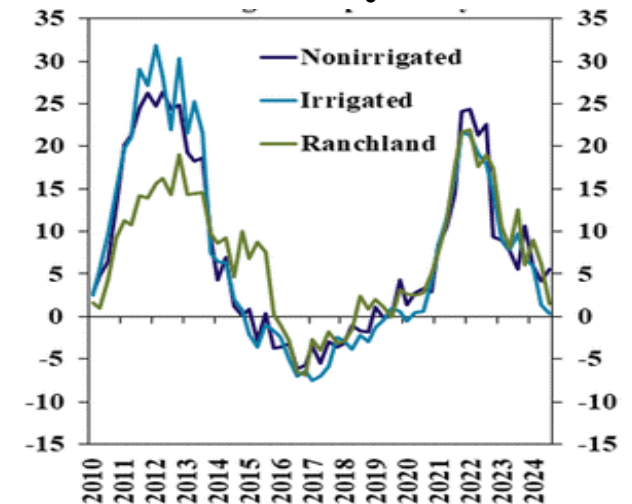
### Farmland Markets

- Agricultural commodity prices were mixed but mostly positive by quarter-end, with grain and oilseed prices declining early in the quarter driven by strong yields in major growing regions.
- Margins for row crop producers remain under pressure due to declining commodity prices, though stabilized input costs (e.g., fertilizer and fuel) have provided some relief. Corn prices rallied despite projections for a record U.S. harvest, driven by reduced beginning stocks, while soybeans experienced a decline due to expectations of record harvests and strong growing conditions in Brazil.
- Farm credit conditions tightened further during the quarter as elevated interest rates continued to create headwinds particularly for permanent crop valuations and operating margins. With expectations of a gradual easing of interest rates, there may be relief for land and operating loans; however, the pace of decline will determine its impact on farmer liquidity and land markets.
- The tree nut sector saw modest recovery signals. Almond prices firmed following declining inventory levels and lower-than-expected yields. Pistachios benefited from an off-year production cycle and increased exports, suggesting potential price improvements in 2024/25.
- Farmland values have plateaued or slightly declined in many regions as higher interest rates begin to impact market dynamics. Despite these challenges, cropland cash rents increased modestly, offering some stability to landowners.

**FIG 1: Major Global Crop Price Indices Monthly % Change**  
**Key Global Crop Price Change 2018-2024**



**FIG 2: U.S. Farmland Value % Change from Previous Year**



Second Quarter 2024  
 Sources by Figure: (1) World Bank Pink Sheet Monthly Data - December 2024; Figure (2) Federal Reserve Bank of Kansas City Bulletin, USDA

# Farmland

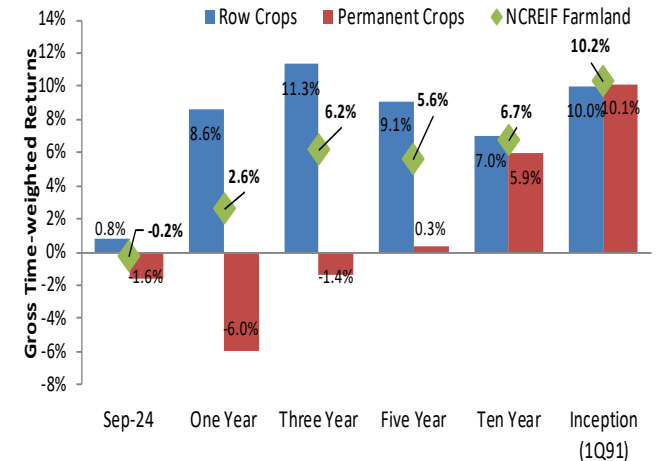
## Third Quarter 2024 Performance Update

### Farmland index commentary 3Q24

- The NCREIF Farmland Index ("NFI") remained in the negative during the quarter generating -0.24% in 3Q24, trending down from last quarter's -0.21% return. The total return was composed of 0.7% income and -0.9% appreciation. Over the trailing 12 months (TTM), the NFI posted a 2.57% total return, composed of 3.0% income and -0.4% appreciation.
- Row crop returns have continued to moderate with declining crop prices, although remain well above permanent crops, which have generated negative quarterly returns over the last six consecutive quarters. Row crops returned 0.8% during the quarter, with flat capital growth and an income return of 0.7%. Permanent crops returned -1.6% comprised of -2.2% appreciation and 0.6% income.
- Over the TTM, Row crops returned 8.6% while permanent crops posted a -6.0% return, a slight increase over last quarter's record TTM-period low of -6.4%. The tree nut segment continues to face pressure and drive permanent crop underperformance, while grapes (table and wine grapes) experienced capital value write-downs during the quarter as well.
- Australian permanent crops have faced similar pressure as the ANREV Australian Farmland Index ("AFI") has generated negative annualized returns over the last four-quarters, driven by the struggling permanent crop sector as poor weather across many growing regions led to underwhelming production levels.
- The high delta between row and permanent crops remained as row crops generated 10.7% over the TTM period, while permanent crops generated a -13.8% return.

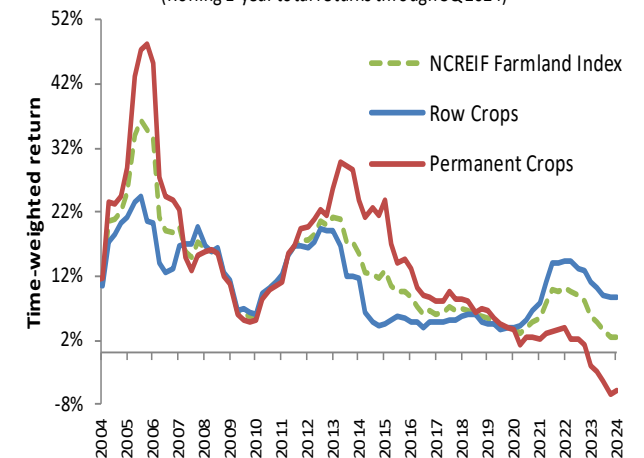
Third Quarter 2024  
Source: NCREIF, ANREV

NCREIF Farmland Index Farm Type Returns September 2024



NCREIF Farm Type Performance

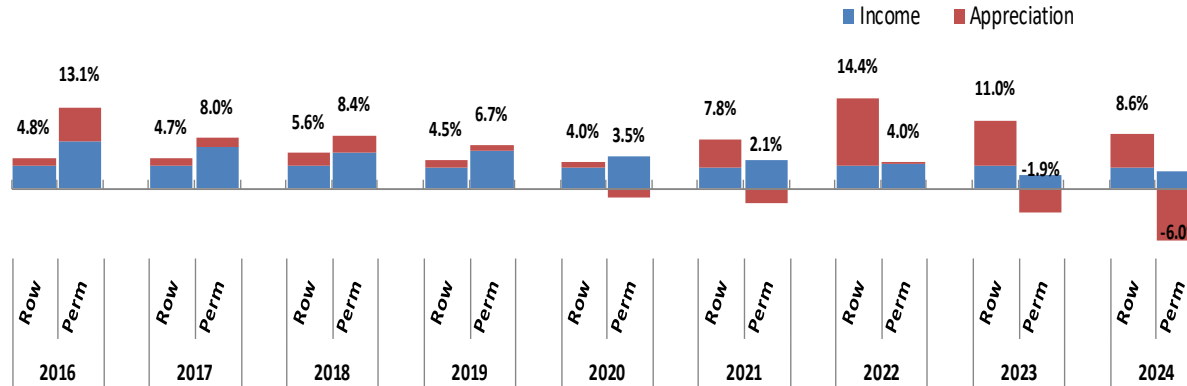
(Rolling 1-year total returns through 3Q 2024)



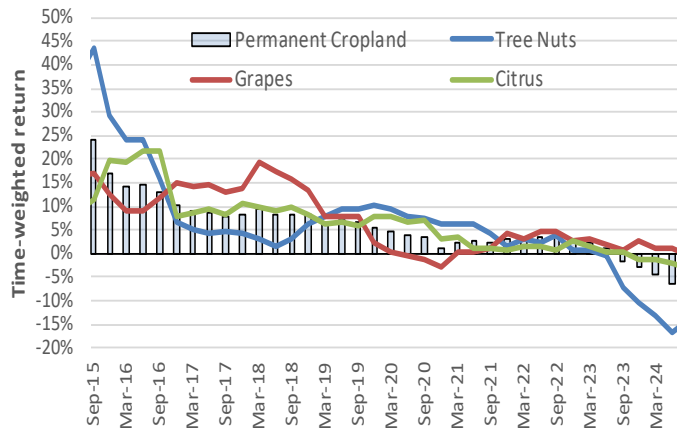
# Farmland

## Third Quarter 2024 Performance Update

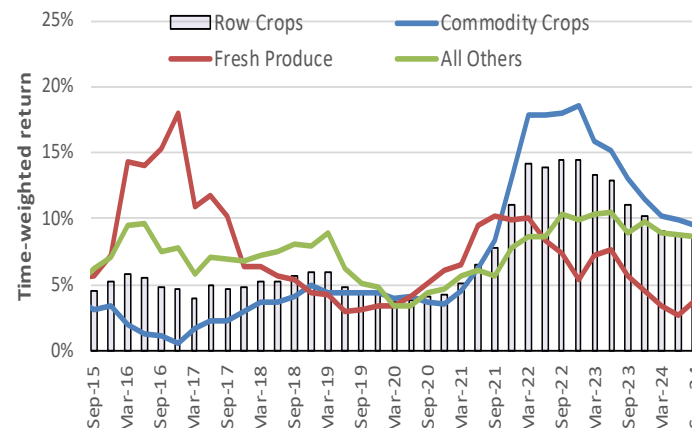
**NCREIF Farm Type Performance Attribution Sep '16 - Sep '24**  
(Rolling 1-year total returns through 3Q 2024)



**NCREIF Permanent Crop Performance by Crop Type**  
(Rolling 1-year total returns through 3Q 2024)



**NCREIF Row Crop Performance by Crop Category**  
(Rolling 1-year total returns through 3Q 2024)



Third Quarter 2024

Source: NCREIF; Permanent Crop Types included in chart above (bottom left) account for approximately 80% of the NFI Perm sub-index by market value as of September 30, 2024.

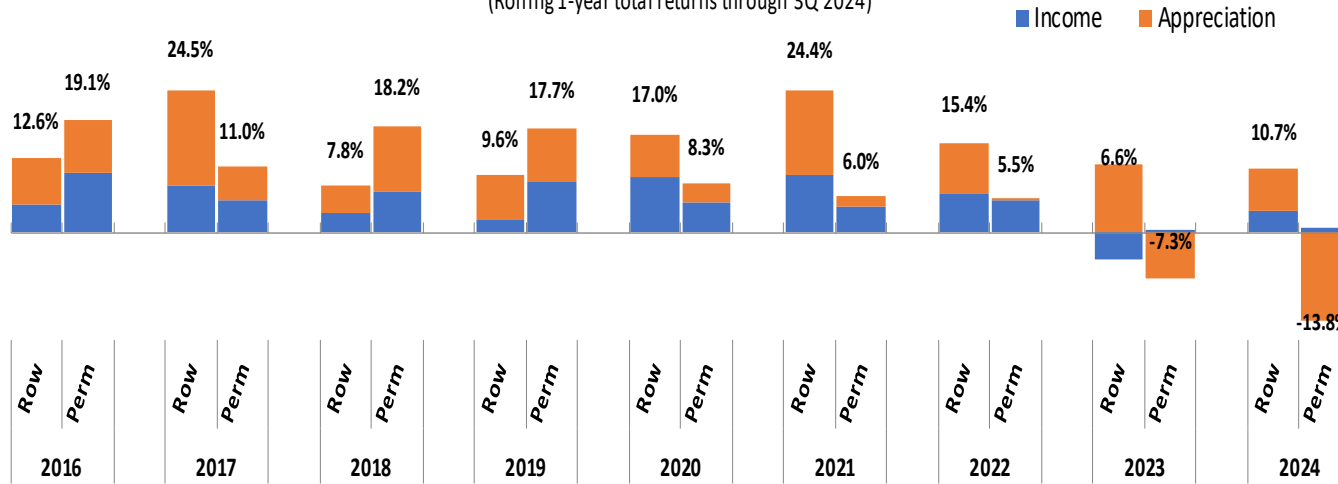


# Farmland

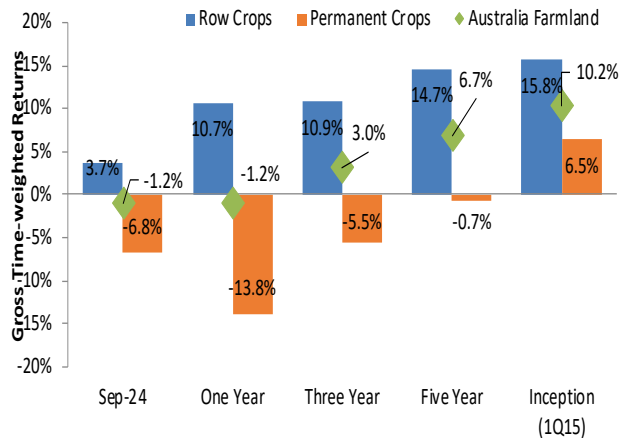
## Third Quarter 2024 Performance Update

ANREV Australian Farmland Index Farm Type Performance Attribution Sep '16 - Sep '24

(Rolling 1-year total returns through 3Q 2024)

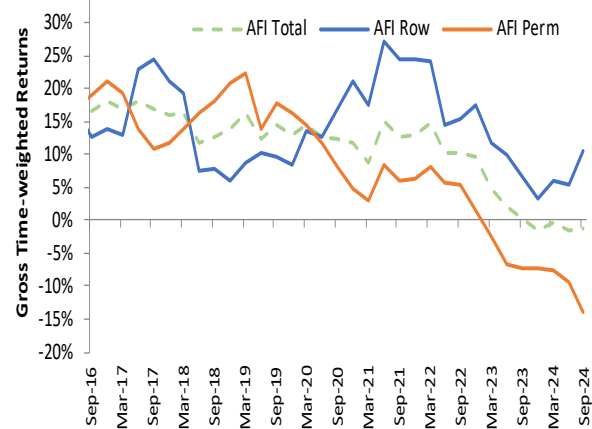


ANREV Australian Farm Index Farm Type Returns Sep 24



ANREV Australian Farm Index Farm Type Performance

(Rolling 1-year total returns through 3Q 2024)



Third Quarter 2024  
Source: ANREV



# Timberland

## Third Quarter 2024 Market Update

### Timberland Markets

- Timberland markets remained stable during the quarter despite elevated interest rates and soft housing markets globally. The focus on natural capital investments with an emphasis on carbon sequestration and biodiversity enhancement continues to attract new capital sources into the market, although moderating off the flurry of activity observed over the past 36 months.
- U.S. housing starts saw a modest 1.9% increase but remain below prior year levels due to high mortgage rates and home prices. These factors continued to suppress domestic lumber demand, as lumber prices rose over the quarter but remain down 6.2% year-over-year, highlighting ongoing affordability challenges.
- Southern timber prices were mixed: pine pulpwood and hardwood sawtimber rose slightly, while pine sawtimber and chip-n-saw prices declined due to weaker construction demand. Pacific Northwest pricing continued to soften, driven by oversupply and high inventory coupled with a slowdown in lumber markets, with the bright spot being exports to Japan that are priced at a premium over domestic pricing.
- New Zealand log export prices improved slightly (up 3.5% during the quarter), but overall activity remains below historic peaks due to weak Chinese demand as its property sector continued to struggle.
- Brazil's Timber markets, particularly pulpwood and eucalyptus logs, held strong. Local demand for charcoal (used in pig iron production) improved due to favorable trade conditions and tariffs on steel imports.

FIG 1: U.S. Housing Starts, SAAR (x1000) & 30-year Mortgage

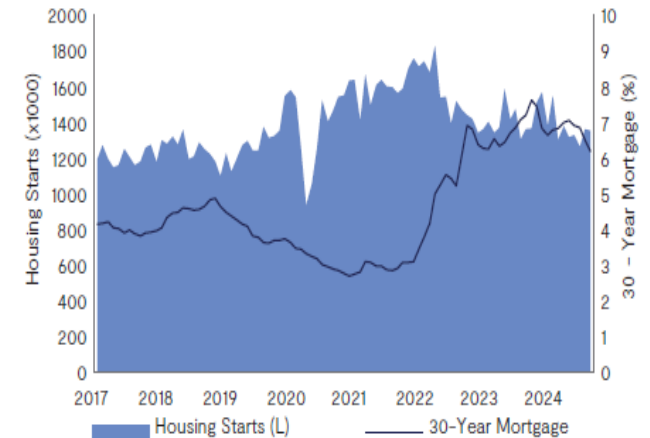
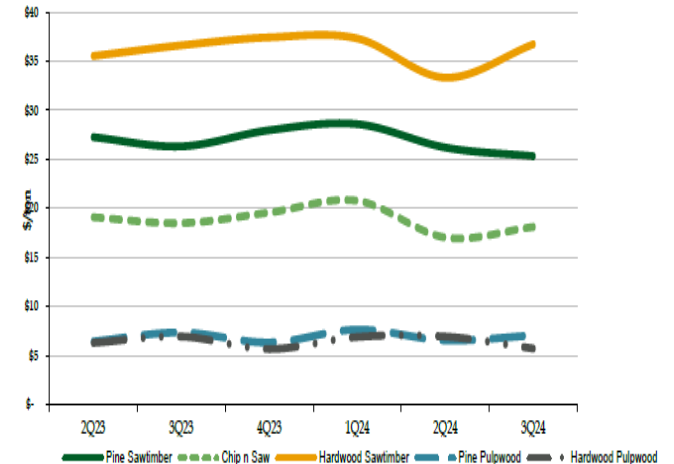


FIG 2: U.S. Southeastern Timber Prices



Third Quarter 2024  
 Sources by Figure: (1) Federal Reserve Bank of St. Louis, US Census Bureau; TIG (2) Forest2Market; FIA

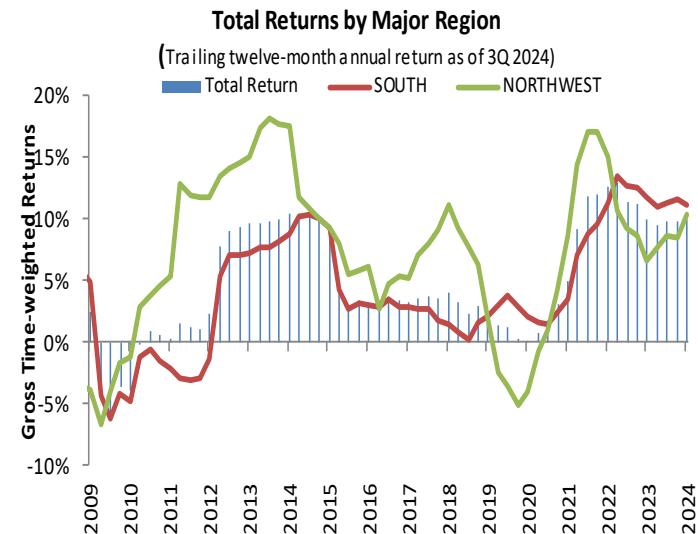
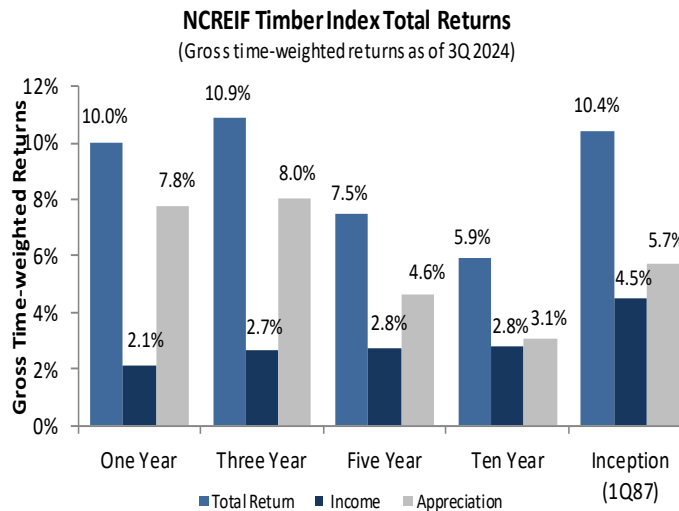


# Timberland

## Third Quarter 2024 Performance Update

### Timberland Performance

- The NTI generated a 1.5% return for the quarter, a slight decline over last quarter's 1.7% return and the third consecutive quarterly decline, as the timberland markets have moderated off cyclical-peak levels over the last several years. Performance was comprised of 0.4% income and 1.1% appreciation.
- The trailing twelve-month ("TTM") return was 10.0% and included appreciation of 7.8% and income of 2.1%; a slight improvement over last quarter's TTM of 9.8% and unchanged from last year's same TTM period return.
- Returns for the quarter were positive across all regions, while the U.S. South and Northwest, the largest regions, led performance with returns of 1.3% and 2.4%, respectively. The South's return was comprised of 0.5% income and 0.8% appreciation, and the Northwest consisted of a 0.1% income return and 2.3% appreciation.
- Market values (per acre) were up a modest 1.1% over last quarter, at \$2,210/ac; both the South and Northwest increased in value on a per acre basis, while the Northeast declined slightly, and Lake States were flat. Discount rates, which have declined over the last few quarters, remained relatively stable keeping values generally flat during the quarter.

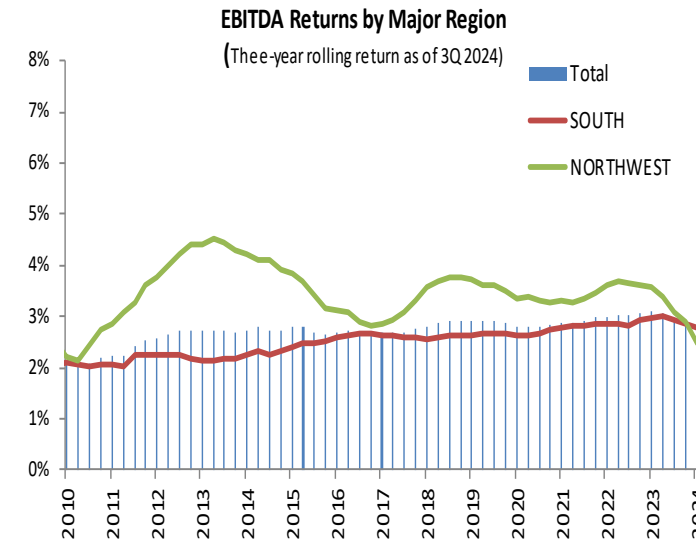
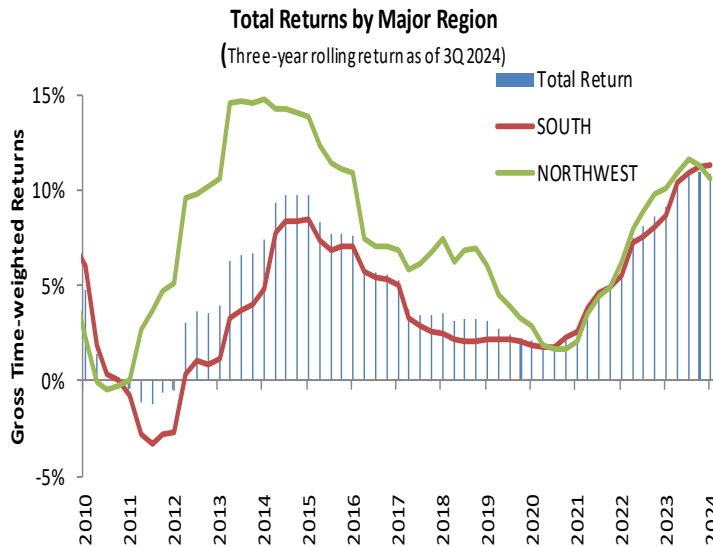
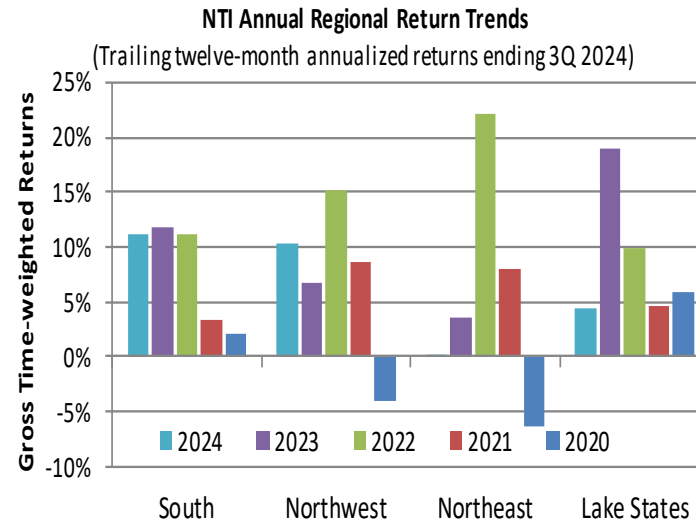
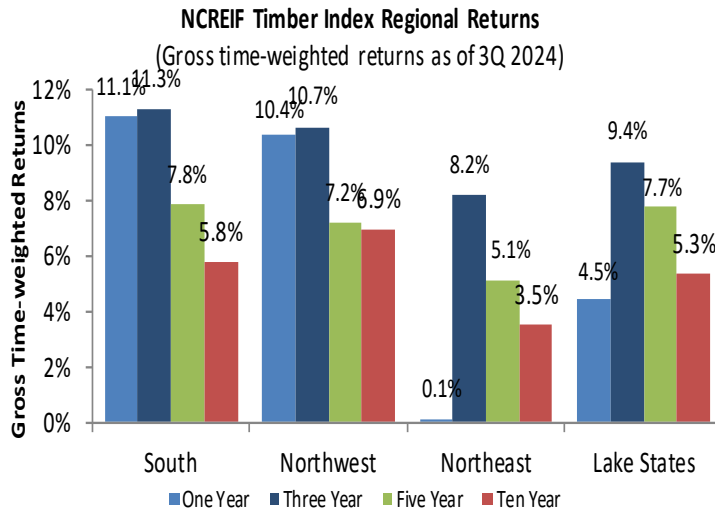


Third Quarter 2024  
Source: NCREIF



# Timberland

## Third Quarter 2024 Performance Update



Third Quarter 2024  
Source: NCREIF





# 3

## Real Assets Portfolio Update



# ATRS' Real Estate Performance: Core Portfolio

As of September 30, 2024

Partnership Name	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Arkansas Investments	2007	142,694,200	144,624,546	0	211,707,616	77,382,557	2.9	2.3
JP Morgan Strategic Property Fund	2007	170,000,000	170,000,000	0	233,127,022	147,157,641	5.5	4.3
Metlife Commercial Mortgage Income Fund	2019	50,000,000	50,000,000	0	14,192,771	43,076,641	1.6	1.3
Prime Property Fund	2022	70,000,000	70,000,000	0	5,827,384	57,526,092	2.2	1.7
PRISA SA	2005	170,000,000	184,182,196	0	146,248,391	262,163,340	9.8	7.7
RREEF Core Plus Industrial Fund L.P.	2022	70,000,000	70,000,000	0	2,690,021	64,828,697	2.4	1.9
UBS Trumbull Property Fund	2006	170,000,000	190,587,980	0	230,433,702	112,164,105	4.2	3.3
UBS Trumbull Property Income Fund	2017	50,000,000	50,000,000	0	11,721,078	49,844,090	1.9	1.5
<b>Total Core</b>	<b>2005</b>	<b>892,694,200</b>	<b>929,394,723</b>	<b>0</b>	<b>855,947,985</b>	<b>814,143,163</b>	<b>30.4</b>	<b>23.9</b>

Returns (%)	Quarter				1 Year				3 Year				5 Year				10 Year				Inception		TWR Inception	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET			
Arkansas Investments	0.0	4.3	4.3	4.3	0.0	11.5	11.5	11.5	0.0	7.6	7.6	7.6	0.0	1.5	1.5	1.5	0.0	7.1	7.1	7.1	7.2	7.2	1Q08	8.1	2.0
JP Morgan Strategic Property Fund	1.0	-0.2	0.8	0.6	3.9	-14.0	-10.5	-11.3	3.4	-5.6	-2.3	-3.2	3.5	-1.9	1.6	0.7	3.9	1.1	5.1	4.2	5.0	4.1	2Q07	6.1	2.2
Metlife Commercial Mortgage Income Fund	2.1	-1.3	0.9	0.6	9.4	-7.6	1.2	0.3	7.7	-4.5	3.0	2.1	6.8	-3.0	3.6	2.8					3.7	2.9	3Q19	2.9	1.1
Prime Property Fund	1.0	-0.5	0.6	0.2	4.0	-6.1	-2.3	-3.5													-2.1	-3.2	2Q22	-4.4	0.9
PRISA SA	1.2	-0.4	0.7	0.5	4.5	-11.9	-7.8	-8.5	4.0	-4.6	-0.8	-1.6	4.0	-0.9	3.0	2.2	4.3	2.0	6.4	5.6	6.1	5.3	3Q05	5.6	2.2
RREEF Core Plus Industrial Fund L.P.	0.7	1.0	1.7	1.5	3.1	-2.4	0.6	-0.1													-1.6	-2.3	3Q22	-2.1	1.0
UBS Trumbull Property Fund	0.9	-0.9	0.0	-0.2	3.7	-9.8	-6.4	-7.1	3.7	-6.2	-2.7	-3.4	3.9	-4.2	-0.4	-1.2	4.3	-1.2	3.1	2.3	4.3	3.5	2Q06	4.8	1.8
UBS Trumbull Property Income Fund	1.0	-0.6	0.4	0.2	4.0	-6.4	-2.6	-3.4	3.9	-3.3	0.5	-0.3	3.8	-1.1	2.7	1.8					3.9	3.1	3Q17	3.3	1.2
<b>Total Core</b>	<b>1.0</b>	<b>0.0</b>	<b>1.0</b>	<b>0.8</b>	<b>4.0</b>	<b>-8.5</b>	<b>-4.8</b>	<b>-5.6</b>	<b>3.6</b>	<b>-3.3</b>	<b>0.2</b>	<b>-0.6</b>	<b>3.6</b>	<b>-1.3</b>	<b>2.2</b>	<b>1.5</b>	<b>3.8</b>	<b>1.7</b>	<b>5.6</b>	<b>4.8</b>	<b>6.8</b>	<b>6.0</b>	<b>3Q05</b>	<b>5.7</b>	<b>1.8</b>

Note: Arkansas Investments are included in Core portfolio



# ATRS' Real Estate Funding: Value-Add Portfolio

As of September 30, 2024

Partnership Name	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Almanac Realty Securities IX, L.P.	2022	40,000,000	8,991,996	31,008,004	0	8,611,945	0.3	1.2
Almanac Realty Securities V, LP	2008	50,000,000	21,787,314	0	48,380,466	44,047	0.0	0.0
Almanac Realty Securities VI	2012	30,000,000	19,102,008	0	21,152,797	2,947,180	0.1	0.1
Almanac Realty Securities VII	2015	30,000,000	31,795,401	4,129,617	27,705,163	16,369,854	0.6	0.6
Almanac Realty Securities VIII	2018	30,000,000	24,596,377	6,967,195	4,599,565	25,142,430	0.9	0.9
Calmwater Real Estate Credit Fund III	2017	30,000,000	23,113,383	7,427,676	18,697,713	10,840,334	0.4	0.5
CBRE Strategic Partners U.S. Value 8	2017	25,000,000	24,252,597	747,403	10,377,578	10,967,125	0.4	0.3
CBRE Strategic Partners U.S. Value 9	2020	50,000,000	52,961,816	2,545,913	5,879,589	41,971,240	1.6	1.3
FPA Core Plus Fund IV	2018	30,000,000	30,000,000	0	5,836,802	34,970,478	1.3	1.0
GLP Capital Partners IV	2021	50,000,000	42,131,915	11,759,777	3,891,692	38,760,847	1.4	1.5
Harbert European Real Estate Fund IV	2016	25,011,918	23,920,550	1,694,332	20,809,457	1,177,482	0.0	0.1
LaSalle Income & Growth Fund VI	2013	20,000,000	19,047,619	0	22,379,425	2,236,851	0.1	0.1
LaSalle Income & Growth Fund VII	2017	20,000,000	20,307,423	0	13,425,555	5,308,943	0.2	0.2
LaSalle Income & Growth Fund VIII	2020	50,000,000	42,593,082	7,406,918	12,932,416	32,953,112	1.2	1.2
LaSalle Value Partners U.S. IX		75,000,000	0	75,000,000	0	-4,486,820	-0.2	2.1
LBA Logistics Value Fund IX	2022	55,000,000	39,487,180	15,512,821	0	37,484,191	1.4	1.6
Long Wharf Real Estate Partners V	2015	30,000,000	29,828,371	0	22,620,031	14,297,045	0.5	0.4
Long Wharf Real Estate Partners VI, L.P.	2020	50,000,000	49,958,652	0	28,047,572	33,595,954	1.3	1.0
Mesa West Real Estate Income Fund V	2021	40,000,000	15,040,134	24,995,358	1,424,230	15,085,845	0.6	1.2
PGIM Real Estate Capital VII (USD Feeder) SCSp	2021	40,000,000	21,636,820	25,160,042	7,973,944	16,700,986	0.6	1.2
Rockwood Capital Real Estate Partners Fund IX	2012	30,000,000	27,422,960	1,692,085	33,814,339	2,190,234	0.1	0.1
Rockwood Capital Real Estate Partners Fund XI	2019	40,000,000	34,891,626	6,101,722	1,623,581	27,399,091	1.0	1.0
Walton Street Real Estate Debt Fund II, L.P.	2019	40,000,000	35,193,209	24,668,350	19,872,875	19,344,755	0.7	1.3
Westbrook Real Estate Fund IX	2013	40,000,000	46,599,741	3,603,488	48,361,088	3,933,640	0.1	0.2
Westbrook Real Estate Fund X	2016	25,000,000	25,869,289	613,257	21,324,570	5,797,529	0.2	0.2
<b>Total Value Added</b>	<b>2007</b>	<b>945,011,918</b>	<b>710,529,462</b>	<b>251,033,957</b>	<b>401,130,446</b>	<b>403,644,319</b>	<b>15.1</b>	<b>19.2</b>

# ATRS' Real Estate Performance: Value-Add Portfolio

As of September 30, 2024

Returns (%)	Quarter				1 Year				3 Year				5 Year				Inception		TWR Inception	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET			
Almanac Realty Securities IX, L.P.	0.5	2.3	2.8	1.4	1.7	11.5	13.4	6.7									6.2	-2.7	3Q22	-2.7	1.0
Almanac Realty Securities V, LP	-16.9	3.4	-13.5	-13.5	-44.3	11.3	-36.9	-36.9	-24.5	5.1	-20.2	-20.2	-24.3	4.2	-20.5	-20.6	0.6	-0.5	4Q09	11.9	2.2
Almanac Realty Securities VI	-0.1	1.2	1.1	0.7	-0.3	-12.7	-13.0	-14.2	0.2	-7.7	-7.6	-8.7	1.2	-10.9	-9.6	-10.7	1.9	0.5	1Q13	7.8	1.3
Almanac Realty Securities VII	1.5	-0.9	0.5	0.2	5.9	-2.8	3.0	1.8	6.5	-2.3	4.1	2.9	7.0	0.6	7.7	6.5	11.7	9.4	3Q15	10.1	1.4
Almanac Realty Securities VIII	1.3	0.9	2.2	1.9	4.4	4.1	8.7	7.5	5.8	4.7	10.7	9.6	6.8	6.2	13.3	8.3	12.9	6.6	3Q19	8.4	1.2
Calmwater Real Estate Credit Fund III	-7.0	0.0	-7.0	-4.9	-6.5	0.0	-6.5	-2.0	0.7	0.0	0.7	2.8	4.5	0.0	4.5	4.6	6.5	5.4	1Q18	6.2	1.3
CBRE Strategic Partners U.S. Value 8	0.2	-18.6	-18.4	-18.7	1.7	-37.0	-35.8	-36.6	3.7	-23.7	-20.8	-21.2	5.1	-13.8	-9.3	-10.0	-2.2	-3.3	2Q17	-2.9	0.9
CBRE Strategic Partners U.S. Value 9	0.0	1.2	1.2	0.8	-2.1	-5.9	-7.9	-9.8	-1.6	0.3	-1.4	-4.2					1.6	-1.9	4Q20	-5.9	0.9
FPA Core Plus Fund IV	1.2	-0.1	1.1	0.9	4.9	-0.5	4.4	3.8	4.9	2.5	7.5	6.9	4.6	3.3	8.0	7.4	7.2	6.5	4Q18	7.0	1.4
GLP Capital Partners IV	0.4	-2.0	-1.6	-3.9	2.6	-1.9	0.7	-2.0	1.0	5.3	6.3	4.8					6.3	4.8	4Q21	0.5	1.0
Harbert European Real Estate Fund IV	0.0	2.7	2.7	0.2	-3.6	-16.0	-19.6	-25.8	9.1	-42.3	-36.2	-38.8	8.7	-30.3	-23.6	-24.7	-11.3	-13.2	3Q16	-2.0	0.9
LaSalle Income & Growth Fund VI	1.2	-1.1	0.0	0.0	3.6	-40.8	-38.4	-38.4	6.1	-32.2	-27.9	-25.3	5.3	-24.0	-19.8	-17.6	-3.6	-3.3	4Q13	7.4	1.3
LaSalle Income & Growth Fund VII	-2.9	-1.8	-4.6	-5.2	-11.8	-13.1	-23.8	-25.7	-5.8	-23.7	-28.5	-28.8	-3.4	-10.4	-13.7	-14.6	-6.1	-7.4	3Q17	-2.4	0.9
LaSalle Income & Growth Fund VIII	-1.6	-3.1	-4.7	-4.9	-6.2	-3.3	-9.4	-9.0	-5.2	13.5	7.7	5.3					16.1	10.9	2Q20	4.2	1.1
LaSalle Value Partners U.S. IX																			4Q24	N/M	N/M
LBA Logistics Value Fund IX	-0.3	-0.3	-0.7	-1.1	-2.0	3.9	1.9	-0.3									-1.7	-5.7	2Q22	-3.7	0.9
Long Wharf Real Estate Partners V	0.0	-4.5	-4.5	-4.9	0.1	-15.9	-15.8	-17.0	0.7	-4.0	-3.4	-4.6	1.0	-0.9	0.1	-0.3	5.9	3.4	1Q16	5.2	1.2
Long Wharf Real Estate Partners VI, L.P.	0.9	0.1	1.0	0.5	2.7	0.5	3.2	1.4	2.8	15.3	18.4	12.7					30.8	20.6	2Q20	13.5	1.2
Mesa West Real Estate Income Fund V	2.9	0.4	3.3	2.4	11.4	-3.6	7.5	3.7									13.1	6.7	1Q22	4.9	1.1
PGIM Real Estate Capital VII (USD Feeder)	0.0	2.7	2.6	2.6	-0.1	9.5	9.4	9.4	0.8	9.9	10.8	11.3					11.2	10.8	2Q21	9.7	1.1
Rockwood Capital Real Estate Partners Fund IX	-0.7	-10.5	-11.2	-11.6	-1.3	-19.3	-20.4	-22.0	0.8	-10.6	-10.0	-12.1	1.7	-11.2	-9.6	-12.0	4.1	1.3	4Q13	9.1	1.3
Rockwood Capital Real Estate Partners Fund XI	-0.2	-10.1	-10.3	-10.7	-0.9	-18.4	-19.2	-20.5	1.2	-7.9	-6.8	-8.6					0.8	-2.1	4Q20	-7.3	0.8
Walton Street Real Estate Debt Fund II, L.P.	2.4	0.0	2.4	2.0	11.5	0.0	11.5	9.9	12.2	-3.7	8.3	6.6	11.7	-2.9	8.6	6.9	8.7	6.9	3Q19	7.3	1.1
Westbrook Real Estate Fund IX	-0.1	-5.2	-5.4	-6.0	-5.3	-37.0	-40.8	-42.1	-2.0	-19.0	-20.8	-22.1	-1.5	-16.1	-17.5	-18.7	-1.6	-4.0	3Q13	4.5	1.1
Westbrook Real Estate Fund X	0.0	-10.3	-10.3	-10.7	-0.8	-39.1	-39.7	-40.8	0.4	-18.4	-18.1	-19.4	0.4	-8.3	-7.9	-9.2	2.0	-2.1	4Q16	2.2	1.0
<b>Total Value Added</b>	<b>0.1</b>	<b>-2.0</b>	<b>-1.9</b>	<b>-2.5</b>	<b>0.6</b>	<b>-6.1</b>	<b>-5.5</b>	<b>-7.0</b>	<b>2.1</b>	<b>-2.3</b>	<b>-0.3</b>	<b>-2.0</b>	<b>3.1</b>	<b>-0.1</b>	<b>3.0</b>	<b>1.0</b>	<b>5.9</b>	<b>3.5</b>	<b>2Q07</b>	<b>4.4</b>	<b>1.1</b>

# ATRS' Real Estate Funding: Opportunistic Portfolio

As of September 30, 2024

Partnership Name	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	2019	49,096,184	43,543,669	15,509,310	14,445,097	39,625,219	1.5	1.6
Blackstone Real Estate Partners Europe VII (USD Vehicle)	2024	50,000,000	4,476,084	45,780,183	0	5,391,359	0.2	1.5
Blackstone Real Estate Partners VII	2012	50,000,000	66,638,931	3,804,804	100,497,304	6,957,945	0.3	0.3
Blackstone Real Estate Partners X	2023	75,000,000	19,909,161	57,653,814	722,378	20,034,105	0.7	2.3
Carlyle Realty Partners IX	2022	35,000,000	16,270,289	19,265,491	535,780	15,390,252	0.6	1.0
Carlyle Realty Partners VII	2014	30,000,000	29,455,892	8,650,485	37,213,307	6,512,962	0.2	0.4
Carlyle Realty Partners VIII	2018	25,000,000	22,091,728	16,033,323	22,863,392	10,956,807	0.4	0.8
CBRE Strategic Partners U.S. Opportunity 5	2008	50,000,000	48,619,365	1,380,600	67,848,535	115,135	0.0	0.0
Cerberus Institutional Real Estate Partners III	2013	30,000,000	37,777,980	7,307,395	51,425,610	7,267,310	0.3	0.4
Heitman European Property Partners IV	2008	44,089,700	34,546,944	0	26,841,177	287,470	0.0	0.0
Kayne Anderson Real Estate Partners V	2018	25,000,000	26,184,595	0	17,928,664	17,041,336	0.6	0.5
Kayne Anderson Real Estate Partners VI	2021	50,000,000	37,000,000	14,391,393	1,391,393	42,380,888	1.6	1.7
Landmark Real Estate Fund VI	2010	40,000,000	35,090,608	70,225	53,488,103	115,893	0.0	0.0
Landmark Real Estate Fund VIII	2017	25,000,000	19,816,344	8,305,520	11,229,641	13,866,594	0.5	0.6
Landmark Real Estate Partners IX, L.P.	2024	50,000,000	4,357,976	45,642,024	0	3,371,130	0.1	1.4
LaSalle Asia Opportunity Fund IV	2014	30,000,000	28,823,325	466,781	39,655,278	1,824,664	0.1	0.1
LaSalle Asia Opportunity V	2016	30,000,000	33,386,243	4,000,371	20,870,330	14,589,417	0.5	0.5
LaSalle Asia Opportunity VI	2023	50,000,000	16,005,308	35,349,583	1,354,891	11,039,514	0.4	1.4
Lone Star Real Estate Fund IV	2015	24,260,817	23,568,500	692,317	20,412,801	6,933,404	0.3	0.2
Lone Star Real Estate Fund VII		50,000,000	0	50,000,000	0	-1,487,324	-0.1	1.4
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	2015	20,000,000	19,132,876	867,124	18,774,454	6,402,900	0.2	0.2
O'Connor North American Property Partners II, L.P.	2008	50,000,000	58,407,308	5,000,000	44,564,013	2,930,482	0.1	0.2
Torchlight Debt Fund VII, LP	2020	50,000,000	47,500,000	2,500,000	388,117	50,442,214	1.9	1.6
Torchlight Debt Opportunity Fund IV	2013	30,000,000	29,369,211	0	39,667,838	1,185,997	0.0	0.0
Torchlight Debt Opportunity Fund V	2015	25,000,000	20,001,024	5,000,000	23,787,472	2,550,794	0.1	0.2
Torchlight Debt Opportunity Fund VI	2018	25,000,000	22,479,558	2,500,000	10,710,743	19,423,340	0.7	0.6
<b>Total Opportunistic</b>	<b>1998</b>	<b>1,012,446,701</b>	<b>744,452,920</b>	<b>350,170,742</b>	<b>626,616,318</b>	<b>305,149,806</b>	<b>11.4</b>	<b>19.2</b>



# ATRS' Real Estate Performance: Opportunistic Portfolio

As of September 30, 2024

Returns (%)	Quarter				1 Year				3 Year				5 Year				Inception		TWR	Net	Equity
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET	Inception	IRR	Multiple
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	0.0	4.6	4.6	4.2	0.0	6.7	6.8	5.3	-0.1	8.7	8.6	4.6					13.2	7.0	1Q20	11.1	1.2
Blackstone Real Estate Partners Europe VII (USD Vehicle)	-0.7	16.1	15.4	10.0													15.4	10.0	3Q24	29.9	1.2
Blackstone Real Estate Partners VII	0.1	-7.1	-7.1	-5.7	-0.2	-24.9	-25.1	-20.9	2.0	-18.7	-17.0	-13.9	1.9	-10.1	-8.3	-6.9	8.7	6.0	2Q12	14.3	1.6
Blackstone Real Estate Partners X	0.0	8.6	8.6	6.5	0.9	35.3	36.9	9.7									39.0	-7.9	2Q23	8.5	1.0
Carlyle Realty Partners IX	-1.1	5.2	4.1	3.2	-8.5	14.5	4.9	-0.5									-21.1	-41.6	4Q22	-2.6	1.0
Carlyle Realty Partners VII	-1.2	0.5	-0.7	0.3	-3.8	-6.4	-10.1	-6.1	4.1	-7.9	-4.0	-2.2	9.6	-7.4	1.9	3.1	10.9	8.2	1Q15	13.0	1.5
Carlyle Realty Partners VIII	5.6	-4.1	1.5	1.6	9.1	-9.8	-1.2	-1.0	19.1	1.6	20.9	18.9	19.6	11.1	32.1	24.8	29.0	19.6	4Q18	23.5	1.5
CBRE Strategic Partners U.S. Opportunity 5	-4.1	0.0	-4.1	-4.1	-7.3	-2.3	-9.5	-9.5	-4.3	3.0	-1.5	-1.5	-3.1	7.1	3.8	3.8	-7.9	-9.3	4Q08	5.4	1.4
Cerberus Institutional Real Estate Partners III	0.2	-13.2	-13.0	-10.4	-22.6	-14.2	-33.6	-27.7	-8.4	0.8	-7.7	-5.7	-5.2	15.1	9.1	7.3	12.9	9.7	4Q13	12.4	1.6
Heitman European Property Partners IV	0.5	3.0	3.5	3.5	1.6	2.0	3.7	3.7	-10.7	-3.7	-13.8	-13.8	-7.2	1.7	-5.6	-5.6	-6.6	-7.6	1Q11	-3.8	0.8
Kayne Anderson Real Estate Partners V	-5.2	3.3	-1.9	-1.8	-16.4	12.7	-5.2	-5.3	-16.8	22.7	3.4	1.5	-7.4	20.6	12.4	8.5	11.8	7.6	3Q18	8.9	1.3
Kayne Anderson Real Estate Partners VI	0.2	4.7	4.9	3.6	1.7	22.2	24.1	16.1	5.0	17.1	22.8	12.3					21.3	7.7	3Q21	11.8	1.2
Landmark Real Estate Fund VI	0.2	0.7	0.9	0.9	-1.8	-2.0	-3.8	-3.8	N/M	77.2	-19.5	-19.8	N/M	41.2	-16.8	-17.3	14.5	12.5	3Q10	18.5	1.5
Landmark Real Estate Fund VIII	-2.8	1.9	-0.9	-1.1	-4.6	-1.6	-6.0	-6.5	13.3	-5.6	7.1	4.8	12.6	-0.2	12.3	8.9	19.2	13.4	3Q17	10.3	1.3
Landmark Real Estate Partners IX, L.P.	-57.4	184.9	127.5	97.2													N/M	N/M	2Q24	N/M	N/M
LaSalle Asia Opportunity Fund IV	0.4	2.5	2.9	2.9	1.6	16.0	18.0	17.5	-3.4	4.6	1.5	0.9	-10.8	8.5	-2.0	-2.6	13.2	7.6	4Q14	31.8	1.4
LaSalle Asia Opportunity V	1.5	-0.3	1.2	0.8	0.3	-3.4	-3.3	-5.0	-6.8	2.3	-4.6	-7.1	-5.9	7.8	1.9	-0.8	7.4	2.6	4Q16	3.4	1.1
LaSalle Asia Opportunity VI	-10.4	8.4	-2.0	-4.1	160.8	-355.7	-238.4	-133.6									N/M	N/M	3Q23	N/M	N/M
Lone Star Real Estate Fund IV	1.4	-0.4	1.0	0.9	-18.4	-19.8	-36.5	-32.9	-8.4	-15.2	-23.1	-18.0	-4.9	-11.8	-16.6	-13.5	-2.7	-1.7	4Q15	6.5	1.2
Lone Star Real Estate Fund VII	-1.1	0.0	-1.1	12.6													N/M	N/M	2Q24	N/M	N/M
Metropolitan Real Estate Partners Co-Investments Fund	-0.2	0.2	0.0	-0.3	-12.0	-7.4	-17.7	-10.4	-0.4	-8.5	-8.3	-6.0	0.1	-5.7	-5.2	-4.0	2.7	2.3	1Q16	7.3	1.3
O'Connor North American Property Partners II, L.P.	0.1	0.0	0.1	0.1	0.3	-34.0	-33.8	-34.5	0.0	-12.0	-12.0	-12.7	0.2	-10.1	-10.0	-10.7	-6.7	-9.1	2Q08	-3.6	0.8
Torchlight Debt Fund VII, LP	1.8	-0.5	1.3	0.9	7.0	-1.6	5.3	3.5	7.1	0.1	7.3	4.7					9.5	5.4	4Q20	4.1	1.1
Torchlight Debt Opportunity Fund IV	0.0	-26.6	-26.6	-27.1	1.4	-40.4	-39.4	-26.6	2.4	-26.4	-24.4	-19.6	2.5	-19.5	-17.3	-12.5	-2.0	-0.6	4Q13	8.8	1.4
Torchlight Debt Opportunity Fund V	0.6	-1.0	-0.3	0.4	2.6	2.0	4.7	4.6	2.6	-3.2	-0.7	1.9	3.7	-1.4	2.2	3.8	9.6	6.8	3Q15	9.9	1.3
Torchlight Debt Opportunity Fund VI	1.4	0.1	1.4	1.2	4.5	1.5	6.0	5.0	5.0	2.9	8.0	7.1	6.0	1.6	7.7	6.3	11.5	6.8	2Q18	7.4	1.3
<b>Total Opportunistic</b>	<b>-0.2</b>	<b>2.2</b>	<b>2.0</b>	<b>1.4</b>	<b>-3.0</b>	<b>4.0</b>	<b>0.9</b>	<b>-1.3</b>	<b>-0.3</b>	<b>4.7</b>	<b>4.3</b>	<b>1.6</b>	<b>1.5</b>	<b>6.3</b>	<b>7.7</b>	<b>4.6</b>	<b>9.0</b>	<b>6.6</b>	<b>1Q98</b>	<b>10.0</b>	<b>1.3</b>



# ATRS' Agriculture, Timber, & Infrastructure Funding:

## As of September 30, 2024

Partnership Name	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Agrivest Farmland Fund	2015	50,000,000	50,000,000	0	11,534,685	64,684,671	2.4	1.9
HFMS Farmland Separate Account	2011	125,000,000	178,054,470	14,240,587	87,664,318	183,176,688	6.8	5.8
<b>Agriculture</b>	<b>2011</b>	<b>175,000,000</b>	<b>228,054,470</b>	<b>14,240,587</b>	<b>99,199,003</b>	<b>247,861,359</b>	<b>9.3</b>	<b>7.7</b>
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	2019	182,930,629	182,930,628	0	12,449,182	255,290,350	9.5	7.5
BTG Timber Separate Account	1998	133,069,371	158,324,875	0	331,750,000	120,688,564	4.5	3.5
<b>Timber</b>	<b>1998</b>	<b>316,000,000</b>	<b>341,255,503</b>	<b>0</b>	<b>344,199,182</b>	<b>375,978,913</b>	<b>14.1</b>	<b>11.0</b>
AxInfra NA II LP	2021	50,000,000	52,353,146	0	6,780,852	62,007,236	2.3	1.8
DIF Infrastructure Fund VII	2023	53,140,610	16,829,806	38,335,454	6,785	18,389,683	0.7	1.7
DIF Infrastructure V	2018	47,762,784	44,119,258	6,300,959	6,086,786	53,638,731	2.0	1.8
IFM Global Infrastructure	2018	50,000,000	50,000,000	0	6,922,324	77,530,980	2.9	2.3
KKR Diversified Core Infrastructure Fund	2022	75,000,000	75,075,604	0	6,090,520	79,832,639	3.0	2.3
Macquarie Infrastructure Partners III	2013	50,000,000	51,865,316	5,415,680	74,882,471	46,505,580	1.7	1.5
Macquarie Infrastructure Partners V	2020	50,000,000	47,696,600	3,668,543	1,365,143	57,808,362	2.2	1.8
<b>Infrastructure - Core</b>	<b>2015</b>	<b>375,903,394</b>	<b>337,939,729</b>	<b>53,720,636</b>	<b>102,134,881</b>	<b>395,713,210</b>	<b>14.8</b>	<b>13.2</b>
Antin Infrastructure Partners Fund II	2014	47,696,920	35,953,565	1,948,558	65,739,757	6,172,673	0.2	0.2
EnCap Energy Transition Fund II	2024	50,000,000	12,506,114	37,493,886	0	10,913,473	0.4	1.4
Global Energy & Power Infrastructure Fund II	2014	50,000,000	55,730,676	1,491,773	55,275,165	14,029,804	0.5	0.5
Global Infrastructure Partners III	2016	50,000,000	52,253,564	5,427,140	33,587,350	47,870,391	1.8	1.6
ISQ Global Infrastructure Fund III	2021	50,000,000	29,045,573	21,350,186	395,759	33,481,783	1.3	1.6
KKR Global Infrastructure Investors II	2014	50,000,000	55,482,004	2,148,553	85,133,433	19,398,401	0.7	0.6
<b>Infrastructure - Non-Core</b>	<b>2014</b>	<b>297,696,920</b>	<b>240,971,495</b>	<b>69,860,096</b>	<b>240,131,464</b>	<b>131,866,525</b>	<b>4.9</b>	<b>5.9</b>
<b>Infrastructure</b>	<b>2014</b>	<b>673,600,314</b>	<b>578,911,225</b>	<b>123,580,732</b>	<b>342,266,346</b>	<b>527,579,735</b>	<b>19.7</b>	<b>19.1</b>

# ATRS' Agriculture, Timber, & Infrastructure Performance

## As of September 30, 2024

Returns (%)	Quarter				1 Year				3 Year				5 Year				10 Year				Inception		TWR	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET			
Agrivest Farmland Fund	0.7	-0.4	0.3	0.0	3.2	3.0	6.3	5.2	3.2	4.8	8.2	7.1	3.2	3.5	6.7	5.7					6.3	5.2	2Q15	5.2	1.5
HFMS Farmland Separate Account	-0.1	-0.3	-0.4	-0.7	1.8	0.8	2.6	1.5	2.5	6.3	8.9	7.7	3.0	4.7	7.8	6.6	3.4	3.2	6.8	5.6	7.3	6.0	3Q11	6.0	1.5
<b>Agriculture</b>	<b>0.1</b>	<b>-0.3</b>	<b>-0.2</b>	<b>-0.5</b>	<b>2.2</b>	<b>1.4</b>	<b>3.6</b>	<b>2.5</b>	<b>2.7</b>	<b>5.9</b>	<b>8.7</b>	<b>7.5</b>	<b>3.1</b>	<b>4.4</b>	<b>7.5</b>	<b>6.4</b>	<b>3.4</b>	<b>3.1</b>	<b>6.6</b>	<b>5.5</b>	<b>7.2</b>	<b>6.0</b>	<b>3Q11</b>	<b>5.8</b>	<b>1.5</b>
Agriculture Benchmark*			<b>-0.2</b>				<b>2.6</b>				<b>6.2</b>				<b>5.6</b>				<b>6.7</b>		<b>9.2</b>		3Q11		
BTG Pactual Open Ended Core U.S. Timberland Fund	-0.1	1.9	1.9	1.6	0.4	8.1	8.5	7.4	4.6	4.0	9.2	8.1									9.7	8.6	1Q20	8.6	1.5
BTG Timber Separate Account	0.0	7.0	7.0	6.9	-0.8	23.2	22.3	21.6	2.0	5.9	8.0	7.4	11.3	-10.9	5.9	5.2	6.6	-4.0	5.8	5.0	7.4	6.6	2Q98	5.3	2.9
<b>Timber</b>	<b>0.0</b>	<b>3.5</b>	<b>3.5</b>	<b>3.3</b>	<b>0.0</b>	<b>12.5</b>	<b>12.6</b>	<b>11.6</b>	<b>3.7</b>	<b>4.8</b>	<b>8.8</b>	<b>7.9</b>	<b>11.5</b>	<b>-8.9</b>	<b>8.2</b>	<b>7.2</b>	<b>6.7</b>	<b>-2.9</b>	<b>6.9</b>	<b>6.0</b>	<b>7.8</b>	<b>7.0</b>	<b>2Q98</b>	<b>5.5</b>	<b>2.1</b>
Timberland Property Benchmark*			<b>1.5</b>				<b>10.0</b>				<b>10.9</b>				<b>7.5</b>				<b>5.9</b>		<b>6.4</b>		2Q98		
AxInfra NA II LP	1.7	1.8	3.5	2.5	4.7	7.3	12.3	9.4	2.8	8.3	11.3	8.7									13.6	10.9	2Q21	9.2	1.3
DIF Infrastructure Fund VII	0.7	7.3	8.0	6.1	0.7	24.0	24.8	17.0													19.0	11.2	3Q23	8.9	1.1
DIF Infrastructure V	0.5	3.5	4.0	3.1	3.1	8.4	11.7	8.7	2.7	4.7	7.4	5.5	3.5	7.0	10.7	8.7					9.9	7.3	3Q18	7.4	1.4
IFM Global Infrastructure	0.5	3.5	4.0	3.8	2.2	5.2	7.6	6.4	2.3	7.2	9.6	8.0	3.0	7.7	10.9	9.1					11.5	9.6	4Q18	9.6	1.7
KKR Diversified Core Infrastructure Fund	1.0	1.1	2.1	2.0	3.7	4.2	8.0	7.5													7.8	7.3	2Q22	7.6	1.1
Macquarie Infrastructure Partners III	0.7	-0.3	0.4	0.2	7.8	4.7	12.6	9.4	9.5	20.5	31.0	23.7	5.9	23.1	29.8	22.7					23.9	18.0	2Q15	17.7	2.3
Macquarie Infrastructure Partners V	0.8	1.5	2.4	2.0	1.1	2.1	3.2	1.9	0.6	10.7	11.4	9.6									13.2	10.8	1Q21	8.6	1.2
<b>Infrastructure - Core</b>	<b>0.9</b>	<b>2.2</b>	<b>3.0</b>	<b>2.5</b>	<b>3.6</b>	<b>5.9</b>	<b>9.6</b>	<b>7.6</b>	<b>3.6</b>	<b>9.6</b>	<b>13.5</b>	<b>10.7</b>	<b>3.3</b>	<b>11.7</b>	<b>15.3</b>	<b>12.2</b>					<b>15.9</b>	<b>12.1</b>	<b>2Q15</b>	<b>11.7</b>	<b>1.5</b>
Antin Infrastructure Partners Fund II	0.0	16.2	16.3	16.1	0.1	17.9	18.1	17.2	2.5	8.0	10.7	9.8	2.0	15.2	17.6	16.6	1.9	12.9	15.1	13.6	15.1	13.6	4Q14	13.2	2.0
EnCap Energy Transition Fund II	0.1	0.2	0.3	-1.2																	0.1	-3.1	2Q24	-14.5	0.9
Global Energy & Power Infrastructure Fund II	0.2	15.9	16.1	13.2	0.7	6.7	7.4	4.3	2.4	-8.9	-6.6	-7.4	6.0	-11.3	-5.4	-6.4					9.4	2.9	1Q15	10.6	1.2
Global Infrastructure Partners III	1.0	5.5	6.5	6.1	5.5	5.0	10.8	9.3	5.1	8.1	13.6	12.1	5.3	6.2	11.9	10.3					12.1	8.8	4Q16	9.6	1.6
ISQ Global Infrastructure Fund III	-0.5	6.6	6.1	4.3	-1.0	27.4	26.2	17.6													32.5	18.5	1Q22	13.1	1.2
KKR Global Infrastructure Investors II	2.6	6.9	9.5	8.3	16.5	1.2	21.0	19.7	17.7	-4.8	14.0	13.4	20.5	-2.7	20.9	20.1					18.3	15.1	1Q15	16.9	1.9
<b>Infrastructure - Non-Core</b>	<b>0.7</b>	<b>7.0</b>	<b>7.7</b>	<b>6.5</b>	<b>5.5</b>	<b>8.1</b>	<b>13.9</b>	<b>10.0</b>	<b>7.0</b>	<b>3.6</b>	<b>10.8</b>	<b>8.5</b>	<b>9.4</b>	<b>3.5</b>	<b>13.5</b>	<b>11.5</b>	<b>6.8</b>	<b>7.1</b>	<b>14.5</b>	<b>11.2</b>	<b>14.5</b>	<b>11.2</b>	<b>4Q14</b>	<b>12.8</b>	<b>1.5</b>
<b>Infrastructure</b>	<b>0.8</b>	<b>3.3</b>	<b>4.1</b>	<b>3.5</b>	<b>4.0</b>	<b>6.5</b>	<b>10.6</b>	<b>8.2</b>	<b>4.7</b>	<b>7.9</b>	<b>12.8</b>	<b>10.2</b>	<b>6.2</b>	<b>8.3</b>	<b>14.9</b>	<b>12.3</b>	<b>4.7</b>	<b>9.9</b>	<b>15.1</b>	<b>11.2</b>	<b>15.1</b>	<b>11.2</b>	<b>4Q14</b>	<b>12.2</b>	<b>1.5</b>
Infrastructure Benchmark			<b>1.6</b>				<b>7.5</b>				<b>9.2</b>				<b>8.8</b>				<b>7.5</b>		<b>7.5</b>				

\*The Timberland Property Benchmark was comprised of the NCREIF Timberland returns weighted according to ATRS' regional exposure based on Net Asset Value prior to 3Q20, gross of fees. The Agriculture Benchmark was comprised of the NCREIF Farmland returns weighted according to ATRS' regional and crop type exposure based on Net Asset Value prior to 3Q20, gross of fees. As of 3Q20, the Timberland and Agriculture benchmarks going forward will no longer be weighted and are just the NCREIF Timberland and NCREIF Farmland returns, gross of fees.



# ATRS' Portfolio Funding Detail: By Vintage Year

As of September 30, 2024

Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
1997	75,000,000	80,737,536	0	120,795,230	0	0.0	0.0
1998	233,069,371	271,187,524	0	479,689,777	120,688,564	4.5	3.5
1999	178,794,401	189,842,518	0	316,052,650	0	0.0	0.0
2000	209,242,960	228,396,220	0	289,773,858	0	0.0	0.0
2005	170,000,000	184,182,196	0	146,248,391	262,163,340	9.8	7.7
2006	170,000,000	190,587,980	0	230,433,702	112,164,105	4.2	3.3
2007	417,694,200	418,942,712	0	557,760,348	224,540,198	8.4	6.6
2008	264,089,700	229,805,708	6,380,600	277,539,154	3,377,134	0.1	0.3
2010	40,000,000	35,090,608	70,225	53,488,103	115,893	0.0	0.0
2011	125,000,000	178,054,470	14,240,587	87,664,318	183,176,688	6.8	5.8
2012	110,000,000	113,163,899	5,496,888	155,464,439	12,095,359	0.5	0.5
2013	170,000,000	184,659,867	16,326,563	236,716,432	61,129,377	2.3	2.3
2014	207,696,920	205,445,462	14,706,150	283,016,940	47,938,504	1.8	1.8
2015	179,260,817	174,326,172	10,689,058	124,834,607	111,238,668	4.2	3.6
2016	130,011,918	135,429,645	11,735,100	96,591,707	69,434,820	2.6	2.4
2017	150,000,000	137,489,747	16,480,599	65,451,565	90,827,086	3.4	3.1
2018	232,762,784	219,471,516	31,801,476	74,948,276	238,704,101	8.9	7.9
2019	362,026,813	346,559,132	46,279,382	62,583,505	384,736,055	14.4	12.6
2020	250,000,000	240,710,151	16,121,374	48,612,837	216,770,882	8.1	6.8
2021	280,000,000	197,207,587	97,656,756	21,857,870	208,417,585	7.8	9.0
2022	345,000,000	279,825,069	65,786,315	15,143,704	263,673,816	9.9	9.7
2023	403,140,610	69,608,365	339,474,761	2,084,054	57,773,760	2.2	11.6
2024	50,000,000	4,476,084	45,780,183	0	5,391,359	0.2	1.5
	<b>\$4,752,790,494</b>	<b>\$4,315,200,169</b>	<b>\$739,026,018</b>	<b>\$3,746,751,469</b>	<b>\$2,674,357,295</b>	<b>100</b>	<b>100</b>

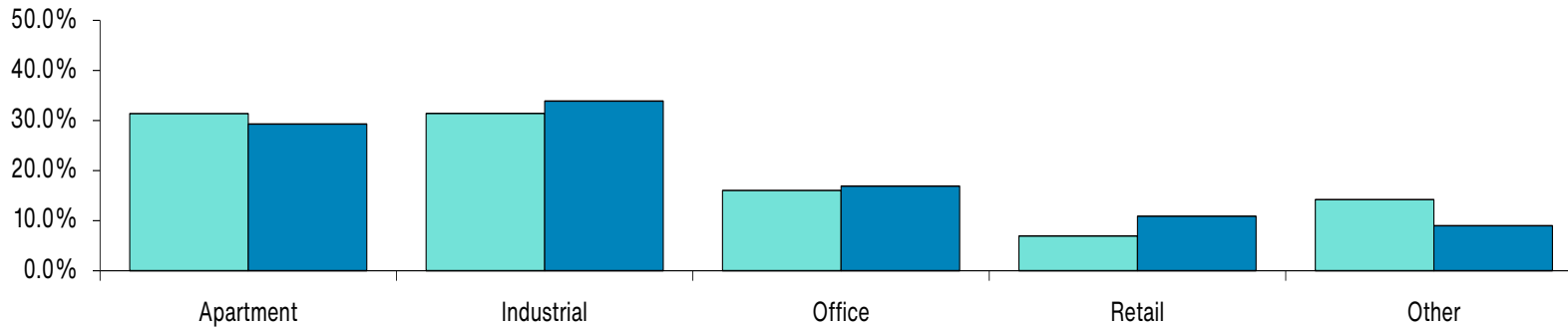
# ATRS' Portfolio Performance Detail: By Vintage Year

As of September 30, 2024

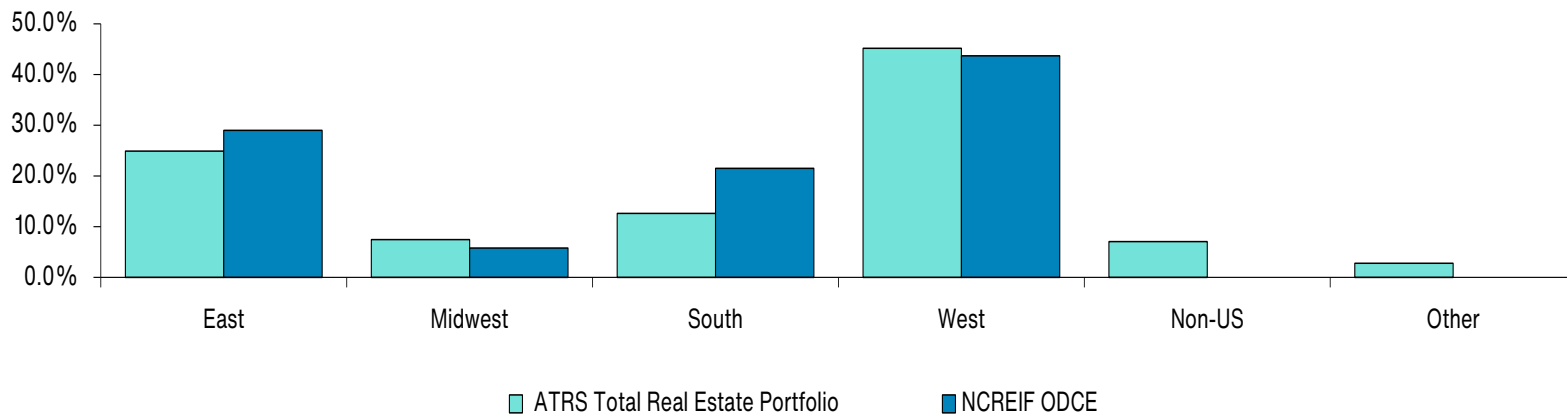
Investment Vintage Year	Quarter				1 Year				3 Year				5 Year				Inception		TWR Calculation Inception	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET			
1997																			1Q98	13.4	1.5
1998	0.0	7.0	7.0	6.9	-0.8	23.2	22.3	21.6	2.0	5.9	8.0	7.4	11.3	-10.9	5.9	5.2	7.4	6.5	2Q98	5.6	2.2
1999																			4Q99	15.9	1.7
2000																			4Q00	8.5	1.3
2005	1.2	-0.4	0.7	0.5	4.5	-11.9	-7.8	-8.5	4.0	-4.6	-0.8	-1.6	4.0	-0.9	3.0	2.2	6.1	5.3	3Q05	5.6	2.2
2006	0.9	-0.9	0.0	-0.2	3.7	-9.8	-6.4	-7.1	3.7	-6.2	-2.7	-3.4	3.9	-4.2	-0.4	-1.2	4.3	3.5	2Q06	4.8	1.8
2007	0.7	1.3	2.0	1.9	2.6	-6.4	-3.9	-4.5	2.4	-1.5	0.9	0.2	2.5	-0.4	2.1	1.5	5.9	5.2	2Q07	5.8	1.9
2008	-0.3	0.3	0.0	0.0	-0.8	-29.6	-30.2	-30.8	-1.3	-10.5	-11.7	-12.4	-1.0	-6.0	-7.0	-7.5	-3.4	-5.8	2Q08	3.8	1.2
2010	0.2	0.7	0.9	0.9	-1.8	-2.0	-3.8	-3.8		77.2	-19.5	-19.8		41.2	-16.8	-17.3	14.5	12.5	3Q10	18.5	1.5
2011	-0.1	-0.3	-0.4	-0.7	1.8	0.8	2.6	1.5	2.5	6.3	8.9	7.7	3.0	4.7	7.8	6.6	7.3	6.0	3Q11	6.0	1.5
2012	-0.1	-5.9	-6.0	-5.4	-0.5	-20.7	-21.1	-19.3	1.6	-14.0	-12.7	-11.8	1.8	-9.2	-7.5	-7.7	8.2	5.2	2Q12	12.3	1.5
2013	0.6	-3.0	-2.4	-2.3	1.8	-5.2	-3.6	-4.5	5.2	8.4	13.9	9.8	3.4	12.3	15.9	11.5	15.5	11.1	3Q13	11.8	1.6
2014	1.0	9.4	10.4	9.2	7.1	4.0	12.0	11.1	9.2	-4.2	5.0	4.7	11.5	-1.7	10.3	9.7	14.7	11.9	4Q14	15.1	1.6
2015	0.7	-1.0	-0.3	-0.6	0.9	-2.7	-1.7	-1.9	2.5	0.2	2.6	2.2	2.7	0.7	3.4	2.9	7.3	5.7	2Q15	6.4	1.4
2016	1.0	2.7	3.7	3.2	3.6	-2.3	1.2	-0.4	3.8	-1.5	2.2	0.6	3.9	0.4	4.4	3.1	7.4	4.6	3Q16	5.7	1.2
2017	-0.8	-2.8	-3.7	-3.6	0.1	-10.7	-10.6	-10.9	3.5	-8.8	-5.6	-6.1	4.4	-3.8	0.4	-0.6	4.4	2.8	2Q17	2.8	1.1
2018	0.6	2.0	2.6	2.3	1.9	4.4	6.3	5.1	2.4	6.5	9.0	7.4	3.8	7.6	11.7	9.4	9.8	2.0	2Q18	9.1	1.4
2019	0.3	0.8	1.1	0.8	1.8	3.3	5.2	4.0	4.6	2.2	7.0	5.6	3.3	4.9	8.4	6.8	8.3	6.8	3Q19	6.9	1.3
2020	0.5	0.1	0.5	0.2	0.5	-0.9	-0.4	-1.7	0.8	8.7	9.5	6.6					13.1	7.1	2Q20	5.3	1.1
2021	0.8	2.3	3.0	1.7	3.0	9.6	12.9	8.7	2.3	10.0	12.5	8.8					13.2	8.8	2Q21	7.6	1.2
2022	0.6	0.8	1.4	1.1	2.4	0.6	3.0	1.8									1.4	-0.4	2Q22	-0.2	1.0
2023	-2.8	8.5	5.7	2.7	-18.5	31.7	9.2	-21.1									26.0	-34.1	2Q23	-23.5	
2024	-0.7	16.1	15.4	10.0													15.4	10.0	3Q24	29.9	

# Portfolio Diversification: Real Estate

**Property Type Diversification**  
(As of 09/30/2024)



**Geographic Type Diversification**  
(As of 09/30/2024)

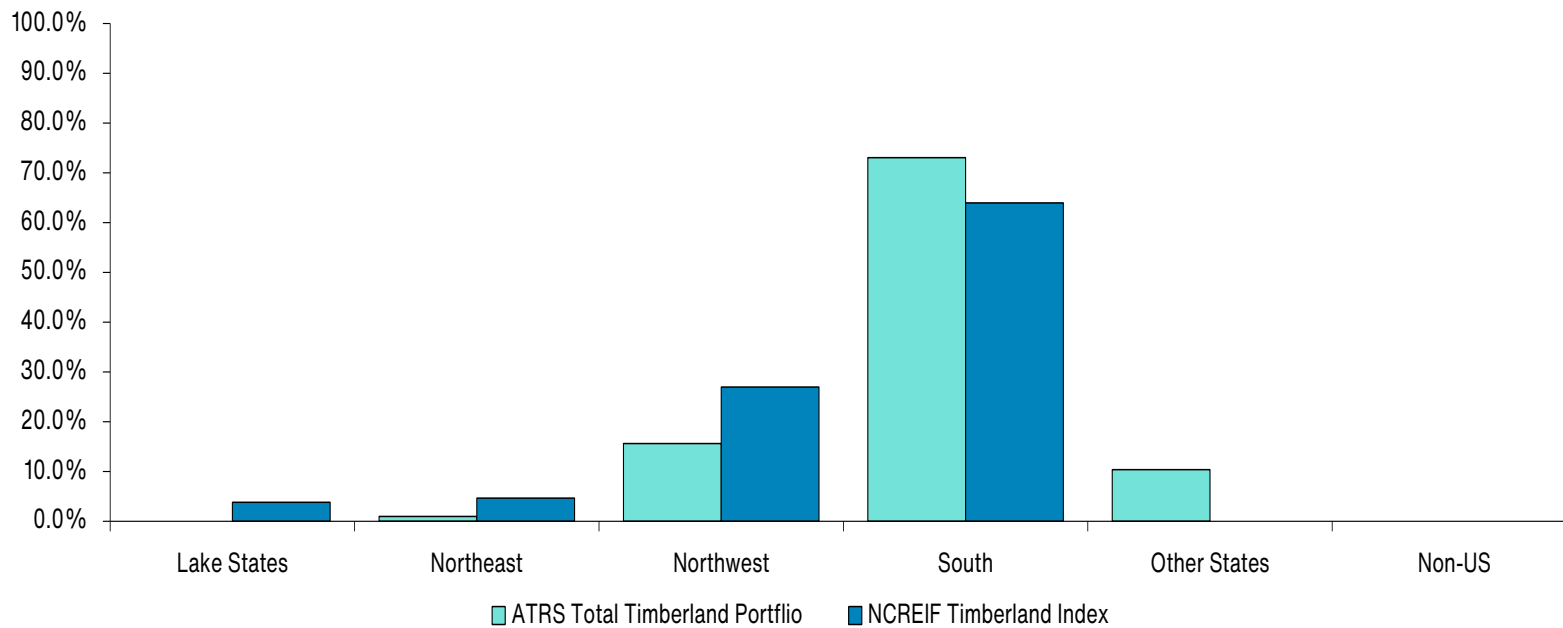


■ ATRS Total Real Estate Portfolio    ■ NCREIF ODCE



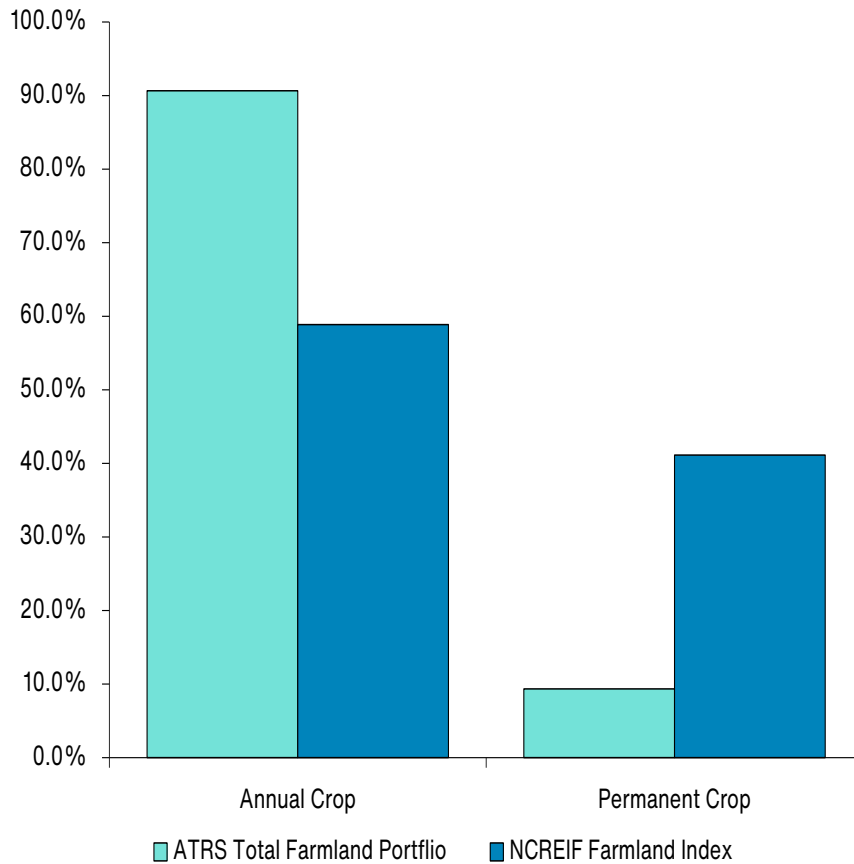
# Portfolio Diversification: Timberland

Geographic Type Diversification  
(As of 09/30/2024)

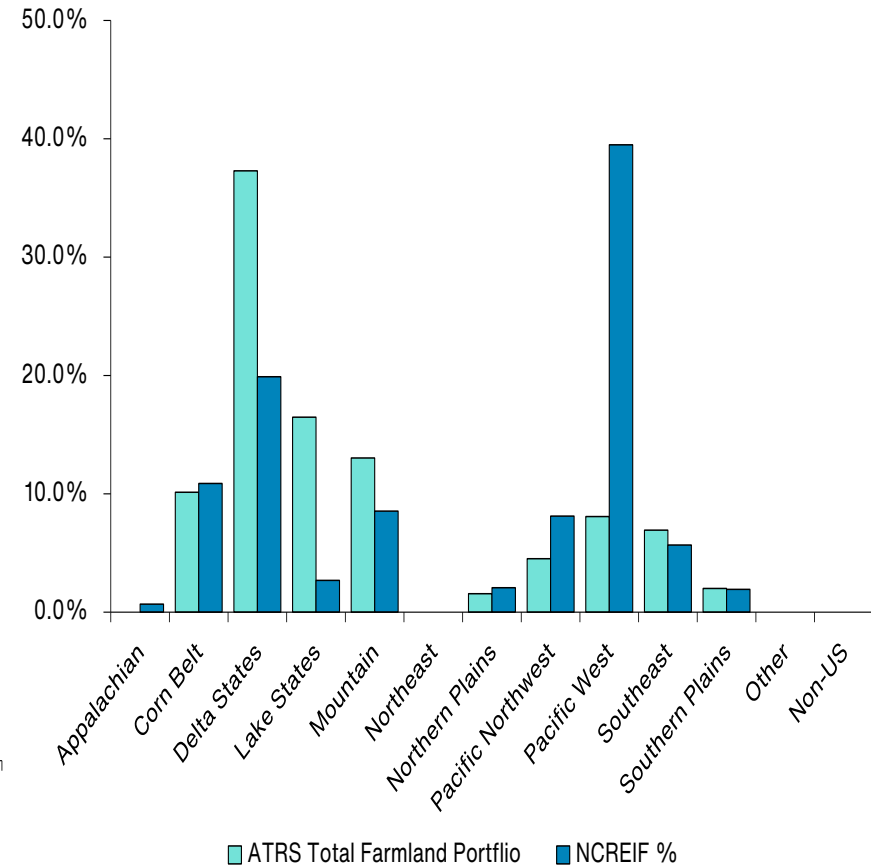


# Portfolio Diversification: Agriculture

**Crop Type Diversification**  
(As of 09/30/2024)



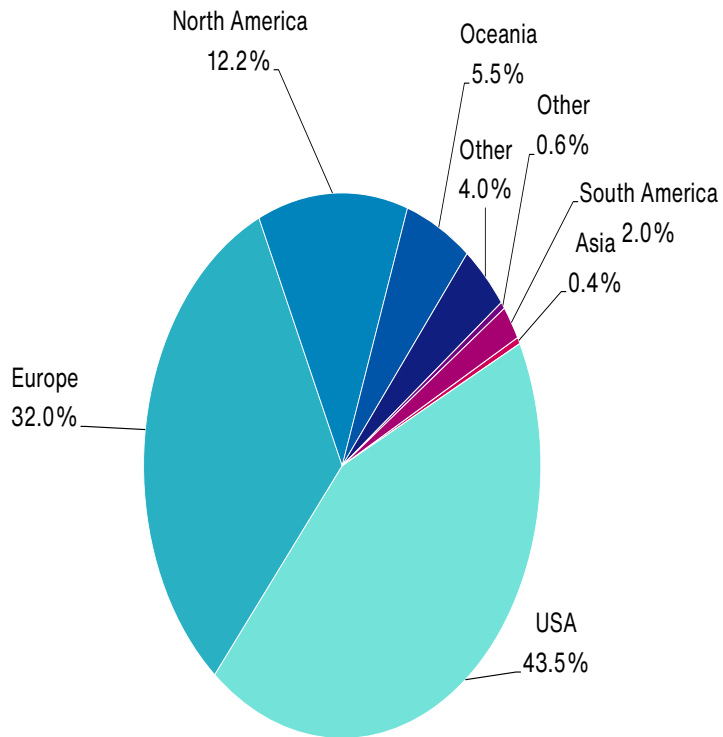
**Geographic Type Diversification**  
(As of 09/30/2024)



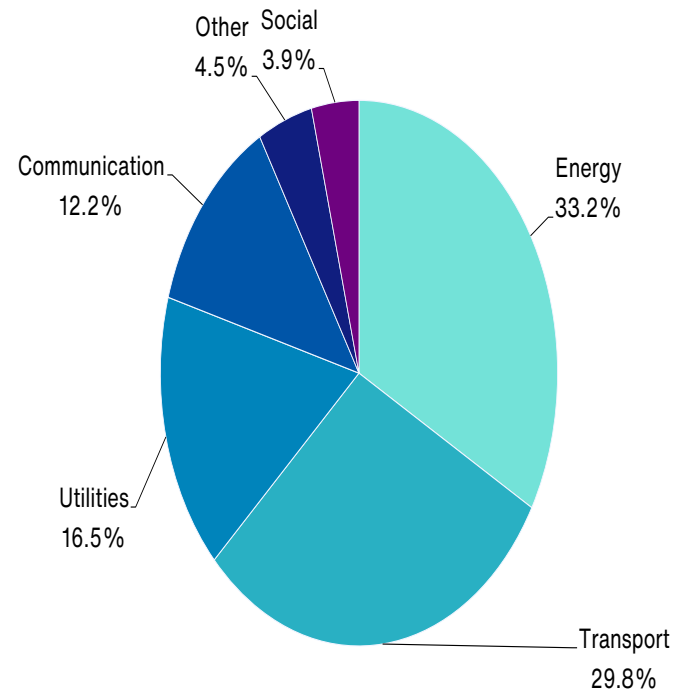
# Portfolio Diversification: Infrastructure

As of September 30, 2024

**Geographic Diversification**  
as % of Portfolio Company Value

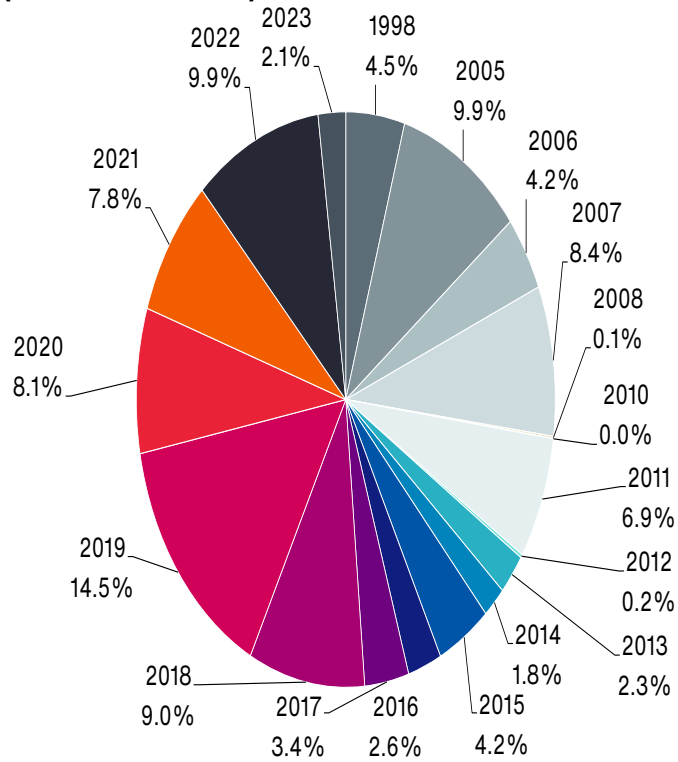


**Industry Diversification**  
as % of Portfolio Company Value

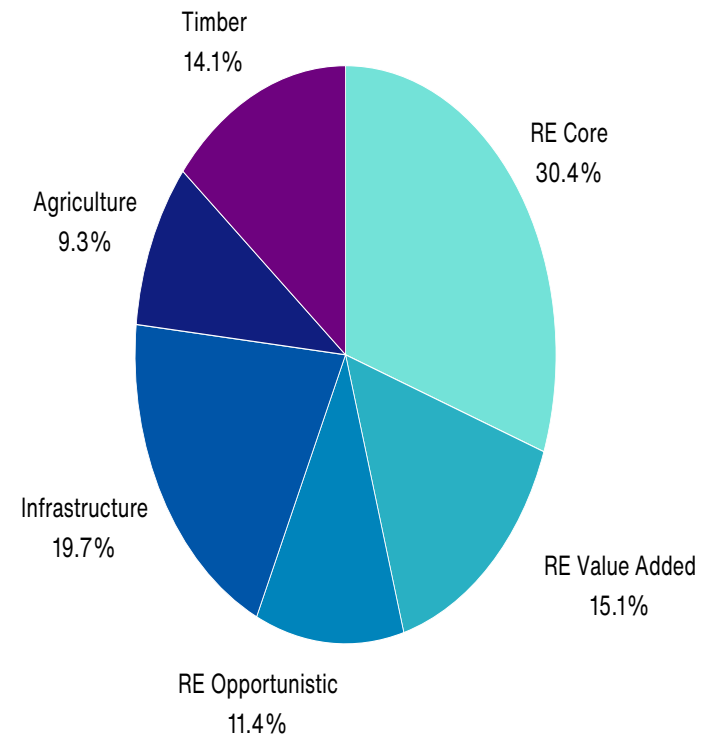


# Portfolio Diversification: Real Assets

**Vintage Year Diversification by Net Asset Value**  
(As of 09/30/2024)



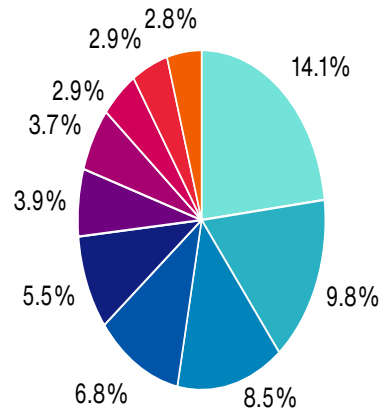
**Style Diversification by Net Asset Value**  
(As of 09/30/2024)



Note: Arkansas Investments are included in Core portfolio

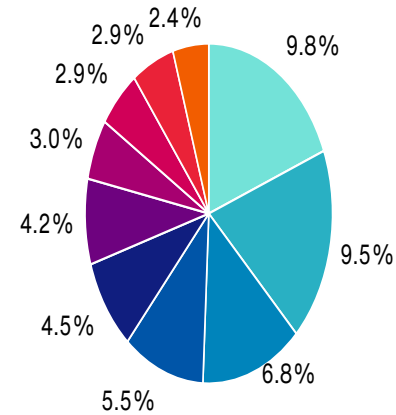
# Manager Diversification: Real Assets

**Largest 10 Managers by Net Asset Value  
(As of 9/30/2024)**



- BTG
- Prudential
- UBS
- US AG
- J.P. Morgan
- Macquarie
- KKR
- IFM
- Arkansas
- Torchlight

**Largest 10 Investments by Net Asset Value  
(As of 9/30/2024)**



- PRISA SA
- BTG Pactual Open Ended Core U.S. Timberland Fund, LP
- HFMS Farmland Separate Account
- JP Morgan Strategic Property Fund
- BTG Timber Separate Account
- UBS Trumbull Property Fund
- KKR Diversified Core Infrastructure Fund
- IFM Global Infrastructure
- Arkansas Investments
- RREEF Core Plus Industrial Fund L.P.



# Management Fees

## As of September 30, 2024

Partnership Name	Current Quarter Management Fees	YTD Management Fees
Arkansas Investments	0	0
JP Morgan Strategic Property Fund	-298,562	-965,178
Metlife Commercial Mortgage Income Fund	-100,000	-300,000
Prime Property Fund	-121,745	-371,044
PRISA SA	-526,402	-1,622,095
RREEF Core Plus Industrial Fund L.P.	-114,448	-329,642
UBS Trumbull Property Fund	-210,569	-654,800
UBS Trumbull Property Income Fund	-101,191	-310,847
<b>Core</b>	<b>-1,472,918</b>	<b>-4,553,606</b>
Almanac Realty Securities IX, L.P.	-115,628	-344,372
Almanac Realty Securities V, LP	0	0
Almanac Realty Securities VI	-10,960	-32,642
Almanac Realty Securities VII	-49,145	-148,432
Almanac Realty Securities VIII	-67,588	-187,140
Calmwater Real Estate Credit Fund III	-44,659	-133,256
CBRE Strategic Partners U.S. Value 8	-41,316	-126,340
CBRE Strategic Partners U.S. Value 9	-150,861	-463,359
FPA Core Plus Fund IV	-50,760	-157,329
GLP Capital Partners IV	-62,865	-176,410
Harbert European Real Estate Fund IV	-29,292	-84,330
LaSalle Income & Growth Fund VI	0	0
LaSalle Income & Growth Fund VII	-34,361	-102,336
LaSalle Income & Growth Fund VIII	-91,791	-273,378
LaSalle Value Partners U.S. IX	-171,148	-571,101
LBA Logistics Value Fund IX	-158,125	-474,375
Long Wharf Real Estate Partners V	-54,306	-158,706
Long Wharf Real Estate Partners VI, L.P.	-120,983	-358,579
Mesa West Real Estate Income Fund V	-135,738	-404,481
PGIM Real Estate Capital VII (USD Feeder) SCSp	-340	-1,020
Rockwood Capital Real Estate Partners Fund IX	-9,929	-31,055
Rockwood Capital Real Estate Partners Fund XI	-117,538	-351,755
Walton Street Real Estate Debt Fund II, L.P.	-74,191	-204,256
Westbrook Real Estate Fund IX	-24,813	-73,899
Westbrook Real Estate Fund X	-26,447	-79,417
<b>Value Added</b>	<b>-1,767,785</b>	<b>-5,312,969</b>

# Management Fees

## As of September 30, 2024

Partnership Name	Current Quarter Management Fees	YTD Management Fees
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	-119,012	-351,818
Blackstone Real Estate Partners Europe VII (USD Vehicle)	-187,524	-256,492
Blackstone Real Estate Partners VII	0	0
Blackstone Real Estate Partners X	-281,250	-843,750
Carlyle Realty Partners IX	0	-184,817
Carlyle Realty Partners VII	-24,563	-74,158
Carlyle Realty Partners VIII	-47,220	-146,589
CBRE Strategic Partners U.S. Opportunity 5	0	0
Cerberus Institutional Real Estate Partners III	-1,340	-9,878
Heitman European Property Partners IV	0	0
Kayne Anderson Real Estate Partners V	-66,472	-199,416
Kayne Anderson Real Estate Partners VI	-156,250	-468,750
Landmark Real Estate Fund VI	0	0
Landmark Real Estate Fund VIII	-45,058	-136,347
Landmark Real Estate Partners IX, L.P.	-125,000	-375,000
LaSalle Asia Opportunity Fund IV	0	-5,151
LaSalle Asia Opportunity V	-59,389	-186,967
LaSalle Asia Opportunity VI	-175,956	-524,044
Lone Star Real Estate Fund IV	-8,477	-25,203
Lone Star Real Estate Fund VII	-181,250	-543,750
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	-18,918	-56,312
O'Connor North American Property Partners II, L.P.	0	-19,410
Torchlight Debt Fund VII, LP	-137,500	-412,500
Torchlight Debt Opportunity Fund IV	-6,594	-19,541
Torchlight Debt Opportunity Fund V	-6,033	-17,767
Torchlight Debt Opportunity Fund VI	-47,179	-140,396
<b>Opportunistic</b>	<b>-1,569,985</b>	<b>-4,623,055</b>
<b>Real Estate</b>	<b>-4,810,688</b>	<b>-14,489,629</b>

# Management Fees

## As of September 30, 2024

Partnership Name	Current Quarter Management Fees	YTD Management Fees
AxInfra NA II LP	-182,936	-535,800
DIF Infrastructure Fund VII	-208,774	-611,962
DIF Infrastructure V	-147,099	-423,192
IFM Global Infrastructure	-147,418	-431,524
KKR Diversified Core Infrastructure Fund	-96,125	-283,522
Macquarie Infrastructure Partners III	-82,389	-250,192
Macquarie Infrastructure Partners V	-180,625	-538,594
<b>Infrastructure - Core</b>	<b>-1,045,366</b>	<b>-3,074,786</b>
Antin Infrastructure Partners Fund II	-10,172	-31,260
EnCap Energy Transition Fund II	-162,500	-1,194,486
Global Energy & Power Infrastructure Fund II	-60,939	-209,044
Global Infrastructure Partners III	-169,924	-509,944
ISQ Global Infrastructure Fund III	-187,596	-566,993
KKR Global Infrastructure Investors II	-42,586	-126,334
<b>Infrastructure - Non-Core</b>	<b>-633,717</b>	<b>-2,638,061</b>
<b>Infrastructure</b>	<b>-1,679,084</b>	<b>-5,712,847</b>
Agrivest Farmland Fund	-162,439	-482,623
HFMS Farmland Separate Account	-519,119	-1,552,173
<b>Agriculture</b>	<b>-681,558</b>	<b>-2,034,796</b>
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	-639,917	-1,898,387
BTG Timber Separate Account	-165,357	-476,459
<b>Timber</b>	<b>-805,274</b>	<b>-2,374,845</b>
<b>Total Real Assets</b>	<b>-3,165,916</b>	<b>-10,122,488</b>
<b>Arkansas Teachers Retirement System</b>	<b>-7,976,604</b>	<b>-24,612,117</b>

# Compliance Matrix

Risk Management						
Property Type - Real Estate	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Office	16.90	NFI-ODCE +/- 50%	8.45	25.35	16.03	Yes
Retail	10.90	NFI-ODCE +/- 50%	5.45	16.35	6.94	Yes
Industrial	33.90	NFI-ODCE +/- 50%	16.95	50.85	31.42	Yes
Apartment	29.30	NFI-ODCE +/- 50%	14.65	43.95	31.39	Yes
Other	9.00	20%	0.00	20.00	14.22	Yes
Geography - Real Estate	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
West	43.70	NFI-ODCE +/- 50%	21.85	65.55	45.18	Yes
East	29.00	NFI-ODCE +/- 50%	14.50	43.50	24.90	Yes
Midwest	5.80	NFI-ODCE +/- 50%	2.90	8.70	7.45	Yes
South	21.50	NFI-ODCE +/- 50%	10.75	32.25	12.63	Yes
Other	0.00	NA	NA	NA	2.79	Yes
Non-U.S.	0.00	40%	0.00	40.00	7.05	Yes
Geography - Timber	NCREIF Timberland	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Lake States	3.81	0%-20%	0.00	20.00	0.00	Yes
Northeast	4.64	0%-20%	0.00	20.00	0.97	Yes
Northwest	26.96	0%-50%	0.00	50.00	15.61	Yes
South	63.97	40%-80%	40.00	80.00	73.05	Yes
Other	0.00	0%-20%	0.00	20.00	10.37	Yes

\*Due to a rounding error on behalf of NCREIF, the Timberland amounts will not sum to 100%.

# Compliance Matrix: Continued

Risk Management						
Geography - Agriculture	NCREIF Farmland	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Appalachian	0.67		0.00	50.00	0.00	Yes
Corn Belt	10.88		0.00	50.00	10.13	Yes
Delta States	19.89		0.00	50.00	37.29	Yes
Lake States	2.68		0.00	50.00	16.48	Yes
Mountain	8.54		0.00	50.00	13.03	Yes
Northeast	0.00		0.00	50.00	0.00	Yes
Northern Plains	2.06		0.00	50.00	1.56	Yes
Pacific Northwest	8.11		0.00	50.00	4.51	Yes
Pacific West	39.50		0.00	50.00	8.08	Yes
Southeast	5.67		0.00	50.00	6.93	Yes
Southern Plains	1.93		0.00	50.00	2.00	Yes
Other	0.00		0.00	50.00	0.00	Yes
Non-U.S.	0.00		0.00	50.00	0.00	Yes
Geography - Infrastructure	Target/Constraint		Minimum	Maximum	Actual	Compliant?
U.S.			40.00	100.00	43.49	Yes
Non-U.S.			0.00	60.00	56.51	Yes
Asset Type - Infrastructure	Target/Constraint		Minimum	Maximum	Actual	Compliant?
Energy/Utilities			0.00	70.00	49.69	Yes
Transportation			0.00	70.00	29.79	Yes
Social			0.00	70.00	3.85	Yes
Communications			0.00	70.00	12.19	Yes
Other			0.00	70.00	4.47	Yes
Manager	Target/Constraint		Minimum	Maximum	Max	Compliant?
			0.00	30.00	14.06	Yes
Style - Real Estate	Target/Constraint		Minimum	Maximum	Actual	Compliant?
Core			50.00	70.00	53.46	Yes
Non-Core			30.00	50.00	46.54	Yes

\*Due to a rounding error on behalf of NCREIF, the Timberland amounts will not sum to 100%.

# 4

## Glossary



# Glossary of Terms

<b>Catch-up</b>	The provision that dictates how cash flows from the fund will be allocated between the investors and the manager in order for the manager to receive their performance fee. This allocation of cash flows occurs once the investors have collected their capital and preferred return.
<b>Core</b>	The most conservative institutional real estate investing style.
<b>Core Plus</b>	A style whereby investments have a slightly higher level of risk and expected return than Core, primarily through use of leverage.
<b>Development</b>	The construction of buildings from breaking the ground through building completion. This may also include entitlement of the land and the pursuit of permits prior to construction.
<b>DPI</b>	Distributions to Paid In; the ratio of distributions from investments to total invested capital.
<b>First Closing</b>	The point at which a manager receives and executes the subscription documents and can begin drawing capital from investors.
<b>Final Closing</b>	The final date at which new investors can subscribe to a fund.
<b>Internal Rate of Return (IRR)</b>	A method of measuring the performance of a portfolio from inception through a particular point in time. This method weights returns according to the dollars invested at each point in time. Hence, this is known as dollar-weighted return. This is a better measure when the manager controls when dollars must be invested and is the most commonly used method of real estate performance evaluation; Gross IRR is gross of fee and Net IRR is net of fee.
<b>NFI-ODCE</b>	NCREIF Fund Index Open-end Diversified Core Equity Index is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy; underlying funds are leveraged with gross and net returns available NCREIF changed the basis of diversification for the NFI ODCE from NREA to GRE effective 1Q20.
<b>NPI</b>	NCREIF Property Index is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only; it is reported unlevered and gross of fee.
<b>FTSE-NAREIT Equity REIT</b>	An unmanaged capitalization-weighted index of all equity real estate investment trusts.
<b>FTSE EPRA/NAREIT Global REIT</b>	An unmanaged market-weighted total return index, which consists of many companies from Global markets whose floats are larger than \$100 million and derive more than half of their revenue from property-related activities.

# Glossary of Terms

<b>Opportunistic</b>	A style that is the riskiest form of real estate investing. The name derives from when such funds were formed after the early 1990s real estate market crash to take advantage of opportunities in unwanted properties. Such investments include ground-up development, highly-leveraged purchases, or transactions involving highly complicated legal or environmental situations.
<b>Pre-Specified Deals</b>	Investments that are purchased for a fund before its final close. The assets are typically warehoused on a line of credit.
<b>Promote (Carrier Interest)</b>	The performance fee a manager receives once the investors have received their return of capital and the preferred return (return promised by the manager).
<b>RVPI</b>	Residual Value to Paid In; the ratio of the residual value of an investment to total invested capital.
<b>Time-Weighted Return</b>	A method of measuring the performance of a portfolio over a particular period of time. Effectively, it is the return of one dollar invested in the portfolio at the beginning of the measurement period. This is a better return measure when the manager does not control when the dollars must be invested.
<b>TVPI</b>	Total value to paid-in ratio; the ratio of total value from an investment, including distributions, to total invested capital.
<b>Value-Added</b>	A style that represents moderate-risk real estate. A manager typically increases the future value of the investment by undertaking activities such as leasing, improving an existing building, or taking some risk through operating intensive assets, such as hotels or self-storage.
<b>Vintage Year</b>	The year in which a fund has its final closing. Typically coincides with the year a fund begins making investments.
<b>NCREIF Timberland Index</b>	The National Council of Real Estate Investment Fiduciaries (NCREIF) Timberland Index is a quarterly time series composite return measure of investment performance of a large pool of individual timber properties acquired in the private market for investment purposes only.
<b>NCREIF Farmland Index</b>	The National Council of Real Estate Investment Fiduciaries (NCREIF) Farmland Index is a quarterly time series composite return measure of investment performance of a large pool of individual agricultural properties acquired in the private market for investment purposes only.



# Disclosures

## **Past performance is not necessarily indicative of future results.**

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Aon Investments USA Inc.  
200 East Randolph Street  
Suite 600  
Chicago, IL 60601  
ATTN: Aon Investments Compliance Officer

Investment performance is comprised of data submitted by investment managers into a proprietary system owned and operated by The Townsend Group. The Townsend Investment Performance System ("TIPS") collects investment performance data on a quarterly basis via investment managers including, but not limited to, returns, diversification, management and performance fees, as well as market indices.

In late April 2024, Aon plc signed a definitive agreement for The Riverside Company to acquire The Townsend Group (Townsend). Please reference the information contained on the Aon Media page for additional details, <https://aon.mediaroom.com/Aon-Signs-Agreement-for-The-Townsend-Group-to-be-Acquired-by-The-Riverside-Company>. Following the close of the transaction, which is subject to final regulatory approvals, Aon will maintain a team dedicated to serving its clients' real estate investment programs, while collaborating with specialists like Townsend to support specific client needs.

Post-close, Aon and Riverside will have a services agreement in place, including a sub-advisory agreement directly between Aon Investments and Townsend. The sub-advisory agreement enables us to provide seamless support and continued resources to our clients to ensure a smooth and successful transition. Aon is committed to preserving its own private real asset investment consulting practice, which is led by a team of nine investment professionals averaging 20 years of industry experience between the seven senior members of the team. The team's leadership is comprised of private and public real asset investment professionals and is currently staffed in San Francisco, New York, Toronto, Chicago, and London.





## Memorandum

To: **Arkansas Teacher Retirement System (“ATRS”)**

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From: Chae Hong, Jack Dowd, CFA

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CC: PJ Kelly; Matthew Hooker

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Date: February 03, 2025

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Re: Strategic Partners Infrastructure IV L.P. - \$100 million Commitment  
Recommendation

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### Background and Recommendation:

Blackstone Strategic Partners is a division of Blackstone Inc. (“Blackstone”), a publicly traded global alternative asset manager with \$1.1 trillion of assets under management as of June 30, 2024. Blackstone employs more than 4,700 employees across 27 global offices. Strategic Partners was founded in 2000 and acquired by Blackstone in 2013. BSP is led by Verdun Perry, and the infrastructure team is led by Mark Bhupathi. Within Blackstone, BSP serves as the dedicated platform enabling secondary transactions through secondary private equity, infrastructure, and real estate. BSP Infrastructure IV will seek to generate secondary-like returns for core-like risk. The Fund attempts to exploit the growing need for liquidity following the unprecedented levels of fundraising during the last decade. The team will invest in core/core+ operational assets at a discount resulting in the returns coming from discounted valuation, NAV appreciation, and cash yield. The strategy will seek to access less risky infrastructure assets with the potential of upside from multiple sources. Moreover, the focus will be on mature assets poised for exit.

Aon Investments, USA is satisfied with the strategy of the Fund and its appropriateness for ATRS. Additionally, we believe that the merits of this offering outweigh its risks. A Fund IV Investment Summary is attached as **Exhibit A**. In accordance with the previously approved 2025 ATRS Real Asset Pacing Schedule, we recommend that ATRS invest \$100 million in the Fund. Additionally, Fund IV may provide investors with various investment vehicles. Aon Investments, USA recommends ATRS consult with its tax and legal counsel to determine the most appropriate vehicle for the Plan.

**Exhibit A**



## **Investment Summary**

### **Strategic Partners Infrastructure IV L.P.**

**February 2025**



## Executive Summary

### Overall Rating: Buy

Blackstone Strategic Partners (“BSP” or “the Firm”) is one of the larger secondary infrastructure investors. The strategy benefits from deep expertise in both infrastructure and secondaries across the platform. The diversified funds invest in core/core+ operational assets at a discount resulting in the returns from pricing, appreciation of the underlying assets, and cash yield.

In addition, Aon Investments, USA’s Operational Due Diligence team has reviewed the Firm from an operating perspective and has given Blackstone a pass rating.

### Recommendation

Aon Investments, USA is satisfied with the strategy of the Fund and its appropriateness for ATRS. Additionally, we believe that the merits of this offering outweigh its risks. In accordance with the previously approved 2025 ATRS Real Asset Pacing Schedule, we recommend that ATRS invest \$100 million in the Fund. Fund IV may provide investors with various investment vehicles. Aon recommends ATRS consult with its tax and legal counsel to determine the most appropriate vehicle for the Plan.

#### Firm Overview

**Review Date:**

November 2024

**Parent Name:**

Blackstone Inc. (NYSE: BX)

**Founded:**Blackstone Inc.: 1985;  
Strategic Partners: 2000**Firm / Investment Employees:**

622 / 80

**Office Locations:**

New York and Los Angeles

#### Strategy Characteristics:

**Strategy:**

Infrastructure Secondaries

**Target Industry:**Diversified: Energy  
Transition, Transport, and  
Digital Infrastructure**Target Geography:**North America and  
Western Europe, with  
exposure to Asia, Latin  
America, ROW**Average Company Size:**

Size Agnostic

**Average Investment Size**

Size Agnostic

**Ownership:**

Minority

**Fund Characteristics:**

<b>Fund Term:</b>	<b>Investment Period:</b>	<b>Final Close:</b>
12 years subject to four one-year extensions	4 years from final closing date subject to one-year extension	Q1 2025

**Recycling Provision:** Yes

## Manager Profile

### Overview

Blackstone Strategic Partners is a division of Blackstone Inc. (“Blackstone”), a publicly traded global alternative asset manager with \$1.1 trillion of assets under management as of June 30, 2024. Blackstone employs more than 4,700 employees across 27 global offices. Strategic Partners was founded in 2000 and acquired by Blackstone in 2013. BSP is led by Verdun Perry, and the infrastructure team is led by Mark Bhupathi. Within Blackstone, BSP serves as the dedicated platform enabling secondary transactions through secondary private equity, infrastructure, and real estate.

BSP is one of the largest secondary managers with \$81.0 billion of assets under management across its LP secondaries, GP-led secondaries, and GP stakes strategies. BSP has completed more than 2,100 transactions since 2000.

BSP Infra IV will seek to generate secondary-like returns for core-like risk. The Fund attempts to exploit the growing need for liquidity following the unprecedented levels of fundraising during the last decade. The team will invest in core/core+ operational assets at a discount resulting in the returns coming from discounted valuation, NAV appreciation, and cash yield. The strategy will seek to access less risky infrastructure assets with the potential of upside from multiple sources. Moreover, the focus will be on mature assets poised for exit.

BSP is currently fundraising for BSP Infra IV. The Fund held its first close in December 2023 and has closes scheduled throughout 2024; BSP anticipates a final close in Q1 2025. The Fund was activated in July 2024.

Current ownership:

- Blackstone Inc. (NYSE: BX) is a publicly traded company on the New York Stock Exchange.

Blackstone Strategic Partners AUM: \$81.0 billion as of June 30, 2024.

- Blackstone Strategic Partners has established four core investment strategies: Private Equity Secondaries, Infrastructure Secondaries, Real Estate Secondaries, and GP Stakes.

## Senior Investment Professionals:

Professional	Title	Years at Firm	Relevant Prior Work Experience
Mark Bhupathi	Senior Managing Director, <i>Infrastructure</i>	20	<ul style="list-style-type: none"> <li>○ Credit Suisse – Investment banking</li> <li>○ University of Columbia, BA Economics</li> </ul>
Kevin Bundschuh	Managing Director, <i>Infrastructure</i>	13	<ul style="list-style-type: none"> <li>○ Began career at Strategic Partners</li> <li>○ Villanova University, B.S cum laude in Finance and Economics</li> </ul>
Daniel Castan	Vice President, <i>Infrastructure</i>	9	<ul style="list-style-type: none"> <li>○ Began career at Strategic Partners</li> <li>○ University of Pennsylvania, B.S in Economics</li> </ul>
Matt Noone	Vice President, <i>Infrastructure</i>	7	<ul style="list-style-type: none"> <li>○ Began career at Strategic Partners</li> <li>○ University of Notre Dame, B.B.A in Finance</li> </ul>
Verdun Perry	Senior Managing Director and Global Head of BSP	24	<ul style="list-style-type: none"> <li>○ Donaldson, Lukin &amp; Jenrette</li> <li>○ Bozell, Jacobs, Kenyon and Eckhart, Inc.</li> <li>○ Morgan Stanley, Investment Banking Division</li> <li>○ Morehouse College, B.A. magna cum laude in Business Administration</li> <li>○ MBA from Harvard Business School</li> </ul>
Joshua Blaine	Senior Managing Director and Head of BX GP Stakes	23	<ul style="list-style-type: none"> <li>○ JPMorgan Chase &amp; Co., Private Fund Group</li> <li>○ UBS, Corporate Finance Department</li> <li>○ Tulane University, B.S.M. cum laude in Finance</li> </ul>
David Corey	Senior Managing Director and COO	23	<ul style="list-style-type: none"> <li>○ Davis Polk &amp; Wardwell</li> <li>○ Skadden, Arps, Slate, Meagher &amp; Flom</li> <li>○ University of California, Berkeley, J.D.</li> </ul>
Jameson Mones	Senior Managing Director and CIO	18	<ul style="list-style-type: none"> <li>○ Began career at Strategic Partners</li> <li>○ NYU, B.S. Finance and Economics</li> </ul>
Nik Morandi	Senior Managing Director and Head of BSP Europe Private Equity	4	<ul style="list-style-type: none"> <li>○ CPPIB</li> <li>○ Pantheon</li> <li>○ University of Oxford, MPhil, Economics &amp; Politics</li> </ul>



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**ARKANSAS TEACHER RETIREMENT SYSTEM**  
**1400 West Third Street**  
**Little Rock, Arkansas 72201**

**RESOLUTION**  
**No. 2025-13**

**Approving Investment in Strategic Partners Infrastructure IV L.P.  
with Imminent Need**

**WHEREAS**, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

**WHEREAS**, the ATRS Board has reviewed the recommendation of its real assets investment consultant, Aon Hewitt investment Consulting, Inc, along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **Strategic Partners Infrastructure IV L.P.**, a infrastructure fund managed by entities of Blackstone whose strategy will be to acquire a diversified portfolio of infrastructure assets in the form of limited partnership interest at a significant discount to net asset value; and

**WHEREAS**, the ATRS Board approves an investment of up to **\$100 million dollars (\$100,000,000.00)** in **Strategic Partners Infrastructure IV L.P.**, and the Board, after its review of the timing in which the closing of the investment in **Strategic Partners Infrastructure IV L.P.** may need to occur, has determined that there is an imminent need to immediately enter into the partial equity ownership agreement prior to the next scheduled meeting of the Arkansas Legislative Council. The Board also deems it financially appropriate to enter into the partial equity ownership agreement and concludes that to forego the opportunity to promptly implement its investment directives under the prudent investor rule would be inconsistent with its fiduciary duty of care to the members and annuitants.

**NOW, THEREFORE, BE IT RESOLVED**, that the ATRS Board approves an investment of up to **\$100 million dollars (\$100,000,000.00)** in **Strategic Partners Infrastructure IV L.P.** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **Strategic Partners Infrastructure IV L.P.** The total investment amount is to be determined by the real assets consultant and ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the Board; and

***FURTHER, BE IT RESOLVED***, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment using the Imminent Need process, if acceptable terms are reached.

**Adopted this 3rd day of February 2025**

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**Mr. Danny Knight, *Chair***  
**Arkansas Teacher Retirement System**

Bill Number and Description	Sections Amended
<p><b>HB 1154 – ATRS General Omnibus</b>            Makes technical corrections to correct typos and errors in current law, remove references to repealed laws, remove redundant or outdated language and provisions, and make application timelines consistent.</p>	24-1-107(b)(1)(B)(i) 24-7-406(e)(1)(C)(iii) 24-7-411(f) 24-7-706(a)(4)(B)(iii), (d)(3), and (g) 24-7-709(a)(4) 24-7-710(b)(1)(B)(i)(a) 24-7-1605(a)(2)
<p><b>HB 1155 – VA Presumption for Disability Retirement Benefits</b>            Allows ATRS to accept a 100% service-connected disability rating from the US Department of Veterans Affairs as creating a rebuttable presumption of qualification for disability retirement benefits.</p>	24-7-704(a)(1)(F)
<p><b>HB 1156 – Eligibility of Surviving Spouse for Survivor Benefits</b>            Shortens the waiting period for when a new spouse can become eligible for survivor benefits from 2 years preceding the member's death to 1 year, which would mirror the waiting period for ASHERS and LOPFI. APERS is at 6 months.</p>	24-7-710(b)(1)(A)(i)
<p><b>HB 1157 – Survivor Annuity Benefits for Dependent Children</b>            (1) Allows a member's child to collect survivor benefits through age 22 even if the child does not remain a full-time student. Current law stops survivor benefits at age 18 for children who go into the military, go into an apprenticeship, or work instead of continuing school.            (2) Allows survivor benefits for eligible children of members on disability retirement. Current law limits survivor benefits to eligible children of active members, T-DROP participants, or retired members who have returned to work for an ATRS-covered employer.</p>	24-7-710(c)(2) & (g)
<p><b>HB 1158 – Election of a Distribution Option under T-DROP</b>            Allows a member to cancel a T-DROP distribution election before the end of the 2<sup>nd</sup> full calendar month following retirement. Current law allows members to cancel an election to go into T-DROP but does not allow them to cancel or change their distribution election when leaving T-DROP. Sometimes members rethink their distribution decisions, and doing so can help them prevent unnecessary tax penalties.</p>	24-7-1308(b)
<p><b>HB 1160 – Permissive Service Credit for Gap Year Service</b>            Allows a member to purchase partial years of gap-year service credit. Current law does not allow for the purchase of less than a full year of gap year service credit. This change will allow, for example, a teacher who misses 1 or 2 quarters due to pregnancy to later purchase back that service credit.</p>	24-7-202(23) 24-7-613
<p><b>HB 1161 – Election to Change Annuity Options</b>            Clarifies the effective date for a member's change an annuity option, so that the change is effective the month after the member submits the required form and repays the cost difference. Current law has language calling the change retroactive, but that creates confusion and ambiguity because the benefit to the member is prospective, not retroactive.</p>	24-7-706(e)

# ATRS Comprehensive Technology Assessment

In June 2024 ATRS issued an RFP for a Technology Consultant to conduct an assessment of the ATRS landscape, including:

1. Current and Future IT Infrastructure and Capacity
2. Expanded Delivery of Self-Service Capabilities
3. Enhancement of Internal Systems to Improve Customer Service and Operational Efficiency

- ▶ Linea Solutions Selected as partner
  - ▶ Phase 1 Deliverable: Gap Assessment
  - ▶ Phase 2 Deliverable: Recommendations for Future State
  - ▶ Optional Deliverable: Additional assistance if needed by ATRS

# Linea Project Plan/Timeline

The ATRS/Linea IT Assessment Project Charter set out the parameters for how the project would be conducted, as well as how communication would flow between ATRS and Linea at all points throughout the project.

## Project Phases:

- Discovery
  - Document Review
  - Onsite Interviews with Subject Matter Experts and Key Staff
- Analysis
  - Business Operations
  - Technical Assessment
  - Data Assessment
  - Cybersecurity Assessment
  - Industry Comparison
- Deliverable 1: Gap Assessment
- Deliverable 2: Recommendations for Future State
- Close Out



# Linea: Discovery

Linea completed thorough discovery in preparations of the Gap Assessment. Documents reviewed included ATRS policies, procedures, risk registers, cybersecurity assessments, technical architecture, asset inventory, and others.

Linea was onsite for multiple days with staff to learn operational processes and workflows in the current systems, to better understand the current state.

## Key Activities

- ▶ Review of current documentation
- ▶ Department walk-through sessions
- ▶ Technical walk-through sessions
- ▶ Interviews with key staff
- ▶ Follow-up discussions

# Deliverable 1: Gap Assessment

The Gap Assessment was finalized by Linea in October 2024 and identified 70 gaps broken into 5 key areas:

***IT Misalignment***

***Change Management and Staffing Challenges***

***Cybersecurity and Data Security***

***Inefficient Document Management/Integrations***

***Gaps in Communication and Collaboration***

Some Key Findings

- Disconnect between Business and IT regarding technology priorities
- Outdated software and non-standard tools that hinder collaboration and efficiency
- Highly manual processes that increase risk of errors and reduce staff productivity
- Limited self-service capabilities for members and employers

# Deliverable 2: Recommendations for Future State

The Recommendations for Future State were finalized by Linea in January 2025. The report noted the need for ATRS to modernize in the following areas:

## ***Legacy Business Systems***

- ▶ ATRMIS (Membership)
- ▶ JADE (Accounting)
- ▶ TIM (Investment Management)

## ***Legacy IT infrastructure***

## ***Operational Efficiency***

## ***Member and Employer Experience***

4 Options:

- ▶ Option A – Status Quo
- ▶ Option B – Enhance Tools
- ▶ Option C - Build
- ▶ Option D – Buy

Each option provided came with pros, cons, benefits, and risks outlined – as well as an options analysis



# Next Steps

- Establish IT Governance Structure to facilitate communication and consensus between the IT team and the operational teams
- Upgrade or replace aging IT infrastructure that will serve as the foundation for future decisions and changes for ATRS systems
- Continue cybersecurity modernization and readiness development
- Identify critical staffing needs for the ATRS IT team and pursue new state positions or outside vendor support as needed
- Upgrade or replace the collaboration tools used by ATRS staff for day-to-day work and communication (e.g. email, phone, video conferencing, productivity software)
- Begin development of critical upgrades and enhancements needed for ATRMIS
- Begin planning and requirements gathering to identify all of the specific components and feature requirements needed for our systems, to serve as a basis for an eventual build v. buy decision

SUMMARY OF DISABILITY APPLICATIONS SUBMITTED  
FOR CONSIDERATION BY THE MEDICAL COMMITTEE

The Medical Committee met in executive session in the first floor conference room at 9:30 a.m. on December 4, 2024. Those members present were Dr. Eddie Phillips, Dr. Hoyte Pyle, and Dr. Jim Morse. Andrew Carle & Logan Penter of the Teacher Retirement System were also in attendance.

A total of twelve disability applications were considered. Of the twelve applicants, seven were approved: ATRS ID: 292844; 476266; 372934; 181823; 244535; 310855; 117314 . Four applicants had more information requested: ATRS ID: 381887; 132130; 233220; 232002. One applicant was denied: ATRS ID: 247191.

Respectfully Submitted,



Eddie Phillips, M.D.  
Medical Committee Chairman

Respectfully Submitted,

Andrew Carle  
Retirement Benefits Counselor

SUMMARY OF DISABILITY APPLICATIONS SUBMITTED  
FOR CONSIDERATION BY THE MEDICAL COMMITTEE

The Medical Committee met in executive session in the first floor conference room at 10:30 a.m. on January 8, 2025. Those members present were Dr. Eddie Phillips, Dr. Hoyte Pyle, and Dr. Jim Morse. Andrew Carle & Logan Penter of the Teacher Retirement System were also in attendance.

A total of twelve disability applications were considered. Of the twelve applicants, eight were approved: ATRS ID: 164841; 291312; 313237; 132130; 387137; 495957; 174994; 386921 . Two applicants had more information requested: ATRS ID: 316195; 317530. Two applicants were denied: ATRS ID:381887; 266138.

Respectfully Submitted,



Eddie Phillips, M.D.  
Medical Committee Chairman

Respectfully Submitted,

Andrew Carle  
Retirement Benefits Counselor