

ARKANSAS TEACHER RETIREMENT SYSTEM

September 26, 2022

1400 West Third Street

BOARD ROOM

Little Rock, AR 72201

Board of Trustees Meeting

11:00 a.m.

Trustees

Danny Knight, Chair

Anita Bell

Kathy Clayton

Kelly Davis

Susan Ford

Dr. Mike Hernandez

Shawn Higginbotham

Michael Johnson

Bobby G. Lester

Chip Martin

Jeff Stubblefield

Ex Officio Trustees

Susannah Marshall, State Bank Commissioner

Johnny Key, Education Secretary

Honorable Andrea Lea, State Auditor

Honorable Dennis Milligan, State Treasurer

AGENDA
ARKANSAS TEACHER RETIREMENT SYSTEM
BOARD OF TRUSTEES

September 26, 2022
11:00 a.m.
1400 West Third Street
Little Rock, AR 72201

- I. ***Call to Order/Roll Call.** page 1.
- II. ***Motion to Excuse Absences.**
- III. ***Adoption of Agenda.** page 2.
- IV. Executive Summary. (Attachment No. 1) page 6.
- V. ***Approval of Minutes.**
 - A. ***June 6, 2022, Minutes.** (Attachment No. 2) page 13.
 - B. ***August 16, 2022, Minutes.** (Attachment No. 3) page 19.
- VI. ***Election of Vice Chair of Board of Trustees.**
- VII. ***Recognition of Trustees Mr. Lloyd Black and Ms. Amanda Webb.**
 - A. ***Resolution 2022-39.** (Attachment No. 4) page 23.
 - B. ***Resolution 2022-40.** (Attachment No. 5) page 24.
- VIII. Report of Member Interest Amount Waived Under A.C.A. Sec. 24-7-205. *Clint Rhoden, Executive Director* (Attachment No. 6) page 25.
- IX. Report of Employer Penalties and Interest Waived Under A.C.A. Sec. 24-7-411. *Clint Rhoden, Executive Director* (Attachment No. 7) page 26.
- X. ***Unreported Service: Contributions Due.** *Clint Rhoden, Executive Director*
 - A. ***In Re: ATRS ID: 389863.**
 - 1. ***Resolution 2022-47.** (Attachment No. 8) page 27.

* Action Item

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- XI. ***Authorization to Pay Regular T-DROP Interest for Fiscal Year 2023.** *Clint Rhoden, Executive Director*
A. ***Resolution 2022-41.** (Attachment No. 9) page 29.
- XII. ***Authorization to Pay Post 10 year T-DROP Interest for Fiscal Year 2023.** *Clint Rhoden, Executive Director*
A. ***Resolution 2022-42.** (Attachment No. 10) page 30.
- XIII. ***CBA Incentive Interest Rate on T-DROP Cash Balance Account.** *Clint Rhoden, Executive Director*
A. ***Resolution 2022-43.** (Attachment No. 11) page 31.
- XIV. ***Extension of ATRS CASH Program for Fiscal Year 2023.** *Clint Rhoden, Executive Director*
A. ***Resolution 2022-44.** (Attachment No. 12) page 32.
- XV. Audit Committee Report. *Ricky Quattelbaum, Audit Committee Chair*
A. Internal Audit: T-Drop Follow-Up Report. (Attachment No. 13) page 36.
- XVI. Investment Committee Report. *Chip Martin, Investment Committee Chair*
A. Arkansas Related and Investment Update.
1. List of Fund Closings.
a. BVIP Fund XI, L.P., a fund focused on buyout and growth investments in tech-enabled business and information technology sectors, the Board authorized commitment of up to \$30 million dollars on June 6, 2022 was accepted and closed on July 1, 2022.
b. Blackstone Real Estate Partners X LP, a fund focused on opportunistic real estate, the Board authorized commitment of up to \$75 million dollars on June 6, 2022 was accepted and closed on June 30, 2022.
2. Board Policies Report. (Attachment No. 14) page 42.
B. Private Equity Consultant Report.
1. Preliminary Private Equity Portfolio Review for the Quarter Ended March 31, 2022. (Attachment No. 15) page 45.
2. Emerging Manager Report for Fiscal Year Ended June 30, 2022. (Attachment No. 16) page 100.

* Action Item

3. ***Recommendation to approve for Board adoption Resolution 2022-45 authorizing an investment of up to \$30 million dollars in JFL Equity Investors VI, LP.** (Attachment No. 17) page 107.
 - a. ***Resolution 2022-45.** (Attachment No. 18) page 111.
 4. ***Recommendation to approve for Board adoption Resolution 2022-46 authorizing an investment of up to \$30 million dollars in Greenbriar Equity Fund VI, LP.** (Attachment No. 19) page 112.
 - a. ***Resolution 2022-46.** (Attachment No. 20) page 116.
- C. General Investment Consultant Report.
1. Performance Report for the Quarter Ended June 30, 2022. (Attachment No. 21) page 118.
 2. Preliminary Performance Report for the Month Ended August 31, 2022. (Attachment No. 22) page 267.
 3. Emerging Manager Report for Fiscal Year Ended June 30, 2022. (Attachment No. 23) page 291.
- D. Real Assets.
1. Performance Report for the Quarter Ended March 31, 2022. (Attachment No. 24) page 306.
- XVII. Operations Committee Report. *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.
- B. ATRS 2023 Legislative Package.
1. 1 - Outsourcing and the Election to Participate to Become a Participating Employer. (Attachment No. 25) page 359.
 2. 2 - Survivor Annuity Benefits. (Attachment No. 26) page 362.
 3. 3 - Inactive Members to be Eligible for Free Military Service Credit and to Purchase Military, Contributory, and Federal Service Credit. (Attachment No. 27) page 365.
 4. 4 - Multiplier Used to Calculate a Life Annuity. (Attachment No. 28) page 367.
 5. 5 - ATRS General Omnibus. (Attachment No. 29) page 368.
 6. 6 - Refund of Unused Purchased Service Credit. (Attachment No. 30) page 375.
 7. 7 - Annuity Options. (Attachment No. 31) page 378.
 8. 8 - Contributory and Noncontributory Status of Certain Members of ATRS. (Attachment No. 32) page 380.

* Action Item

9. 9 - Lump Sum Benefit. (Attachment No. 33) page 381.
10. 10 - Final Average Salary. (Attachment No. 34) page 383.
11. 11- Purchase of Permissive Service Credit Under ATRS.
(Attachment No. 35) page 384.
12. 12 - Termination Separation Period. (Attachment No. 36) page 386.

XVIII. ***Staff Reports.**

- A. ***Medical Committee Reports.** *Willie Kincade, Director of Operations*
(Attachment No. 37) page 387.

XIX. Other Business.

XX. ***Adjourn.**

EXECUTIVE SUMMARY

TO: Board of Trustees
FROM: ATRS Staff
RE: Executive Summary
DATE: September 26, 2022

VI. *Election of Vice Chair of Board of Trustees.

VII. *Recognition of Trustees Mr. Lloyd Black and Ms. Amanda Webb.

A. *Resolution 2022-39. page 23.

B. *Resolution 2022-40. page 24.

VIII. Report of Member Interest Amount Waived Under A.C.A. Sec. 24-7-205. *Clint Rhoden, Executive Director* page 25.

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

IX. Report of Employer Penalties and Interest Waived Under A.C.A. Sec. 24-7-411. *Clint Rhoden, Executive Director* page 26.

ATRS may 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. Seven (7) employer penalties and interest amounts were waived for this reporting period in the amount of \$1,976.69. This is a standard report for information and is not an action item.

X. *Unreported Service: Contributions Due. *Clint Rhoden, Executive Director*

A. *In Re: ATRS ID: 389863.

The member has 1 year of unreported service from the Pulaski County Special School District (PCSSD) from 1997. The PCSSD failed to report the member's employment and did not pay the employer contributions for the contributory service. As a result, the member's record is missing 1 year of service. ATRS has no evidence that the failure to report and remit employer contributions on this member's service was the result of an intentional nondisclosure, fraud or misrepresentation. Given that the initial failure to report the service occurred over 25 years ago, the amount of interest due is unduly penal and burdensome. The PCSSD owes employer contributions in the amount of \$2,476.41 with an interest penalty of \$11,771.61. Executive Staff recommends the waiver of the employer's interest due in the effort to

finally resolve the errors in this member's record. The proposed Board action to waive the interest on the unreported service has been formalized as a resolution. Executive Staff recommends the adoption of Resolution 2022-47.

1. ***Resolution 2022-47.** page 27.

XI. *Authorization to Pay Regular T-DROP Interest for Fiscal Year 2023. *Clint Rhoden, Executive Director*

The ATRS Board annually sets the interest rates on T-DROP accounts. In September 2021, the Board set the T-DROP rate at a fixed 3% unless investment returns in the prior calendar year exceeded the current assumed rate of return by more than 2%. The September 2021 resolution allows the Board to award an incentive rate of up to 3% if the ATRS rate of return is 2% or greater than the ATRS actuarial assumed rate of return. The executive staff recommends the combined rate to be set at 3% for the fiscal year 2022-2023.

A. *Resolution 2022-41. page 29.

XII. *Authorization to Pay Post 10 year T-DROP Interest for Fiscal Year 2023. *Clint Rhoden, Executive Director*

The ATRS Board annually sets the interest rates on Post 10 Year TDROP accounts. In September 2021, the Board set the Post 10 Year T-DROP rate at a rate between 4% and 6% with an incentive rate available when the returns exceed the assumed rate of return by more than 2%. The September 2021 resolution allows the Board to award an incentive rate of up to 1.25% which when combined with the 6% maximum rate provides a maximum Post 10 Year TDROP rate of 7.25%. The executive staff recommends the combined rate to be set at 4% for fiscal year 2022-2023.

A. *Resolution 2022-42. page 30.

XIII. *CBA Incentive Interest Rate on T-DROP Cash Balance Account. *Clint Rhoden, Executive Director*

The ATRS Board provides the CBA program for members who have retired out of T-DROP and wish to leave a cash balance at ATRS for ultimate distribution to the member after retirement based upon the members withdrawal request. The Board can award an incentive rate with an incentive rate when the returns exceed the assumed rate of return by more than 2%. The executive staff recommends the CBA incentive rate to be set at 0% for fiscal year 2022-2023.

A. *Resolution 2022-43. page 31.

XIV. *Extension of ATRS CASH Program for Fiscal Year 2023. *Clint Rhoden, Executive Director*

The CASH Program expired on June 30, 2022. ATRS staff recommends that the

CASH program for fiscal year 2021 be the same as the expiring program except that the age for calculation of the accrued liability be set to the age attained as of June 30, 2022.

A. *Resolution 2022-44. page 32.

XV. Audit Committee Report. *Ricky Quattelbaum, Audit Committee Chair*

A. Internal Audit: T-Drop Follow-Up Report. page 6.

XVI. Investment Committee Report. *Chip Martin, Investment Committee Chair*

A. Arkansas Related and Investment Update.

1. List of Fund Closings.

a. BVIP Fund XI, L.P., a fund focused on buyout and growth investments in tech-enabled business and information technology sectors, the Board authorized commitment of up to \$30 million dollars on June 6, 2022 was accepted and closed on July 1, 2022.

The ATRS full commitment of \$30 million dollars was negotiated, accepted, and closed on July 1, 2022.

b. Blackstone Real Estate Partners X LP, a fund focused on opportunistic real estate, the Board authorized commitment of up to \$75 million dollars on June 6, 2022 was accepted and closed on June 30, 2022.

The ATRS full commitment of \$75 million dollars was negotiated, accepted, and closed on June 30, 2022.

2. Board Policies Report. page 13.

B. Private Equity Consultant Report.

1. Preliminary Private Equity Portfolio Review for the Quarter Ended March 31, 2022. page 16.

Michael Bacine of Franklin Park will provide the Board with a preliminary portfolio review for the quarter ending March 31, 2022.

2. Emerging Manager Report for Fiscal Year Ended June 30, 2022. page 71.

Michael Bacine of Franklin Park will provide the Board with a report of Franklin Park's manager research process, including coverage of emerging managers, and provide an update on due diligence activities on emerging managers conducted on behalf of ATRS for the fiscal year ended June 30, 2022.

3. *Recommendation to approve for Board adoption Resolution 2022-45 authorizing an investment of up to \$30 million dollars

in JFL Equity Investors VI, LP. page 78.

J.F. Lehman & Company, the general partner of JFL Equity Investors IV, was founded in 1992 to provide financial advisory services to companies in the defense and aerospace sectors. The advisory business ended in 1997 when the firm formed its first institutional private equity partnership. The firm has a history of successful investments in the defense, aerospace and maritime industries primarily in the United States. Based in New York with a satellite office in Washington, D.C., the firm is led by Louis Mintz, Stephen Brooks, Alexander Harman and Glenn Shor who average 21 years of experience together. ATRS is currently invested in the firm's third, fourth and fifth funds. Similar to the previous funds, this fund will make control investments in small to lower middle market companies that are either founder-owned or part of a corporate divestiture. The types of companies targeted for acquisition will generally be suppliers to the government or commercial markets and will typically be under-managed, carry excess costs or suffer from insufficient resources. The general partner is targeting a fund size of \$1.6 billion.

The general partner's experienced and cohesive management team with its specialized knowledge and relationships in the defense, aerospace and maritime industries as well as its overall solid track record make JFL Equity Investors VI an attractive investment. The average performance of the previous three funds is approximately 27% gross IRR. There are some risks in the focus sectors of the fund such as government regulation and dependency on federal and state budgets; however, the team will seek to mitigate those risks by targeting businesses with diverse revenue sources and those in high priority areas of government spending. Franklin Park recommends a commitment of up to \$30 million dollars in JFL Equity Investors VI, L.P. and ATRS staff concurs.

a. *Resolution 2022-45. page 82.

4. *Recommendation to approve for Board adoption Resolution 2022-46 authorizing an investment of up to \$30 million dollars in Greenbriar Equity Fund VI, LP. page 83.

Based in Rye, New York, Greenbriar was founded in 1999 by Joel Beckman, Gerald Greenwald, and Reginald Jones. Today, the firm is led Mr. Jones and five senior investment professionals who each average more than seventeen years of private equity experience and have worked together at the firm since 2010. The investment team has a deep and attractive track record, having produced a gross IRR of 42% on its 46 prior deals.

The firm primarily makes buyout investments in transportation, logistics, and distribution businesses where there is limited

competition with other private equity funds. The general partner has a deep-rooted brand in the space due to its tenure and track record. The established sourcing approach of the firm can position it to acquire companies from outside formal sale processes or through limited auction processes. Over half of its historic deals have been proprietarily sourced and negotiated. The fund is targeting commitments of \$2.75 billion and will opportunistically employ a "buy and build" strategy. Franklin Park recommends a commitment of up to \$30 million in Greenbriar Equity Fund V, L.P with Imminent Need due to the timing of the closing in early October. ATRS staff concurs with the recommendation.

a. ***Resolution 2022-46.** page 87.

C. General Investment Consultant Report.

1. Performance Report for the Quarter Ended June 30, 2022. page 89.

P.J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting will provide the Board with a portfolio update for the quarter ending June 30, 2022.

2. Preliminary Performance Report for the Month Ended August 31, 2022. page 238.

P. J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting will provide the Board with a preliminary portfolio update for the month ending August 31, 2022.

3. Emerging Manager Report for Fiscal Year Ended June 30, 2022. page 262.

P.J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting (AHIC) will provide the Board with a report of AHIC's manager research process, including coverage of emerging managers, and provide an update on due diligence activities on emerging managers conducted on behalf of ATRS for the fiscal year ended June 30, 2022.

D. Real Assets.

1. Performance Report for the Quarter Ended March 31, 2022. page 277.

Chae Hong of Aon Hewitt Investment Consulting will provide the Board with a performance report for the quarter ending March 31, 2022.

XVII. Operations Committee Report. *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.

B. ATRS 2023 Legislative Package.

1. 1 - Outsourcing and the Election to Participate to Become a Participating Employer. page 9.

This bill modifies the law regarding employer outsourcing. Currently employers are offered that the choice to pay full contributions on embedded employee salaries rather than the 4% surcharge amount. No employer has ever selected this option and none are expected to due to the expense. Therefore this bill repeals that option.

2. 2 - Survivor Annuity Benefits. page 12.

This bill allows dependents of deceased members to remain eligible in the event they are called to military duty or training. This bill also extends the dependent survivor benefit to retirees who die while working as return-to-work retirees.

3. 3 - Inactive Members to be Eligible for Free Military Service Credit and to Purchase Military, Contributory, and Federal Service Credit. page 15.

This bill allows inactive members to purchase federal service or to purchase contributory service for noncontributory service. These types of purchases were mistakenly left out of similar legislation in the last session.

4. 4 - Multiplier Used to Calculate a Life Annuity. page 17.

This bill clarifies the language regarding multipliers used to calculate the retirement benefit if a member has less than 10 years of service at the time of retirement.

5. 5 - ATRS General Omnibus. page 18.

This bill clarifies and makes technical changes to various laws. In addition, this bill clarifies the definition of "alternate retirement plan", adds a definition of "benefit enhancement", and adds a "Rule of 98" to the definition of "Normal Retirement Age".

6. 6 - Refund of Unused Purchased Service Credit. page 25.

This bill clarifies that a member's payments toward certain purchases of service may be refunded if the member terminated before the service is established as credited service and is not used to establish the member's eligibility for retirement.

7. 7 - Annuity Options. page 28.

This bill clarifies the law related to when a dependent child is specified as an option beneficiary.

8. 8 - Contributory and Noncontributory Status of Certain Members of ATRS. page 30.

This bill allows ATRS to prorate the number of contracted days in order to determine whether the member should be classified as a contributory member or a noncontributory member. This circumstance occurs when member enters into a contract with a covered employer after the start of the fiscal year.

9. 9 - Lump Sum Benefit. page 31.

This bill clarifies and reorganizes the law related to the lump-sum death benefit.

10. 10 - Final Average Salary. page 33.

This bill clarifies the use of partial years in the formula for final average salary and clarified some of the terms used to define the anti-spiking procedure.

11. 11 - Purchase of Permissive Service Credit Under ATRS. page 34.

This bill creates another type of permissive purchase of service for class room teachers that return to a position as a classroom teacher after one (1) or more gap-years. Up to 5 years of gap-year service can be purchased at actuarial equivalence.

12. 12 - Termination Separation Period. page 36.

This bill would shorten the termination separation period for retirees from 6 months to 3 months.

XVIII. *Staff Reports.

A. *Medical Committee Reports. *Willie Kincade, Director of Operations* page 387.

The Medical Committee Report is a standard report made by staff on behalf of the Medical Committee approving disability cases. A total of 40 disability applications were received, 26 were approved, 3 were denied, and 11 needed more information.

XIX. Other Business.

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

**Monday, June 6, 2022
11:00 a.m.
1400 West Third Street
Little Rock, AR 72201**

ATTENDEES

Board Members Present

Danny Knight, Chair
Lloyd Black, Vice Chair*
Anita Bell
Kelly Davis
Dr. Mike Hernandez
Shawn Higginbotham
Michael Johnson
Bobby Lester
Chip Martin
Amanda Webb
Susannah Marshall, Bank Commissioner
Jason Brady, designee for Hon. Dennis Milligan

Board Members Absent

Kathy Clayton.
Johnny Key, Secretary, Dept of Ed.
Hon. Andrea Lea, State Auditor

Reporters Present

Mike Wickline, AR Dem Gaz.

ATRS Staff Present

Clint Rhoden, Executive Director
Rod Graves, Deputy Director
Curtis Carter, Chief Financial Officer
Dena Dixson, Internal Audit/Risk Mgmt.
Braeden Duke, Software Specialist
Willie Kincade, Director of Operations
Jennifer Liwo, Attorney Specialist*
Martha Miller, General Counsel*
Joe Sithong, Information Tech Coordinator*
Whitney Sommers, Admin. Analyst
Leslie Ward, Manager, Private Equity*
Brenda West, Internal Audit/Risk Mgmt.*
Misty Yant, Manager, Reporting*

Guest Present

Katie Comstock, Aon Hewitt (AHIC)*
PJ Kelly, Aon Hewitt (AHIC)
Michael Bacine, Franklin Park
Donna Morey, ARTA*
Gar Chung, FIN-News*
Kevin Baload – Journalist, With.Intelligence*
Amy Fecher*
Susan Ford
Jeff Stubblefield

**via ZOOM*

- I. **Call to Order/Roll Call.** Mr. Danny Knight, Chair, called the Board of Trustees meeting to order at 11:08 a.m. Roll call was taken. Ms. Clayton, Mr. Key and Auditor Lea were absent.

- II. **Motion to Excuse Absent Board Members.**

Mr. Lester *moved to excuse Ms. Clayton, Mr. Key and Auditor Lea from the June 6, 2022, Board Meeting. Ms. Bell seconded the motion, and the Board unanimously approved the motion.*

III. Adoption of Agenda.

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

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

V. Approval of Prior Meeting Minutes.

A. April 4, 2022, Minutes

Ms. Marshall *moved for approval of the Minutes of the Board of Trustees meeting of April 4, 2022. Ms. Davis seconded the motion, and the Board unanimously approved the motion.*

B. May 9, 2022, Minutes.

Mr. Lester *moved for approval of the Minutes of the Board of Trustees meeting of May 9, 2022. Ms. Davis seconded the motion, and the Board unanimously approved the motion.*

VI. 2022 Board of Trustee Election Results.

A. Resolution 2022-30.

Mr. Higginbotham *moved to approve adoption of Resolution 2022-30, certification of the 2022 Board of Trustee Election Results. Ms. Bell seconded the motion, and the Board unanimously adopted the Resolution.*

VII. Report of Member Interest Waived Under A. C. A. Section 24-7-205. Mr. Rhoden 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.

VIII. Report of Employer Interest and Penalties Waived Under A. C. A. Sec. 24-7-411. Mr. Rhoden 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. Twenty-one (21) employer penalties and interest amounts were waived for this reporting period in the amount of \$9,201.48.

IX. Legislative Audit Report, June 20, 2021 Official Review.

Dr. Hernandez moved for approval of the Legislative Audit Report, June 20, 2021 Official Review. Mr. Lester seconded the motion, and the Board unanimously approved the motion.

X. GASB Report After Legislative Audit Review.

Mr. Higginbotham moved for approval of the GASB Report After Legislative Audit Review. Ms. Davis seconded the motion, and the Board unanimously approved the motion.

XI. Unreported Service – Employer Contributions Due.

A. In Re: ATRS ID: 294677

1. Resolution 2022-34.

Mr. Higginbotham moved to approve adoption of Resolution 2022-34, approving the waiver of interest due on contributions for unreported service. Mr. Martin seconded the motion, and the Board unanimously adopted the Resolution.

XIII. Audit Committee Report. Ms. Kelly Davis, Vice Chair, gave a report on the Audit Committee Meeting.

A. Internal Audit Follow-up Report: Lump Sum Death Benefit. Ms. Dena Dixson presented the report to the Committee.

B. Internal Audit Follow-up Report: Membership. Ms. Dena Dixson presented the report to the Committee.

- C. 2022-2023 Audit Plan.** Ms. Brenda West and Ms. Dena Dixon presented the Committee with the 2022-2023 Audit Plan. Mr. Quattlebaum, Chair, asked for additional information be added to the 2022-2023 Audit Plan.

1. Audit Plan for 2023.

Ms. Davis moved to approve the Audit Plan for 2023. The Board unanimously approved the motion.

- XIV. Investment Committee Report.** Mr. Chip Martin, Chair, gave a report on the Investment Committee meeting.

A. Arkansas Related and Investment Update.

- 1. List of Fund Closings.** Rod Graves, Deputy Director, gave an update on recent investment activity and Board Policies Report.

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

- 1. Preliminary Performance Report for the Quarter Ending March 31, 2022.** Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a preliminary portfolio update for the quarter ending March 31, 2022.

- 2. Preliminary Performance Report for the Month Ending April 30, 2022.** Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a preliminary performance report for the month ending April 30, 2022

- 3. Asset Liability Study.** Phil Kivarkis of Aon Hewitt Investment Consulting presented the Committee and Board Members present with the Asset Liability Study.

C. Private Equity Consultant Report. *Franklin Park*

- 1. Private Equity Portfolio Review for the Quarter Ending December 31, 2021.** Mr. Michael Bacine of Franklin Park provided the Committee with the Private Equity Portfolio Review for the Quarter Ending December 31, 2021.

2. **Recommendation to approve for Board adoption Resolution 2022-31, authorizing an Investment of up to \$30 million dollars in BVIP Fund XI, L.P**

Staff concurs with the recommendation.

Mr. Martin *moved to approve* adoption of Resolution 2022-31, authorizing an Investment of up to \$30 million dollars in BVIP Fund XI, L.P. The Board *unanimously approved the motion.*

D. Real Assets Consultant Report.

1. **Performance Report for the Quarter Ending December 31, 2021.** Chae Hong Aon Hewitt Investment Consulting provided the Committee with a performance report for the quarter ending December 31, 2021.
2. **Recommendation to approve for Board adoption Resolution 2022-32, authorizing an investment of up to \$75 million dollars in Blackstone Real Estate Partners X L.P. (BREP X).**

Staff concurs with the recommendation.

Mr. Martin *moved to approve* adoption of Resolution 2022-32 authorizing an investment of up to \$75 million dollars in Blackstone Real Estate Partners X L.P. (BREP X). The Board *unanimously approved the motion.*

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

A. Open Forum for Potential Rule and Law Changes by Committee Members and Board Members Presents.

1. **Open Forum.** None.

B. Rules Promulgation Status Update. Ms. Jennifer Liwo gave the Committee a report that the final Rules recently promulgated were effective May 20, 2022.

- C. Calculation of Lump Sum Death Benefit.** Director Rhoden gave the Committee a recommendation on calculation of the LSDB.

Mr. Lester *moved to approve* Resolution 2022-33, Clarification on the Calculation of the Lump Sum Death Benefit. The Board *unanimously approved the motion.*

- D. Proposed Legislation for 2023.** Director Rhoden presented the Committee with the proposed legislation for 2023. This was not an action item.

XVI. Staff Reports

- A. Medical Committee Report.** Mr. Kincade reported that a total of Eleven (11) Disability Retirement Applications were approved.

Mr. Lester *moved to approve* the Medical Committee Report. Ms. Bell *seconded the motion* and the Board *unanimously approved the Motion.*

XVII. Other Business: None.

- XVIII. Adjourn.** With no other business, Mr. Danny Knight, Chair adjourned the meeting.

Meeting adjourned at 11:33 p.m.

Clint Rhoden,
Executive Director

Mr. Danny Knight, Chair
Board of Trustees

Tammy Porter,
Recorder

Date Approved

**ARKANSAS TEACHER RETIREMENT SYSTEM
BOARD OF TRUSTEE MEETING – CALLED MEETING**

Tuesday, August 16, 2022

4:15 p.m.

1400 West Third Street

Little Rock, AR 72201

Board Members Present

Danny Knight, Chair

Anita Bell*

Kathy Clayton*

Kelly Davis*

Susan Ford*

Dr. Mike Hernandez*

Shawn Higginbotham*

Michael Johnson*

Jeff Stubblefield*

John Ahlen, designee for Susannah Marshall*

Johnny Key, Education Secretary*

Hon. Andrea Lea*

Jason Brady, designee for Hon. Dennis Milligan*

ATRS Staff Present

Clint Rhoden, Executive Director

Rod Graves, Deputy Director

Tammy Porter, Board Secretary

Martha Miller, General Counsel*

Guest Present

Chae Hong, AON Investment Consultants*

Sam Walls*

Gar Chung/Fin-News*

Rush Deacon*

ID# Lenovo Tab P10*

Board Members Absent

Bobby Lester

* *via ZOOM*

I. Call to Order/Roll Call. Mr. Danny Knight, called the Board of Trustees meeting to order at 4:15 p.m. Roll call was taken. Mr. Lester was absent.

II. Adoption of Agenda.

Ms. Davis moved for adoption of the Agenda. Ms. Ford seconded the motion, and the Committee unanimously approved the motion.

III. Executive Summary. Executive Director Rhoden provided to the Board.

IV. Set the Interest Rate after Actuarial Assumed Rate of Return Changed.
Director Rhoden gave the Board staff's recommendation Set the Interest Rate after Actuarial Assumed Rate of Return Changed.

A. Resolution 2022-35

Mr. Martin *moved to adopt* Resolution 2022-35, to set the plain interest rate beginning August 1, 2022, at seven and a quarter percent (7 ¼%) to be used to compute interest on purchase of service credit or to repay a refund, or repayment of benefits. Mr. Higginbotham *seconded the motion* and the Board *unanimously approved the Motion*.

V. Unreported Service: Contributions Due.

A. In Re: ATRS ID 124842

1. Resolution 2022-36.

Ms. Davis *moved to adopt* Resolution 2022-36, approving the waiver of interest due on contributions for unreported service. Ms. Bell *seconded the motion* and the Board *unanimously approved the Resolution*.

B, In Re: ATRS ID 481834

1. Resolution 2022-37.

Mr. Martin *moved to adopt* Resolution 2022-37, approving the waiver of interest due on contributions for unreported service. Mr. Key *seconded the motion* and the Board *unanimously approved the Resolution*.

VI. Investment Committee Report. *Chip Martin, Chair*

A. Recommendation to approve for Board adoption Resolution 2022-38, authorizing an investment of up to \$75 Million Dollars in LaSalle Value Partners US IX, LP.

1. **Resolution 2022-38.**

Mr. Martin *moved to adopt* Resolution 2022-38, authorizing an investment of up to \$75 Million Dollars in LaSalle Value Partners US IX, LP.

VII. Litigation Update. Ms. Martha Miller gave the Board a report on two potential lawsuits.

- A. Unity Software: ATRS currently has an estimated loss of 2.5 million dollars in a lawsuit against Unity Software. Staff recommended the Board give authority to staff to monitor the Unity Software lawsuit and to work with ATRS' securities monitoring counsel, Labaton Sucharow, to pursue lead plaintiff or co-plaintiff status if deemed necessary to participate.

Mr. Stubblefield moved to authorize staff to monitor the Unity Software lawsuit and to work with ATRS securities monitoring counsel to pursue lead plaintiff or co-plaintiff status, if deemed necessary. Mr. Higginbotham *seconded the motion* and the Board unanimously *approved the motion*.

- B. Amazon. ATRS currently has an estimated loss of \$20-\$30 million in a lawsuit against Amazon. Staff recommended the Board give authority to staff to monitor the various Amazon lawsuits and to work with securities monitoring counsel to pursue participation if deemed necessary.

Mr. Stubblefield moved to authorize staff to monitor the Amazon lawsuits and to work with securities monitoring counsel to pursue participation if deemed necessary. Ms. Davis *seconded the motion* and the Board unanimously *approved the motion*.

VIII. ATRS Contract Status. Mr. Rod Graves gave the Board a report on the current contract status of two contracts

- A. Arkansas Capital Corporation applied for the direct investment consultant role. Staff recommended the Board authorize staff to accept the Arkansas Capital Corporation contract offer.

Mr. Brady moved to authorize staff to accept the Arkansas Capital Corporation contract offer. Ms. Clayton *seconded the motion* and the Board unanimously *approved the motion*.

- B. Kutak Rock is one of ATRS' outside legal counsel. Staff recommended the Board approve amending the current contract to increase an additional \$250,000 for a 2 year period and update the associated rate sheet as needed after staff review.

Mr. Higginbotham moved to approve the staff recommendation to amend the current contract. Ms. Clayton seconded the motion and the Board unanimously approved the motion.

VIII. Other Business. None

IX. Adjourn.

Dr. Hernandez *moved to adjourn* the Board meeting. Mr. Martin *seconded the motion* and the Board *unanimously approved the motion*.

Meeting adjourned at 5:08 p.m.

Clint Rhoden
Executive Director

Mr. Danny Knight Chair
Board of Trustees

Tammy Porter,
Board Secretary

Date Approved

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

**RESOLUTION
No. 2022-39**

**Commending Mr. Lloyd Black
for his Service to the
Arkansas Teacher Retirement System**

WHEREAS, Mr. Lloyd Black has served on the Board of Trustees of the Arkansas Teacher Retirement System as a Retiree Trustee in Position No. 9 from July 1, 2010, until June 30, 2022; and

WHEREAS, Mr. Black served faithfully as a member of the Operations Committee, as Vice Chairman of the Board of Trustees; and

WHEREAS, Mr. Black's membership on the Arkansas Teacher Retirement System Board provided valuable service to the System by means of his knowledge, integrity, wisdom, and dedication; and

WHEREAS, Mr. Black's guidance, leadership, and vision will be missed by the Board and staff alike.

NOW, THEREFORE, BE IT RESOLVED By the Board of Trustees of the Arkansas Teacher Retirement System to adopt this Resolution and authorize the transmittal of this Resolution to Mr. Lloyd Black as an expression of sincere appreciation for his leadership, wisdom, and dedicated service to the State of Arkansas and the members of the Arkansas Teacher Retirement System.

Adopted this 26th day of September 2022

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

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

**RESOLUTION
No. 2022-40**

**Commending Ms. Amanda Webb
for her Service to the
Arkansas Teacher Retirement System**

WHEREAS, Ms. Amanda Webb has served on the Board of Trustees of the Arkansas Teacher Retirement System as a Member Trustee – First Congressional District in Position No. 1 from August 19, 2021, until June 30, 2022; and

WHEREAS, Ms. Webb served faithfully as a member of the Investment Committee; and

WHEREAS, Ms. Webb’s membership on the Arkansas Teacher Retirement System Board provided valuable service to the System by means of her knowledge, integrity, wisdom, and dedication; and

WHEREAS, Ms. Webb’s guidance, leadership, and vision will be missed by the Board and staff alike.

NOW, THEREFORE, BE IT RESOLVED By the Board of Trustees of the Arkansas Teacher Retirement System to adopt this Resolution and authorize the transmittal of this Resolution to Ms. Amanda Webb as an expression of sincere appreciation for her leadership, wisdom, and dedicated service to the State of Arkansas and the members of the Arkansas Teacher Retirement System.

Adopted this 26th day of September 2022

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

Waiver of Member Interest
September 26, 2022 Board Meeting
A.C.A. Sec. 24-7-205

Amount

Reason to Waive Interest

NONE

Waiver of Employer Report Penalties 2022
September 26, 2022, Board Meeting
A.C.A. Sec. 24-7-411

These are typical reports of employer penalties and interest waived by ATRS during a reporting period.

Employer Penalties Waived	
Arkansas State University - Newport	\$300.00
East End School District	\$150.00
Mulberry-Pleasant View Bi-County Public School	\$600.00
Ozarka College	\$300.00
Waldron School District	\$450.00
Western Yell County School District	\$150.00
TOTAL PENALTIES WAIVED	\$1,950.00
Employer Interest Waived	
Mulberry-Pleasant View Bi-County Public Schools	\$21.81
Clarksville School District	\$4.88
TOTAL INTEREST WAIVED	\$26.69
TOTAL PENALTIES AND INTEREST WAIVED	\$1,976.69

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

R E S O L U T I O N
No. 2022-47

**Approving the Waiver of
Interest on Contributions for Unreported Service**

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to resolve unreported service; and

WHEREAS, A.C.A. §24-7-401 provides that employer contributions be paid in for all employees by each employer calculated as the applicable employer contribution rate multiplied by the total covered employee salaries; and

WHEREAS, A.C.A. §24-7-406 provides that, based on the year of membership, member contributions be paid in by contributory members calculated as the applicable member contribution rate multiplied by their covered salary; and

WHEREAS, A.C.A. §24-7-205 allows the system to correct errors related to unreported service when there exists an obvious or documented error by an employer or the system that understated the service credit or salary of a member; and

WHEREAS, A.C.A. §§24-7-205(b)(1)(C) and 24-7-406(c)(1)(B)(ii) allow the member to elect to convert service credit for which there is a member contribution balance due from contributory to noncontributory rather than pay the balance due; and

WHEREAS, A.C.A. 24-7-411(a) requires ATRS to impose an interest penalty for late remittance of employer and member contributions; and

WHEREAS, A.C.A. 24-7-411(c) allows the Board to waive interest if the employer delinquency was not the result of intentional nondisclosure, fraud or misrepresentation and that under the circumstances the payment would be unduly penal, or burdensome; and

WHEREAS, under Act 504 of 1985 and ATRS Rule 6, whether or not a member is considered contributory or non-contributory depends upon the year the member entered the system and that all service rendered before July 1, 1986, is contributory service; and

WHEREAS, the member (ATRS ID: 389863) has one (1) year of unreported service from the Pulaski County Special School District (PCSSD) from 1997 and the

PCSSD failed to report the member's employment and did not remit the employer contributions or member contributions for the unreported service; and

WHEREAS, the PCSSD has certified the member's service for the fiscal year 1997; and

WHEREAS, to resolve the unreported service employer contributions in the amount of \$2,476.41 must be paid to ATRS; and

WHEREAS, employer interest totaling \$11,771.61 has been assessed as a result of the 25 years that have passed since the initial unreported service; and

WHEREAS, ATRS has no evidence that the failure to report and remit employer contributions on this member's service was the result of an intentional nondisclosure, fraud or misrepresentation; and

WHEREAS, given that the initial failure to report the service occurred over 25 years ago, the amount of interest due could be considered unduly penal and burdensome; and

WHEREAS, in the past the Board has waived the interest associated with errors involving unreported employer and member contributions; and

WHEREAS, the Board finds it desirable to correct the member's service record caused by the employer failing to report past service due to no fault of the member.

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board waives the employer's interest due for unreported service to resolve the errors in this member's (ATRS ID: 389863) record; and

FURTHER, BE IT RESOLVED, that promissory notes for the employer contributions will be established so that the interest will be waived as long as the note is paid off by the end of the following fiscal year, otherwise the full interest is reinstated.

Adopted this 26th day of September 2022.

Mr. Danny Knight, Chair

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

**RESOLUTION
No. 2022-41**

**AUTHORIZATION TO PAY REGULAR T-DROP
INCENTIVE INTEREST FOR FISCAL YEAR 2023**

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) has the authority to set regular T-DROP interest rates for fiscal years by resolution; and

WHEREAS, the Board has determined it is appropriate to use the authorization provided in A.C.A. § 24-7-1307(c)(1) to set a fixed interest rate, by the end of the first quarter of the fiscal year in which the interest rate shall apply, for each fiscal year, until such time as the ATRS Board makes a subsequent adjustment; and

WHEREAS, Resolution 2021-32 authorizes the Board to award a fixed rate of 3% which when combined with an incentive rate of 3% can provide a maximum potential T-DROP interest rate of 6% for regular participants; and

WHEREAS, Resolution 2021-32 states the Board may authorize an incentive rate if the ATRS rate of return, as estimated by the general financial consultant, is 2% or greater than the ATRS actuarial assumed rate of return in the most recent preceding fiscal year; and

WHEREAS, the Board has reviewed the general financial consultant's estimated rate of return for the preceding fiscal year and found that estimate to be -4%, which is NOT greater than 2% above the ATRS actuarial assumed rate of return which is currently 7.25%.

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board awards a regular T-DROP incentive interest rate of 0% for fiscal year 2023.

Adopted this 26th day of September, 2022.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

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

**RESOLUTION
No. 2022-42**

**AUTHORIZATION TO PAY POST 10-YEAR T-DROP
INTEREST FOR FISCAL YEAR 2023**

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) has the authority to set Post 10-Year T-DROP interest rates for fiscal years by resolution; and

WHEREAS, Act 1049 of 2017 allows the Board to provide variable standard interest rate and an incentive interest rate for Post 10-Year T-DROP participants if justified by investment returns; and

WHEREAS, the Board has reviewed the general financial consultant's estimated rate of return for the preceding fiscal year and found that estimate to be -4%, which is NOT greater than 2% above the ATRS actuarial assumed rate of return which is currently 7.5%; and

WHEREAS, through Resolution 2017-36, beginning in fiscal year 2019, the Board determined it was appropriate to set the standard Post 10-Year T-DROP interest rate at a rate between 4% and 6% for a fiscal year; and

WHEREAS, Resolution 2021-33 states that in no event can the incentive rate when combined with the standard Post 10-Year T-DROP interest rate exceed the actuarial assumed rate of return on investments, which is 7.25%; and

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board sets the Post 10-Year T-DROP standard interest rate to 4% for fiscal year 2022.

FURTHER BE IT RESOLVED, that the ATRS Board awards a Post 10-Year T-DROP incentive interest rate to 0% for fiscal year 2023.

Adopted this 26th day of September, 2022.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

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

**RESOLUTION
No. 2022-43**

**AUTHORIZATION TO PAY AN INCENTIVE INTEREST RATE
ON T-DROP CASH BALANCE ACCOUNTS
ON JUNE 30, 2023**

WHEREAS, there are a number of ATRS members retiring from T-DROP who leave all or part of the T-DROP distribution in a Cash Balance Account (CBA) at retirement; and

WHEREAS, paying an incentive rate is authorized under the CBA program when strong investment returns are made by ATRS; and

WHEREAS, paying an incentive rate, when warranted, is likely to encourage members to open CBA accounts when retiring out of T-DROP and to leave money in CBA accounts longer by having the possibility of receiving incentive interest.

WHEREAS, the investment returns for fiscal year 2022 were approximately -4%; and

NOW, THEREFORE, BE IT RESOLVED, that in addition to the regular CBA interest rate payable in fiscal year 2023 that the ATRS Board approves an additional incentive interest payment of 0% to be paid on all CBA account balances that are held by ATRS on June 30, 2023.

Adopted this 26th day of September, 2022.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

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

RESOLUTION
No. 2022-44

Extension of ATRS CASH Program for Fiscal Year 2023

WHEREAS, The CASH Program was established by the Arkansas Teacher Retirement System (ATRS) Board of Trustees (Board) to allow inactive, vested non-contributory members to obtain an immediate one-time payment from ATRS instead of waiting until age 60 to draw monthly benefits; and

WHEREAS, The CASH Program is beneficial to ATRS by allowing ATRS to reduce its unfunded liabilities while providing inactive members an opportunity to obtain a CASH Program payment to benefit the member; and

WHEREAS, The CASH Program was established in November 2013 with significant participation from inactive, vested non-contributory members since its effective date; and

WHEREAS, Inactive, vested members with contributory service and inactive, vested members with mixed contributory and non-contributory service have not been eligible for the CASH Program prior to 2017; and

WHEREAS, Act 647 of 2017 allows the Board to extend, modify, or expand the CASH Program by Board Resolution; and

WHEREAS, The CASH Program was extended, modified, and expanded by Board Resolution 2017-18 on May 10, 2017 to include all inactive, vested ATRS members; and

WHEREAS, The extension of the CASH Program would enhance the benefit of the CASH Program to ATRS while providing the opportunity to obtain a CASH Program payment to all inactive, vested ATRS members;

NOW, THEREFORE, BE IT RESOLVED, That this resolution establishes the ATRS Rule 16 CASH Program for the Fiscal Year 2023 for Inactive Vested Members as set forth herein:

The Fiscal Year 2023 CASH Program for Inactive, Vested Members

I. Applicable to Inactive, Vested Members Only

- A. This offering is limited to vested members that are inactive. The CASH Program payment, once the CASH Program Election Form is properly submitted to ATRS, will be paid within a reasonable time or rolled out to another administrator at the direction of the member. The acceptance of a CASH Program payment by the member does not make the member a retiree.
- B. This offering is limited to members of ATRS who:
 - i. Have vested in ATRS; and
 - ii. Are currently inactive and have remained inactive for at least one (1) fiscal year after the last fiscal year that the member rendered actual service to a covered employer, but not retired, during the offering period set forth in this Resolution.

II. The Offering Period

The offering period for this CASH Program opportunity begins October 1, 2022 and ends June 30, 2023.

III. The CASH Program Formula

- A. Final Average Salary is defined under A.C.A. § 24-7-202(18) and calculated using the formula set in A.C.A. § 24-7-736.
- B. The member's age shall be the age attained as July 1, 2022.
- C. The CASH Program Payment is calculated on the following formula:

Step 1: (Final Average Salary) x (Years and partial years of Non-contributory Service) x (ATRS Non-contributory multiplier of 1.39%) + (Final Average Salary) x (Years and partial years of Contributory Service) x (ATRS Contributory multiplier of 2.15%) = Assumed Annual Benefit. The benefit stipend and lump sum death benefit are not part of the Assumed Annual Benefit.

Step 2: Assumed Annual Benefit ÷ 12 = Assumed Monthly Benefit Amount.

Step 3: Assumed Monthly Benefit Amount x Applicable Accrued Liability Factor for the Member as listed in the Accrued Liability Factor Table = Assumed Current Value.

Step 4: (Member Contributions + Interest on Member Contributions) x (101% for 1st Year of Eligibility OR 102% for 2nd Year of Eligibility OR 105% for 3rd Year of Eligibility OR 110% for the 4th the Year of Eligibility and beyond) = Premium Residue.

Step 5: Highest value of (Assumed Current Value x 30%) or Premium Residue = CASH Program payment.

VIII. ACCRUED LIABILITY FACTOR TABLE

Sample Attained Ages	Accrued Liability Factor	Sample Attained Ages	Accrued Liability Factor
20	6.97	56	113.97
21	7.53	57	123.39
22	8.13	58	133.63
23	8.79	59	144.78
24	9.49	60	156.92
25	10.25	61	154.09
26	11.07	62	151.18
27	11.96	63	148.18
28	12.92	64	145.12
29	13.96	65	141.98
30	15.08	66	138.76
31	16.29	67	135.50
32	17.60	68	132.15
33	19.01	69	128.70
34	20.54	70	125.17
35	22.19	71	121.55
36	23.98	72	117.85
37	25.91	73	114.07
38	28.00	74	110.20
39	30.26	75	106.28
40	32.70	76	102.30
41	35.33	77	98.25
42	38.19	78	94.21
43	41.27	79	90.17
44	44.61	80	86.13
45	48.21	81	82.11
46	52.11	82	78.14
47	56.33	83	74.24
48	60.90	84	70.37
49	65.83	85	66.60
50	71.18	86	62.92
51	76.95	87	59.38
52	83.21	88	56.07
53	89.99	89	52.97

54	97.35	90	50.09
55	105.31		

The mortality table used was the RP-2000 Mortality table for males and females projected 25 years with scale AA (95% for men and 87% for women).

Adopted this 26th day of September, 2022.

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

**INTERNAL AUDIT FOLLOW-UP REPORT
TEACHER DEFERRED RETIREMENT OPTION PLAN (T-DROP)
FOR THE PERIOD JULY 1, 2021 – MARCH 31, 2022**

September 26, 2022

Introduction

Arkansas Teacher Retirement System (ATRS) Teacher Deferred Retirement Option Plan (T-Drop) allows members with twenty-eight (28) or more years of service to build a savings account for when they are ready to leave the workforce. T-Drop members receive monthly deposits that are a percentage of their full retirement benefit. Thirty years of service are required for full participation. Benefits are reduced by one percent (1%) for every year of service including reciprocal service. Member with thirty (30) years of service will receive seventy (70%) of their retirement benefits as their T-Drop deposit. Early participation reduces the T-Drop deposit by an additional six percent (6%) for every year below thirty (30) years of credited service. Interest is paid on the mean balance each June 30th. Three percent (3%) cost-of-living increase is paid each July 1st. A member may accrue deposits in their T-Drop account for ten (10) consecutive years. At the completion of ten (10) years, a member may continue to work and accrue post ten-year interest.

T-Drop deposits stop when a T-Drop participant separate/terminates employment with an ATRS covered employer. At retirement, they can receive their T-Drop balance as a lump sum distribution, annuitized as monthly benefits or a combined distribution of annuity and lump sum payment. Lump sum T-Drop distributions can be paid to the member, rolled into a qualified retirement plan or rolled into an ATRS Cash Balance Account (CBA). CBA accounts receive monthly interest.

Objectives

The objective of the follow-up audit is to assess if corrective measures implemented by the Agency have adequately addressed the issues noted in the findings of the original report. The original T-Drop audit was presented to the Board of Trustees Audit Committee on February 1, 2021.

Scope and Methodology

This follow-up audit was conducted for the period July 1, 2021 – March 31, 2022. To accomplish the objective, we reviewed Board Rule 10, interviewed employees and analyzed sampled data by gathering the following populations and selected samples by random number generator.

To review the clarification of working day requirement for full-time employment as addressed in finding 1, IA reviewed the revised Board Rule 10.

To review accuracy of the implementation of Board Rule 10 working day requirement addressed in finding 2, Internal Audit (IA) reviewed member accounts stated in the original audit and the T-Drop Deposits and Member History Mismatch report for first and second quarter of fiscal year 2022.

To review the processing of member who owed contributions addressed in finding 3, IA reviewed the member's file and current procedures for processing T-Drop applications for member's who owe contributions.

To review the clarification of T-Drop distribution options addressed in finding 4, IA reviewed Board Rule 10.

To review IRS required notification is being sent with lump sum distribution addressed in finding 5, IA interviewed Benefits and Counseling Manager.

To review the accuracy of the required minimum distribution (RMD) CBA distribution letter addressed in finding 6, IA reviewed the distribution letter sent with the CBA RMD distributions.

To review the tax withholding addressed in finding 7, IA ran CBA Members Reaching a Given Age Report for CBA members age seventy-two (72) as of December 31, 2021. There were one hundred forty-eight (148) CBA members who reached age seventy-two (72) as of December 31, 2021. IA reviewed a sample of five (5).

Findings and Follow Up Review

The objective of a system of internal controls is to provide management with reasonable, but not absolute, assurance that transactions are executed in accordance with policies and guidelines and are recorded properly. Our findings and recommendations are provided to assist management in implementing internal controls that ensure proper procedures are implemented and followed, and should not be used for any other purpose.

Finding 1 from Original Audit: Board rule 10(V)(H) states, "If a participant earns service credit for one hundred sixty (160) days or greater within a fiscal year and the participant does not terminate employment, retire, or die during the fiscal year, or the ATRS employer does not terminate the employer/employee relationship, then ATRS will allow crediting of twelve (12) monthly T-Drop deposits per fiscal year." Board rule 10(V)(H) does not provide guidance for staff if member does not work the required 160 days. Board rule 10(V)(I) provides days required to receive deposits for part-time employment while in the T-Drop plan. Part-time employment while in the T-Drop plan is not defined.

ATRS has not established or implemented any procedures, testing, programs to monitor the 160 working day requirement. ATRS does monitor the working day requirement for part-time employment for all T-Drop participants. IA reviewed members entering the T-Drop program July 1, 2019 and members who retired out of T-Drop program during FY20. All members met the 160 working day requirement.

IA recommended Board Rule 10 clarify part-time employment for T-Drop participants. IA also recommended Board Rule 10 clarify the T-Drop deposits a member is to receive if 160 working day requirement is not met.

Internal Audit Follow-Up Review: Board Rule 10 has been revised and is effective May 20, 2022. The revised Board Rule 10 clearly stipulates T-Drop deposits a participant is to receive if the participant works less than one hundred sixty days in a fiscal year. This finding has been adequately addressed, IA has no further recommendations.

Finding 2 from Original Audit: Board rule 10(V)(I) requires part time employees to work five (5) days in first and fourth quarter and fifteen (15) days in second and third quarter to receive their quarterly deposits. Six (6) members did not meet this requirement. Two of them are retired. One transferred their T-drop distribution to a CBA, and one annuitized their T-Drop distribution. The deposits for the corresponding quarters that the member did not meet the working day requirement are credited to the member's T-Drop account. Both members are overpaid. The remaining four (4) members are still active T-Drop participants. The deposits for the corresponding quarters that the member did not meet the working day requirement are credited to the member's T-Drop account. Four members files were inadequately documented to determine if they had met the working day requirement.

IA recommended the unentitled T-Drop deposits be removed from the member's T-Drop history and staff obtain the missing documentation.

Internal Audit Follow-Up Review: Documentation was received on four of the six T-Drop members. The members worked the required days and their accounts are correct. The two retired members were determined to be eligible for their deposits and their accounts are correct.

IA reviewed T-Drop Deposit and History Mismatch Report for first and second quarter of fiscal year 2022. This report looks at the days reported and member's T-Drop deposits. The report gives members whose days reported and T-Drop deposits do not correlate. There were nine (9) members whose reported working days and T-Drop deposits did not match. Staff was processing the nine members according to procedures. All nine member's T-Drop histories are correct. This finding has been adequately addressed, IA has no further recommendations.

Finding 3 from Original Audit: T-Drop member owes contributions on her last year of active service. Member's service credit has been removed until contributions are collected. Member has a choice of forfeiting the service credit or paying the contributions and establishing the service credit. Member's T-drop deposits are based on service credit that includes the year the member owes contributions. Member's file is inadequately documented.

IA recommended the member's T-Drop deposits be based only service credit that all contributions have been paid. The member be given a choice of paying the contributions due or forfeiting the service credit for the underpaid year of service.

Internal Audit Follow-Up Review: IA reviewed the member's file. Member paid the contributions and interest. Member's file is complete and accurate. IA inquired of the current procedures for members entering T-Drop program and owing contributions. The current procedure is to notify the member of the underpayment and inform them of their choice to forfeit the contributory service or pay the contributions due. This finding has been adequately addressed, IA has no further recommendations.

Finding 4 from Original Audit: Board Rule 10(IX)(A) states if a member elects to defer only part of their T-Drop distribution into a T-Drop Cash Balance Account (CBA), the remainder of the T-Drop distribution is to be annuitized. ATRS is allowing members to elect to defer part of their T-Drop distribution into a CBA and elect to have the remainder rolled over into another plan or receive the distribution in cash.

IA recommended Board Rule 10 be modified to allow a member who elects to defer part of their T-Drop distribution into a CBA, the option to receive the remainder as a lump sum distribution rolled into a qualified plan, a lump sum distribution paid to the member, annuitized, or any combination.

Internal Audit Follow-Up Review: Board Rule 10 has been revised to allow member to receive their T-Drop distribution as any combination of a CBA rollover, lump sum payment and annuity. This finding has been adequately addressed, IA has no further recommendations.

Finding 5 from Original Audit: 26 U. S. Code §402(f) requires written notification to be sent to each individual who is receiving an eligible rollover distribution. IRS provides a model written notification in IRS Notice 2009-68. ATRS has not been sending a written notice to members requesting a T-Drop or CBA distribution.

IA recommended distributions that are eligible to be rolled into a qualified plan, ATRS should include the IRS notification.

Internal Audit Follow-Up Review: Benefits and Counseling Manager confirmed that all distributions eligible to be rolled into a qualified plan does include the written notification along with request for distribution form. This finding has been adequately addressed, IA has no further recommendations.

Finding 6 from Original Audit: ATRS CBA required minimum distribution (RMD letter states "If within 60 days of receipt you deposit any portion of this distribution, which was not rolled over in another qualified retirement plan or an IRA, you need not consider this is taxable income at

this time.” RMDs are not eligible for rollover. RMDs must be taxable income in the year distributed.

IA recommended the letter sent with the RMD distributions do not include the sentence about the distribution being eligible for rollover.

Internal Audit Follow-Up Review: The letter has been modified to include a sentence, “Note: Distributions as a part of a Required Minimum Distribution (RMD) are not eligible for rollover and will be considered a taxable distribution.” The sentence is in bold print. This finding has been adequately addressed, IA has no further recommendations.

Finding 7 from Original Audit: ATRS is withholding 20% federal income tax and 5% state income tax from the CBA RMD distributions. IRS §3405(b) requires a withholding of 10% federal income tax on RMD. Arkansas State tax requirement under AR4P is 3% withholding.

IA recommended ATRS withhold the required federal income tax withholding of 10% and the required Arkansas state tax requirement of 3%.

Internal Audit Follow-Up Review: IA ran CBA Members Reaching a Given Age Report for CBA members age seventy-two (72) as of December 31, 2021 and reviewed a sample of five members distribution. All five had a federal tax withholding of twenty percent (20%) and an Arkansas State tax withholding of five percent (5%). IA recommends programming be changed to withhold the required federal income tax and Arkansas state tax withholding of ten percent (10%) and three percent (3%).

Management Response: Management intends to amend the withholdings to the recommend Federal and State amounts. Management has consulted with ATRS data processing to begin the transition from a manual process to an automated process that will allow for the change.

Conclusion

All findings except tax withholding have been adequately dealt with by staff. IA recommends required federal and state income tax be withheld from the RMD distributions.

ATRS Private Equity Investment Guidelines - 1Q22

Commitments 2022 Year-to-Date

Investment	Strategy	Region	ATRS Board Approval	ATRS Commitment
FP Venture Opportunity	Late Stage Venture	U.S./Non-U.S.	Dec-21	\$30,000,000
FP International XI	Small/Mid Market Corporate Finance	Non-U.S.	Dec-21	30,000,000
SK VI	Mid Market Buyouts (industrial)	U.S.	Feb-22	30,000,000
TB XV	Large Buyouts (software)	U.S.	Feb-22	15,000,000
TB Discover IV	Mid Market Buyouts (software)	U.S.	Feb-22	15,000,000
TB Explore II	Small Buyouts (software)	U.S.	Feb-22	15,000,000
FP CF Access II	Small/Mid Market Corporate Finance	U.S.	Feb-22	30,000,000
Arlington VI	Mid Market Buyouts (government)	U.S.	Apr-22	30,000,000
FP Venture XIV	Early Stage Venture	U.S./Non-U.S.	Apr-22	30,000,000
BV XI	Small/Mid Market Corporate Finance	U.S.	Jun-22	30,000,000
JF Lehman VI	Small/Mid Market Corporate Finance	U.S.	Sept-22 (board)	30,000,000
Greenbriar VI	Small/Mid Market Corporate Finance	U.S.	Sept-22 (board)	30,000,000
TBD	Small/Mid Market Corporate Finance	U.S.	TBD	35,000,000
Targeted 2022 Commitments (approved by the board in December 2021)				\$350,000,000

Private Equity Allocation	Target	3/31/2022
Private Equity Value		\$3,042,998,017
Total Assets		\$21,639,409,145
Private Equity Value as a % of Total Assets	12.0%	14.1%

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 3/31/22)	% of Total
Corporate Finance (buyout, growth and debt strategies)	80-100%	3,128,323,718	88%
Venture Capital	0-20%	425,000,000	12%
Total (Post-2006 Portfolio)		3,553,323,718	100%

Region	Target %	Post-2006 Portfolio	
		Commitments (as of 3/31/22)	% of Total
U.S. and Western Europe	80-100%	3,263,164,232	92%
Other ¹	0-20%	290,159,486	8%
Total (Post-2006 Portfolio)		3,553,323,718	100%

¹ 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 2 Commitments		
	Commitment	Investment Sponsor	Notes
SK	\$30,000,000	9%	
TB	45,000,000	13%	
Arlington	30,000,000	9%	
FP Venture Opportunity	30,000,000	< 2.5%	Expected to include 5-8 investment sponsors
FP International XI	30,000,000	< 2.5%	Expected to include 4-5 investment sponsors
FP CF Access II	30,000,000	< 2.5%	Expected to include 4-6 investment sponsors
FP Venture XIV	30,000,000	< 2.5%	Expected to include 7-10 investment sponsors
BV	30,000,000	9%	
JFL	30,000,000	9%	
Greenbriar	30,000,000	9%	
TBD fund	35,000,000	10%	
Total	\$350,000,000		

for FP vehicles represents

ATRS Real Assets

As of March 31, 2022	ATRS' Portfolio \$ in Millions
Number of Investments	78
Total Commitments	3,466.6
Unfunded Commitments	773.4
Total Paid-In Capital	2,837.0
Total Distributions	2,274.7
Net Asset Value	2,377.7
Gross Asset Value	3,336.8
DPI	0.8x
TVPI	1.6x
Since Inception IRR	7.5%

**Active and Liquidated*

PORTFOLIO COMPOSITION TO TARGETS (As of 3/31/2022)		
	Target	Actual Funded
Target Real Asset Allocatio	15%	11.0%
Portfolio Style Compositio		
Real Estate	10%	6.7%
Core*	50%-70%	62.9%
Non-Core	30%-50%	37.1%
Value-Added**	N/A	21.7%
Opportunistic**	N/A	1.8%
Agriculture	1%	1.1%
Timber	2%	1.5%
Infrastructure	2%	1.7%
Leverage	50%	28.7%

RISK MANAGEMENT						
Property Type - Real Estate	NFI-ODCE	rget/Constrai	Minimum	Maximum	Actual	Compliant?
Office	24.70	±1-ODCE +/- 5%	12.35	37.05	25.09	Yes
Retail	10.40	±1-ODCE +/- 5%	5.20	15.60	8.99	Yes
Industrial	29.60	±1-ODCE +/- 5%	14.80	44.40	24.16	Yes
Multifamily	28.50	±1-ODCE +/- 5%	14.25	42.75	28.54	Yes
Lodging/Hotel	0.00	±1-ODCE +/- 5%	0.00	0.00	3.99	No
Other1	6.70	n/a	0.00	20.00	9.23	Yes
Geography - Real Estate	NFI-ODCE	rget/Constrai	Minimum	Maximum	Actual	Compliant?
West	44.50	±1-ODCE +/- 5%	21.80	65.40	26.56	Yes
East	29.40	±1-ODCE +/- 5%	15.00	45.00	35.28	Yes
Midwest	6.70	±1-ODCE +/- 5%	3.70	11.10	6.87	Yes
South	19.50	±1-ODCE +/- 5%	9.45	28.35	12.32	Yes
Other2,3	0.00	n/a	n/a	n/a	3.50	Yes
Non-U.S.	0.00	n/a	0.00	40.00	15.46	Yes
Geography - Timber	NCREIF Timberland	rget/Constrai	Minimum	Maximum	Actual	Compliant?
Lake States	4.11	±1-Timberland ±	0.66	5.05	0.39	No
Northeast	5.12	±1-Timberland ±	0.74	5.69	1.07	Yes
Northwest	23.88	±1-Timberland ±	3.72	28.52	14.24	Yes
South	66.88	±1-Timberland ±	9.88	75.74	73.30	Yes
Other	0.00	±1-Timberland ±	0.00	0.00	10.99	No
Geography - Agriculture	NCREIF Farmland	rget/Constrai	Minimum	Maximum	Actual	Compliant?
Appalachian	0.60		0.00	50.00	0.00	Yes
Corn Belt	11.75		0.00	50.00	9.15	Yes
Delta States	18.95		0.00	50.00	26.74	Yes
Lake States	3.95		0.00	50.00	16.20	Yes
Mountain	7.88		0.00	50.00	23.27	Yes
Northeast	0.24		0.00	50.00	0.00	Yes
Northern Plains	2.40		0.00	50.00	3.67	Yes
Pacific Northwest	6.87		0.00	50.00	3.66	Yes
Pacific West	39.80		0.00	50.00	7.00	Yes
Southeast	5.42		0.00	50.00	8.11	Yes
Southern Plains	2.12		0.00	50.00	2.20	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.			n/a	n/a	59.50	Yes
Non-U.S.			0.00	50.00	40.50	Yes
Asset Type - Infrastructure	Target/Constraint		Minimum	Maximum	Actual	Compliant?
Energy/Utilities			0.00	70.00	56.51	Yes
Transportation			0.00	70.00	33.22	Yes
Social			0.00	70.00	2.79	Yes
Communications			0.00	70.00	7.48	Yes
Other			0.00	70.00	0.00	Yes
Manager	Target/Constraint		Minimum	Maximum	Max	Compliant?
Energy/Utilities			0.00	30.00	14.39	Yes
Style - Real Estate	Target/Constraint		Minimum	Maximum	Actual	Compliant?
Core			50.00	70.00	62.91	Yes
Non-Core			30.00	50.00	36.42	Yes

As of 6/30/2022 (3/31/22 for Illiquid Asset Classes)

	Actual	Interim Target**	Difference (Actual vs. Interim)	Long-Term Target	Difference* (Actual vs. Long-Term)	Range***
Total Equity	51.4%	57.4%	-6.0%	53.0%	-1.6%	48 - 58%
Fixed Income	15.1%	15.0%	0.1%	15.0%	0.1%	13 - 17%
Opportunistic/Alternatives	4.7%	4.5%	0.2%	5.0%	-0.3%	NA
Real Assets	12.2%	11.1%	1.1%	15.0%	-2.8%	NA
<i>Real Estate</i>	7.5%	7.4%	0.1%	10.0%	-2.5%	NA
<i>Core RE</i>	4.7%	4.4%	0.3%	6.0%	-1.3%	5 - 7%
<i>Non-Core</i>	2.8%	3.0%	-0.2%	4.0%	-1.2%	3 - 5%
<i>Agriculture</i>	1.2%	1.5%	-0.3%	1.0%	0.2%	NA
<i>Timber</i>	1.7%	0.7%	1.0%	2.0%	-0.3%	NA
<i>Infrastructure</i>	1.9%	1.5%	0.4%	2.0%	-0.1%	NA
Private Equity	15.5%	12.0%	3.5%	12.0%	3.5%	NA
Cash	1.1%	0.0%	1.1%	0.0%	1.1%	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

Real Assets Breakd	Absolute	%
Real Estate	10%	66.7%
Ag	2%	13.3%
Timber	1%	6.7%
Infrastructure	2%	13.3%
Total Real Assets	15%	100.0%

Arkansas Teacher Retirement System Private Equity Portfolio Review

March 31, 2022

Section	Page	Section	Page
I Executive Summary		VII Glossary	
Executive Summary	4	Glossary	50
II Portfolio Overview		VIII End Notes	
Portfolio Summary	6	End Notes	55
Portfolio Summary	7		
Benchmark Summary	8		
Annual Cash Flow	10		
Capital Account Change Since Prior Quarter	11		
Recent Commitments	12		
III Market Update			
Fundraising Activity	14		
Investment Activity	15		
Public and Private Pricing	16		
Exit Activity	17		
Public and Private Performance	18		
IV Performance Analysis			
Investment Performance by Strategy	20		
Investment Performance by Vintage Year	26		
Performance by Vintage Year and Quartile Group	33		
V Diversification Analysis			
Exposure By Vintage Year	41		
Exposure By Strategy and Type	42		
Holdings by Region and Industry	43		
Holdings by Stage and Size	44		
Holdings by Region and Industry (ex Fund Holdings)	45		
Holdings by Stage and Size (ex Fund Holdings)	46		
VI Recent Activity			
Annual Commitments	48		

Executive Summary

Portfolio Summary

Since establishing the private equity program in 1996, Arkansas Teacher Retirement System (“ATRS”) has committed approximately \$5.8 billion to 94 primary funds, 30 fund-of-funds, 1 co-investment fund, and 12 direct investments through March 31, 2022. Of the \$5.8 billion committed, 90% has been contributed, 115% of contributed capital has been returned, and a total value of 1.7 times contributed capital has been generated. ATRS’ portfolio has outperformed the Dow Jones U.S. Total Stock Market Index equivalent (“PME”) by 400 basis points since inception.

Investment Activity

For the three months ended March 31, 2022, ATRS made capital contributions of approximately \$98.1 million and received distributions of \$83.8 million, for net contributions of \$14.3 million.

Commitment Activity

For the three months ended March 31, 2022, ATRS closed on \$30.0 million commitments to FP Venture XIV, FP Venture Opp, FP Intl XI, SK Capital VI, and Riverside Value Fund I, and a \$60.0 million commitment to FP CF Access II. Subsequent to quarter end, ATRS also closed on \$30.0 million commitments to Arlington VI and BV XI, as well as \$15.0 million commitments to Thoma Bravo Discover IV, Thoma Bravo XV, and Thoma Bravo Explore II. In May, ATRS closed on an additional \$30.0 million commitment to FP Venture XIV, bringing total commitments to the Fund to \$60.0 million.

Market Commentary

U.S. Private Equity

After closing the year with investment totals exceeding \$1 trillion dollars for the first time, U.S. PE markets continued to show strength in 1Q 2022 with 2,166 deals closed totaling \$331 million, representing a 16% increase in deal count and 50% increase in volume relative to 1Q 2021. While fund count remained unchanged, total capital raised saw a 26% decrease year-over-year. Pricing and leverage continue to climb with median entry multiples of 11.8x

EBITDA and median leverage multiples of 6.0x EBITDA. Add-on acquisitions continue to be a key driver of private equity investment activity with those deals representing 78% of all PE buyout activity. First-time funds continue to have favorable support of limited partners. Approximately 35% of the total raised in 2021 was closed during 1Q 2022. The average PE fund size dipped in the first quarter, with the average buyout funds dropping under \$400 million.

U.S. Venture Capital

Venture markets saw momentum carry through the first quarter with 4,822 deals closed, surpassing the previous high set in 1Q 2021 by 12%. Exit activity saw a significant slowdown in the first quarter driven by poor public market performance and economic uncertainty. Contrary to the exit market, fundraising activity remained strong as 199 funds closed on \$74 billion during 1Q 2022 which represents more capital than was raised during all of 2019.

Franklin Park

July 15, 2022

Portfolio Overview

Portfolio Summary



Group	Num.	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	Remaining Value (%)	Exposure (\$)	DPI	TVPI	Net IRR
By Vehicle											
1996-2000: Legacy Portfolio	13	1,106,390,461	1,070,676,238	0	1,641,226,547	0	0.0%	0	1.5 x	1.5 x	9.2%
2005-2006: CSFB Portfolio	2	654,300,000	688,202,653	64,958,092	1,026,564,803	118,526,462	3.9%	183,484,554	1.5 x	1.7 x	9.3%
Post 2006 Fund Portfolio	110	3,553,323,718	2,926,452,231	1,165,579,728	2,852,309,823	2,673,080,997	87.8%	3,838,660,725	1.0 x	1.9 x	18.3%
Big River Steel	8	257,880,449	257,940,356	0	430,039,782	1,910,070	0.1%	1,910,070	1.7 x	1.7 x	14.5%
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	2	218,244,727	234,114,727	0	31,674,525	209,480,489	6.9%	209,480,489	0.1 x	1.0 x	1.2%
GTLA Holdings	1	20,000,000	20,000,000	0	0	40,000,000	1.3%	40,000,000	0.0 x	2.0 x	21.3%
Total	137	5,828,139,355	5,217,126,206	1,230,537,820	5,987,200,615	3,042,998,017	100.0%	4,273,535,838	1.1 x	1.7 x	11.8%
By Fund Type											
Co-Investment Fund	1	263,823,718	392,526,335	147,865,288	311,225,486	392,854,392	12.9%	540,719,680	0.8 x	1.8 x	21.3%
Fund-of-Funds	30	1,544,300,000	1,202,880,374	436,888,854	1,451,650,748	942,922,790	31.0%	1,379,811,644	1.2 x	2.0 x	12.7%
Operating Company	12	514,125,176	531,795,084	0	467,099,442	251,390,559	8.3%	251,390,559	0.9 x	1.4 x	9.9%
Primary Fund	94	3,505,890,461	3,089,924,414	645,783,678	3,757,224,938	1,455,830,277	47.8%	2,101,613,955	1.2 x	1.7 x	11.3%
Total	137	5,828,139,355	5,217,126,206	1,230,537,820	5,987,200,615	3,042,998,017	100.0%	4,273,535,838	1.1 x	1.7 x	11.8%

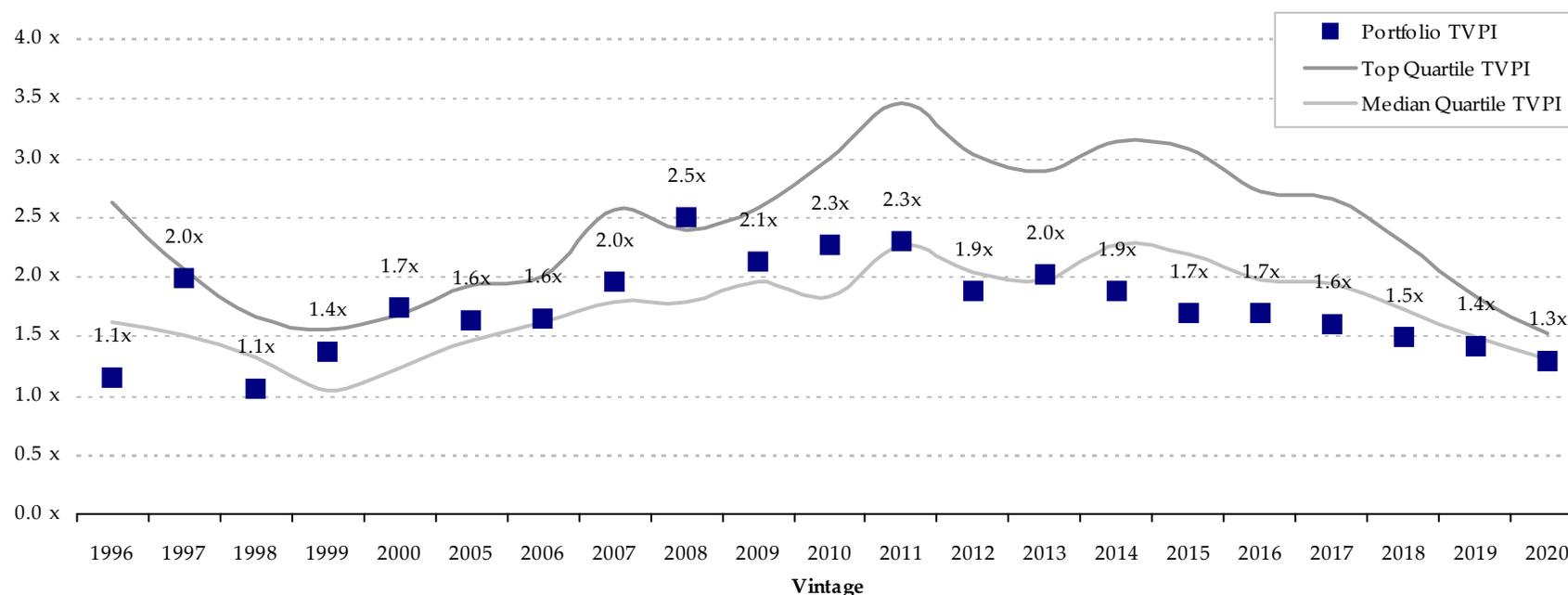
Portfolio Summary



Group	Num.	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	Remaining Value (%)	Exposure (\$)	DPI	TVPI	Net IRR
By Strategy											
Buyout	69	2,722,390,461	2,278,701,601	623,642,320	2,794,914,019	1,218,397,555	40.0%	1,842,039,875	1.2 x	1.8 x	11.9%
Distressed Debt	3	100,000,000	93,881,464	32,241,288	98,387,526	36,736,526	1.2%	68,977,814	1.0 x	1.4 x	7.0%
Growth Equity	3	120,000,000	100,504,590	22,357,033	236,817,671	41,994,895	1.4%	64,351,928	2.4 x	2.8 x	21.2%
Hard Assets	12	545,744,727	559,107,910	25,454,128	242,619,056	430,341,539	14.1%	455,795,667	0.4 x	1.2 x	6.0%
Infrastructure	8	270,880,449	272,676,670	0	427,199,627	1,910,070	0.1%	1,910,070	1.6 x	1.6 x	12.3%
Mezzanine	7	285,000,000	200,381,763	30,739,170	232,237,327	32,403,733	1.1%	63,142,903	1.2 x	1.3 x	10.1%
Multi-Strategy	6	974,123,718	1,147,717,022	213,306,380	1,369,891,936	513,902,505	16.9%	727,208,885	1.2 x	1.6 x	9.3%
Special Assets	1	30,000,000	14,019,763	15,980,238	3,195	12,315,534	0.4%	28,295,772	0.0 x	0.9 x	-8.2%
Structured Capital	4	115,000,000	90,773,654	48,765,017	63,394,189	65,349,130	2.1%	114,114,147	0.7 x	1.4 x	13.1%
Turnaround	9	240,000,000	167,361,181	90,427,451	175,908,971	114,296,474	3.8%	204,723,925	1.1 x	1.7 x	17.0%
Venture Capital	15	425,000,000	292,000,589	127,624,796	345,827,098	575,350,056	18.9%	702,974,852	1.2 x	3.2 x	24.9%
Total	137	5,828,139,355	5,217,126,206	1,230,537,820	5,987,200,615	3,042,998,017	100.0%	4,273,535,838	1.1 x	1.7 x	11.8%
By Sub-Asset Class											
Corporate Finance	110	4,889,014,179	4,393,330,533	1,102,913,024	5,174,274,074	2,216,257,403	72.8%	3,319,170,427	1.2 x	1.7 x	11.3%
Direct Investments	12	514,125,176	531,795,084	0	467,099,442	251,390,559	8.3%	251,390,559	0.9 x	1.4 x	9.9%
Venture Capital	15	425,000,000	292,000,589	127,624,796	345,827,098	575,350,056	18.9%	702,974,852	1.2 x	3.2 x	24.9%
Total	137	5,828,139,355	5,217,126,206	1,230,537,820	5,987,200,615	3,042,998,017	100.0%	4,273,535,838	1.1 x	1.7 x	11.8%

- 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.

TVPI by Vintage



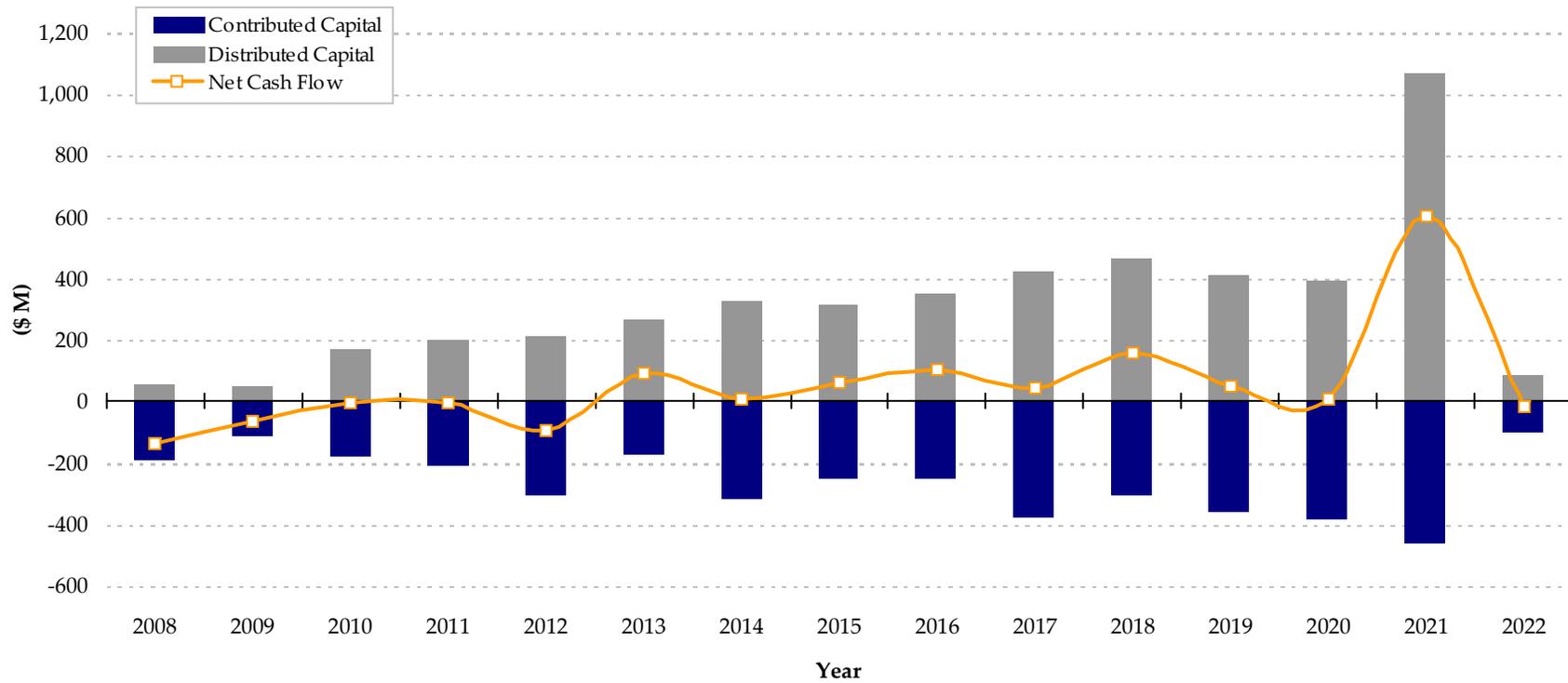
Net IRR vs. PME vs. Cambridge Associates: U.S. All Private Equity

Calculation Set	1-Year	3-Year	5-Year	10-Year	Inception
Aggregate Portfolio	19.4%	20.9%	20.2%	16.7%	11.8%
DJ US TSM TR Index* Public Market Equivalent	10.9%	18.0%	15.4%	14.2%	7.8%
Cambridge Associates: U.S. All Private Equity	43.5%	29.9%	23.4%	17.9%	N/A
Post 2006 Fund Portfolio	25.4%	27.5%	22.7%	18.7%	18.3%
DJ US TSM TR Index* Public Market Equivalent (Post 2006 Fund Portfolio)	11.0%	18.0%	15.4%	14.3%	13.9%

* The Dow Jones U.S. Total Stock Market Total Return Index measures all U.S. equity securities that have readily available prices and is calculated with dividend reinvestment.

-
- Benchmark TVPI represents vintage year first quartile per Cambridge Associates, as of December 31, 2021. The portfolio is compared to data compiled across multiple strategies including U.S. Buyout, Growth Equity, Venture Capital, Mezzanine, Distressed, Fund-of-funds, and Secondary funds.
 - 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.
 - 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 the investor could have achieved by investing in the public market. The PME return assumes cash flows are invested at the end of each day.
 - Cambridge Associates: U.S. All Private Equity reflects the pooled net IRR based on data compiled from Cambridge Associates as of December 31, 2021.
 - Benchmark data is not available (N/A).

Annual Cash Flow

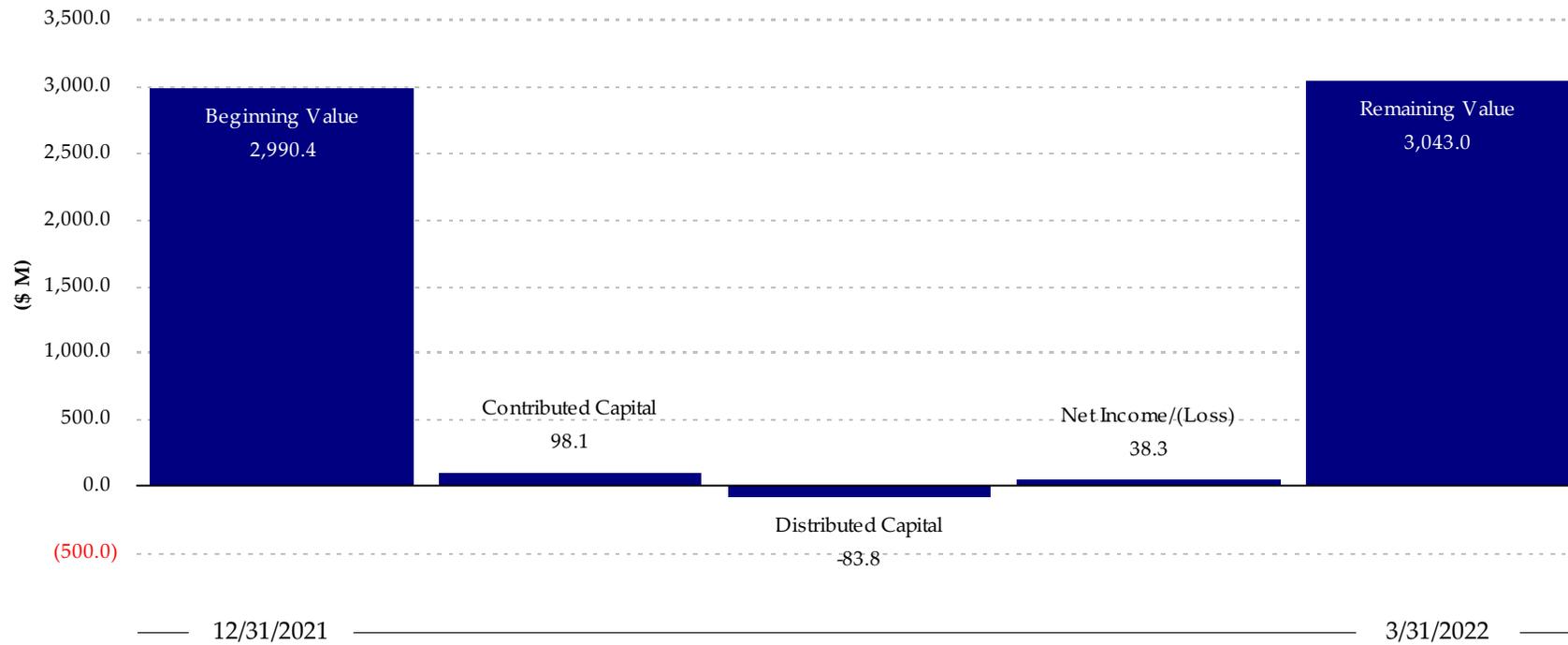


2022 (\$)		
Distributed	Contributed	Net Cash Flow
83,786,688	-98,091,320	-14,304,632

▫ Cash flow data was compiled through the Report Date.

Capital Account Change Since Prior Quarter

Quarterly Portfolio Activity



Percent Change in Value	1.3%
-------------------------	------

- 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.

Recent Commitments



Commitments for Year Ended December 31, 2021

Fund	Strategy	Date	Commitment (\$)
Greenbriar V	Buyout	Feb 2021	30,000,000
Alpine Investors VIII	Buyout	Aug 2021	30,000,000
Revelstoke III	Buyout	Oct 2021	30,000,000
Clearlake VII	Buyout	Oct 2021	30,000,000
Bison VI	Structured Capital	Dec 2021	30,000,000
Total			150,000,000

Year to Date Commitments as of July 14, 2022

Fund	Strategy	Date	Commitment (\$)
FP Venture Opp	Venture Capital	Jan 2022	30,000,000
FP Venture XIV	Venture Capital	Jan 2022	60,000,000
FP Intrnl XI	Buyout	Jan 2022	30,000,000
FP CF Access II	Buyout	Feb 2022	60,000,000
SK Capital VI	Buyout	Mar 2022	30,000,000
Riverside Value Fund I	Turnaround	Mar 2022	30,000,000
Thoma Bravo Discover IV	Buyout	Apr 2022	15,000,000
Thoma Bravo XV	Buyout	Apr 2022	15,000,000
Arlington VI	Buyout	Apr 2022	30,000,000
Thoma Bravo Explore II	Buyout	May 2022	15,000,000
BV XI	Buyout	Jul 2022	30,000,000
Total			345,000,000

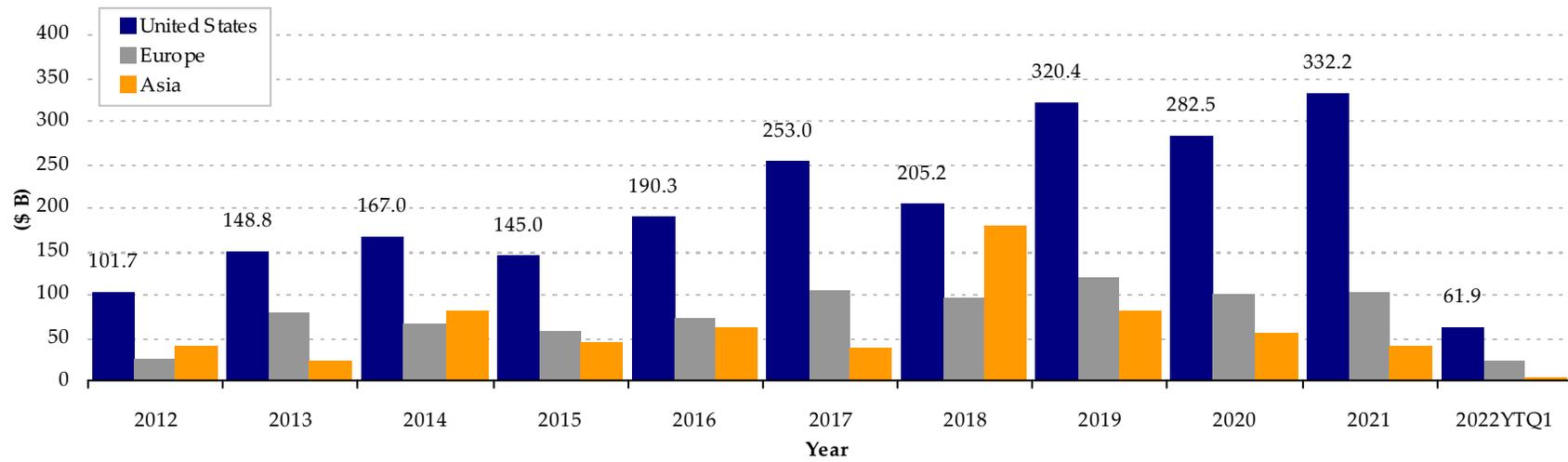
Approved and Pending Commitments as of July 14, 2022

Not Applicable

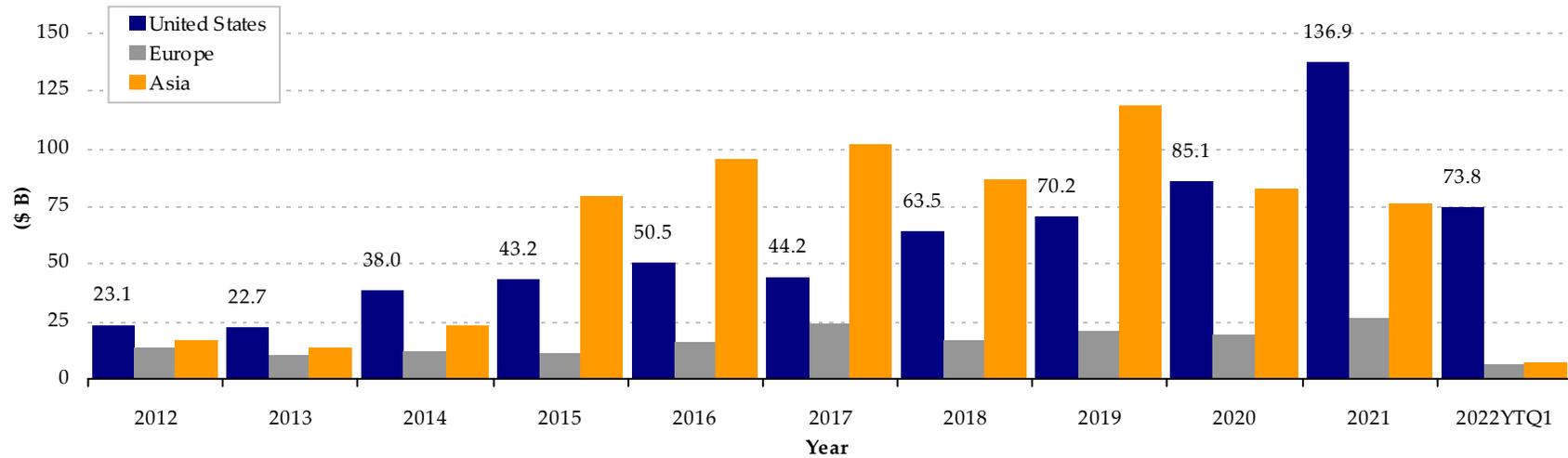
▫ Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.

Market Update

Buyout Funds



Venture Funds

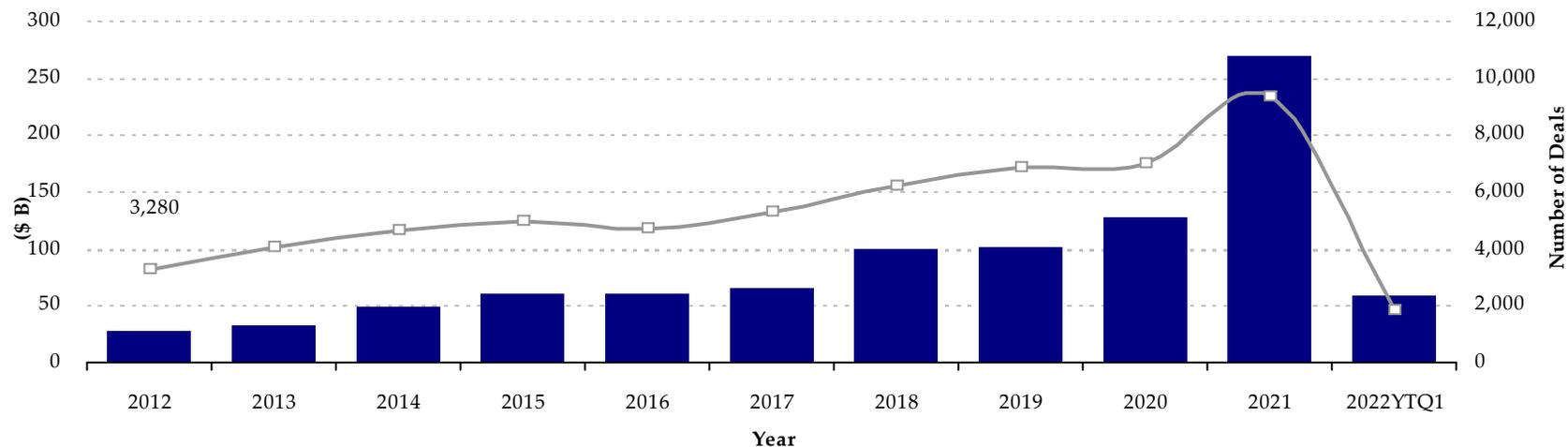


Source: Pitchbook.
Data compiled through 4Q 2021.

U.S. Buyout

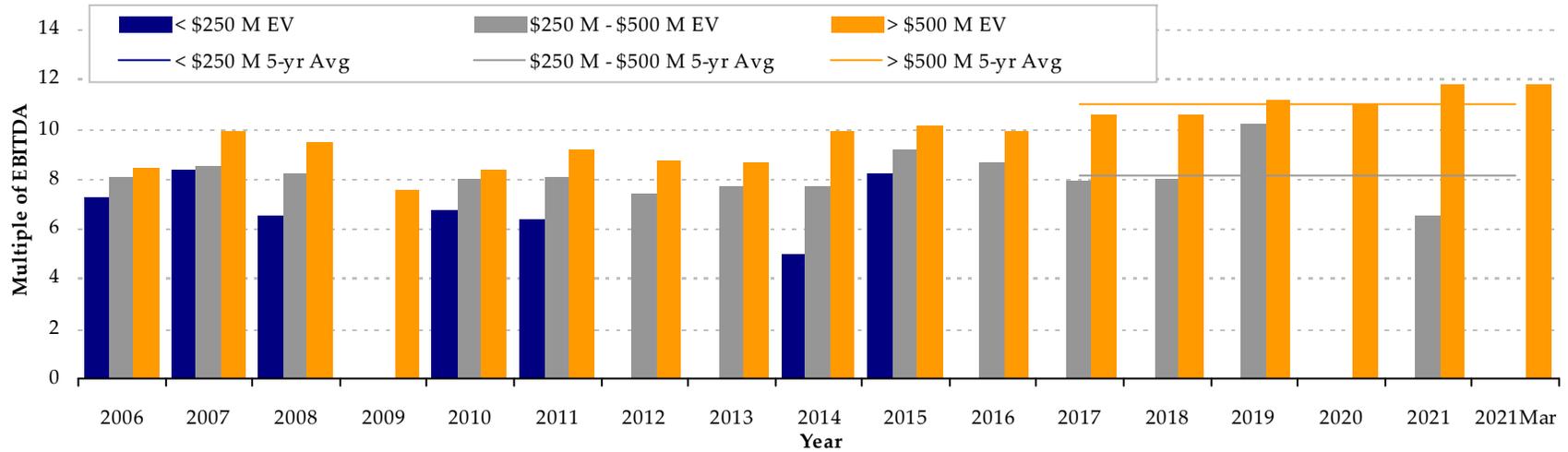


U.S. Venture



- Source: Pitchbook.
- Data compiled through 4Q 2021.

U.S. LBO Pricing Multiples

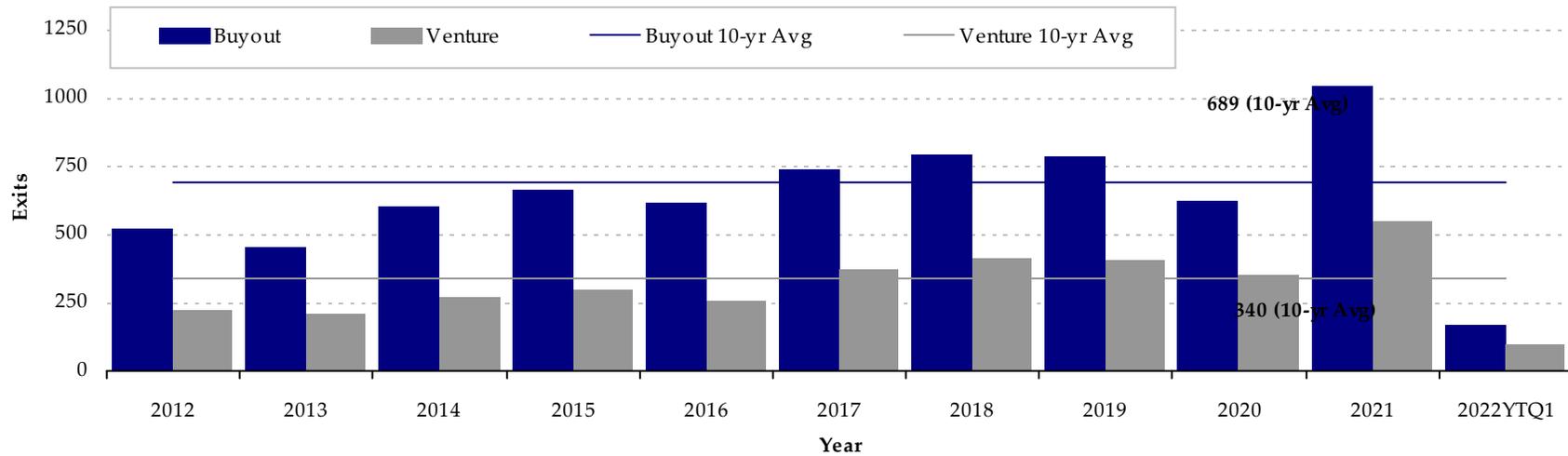


S&P 500 Valuation and Earnings

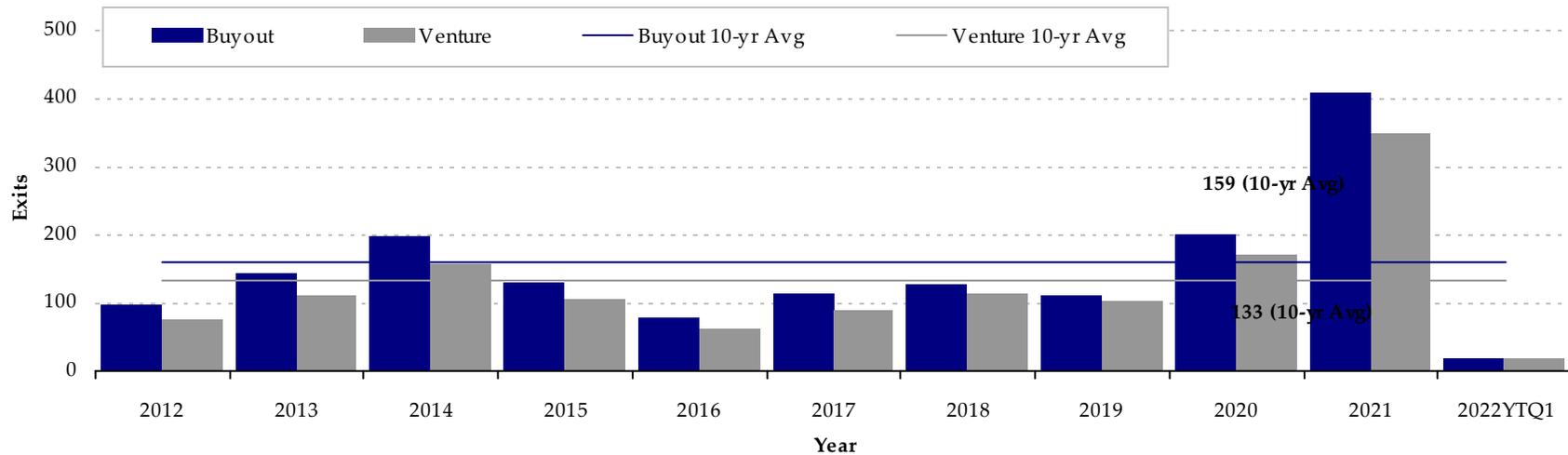


Source: Standard & Poor's Leveraged Commentary.

U.S. Mergers and Acquisitions



U.S. Initial Public Offerings



- Source: Pitchbook.
- Data compiled through 4Q 2021.

Vintage Returns

Group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
U.S. All PE Median	17.9%	16.9%	16.4%	21.7%	22.4%	25.5%	29.6%	33.0%	38.1%	38.0%
U.S. All PE Top Quartile	24.7%	23.9%	24.3%	29.2%	31.3%	33.9%	45.7%	51.1%	57.1%	69.7%
U.S. Buyout Median	19.1%	17.3%	16.7%	22.1%	23.0%	25.2%	34.6%	25.2%	34.2%	35.3%
U.S. Buyout Top Quartile	24.5%	24.5%	27.0%	27.2%	31.0%	30.1%	43.8%	42.6%	51.6%	60.7%
U.S. Energy Median	-0.5%	-1.8%	6.9%	7.5%	8.7%	8.9%	8.3%	9.0%	3.6%	20.6%
U.S. Energy Top Quartile	6.4%	4.1%	14.8%	12.7%	12.4%	13.0%	18.6%	18.5%	24.8%	
U.S. Real Assets Median	13.0%	10.3%	10.2%	10.3%	10.2%	12.4%	12.8%	17.7%	13.8%	20.9%
U.S. Real Assets Top Quartile	19.2%	14.7%	16.0%	13.8%	14.5%	15.0%	20.9%	24.5%	31.6%	34.9%
U.S. Real Estate Median	15.4%	11.5%	10.8%	10.9%	12.1%	13.2%	14.0%	19.3%	13.8%	20.9%
U.S. Real Estate Top Quartile	21.2%	15.5%	17.5%	14.6%	15.7%	16.8%	22.2%	25.2%	31.3%	34.2%
U.S. Venture Median	19.3%	19.7%	19.0%	24.2%	23.9%	28.8%	34.0%	42.1%	41.1%	38.3%
U.S. Venture Top Quartile	26.2%	26.3%	26.5%	36.0%	34.7%	39.8%	53.4%	59.9%	72.0%	65.9%

- Source: Cambridge Associates.
- Data compiled through December 31, 2021.

Performance Analysis

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Buyout									
21st Century Group I *	2000	\$80,365,451	25,000,000	27,141,173	0	22,841,928	0	0.8 x	-3.8%
Advent GPE VI-A	2008	\$9,000,000,000	40,000,000	40,167,228	0	80,492,730	4,431,036	2.1 x	16.6%
Alpine Investors VIII	2021	\$2,436,551,413	30,000,000	3,834,723	26,165,277	0	3,268,948	0.9 x	NMF
Altaris Constellation	2017	\$165,000,000	20,000,000	16,282,179	5,543,214	22,724,187	19,769,076	2.6 x	26.7%
Altaris IV	2018	\$1,085,000,000	24,000,000	22,597,708	3,056,265	20,907,373	22,073,650	1.9 x	34.1%
Altus Capital II	2010	\$200,000,000	20,000,000	19,796,396	3,222,424	24,125,912	9,127,175	1.7 x	12.9%
American Industrial VI	2016	\$1,845,000,000	20,000,000	24,016,138	3,803,947	19,509,702	28,324,388	2.0 x	21.8%
American Industrial VII	2019	\$3,075,000,000	30,000,000	23,034,873	9,054,242	2,089,115	23,429,132	1.1 x	13.2%
Arlington IV	2016	\$700,000,000	23,000,000	24,002,369	1,039,295	14,789,406	37,505,680	2.2 x	27.4%
Arlington V	2019	\$1,692,000,000	25,000,000	15,351,842	9,648,158	891,984	23,600,669	1.6 x	58.0%
Boston Ventures VII	2006	\$434,507,010	50,000,000	43,016,769	8,258,947	48,914,085	2,796,638	1.2 x	3.2%
BV IX	2017	\$750,000,000	30,000,000	28,010,908	7,989,093	13,429,693	43,651,446	2.0 x	37.9%
BV VIII	2012	\$486,800,000	30,000,000	27,215,697	3,065,489	42,916,261	21,781,579	2.4 x	49.3%
BV X	2020	\$1,122,000,000	30,000,000	12,514,996	19,270,957	1,785,953	15,781,654	1.4 x	69.3%
Clearlake V	2018	\$3,623,125,000	30,000,000	37,490,589	8,153,342	44,998,058	45,791,776	2.4 x	53.9%
Clearlake VI	2020	\$7,068,000,000	30,000,000	24,366,635	5,963,537	1,026,242	39,812,575	1.7 x	61.7%
Clearlake VII	2022	\$14,125,000,000	30,000,000	0	30,000,000	0	-310,026	N/A	NMF
Court Square III	2012	\$3,173,449,997	40,000,000	44,316,136	1,905,091	52,941,391	37,396,447	2.0 x	20.6%
Cypress MBP II *	1999	\$2,376,060,606	50,000,000	52,304,562	0	50,840,220	0	1.0 x	-0.5%
DLJ MBP III *	2000	\$5,304,941,647	200,000,000	215,345,711	0	458,746,671	0	2.1 x	19.4%
Doughty Hanson III *	1997	\$2,660,000,000	100,000,000	99,374,207	0	197,482,184	0	2.0 x	13.5%
DW Healthcare III	2012	\$268,147,500	40,000,000	37,138,408	2,861,592	60,592,883	11,618,330	1.9 x	18.2%
DW Healthcare IV	2016	\$294,274,000	30,000,000	29,750,068	1,778,898	28,157,299	27,353,603	1.9 x	25.7%
DW Healthcare V	2019	\$611,000,000	30,000,000	16,176,461	13,823,539	0	16,939,574	1.0 x	3.4%
FP CF Access	2020	\$146,408,500	90,000,000	35,146,545	54,961,050	1,015,434	42,885,253	1.2 x	33.0%
FP CF Access II	2022	\$150,000,000	60,000,000	6,000,000	54,000,000	0	6,544,564	1.1 x	NMF
FP Intl 2011	2011	\$45,000,000	25,000,000	23,027,778	2,363,954	26,182,161	13,226,160	1.7 x	10.1%
FP Intl 2012	2012	\$70,000,000	25,000,000	17,250,000	7,990,101	16,045,729	8,696,665	1.4 x	8.6%
FP Intl 2013	2013	\$97,000,000	20,000,000	13,917,526	6,245,095	4,907,136	17,962,091	1.6 x	9.9%
FP Intl 2014	2014	\$97,000,000	25,000,000	17,525,773	7,629,497	12,296,292	18,325,352	1.7 x	16.2%
FP Intl 2015	2015	\$113,000,000	25,000,000	19,358,407	5,764,114	6,642,147	24,662,929	1.6 x	15.3%
FP Intl 2016	2016	\$97,000,000	25,000,000	19,510,309	5,635,900	4,331,676	24,622,725	1.5 x	13.6%
FP Intl 2017	2017	\$98,000,000	25,000,000	21,301,020	3,848,484	5,034,539	35,113,189	1.9 x	31.9%
FP Intl 2018	2018	\$65,500,000	25,000,000	21,374,046	3,834,498	1,632,316	25,311,034	1.3 x	14.6%
FP Intl 2019	2019	\$70,500,000	30,000,000	15,531,915	14,690,675	1,171,418	18,842,058	1.3 x	27.7%
FP Intl X	2021	\$139,000,000	60,000,000	12,733,813	47,342,598	0	12,854,252	1.0 x	NMF

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
FP Intl XI	2022	\$124,500,000	30,000,000	0	30,000,000	0	0	N/A	NMF
Greenbriar V	2021	\$1,682,930,000	30,000,000	10,780,170	19,665,766	448,580	16,828,362	1.6 x	NMF
HMTF III *	1996	\$2,458,754,795	76,743,018	76,799,039	0	87,834,289	0	1.1 x	1.8%
HMTF IV *	1998	\$4,023,532,721	100,000,000	98,010,015	0	67,130,479	0	0.7 x	-6.1%
HMTF V *	2000	\$1,552,965,194	207,366,433	205,198,451	0	378,102,491	0	1.8 x	17.6%
JF Lehman III	2011	\$575,500,000	39,000,000	44,036,790	5,298,068	52,067,072	20,160,516	1.6 x	11.7%
JF Lehman IV	2016	\$833,000,000	30,000,000	29,296,895	1,063,249	63,771,124	11,553,548	2.6 x	35.6%
JF Lehman V	2020	\$1,350,000,000	30,000,000	16,663,634	13,336,366	0	17,885,071	1.1 x	6.5%
Mason Wells III	2010	\$525,000,000	30,000,000	28,553,580	1,446,420	85,775,993	135,058	3.0 x	20.5%
Oak Hill I *	1999	\$1,600,000,000	50,000,000	50,786,497	0	91,264,962	0	1.8 x	10.6%
One Rock II	2017	\$964,000,000	30,000,000	26,646,809	5,471,595	3,906,746	44,098,199	1.8 x	21.2%
Revelstoke III	2021	\$1,500,000,000	30,000,000	5,608,678	24,391,322	4,071	7,141,244	1.3 x	NMF
Riverside IV	2009	\$406,091,370	40,000,000	31,433,665	0	74,584,420	226,399	2.4 x	21.3%
Riverside V	2013	\$531,833,200	35,000,000	36,582,369	1,700,825	31,835,254	32,269,685	1.8 x	12.6%
Riverside VI	2019	\$327,916,667	30,000,000	13,996,370	16,003,630	0	19,509,564	1.4 x	17.7%
Second Cinven *	1998	£904,547,000	65,281,010	65,281,010	0	104,700,661	0	1.6 x	9.3%
Siris III	2015	\$1,810,000,000	25,000,000	30,925,309	4,137,215	24,456,706	19,984,949	1.4 x	13.7%
Siris IV	2019	\$3,452,454,000	30,000,000	19,309,653	12,767,155	3,454,665	27,643,436	1.6 x	24.2%
SK Capital V	2018	\$2,013,000,000	30,000,000	29,059,191	4,693,231	3,992,629	33,526,548	1.3 x	19.7%
SK Capital VI	2022	\$2,750,000,000	30,000,000	0	30,000,000	0	0	N/A	NMF
Thoma Bravo Discover	2016	\$1,074,000,000	10,000,000	11,350,409	1,767,370	29,239,213	6,355,129	3.1 x	37.7%
Thoma Bravo Discover II	2018	\$2,438,485,000	17,000,000	17,551,762	4,864,141	6,889,537	25,489,853	1.8 x	35.7%
Thoma Bravo Discover III	2021	\$3,929,323,000	20,000,000	16,366,299	3,633,701	0	18,112,045	1.1 x	NMF
Thoma Bravo Explore I	2020	\$1,127,120,000	20,000,000	10,910,681	10,165,590	1,076,271	12,948,769	1.3 x	39.1%
Thoma Bravo XI	2014	\$3,662,000,000	20,000,000	20,785,558	2,135,646	40,382,363	30,962,505	3.4 x	28.6%
Thoma Bravo XII	2016	\$7,603,860,000	30,000,000	32,536,127	7,578,122	12,374,986	50,416,817	1.9 x	17.8%
Thoma Bravo XIII	2019	\$12,594,745,000	30,000,000	32,859,701	6,185,338	15,449,096	43,424,733	1.8 x	42.4%
Thoma Bravo XIV	2021	\$17,896,818,000	20,000,000	18,828,847	1,171,153	5	19,038,479	1.0 x	NMF
Vista Equity III	2007	\$1,287,129,725	50,000,000	54,358,135	3,872,093	127,515,699	4,529,935	2.4 x	28.5%
Vista Foundation II	2013	\$1,145,000,000	15,000,000	15,981,731	7,152,905	16,571,132	16,321,547	2.1 x	16.0%
Vista Foundation III	2016	\$2,950,561,226	30,000,000	33,591,741	7,848,892	32,212,108	32,787,377	1.9 x	27.3%
Wellspring V	2011	\$1,194,387,756	40,000,000	46,242,972	14,022,181	63,903,358	12,896,501	1.7 x	16.2%
Wicks IV	2011	\$414,000,000	40,000,000	42,446,603	4,361,073	86,507,984	10,961,664	2.3 x	21.8%
Total Buyout			2,722,390,461	2,278,701,601	623,642,320	2,794,914,019	1,218,397,555	1.8 x	11.9%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Distressed Debt									
Castlelake II	2011	\$996,762,000	35,000,000	32,656,036	2,625,461	30,915,025	15,004,045	1.4 x	6.1%
Castlelake III	2014	\$1,421,000,000	25,000,000	23,149,741	1,864,884	18,472,580	15,741,154	1.5 x	7.3%
Tennenbaum VI	2010	\$530,000,000	40,000,000	38,075,687	27,750,943	48,999,921	5,991,327	1.4 x	7.6%
Total Distressed Debt			100,000,000	93,881,464	32,241,288	98,387,526	36,736,526	1.4 x	7.0%
Growth Equity									
LLR III	2008	\$803,000,000	50,000,000	48,504,590	4,357,033	106,559,357	4,214,491	2.3 x	16.6%
LLR VI	2021	\$1,800,000,000	30,000,000	12,600,000	17,400,000	113,723	12,040,172	1.0 x	NMF
TA XI	2010	\$4,000,100,000	40,000,000	39,400,000	600,000	130,144,591	25,740,232	4.0 x	27.5%
Total Growth Equity			120,000,000	100,504,590	22,357,033	236,817,671	41,994,895	2.8 x	21.2%
Hard Assets									
EnCap IX	2013	\$5,154,639,175	25,000,000	28,717,957	1,040,414	26,534,410	12,698,162	1.4 x	9.7%
EnCap VIII	2010	\$3,608,247,422	47,500,000	54,117,730	0	31,900,072	22,842,251	1.0 x	0.3%
EnCap X	2015	\$6,701,030,928	30,000,000	30,398,424	1,609,809	18,188,574	34,548,611	1.7 x	15.7%
EnCap XI	2017	\$6,961,190,722	35,000,000	25,032,954	10,653,269	1,799,054	28,943,953	1.2 x	12.7%
GTLA Holdings	2018	\$20,000,000	20,000,000	20,000,000	0	0	40,000,000	2.0 x	21.3%
Highland Contingent Note	2018	\$152,244,727	152,244,727	152,244,727	0	15,000,000	162,134,456	1.2 x	8.7%
Highland Equity	2016	\$66,000,000	66,000,000	81,870,000	0	16,674,525	47,346,033	0.8 x	-7.0%
Lime Rock Resources III	2014	\$762,000,000	25,000,000	25,643,391	253,229	6,211,186	26,205,496	1.3 x	3.7%
NGP IX	2007	\$4,000,000,000	50,000,000	54,229,094	201,825	77,618,619	258,160	1.4 x	10.9%
NGP X	2012	\$3,586,000,000	35,000,000	36,395,274	298,456	30,888,225	4,741,486	1.0 x	-0.6%
NGP XI	2014	\$5,325,000,000	30,000,000	30,597,387	1,258,097	15,061,681	26,377,100	1.4 x	8.3%
NGP XII	2017	\$4,304,081,633	30,000,000	19,860,971	10,139,029	2,742,711	24,245,832	1.4 x	11.8%
Total Hard Assets			545,744,727	559,107,910	25,454,128	242,619,056	430,341,539	1.2 x	6.0%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Infrastructure									
Big River - Equity	2014	\$151,090,000	151,090,000	151,090,000	0	296,427,836	1,910,070	2.0 x	15.0%
Big River - Funding *	2017	\$3,750,000	3,750,000	3,750,000	0	3,812,795	0	1.0 x	4.3%
Big River - Holdings Note *	2017	\$12,000,000	12,000,000	12,000,000	0	13,343,726	0	1.1 x	11.0%
Big River - Holdings Note 2023 *	2018	\$12,000,000	12,000,000	12,000,000	0	14,582,469	0	1.2 x	5.6%
Big River - Holdings Note 2023-2 *	2018	\$5,150,000	5,150,000	5,150,000	0	6,245,733	0	1.2 x	6.5%
Big River - Preferred Equity *	2017	\$41,980,449	41,980,449	41,980,449	0	51,702,368	0	1.2 x	12.5%
Big River - Sr Secured Debt *	2015	\$26,910,000	26,910,000	26,966,221	0	35,699,565	0	1.3 x	14.7%
Blue Oak Arkansas *	2014	\$18,000,000	18,000,000	19,740,000	0	5,385,136	0	0.3 x	-34.8%
Total Infrastructure			270,880,449	272,676,670	0	427,199,627	1,910,070	1.6 x	12.3%
Mezzanine									
Audax Mezzanine III	2011	\$1,002,250,000	25,000,000	25,890,745	6,675,000	33,070,037	1,254,902	1.3 x	9.8%
Big River - Mezzanine *	2014	\$5,000,000	5,000,000	5,003,686	0	8,225,290	0	1.6 x	17.3%
Blackstone Mezzanine I *	1999	\$1,141,000,000	100,000,000	73,353,517	0	96,729,026	0	1.3 x	10.2%
DLJ Investment II *	1999	\$1,600,000,000	80,000,000	43,611,022	0	60,468,989	0	1.4 x	10.4%
Greyrock IV	2017	\$275,000,000	30,000,000	28,133,397	3,002,589	21,883,808	15,249,826	1.3 x	10.9%
Greyrock V	2020	\$280,000,000	35,000,000	14,417,927	20,582,074	0	14,131,139	1.0 x	-3.3%
Insight Mezzanine I	2009	\$94,678,011	10,000,000	9,971,470	479,507	11,860,178	1,767,866	1.4 x	6.5%
Total Mezzanine			285,000,000	200,381,763	30,739,170	232,237,327	32,403,733	1.3 x	10.1%
Multi-Strategy									
ATRS-FP PE	2012	\$265,516,382	263,823,718	392,526,335	147,865,288	311,225,486	392,854,392	1.8 x	21.3%
CSFB-ATRS 2005-1 Series	2005	\$252,525,253	250,000,000	277,750,644	10,768,328	408,390,816	43,069,074	1.6 x	8.1%
CSFB-ATRS 2006-1 Series	2006	\$406,331,658	404,300,000	410,452,009	54,189,764	618,173,986	75,457,388	1.7 x	10.3%
DH Tech I *	2000	\$236,700,000	50,000,000	61,471,034	0	21,987,447	0	0.4 x	-16.5%
Diamond State *	1999	\$46,000,000	2,000,000	2,000,000	0	3,097,200	0	1.5 x	5.5%
Diamond State II	2007	\$25,361,350	4,000,000	3,517,000	483,000	7,017,000	2,521,651	2.7 x	10.7%
Total Multi-Strategy			974,123,718	1,147,717,022	213,306,380	1,369,891,936	513,902,505	1.6 x	9.3%
Special Assets									
WNG II	2019	\$438,350,000	30,000,000	14,019,763	15,980,238	3,195	12,315,534	0.9 x	-8.2%
Total Special Assets			30,000,000	14,019,763	15,980,238	3,195	12,315,534	0.9 x	-8.2%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Structured Capital									
Bison V	2017	\$384,132,653	35,000,000	35,060,033	6,980,570	14,087,175	36,291,697	1.4 x	17.5%
Bison VI	2022	\$500,000,000	30,000,000	0	30,000,000	0	0	N/A	NMF
Levine Leichtman V	2013	\$1,644,081,633	20,000,000	27,868,463	2,019,471	33,055,152	20,707,678	1.9 x	18.1%
PineBridge Structured III	2016	\$600,000,000	30,000,000	27,845,159	9,764,976	16,251,862	8,349,755	0.9 x	-5.1%
Total Structured Capital			115,000,000	90,773,654	48,765,017	63,394,189	65,349,130	1.4 x	13.1%
Turnaround									
Atlas Capital II	2014	\$900,000,000	15,000,000	20,749,809	4,738,657	15,663,995	16,853,564	1.6 x	18.4%
Insight Equity II	2009	\$429,735,291	30,000,000	31,028,312	884,343	42,854,623	8,484,038	1.7 x	9.1%
KPS III Supplemental	2009	\$816,326,531	40,000,000	37,777,254	16,117,982	80,212,144	227,154	2.1 x	22.8%
KPS IV	2014	\$3,571,428,571	25,000,000	21,793,946	3,997,323	22,561,096	19,088,896	1.9 x	24.9%
KPS Mid-Market I	2019	\$1,020,408,163	20,000,000	7,956,277	12,269,704	1,067,944	10,119,725	1.4 x	25.9%
KPS V	2020	\$6,122,448,980	30,000,000	12,357,766	17,269,876	622,696	17,592,221	1.5 x	44.7%
Riverside Value Fund I	2021	\$350,000,000	30,000,000	0	19,720,641	0	12,262,550	N/A	NMF
Sycamore Partners II	2014	\$2,700,000,000	25,000,000	22,237,949	3,888,793	12,926,472	13,562,869	1.2 x	5.2%
Sycamore Partners III	2018	\$4,870,000,000	25,000,000	13,459,868	11,540,132	0	16,105,457	1.2 x	12.4%
Total Turnaround			240,000,000	167,361,181	90,427,451	175,908,971	114,296,474	1.7 x	17.0%
Venture Capital									
FP Venture 2008	2008	\$102,000,000	30,000,000	30,000,000	208,124	70,982,271	30,170,734	3.4 x	19.0%
FP Venture 2009	2009	\$58,000,000	25,000,000	24,543,104	712,692	53,336,514	13,533,574	2.7 x	17.9%
FP Venture 2010	2010	\$80,000,000	25,000,000	16,031,250	1,637,424	22,927,707	35,533,562	3.6 x	19.3%
FP Venture 2011	2011	\$70,000,000	25,000,000	24,678,571	559,813	100,645,067	82,208,594	7.4 x	37.1%
FP Venture 2012	2012	\$80,000,000	25,000,000	22,375,000	2,807,303	36,602,009	53,360,920	4.0 x	25.4%
FP Venture 2013	2013	\$87,000,000	20,000,000	18,275,862	1,844,617	20,708,777	52,382,981	4.0 x	29.7%
FP Venture 2014	2014	\$93,000,000	25,000,000	23,790,322	1,343,451	21,738,962	74,913,463	4.1 x	28.9%
FP Venture 2015	2015	\$113,000,000	25,000,000	23,783,186	1,341,838	7,566,348	49,511,982	2.4 x	22.5%
FP Venture 2016	2016	\$82,000,000	25,000,000	21,250,000	3,898,577	6,409,414	48,917,290	2.6 x	33.2%
FP Venture 2017	2017	\$113,000,000	25,000,000	16,814,159	8,280,636	3,147,156	32,133,535	2.1 x	38.3%
FP Venture 2018	2018	\$80,500,000	25,000,000	21,118,012	4,021,718	1,030,090	40,575,325	2.0 x	43.5%
FP Venture 2019	2019	\$80,500,000	30,000,000	16,956,522	13,167,670	661,059	26,305,622	1.6 x	35.8%
FP Venture Opp	2022	\$150,000,000	30,000,000	4,875,000	25,133,872	0	4,780,592	1.0 x	NMF
FP Venture XIII	2020	\$162,000,000	60,000,000	27,068,425	33,099,196	71,724	30,605,929	1.1 x	19.7%
FP Venture XIV	2022	\$150,000,000	30,000,000	441,176	29,567,865	0	415,953	0.9 x	NMF
Total Venture Capital			425,000,000	292,000,589	127,624,796	345,827,098	575,350,056	3.2 x	24.9%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Total Portfolio			5,828,139,355	5,217,126,206	1,230,537,820	5,987,200,615	3,042,998,017	1.7 x	11.8%

- 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").

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
1996								
HMTF III *	Buyout	76,743,018	76,799,039	0	87,834,289	0	1.1 x	1.8%
Total 1996		76,743,018	76,799,039	0	87,834,289	0	1.1 x	1.8%
1997								
Doughty Hanson III *	Buyout	100,000,000	99,374,207	0	197,482,184	0	2.0 x	13.5%
Total 1997		100,000,000	99,374,207	0	197,482,184	0	2.0 x	13.5%
1998								
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%
Total 1998		165,281,010	163,291,025	0	171,831,140	0	1.1 x	0.9%
1999								
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	50,840,220	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%
Total 1999		282,000,000	222,055,598	0	302,400,397	0	1.4 x	7.7%
2000								
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%
Total 2000		482,366,433	509,156,369	0	881,678,537	0	1.7 x	14.8%
2005								
CSFB-ATRS 2005-1 Series	Multi-Strategy	250,000,000	277,750,644	10,768,328	408,390,816	43,069,074	1.6 x	8.1%
Total 2005		250,000,000	277,750,644	10,768,328	408,390,816	43,069,074	1.6 x	8.1%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2006								
Boston Ventures VII	Buyout	50,000,000	43,016,769	8,258,947	48,914,085	2,796,638	1.2 x	3.2%
CSFB-ATRS 2006-1 Series	Multi-Strategy	404,300,000	410,452,009	54,189,764	618,173,986	75,457,388	1.7 x	10.3%
Total 2006		454,300,000	453,468,778	62,448,711	667,088,071	78,254,026	1.6 x	9.6%
2007								
Diamond State II	Multi-Strategy	4,000,000	3,517,000	483,000	7,017,000	2,521,651	2.7 x	10.7%
NGP IX	Hard Assets	50,000,000	54,229,094	201,825	77,618,619	258,160	1.4 x	10.9%
Vista Equity III	Buyout	50,000,000	54,358,135	3,872,093	127,515,699	4,529,935	2.4 x	28.5%
Total 2007		104,000,000	112,104,229	4,556,918	212,151,318	7,309,746	2.0 x	20.4%
2008								
Advent GPE VI-A	Buyout	40,000,000	40,167,228	0	80,492,730	4,431,036	2.1 x	16.6%
FP Venture 2008	Venture Capital	30,000,000	30,000,000	208,124	70,982,271	30,170,734	3.4 x	19.0%
LLR III	Growth Equity	50,000,000	48,504,590	4,357,033	106,559,357	4,214,491	2.3 x	16.6%
Total 2008		120,000,000	118,671,818	4,565,157	258,034,358	38,816,261	2.5 x	17.3%
2009								
FP Venture 2009	Venture Capital	25,000,000	24,543,104	712,692	53,336,514	13,533,574	2.7 x	17.9%
Insight Equity II	Turnaround	30,000,000	31,028,312	884,343	42,854,623	8,484,038	1.7 x	9.1%
Insight Mezzanine I	Mezzanine	10,000,000	9,971,470	479,507	11,860,178	1,767,866	1.4 x	6.5%
KPS III Supplemental	Turnaround	40,000,000	37,777,254	16,117,982	80,212,144	227,154	2.1 x	22.8%
Riverside IV	Buyout	40,000,000	31,433,665	0	74,584,420	226,399	2.4 x	21.3%
Total 2009		145,000,000	134,753,805	18,194,524	262,847,879	24,239,031	2.1 x	17.2%
2010								
Altus Capital II	Buyout	20,000,000	19,796,396	3,222,424	24,125,912	9,127,175	1.7 x	12.9%
EnCap VIII	Hard Assets	47,500,000	54,117,730	0	31,900,072	22,842,251	1.0 x	0.3%
FP Venture 2010	Venture Capital	25,000,000	16,031,250	1,637,424	22,927,707	35,533,562	3.6 x	19.3%
Mason Wells III	Buyout	30,000,000	28,553,580	1,446,420	85,775,993	135,058	3.0 x	20.5%
TA XI	Growth Equity	40,000,000	39,400,000	600,000	130,144,591	25,740,232	4.0 x	27.5%
Tennenbaum VI	Distressed Debt	40,000,000	38,075,687	27,750,943	48,999,921	5,991,327	1.4 x	7.6%
Total 2010		202,500,000	195,974,643	34,657,211	343,874,196	99,369,605	2.3 x	16.4%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2011								
Audax Mezzanine III	Mezzanine	25,000,000	25,890,745	6,675,000	33,070,037	1,254,902	1.3 x	9.8%
Castlelake II	Distressed Debt	35,000,000	32,656,036	2,625,461	30,915,025	15,004,045	1.4 x	6.1%
FP Intl 2011	Buyout	25,000,000	23,027,778	2,363,954	26,182,161	13,226,160	1.7 x	10.1%
FP Venture 2011	Venture Capital	25,000,000	24,678,571	559,813	100,645,067	82,208,594	7.4 x	37.1%
JF Lehman III	Buyout	39,000,000	44,036,790	5,298,068	52,067,072	20,160,516	1.6 x	11.7%
Wellspring V	Buyout	40,000,000	46,242,972	14,022,181	63,903,358	12,896,501	1.7 x	16.2%
Wicks IV	Buyout	40,000,000	42,446,603	4,361,073	86,507,984	10,961,664	2.3 x	21.8%
Total 2011		229,000,000	238,979,495	35,905,550	393,290,704	155,712,382	2.3 x	18.2%
2012								
ATRS-FP PE	Multi-Strategy	263,823,718	392,526,335	147,865,288	311,225,486	392,854,392	1.8 x	21.3%
BV VIII	Buyout	30,000,000	27,215,697	3,065,489	42,916,261	21,781,579	2.4 x	49.3%
Court Square III	Buyout	40,000,000	44,316,136	1,905,091	52,941,391	37,396,447	2.0 x	20.6%
DW Healthcare III	Buyout	40,000,000	37,138,408	2,861,592	60,592,883	11,618,330	1.9 x	18.2%
FP Intl 2012	Buyout	25,000,000	17,250,000	7,990,101	16,045,729	8,696,665	1.4 x	8.6%
FP Venture 2012	Venture Capital	25,000,000	22,375,000	2,807,303	36,602,009	53,360,920	4.0 x	25.4%
NGP X	Hard Assets	35,000,000	36,395,274	298,456	30,888,225	4,741,486	1.0 x	-0.6%
Total 2012		458,823,718	577,216,850	166,793,320	551,211,984	530,449,819	1.9 x	20.1%
2013								
EnCap IX	Hard Assets	25,000,000	28,717,957	1,040,414	26,534,410	12,698,162	1.4 x	9.7%
FP Intl 2013	Buyout	20,000,000	13,917,526	6,245,095	4,907,136	17,962,091	1.6 x	9.9%
FP Venture 2013	Venture Capital	20,000,000	18,275,862	1,844,617	20,708,777	52,382,981	4.0 x	29.7%
Levine Leichtman V	Structured Capital	20,000,000	27,868,463	2,019,471	33,055,152	20,707,678	1.9 x	18.1%
Riverside V	Buyout	35,000,000	36,582,369	1,700,825	31,835,254	32,269,685	1.8 x	12.6%
Vista Foundation II	Buyout	15,000,000	15,981,731	7,152,905	16,571,132	16,321,547	2.1 x	16.0%
Total 2013		135,000,000	141,343,908	20,003,327	133,611,861	152,342,144	2.0 x	16.7%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2014								
Atlas Capital II	Turnaround	15,000,000	20,749,809	4,738,657	15,663,995	16,853,564	1.6 x	18.4%
Big River - Equity	Infrastructure	151,090,000	151,090,000	0	296,427,836	1,910,070	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	18,472,580	15,741,154	1.5 x	7.3%
FP Intl 2014	Buyout	25,000,000	17,525,773	7,629,497	12,296,292	18,325,352	1.7 x	16.2%
FP Venture 2014	Venture Capital	25,000,000	23,790,322	1,343,451	21,738,962	74,913,463	4.1 x	28.9%
KPS IV	Turnaround	25,000,000	21,793,946	3,997,323	22,561,096	19,088,896	1.9 x	24.9%
Lime Rock Resources III	Hard Assets	25,000,000	25,643,391	253,229	6,211,186	26,205,496	1.3 x	3.7%
NGP XI	Hard Assets	30,000,000	30,597,387	1,258,097	15,061,681	26,377,100	1.4 x	8.3%
Sycamore Partners II	Turnaround	25,000,000	22,237,949	3,888,793	12,926,472	13,562,869	1.2 x	5.2%
Thoma Bravo XI	Buyout	20,000,000	20,785,558	2,135,646	40,382,363	30,962,505	3.4 x	28.6%
Total 2014		389,090,000	382,107,562	27,109,577	475,352,889	243,940,469	1.9 x	14.4%
2015								
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	30,398,424	1,609,809	18,188,574	34,548,611	1.7 x	15.7%
FP Intl 2015	Buyout	25,000,000	19,358,407	5,764,114	6,642,147	24,662,929	1.6 x	15.3%
FP Venture 2015	Venture Capital	25,000,000	23,783,186	1,341,838	7,566,348	49,511,982	2.4 x	22.5%
Siris III	Buyout	25,000,000	30,925,309	4,137,215	24,456,706	19,984,949	1.4 x	13.7%
Total 2015		131,910,000	131,431,548	12,852,976	92,553,340	128,708,471	1.7 x	16.9%
2016								
American Industrial VI	Buyout	20,000,000	24,016,138	3,803,947	19,509,702	28,324,388	2.0 x	21.8%
Arlington IV	Buyout	23,000,000	24,002,369	1,039,295	14,789,406	37,505,680	2.2 x	27.4%
DW Healthcare IV	Buyout	30,000,000	29,750,068	1,778,898	28,157,299	27,353,603	1.9 x	25.7%
FP Intl 2016	Buyout	25,000,000	19,510,309	5,635,900	4,331,676	24,622,725	1.5 x	13.6%
FP Venture 2016	Venture Capital	25,000,000	21,250,000	3,898,577	6,409,414	48,917,290	2.6 x	33.2%
Highland Equity	Hard Assets	66,000,000	81,870,000	0	16,674,525	47,346,033	0.8 x	-7.0%
JF Lehman IV	Buyout	30,000,000	29,296,895	1,063,249	63,771,124	11,553,548	2.6 x	35.6%
PineBridge Structured III	Structured Capital	30,000,000	27,845,159	9,764,976	16,251,862	8,349,755	0.9 x	-5.1%
Thoma Bravo Discover	Buyout	10,000,000	11,350,409	1,767,370	29,239,213	6,355,129	3.1 x	37.7%
Thoma Bravo XII	Buyout	30,000,000	32,536,127	7,578,122	12,374,986	50,416,817	1.9 x	17.8%
Vista Foundation III	Buyout	30,000,000	33,591,741	7,848,892	32,212,108	32,787,377	1.9 x	27.3%
Total 2016		319,000,000	335,019,215	44,179,226	243,721,315	323,532,345	1.7 x	17.7%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2017								
Altaris Constellation	Buyout	20,000,000	16,282,179	5,543,214	22,724,187	19,769,076	2.6 x	26.7%
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	35,060,033	6,980,570	14,087,175	36,291,697	1.4 x	17.5%
BV IX	Buyout	30,000,000	28,010,908	7,989,093	13,429,693	43,651,446	2.0 x	37.9%
EnCap XI	Hard Assets	35,000,000	25,032,954	10,653,269	1,799,054	28,943,953	1.2 x	12.7%
FP Intl 2017	Buyout	25,000,000	21,301,020	3,848,484	5,034,539	35,113,189	1.9 x	31.9%
FP Venture 2017	Venture Capital	25,000,000	16,814,159	8,280,636	3,147,156	32,133,535	2.1 x	38.3%
Greyrock IV	Mezzanine	30,000,000	28,133,397	3,002,589	21,883,808	15,249,826	1.3 x	10.9%
NGP XII	Hard Assets	30,000,000	19,860,971	10,139,029	2,742,711	24,245,832	1.4 x	11.8%
One Rock II	Buyout	30,000,000	26,646,809	5,471,595	3,906,746	44,098,199	1.8 x	21.2%
Total 2017		317,730,449	274,872,878	61,908,479	157,613,958	279,496,753	1.6 x	20.9%
2018								
Altaris IV	Buyout	24,000,000	22,597,708	3,056,265	20,907,373	22,073,650	1.9 x	34.1%
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	37,490,589	8,153,342	44,998,058	45,791,776	2.4 x	53.9%
FP Intl 2018	Buyout	25,000,000	21,374,046	3,834,498	1,632,316	25,311,034	1.3 x	14.6%
FP Venture 2018	Venture Capital	25,000,000	21,118,012	4,021,718	1,030,090	40,575,325	2.0 x	43.5%
GTLA Holdings	Hard Assets	20,000,000	20,000,000	0	0	40,000,000	2.0 x	21.3%
Highland Contingent Note	Hard Assets	152,244,727	152,244,727	0	15,000,000	162,134,456	1.2 x	8.7%
SK Capital V	Buyout	30,000,000	29,059,191	4,693,231	3,992,629	33,526,548	1.3 x	19.7%
Sycamore Partners III	Turnaround	25,000,000	13,459,868	11,540,132	0	16,105,457	1.2 x	12.4%
Thoma Bravo Discover II	Buyout	17,000,000	17,551,762	4,864,141	6,889,537	25,489,853	1.8 x	35.7%
Total 2018		365,394,727	352,045,903	40,163,327	115,278,204	411,008,098	1.5 x	22.2%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2019								
American Industrial VII	Buyout	30,000,000	23,034,873	9,054,242	2,089,115	23,429,132	1.1 x	13.2%
Arlington V	Buyout	25,000,000	15,351,842	9,648,158	891,984	23,600,669	1.6 x	58.0%
DW Healthcare V	Buyout	30,000,000	16,176,461	13,823,539	0	16,939,574	1.0 x	3.4%
FP Intl 2019	Buyout	30,000,000	15,531,915	14,690,675	1,171,418	18,842,058	1.3 x	27.7%
FP Venture 2019	Venture Capital	30,000,000	16,956,522	13,167,670	661,059	26,305,622	1.6 x	35.8%
KPS Mid-Market I	Turnaround	20,000,000	7,956,277	12,269,704	1,067,944	10,119,725	1.4 x	25.9%
Riverside VI	Buyout	30,000,000	13,996,370	16,003,630	0	19,509,564	1.4 x	17.7%
Siris IV	Buyout	30,000,000	19,309,653	12,767,155	3,454,665	27,643,436	1.6 x	24.2%
Thoma Bravo XIII	Buyout	30,000,000	32,859,701	6,185,338	15,449,096	43,424,733	1.8 x	42.4%
WNG II	Special Assets	30,000,000	14,019,763	15,980,238	3,195	12,315,534	0.9 x	-8.2%
Total 2019		285,000,000	175,193,377	123,590,349	24,788,476	222,130,047	1.4 x	25.9%
2020								
BV X	Buyout	30,000,000	12,514,996	19,270,957	1,785,953	15,781,654	1.4 x	69.3%
Clearlake VI	Buyout	30,000,000	24,366,635	5,963,537	1,026,242	39,812,575	1.7 x	61.7%
FP CF Access	Buyout	90,000,000	35,146,545	54,961,050	1,015,434	42,885,253	1.2 x	33.0%
FP Venture XIII	Venture Capital	60,000,000	27,068,425	33,099,196	71,724	30,605,929	1.1 x	19.7%
Greyrock V	Mezzanine	35,000,000	14,417,927	20,582,074	0	14,131,139	1.0 x	-3.3%
JF Lehman V	Buyout	30,000,000	16,663,634	13,336,366	0	17,885,071	1.1 x	6.5%
KPS V	Turnaround	30,000,000	12,357,766	17,269,876	622,696	17,592,221	1.5 x	44.7%
Thoma Bravo Explore I	Buyout	20,000,000	10,910,681	10,165,590	1,076,271	12,948,769	1.3 x	39.1%
Total 2020		325,000,000	153,446,609	174,648,646	5,598,320	191,642,611	1.3 x	34.5%
2021								
Alpine Investors VIII	Buyout	30,000,000	3,834,723	26,165,277	0	3,268,948	0.9 x	NMF
FP Intl X	Buyout	60,000,000	12,733,813	47,342,598	0	12,854,252	1.0 x	NMF
Greenbriar V	Buyout	30,000,000	10,780,170	19,665,766	448,580	16,828,362	1.6 x	NMF
LLR VI	Growth Equity	30,000,000	12,600,000	17,400,000	113,723	12,040,172	1.0 x	NMF
Revelstoke III	Buyout	30,000,000	5,608,678	24,391,322	4,071	7,141,244	1.3 x	NMF
Riverside Value Fund I	Turnaround	30,000,000	0	19,720,641	0	12,262,550	N/A	NMF
Thoma Bravo Discover III	Buyout	20,000,000	16,366,299	3,633,701	0	18,112,045	1.1 x	NMF
Thoma Bravo XIV	Buyout	20,000,000	18,828,847	1,171,153	5	19,038,479	1.0 x	NMF
Total 2021		250,000,000	80,752,531	159,490,458	566,379	101,546,052	1.3 x	NMF

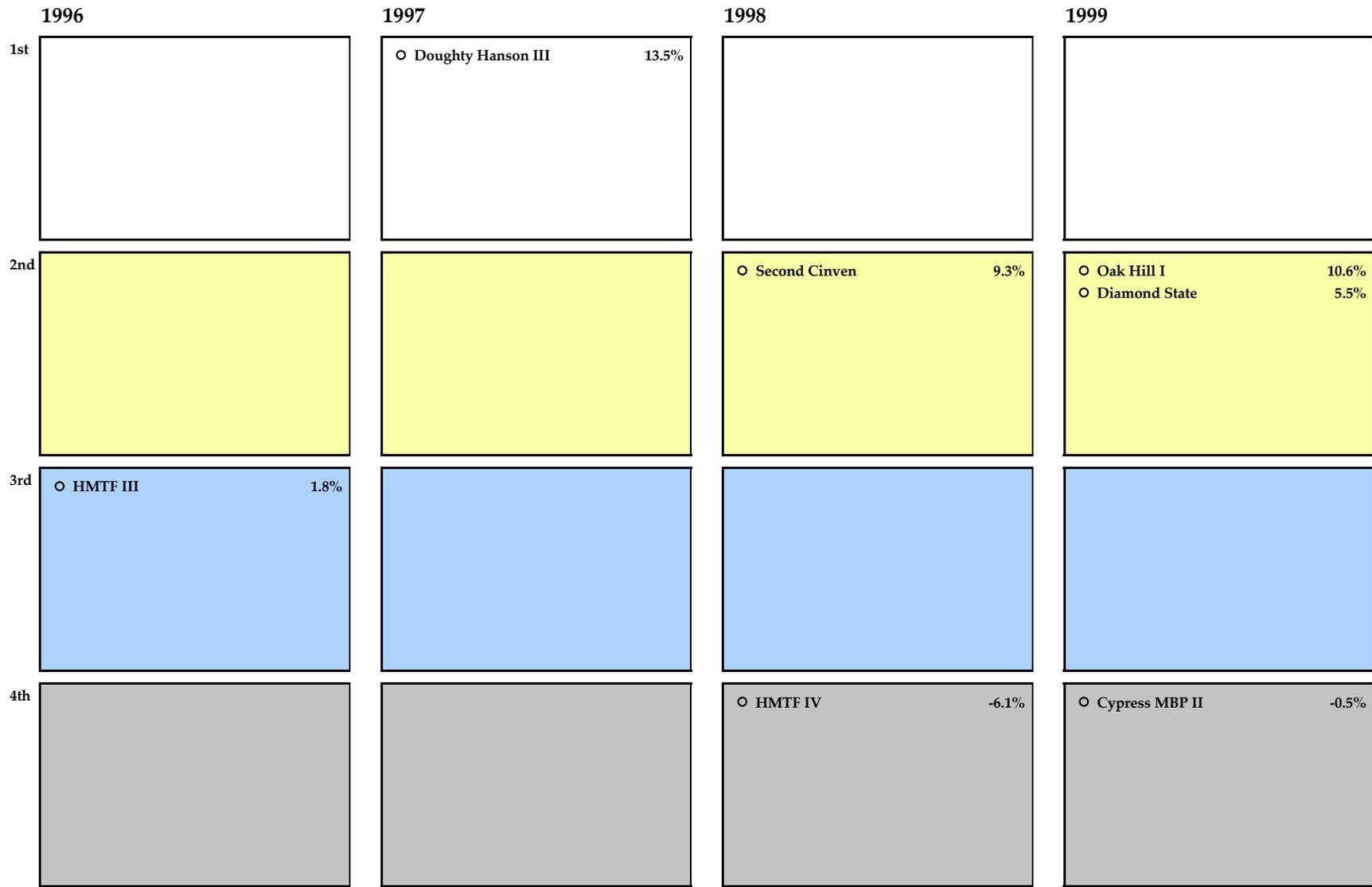
Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2022								
Bison VI	Structured Capital	30,000,000	0	30,000,000	0	0	N/A	NMF
Clearlake VII	Buyout	30,000,000	0	30,000,000	0	-310,026	N/A	NMF
FP CF Access II	Buyout	60,000,000	6,000,000	54,000,000	0	6,544,564	1.1 x	NMF
FP Intl XI	Buyout	30,000,000	0	30,000,000	0	0	N/A	NMF
FP Venture Opp	Venture Capital	30,000,000	4,875,000	25,133,872	0	4,780,592	1.0 x	NMF
FP Venture XIV	Venture Capital	30,000,000	441,176	29,567,865	0	415,953	0.9 x	NMF
SK Capital VI	Buyout	30,000,000	0	30,000,000	0	0	N/A	NMF
Total 2022		240,000,000	11,316,176	228,701,737	0	11,431,083	1.0 x	NMF
Total Portfolio		5,828,139,355	5,217,126,206	1,230,537,820	5,987,200,615	3,042,998,017	1.7 x	11.8%

- 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").

Performance by Vintage Year and Quartile Group



● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group



● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group

	2008	2009	2010	2011
1st			○ TA XI 27.5%	● FP Venture 2011 37.1%
2nd	<ul style="list-style-type: none"> ● FP Venture 2008 19.0% ○ LLR III 16.6% ○ Advent GPE VI-A 16.6% 	<ul style="list-style-type: none"> ○ KPS III Supplemental 22.8% ● FP Venture 2009 17.9% 	○ Mason Wells III 20.5%	○ Wicks IV 21.8%
3rd		○ Riverside IV 21.3%	<ul style="list-style-type: none"> ● FP Venture 2010 19.3% ○ Altus Capital II 12.9% ○ EnCap VIII 0.3% 	○ Wellspring V 16.2%
4th		○ Insight Equity II 9.1%		<ul style="list-style-type: none"> ○ JF Lehman III 11.7% ○ FP Intl 2011 10.1%

● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group

	2012	2013	2014	2015
1st	<ul style="list-style-type: none"> ○ BV VIII 49.3% 	<ul style="list-style-type: none"> ● FP Venture 2013 29.7% 	<ul style="list-style-type: none"> ○ Thoma Bravo XI 28.6% 	<ul style="list-style-type: none"> ○ EnCap X 15.7%
2nd	<ul style="list-style-type: none"> ● FP Venture 2012 25.4% ○ ATRS-FP PE 21.3% ○ Court Square III 20.6% ○ DW Healthcare III 18.2% ○ NGP X -0.6% 	<ul style="list-style-type: none"> ○ EnCap IX 9.7% 	<ul style="list-style-type: none"> ● FP Venture 2014 28.9% ○ KPS IV 24.9% ○ NGP XI 8.3% 	
3rd		<ul style="list-style-type: none"> ○ Vista Foundation II 16.0% ○ Riverside V 12.6% 	<ul style="list-style-type: none"> ○ Atlas Capital II 18.4% ○ FP Intl 2014 16.2% ○ Lime Rock Resources III 3.7% 	<ul style="list-style-type: none"> ● FP Venture 2015 22.5%
4th	<ul style="list-style-type: none"> ○ FP Intl 2012 8.6% 	<ul style="list-style-type: none"> ○ FP Intl 2013 9.9% 	<ul style="list-style-type: none"> ○ Sycamore Partners II 5.2% 	<ul style="list-style-type: none"> ○ FP Intl 2015 15.3% ○ Siris III 13.7%

● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group



	2016	2017	2018	2019
1st	<ul style="list-style-type: none"> ○ Thoma Bravo Discover 37.7% ○ JF Lehman IV 35.6% 		<ul style="list-style-type: none"> ○ Clearlake V 53.9% 	<ul style="list-style-type: none"> ○ Arlington V 58.0%
2nd	<ul style="list-style-type: none"> ● FP Venture 2016 33.2% ○ Arlington IV 27.4% ○ Vista Foundation III 27.3% ○ DW Healthcare IV 25.7% 	<ul style="list-style-type: none"> ● FP Venture 2017 38.3% ○ BV IX 37.9% ○ EnCap XI 12.7% ○ NGP XII 11.8% 	<ul style="list-style-type: none"> ● FP Venture 2018 43.5% ○ Thoma Bravo Discover II 35.7% ○ Altaris IV 34.1% 	<ul style="list-style-type: none"> ○ Thoma Bravo XIII 42.4%
3rd	<ul style="list-style-type: none"> ○ American Industrial VI 21.8% 	<ul style="list-style-type: none"> ○ FP Intl 2017 31.9% ○ Altaris Constellation 26.7% 	<ul style="list-style-type: none"> ○ SK Capital V 19.7% 	<ul style="list-style-type: none"> ● FP Venture 2019 35.8% ○ FP Intl 2019 27.7% ○ KPS Mid-Market I 25.9% ○ Siris IV 24.2%
4th	<ul style="list-style-type: none"> ○ Thoma Bravo XII 17.8% ○ FP Intl 2016 13.6% 	<ul style="list-style-type: none"> ○ One Rock II 21.2% 	<ul style="list-style-type: none"> ○ FP Intl 2018 14.6% ○ Sycamore Partners III 12.4% 	<ul style="list-style-type: none"> ○ Riverside VI 17.7% ○ American Industrial VII 13.2% ○ DW Healthcare V 3.4%

● Venture ○ Non-venture

BOLD = Realized

2020

1st

○ BV X	69.3%
○ Clearlake VI	61.7%

2nd

○ KPS V	44.7%
○ Thoma Bravo Explore I	39.1%
● FP Venture XIII	19.7%

3rd

○ FP CF Access	33.0%
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4th

○ JF Lehman V	6.5%
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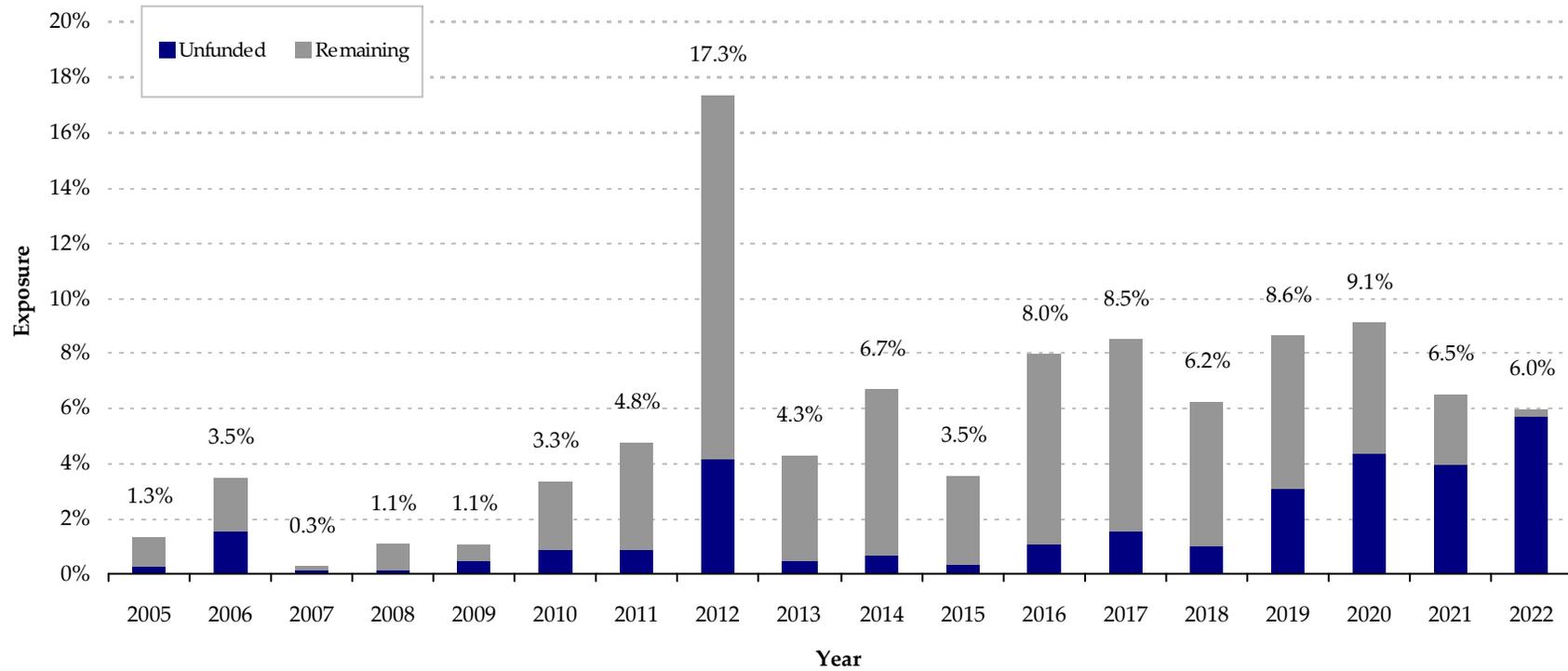
● Venture ○ Non-venture

BOLD = Realized

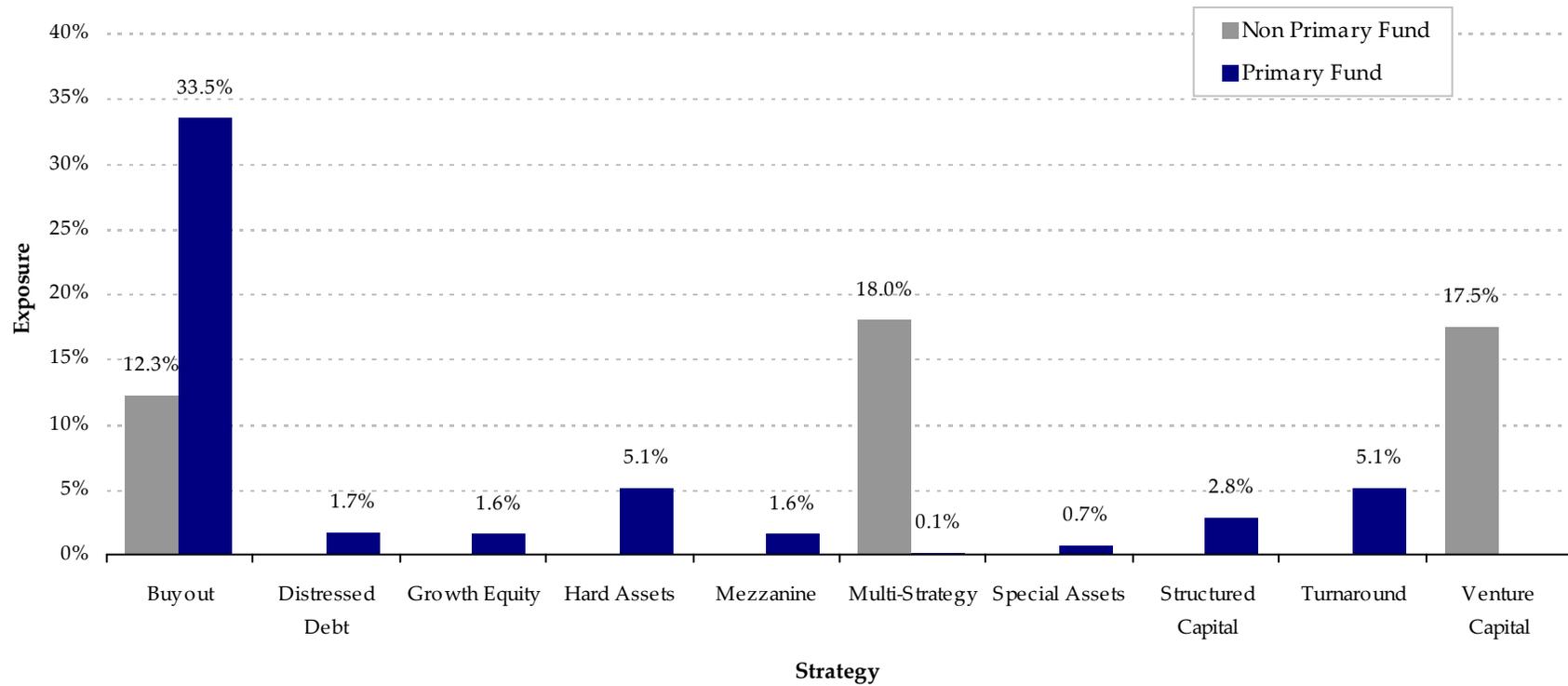
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- The analysis compares each fund's Net IRR versus its respective peer group by vintage year and strategy. Funds with a corporate finance strategy, excluding private debt, are compared to Cambridge Associates, U.S. Buyout. Funds with a venture capital strategy are compared to Cambridge Associates, U.S. Venture Capital. Multi-strategy funds are compared to data compiled by Cambridge Associates for funds across multiple strategies including U.S. Buyout, Growth Equity, Venture Capital, Mezzanine, Distressed, Fund-of-Funds, and Secondary Funds. Funds with a hard assets strategy are compared to Cambridge Associates, U.S. Private Equity Energy. Funds with a real estate strategy are compared to Cambridge Associates, U.S. Real Estate. Benchmark data is not available for funds with a private debt strategy.
 - The analysis excludes the two most recent vintage years, as fund performance is deemed not yet meaningful (NMF).
 - 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.
 - Benchmark data was compiled from Cambridge Associates as of December 31, 2021. Hard Assets benchmark data for Vintage Years prior to 2005 is not available.

Diversification Analysis

Exposure By Vintage Year

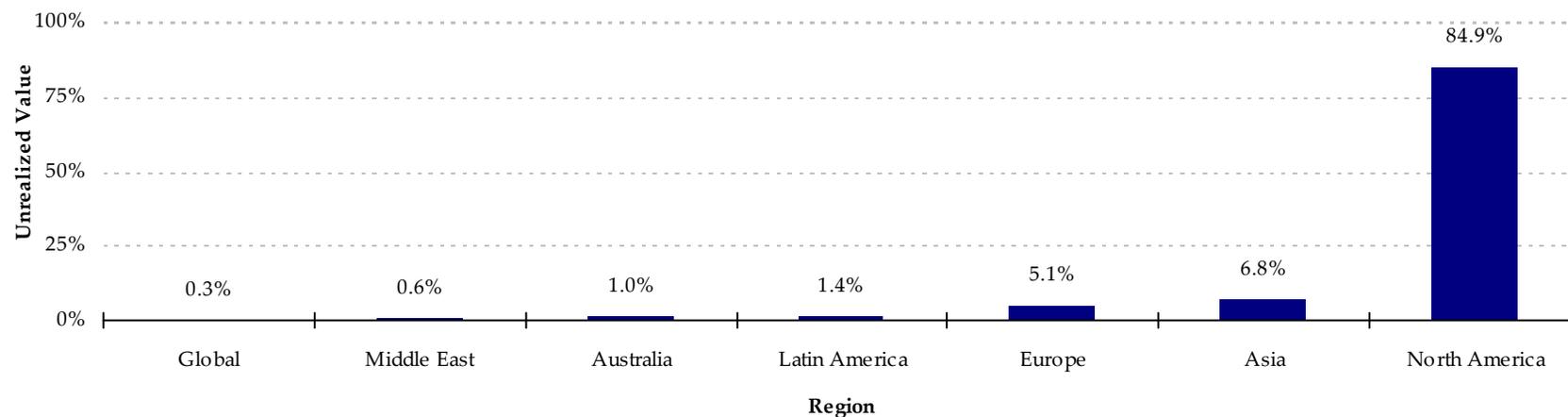


- Exposure is defined as the sum of the investor's Remaining Value plus Unfunded Commitment.
- Data includes commitments through the Report Date.

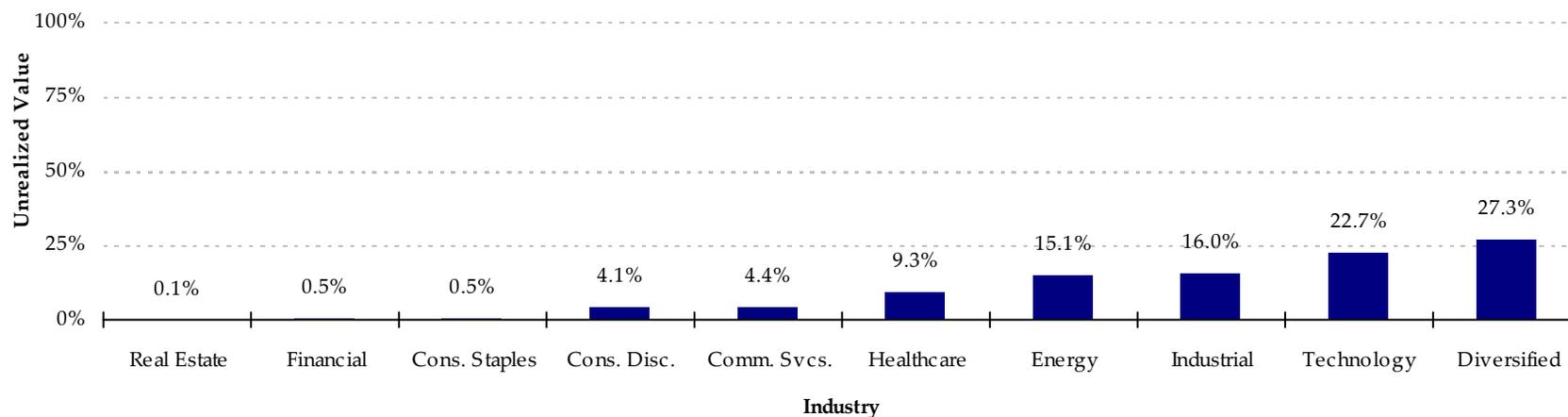


- Exposure is defined as the sum of the investor's Remaining Value plus Unfunded Commitment.
- Primary Fund represents interests in private equity funds acquired directly from the seller (i.e. fund manager). Non Primary Fund represents interests in private equity funds acquired through a commitment to a fund-of-funds or secondary fund-of-funds.

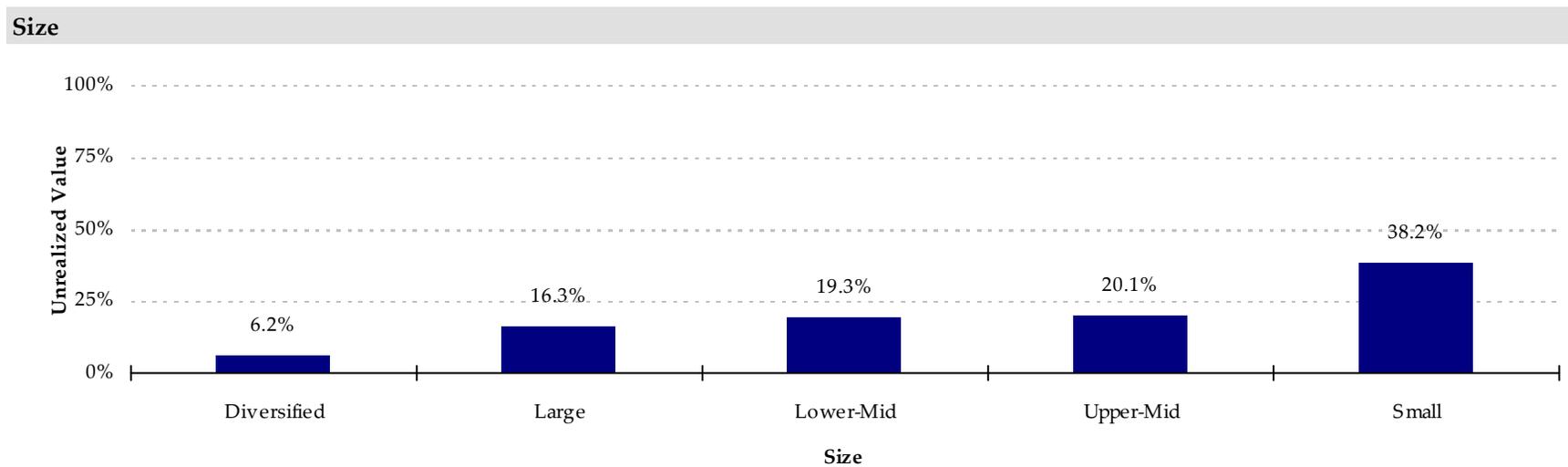
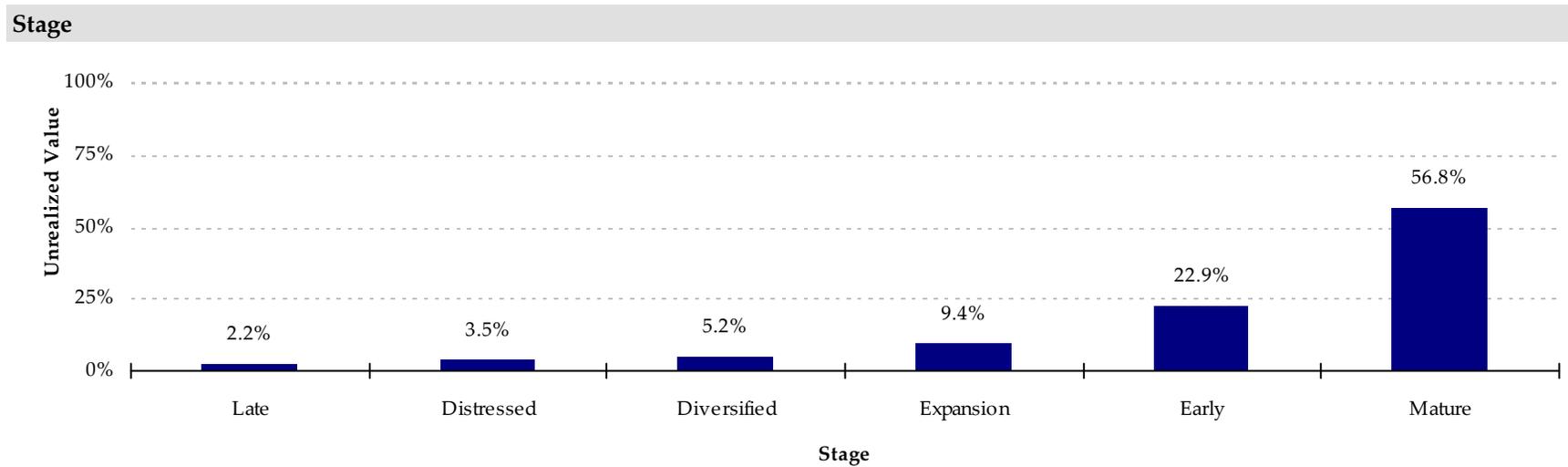
Region



Industry



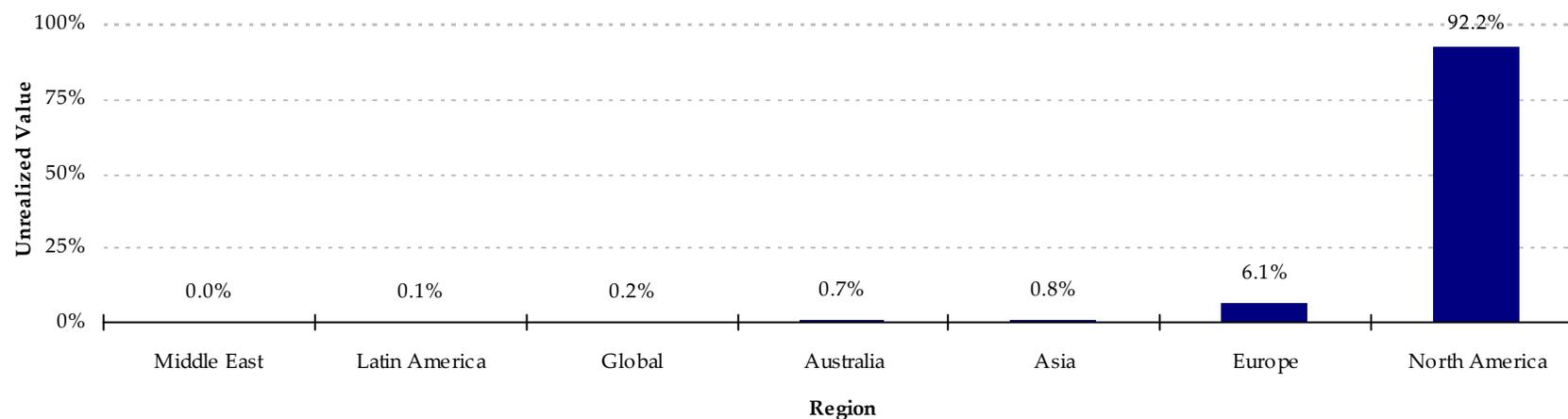
- Unrealized Value represents the value of portfolio holdings as reported by fund managers.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values are converted to the investor's currency, when applicable, as of the Report Date.



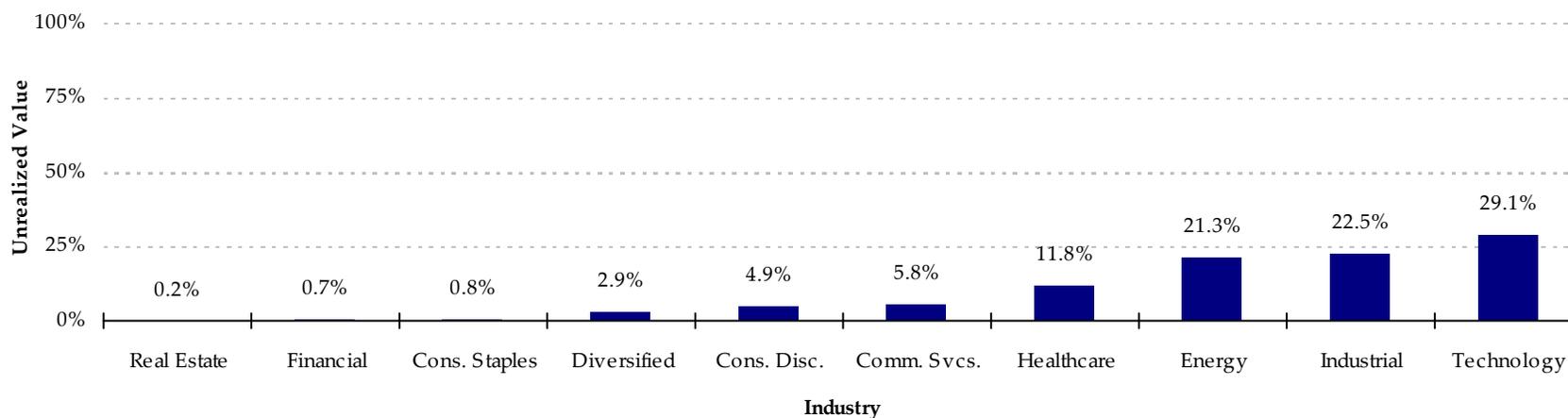
- Unrealized Value is the value of portfolio holdings as reported by the fund manager.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values converted to the investor's currency, when applicable, as of the Report Date.

Holdings by Region and Industry (ex Fund Holdings)

Region



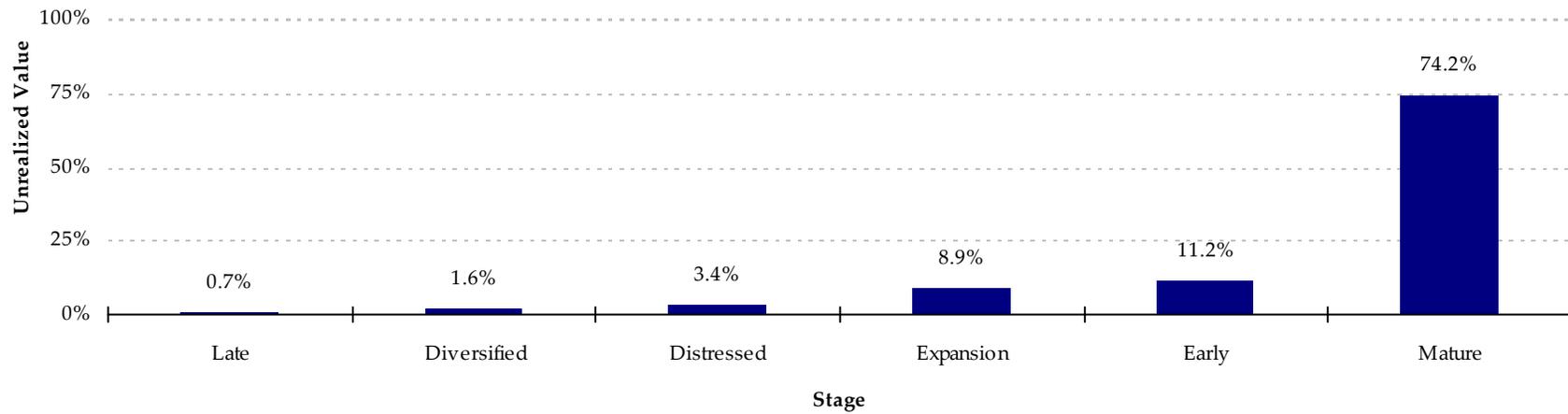
Industry



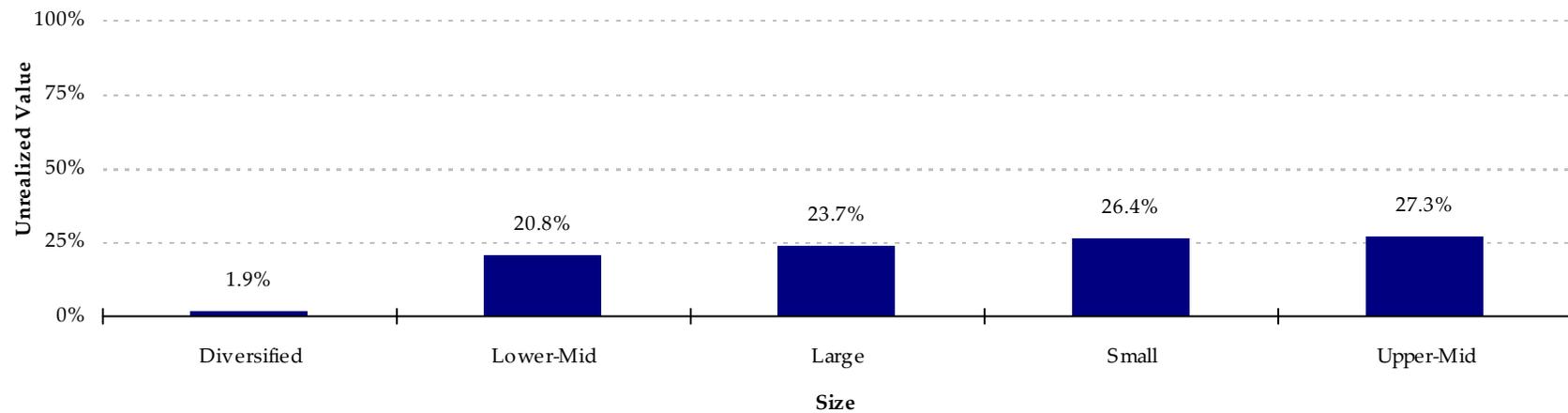
- Fund investments in other funds were excluded from this analysis.
- Unrealized Value represents the value of portfolio holdings as reported by fund managers.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values are converted to the investor's currency, when applicable, as of the Report Date.

Holdings by Stage and Size (ex Fund Holdings)

Stage

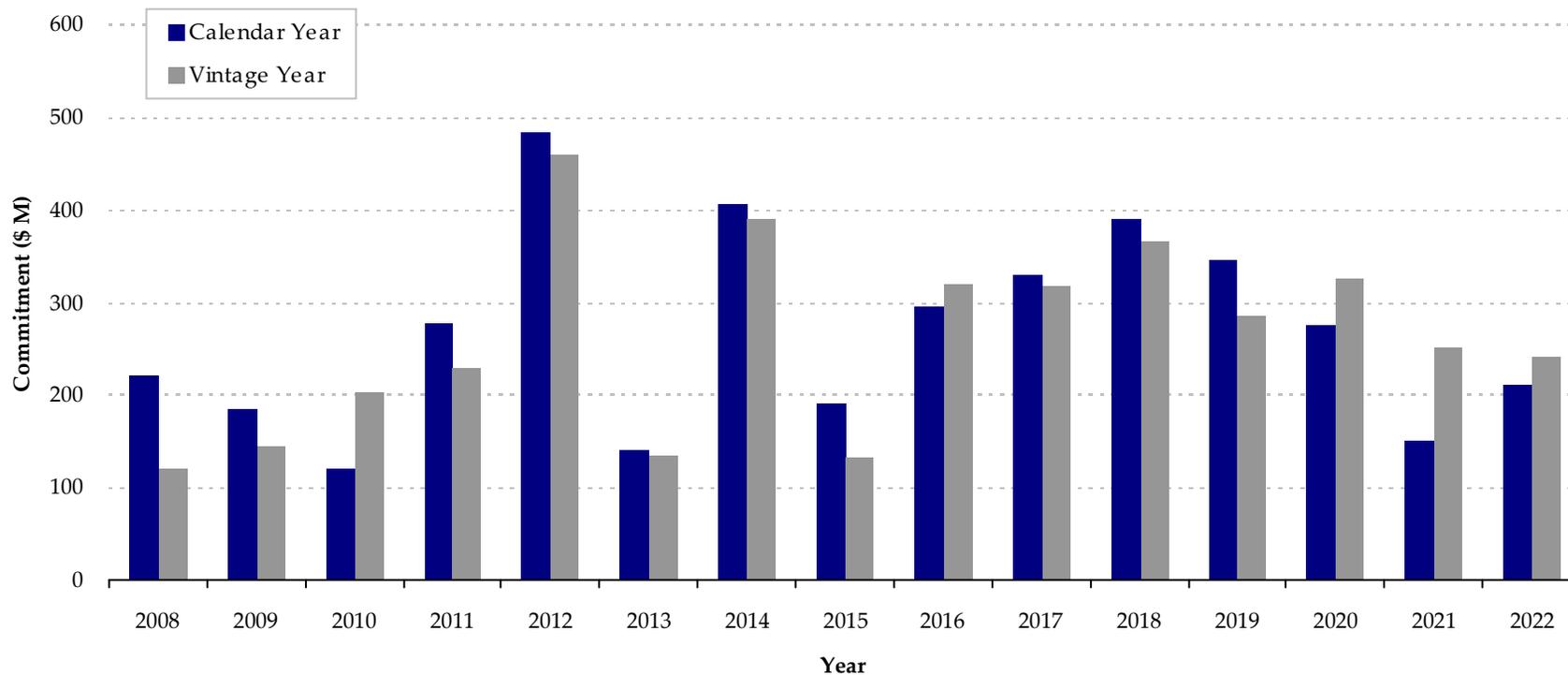


Size



- 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.

Recent Activity



- 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.

Glossary

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"> • Distressed Trading – Fund whose strategy is to invest and trade debt of financially stressed companies • Distressed Restructuring – Fund whose strategy is to acquire and restructure debt of financially stressed companies • 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 • Structured Capital – Fund whose strategy is to issue hybrid debt and equity securities to mature companies 	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"> • Sponsored Mezzanine – Fund whose strategy is to issue subordinated loans to companies owned by private equity fund sponsors • Non-Sponsored Mezzanine – Fund whose strategy is to issue subordinated loans to companies not owned by private equity fund sponsors 	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"> • Healthcare Royalties – Fund whose strategy is to acquire royalty or revenue interests, or issue loans, backed by approved life science products • Music Royalties – Fund whose strategy is to acquire royalty or revenue interests, or issue loans, backed by music copyright assets • Aircraft Leasing – Fund whose strategy is to acquire and lease commercial aircraft • Life Settlement - Fund whose strategy is to acquire life insurance policies • Shipping – Fund whose strategy is to acquire and charter commercial shipping vessels • Asset Backed Securities – Fund whose strategy is to acquire or structure securities that are backed by income-producing assets
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"> • Direct Lending – Fund whose strategy is to issue senior loans to mature companies • Unitranche – Fund whose strategy is to issue hybrid senior and subordinated loans to mature companies • Venture Debt – Fund whose strategy is to issue loans to venture stage companies • 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 • Rescue Financing – Fund whose strategy is to issue loans to financially stressed companies 	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

Term	Definition
Vintage Year	The calendar year in which an investor first contributes capital to a fund

End Notes

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 Emerging Manager Update

July 2022

Franklin Park's Manager Coverage

Broad coverage of the private equity and private debt manager universe

Emerging Manager Coverage

- Franklin Park maintains dialogue with the universe of minority-owned/led private equity and private debt managers and has done so since inception
- Franklin Park actively pursues due diligence on top minority-owned/led managers

Emerging Manager Database

- Franklin Park's database includes information on 322 funds¹ raised by minority-owned/led private equity and private debt managers
-

Manager Reviews

Due diligence activity from July 1, 2021 to June 30, 2022

65 minority-owned/led managers were reviewed by Franklin Park during the period

- Offering documents were analyzed by our team
- Each opportunity was discussed during our weekly internal Investment Committee meeting
- Many of these firms have been tracked by our team for numerous years

The minority-owned/led managers reviewed during the period are listed below

- | | | |
|-------------------------------|------------------------------|-----------------------------------|
| • ABX I | • Good Growth II | • ORI Healthcare II |
| • Accelerator Life Science II | • Grain Spectrum Holdings IV | • Philadelphia Real Estate Impact |
| • Alpine VC I | • H2O Capital II | • Phoenix Rising I |
| • American Triple I | • HarbourView Royalties I | • Red Arts Capital Fund I |
| • Archetype II | • Health Equity Capital I | • Relevance IV |
| • Ascendo Fund I | • Heirloom VC I | • Savannah Capital Fund I |
| • Banneker II | • Include Ventures I | • Siris V |
| • Black Opal I | • Ingressive II | • Startup-O Ventures I |
| • Bootstrap III | • Invision Capital III | • Sunstone Partners III |
| • BV XI | • LaVert Ventures AgTech | • Three Line Credit Opportunity I |
| • Class 5 Fund II | • Lincoln Road I | • TLG-NISK E. Africa Recap Fund |
| • Clearlake VII | • Long Arc I | • Trident American Dreams I |
| • Decibel Partners II | • MaC Venture II | • TriLinc Global Income III |
| • Demopolis I | • Markers Prosperity I | • Valor VI |
| • DSGCPIV | • Material Impact III | • Vanterra Ventures II |
| • Dux II | • MBM Opportunity Fund I | • VC Include |
| • DVC US II | • Measurement I | • Vista Credit Capital Solutions |
| • Enko Impact Credit I | • New Voices II | • Vista Equity VIII |
| • Envra Infratech | • Nile Capital Fund II | • VWH Capital III |
| • Fearless Fund II | • Nirvana Healthcare I | • Wellington Access Fund |
| • Fiat Ventures I | • NOEMIS Ventures I | • Woodstock II |
| • GIPA Fund I | • Operator Collective II | |

Manager Meetings

Due diligence activity from July 1, 2021 to June 30, 2022

Meetings/calls were held with 25 of the 64 minority-owned/ led managers reviewed during the period

- Meetings/calls were held with senior professionals of each manager
- Following the meeting/call, a memo was written and discussed during our weekly internal Investment Committee meeting

The minority-owned/led managers that Franklin Park met with during the period are listed below

- 5th Century Fund I
- ABX I
- Archetype II
- Banneker II
- BV XI
- Clearlake VII
- FPA WhiteHawk Strategy
- GIPA Fund I
- Heirloom VC I
- Invision Capital III
- Lincoln Road I
- Long Arc I
- Material Impact III
- MBM Opportunity Fund I
- Nile Capital Fund II
- NOEMIS Ventures I
- Operator Collective II
- Red Arts Capital Fund I
- Siris V
- Sunstone Partners III
- Trident American Dreams I
- Valor VI
- Vista Credit Capital Solutions
- Vista Equity VIII
- VWH Capital III

Manager Analysis

Due diligence activity from July 1, 2021 to June 30, 2022

Detailed analysis was conducted on 12 of the 64 minority-owned/led managers reviewed during the period

- Due diligence included one or more of the following: track record analysis, reference calls, site visits, and operational and legal reviews
- Following this analysis, a memo was written and discussed during our weekly internal Investment Committee meeting

The minority-owned/led managers that Franklin Park analyzed during the period are listed below

- ABX I
- Banneker II
- BV XI
- Clearlake VII
- Innovate Capital Growth I
- Invision Capital III
- Long Arc I
- Material Impact III
- Motive Partners II
- Siris V
- Sunstone Partners III
- Vista Equity VIII

Manager Commitments

Due diligence activity from July 1, 2021 to June 30, 2022

Two minority-owned/led funds were added to ATRS' portfolio since July 1, 2021, including Clearlake Capital VII (\$30m, 2021) and BV XI (\$30m, 2022) and three other commitments were made to a minority-owned/led managers in Franklin Park Corporate Finance Access Fund I and II

- Franklin Park Corporate Finance Access Fund, L.P. (in which ATRS is an investor) committed to Ascend Partners I, L.P. in August 2021 and Franklin Park Corporate Finance Access Fund II, L.P. (in which ATRS is an investor) committed to Banneker II and Sunstone III in February and July 2022
- Franklin Park continues to seek to review minority-owned/led managers for consideration for the ATRS portfolio

Minority-owned/led managers that ATRS has committed to since 2013 are listed below

- BV IX (\$30m, 2017)
- BV X (\$30m, 2020)
- BV XI (\$30m, 2022)
- Clearlake Capital V (\$30m, 2018)
- Clearlake Capital VI (\$30m, 2019)
- Clearlake Capital VII (\$30m, 2021)
- Lime Rock Resources III (\$25m, 2014)
- One Rock Capital Partners II (\$30m, 2017)
- Sycamore Partners II (\$25m, 2014)
- Sycamore Partners III (\$25m, 2017)
- Vista Foundation II (\$15m, 2013)
- Vista Foundation III (\$30m, 2016)

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Franklin Park Associates, LLC is an SEC registered investment advisor pursuant to the Investment Advisors Act of 1940





Executive Summary
JFL Equity Investors VI, L.P.



Executive Summary

Fund	JFL Equity Investors VI, L.P. (the "Fund")
General Partner	JF Lehman & Co. (the "General Partner" or "JFL")
Report Date	September 2022
Fundraising	The General Partner is targeting capital commitments of \$1.6 billion with a cap of \$1.8 billion. The General Partner expects to hold a first closing in September 2022.
Source	Franklin Park sourced the fund offering from the General Partner. Franklin Park serves on the prior fund limited partner advisory committee. The General Partner has retained Credit Suisse to assist with fundraising.
Investment Strategy	<p>The Fund will make control investments in lower middle market defense, aerospace, maritime and environmental/infrastructure services companies in the U.S. and the United Kingdom. The Fund will primarily target corporate divestitures and acquisitions of founder owned companies with a particular focus on suppliers to agencies of the U.S. government and commercial markets.</p> <p>The General Partner generally targets companies with the following characteristics:</p> <ul style="list-style-type: none">• Proven, market-leading engineering/technical capabilities involving specialized products and services where performance is critical;• Product and service offerings subject to strict qualification and certification requirements associated with high-value, long-life cycle assets (e.g., aircraft, vessels, satellites, power plants, etc.);• Established positions on long life-cycle priority programs evidenced by recurring and predictable customer demand, sole (or dual) source customer supply arrangements, and balanced contract portfolios across the full program life cycle (development, production and aftermarket support);• Customer demand driven by increasingly complex domestic and international regulatory frameworks;• Multiple-use technologies/capabilities with government and commercial applications; and• Potential for strong operating margins. <p>Post-investment, the General Partner seeks to add value by: (i) refocusing businesses and driving performance improvements in existing core competencies and research & development efforts, (ii) augmenting or changing senior management, (iii) improving internal systems and controls, (iv) expanding into higher value-added activities and international markets, and (v) transitioning products and services originally developed for the government sector to the commercial market, and vice versa.</p>
Management Team	The General Partner was founded in 1992 by John Lehman, Donald Glickman and George Sawyer and originally provided financial advisory services to companies in the defense and aerospace sectors. The firm's advisory business was terminated in 1997 upon the formation of its first institutional private equity partnership.



The General Partner is currently led by Louis Mintz, Stephen Brooks, Alex Harman and Glenn Shor (the “Partners”) and is headquartered in New York, NY with a satellite offices in Washington, D.C. The Partners are assisted by three senior, five mid-level and nine junior investment professionals, as well as a Portfolio Operations team of two senior and three mid-level professionals, and a 14 person Operating Executive Board.

The backgrounds of the Partners are summarized in the table below:

Professional	Yrs. GP	Yrs. PE	Relevant Experience
Louis Mintz	25	27	Odyssey Partners, Rosecliff, Inc.
Stephen Brooks	24	24	Bowles Hollowell Conner & Co.
Alex Harman	23	23	J.P. Morgan & Co.
Glenn Shor	12	18	DE Shaw, Providence

Track Record

The General Partner’s track record consists of five prior funds. The table below summarizes performance for JFL’s last three funds as of March 31, 2022.

Aggregate Performance Summary ¹				(USD 000)		
Fund (Vintage)	Rlzd Deals / # Deals	Invested	Realized	Unrealized	Gross ROI	Gross IRR
Fund III (2011)	6 / 7	476,622	721,505	374,074	2.3x	18.4%
Fund IV (2016)	7 / 11	746,518	1,998,838	408,352	3.2x	45.2%
Fund V (2020)	0 / 7	949,409	0	1,076,850	1.1x	10.7%
Total	13 / 25	2,172,548	2,720,343	1,859,275	2.1x	26.7%

¹ Gross of fees and carried interest expenses. The unrealized investments were valued by the General Partner.

Investment Evaluation

1. **The Fund will target a less competitive and inefficient segment of the private equity market.** The General Partner will primarily make investments in small and lower middle market companies which often attract less attention from large strategic and financial buyers. Moreover, the Fund’s focus on broken auctions or complex/poorly managed sale processes may further decrease the quantity of competing bidders in prospective investments.

The opportunity for higher returns is accompanied by higher risks. Small and lower middle market companies may be more susceptible to economic downturns, face customer, supplier or product concentration, and have more limited depth of resources. These factors combine to make investments in smaller sized companies more risky.

2. **The General Partner’s senior team is experienced and cohesive.** The Partners average 21 years of private equity experience investing in the target industries. Three of the four Partners have been working together since 1999. The senior team has been stable with no departures since the formation of Fund III.
3. **JFL’s specialized knowledge and relationships in the Fund’s target sectors leads to competitive advantages in several areas:**
 - Deal Sourcing: Given its long focus on the target sectors, JFL has built an expansive network of deal flow relationships among senior industry executives, entrepreneurs, retired military and government officials and business brokers. Further, business owners value JFL as a potential partner given the firm’s record in the target sectors As a result, the majority of JFL’s



investments have been sourced outside of highly competitive sales processes.

- Evaluation of Deals: The General Partner's domain expertise in the target industries, government and military contracting, trends in federal spending and government purchasing agencies afford unique insights when conducting due diligence on prospective investment opportunities.
- Value Creation Strategies: The General Partner's experience and networks in the target industries provide benefits in developing value creation strategies for portfolio companies, attracting skilled managers and assisting with business development efforts within the government and commercial sectors.

Further, the General Partner leverages its Portfolio Operations team and the Operating Executive Board for advantages. Two senior and three mid-level professionals comprise JFL's Portfolio Operations group. These professionals work closely with portfolio company management in executing value creation strategies. The OEB members have worked with JFL for an average of nine years and have been active in assisting the General Partner in deal sourcing, due diligence of prospective investments, management team recruitment, new customer introductions and serving on portfolio company boards.

4. **The General Partner's overall track record is solid.** Fund IV has generated first quartile performance compared to buyout funds formed in the same vintage. To date, 13 realized investments in Funds III and IV have generated an aggregate 30% gross IRR and 3.4x ROI.

However, Fund III has generated a modest net return. As of March 31, 2022, Fund III has generated an 18.6% gross IRR and a 11.6% net IRR, which ranks in the 4th quartile for buyout funds formed in 2011. The General Partner attributes the modest net IRR to (1) budget-based transaction fee offset combined with higher than normal broken deals, (2) longer holding periods for investments, and (3) one aerospace business that was severely impacted by the pandemic.

Fund V performance is not yet meaningful. Four of the seven investments in Fund V are held at cost and three have appreciated in value. While several of the companies in Fund V have seen EBITDA declines since investment, the General Partner attributes the declines to either (1) timing of customer orders being pushed from one year to another or (2) residual impacts from the pandemic, and most of the businesses are expected to be back to or near underwriting plan in 2022.

Recommendation Franklin Park recommends a commitment of up to \$30 million to the Fund, subject to satisfactory negotiation of final documentation, based on the following:

- The Fund will pursue a compelling strategy;
- The General Partner is well-positioned in its target market;
- The team is highly experienced and cohesive; and
- The General Partner's overall track record is attractive.

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

**RESOLUTION
No. 2022-45**

**Approving Investment in JFL Equity
Investors VI, L.P.**

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 investment in **JFL Equity Investors VI, L.P.**, a buyout fund specializing in small to lower middle market companies in the defense, aerospace and maritime industries.

THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **\$30 million dollars (\$30,000,000.00)** in **JFL Equity Investors VI, L.P.** 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 ATRS Board; and

FURTHER, BE IT RESOLVED, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment, if acceptable terms are reached.

Adopted this 26th day of September 2022.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System



Executive Summary
Greenbriar Equity Fund VI, L.P.



Executive Summary

Fund Greenbriar Equity Fund VI, L.P. (the “Fund”)

General Partner Greenbriar Equity Group (the “General Partner” or “Greenbriar”)

Report Date September 2022

Fundraising The General Partner is targeting capital commitments of \$2.75 billion, with an estimated cap of \$3.25 billion. The General Partner will hold a first close in October and a final close in January 2023.

Source The General Partner retained Evercore to assist with fundraising.

Investment Strategy The Fund is being formed to make investments in advanced manufacturing and business services companies across logistics, aerospace & defense, and transportation sub-sectors in the U.S. The Fund will primarily make control investments but may occasionally make minority investments. The Fund will target companies with enterprise values between \$200 million and \$1 billion.

- The Fund will target companies that often meet the following criteria:
- Asset-light companies with market-leading positions in targeted subsectors providing positive secular dynamics
 - At entry, target companies are typically generating \$20-100 million in EBITDA
 - Investment sizes will generally range from \$80-300 million with capacity for add on activity

Post-acquisition, the General Partner’s investment team alongside its 40+ person operating network led by Gerald Greenwald, will assist portfolio companies with various value-add initiatives. The General Partner’s operating network will provide macro strategic guidance, functional area assistance, take board seats, and be active on a day-to-day basis.

Management Team Based in Rye, NY, the General Partner was founded in 1999 by Joel Beckman, Gerald Greenwald, and Reginald (“Regg”) Jones (the “Founders”). The Fund will be managed by six senior investment professionals including Mr. Jones (the “Principals”). The Principals will be supported by sixteen investment professionals, three operating resources, including Mr. Greenwald, and seven finance & administrative professionals, including a CFO.

The Principals’ backgrounds are summarized below:

Principals	Yrs. GP	Yrs. PE	Background
Regg Jones	23	23	Goldman Sachs, Bain & Co.
Jill Raker	21	23	Compass Partners, Blackstone, Salomon Brothers
Noah Roy	14	14	Goldman Sachs, Rothschild
Niall McComiskey	16	16	HSH Nordbank, Deutsche Bank
Michael Weiss	18	18	Merrill Lynch
Matthew Burke	12	12	Credit Suisse

**Track Record**

The General Partner has raised five prior funds. The following chart summarizes the performance of the prior funds, as of March 31, 2022.

Aggregate Performance Summary (USD 000)							
Fund (Vintage)	Fund Size	Realized Deals / # Deals	Invested	Realized	Unrealized	Gross ROI	Gross IRR
Fund I (2001)	456,000	8 / 8	231,010	731,921	0	3.2x	55.3%
Fund II (2007)	1,020,000	8 / 8	726,245	1,368,915	0	1.9x	16.1%
Fund III (2013)	1,104,000	10 / 13	1,042,751	2,972,643	467,016	3.3x	32.1%
Fund IV (2018)	815,000	4 / 9	673,645	1,831,894	1,099,040	4.4x	76.3%
Fund V (2021)	1,683,000	0 / 8	984,526	63,056	1,413,077	1.5x	84.0%
Total		30 / 46	3,658,176	6,968,430	2,979,133	2.7x	41.6%

Note: Gross of fees and carried interest expenses. The unrealized investments are valued by the General Partner.

Investment Evaluation

- The Fund will pursue a compelling investment strategy and the General Partner is well-positioned in the target market.** While many generalist private equity firms invest in transportation, logistics, and distribution businesses, there is limited competition from private equity firms dedicated to the space. The General Partner has an established brand in the target market due to its tenure and track record. Further, the General Partner's established sourcing approach can help advantageously position it to acquire companies in and outside of formal sale or limited auction processes.
- The General Partner's team is deep and experienced.** The Principals average more than 18 years of private equity experience and have worked together since 2010 at the General Partner. Further, the General Partner has a history of promoting from within and Ms. Raker, Mr. McComiskey, Mr. Weiss, and Mr. Burke all started as junior investment professionals at the firm.

However, the General Partner's team has evolved. Four prior Principals or Co-Founders have either retired or stepped back their time commitment to the General Partner since 2015. Joel Beckman, co-founder, formally retired in 2017 and Gerald Greenwald, co-founder, is still involved with the General Partner in a reduced capacity. Two other prior Principals, John Daileader and Raynard Benvenuti, have retired but had limited involvement leading investments over the last three funds.

- The General Partner has a deep and attractive track record.**
 - The General Partner's 46 prior investments have produced a 2.7x ROI and 41.6% gross IRR.
 - The General Partner's 30 realized deals have produced a 3.3x ROI and 41.6% gross IRR.
 - Funds I, III, IV, and V have performed well, with net IRRs, DPIs and TVPIs that each rank in the first or second quartile, as compared to buyout funds of the same vintage.

While Fund II underperformed, the General Partner has refined its strategy since that time, including (i) targeting asset-light, growing companies; (ii) having a more selective approach and enhanced focus on end markets; (iii) pursuing buy-and-builds when appropriate; (iv) adding to its operating value-add capabilities; and (v) focusing on collaborative lender syndicates.



The operating performance of the prior three funds is compelling. The operating performance in Funds III & IV is strong with revenue and EBITDA CAGRs of over 19%. While Fund V is early, the operating performance is impressive, primarily driven by accretive add-ons acquisitions. The General Partner has completed over 114 add-on acquisitions across Funds III-V.

4. **The Fund's size represents a material increase from Fund V.** At a potential cap of \$3.25 billion, the Fund would be 93% larger than Fund V. However, the General Partner does not expect a significant change in its investment strategy with a larger fund. The General Partner expects to return to a three-year investment pace for the Fund, have a slightly larger portfolio of 12-15 deals, and reduce co-investment.
5. **Fund V has deployed commitments rapidly.** Fund V was activated in 2021 and has invested approximately 60% as of March 31, 2022. The General Partner attributes the deployment pace of Fund V to increased quality deal flow and team capacity to execute transactions.

Recommendation Franklin Park recommends a commitment of up to \$30 million to the Fund, subject to satisfactory negotiation of final documentation, based on the following:

- The Fund's investment strategy is compelling and the General Partner is well-positioned in the target market;
- The General Partner's team is deep and experienced; and
- The General Partner has an attractive track record.

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

**RESOLUTION
No. 2022-46**

**Approving Investment in Greenbriar Equity Fund VI, 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 private equity consultant, Franklin Park Associates, LLC, along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **Greenbriar Equity Fund VI, L.P.**, a fund that will make buyout investments in transportation, logistics and distribution businesses; and

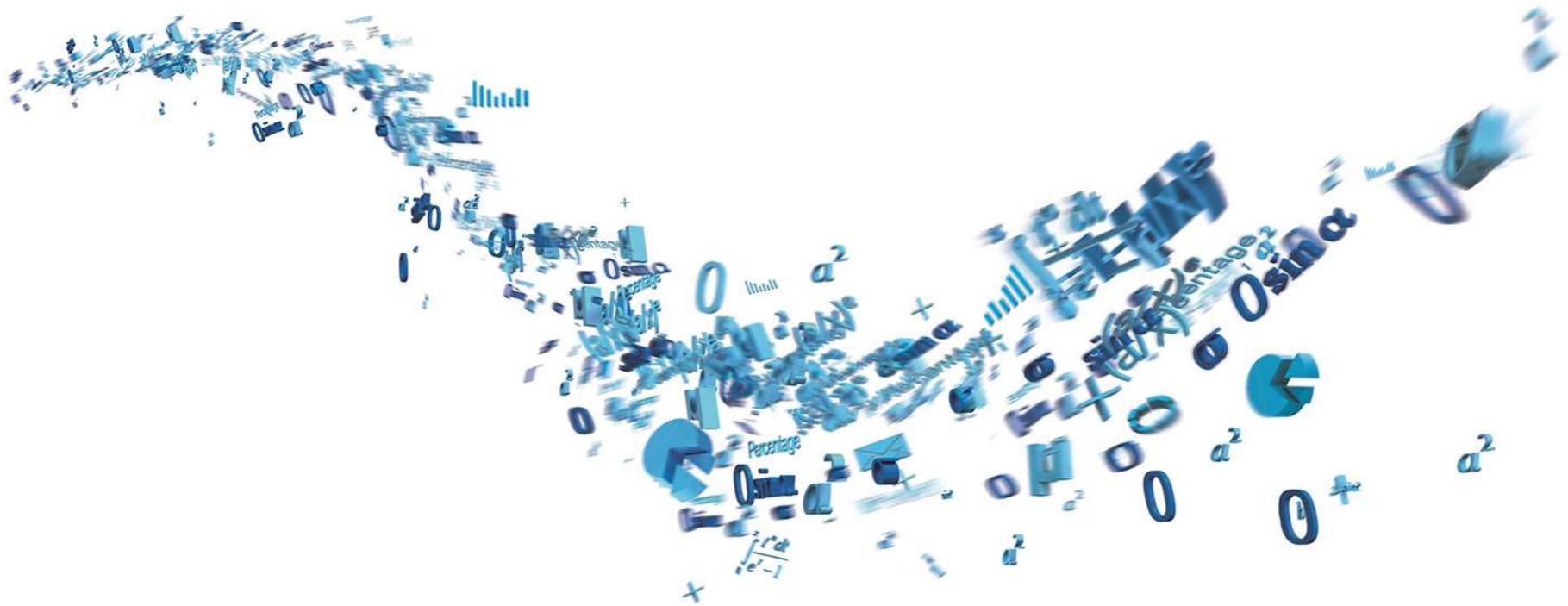
WHEREAS, the ATRS Board approves an investment of up to **\$30 million dollars (\$30,000,000.00)** in **Greenbriar Equity Fund VI, L.P.**, and the Board, after its review of the timing in which the closing of the investment in **Greenbriar Equity Fund VI, L.P.** may need to occur, has determined that 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 **\$30 million dollars (\$30,000,000.00)** in **Greenbriar Equity Fund VI, L.P.** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **Greenbriar Equity Fund VI, L.P.** 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 26th day of September 2022

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



Arkansas Teacher Retirement System | Second Quarter 2022

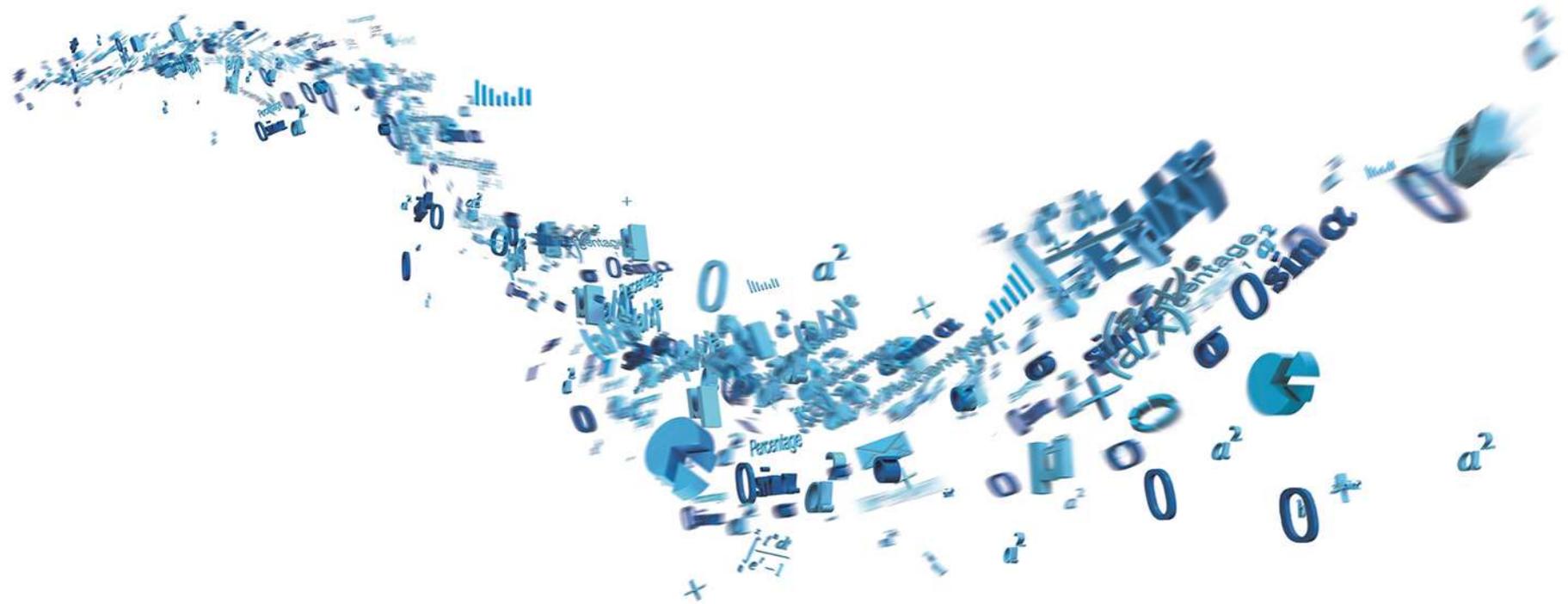
Quarterly Investment Review

Visit the *Investments Thought Leadership Site* (<https://insights-north-america.aon.com/investment>); sharing our best thinking.

Visit our new video library with our views on key investment topics for this quarter using access code "aon!"
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Table of Contents

1	Executive Summary	1
2	Total Fund	5
3	Total Equity	27
4	Fixed Income	81
5	Opportunistic Alternatives	103
6	Private Equity	124
7	Real Assets	126
8	Fee Schedule	128
9	Disclaimers and Notes	132

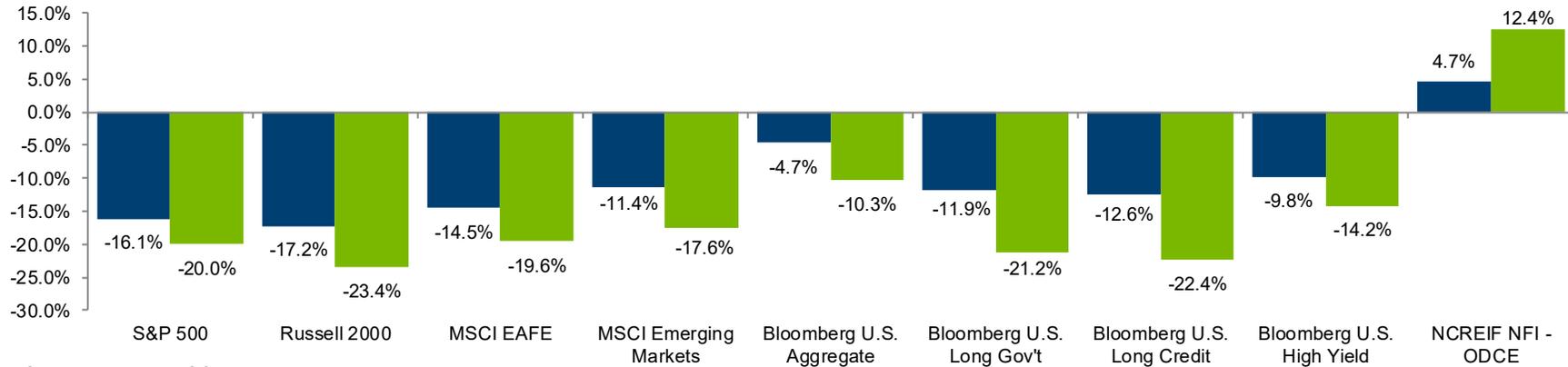


Executive Summary

Market Highlights

SHORT TERM RETURNS AS OF 06/30/2022

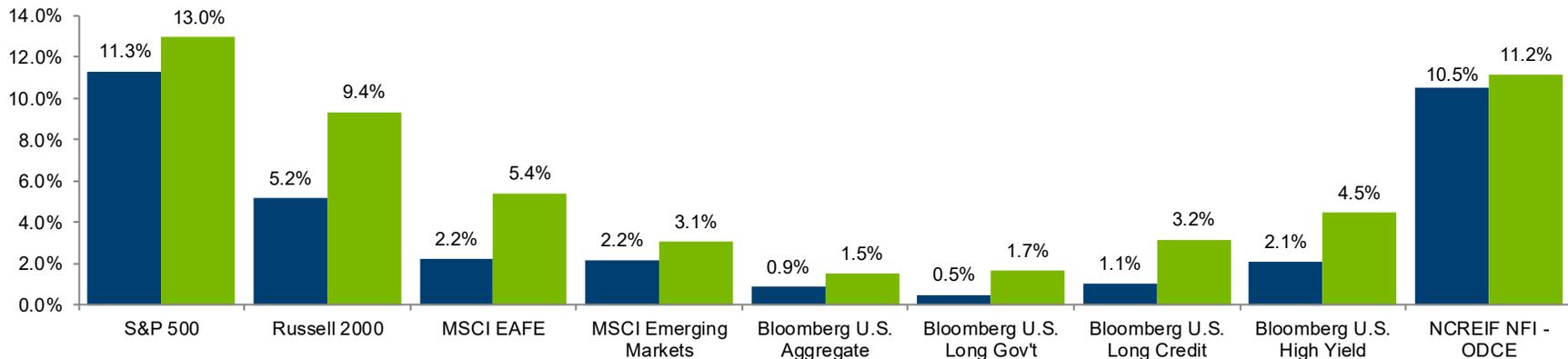
■ Second Quarter 2022 ■ YTD



Source: Russell, MSCI, Bloomberg
MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

LONG TERM ANNUALIZED RETURNS AS OF 06/30/2022

■ Five-Year ■ Ten-Year



Source: Russell, MSCI, Bloomberg

Note: MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

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Market Highlights

Returns of the Major Capital Markets

Period Ending 06/30/2022

	Second Quarter	YTD	1-Year	3-Year ¹	5-Year ¹	10-Year ¹
Equity						
MSCI All Country World IMI	-15.83%	-20.44%	-16.52%	5.98%	6.70%	8.71%
MSCI All Country World	-15.66%	-20.18%	-15.75%	6.21%	7.00%	8.76%
Dow Jones U.S. Total Stock Market	-16.84%	-21.33%	-14.24%	9.61%	10.48%	12.47%
Russell 3000	-16.70%	-21.10%	-13.87%	9.77%	10.60%	12.57%
S&P 500	-16.10%	-19.96%	-10.62%	10.60%	11.31%	12.96%
Russell 2000	-17.20%	-23.43%	-25.20%	4.21%	5.17%	9.35%
MSCI All Country World ex-U.S. IMI	-14.28%	-19.08%	-19.86%	1.55%	2.50%	5.01%
MSCI All Country World ex-U.S.	-13.73%	-18.42%	-19.42%	1.35%	2.50%	4.83%
MSCI EAFE	-14.51%	-19.57%	-17.77%	1.07%	2.20%	5.40%
MSCI EAFE (Local Currency)	-7.83%	-11.27%	-6.59%	4.37%	4.27%	8.33%
MSCI Emerging Markets	-11.45%	-17.63%	-25.28%	0.57%	2.18%	3.06%
Equity Factors						
MSCI World Minimum Volatility (USD)	-9.54%	-6.01%	-6.01%	3.58%	6.55%	9.01%
MSCI World High Dividend Yield	-8.48%	-8.06%	-3.32%	5.61%	6.40%	8.36%
MSCI World Quality	-16.80%	-23.79%	-15.83%	10.16%	11.43%	12.01%
MSCI World Momentum	-17.98%	-22.60%	-17.21%	6.97%	10.48%	11.72%
MSCI World Enhanced Value	-11.97%	-12.92%	-10.00%	3.69%	3.72%	7.91%
MSCI World Equal Weighted	-15.62%	-19.93%	-17.78%	3.23%	4.29%	8.11%
MSCI World Index Growth	-21.14%	-28.71%	-22.22%	8.67%	10.32%	11.42%
MSCI USA Minimum Volatility (USD)	-9.15%	-12.56%	-3.21%	6.34%	9.64%	11.65%
MSCI USA High Dividend Yield	-7.45%	-8.84%	-0.84%	7.16%	8.44%	11.19%
MSCI USA Quality	-16.19%	-23.60%	-15.21%	11.05%	13.11%	13.86%
MSCI USA Momentum	-18.02%	-24.04%	-20.02%	5.88%	10.32%	13.44%
MSCI USA Enhanced Value	-12.85%	-16.12%	-11.31%	6.67%	7.14%	11.66%
MSCI USA Equal Weighted	-16.45%	-20.57%	-15.25%	7.72%	8.62%	11.84%
MSCI USA Growth	-22.94%	-29.88%	-21.80%	12.43%	14.09%	14.69%
Fixed Income						
Bloomberg Global Aggregate	-8.26%	-13.91%	-15.25%	-3.22%	-0.55%	0.11%
Bloomberg U.S. Aggregate	-4.69%	-10.35%	-10.29%	-0.93%	0.88%	1.54%
Bloomberg U.S. Long Gov't	-11.89%	-21.20%	-18.42%	-2.94%	0.50%	1.65%
Bloomberg U.S. Long Credit	-12.59%	-22.40%	-21.36%	-2.44%	1.05%	3.17%
Bloomberg U.S. Long Gov't/Credit	-12.27%	-21.88%	-20.14%	-2.32%	1.03%	2.63%
Bloomberg U.S. TIPS	-6.08%	-8.92%	-5.14%	3.04%	3.21%	1.73%
Bloomberg U.S. High Yield	-9.83%	-14.19%	-12.81%	0.21%	2.10%	4.47%
Bloomberg Global Treasury ex U.S.	-11.44%	-17.19%	-19.67%	-5.89%	-2.12%	-1.46%
JP Morgan EMBI Global (Emerging Markets)	-10.55%	-18.83%	-19.25%	-4.33%	-1.00%	2.05%
Commodities						
Bloomberg Commodity Index	-5.66%	18.44%	24.27%	14.34%	8.39%	-0.82%
Goldman Sachs Commodity Index	2.01%	35.80%	45.05%	14.69%	11.67%	-1.83%
Hedge Funds						
HFR1 Fund-Weighted Composite ²	-4.94%	-5.86%	-5.82%	6.10%	5.05%	4.96%
HFR1 Fund of Funds ²	-3.61%	-6.28%	-5.19%	4.05%	3.69%	3.78%
Real Estate						
NAREIT U.S. Equity REITS	-17.00%	-20.20%	-6.27%	4.00%	5.30%	7.39%
NCREIF NFI - ODCE	4.70%	12.42%	29.50%	12.66%	10.54%	11.16%
FTSE Global Core Infrastructure Index	-8.64%	-5.37%	2.88%	5.73%	7.78%	9.06%
Private Equity						
Burgiss Private iQ Global Private Equity ³			35.76%	25.94%	21.26%	16.77%

MSCI Indices show net total returns throughout this report. All other indices show gross total returns.

¹ Periods are annualized.

² Latest 5 months of HFR data are estimated by HFR and may change in the future.

³ Burgiss Private iQ Global Private Equity data is as at December 31, 2021

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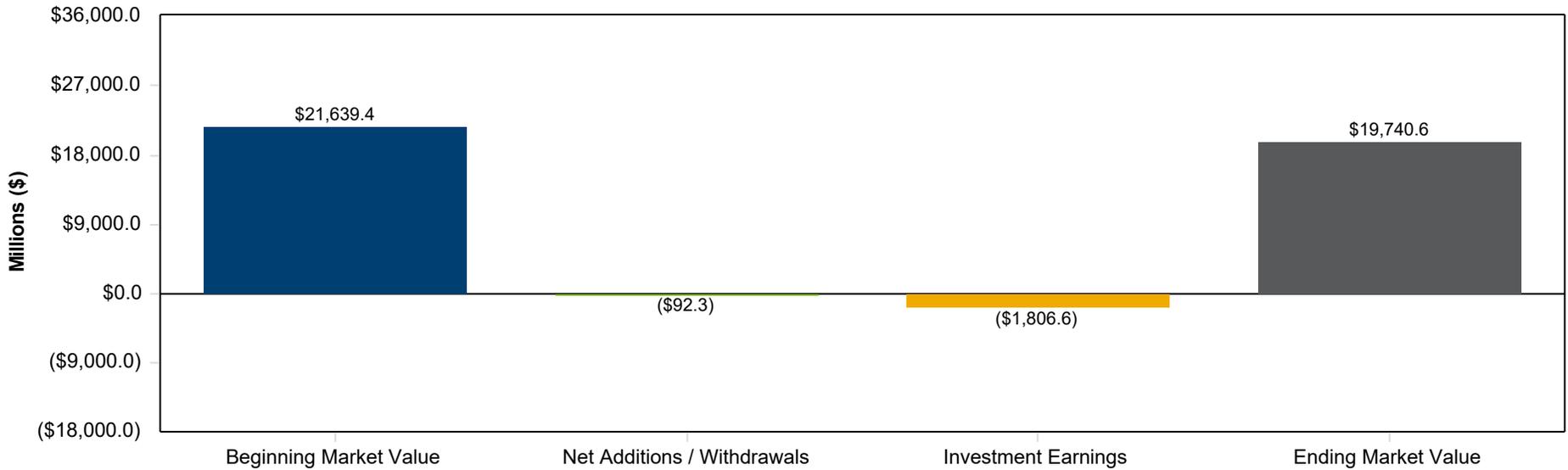
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Total Fund

Total Plan Asset Summary

**Change in Market Value
From April 1, 2022 to June 30, 2022**

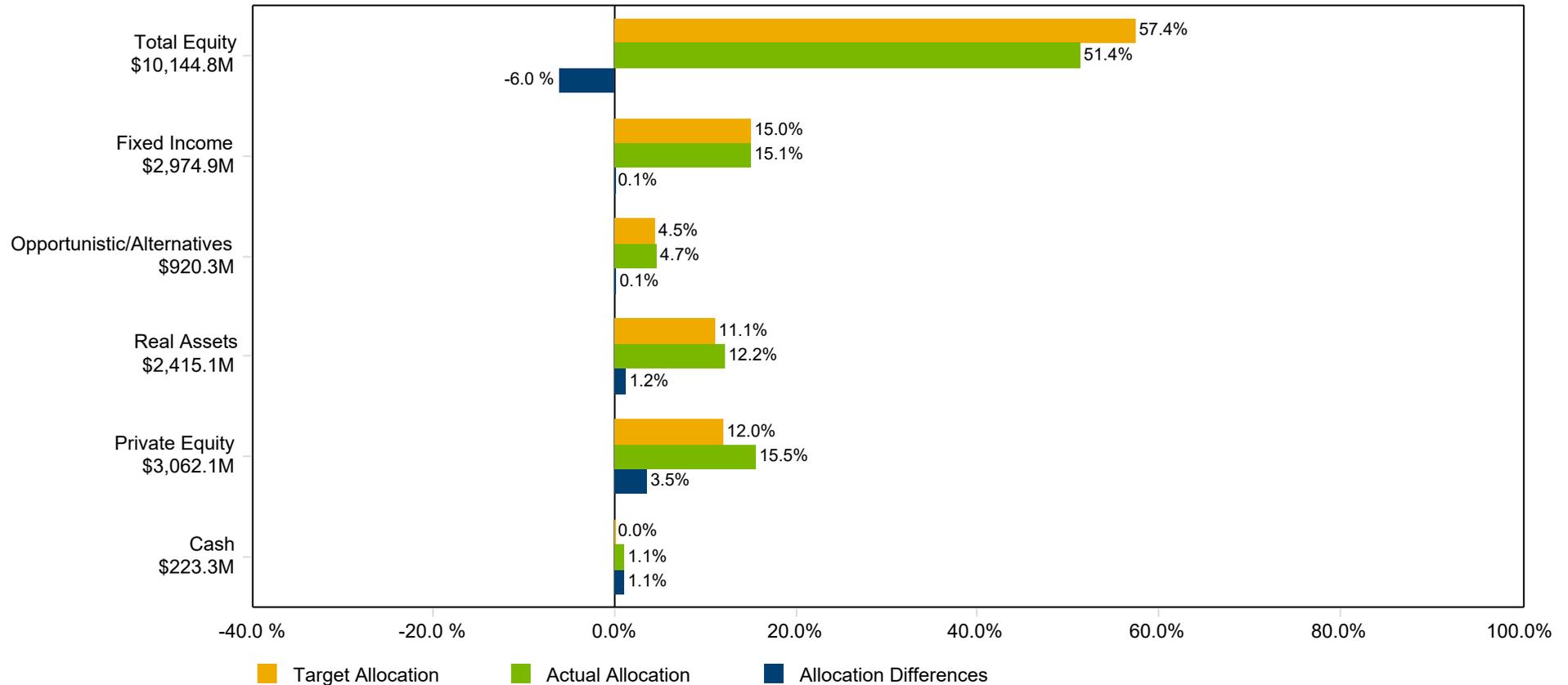


Summary of Cash Flow

	1 Quarter	Year To Date	1 Year
Beginning Market Value	21,639,409,145	21,766,843,724	21,163,415,611
+ Additions / Withdrawals	-92,273,392	-173,873,927	-690,434,445
+ Investment Earnings	-1,806,573,337	-1,852,407,381	-732,418,751
= Ending Market Value	19,740,562,415	19,740,562,415	19,740,562,415

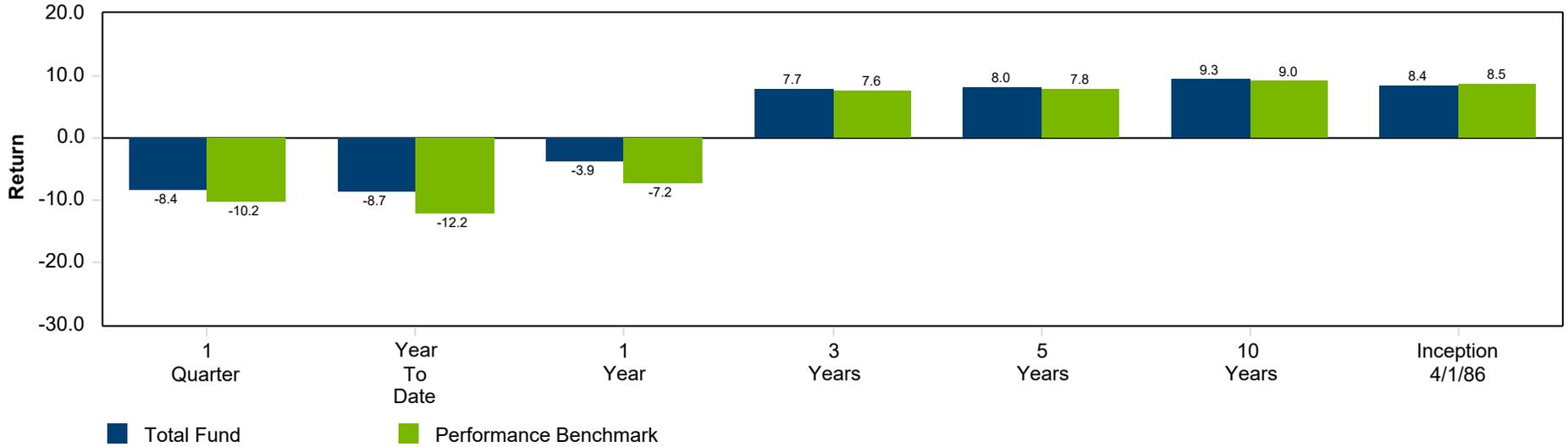
Asset Allocation Compliance

	Market Value (\$M)	Current Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)
Total Fund	19,740.6	100.00	100.00	N/A	N/A
Total Equity	10,144.8	51.39	57.42	48.00	58.00
Fixed Income	2,974.9	15.07	15.00	13.00	17.00
Opportunistic/Alternatives	920.3	4.66	4.51	N/A	N/A
Real Assets	2,415.1	12.23	11.07	N/A	N/A
Private Equity	3,062.1	15.51	12.00	N/A	N/A
Cash	223.3	1.13	0.00	0.00	5.00

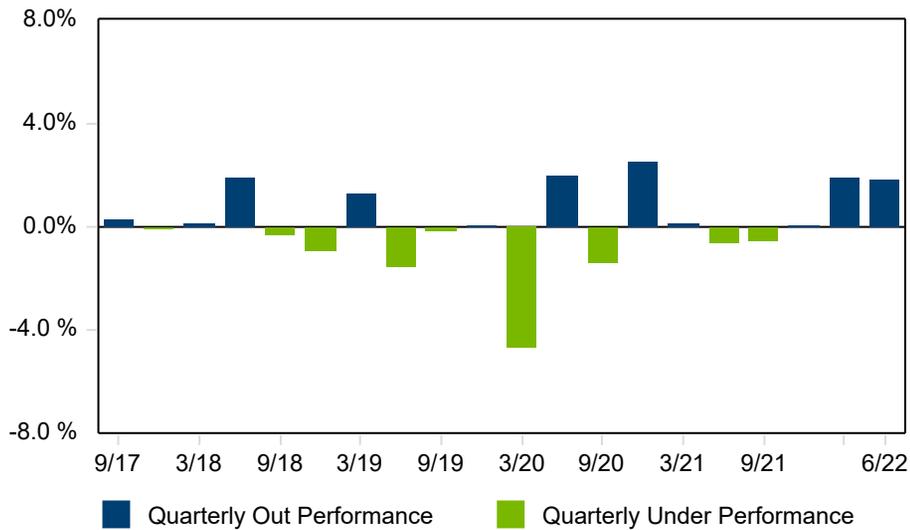


Total Plan Performance Summary

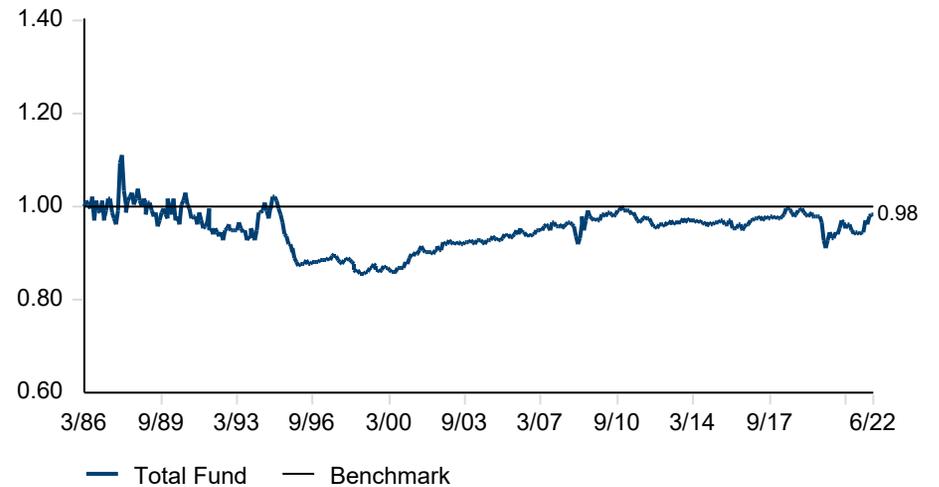
Return Summary



Quarterly Excess Performance

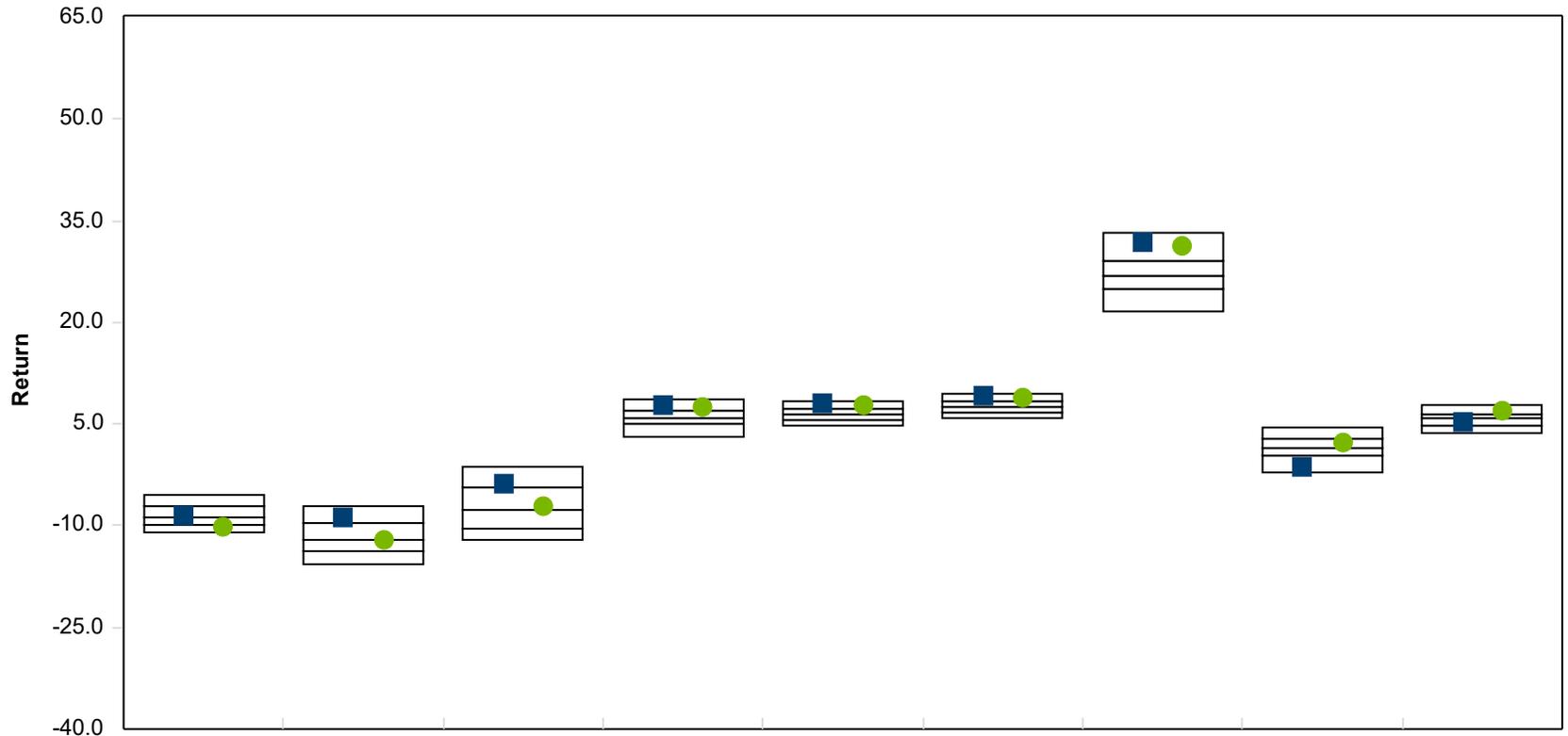


Ratio of Cumulative Wealth - Since Inception



Plan Sponsor Peer Group Analysis

All Public Plans > \$1B-Total Fund



	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019
■ Total Fund	-8.4 (47)	-8.7 (17)	-3.9 (21)	7.7 (19)	8.0 (12)	9.3 (6)	31.9 (11)	-1.4 (92)	5.3 (63)
● Performance Benchmark	-10.2 (79)	-12.2 (51)	-7.2 (47)	7.6 (19)	7.8 (14)	9.0 (7)	31.2 (15)	2.3 (35)	7.0 (12)
5th Percentile	-5.3	-7.0	-1.4	8.7	8.4	9.4	33.1	4.6	7.7
1st Quartile	-7.0	-9.5	-4.4	7.0	7.2	8.2	29.1	2.9	6.5
Median	-8.9	-12.2	-7.6	6.0	6.3	7.5	27.0	1.4	5.7
3rd Quartile	-9.9	-13.8	-10.5	5.2	5.6	6.8	25.1	0.3	4.9
95th Percentile	-11.1	-15.6	-12.2	3.1	4.7	6.0	21.7	-2.0	3.7
Population	64	64	63	61	61	58	151	142	114

Partheses contain percentile rankings.

As of June 30, 2022

Asset Allocation & Performance

	Allocation			Performance(%)							
	Market Value (\$)	%	Policy(%)	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Total Fund	19,740,562,415	100.0	100.0	-8.4	-8.7	-3.9	7.7	8.0	9.3	8.4	04/01/1986
<i>Performance Benchmark</i>				-10.2	-12.2	-7.2	7.6	7.8	9.0	8.5	
Total Equity	10,144,789,186	51.4	57.4	-15.6	-17.3	-13.4	6.1	7.1		7.3	07/01/2015
<i>Total Equity Performance Benchmark</i>				-16.2	-20.7	-15.8	7.1	7.9		8.0	
Fixed Income	2,974,945,411	15.1	15.0	-3.7	-7.0	-7.5	0.5	1.8	2.9	4.9	07/01/1992
<i>Performance Benchmark</i>				-5.1	-10.9	-10.9	-0.9	0.9	1.8	5.0	
Opportunistic/Alternatives	920,299,875	4.7	4.5	0.7	2.7	0.2	1.6	1.0	3.8	3.1	05/01/2011
<i>Custom Alternatives Benchmark</i>				-1.5	-1.1	-0.2	2.8	2.8	2.8	2.0	
Real Assets	2,415,117,580	12.2	11.1	4.2	9.7	16.0	8.1	7.8		8.5	07/01/2013
<i>Total Real Assets Benchmark</i>				5.7	12.1	21.0	8.8	7.7		8.6	
Real Estate	1,471,089,724	7.5		5.0	11.0	21.7	7.8	8.0	9.2	8.9	12/01/1998
<i>NFI-ODCE (Net)</i>				7.1	15.3	27.3	10.3	8.9	10.0	9.3	
Timber	329,737,995	1.7		1.9	6.9	13.2	10.0	6.1	5.4	7.3	06/01/1998
<i>Timberland Property Benchmark</i>				3.2	7.9	11.8	5.4	3.8	5.0		
Agriculture	237,794,816	1.2		3.8	9.2	12.8	6.8	5.4	6.6	6.1	09/01/2011
<i>Agriculture Benchmark</i>				2.6	6.5	9.7	5.7	5.2	7.5		
Infrastructure	376,495,045	1.9		3.3	7.6	16.3	14.7			14.7	07/01/2018
<i>CPI + 5%</i>				4.3	8.9	14.5	10.2			9.3	
Private Equity	3,062,136,748	15.5	12.0	1.8	5.6	16.6	17.7	17.6	15.7	13.0	03/01/1997
<i>Private Equity Policy</i>				-4.9	4.3	13.9	20.5	17.6	16.5	11.6	
Cash	223,273,614	1.1	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.

As of June 30, 2022

Asset Allocation & Performance

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
Total Fund	19,740,562,415	100.0	-8.4 (47)	-8.7 (17)	-3.9 (21)	7.7 (19)	8.0 (12)	9.3 (6)	8.4	04/01/1986	
Performance Benchmark			-10.2 (79)	-12.2 (51)	-7.2 (47)	7.6 (19)	7.8 (14)	9.0 (7)	8.5		
Total Equity	10,144,789,186	51.4	-15.6 (58)	-17.3 (36)	-13.4 (34)	6.1 (45)	7.1 (41)		7.3 (40)	07/01/2015	
Total Equity Performance Benchmark			-16.2 (64)	-20.7 (51)	-15.8 (45)	7.1 (32)	7.9 (30)		8.0 (29)		
Jacobs Levy 130/30	1,046,063,010	5.3	-7.7 (3)	-5.6 (4)	12.1 (1)	19.1 (1)	16.4 (2)	17.5 (1)	11.9 (2)	01/01/2008	
Russell 3000 Index			-16.7 (63)	-21.1 (56)	-13.9 (50)	9.8 (23)	10.6 (26)	12.6 (21)	8.8 (36)		
Kennedy Capital Management	686,672,441	3.5	-15.4 (80)	-19.8 (89)	-11.9 (56)	8.4 (31)	5.7 (47)	10.7 (21)	11.7 (12)	01/01/1994	
Russell 2000 Value Index			-15.3 (79)	-17.3 (64)	-16.3 (84)	6.2 (61)	4.9 (66)	9.1 (69)	9.2 (92)		
Stephens	492,323,525	2.5	-18.8 (38)	-28.8 (37)	-25.8 (31)	3.9 (61)	9.5 (52)	9.8 (93)	9.0 (69)	08/01/2006	
Russell 2000 Growth Index			-19.3 (43)	-29.5 (40)	-33.4 (62)	1.4 (88)	4.8 (95)	9.3 (95)	7.8 (92)		
Voya Absolute Return	671,616,987	3.4	-14.1 (43)	-19.6 (44)	-14.1 (38)	6.8 (35)	6.9 (47)	10.8 (16)	9.6 (23)	10/01/2008	
Performance Benchmark			-15.7 (59)	-20.2 (48)	-15.8 (45)	6.2 (43)	7.0 (44)	10.5 (18)	9.4 (25)		
Allianz (Nicholas Applegate)	852,476,881	4.3	-14.8 (45)	-20.1 (51)	-19.8 (67)	12.4 (6)	13.2 (7)	11.9 (35)	10.2 (23)	12/01/1998	
Performance Benchmark			-15.7 (52)	-20.2 (52)	-20.6 (69)	10.1 (20)	10.0 (32)	10.6 (60)	8.0 (67)		
Pershing Square Holdings	211,733,610	1.1	-24.6 (96)	-27.6 (77)	-17.9 (64)	20.8 (1)	15.8 (2)		6.6 (96)	01/01/2013	
Dow Jones U.S. Total Stock Market Index			-16.8 (65)	-21.3 (57)	-14.2 (53)	9.6 (25)	10.5 (27)		12.4 (23)		
Triam Partners	70,618,759	0.4	-13.0	-19.5	-19.0	1.9	4.2		5.3	11/01/2015	
S&P 500 Index			-16.1	-20.0	-10.6	10.6	11.3		11.5		
Triam Co-Investments	42,593,289	0.2	-7.0	-15.4	-10.9	5.0	4.6		4.1	01/01/2017	
S&P 500 Index			-16.1	-20.0	-10.6	10.6	11.3		12.0		
SSgA Global Index	928,297,266	4.7	-15.7 (59)	-20.2 (48)	-16.2 (48)	6.3 (41)	7.0 (44)	9.1 (49)	6.1 (54)	04/01/2008	
MSCI AC World IMI (Net)			-15.8 (61)	-20.4 (49)	-16.5 (49)	6.0 (46)	6.7 (51)	8.7 (60)	5.8 (66)		

As of June 30, 2022

Asset Allocation & Performance

	Allocation		Performance(%)								Inception Date
	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception		
BlackRock MSCI ACWI IMI Fund	838,337,834	4.2	-15.7 (59)	-20.2 (48)	-16.2 (48)	6.3 (41)	7.0 (46)	9.0 (50)	7.5 (53)	07/01/2011	
<i>MSCI AC World IMI (Net)</i>			-15.8 (61)	-20.4 (49)	-16.5 (49)	6.0 (46)	6.7 (51)	8.7 (60)	7.2 (63)		
Wellington Global Perspectives	635,639,667	3.2	-16.6 (70)	-20.3 (48)	-17.1 (52)	5.4 (54)	5.4 (71)	10.3 (21)	11.8 (18)	07/01/2009	
<i>Performance Benchmark</i>			-17.1 (74)	-22.3 (60)	-21.8 (75)	4.4 (69)	4.7 (80)	8.3 (65)	9.6 (58)		
T. Rowe Price Global Equity	1,206,260,215	6.1	-20.8 (92)	-29.0 (84)	-28.7 (89)	10.0 (8)	11.8 (5)	14.1 (2)	12.2 (7)	09/01/2009	
<i>MSCI AC World Index (Net)</i>			-15.7 (59)	-20.2 (48)	-15.8 (45)	6.2 (43)	7.0 (44)	8.8 (59)	8.3 (68)		
<i>MSCI AC World Index Growth (net)</i>			-20.2 (90)	-27.9 (81)	-23.5 (79)	7.6 (27)	9.2 (17)	10.3 (22)	10.0 (31)		
Lazard	634,325,048	3.2	-15.2 (51)	-25.5 (76)	-25.6 (83)	3.7 (78)	4.7 (79)	8.1 (72)	7.8 (81)	09/01/2009	
<i>MSCI AC World Index (Net)</i>			-15.7 (59)	-20.2 (48)	-15.8 (45)	6.2 (43)	7.0 (44)	8.8 (59)	8.3 (68)		
D.E. Shaw	827,981,619	4.2	-15.8 (60)	-18.1 (39)	-13.2 (34)	6.3 (43)	7.4 (38)	10.2 (24)	9.9 (32)	09/01/2009	
<i>MSCI World Index (Net)</i>			-16.2 (64)	-20.5 (49)	-14.3 (39)	7.0 (33)	7.7 (33)	9.5 (37)	8.9 (53)		
GMO Global All Country Equity	457,203,213	2.3	-12.4 (27)	-19.8 (45)	-19.1 (65)	3.6 (79)	4.2 (86)		3.5 (87)	07/01/2014	
<i>MSCI AC World Index (Net)</i>			-15.7 (59)	-20.2 (48)	-15.8 (45)	6.2 (43)	7.0 (44)		6.2 (50)		
<i>MSCI AC World Index Value (Net)</i>			-11.5 (24)	-12.3 (19)	-8.1 (20)	3.9 (76)	4.3 (85)		3.8 (84)		
Harris Global Equity	542,578,535	2.7	-15.6 (59)	-17.8 (37)	-17.0 (51)	6.7 (37)	4.5 (82)		5.4 (69)	06/01/2014	
<i>MSCI World Index (Net)</i>			-16.2 (64)	-20.5 (49)	-14.3 (39)	7.0 (33)	7.7 (33)		6.9 (36)		
<i>MSCI World Value (Net)</i>			-11.6 (24)	-12.2 (18)	-6.6 (17)	4.5 (68)	4.7 (80)		4.4 (80)		
Fixed Income	2,974,945,411	15.1	-3.7	-7.0	-7.5	0.5	1.8	2.9	4.9	07/01/1992	
<i>Performance Benchmark</i>			-5.1	-10.9	-10.9	-0.9	0.9	1.8	5.0		
BlackRock	250,927,113	1.3	-5.2 (63)	-11.0 (70)	-10.9 (71)	-0.7 (75)	1.1 (72)	1.9 (52)	3.7 (39)	10/01/2003	
<i>Performance Benchmark</i>			-5.1 (61)	-10.9 (70)	-10.9 (71)	-0.9 (83)	0.9 (81)	1.8 (55)	3.5 (45)		
Loomis Sayles	439,860,269	2.2	-7.5 (80)	-12.6 (80)	-12.5 (83)	1.0 (23)	2.4 (15)	4.5 (6)	6.7 (6)	09/01/2008	
<i>Performance Benchmark</i>			-6.7 (76)	-12.1 (79)	-11.5 (77)	-0.3 (63)	1.5 (41)	2.7 (34)	4.4 (27)		
Putnam	366,900,000	1.9	-2.3 (28)	-2.2 (22)	-5.1 (41)	-0.4 (81)	1.3 (73)	1.9 (68)	2.3	08/01/2008	
<i>LIBOR</i>			0.0 (14)	0.0 (13)	0.0 (18)	0.8 (66)	1.3 (73)	0.9 (88)	0.9		
SSgA Aggregate Bond Index	857,865,268	4.3	-4.8 (54)	-10.4 (63)	-10.4 (64)	-1.0 (83)	0.9 (84)	1.5 (68)	2.3 (62)	06/01/2010	
<i>Barclays Aggregate Index</i>			-4.7 (53)	-10.3 (63)	-10.3 (63)	-0.9 (83)	0.9 (84)	1.5 (68)	2.3 (62)		
Wellington Global Total Return	368,891,459	1.9	2.3 (10)	4.7 (6)	3.8 (6)	2.5 (54)	3.6 (36)		2.3 (43)	05/01/2014	
<i>BofA Merrill Lynch 3 Month US T-Bill</i>			0.1 (13)	0.1 (12)	0.2 (15)	0.6 (68)	1.1 (74)		0.8 (67)		
Reams Core Plus Bond Fund	355,349,928	1.8	-6.0 (71)	-10.8 (69)	-10.7 (68)	1.7 (13)	2.7 (10)		2.6 (25)	05/01/2014	
<i>Barclays Aggregate Index</i>			-4.7 (53)	-10.3 (63)	-10.3 (63)	-0.9 (83)	0.9 (84)		1.6 (65)		
BRS Recycling Tax Credit	176,000,000	0.9									
BRS Recycling Tax Credit Phase 2	77,031,608	0.4									
BRS Recycling Tax Credit Phase 3	82,119,766	0.4									

As of June 30, 2022

Asset Allocation & Performance

	Allocation		Performance(%)							Inception Date
	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	
Opportunistic/Alternatives	920,299,875	4.7	0.7	2.7	0.2	1.6	1.0	3.8	3.1	05/01/2011
<i>Custom Alternatives Benchmark</i>			-1.5	-1.1	-0.2	2.8	2.8	2.8	2.0	
Anchorage	48,146,564	0.2	0.1	0.6	0.1	5.5	4.8	6.6	5.5	05/01/2011
<i>Credit Suisse Event Driven</i>			-5.6	-7.7	-5.4	3.9	3.5	4.1	2.7	
York	9,501,402	0.0	-8.4	22.4	-9.1	-19.3	-11.1	-2.9	-2.9	05/01/2011
<i>Credit Suisse Event Driven</i>			-5.6	-7.7	-5.4	3.9	3.5	4.1	2.7	
Capula	85,622,296	0.4	2.0	5.8	6.6	6.3	5.8	6.3	6.1	05/01/2011
<i>HFRI Macro (Total) Index</i>			1.7	8.5	7.9	7.7	5.3	3.1	2.2	
Graham	89,844,279	0.5	8.1	26.4	23.6	14.1	10.1	7.7	5.2	05/01/2011
<i>HFRI Macro (Total) Index</i>			1.7	8.5	7.9	7.7	5.3	3.1	2.2	
Circumference Group Core Value	34,804,338	0.2	-8.8	-10.4	-10.1	6.5	7.5		7.9	08/01/2015
<i>Russell 2000 Index</i>			-17.2	-23.4	-25.2	4.2	5.2		6.2	
Aeolus Keystone Fund	52,363,199	0.3	3.7	6.2	-8.2	-1.3	-5.7		-2.3	12/01/2015
<i>FTSE 3 Month T-Bill</i>			0.1	0.2	0.2	0.6	1.1		0.9	
<i>Eurekahedge ILS Advisers Index</i>			0.0	0.3	0.4	2.3	-1.1		0.2	
Nephila Rubik Holdings	9,218,427	0.0	-2.1	-6.8	-15.1	-7.5	-7.4		-5.8	06/01/2016
<i>FTSE 3 Month T-Bill</i>			0.1	0.2	0.2	0.6	1.1		1.0	
<i>Eurekahedge ILS Advisers Index</i>			0.0	0.3	0.4	2.3	-1.1		-0.1	
Parametric Global Defensive Equity Fund	183,880,644	0.9	-7.6	-9.7	-5.5	3.5	4.0		4.0	05/01/2017
<i>Performance Benchmark</i>			-7.9	-10.4	-7.8	3.8	4.3		4.3	
<i>MSCI AC World Index</i>			-15.5	-20.0	-15.4	6.7	7.5		7.9	
Man Alternative Risk Premia	104,872,567	0.5	1.7	5.1	12.1	2.0			1.3	06/01/2018
<i>SG Multi Alternative Risk Premia Index</i>			2.7	2.3	4.0	-1.8			-1.4	
CFM Systematic Global Macro Fund	102,891,257	0.5	12.3	15.5					16.2	12/01/2021
<i>HFRI Macro: Systematic Diversified Index</i>			4.9	15.3					15.6	
Pillar Opportunity	97,321,658	0.5	1.5	2.4					2.4	12/01/2021
<i>FTSE 3 Month T-Bill</i>			0.1	0.2					0.2	
<i>Eurekahedge ILS Advisers Index</i>			0.0	0.3					0.6	
Chatham	53,788,893	0.3	5.0	7.8					7.6	11/01/2021
<i>HFRI Event-Driven (Total) Index</i>			-6.1	-7.4					-7.6	
Silver Point Capital Fund	48,044,351	0.2	-3.9						-3.9	04/01/2022
<i>HFRI ED: Distressed/Restructuring Index</i>			-4.9						-4.9	

As of June 30, 2022

Asset Allocation & Performance

	Allocation		Performance(%)							Inception Date
	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	
Real Assets	2,415,117,580	12.2	4.2	9.7	16.0	8.1	7.8		8.5	07/01/2013
<i>Total Real Assets Benchmark</i>			5.7	12.1	21.0	8.8	7.7		8.6	
Real Estate	1,471,089,724	7.5	5.0	11.0	21.7	7.8	8.0	9.2	8.9	12/01/1998
<i>NFI-ODCE (Net)</i>			7.1	15.3	27.3	10.3	8.9	10.0	9.3	
Timber	329,737,995	1.7	1.9	6.9	13.2	10.0	6.1	5.4	7.3	06/01/1998
<i>Timberland Property Benchmark</i>			3.2	7.9	11.8	5.4	3.8	5.0		
BTG Timber Separate Account	110,049,309	0.6								
BTG U.S. Timberland Fund, L.P.	219,688,686	1.1								
Agriculture	237,794,816	1.2	3.8	9.2	12.8	6.8	5.4	6.6	6.1	09/01/2011
<i>Agriculture Benchmark</i>			2.6	6.5	9.7	5.7	5.2	7.5		
HFMS Farmland	178,751,200	0.9	4.5	10.0	14.1	7.4	5.7	6.7	6.2	09/01/2011
<i>HFMS custom NCREIF Farmland Index</i>			2.6	6.5	9.7	6.2	5.1	7.3		
UBS Agrivest Core Farmland Fund	59,043,616	0.3	1.7	7.0	9.4	5.3	4.9		5.1	07/01/2015
<i>UBS Agrivest custom NCREIF Farmland Index</i>			2.6	6.5	9.7	6.2	5.9		6.2	
Infrastructure	376,495,045	1.9	3.3	7.6	16.3	14.7			14.7	07/01/2018
<i>CPI + 5%</i>			4.3	8.9	14.5	10.2			9.3	
Private Equity	3,062,136,748	15.5	1.8	5.6	16.6	17.7	17.6	15.7	13.1	04/01/1997
<i>Private Equity Policy</i>			-4.9	4.3	13.9	20.5	17.6	16.5	11.7	
Cash	223,273,614	1.1								

*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.

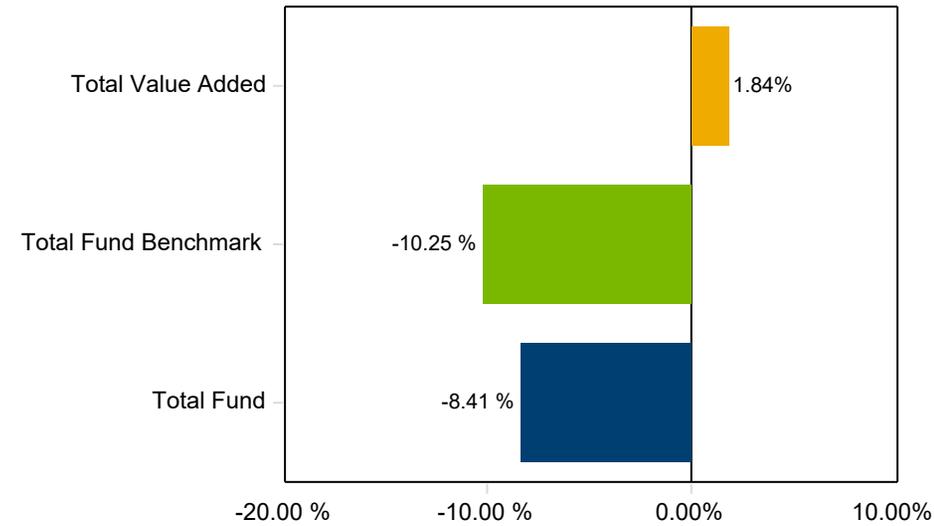
*The inception date above for infrastructure reflects the inception date for the calculation and reporting of time-weighted returns. The Infrastructure program began in July 2014 and the full history of Infrastructure returns are included in Total Real Assets and Total Fund performance.

*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.

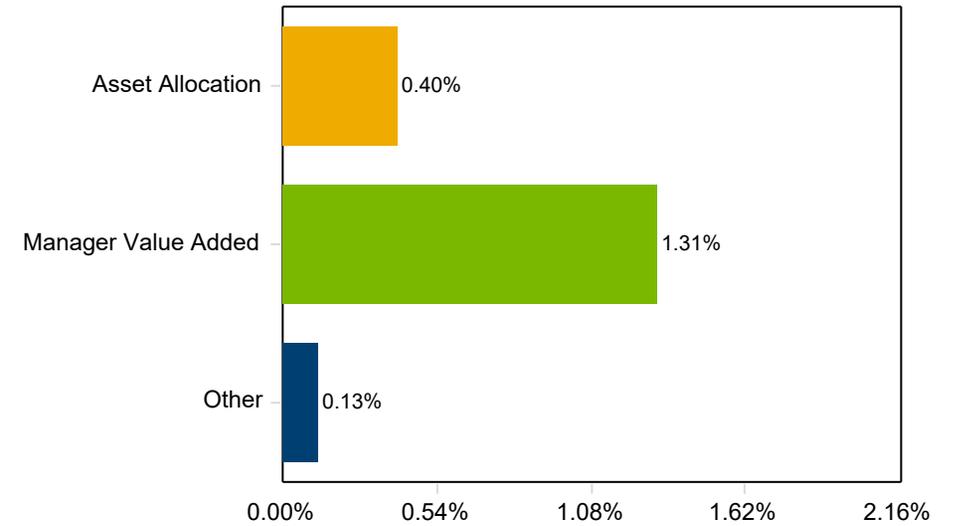
*ATRS made a total commitment of \$100 million to the Triun Co-Investments Fund. As of 3/31/2021, there was an unfunded commitment value equal to \$18,287,776.

Total Fund Attribution

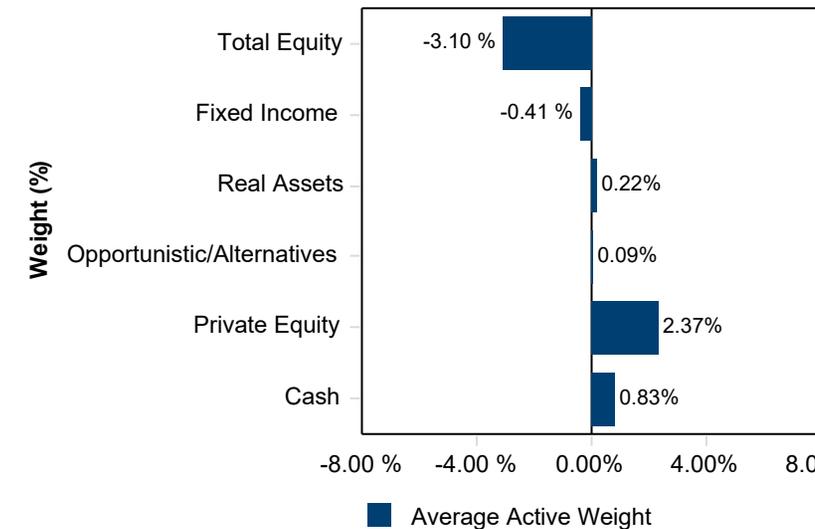
Total Fund Performance



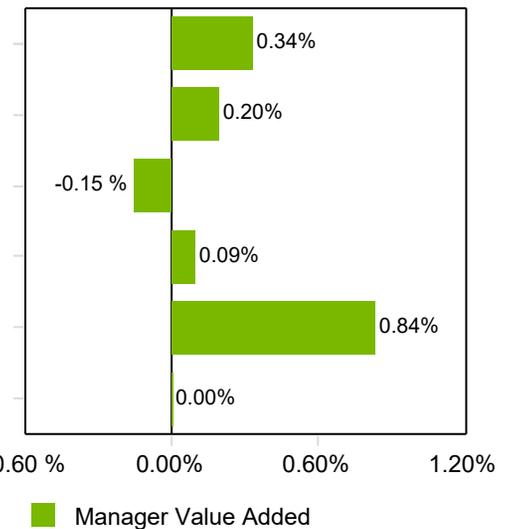
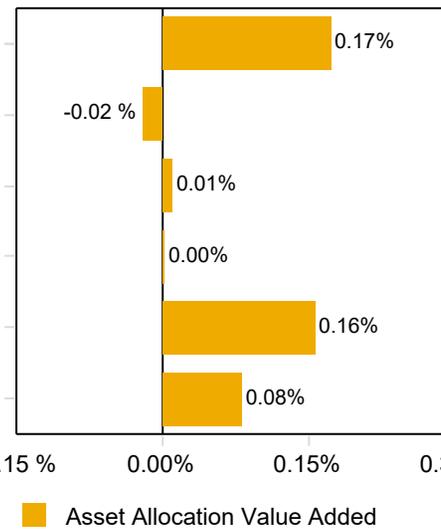
Total Value Added: 1.84%



Total Asset Allocation: 0.40%



Total Manager Value Added: 1.31%



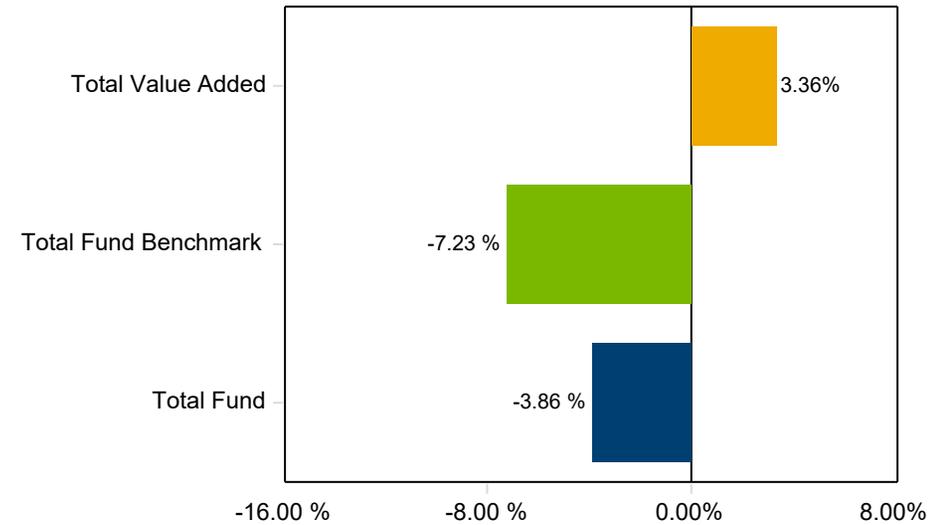
■ Average Active Weight

■ Asset Allocation Value Added

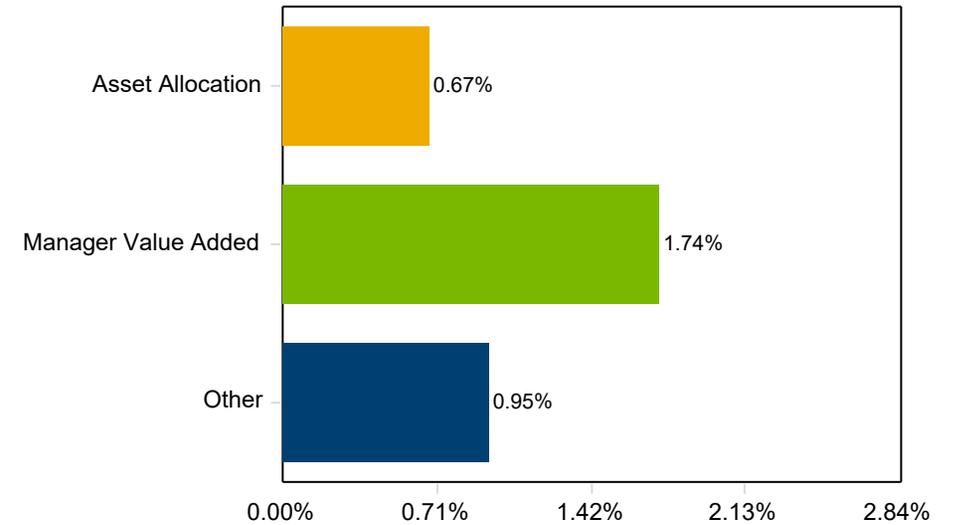
■ Manager Value Added

Total Fund Attribution

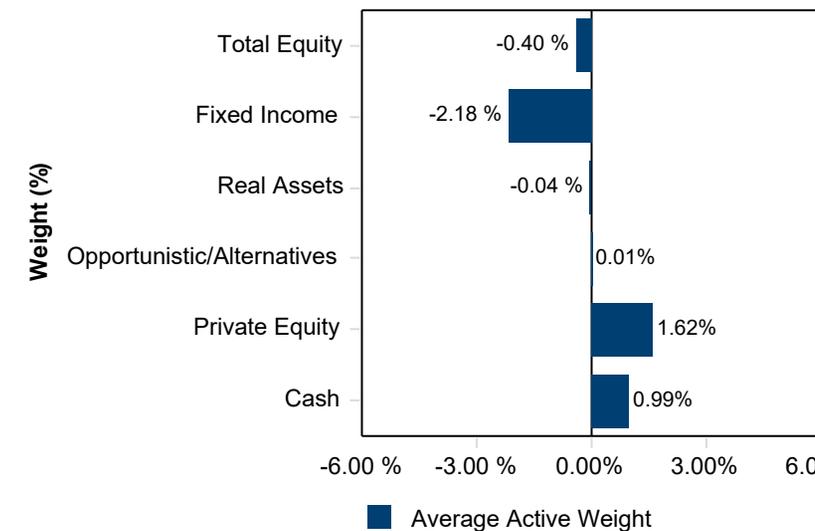
Total Fund Performance



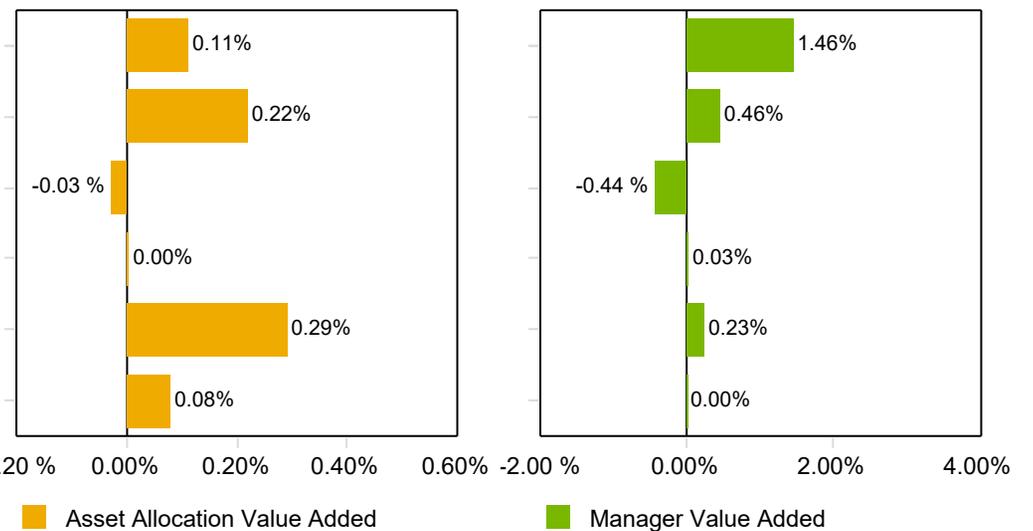
Total Value Added: 3.36%



Total Asset Allocation: 0.67%



Total Manager Value Added: 1.74%



As of June 30, 2022

Calendar Year Performance

	Performance(%)										
	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016	Fiscal Year 2015	Fiscal Year 2014	Fiscal Year 2013	Fiscal Year 2012
Total Fund	-3.9 (21)	31.9 (11)	-1.4 (92)	5.3 (63)	11.7 (2)	16.1 (1)	-0.5 (67)	5.2 (7)	19.0 (5)	14.3 (9)	-1.0 (94)
<i>Performance Benchmark</i>	-7.2 (47)	31.2 (15)	2.3 (35)	7.0 (12)	9.2 (24)	13.2 (32)	1.8 (8)	5.2 (7)	18.3 (17)	13.5 (24)	2.1 (18)
Total Equity	-13.4 (34)	47.4 (26)	-6.4 (76)	4.1 (58)	13.4 (30)	22.1 (28)	-4.8 (55)				
<i>Total Equity Performance Benchmark</i>	-15.8 (45)	42.0 (44)	2.7 (46)	5.9 (48)	12.2 (36)	19.0 (47)	-1.5 (37)				
Jacobs Levy 130/30	12.1 (1)	50.3 (41)	0.2 (47)	5.5 (50)	19.9 (23)	24.6 (18)	8.3 (4)	14.2 (7)	24.3 (53)	22.4 (49)	1.4 (41)
<i>Russell 3000 Index</i>	-13.9 (50)	44.2 (56)	6.5 (32)	9.0 (32)	14.8 (45)	18.5 (55)	2.1 (22)	7.3 (43)	25.2 (44)	21.5 (55)	3.8 (25)
Kennedy Capital Management	-11.9 (56)	72.4 (29)	-16.2 (51)	-7.8 (68)	12.2 (51)	24.2 (37)	-4.9 (65)	2.7 (52)	29.4 (10)	34.4 (7)	-4.2 (68)
<i>Russell 2000 Value Index</i>	-16.3 (84)	73.3 (27)	-17.5 (59)	-6.2 (57)	13.1 (42)	24.9 (32)	-2.6 (41)	0.8 (66)	22.5 (75)	24.8 (61)	-1.4 (35)
Stephens	-25.8 (31)	40.2 (88)	7.8 (54)	8.4 (36)	29.5 (26)	18.3 (83)	-7.8 (42)	5.1 (89)	18.4 (78)	18.7 (87)	3.0 (11)
<i>Russell 2000 Growth Index</i>	-33.4 (62)	51.4 (60)	3.5 (63)	-0.5 (80)	21.9 (65)	24.4 (43)	-10.8 (61)	12.3 (40)	24.7 (37)	23.7 (57)	-2.7 (42)
Voya Absolute Return	-14.1 (38)	41.9 (44)	0.1 (56)	4.0 (58)	9.9 (54)	20.3 (38)	1.9 (21)	7.8 (10)	26.9 (26)	19.7 (37)	6.0 (8)
<i>Performance Benchmark</i>	-15.8 (45)	39.3 (57)	2.1 (48)	5.7 (49)	10.7 (49)	18.8 (48)	1.1 (23)	7.4 (10)	24.6 (41)	20.6 (29)	5.4 (8)
Allianz (Nicholas Applegate)	-19.8 (67)	47.3 (48)	20.1 (10)	12.5 (15)	16.4 (36)	15.9 (74)	-7.1 (78)	4.4 (67)	23.1 (65)	19.4 (70)	-2.4 (65)
<i>Performance Benchmark</i>	-20.6 (69)	45.7 (52)	15.3 (16)	7.8 (38)	12.0 (63)	16.8 (68)	-4.7 (65)	3.5 (73)	24.4 (53)	18.6 (76)	-3.2 (71)
Pershing Square Holdings	-17.9 (64)	57.0 (26)	36.5 (2)	21.7 (2)	-2.7 (100)	8.3 (95)	-49.1 (100)	15.2 (4)	30.4 (11)		
<i>Dow Jones U.S. Total Stock Market Index</i>	-14.2 (53)	44.3 (56)	6.4 (33)	8.9 (32)	14.8 (45)	18.5 (55)	2.0 (22)	7.2 (44)	25.0 (46)		
Triam Partners	-19.0	33.4	-2.3	13.1	2.8	9.5					
<i>S&P 500 Index</i>	-10.6	40.8	7.5	10.4	14.4	17.9					
SSgA Global Index	-16.2 (48)	41.3 (47)	1.6 (50)	4.8 (54)	11.4 (42)	19.4 (43)	-3.4 (47)	1.2 (55)	23.8 (49)	17.5 (53)	-6.6 (59)
<i>MSCI AC World IMI (Net)</i>	-16.5 (49)	40.9 (48)	1.2 (51)	4.6 (56)	11.1 (45)	19.0 (47)	-3.9 (49)	0.8 (58)	23.4 (52)	17.1 (57)	-6.9 (60)

As of June 30, 2022

Calendar Year Performance

	Performance(%)										
	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016	Fiscal Year 2015	Fiscal Year 2014	Fiscal Year 2013	Fiscal Year 2012
BlackRock MSCI ACWI IMI Fund	-16.2 (48)	41.4 (47)	1.5 (50)	4.5 (56)	11.4 (42)	19.1 (46)	-3.4 (47)	1.2 (55)	23.9 (49)	17.7 (52)	-6.6 (59)
MSCI AC World IMI (Net)	-16.5 (49)	40.9 (48)	1.2 (51)	4.6 (56)	11.1 (45)	19.0 (47)	-3.9 (49)	0.8 (58)	23.4 (52)	17.1 (57)	-6.9 (60)
Wellington Global Perspectives	-17.1 (52)	60.0 (9)	-11.7 (90)	-3.8 (89)	15.7 (20)	24.8 (16)	-4.2 (51)	-1.4 (72)	33.1 (6)	30.7 (5)	-9.1 (72)
Performance Benchmark	-21.8 (75)	54.1 (14)	-5.5 (74)	-3.0 (86)	13.8 (28)	20.5 (37)	-4.7 (55)	1.5 (53)	26.0 (31)	20.6 (29)	-9.9 (77)
T. Rowe Price Global Equity	-28.7 (89)	52.0 (16)	22.8 (6)	8.0 (34)	21.3 (8)	28.8 (8)	-0.6 (32)	7.5 (10)	32.0 (7)	18.2 (48)	-7.7 (62)
MSCI AC World Index (Net)	-15.8 (45)	39.3 (57)	2.1 (48)	5.7 (49)	10.7 (49)	18.8 (48)	-3.7 (48)	0.7 (58)	22.9 (55)	16.6 (62)	-6.5 (58)
MSCI AC World Index Growth (net)	-23.5 (79)	39.7 (55)	16.6 (10)	7.2 (40)	16.1 (19)	18.6 (50)	-2.7 (43)	4.9 (25)	23.1 (54)	15.4 (67)	-5.3 (50)
Lazard	-25.6 (83)	47.5 (25)	1.6 (50)	2.7 (67)	9.8 (54)	26.2 (14)	-10.7 (88)	7.3 (11)	23.3 (52)	15.8 (66)	-11.4 (83)
MSCI AC World Index (Net)	-15.8 (45)	39.3 (57)	2.1 (48)	5.7 (49)	10.7 (49)	18.8 (48)	-3.7 (48)	0.7 (58)	22.9 (55)	16.6 (62)	-6.5 (58)
D.E. Shaw	-13.2 (34)	38.0 (61)	0.1 (55)	2.6 (67)	15.8 (20)	19.2 (45)	0.0 (28)	3.9 (33)	25.6 (33)	19.3 (41)	-1.9 (29)
MSCI World Index (Net)	-14.3 (39)	39.0 (58)	2.8 (46)	6.3 (45)	11.1 (45)	18.2 (51)	-2.8 (43)	1.4 (53)	24.0 (48)	18.6 (45)	-5.0 (48)
GMO Global All Country Equity	-19.1	40.6	-2.3	3.5	6.8	20.0	-6.5	-4.5			
MSCI AC World Index (Net)	-15.8	39.3	2.1	5.7	10.7	18.8	-3.7	0.7			
MSCI AC World Index Value (Net)	-8.1	38.4	-11.8	4.3	5.4	19.0	-4.8	-3.4			
Harris Global Equity	-17.0	56.6	-6.6	-2.0	5.0	38.9	-12.8	0.7			
MSCI World Index (Net)	-14.3	39.0	2.8	6.3	11.1	18.2	-2.8	1.4			
MSCI World Value (Net)	-6.6	37.9	-11.3	4.2	5.6	18.7	-3.7	-2.9			
Fixed Income	-7.5	3.1	6.4	6.4	1.3	5.2	3.5	1.0	6.1	3.8	5.2
Performance Benchmark	-10.9	1.1	7.9	8.1	-0.3	0.9	5.8	1.6	5.2	0.2	7.4
BlackRock	-10.9 (71)	0.9 (73)	9.0 (17)	8.0 (25)	-0.3 (77)	0.3 (69)	6.0 (22)	2.4 (15)	5.2 (49)	0.3 (64)	8.0 (28)
Performance Benchmark	-10.9 (71)	1.1 (68)	7.9 (27)	8.1 (23)	-0.3 (75)	0.9 (55)	5.8 (24)	1.6 (36)	5.2 (49)	0.2 (67)	7.4 (37)
Loomis Sayles	-12.5 (83)	9.3 (20)	7.6 (30)	7.4 (36)	1.8 (26)	8.1 (16)	1.9 (68)	1.1 (55)	12.0 (9)	10.7 (7)	4.4 (69)
Performance Benchmark	-11.5 (77)	4.9 (33)	6.6 (38)	8.2 (20)	0.5 (48)	4.0 (26)	5.0 (35)	1.0 (60)	6.8 (34)	2.8 (30)	8.4 (23)
Putnam	-5.1 (41)	4.0 (84)	0.1 (63)	3.7 (42)	4.1 (54)	7.9 (30)	-3.6 (78)	-0.7 (60)	3.7 (85)	5.5 (54)	-1.8
LIBOR	0.0 (18)	0.2 (90)	2.1 (43)	2.6 (54)	1.5 (77)	0.8 (86)	0.4 (46)	0.2 (40)	0.3 (94)	0.4 (100)	0.4
SSgA Aggregate Bond Index	-10.4 (64)	-0.3 (93)	8.7 (19)	7.9 (26)	-0.4 (78)	-0.3 (83)	6.0 (22)	1.9 (27)	4.3 (60)	-0.6 (84)	7.4 (35)
Barclays Aggregate Index	-10.3 (63)	-0.3 (93)	8.7 (19)	7.9 (26)	-0.4 (78)	-0.3 (84)	6.0 (22)	1.9 (28)	4.4 (59)	-0.7 (86)	7.5 (35)
Wellington Global Total Return	3.8 (6)	1.7 (88)	2.1 (43)	5.3 (28)	5.1 (46)	-0.7 (88)	1.3 (41)	0.5 (32)			
BofA Merrill Lynch 3 Month US T-Bill	0.2 (15)	0.1 (90)	1.6 (47)	2.3 (58)	1.4 (78)	0.5 (86)	0.2 (46)	0.0 (42)			
Reams Core Plus Bond Fund	-10.7	2.1	15.3	8.6	0.0	0.0	6.1	1.5			
Barclays Aggregate Index	-10.3	-0.3	8.7	7.9	-0.4	-0.3	6.0	1.9			
BRS Recycling Tax Credit											
BRS Recycling Tax Credit Phase 2											
BRS Recycling Tax Credit Phase 3											

As of June 30, 2022

Calendar Year Performance

	Performance(%)										
	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016	Fiscal Year 2015	Fiscal Year 2014	Fiscal Year 2013	Fiscal Year 2012
Opportunistic/Alternatives	0.2	10.4	-5.3	-0.2	0.6	6.8	-1.7	5.8	10.2	12.9	-1.0
<i>Custom Alternatives Benchmark</i>	-0.2	11.7	-2.5	2.1	3.4	2.8	-3.7	1.7	6.3	7.1	-3.9
Anchorage	0.1	23.9	-5.4	1.4	6.2	5.9	-3.9	3.8	18.9	19.4	-1.0
<i>Credit Suisse Event Driven</i>	-5.4	27.5	-6.9	1.9	3.8	9.3	-10.4	-2.0	14.1	14.5	-7.2
York	-9.1	5.3	-45.2	-5.9	12.2	14.3	-12.9	-7.2	22.4	19.4	-0.8
<i>Credit Suisse Event Driven</i>	-5.4	27.5	-6.9	1.9	3.8	9.3	-10.4	-2.0	14.1	14.5	-7.2
Capula	6.6	2.5	9.8	6.3	3.8	7.8	6.1	8.9	7.9	4.0	3.4
<i>HFRI Macro (Total) Index</i>	7.9	15.0	0.8	2.4	1.1	-2.4	1.8	4.2	1.5	-0.1	-2.8
Graham	23.6	27.4	-5.6	2.1	6.5	-3.2	-1.0	23.9	2.7	5.9	-8.3
<i>HFRI Macro (Total) Index</i>	7.9	15.0	0.8	2.4	1.1	-2.4	1.8	4.2	1.5	-0.1	-2.8
Circumference Group Core Value	-10.1	27.9	5.0	2.7	15.9	14.0					
<i>Russell 2000 Index</i>	-25.2	62.0	-6.6	-3.3	17.6	24.6					
Aeolus Keystone Fund	-8.2	-0.2	5.1	-5.8	-17.9	11.2					
<i>FTSE 3 Month T-Bill</i>	0.2	0.1	1.6	2.3	1.3	0.5					
<i>Eurekahedge ILS Advisers Index</i>	0.4	3.6	2.9	-5.5	-6.6	5.0					
Nephila Rubik Holdings	-15.1	-9.6	3.1	-6.9	-7.7	2.2					
<i>FTSE 3 Month T-Bill</i>	0.2	0.1	1.6	2.3	1.3	0.5					
<i>Eurekahedge ILS Advisers Index</i>	0.4	3.6	2.9	-5.5	-6.6	5.0					
Parametric Global Defensive Equity Fund	-5.5	22.6	-4.2	3.9	5.8						
<i>Performance Benchmark</i>	-7.8	18.5	2.4	4.4	6.0						
<i>MSCI AC World Index</i>	-15.4	39.9	2.6	6.3	11.3						
Man Alternative Risk Premia	12.1	2.8	-7.9	1.8							
<i>SG Multi Alternative Risk Premia Index</i>	4.0	3.1	-11.6	0.4							
CFM Systematic Global Macro Fund											
<i>HFRI Macro: Systematic Diversified Index</i>											
Pillar Opportunity											
<i>FTSE 3 Month T-Bill</i>											
<i>Eurekahedge ILS Advisers Index</i>											
Chatham											
<i>HFRI Event-Driven (Total) Index</i>											
Silver Point Capital Fund											
<i>HFRI ED: Distressed/Restructuring Index</i>											

As of June 30, 2022

Calendar Year Performance

	Performance(%)										
	Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016	Fiscal Year 2015	Fiscal Year 2014	Fiscal Year 2013	Fiscal Year 2012
Real Assets	16.0	4.7	3.9	5.6	9.4	7.5	9.5	11.7	9.0		
<i>Total Real Assets Benchmark</i>	21.0	2.4	4.1	5.7	6.2	6.6	10.0	11.5	11.4		
Real Estate	21.7	0.8	2.0	5.7	11.1	6.9	12.0	13.4	12.1	7.9	9.8
<i>NFI-ODCE (Net)</i>	27.3	1.5	3.9	6.5	7.1	7.4	12.6	12.4	12.7	10.5	13.4
Timber	13.2	4.9	12.2	-0.3	1.2	8.0	0.4	9.4	-1.1	6.8	-5.3
<i>Timberland Property Benchmark</i>	11.8	1.6	3.1	0.1	2.6	3.7	2.5	10.5	7.7	6.9	-2.9
BTG Timber Separate Account											
BTG U.S. Timberland Fund, L.P.											
Agriculture	12.8	6.0	1.8	3.5	3.3	4.3	9.8	2.5	11.0	11.5	
<i>Agriculture Benchmark</i>	9.7	4.1	3.3	5.4	3.5	4.5	5.6	6.5	12.8	20.9	
HFMS Farmland	14.1	7.0	1.4	3.4	2.9	3.9	10.7	2.5	11.0	11.5	
<i>HFMS custom NCREIF Farmland Index</i>	9.7	4.4	4.6	4.9	2.0	4.0	4.8	6.5	12.8	20.9	
UBS Agrivest Core Farmland Fund	9.4	3.5	3.1	4.0	4.5	5.0	6.2				
<i>UBS Agrivest custom NCREIF Farmland Index</i>	9.7	4.2	4.7	6.2	5.0	5.5	8.4				
Infrastructure	16.3	21.2	7.2	14.6							
<i>CPI + 5%</i>	14.5	10.6	5.7	6.7							
Private Equity	16.6	33.3	4.9	12.8	22.3	16.7	7.7	11.9	20.6	12.5	12.5
<i>Private Equity Policy</i>	13.9	65.9	-7.5	10.8	16.1	20.4	1.6	14.5	25.0	16.8	9.4
Cash	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.

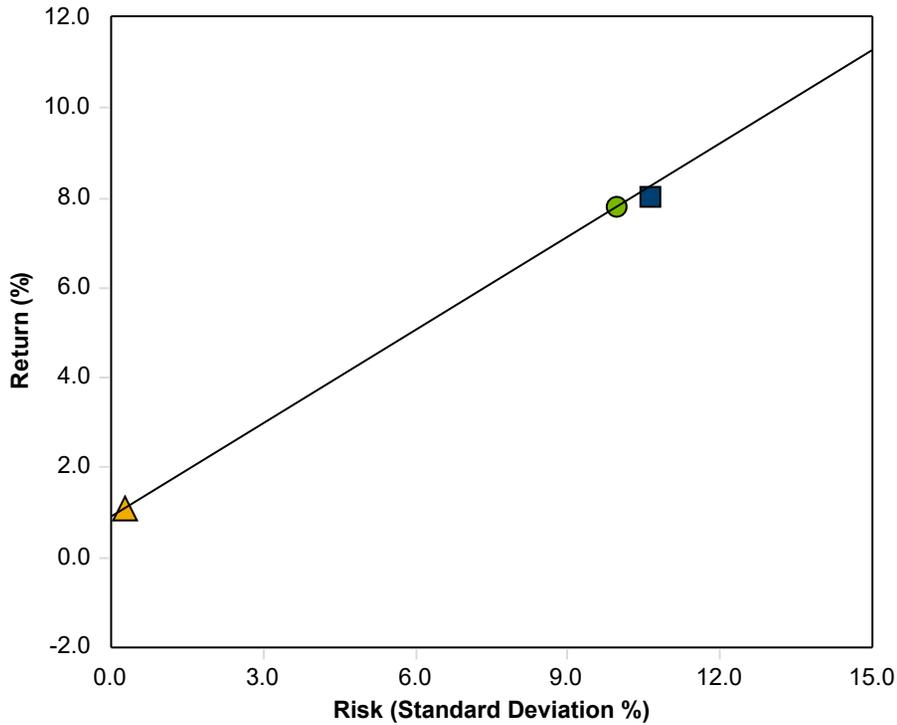
*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 151 of this report.

*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.

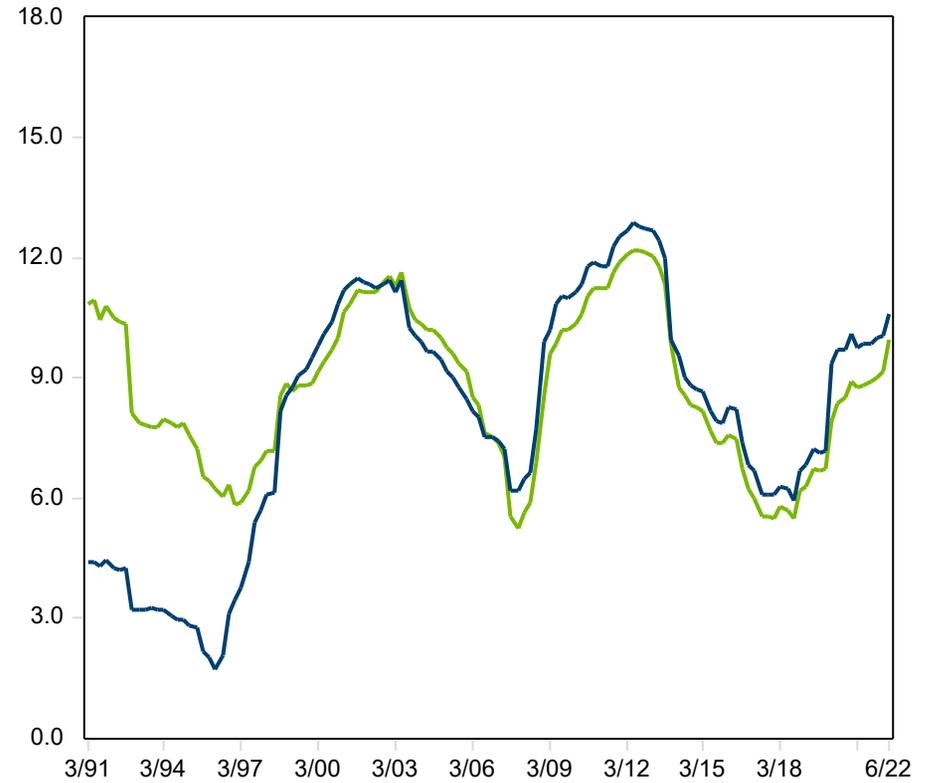
Total Fund Risk Profile

**Annualized Return vs. Annualized Standard Deviation
5 Years**



■ Total Fund ● Performance Benchmark
▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



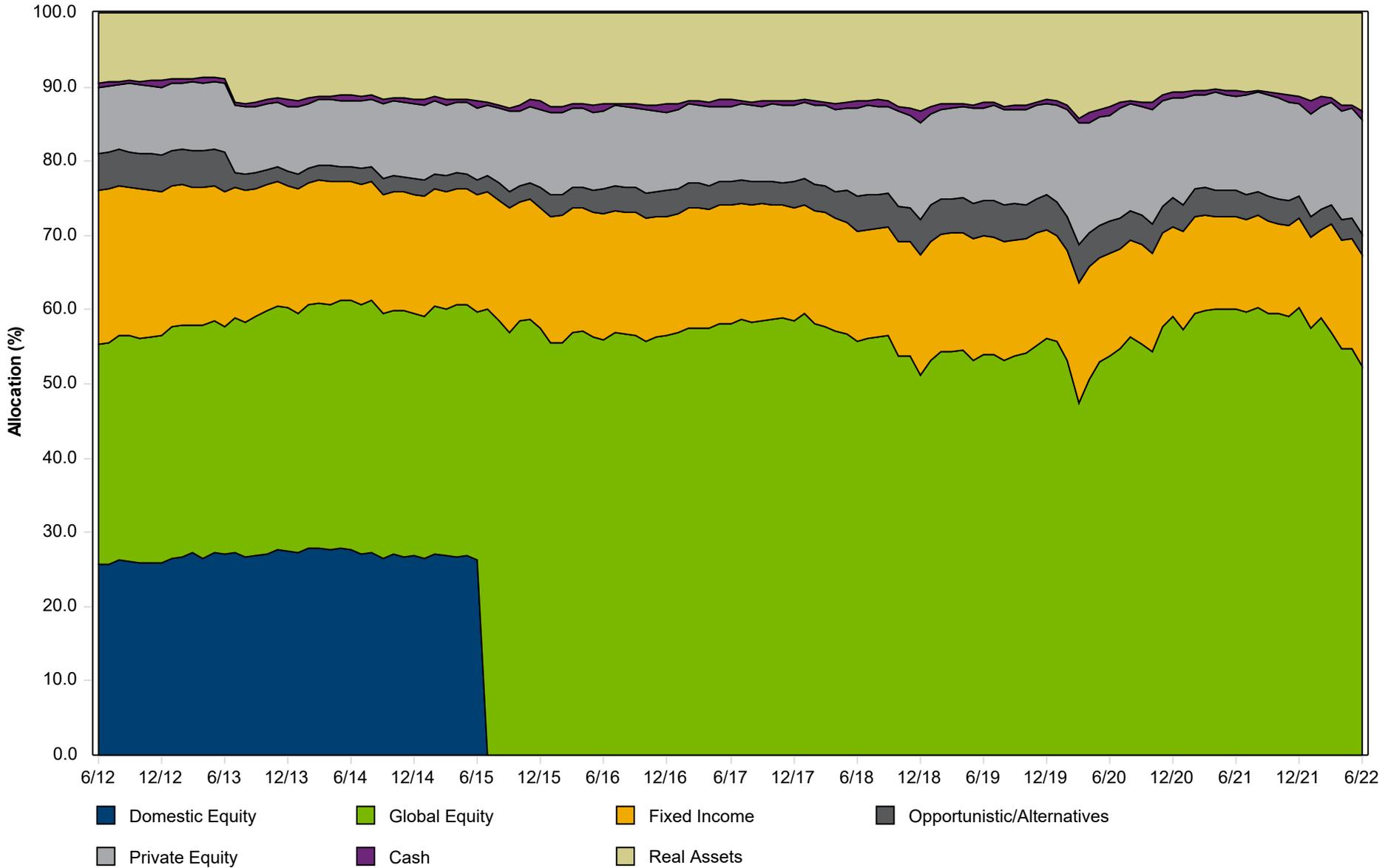
— Total Fund — Performance Benchmark

5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Total Fund	0.28	3.42	0.08	0.90	0.68	0.20	1.01	8.02	10.61	0.95
Performance Benchmark	0.00	0.00	N/A	1.00	0.70	0.00	1.00	7.80	9.94	1.00
FTSE 3 Month T-Bill	-6.94	9.98	-0.70	0.01	N/A	1.11	0.00	1.09	0.26	-0.12

Historical Asset Allocation by Segment

Total Fund



Asset Allocation as of 6/30/2022										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	\$1,046,063.0	--	--	--	--	\$1,046,063.0	5.30%				
Kennedy Capital Management	\$686,672.4	--	--	--	--	\$686,672.4	3.48%				
Stephens	\$492,323.5	--	--	--	--	\$492,323.5	2.49%				
Voya Absolute Return	\$671,617.0	--	--	--	--	\$671,617.0	3.40%				
Allianz (Nicholas Applegate)	\$852,476.9	--	--	--	--	\$852,476.9	4.32%				
Pershing Square Holdings	\$211,733.6	--	--	--	--	\$211,733.6	1.07%				
SSgA Global Index	\$928,297.3	--	--	--	--	\$928,297.3	4.70%				
BlackRock MSCI ACWI IMI Fund	\$838,337.8	--	--	--	--	\$838,337.8	4.25%				
Wellington Global Perspectives	\$635,639.7	--	--	--	--	\$635,639.7	3.22%				
T. Rowe Price Global Equity	\$1,206,260.2	--	--	--	--	\$1,206,260.2	6.11%				
Lazard	\$634,325.0	--	--	--	--	\$634,325.0	3.21%				
D.E. Shaw	\$827,981.6	--	--	--	--	\$827,981.6	4.19%				
GMO Global All Country Equity	\$457,203.2	--	--	--	--	\$457,203.2	2.32%				
Harris Global Equity	\$542,578.5	--	--	--	--	\$542,578.5	2.75%				
Triam Partners	\$70,618.8	--	--	--	--	\$70,618.8	0.36%				
Triam Partners Co-Investments	\$42,593.3	--	--	--	--	\$42,593.3	0.22%				
Capital Guardian & Knight Vinke	\$67.3	--	--	--	--	\$67.3	0.00%				
Total Equity						\$10,144,789.2	51.39%	58.08%	53.00%		
BlackRock	--	\$250,927.1	--	--	--	\$250,927.1	1.27%				
Loomis Sayles	--	\$439,860.3	--	--	--	\$439,860.3	2.23%				
Putnam	--	\$366,900.0	--	--	--	\$366,900.0	1.86%				
SSgA Aggregate Bond Index	--	\$857,865.3	--	--	--	\$857,865.3	4.35%				
Wellington Global Total Return	--	\$368,891.5	--	--	--	\$368,891.5	1.87%				
Reams Core Plus Bond Fund	--	\$355,349.9	--	--	--	\$355,349.9	1.80%				
BRS Recycling Tax Credit	--	\$176,000.0	--	--	--	\$176,000.0	0.89%				
BRS Recycling Tax Credit Phase 2	--	\$77,031.6	--	--	--	\$77,031.6	0.39%				
BRS Recycling Tax Credit Phase 3	--	\$82,119.8	--	--	--	\$82,119.8	0.42%				
Total Fixed Income						\$2,974,945.4	15.07%	15.00%	15.00%		
Anchorage	--	--	--	\$48,146.6	--	\$48,146.6	0.24%				
Capula	--	--	--	\$85,622.3	--	\$85,622.3	0.43%				
Graham	--	--	--	\$89,844.3	--	\$89,844.3	0.46%				
York	--	--	--	\$9,501.4	--	\$9,501.4	0.05%				
Circumference Group Core Value	--	--	--	\$34,804.3	--	\$34,804.3	0.18%				
Aeolus Keystone Fund	--	--	--	\$52,363.2	--	\$52,363.2	0.27%				
Nephila Rubik Holdings	--	--	--	\$9,218.4	--	\$9,218.4	0.05%				
Parametric Global Defensive Equity	--	--	--	\$183,880.6	--	\$183,880.6	0.93%				
Man Alternative Risk Premia	--	--	--	\$104,872.6	--	\$104,872.6	0.53%				
CFM Systematic Global Macro	--	--	--	\$102,891.3	--	\$102,891.3	0.52%				
Juniperus	--	--	--	\$97,321.7	--	\$97,321.7	0.49%				
Chatham	--	--	--	\$53,788.9	--	\$53,788.9	0.27%				
Silver Point Capital	--	--	--	\$48,044.4	--	\$48,044.4	0.24%				
Total Opportunistic/Alternatives						\$920,299.9	4.66%	4.46%	5.00%		
Real Estate			\$1,471,089.7			\$1,471,089.7	7.45%				
Timber			\$329,738.0			\$329,738.0	1.67%				
Agriculture			\$237,794.8			\$237,794.8	1.20%				
Infrastructure			\$376,495.0			\$376,495.0	1.91%				
Total Real Assets						\$2,415,117.6	12.23%	10.46%	15.00%		
Total Private Equity				\$3,062,136.7		\$3,062,136.7	15.51%	12.00%	12.00%		
Total Cash					\$223,273.6	\$223,273.6	1.13%	0.00%	0.00%		
Total Fund	\$10,144,789.2	\$2,974,945.4	\$2,415,117.6	\$3,982,436.6	\$223,273.6	\$19,740,562.4	100.00%	100.00%	100.00%		

*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 sum total due to rounding.

Asset Allocation as of 6/30/2022				Values in \$,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	\$83.0	0.01%	0.00%	LaSalle Income & Growth Fund VI	\$5,447.9	0.37%	0.03%
Almanac Realty Securities Fund VI	\$4,249.4	0.29%	0.02%	LaSalle Income & Growth Fund VII	\$16,271.5	1.11%	0.08%
Almanac Realty Securities Fund VII	\$18,510.7	1.26%	0.09%	LaSalle Income & Growth Fund VIII	\$17,331.7	1.18%	0.09%
Almanac Realty Securities Fund VIII	\$15,648.9	1.06%	0.08%	LBA Logistics Value Fund	\$7,595.9	0.52%	0.04%
Almanac Realty Securities Fund IX	\$369.1	0.03%	0.00%	Lone Star Real Estate Fund IV	\$6,835.0	0.46%	0.03%
American Center	\$27,750.5	1.89%	0.14%	Long Wharf Real Estate Partners V	\$18,983.9	1.29%	0.10%
AR Insurance	\$2,252.0	0.15%	0.01%	Long Wharf Real Estate Partners VI	\$27,683.7	1.88%	0.14%
AR Teachers Retirement Building	\$5,710.4	0.39%	0.03%	Mesa West Income Fund V	\$8,051.0	0.55%	0.04%
Blackstone Real Estate Partners VII	\$12,687.1	0.86%	0.06%	Metropolitan RE Co-Investments	\$9,463.6	0.64%	0.05%
Blackstone RE Europe VI	\$19,872.1	1.35%	0.10%	Met Life Commercial Mtg Inc Fund	\$48,545.0	3.30%	0.25%
Carlyle Realty Partners VII	\$8,860.4	0.60%	0.04%	Morgan Stanley Prime Property Fund	\$69,827.5	4.75%	0.35%
Carlyle Realty VIII	\$13,814.1	0.94%	0.07%	New Boston Fund VII	\$8,248.4	0.56%	0.04%
Carlyle Realty IX	-\$144.1	-0.01%	0.00%	O'Connor NAPP II	\$4,574.6	0.31%	0.02%
CBREI SP U.S. Opportunity V	\$579.0	0.04%	0.00%	PRISA	\$333,803.5	22.69%	1.69%
CBREI SP VIII	\$23,958.8	1.63%	0.12%	Recoveries Land	\$70.0	0.00%	0.00%
CBREI SP IX	\$20,272.2	1.38%	0.10%	Rockwood Capital RE Partners IX	\$4,129.8	0.28%	0.02%
Cerberus Institutional RE Partners III	\$13,318.8	0.91%	0.07%	Rockwood Capital RE XI	\$24,161.9	1.64%	0.12%
Calmwater	\$14,329.1	0.97%	0.07%	Rose Law Firm	\$4,374.7	0.30%	0.02%
Fletcher Properties	\$1,146.6	0.08%	0.01%	Texarkana DHS	\$0.0	0.00%	0.00%
FPA Core Plus IV	\$33,494.2	2.28%	0.17%	Torchlight Debt Opportunity Fund IV	\$4,485.2	0.30%	0.02%
GCP GLP IV	\$25,900.9	1.76%	0.13%	Torchlight Debt Opportunity Fund V	\$2,812.9	0.19%	0.01%
Harbert European Real Estate	\$11,263.6	0.77%	0.06%	Torchlight Debt Opportunity Fund VI	\$21,427.5	1.46%	0.11%
Heitman European Property IV	\$435.3	0.03%	0.00%	Torchlight Debt Opportunity Fund VII	\$15,517.2	1.05%	0.08%
JP Morgan Strategic Property Fund	\$195,990.1	13.32%	0.99%	UBS Trumbull Property Fund	\$165,379.6	11.24%	0.84%
Kayne Anderson V	\$19,609.5	1.33%	0.10%	UBS Trumbull Property Income Fund	\$59,265.6	4.03%	0.30%
Kayne Anderson VI	\$9,899.9	0.67%	0.05%	Victory	\$33,362.3	2.27%	0.17%
Landmark Fund VI	\$1,700.7	0.12%	0.01%	Walton Street Real Estate Debt II	\$10,820.1	0.74%	0.05%
Landmark Real Estate VIII	\$11,889.7	0.81%	0.06%	West Mphs. DHS	\$0.0	0.00%	0.00%
LaSalle Asia Opportunity Fund IV	\$1,791.5	0.12%	0.01%	Westbrook IX	\$8,231.9	0.56%	0.04%
LaSalle Asia Opportunity Fund V	\$10,363.9	0.70%	0.05%	Westbrook Real Estate Fund X	\$8,977.2	0.61%	0.05%
LaSalle Asia Opportunity Fund IV	-\$196.6	-0.01%	0.00%				
Total Real Estate					\$1,471,089.7	100.00%	7.45%

*Note: The market values for the real estate 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 sum total due to rounding.

Asset Allocation as of 6/30/2022				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 VIII	\$5,603.0	0.18%	0.03%	JF Lehman IV	\$11,888.4	0.39%	0.06%
Arlington Capital IV	\$36,967.0	1.21%	0.19%	JF Lehman V	\$23,631.5	0.77%	0.12%
Arlington Capital V	\$29,075.6	0.95%	0.15%	KPS III	\$227.2	0.01%	0.00%
Advent GPE VI	\$4,431.0	0.14%	0.02%	KPS IV	\$19,022.7	0.62%	0.10%
Altus Capital II	\$9,127.2	0.30%	0.05%	KPS X	\$22,123.3	0.72%	0.11%
American Industrial Partners VI	\$27,046.0	0.88%	0.14%	KPS Mid-Cap	\$12,618.5	0.41%	0.06%
American Industrial Partners VII	\$24,113.4	0.79%	0.12%	Levine Leichtman V	\$15,999.5	0.52%	0.08%
Altaris Constellation Partners	\$19,769.1	0.65%	0.10%	Lime Rock III	\$23,565.7	0.77%	0.12%
Altaris Health Partners IV	\$22,073.7	0.72%	0.11%	LLR III	\$4,214.5	0.14%	0.02%
Atlas Capital II	\$14,780.4	0.48%	0.07%	LLR VI	\$15,621.4	0.51%	0.08%
Audax Mezzanine III	\$1,241.5	0.04%	0.01%	Mason Wells III	\$135.1	0.00%	0.00%
Big River - Equity	\$1,910.1	0.06%	0.01%	NGP IX	\$258.2	0.01%	0.00%
Big River - Holdings Note 2023	\$0.0	0.00%	0.00%	NGP X	\$4,527.3	0.15%	0.02%
Big River - Holdings Note 3/16/23	\$0.0	0.00%	0.00%	NGP XI	\$24,687.1	0.81%	0.13%
Bison V	\$27,103.7	0.89%	0.14%	NGP XII	\$24,152.5	0.79%	0.12%
Boston Ventures VII	\$2,796.6	0.09%	0.01%	One Rock Capital Partners II	\$44,263.2	1.45%	0.22%
Boston Ventures IX	\$43,511.4	1.42%	0.22%	PineBridge	\$8,349.8	0.27%	0.04%
Boston Ventures X	\$18,915.6	0.62%	0.10%	Revelstoke	\$6,622.1	0.22%	0.03%
BV VIII	\$21,781.6	0.71%	0.11%	Riverside Value Fund I	\$12,262.6	0.40%	0.06%
Castlake II	\$14,178.9	0.46%	0.07%	Riverside IV	\$226.4	0.01%	0.00%
Castlake III	\$15,257.3	0.50%	0.08%	Riverside V	\$25,499.8	0.83%	0.13%
Clearlake V	\$47,914.1	1.56%	0.24%	Riverside VI	\$24,874.9	0.81%	0.13%
Clearlake VI	\$41,915.5	1.37%	0.21%	Siris III	\$20,323.3	0.66%	0.10%
Clearlake VII	\$9,073.9	0.30%	0.05%	Siris IV	\$32,828.5	1.07%	0.17%
Court Square III	\$37,396.4	1.22%	0.19%	SK Capital V	\$33,544.5	1.10%	0.17%
CSFB-ATRS 2005-1 Series	\$43,069.1	1.41%	0.22%	Sycamore Partners II	\$12,783.8	0.42%	0.06%
CSFB-ATRS 2006-1 Series	\$74,769.8	2.44%	0.38%	Sycamore Partners III	\$20,072.1	0.66%	0.10%
Diamond State Ventures II	\$2,521.7	0.08%	0.01%	TA XI	\$25,740.2	0.84%	0.13%
DW Healthcare III	\$11,618.3	0.38%	0.06%	Tennenbaum VI	\$3,349.8	0.11%	0.02%
DW Healthcare IV	\$27,353.6	0.89%	0.14%	Thoma Bravo Discover	\$6,355.1	0.21%	0.03%
DW Healthcare V	\$16,939.6	0.55%	0.09%	Thoma Bravo Discover II	\$23,785.2	0.78%	0.12%
EnCap IX	\$11,153.7	0.36%	0.06%	Thoma Bravo Discover III	\$18,112.0	0.59%	0.09%
EnCap VIII	\$20,789.1	0.68%	0.11%	Thoma Bravo Explore I	\$15,494.6	0.51%	0.08%
EnCap X	\$30,638.6	1.00%	0.16%	Thoma Bravo XI	\$30,480.3	1.00%	0.15%
EnCap XI	\$26,988.4	0.88%	0.14%	Thoma Bravo XII	\$43,944.3	1.44%	0.22%
Franklin Park Series	\$1,225,026.9	40.01%	6.21%	Thoma Bravo XIII	\$43,485.3	1.42%	0.22%
Greenbriar V	\$24,132.1	0.79%	0.12%	Thoma Bravo XIV	\$19,038.5	0.62%	0.10%
GCG IV	\$14,993.5	0.49%	0.08%	Thoma Bravo XV	\$2,489.9	0.08%	0.01%
GCG V	\$20,952.1	0.68%	0.11%	Vista Equity III	\$4,529.9	0.15%	0.02%
GTLA Holdings	\$40,000.0	1.31%	0.20%	Vista Foundation II	\$8,466.4	0.28%	0.04%
Highland	\$209,480.5	6.84%	1.06%	Vista Foundation III	\$32,626.2	1.07%	0.17%
Insight Equity II	\$8,484.0	0.28%	0.04%	Wellspring V	\$12,744.3	0.42%	0.06%
Insight Mezzanine I	\$1,767.9	0.06%	0.01%	Wicks IV	\$9,489.7	0.31%	0.05%
JF Lehman III	\$20,160.5	0.66%	0.10%	WNG II	\$10,858.8	0.35%	0.06%
				Total Private Equity	\$3,062,136.7	100.00%	15.51%

*Note: The market values for the 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 sum total due to rounding.

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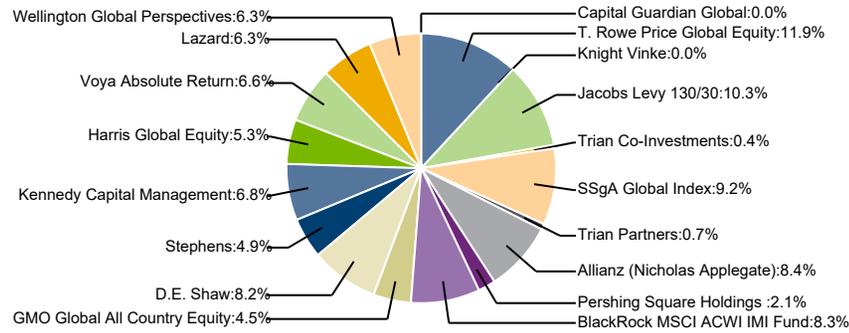


Total Equity

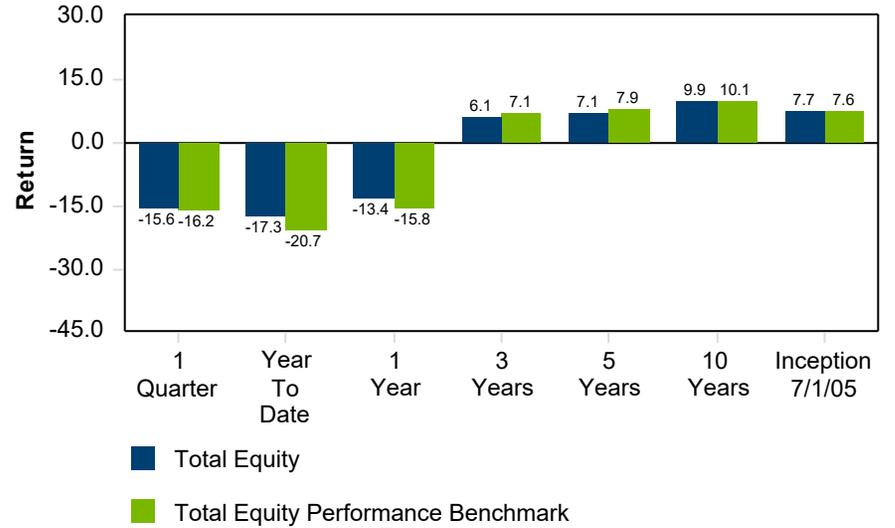
Total Equity Portfolio Overview

Current Allocation

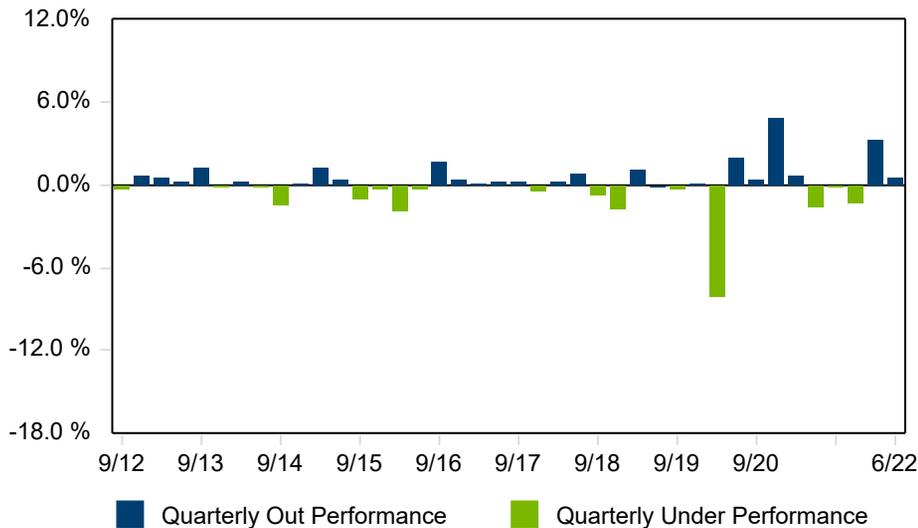
June 30, 2022 : \$10,145M



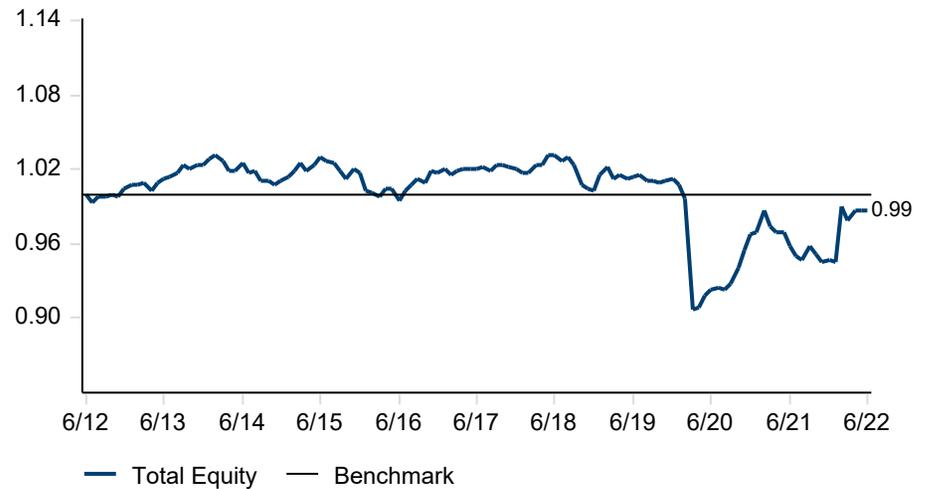
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - 10 Years

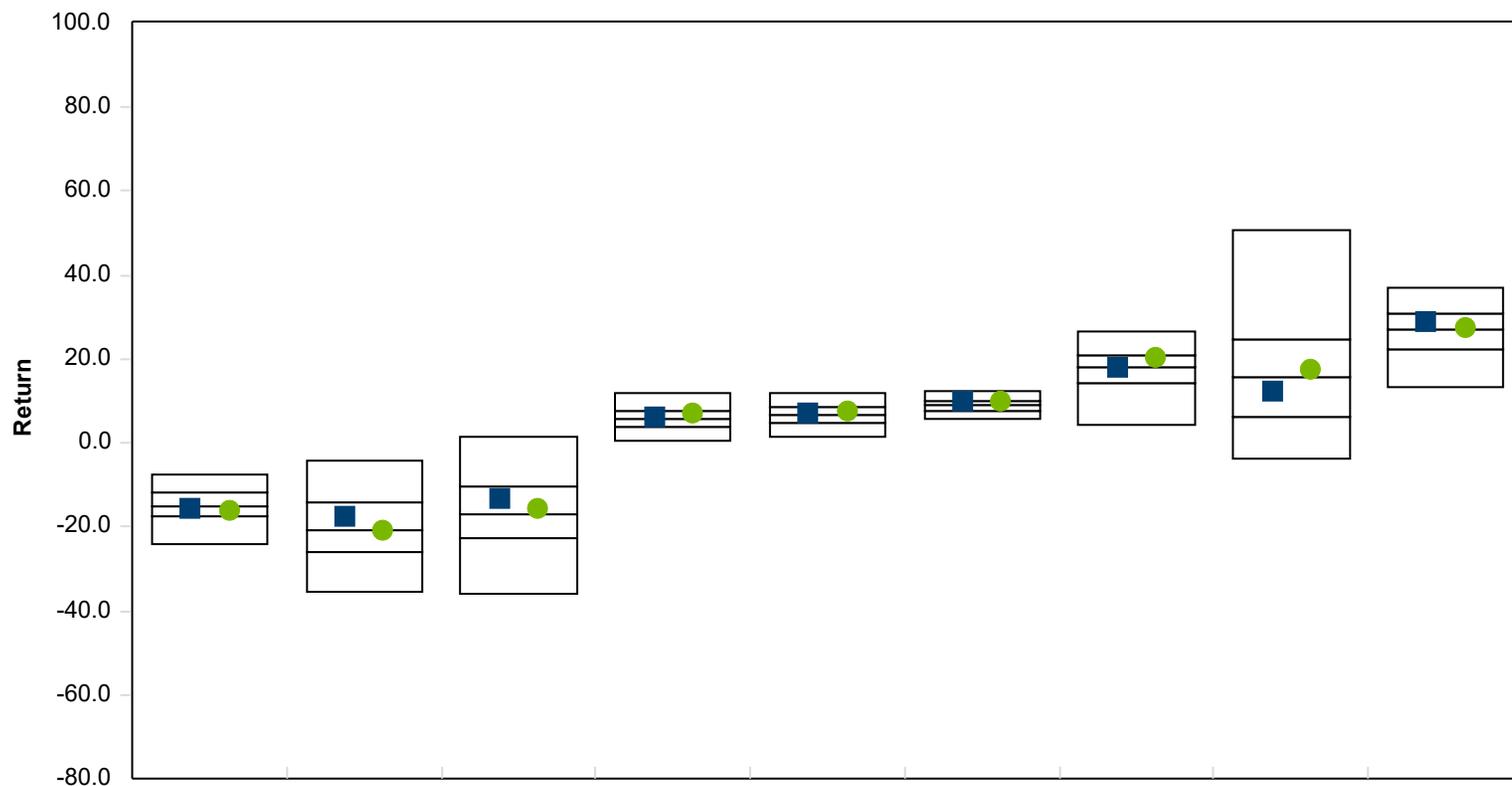


The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 151 of this report.

As of June 30, 2022

Peer Group Analysis

IM Global Equity (SA+CF)

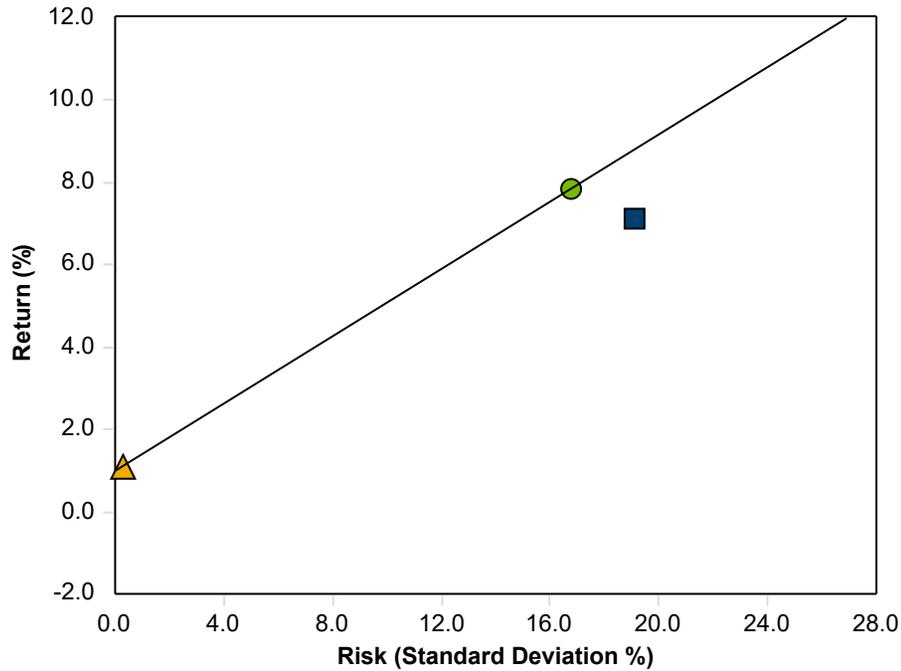


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Total Equity	-15.6 (57)	-17.3 (36)	-13.4 (34)	6.1 (44)	7.1 (41)	9.9 (30)	17.9 (52)	12.4 (60)	29.0 (38)
● Total Equity Performance Benchmark	-16.2 (63)	-20.7 (50)	-15.8 (45)	7.1 (32)	7.9 (30)	10.1 (27)	20.5 (28)	17.6 (43)	27.8 (45)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	12.5	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	10.2	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	9.0	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	7.7	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	5.6	4.5	-3.6	13.1
Population	383	381	378	354	323	215	388	412	428

Parenteses contain percentile rankings.

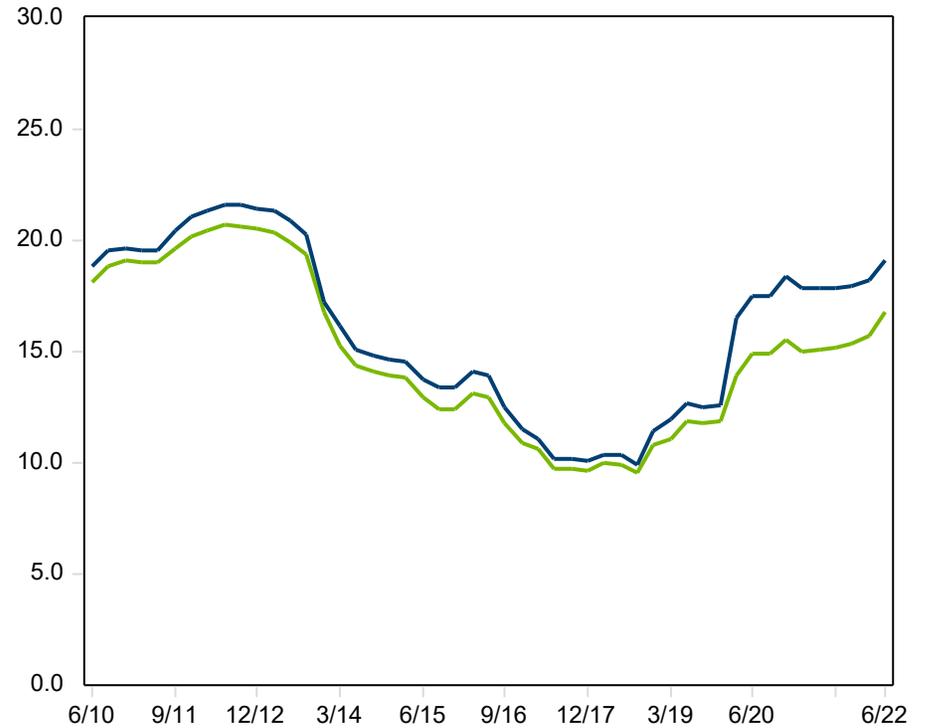
Total Equity Risk Profile

**Annualized Return vs. Annualized Standard Deviation
5 Years**



- Total Equity
- Total Equity Performance Benchmark
- ▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



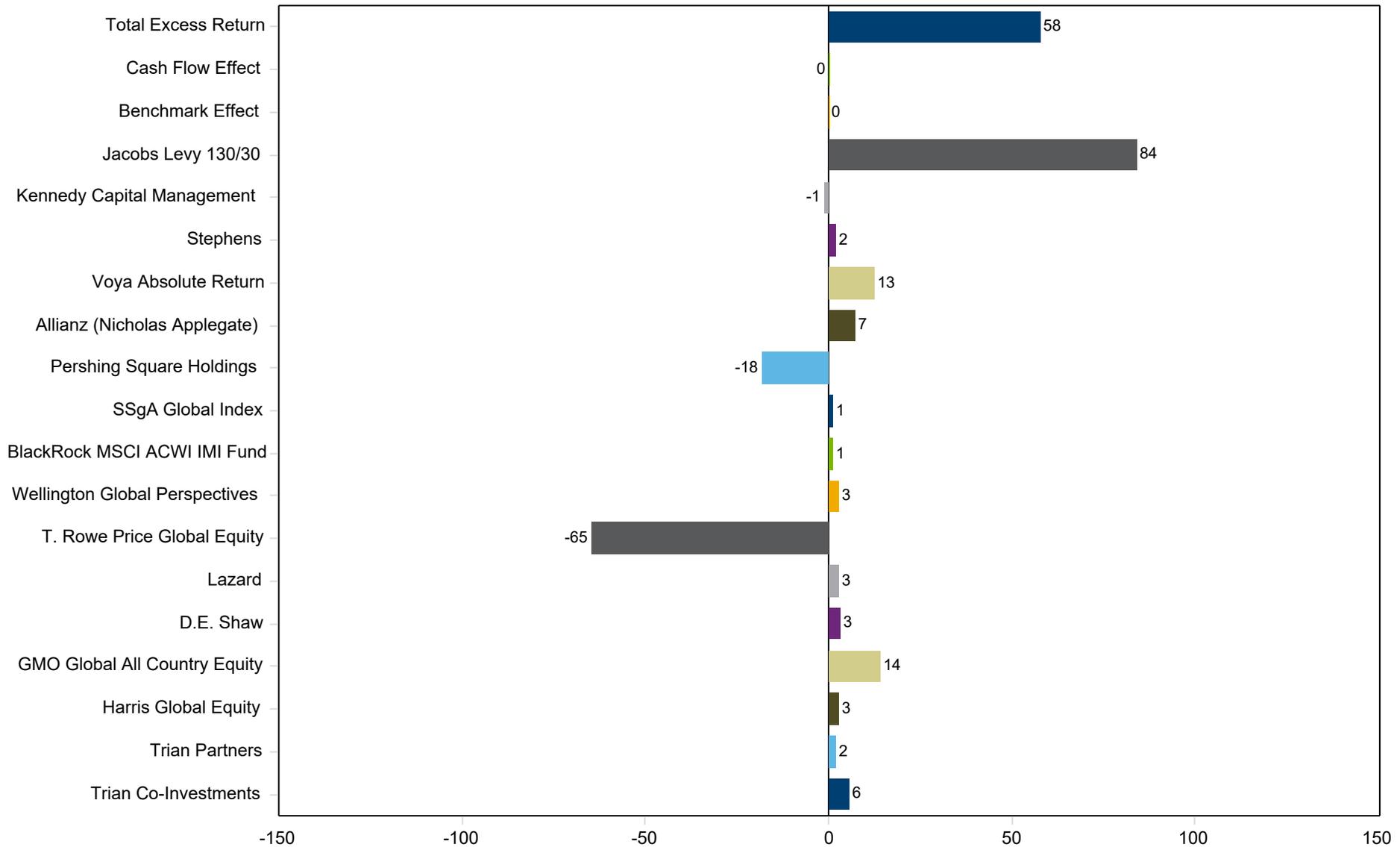
- Total Equity
- Total Equity Performance Benchmark

5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Total Equity	-0.23	4.69	-0.05	0.95	0.40	-1.19	1.11	7.12	19.10	0.97
Total Equity Performance Benchmark	0.00	0.00	N/A	1.00	0.47	0.00	1.00	7.87	16.80	1.00
FTSE 3 Month T-Bill	-7.92	16.84	-0.47	0.01	N/A	1.10	0.00	1.09	0.26	-0.12

Asset Class Attribution

1 Quarter

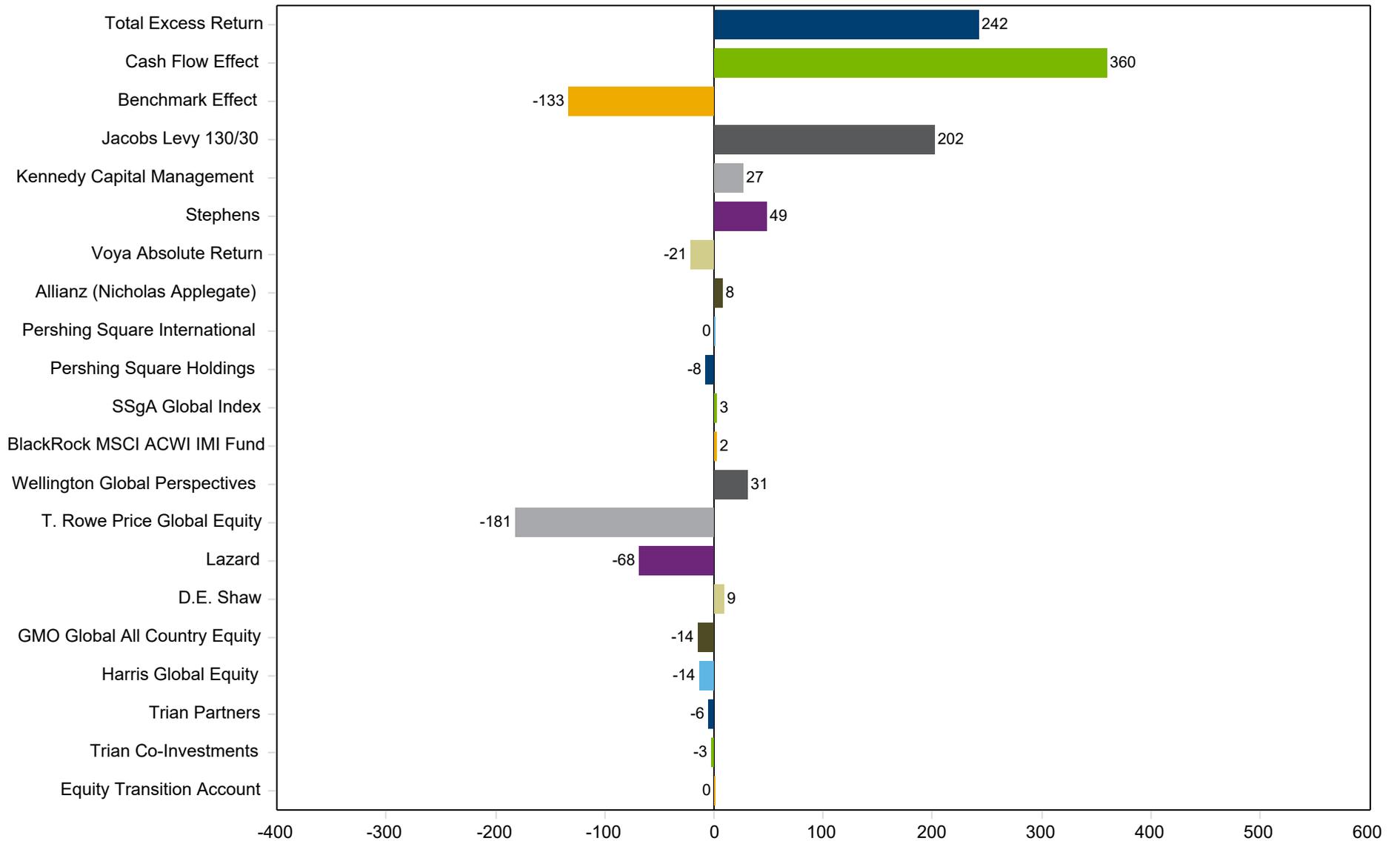


150

Large Cash Flow Effect due to the Allianz Secutiry Litigation Income received on 2/28/2022.

Asset Class Attribution

1 Year

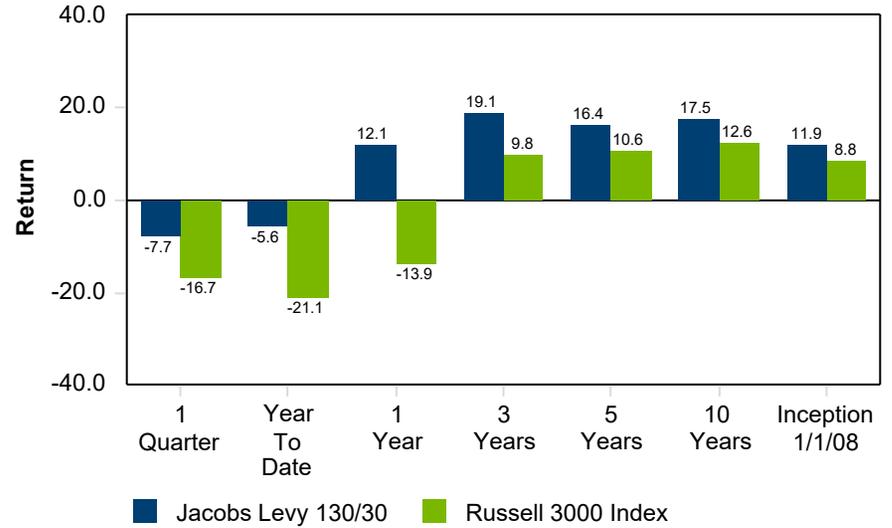


Jacobs Levy 130/30 Performance Summary

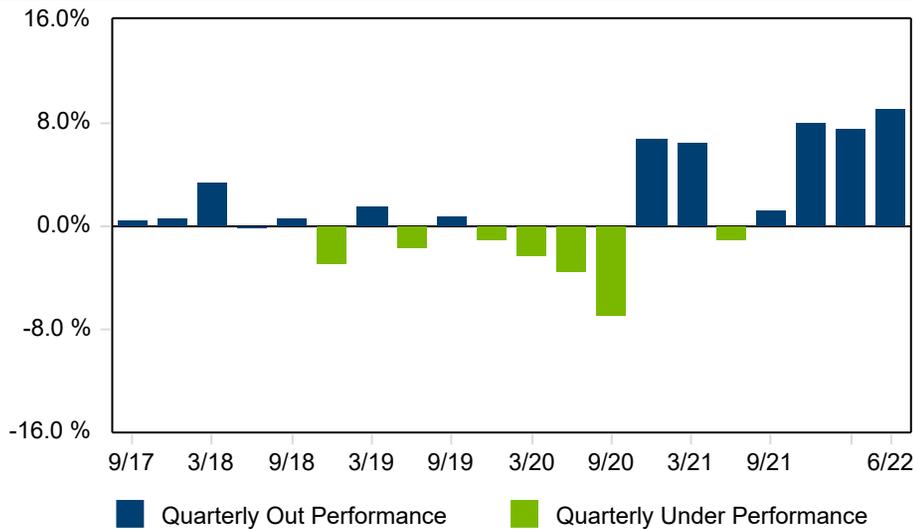
Account Information

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)

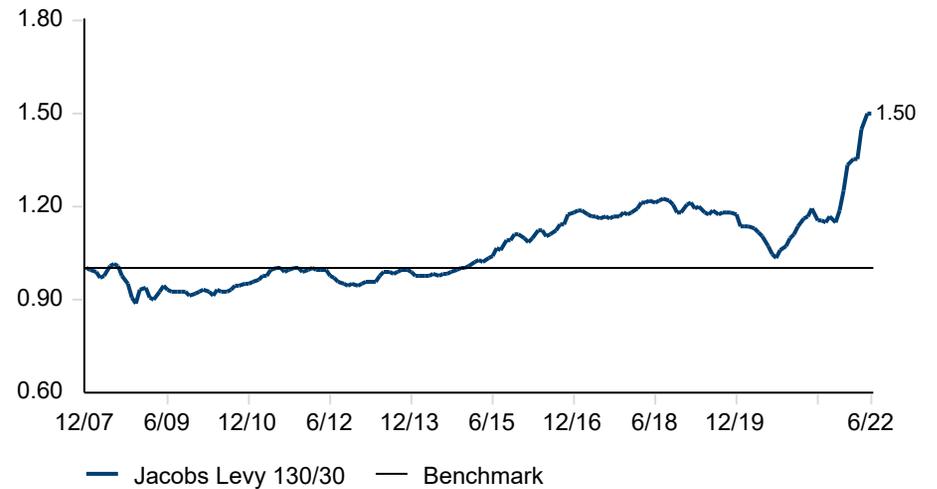
Return Summary



Quarterly Excess Performance

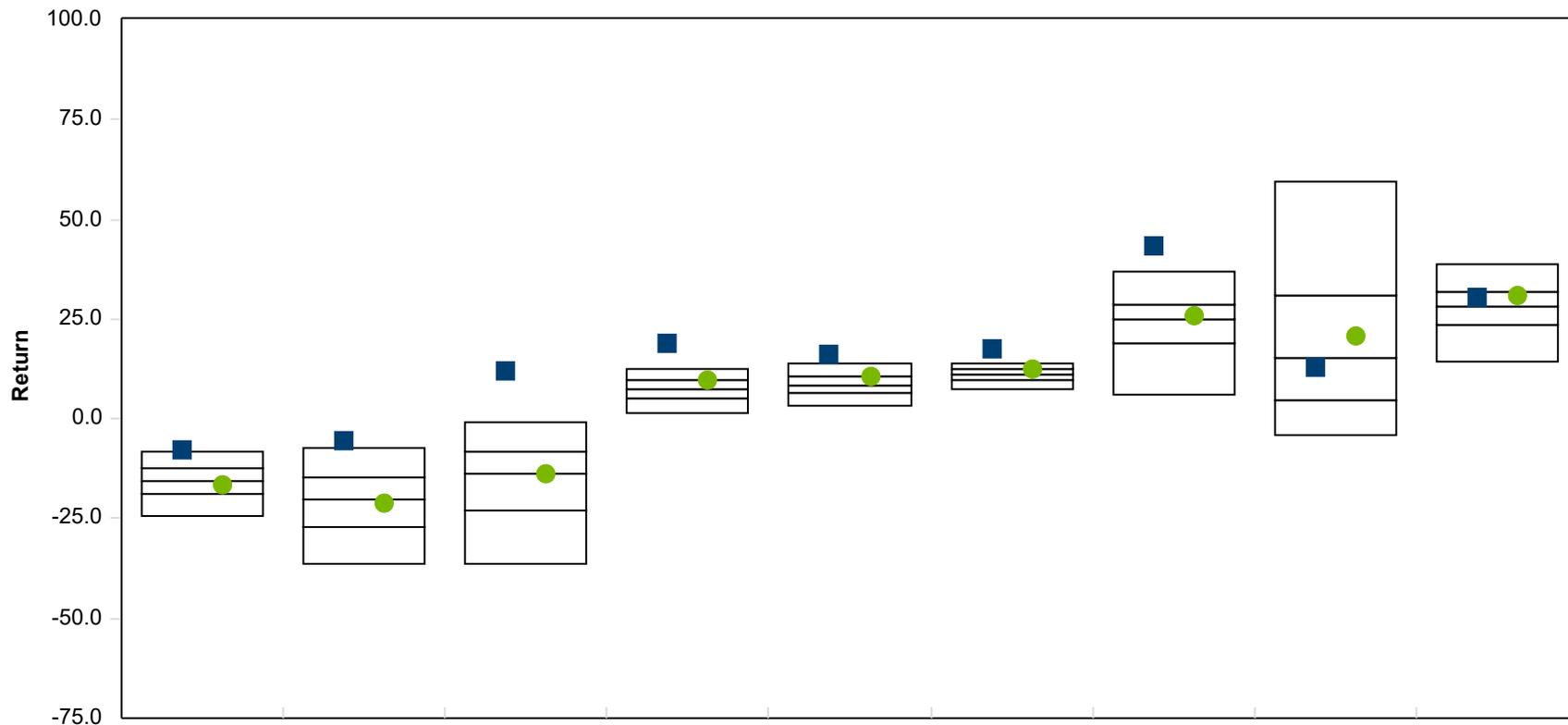


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

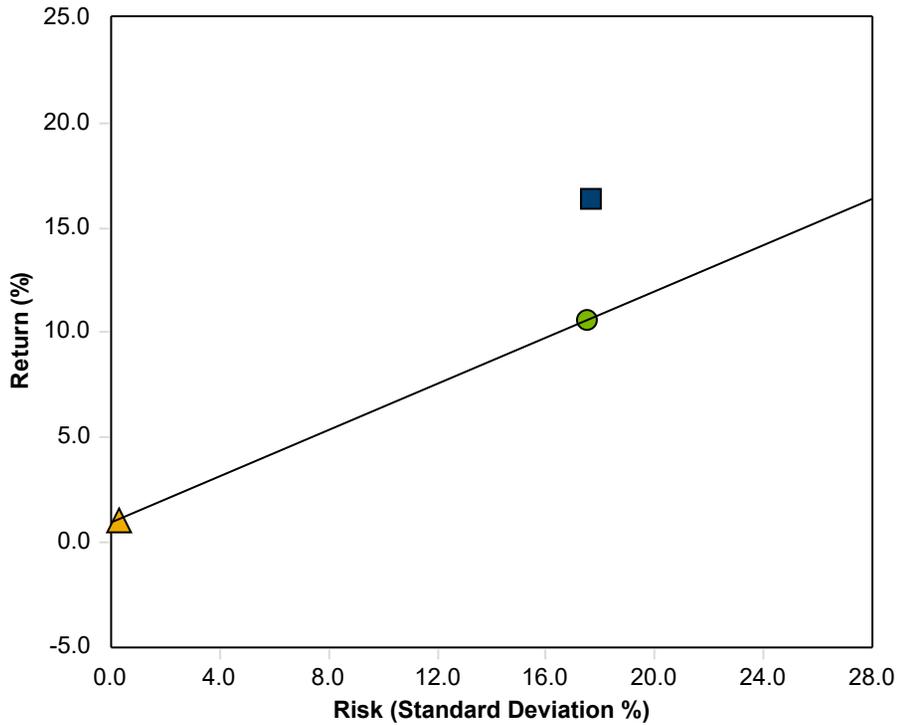


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Jacobs Levy 130/30	-7.7 (3)	-5.6 (4)	12.1 (1)	19.1 (1)	16.4 (2)	17.5 (1)	43.5 (2)	13.2 (55)	30.2 (35)
● Russell 3000 Index	-16.7 (63)	-21.1 (56)	-13.9 (50)	9.8 (23)	10.6 (26)	12.6 (21)	25.7 (44)	20.9 (38)	31.0 (30)
5th Percentile	-8.4	-7.4	-0.9	12.5	13.9	14.1	36.9	59.5	38.9
1st Quartile	-12.2	-14.5	-8.4	9.6	10.6	12.3	28.7	31.1	31.8
Median	-15.4	-20.0	-13.9	7.6	8.4	11.1	24.8	15.3	28.0
3rd Quartile	-18.8	-27.2	-22.9	5.3	6.3	9.8	18.9	4.8	23.5
95th Percentile	-24.5	-36.1	-36.5	1.3	3.4	7.5	6.0	-4.2	14.4
Population	1,664	1,657	1,652	1,588	1,475	1,186	1,719	1,846	1,949

parentheses contain percentile rankings.

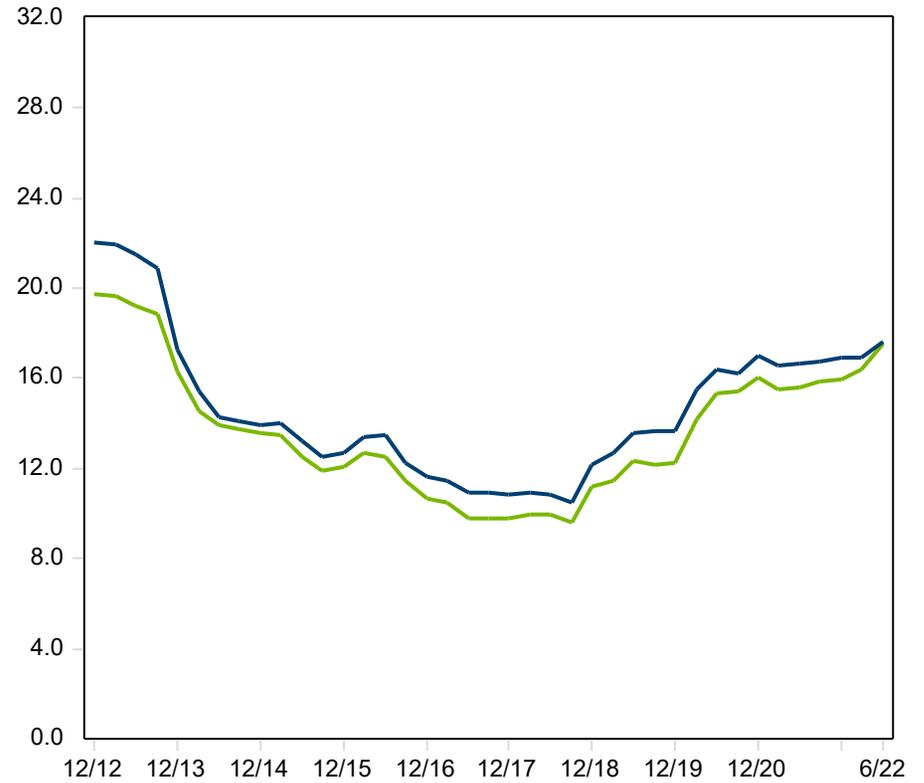
Jacobs Levy 130/30 Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



- Jacobs Levy 130/30
- Russell 3000 Index
- ▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



- Jacobs Levy 130/30
- Russell 3000 Index

5 Years Historical Statistics

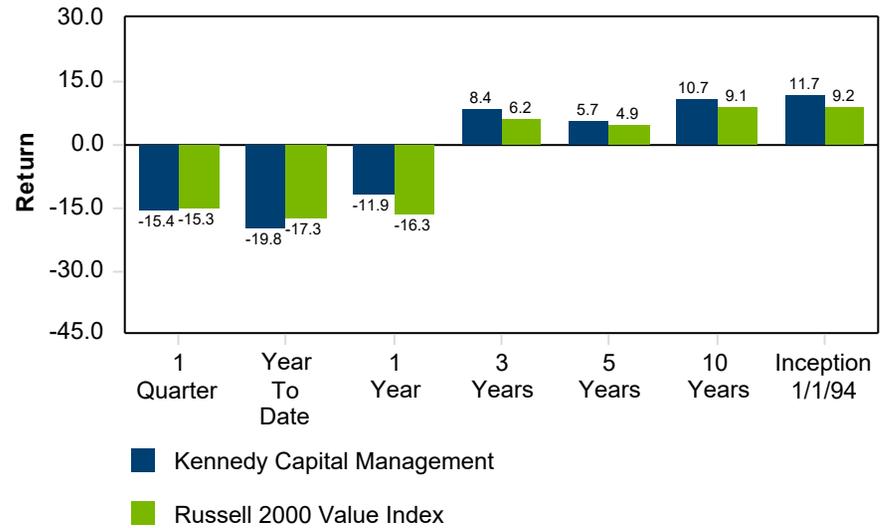
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Jacobs Levy 130/30	5.18	6.86	0.75	0.85	0.89	6.17	0.93	16.40	17.64	0.92
Russell 3000 Index	0.00	0.00	N/A	1.00	0.60	0.00	1.00	10.60	17.53	1.00
FTSE 3 Month T-Bill	-10.56	17.56	-0.60	0.01	N/A	1.11	0.00	1.09	0.26	-0.10

Kennedy Capital Management Performance Summary

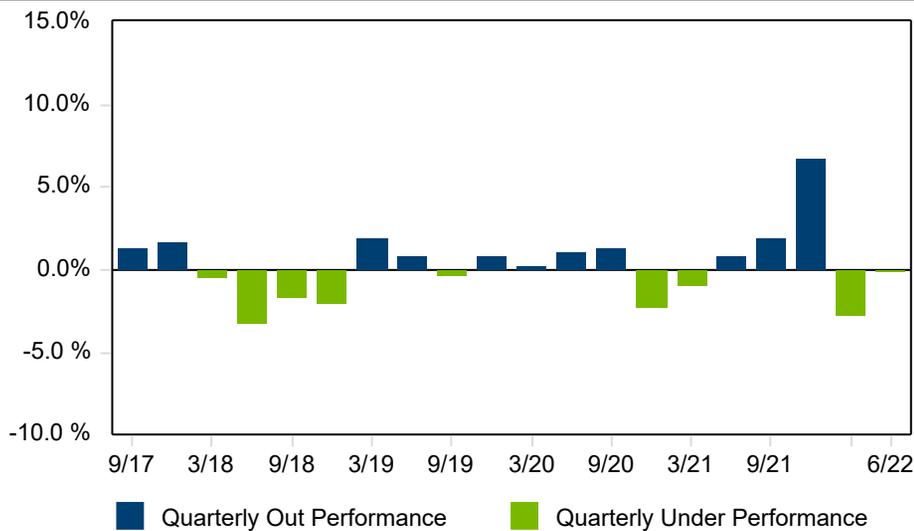
Account Information

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)

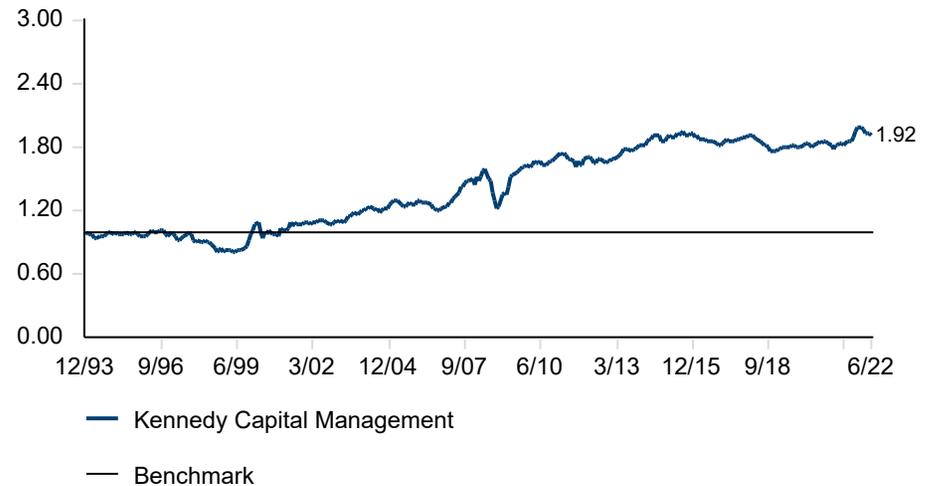
Return Summary



Quarterly Excess Performance

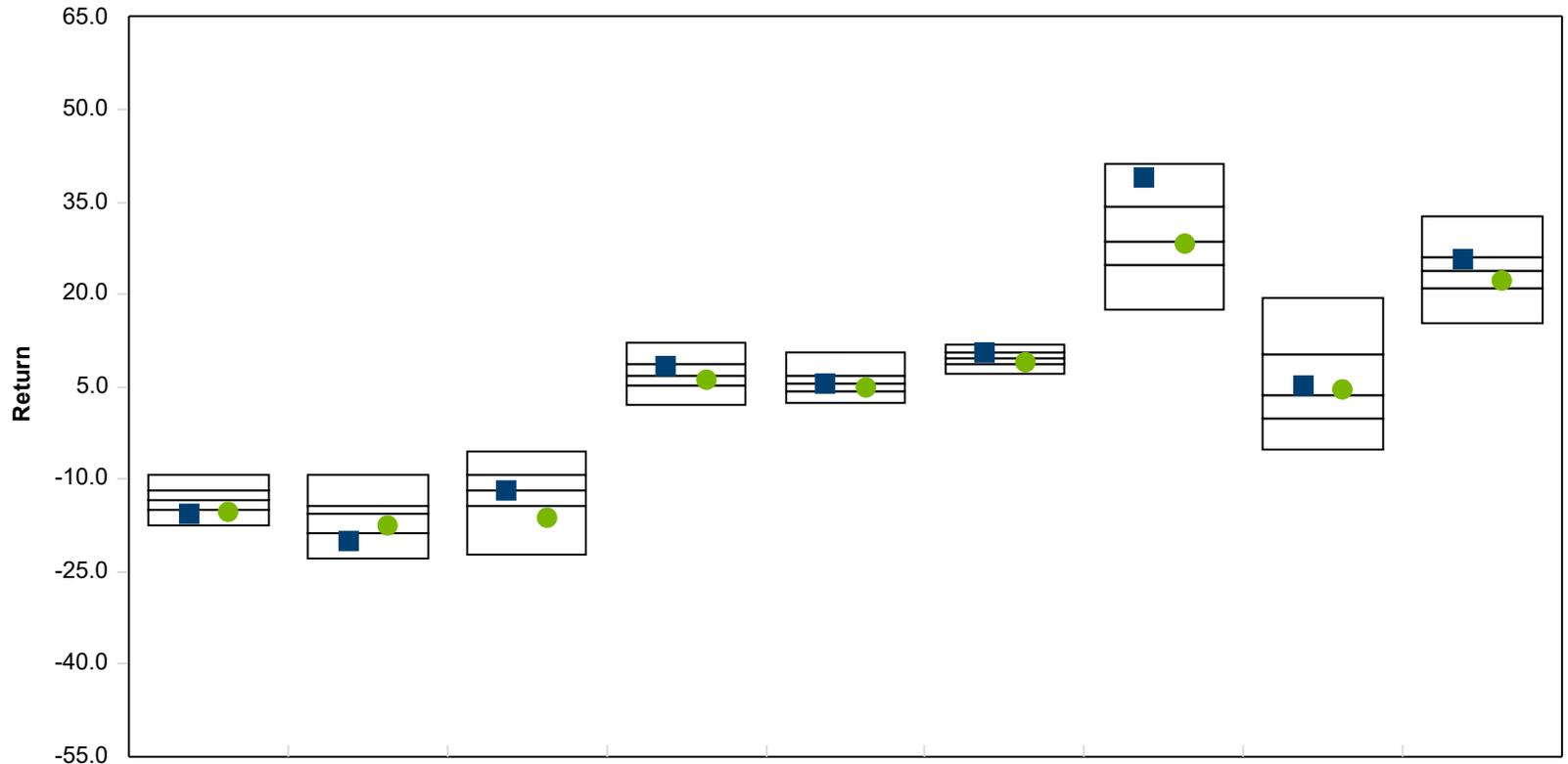


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Small Cap Value Equity (SA+CF)

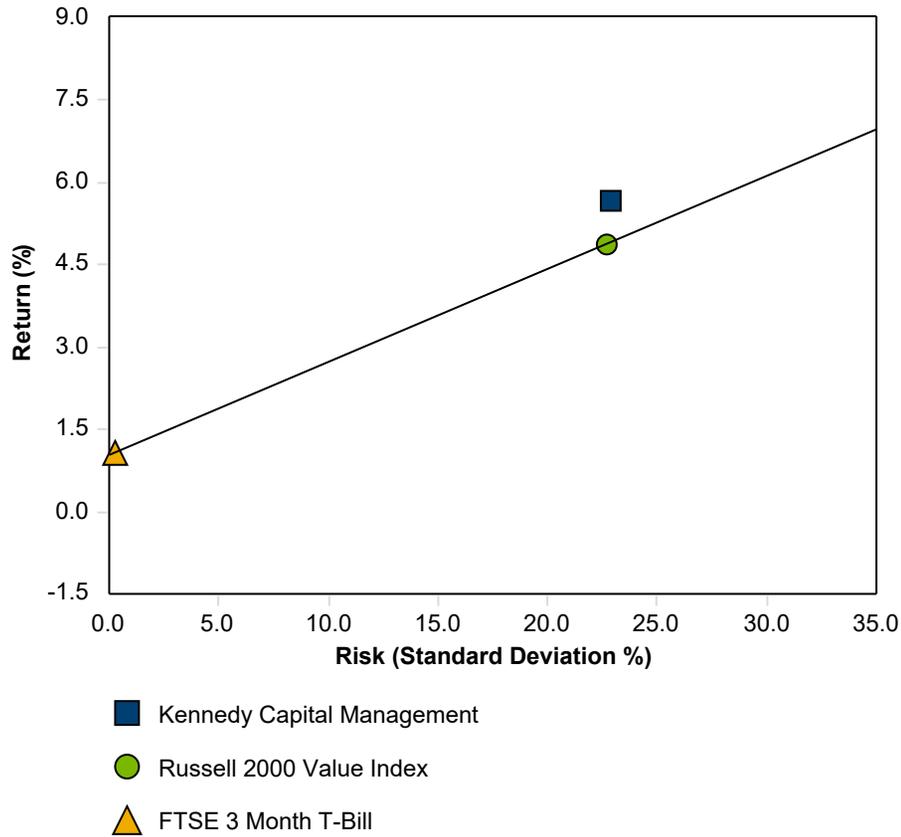


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Kennedy Capital Management	-15.4 (80)	-19.8 (89)	-11.9 (56)	8.4 (31)	5.7 (47)	10.7 (21)	39.2 (11)	5.4 (43)	25.9 (30)
● Russell 2000 Value Index	-15.3 (79)	-17.3 (64)	-16.3 (84)	6.2 (61)	4.9 (66)	9.1 (69)	28.3 (53)	4.6 (47)	22.4 (64)
5th Percentile	-9.1	-9.3	-5.6	12.3	10.7	12.1	41.3	19.5	32.8
1st Quartile	-11.8	-14.2	-9.3	8.7	7.0	10.5	34.3	10.4	26.2
Median	-13.4	-15.6	-11.6	6.9	5.5	9.8	28.8	3.8	24.0
3rd Quartile	-15.1	-18.7	-14.2	5.2	4.4	8.8	24.9	0.0	21.0
95th Percentile	-17.6	-22.8	-22.0	2.0	2.4	7.3	17.8	-5.1	15.4
Population	150	150	149	146	140	119	160	170	176

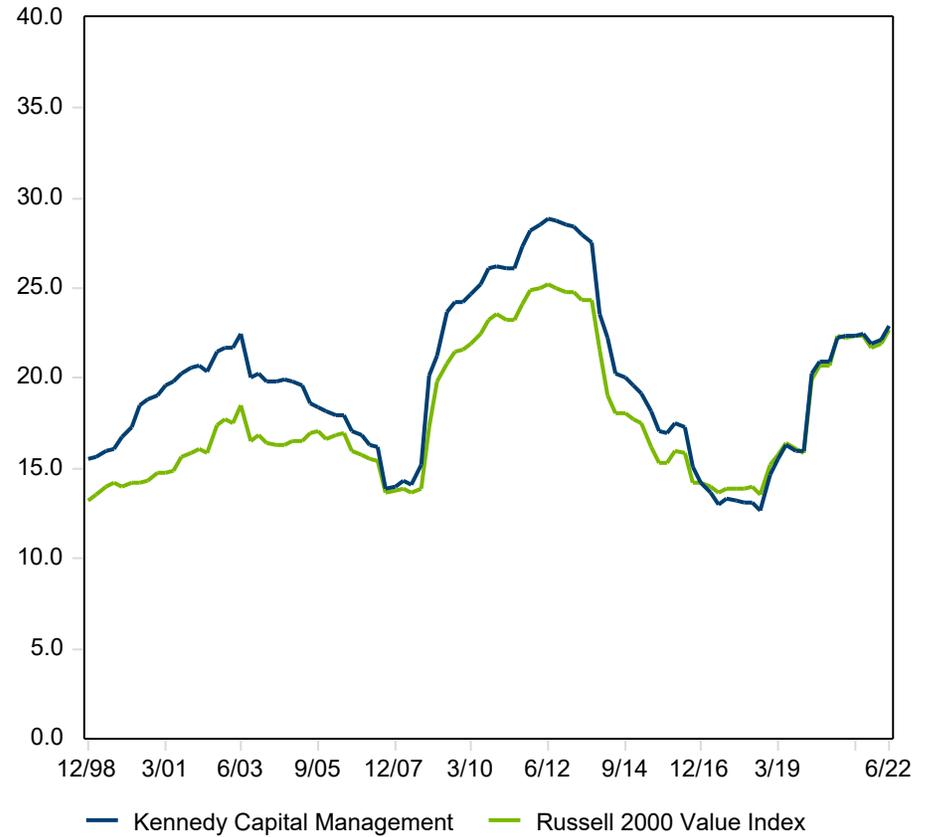
parentheses contain percentile rankings.

Kennedy Capital Management Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

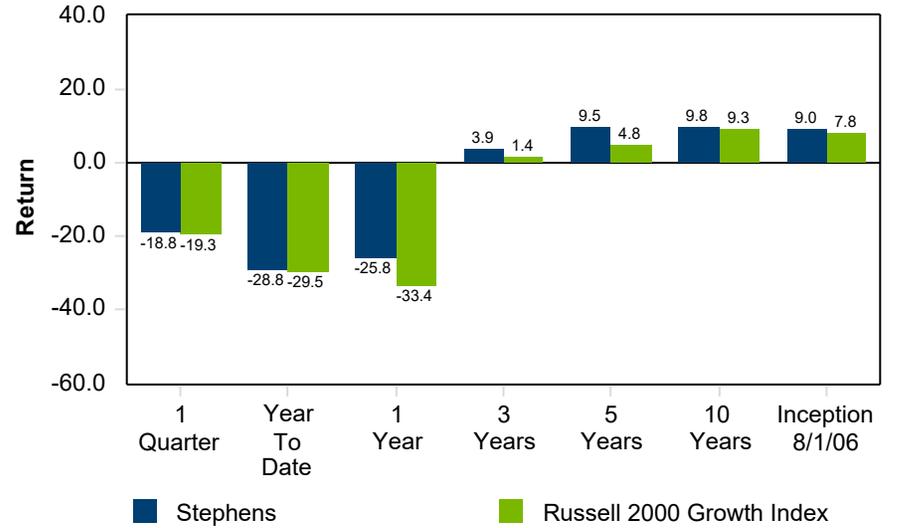
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Kennedy Capital Management	0.80	3.82	0.21	0.97	0.31	0.85	0.99	5.66	22.88	0.99
Russell 2000 Value Index	0.00	0.00	N/A	1.00	0.28	0.00	1.00	4.89	22.68	1.00
FTSE 3 Month T-Bill	-6.33	22.73	-0.28	0.04	N/A	1.10	0.00	1.09	0.26	-0.19

Stephens Performance Summary

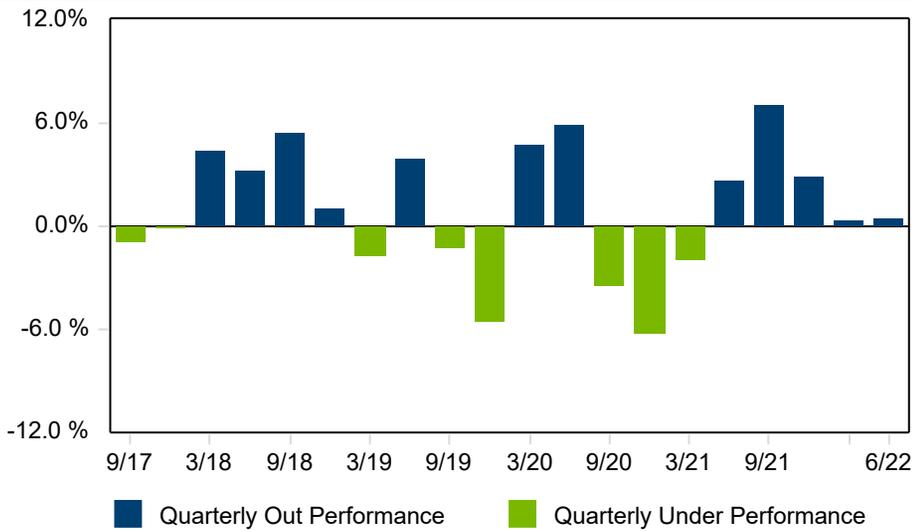
Account Information

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)

Return Summary



Quarterly Excess Performance

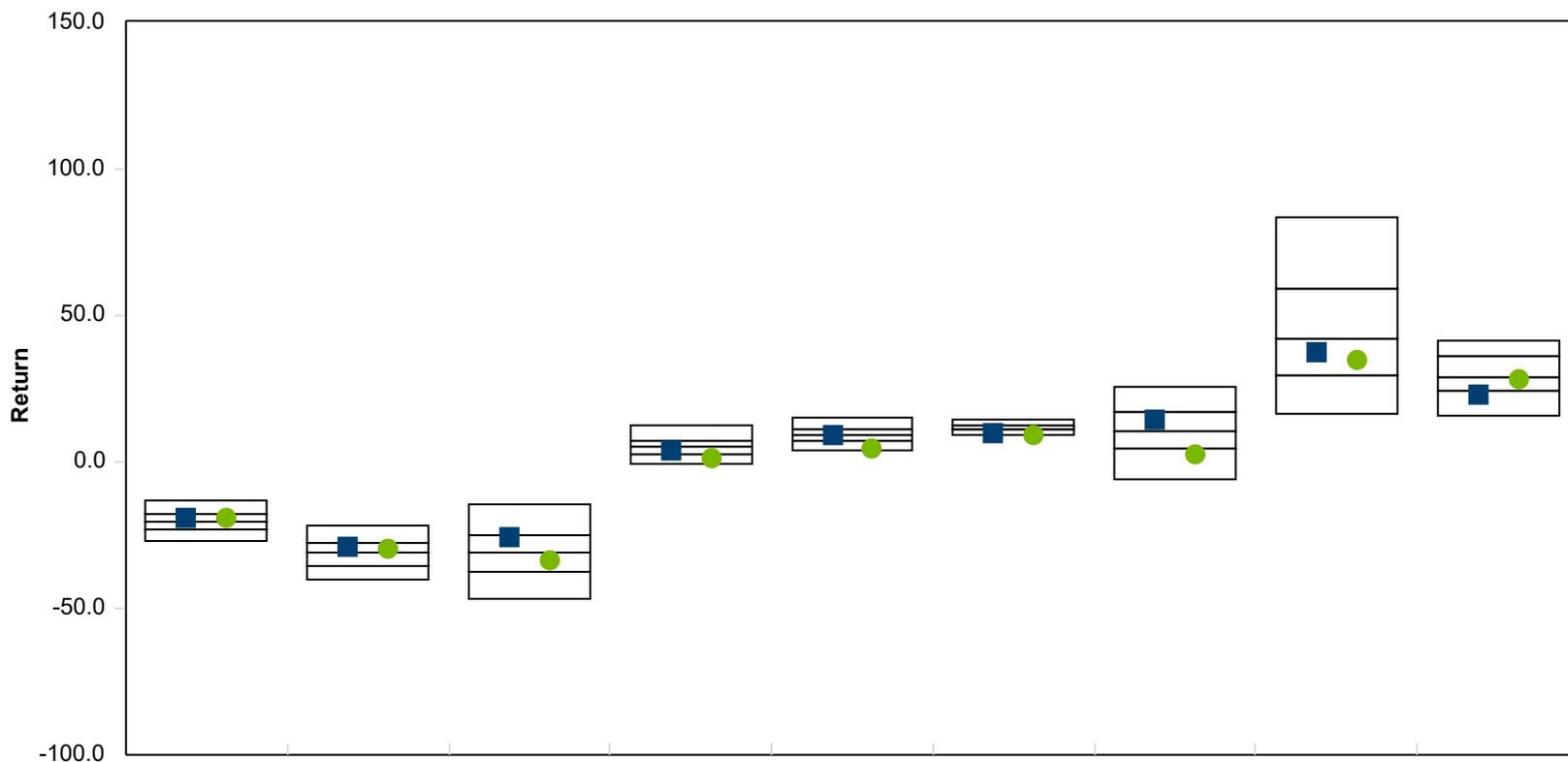


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Small Cap Growth Equity (SA+CF)

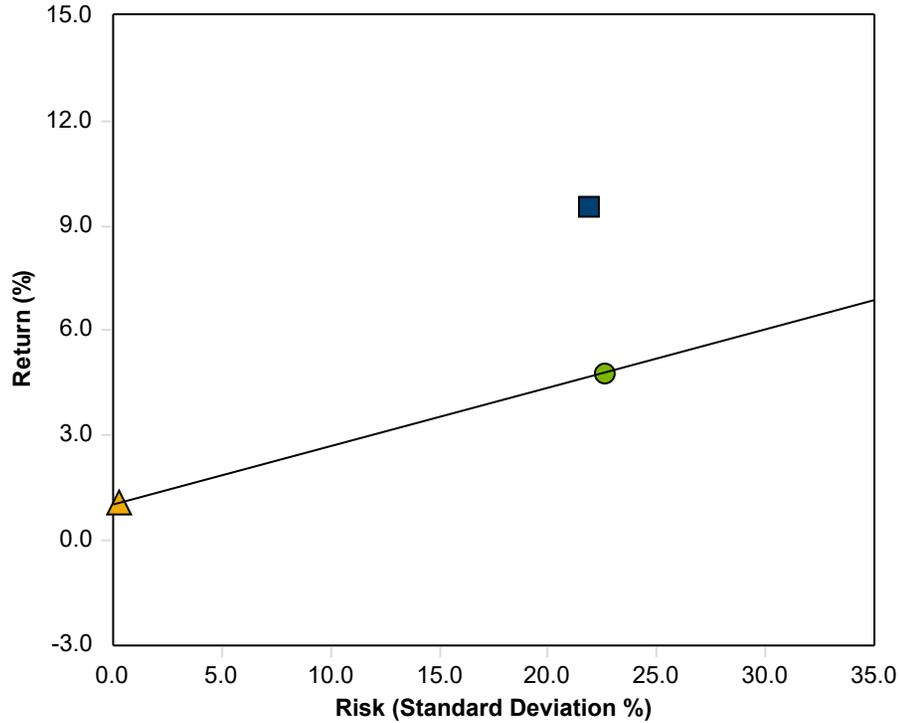


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Stephens	-18.8 (38)	-28.8 (37)	-25.8 (31)	3.9 (61)	9.5 (52)	9.8 (93)	14.3 (42)	37.8 (62)	23.2 (80)
● Russell 2000 Growth Index	-19.3 (43)	-29.5 (40)	-33.4 (62)	1.4 (88)	4.8 (95)	9.3 (95)	2.8 (83)	34.6 (66)	28.5 (52)
5th Percentile	-12.9	-21.4	-14.5	12.7	15.3	14.5	25.8	83.2	41.6
1st Quartile	-17.5	-27.4	-24.8	7.5	11.4	12.6	17.0	59.2	36.3
Median	-20.6	-31.0	-30.9	5.2	9.5	11.4	10.8	41.9	28.9
3rd Quartile	-22.9	-35.6	-37.8	2.7	7.4	10.9	4.8	29.6	24.1
95th Percentile	-26.8	-40.0	-46.4	-0.8	4.2	9.1	-6.0	16.6	16.0
Population	116	116	116	112	107	91	120	127	134

parentheses contain percentile rankings.

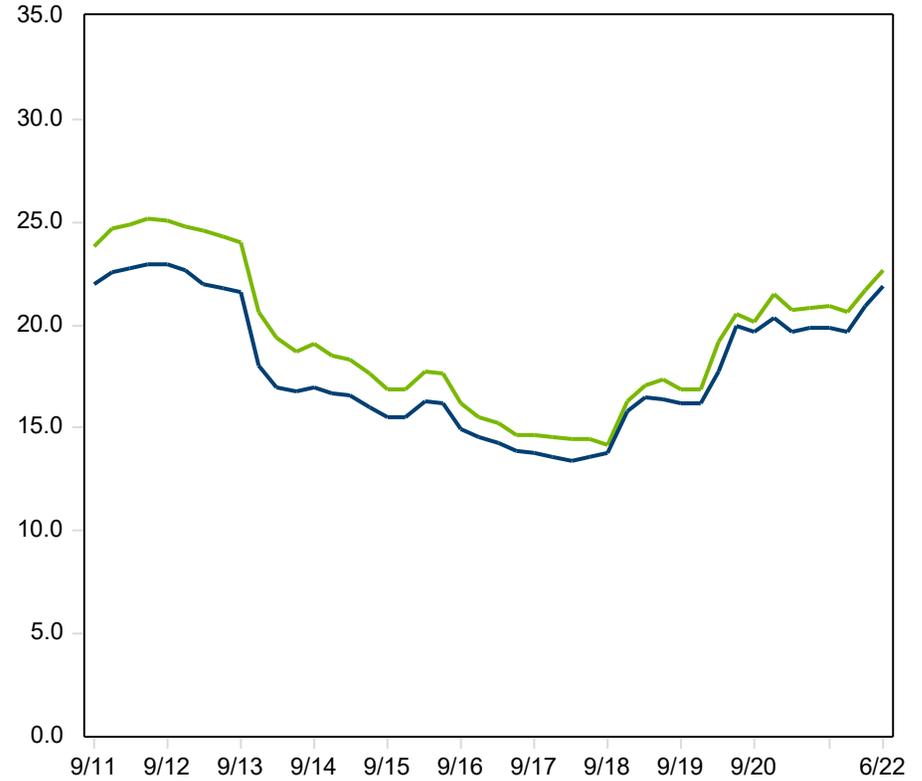
Stephens Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Stephens ● Russell 2000 Growth Index
 ▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



— Stephens — Russell 2000 Growth Index

5 Years Historical Statistics

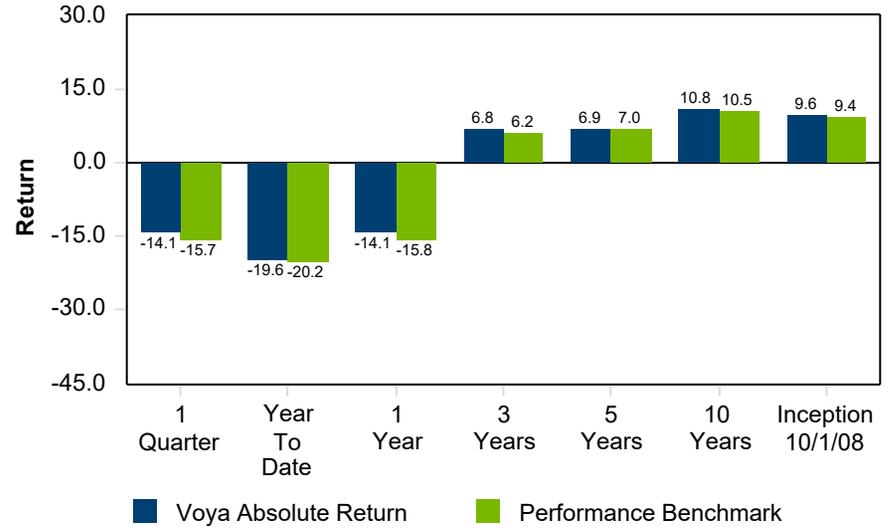
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Stephens	4.23	6.53	0.65	0.92	0.48	4.88	0.93	9.52	21.89	0.96
Russell 2000 Growth Index	0.00	0.00	N/A	1.00	0.27	0.00	1.00	4.80	22.65	1.00
FTSE 3 Month T-Bill	-6.19	22.67	-0.27	0.00	N/A	1.09	0.00	1.09	0.26	-0.07

Voya Absolute Return Performance Summary

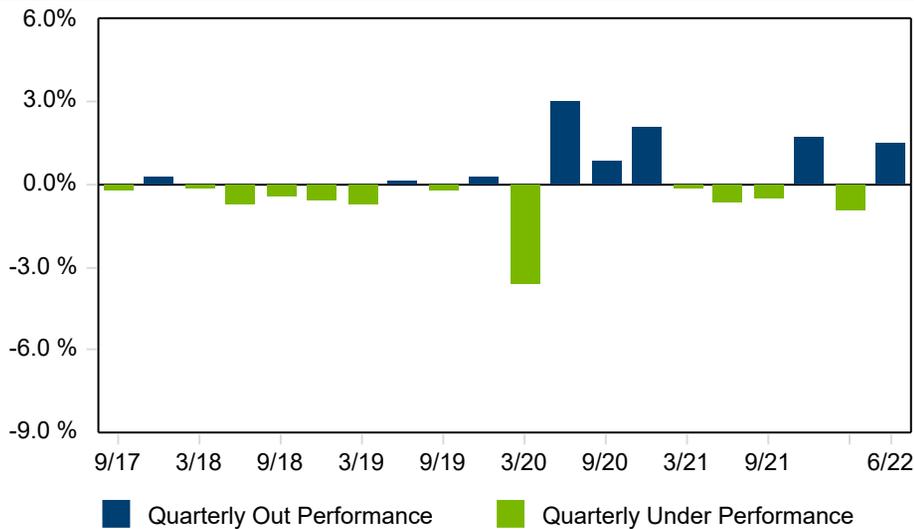
Account Information

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)

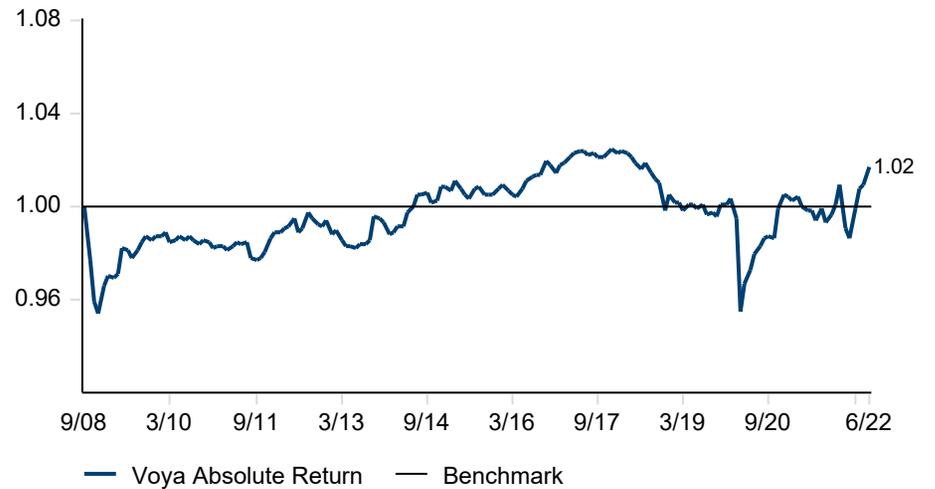
Return Summary



Quarterly Excess Performance

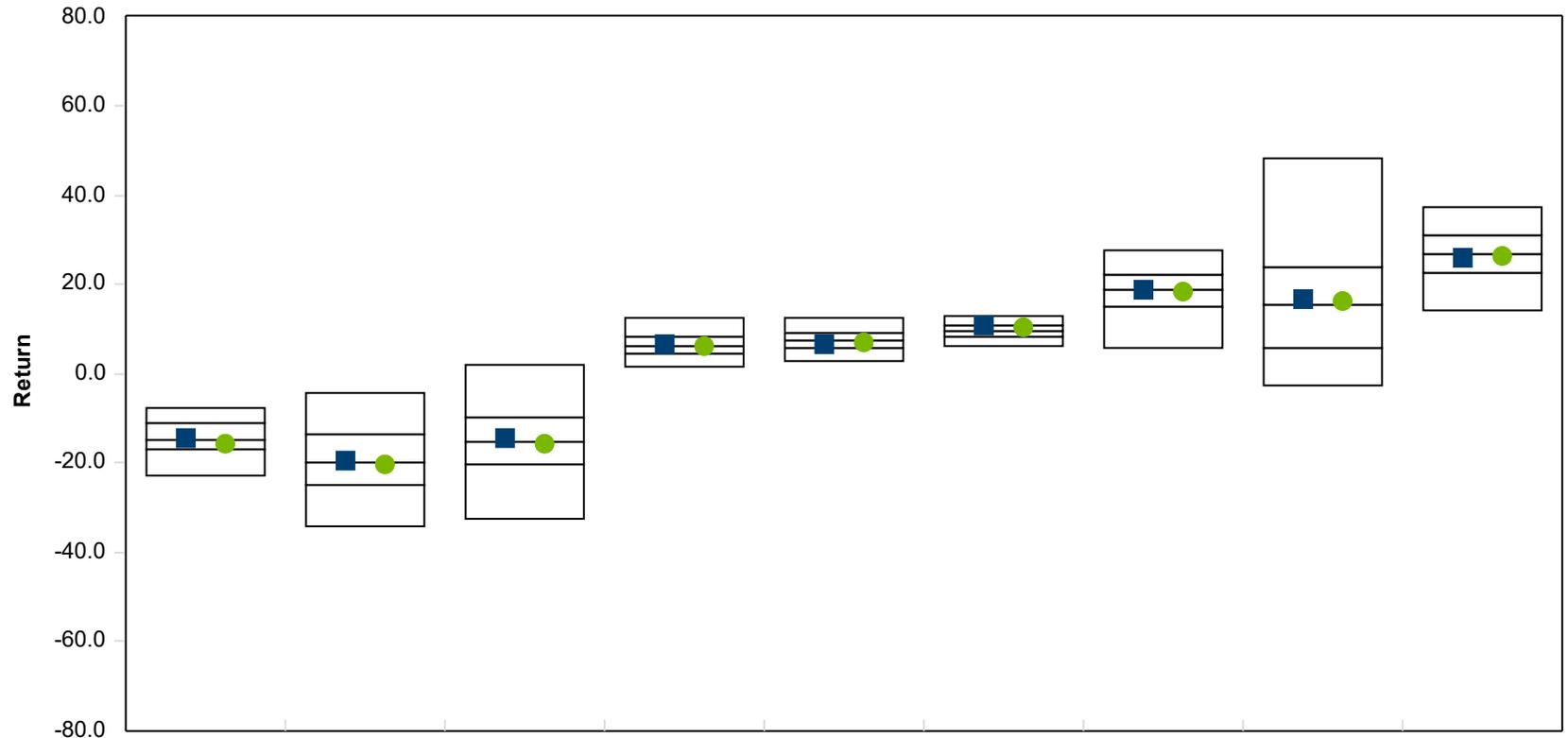


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

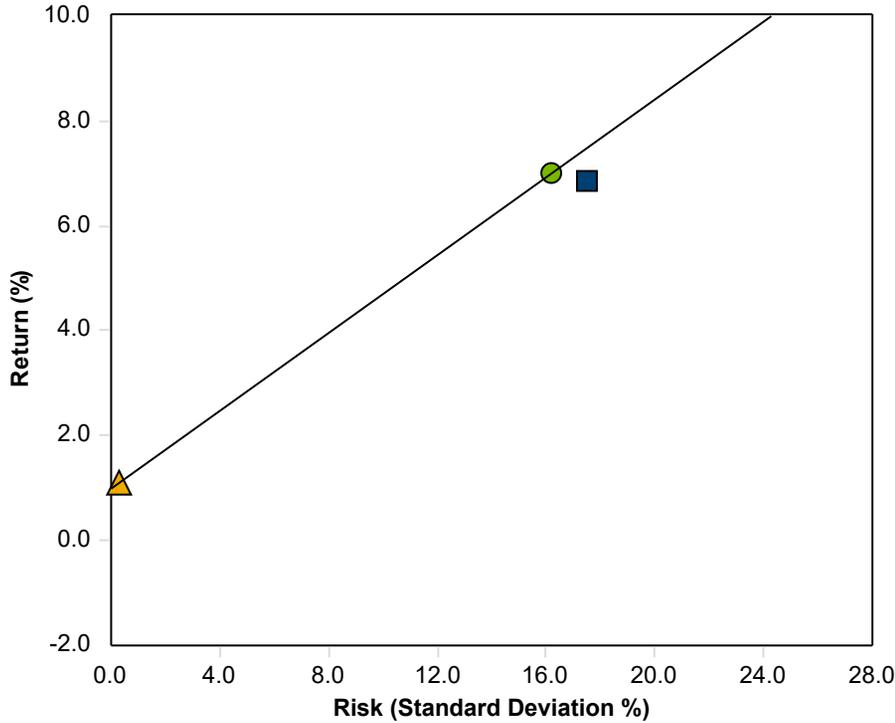


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Voya Absolute Return	-14.1 (44)	-19.6 (50)	-14.1 (46)	6.8 (45)	6.9 (58)	10.8 (24)	19.0 (51)	16.8 (46)	26.0 (59)
● Performance Benchmark	-15.7 (64)	-20.2 (53)	-15.8 (53)	6.2 (54)	7.0 (57)	10.5 (31)	18.5 (55)	16.3 (48)	26.6 (54)
5th Percentile	-7.5	-4.3	2.2	12.5	12.7	13.2	27.7	48.5	37.5
1st Quartile	-11.1	-13.6	-9.7	8.6	9.2	10.7	22.3	24.2	31.1
Median	-14.9	-19.6	-15.2	6.5	7.4	9.7	19.1	15.7	26.9
3rd Quartile	-16.8	-24.8	-20.3	4.8	5.7	8.6	15.0	6.0	22.6
95th Percentile	-22.9	-34.3	-32.4	1.7	2.9	6.4	6.1	-2.5	14.4
Population	475	473	470	445	414	296	483	529	557

parentheses contain percentile rankings.

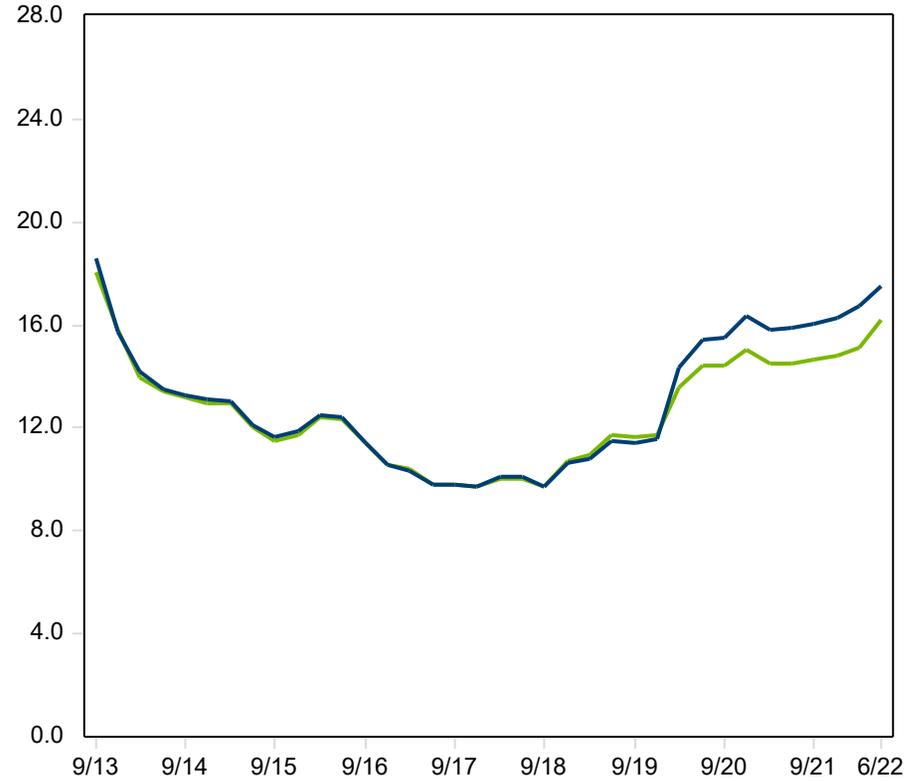
Voya Absolute Return Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Voya Absolute Return ● Performance Benchmark
▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



— Voya Absolute Return — Performance Benchmark

5 Years Historical Statistics

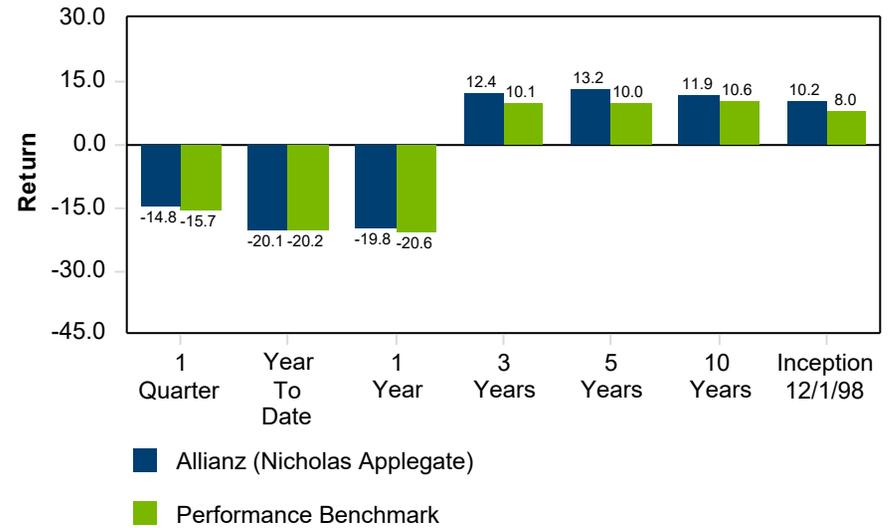
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Voya Absolute Return	0.11	2.47	0.04	0.98	0.41	-0.49	1.07	6.87	17.53	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	0.43	0.00	1.00	7.00	16.20	1.00
FTSE 3 Month T-Bill	-7.01	16.24	-0.43	0.01	N/A	1.10	0.00	1.09	0.26	-0.12

Allianz (Nicholas Applegate) Performance Summary

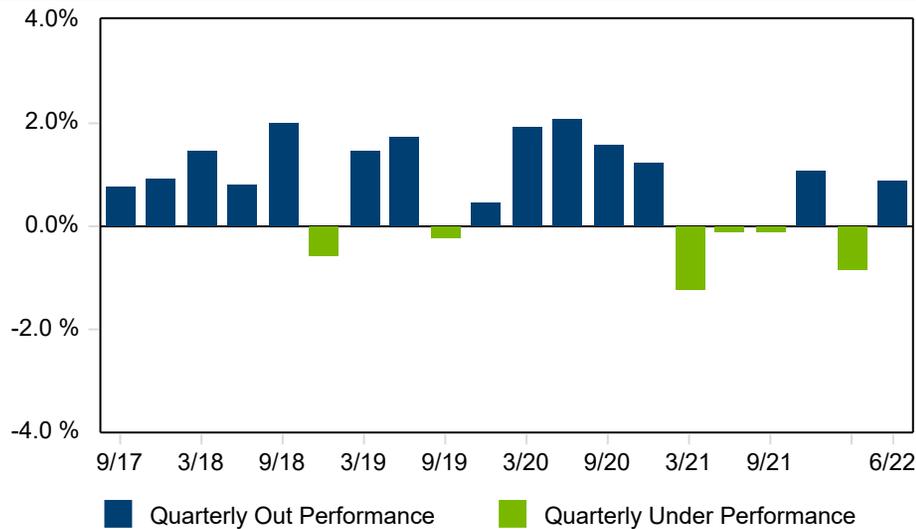
Account Information

Account Name: Allianz (Nicholas Applegate)
 Inception Date: 11/30/1998
 Account Structure: Separate Account
 Asset Class: US Equity
 Benchmark: Performance Benchmark
 Peer Group: IM U.S. Equity (SA+CF)

Return Summary



Quarterly Excess Performance

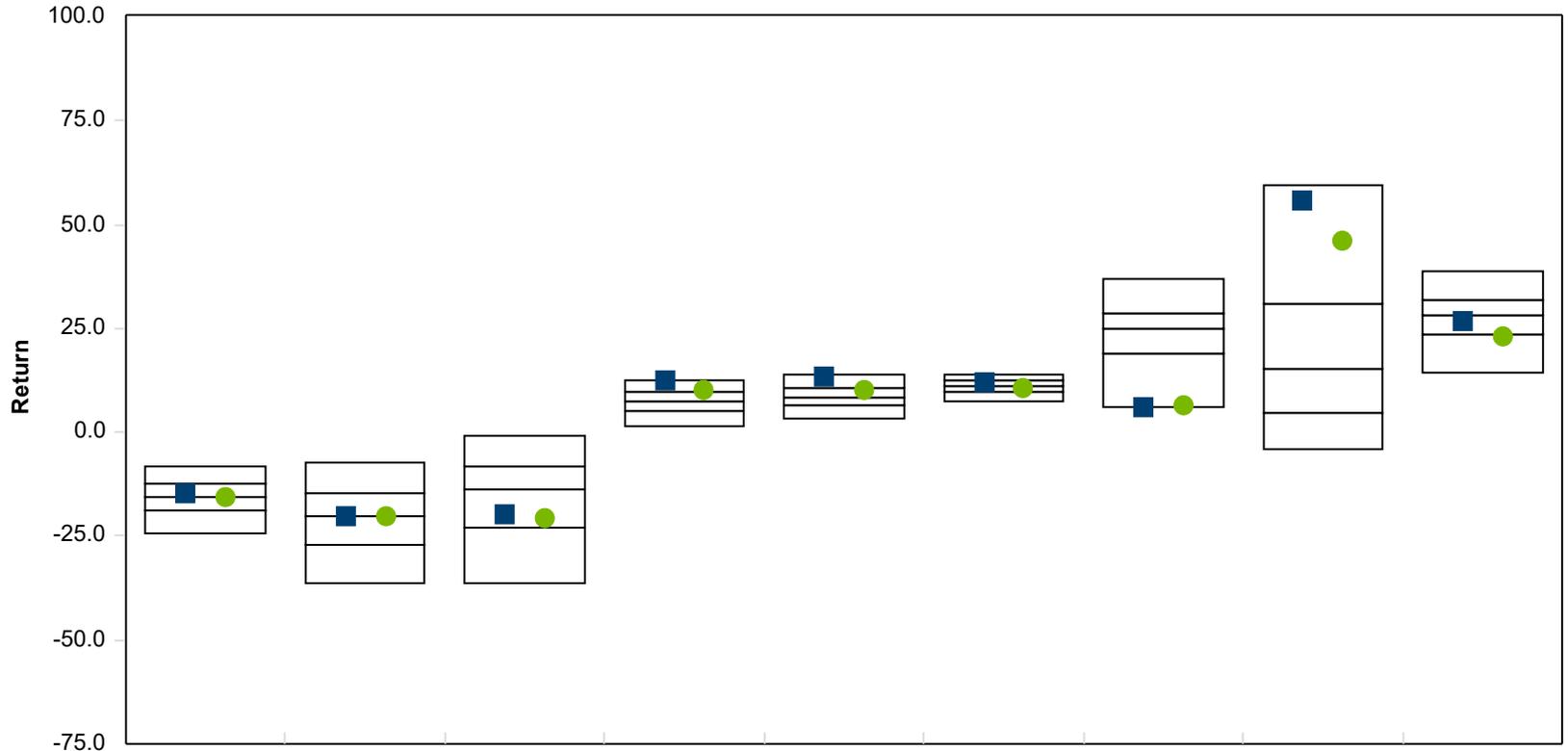


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

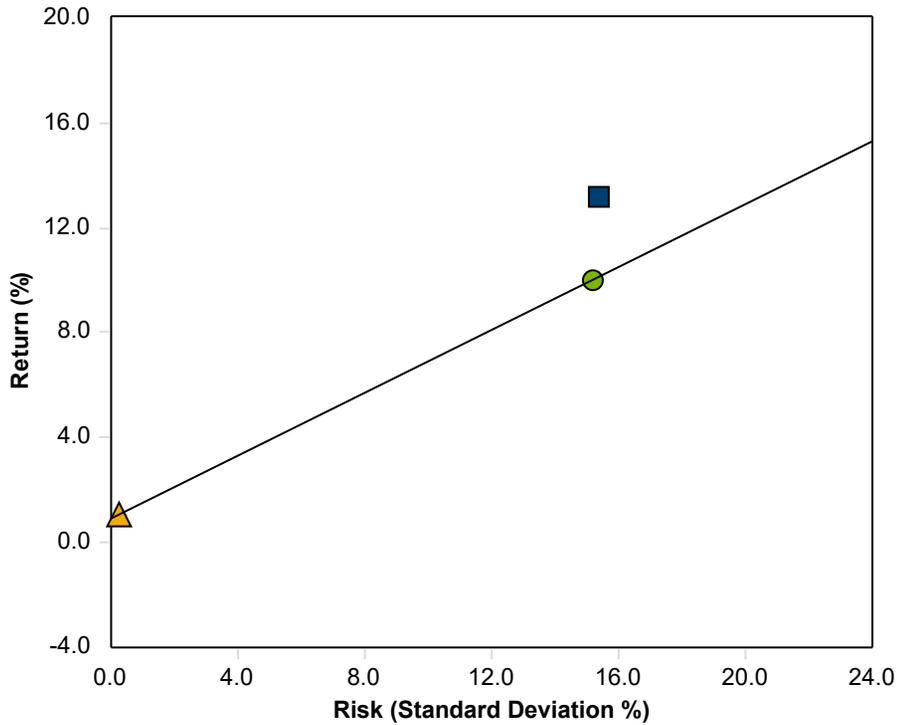


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Allianz (Nicholas Applegate)	-14.8 (45)	-20.1 (51)	-19.8 (67)	12.4 (6)	13.2 (7)	11.9 (35)	5.9 (96)	55.7 (6)	27.0 (56)
● Performance Benchmark	-15.7 (52)	-20.2 (52)	-20.6 (69)	10.1 (20)	10.0 (32)	10.6 (60)	6.3 (95)	46.2 (10)	23.1 (78)
5th Percentile	-8.4	-7.4	-0.9	12.5	13.9	14.1	36.9	59.5	38.9
1st Quartile	-12.2	-14.5	-8.4	9.6	10.6	12.3	28.7	31.1	31.8
Median	-15.4	-20.0	-13.9	7.6	8.4	11.1	24.8	15.3	28.0
3rd Quartile	-18.8	-27.2	-22.9	5.3	6.3	9.8	18.9	4.8	23.5
95th Percentile	-24.5	-36.1	-36.5	1.3	3.4	7.5	6.0	-4.2	14.4
Population	1,664	1,657	1,652	1,588	1,475	1,186	1,719	1,846	1,949

parentheses contain percentile rankings.

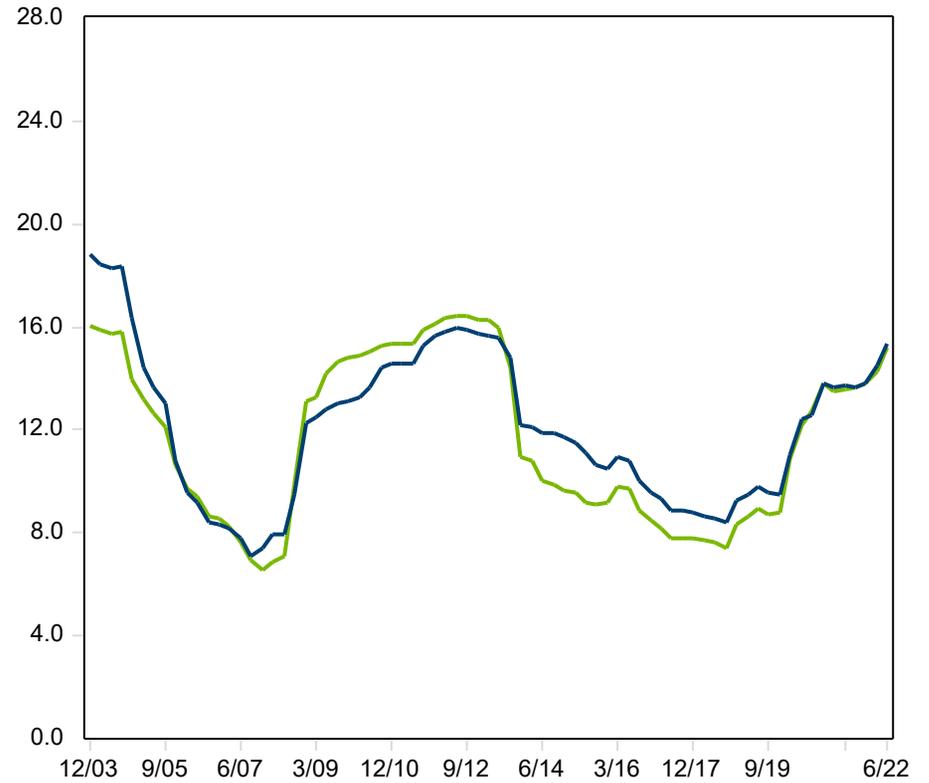
Allianz (Nicholas Applegate) Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Allianz (Nicholas Applegate)
 ● Performance Benchmark
▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



— Allianz (Nicholas Applegate)
 — Performance Benchmark

5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Allianz (Nicholas Applegate)	2.90	2.21	1.31	0.98	0.81	2.91	1.00	13.20	15.39	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	0.63	0.00	1.00	10.02	15.18	1.00
FTSE 3 Month T-Bill	-9.64	15.20	-0.63	0.01	N/A	1.10	0.00	1.09	0.26	-0.08

Pershing Square International Performance Summary

Account Information

Account Name: Pershing Square International
 Inception Date: 06/30/2008
 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)

Return Summary



Quarterly Excess Performance

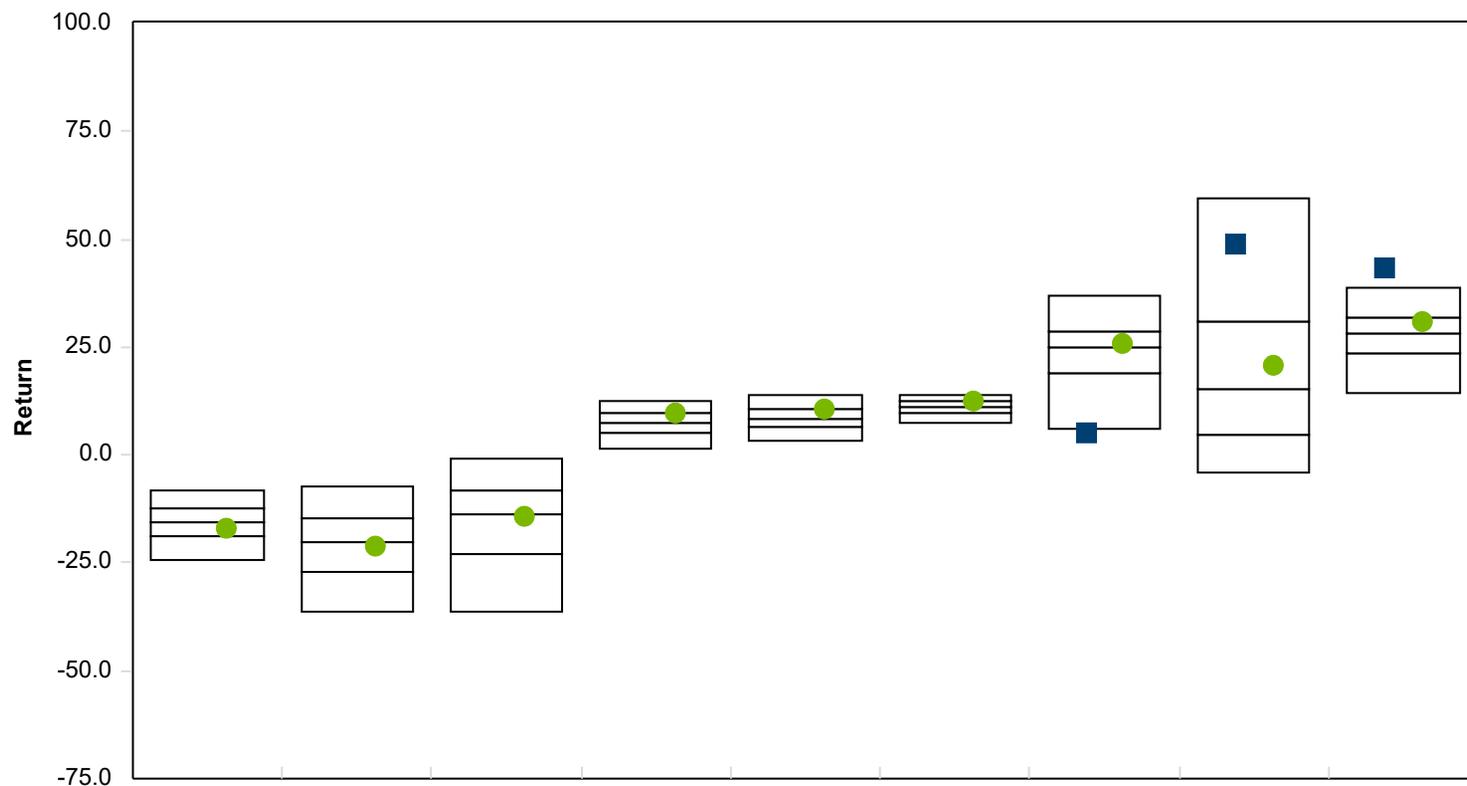
No data found.

Ratio of Cumulative Wealth - Since Inception

No data found.

Peer Group Analysis

IM U.S. Equity (SA+CF)

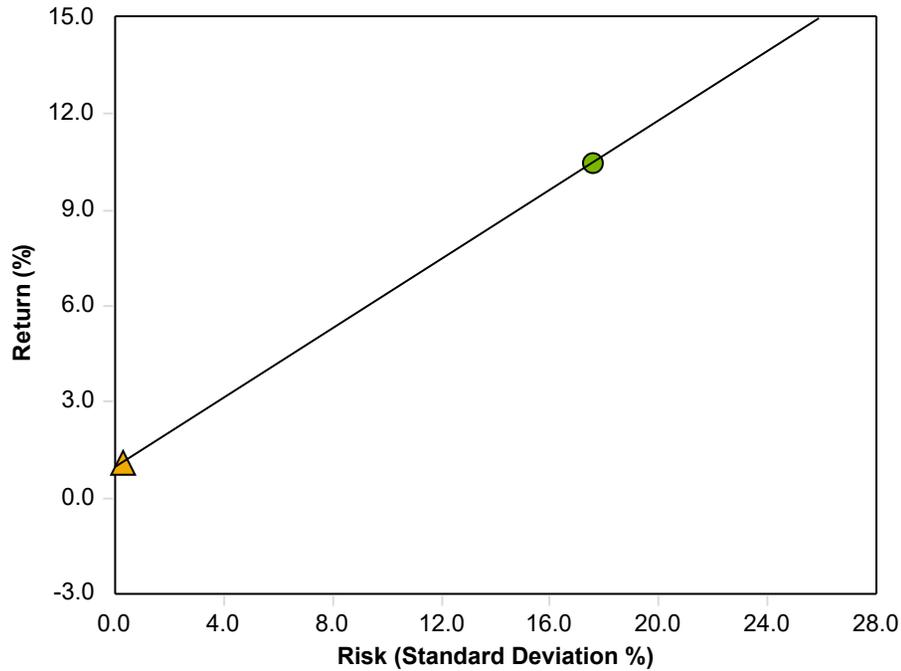


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Pershing Square International	-	-	-	-	-	-	4.9 (96)	48.8 (9)	43.5 (2)
● Dow Jones U.S. Total Stock Market Index	-16.8 (65)	-21.3 (57)	-14.2 (53)	9.6 (25)	10.5 (27)	12.5 (22)	25.7 (44)	20.8 (38)	30.9 (31)
5th Percentile	-8.4	-7.4	-0.9	12.5	13.9	14.1	36.9	59.5	38.9
1st Quartile	-12.2	-14.5	-8.4	9.6	10.6	12.3	28.7	31.1	31.8
Median	-15.4	-20.0	-13.9	7.6	8.4	11.1	24.8	15.3	28.0
3rd Quartile	-18.8	-27.2	-22.9	5.3	6.3	9.8	18.9	4.8	23.5
95th Percentile	-24.5	-36.1	-36.5	1.3	3.4	7.5	6.0	-4.2	14.4
Population	1,664	1,657	1,652	1,588	1,475	1,186	1,719	1,846	1,949

parentheses contain percentile rankings.

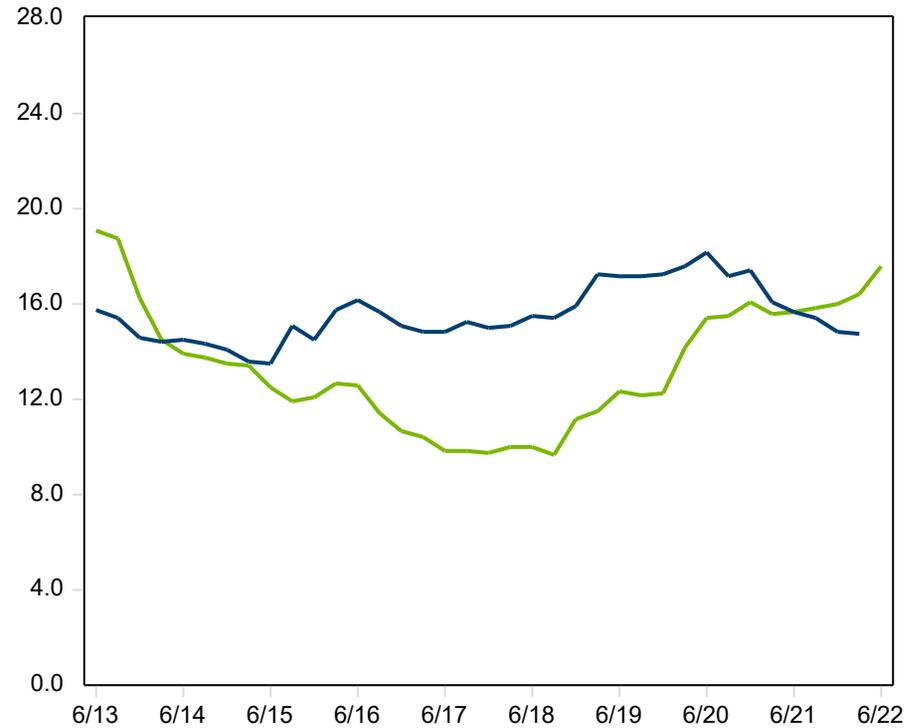
Pershing Square International Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



- Pershing Square International
- Dow Jones U.S. Total Stock Market Index
- ▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



- Pershing Square International
- Dow Jones U.S. Total Stock Market Index

5 Years Historical Statistics

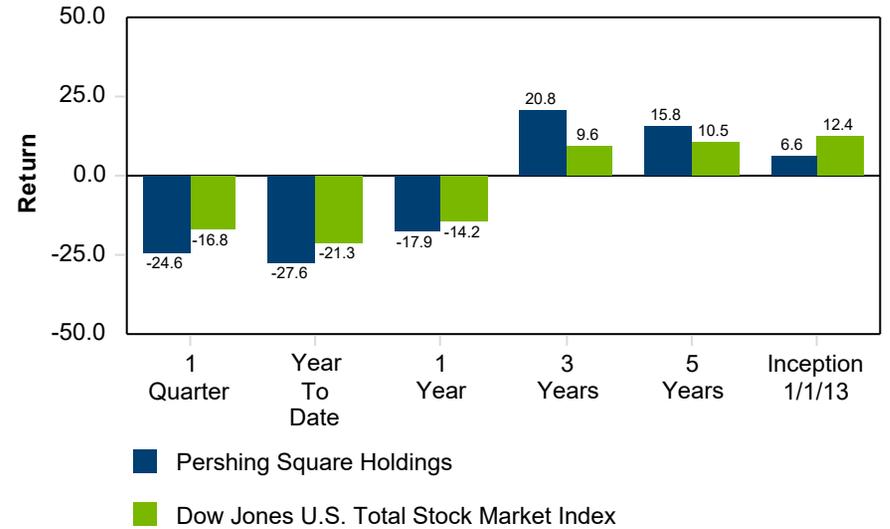
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Pershing Square International	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dow Jones U.S. Total Stock Market Index	0.00	0.00	N/A	1.00	0.59	0.00	1.00	10.48	17.56	1.00
FTSE 3 Month T-Bill	-10.46	17.59	-0.59	0.01	N/A	1.10	0.00	1.09	0.26	-0.10

Pershing Square Holdings Performance Summary

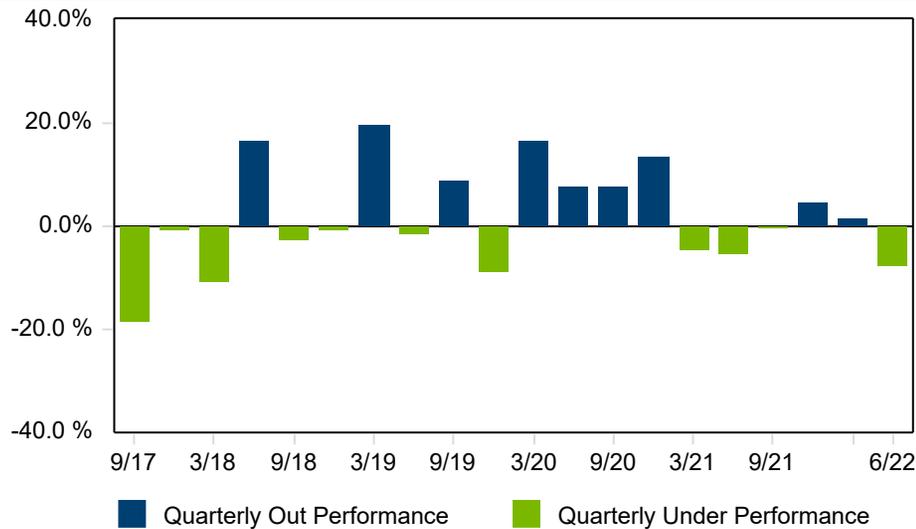
Account Information

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)

Return Summary



Quarterly Excess Performance

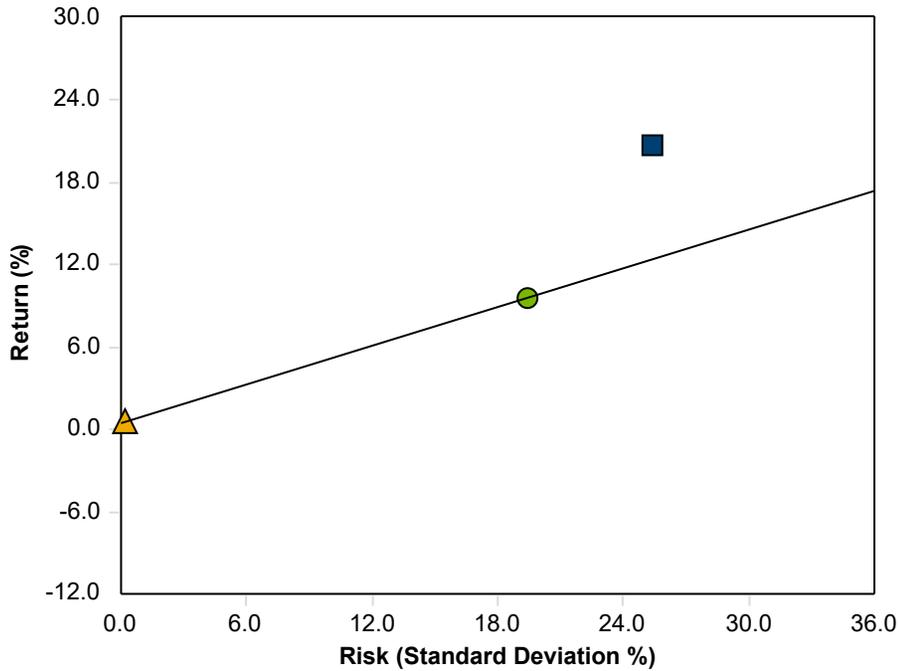


Ratio of Cumulative Wealth - Since Inception



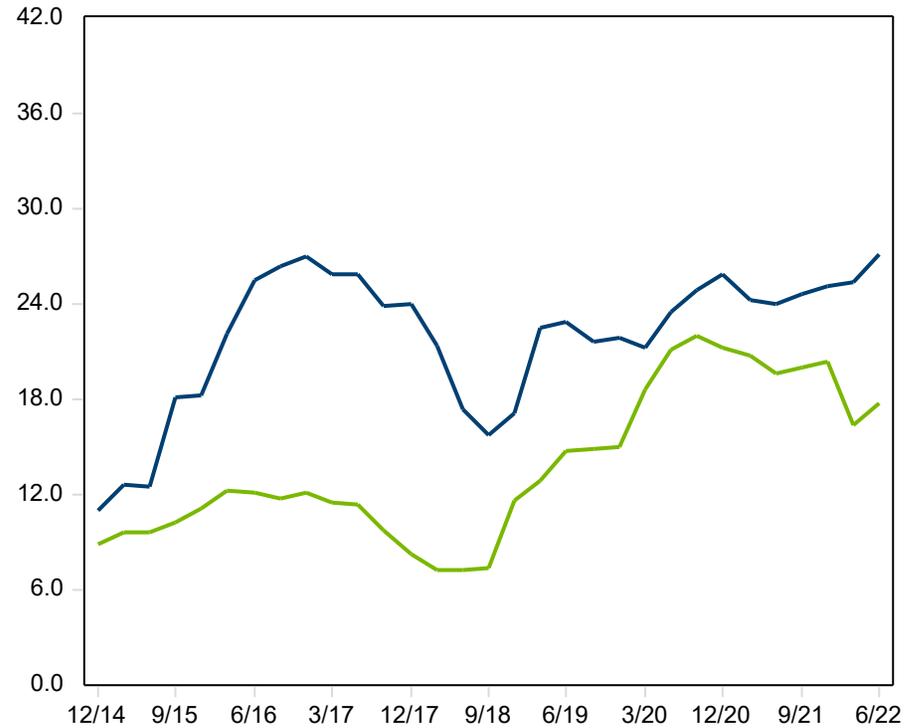
Pershing Square Holdings Risk Profile

**Annualized Return vs. Annualized Standard Deviation
3 Years**



- Pershing Square Holdings
- Dow Jones U.S. Total Stock Market Index
- ▲ FTSE 3 Month T-Bill

Rolling 2 Years Standard Deviation



- Pershing Square Holdings
- Dow Jones U.S. Total Stock Market Index

3 Years Historical Statistics

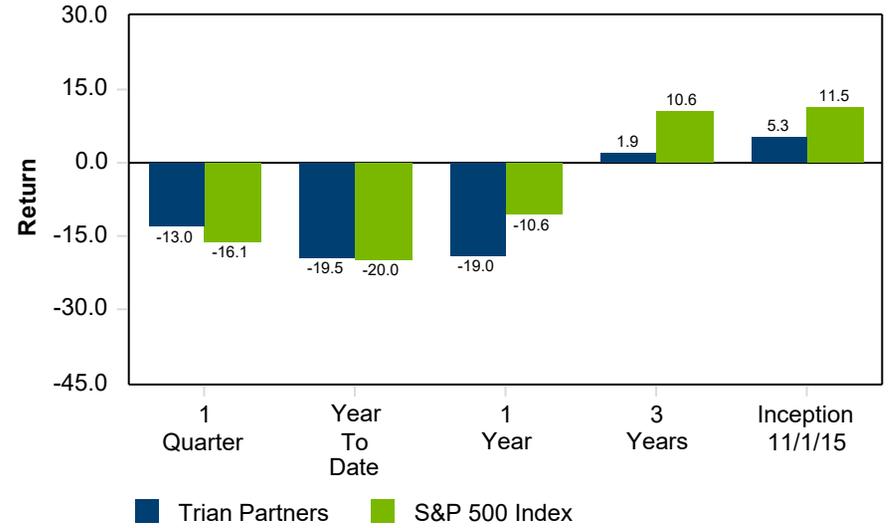
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Pershing Square Holdings	10.99	16.79	0.65	0.56	0.84	11.77	0.98	20.75	25.40	0.75
Dow Jones U.S. Total Stock Market Index	0.00	0.00	N/A	1.00	0.54	0.00	1.00	9.61	19.41	1.00
FTSE 3 Month T-Bill	-10.45	19.44	-0.54	0.03	N/A	0.63	0.00	0.61	0.23	-0.16

Trian Partners Performance Summary

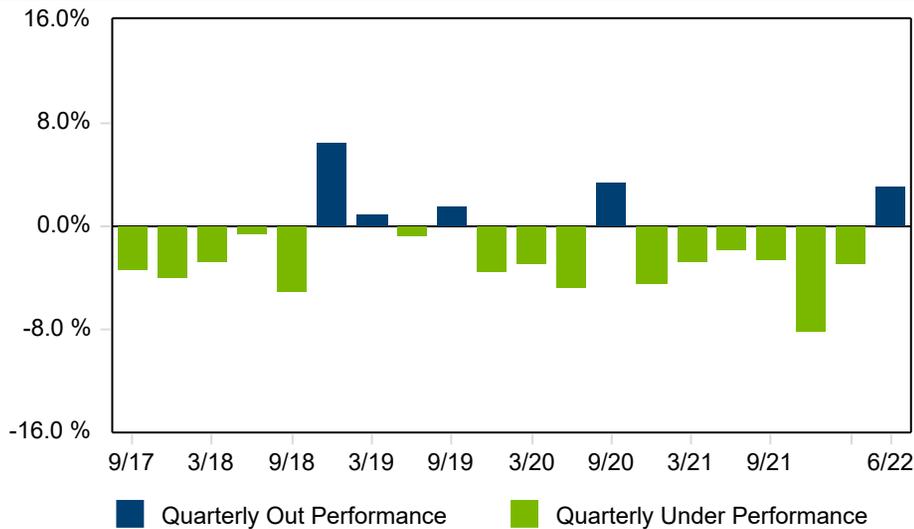
Account Information

Account Name: Trian Partners
 Inception Date: 11/01/2015
 Account Structure: Commingled Fund
 Asset Class: US Equity
 Benchmark: S&P 500 Index
 Peer Group:

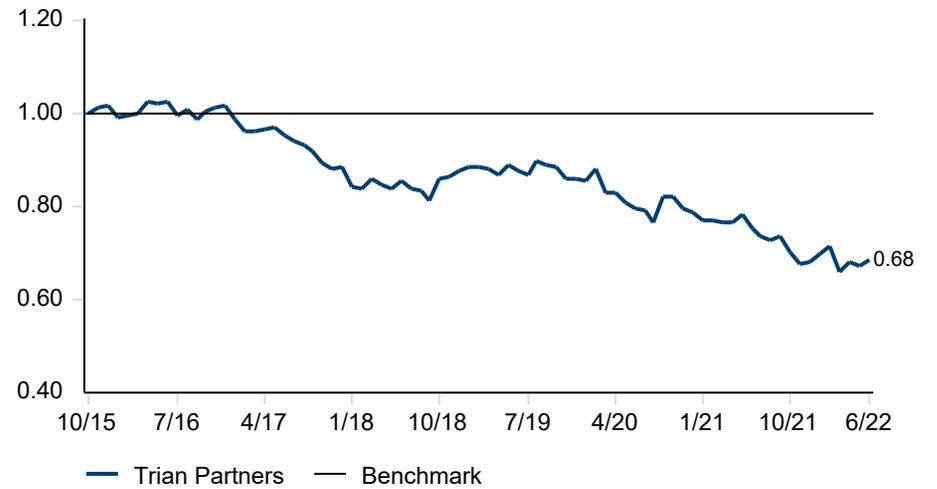
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

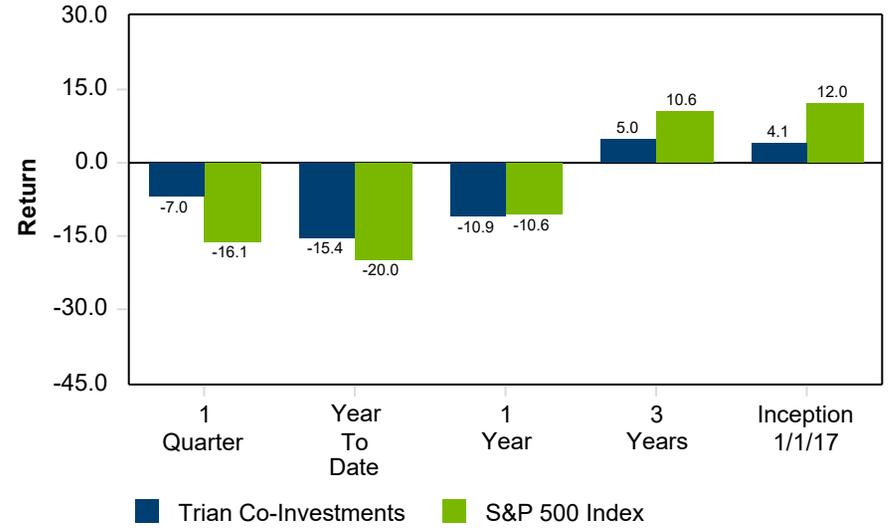


Trian Co-Investments Performance Summary

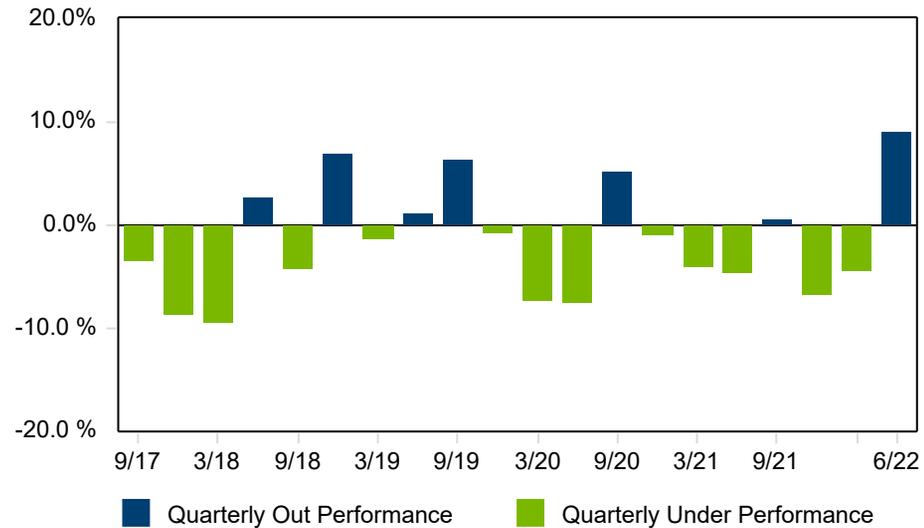
Account Information

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:

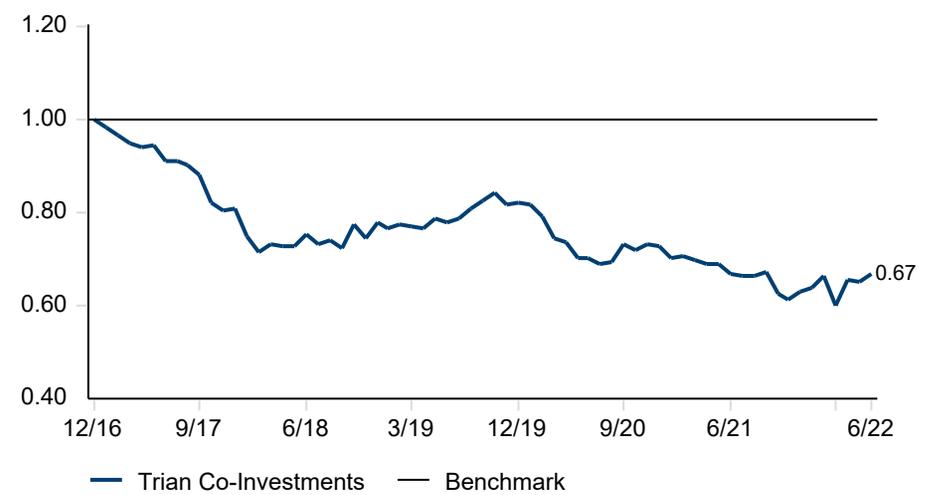
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

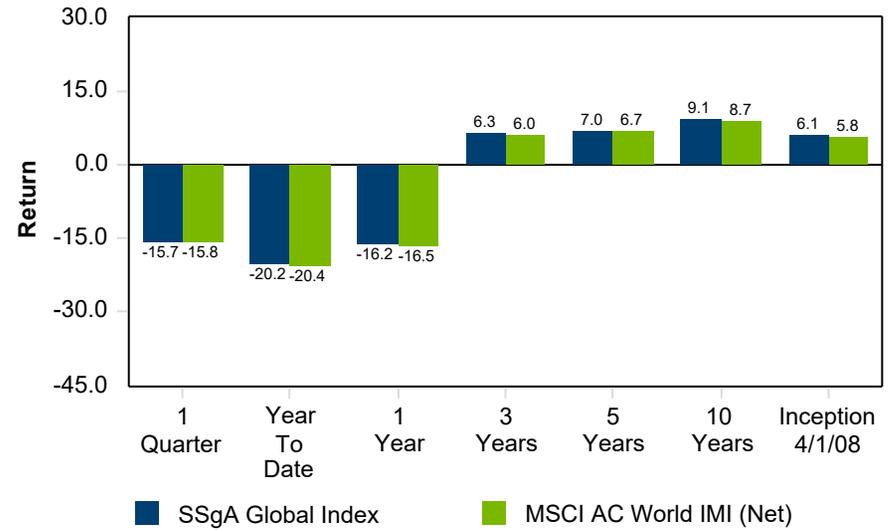


SSgA Global Index Performance Summary

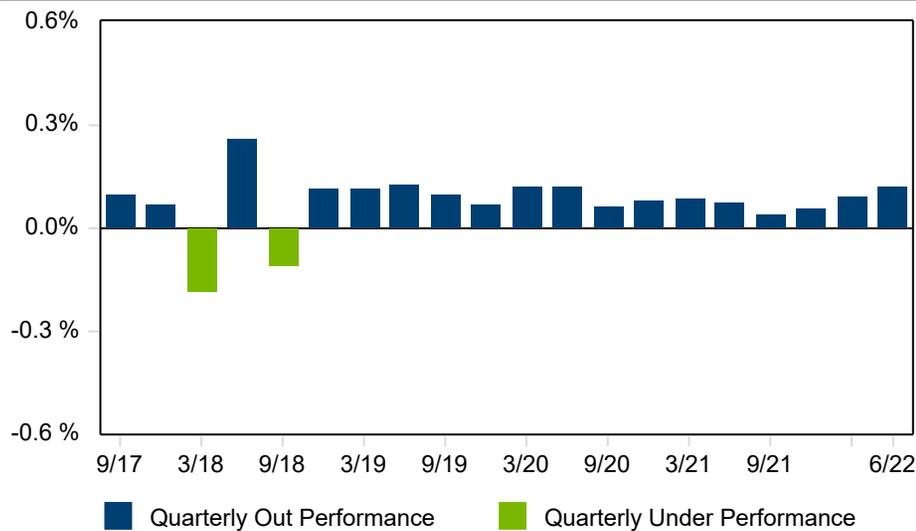
Account Information

Account Name: SSgA Global Index
 Inception Date: 03/31/2008
 Account Structure: Commingled Fund
 Asset Class: Global Equity
 Benchmark: MSCI AC World IMI (Net)
 Peer Group: IM Global Equity (SA+CF)

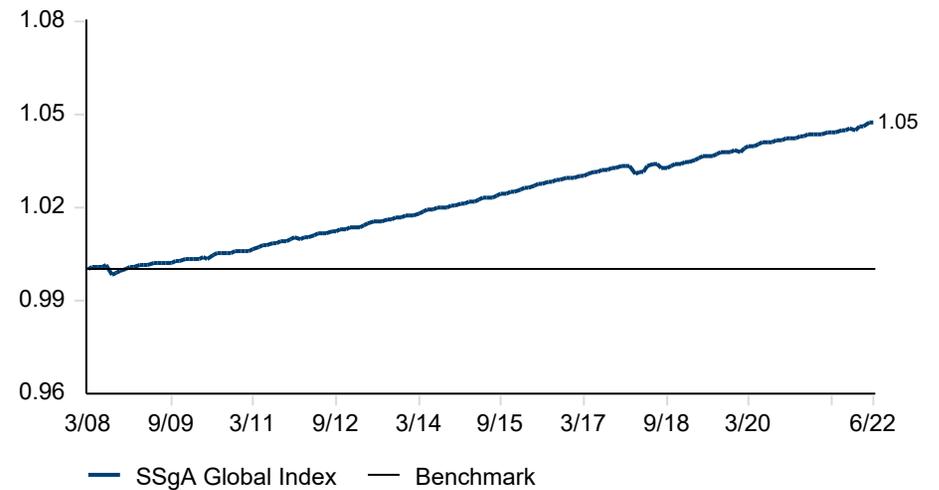
Return Summary



Quarterly Excess Performance

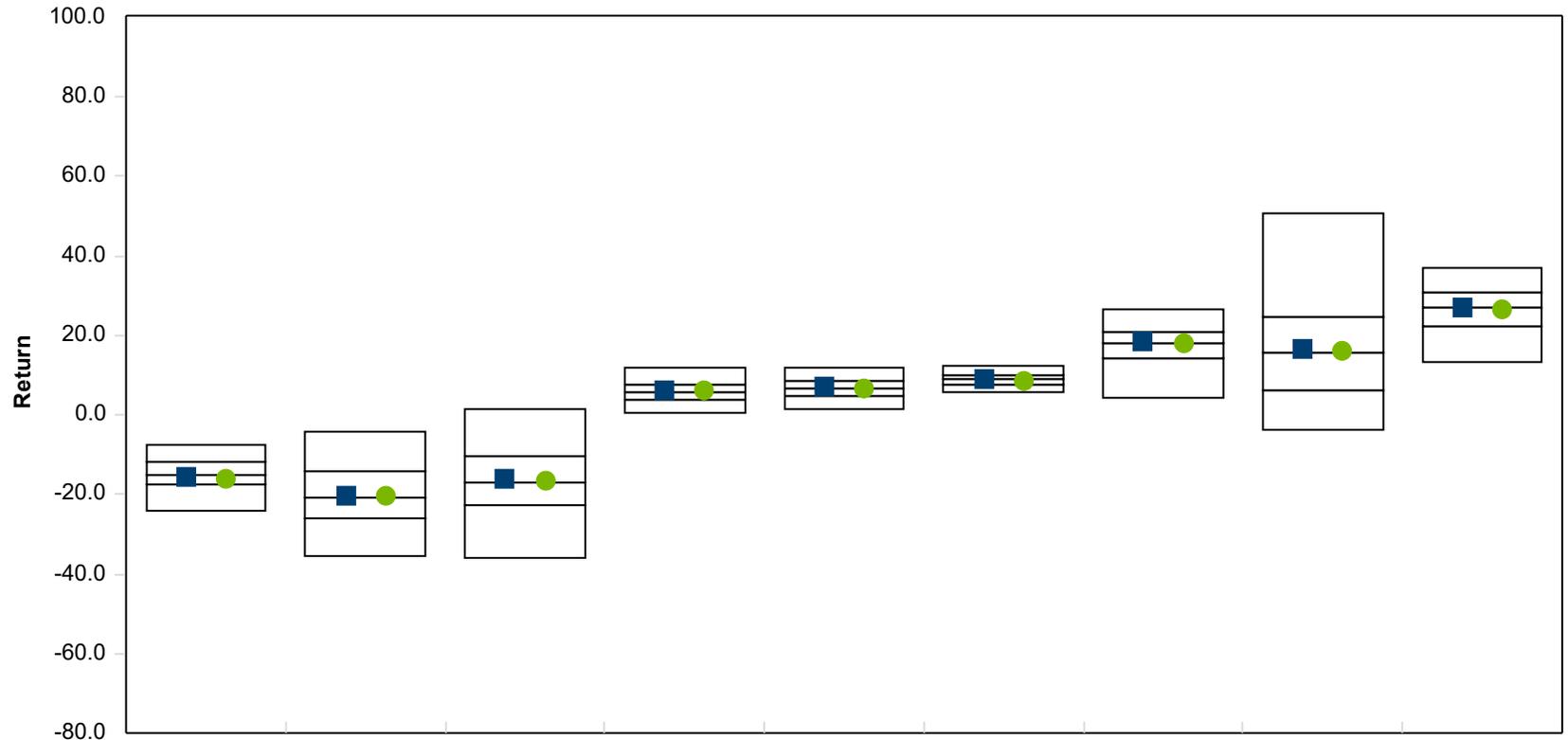


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

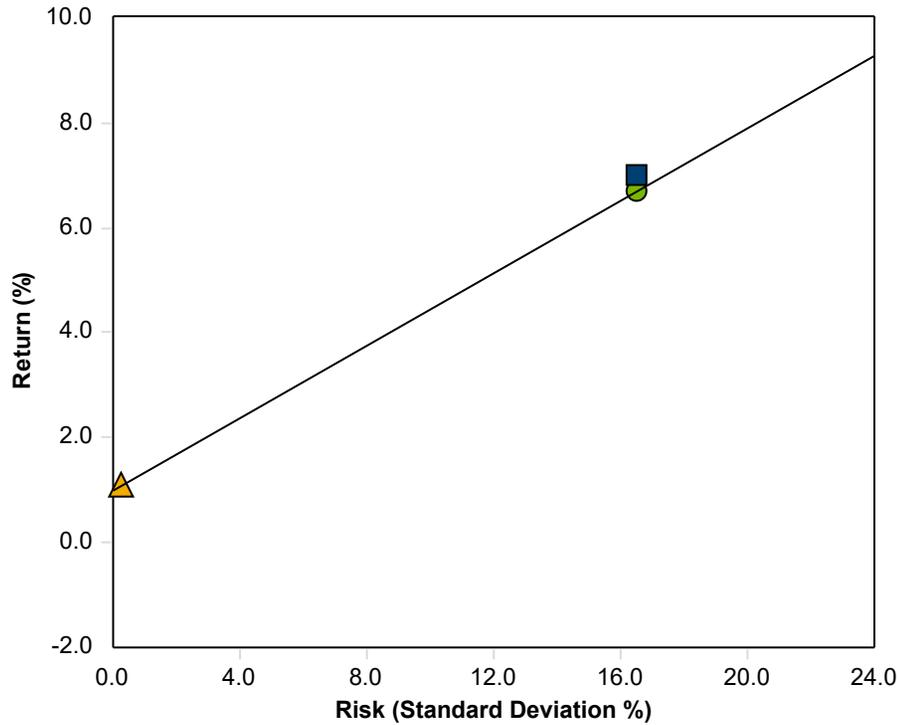


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ SSgA Global Index	-15.7 (58)	-20.2 (48)	-16.2 (48)	6.3 (40)	7.0 (44)	9.1 (49)	18.5 (47)	16.7 (46)	26.8 (51)
● MSCI AC World IMI (Net)	-15.8 (60)	-20.4 (49)	-16.5 (49)	6.0 (46)	6.7 (50)	8.7 (60)	18.2 (49)	16.3 (49)	26.4 (53)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	12.5	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	10.2	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	9.0	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	7.7	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	5.6	4.5	-3.6	13.1
Population	383	381	378	354	323	215	388	412	428

Parantheses contain percentile rankings.

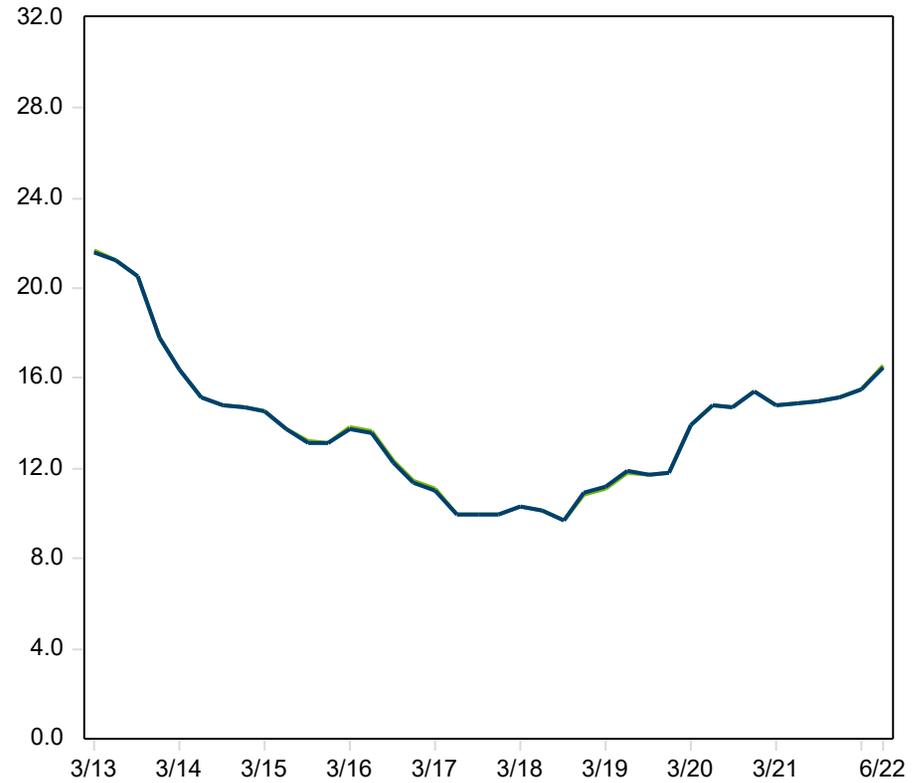
SSgA Global Index Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ SSgA Global Index ● MSCI AC World IMI (Net)
 ▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



— SSgA Global Index — MSCI AC World IMI (Net)

5 Years Historical Statistics

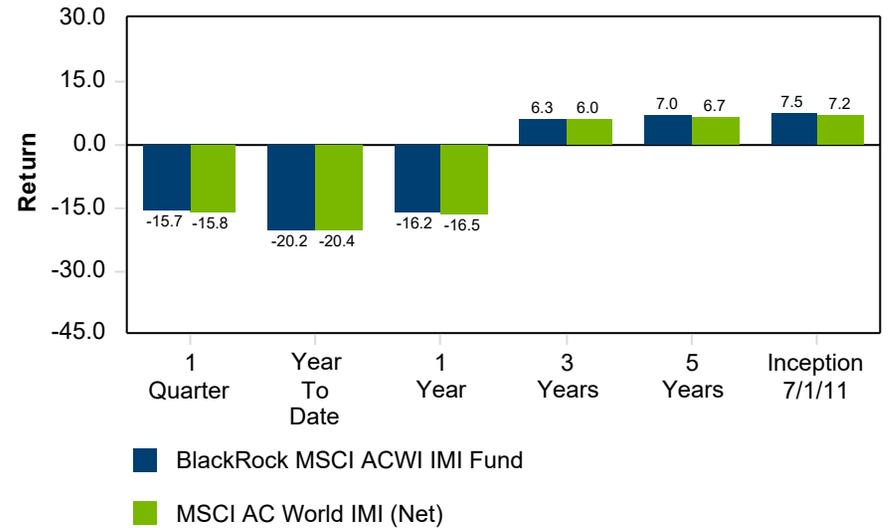
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Global Index	0.30	0.18	1.68	1.00	0.43	0.31	1.00	7.03	16.53	1.00
MSCI AC World IMI (Net)	0.00	0.00	N/A	1.00	0.41	0.00	1.00	6.70	16.53	1.00
FTSE 3 Month T-Bill	-6.79	16.56	-0.41	0.01	N/A	1.10	0.00	1.09	0.26	-0.12

BlackRock MSCI ACWI IMI Fund Performance Summary

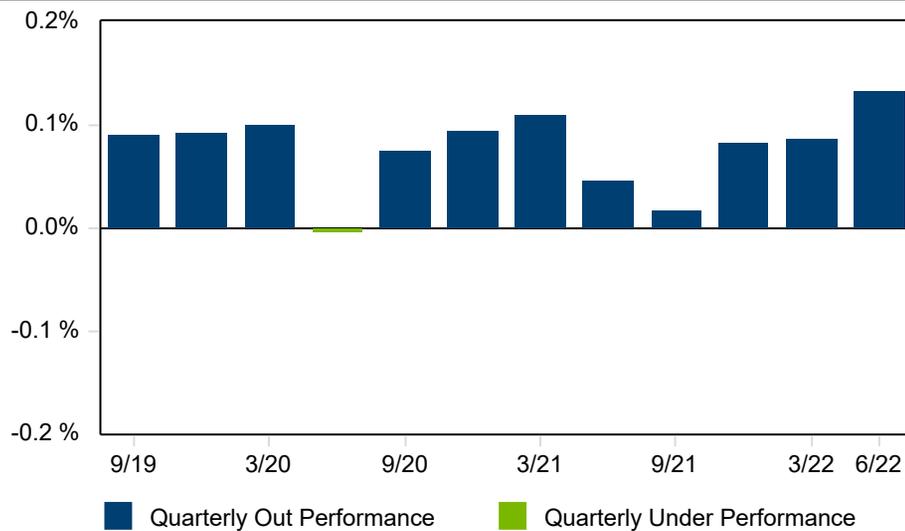
Account Information

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 (Net)
 Peer Group: IM Global Equity (SA+CF)

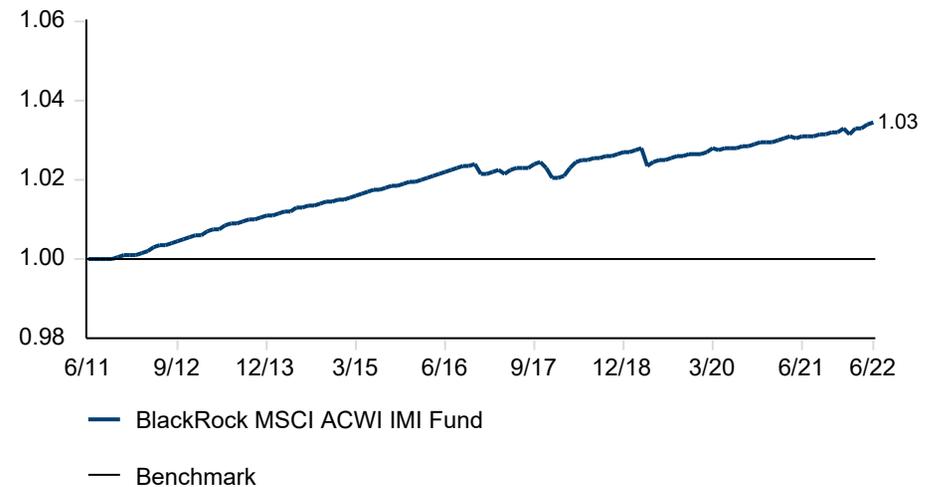
Return Summary



Quarterly Excess Performance

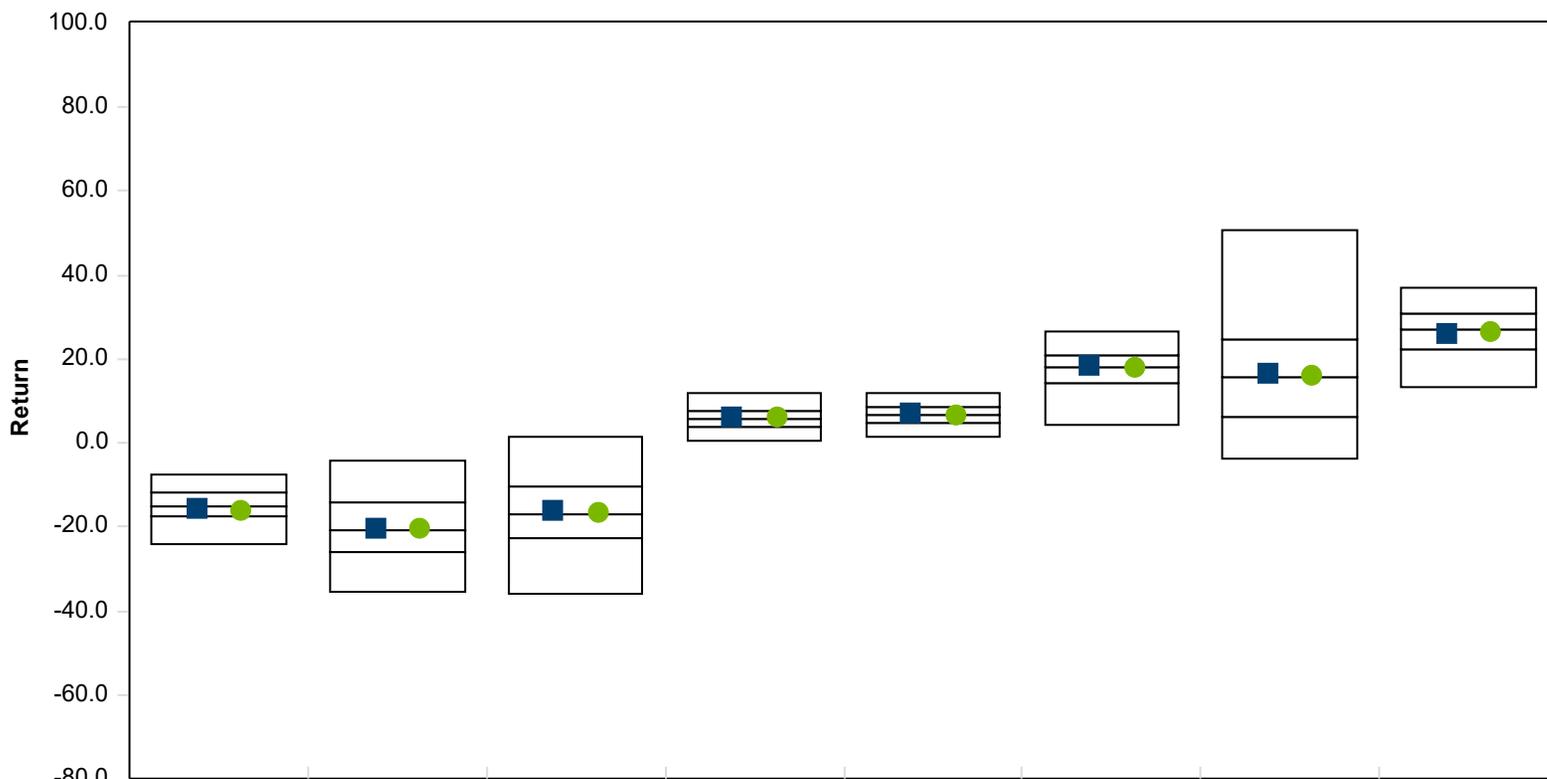


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

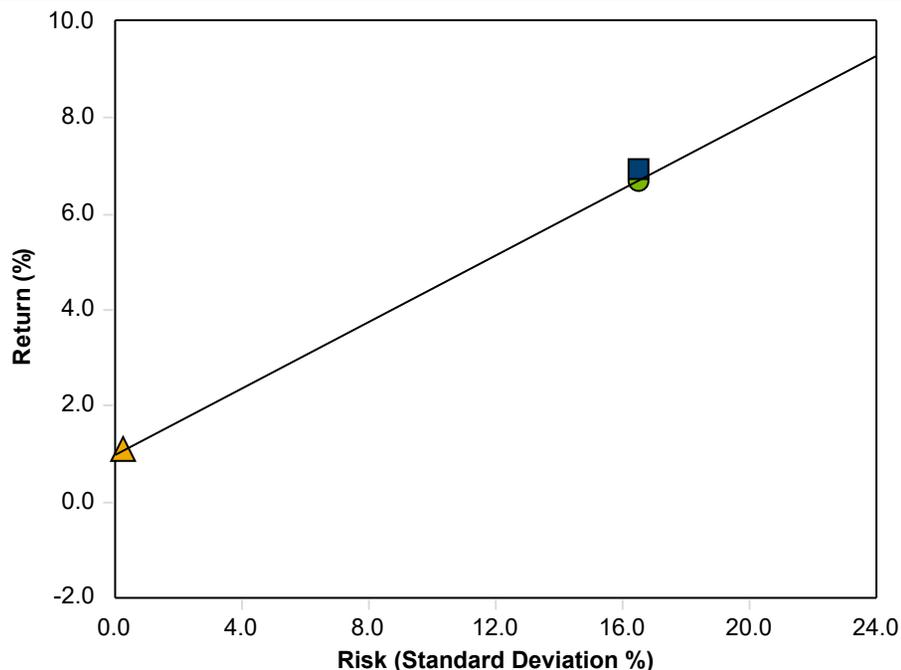


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2021	2020	2019
■ BlackRock MSCI ACWI IMI Fund	-15.7 (58)	-20.2 (48)	-16.2 (47)	6.3 (41)	7.0 (46)	18.5 (47)	16.6 (47)	26.3 (53)
● MSCI AC World IMI (Net)	-15.8 (60)	-20.4 (49)	-16.5 (49)	6.0 (46)	6.7 (50)	18.2 (49)	16.3 (49)	26.4 (53)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	4.5	-3.6	13.1
Population	383	381	378	354	323	388	412	428

parentheses contain percentile rankings.

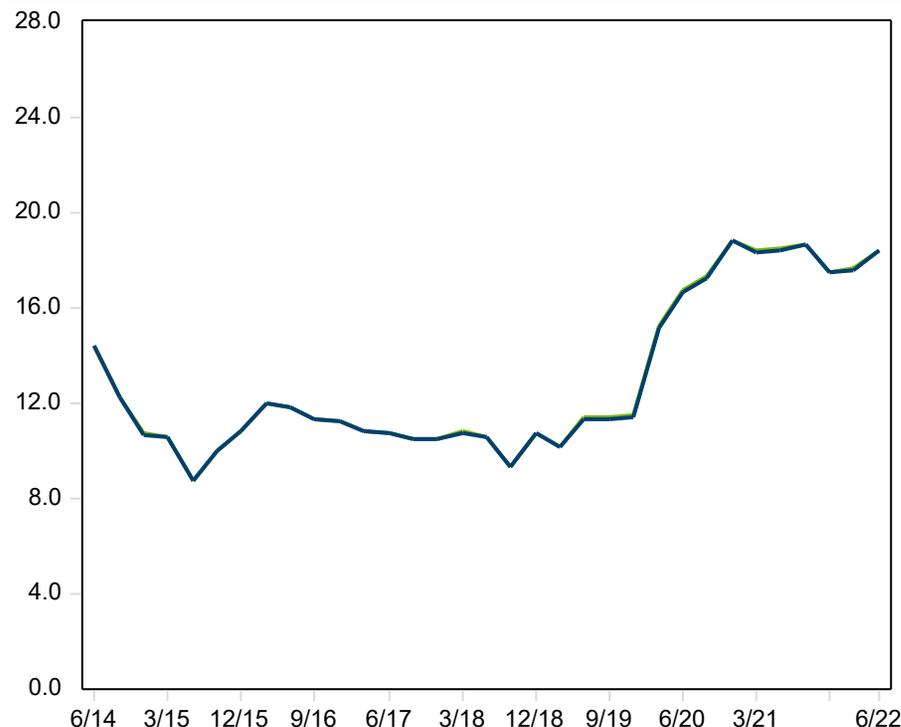
BlackRock MSCI ACWI IMI Fund Risk Profile

**Annualized Return vs. Annualized Standard Deviation
5 Years**



- BlackRock MSCI ACWI IMI Fund
- MSCI AC World IMI (Net)
- ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



- BlackRock MSCI ACWI IMI Fund
- MSCI AC World IMI (Net)

5 Years Historical Statistics

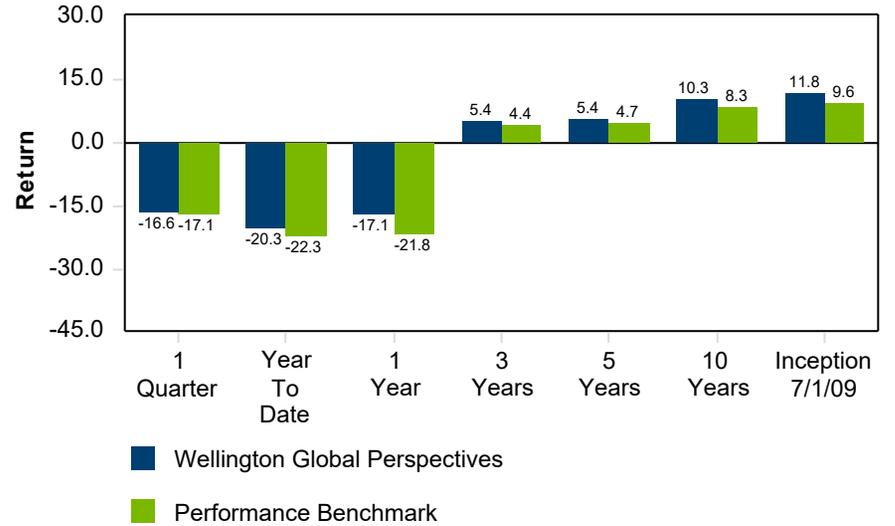
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock MSCI ACWI IMI Fund	0.22	0.30	0.74	1.00	0.42	0.24	1.00	6.95	16.49	1.00
MSCI AC World IMI (Net)	0.00	0.00	N/A	1.00	0.41	0.00	1.00	6.70	16.53	1.00
FTSE 3 Month T-Bill	-6.79	16.56	-0.41	0.01	N/A	1.10	0.00	1.09	0.26	-0.12

Wellington Global Perspectives Performance Summary

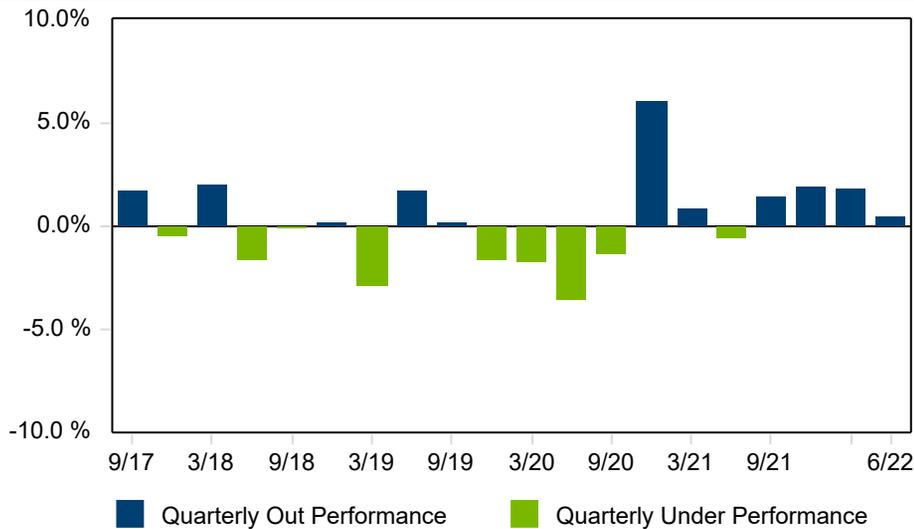
Account Information

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)

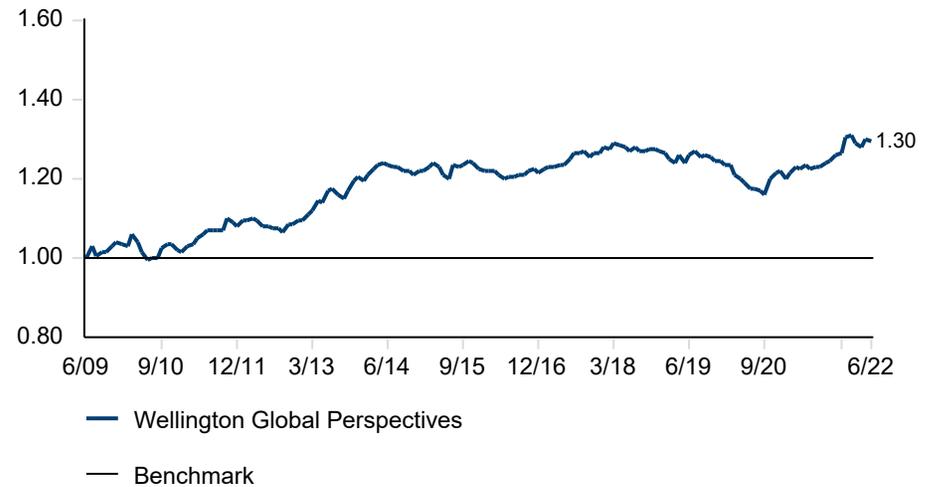
Return Summary



Quarterly Excess Performance

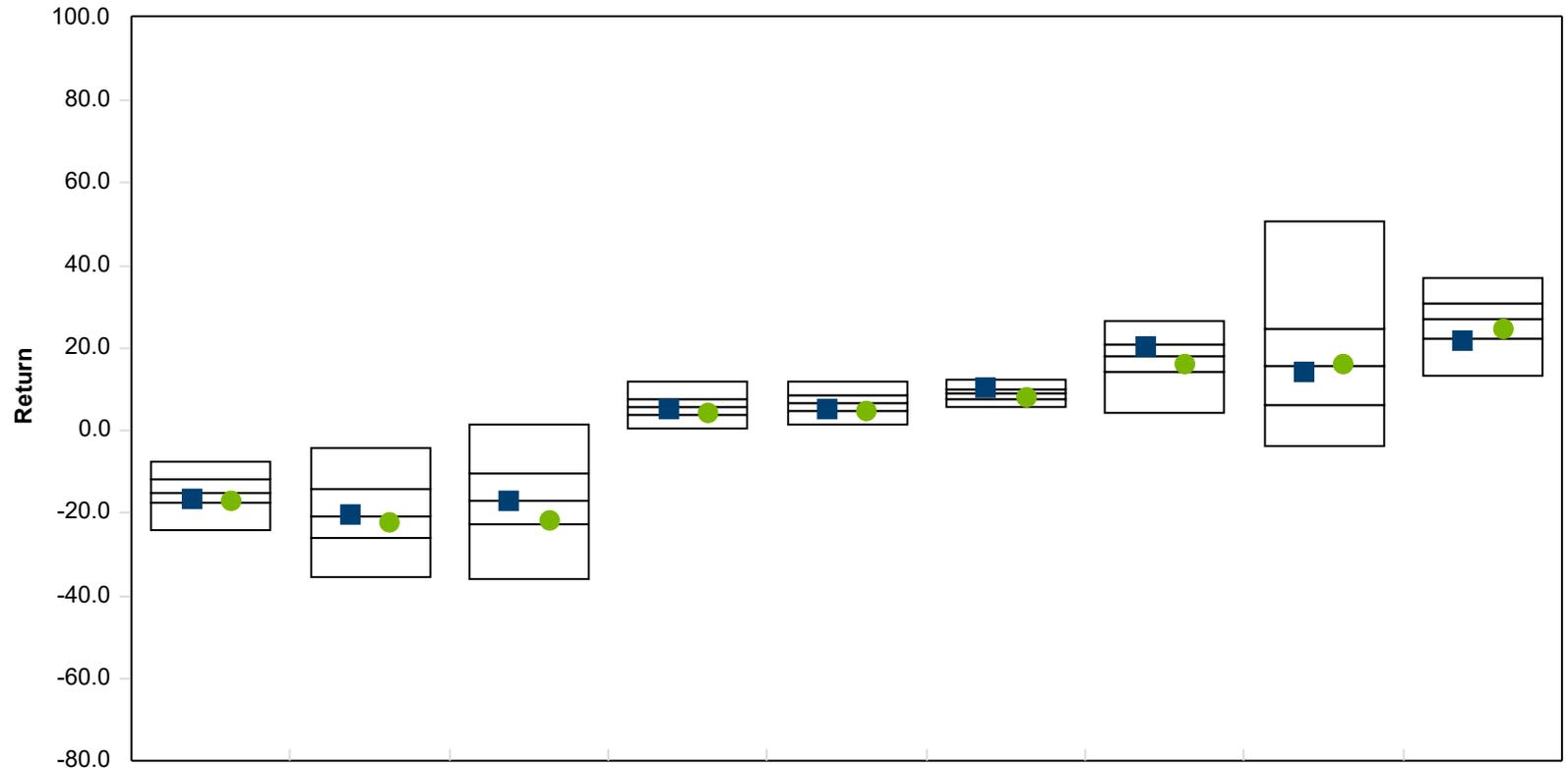


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

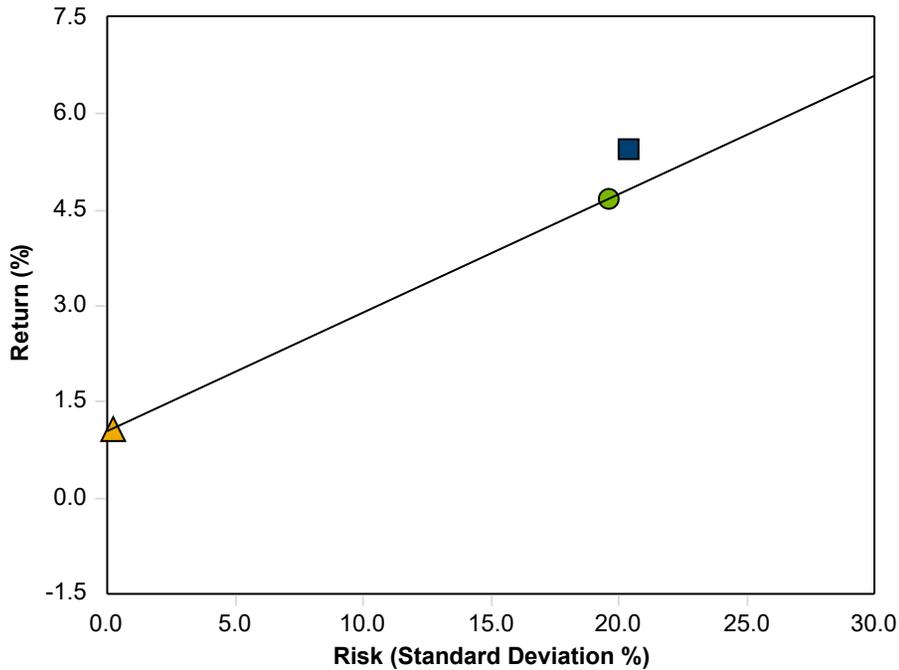


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
Wellington Global Perspectives	-16.6 (69)	-20.3 (48)	-17.1 (51)	5.4 (54)	5.4 (70)	10.3 (21)	20.4 (29)	14.1 (56)	21.9 (76)
Performance Benchmark	-17.1 (72)	-22.3 (60)	-21.8 (73)	4.4 (69)	4.7 (79)	8.3 (65)	16.1 (63)	16.3 (48)	24.7 (65)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	12.5	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	10.2	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	9.0	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	7.7	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	5.6	4.5	-3.6	13.1
Population	383	381	378	354	323	215	388	412	428

parentheses contain percentile rankings.

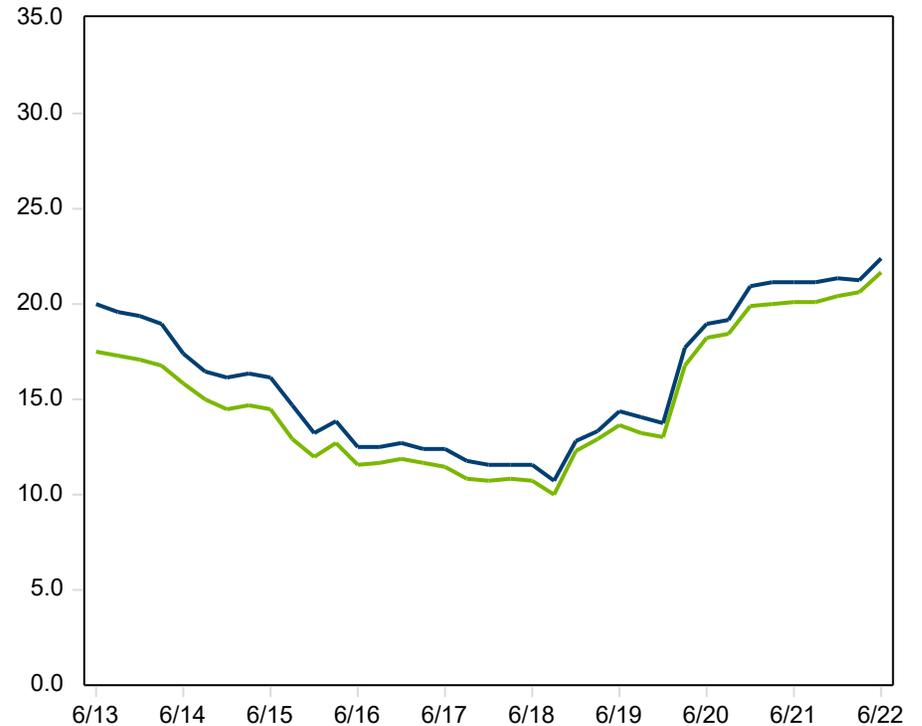
Wellington Global Perspectives Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



- Wellington Global Perspectives
- Performance Benchmark
- ▲ FTSE 3 Month T-Bill

Rolling 4 Years Standard Deviation



- Wellington Global Perspectives
- Performance Benchmark

5 Years Historical Statistics

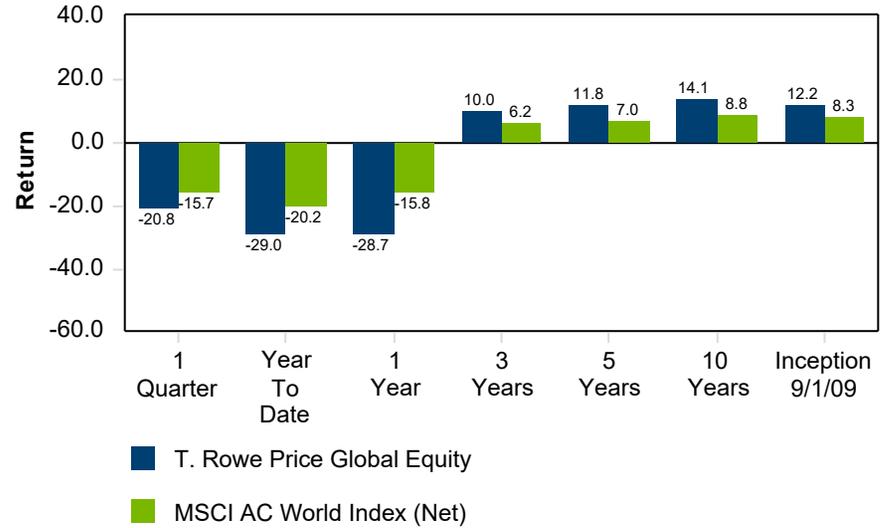
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Perspectives	0.89	3.68	0.24	0.97	0.31	0.75	1.02	5.44	20.40	0.98
Performance Benchmark	0.00	0.00	N/A	1.00	0.28	0.00	1.00	4.68	19.63	1.00
FTSE 3 Month T-Bill	-5.46	19.67	-0.28	0.02	N/A	1.10	0.00	1.09	0.26	-0.16

T. Rowe Price Global Equity Performance Summary

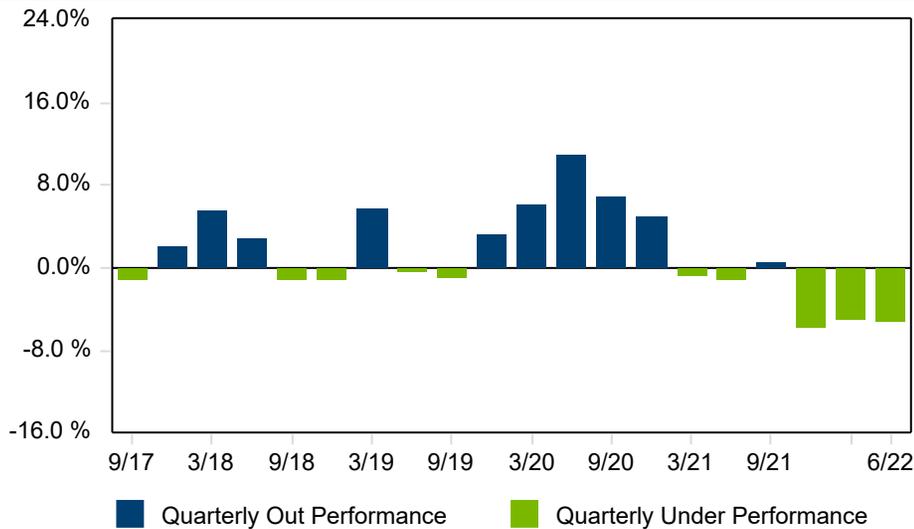
Account Information

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)

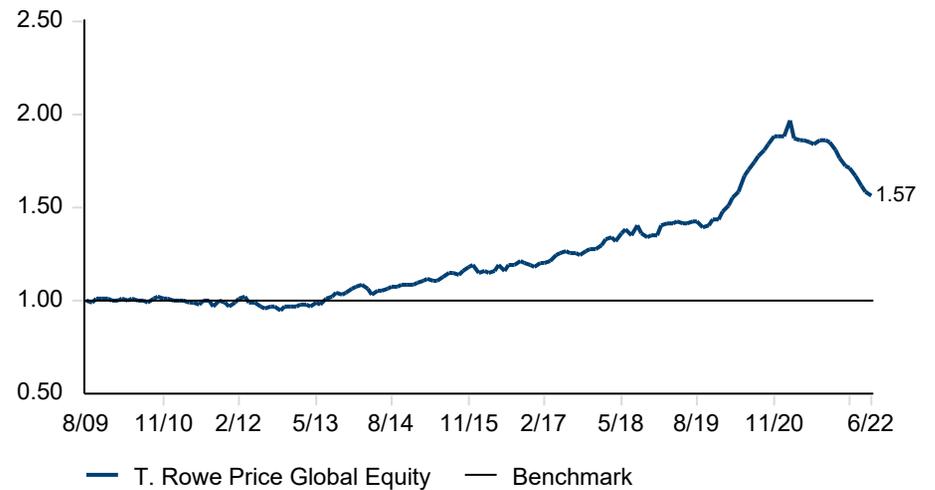
Return Summary



Quarterly Excess Performance

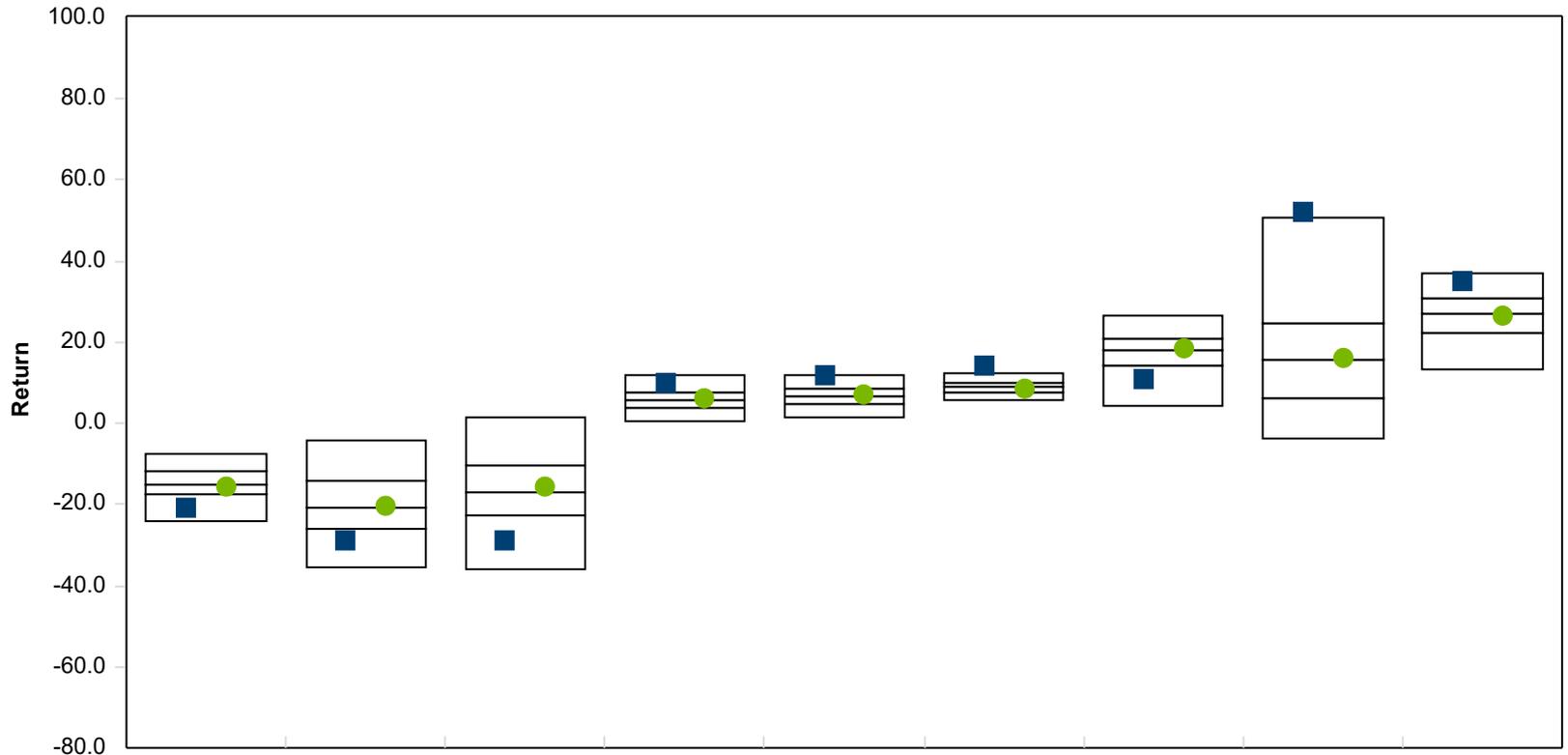


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

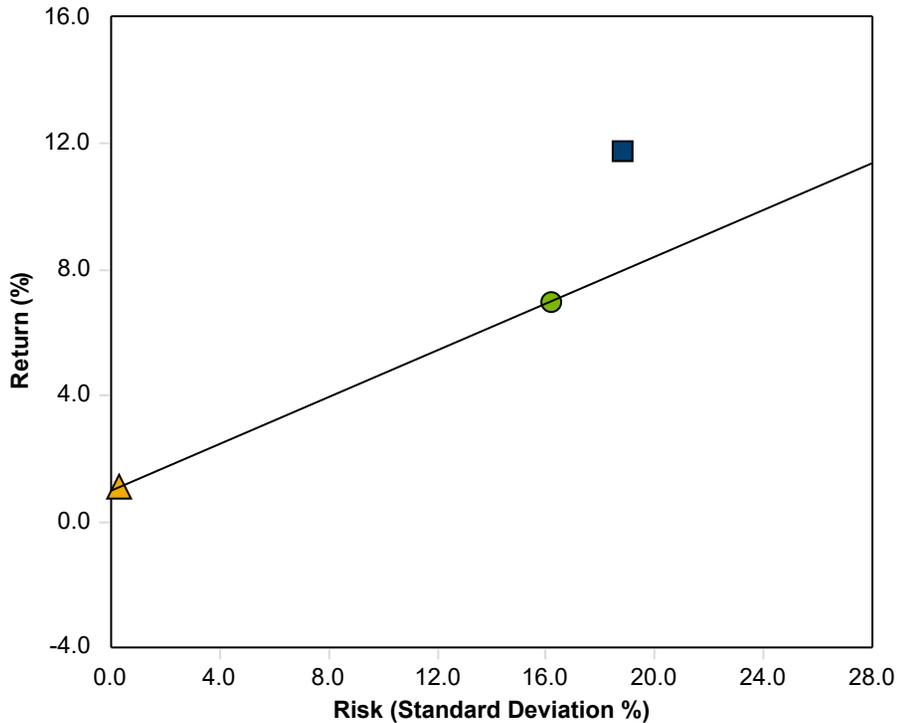


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ T. Rowe Price Global Equity	-20.8 (90)	-29.0 (82)	-28.7 (89)	10.0 (8)	11.8 (5)	14.1 (2)	10.8 (88)	52.2 (5)	35.2 (11)
● MSCI AC World Index (Net)	-15.7 (58)	-20.2 (48)	-15.8 (45)	6.2 (43)	7.0 (44)	8.8 (58)	18.5 (46)	16.3 (49)	26.6 (51)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	12.5	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	10.2	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	9.0	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	7.7	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	5.6	4.5	-3.6	13.1
Population	383	381	378	354	323	215	388	412	428

parentheses contain percentile rankings.

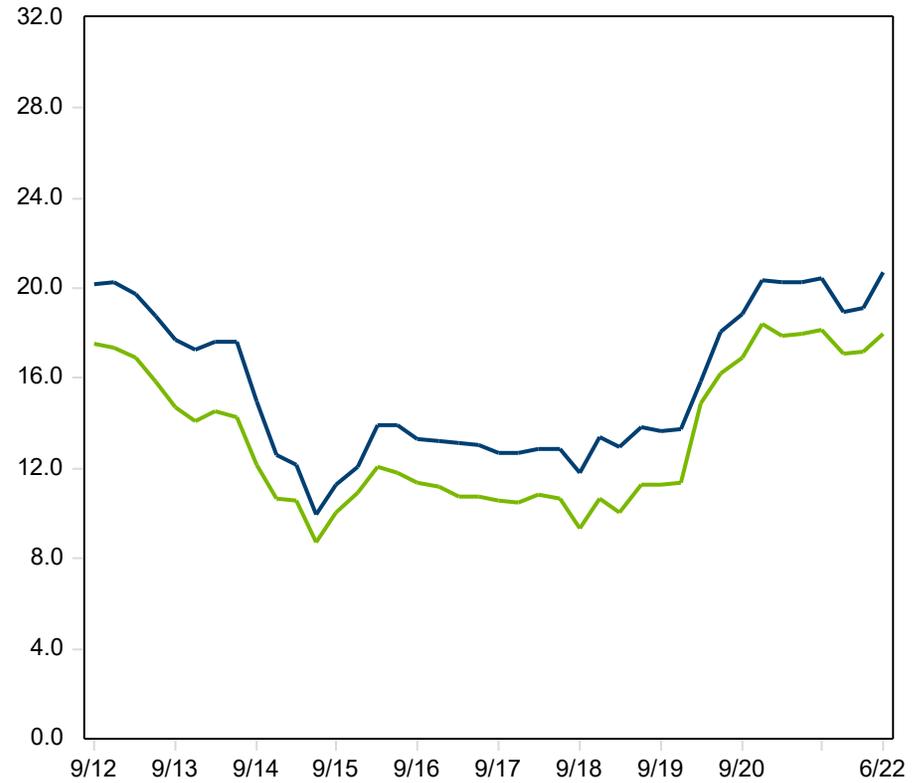
T. Rowe Price Global Equity Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



- T. Rowe Price Global Equity
- MSCI AC World Index (Net)
- ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



- T. Rowe Price Global Equity
- MSCI AC World Index (Net)

5 Years Historical Statistics

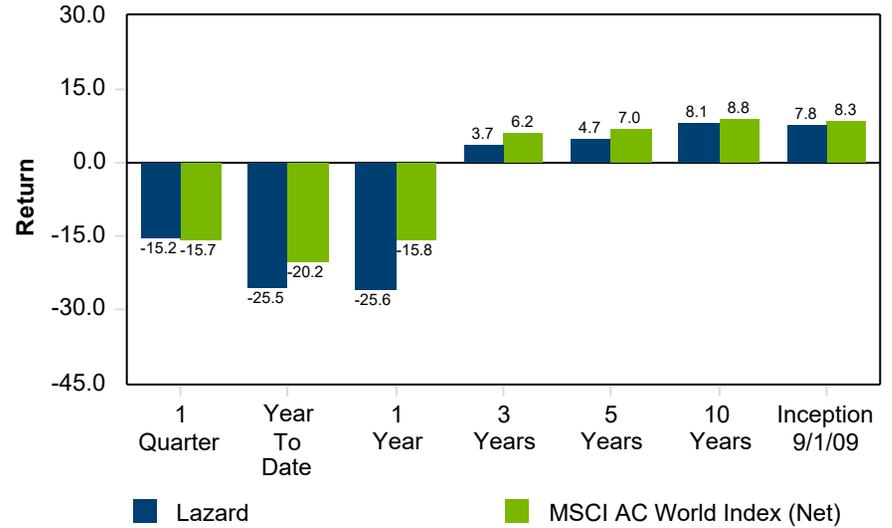
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
T. Rowe Price Global Equity	4.80	6.93	0.69	0.87	0.63	4.22	1.08	11.75	18.80	0.93
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.43	0.00	1.00	7.00	16.20	1.00
FTSE 3 Month T-Bill	-7.01	16.24	-0.43	0.01	N/A	1.10	0.00	1.09	0.26	-0.12

Lazard Performance Summary

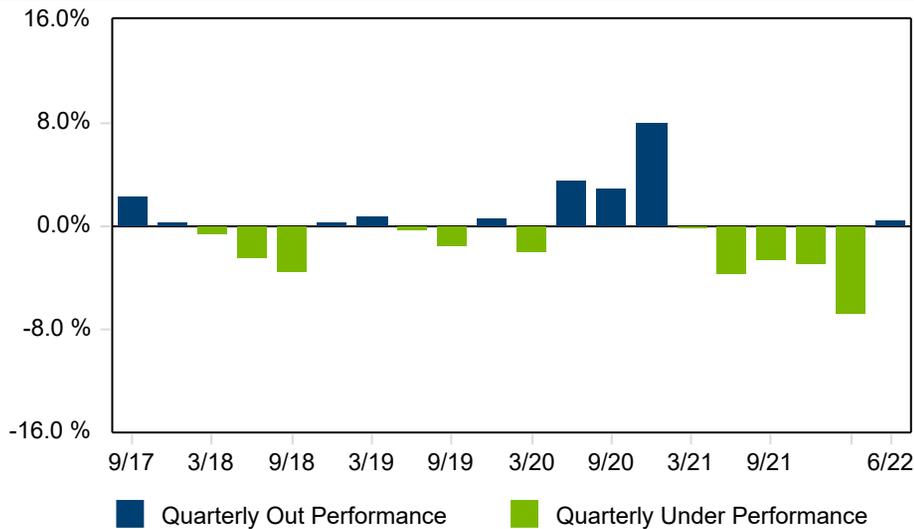
Account Information

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)

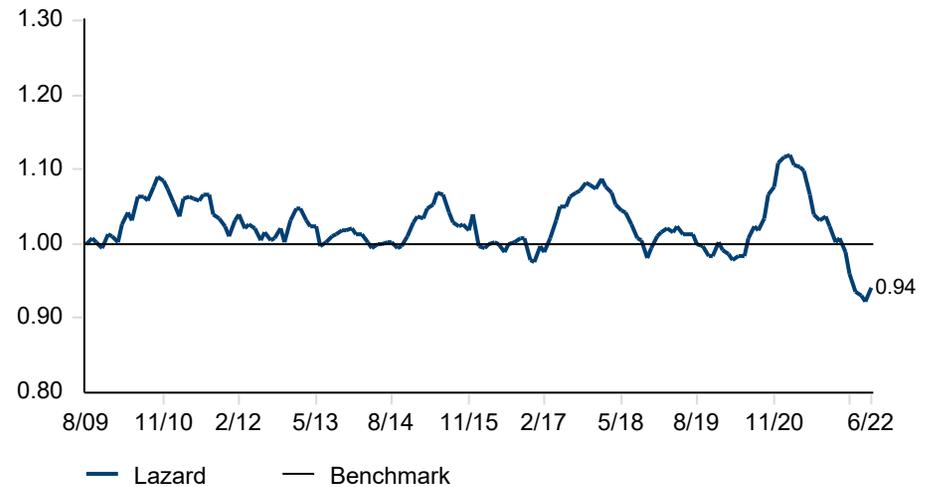
Return Summary



Quarterly Excess Performance

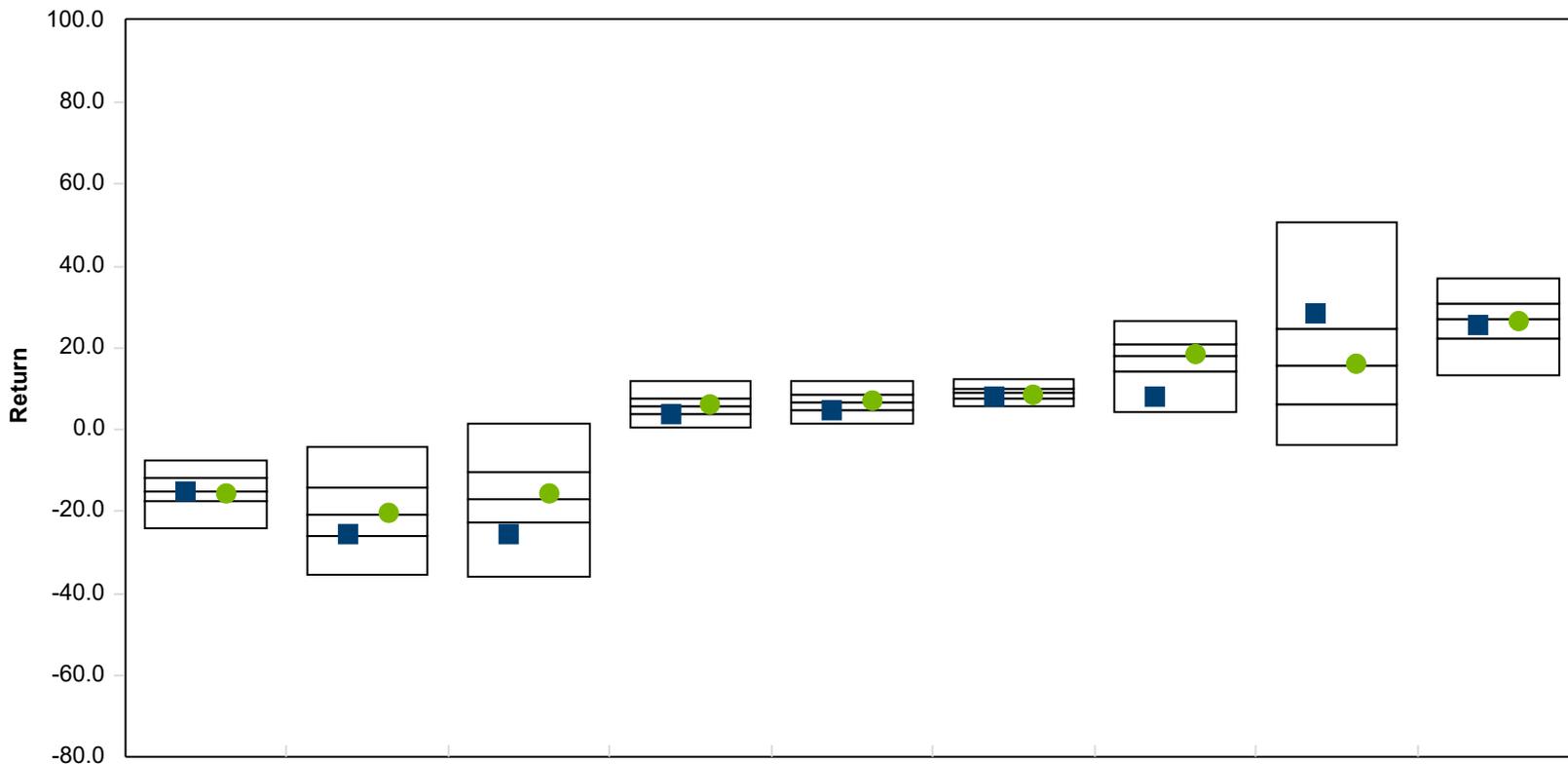


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

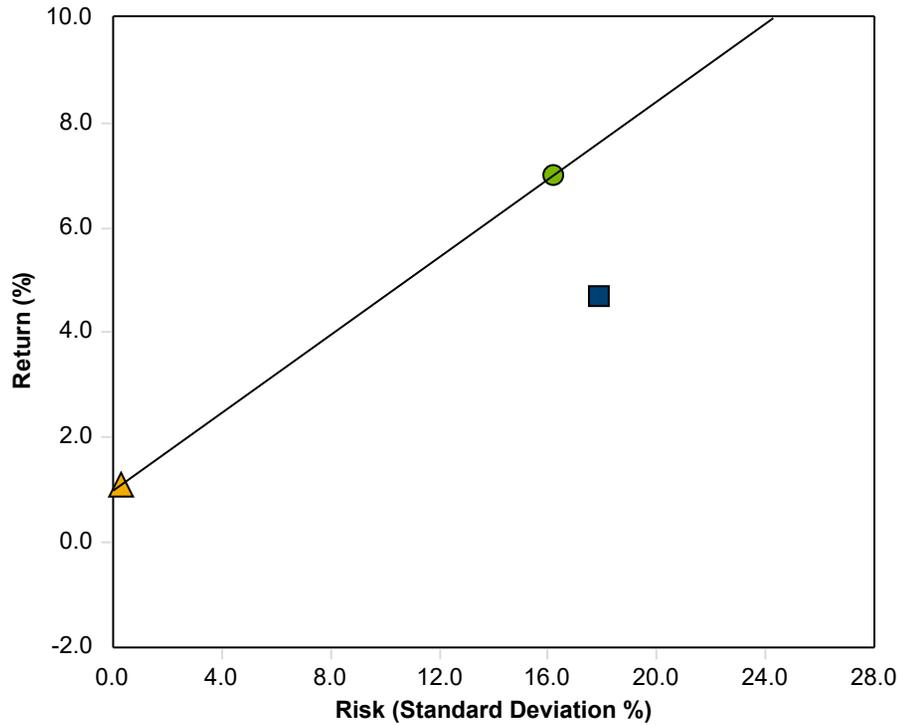


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Lazard	-15.2 (51)	-25.5 (74)	-25.6 (81)	3.7 (78)	4.7 (79)	8.1 (71)	8.0 (92)	28.4 (22)	25.7 (57)
● MSCI AC World Index (Net)	-15.7 (58)	-20.2 (48)	-15.8 (45)	6.2 (43)	7.0 (44)	8.8 (58)	18.5 (46)	16.3 (49)	26.6 (51)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	12.5	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	10.2	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	9.0	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	7.7	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	5.6	4.5	-3.6	13.1
Population	383	381	378	354	323	215	388	412	428

parentheses contain percentile rankings.

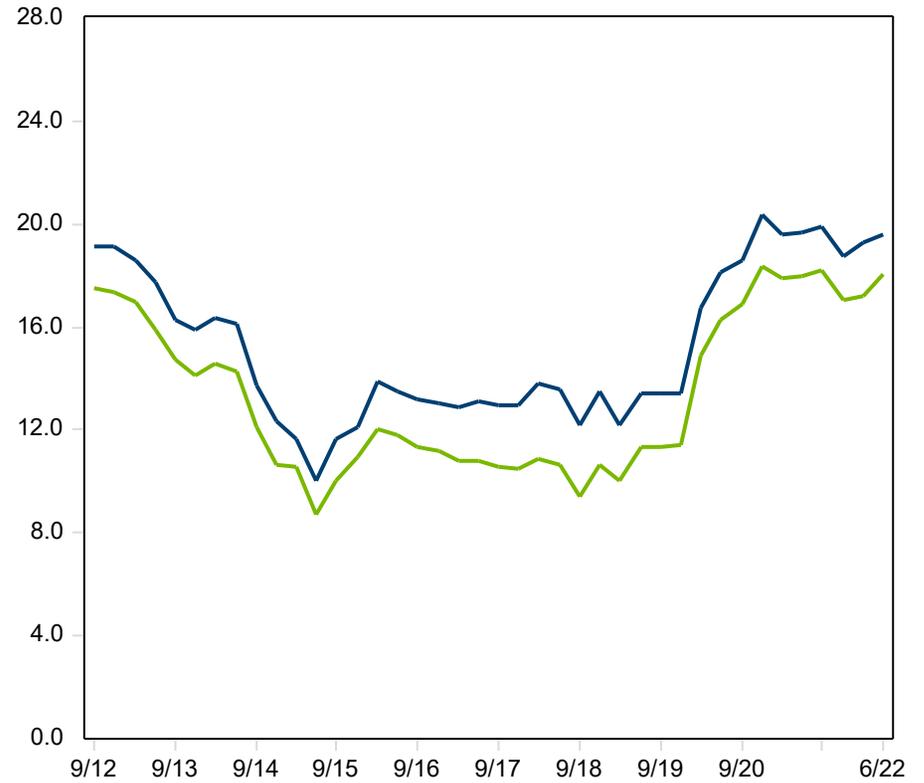
Lazard Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Lazard ● MSCI AC World Index (Net)
▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— Lazard — MSCI AC World Index (Net)

5 Years Historical Statistics

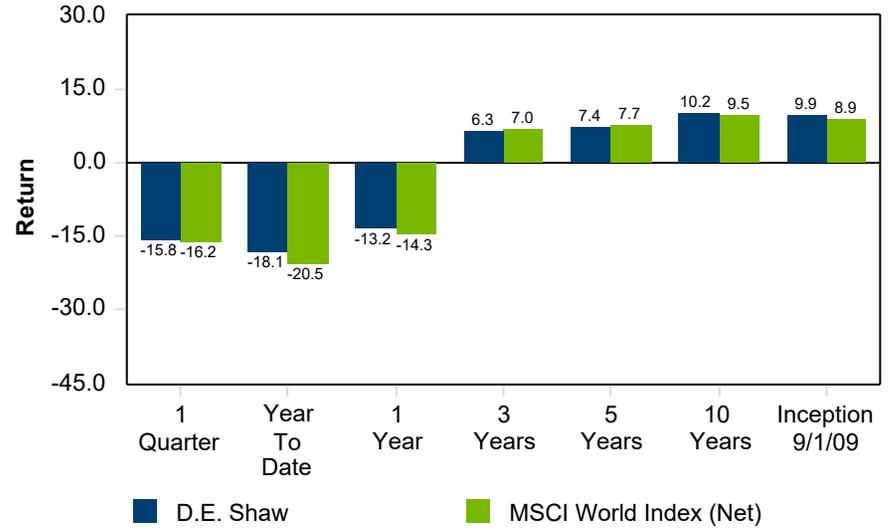
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Lazard	-1.93	4.81	-0.40	0.93	0.28	-2.40	1.06	4.69	17.84	0.96
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.43	0.00	1.00	7.00	16.20	1.00
FTSE 3 Month T-Bill	-7.01	16.24	-0.43	0.01	N/A	1.10	0.00	1.09	0.26	-0.12

D.E. Shaw Performance Summary

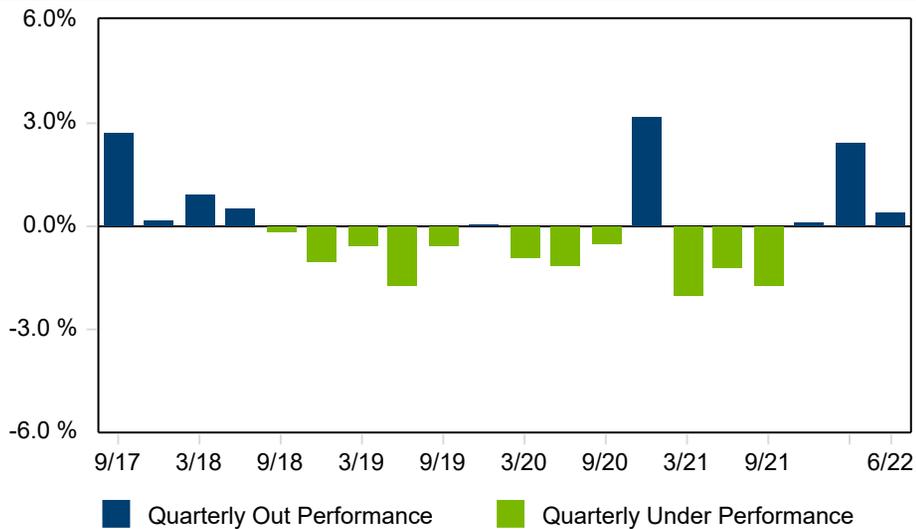
Account Information

Account Name: D.E. Shaw
 Inception Date: 08/31/2009
 Account Structure: Commingled Fund
 Asset Class: Global Equity
 Benchmark: MSCI World Index (Net)
 Peer Group: IM Global Equity (SA+CF)

Return Summary



Quarterly Excess Performance

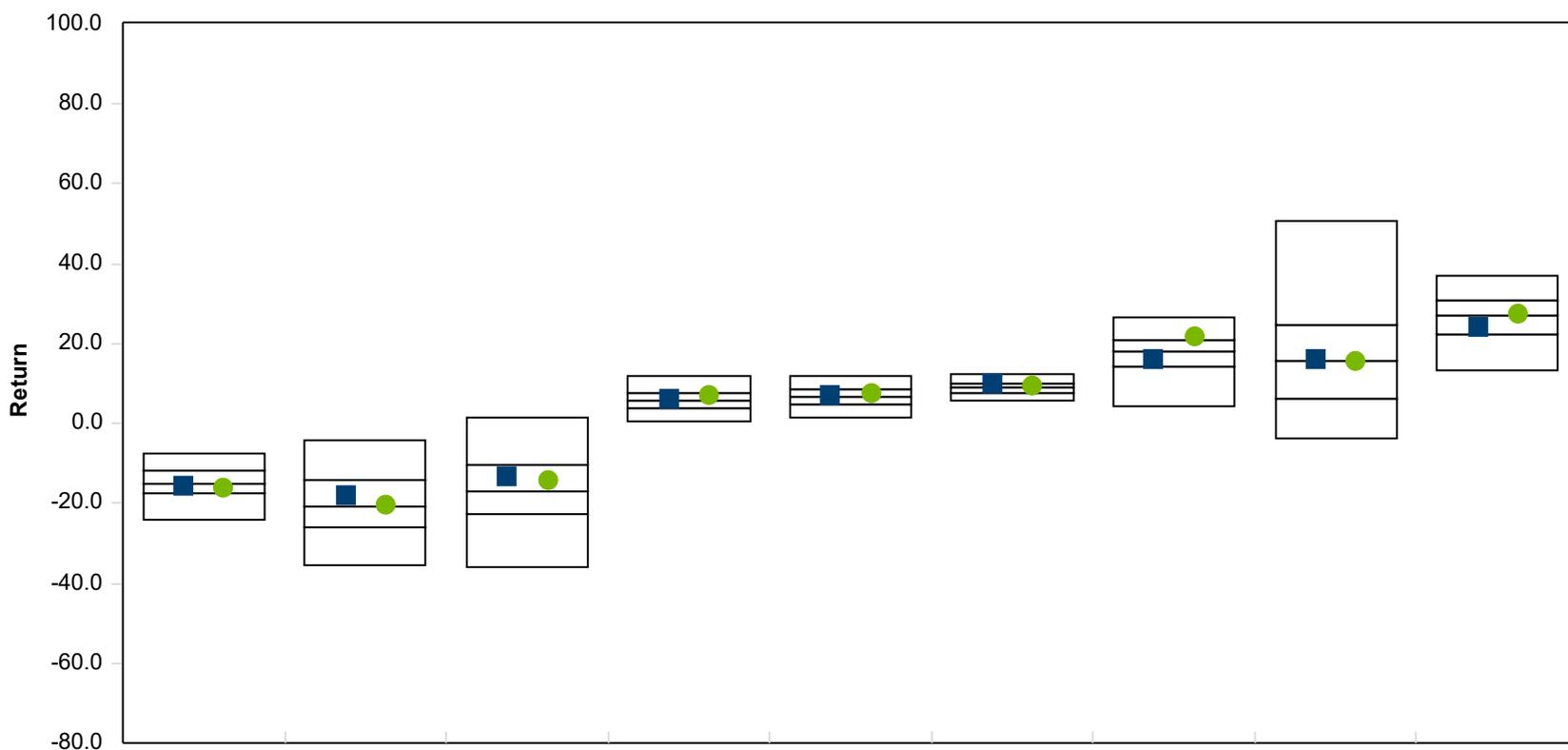


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

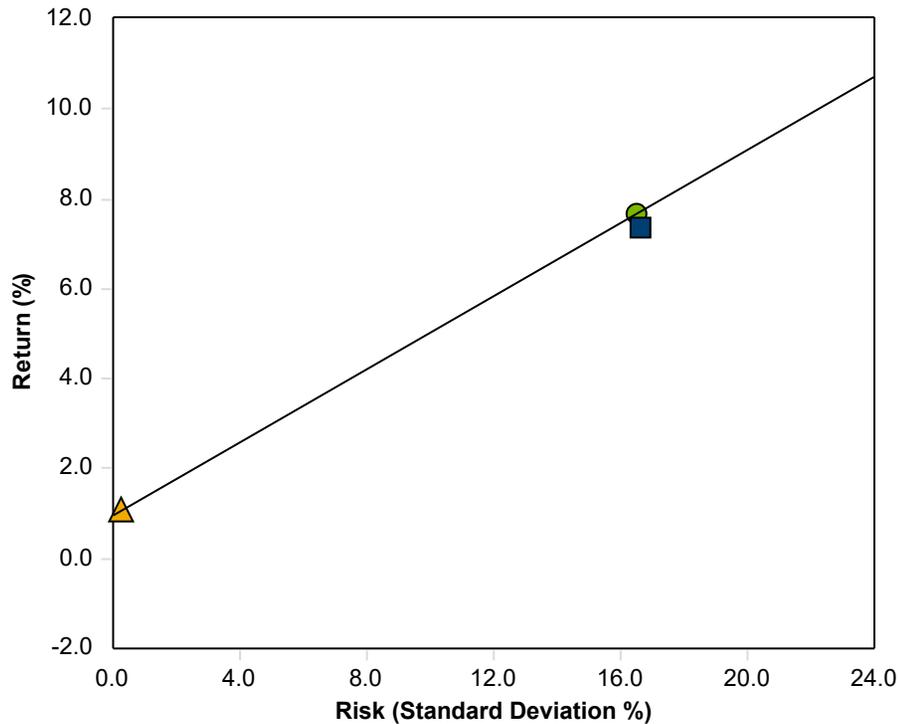


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ D.E. Shaw	-15.8 (59)	-18.1 (38)	-13.2 (34)	6.3 (42)	7.4 (38)	10.2 (24)	16.3 (63)	16.1 (50)	24.2 (67)
● MSCI World Index (Net)	-16.2 (63)	-20.5 (49)	-14.3 (39)	7.0 (33)	7.7 (33)	9.5 (37)	21.8 (21)	15.9 (50)	27.7 (46)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	12.5	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	10.2	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	9.0	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	7.7	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	5.6	4.5	-3.6	13.1
Population	383	381	378	354	323	215	388	412	428

1911
 Parentheses contain percentile rankings.

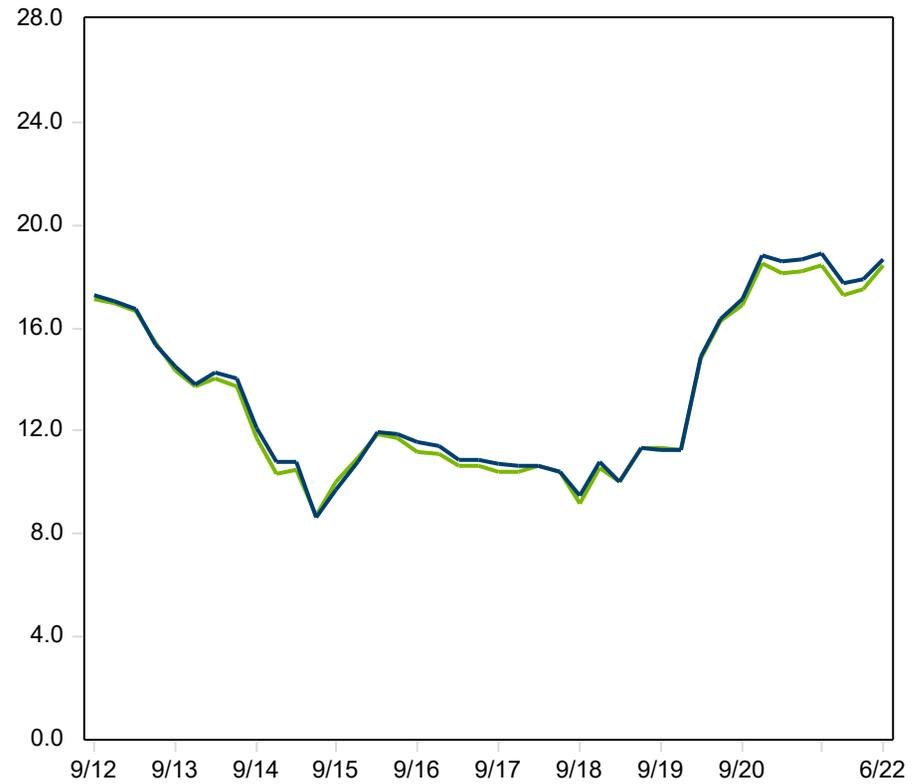
D.E. Shaw Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ D.E. Shaw ● MSCI World Index (Net)
▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— D.E. Shaw — MSCI World Index (Net)

5 Years Historical Statistics

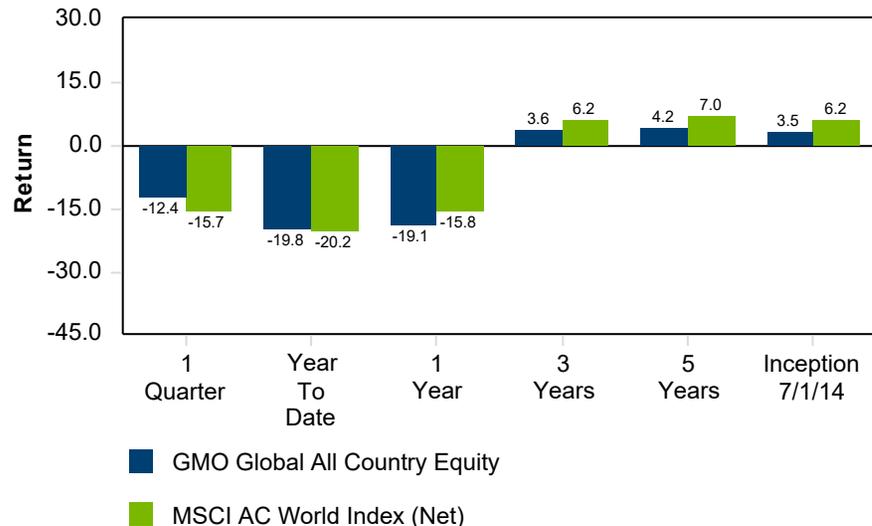
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
D.E. Shaw	-0.28	2.69	-0.10	0.97	0.45	-0.22	0.99	7.35	16.60	0.99
MSCI World Index (Net)	0.00	0.00	N/A	1.00	0.46	0.00	1.00	7.67	16.49	1.00
FTSE 3 Month T-Bill	-7.68	16.52	-0.46	0.01	N/A	1.10	0.00	1.09	0.26	-0.11

GMO Global All Country Equity Performance Summary

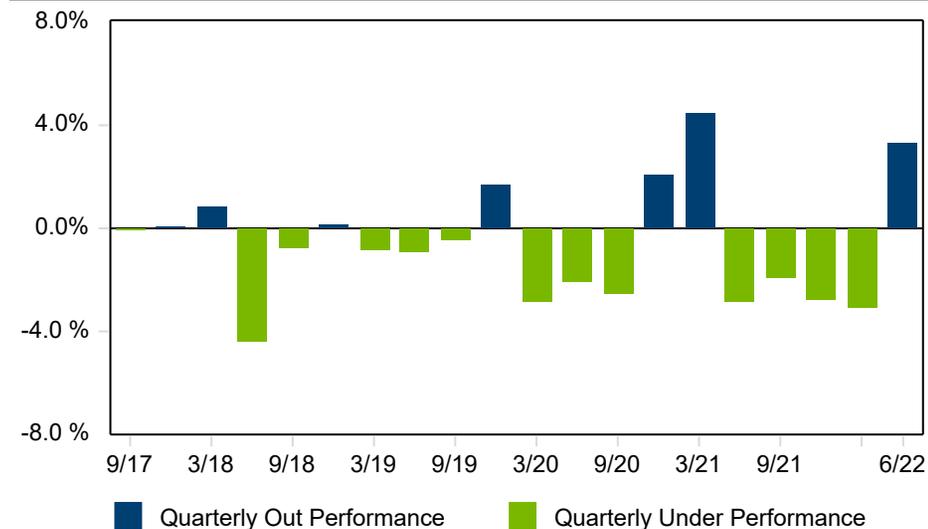
Account Information as of 06/30/22

Product Name : GMO:Global Eq All;III (GMGEX)
 Fund Family : GMO
 Ticker : GMGEX
 Peer Group : IM Global Multi-Cap Core Equity (MF)
 Benchmark : MSCI AC World Index (Net)
 Fund Inception : 11/26/1996
 Portfolio Manager : Team Managed
 Total Assets : \$1,304.10 Million
 Total Assets Date : 06/30/2022
 Gross Expense : 0.60%
 Net Expense : 0.59%
 Turnover : 20%

Return Summary



Quarterly Excess Performance

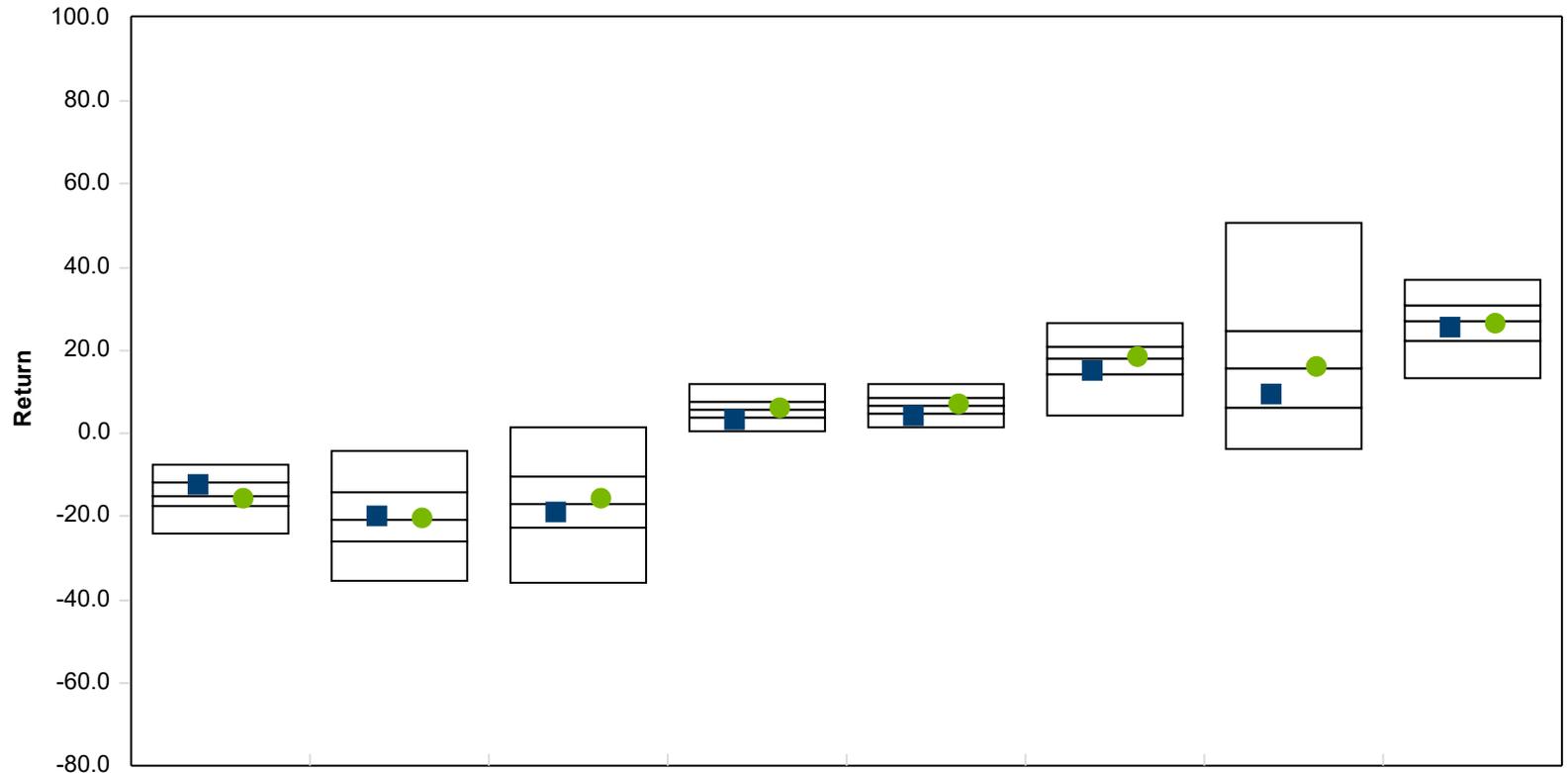


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

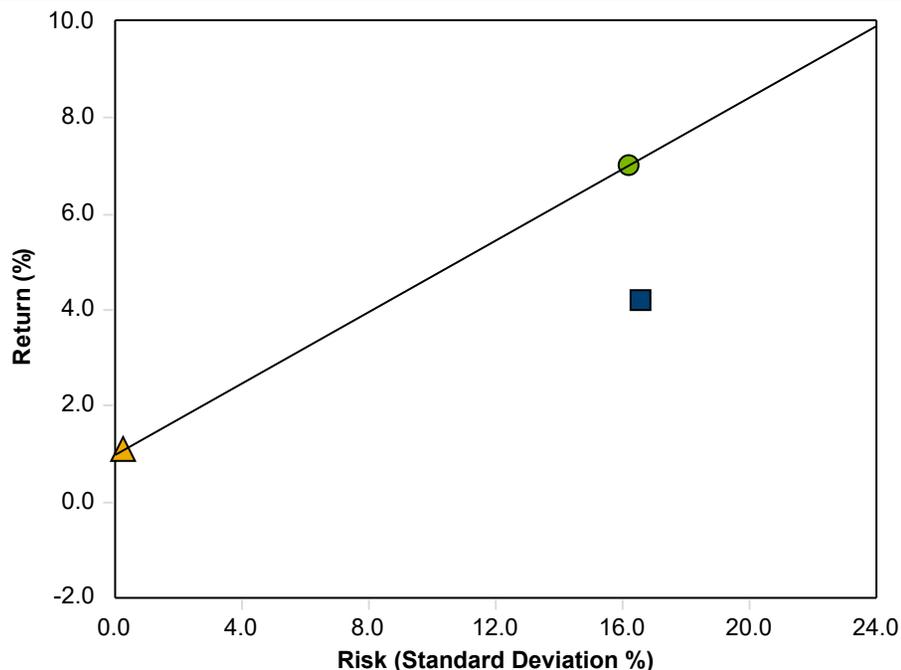


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2021	2020	2019
■ GMO Global All Country Equity	-12.4 (27)	-19.8 (45)	-19.1 (64)	3.6 (79)	4.2 (86)	15.0 (72)	9.5 (67)	25.8 (57)
● MSCI AC World Index (Net)	-15.7 (58)	-20.2 (48)	-15.8 (45)	6.2 (43)	7.0 (44)	18.5 (46)	16.3 (49)	26.6 (51)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	4.5	-3.6	13.1
Population	383	381	378	354	323	388	412	428

parentheses contain percentile rankings.

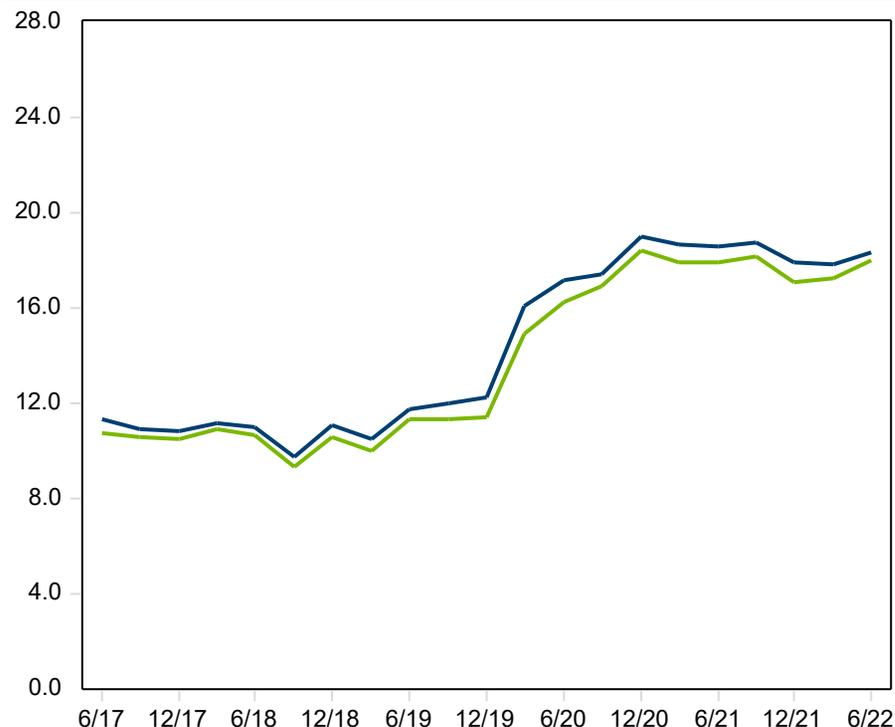
GMO Global All Country Equity Risk Profile

**Annualized Return vs. Annualized Standard Deviation
5 Years**



- GMO Global All Country Equity
- MSCI AC World Index (Net)
- ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



- GMO Global All Country Equity
- MSCI AC World Index (Net)

5 Years Historical Statistics

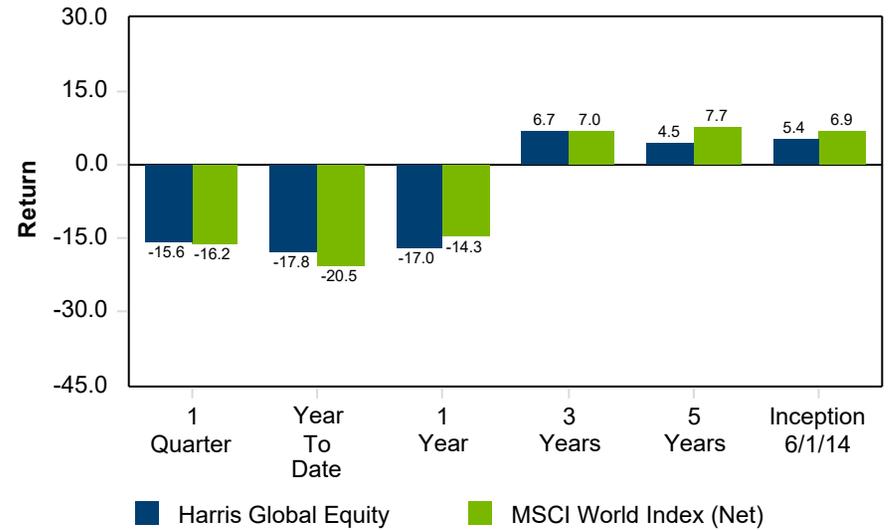
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
GMO Global All Country Equity	-2.60	4.90	-0.53	0.91	0.27	-2.39	0.98	4.20	16.57	0.96
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.43	0.00	1.00	7.00	16.20	1.00
FTSE 3 Month T-Bill	-7.01	16.24	-0.43	0.01	N/A	1.10	0.00	1.09	0.26	-0.12

Harris Global Equity Performance Summary

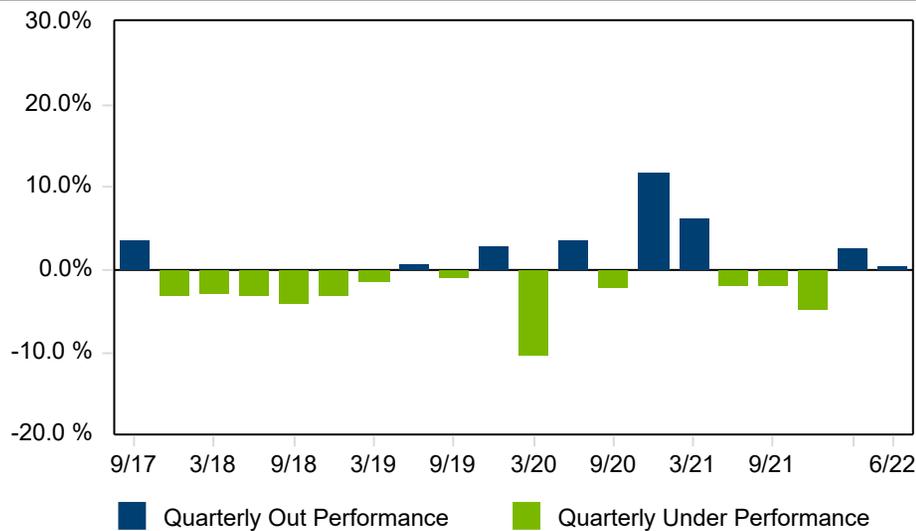
Account Information

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)

Return Summary



Quarterly Excess Performance

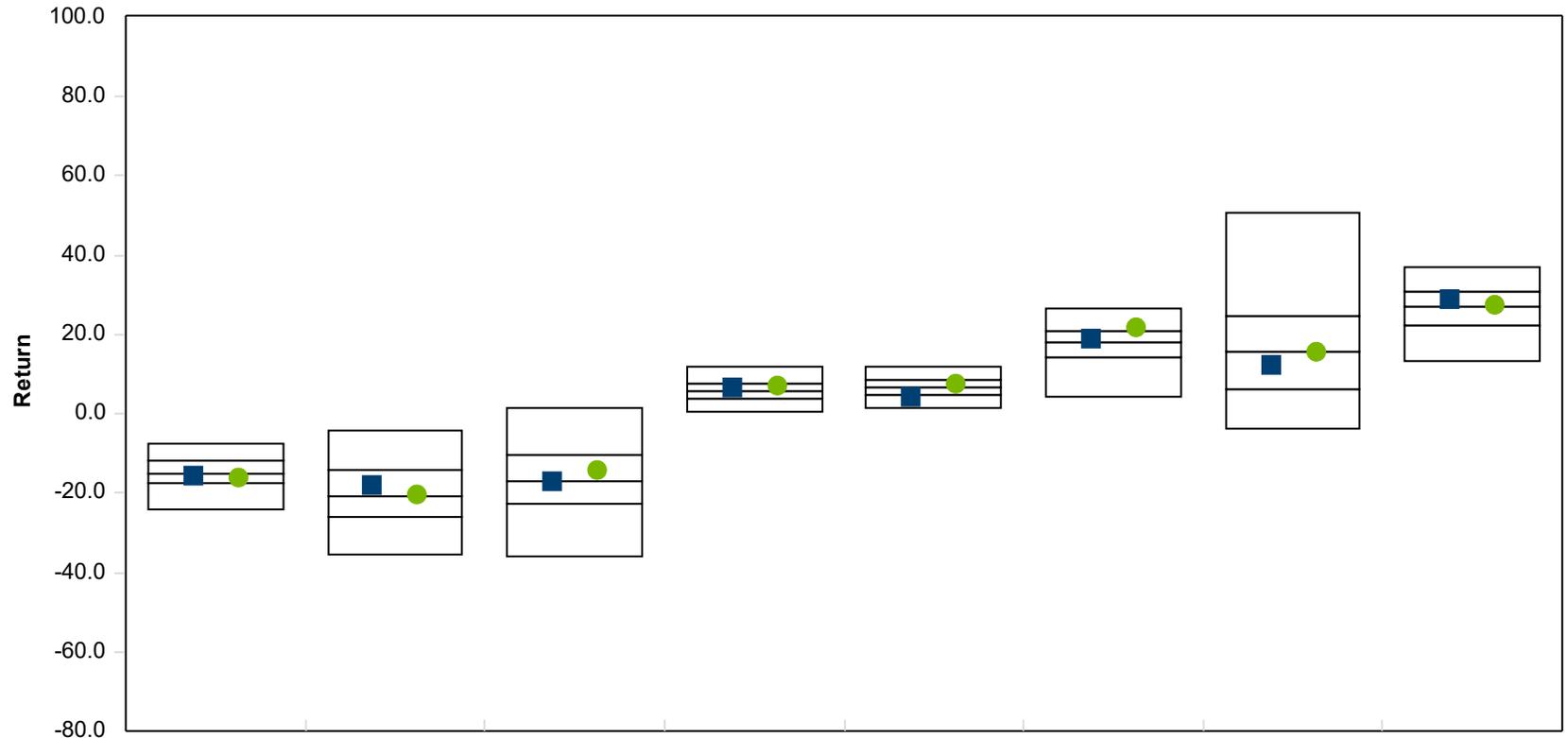


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

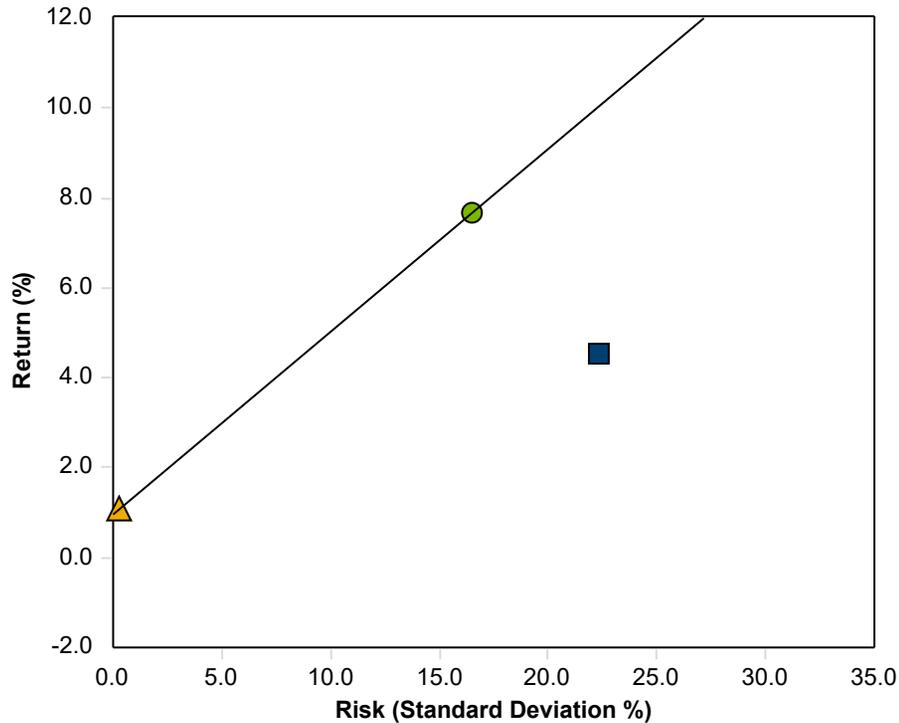


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2021	2020	2019
■ Harris Global Equity	-15.6 (58)	-17.8 (37)	-17.0 (51)	6.7 (36)	4.5 (82)	18.8 (43)	12.1 (61)	28.9 (39)
● MSCI World Index (Net)	-16.2 (63)	-20.5 (49)	-14.3 (39)	7.0 (33)	7.7 (33)	21.8 (21)	15.9 (50)	27.7 (46)
5th Percentile	-7.6	-4.3	1.6	11.8	11.7	26.6	50.9	37.0
1st Quartile	-11.8	-14.3	-10.5	7.7	8.4	21.0	24.5	30.7
Median	-15.2	-20.9	-16.9	5.7	6.7	18.1	15.7	26.9
3rd Quartile	-17.6	-26.0	-22.9	3.9	5.0	14.1	6.2	22.2
95th Percentile	-23.9	-35.6	-35.8	0.5	1.4	4.5	-3.6	13.1
Population	383	381	378	354	323	388	412	428

parentheses contain percentile rankings.

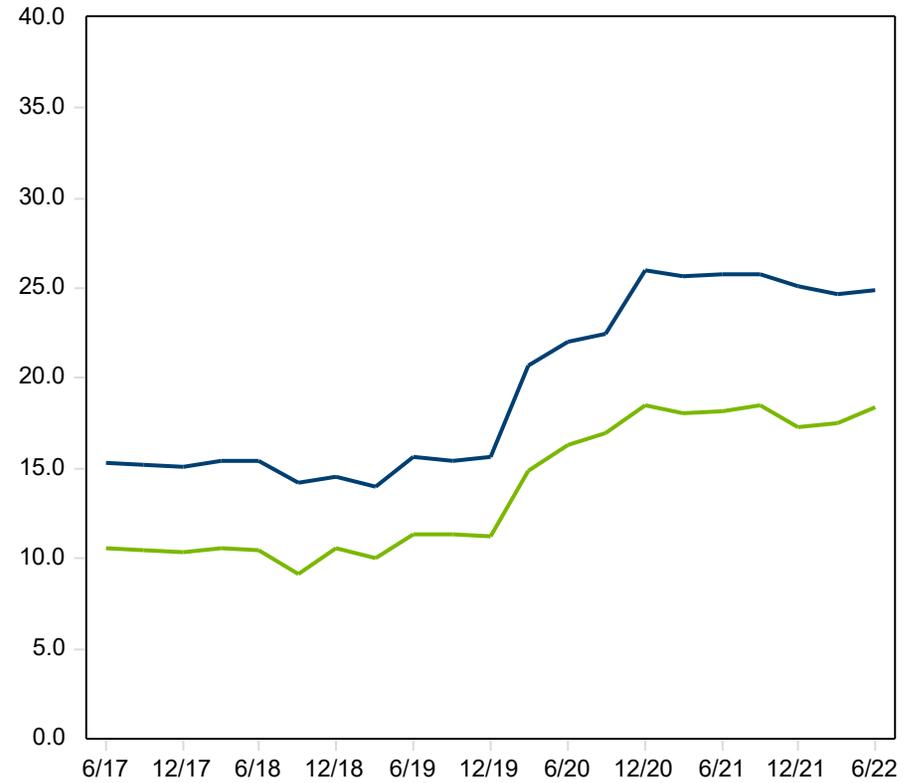
Harris Global Equity Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Harris Global Equity ● MSCI World Index (Net)
 ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— 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	-1.83	9.21	-0.20	0.87	0.26	-4.04	1.26	4.55	22.33	0.93
MSCI World Index (Net)	0.00	0.00	N/A	1.00	0.46	0.00	1.00	7.67	16.49	1.00
FTSE 3 Month T-Bill	-7.68	16.52	-0.46	0.01	N/A	1.10	0.00	1.09	0.26	-0.11

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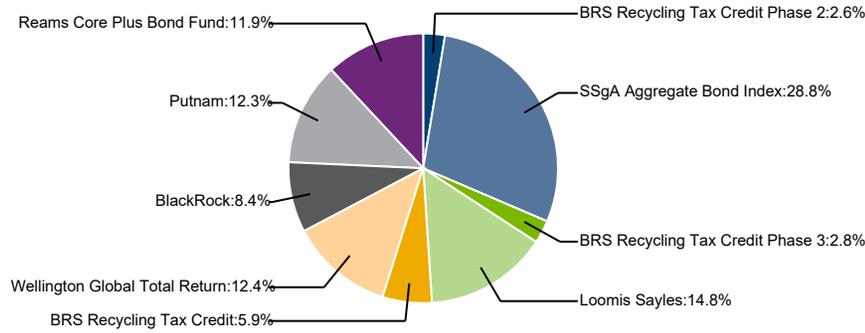


Fixed Income

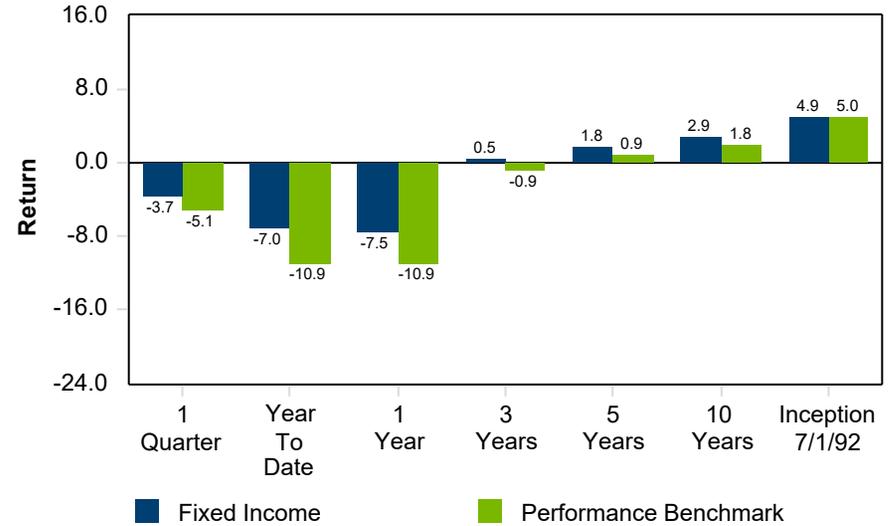
Fixed Income Portfolio Overview

Current Allocation

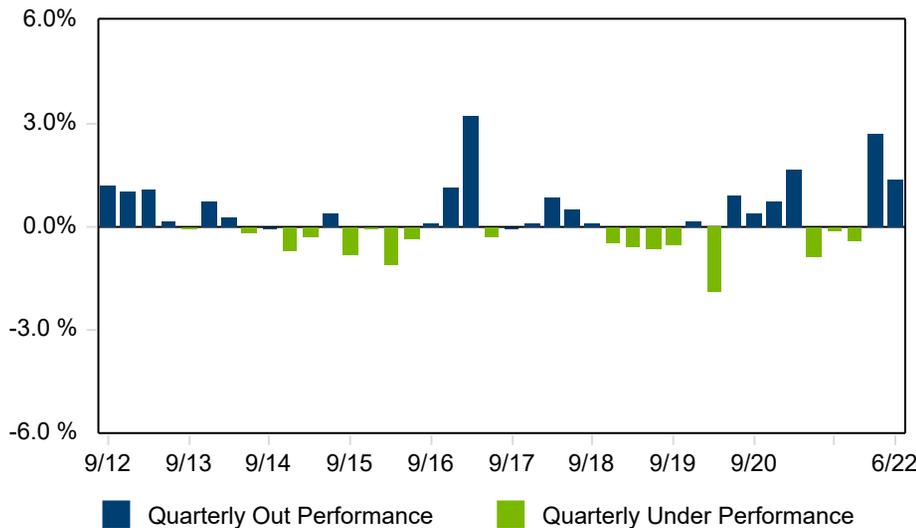
June 30, 2022 : \$2,975M



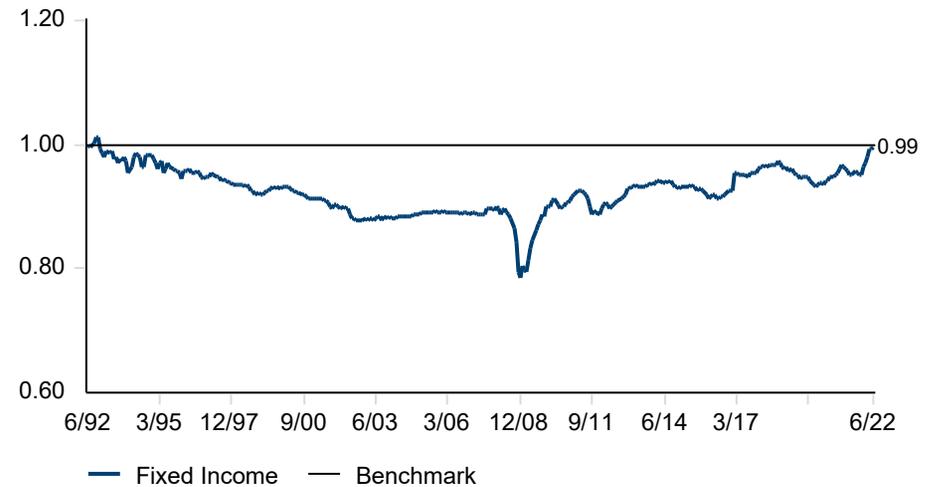
Return Summary



Quarterly Excess Performance

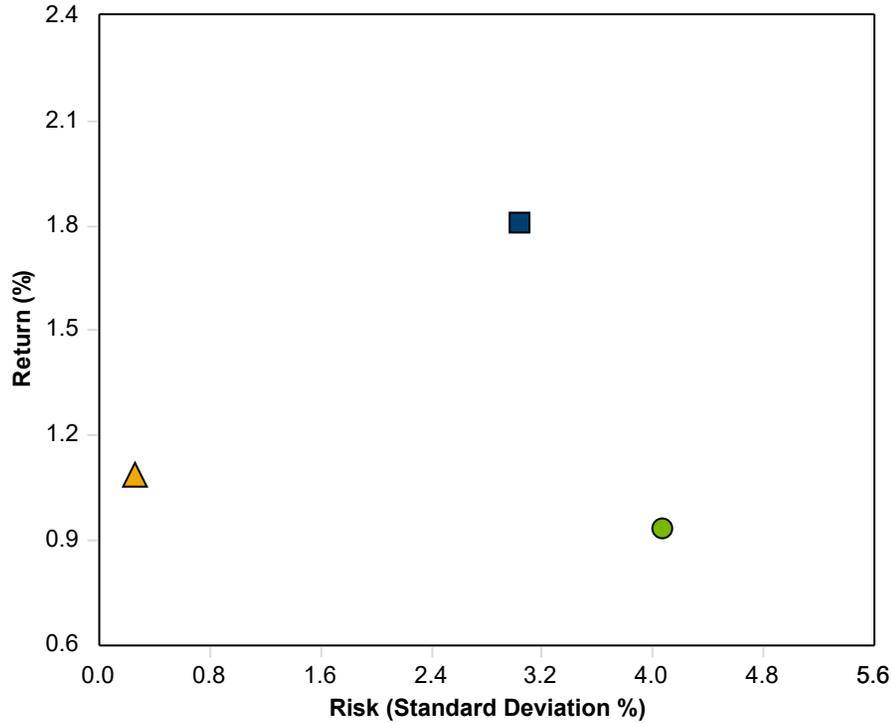


Ratio of Cumulative Wealth - Since Inception



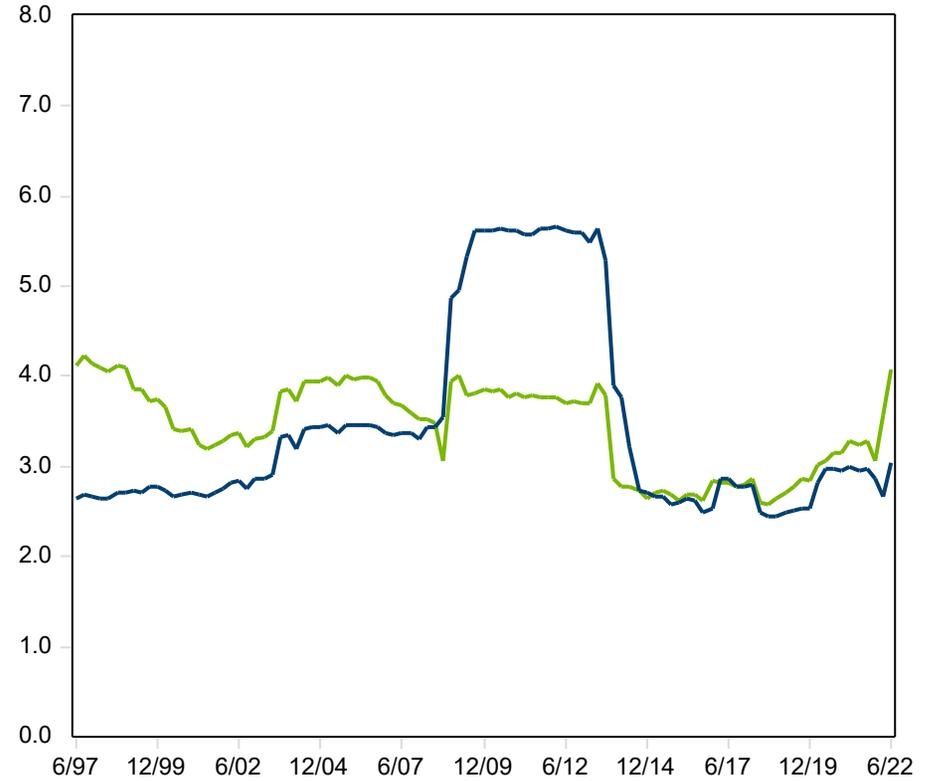
Fixed Income Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Fixed Income ● Performance Benchmark
▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



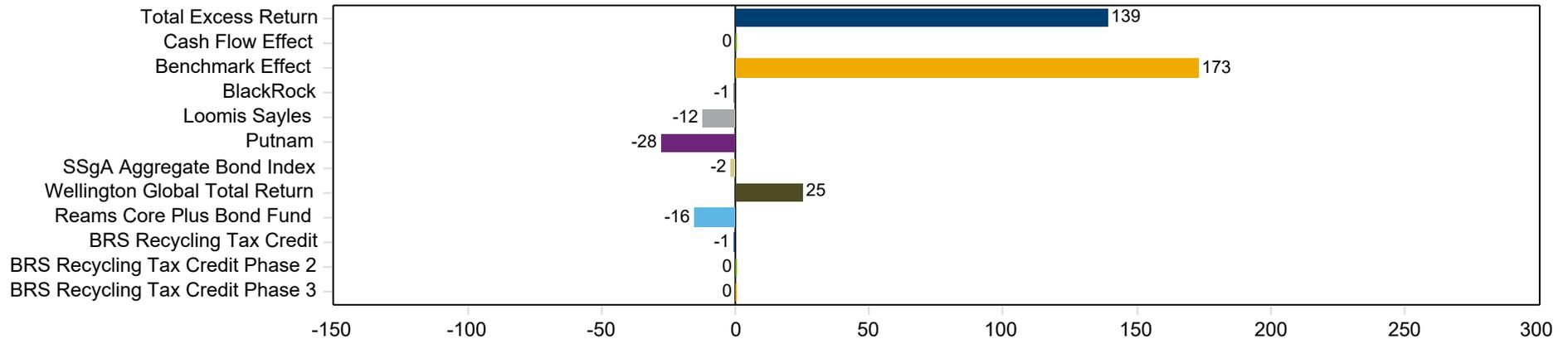
— Fixed Income — Performance Benchmark

5 Years Historical Statistics

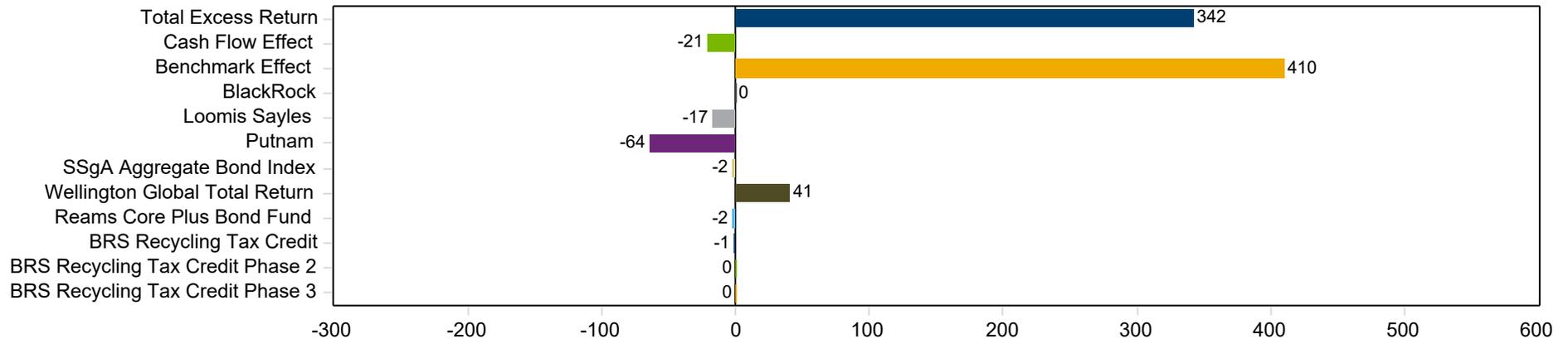
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Fixed Income	0.82	1.57	0.53	0.89	0.25	1.13	0.70	1.81	3.04	0.94
Performance Benchmark	0.00	0.00	N/A	1.00	-0.02	0.00	1.00	0.94	4.07	1.00
FTSE 3 Month T-Bill	0.07	4.00	0.02	0.10	N/A	1.07	0.02	1.09	0.26	0.32

Asset Class Attribution

1 Quarter



1 Year



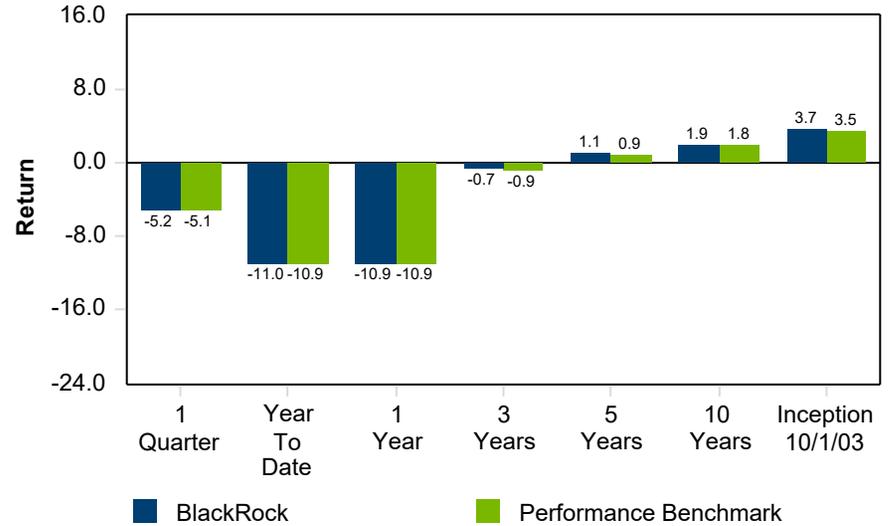
*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance with GASB Statement 72, representing the 14 years of annual income, and has been incorporated into Total Fixed Income and Total Fund performance.

BlackRock Performance Summary

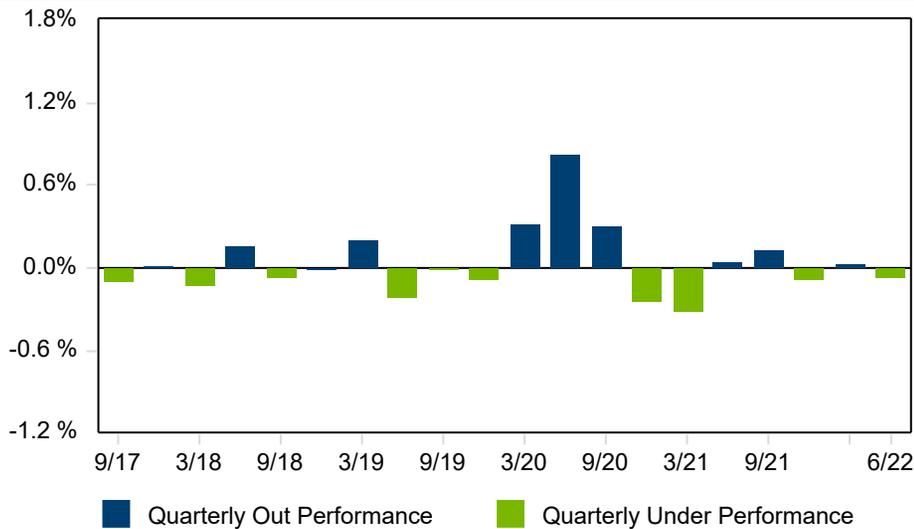
Account Information

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)

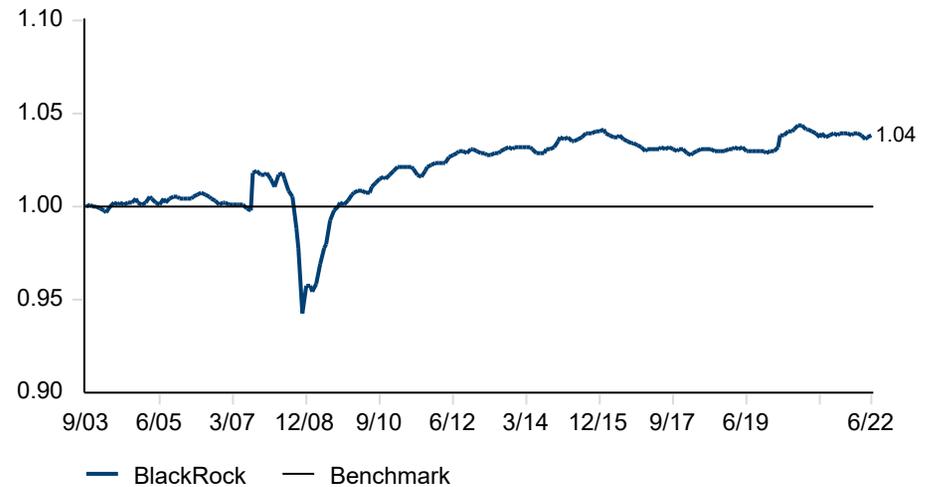
Return Summary



Quarterly Excess Performance

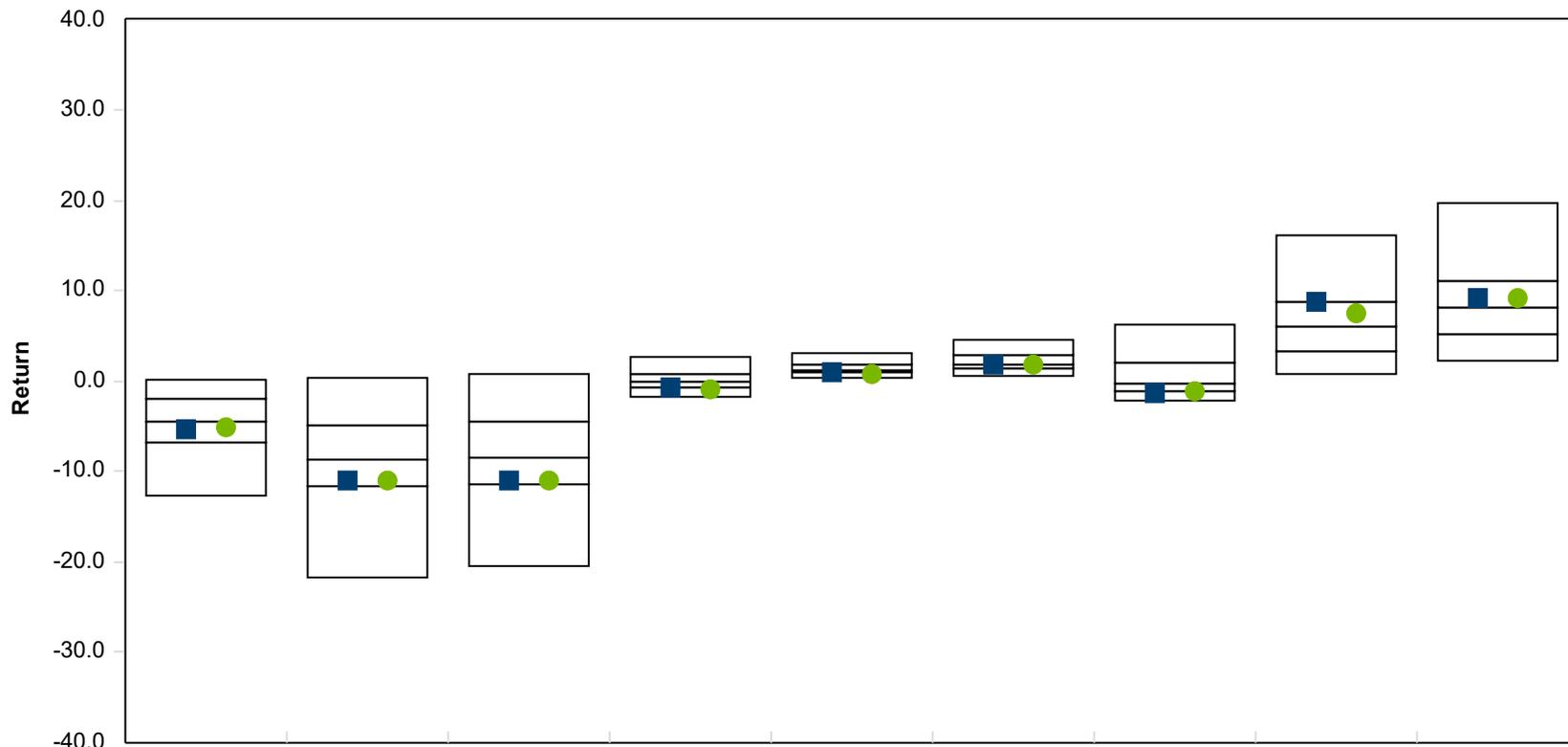


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Fixed Income (SA+CF)

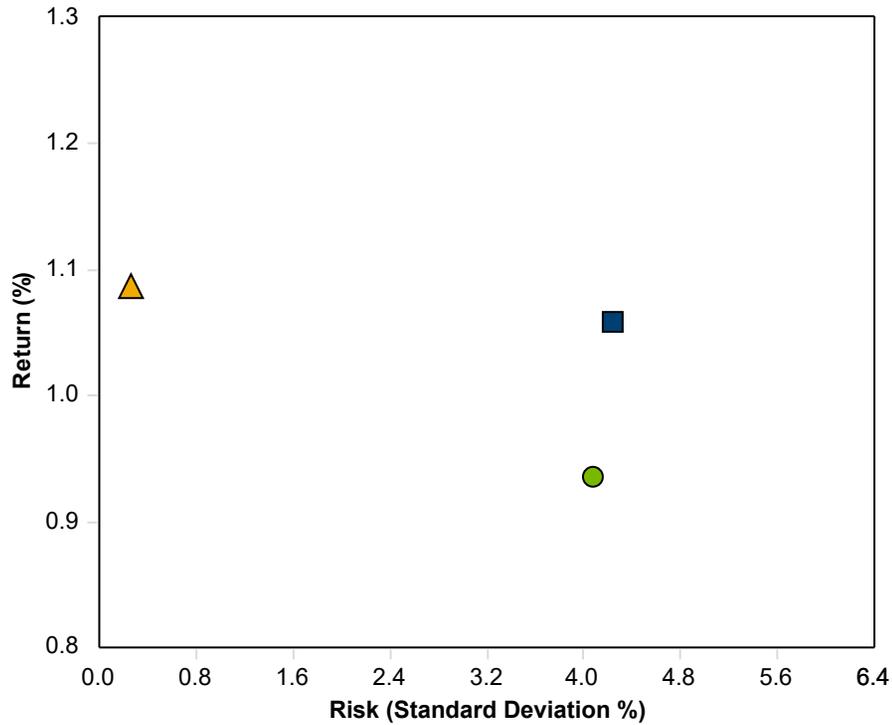


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ BlackRock	-5.2 (63)	-11.0 (70)	-10.9 (71)	-0.7 (75)	1.1 (72)	1.9 (52)	-1.4 (82)	8.8 (25)	9.2 (39)
● Performance Benchmark	-5.1 (61)	-10.9 (70)	-10.9 (71)	-0.9 (83)	0.9 (81)	1.8 (55)	-1.1 (75)	7.6 (37)	9.3 (37)
5th Percentile	0.2	0.4	0.9	2.7	3.1	4.6	6.4	16.2	19.8
1st Quartile	-1.8	-4.8	-4.4	0.8	1.9	3.0	2.2	8.8	11.2
Median	-4.5	-8.6	-8.3	0.0	1.3	2.0	-0.2	6.2	8.2
3rd Quartile	-6.6	-11.5	-11.3	-0.7	1.0	1.4	-1.1	3.4	5.2
95th Percentile	-12.6	-21.7	-20.3	-1.8	0.4	0.7	-2.1	0.9	2.3
Population	928	928	926	900	855	718	996	1,065	1,100

parentheses contain percentile rankings.

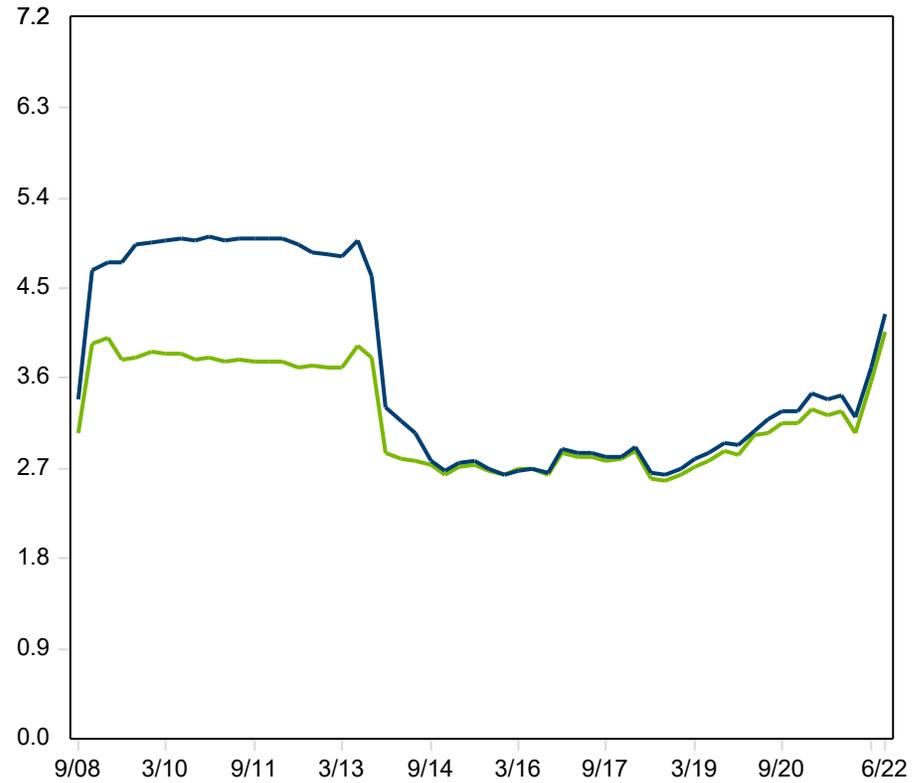
BlackRock Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ BlackRock ● Performance Benchmark
▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



— BlackRock — Performance Benchmark

5 Years Historical Statistics

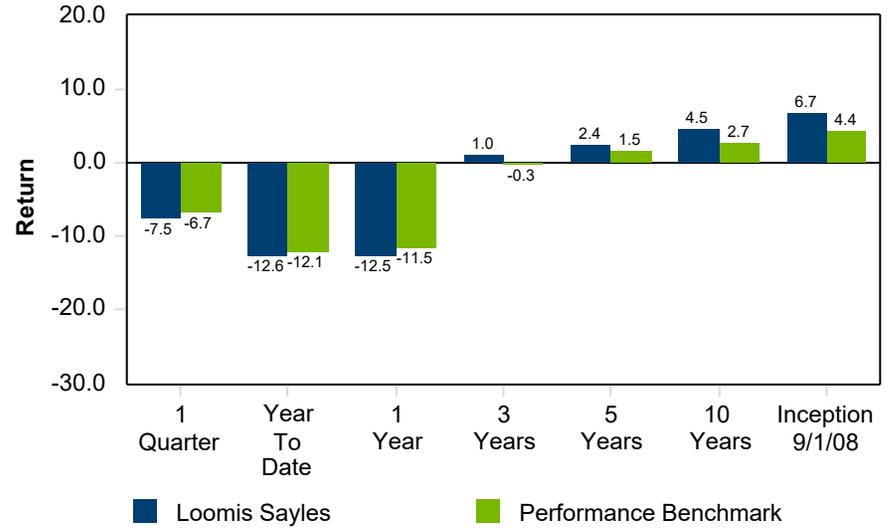
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock	0.13	0.44	0.30	0.99	0.01	0.09	1.03	1.06	4.24	1.00
Performance Benchmark	0.00	0.00	N/A	1.00	-0.02	0.00	1.00	0.94	4.07	1.00
FTSE 3 Month T-Bill	0.07	4.00	0.02	0.10	N/A	1.07	0.02	1.09	0.26	0.32

Loomis Sayles Performance Summary

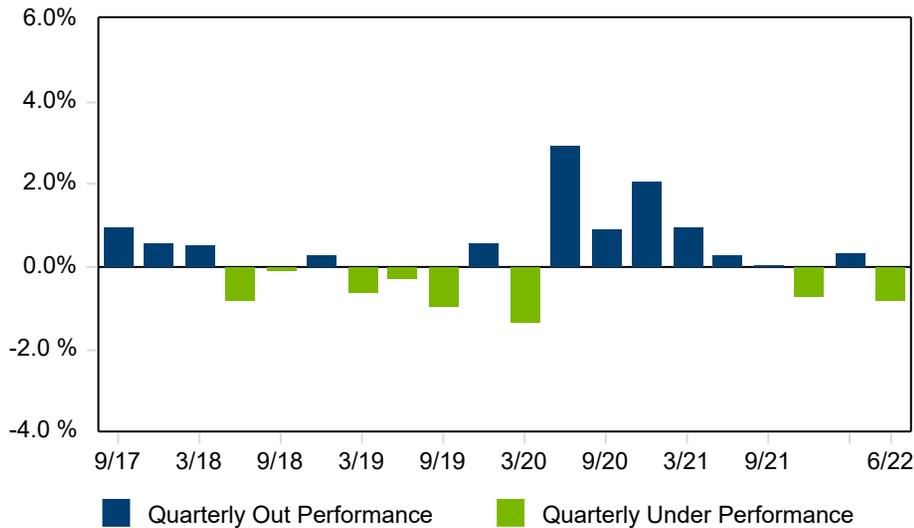
Account Information

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)

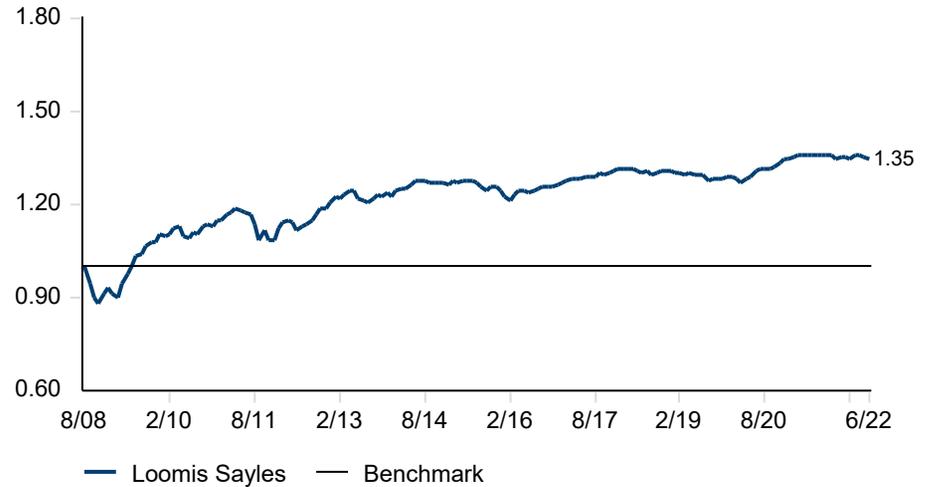
Return Summary



Quarterly Excess Performance

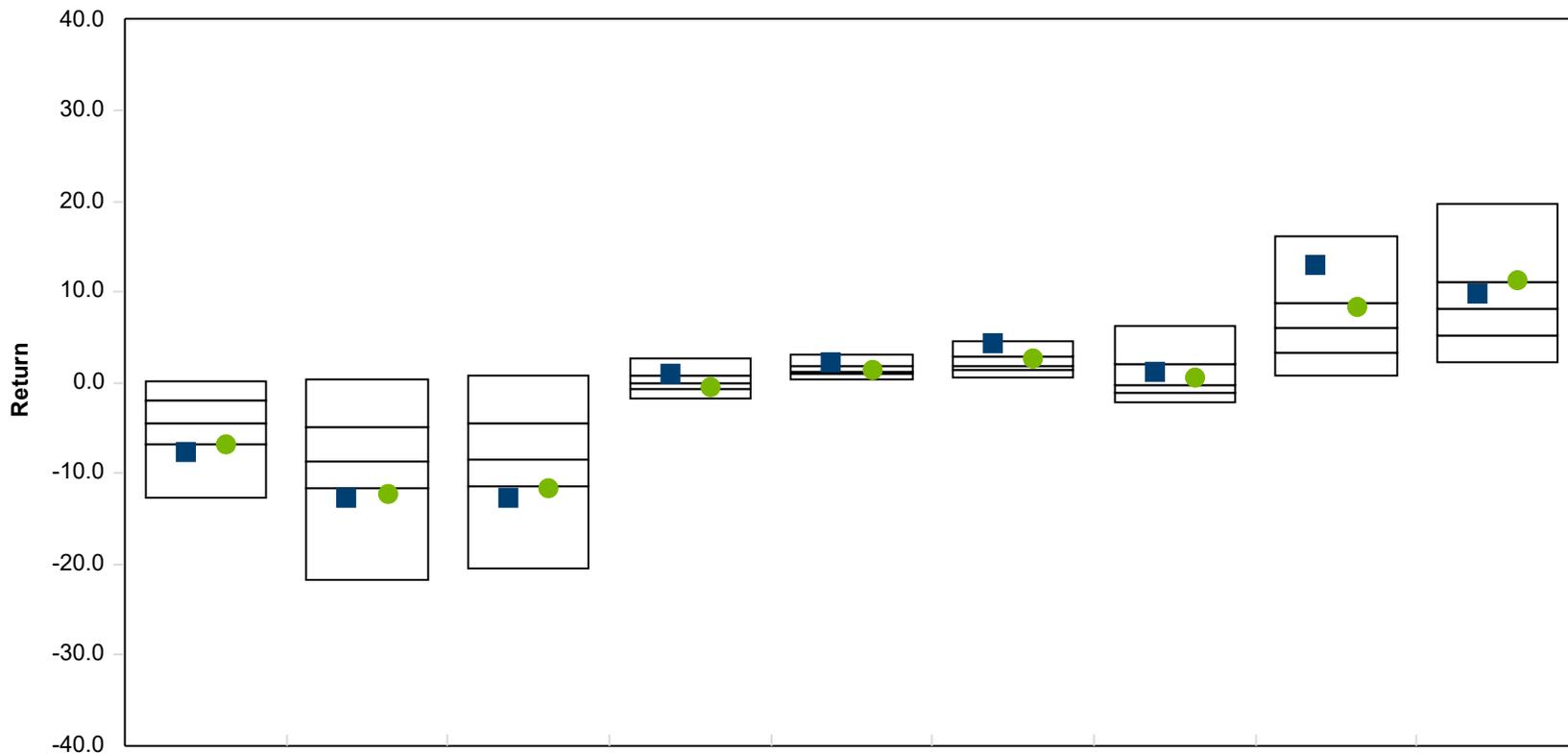


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Fixed Income (SA+CF)

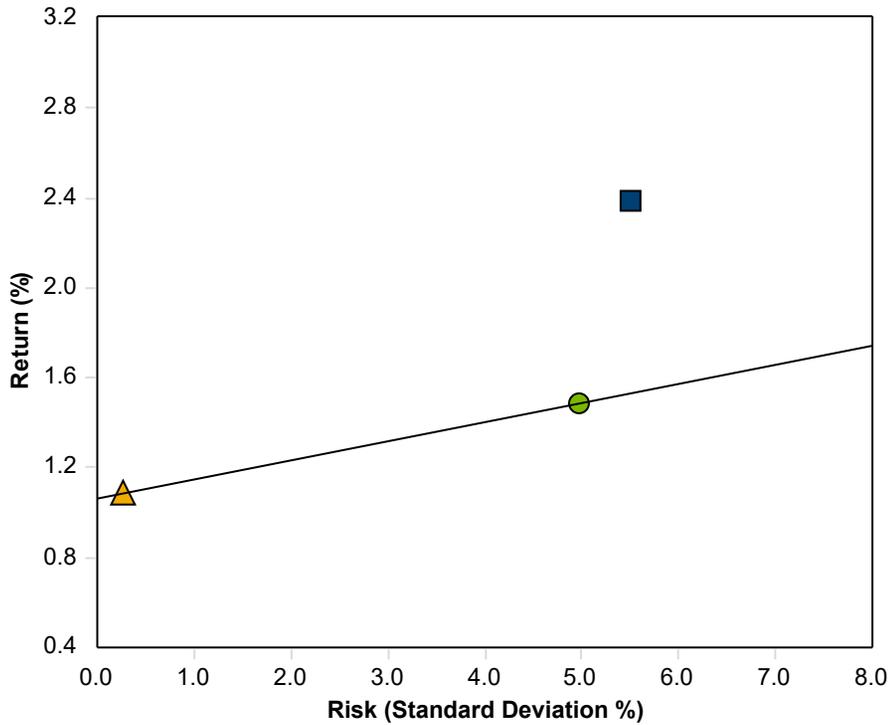


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Loomis Sayles	-7.5 (80)	-12.6 (80)	-12.5 (83)	1.0 (23)	2.4 (15)	4.5 (6)	1.2 (32)	13.1 (9)	10.0 (31)
● Performance Benchmark	-6.7 (76)	-12.1 (79)	-11.5 (77)	-0.3 (63)	1.5 (41)	2.7 (34)	0.7 (36)	8.5 (27)	11.4 (25)
5th Percentile	0.2	0.4	0.9	2.7	3.1	4.6	6.4	16.2	19.8
1st Quartile	-1.8	-4.8	-4.4	0.8	1.9	3.0	2.2	8.8	11.2
Median	-4.5	-8.6	-8.3	0.0	1.3	2.0	-0.2	6.2	8.2
3rd Quartile	-6.6	-11.5	-11.3	-0.7	1.0	1.4	-1.1	3.4	5.2
95th Percentile	-12.6	-21.7	-20.3	-1.8	0.4	0.7	-2.1	0.9	2.3
Population	928	928	926	900	855	718	996	1,065	1,100

Parenteses contain percentile rankings.

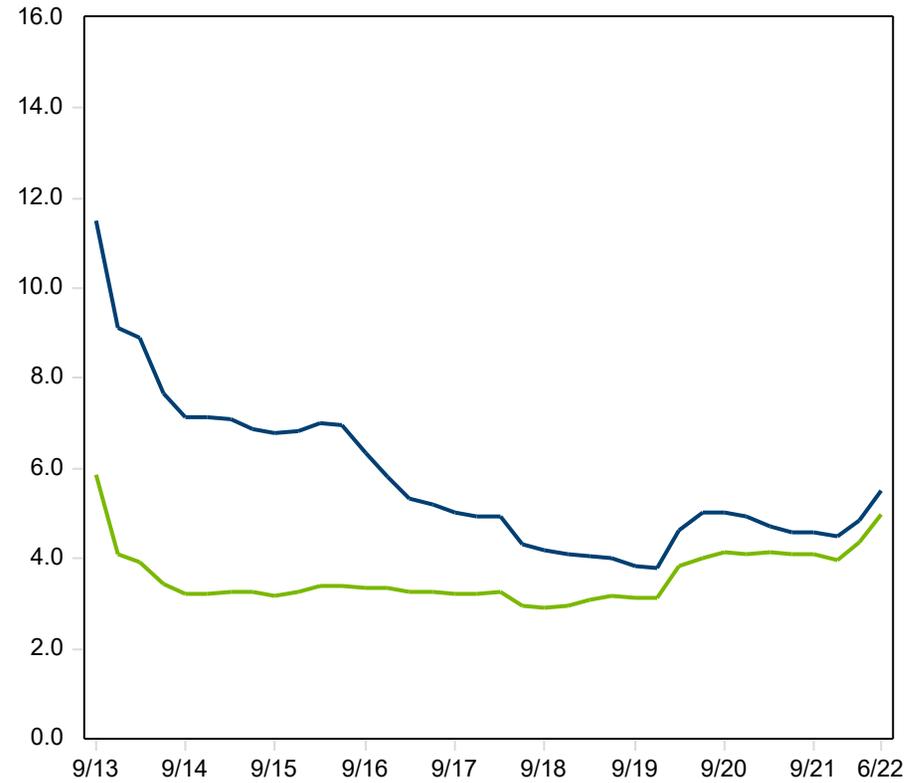
Loomis Sayles Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Loomis Sayles ● Performance Benchmark
 ▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



— Loomis Sayles — Performance Benchmark

5 Years Historical Statistics

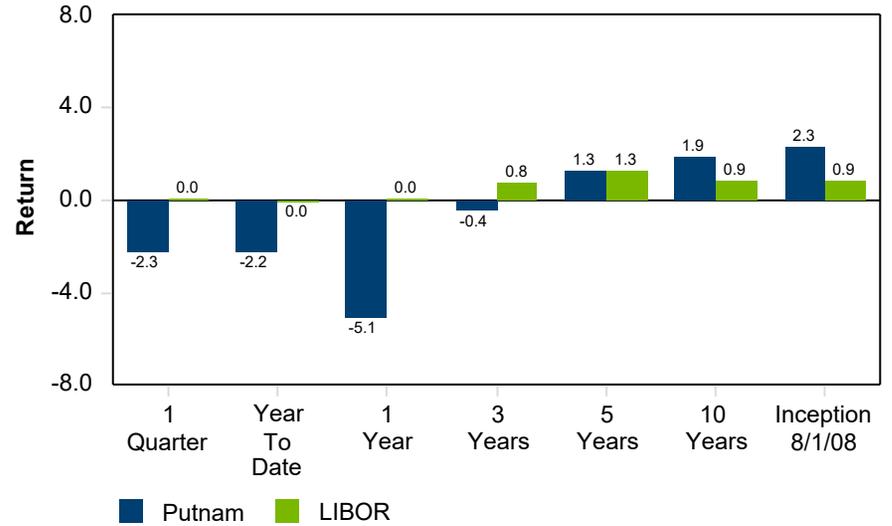
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Loomis Sayles	0.91	1.70	0.54	0.91	0.26	0.82	1.06	2.38	5.51	0.95
Performance Benchmark	0.00	0.00	N/A	1.00	0.11	0.00	1.00	1.49	4.97	1.00
FTSE 3 Month T-Bill	-0.52	4.93	-0.11	0.04	N/A	1.07	0.01	1.09	0.26	0.19

Putnam Performance Summary

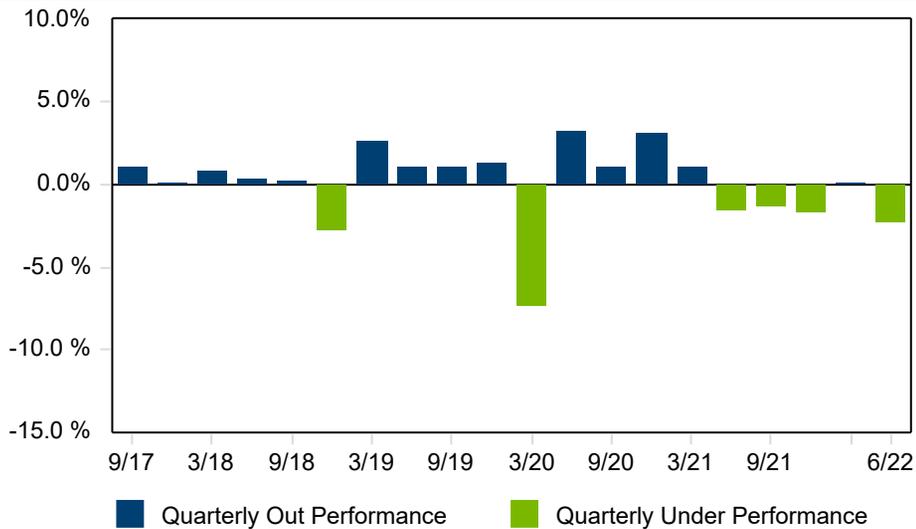
Account Information

Account Name: Putnam
 Inception Date: 06/30/2008
 Account Structure: Commingled Fund
 Asset Class: US Fixed Income
 Benchmark: LIBOR
 Peer Group: IM U.S. Fixed Income (SA+CF)

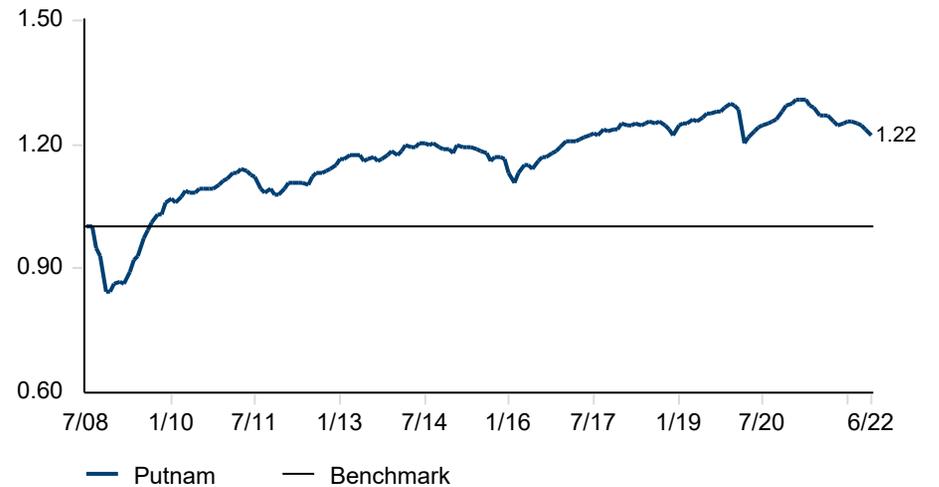
Return Summary



Quarterly Excess Performance

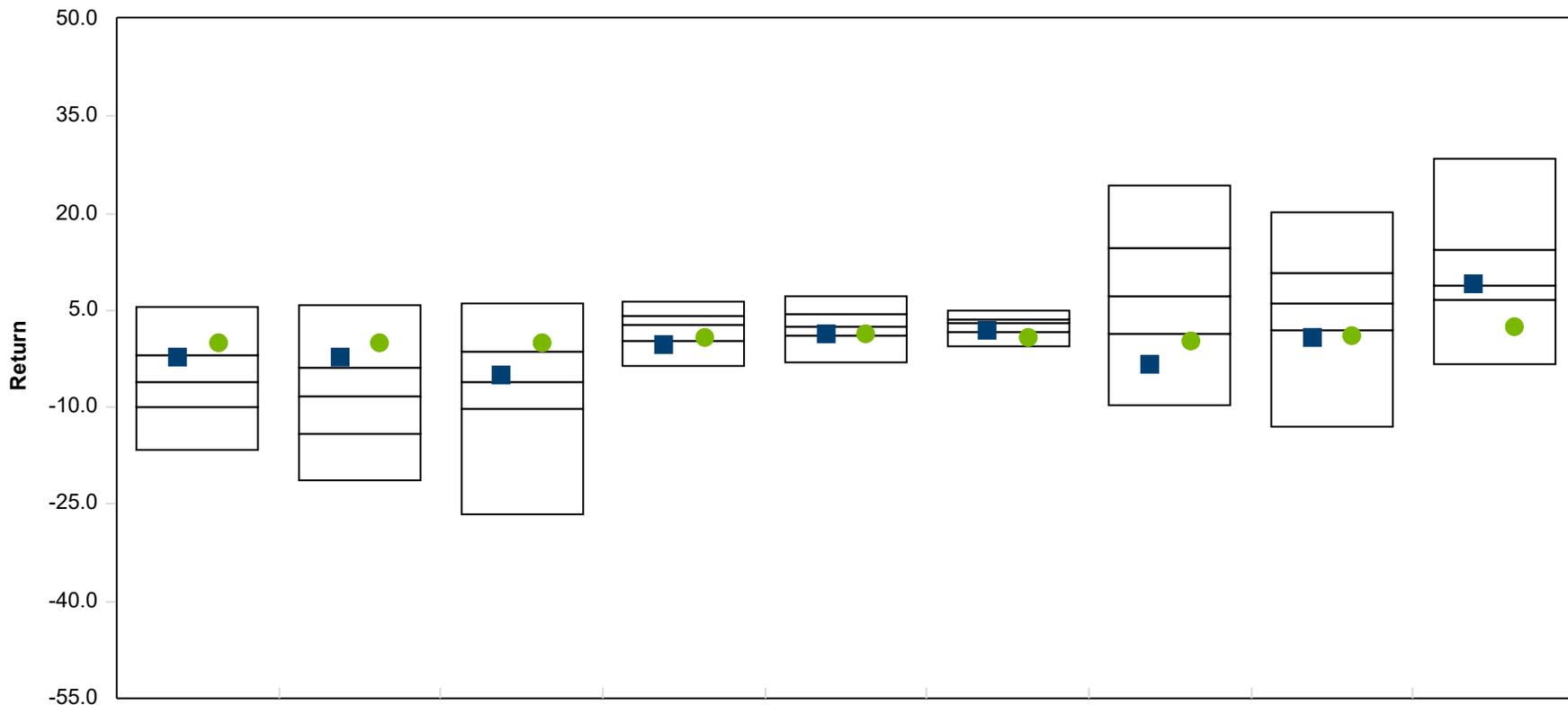


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Absolute Return (MF)

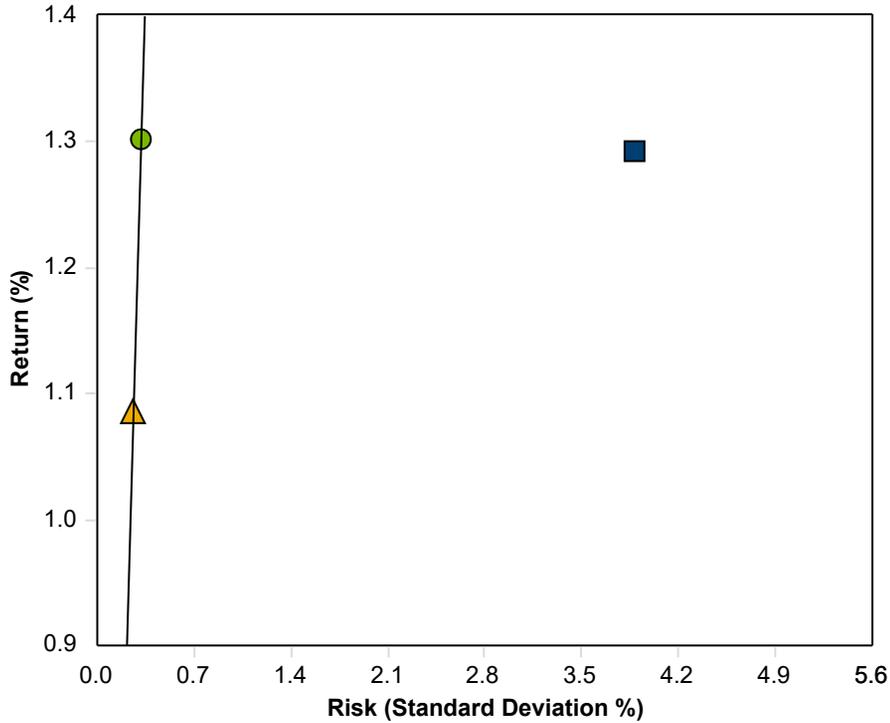


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2021	2020	2019
■ Putnam	-2.3 (28)	-2.2 (22)	-5.1 (41)	-0.4 (81)	1.3 (73)	1.9 (68)	-3.3 (89)	0.9 (78)	9.0 (50)
● LIBOR	0.0 (14)	0.0 (13)	0.0 (18)	0.8 (66)	1.3 (73)	0.9 (88)	0.2 (82)	1.1 (78)	2.6 (90)
5th Percentile	5.5	5.9	6.0	6.5	7.1	5.0	24.4	20.2	28.6
1st Quartile	-1.8	-3.7	-1.5	4.1	4.4	3.6	14.6	10.7	14.5
Median	-6.1	-8.2	-6.0	2.8	2.5	2.9	7.1	6.0	8.9
3rd Quartile	-10.0	-14.1	-10.3	0.3	1.0	1.6	1.5	1.9	6.7
95th Percentile	-16.6	-21.3	-26.6	-3.6	-3.0	-0.7	-9.7	-13.1	-3.3
Population	48	48	47	44	37	8	48	46	45

Parenteses contain percentile rankings.

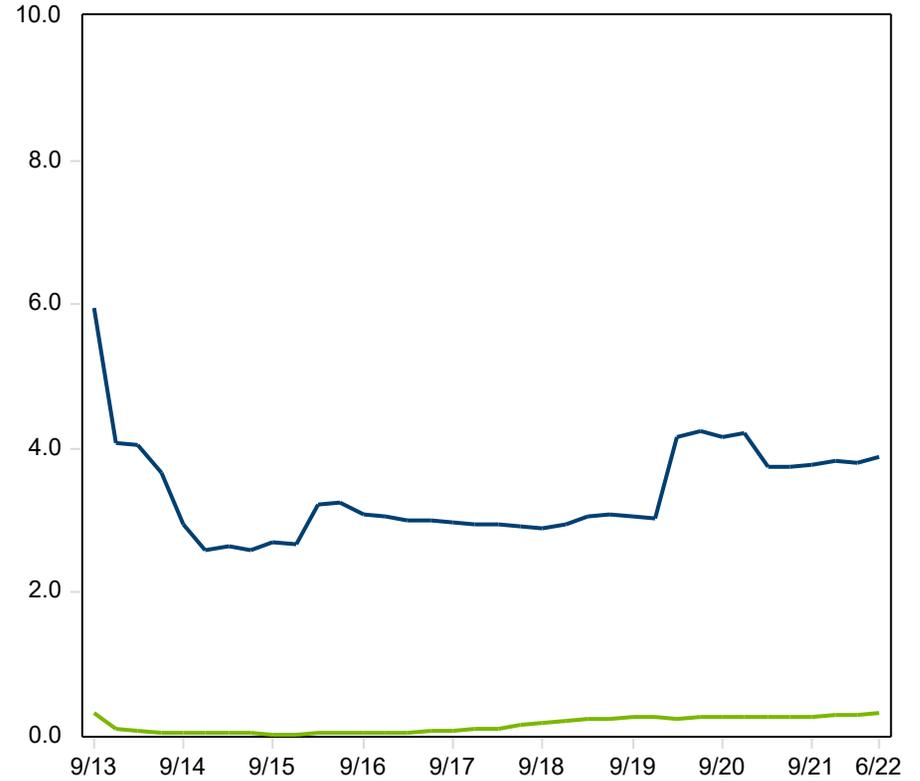
Putnam Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Putnam ● LIBOR
▲ FTSE 3 Month T-Bill

Rolling 5 Years Standard Deviation



— Putnam — LIBOR

5 Years Historical Statistics

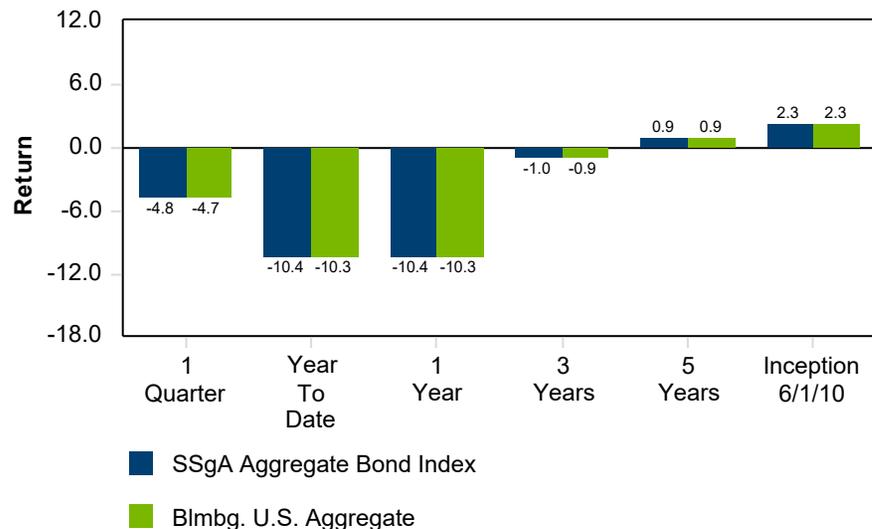
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Putnam	0.07	3.82	0.02	0.05	0.07	-2.03	2.63	1.29	3.87	0.22
LIBOR	0.00	0.00	N/A	1.00	1.58	0.00	1.00	1.30	0.32	1.00
FTSE 3 Month T-Bill	-0.21	0.13	-1.58	0.83	N/A	0.11	0.75	1.09	0.26	0.91

SSgA Aggregate Bond Index Performance Summary

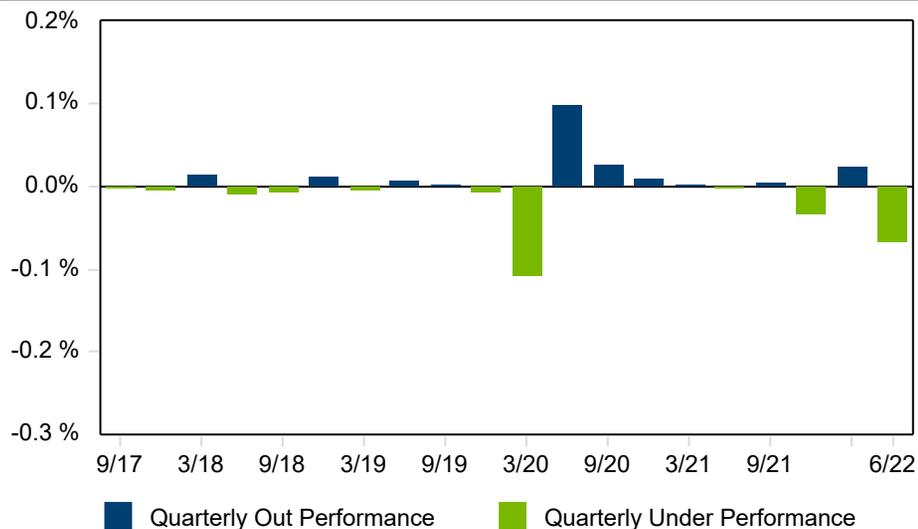
Account Information

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
 Peer Group: IM U.S. Fixed Income (SA+CF)

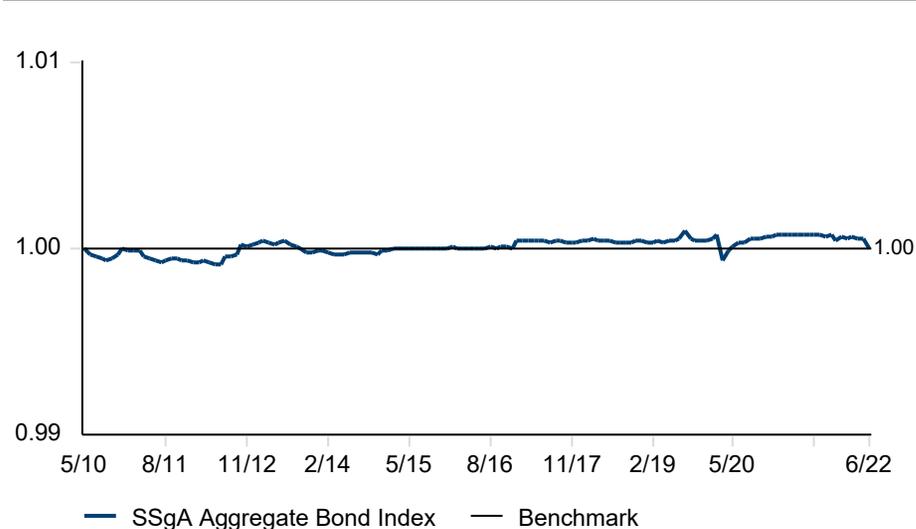
Return Summary



Quarterly Excess Performance

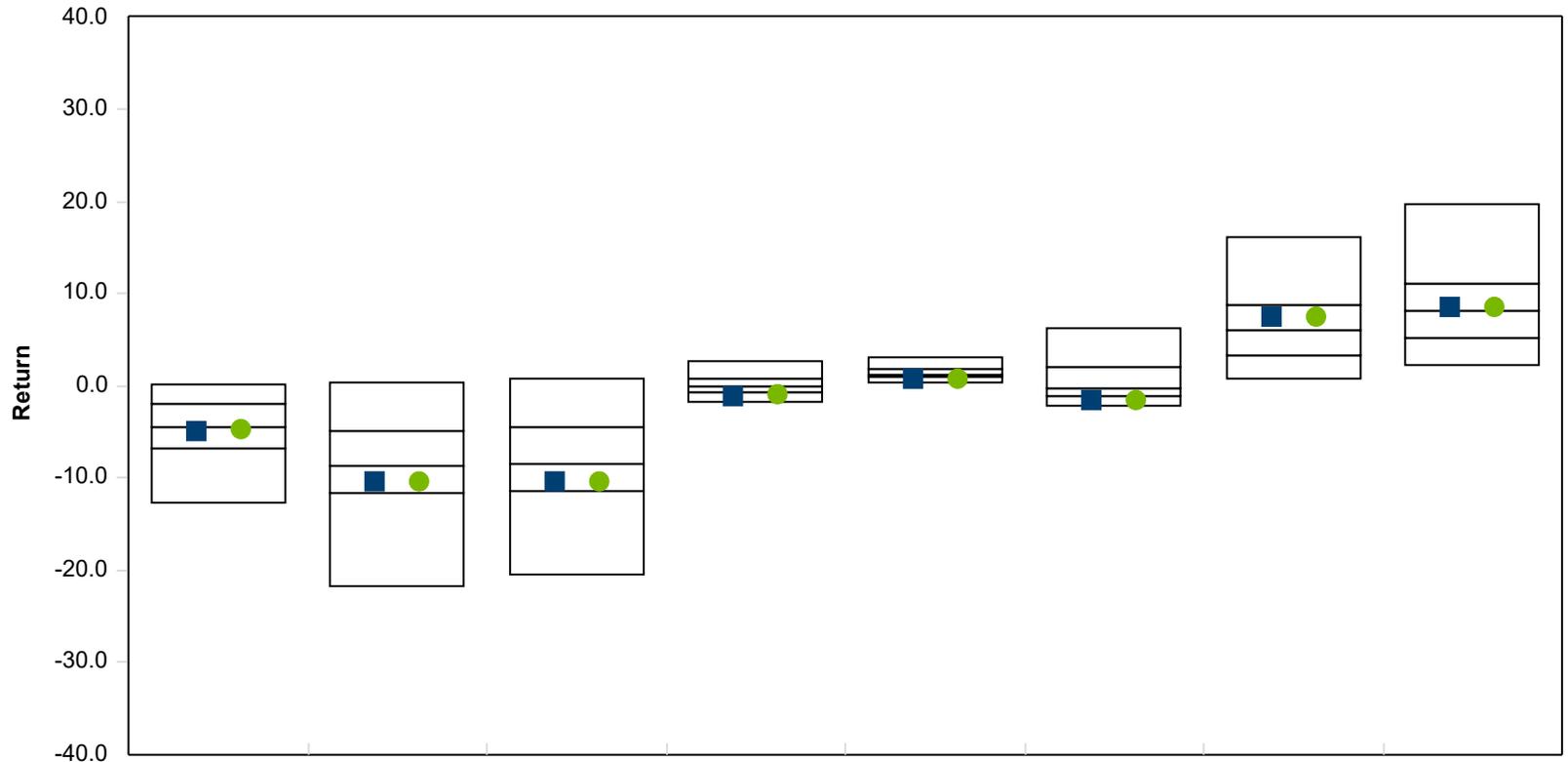


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Fixed Income (SA+CF)

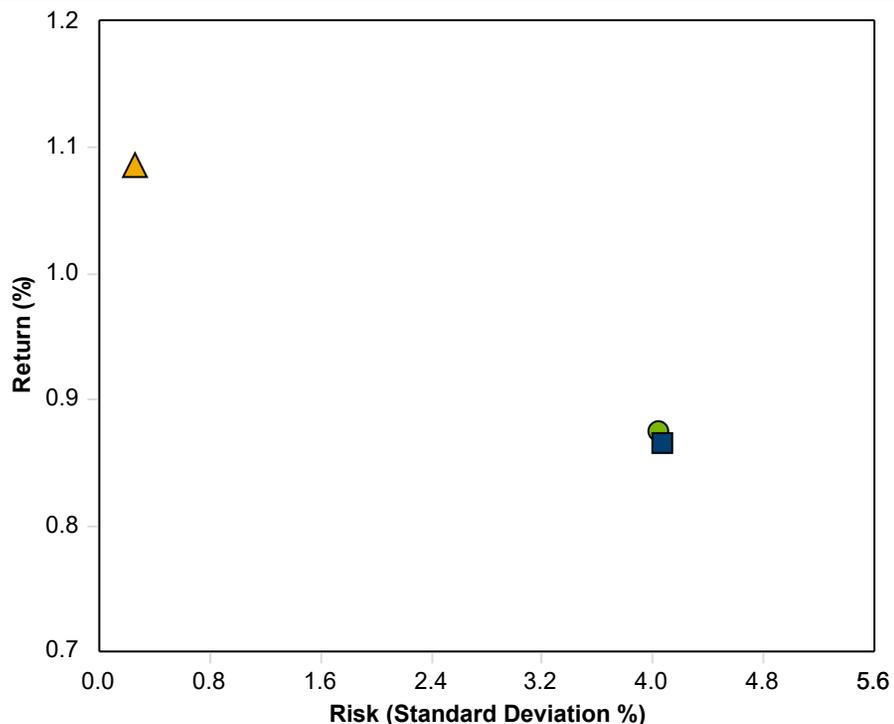


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2021	2020	2019
■ SSgA Aggregate Bond Index	-4.8 (54)	-10.4 (63)	-10.4 (64)	-1.0 (83)	0.9 (84)	-1.6 (87)	7.5 (37)	8.7 (45)
● Blmbg. U.S. Aggregate	-4.7 (53)	-10.3 (63)	-10.3 (63)	-0.9 (83)	0.9 (84)	-1.5 (86)	7.5 (37)	8.7 (45)
5th Percentile	0.2	0.4	0.9	2.7	3.1	6.4	16.2	19.8
1st Quartile	-1.8	-4.8	-4.4	0.8	1.9	2.2	8.8	11.2
Median	-4.5	-8.6	-8.3	0.0	1.3	-0.2	6.2	8.2
3rd Quartile	-6.6	-11.5	-11.3	-0.7	1.0	-1.1	3.4	5.2
95th Percentile	-12.6	-21.7	-20.3	-1.8	0.4	-2.1	0.9	2.3
Population	928	928	926	900	855	996	1,065	1,100

parentheses contain percentile rankings.

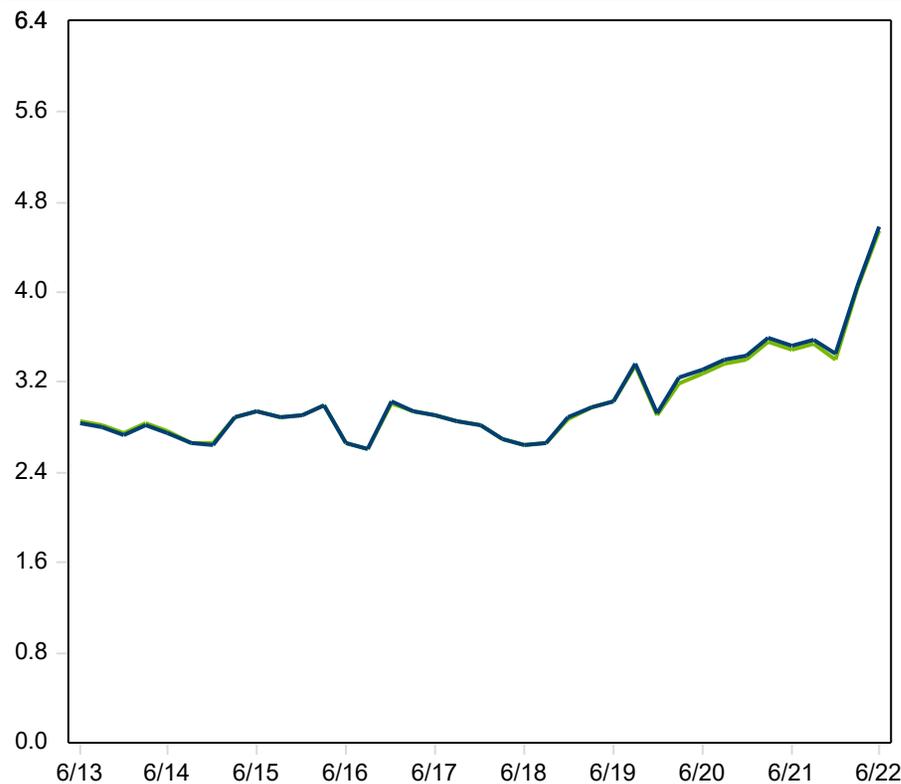
SSgA Aggregate Bond Index Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ SSgA Aggregate Bond Index ● Blmbg. U.S. Aggregate
 ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— SSgA Aggregate Bond Index — Blmbg. U.S. Aggregate

5 Years Historical Statistics

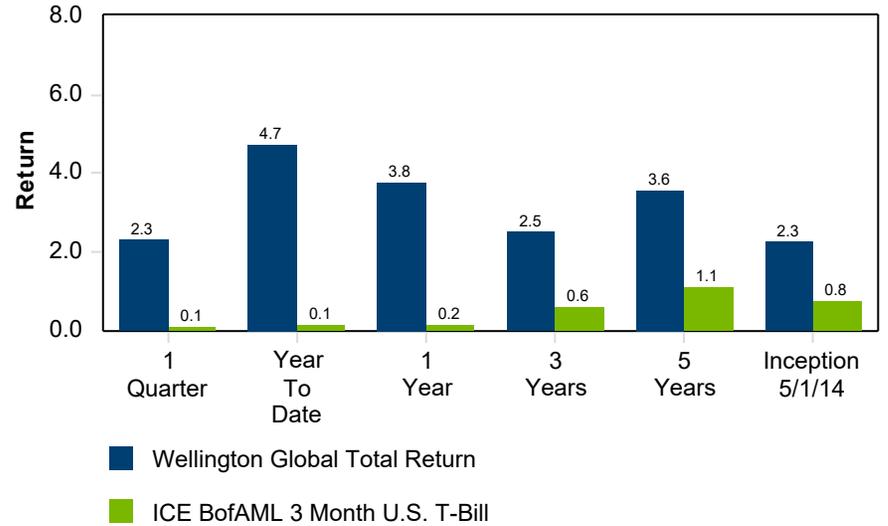
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Aggregate Bond Index	-0.01	0.08	-0.10	1.00	-0.03	-0.01	1.01	0.87	4.07	1.00
Blmbg. U.S. Aggregate	0.00	0.00	N/A	1.00	-0.03	0.00	1.00	0.88	4.04	1.00
FTSE 3 Month T-Bill	0.13	3.95	0.03	0.13	N/A	1.06	0.02	1.09	0.26	0.36

Wellington Global Total Return Performance Summary

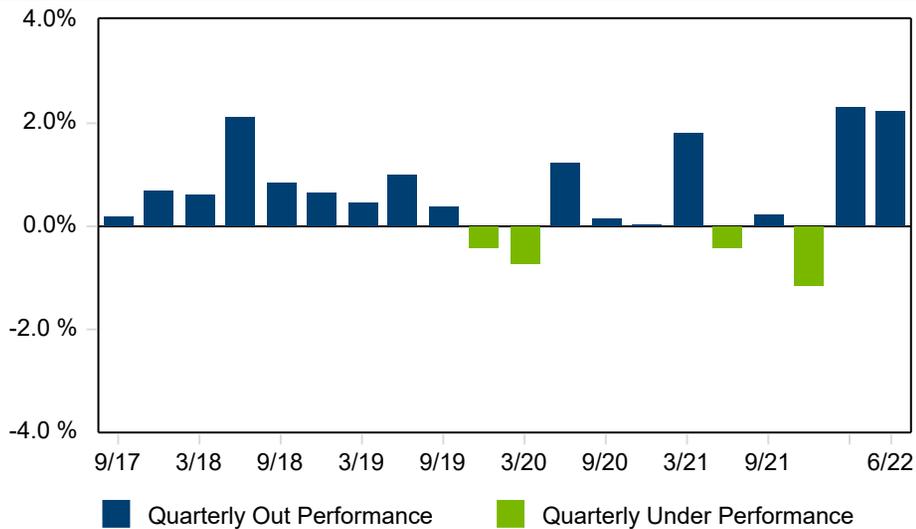
Account Information

Account Name: Wellington Global Total Return
 Inception Date: 05/13/2014
 Account Structure: Commingled Fund
 Asset Class: Global Fixed Income
 Benchmark: ICE BofAML 3 Month U.S. T-Bill
 Peer Group: IM Absolute Return (MF)

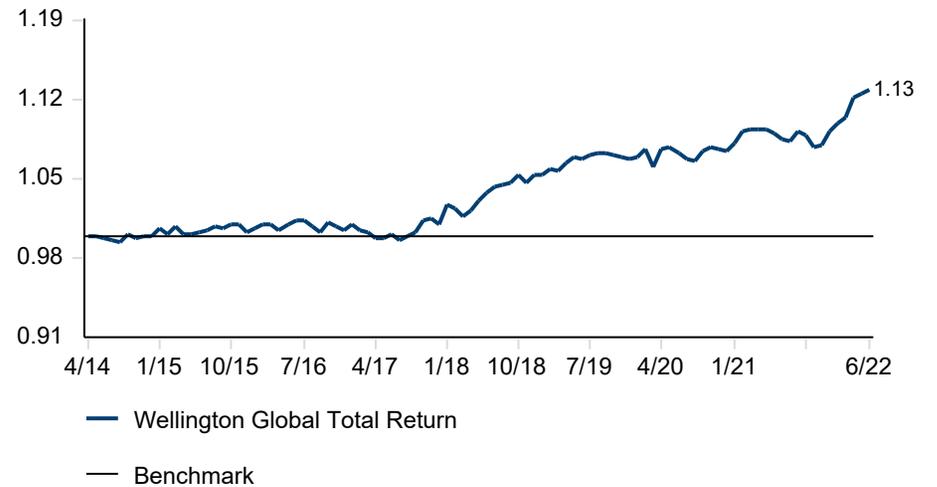
Return Summary



Quarterly Excess Performance

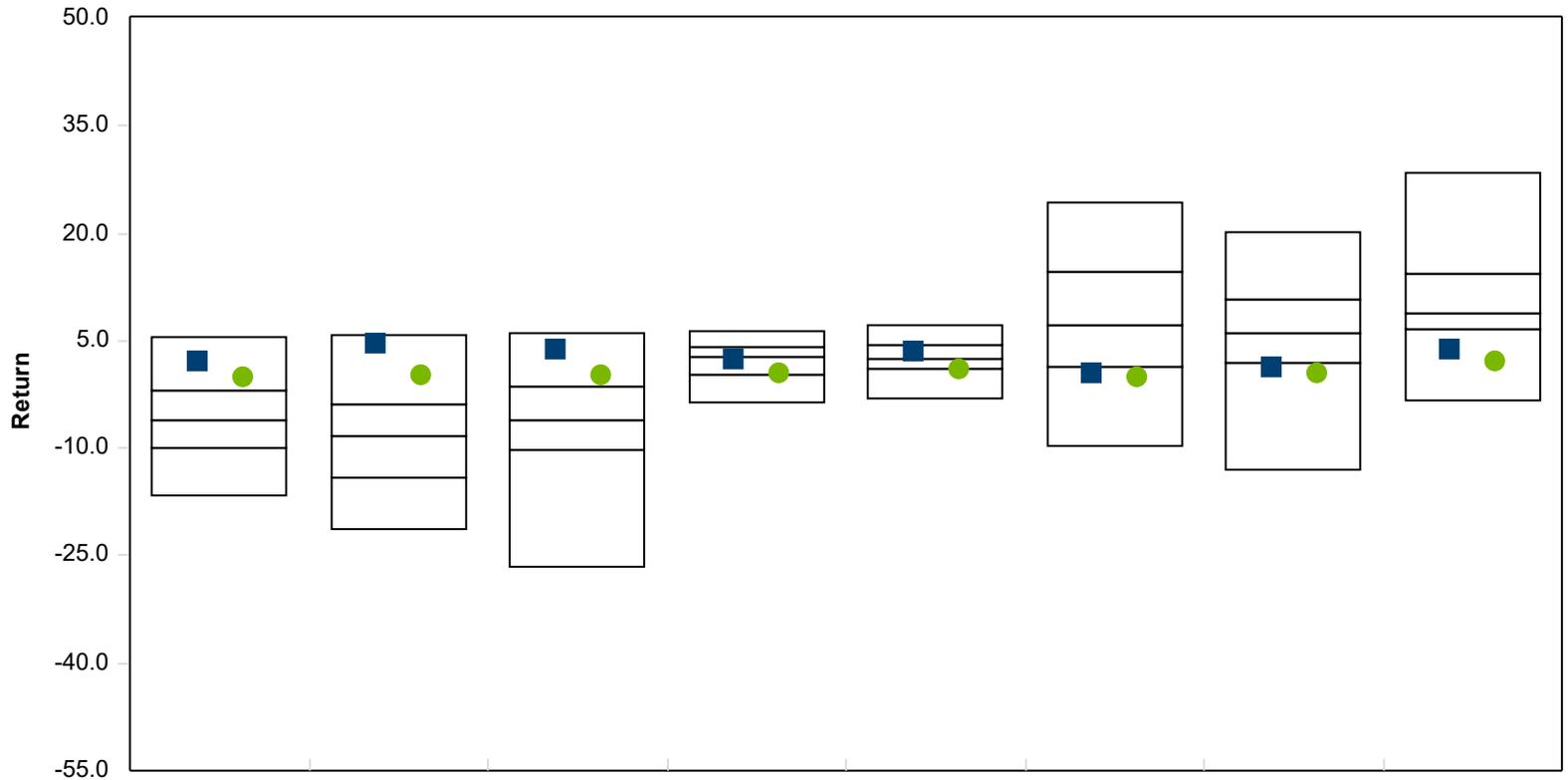


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Absolute Return (MF)

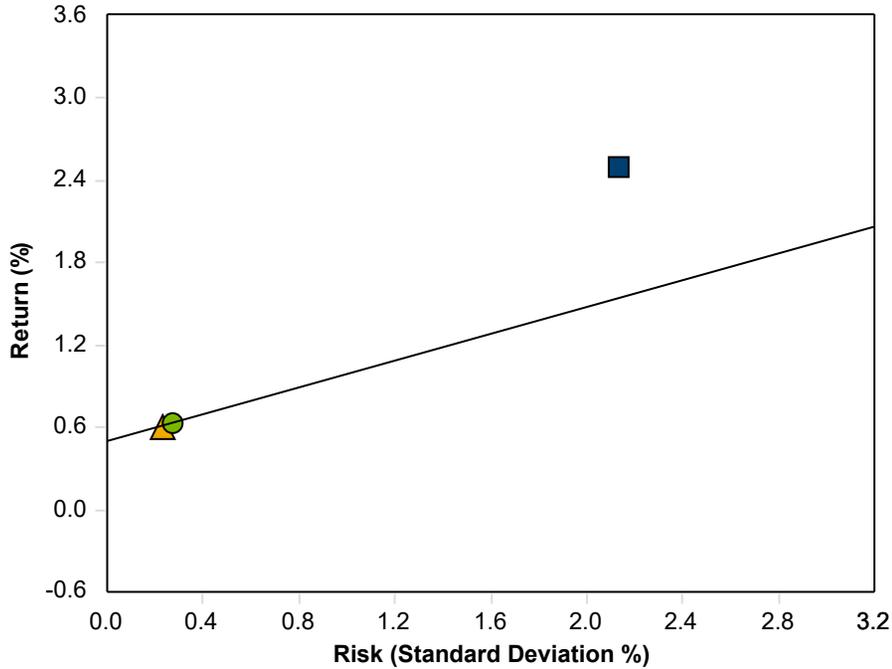


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2021	2020	2019
Wellington Global Total Return	2.3 (10)	4.7 (6)	3.8 (6)	2.5 (54)	3.6 (36)	0.5 (82)	1.4 (77)	3.7 (89)
ICE BofAML 3 Month U.S. T-Bill	0.1 (13)	0.1 (12)	0.2 (15)	0.6 (68)	1.1 (74)	0.0 (82)	0.7 (81)	2.3 (90)
5th Percentile	5.5	5.9	6.0	6.5	7.1	24.4	20.2	28.6
1st Quartile	-1.8	-3.7	-1.5	4.1	4.4	14.6	10.7	14.5
Median	-6.1	-8.2	-6.0	2.8	2.5	7.1	6.0	8.9
3rd Quartile	-10.0	-14.1	-10.3	0.3	1.0	1.5	1.9	6.7
95th Percentile	-16.6	-21.3	-26.6	-3.6	-3.0	-9.7	-13.1	-3.3
Population	48	48	47	44	37	48	46	45

Parenteses contain percentile rankings.

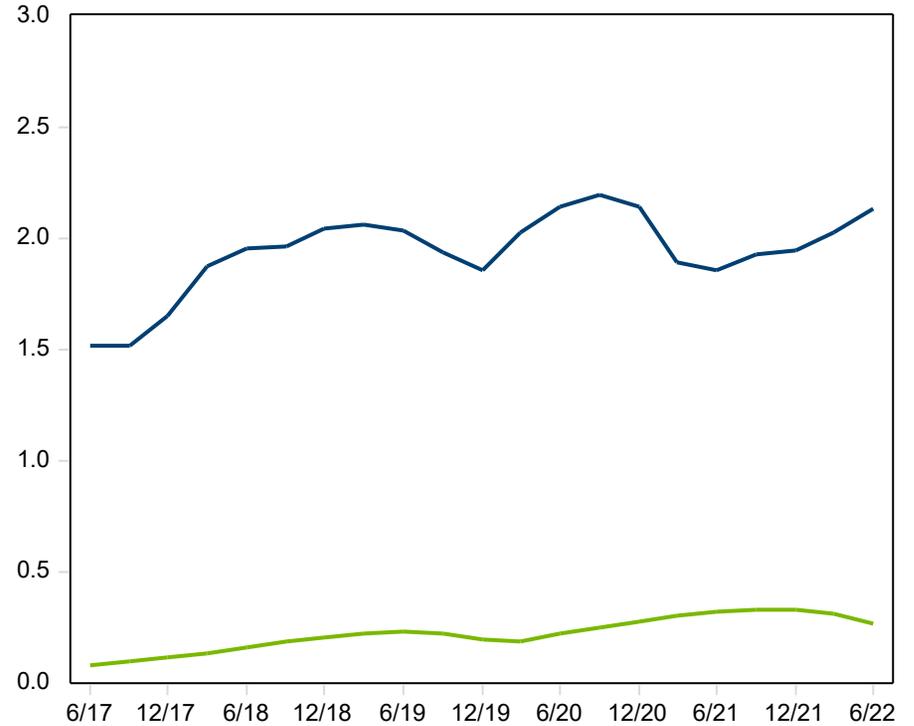
Wellington Global Total Return Risk Profile

Annualized Return vs. Annualized Standard Deviation 3 Years



- Wellington Global Total Return
- ICE BofAML 3 Month U.S. T-Bill
- ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



- Wellington Global Total Return
- ICE BofAML 3 Month U.S. T-Bill

3 Years Historical Statistics

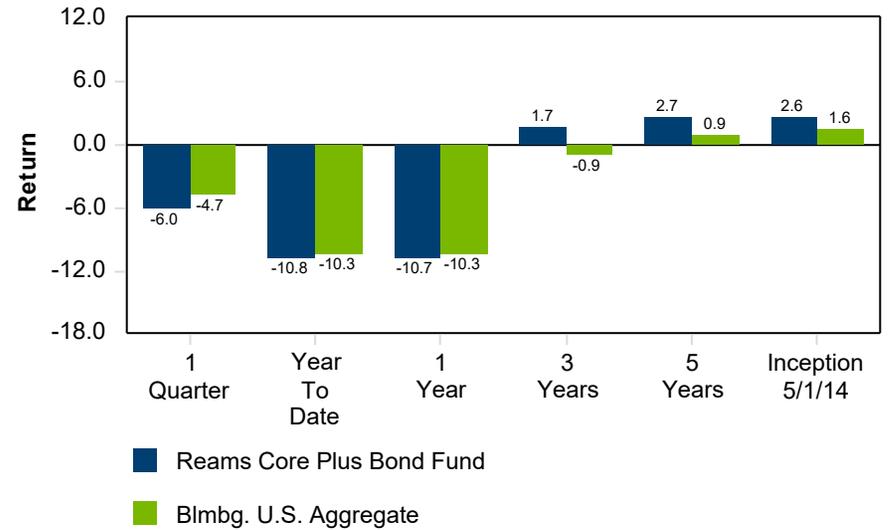
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Total Return	1.87	2.20	0.85	0.03	0.89	3.47	-1.46	2.51	2.13	-0.19
ICE BofAML 3 Month U.S. T-Bill	0.00	0.00	N/A	1.00	0.18	0.00	1.00	0.63	0.27	1.00
FTSE 3 Month T-Bill	-0.02	0.12	-0.18	0.82	N/A	0.13	0.76	0.61	0.23	0.90

Reams Core Plus Bond Fund Performance Summary

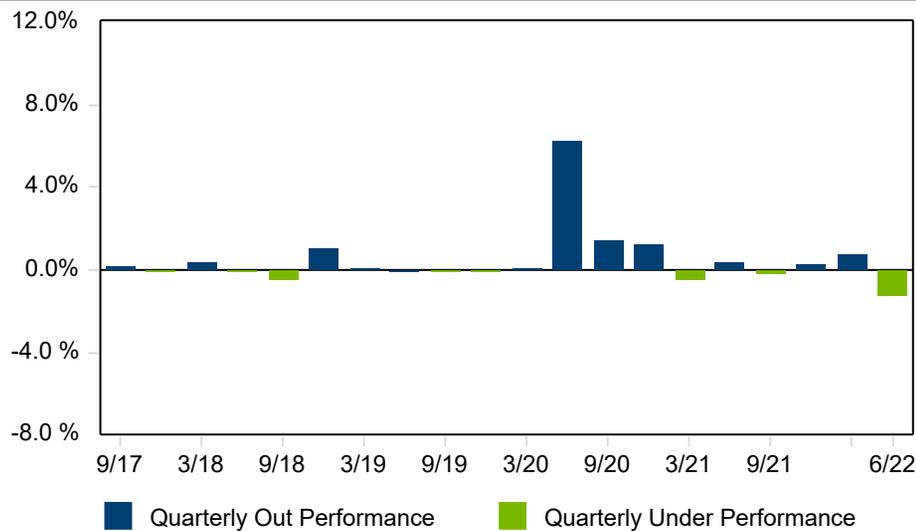
Account Information

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
 Peer Group: IM U.S. Fixed Income (SA+CF)

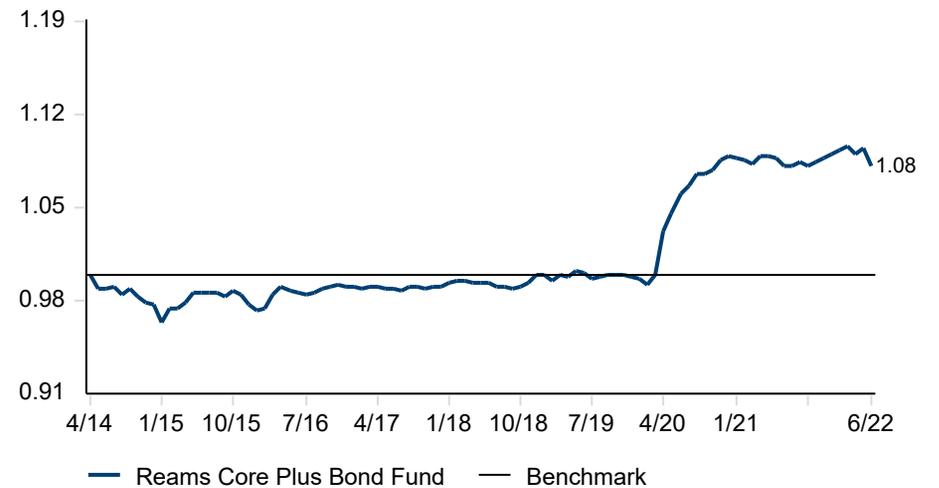
Return Summary



Quarterly Excess Performance

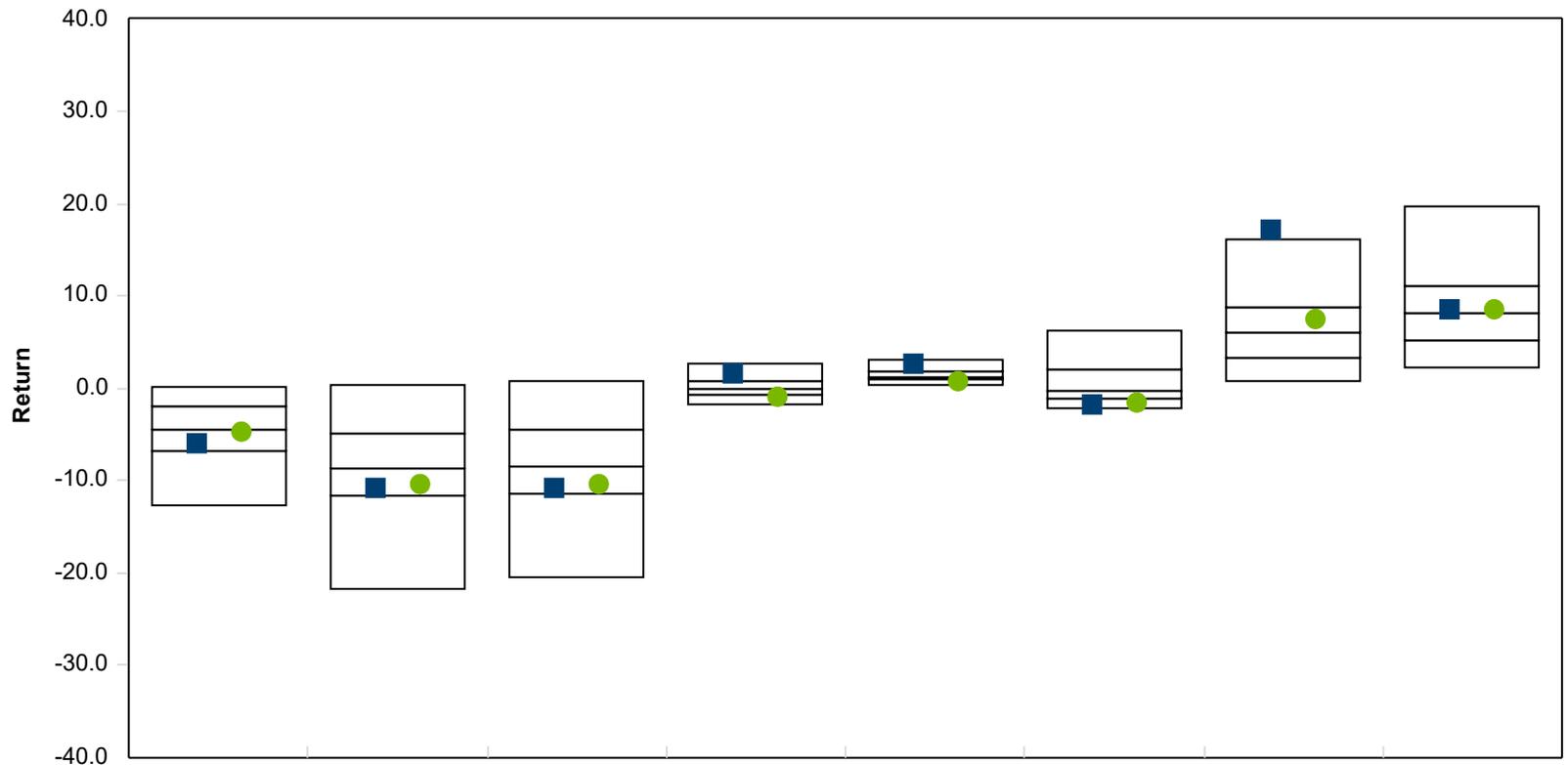


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Fixed Income (SA+CF)

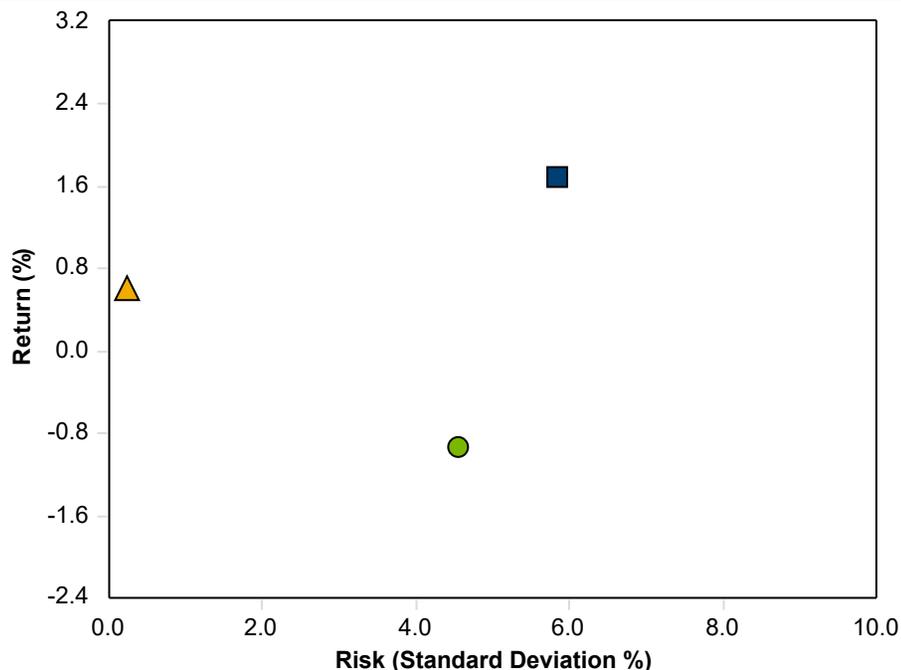


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2021	2020	2019
■ Reams Core Plus Bond Fund	-6.0 (71)	-10.8 (69)	-10.7 (68)	1.7 (13)	2.7 (10)	-1.6 (89)	17.2 (4)	8.6 (46)
● Blmbg. U.S. Aggregate	-4.7 (53)	-10.3 (63)	-10.3 (63)	-0.9 (83)	0.9 (84)	-1.5 (86)	7.5 (37)	8.7 (45)
5th Percentile	0.2	0.4	0.9	2.7	3.1	6.4	16.2	19.8
1st Quartile	-1.8	-4.8	-4.4	0.8	1.9	2.2	8.8	11.2
Median	-4.5	-8.6	-8.3	0.0	1.3	-0.2	6.2	8.2
3rd Quartile	-6.6	-11.5	-11.3	-0.7	1.0	-1.1	3.4	5.2
95th Percentile	-12.6	-21.7	-20.3	-1.8	0.4	-2.1	0.9	2.3
Population	928	928	926	900	855	996	1,065	1,100

parentheses contain percentile rankings.

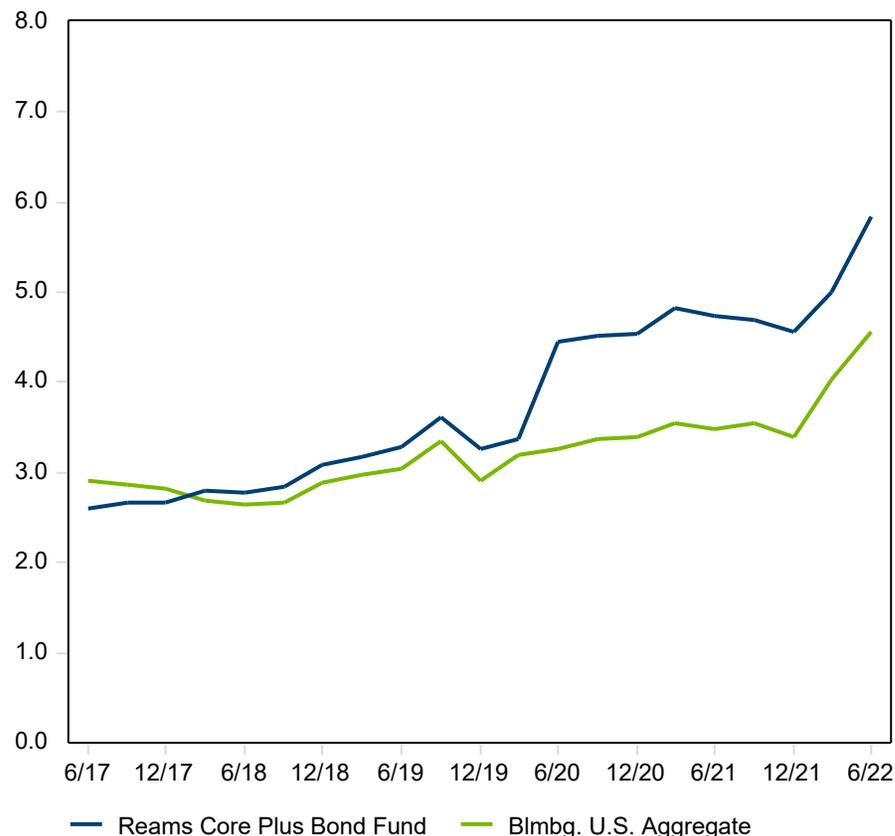
Reams Core Plus Bond Fund Risk Profile

Annualized Return vs. Annualized Standard Deviation 3 Years



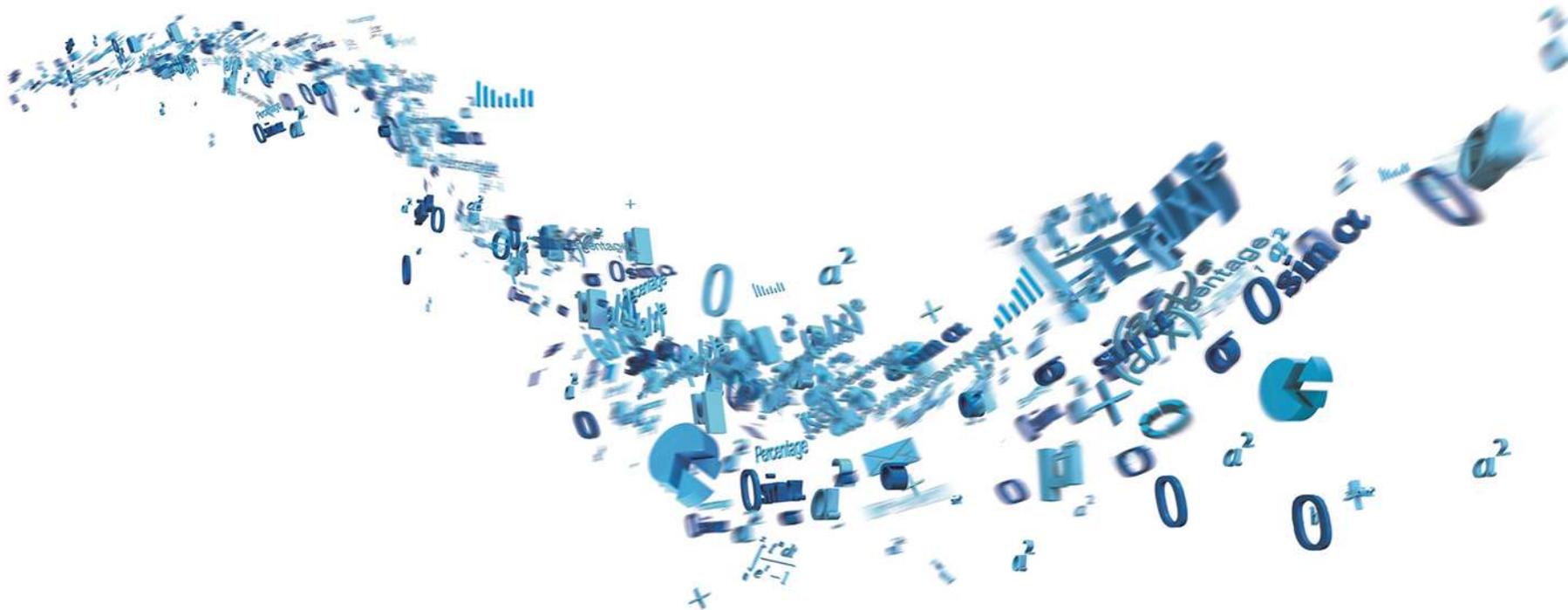
- Reams Core Plus Bond Fund
- Blmbg. U.S. Aggregate
- ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



3 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	2.68	2.55	1.05	0.83	0.21	2.86	1.16	1.69	5.84	0.91
Blmbg. U.S. Aggregate	0.00	0.00	N/A	1.00	-0.32	0.00	1.00	-0.94	4.56	1.00
FTSE 3 Month T-Bill	1.44	4.49	0.32	0.10	N/A	0.62	0.02	0.61	0.23	0.31

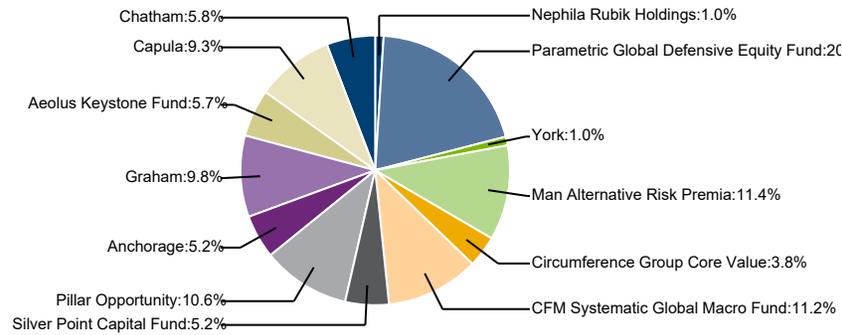


Opportunistic/Alternatives

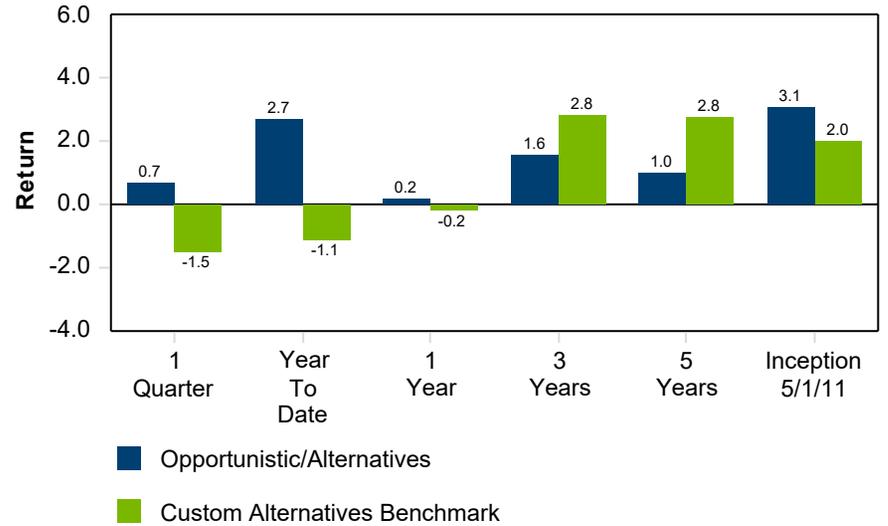
Opportunistic/Alternatives Portfolio Overview

Current Allocation

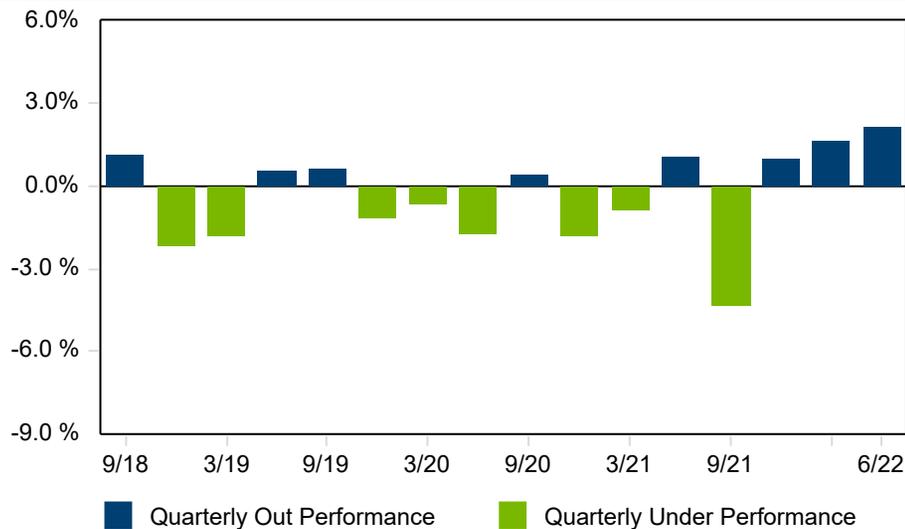
June 30, 2022 : \$920M



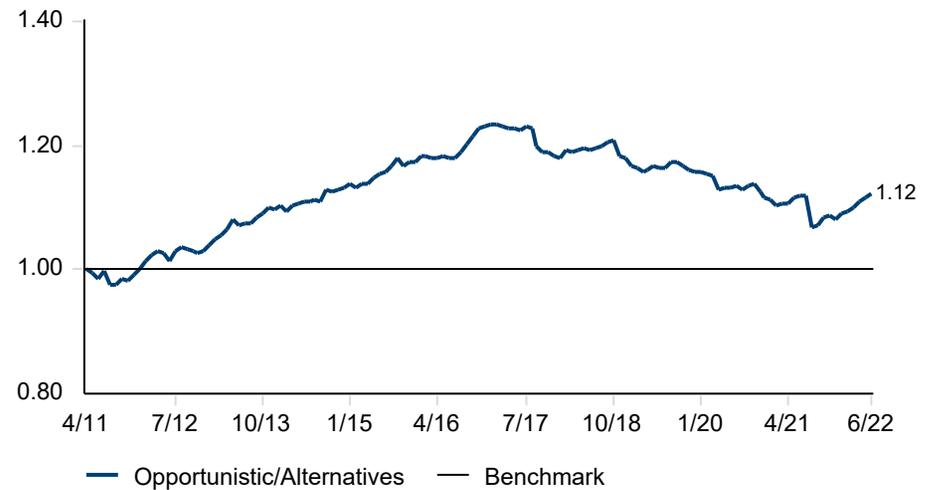
Return Summary



Quarterly Excess Performance

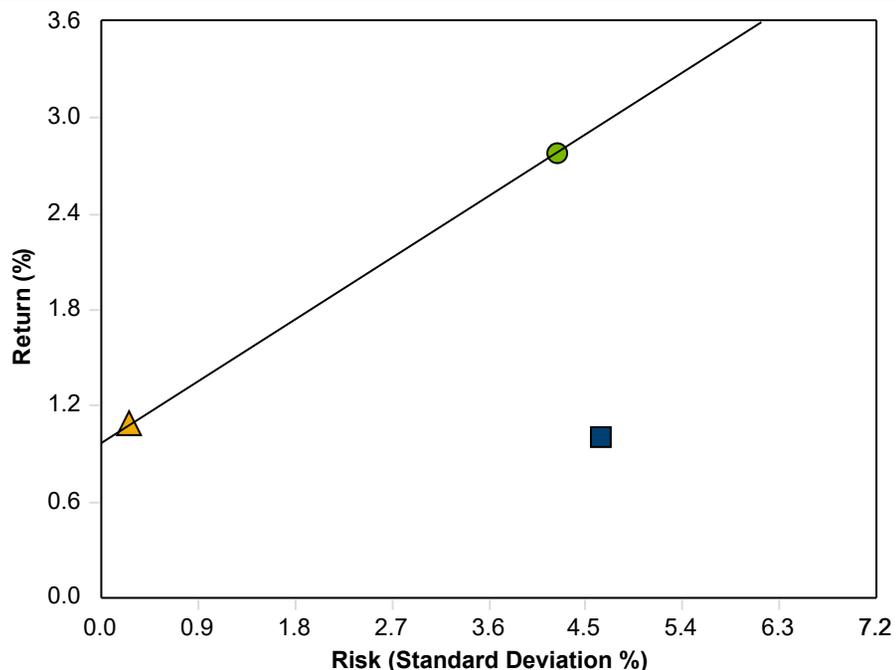


Ratio of Cumulative Wealth - Since Inception



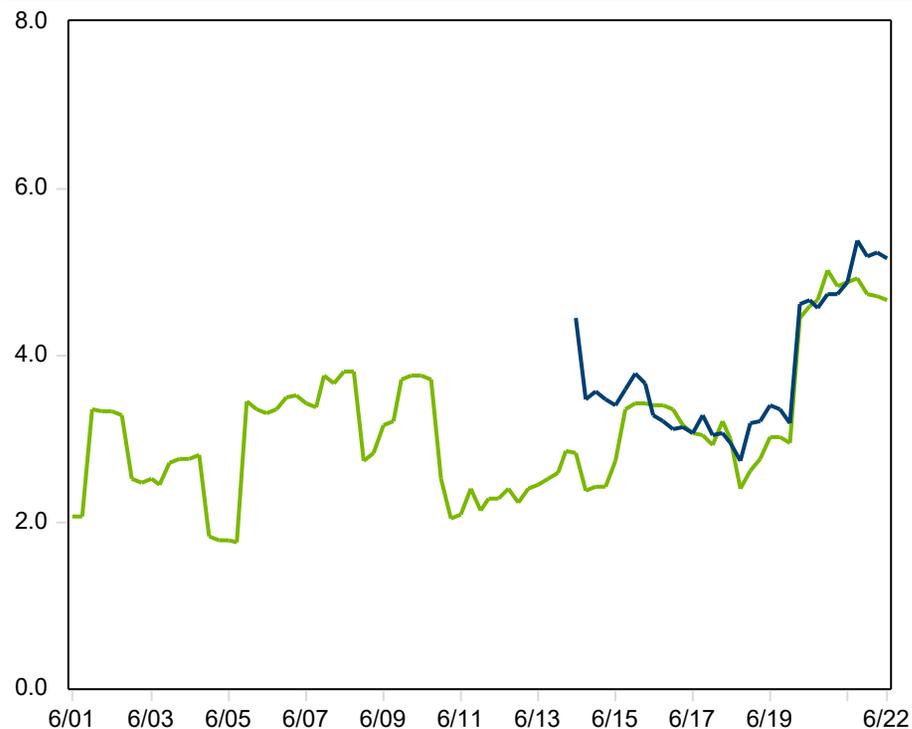
Opportunistic/Alternatives Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



- Opportunistic/Alternatives
- Custom Alternatives Benchmark
- ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



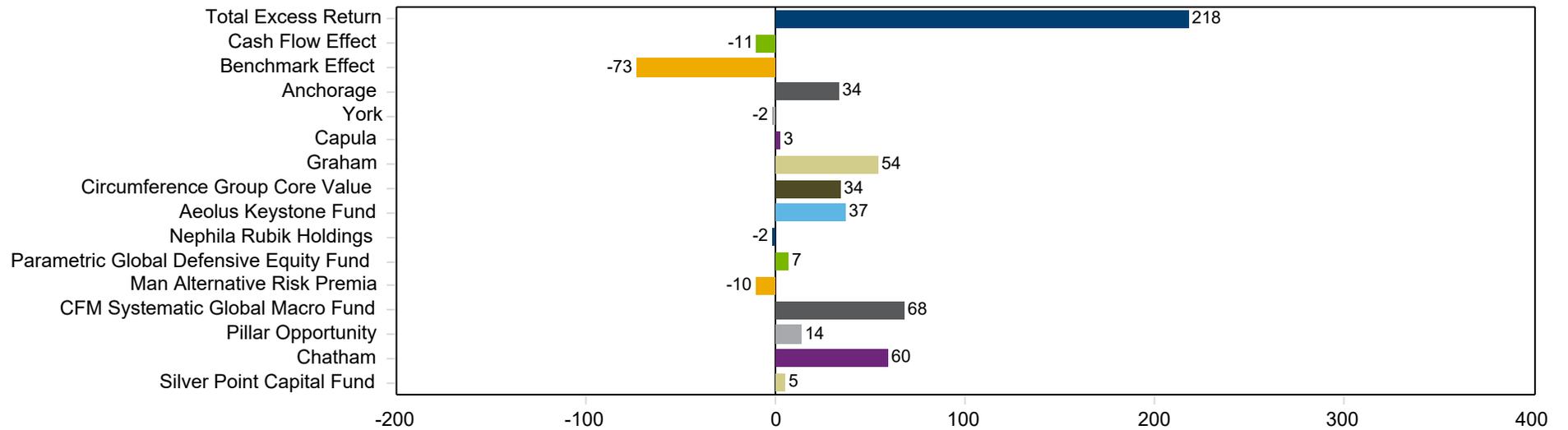
- Opportunistic/Alternatives
- Custom Alternatives Benchmark

5 Years Historical Statistics

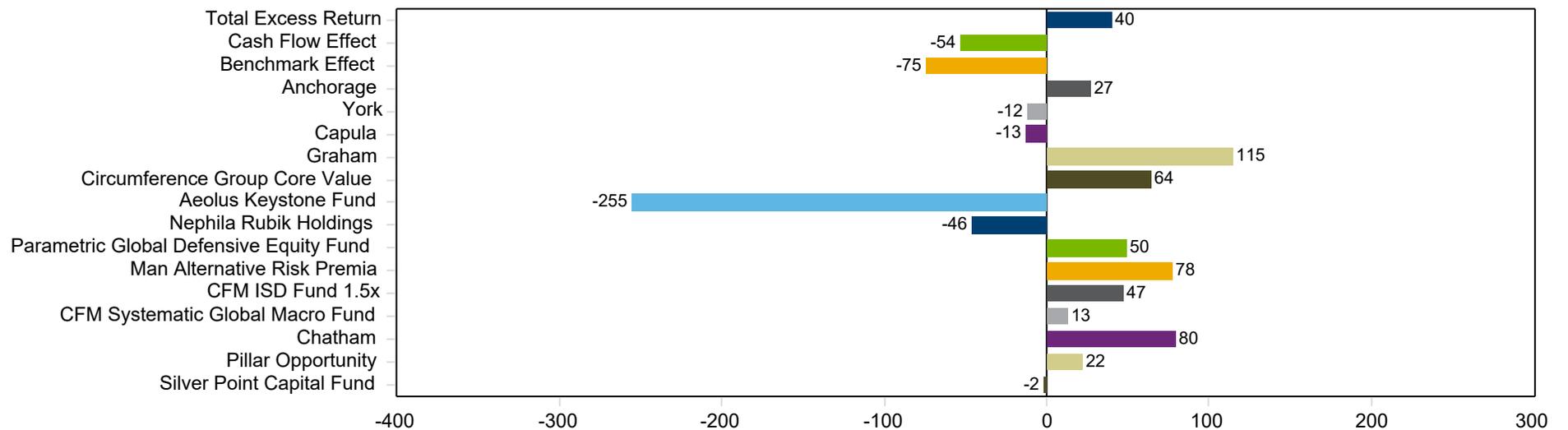
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Opportunistic/Alternatives	-1.74	3.23	-0.54	0.55	0.00	-1.19	0.81	1.00	4.64	0.74
Custom Alternatives Benchmark	0.00	0.00	N/A	1.00	0.41	0.00	1.00	2.79	4.23	1.00
FTSE 3 Month T-Bill	-1.76	4.28	-0.41	0.03	N/A	1.12	-0.01	1.09	0.26	-0.17

Asset Class Attribution

1 Quarter



1 Year

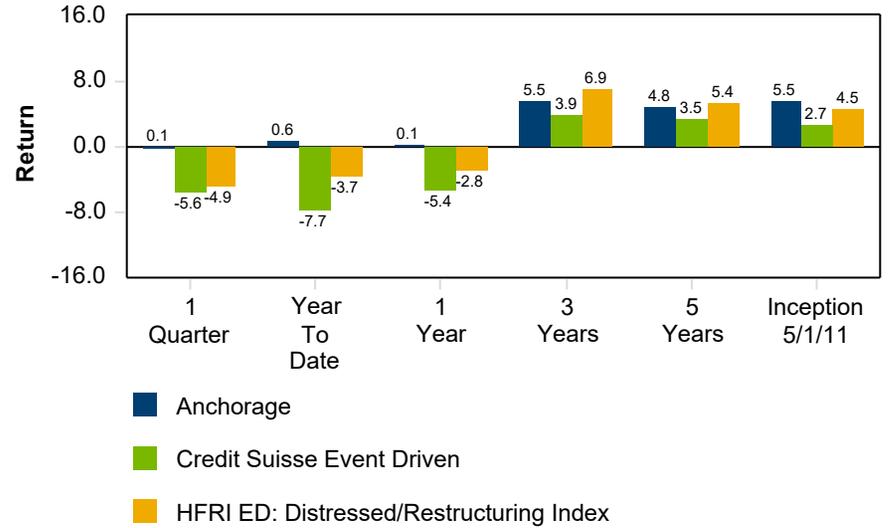


Anchorage Performance Summary

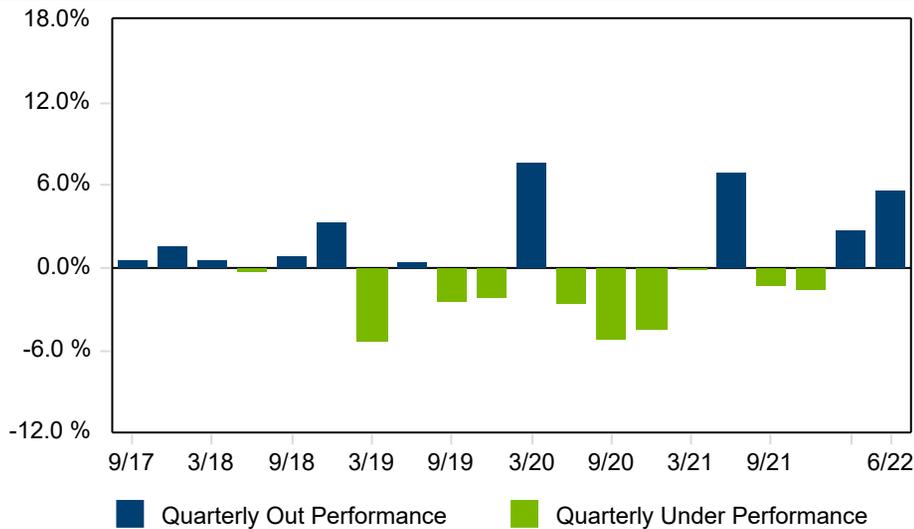
Account Information

Account Name: Anchorage
 Inception Date: 05/01/2011
 Account Structure: Hedge Fund
 Asset Class: US Hedge Fund
 Benchmark: Credit Suisse Event Driven
 Peer Group:

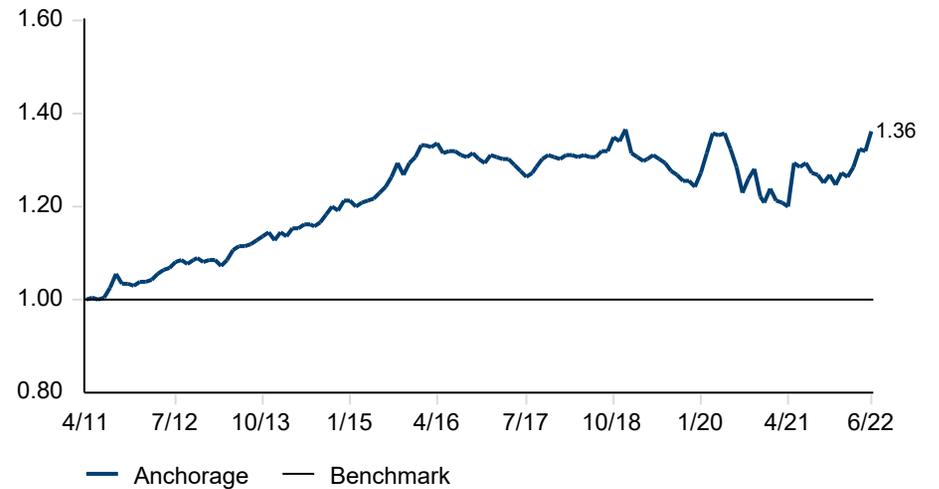
Return Summary



Quarterly Excess Performance

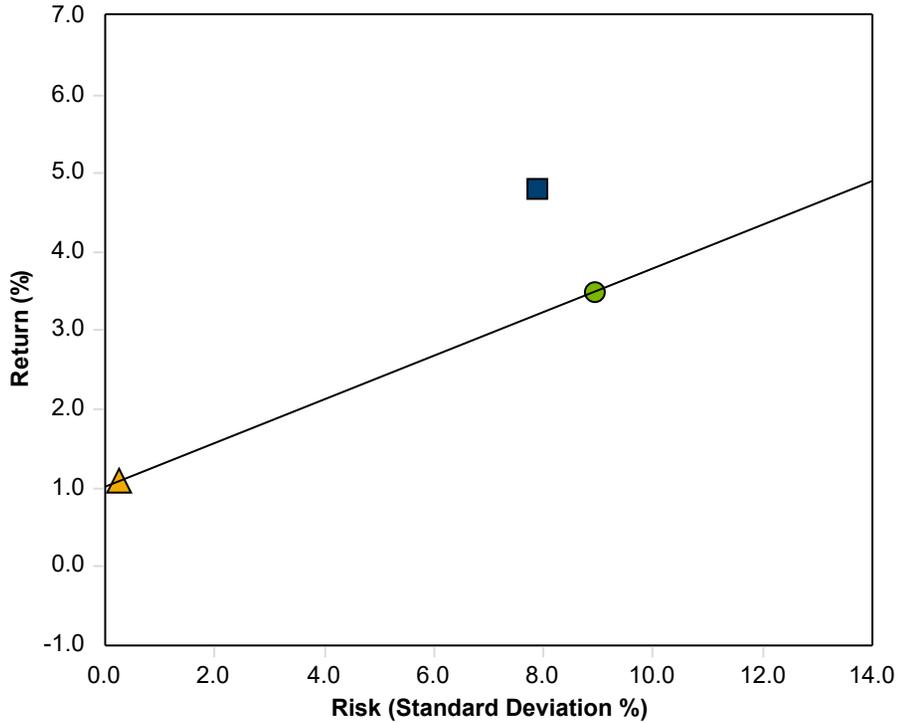


Ratio of Cumulative Wealth - Since Inception



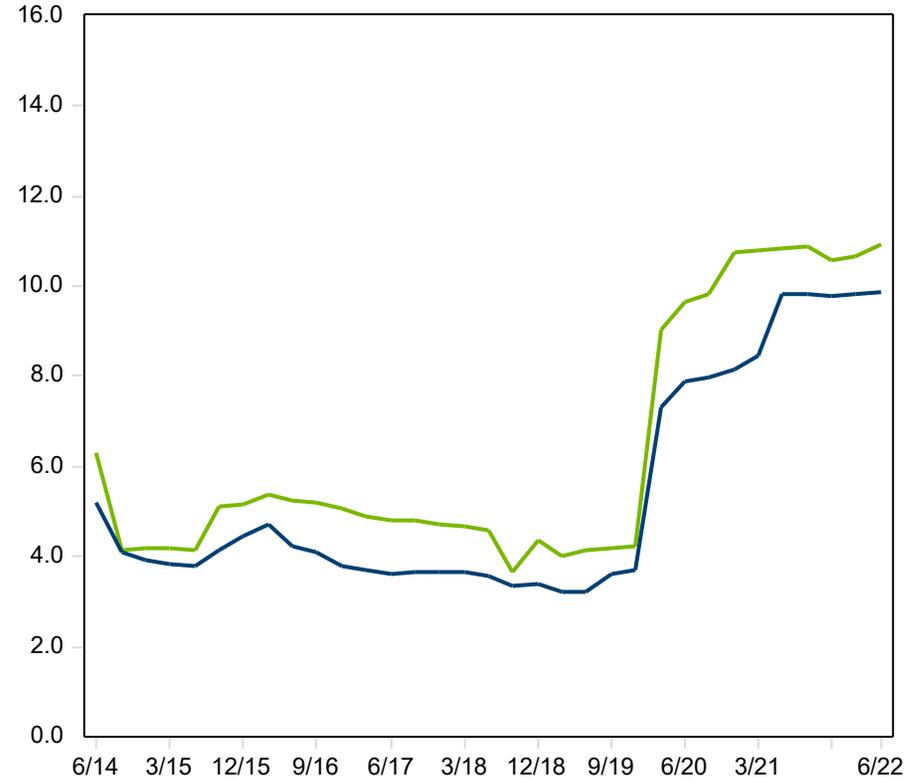
Anchorage Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Anchorage ● Credit Suisse Event Driven
▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— Anchorage — Credit Suisse Event Driven

5 Years Historical Statistics

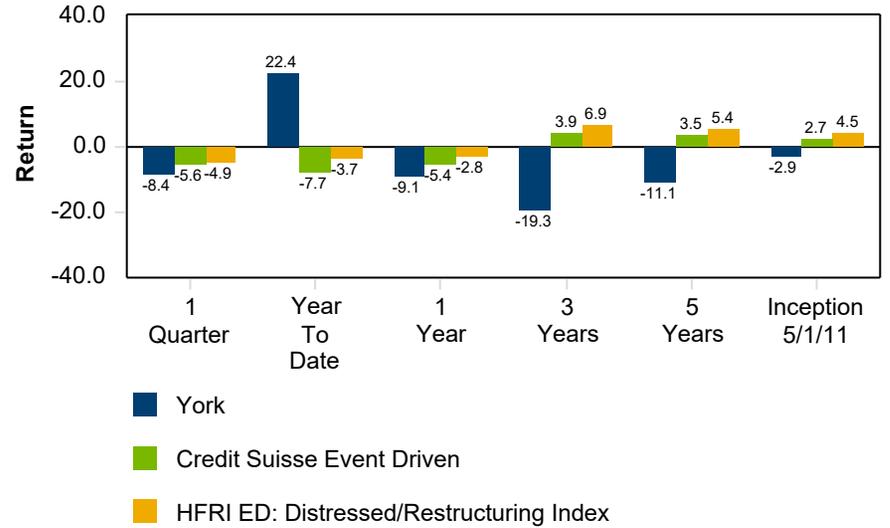
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Anchorage	1.17	6.91	0.17	0.45	0.49	2.77	0.59	4.80	7.90	0.67
Credit Suisse Event Driven	0.00	0.00	N/A	1.00	0.31	0.00	1.00	3.49	8.92	1.00
FTSE 3 Month T-Bill	-2.76	8.98	-0.31	0.05	N/A	1.11	-0.01	1.09	0.26	-0.22

York Performance Summary

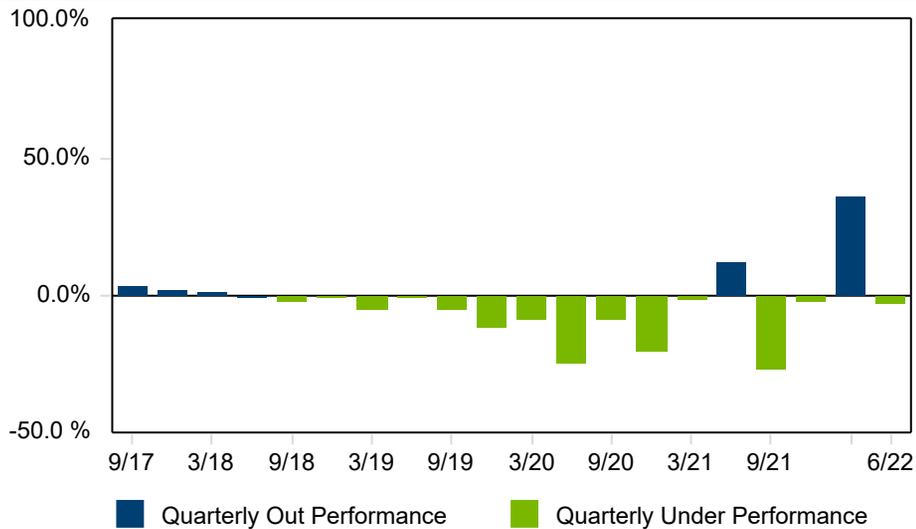
Account Information

Account Name: York
 Inception Date: 05/01/2011
 Account Structure: Hedge Fund
 Asset Class: US Hedge Fund
 Benchmark: Credit Suisse Event Driven
 Peer Group:

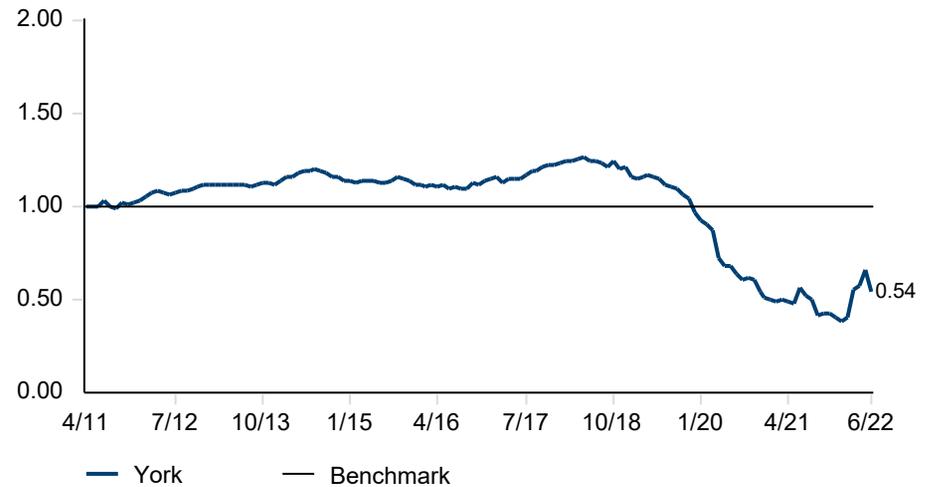
Return Summary



Quarterly Excess Performance

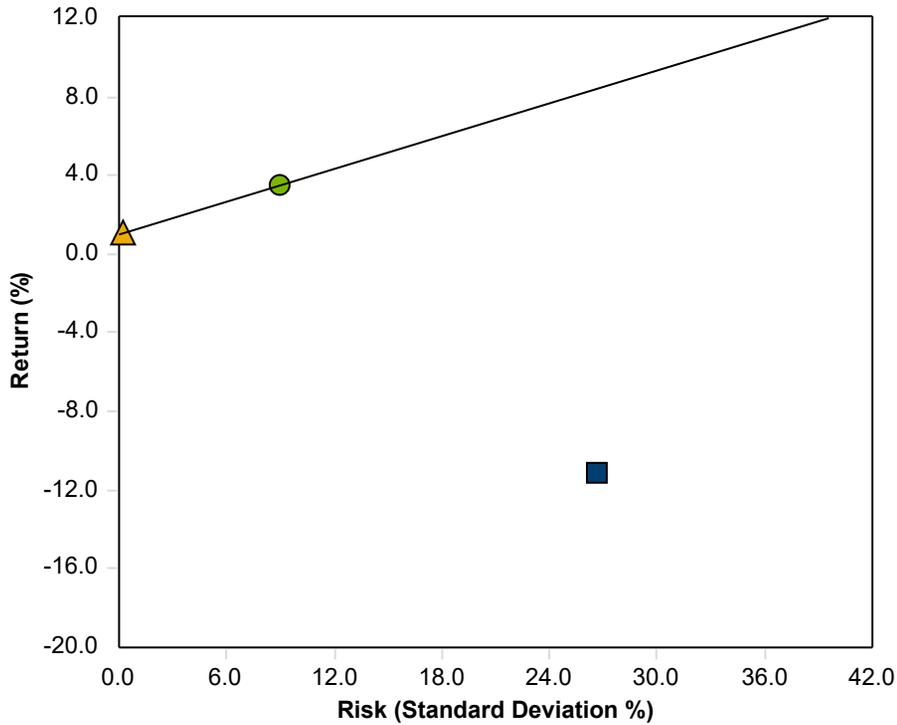


Ratio of Cumulative Wealth - Since Inception



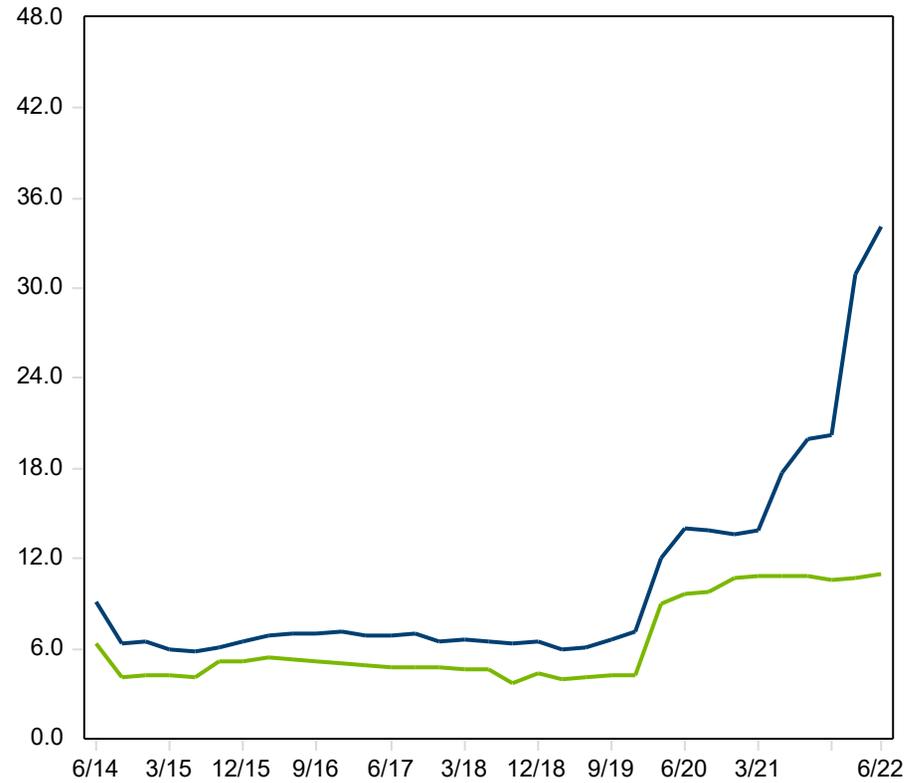
York Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ York
● Credit Suisse Event Driven
▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— York
— Credit Suisse Event Driven

5 Years Historical Statistics

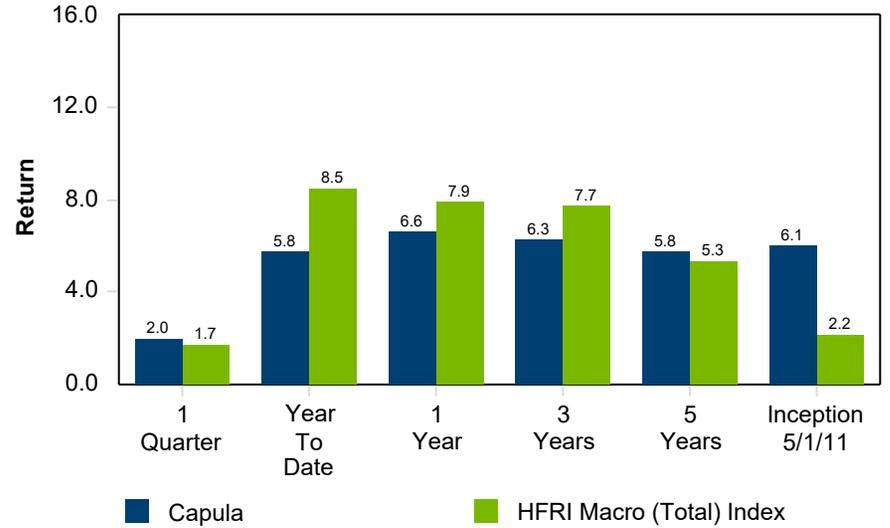
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
York	-12.27	26.26	-0.47	0.05	-0.36	-10.37	0.64	-11.14	26.69	0.21
Credit Suisse Event Driven	0.00	0.00	N/A	1.00	0.31	0.00	1.00	3.49	8.92	1.00
FTSE 3 Month T-Bill	-2.76	8.98	-0.31	0.05	N/A	1.11	-0.01	1.09	0.26	-0.22

Capula Performance Summary

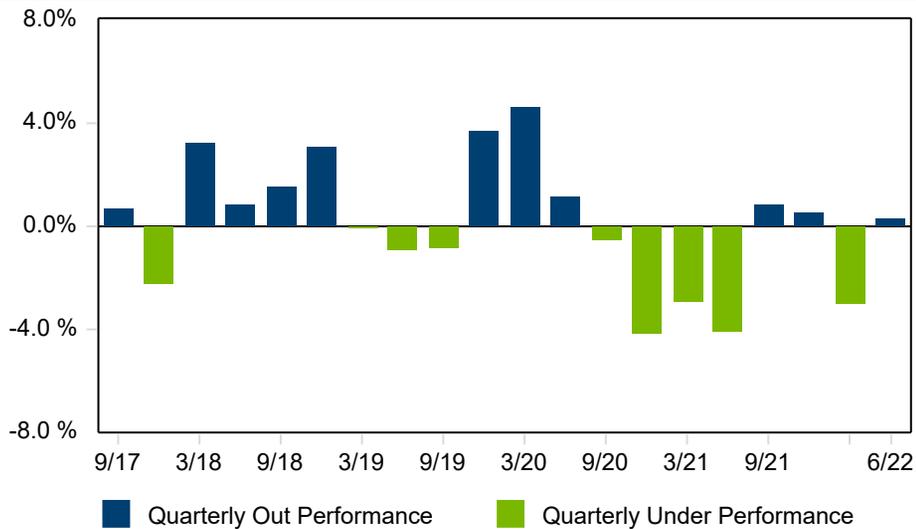
Account Information

Account Name: Capula
 Inception Date: 05/01/2011
 Account Structure: Hedge Fund
 Asset Class: US Hedge Fund
 Benchmark: HFRI Macro (Total) Index
 Peer Group:

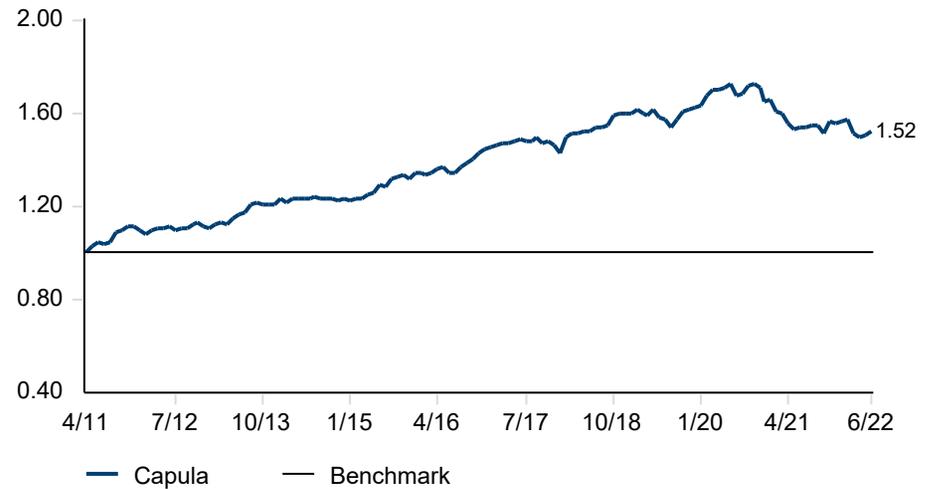
Return Summary



Quarterly Excess Performance

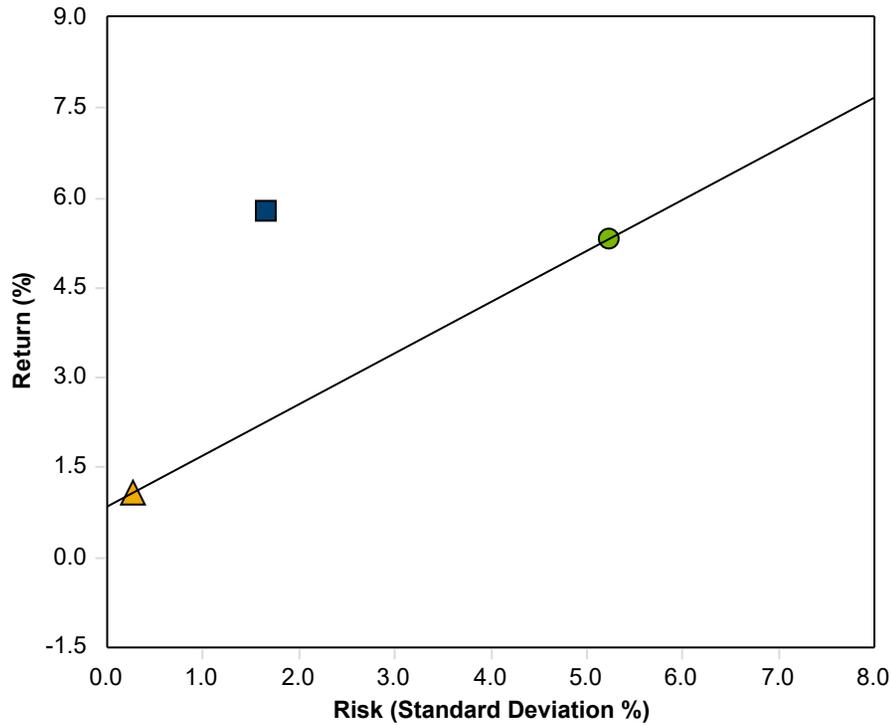


Ratio of Cumulative Wealth - Since Inception



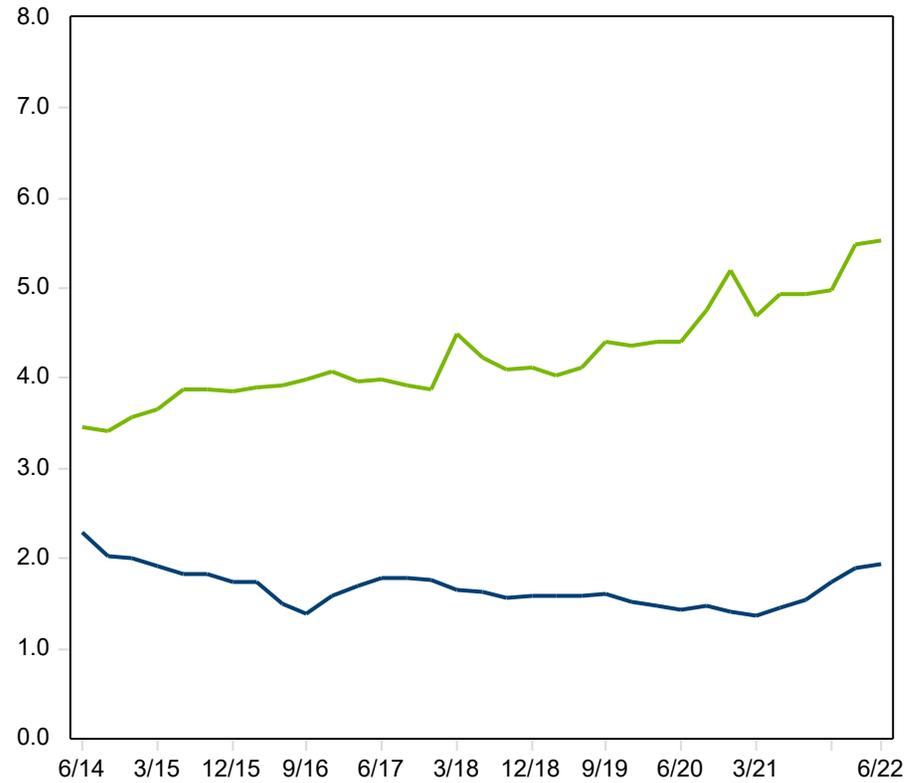
Capula Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Capula ● HFRI Macro (Total) Index
 ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— Capula — HFRI Macro (Total) Index

5 Years Historical Statistics

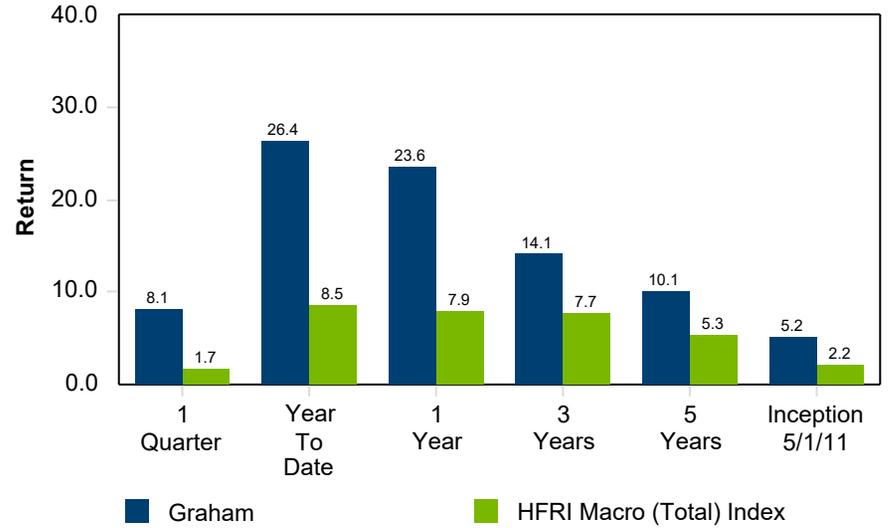
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Capula	0.32	5.60	0.06	0.01	2.79	5.92	-0.02	5.78	1.66	-0.07
HFRI Macro (Total) Index	0.00	0.00	N/A	1.00	0.80	0.00	1.00	5.32	5.23	1.00
FTSE 3 Month T-Bill	-4.24	5.29	-0.80	0.04	N/A	1.14	-0.01	1.09	0.26	-0.21

Graham Performance Summary

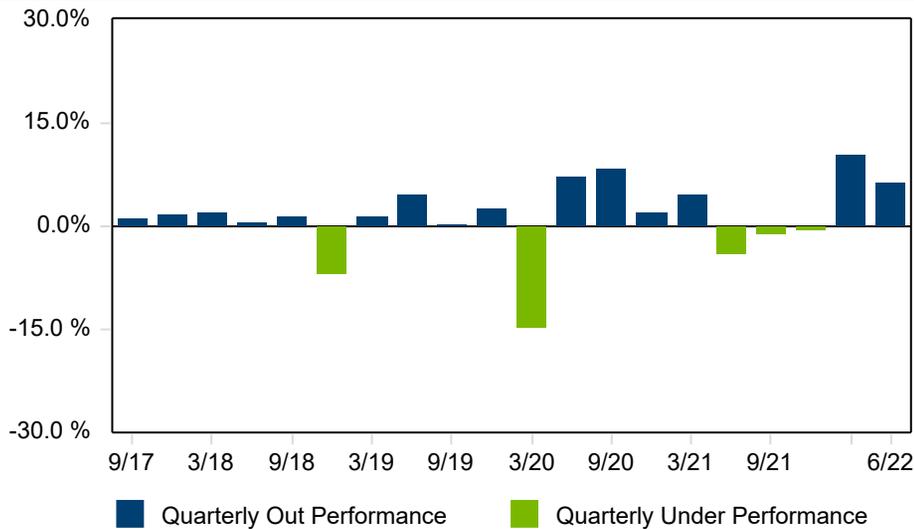
Account Information

Account Name: Graham
 Inception Date: 05/01/2011
 Account Structure: Hedge Fund
 Asset Class: Hedge Fund
 Benchmark: HFRI Macro (Total) Index
 Peer Group:

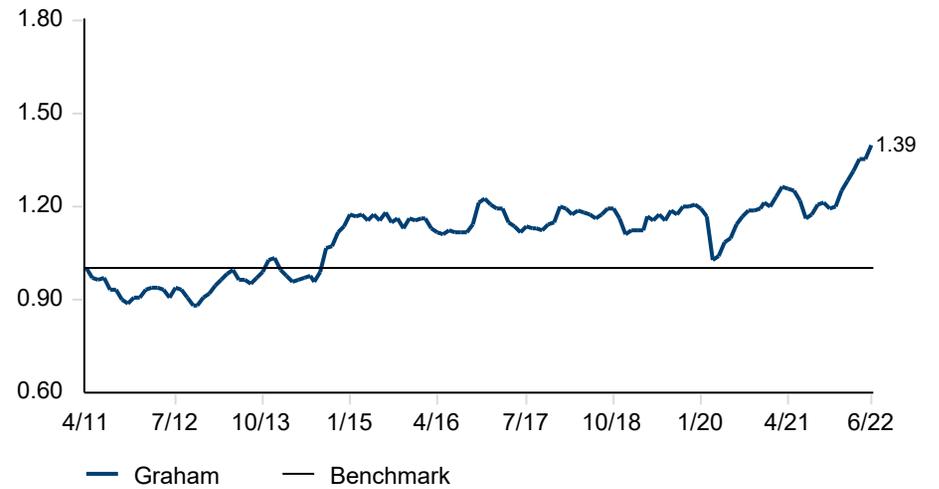
Return Summary



Quarterly Excess Performance

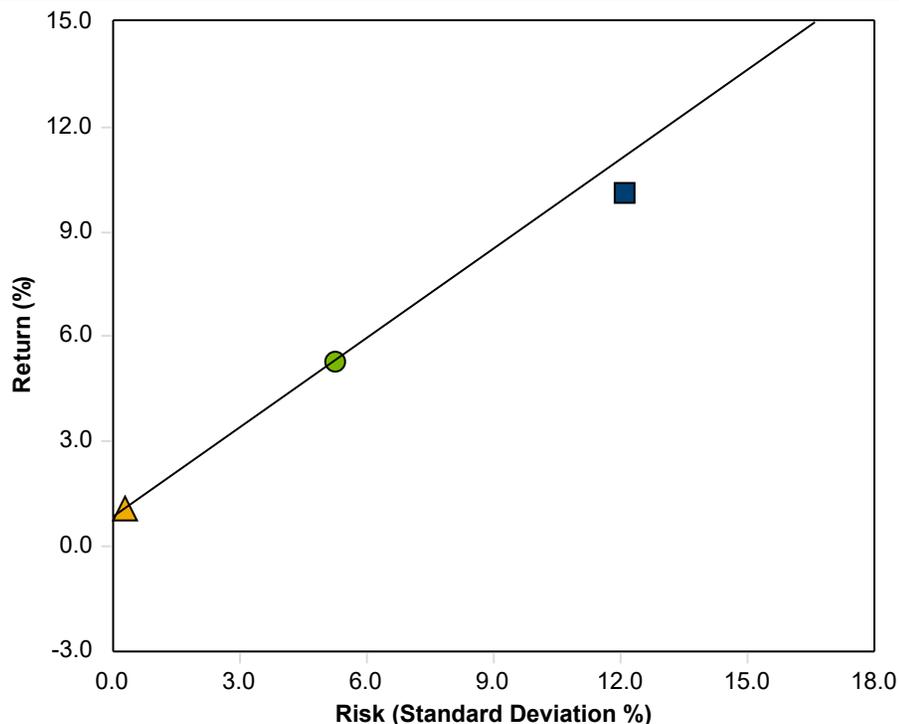


Ratio of Cumulative Wealth - Since Inception



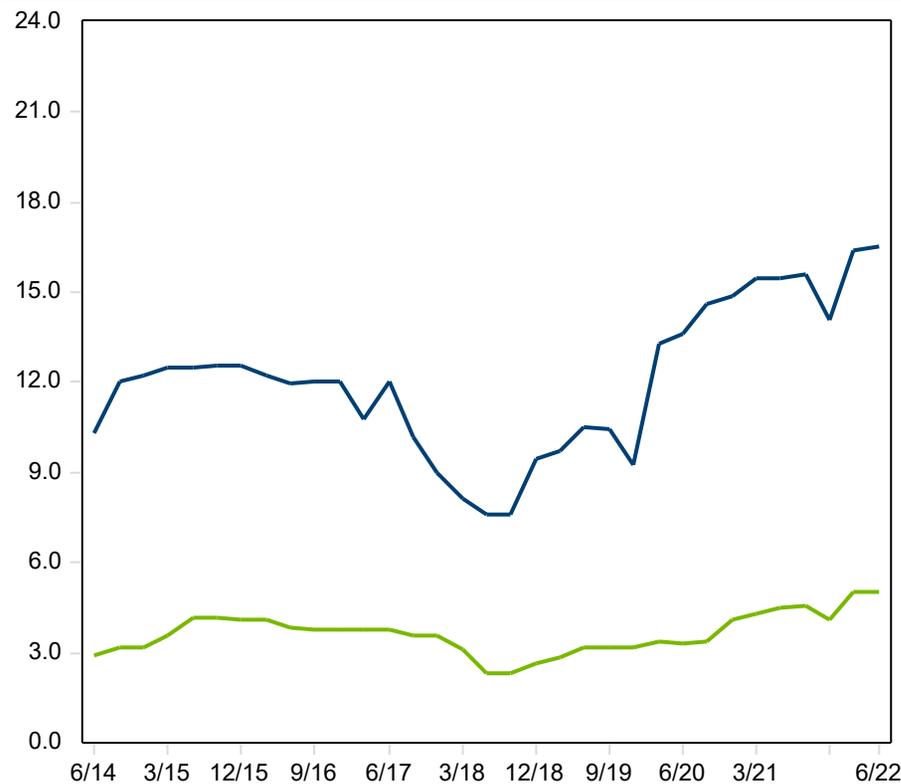
Graham Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



■ Graham ● HFRI Macro (Total) Index
 ▲ FTSE 3 Month T-Bill

Rolling 3 Years Standard Deviation



— Graham — HFRI Macro (Total) Index

5 Years Historical Statistics

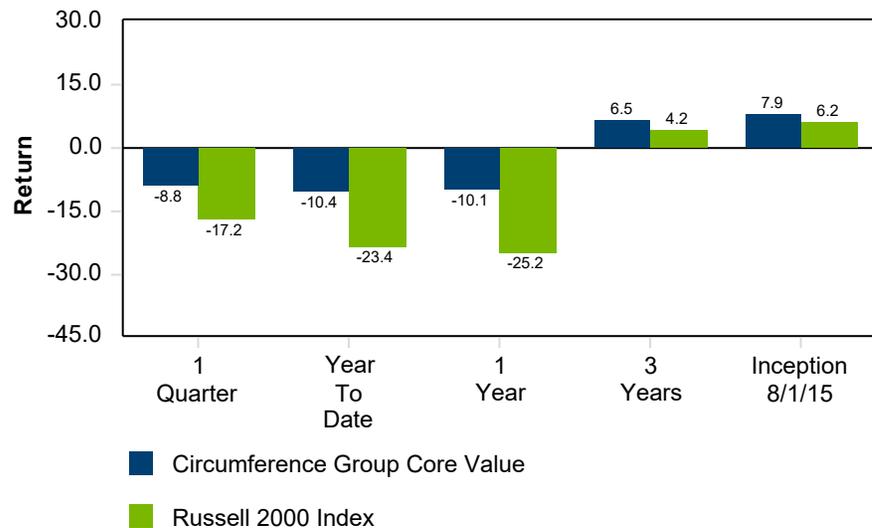
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Graham	5.06	9.09	0.56	0.52	0.76	1.51	1.67	10.10	12.10	0.72
HFRI Macro (Total) Index	0.00	0.00	N/A	1.00	0.80	0.00	1.00	5.32	5.23	1.00
FTSE 3 Month T-Bill	-4.24	5.29	-0.80	0.04	N/A	1.14	-0.01	1.09	0.26	-0.21

Circumference Group Core Value Performance Summary

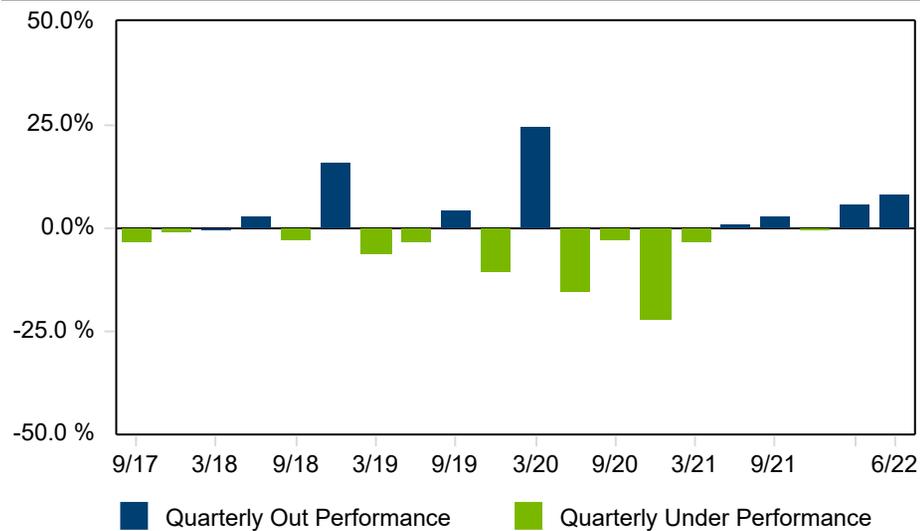
Account Information

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:

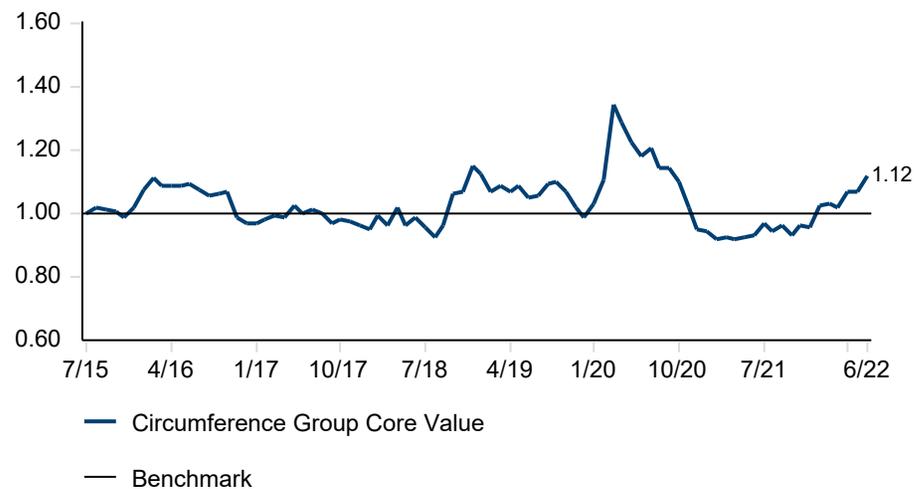
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

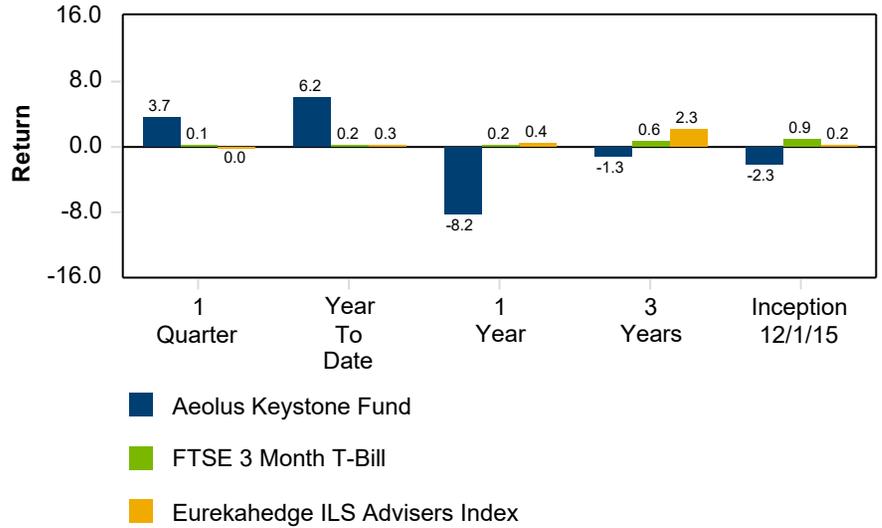


Aeolus Keystone Fund Performance Summary

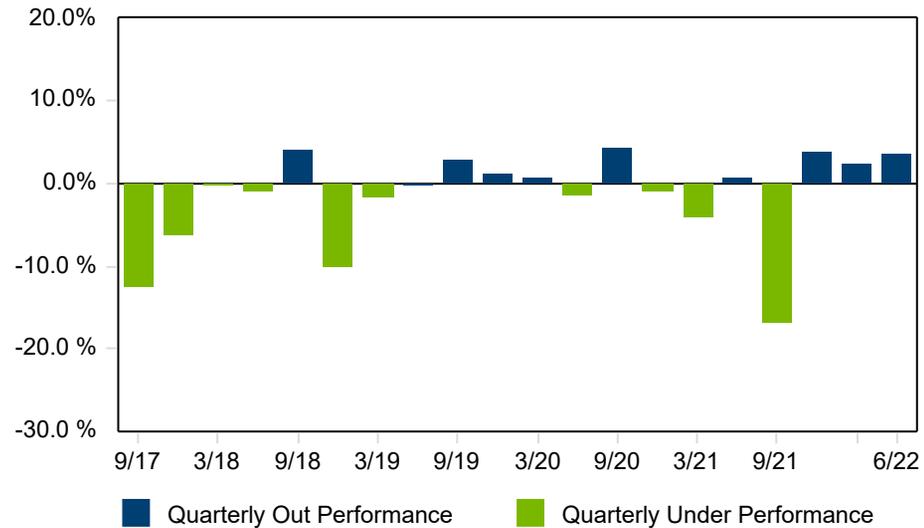
Account Information

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:

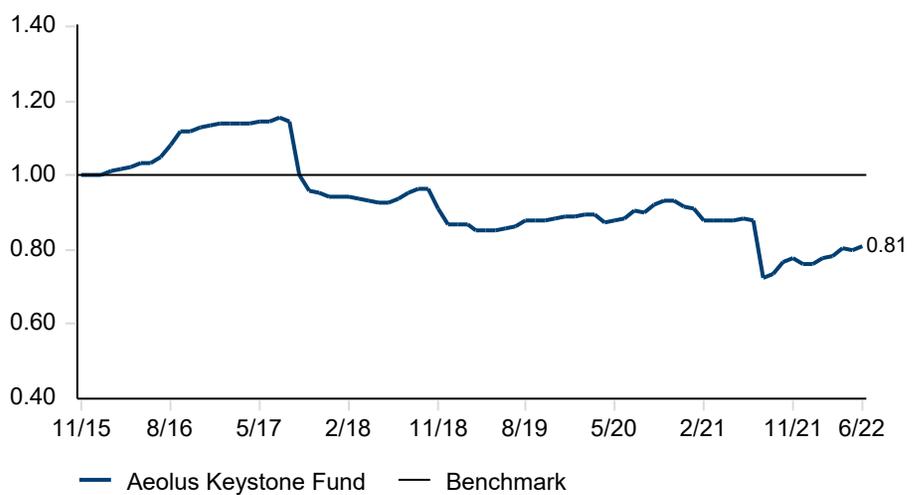
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

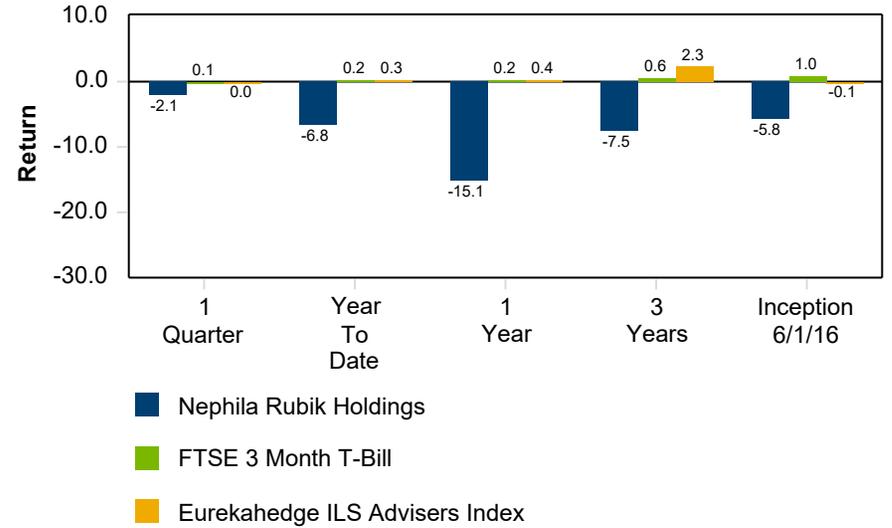


Nephila Rubik Holdings Performance Summary

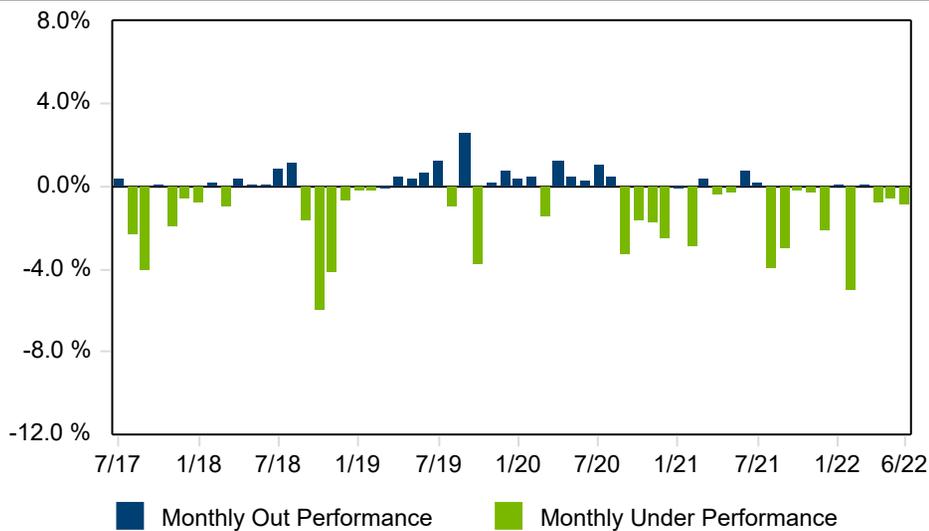
Account Information

Account Name: Nephila Rubik Holdings
 Inception Date: 06/01/2016
 Account Structure:
 Asset Class: Hedge Fund
 Benchmark: FTSE 3 Month T-Bill
 Peer Group:

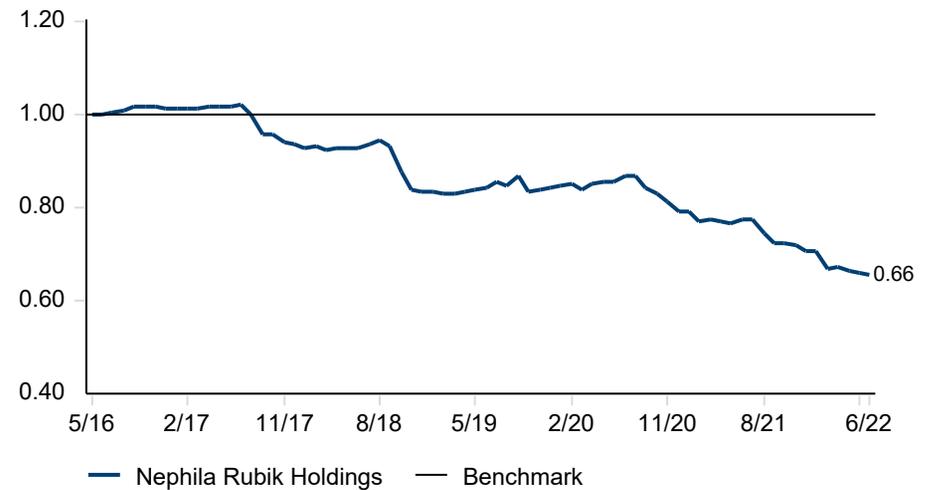
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

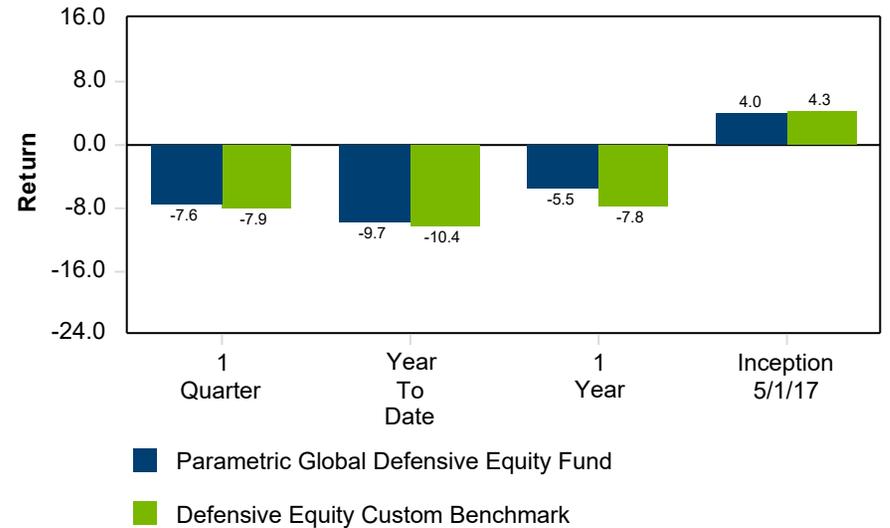


Parametric Global Defensive Equity Fund Performance Summary

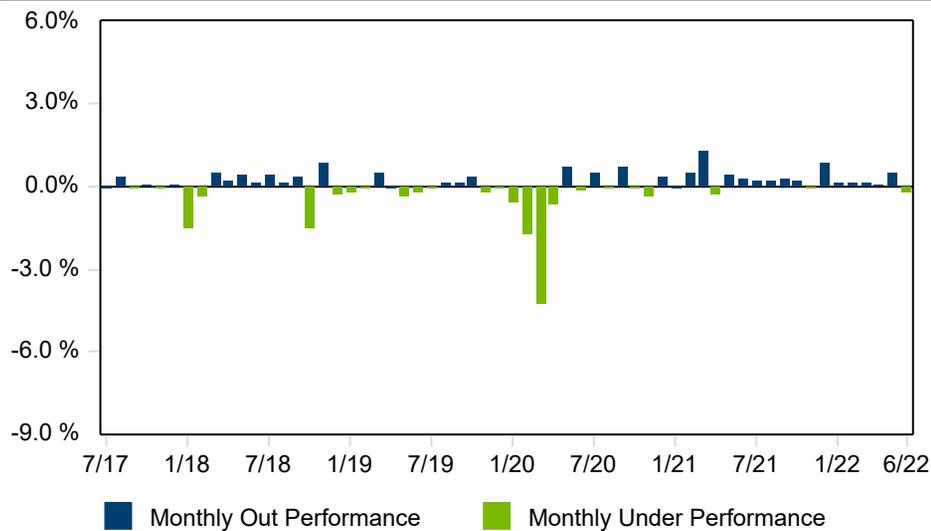
Account Information

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:

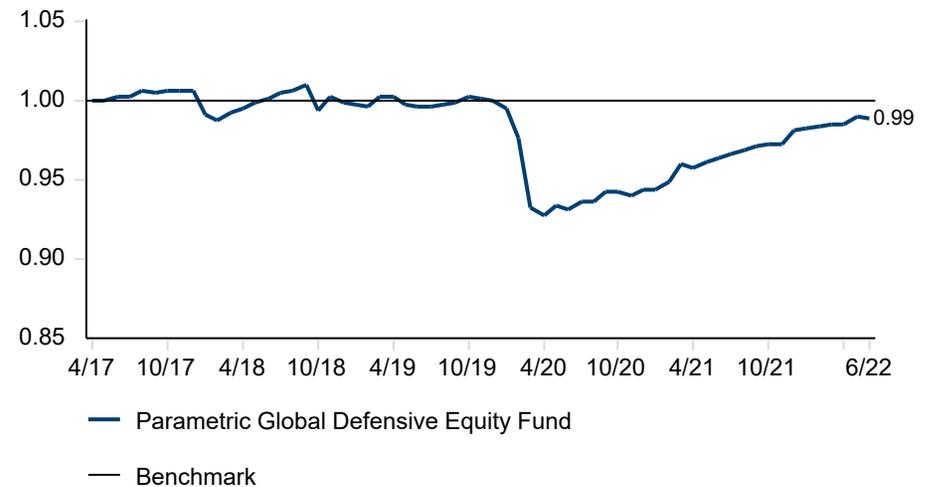
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

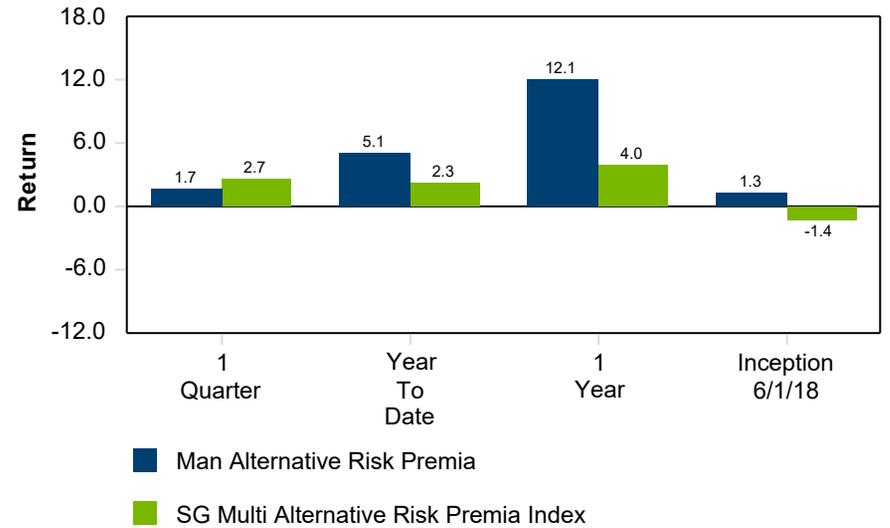


Man Alternative Risk Premia Performance Summary

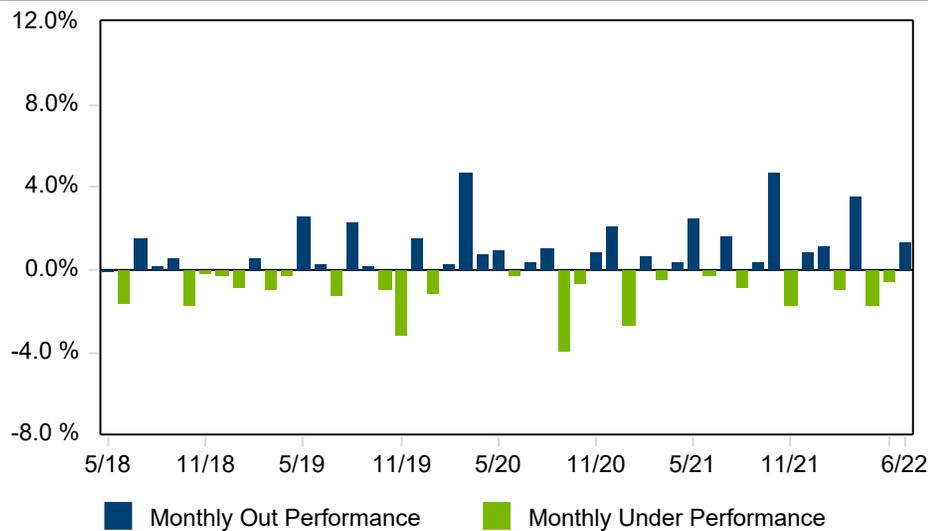
Account Information

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:

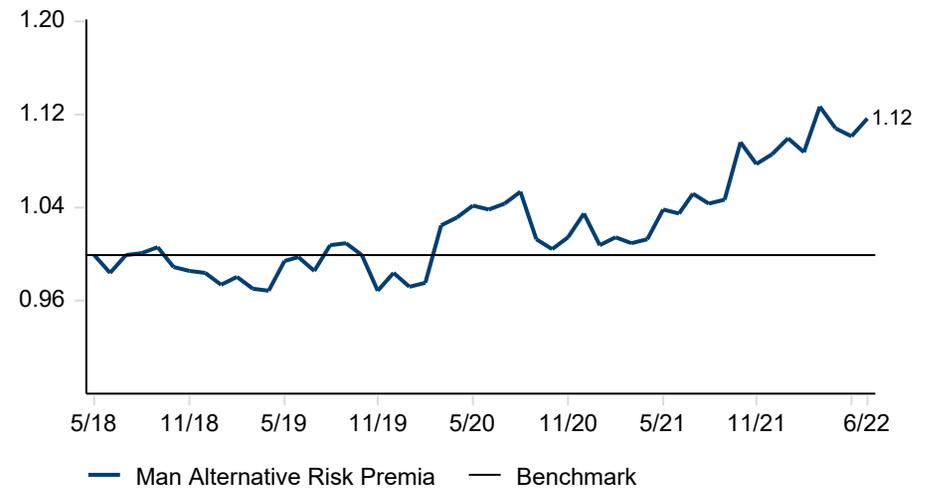
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

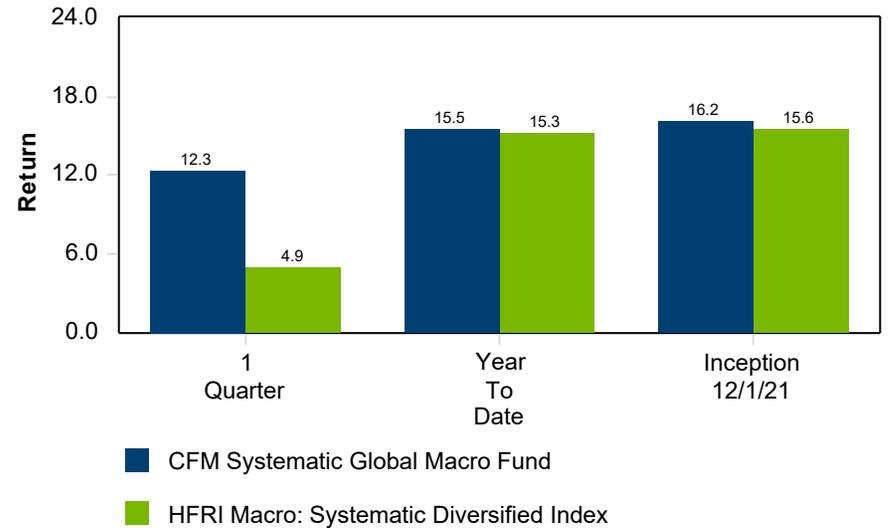


CFM Systematic Global Macro Fund Performance Summary

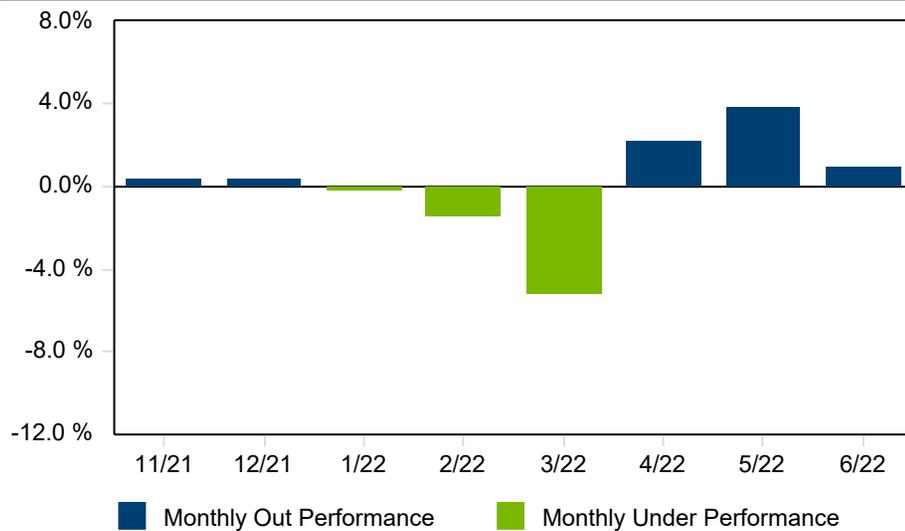
Account Information

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:

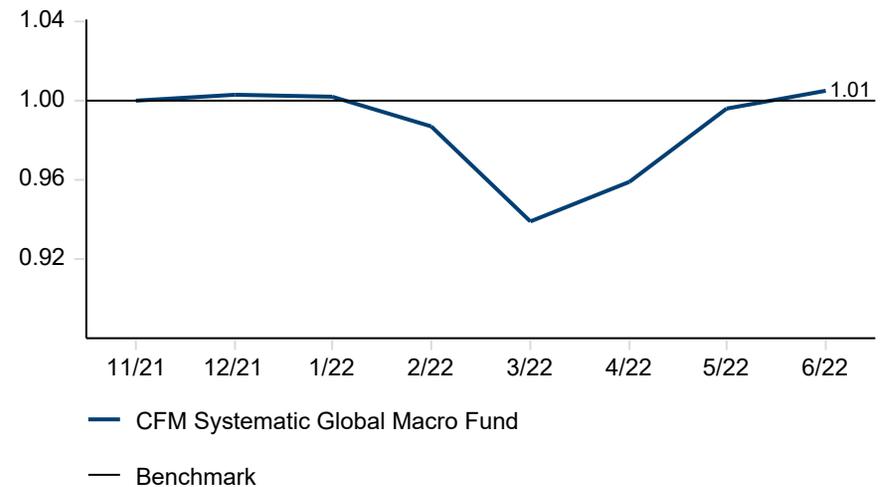
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

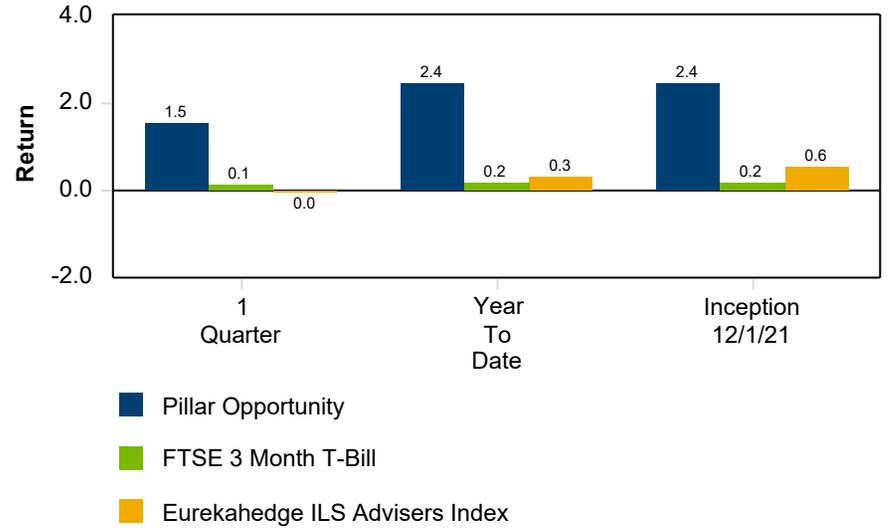


Pillar Opportunity Performance Summary

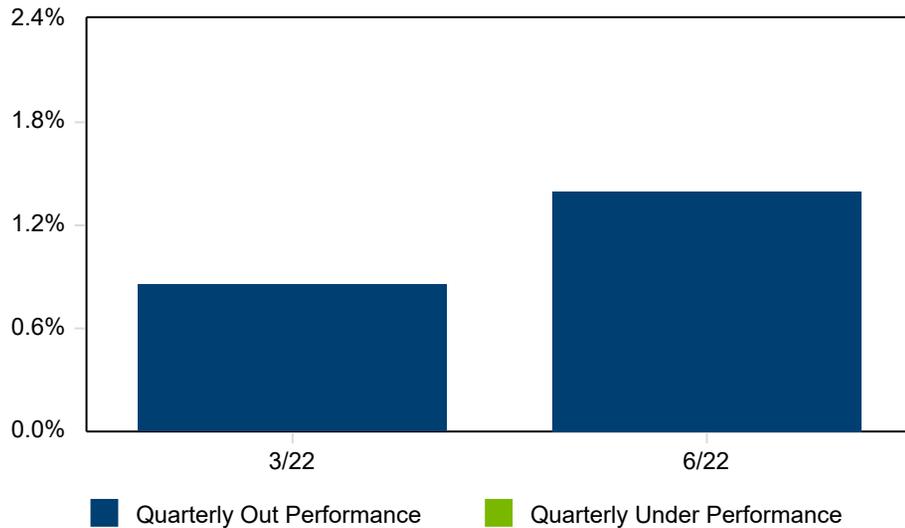
Account Information

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:

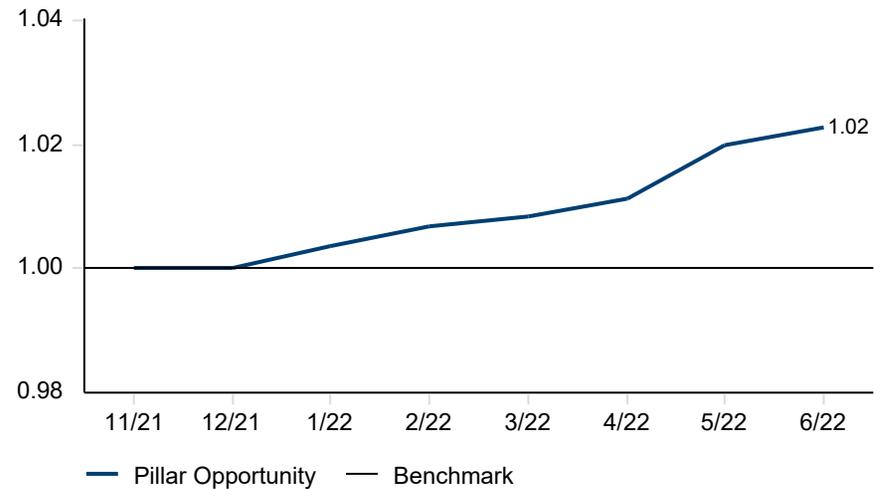
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

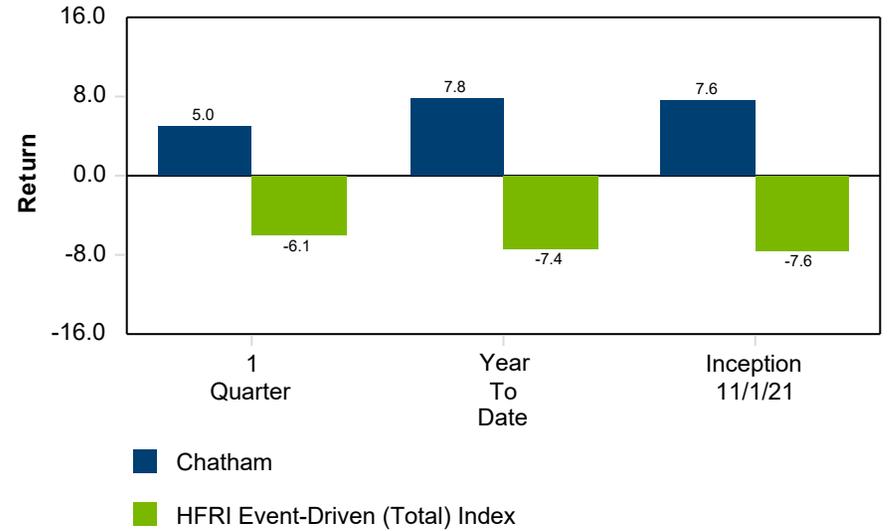


Chatham Performance Summary

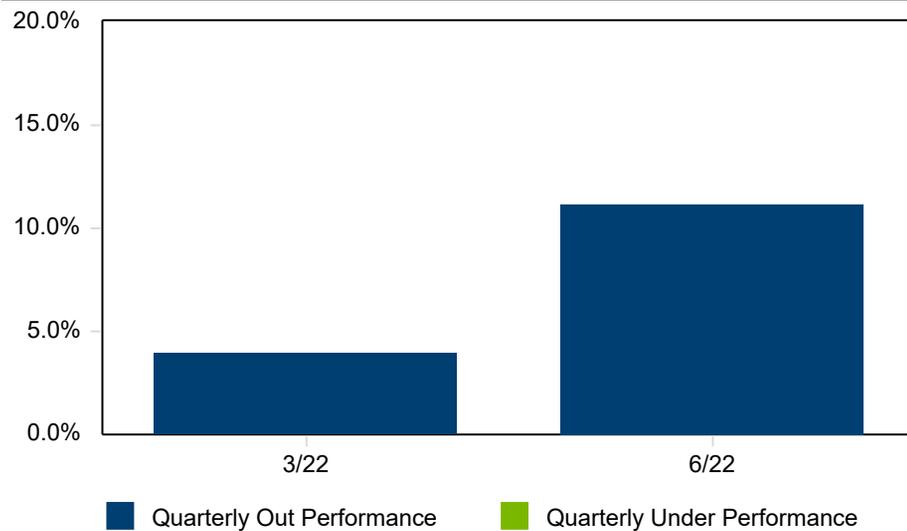
Account Information

Account Name: Chatham
 Inception Date: 11/01/2021
 Account Structure:
 Asset Class: Hedge Fund
 Benchmark: HFRI Event-Driven (Total) Index
 Peer Group:

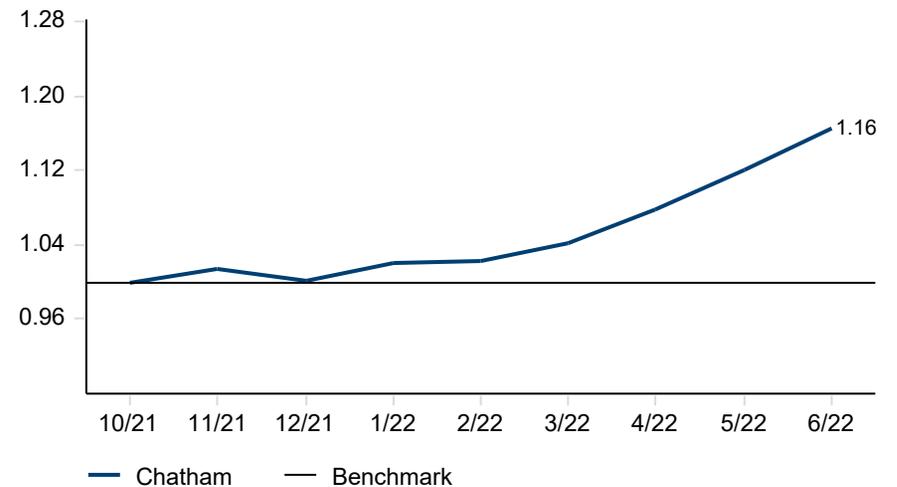
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

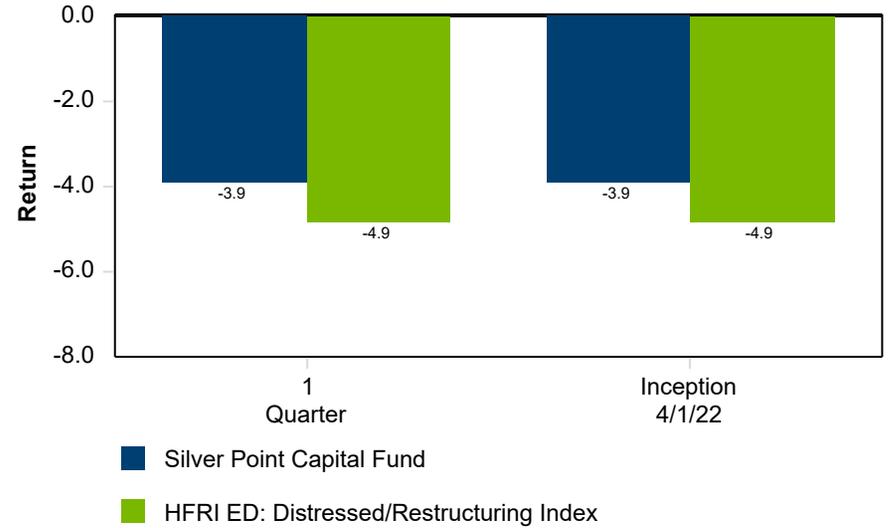


Silver Point Capital Fund Performance Summary

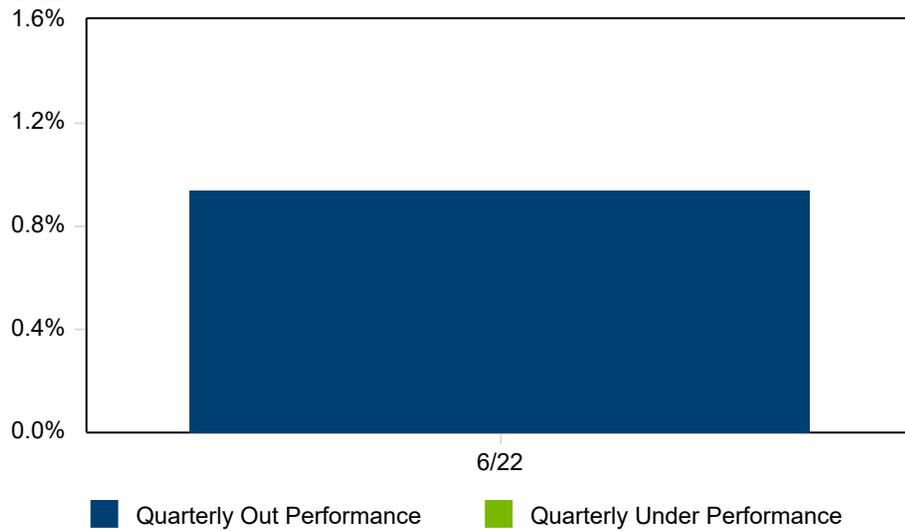
Account Information

Account Name: Silver Point Capital Fund
 Inception Date: 03/01/2022
 Account Structure:
 Asset Class: Hedge Fund
 Benchmark: HFRI ED: Distressed/Restructuring Index
 Peer Group:

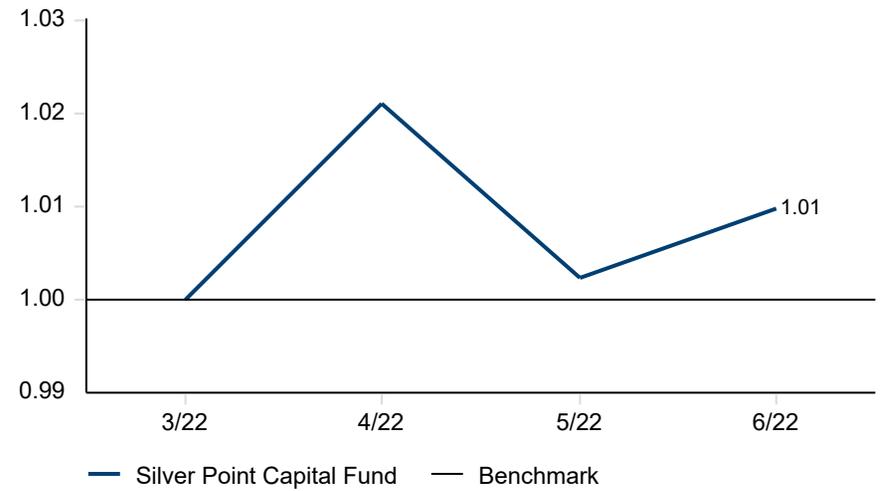
Return Summary

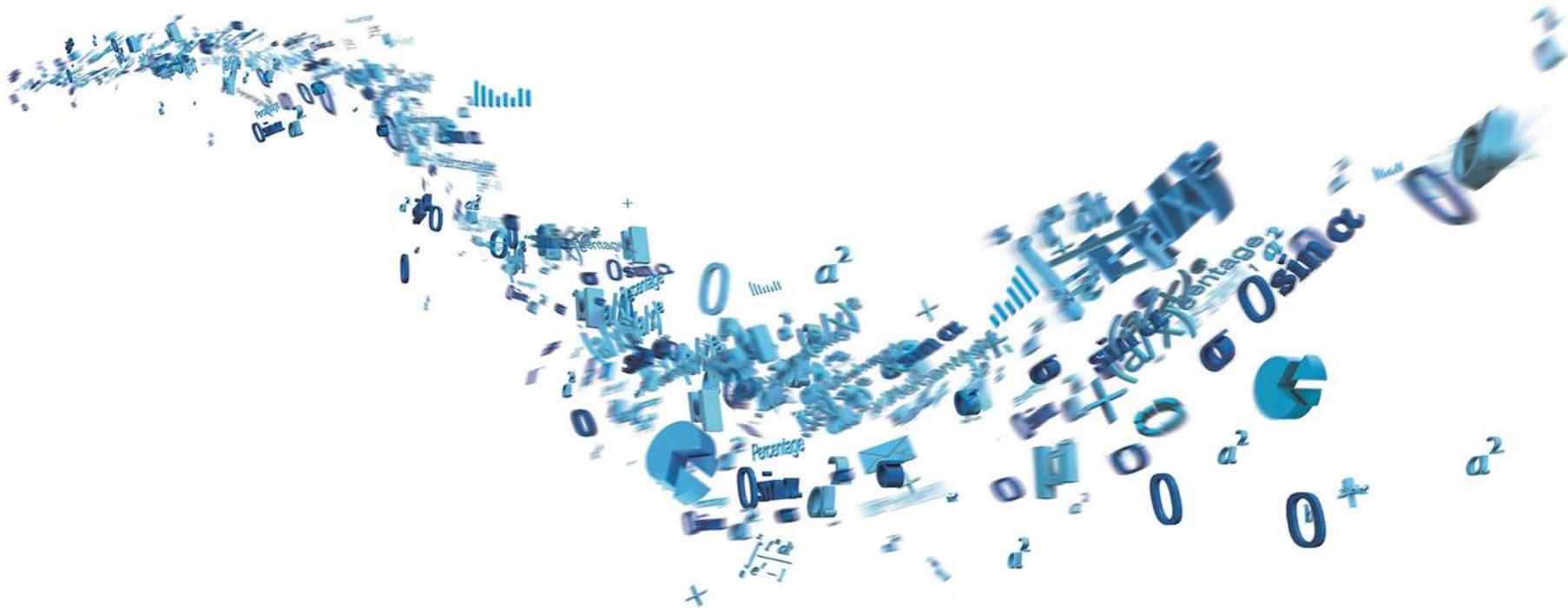


Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception



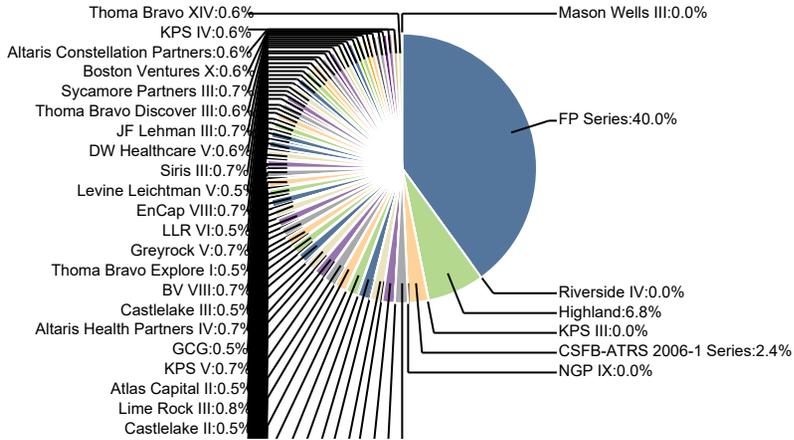


Private Equity

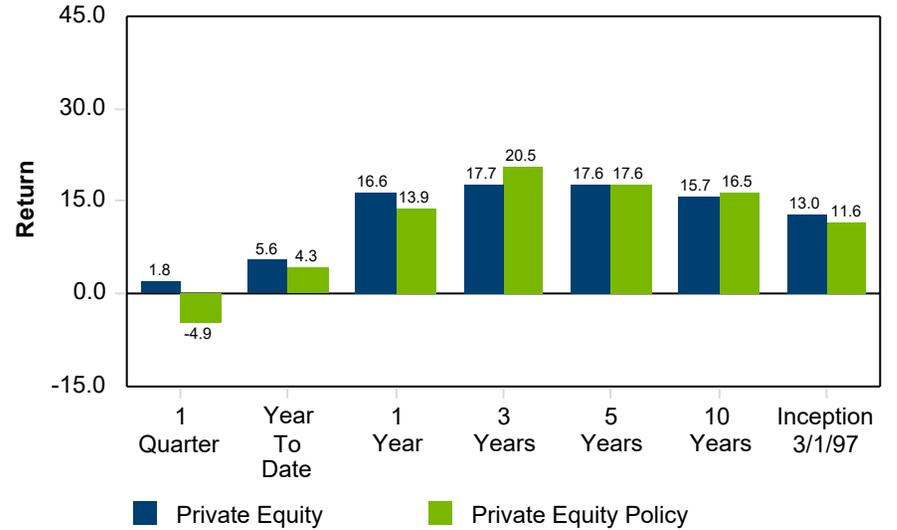
Private Equity Portfolio Overview

Current Allocation

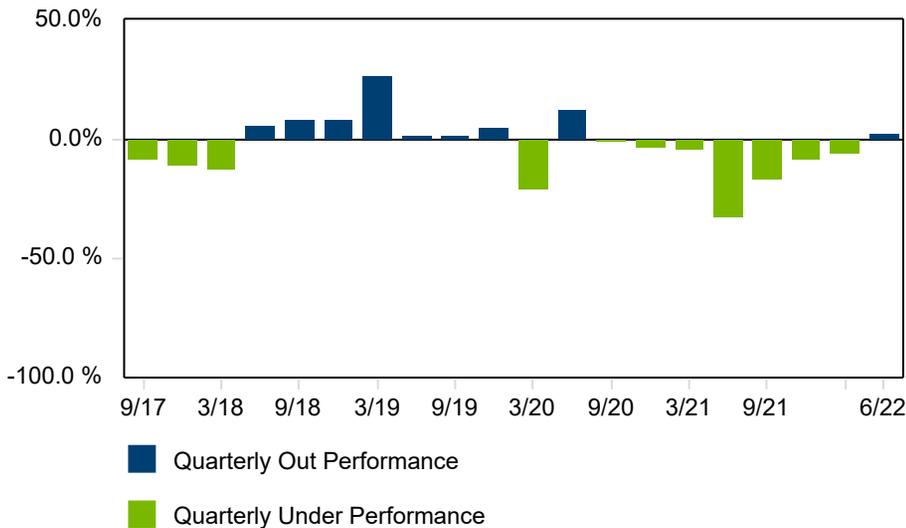
June 30, 2022 : \$3,062M



Return Summary

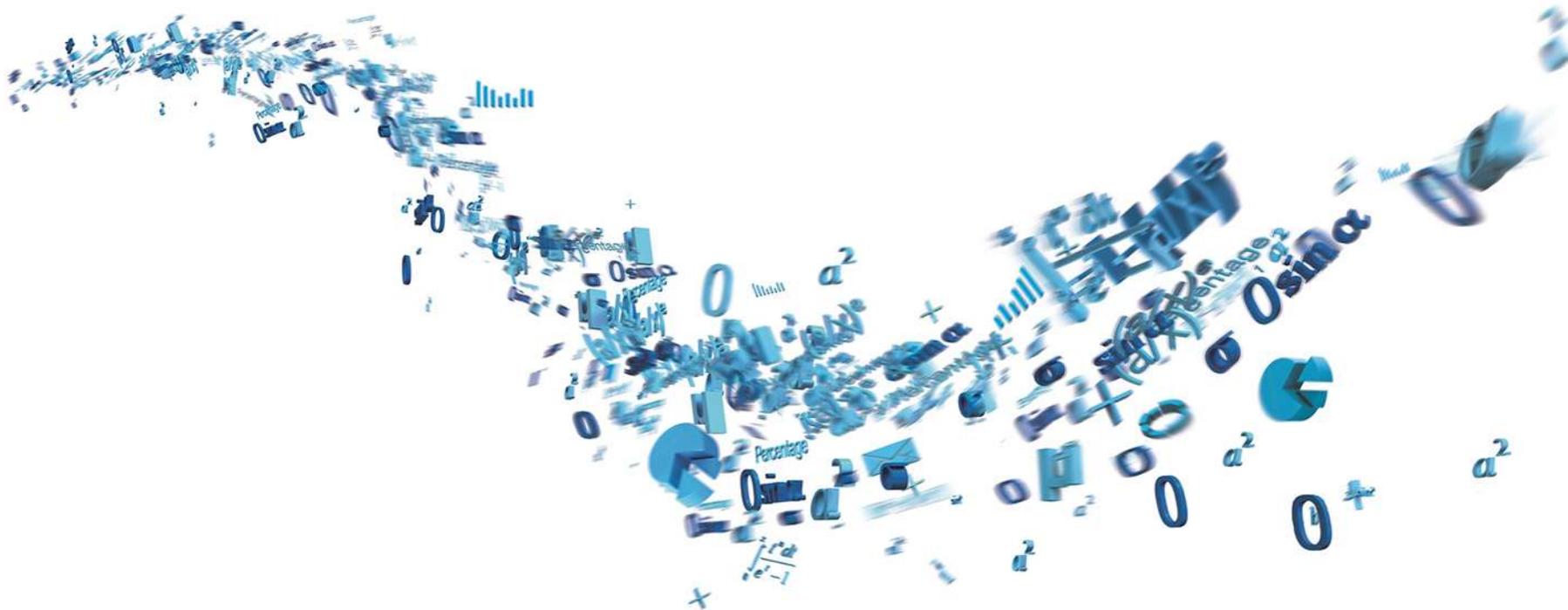


Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception



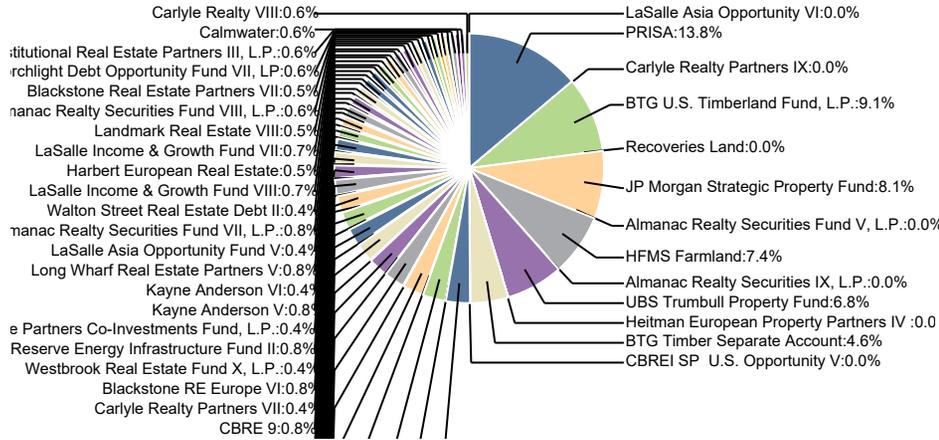


Real Assets

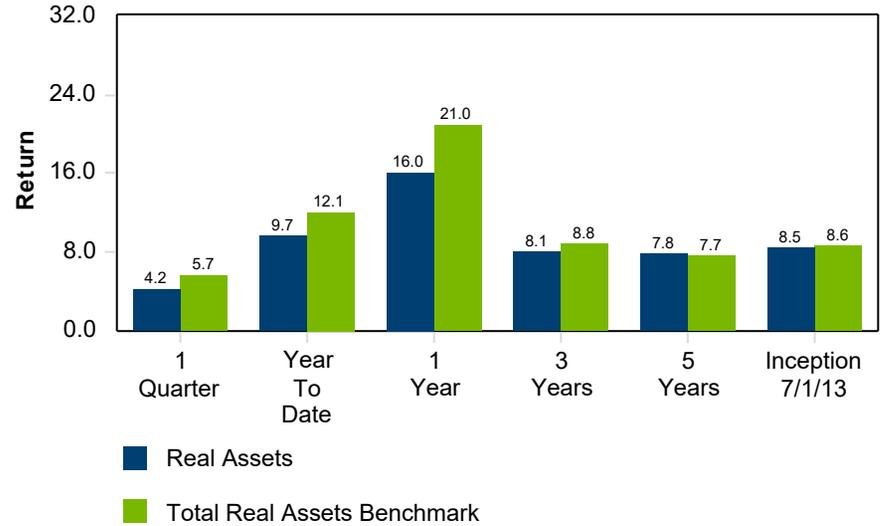
Real Assets Portfolio Overview

Current Allocation

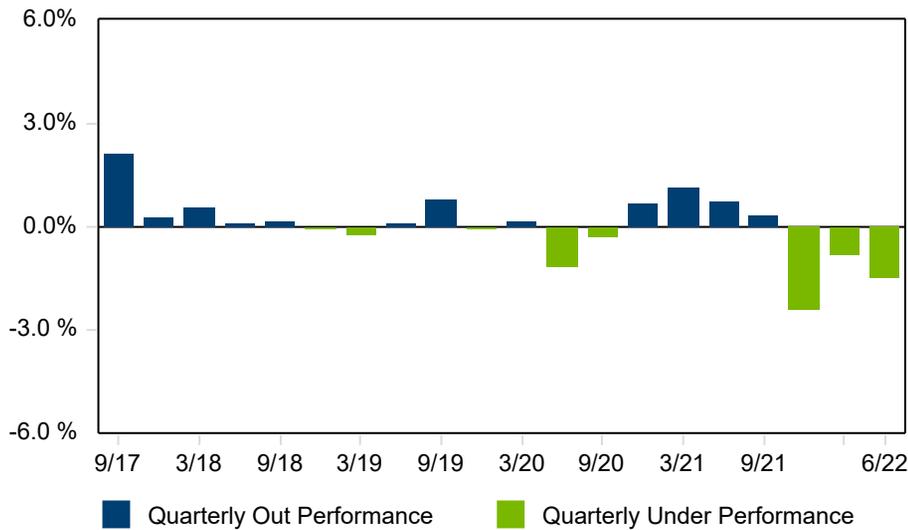
June 30, 2022 : \$2,415M



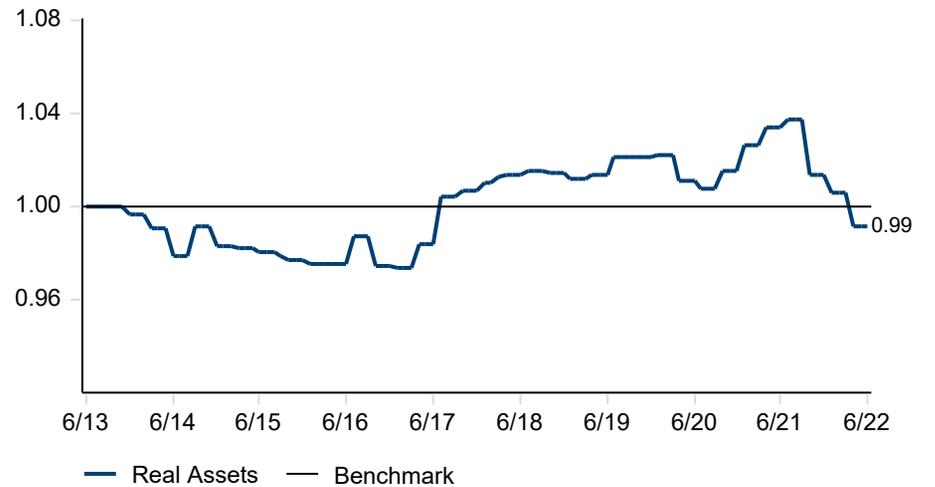
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception





Fee Schedule

Total Equity

As of June 30, 2022

Fee Schedule

	Fee Schedule	Market Value As of 06/30/2022 \$000	Estimated Annual Fee \$000	Estimated Annual Fee (%)
Total Equity		10,144,789	47,447	0.47
Jacobs Levy 130/30	0.60 % of First \$200 M 0.35 % of Next \$300 M 0.30 % Thereafter	1,046,063	3,888	0.37
Kennedy Capital Management	0.60 % of First \$100 M 0.50 % Thereafter	686,672	3,533	0.51
Stephens	0.75 % of First \$150 M 0.70 % of Next \$50 M 0.65 % Thereafter	492,324	3,375	0.69
Voya Absolute Return	0.60 % of First \$250 M 0.40 % Thereafter	671,617	3,186	0.47
Allianz (Nicholas Applegate)	0.40 % of First \$100 M 0.30 % of Next \$100 M 0.25 % of Next \$100 M 0.20 % Thereafter	852,477	2,055	0.24
Pershing Square International	1.50 % of Assets	-	-	1.50
Pershing Square Holdings	1.50 % of Assets	211,734	3,176	1.50
Triam Partners	1.50 % of Assets	70,619	1,059	1.50
Triam Co-Investments	0.50 % of Assets	42,593	213	0.50
SSgA Global Index	0.04 % of First \$1000 M 0.03 % Thereafter	928,297	371	0.04
BlackRock MSCI ACWI IMI Fund	0.05 % of First \$250 M 0.04 % Thereafter	838,338	360	0.04
Wellington Global Perspectives	0.80 % of Assets	635,640	5,085	0.80
T. Rowe Price Global Equity	0.43 % of First \$500 M 0.40 % Thereafter	1,206,260	4,950	0.41
Lazard	0.68 % of First \$300 M 0.65 % Thereafter	634,325	4,213	0.66
D.E. Shaw	0.84 % of First \$100 M 0.80 % of Next \$100 M 0.76 % Thereafter	827,982	6,413	0.77
GMO Global All Country Equity	0.64 % of Assets	457,203	2,926	0.64
Harris Global Equity	0.60 % of First \$100 M 0.50 % of Next \$100 M 0.45 % Thereafter	542,579	2,642	0.49

248 Above fees reflect only the current base management fee and excludes any performance fee arrangement.

Total Equity

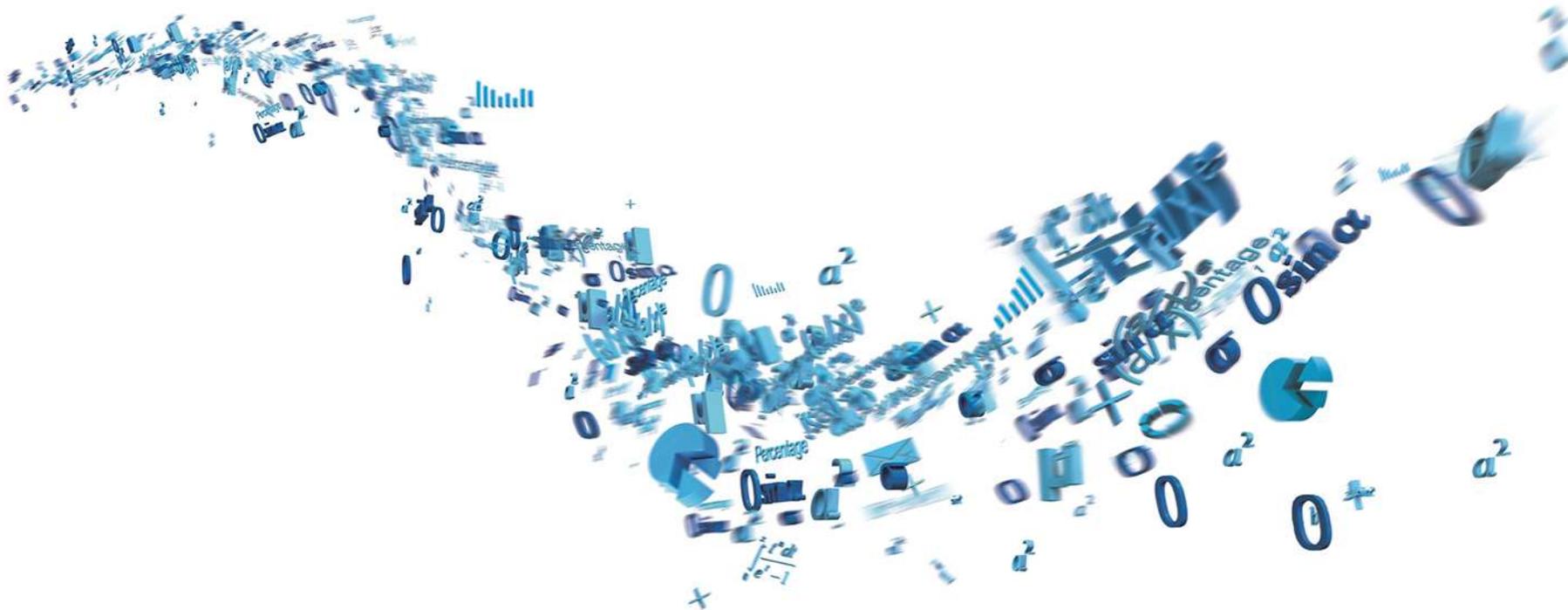
As of June 30, 2022

Fee Schedule

	Fee Schedule	Market Value As of 06/30/2022 \$000	Estimated Annual Fee \$000	Estimated Annual Fee (%)
Fixed Income		2,974,945	5,146	0.17
BlackRock	0.20 % of First \$200 M 0.15 % of Next \$200 M 0.10 % of Next \$400 M 0.08 % Thereafter	250,927	476	0.19
Loomis Sayles	0.50 % of First \$20 M 0.40 % of Next \$30 M 0.30 % Thereafter	439,860	1,390	0.32
Putnam	0.40 % of First \$100 M 0.35 % of Next \$150 M 0.30 % of Next \$250 M 0.25 % Thereafter	366,900	1,276	0.35
SSgA Aggregate Bond Index	0.04 % of First \$100 M 0.02 % Thereafter	857,865	187	0.02
Wellington Global Total Return	0.30 % of Assets	368,891	1,107	0.30
Reams Core Plus Bond Fund	0.20 % of Assets	355,350	711	0.20
BRS Recycling Tax Credit		176,000	-	-
BRS Recycling Tax Credit Phase 2		77,032	-	-
BRS Recycling Tax Credit Phase 3		82,120	-	-
Opportunistic/Alternatives		920,300	9,745	1.06
Anchorage	2.00 % of Assets	48,147	963	2.00
York	1.50 % of Assets	9,501	143	1.50
Capula	2.00 % of Assets	85,622	1,712	2.00
Graham	2.00 % of Assets	89,844	1,797	2.00
Circumference Group Core Value	1.50 % of Assets	34,804	522	1.50
Aeolus Keystone Fund	2.00 % of Assets	52,363	1,047	2.00
Nephila Rubik Holdings	1.50 % of Assets	9,218	138	1.50
Parametric Global Defensive Equity Fund	0.40 % of First \$150 M 0.35 % Thereafter	183,881	719	0.39
Man Alternative Risk Premia	0.85 % of Assets	104,873	891	0.85
CFM Systematic Global Macro Fund	0.36 % of Assets	102,891	370	0.36
Pillar Opportunity	1.30 % of Assets	97,322	1,265	1.30
Chatham	0.33 % of Assets	53,789	178	0.33

249 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

Appendix

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 June 1, 2022, the Total Equity Performance Benchmark was comprised of 33.0% DJ U.S. Total Stock Market Index and 67.0% 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.

Nicholas Applegate 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 Nicholas Applegate 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

Appendix

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	04/01/1986
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.

Benchmark Descriptions

Bloomberg Barclays Corporate High Yield Bond Index - An index that covers the U.S.D-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.

Bloomberg Barclays Emerging Markets Index - An unmanaged index that tracks total returns for external-currency-denominated debt instruments of the emerging markets.

Bloomberg Barclays Global Aggregate - 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 U.S.D investment grade 144A securities.

Bloomberg Barclays Global Treasury Ex-U.S. - The Barclays Global Treasury ex U.S. Index is a subset of the flagship Global Treasury Index that does not have any exposure to U.S. debt. This multi-currency benchmark includes investment grade, fixed-rate bonds issued by governments in their native currencies.

Bloomberg Barclays Inflation Index - Measures the performance of the U.S. Treasury Inflation Protected Securities ("TIPS") market.

Bloomberg Barclays Universal Index - 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.

Bloomberg Barclays U.S. Aggregate Bond Index - A market value-weighted index consisting of government bonds, SEC-registered corporate bonds and mortgage-related and asset-backed securities with at least one year to maturity and an outstanding par value of \$250 M or greater. This index is a broad measure of the performance of the investment grade U.S. fixed income market.

Bloomberg Barclays U.S. Government/Credit Index - A subcomponent of the Barclays Capital Aggregate Index, this benchmark includes treasury securities, government related issues, and high quality corporate bonds with an outstanding par value of \$250 M or greater and at least one year of maturity remaining.

Bloomberg Barclays U.S. Government Index - A market value weighted index of U.S. government and government agency securities (other than mortgage securities) with maturities of one year or more.

Bloomberg Barclays U.S. High Yield Index - 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 M or greater and at least one year of maturity remaining.

Bloomberg Barclays U.S. Intermediate Aggregate Bond Index - A market value-weighted index consisting of U.S. Treasury securities, corporate bonds and mortgage-related and asset-backed securities with one to ten years to maturity and an outstanding par value of \$250 M or greater.

Bloomberg Barclays U.S. Intermediate Government Bond Index - An unmanaged index considered representative of intermediate-term fixed-income obligations issued by the U.S. Treasury, government agencies and quasi-federal corporations.

Bloomberg Barclays U.S. Intermediate Government/Credit Index - A market-value weighted index consisting of U.S. government bonds and SEC-registered corporate bonds with one to ten years to maturity and an outstanding par value of \$150 M or greater.

Bloomberg Barclays U.S. Intermediate Treasury - An unmanaged index considered representative of intermediate-term fixed-income obligations issued by the U.S. Treasury.

Bloomberg Barclays U.S. Long Credit Bond Index - 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.

Benchmark Descriptions

Bloomberg Barclays U.S. Long Gov't/Credit Index - The Barclays 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 M or more of outstanding face value, and must be fixed rate and non-convertible.

Bloomberg Barclays U.S. Long Government Bond Index - An unmanaged index considered representative of long-term fixed- income obligations issued by the U.S. Treasury, government agencies and quasi-federal corporations.

Bloomberg Barclays U.S. TIPS - 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.

Bloomberg Barclays U.S. Treasury 20-30 Year STRIPS Index - A subcomponent of the Barclays Aggregate Index, this benchmark includes long-term treasury STRIPS.

Bloomberg Commodity Index - 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.

BofA Merrill Lynch 3 Month Treasury Bill - An index that measures the average return of the last three-month U.S. Treasury Bill issues.

BofA Merrill Lynch High Yield Master - 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.

Citigroup 90-Day T-Bill Index - An index that measures the average return of the last three-month U.S. Treasury Bill issues.

Credit Suisse Leveraged Loan Index - Designed to mirror the investable universe of the U.S. dollar denominated leveraged loan market.

CRSP U.S. Large Cap Index - an index comprised of nearly 640 U.S. large cap companies and includes securities traded on NYSE, NYSE Market, NASDAQ, or ARCA, representing nearly 85% 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 U.S. Total Market Index - 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.

DJ U.S. Completion Total Stock Market Index - 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.

DJ U.S. Total Stock Market Index - 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.

FTSE 4Good U.S. Select Index - a socially responsible investment (SRI) index of U.S. stocks that excludes companies with certain business activities such as weapons, tobacco, gambling, alcohol, nuclear power, and adult entertainment.

FTSE All-World ex-U.S. Index - A capitalization-weighted stock index representing 46 developed market countries and emerging market countries excluding the U.S.

Benchmark Descriptions

FTSE EPRA NAREIT Global ex-U.S. Index - 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.

FTSE Global All Cap ex U.S. Index - 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.

FTSE Global Core Infrastructure Index - 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.

FTSE NAREIT U.S. Equity REITS - Free float adjusted, market capitalization weighted index of U.S. based equity real estate investment trusts (REITs).

Goldman Sachs Commodity Index - A composite index of commodity sector returns which represents a broadly diversified, unleveraged, long-only position in commodity futures.

HFRI Fund-of-Fund Index - This index is equal-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 M under managements and have been actively trading for at least one year. All funds report net monthly returns.

HFRI Fund Weighted Composite Index - 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 U.S. Dollar and have a minimum of \$50 M 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.

Hueler Stable Value Index - 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.

iMoneyNet All Taxable Money Funds Index - 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.

iMoneyNet Money Fund Average - 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.

J.P. Morgan EMBI Global Diversified - 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.

MSCI All Country World ex-U.S. Index - 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.

MSCI All Country World ex-U.S. Index IMI- 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-U.S. stock market, covering approximately 99% of the global equity investment opportunity set outside of the United States.

Benchmark Descriptions

MSCI All Country World ex-U.S. Small Cap Index - 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.

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 Index IMI - 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.

MSCI EAFE Growth Index - A capitalization-weighted index of 21 stock markets in Europe, Australia, Asia and the Far East designed to capture the growth-oriented companies.

MSCI EAFE Index - A capitalization-weighted index of stocks representing 22 developed countries in Europe, Australia, Asia, and the Far East.

MSCI EAFE Small Cap Index - A capitalization-weighted index of small cap stocks representing 23 developed country markets in Europe, Australia, Asia, and the Far East.

MSCI EAFE Value Index - A capitalization-weighted index of 21 stock markets in Europe, Australia, Asia and the Far East designed to capture the value-oriented companies.

MSCI Emerging Markets Index - A capitalization-weighted index of stocks representing 22 emerging country markets.

MSCI Emerging Markets Value Index - A capitalization-weighted index considered representative of value stocks across 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

MSCI U.S. Broad Market Index - 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.

MSCI U.S. REIT Index - A broad index that fairly represents the equity REIT opportunity set with proper investability screens to ensure that the index is investable and replicable. The index represents approximately 85% of the U.S. REIT universe.

MSCI World Index - 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.

NCREIF Property Index - A capitalization-weighted index of privately owned investment grade income-producing properties representing approximately \$269 billion in assets.

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.

Rolling 3-year Constant Maturity Treasury Index - 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.

Russell 1000 Growth Index - 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.

Russell 1000 Index - A capitalization-weighted index of the 1,000 largest publicly traded U.S. stocks by capitalization.

Benchmark Descriptions

Russell 1000 Value Index - 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.

Russell 2000 Growth Index - 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.

Russell 2000 Index - 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.

Russell 2000 Value Index - 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.

Russell 2500 Growth Index - 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.

Russell 2500 Index - 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.

Russell 2500 Value Index - 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.

Russell 3000 Growth Index - 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.

Russell 3000 Index - A capitalization-weighted index consisting of the 3,000 largest publicly traded U.S. stocks by capitalization. This index is a broad measure of the performance of the aggregate domestic equity market.

Russell 3000 Value Index - 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.

Russell Mid Cap Growth Index - 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.

Russell Mid Cap Index - A capitalization-weighted index of the 800 smallest stocks in the Russell 1000 Index. This index is a broad measure of mid-capitalization stocks.

Russell Mid Cap Value Index - 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.

S&P 500 Index - 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.

Benchmark Descriptions

S&P Completion Index -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.

S&P Leverage Loan Index - A daily total return index that uses LSTA/LPC Mark-to-Market Pricing to calculate market value change.

S&P MidCap 400 Index - A market-capitalization-weighted index of stocks in all major industries in the mid-range of the U.S. stock market.

Wilshire REIT - 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 M 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.
- Please feel free to contact us at retirement@aon.com for more index information.

Thought Leadership Highlights – Public Funds

Aon United	Operational Diligence: Due for a Change? (Part 1)	Link
Market View	Global Recession is Now Much More Likely	Link
Market View	Quarterly Market Review and Outlook Video (access code 'aon!')	Link to Video
Market View	U.S. Month in Markets	Link
Market View	Quarterly Investment Outlook	Link
Quarterly Outlook	Key Themes for Public Funds in Q2 2022 (4-minute video, access code 'aon!')	Link to Video
Public Funds	Expected Returns for Public Funds: Three Questions with John Sullivan	Link
Asset Allocation	White Paper: Why Diversify?	Link
Asset Allocation	Inflation-Protecting Assets: 3 Questions with Sheila Noonan	Link
Strategy Review	Private Credit Today: A Diverse Opportunity Set in a Growing Market	Link
Strategy Review	Commodities	Forthcoming
Strategy Review	Private Equity Past and Present: Three Questions with Bruce Ingram	Link
Strategy Review	GP-led Secondaries and Continuation Vehicles: Three Questions with Oliver Graham and Katherine Montague	Link
Strategy Review	Cash Management: Meeting Your Organization's Needs in a Low Yield Environment	Link
Strategy Review	White Paper: The Benefits of ESG Integration	Link
Other	Negotiating Fees for Investment Management: 3 Questions With Dino Nikolopoulos	Link

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Notes

- The rates of return contained in this report are shown on an after-fees basis unless otherwise noted. They are geometric and time-weighted. Returns for periods longer than one year are annualized.
- Universe percentiles are based upon an ordering system in which 1 is the best ranking and 100 is the worst ranking.
- Due to rounding throughout the report, percentage totals displayed may not sum to 100%. Additionally, individual fund totals in dollar terms may not sum to the plan total.

Disclaimer

Past performance is not necessarily indicative of future results.

Unless otherwise noted, performance returns presented reflect the respective fund's performance as indicated. Returns may be presented on a before-fees basis (gross) or after-fees basis (net). After-fee performance is net of each respective sub-advisors' investment management fees and include the reinvestment of dividends and interest as indicated on the notes page within this report or on the asset allocation and performance summary pages. Actual returns may be reduced by Aon Investments' investment advisory fees or other trust payable expenses you may incur as a client. Aon Investments' advisory fees are described in Form ADV Part 2A. Portfolio performance, characteristics and volatility also may differ from the benchmark(s) shown.

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Suite 700
Chicago, IL 60601
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Arkansas Teacher Retirement System | August 31, 2022

Monthly Investment Review

*All information presented in this report should be considered preliminary.
Finalized data will be available on the next Quarterly Investment Report after the close of the quarter.*

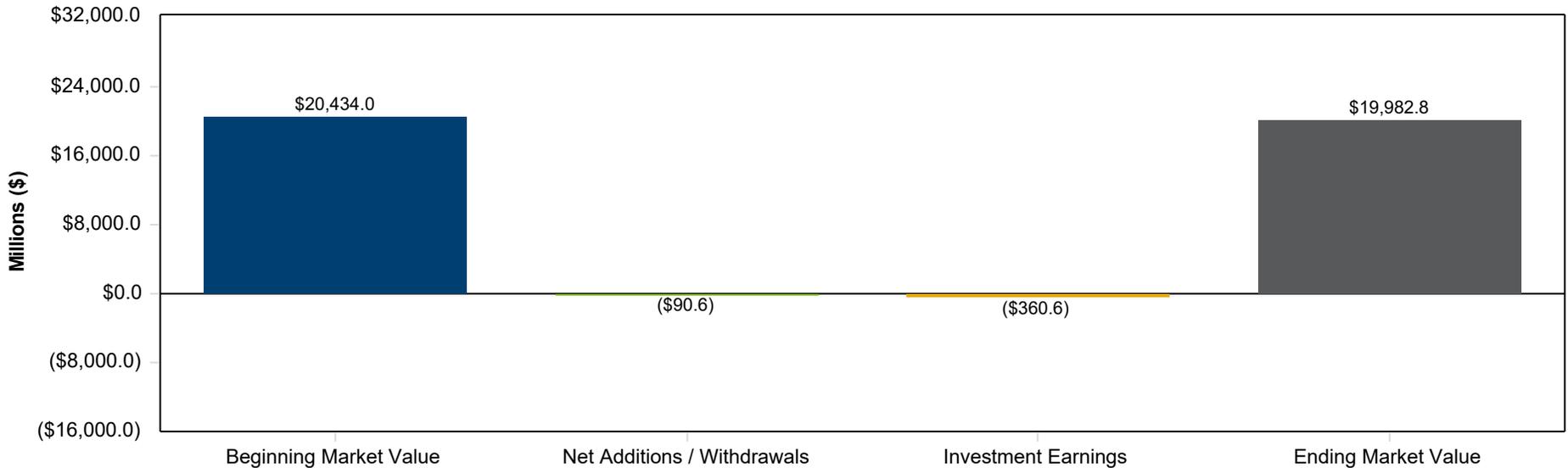
As of August 31, 2022

Market Environment

	Performance(%)						
	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	10 Years
Dow Jones U.S. Total Stock Market Index	-3.8	5.2	-17.2	-13.7	11.7	11.2	12.7
S&P 500 Index	-4.1	4.8	-16.1	-11.2	12.4	11.8	13.1
Russell 1000 Index	-3.8	5.1	-16.9	-13.0	12.1	11.6	13.0
Russell 1000 Value Index	-3.0	3.5	-9.8	-6.2	8.9	7.9	10.5
Russell 1000 Growth Index	-4.7	6.8	-23.2	-19.1	14.5	14.8	15.1
Russell 2000 Index	-2.0	8.2	-17.2	-17.9	8.6	6.9	10.0
Russell 2000 Value Index	-3.2	6.2	-12.2	-10.2	10.4	6.6	9.5
Russell 2000 Growth Index	-0.9	10.2	-22.3	-25.3	5.9	6.7	10.2
MSCI AC World IMI (Net)	-3.6	3.3	-17.8	-16.2	8.0	6.8	8.7
MSCI AC World ex USA IMI (Net)	-3.1	0.5	-18.7	-20.0	3.2	1.7	4.7
MSCI EAFE Index (Net)	-4.7	0.0	-19.6	-19.8	2.4	1.6	5.0
MSCI Emerging Markets Index (Net)	0.4	0.2	-17.5	-21.8	2.7	0.6	2.9
Blmbg. U.S. Universal Index	-2.6	-0.2	-11.1	-11.9	-1.8	0.6	1.6
Blmbg. U.S. Aggregate	-2.8	-0.5	-10.8	-11.5	-2.0	0.5	1.4
Blmbg. U.S. Government	-2.5	-0.9	-9.9	-10.7	-2.2	0.3	0.8
Blmbg. Barc. Credit Bond Index	-2.8	0.1	-13.7	-14.4	-2.1	0.9	2.2
Blmbg. U.S. Mortgage Backed Securities	-3.4	-0.3	-9.1	-9.7	-2.0	0.1	1.1
Blmbg. U.S. Corp: High Yield	-2.3	3.5	-11.2	-10.6	1.0	2.6	4.5
Citigroup 90-Day T-Bill	0.1	0.3	0.4	0.4	0.6	1.1	0.6

Total Plan Asset Summary

**Change in Market Value
From August 1, 2022 to August 31, 2022**



Summary of Cash Flow

	1 Month	Fiscal YTD	Year To Date	1 Year
Beginning Market Value	20,433,955,127	19,740,562,415	21,766,843,724	21,451,273,825
+ Additions / Withdrawals	-90,579,342	-198,382,577	-372,256,505	-665,102,550
+ Investment Earnings	-360,616,086	440,579,861	-1,411,827,520	-803,411,576
= Ending Market Value	19,982,759,699	19,982,759,699	19,982,759,699	19,982,759,699

As of August 31, 2022

Asset Allocation & Performance

	Allocation			Performance(%)								
	Market Value (\$)	%	Policy(%)	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Total Fund*	19,982,759,699	100.0	100.0	-1.8	2.2	-6.6	-4.0	8.5	8.0	9.3	8.4	04/01/1986
<i>Performance Benchmark</i>				-2.4	1.3	-11.1	-9.0	8.3	7.6	8.9	8.5	
Total Equity	10,553,003,196	52.8	55.8	-3.0	4.0	-14.0	-11.9	8.2	7.4	10.0	7.7	07/01/2015
<i>Total Equity Performance Benchmark</i>				-3.6	4.0	-17.5	-15.4	9.1	8.1	10.1	8.4	
Fixed Income	2,951,289,866	14.8	15.0	-1.7	0.4	-6.7	-7.4	0.0	1.7	2.6	4.9	07/01/1992
<i>Performance Benchmark</i>				-2.6	-0.2	-11.1	-11.9	-1.8	0.6	1.6	4.9	
Opportunistic/Alternatives	927,572,184	4.6	4.7	1.0	2.2	4.9	6.6	2.0	1.2	3.7	3.2	05/01/2011
<i>Custom Alternatives Benchmark</i>				0.2	0.7	-0.4	-0.1	2.9	2.7	2.7	2.1	
Real Assets	2,449,614,160	12.3	12.5									
Real Estate	1,516,546,975	7.6										
Timber	325,767,966	1.6										
Agriculture	237,521,157	1.2										
Infrastructure	369,778,061	1.9										
Private Equity	2,994,437,398	15.0	12.0									
Cash	106,842,895	0.5	0.0									

***Preliminary Results**

*Policy % is the interim target used for benchmarking purposes. See page 17 for long-term targets. Beginning July 1, 2013, an updated Investment Policy was adopted which includes the new Real Assets category, which includes Real Estate, Timber, Agriculture and Infrastructure.

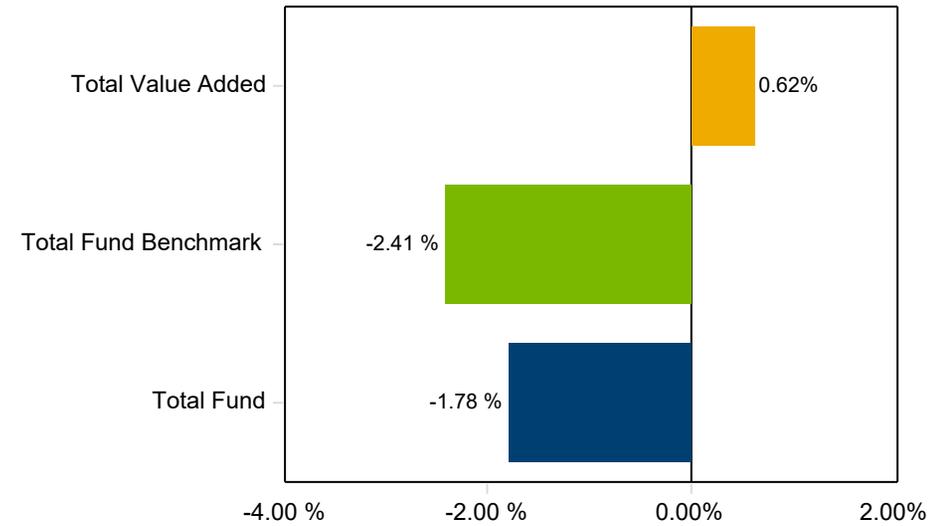
*Real Assets and Private Equity are valued on a quarterly basis and reported on a quarter lag. Market values have been adjusted for the current month's cash flows. Updated results for these portfolios are not yet available and will be included in the quarterly performance report.

*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 21 of this report.

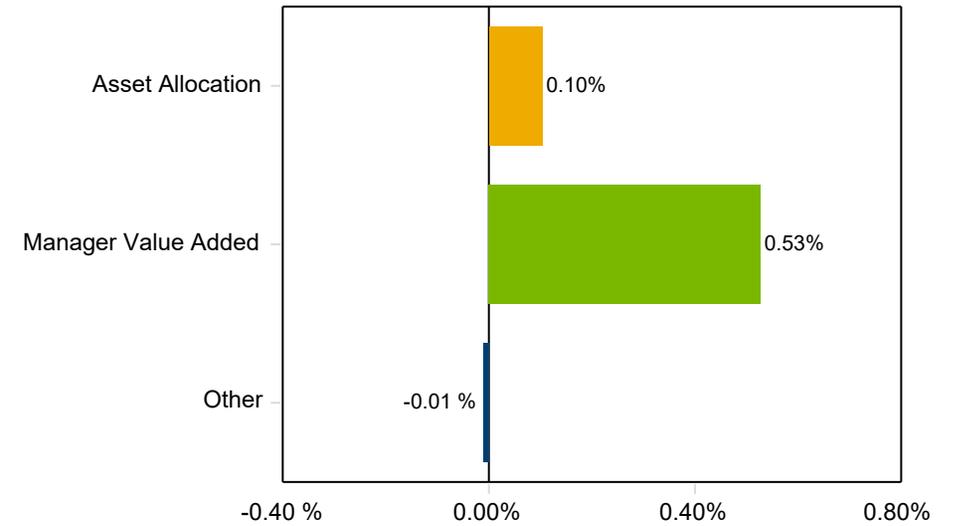
*Includes investment gains from Allianz litigation income received on 2/28/2022.

Total Fund Attribution

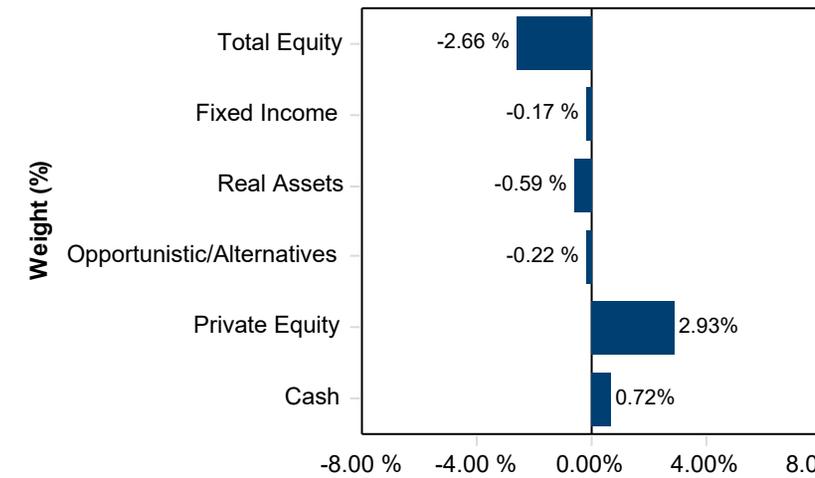
Total Fund Performance



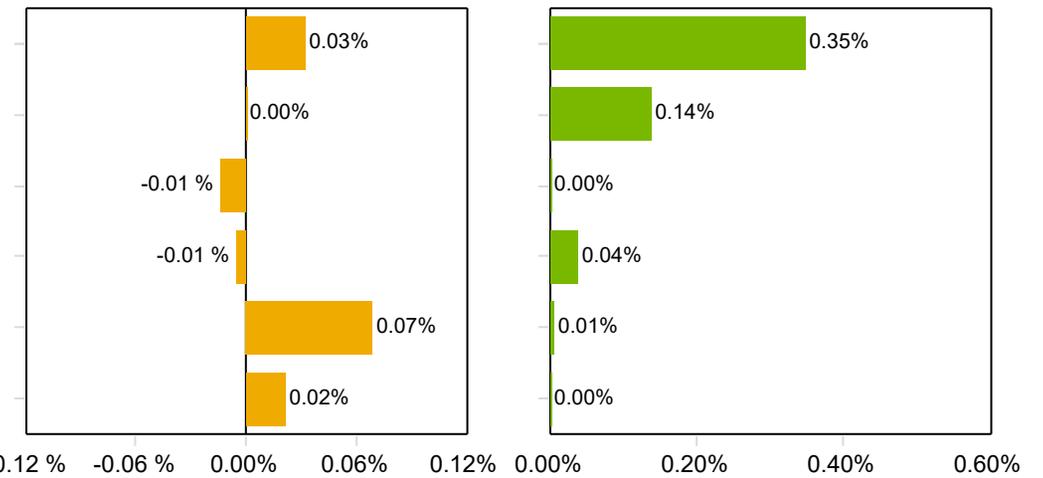
Total Value Added:0.62%



Total Asset Allocation:0.10%



Total Manager Value Added:0.53%



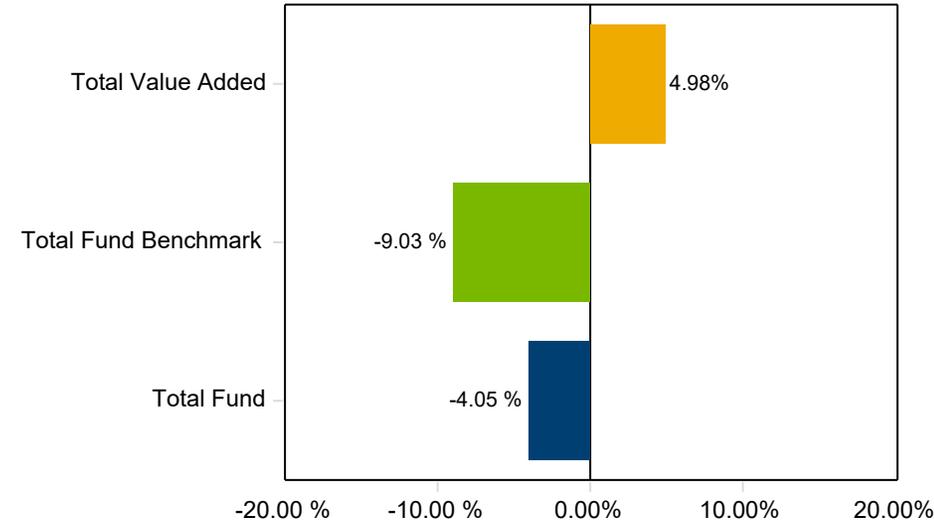
Average Active Weight

Asset Allocation Value Added

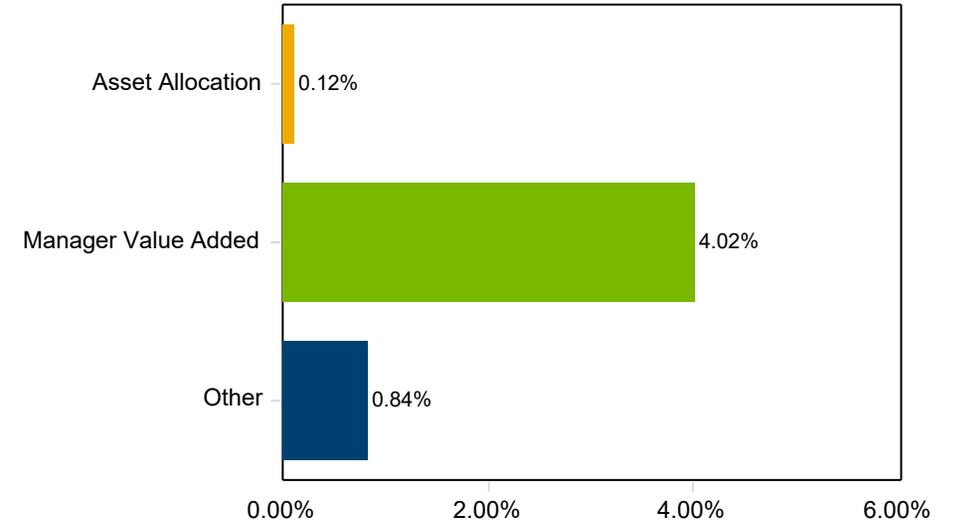
Manager Value Added

Total Fund Attribution

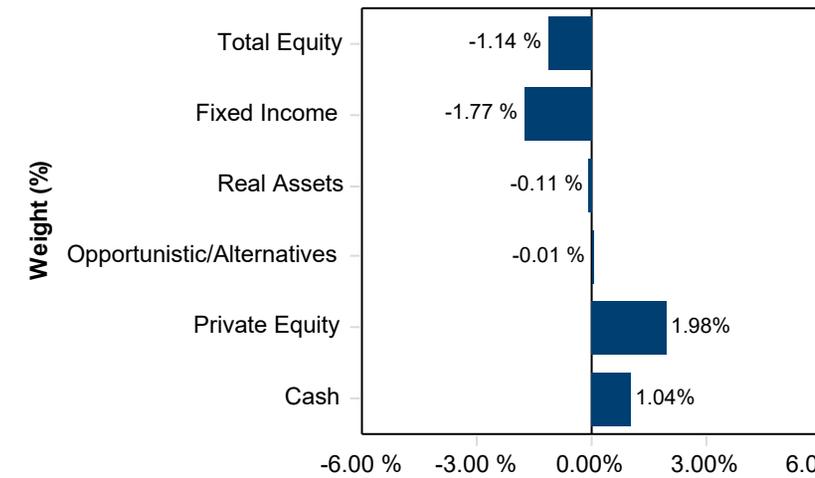
Total Fund Performance



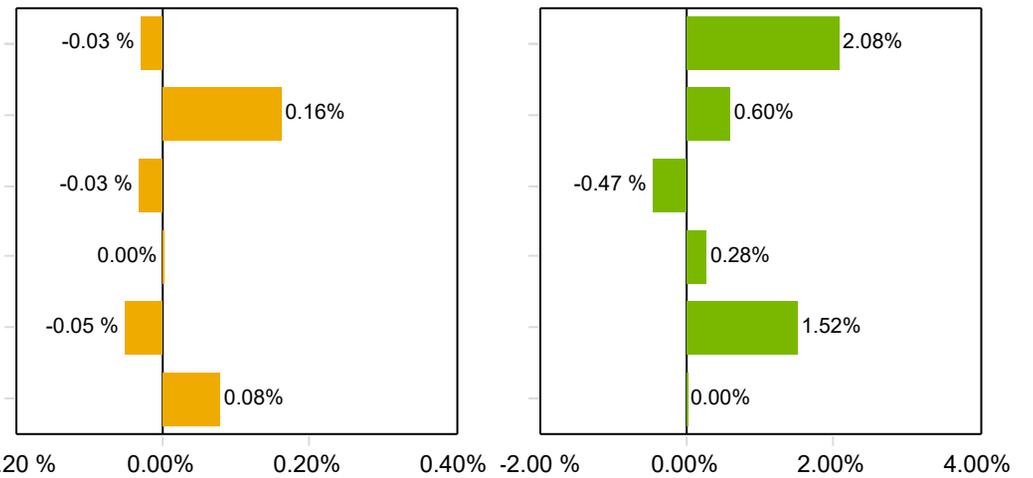
Total Value Added: 4.98%



Total Asset Allocation: 0.12%



Total Manager Value Added: 4.02%



Average Active Weight

Asset Allocation Value Added

Manager Value Added

As of August 31, 2022

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Total Equity	10,553,003,196	100.0	-3.0	4.0	-14.0	-11.9	8.2	7.4	7.7	07/01/2015
<i>Total Equity Performance Benchmark</i>			-3.6	4.0	-17.5	-15.4	9.1	8.1	8.4	
Jacobs Levy 130/30	1,078,082,740	10.2	-1.6	3.1	-2.7	11.1	20.5	16.6	12.0	01/01/2008
<i>Russell 3000 Index</i>			-3.7	5.3	-16.9	-13.3	11.9	11.3	9.1	
Kennedy Capital Management	730,740,294	6.9	-3.0	6.3	-14.8	-6.7	12.5	7.1	11.9	01/01/1994
<i>Russell 2000 Value Index</i>			-3.2	6.2	-12.2	-10.2	10.4	6.6	9.4	
Stephens	526,627,201	5.0	-3.1	6.8	-23.9	-23.7	7.3	10.8	9.4	08/01/2006
<i>Russell 2000 Growth Index</i>			-0.9	10.2	-22.3	-25.3	5.9	6.7	8.4	
Voya Absolute Return	677,786,730	6.4	-4.3	0.8	-18.9	-16.2	8.0	6.4	9.5	10/01/2008
<i>Performance Benchmark Voya Absolute Return</i>			-3.7	3.0	-17.8	-15.9	8.0	7.0	9.6	
Allianz (Nicholas Applegate)	907,296,156	8.6	0.7	6.4	-15.0	-15.3	14.3	14.0	10.4	12/01/1998
<i>Performance Benchmark</i>			0.9	6.7	-14.9	-16.4	12.3	10.9	8.2	
Pershing Square Holdings	234,406,578	2.2	1.3	10.7	-19.8	-8.2	22.2	20.8	7.6	01/01/2013
<i>Dow Jones U.S. Total Stock Market Index</i>			-3.8	5.2	-17.2	-13.7	11.7	11.2	12.8	
SSgA Global Index	959,566,878	9.1	-3.5	3.4	-17.6	-15.9	8.3	7.1	6.3	04/01/2008
<i>MSCI AC World IMI (Net)</i>			-3.6	3.3	-17.8	-16.2	8.0	6.8	5.9	
BlackRock MSCI ACWI IMI Fund	866,405,455	8.2	-3.6	3.3	-17.6	-15.9	8.3	7.0	7.7	07/01/2011
<i>MSCI AC World IMI (Net)</i>			-3.6	3.3	-17.8	-16.2	8.0	6.8	7.4	

275 Preliminary Results

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 21 of this report. Includes investment gains from Allianz litigation income received on 2/28/2022.

As of August 31, 2022

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Wellington Global Perspectives	673,699,291	6.4	-3.4	5.9	-15.7	-14.2	8.7	5.9	12.1	07/01/2009
<i>Performance Benchmark</i>			-2.6	5.5	-18.0	-18.7	7.5	5.3	9.9	
T. Rowe Price Global Equity	1,271,675,412	12.1	-3.6	5.4	-25.2	-27.5	12.4	12.4	12.6	08/01/2009
<i>MSCI AC World Index (Net)</i>			-3.7	3.0	-17.8	-15.9	8.0	7.0	8.7	
<i>MSCI AC World Index Growth (Net)</i>			-4.6	5.1	-24.3	-23.2	9.5	9.3	10.3	
Lazard	639,475,152	6.1	-4.5	0.7	-25.0	-24.9	5.1	3.8	7.6	08/01/2009
<i>MSCI AC World Index (Net)</i>			-3.7	3.0	-17.8	-15.9	8.0	7.0	8.7	
D.E. Shaw	863,346,759	8.2	-3.0	4.3	-14.6	-11.7	8.5	7.1	10.1	09/01/2009
<i>MSCI World Index (Net)</i>			-4.2	3.4	-17.8	-15.1	8.8	7.9	9.1	
GMO Global All Country Equity	459,315,930	4.4	-3.7	0.5	-19.4	-19.1	5.2	3.6	3.5	07/01/2014
<i>MSCI AC World Index (Net)</i>			-3.7	3.0	-17.8	-15.9	8.0	7.0	6.4	
<i>MSCI AC World Index Value (Net)</i>			-2.7	1.1	-11.4	-8.6	5.7	4.1	3.9	
Harris Global Equity	544,265,354	5.2	-5.1	0.2	-17.6	-17.7	8.0	3.6	5.3	06/01/2014
<i>MSCI World Index (Net)</i>			-4.2	3.4	-17.8	-15.1	8.8	7.9	7.2	
<i>MSCI World Value (Net)</i>			-3.1	1.4	-11.0	-7.4	6.2	4.7	4.5	
Triam Partners	76,626,380	0.7	0.0	8.5	-12.7	-13.7	3.9	5.9	6.4	11/01/2015
<i>S&P 500 Index</i>			-4.1	4.8	-16.1	-11.2	12.4	11.8	12.0	
Triam Co-Investments	43,621,743	0.4	-6.0	2.5	-13.3	-12.8	4.6	4.8	4.4	01/01/2017
<i>S&P 500 Index</i>			-4.1	4.8	-16.1	-11.2	12.4	11.8	12.6	

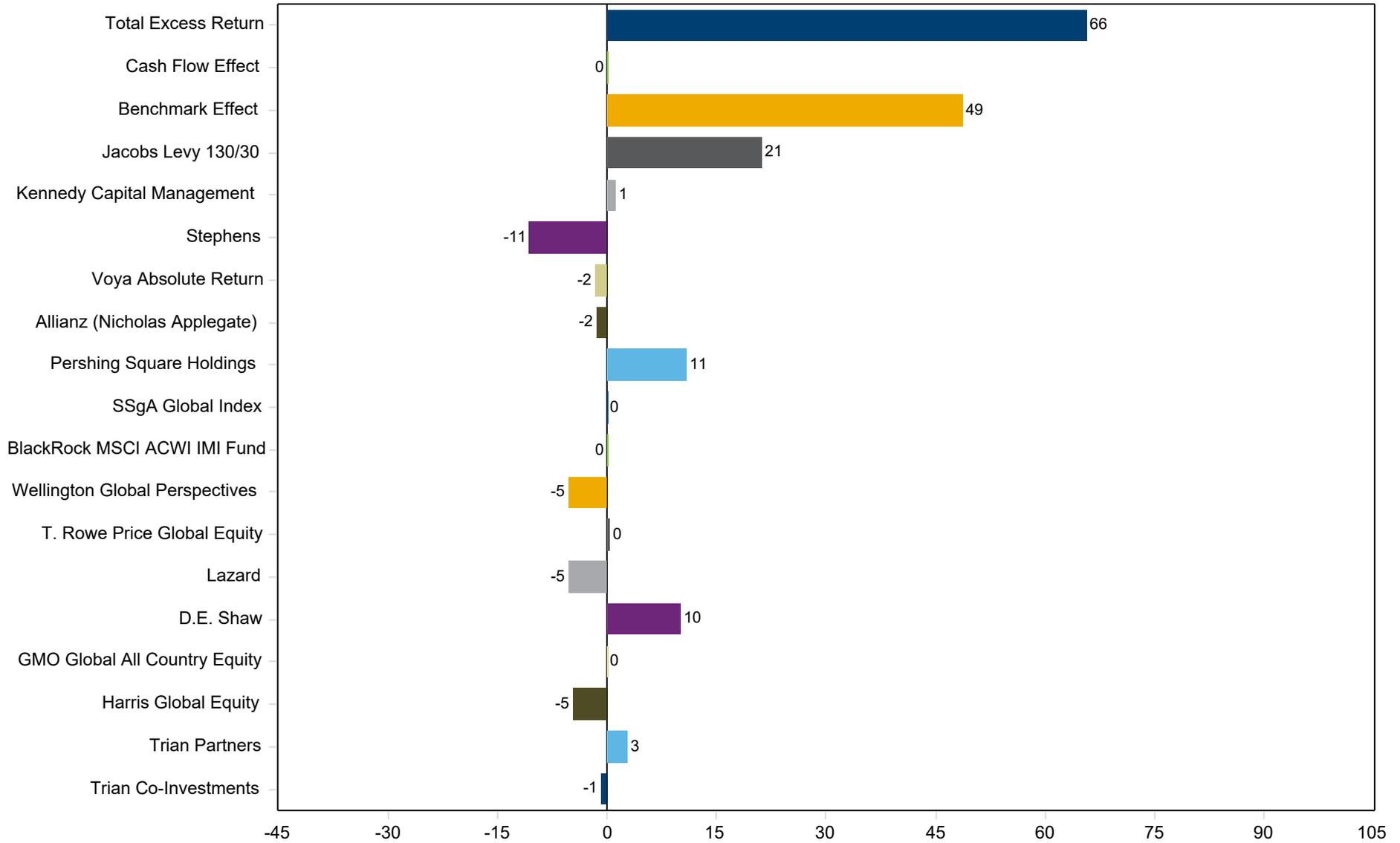
274 Preliminary Results

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 21 of this report.

*Includes investment gains from Allianz litigation income received on 2/28/2022.

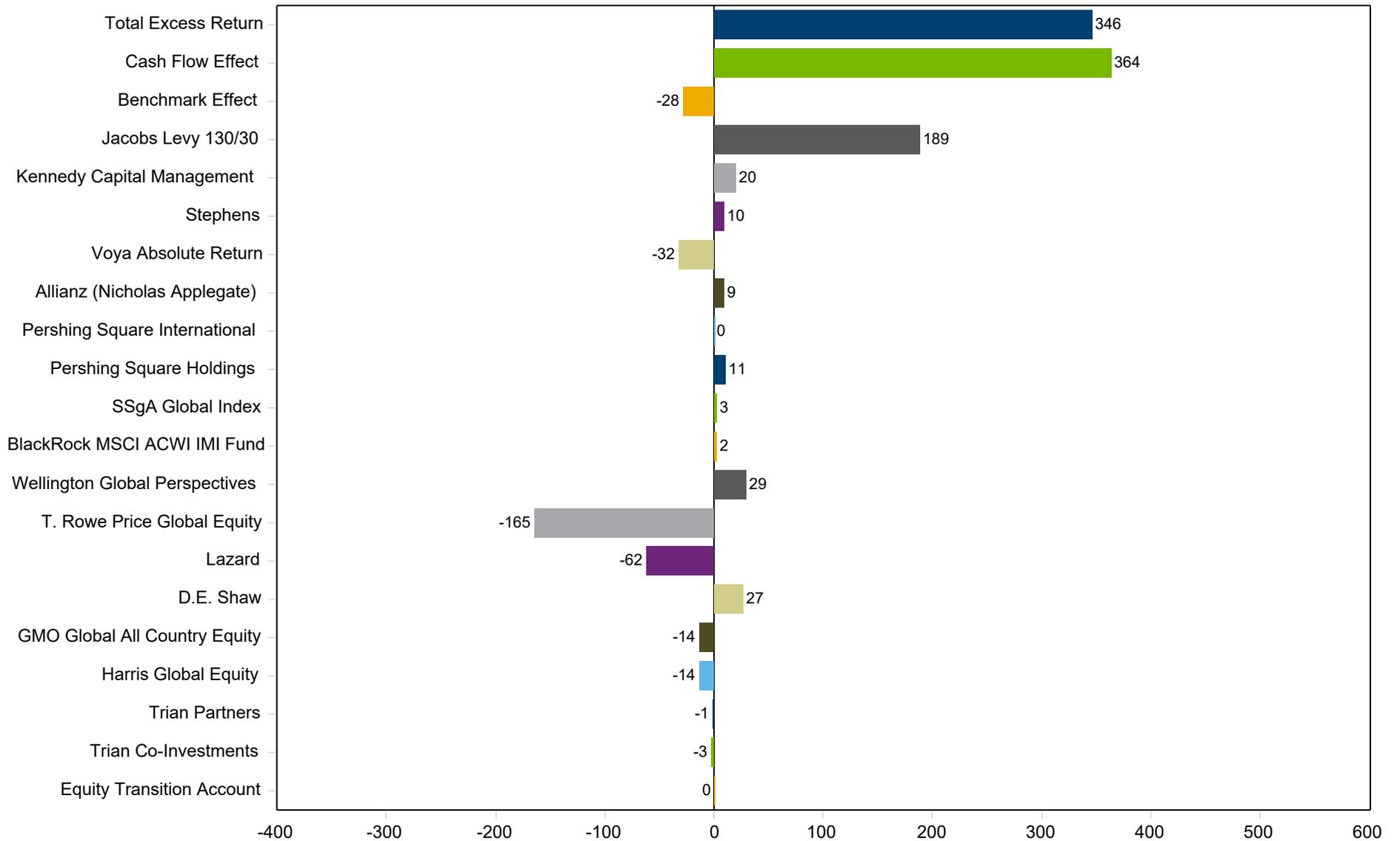
Asset Class Attribution

1 Month



Asset Class Attribution

1 Year



As of August 31, 2022

Asset Allocation & Performance

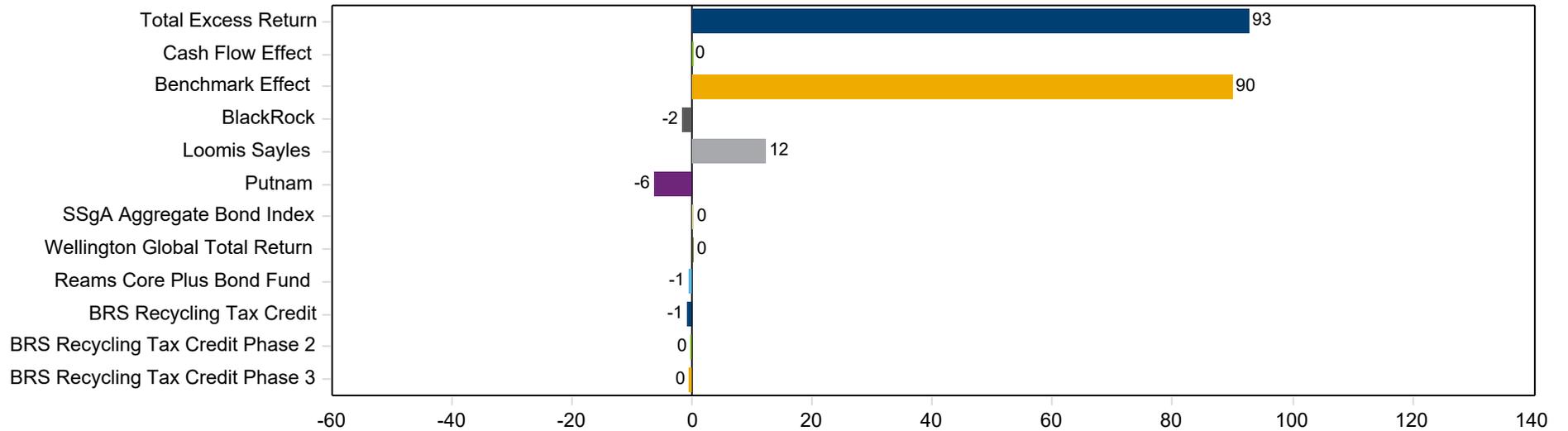
	Allocation		Performance(%)							
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Fixed Income	2,951,289,866	100.0	-1.7	0.4	-6.7	-7.4	0.0	1.7	4.9	07/01/1992
<i>Performance Benchmark</i>			-2.6	-0.2	-11.1	-11.9	-1.8	0.6	4.9	
BlackRock	250,557,182	8.5	-2.8	-0.2	-11.1	-11.9	-1.6	0.8	3.7	10/01/2003
<i>Performance Benchmark</i>			-2.6	-0.2	-11.1	-11.9	-1.8	0.6	3.5	
Loomis Sayles	447,302,043	15.2	-1.7	1.6	-11.1	-12.0	1.1	2.4	6.7	09/01/2008
<i>Performance Benchmark</i>			-2.5	0.9	-11.4	-11.6	-0.9	1.4	4.4	
Putnam	370,410,880	12.6	-0.3	0.9	-1.3	-2.9	-0.5	1.4	2.4	08/01/2008
<i>LIBOR</i>			0.2	0.3	0.2	0.3	0.7	1.3	0.9	
SSgA Aggregate Bond Index	819,133,848	27.8	-2.8	-0.4	-10.8	-11.6	-2.0	0.5	2.3	06/01/2010
<i>Blmbg. U.S. Aggregate</i>			-2.8	-0.5	-10.8	-11.5	-2.0	0.5	2.3	
Wellington Global Total Return	368,795,587	12.5	0.2	-0.1	4.6	4.3	2.2	3.6	2.2	06/01/2014
<i>ICE BofAML 3 Month U.S. T-Bill</i>			0.2	0.2	0.4	0.4	0.6	1.1	0.8	
Reams Core Plus Bond Fund	359,938,951	12.2	-2.9	1.3	-9.7	-9.9	1.3	2.7	2.7	06/01/2014
<i>Blmbg. U.S. Aggregate</i>			-2.8	-0.5	-10.8	-11.5	-2.0	0.5	1.4	
BRS Recycling Tax Credit	176,000,000	6.0								
BRS Recycling Tax Credit Phase 2	77,031,608	2.6								
BRS Recycling Tax Credit Phase 2	77,031,608	2.6								

*Preliminary Results

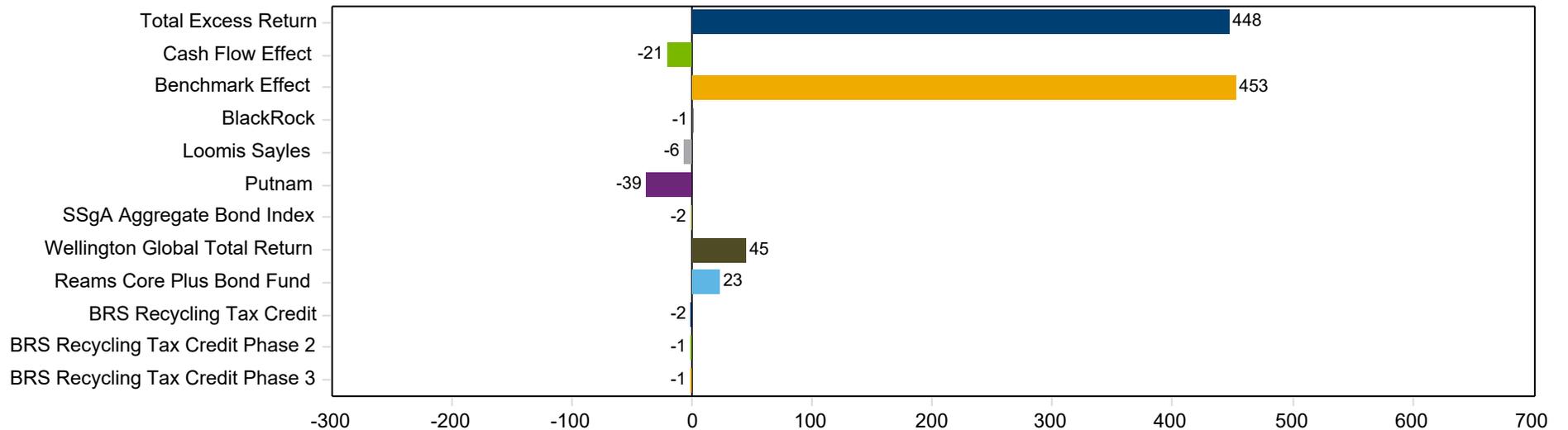
*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. The value shown above represents the year-end market value in accordance with GASB Statement 72, representing the 14 years of annual income, and has been incorporated into Total Fixed Income and Total Fund performance.

Asset Class Attribution

1 Month



1 Year



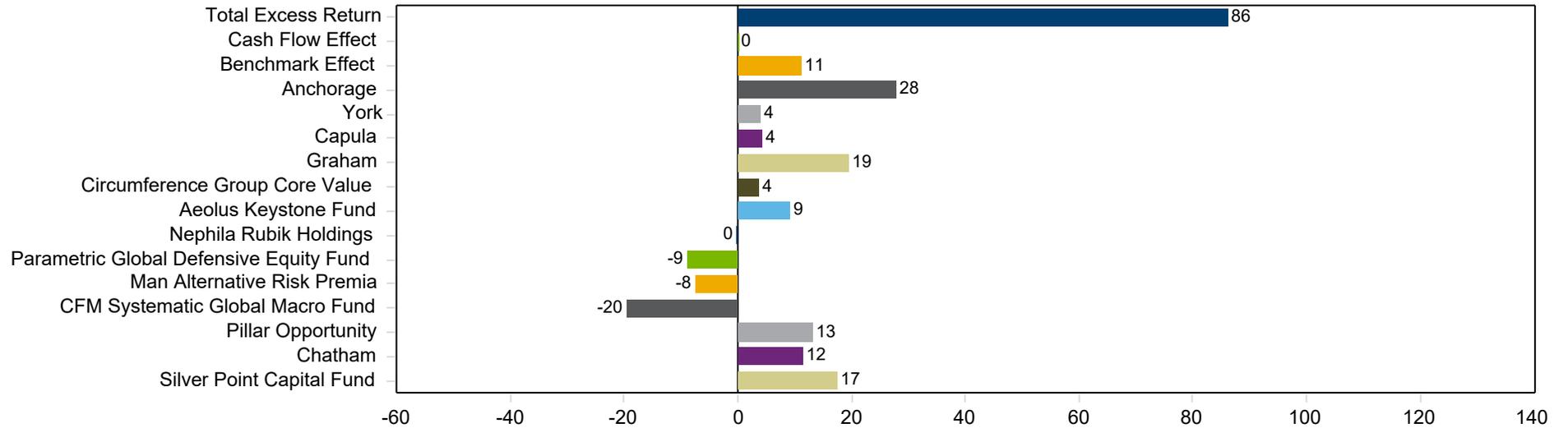
As of August 31, 2022

Asset Allocation & Performance

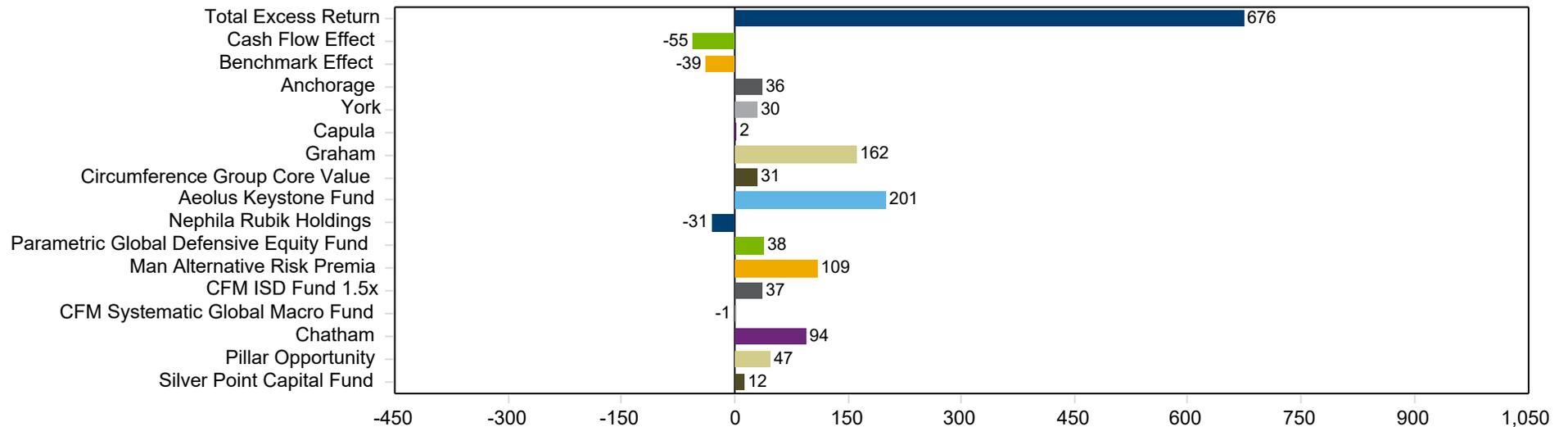
	Allocation		Performance(%)								
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Opportunistic/Alternatives	927,572,184	100.0	1.0	2.2	4.9	6.6	2.0	1.2	3.7	3.2	05/01/2011
<i>Custom Alternatives Benchmark</i>			0.2	0.7	-0.4	-0.1	2.9	2.7	2.7	2.1	
Anchorage	45,509,592	4.9	5.8	0.6	1.2	0.1	6.9	4.9	6.3	5.5	05/01/2011
<i>Credit Suisse Event Driven</i>			-0.2	0.9	-6.8	-6.2	4.8	3.6	3.9	2.7	
<i>HFRI ED: Distressed/Restructuring Index</i>			0.4	1.1	-2.6	-1.2	8.0	5.4	5.4	4.5	
York	12,041,141	1.3	2.9	26.7	55.2	26.5	-11.0	-7.5	-0.9	-0.8	05/01/2011
<i>Credit Suisse Event Driven</i>			-0.2	0.9	-6.8	-6.2	4.8	3.6	3.9	2.7	
<i>HFRI ED: Distressed/Restructuring Index</i>			0.4	1.1	-2.6	-1.2	8.0	5.4	5.4	4.5	
Capula	88,052,068	9.5	2.0	2.8	8.8	9.6	7.0	6.2	6.5	6.2	05/01/2011
<i>HFRI Macro (Total) Index</i>			1.6	0.8	9.3	9.3	6.7	5.2	3.0	2.2	
Graham	92,005,031	9.9	3.6	2.4	29.5	31.7	13.2	10.1	7.4	5.4	05/01/2011
<i>HFRI Macro (Total) Index</i>			1.6	0.8	9.3	9.3	6.7	5.2	3.0	2.2	
Circumference Group Core Value	35,007,407	3.8	-1.1	0.6	-9.9	-9.5	6.8	7.8		7.8	08/01/2015
<i>Russell 2000 Index</i>			-2.0	8.2	-17.2	-17.9	8.6	6.9		7.2	
Aeolus Keystone Fund	43,839,339	4.7	2.1	2.7	9.1	14.9	-1.4	-5.3		-1.8	12/01/2015
<i>FTSE 3 Month T-Bill</i>			0.1	0.3	0.4	0.4	0.6	1.1		0.9	
<i>Eurekahedge ILS Advisers Index</i>			0.8	1.0	1.3	1.7	2.5	-1.0		0.3	
Nephila Rubik Holdings	9,229,429	1.0	0.0	0.1	-6.7	-11.7	-7.7	-7.1		-5.6	06/01/2016
<i>FTSE 3 Month T-Bill</i>			0.1	0.3	0.4	0.4	0.6	1.1		1.0	
<i>Eurekahedge ILS Advisers Index</i>			0.8	1.0	1.3	1.7	2.5	-1.0		0.1	
Parametric Global Defensive Equity Fund	186,690,878	20.1	-2.2	1.5	-8.3	-6.0	4.3	3.9		4.3	06/01/2017
<i>Performance Benchmark</i>			-1.8	1.7	-8.8	-7.7	4.7	4.4		4.5	
<i>MSCI AC World Index</i>			-3.6	3.1	-17.5	-15.5	8.5	7.5		7.9	
Man Alternative Risk Premia	108,244,012	11.7	0.5	3.2	8.5	13.6	2.2			2.1	06/01/2018
<i>SG Multi Alternative Risk Premia Index</i>			1.1	0.0	2.3	2.8	-2.2			-1.3	
CFM Systematic Global Macro Fund	100,971,754	10.9	0.0	-1.9	13.4					10.4	11/01/2021
<i>HFRI Macro: Systematic Diversified Index</i>			1.8	-0.6	14.6					10.8	
Pillar Opportunity	99,773,041	10.8	1.4	2.5	5.0					5.0	12/01/2021
<i>FTSE 3 Month T-Bill</i>			0.1	0.3	0.4					0.4	
<i>Eurekahedge ILS Advisers Index</i>			0.8	1.0	1.3					1.6	
Chatham	56,362,477	6.1	2.7	4.8	12.9					12.7	11/01/2021
<i>HFRI Event-Driven (Total) Index</i>			0.8	2.8	-4.8					-5.0	
Silver Point Capital Fund	49,846,014	5.4	3.8	3.8						-0.3	03/01/2022
<i>HFRI ED: Distressed/Restructuring Index</i>			0.4	1.1						-2.4	

Asset Class Attribution

1 Month



1 Year



Asset Allocation as of 8/31/2022							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	\$1,078,082.7	--	--	--	--	\$1,078,082.7	5.40%			
Kennedy Capital Management	\$730,740.3	--	--	--	--	\$730,740.3	3.66%			
Stephens	\$526,627.2	--	--	--	--	\$526,627.2	2.64%			
Voya Absolute Return	\$677,786.7	--	--	--	--	\$677,786.7	3.39%			
Allianz (Nicholas Applegate)	\$907,296.2	--	--	--	--	\$907,296.2	4.54%			
Pershing Square Holdings	\$234,406.6	--	--	--	--	\$234,406.6	1.17%			
SSgA Global Index	\$959,566.9	--	--	--	--	\$959,566.9	4.80%			
BlackRock MSCI ACWI IMI Fund	\$866,405.5	--	--	--	--	\$866,405.5	4.34%			
Wellington Global Perspectives	\$673,699.3	--	--	--	--	\$673,699.3	3.37%			
T. Rowe Price Global Equity	\$1,271,675.4	--	--	--	--	\$1,271,675.4	6.36%			
Lazard	\$639,475.2	--	--	--	--	\$639,475.2	3.20%			
D.E. Shaw	\$863,346.8	--	--	--	--	\$863,346.8	4.32%			
GMO Global All Country Equity	\$459,315.9	--	--	--	--	\$459,315.9	2.30%			
Harris Global Equity	\$544,265.4	--	--	--	--	\$544,265.4	2.72%			
Triam Partners	\$76,626.4	--	--	--	--	\$76,626.4	0.38%			
Triam Partners Co-Investments	\$43,621.7	--	--	--	--	\$43,621.7	0.22%			
Capital Guardian & Knight Vinke	\$65.1	--	--	--	--	\$65.1	0.00%			
Total Equity						\$10,553,003.2	52.81%	58.08%	53.00%	
BlackRock	--	\$250,557.2	--	--	--	\$250,557.2	1.25%			
Loomis Sayles	--	\$447,302.0	--	--	--	\$447,302.0	2.24%			
Putnam	--	\$370,410.9	--	--	--	\$370,410.9	1.85%			
SSgA Aggregate Bond Index	--	\$819,133.8	--	--	--	\$819,133.8	4.10%			
Wellington Global Total Return	--	\$368,795.6	--	--	--	\$368,795.6	1.85%			
Reams Core Plus Bond Fund	--	\$359,939.0	--	--	--	\$359,939.0	1.80%			
BRS Recycling Tax Credit	--	\$176,000.0	--	--	--	\$176,000.0	0.88%			
BRS Recycling Tax Credit Phase 2	--	\$77,031.6	--	--	--	\$77,031.6	0.39%			
BRS Recycling Tax Credit Phase 3	--	\$82,119.8	--	--	--	\$82,119.8	0.41%			
Total Fixed Income						\$2,951,289.9	14.77%	15.00%	15.00%	
Anchorage	--	--	--	\$45,509.6	--	\$45,509.6	0.23%			
Capula	--	--	--	\$88,052.1	--	\$88,052.1	0.44%			
Graham	--	--	--	\$92,005.0	--	\$92,005.0	0.46%			
York	--	--	--	\$12,041.1	--	\$12,041.1	0.06%			
Circumference Group Core Value	--	--	--	\$35,007.4	--	\$35,007.4	0.18%			
Aeolus Keystone Fund	--	--	--	\$43,839.3	--	\$43,839.3	0.22%			
Nephila Rubik Holdings	--	--	--	\$9,229.4	--	\$9,229.4	0.05%			
Parametric Global Defensive Equity	--	--	--	\$186,690.9	--	\$186,690.9	0.93%			
Man Alternative Risk Premia	--	--	--	\$108,244.0	--	\$108,244.0	0.54%			
CFM Systematic Global Macro	--	--	--	\$100,971.8	--	\$100,971.8	0.51%			
Juniperus	--	--	--	\$99,773.0	--	\$99,773.0	0.50%			
Chatham	--	--	--	\$56,362.5	--	\$56,362.5	0.28%			
Silver Point Capital	--	--	--	\$49,846.0	--	\$49,846.0	0.25%			
Total Opportunistic/Alternatives						\$927,572.2	4.64%	4.46%	5.00%	
Real Estate			\$1,516,547.0			\$1,516,547.0	7.59%			
Timber			\$325,768.0			\$325,768.0	1.63%			
Agriculture			\$237,521.2			\$237,521.2	1.19%			
Infrastructure			\$369,778.1			\$369,778.1	1.85%			
Total Real Assets						\$2,449,614.2	12.26%	10.46%	15.00%	
Total Private Equity				\$2,994,437.4		\$2,994,437.4	14.99%	12.00%	12.00%	
Total Cash					\$106,842.9	\$106,842.9	0.53%	0.00%	0.00%	
Total Fund	\$10,553,003.2	\$2,951,289.9	\$2,449,614.2	\$3,922,009.6	\$106,842.9	\$19,982,759.7	100.00%	100.00%	100.00%	

*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 sum total due to rounding.

Asset Allocation as of 8/31/2022				Values in \$,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	\$83.0	0.01%	0.00%	LaSalle Income & Growth Fund VI	\$5,447.9	0.36%	0.03%
Almanac Realty Securities Fund VI	\$4,249.4	0.28%	0.02%	LaSalle Income & Growth Fund VII	\$13,980.5	0.92%	0.07%
Almanac Realty Securities Fund VII	\$17,857.1	1.18%	0.09%	LaSalle Income & Growth Fund VIII	\$17,331.7	1.14%	0.09%
Almanac Realty Securities Fund VIII	\$15,975.1	1.05%	0.08%	LBA Logistics Value Fund	\$11,121.5	0.73%	0.06%
Almanac Realty Securities Fund IX	\$3,337.5	0.22%	0.02%	Lone Star Real Estate Fund IV	\$6,835.0	0.45%	0.03%
American Center	\$27,750.5	1.83%	0.14%	Long Wharf Real Estate Partners V	\$18,298.4	1.21%	0.09%
AR Insurance	\$2,252.0	0.15%	0.01%	Long Wharf Real Estate Partners VI	\$27,981.1	1.85%	0.14%
AR Teachers Retirement Building	\$5,739.4	0.38%	0.03%	Mesa West Income Fund V	\$8,051.0	0.53%	0.04%
Blackstone Real Estate Partners VII	\$12,693.9	0.84%	0.06%	Metropolitan RE Co-Investments	\$9,463.6	0.62%	0.05%
Blackstone RE Europe VI	\$21,083.0	1.39%	0.11%	Met Life Commercial Mtg Inc Fund	\$48,025.8	3.17%	0.24%
Carlyle Realty Partners VII	\$8,860.4	0.58%	0.04%	Morgan Stanley Prime Property Fund	\$69,827.5	4.60%	0.35%
Carlyle Realty VIII	\$13,814.1	0.91%	0.07%	New Boston Fund VII	\$8,248.4	0.54%	0.04%
Carlyle Realty IX	-\$144.1	-0.01%	0.00%	O'Connor NAPP II	\$4,574.6	0.30%	0.02%
CBREI SP U.S. Opportunity V	\$579.0	0.04%	0.00%	PRISA	\$333,803.5	22.01%	1.67%
CBREI SP VIII	\$23,958.8	1.58%	0.12%	Recoveries Land	\$70.0	0.00%	0.00%
CBREI SP IX	\$20,272.2	1.34%	0.10%	Rockwood Capital RE Partners IX	\$4,129.8	0.27%	0.02%
Cerberus Institutional RE Partners III	\$13,318.8	0.88%	0.07%	Rockwood Capital RE XI	\$24,161.9	1.59%	0.12%
Calmwater	\$14,093.4	0.93%	0.07%	Rose Law Firm	\$4,374.7	0.29%	0.02%
Fletcher Properties	\$1,146.6	0.08%	0.01%	RREEF Core Plus Industrial Fund	\$35,000.0	2.31%	0.18%
FPA Core Plus IV	\$33,494.2	2.21%	0.17%	Texasarkana DHS	\$0.0	0.00%	0.00%
GCP GLP IV	\$34,366.1	2.27%	0.17%	Torchlight Debt Opportunity Fund IV	\$4,485.2	0.30%	0.02%
Harbert European Real Estate	\$11,263.6	0.74%	0.06%	Torchlight Debt Opportunity Fund V	\$2,812.9	0.19%	0.01%
Heitman European Property IV	\$435.3	0.03%	0.00%	Torchlight Debt Opportunity Fund VI	\$19,393.1	1.28%	0.10%
JP Morgan Strategic Property Fund	\$194,861.6	12.85%	0.98%	Torchlight Debt Opportunity Fund VII	\$20,517.2	1.35%	0.10%
Kayne Anderson V	\$19,609.5	1.29%	0.10%	UBS Trumbull Property Fund	\$159,486.1	10.52%	0.80%
Kayne Anderson VI	\$9,899.9	0.65%	0.05%	UBS Trumbull Property Income Fund	\$58,845.8	3.88%	0.29%
Landmark Fund VI	\$1,700.7	0.11%	0.01%	Victory	\$33,362.3	2.20%	0.17%
Landmark Real Estate VIII	\$12,404.2	0.82%	0.06%	Walton Street Real Estate Debt II	\$12,794.6	0.84%	0.06%
LaSalle Asia Opportunity Fund IV	\$1,791.5	0.12%	0.01%	West Mphs. DHS	\$0.0	0.00%	0.00%
LaSalle Asia Opportunity Fund V	\$10,363.9	0.68%	0.05%	Westbrook IX	\$8,231.9	0.54%	0.04%
LaSalle Asia Opportunity Fund IV	-\$196.6	-0.01%	0.00%	Westbrook Real Estate Fund X	\$8,977.2	0.59%	0.04%
Total Real Estate					\$1,516,547.0	100.00%	7.59%

*Note: The market values for the real estate 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 sum total due to rounding.

Asset Allocation as of 8/31/2022				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 VIII	\$8,603.5	0.29%	0.04%	JF Lehman IV	\$7,227.0	0.24%	0.04%
Arlington Capital IV	\$37,009.8	1.24%	0.19%	JF Lehman V	\$24,509.3	0.82%	0.12%
Arlington Capital V	\$29,075.6	0.97%	0.15%	KPS III	\$27.4	0.00%	0.00%
Advent GPE VI	\$4,431.0	0.15%	0.02%	KPS IV	\$19,022.7	0.64%	0.10%
Altus Capital II	\$9,127.2	0.30%	0.05%	KPS X	\$22,123.3	0.74%	0.11%
American Industrial Partners VI	\$27,046.0	0.90%	0.14%	KPS Mid-Cap	\$12,618.5	0.42%	0.06%
American Industrial Partners VII	\$25,025.4	0.84%	0.13%	Levine Leichtman V	\$9,816.2	0.33%	0.05%
Altaris Constellation Partners	\$19,769.1	0.66%	0.10%	Lime Rock III	\$23,565.7	0.79%	0.12%
Altaris Health Partners IV	\$19,104.4	0.64%	0.10%	LLR III	\$2,159.7	0.07%	0.01%
Atlas Capital II	\$14,780.4	0.49%	0.07%	LLR VI	\$15,602.7	0.52%	0.08%
Audax Mezzanine III	\$1,241.5	0.04%	0.01%	Mason Wells III	\$135.1	0.00%	0.00%
Big River - Equity	\$1,910.1	0.06%	0.01%	NGP IX	\$258.2	0.01%	0.00%
Big River - Holdings Note 2023	\$0.0	0.00%	0.00%	NGP X	\$4,527.3	0.15%	0.02%
Big River - Holdings Note 3/16/23	\$0.0	0.00%	0.00%	NGP XI	\$21,737.8	0.73%	0.11%
Bison V	\$26,992.6	0.90%	0.14%	NGP XII	\$22,250.5	0.74%	0.11%
Boston Ventures VII	\$2,796.6	0.09%	0.01%	One Rock Capital Partners II	\$44,263.2	1.48%	0.22%
Boston Ventures IX	\$34,315.0	1.15%	0.17%	PineBridge	\$8,349.8	0.28%	0.04%
Boston Ventures X	\$14,766.6	0.49%	0.07%	Revelstoke	\$13,950.4	0.47%	0.07%
BV VIII	\$21,781.6	0.73%	0.11%	Riverside Value Fund I	\$12,262.6	0.41%	0.06%
Castlake II	\$13,517.3	0.45%	0.07%	Riverside IV	\$226.4	0.01%	0.00%
Castlake III	\$14,871.6	0.50%	0.07%	Riverside V	\$25,646.9	0.86%	0.13%
Clearlake V	\$42,946.8	1.43%	0.21%	Riverside VI	\$24,874.9	0.83%	0.12%
Clearlake VI	\$44,315.5	1.48%	0.22%	Siris III	\$20,323.3	0.68%	0.10%
Clearlake VII	\$10,034.0	0.34%	0.05%	Siris IV	\$32,828.5	1.10%	0.16%
Court Square III	\$34,548.4	1.15%	0.17%	SK Capital V	\$33,552.8	1.12%	0.17%
CSFB-ATRS 2005-1 Series	\$40,865.9	1.36%	0.20%	Sycamore Partners II	\$12,835.5	0.43%	0.06%
CSFB-ATRS 2006-1 Series	\$73,363.0	2.45%	0.37%	Sycamore Partners III	\$20,072.1	0.67%	0.10%
Diamond State Ventures II	\$2,521.7	0.08%	0.01%	TA XI	\$25,603.3	0.86%	0.13%
DW Healthcare III	\$713.8	0.02%	0.00%	Tennenbaum VI	\$1,656.1	0.06%	0.01%
DW Healthcare IV	\$27,353.6	0.91%	0.14%	Thoma Bravo Discover	\$6,355.1	0.21%	0.03%
DW Healthcare V	\$20,283.7	0.68%	0.10%	Thoma Bravo Discover II	\$23,785.2	0.79%	0.12%
EnCap IX	\$10,300.0	0.34%	0.05%	Thoma Bravo Discover III	\$20,234.7	0.68%	0.10%
EnCap VIII	\$20,547.0	0.69%	0.10%	Thoma Bravo Explore I	\$15,494.6	0.52%	0.08%
EnCap X	\$28,974.6	0.97%	0.14%	Thoma Bravo XI	\$27,527.5	0.92%	0.14%
EnCap XI	\$26,861.9	0.90%	0.13%	Thoma Bravo XII	\$37,218.5	1.24%	0.19%
Franklin Park Series	\$1,204,265.9	40.22%	6.03%	Thoma Bravo XIII	\$44,557.2	1.49%	0.22%
Greenbriar V	\$24,409.0	0.82%	0.12%	Thoma Bravo XIV	\$19,038.5	0.64%	0.10%
GCG IV	\$14,993.5	0.50%	0.08%	Thoma Bravo XV	\$4,588.5	0.15%	0.02%
GCG V	\$20,952.1	0.70%	0.10%	Vista Equity III	\$4,552.0	0.15%	0.02%
GTLA Holdings	\$40,000.0	1.34%	0.20%	Vista Foundation II	\$8,466.4	0.28%	0.04%
Highland	\$209,480.5	7.00%	1.05%	Vista Foundation III	\$32,814.7	1.10%	0.16%
Insight Equity II	\$8,484.0	0.28%	0.04%	Wellspring V	\$12,744.3	0.43%	0.06%
Insight Mezzanine I	\$1,767.9	0.06%	0.01%	Wicks IV	\$9,489.7	0.32%	0.05%
JF Lehman III	\$20,160.5	0.67%	0.10%	WNG II	\$11,235.2	0.38%	0.06%
				Total Private Equity	\$2,994,437.4	100.00%	14.99%

*Note: The market values for the 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 sum total due to rounding.

Arkansas Teacher Retirement System

Appendix

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 and Private Equity at their long-term Policy Targets of 15% and 12%, respectively, and Total Equity at its long-term Policy Target of 50% plus the balance of the unfunded or uncommitted assets of the Opportunistic/Alternatives and Real Assets categories. These targets can be found on page 14 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.

Arkansas Teacher Retirement System

Appendix

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 August 1, 2022, the Total Equity Performance Benchmark was comprised of 33.5% DJ U.S. Total Stock Market Index and 66.5% MSCI ACWI IMI.

Fixed Income - The Barclays Capital 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% FTSE 3 Month T-bill until May 31, 2016; 37% HFRI Macro Index, 25% DJ/CS Event-Driven Index, 5% Russell 2000 Index, and 33% FTSE 3 Month T-bill until May 31, 2017; 28% HFRI Macro Index, 20% DJ/CS Event-Driven Index, 4% Russell 2000 Index, 25% FTSE 3 Month T-bill, and 23% Parametric Performance Benchmark Until May 31, 2018. 22% HFRI Macro Index, 18% DJ/CS Event-Driven Index, 3% Russell 2000 Index, 27% FTSE 3 Month T-bill, 18.50% Parametric Performance Benchmark, and 11.5% SG Multi-Alternative Risk Premia Until June 30, 2018. 20% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 25% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia Until August 31, 2018. 17% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 28% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia Until November 30, 2018. 15% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 30% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia 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-The NCREIF Index.

Timberland 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.

Arkansas Teacher Retirement System

Appendix

Description of Benchmarks

FTSE 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.

Bloomberg Barclays Aggregate Bond Index - A market-value weighted index consisting of the Barclays Capital 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.

Bloomberg Barclays Universal Bond Index - A market-value weighted index consisting of the components of the Barclays Capital Bond Index, plus EuroDollar bonds, emerging markets bonds, 144A fixed income securities, and U.S. credit high yield securities.

Bloomberg 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).

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.

FTSE Europe - A tradable index, designed to represent the performance of the 100 most highly capitalized blue chip companies in Europe.

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.

NCREIF Index - The National Council of Real Estate Investment Fiduciaries (NCREIF) Net Property Index is an unlevered, market-value weighted Index consisting of \$128 billion in domestic institutional real estate assets. The Index is representative of the national real estate market, across all property types and regions.

Nicholas Applegate 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 Nicholas Applegate 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.

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.

As of August 31, 2022

Arkansas Teacher Retirement System

Appendix

BlackRock Performance Benchmark - The Barclays Capital Universal Bond Index as of March 1, 2004.

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.

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 3000 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 2000 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 measure 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.

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.

Parametric Performance Benchmark - 50% MSCI All Country World Index and 50% Citigroup 90 day T-Bill Index as of June 1, 2017.

SG Multi Alternative Risk Premia Index - An equally weighted index composed of risk premia managers who employ investment programs diversified across multiple asset classes while utilizing multiple risk premia factors.

Arkansas Teacher Retirement System

Appendix

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	04/01/1986
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.

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.
- All information presented in this report should be considered preliminary. Finalized data will be available on next Quarterly Investment Report after the close of the quarter.

Disclaimer

Past performance is not necessarily indicative of future results.

Unless otherwise noted, performance returns presented reflect the respective fund's performance as indicated. Returns may be presented on a before-fees basis (gross) or after-fees basis (net). After-fee performance is net of each respective sub-advisors' investment management fees and include the reinvestment of dividends and interest as indicated on the notes page within this report or on the asset allocation and performance summary pages. Actual returns may be reduced by Aon Investments' investment advisory fees or other trust payable expenses you may incur as a client. Aon Investments' advisory fees are described in Form ADV Part 2A. Portfolio performance, characteristics and volatility also may differ from the benchmark(s) shown.

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The data contained in these reports is compiled from statements provided by custodian(s), record-keeper(s), and/or other third-party data provider(s). This document is not intended to provide, and shall not be relied upon for, accounting and legal or tax advice. Aon Investments has not conducted additional audits and cannot warrant its accuracy or completeness. We urge you to carefully review all custodial statements and notify Aon Investments with any issues or questions you may have with respect to investment performance or any other matter set forth herein.

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Emerging Manager Report

Arkansas Teacher Retirement System (ATRS)

August 2022

Investment advice and consulting services provided by Aon Investments USA, Inc., an Aon Company.

Table of Contents

1. Introduction
2. Aon Manager Research Overview
 - a. Global Investment Management Research Team
 - b. Investment Manager Database: InView
 - c. Investment Manager Rating Process
 - d. Investment Manager Search Process
 - e. The Townsend Group
3. Aon Emerging Manager Efforts
4. ATRS Emerging Manager Utilization
5. ATRS 2022 Fiscal Year Search Activity
6. Appendix

Introduction

Aon Investments (Aon) serves as the general and real assets investment consultant to the Arkansas Teacher Retirement System (ATRS). Our objective as a consultant is to assist the System in achieving its stated goals and objectives. While the primary goal of ATRS is ultimately to secure the retirement benefits for the members, ATRS also has a formal goal to seek out and consider retaining emerging managers consistent with the Prudent Investor Rule.

Aon understands and supports ATRS's goal to seek out and consider emerging managers for the investment portfolio. Aon is also bound by fiduciary requirements and thus all investment manager recommendations, emerging or otherwise, are made in accordance with fiduciary duties.

In accordance with the ATRS Emerging Managers Goal and Acknowledgment Act 304, this report contains information regarding our firm-wide manager research process, including coverage of emerging managers and our ongoing efforts in the space, and provides an update on ATRS's due diligence activity on emerging managers during the 2022 fiscal year.

Aon Manager Research Overview

Global Investment Management Research Team

Aon's Global Investment Manager (GIM) Research Team is dedicated exclusively to assisting our clients in selecting best in class investment strategies that most appropriately fit within each client's unique circumstances. Currently, the GIM team is comprised of over 130 dedicated investment professionals who are based across the U.S., Canada U.K., and Continental Europe and cover global markets and products across six broad asset classes.

Investment Manager Database: InView

Aon maintains an internal, proprietary database, InView, which includes an extensive list of investment managers across asset classes. The database captures quantitative and qualitative information, consultants' notes and comments, and ratings on all managers visited and vetted. Additionally, InView maintains the complete history of our ratings, analysis, and research based on our coverage of these strategies over time.

Across all asset classes, our database contains statistical and product information on over 10,000 investment managers and approximately 28,000 products. The table below details the number of managers and products by asset class.

As of 12/31/2021

	InView Database	
	Products	Managers
Equities	6,643	1,391
Fixed Income	2,802	665
Hedge Funds	1,502	791
Private Equity	10,394	2,934
Infrastructure	385	167
Real Estate	4,432	1,372
Multi Asset/DGF*/TAA*	812	332
Cash	159	69
Currency	82	58
Commodities	61	35
Other	427	208
Unclassified	256	5,462
Total**	27,955	10,409**

* DGF: Diversified Growth Fund. TAA: Tactical Asset Allocation.

** Includes Buy & Buy (Closed) Ratings

** Totals will be less than the sum of asset classes as managers will have products in more than one

Investment Manager Rating Process

The initial phase of our investment manager rating process is our proprietary investment manager screening model called InForm. Our InForm process analyzes available investment manager data and rates each product according to seven factors: business, staff, investment process, investment risk, performance, terms/conditions, and operations. It is performed on a quarterly basis across the global universe of equity and fixed income products. It quickly sifts through thousands of products to identify those worthy of additional research. Leveraging the InForm process allows us to spend valuable client hours performing in-depth research on only the strongest candidates that better serve our clients' needs.

Importantly, our InForm process is inclusive of all managers that elect to provide data, allowing us to identify especially strong and cutting edge, yet perhaps less well-known and/or emerging type investment managers and products. Not only does this ensure emerging managers the ability to be included in our investment manager rating process, we believe the all-inclusive nature of our InForm model drives creativity in portfolio design.

The second phase of our manager research process is a more expanded evaluation of the seven aforementioned factors, including an in-depth assessment of operations. Examples of research topics by factor are listed as follows:

- *Business*: Profitability, stability and spread of ownership, client base, remuneration policy
- *Staff*: Quality, depth of resource, team dynamic, staff turnover
- *Investment Process*: Competitive advantage, repeatability, skill, implementation
- *Risk*: Embedded in process, independent verification, mix of measurements
- *Performance Analysis*: Consistent with stated process, risk adjusted, persistent
- *Terms and Conditions*: Client Service, fees, ESG, best practices in documentation
- *Operational Due Diligence*: Operational controls, valuation of assets, independent directors, third-party vendors

Our research team meets and/or has conference calls with investment managers to gather needed information to perform in-depth research and prepare for a detailed rating meeting. A "Buy" rating requires at least one onsite meeting with the manager. All requested information and notes are stored in the InView database.

When full due diligence concludes, the product is then scored and rated through a formal voting process. Each manager must pass our operational due diligence process to receive a "Buy" rating.

Investment Manager Search Process

Our investment manager search process is completely customized to meet the needs and desires of our clients. The steps taken are dependent on the asset class, mandate type, and available strategies in the space, as well as a client's level of desired involvement. The table below summarizes a typical investment manager search and due diligence process. We invite the ATRS Investment Team and Trustees to participate in each step described, or none at all.

Process Step	Description
Determine selection criteria	Aon works with ATRS to determine selection criteria (e.g., investment style, experience, performance, fees, size, risk, stability of staff). We consider the circumstances of each opportunity and determine which criteria are most important to emphasize. Aon also opportunistically brings forth investment ideas to ATRS as they are identified.
Identify preliminary candidates	Aon, in coordination with GIM, screens our InView database to identify preliminary candidates that meet the selection criteria. We also include any candidates that ATRS would like us to consider.
Update information/visit managers	<p>Aon reviews the information in our databases regarding candidate managers, updates the information, and visits the managers, as needed. While we typically have much of the quantitative data we require to screen managers and assign an initial score, we recognize the importance of a qualitative assessment.</p> <p>It is during this step in a search that we introduce our qualitative assessment. This includes meeting face-to-face with portfolio managers, analysts, traders, and executive management. We also conduct operational due diligence (ODD) on-site visits, which are led by our dedicated team of ODD professionals.</p>
Select and profile finalist candidates	Based on the preceding analysis, Aon reviews the candidates and proposes finalists to ATRS. Aon typically narrows the field of candidates to three or four firms, completes a comparative analysis, and considers fit within ATRS's broader portfolio to assist in finalist selection.
Discuss finalist candidates/ interview finalists	Aon discusses the finalist candidate(s) with ATRS and answers any questions. Additionally, we can help organize presentations by finalist candidates at ATRS's offices and participate in any interview process desired.
Select managers	Following the finalist discussion and any finalist meetings, ATRS is in a position to select the manager(s) that best fits its investment structure. Aon is also in a position to recommend our highest conviction manager based on the above analysis and understanding of ATRS's specific circumstances.

The Townsend Group

The Townsend Group is Aon's real estate investment management and consulting arm. Its global real estate platform has approximately \$123 billion in assets under management, \$148 billion in advised assets, and approximately 117 investment professionals. In the appendix of this report, we provide details of Townsend's manager due diligence process and procedures.

Aon Emerging Manager Efforts

Alongside ATRS, Aon is also committed to supporting emerging managers and being proactive in identifying and maintaining knowledge of the emerging manager universe. Aon continues to make strides towards enhancing diversity across the industry, which has included the following recent activities:

- Founding member of the Institutional Investor Diversity Council (IIDC)
- Founding member of the Investment Consultants Sustainability Working Group (ICSWG – UK and US)
- Member of the Investment Diversity Advisory Council
- Member of The Diversity Project
- Working with eVestment Alliance to expand their collection of diversity data
- Surveyed clients to gather and share information on diverse manager investing trends and best practice (<https://insights-north-america.aon.com/alternative-investing/aon-diverse-manager-investing-survey-report>)
- Author of the upcoming NAIC Diversity in Private Equity performance study update (Fall 2021)

Aon has dedicated resources to ensure we expand our existing manager platform to more broadly reflect the diverse landscape of asset managers. As part of Aon Investments' Responsible Investing Working Group we have a dedicated Diversity, Equity and Inclusion sub-group that is focused on understanding the diverse and emerging manager landscape, asset owners' perspectives and needs, identifying paths forward for greater diversity across the industry and assisting in more a more standard data collection process. In addition, we continue to work towards increasing the diversity in our internally managed portfolios.

Aon continues to evolve the way we and our clients can support inclusion and diversity across the investment landscape. Aon advocates a more holistic view of diversity and inclusion in investor portfolios, with a focus on points of entry for emerging and underrepresented groups and building diverse talent. We have found that the past approach to diverse managers has not yielded significant change in industry demographics over the past 10-15 years. And while we continue to support the current efforts, we anticipate that a more holistic approach will increase the availability and accessibility of diverse investor talent for institutional allocation, which will positively impact return profiles.

Aon's Emerging and Diverse Manager Program Highlights

Client Experience

Aon assists clients with both investment policy language, goals and guidelines, as well as engages with clients to fulfill emerging and diverse investor searches. Recent examples include:

- Provided \$120B public plan with diverse candidates for two fixed income searches.
- Worked with \$25B plan to invest \$50m in diverse, female-run fund
- Working with large DC plan to add diverse managers to line-up.
- Working with large foundation to provide MWBE investment policy enhancements

- Working with large DC plan to add 'Rooney Rule' to investment policy
- Assisting \$2B Other Post Employer Benefit Plan with context around proposed fund management diversity legislation and investment policy language
- Presenting diversity survey results to a \$70B public pension investment committee
- Developed a diversity, equity & inclusion (DEI) framework for a \$50 billion non-profit health system to evaluate and engage with managers in the portfolio and identify/invest in DEI opportunities

MWBE Outreach and Research

Aon regularly conducts client and education sessions on the diverse and emerging landscape, as well as the different approaches clients can take to initiate or enhance emerging/diverse manager programs.

Although conference activity was somewhat curtailed by the events of 2020, we continued to be active in diverse and emerging manager events online. We participated in a number of virtual events, some of which included online meeting opportunities as well.

Industry Outreach

Through collaborative engagement efforts such as the IIDC, the ICSWG, the IDAC and the Diversity Project, we have joined with others in the industry to promote transparency around and investment in diversity.

Relationships

Aon has ongoing relationships with more than 30 emerging and diverse fund managers.

Open Door Policy

Any emerging or diverse managers seeking introductory meetings with Aon are able to secure a meeting. We average 100+ meetings with managers in these categories per year. This augments more traditional data base strategies and allows us to gather data on a slate of managers that will fit investors' varied needs.

At Aon, we believe that emerging and diverse managers can fill several needs, including return enhancement, diversification, and fulfilling investment mandates. We acknowledge that every organization has a unique definition of an emerging manager, varying among size requirements and ownership requirements - typically among females, persons with disability and minority groups. Our approach towards emerging and diverse managers, including our investment manager research process is to be all inclusive and does not set barriers such as assets under management, years in business, or ownership requirements that would unduly screen out any type of manager.

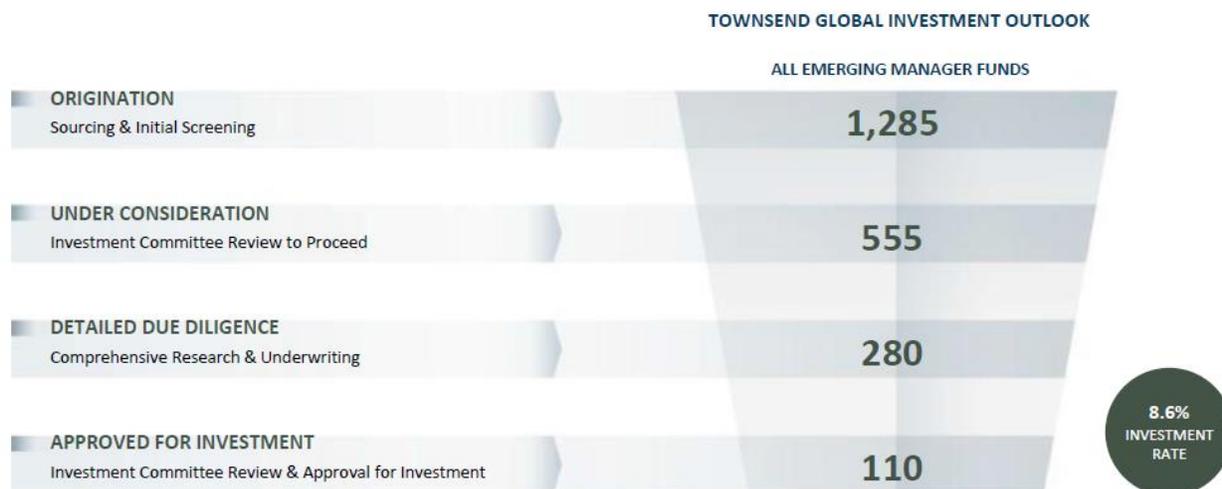
Currently, over 400 minority and woman-owned business enterprise (MWBE) managers are included in our database. Emerging managers are included in the database and evaluated in the same manner that non-emerging managers are evaluated.

The Townsend Group

Aon has also bolstered its emerging and diverse coverage through its acquisition of The Townsend Group. Townsend is also dedicated to supporting clients' emerging and diverse investment programs.

As illustrated below, the group has screened over 1,000 emerging manager funds which ultimately led to approving 103 emerging manager funds over the past 10 years ending March 31, 2022.

Townsend Emerging Manager Execution Due Diligence Selectivity



Since 2004, the Townsend Group invested or committed:

- \$11.2 billion to emerging managers
- \$3.8 billion to minority and/or women owned managers
- \$7.8 billion to first or second time funds

Over the past 5 years, The Townsend Group approved:

- 15 MWBE funds, committing \$813 million in total
- 25 emerging managers, committing \$2.4 billion in total

ATRS Emerging Manager Utilization

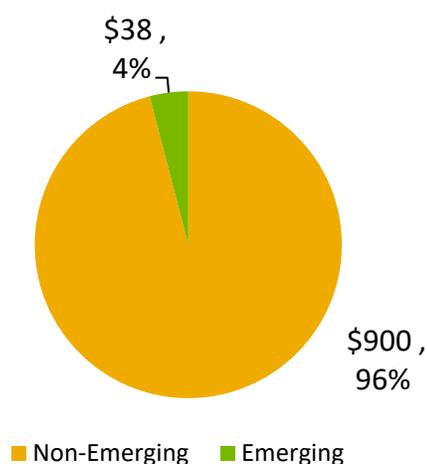
For purposes of fulfilling the goal to seek and consider emerging managers, Arkansas defines emerging managers as “firms whose majority ownership is black or African American, Hispanic American, American Indian or Native American, Asian, and Pacific Islander.” Within the asset classes that Aon provides investment consulting services, ATRS currently utilizes one emerging manager within the real assets asset class.

We note that Circumference Group and the newly hired GLP Capital Partners do not fit within ATRS’s specific definition of an emerging manager firm; however, we list them as we believe the hiring of these firms is consistent with the spirit of ATRS’s emerging manager goal.

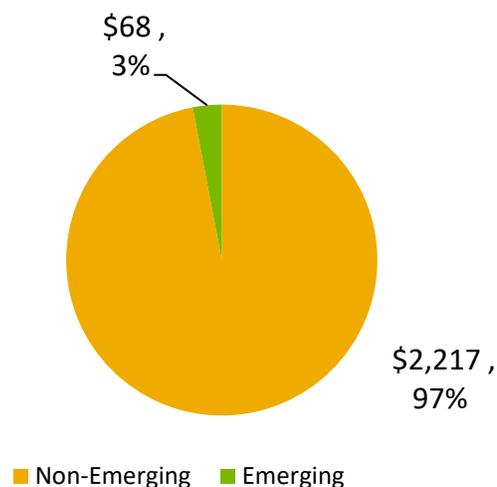
The table below reflects the assets invested as of June 30, 2022.

Manager	Strategy	Emerging Status	Portfolio Size	Tenure with ATRS
Long Wharf Investors	Value Added Real Estate (Fund V & VI)	Majority Hispanic owned	\$48 M	13 years
<i>Circumference Group</i>	<i>Core Value & Concentrated Positions</i>	<i>Small Manager</i>	<i>\$36 M</i>	<i>8 years</i>
<i>GLP Capital Partners</i>	<i>Value Added Real Estate (Fund IV)</i>	<i>Emerging Manager</i>	<i>\$26 M</i>	<i>1 year</i>

Emerging Utilization of Opportunity/Alternatives (millions)



Emerging Utilization of Real Assets (millions)



*Represents assets allocated to Circumference Group and GLP which do not fall under the Arkansas emerging manager definition but are considered an emerging manager under alternative definitions.

ATRS 2022 Fiscal Year Search Activity

During the 2022 fiscal year, ATRS conducted three new searches within the Opportunistic/Alternatives portfolio and hired 7 new strategies in the real assets asset class.

The table below summarizes investment manager hiring activity for the total equity, fixed income, opportunistic/alternative and real assets asset classes, and whether an emerging manager was considered.

New Account	Type	Minority/Emerging Managers Considered?
Pillar Opportunity Fund	Opportunistic/ Alternatives (ILS)	No - A strategy offered by an emerging firm with the desired characteristics and open to investors was not available
Chatham	Opportunistic/ Alternatives (Distressed Credit)	No – A strategy offered by an emerging firm as defined by ATRS with the desired characteristics and open to investors was not available.
Silver Point Capital Fund	Opportunistic/ Alternatives (Distressed Credit)	No – A strategy offered by an emerging firm as defined by ATRS with the desired characteristics and open to investors was not available.
Almanac Realty Securities IX	Real Assets (Real Estate)	N/A – the new account is with an existing manager within the ATRS portfolio
LaSalle Asia Opportunity Fund VI	Real Assets (Real Estate)	N/A – the new account is with an existing manager within the ATRS portfolio
LBA Logistics Value Fund IX	Real Assets (Real Estate)	No - A strategy offered by an emerging firm with the desired characteristics and open to investors was not available
RREEF Core Plus Industrial Fund	Real Assets (Infrastructure)	No - A strategy offered by an emerging firm with the desired characteristics and open to investors was not available
Morgan Stanley Prime Property Fund	Real Assets (Real Estate)	No - A strategy offered by an emerging firm with the desired characteristics and open to investors was not available
Landmark Real Estate Partners Fund IX	Real Assets (Real Estate)	N/A – the new account is with an existing manager within the ATRS portfolio
Blackstone Real Estate Partners Fund X	Real Assets (Infrastructure)	N/A – the new account is with an existing manager within the ATRS portfolio

Aon continues to fully support ATRS's goal of seeking and considering retention of emerging managers and remains committed to pursuing appropriate emerging manager mandates for ATRS when opportunities arise. In order to support ATRS and our broader client-base, Aon remains dedicated to staying apprised of the emerging manager opportunity set.

Appendix – Aon Historical Projects and Participation/Speaking Engagements

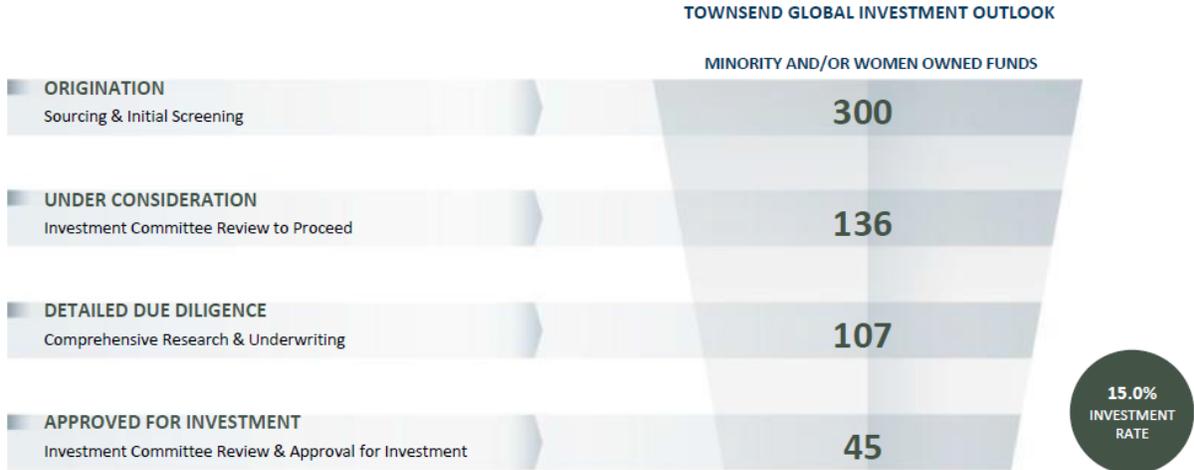
Emerging manager-related projects our firm has completed over recent years include:

- Assisting a \$110 billion public pension fund build their direct fund Emerging Manager investment program. Provide investment recommendations across private equity sub-strategies
- Designed investment policy statement and guidelines for rapidly growing in-state private equity fund manager program (ETI)
- Reviewed and critiqued emerging manager in-state alternative assets program for large state plan through fiduciary audit
- Directed Emerging Manager selection process for in-state bioscience program
- Sourced and recommended venture capital Emerging Managers for in-state program
- Ran public pension fund RFP search for an in-state program
- A \$55 billion public pension fund retains Aon to perform minority and emerging manager due diligence on traditional asset classes and report on trends in the emerging manager space.
- In early 2010 Aon assisted a group of Illinois public pension plans with the creation of a special investment vehicle that specifically targets emerging and women and minority-owned real estate managers.
- Built an emerging manager program for a \$44 billion VEBA plan, recommending \$100 million commitments.

Historical participation and/or speaking engagements include:

- Teacher Retirement System of Texas and Employees Retirement System of Texas Emerging Manager Conference
- New America Alliance, An American Latino Business Initiative Events
- Women in Private Equity Summits
- Opal Emerging Managers Summits
- NASP Baltimore and Washington Annual Emerging Manager Forums
- RG Associates Emerging Manager Consortium Conferences
- NASP Annual Pension and Financial Services Conferences
- Global Diversity Summit
- Women in Investments (sponsored by CalPERS & CalSTRS)

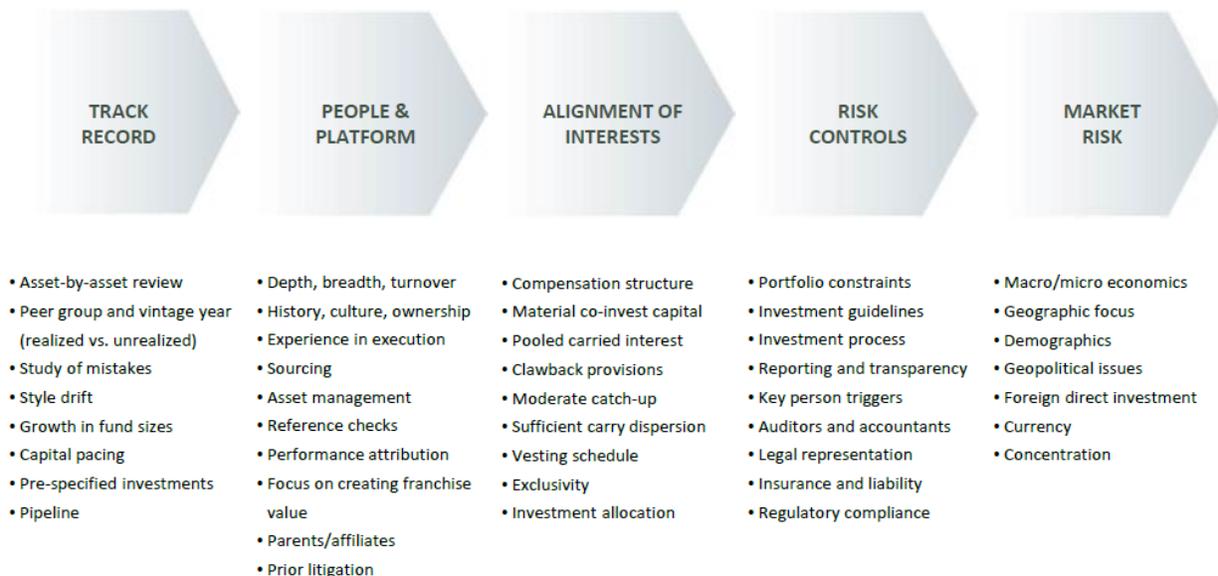
Appendix – The Townsend Group Emerging and MWBE Due Diligence Coverage



*Above data reflects the 10-year period from 1Q 2011 to 1Q 2022

Appendix – The Townsend Group Due Diligence Methodology

RIGOROUS, SYSTEMATIC ANALYSIS YIELDS BETTER CLIENT OUTCOMES



Appendix – The Townsend Group Investment Process Overview

A STRUCTURED, MULTI-STAGE PROCESS INTEGRATED WITH INVESTMENT COMMITTEE



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GROUP

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Arkansas Teachers Retirement System First Quarter 2022 Real Assets Performance Review

PROPRIETARY & CONFIDENTIAL
September 2022

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Agenda

Section 1	Executive Summary
Section 2	Market Overview
Section 3	Real Assets Portfolio Update
Section 4	Glossary

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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	7.4	7.1	28.5	27.3	11.3	10.3	9.9	8.9	10.9	9.9
NCREIF Property Index "NPI"	5.3		21.9		9.6		8.5		9.6	
NCREIF Farmland Property Index "NFI"	2.6		9.7		5.9		6.2		9.6	
NCREIF Timberland Property Index "NTI"	3.2		11.8		4.7		4.1		5.6	

- In the first quarter of 2022, the NFI-ODCE (net) returned 7.1%, down 60 basis points quarter-over-quarter. NFI-ODCE returns have recovered to long-term expectations of 7% to 9% gross due to the robust recovery of the Global economy following the COVID-19 pandemic.
- The NCREIF Farmland Index ("NFI") returned 2.6%, down 120 basis points from the prior quarter. Row crops drove performance with a returns of 4.4%, while permanent crops returned 0.1%.
- The NCREIF Timberland Index ("NTI") returned 3.2% for the quarter and 11.8% for the trailing one-year return. The quarterly return was driven by appreciation, while the 1-year was driven by a combination of income and appreciation. Regionally, the Northeast was the NTI's top performer while the South lagged for the quarter. returned 3.2% for the quarter and 9.7% for the trailing one-year return.

Portfolio Funding Status and Composition

As of March 31, 2022	ATRS' Portfolio \$ in Millions
Number of Investments	78
Total Commitments	3,466.6
Unfunded Commitments	773.4
Total Paid-In Capital	2,837.0
Total Distributions	2,274.7
Net Asset Value	2,377.7
Gross Asset Value	3,336.8
DPI	0.8x
TVPI	1.6x
Since Inception IRR	7.5%
<i>*Active and Liquidated</i>	

PORTFOLIO COMPOSITION TO TARGETS (As of 03/31/2022)		
	Target	Actual Funded
Target Real Asset Allocation	15%	11.0%
Portfolio Style Composition		
Real Estate	10%	6.7%
Core*	50%-70%	62.9%
Non-Core	30%-50%	37.1%
Value-Added**	N/A	21.7%
Opportunistic**	N/A	1.8%
Agriculture	1%	1.1%
Timber	2%	1.5%
Infrastructure	2%	1.7%
Leverage	50%	28.7%

* Includes Arkansas Investments

** No stated targets

- Recent infrastructure and real estate commitments will help the portfolio continue to move towards its target allocation irrespective of liquidating investments
- In general, the portfolio is in compliance with its Statement of Investment Policy. There are a few exceptions:
 - An overallocation to hotels though still less than 5% of the real estate portfolio
 - Timber geographic concentration to “Other” remains out of compliance largely due in part to the BTG OEF’s Ohio investments

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	4.7	4.2	21.3	18.8	10.5	8.9	9.9	8.3	10.3	8.9	7.5	1.6
Total Real Assets Benchmark		5.7		21.0		8.9		7.7		8.8		

- The table shows the returns for ATRS' Total Real Assets Portfolio and the Real Assets Benchmark.
- ATRS has slightly under performed in the near term but continues to outperform over the three-, five-, and ten-year measurement periods.

*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. Additionally, the Infrastructure Benchmark of CPI plus 500 bps has been adjusted to CPI plus 300 bps as of 3Q20 and the new Infrastructure Benchmark will be a blend of the two going forward.

ATRS' Real Estate 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		
Real Estate	5.7	5.0	24.7	21.8	9.5	7.9	9.6	8.0	11.0	9.5	8.1	1.6
NFI-ODCE Value Weight	7.4	7.1	28.5	27.3	11.3	10.3	9.9	8.9	10.9	9.9		

- The table shows the time-weighted, net of fee returns for ATRS' Total Real Estate Portfolio and the NFI-ODCE benchmark.
- There are a number of Non-Core Funds that have exited the J-curve and performance is expected to have a more meaningful impact as newer funds' investments are realized.
- The real estate portfolio underperformed the benchmark for the quarter, as well as over the all-other measurement periods largely due in part to market distress caused by the global pandemic, relative underperformance of UBS TPF, and a cash out refinance and property sales from an Arkansas Investments that decreased net asset value and consequently effected the return.

ATRS' Timberland and Agriculture 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		
Timberland	2.2	1.9	14.2	13.2	11.1	10.1	7.1	6.1	6.2	5.4	5.5	1.9
Timberland Property Benchmark*	3.2		11.8		5.4		3.8		5.0			
Agriculture	4.1	3.8	14.1	12.8	8.0	6.8	6.6	5.4	7.7	6.6	6.0	1.4
Agriculture Benchmark*	2.6		9.7		6.0		5.4		7.6			

- The timber portfolio is outperforming the benchmark over the majority measurable time periods. The portfolio has under performed slightly over the last quarter.
- The agriculture portfolio is outperforming the benchmark over all measurement periods.

ATRS' Infrastructure 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		
Infrastructure	3.8	3.3	19.1	16.3	17.0	14.5	18.6	14.9	N/A	N/A	13.8	1.5
Infrastructure Benchmark*	3.9		11.7		8.1		7.8		N/A			

- The infrastructure portfolio slightly underperformed the Infrastructure benchmark over the quarter, primarily driven by underperformance from Global Energy & Power Infrastructure Fund II (-1.8% net).
- ATRS' Infrastructure portfolio is outperforming the Infrastructure benchmark over all measurement periods excluding the current quarter.

ATRS' Real Assets Portfolio Highlights

- Commitment activity update
 - ATRS made the following commitments during the quarter or subsequent to quarter end
 - KKR Diversified Core Infrastructure Fund: \$25 million
 - Blackstone Real Estate Partners X: \$75 million
 - ATRS is in the queue for a partial redemption of UBS TPF
 - As of YE21, the TPF redemption queue is \$6.8 billion and expect full repayment by YE23

Significant Events

- Rockwood completed a sell of a majority stake to Colliers International. The team will keep all aspects of control. Townsend has reviewed and will report on any meaningful issues that arise.

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Agenda

Section 1	Executive Summary
Section 2	Market Overview
Section 3	Real Assets Portfolio Update
Section 4	Glossary

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United States Real Estate Market Update (1Q22)

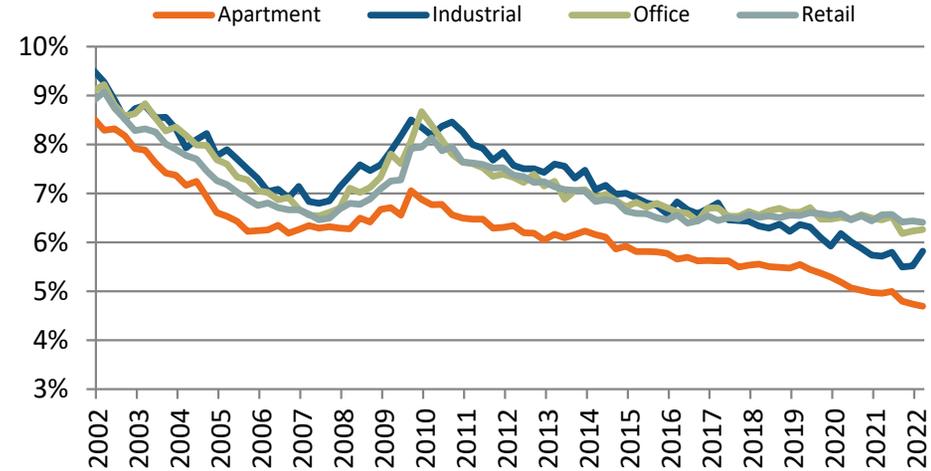
General

- Townsend witnessed a robust recovery across the US economy and US real estate markets in 2021, with a continuation through the first quarter of 2022. The post-pandemic economic recovery has remained generally on track; however, an array of headwinds have emerged including rising interest rates, persistent inflation, various geopolitical events, and widespread global supply chain struggles. Equity markets retraced from December 2021's all-time highs, as a result of tightening federal reserve policy and market volatility. In 1Q22, The S&P 500 produced a gross total return of -4.6%. The MSCI US REIT index also cooled off following a strong 2021, posting a gross return of -4.1%.
- After multiple quarters of GDP growth, U.S. GDP decreased at an annualized rate of 1.5% in first quarter 2022, attributable to decreased federal, state and local government spending, and decreased exports. As a result of the atrocities of the Russian-Ukraine war, prolonged lockdowns in Shanghai, and a rise in protectionist measures, commodity pricing has skyrocketed, in lockstep with inflation. The Federal Reserve continues to view the overall economy as strong, despite, noting an anticipated slowing of growth in early 2022.

Commercial Real Estate

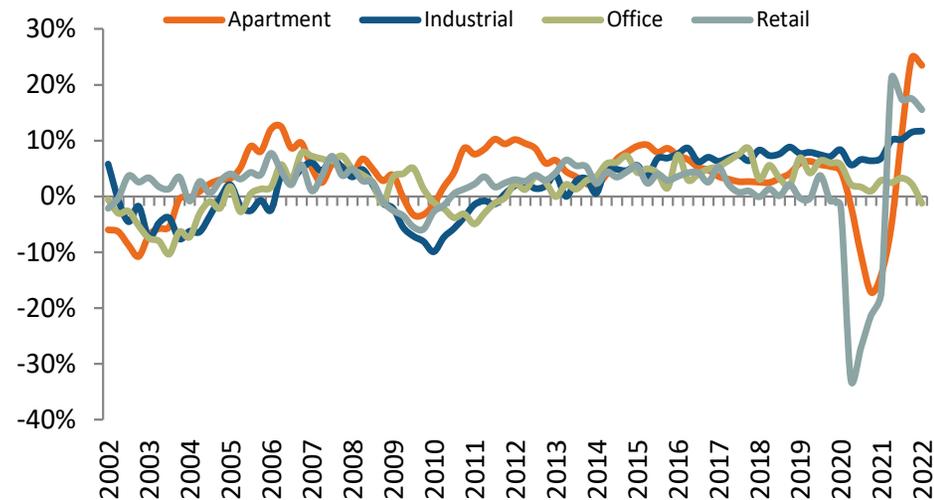
- Through the first quarter of 2022, total CRE transaction activity for the quarter was up 56% YoY, with annual transaction activity up 125% YoY. In 1Q22, deal volumes across all sectors moderated from a historic high in fourth quarter 2021. Transaction volume has been the strongest in the apartment and industrial sectors.
- Transaction cap rates (5.0%) expanded significantly during the quarter, to the tune of 76 bps. This increase comes after a -81 bps quarter-over-quarter decrease in 4Q21. Current valuation cap rates increased for industrial (+30 bps) and office (+3 bps). While both the apartment (-10 bps) and retail (-3 bps) property sectors experienced slight cap rate compression.
- NOI growth has substantially diverged between property sectors due to the impacts of COVID-19. Retail NOI has expanded substantially (+16%) YoY as the sector continues to recover from decreased rent collections and retailer shutdowns. Apartment sector fundamentals remain strong, as many millennials seek out a more opportune time to purchase their first home. Apartment NOI expanded (+23%) YoY.
- 10-year treasury bond yields steepened to 2.3% during the quarter, an increase of 80 basis points over year-end 2021. Economists expect rates to move modestly higher throughout 2022.

Current Value Cap Rates by Property Type



Source: NCREIF

4 Qtr Rolling NOI Growth



Source: NCREIF

United States Property Matrix (1Q22)

INDUSTRIAL

- In 1Q22, industrial properties were the highest returning sector at 11.0% and outperformed the NPI by 563 bps.
- Transaction volumes decreased to \$34 billion in the first quarter of the year, resulting in a 50% increase year-over-year. Individual asset sales increased 18% year-over-year, while portfolio purchases turned in a year-over-year volume increase of 33%. At \$34 billion, the industrial sector decreased by \$44 billion quarter-over-quarter.
- The industrial sector turned in NOI growth of 11.7% over the past year. NOI continues to reach all time highs for the sector.
- Vacancy decreased by 173 bps year-over-year to 1.8%. Vacancy in the sector decreased 30 bps from last quarter, reaching all-time historic lows. E-commerce continues to drive demand across the sector.
- Industrial cap rates compressed approximately 100 bps from a year ago, to 3.4%. Industrial overall fundamentals still top all property sectors.

MULTIFAMILY

- The apartment sector delivered a 5.3% return during the quarter, underperforming the NPI by 8 bps.
- Transaction volume in the first quarter of 2022 decreased to \$63 billion, resulting in an increase of 56% year-over-year. Transaction volume for the sector is near historical levels. This volume continues to make multifamily the most actively traded sector for the eighteenth straight quarter.
- Cap rates remained steady at 3.6% quarter-over-quarter, decreasing 15 bps year-over-year. Multifamily cap rates remain at the lowest level observed in years, driven by continued increases in valuation.
- The multifamily sector saw increasing vacancy rates throughout the entirety of 2020 due to the global pandemic. Through 2021, the sector appears to have shaken that trend although vacancy rates remained steady during the last 3 quarters. Vacancy rates slightly decreased by 7 bps quarter-over-quarter and are back to near pre-pandemic levels. The aging millennials have begun shifting their desires to suburban living, but continued home price appreciation has deterred the full effect of this migratory trend.

OFFICE

- The office sector returned 1.6% in 1Q22, 373 bps below the NPI return over the period.
- Transaction volumes decreased by 59% year-over-year in the first quarter. Transaction volume equated to \$35 billion for the quarter, an decrease of \$20 billion quarter-over-quarter. Office transaction levels have officially regressed to levels only seen prior to the COVID-19 pandemic.
- Office sector vacancy rates have expanded since the beginning of the pandemic due to work from home orders and uncertainty revolving around the future of office space. Office continues to be the highest vacancy property type at close to 12.9%, increasing 20 bps from last quarter.
- NOI growth in the office sector compressed quarter-over-quarter by 295 bps and appears to be in the midst of its recovery to pre-pandemic levels.
- Office cap rates compressed from a year ago, sitting at approximately 4.5%. Office-using job growth was stunted significantly through out 2020 due to work from home orders. Though we are observing a slow but steady flow back to in-office work, there is still uncertainty in the sector as many companies remain hesitant.

RETAIL

- As of 1Q22, the retail sector delivered a quarterly return of 2.3%, underperforming 307 bps below the NPI.
- Transaction volumes totaled \$19 billion in the first quarter, increasing 102% year-over-year. Single asset transactions accounted for just over 79% of all sales volume for the quarter.
- Cap rates have expanded approximately 10 bps within the sector over the last year, to 5.1%. Current valuation cap rates compressed quarter-over-quarter by 20 bps due to valuation adjustments made across the sector in general.
- NOI growth slightly decreased, 2.0% over the last year. Retail has begun its slow recovery as vaccine rollouts have allowed a large portion of store nationally to open and operate safely.
- Retail vacancy rates increased over the quarter by 10 bps, and down 90 bps over the past year to 9.0%. Many big box stores have closed as the need for retail space shrinks, translating to a negative outlook for rent growth. Paired with the global economic crisis, which has had a significant negative impact on this sector.

Global Real Estate Market Update (1Q22)

- Diminishing operational uncertainty, robust demand and abundant liquidity led global investment activity to a strong start to 2022. More capital being put into the market than any other first quarter (\$280B, 33% increase from 1Q21). Unfortunately, this surge was quelled in relation to the geopolitical consequences of war between Russia and Ukraine. The conflict has contributed to rising commodity prices in conjunction with inflation, and lower expectations of economic growth overall.
- That withstanding, The US was at the forefront of this growth in deal volume improving 76% YOY. This was led by its multifamily sector, being the world's largest single property market. The Asia Pacific market had inverse results with deal pipelines dissipating. China's zero-Covid policy, which put some of the country's largest cities into complete lockdown, has played a part.

Global Total Commercial Real Estate Volume - 2021 - 2022

\$ US Billions	Q1 2022	Q1 2021	% Change Q1 22 - Q1 21	Full Year Ending Q1 2022	Full Year Ending Q1 2021	% Change Full Year
Americas	169	96	75%	855	356	140%
EMEA	81	78	4%	444	308	44%
Asia Pacific	126	144	-13%	865	824	5%
Total	375	318	18%	2164	1488	45%

Source: Real Capital Analytics, Inc., Q1' 22

- Following a serious downturn during the peak of the pandemic, the hotel industry is trending towards a recovery. The lowering of travel restrictions has seen global air traffic up 116% YOY as of February 2022. This has reflected in transaction activity with purchases totaling \$18B 1Q22 and in the last 12 months doubled its volume from the previous year.
- Given the low interest rate environment, the weight of capital targeting real estate will likely continue to increase as investors search for yield. While the industrial, residential and healthcare sectors are taking the lion's share of allocated capital, core offices and niche sectors like student/senior living are beginning to garner more investor interest despite facing occupancy challenges in 2021.
- Buoyant buyer demand boosted by strong investment fundamentals has continued to drive investment activity across the Multifamily asset class globally, continuing its momentum into Q122. Despite a modest decline in quarterly volumes year-over-year in EMEA, activity remained well above historic first quarter norms. While inflationary pressures and rising construction costs suggest some headwinds, the sector remains one of the most favored across the regions.
- Inflation points have reached record levels in the U.S. and Europe prompting a shift in Fed policy. While inflation is forecast to stay high through most of 2022, it is expected to moderate thereafter. In the U.S., the price effects of supply chain disruptions are expected to subside over the coming quarters, with continued higher rents and wages countering these deflationary factors, which is expected to keep overall inflation at higher levels than pre-COVID through 2023.
- The industrial sector continues to exhibit the strongest performance globally, spurred by tenant demand driven by an acceleration in e-commerce and supply chain reconfiguration. Inventory shortages resulting in supply chain reorientation is expected to continue to shift demand to emerging markets (e.g., Vietnam, India, Mexico). Additionally, supply chain bottlenecks have led to shipping and port delays and shifted incremental demand to inland port and more rail-dependent locations.

Global Outlook - GDP (Real) Growth % pa, 2022-2024

	2022	2023	2024
Global	5.9	4.3	3.6
Asia Pacific	4.4	4.6	4.4
Australia	4.1	2.8	2.5
China	4.5	5.2	5.1
India	8.7	7.3	6.5
Japan	1.8	1.8	1.1
North America	2.7	2.0	1.9
US	2.6	2.0	1.9
Middle East	4.1	4.4	4.5
European Union	3.0	2.1	2.0
France	2.7	1.8	1.7
Germany	1.8	2.3	2.0
UK	3.7	1.2	1.7

Source: Bloomberg

Farmland – First Quarter 2022 Market Update

FARMLAND MARKETS

- Core row crops prices in the U.S. (along with key input costs) continued to climb as global demand outpaced supply, primarily due to production challenges across drought-stricken S. America and the shut-down of exports out of Ukraine & Russia, which account for 29% of global wheat production. The climb in ag input prices remains a concern for farmers globally, significant crop price appreciation has kept farmer profits attainable. **(FIGURE 1)**
- U.S. permanent crop producers continued to navigate water availability issues, with the U.S. west drought deepening; 1Q22 was recorded as the driest on record.
- Tree nut prices were negatively impacted by slowing exports due to transportation and logistical issues, and early estimates are predicting a record almond carryout marketing year-end, which will further soften prices going into 2022/2023. Grapes have finally regained some footing with supply/demand coming back into balance with wine grape prices jumping 20% YoY. **(FIGURE 2)**
- Brazil’s ag sector remained solid as farmers are coming off a multi-year span of strong profits, although unfavorable weather overshadowed the sector during the quarter as weather risk resulting from La Niña lowered soybean and sugar production, while being a major contributor to the global increase in pricing.
- Weather in Australia remained favorable as the country experienced above average rainfall leading to a record winter harvest, and with an abundance of water, along with lower prices, the farm sector production and profits is expected to remain elevated through the year’s summer cropping season.

FIGURE 1: Major U.S. Crop Prices (US\$/bushel)

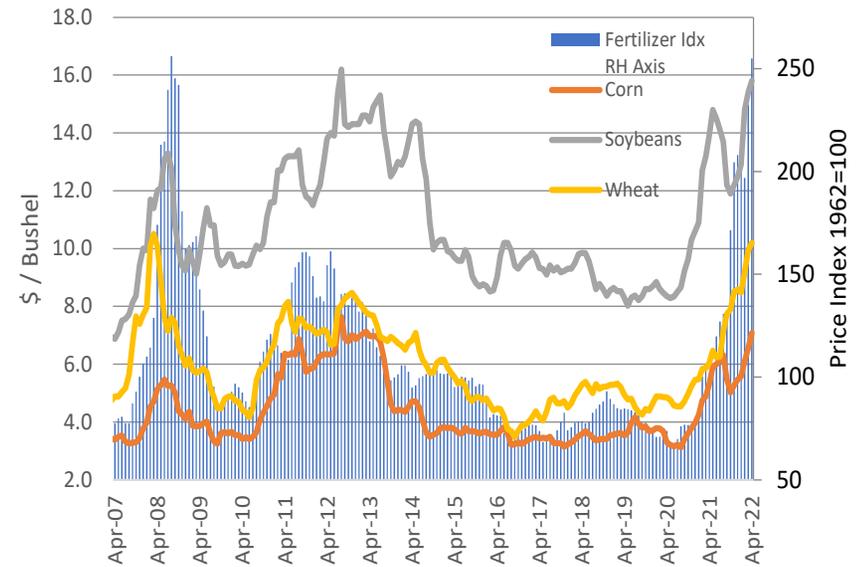
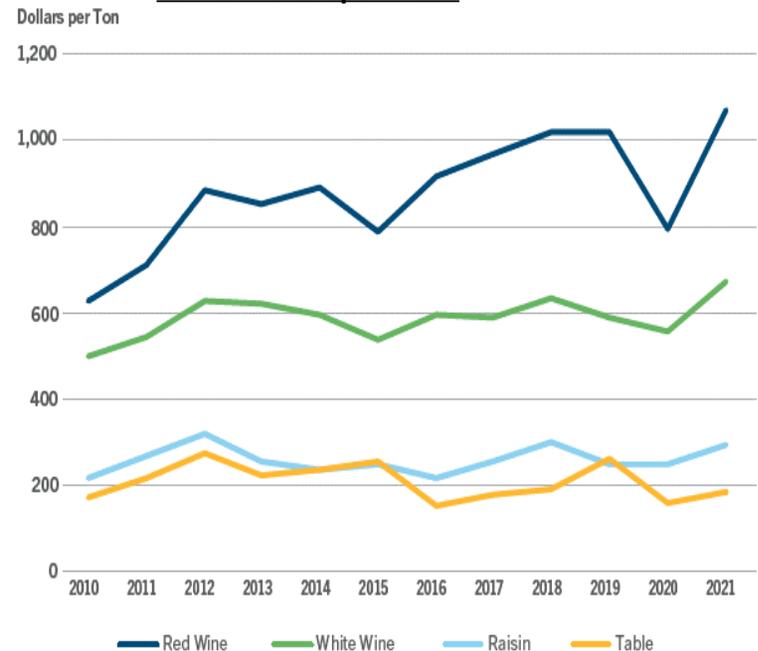


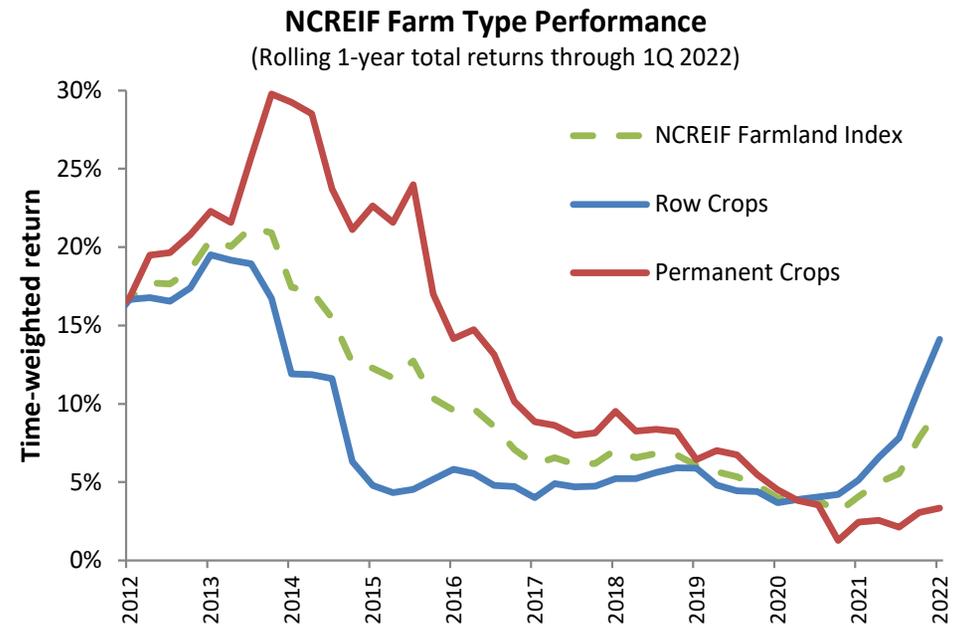
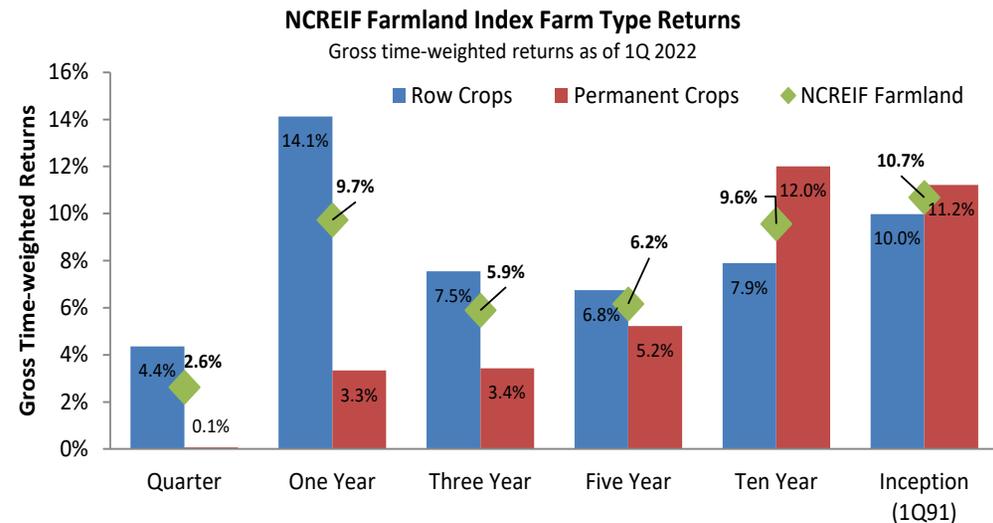
FIGURE 2: California Grape Prices



Farmland – First Quarter 2022 Market Update

FARMLAND PERFORMANCE

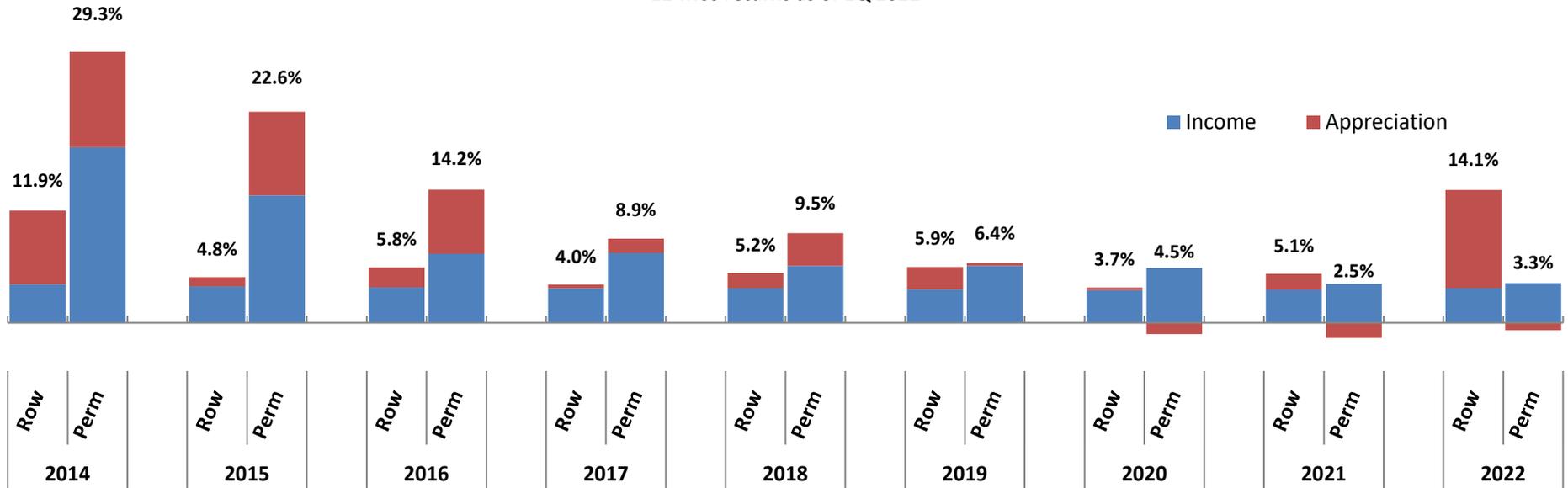
- The NCREIF Farmland Index (“NFI”) returned 2.6%, down from last quarter’s 3.8% return, but still relatively strong compared to last year’s same quarter return of 0.9%. The return comprised 0.7% income and 1.9% appreciation.
- Row crops continued to post strong returns leading the NFI by farm type with a 4.4% return driven by another quarter of strong appreciation (3.4%) and an income return of 1.0%. This is the 2nd highest return in over 8 years. Permanent crops were flat with a 0.07% return, although the first positive 1Q since 2018.
- Row crops have continued to outperform permanent crops, with this quarter marking just over two years since taking the lead, led by commodity crops that have returned 17.8% over the past 12 months driven by a staggering 14.1% appreciation return, which has been predominantly due to strong cropland markets in the Northwest and Corn Belt.
- Permanent crop income returns have remained relatively consistent over the past few quarters, but values have remained relatively soft as certain permanent crop market segments continue to moderate, predominantly driven by the ongoing uncertainty faced with the newly incoming SGMA (Sustainable Groundwater Management Act) legislation in California, where the majority of the NFI’s permanent crops are produced.
- On a regional basis, all NCREIF regions posted positive total returns for the quarter, with the Corn Belt the top performer and showing strong value gains with 6.7% appreciation.



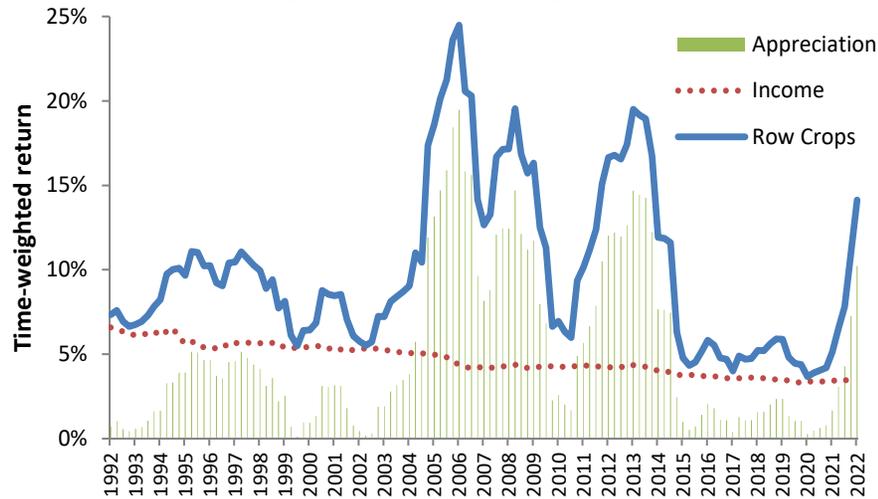
Farmland – First Quarter 2022 Market Update

FARMLAND PERFORMANCE

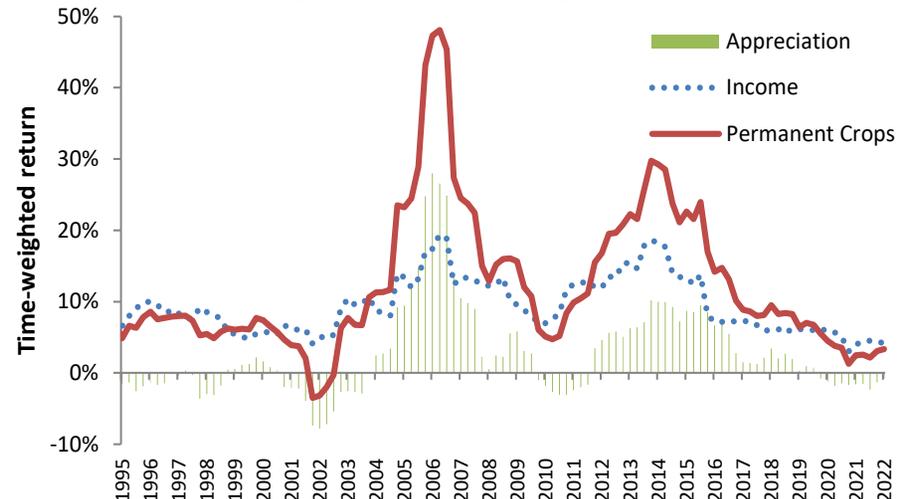
NCREIF Farm Type Performance Attribution 2014-2022
12-Mos returns as of 1Q 2022



NCREIF Row Crop Performance
(Rolling 1-year total returns through 1Q 2022)



NCREIF Permanent Crop Performance
(Rolling 1-year total returns through 1Q 2022)



Infrastructure – First Quarter 2022 Market Update

General

- Infrastructure transaction activity decreased 19%, quarter-over-quarter, following a very active end to 2021. In lock step with tempered transactions activity, the aggregate value of these deals decreased 55% quarter-over-quarter, returning to levels last seen in 2020. In terms of fundraising, 24 funds reached their final close during Q1 2022; a modest decrease of 7% quarter-over-quarter and a decrease of 57% since the highs reached in Q4 2020. Despite decreased activity, aggregate capital raised during Q1 2022 grew to around \$72 billion, an increase of 89% quarter-over-quarter. Since the pandemic-driven lows in Q2 2020, aggregate capital raised levels have soared +167%.

Europe

- Notable European transactions for the quarter were headlined by two acquisitions totaling \$8.3 billion, made by Macquarie Asset Management, in a consortium with British Columbia Investment Management Corporation. In March 2022, the consortium acquired a majority stake in National Grid’s gas transmission and metering business. In addition, Macquarie reached an agreement to acquire Reden Solar, a French-based solar developer with a 762 MW operational portfolio.

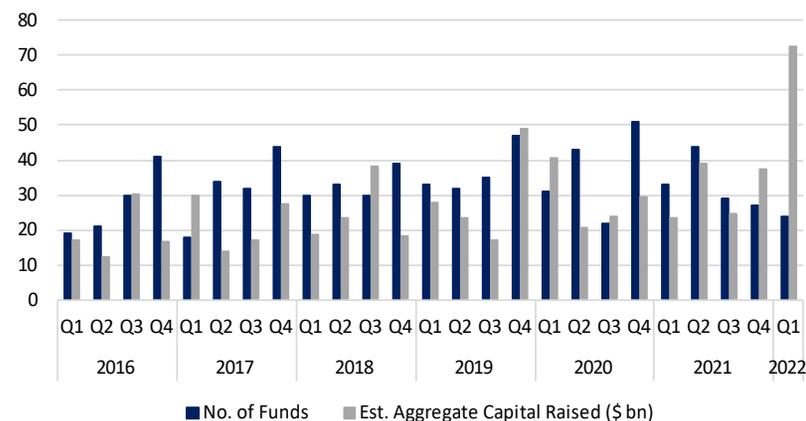
North America

- South Jersey Industries, a New Jersey-based natural gas provider to over 700,000 customers, was acquired in an all-cash, \$8.1 billion take-private by J.P. Morgan Asset Management’s Infrastructure Investments Fund.

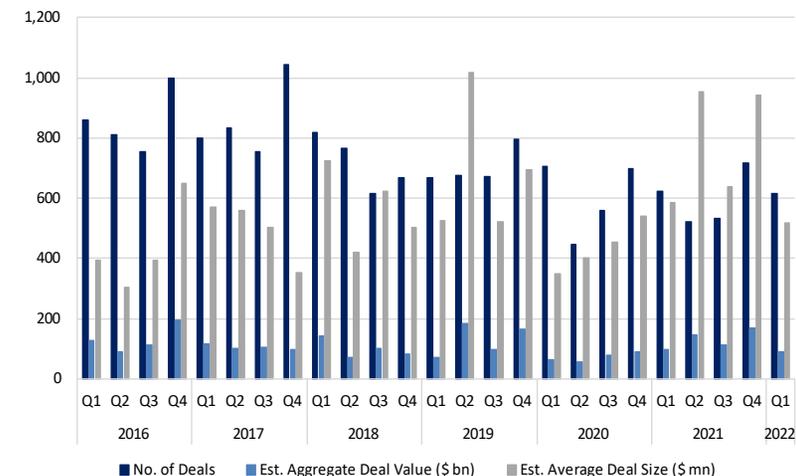
Asia Pacific

- In Q1 2022, in specific to the Asia Pacific region, it is worth highlighting the \$10.9 billion bid approval, secured by the SPIA Development Consortium, to develop a world class international airport at former U.S. Naval Base, Sangley Point, located in the Philippines. This was the largest infrastructure transaction globally for the quarter.

Infrastructure Fundraising



Infrastructure Deals Completed



Timberland – First Quarter 2022 Market Update

TIMBERLAND MARKETS

- The U.S. housing market maintained its momentum during the quarter coming off of an already strong 2021 where housing starts increased 16% yoy. The seasonally adjusted annual rate of 1.8 million units at quarter-end represented the highest quarterly value in over a decade. (FIGURE 1)
- US timber markets continued their strong performance, and within the two largest regions (ie, South & PNW). In the US South, large log markets benefited from ongoing demand for finished wood products, lower inventories due to supply chain issues, and weather-related matters. Finished wood price increases have begun to pass through to producers/timber owners as timber prices increased across all major types. Southern sawtimber log prices increased 5.6% during the quarter and 13.1% yoy, and PNW Douglas-Fir increased 10% and 9%, respectively, and reached an all time high early in the quarter, 17% over its previous peak in 2018. (FIGURE 2)
- Brazilian timber markets also remained strong, driven by strong global and domestic pulp markets and continue demand from the US and Europe for solid wood products.
- Markets in Oceania were mixed, with Australian log markets improving slightly as pandemic restrictions began to lift, increasing consumer spending and household consumption, while New Zealand timber markets were negatively impacted by reduced Chinese demand for logs and A-grade export prices declined 23%.

FIGURE 1: U.S. Annual Housing Starts (SAAR) & 30-Year Mortgage Rates

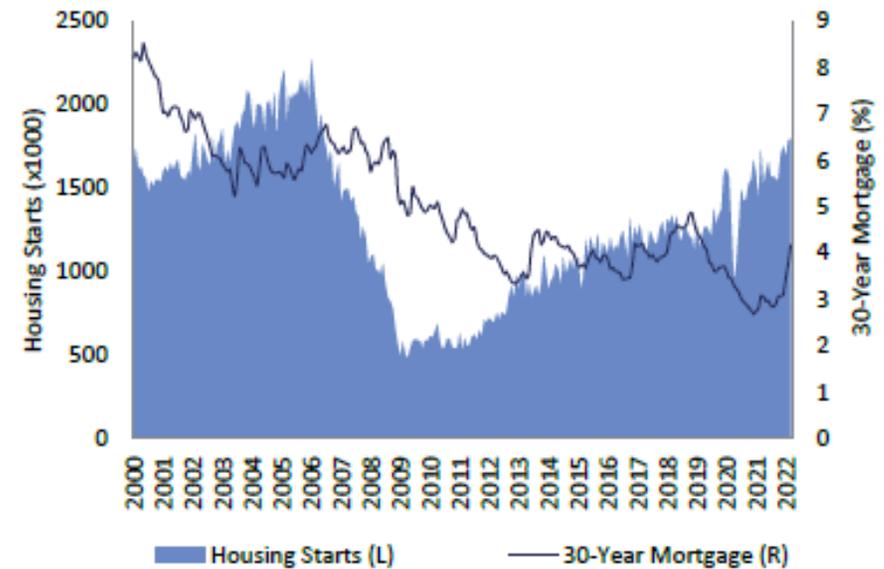
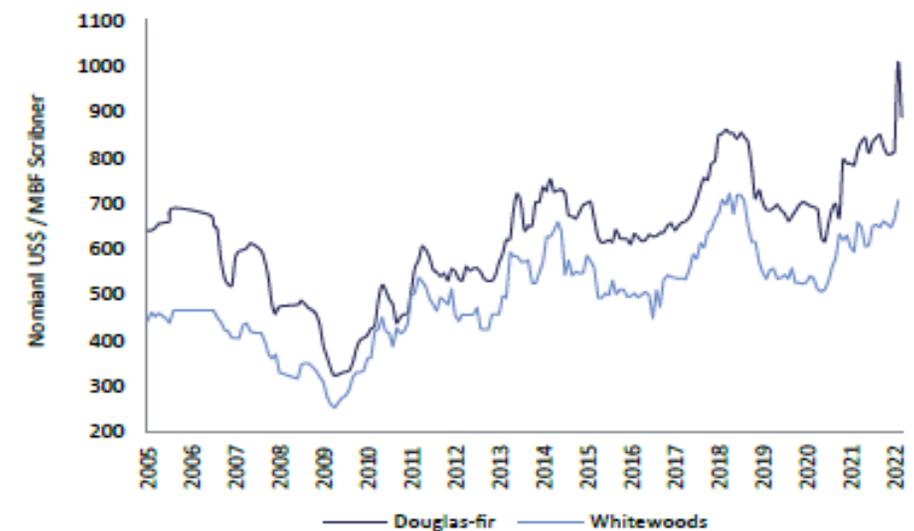


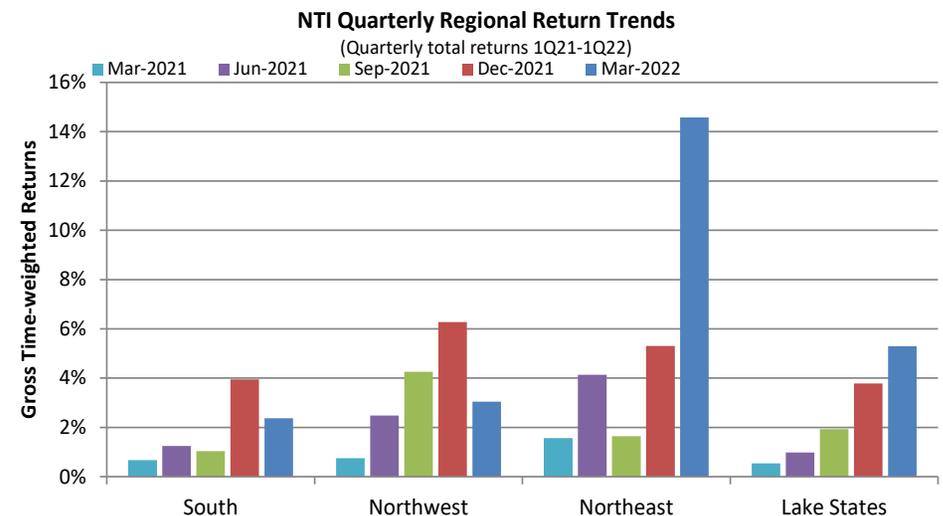
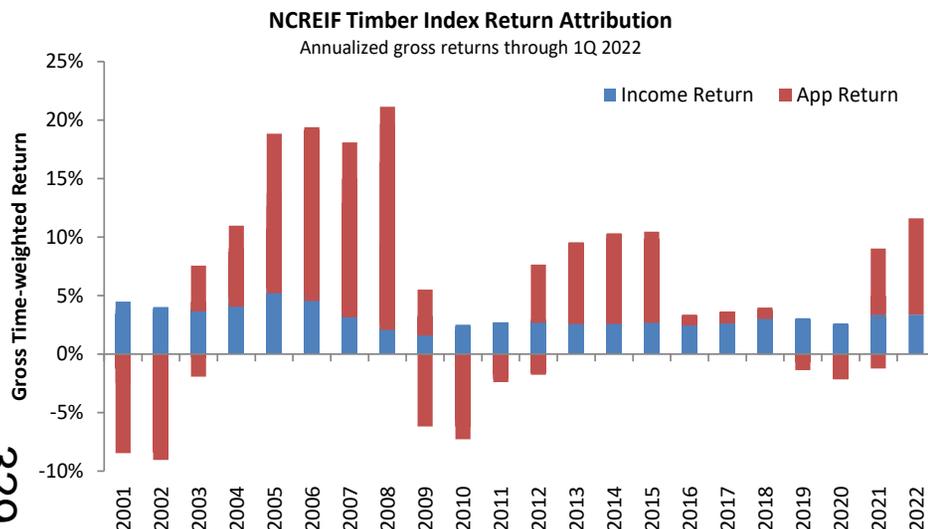
FIGURE 2: U.S. PNW Douglas-Fir & Mixed Whitewood Log Prices



Timberland – First Quarter 2022 Market Update

TIMBERLAND PERFORMANCE

- The NCREIF Timberland Index (“NTI”) returned 3.2% for the quarter, a slight decrease from last quarter’s 4.6% return but still one of the best quarterly returns in over five years; the return was comprised of 0.8% income and 2.4% appreciation. The trailing twelve-month return of 11.8% was the best 12-month return looking back from a first quarter in over 13 years; it consisted of 3.4% income and 8.2% appreciation.
- The Northeast region led the NTI on a regional basis with a 14.6% total return, outperforming all other regions by a wide margin, and posting the single largest quarterly return in over 20 years as both global and domestic demand for hardwood’s continues to increase on continued strength in the U.S. housing market along with robust activity and demand for remodeling, furniture and flooring.
- The U.S. South and Pacific Northwest, the NTI’s two largest regions by MV (c. 90%) – had slight drops in quarterly performance relative to last quarter; the South returned 2.4% consisting of 0.8% income and 1.6% appreciation, and the Northwest returned 3.0% consisting of 1.0% income and 2.0% appreciation. Continued improvements across the logging markets coupled with momentum in the housing market has provided support across both regions, despite a decline in exports due to worldwide logistical and transportation issues.
- All regions experienced increases in value during the quarter, and the Northwest remains the highest valued region at \$2,863 per acre and the South improving to \$1,424 per acre value.

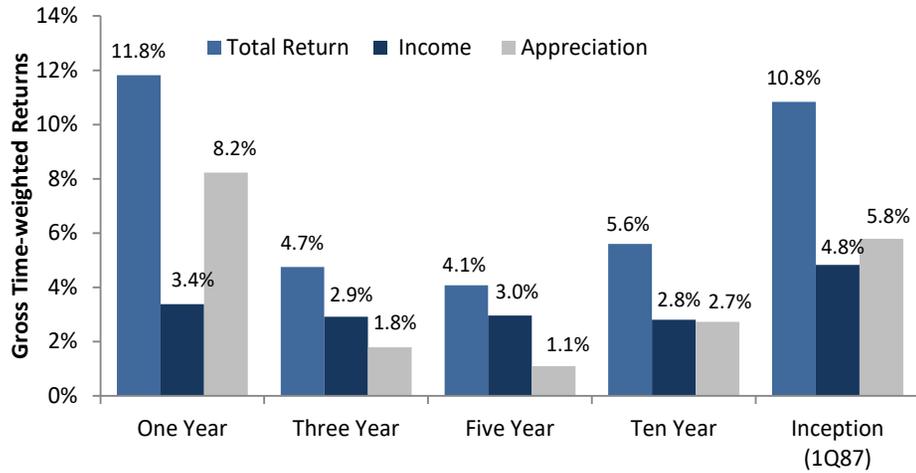


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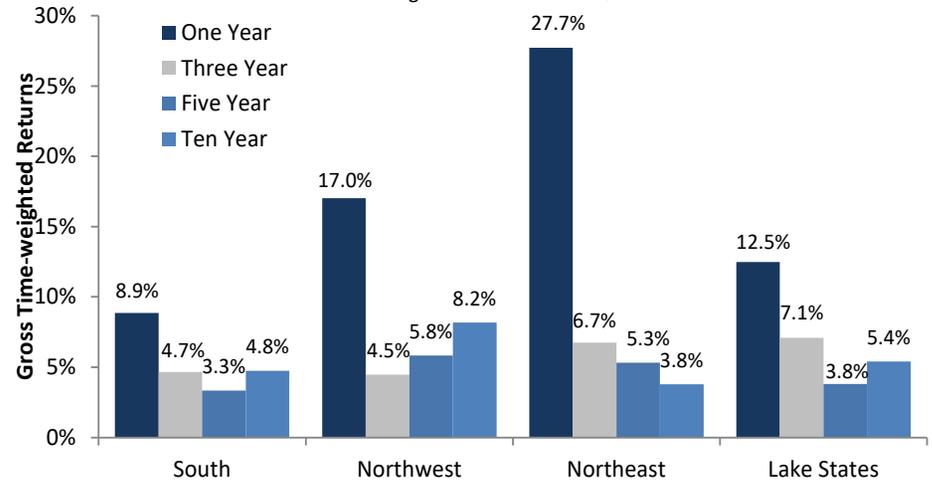
Timberland – First Quarter 2022 Market Update

TIMBERLAND PERFORMANCE

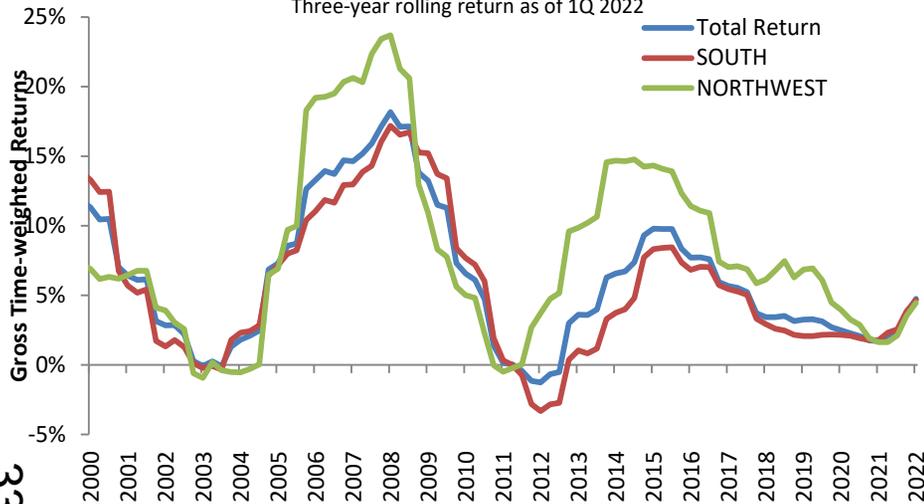
NCREIF Timber Index Returns
Gross time-weighted returns as of 1Q 2022



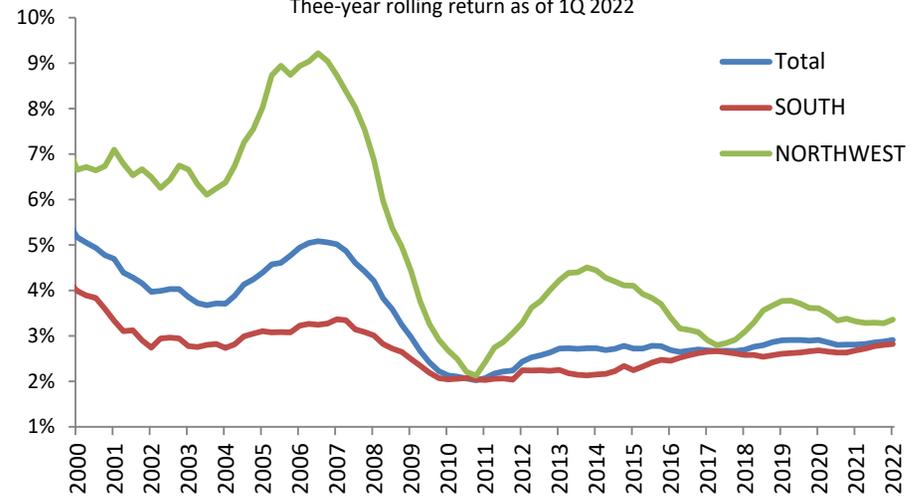
NCREIF Timber Index Regional Returns
Gross time-weighted returns as of 1Q 2022



Total Returns by Region
Three-year rolling return as of 1Q 2022



EBITDA Returns by Region
Three-year rolling return as of 1Q 2022



Agenda

Section 1	Executive Summary
Section 2	Market Overview
Section 3	Real Assets Portfolio Update
Section 4	Glossary

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ATRS' Real Estate Performance: Core Portfolio

As of 03/31/2022

Funding Status (\$)	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Core								
Arkansas Investments	2007	142,694,200	144,624,546	0	200,353,680	75,066,529	3.2	2.4
JP Morgan Strategic Property Fund	2007	170,000,000	170,000,000	0	222,469,925	196,871,757	8.3	6.2
Metlife Commercial Mortgage Income Fund	2019	50,000,000	50,000,000	0	6,073,167	49,018,715	2.1	1.6
Prime Property Fund	2022	70,000,000	17,500,000	0	0	17,499,996	0.7	0.6
PRISA SA	2005	170,000,000	184,182,196	0	122,196,723	336,233,891	14.1	10.7
UBS Trumbull Property Fund	2006	170,000,000	190,587,980	0	193,238,877	178,900,299	7.5	5.7
UBS Trumbull Property Income Fund	2017	50,000,000	50,000,000	0	7,448,858	59,689,493	2.5	1.9
Core	2005	822,694,200	806,894,723	0	751,781,230	913,280,680	38.4	29.0

Returns (%)	Quarter				1 Year				3 Year				5 Year				10 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	INC	APP	TGRS	TNET	TGRS	TNET			
Core																									
Arkansas Investments	0.0	1.2	1.2	1.2	0.0	3.0	3.0	3.0	0.0	-3.5	-3.5	-3.5	0.0	5.5	5.5	5.5	0.0	7.0	7.0	7.0	7.1	7.1	1Q08	8.1	1.9
JP Morgan Strategic Property Fund	0.8	5.2	6.0	5.7	3.6	21.7	25.8	24.8	3.6	6.7	10.5	9.6	3.8	5.1	9.0	8.1	4.4	6.1	10.7	9.7	7.3	6.4	2Q07	7.3	2.5
Metlife Commercial Mortgage Income Fund	1.1	-0.4	0.7	0.5	5.4	-0.3	5.1	4.3													4.6	3.8	3Q19	3.8	1.1
Prime Property Fund																							2Q22	0.0	1.0
PRISA SA	1.0	5.5	6.5	6.3	4.0	22.3	26.9	26.0	4.1	7.3	11.5	10.7	4.2	5.8	10.2	9.4	4.6	6.2	11.1	10.3	8.0	7.2	3Q05	7.2	2.5
UBS Trumbull Property Fund	1.0	6.4	7.3	7.1	4.0	18.5	23.1	22.2	4.2	0.9	5.2	4.4	4.4	1.2	5.6	4.9	4.7	3.0	7.8	6.9	6.4	5.5	2Q06	5.7	2.0
UBS Trumbull Property Income Fund	0.9	3.7	4.6	4.4	3.7	14.9	19.1	18.2	3.8	4.6	8.4	7.6									7.9	7.1	3Q17	7.1	1.3
Core	0.8	4.8	5.6	5.4	3.6	18.0	22.1	21.3	3.6	4.1	7.9	7.1	3.7	4.4	8.2	7.4	4.0	5.4	9.5	8.8	8.5	7.7	3Q05	6.9	2.1

Note: Arkansas Investments are included in Core portfolio

ATRS' Real Estate Performance: Value-Add Portfolio

As of 03/31/2022

Funding Status (\$)	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Value Added								
Almanac Realty Securities IX, L.P.		40,000,000	0	40,000,000	0	-224,126	0.0	1.3
Almanac Realty Securities V, LP	2008	50,000,000	21,787,314	0	48,380,466	82,991	0.0	0.0
Almanac Realty Securities VI	2012	30,000,000	19,102,008	0	21,006,051	4,249,408	0.2	0.1
Almanac Realty Securities VII	2015	30,000,000	31,475,764	4,449,254	24,101,282	18,854,538	0.8	0.7
Almanac Realty Securities VIII	2018	30,000,000	11,510,451	18,489,549	898,612	13,496,466	0.6	1.0
Calmwater Real Estate Credit Fund III	2017	30,000,000	23,113,383	7,427,676	13,700,384	15,083,453	0.6	0.7
CBRE Strategic Partners U.S. Value 8	2017	25,000,000	22,826,523	2,173,477	9,630,677	23,958,814	1.0	0.8
CBRE Strategic Partners U.S. Value 9	2020	50,000,000	17,220,815	36,978,774	4,571,449	13,955,114	0.6	1.6
FPA Core Plus Fund IV	2018	30,000,000	30,000,000	0	2,547,330	33,771,586	1.4	1.1
GLP Capital Partners IV	2021	50,000,000	24,859,156	25,498,764	357,920	26,163,334	1.1	1.6
Harbert European Real Estate Fund IV	2016	25,011,918	23,920,550	1,684,019	18,362,713	11,665,445	0.5	0.4
LaSalle Income & Growth Fund VI	2013	20,000,000	19,047,619	0	22,379,425	5,447,850	0.2	0.2
LaSalle Income & Growth Fund VII	2017	20,000,000	19,571,839	2,244,082	12,642,952	15,566,719	0.7	0.6
LaSalle Income & Growth Fund VIII	2020	50,000,000	16,332,957	38,288,151	8,255,412	13,626,013	0.6	1.6
LBA Logistics Value Fund IX	2022	55,000,000	3,525,641	51,474,359	0	3,365,111	0.1	1.7
Long Wharf Real Estate Partners V	2015	30,000,000	29,828,371	0	21,660,360	18,983,916	0.8	0.6
Long Wharf Real Estate Partners VI, L.P.	2020	50,000,000	31,940,813	18,017,839	12,487,611	28,674,828	1.2	1.5
Mesa West Real Estate Income Fund V	2021	40,000,000	5,679,599	34,320,401	0	5,595,279	0.2	1.3
PGIM Real Estate Capital VII (USD Feeder) SCSp	2021	40,000,000	3,153,475	36,846,525	0	3,498,567	0.1	1.3
Rockwood Capital Real Estate Partners Fund IX	2012	30,000,000	27,422,960	2,577,040	31,305,432	6,193,270	0.3	0.3
Rockwood Capital Real Estate Partners Fund XI	2019	40,000,000	18,678,766	21,321,234	0	22,828,077	1.0	1.4
Walton Street Real Estate Debt Fund II, L.P.	2019	40,000,000	18,211,727	29,533,590	7,756,633	11,662,548	0.5	1.3
Westbrook Real Estate Fund IX	2013	40,000,000	46,350,739	3,603,488	47,240,465	9,327,310	0.4	0.4
Westbrook Real Estate Fund X	2016	25,000,000	24,182,111	2,016,766	21,061,412	9,210,355	0.4	0.4
Value Added	2007	870,011,918	489,742,580	376,944,989	328,346,587	315,036,867	13.2	22.0



ATRS' Real Estate Performance: Value-Add Portfolio (Cont.)

Time Weighted Returns:

Returns (%)	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			
Value Added																					
Almanac Realty Securities IX, L.P.																	2Q22				
Almanac Realty Securities V, LP	-3.8	0.8	-3.0	-3.0	-18.9	4.0	-15.3	-15.3	-15.7	0.6	-14.4	-14.8	1.0	-5.0	-2.1	-3.0	6.0	4.6	4Q09	11.9	2.2
Almanac Realty Securities VI	0.7	2.2	2.9	2.6	0.7	18.2	19.0	17.7	3.7	-9.9	-6.2	-7.2	5.4	-9.4	-4.3	-5.2	5.8	4.3	1Q13	9.6	1.3
Almanac Realty Securities VII	1.8	1.8	3.6	3.3	7.2	5.0	12.4	11.2	8.2	3.8	12.2	11.0	8.0	6.4	14.8	13.2	15.2	12.3	3Q15	12.7	1.4
Almanac Realty Securities VIII	1.6	4.5	6.2	5.9	7.6	19.8	28.6	25.4	7.0	11.7	19.2	4.1					33.6	-42.0	1Q19	16.3	1.3
Calmwater Real Estate Credit Fund III	2.2	0.0	2.2	1.7	9.1	0.0	9.1	6.9	10.4	0.0	10.4	7.5					10.9	7.4	1Q18	7.3	1.2
CBRE Strategic Partners U.S. Value 8	1.6	5.3	7.0	5.8	8.0	16.5	25.4	21.1	7.3	6.9	14.5	12.6	7.0	6.8	14.2	12.1	14.2	12.1	2Q17	11.5	1.5
CBRE Strategic Partners U.S. Value 9	0.5	7.7	8.2	7.0	4.6	22.3	27.7	21.5									19.8	13.7	4Q20	6.2	1.1
FPA Core Plus Fund IV	1.1	0.5	1.6	1.4	3.7	13.7	17.8	17.1	4.0	4.8	8.9	8.2					8.1	7.4	4Q18	8.6	1.2
GLP Capital Partners IV	0.5	4.0	4.5	4.5													19.7	18.6	4Q21	9.4	1.1
Harbert European Real Estate Fund IV	9.6	-10.9	-1.3	-1.6	19.5	-20.6	-3.7	-5.0	11.9	-11.8	-0.5	0.8	7.9	-2.0	6.1	5.1	6.1	4.9	3Q16	5.6	1.3
LaSalle Income & Growth Fund VI	0.8	0.0	0.8	0.7	3.9	-0.5	3.4	3.3	3.7	-7.3	-3.8	-2.6	4.0	-2.9	1.0	1.2	7.2	6.3	4Q13	10.3	1.5
LaSalle Income & Growth Fund VII	0.3	4.2	4.5	3.7	1.1	44.3	45.6	38.8	0.2	14.4	14.6	12.2					14.2	11.8	3Q17	12.3	1.4
LaSalle Income & Growth Fund VIII	-0.9	19.2	18.3	13.6	-1.3	85.9	83.7	60.3									43.2	29.3	2Q20	25.5	1.3
LBA Logistics Value Fund IX																			2Q22		
Long Wharf Real Estate Partners V	0.5	7.9	8.4	5.1	1.9	20.6	22.8	17.9	1.5	8.6	10.2	9.1	1.8	11.0	12.9	10.4	12.3	8.8	1Q16	9.4	1.4
Long Wharf Real Estate Partners VI, L.P.	1.0	17.4	18.4	14.0	5.1	90.3	98.6	67.3									70.3	46.6	2Q20	41.7	1.3
Mesa West Real Estate Income Fund V	6.8	-0.2	6.6	2.4													6.6	2.4	1Q22	-2.9	1.0
PGIM Real Estate Capital VII (USD Feeder) SCSp	2.8	0.0	2.8	2.8	4.5	10.0	14.9	13.6									14.9	13.6	2Q21	10.1	1.1
Rockwood Capital Real Estate Partners Fund IX	1.0	1.1	2.1	1.5	4.9	11.3	16.6	13.7	3.5	-6.2	-3.0	-5.8	3.3	-1.5	1.7	-1.1	9.9	6.8	4Q13	10.6	1.4
Rockwood Capital Real Estate Partners Fund XI	1.1	3.6	4.7	4.2	5.8	22.9	29.6	26.2									N/M	N/M	1Q20	19.3	1.2
Walton Street Real Estate Debt Fund II, L.P.	2.7	-0.1	2.6	2.2	10.5	-1.9	8.5	7.0									8.9	7.1	3Q19	7.1	1.1
Westbrook Real Estate Fund IX	-0.2	1.9	1.7	1.4	-0.6	6.8	6.1	4.8	-0.7	-7.3	-8.0	-9.1	-0.5	0.1	-0.4	-1.6	6.5	3.8	3Q13	7.5	1.2
Westbrook Real Estate Fund X	0.0	3.4	3.3	3.0	1.7	13.1	15.0	13.5	0.7	11.7	12.4	10.8	-0.5	15.2	14.7	11.7	16.1	10.3	4Q16	11.2	1.3
Value Added	1.5	4.0	5.5	4.3	5.2	18.2	24.1	19.3	4.9	5.6	10.8	8.1	4.8	7.0	12.1	9.2	7.8	5.2	2Q07	7.6	1.3



ATRS' Real Estate Performance: Opportunistic Portfolio

As of 03/31/2022

Funding Status (\$)	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Opportunistic								
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	2019	49,096,184	24,221,775	28,259,058	2,228,113	31,156,145	1.3	1.9
Blackstone Real Estate Partners VII	2012	50,000,000	64,810,613	5,565,591	84,501,312	25,696,105	1.1	1.0
Carlyle Realty Partners IX		35,000,000	0	35,000,000	0	-144,124	0.0	1.1
Carlyle Realty Partners VII	2014	30,000,000	28,827,970	14,406,050	35,395,235	8,863,368	0.4	0.7
Carlyle Realty Partners VIII	2018	25,000,000	17,578,536	17,111,273	13,431,487	14,002,295	0.6	1.0
CBRE Strategic Partners U.S. Opportunity 5	2008	50,000,000	48,619,340	1,643,033	67,502,477	579,014	0.0	0.1
Cerberus Institutional Real Estate Partners III	2013	30,000,000	37,777,980	7,307,395	48,274,229	14,373,317	0.6	0.7
Heitman European Property Partners IV	2008	44,089,700	34,546,944	2,237,544	26,834,888	435,318	0.0	0.1
Kayne Anderson Real Estate Partners V	2018	25,000,000	23,625,000	2,559,595	13,401,637	20,233,572	0.9	0.7
Kayne Anderson Real Estate Partners VI	2021	50,000,000	8,500,000	41,500,000	0	7,899,920	0.3	1.6
Landmark Real Estate Fund VI	2010	40,000,000	35,090,608	4,909,392	52,753,910	1,700,742	0.1	0.2
Landmark Real Estate Fund VIII	2017	25,000,000	13,237,012	15,512,988	7,725,451	11,546,281	0.5	0.9
LaSalle Asia Opportunity Fund IV	2014	30,000,000	28,823,325	2,013,173	39,655,278	1,791,497	0.1	0.1
LaSalle Asia Opportunity V	2016	30,000,000	24,914,799	12,471,815	19,401,209	10,363,864	0.4	0.7
LaSalle Asia Opportunity VI	2022	50,000,000	0	50,000,000	0	-196,586	0.0	1.6
Lone Star Real Estate Fund IV	2015	24,260,817	19,445,848	4,814,970	19,779,413	6,835,032	0.3	0.4
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	2015	20,000,000	19,132,876	867,124	17,632,804	9,468,290	0.4	0.3
O'Connor North American Property Partners II, L.P.	2008	50,000,000	58,327,452	5,000,000	40,227,400	8,831,350	0.4	0.4
Torchlight Debt Fund VII, LP	2020	50,000,000	15,000,000	35,000,000	0	15,517,179	0.7	1.6
Torchlight Debt Opportunity Fund IV	2013	30,000,000	29,369,211	0	37,982,059	4,502,226	0.2	0.1
Torchlight Debt Opportunity Fund V	2015	25,000,000	20,001,024	5,000,000	23,345,964	3,033,633	0.1	0.3
Torchlight Debt Opportunity Fund VI	2018	25,000,000	22,479,558	2,500,000	999,640	26,682,392	1.1	0.9
Opportunistic	1998	787,446,701	574,329,870	293,679,001	551,072,505	223,170,830	9.4	16.4



ATRS' Real Estate Performance: Opportunistic Portfolio (Cont.)

Time Weighted Returns:

Returns (%)	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			
Opportunistic																					
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	-0.2	6.0	5.8	3.8	0.2	60.9	61.1	41.7									25.4	14.4	1Q20	28.8	1.4
Blackstone Real Estate Partners VII	1.6	5.6	7.2	5.6	5.8	48.8	57.1	43.3	3.6	6.8	10.7	7.9	3.5	8.1	11.9	8.7	18.7	13.4	2Q12	15.5	1.7
Carlyle Realty Partners IX	N/M	N/M	N/M	N/M													N/M	N/M	1Q22	N/M	N/M
Carlyle Realty Partners VII	2.8	1.9	4.8	4.0	27.7	-1.6	26.4	26.0	22.5	-5.7	16.4	16.6	20.0	-1.6	18.6	16.8	18.5	13.8	1Q15	14.9	1.5
Carlyle Realty Partners VIII	4.2	24.8	29.0	23.4	49.7	66.5	140.8	106.6	19.9	34.2	59.0	41.8					48.8	30.9	4Q18	35.5	1.6
CBRE Strategic Partners U.S. Opportunity 5	-0.7	0.0	-0.7	-0.7	-1.4	37.5	35.6	35.6	-1.1	20.3	19.0	19.0	0.0	14.9	14.9	14.5	-7.3	-8.9	4Q08	5.4	1.4
Cerberus Institutional Real Estate Partners III	-0.2	13.6	13.3	10.6	-0.8	104.6	103.3	78.9	-0.4	38.9	38.3	29.5	-0.2	24.7	24.4	19.1	24.2	18.0	4Q13	14.6	1.7
Heitman European Property Partners IV	0.0	-2.0	-2.0	-2.0	-1.9	-4.6	-6.4	-6.4	-0.3	-6.8	-7.0	-7.6	1.9	-13.5	-11.7	-12.6	-4.6	-6.0	1Q11	-3.8	0.8
Kayne Anderson Real Estate Partners V	0.2	8.0	8.2	6.2	1.1	28.0	30.8	22.6	3.6	22.2	26.8	19.7					21.8	14.9	3Q18	15.4	1.4
Kayne Anderson Real Estate Partners VI	1.2	3.6	4.8	2.4													17.3	-8.5	3Q21	-16.2	0.9
Landmark Real Estate Fund VI	-0.2	-8.9	-9.1	-9.3	-8.9	14.8	5.2	4.1	-6.8	-2.8	-7.0	-8.1	0.7	-8.2	-5.1	-6.2	25.3	22.8	3Q10	18.7	1.6
Landmark Real Estate Fund VIII	0.2	-0.2	0.0	-0.5	21.3	34.6	60.1	49.2	12.9	9.9	23.3	17.3					31.3	22.5	3Q17	20.2	1.5
LaSalle Asia Opportunity Fund IV	-0.2	0.2	0.0	-0.1	-1.3	2.3	1.0	0.4	-7.0	4.4	-0.5	-6.4	-6.4	11.8	7.5	-0.9	17.4	10.0	4Q14	32.5	1.4
LaSalle Asia Opportunity V	-2.0	0.5	-1.4	-2.2	-4.1	16.7	12.0	9.0	-4.2	25.4	21.4	17.9	-3.3	19.8	17.3	11.5	14.8	8.6	4Q16	11.9	1.2
LaSalle Asia Opportunity VI																			2Q22		
Lone Star Real Estate Fund IV	0.0	0.9	0.9	1.1	-6.4	7.4	0.7	1.9	1.6	-3.0	-1.4	-3.2	6.8	0.0	7.1	5.5	9.2	7.5	4Q15	12.0	1.4
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	1.1	1.3	2.4	2.2	1.9	16.5	18.7	15.7	1.6	1.9	3.6	2.8	1.4	8.5	10.1	8.3	9.1	7.0	1Q16	10.8	1.4
O'Connor North American Property Partners II, L.P.	0.0	0.0	0.0	-0.2	-0.2	4.1	3.9	3.2	0.2	-5.4	-5.2	-5.8	0.3	-7.5	-7.2	-8.1	-5.0	-7.7	2Q08	-3.0	0.8
Torchlight Debt Fund VII, LP	2.5	0.2	2.7	1.7	8.3	-0.6	7.7	2.8									13.7	6.4	4Q20	3.4	1.0
Torchlight Debt Opportunity Fund IV	0.5	-0.2	0.3	0.7	2.2	8.8	11.1	7.8	3.0	-5.1	-2.2	1.3	5.2	-0.9	4.2	4.9	8.1	7.6	4Q13	9.7	1.4
Torchlight Debt Opportunity Fund V	0.6	2.2	2.8	1.9	5.5	17.9	24.2	14.6	5.4	4.8	10.4	8.2	8.1	5.3	13.7	10.1	15.7	9.6	3Q15	10.7	1.3
Torchlight Debt Opportunity Fund VI	1.6	4.5	6.0	3.8	6.6	15.8	23.2	18.3	8.0	3.2	11.4	7.8					16.0	7.9	2Q18	9.0	1.2
Opportunistic	0.8	5.2	6.0	4.4	6.6	29.9	37.9	28.4	5.2	10.4	16.0	11.6	5.6	8.2	14.2	10.1	10.1	7.6	1Q98	10.4	1.4

ATRS' Timberland, Agriculture, and Infrastructure Performance

As of 03/31/2022

Funding Status (\$)	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Agriculture								
Agrivest Farmland Fund	2015	50,000,000	50,000,000	0	8,469,711	59,153,079	2.5	1.9
US Agriculture, LLC	2011	125,000,000	160,939,470	2,134,323	52,529,476	178,751,200	7.6	5.8
Agriculture	2011	175,000,000	210,939,470	2,134,323	60,999,187	237,904,279	10.1	7.7
Timber								
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	2019	182,930,629	182,930,628	0	7,875,885	219,688,686	9.3	7.0
BTG Timber Separate Account	1998	133,069,371	156,715,259	0	324,750,000	109,874,300	4.7	3.5
Timber	1998	316,000,000	339,645,888	0	332,625,885	329,562,985	13.9	10.5

Funding Status (\$)	Investment Vintage Year	Commitment Amount	Funded Amount	Unfunded Commitments	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)
Infrastructure – Core								
AxInfra NA II LP	2021	50,000,000	50,579,388	0	1,158,152	53,872,141	2.3	1.7
DIF Infrastructure V	2018	47,762,784	36,788,178	12,637,890	4,911,280	42,311,131	1.8	1.8
IFM Global Infrastructure	2018	50,000,000	50,000,000	0	5,326,265	66,075,656	2.8	2.1
Macquarie Infrastructure Partners III	2013	50,000,000	49,871,938	6,375,293	43,217,575	46,849,328	2.0	1.7
Macquarie Infrastructure Partners V	2020	50,000,000	29,235,232	20,854,088	89,321	32,592,490	1.4	1.7
Infrastructure - Core	2015	247,762,784	216,474,736	39,867,271	54,702,593	241,700,745	10.2	9.0
Infrastructure - Non-Core								
Antin Infrastructure Partners Fund II	2014	47,696,920	35,953,565	5,035,414	65,524,367	5,662,955	0.2	0.3
Global Energy & Power Infrastructure Fund II	2014	50,000,000	54,785,114	1,203,299	50,203,369	21,712,082	0.9	0.7
Global Infrastructure Partners III	2016	50,000,000	49,387,003	6,434,592	12,664,801	57,394,263	2.4	2.0
ISQ Global Infrastructure Fund III	2021	50,000,000	3,928,405	46,071,595	0	3,167,476	0.1	1.6
KKR Global Infrastructure Investors II	2014	50,000,000	54,876,775	2,024,764	66,747,763	29,105,728	1.2	1.0
Infrastructure - Non-Core	2014	247,696,920	198,930,862	60,769,664	195,140,300	117,042,504	4.9	5.6
Infrastructure	2014	495,459,704	415,405,598	100,636,935	249,842,893	358,743,249	15.1	14.6

ATRS' Timberland, Agriculture, and Infrastructure Performance (Cont.)

Time Weighted Returns:

Returns (%)	Quarter				1 Year				3 Year				5 Year				10 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	INC	APP	TGRS	TNET	TGRS	TNET				
Agriculture																										
Agrivest Farmland Fund	0.8	1.1	1.9	1.7	3.3	6.9	10.3	9.2	3.2	3.0	6.3	5.2	3.3	2.5	5.9	4.8					6.1	5.1	2Q15		5.0	1.4
US Agriculture, LLC	0.6	4.2	4.8	4.5	3.0	12.1	15.3	14.0	3.4	5.0	8.6	7.3	3.5	3.3	6.8	5.6	3.7	4.0	7.8	6.7	7.5	6.2	3Q11		6.3	1.4
Agriculture	0.7	3.4	4.1	3.8	3.0	10.7	14.1	12.8	3.4	4.5	8.0	6.8	3.4	3.1	6.6	5.4	3.7	3.8	7.7	6.6	7.4	6.1	3Q11		6.0	1.4
Agriculture Benchmark*			2.6				9.7				6.0				5.3				7.6		8.5		3Q11			
Timber																										
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	-0.4	3.1	2.7	2.4	11.4	2.0	14.8	13.7													11.5	10.4	1Q20		10.3	1.2
BTG Timber Separate Account	0.0	1.0	1.1	0.9	4.9	7.8	12.9	12.2	17.3	-17.3	8.2	7.4	11.5	-11.5	5.3	4.5	6.8	-4.5	5.4	4.6	7.5	6.7	2Q98		5.2	2.8
Timber	-0.2	2.4	2.2	1.9	9.3	4.1	14.2	13.2	17.7	-15.1	11.1	10.1	11.8	-10.1	7.1	6.1	6.9	-3.7	6.2	5.4	7.8	7.1	2Q98		5.5	1.9
Timberland Property Benchmark*			3.2				11.8				5.4				3.8				5.0		5.5		2Q98			

Returns (%)	Quarter				1 Year				3 Year				5 Year				10 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	INC	APP	TGRS	TNET	TGRS	TNET				
Infrastructure – Core																										
AxInfra NA II LP	0.6	2.1	2.7	2.0	2.3	17.2	19.8	16.7													19.8	16.7	2Q21		11.0	1.1
DIF Infrastructure V	0.2	4.3	4.4	4.0	2.6	9.9	12.7	10.9	4.6	9.0	13.8	11.4									12.3	9.4	3Q18		10.1	1.3
IFM Global Infrastructure	0.5	1.0	1.5	1.2	5.4	14.1	20.1	16.6	3.8	9.1	13.1	11.0									13.2	11.1	4Q18		11.0	1.4
Macquarie Infrastructure Partners III	0.4	3.9	4.3	3.3	1.3	31.0	32.6	24.7	0.7	25.2	26.1	19.6	1.1	23.0	24.3	17.9					21.2	15.8	2Q15		15.7	1.8
Macquarie Infrastructure Partners V	0.0	6.4	6.4	5.9	0.7	27.4	28.1	23.9													21.6	17.2	1Q21		17.5	1.1
Infrastructure - Core	0.4	3.1	3.5	2.9	3.1	18.0	21.5	17.4	2.7	14.2	17.2	13.6	2.4	15.7	18.3	13.6					17.0	12.8	2Q15		13.2	1.4
Infrastructure - Non-Core																										
Antin Infrastructure Partners Fund II	-0.1	11.4	11.4	11.2	7.5	37.0	47.5	46.4	3.6	20.6	25.1	24.2	3.2	21.4	25.2	24.3					18.2	16.6	4Q14		13.4	2.0
Global Energy & Power Infrastructure Fund II	0.5	-2.2	-1.8	-1.8	3.0	-9.3	-6.4	-7.6	8.8	-7.9	1.0	-1.0	18.9	-15.5	9.1	3.8					16.0	7.1	1Q15		15.6	1.3
Global Infrastructure Partners III	0.1	5.1	5.2	4.9	3.8	23.1	27.6	25.5	4.5	8.7	13.7	12.5	4.4	7.0	11.8	8.2					13.9	9.7	4Q16		11.0	1.4
ISQ Global Infrastructure Fund III	-1.1	10.3	9.2	4.2																	9.2	4.2	1Q22		-19.5	0.8
KKR Global Infrastructure Investors II	0.3	3.4	3.7	3.2	26.7	-19.2	5.9	7.2	22.9	-4.1	23.1	22.3	11.9	6.3	22.3	20.2					19.0	15.1	1Q15		17.3	1.7
Infrastructure - Non-Core	0.2	4.2	4.4	4.0	11.0	4.9	16.4	15.5	11.5	4.5	16.9	15.5	10.7	6.7	18.5	15.7					16.5	12.8	4Q14		14.2	1.6
Infrastructure	0.3	3.5	3.8	3.3	6.2	12.3	19.1	16.3	7.2	9.2	17.0	14.5	7.1	10.6	18.6	14.9					16.2	11.9	4Q14		13.8	1.5
Infrastructure Benchmark*			3.9				11.7				8.1				7.8				7.2		7.2		4Q14			

339

*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. Additionally, the Infrastructure Benchmark of CPI plus 500 bps has been adjusted to CPI plus 300 bps as of 3Q20 and the new Infrastructure Benchmark will be a blend of the two going forward.



Portfolio Performance Detail: By Vintage Year

As of 03/31/2022

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	269,577,908	0	472,689,777	109,874,300	4.6	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	289,418,462	355,396	0.0	0.0
2005	510,000,000	558,952,373	0	437,632,324	851,368,081	35.9	27.1
2006	220,000,000	240,558,549	0	257,438,239	178,900,299	7.5	5.7
2007	367,694,200	368,972,143	0	471,549,953	271,938,286	11.4	8.6
2008	264,089,700	229,725,827	12,104,485	272,850,194	9,928,673	0.4	0.6
2010	40,000,000	35,090,608	4,909,392	52,753,910	1,700,742	0.1	0.2
2011	125,000,000	160,939,470	2,134,323	52,529,476	178,751,200	7.5	5.7
2012	110,000,000	111,335,581	8,142,631	136,812,795	36,138,783	1.5	1.4
2013	170,000,000	182,417,487	17,286,176	199,093,754	80,500,031	3.4	3.1
2014	255,393,840	239,220,314	29,857,271	312,677,678	81,556,429	2.8	2.9
2015	199,260,817	189,016,758	15,998,472	132,622,338	125,595,792	4.9	4.2
2016	130,011,918	122,404,463	22,607,192	71,490,135	88,633,927	3.7	3.5
2017	150,000,000	128,748,757	27,358,223	51,148,322	125,844,760	5.3	4.9
2018	232,762,784	191,981,722	53,298,307	41,516,252	216,573,098	9.1	8.6
2019	362,026,813	294,042,896	79,113,883	23,933,799	334,354,171	14.1	13.1
2020	250,000,000	109,729,817	149,138,853	25,403,793	104,365,624	4.4	8.0
2021	280,000,000	96,700,023	184,237,285	1,516,072	100,196,717	4.2	9.0
2022	250,000,000	21,025,641	176,474,359	0	20,300,271	0.9	6.2
Total Portfolio (Including Current & Historical Activity)							
	3,466,612,523	2,836,958,128	773,395,248	2,274,668,286	2,377,698,891	100.0	100.0

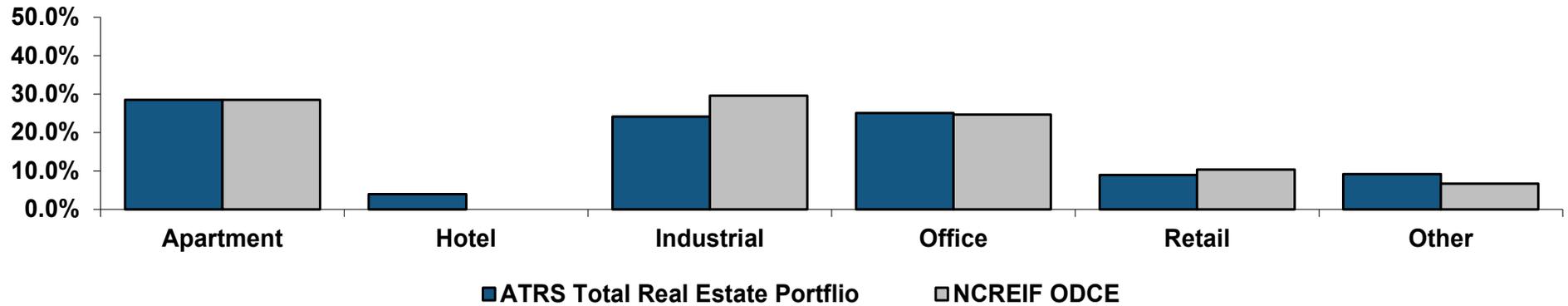
Portfolio Performance Detail: By Vintage Year (Cont.)

Time Weighted Returns:

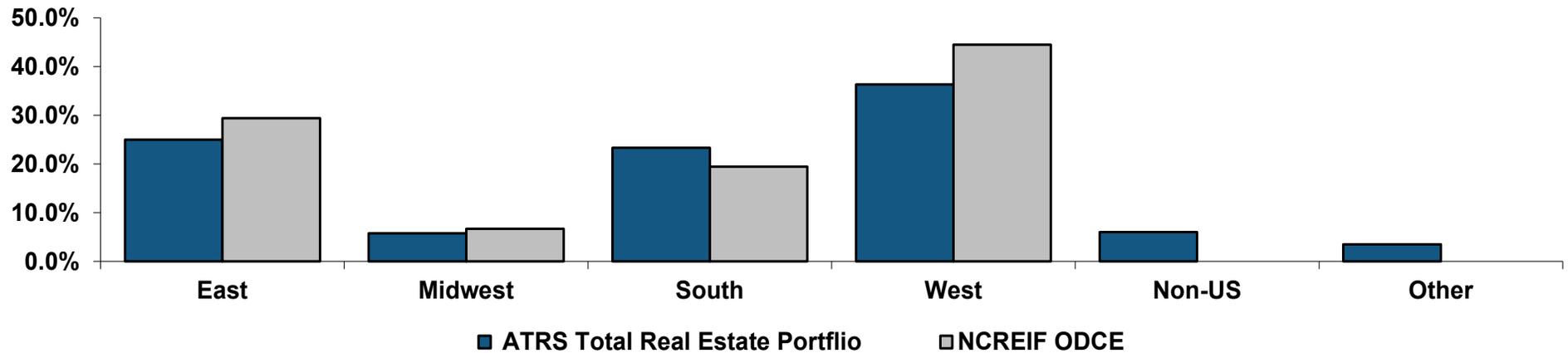
Investment Vintage Year	Quarter				1 Year				3 Year				5 Year				Inception		TWR Calculation Inception	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET			
1997																	3.8	3.3	1Q98	13.4	1.5
1998	0.0	1.0	1.1	0.9	4.9	7.8	12.9	12.2	17.3	-17.3	8.2	7.4	11.5	-11.5	5.3	4.5	7.5	6.6	2Q98	5.6	2.2
1999																			4Q99	15.9	1.7
2000													-5.8	-5.8	-5.8	2.4	1.5	4Q00	8.5	1.3	
2005	1.0	5.5	6.5	6.3	4.0	22.3	26.9	26.0	4.1	7.3	11.5	10.7	4.2	5.8	10.2	9.4	8.0	7.2	3Q05	7.2	2.5
2006	1.0	6.4	7.3	7.1	4.0	18.5	23.1	22.2	4.2	0.9	5.2	4.4	4.4	1.2	5.6	4.9	6.4	5.5	2Q06	5.7	2.0
2007	0.6	4.1	4.7	4.5	2.8	17.4	20.5	19.7	2.7	4.2	7.0	6.4	2.8	5.4	8.3	7.7	7.6	6.9	2Q07	6.4	1.9
2008	-0.1	-0.3	-0.4	-0.5	-0.7	4.7	4.0	3.4	-0.2	0.7	0.5	0.0	1.7	-2.7	-1.0	-1.8	-1.1	-3.8	2Q08	3.9	1.2
2010	-0.2	-8.9	-9.1	-9.3	-8.9	14.8	5.2	4.1	-6.8	-2.8	-7.0	-8.1	0.7	-8.2	-5.1	-6.2	25.3	22.8	3Q10	18.7	1.6
2011	0.6	4.2	4.8	4.5	3.0	12.1	15.3	14.0	3.4	5.0	8.6	7.3	3.5	3.3	6.8	5.6	7.5	6.2	3Q11	6.3	1.4
2012	1.4	4.4	5.8	4.5	5.1	37.4	44.1	34.2	3.7	1.9	5.7	3.1	3.8	3.6	7.5	4.8	16.0	11.4	2Q12	13.6	1.6
2013	0.2	4.8	5.0	3.9	1.0	34.2	35.4	27.1	0.7	17.8	18.7	13.9	1.4	15.5	17.1	12.8	16.8	12.1	3Q13	12.1	1.5
2014	0.6	3.0	3.6	3.3	15.9	-4.8	11.1	11.1	14.8	0.6	16.4	15.2	12.7	4.7	18.6	16.0	18.5	14.8	4Q14	16.2	1.6
2015	0.9	2.4	3.2	2.5	3.0	10.3	13.5	11.4	3.5	3.6	7.2	6.0	4.4	5.3	9.8	8.1	10.0	7.8	2Q15	8.2	1.4
2016	1.4	1.8	3.2	2.8	5.1	12.3	17.9	15.9	4.3	6.4	11.2	10.3	3.3	9.4	13.0	10.2	11.8	8.4	3Q16	9.5	1.3
2017	1.0	3.2	4.2	3.7	6.3	17.8	24.9	21.7	5.8	6.0	12.0	10.0	6.0	6.5	12.8	10.2	12.8	10.2	2Q17	9.4	1.4
2018	0.9	4.1	5.0	4.1	6.6	17.7	25.1	20.7	5.3	10.7	16.4	13.0					12.0	0.1	2Q18	12.2	1.3
2019	0.1	2.7	2.8	2.4	9.2	6.6	16.8	14.5									10.9	9.1	3Q19	10.0	1.2
2020	0.6	9.7	10.3	8.2	3.4	41.1	45.4	33.3									26.2	14.1	2Q20	20.3	1.2
2021	0.9	2.8	3.6	2.8	1.5	17.7	19.4	11.9									19.4	11.9	2Q21	8.2	1.1
2022	-8.7	18.2	9.5	-19.1													9.5	-19.1	1Q22	-21.1	1.0

Portfolio Diversification – Real Estate

Property Type Diversification
(As of 03/31/2022)

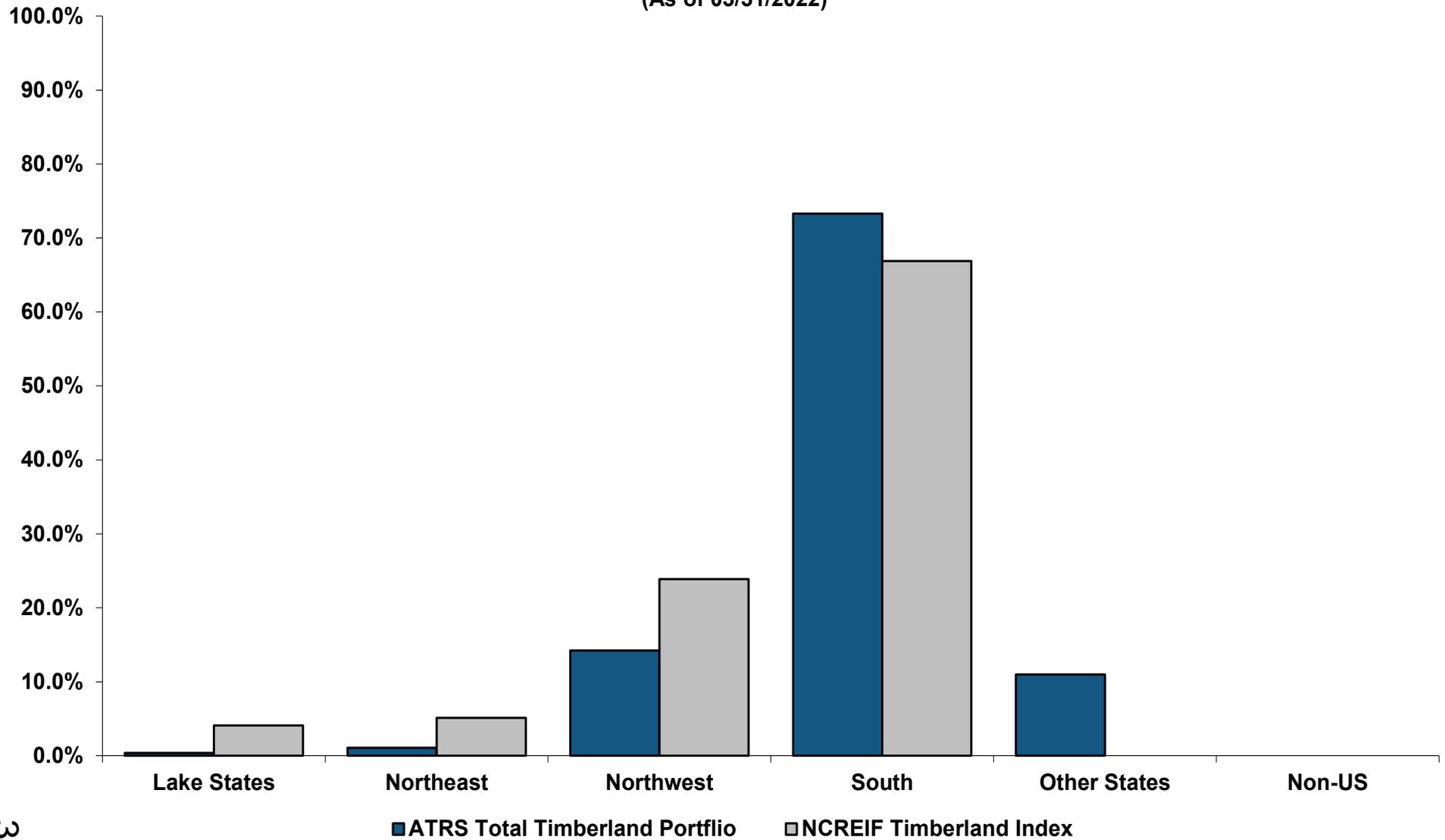


Geographic Type Diversification
(As of 03/31/2022)



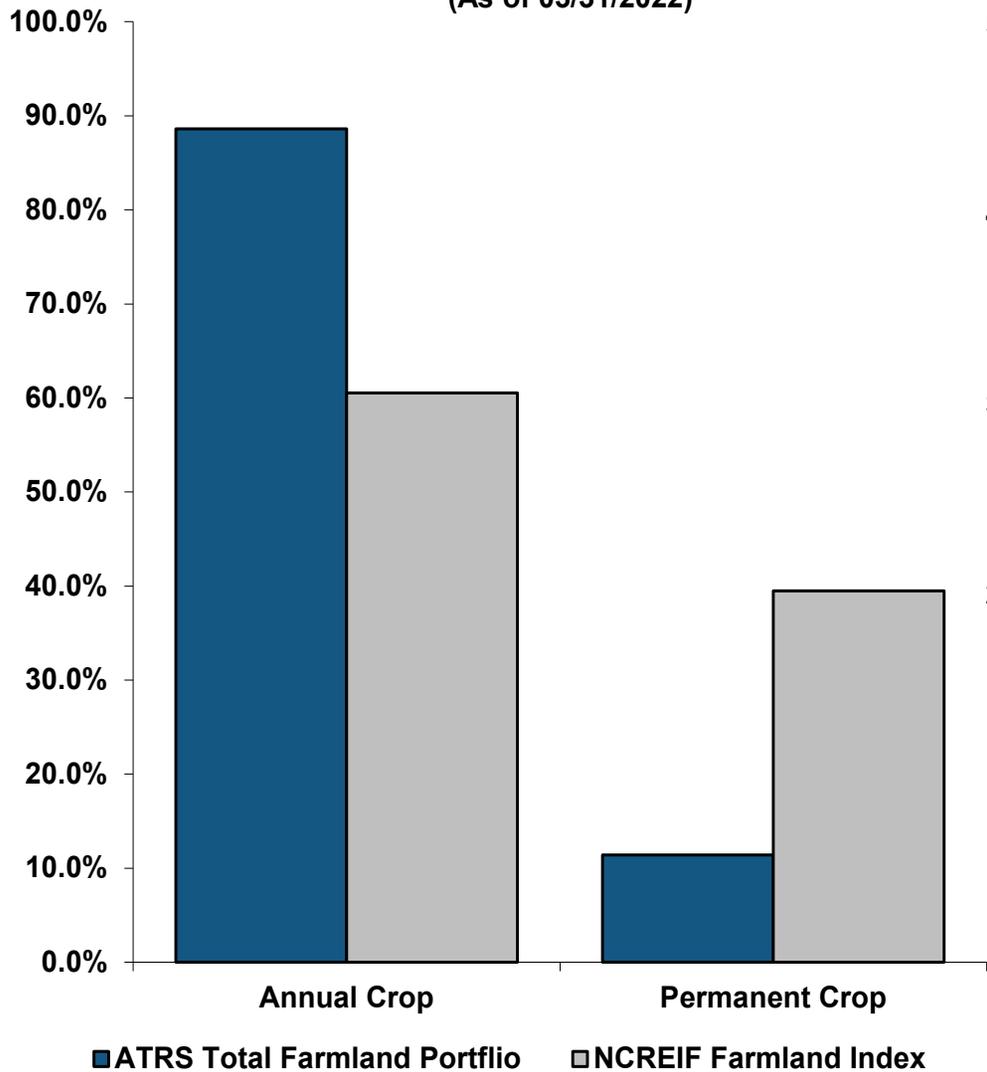
Portfolio Diversification – Timberland

Geographic Type Diversification
(As of 03/31/2022)

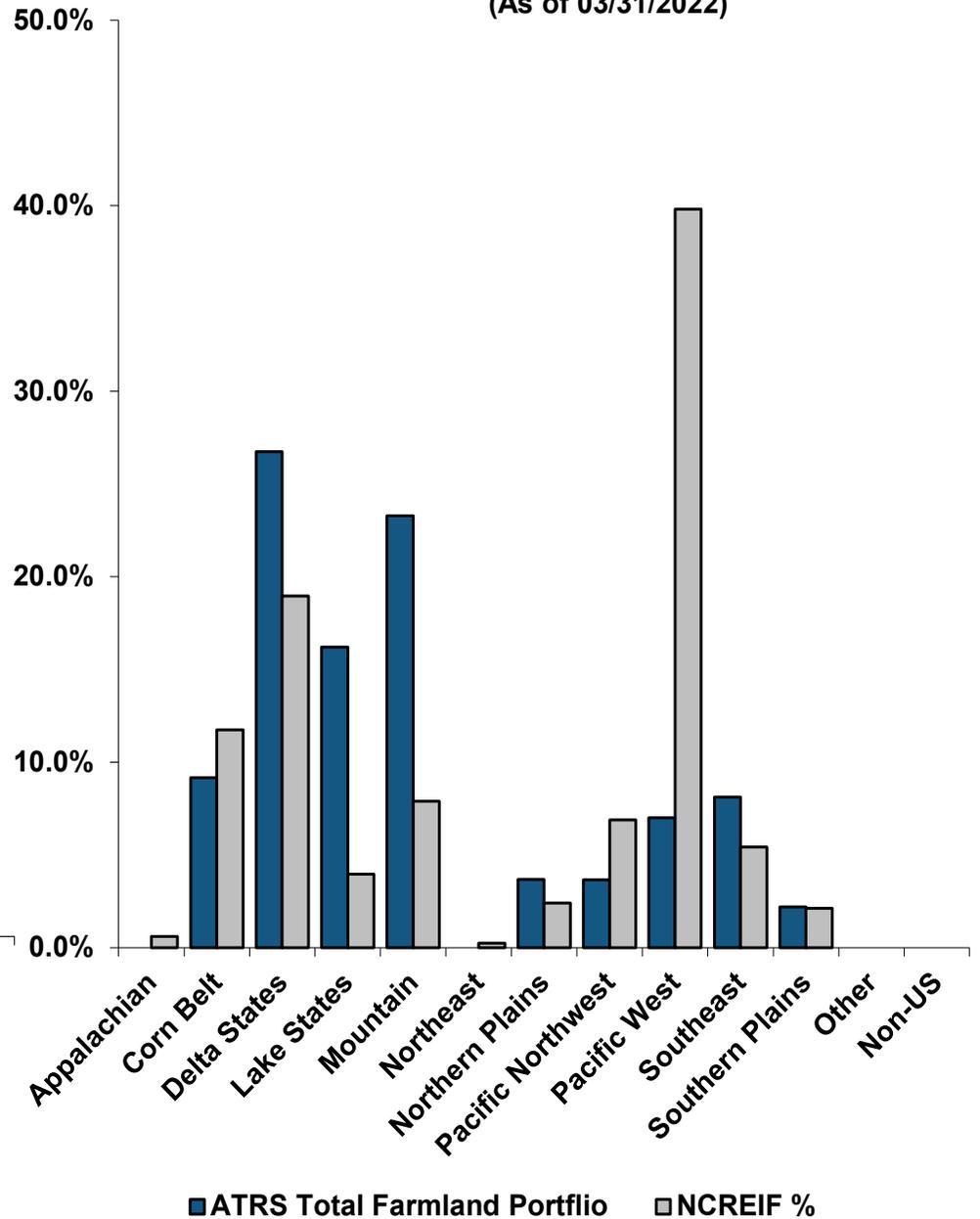


Portfolio Diversification – Agriculture

Crop Type Diversification
(As of 03/31/2022)

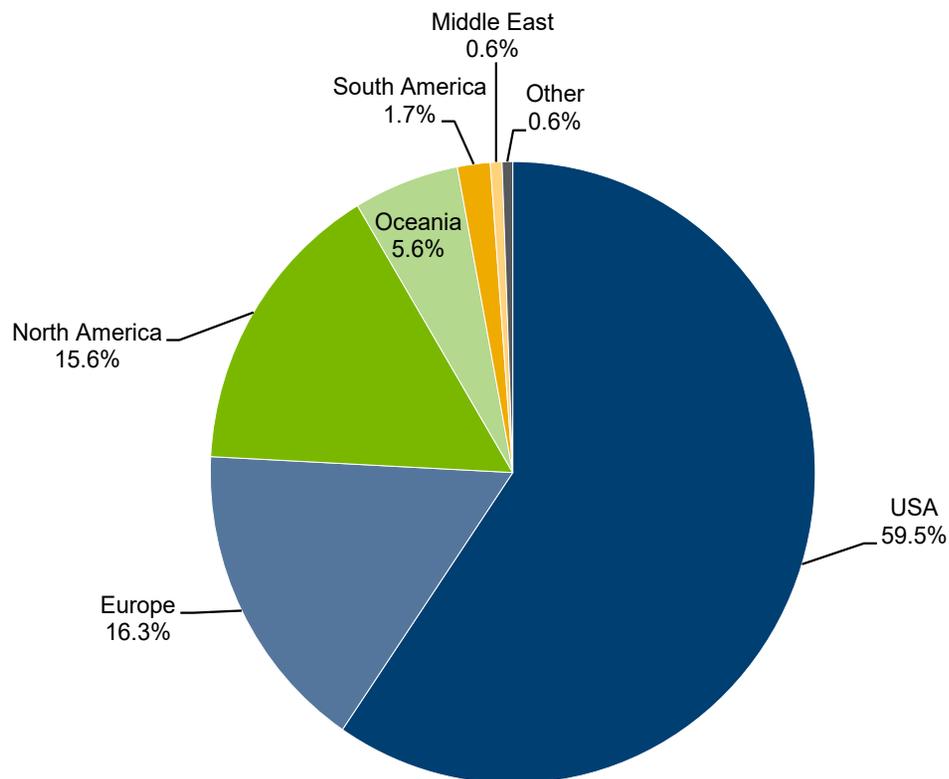


Geographic Type Diversification
(As of 03/31/2022)

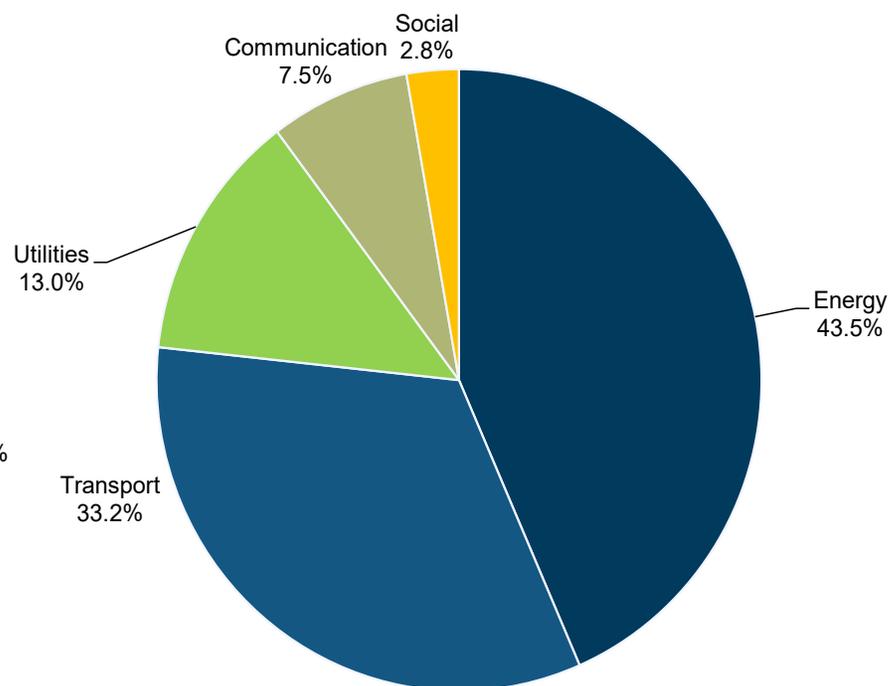


Portfolio Diversification – Infrastructure

**Geographic Diversification
as % of Portfolio Company Value**

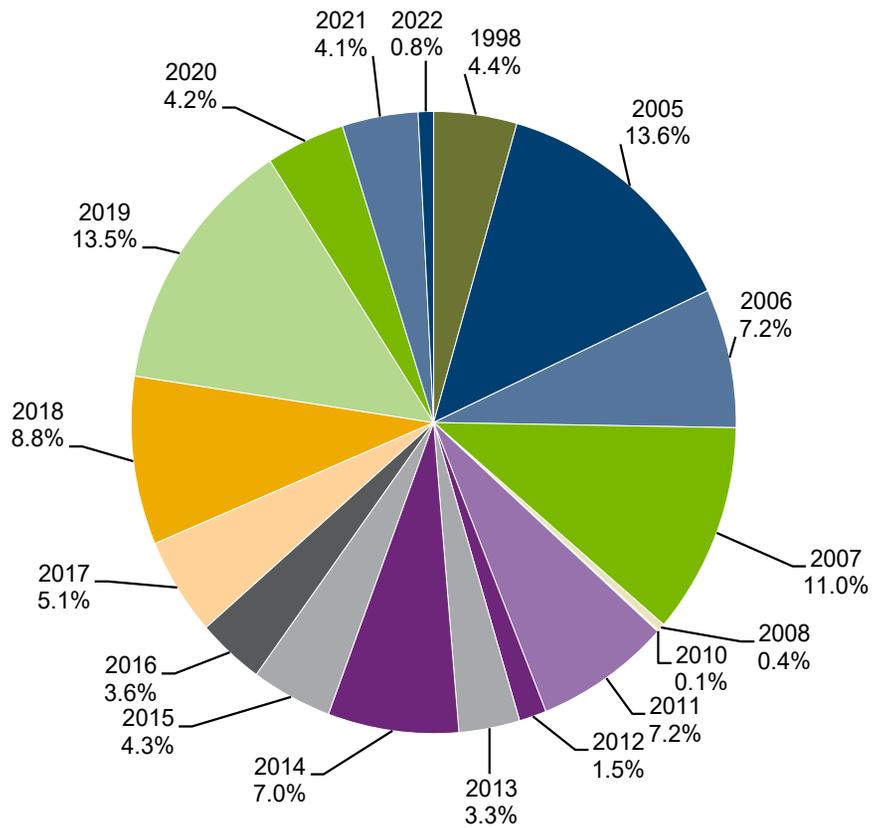


**Industry Diversification
as % of Portfolio Company Value**

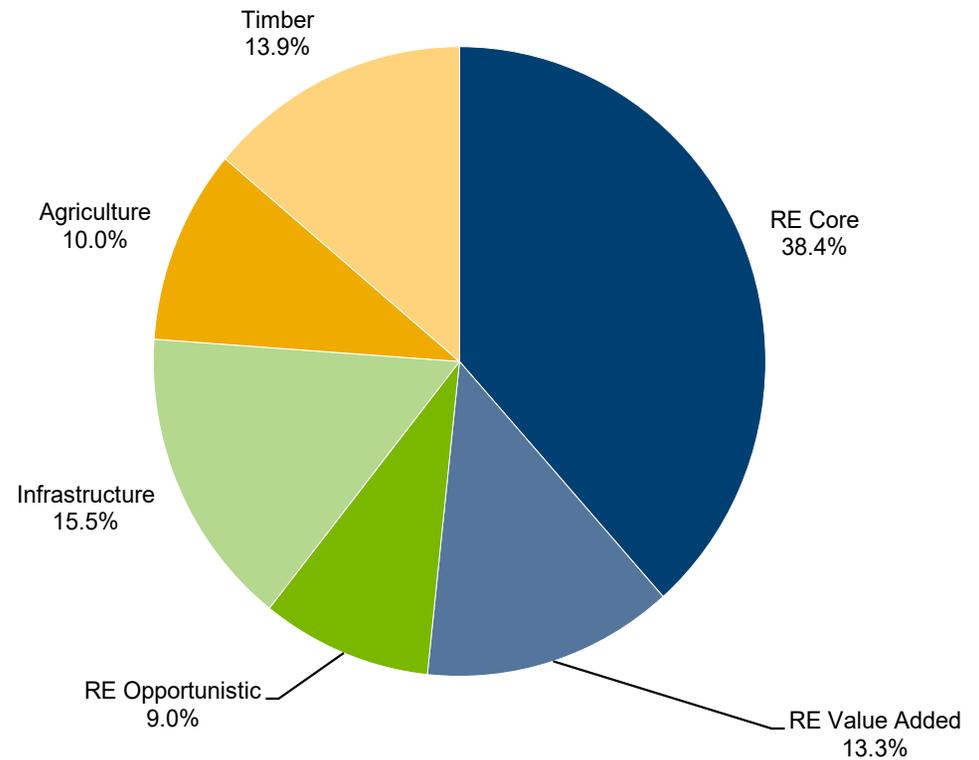


Portfolio Diversification (cont'd)

**Vintage Year Diversification by Net Asset Value
(As of 03/31/2022)**



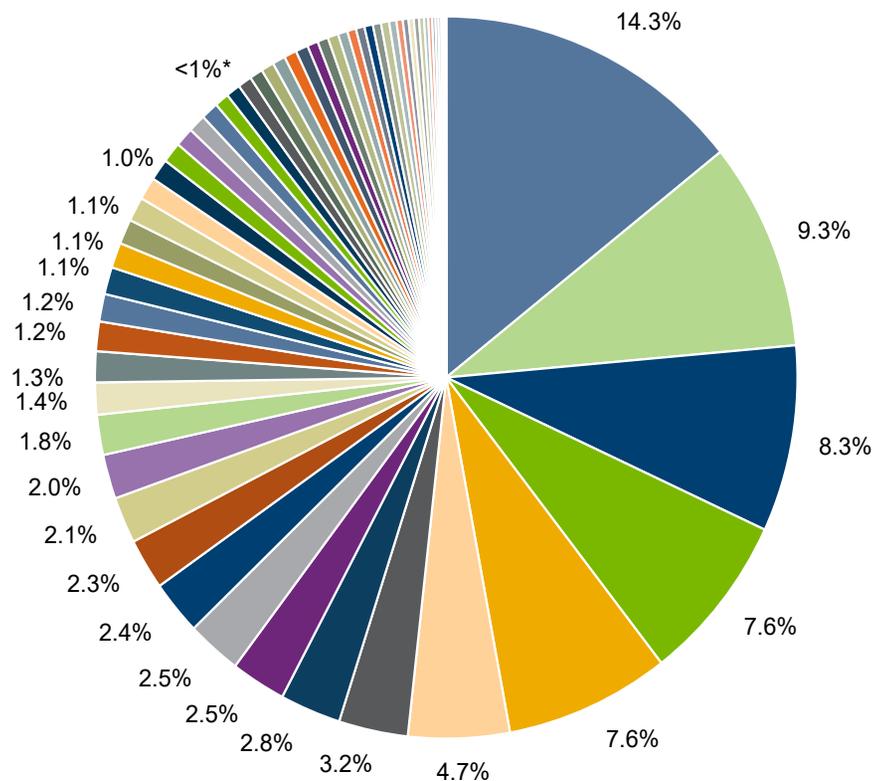
**Style Diversification by Net Asset Value
(As of 03/31/2022)**



Note: Arkansas Investments are included in Core portfolio



Manager Diversification



- PRISA SA
- BTG Pactual Open Ended Core U.S. Timberland Fund, LP
- JP Morgan Strategic Property Fund
- UBS Trumbull Property Fund
- HFMS Farmland Separate Account
- BTG Timber Separate Account
- Arkansas Investments
- IFM Global Infrastructure
- UBS Trumbull Property Income Fund
- Agrivest Farmland Fund
- Global Infrastructure Partners III
- AxInfra NA II LP
- Metlife Commercial Mortgage Income Fund
- Macquarie Infrastructure Partners III
- DIF Infrastructure V
- FPA Core Plus Fund IV
- Macquarie Infrastructure Partners V
- Blackstone Real Estate Partners Europe VI (EURO Vehicle)
- KKR Global Infrastructure Investors II
- Long Wharf Real Estate Partners VI, L.P.
- Torchlight Debt Opportunity Fund VI
- GLP Capital Partners IV
- Blackstone Real Estate Partners VII
- CBRE Strategic Partners U.S. Value 8
- Rockwood Capital Real Estate Partners Fund XI
- Global Energy & Power Infrastructure Fund II
- Kayne Anderson Real Estate Partners V
- Long Wharf Real Estate Partners V
- Almanac Realty Securities VII
- LaSalle Income & Growth Fund VII
- Torchlight Debt Fund VII, LP
- Calmwater Real Estate Credit Fund III
- Cerberus Institutional Real Estate Partners III
- Carlyle Realty Partners VIII
- CBRE Strategic Partners U.S. Value 9
- LaSalle Income & Growth Fund VIII
- Almanac Realty Securities VIII
- Harbert European Real Estate Fund IV
- Walton Street Real Estate Debt Fund II, L.P.
- Landmark Real Estate Fund VIII
- LaSalle Asia Opportunity V
- Metropolitan Real Estate Partners Co-Investments Fund, L.P.
- Westbrook Real Estate Fund IX
- Westbrook Real Estate Fund X
- Carlyle Realty Partners VII
- O'Connor North American Property Partners II, L.P.
- Kayne Anderson Real Estate Partners VI
- Lone Star Real Estate Fund IV
- Rockwood Capital Real Estate Partners Fund IX
- Antin Infrastructure Partners Fund II
- Mesa West Real Estate Income Fund V
- LaSalle Income & Growth Fund VI
- Torchlight Debt Opportunity Fund IV
- Almanac Realty Securities VI
- PGIM Real Estate Capital VII (USD Feeder) SCSp
- ISQ Global Infrastructure Fund III
- Torchlight Debt Opportunity Fund V
- LaSalle Asia Opportunity Fund IV
- Landmark Real Estate Fund VI
- CBRE Strategic Partners U.S. Opportunity 5

*each manager represents less than 1% of NAV

Management Fees

Partnership Name	Current Quarter Management Fees	YTD Management Fees
Core		
Arkansas Investments	0	0
JP Morgan Strategic Property Fund	0	0
Metlife Commercial Mortgage Income Fund	0	0
PRISA SA	-620,745	-620,745
UBS Trumbull Property Fund	0	0
UBS Trumbull Property Income Fund	-113,488	-113,488
Core	-734,233	-734,233
Value Added		
Almanac Realty Securities IX, L.P.	-113,425	-113,425
Almanac Realty Securities V, LP	0	0
Almanac Realty Securities VI	0	0
Almanac Realty Securities VII	0	0
Almanac Realty Securities VIII	0	0
Calmwater Real Estate Credit Fund III	0	0
CBRE Strategic Partners U.S. Value 8	-44,031	-44,031
CBRE Strategic Partners U.S. Value 9	-156,249	-156,249
FPA Core Plus Fund IV	0	0
GLP Capital Partners IV	0	0
Harbert European Real Estate Fund IV	-42,240	-42,240
LaSalle Income & Growth Fund VI	-8,738	-8,738
LaSalle Income & Growth Fund VII	-45,729	-45,729
LaSalle Income & Growth Fund VIII	-328,890	-328,890
LBA Logistics Value Fund IX	-103,660	-103,660
Long Wharf Real Estate Partners V	0	0
Long Wharf Real Estate Partners VI, L.P.	0	0
Mesa West Real Estate Income Fund V	-133,151	-133,151
PGIM Real Estate Capital VII (USD Feeder) SCSp	-340	-340
Rockwood Capital Real Estate Partners Fund IX	-38,451	-38,451
Rockwood Capital Real Estate Partners Fund XI	-128,073	-128,073
Walton Street Real Estate Debt Fund II, L.P.	-43,492	-43,492
Westbrook Real Estate Fund IX	0	0
Westbrook Real Estate Fund X	-31,247	-31,247
Value Added	-1,217,716	-1,217,716

Management Fees (cont'd)

Partnership Name	Current Quarter Management Fees	YTD Management Fees
Opportunistic		
Blackstone Real Estate Partners Europe VI (EURO Vehicle)	0	0
Blackstone Real Estate Partners VII	0	0
Carlyle Realty Partners IX	-121,334	-121,334
Carlyle Realty Partners VII	-35,850	-35,850
Carlyle Realty Partners VIII	-548,350	-548,350
Cerberus Institutional Real Estate Partners III	-7,174	-7,174
Kayne Anderson Real Estate Partners V	-328,202	-328,202
Kayne Anderson Real Estate Partners VI	0	0
Landmark Real Estate Fund VI	-4,696	-4,696
Landmark Real Estate Fund VIII	-62,500	-62,500
LaSalle Asia Opportunity Fund IV	-2,605	-2,605
LaSalle Asia Opportunity V	-76,540	-76,540
Lone Star Real Estate Fund IV	0	0
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	0	0
O'Connor North American Property Partners II, L.P.	-11,616	-11,616
Torchlight Debt Fund VII, LP	-137,500	-137,500
Torchlight Debt Opportunity Fund IV	-12,980	-12,980
Torchlight Debt Opportunity Fund V	-14,266	-14,266
Torchlight Debt Opportunity Fund VI	-71,383	-71,383
Opportunistic	-1,434,996	-1,434,996
Real Estate	-3,386,945	-3,386,945

Management Fees (cont'd)

Partnership Name	Current Quarter Management Fees	YTD Management Fees
Infrastructure - Core		
AxInfra NA II LP	0	0
DIF Infrastructure V	-156,290	-156,290
IFM Global Infrastructure	-88,250	-88,250
Macquarie Infrastructure Partners III	0	0
Macquarie Infrastructure Partners V	-159,078	-159,078
Infrastructure - Core	-403,618	-403,618
Infrastructure - Non-Core		
Antin Infrastructure Partners Fund II	0	0
Global Energy & Power Infrastructure Fund II	0	0
Global Infrastructure Partners III	0	0
ISQ Global Infrastructure Fund III	-151,671	-151,671
KKR Global Infrastructure Investors II	-99,249	-99,249
Infrastructure - Non-Core	-250,920	-250,920
Infrastructure	-654,538	-654,538
Agriculture		
Agrivest Farmland Fund	-147,221	-147,221
US Agriculture, LLC	-494,943	-494,943
Agriculture	-642,163	-642,163
Timber		
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	-550,686	-550,686
BTG Timber Separate Account	-175,009	-175,009
Timber	-725,695	-725,695
Total Real Assets	-2,022,397	-2,022,397
Total Portfolio		
Arkansas Teachers Retirement System	-5,409,342	-5,409,342

Compliance Matrix

RISK MANAGEMENT						
Property Type - Real Estate	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Office	24.7%	NFI-ODCE +/- 50%	12.35	37.05	25.09	Yes
Retail	10.4%	NFI-ODCE +/- 50%	5.20	15.60	8.99	Yes
Industrial	29.6%	NFI-ODCE +/- 50%	14.80	44.40	24.16	Yes
Multifamily	28.5%	NFI-ODCE +/- 50%	14.25	42.75	28.54	Yes
Lodging/Hotel	0.0%	NFI-ODCE +/- 50%	0.00	0.00	3.99	No
Other	6.7%	n/a	0.00	20.00	9.23	Yes
Geography - Real Estate	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
West	44.50	NFI-ODCE +/- 50%	22.25	66.75	26.56	Yes
East	29.40	NFI-ODCE +/- 50%	14.70	44.10	35.28	Yes
Midwest	6.70	NFI-ODCE +/- 50%	3.35	10.05	6.87	Yes
South	19.50	NFI-ODCE +/- 50%	9.75	29.25	12.32	Yes
Other	0.00	n/a	n/a	n/a	3.50	Yes
Non-U.S.	0.00	n/a	0.00	40.00	15.46	Yes
Geography - Timber	NCREIF Timberland	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Lake States	4.11	NCREIF Timberland +/- 15%	0.62	4.73	0.39	No
Northeast	5.12	NCREIF Timberland +/- 15%	0.77	5.89	1.07	Yes
Northwest	23.88	NCREIF Timberland +/- 15%	3.58	27.47	14.24	Yes
South	66.88	NCREIF Timberland +/- 15%	10.03	76.92	73.30	Yes
Other	0.00	NCREIF Timberland +/- 15%	0.00	0.00	10.99	No

Compliance Matrix (cont'd)

RISK MANAGEMENT						
Geography - Agriculture	NCREIF Farmland	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Appalachian	0.60		0.00	50.00	0.00	Yes
Corn Belt	11.75		0.00	50.00	9.15	Yes
Delta States	18.95		0.00	50.00	26.74	Yes
Lake States	3.95		0.00	50.00	16.20	Yes
Mountain	7.88		0.00	50.00	23.27	Yes
Northeast	0.24		0.00	50.00	0.00	Yes
Northern Plains	2.40		0.00	50.00	3.67	Yes
Pacific Northwest	6.87		0.00	50.00	3.66	Yes
Pacific West	39.80		0.00	50.00	7.00	Yes
Southeast	5.42		0.00	50.00	8.11	Yes
Southern Plains	2.12		0.00	50.00	2.20	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.			n/a	n/a	59.50	Yes
Non-U.S.			0.00	50.00	40.50	Yes
Asset Type - Infrastructure	Target/Constraint		Minimum	Maximum	Actual	Compliant?
Energy/Utilities			0.00	70.00	56.51	Yes
Transportation			0.00	70.00	33.22	Yes
Social			0.00	70.00	2.79	Yes
Communications			0.00	70.00	7.48	Yes
Other			0.00	70.00	0.00	Yes
Manager	Target/Constraint		Minimum	Maximum	Max	Compliant?
			0.00	30.00	14.39	Yes
Style - Real Estate	Target/Constraint		Minimum	Maximum	Actual	Compliant?
Core			50.00	70.00	62.91	Yes
Non-Core			30.00	50.00	36.42	Yes

Agenda

Section 1	Executive Summary
Section 2	Market Overview
Section 3	Real Assets Portfolio Update
Section 4	Glossary

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Glossary of Terms

- Catch-up - 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
- Core - The most conservative institutional real estate investing style
- Core-Plus - A style whereby investments have a slightly higher level of risk and expected return than Core, primarily through use of leverage
- Development - 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
- DPI – Distributions to Paid In; the ratio of distributions from investments to total invested capital
- First Closing - The point at which a manager receives and executes the subscription documents and can begin drawing capital from investors
- Final Closing - The final date at which new investors can subscribe to a fund
- Internal Rate of Return (IRR) - 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
- 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
 - NCREIF changed the basis of diversification for the NFI ODCE from NREA to GRE effective 1Q20
- NPI – 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

Glossary of Terms (Cont'd)

- FTSE-NAREIT Equity REIT – An unmanaged capitalization-weighted index of all equity real estate investment trusts
- FTSE EPRA/NAREIT Global REIT – 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
- Opportunistic - 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
- Pre-Specified Deals – Investments that are purchased for a fund before its final close. The assets are typically warehoused on a line of credit
- Promote (Carried Interest) -The performance fee a manager receives once the investors have received their return of capital and the preferred return (return promised by the manager)
- RVPI – Residual Value to Paid In; the ratio of the residual value of an investment to total invested capital
- Time-Weighted Return - 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
- TVPI – Total value to paid-in ratio; the ratio of total value from an investment, including distributions, to total invested capital
- Value-Added - 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
- Vintage Year - The year in which a fund has its final closing. Typically coincides with the year a fund begins making investments

Glossary of Terms (Cont'd)

- NCREIF Timberland Index- 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.
- NCREIF Farmland Index- 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.

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State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT CONCERNING OUTSOURCING AND THE ELECTION TO PARTICIPATE TO BECOME A PARTICIPATING EMPLOYER OR SURCHARGE EMPLOYER UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

CONCERNING OUTSOURCING AND THE ELECTION TO PARTICIPATE TO BECOME A PARTICIPATING EMPLOYER OR SURCHARGE EMPLOYER UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-506 is amended to read as follows:

24-7-506. Outsourcing — Election to participate — Definitions.

(a) As used in this section:

(1)(A) “Covered employer” means any public school, public educational agency, or other eligible employer participating in the Arkansas Teacher Retirement System.

(B) “Covered employer” does not include a nonmandatory employer or a PSHE employer as defined under § 24-7-1602;

(2)(A) “Embedded employee” means a person who:

- (i) Provides an outsourced service on the premises of a covered employer; and
- (ii) Is employed and paid by an outsource contractor.

(B) “Embedded employee” does not include a person who is employed by:

- (i) A covered employer listed under § 24-7-202; or
- (ii) An employer that offers the Arkansas Teacher Retirement System as an

optional retirement plan as of the date of outsourcing;

(3) “Outsource” or “outsourcing” means the use of a contractor by a covered employer for the performance of a service common to the normal daily operation on the premises of the covered employer;

(4) “Outsource contractor” means a person who is contractually obligated under an outsourcing agreement to provide a covered employer with a service common to the normal daily operation of the covered employer;

(5) “Participating employer” means a covered employer that outsources and opts for the embedded employees of all ~~of it’s~~ the covered employer’s outsource contractors to become members of the Arkansas Teacher Retirement System;

(6)(A) “School nursing” means a nursing service that is required to be offered in a public school under § 6-18-706 or the Standards for Accreditation of Arkansas Public Schools and School Districts.

(B) “School nursing” does not include nursing services provided by a:

- (i) School-based health clinic under § 6-18-703;

(ii) Medical clinic operated on a public school campus by a hospital or physician's office that is under contract with the public school;
(iii) Healthcare provider other than a nurse; or
(iv) Healthcare service reimbursed or paid for by Medicaid, Medicare, health insurance, or any other third-party payer;

(7) "Service common to the normal daily operation" means and is limited to a service that:

- (A) Is provided by an outsource contractor or embedded employee to a covered employer;
- (B) Is physically provided or based on the premises of a covered employer;
- (C) Is paid for with public funds and not with private grant funds; and
- (D) Consists of one (1) or more of the following:
- (i) The maintenance and operation of:
 - (a) One (1) or more vehicles used for the regular and daily transport of passengers; and
 - (b) A facility that provides support for the maintenance and operation of one (1) or more vehicles described under subdivision (a)(7)(D)(i)(a) of this section;
 - (ii) The maintenance and operation of a cafeteria or other food service operation;
 - (iii) Custodial or maintenance services for the regular and continuous maintenance, repair, and upkeep of grounds or facilities;
 - (iv) Security services that are not covered by another retirement system;
 - (v) School nursing;
 - (vi) Substitute teaching; or
 - (vii) Service as a teacher's aide; and

(8) "Surcharge employer" means a covered employer that outsources and pays a surcharge to the Arkansas Teacher Retirement System ~~in lieu of opting for the embedded employees of outsource contractors to accrue service credit in the Arkansas Teacher Retirement System.~~

(b) A covered employer that enters into an agreement to outsource a service common to the normal daily operation shall ~~make an irrevocable election to be either a participating employer or become~~ a surcharge employer within sixty (60) days of the outsourcing agreement ~~on a form provided by or in a manner established by the Arkansas Teacher Retirement System.~~

(c)(1) ~~If a covered employer elects to become a surcharge employer under this section, then the covered employer~~ A surcharge employer shall account for and remit to the Arkansas Teacher Retirement System a monthly surcharge on the total salaries paid to all the embedded employees on an aggregate basis as follows:

- (A) Five-tenths of one percent (0.5%) during the 2018 fiscal year;
- (B) One percent (1%) during the 2019 fiscal year;
- (C) Two percent (2%) during the 2020 fiscal year;
- (D) Three percent (3%) during the 2021 fiscal year; and
- (E) An amount not to exceed four percent (4%) during the 2022 fiscal year and succeeding fiscal years as established by a resolution of the Board of Trustees of the Arkansas Teacher Retirement System at a meeting of the board.

(2) ~~If the covered employer~~ surcharge employer is outsourcing on August 1, 2017, the surcharge shall be payable beginning in the 2018 fiscal year.

(3) A surcharge adopted by the board applies to an entire fiscal year and shall be adopted prior to the beginning of the fiscal year.

~~(d) If a covered employer elects to become a participating employer as provided under this section, then the covered employer shall account for and remit each of the covered employer's contributions in the same amount and in the same manner as required for covered employer contributions under § 24-7-401 and member contributions under § 24-7-406.~~

~~(e)(1)(A) A covered employer that begins outsourcing after August 1, 2017, and elects to become a participating employer may phase-in the election by selecting an effective date that is no later than the beginning of the third fiscal year after the effective date of the outsourcing agreement.~~

~~(B) During the phase-in of becoming a participating employer, the covered employer shall account for and remit a phase-in surcharge in the same amount and manner required of a surcharge employer under subsection (c) of this section.~~

~~(2)(A) If a covered employer is outsourcing on August 1, 2017, and the covered employer elects to become a participating employer, then the covered employer may phase-in the election by selecting an effective date that is no later than the beginning of the fourth fiscal year after August 1, 2017.~~

~~(B) During the phase-in of becoming a participating employer, the covered employer shall account for and remit a phase-in surcharge in the same amount and manner as required of a surcharge employer under subsection (c) of this section.~~

~~(f)(1) The Arkansas Teacher Retirement System may require a covered employer that makes an election under this section surcharge employer to provide any documentation necessary to collect and account for the surcharge or contributions as is consistent with the covered employer's election.~~

~~(2) The Arkansas Teacher Retirement System may shall collect an unremitted surcharge amount due, including interest, from a surcharge employer under § 24-7-401 or contribution due from a participating employer under § 24-7-406 in any manner allowed by law.~~

~~(3) If a covered employer surcharge employer reasonably accepts a written statement from an outsource contractor reporting the salaries paid by the outsource contractor to embedded employees for services common to the normal daily operation of the covered employer surcharge employer, it shall be conclusively presumed that the written statement accurately reflects the salaries subject to surcharge under this section.~~

~~(g)(1) A covered employer or an outsource contractor may request a determination from the Arkansas Teacher Retirement System as to whether an embedded employee performs or will perform a service common to the normal daily operation of a covered employer.~~

~~(2) A request made under subdivision (g)(1) of this section shall include:~~

~~(A) Information about the employment relationship and contract provisions that are necessary for the Arkansas Teacher Retirement System to evaluate the service provided to the covered employer; and~~

~~(B) Any additional information requested by the Arkansas Teacher Retirement System to make the determination.~~

~~(3) The board may promulgate rules necessary to administer this section.~~

~~(h)(1)(g)(1) The Division of Youth Services Education System shall be a participating employer and may designate any or all of its embedded employees as eligible for membership in the Arkansas Teacher Retirement System.~~

~~(2) An embedded employee of a contractor for the Division of Youth Services Education System who becomes a member of the Arkansas Teacher Retirement System shall remain a member of the Arkansas Teacher Retirement System as long as the member remains an embedded employee of a contractor for the Division of Youth Services Education System.~~

~~(i)(h) The use of the terms “employee” and “employer” in this section does not:~~

~~(1) Create or modify an employment relationship between an embedded employee and a covered employer;~~

~~(2) Create, permit, expand, or modify any liability or obligation by a covered employer to an embedded employee; or~~

~~(3) Create, permit, expand, or modify any cause of action by an embedded employee against a covered employer under any employment, labor, civil rights, or other law.~~

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO AMEND THE LAW CONCERNING SURVIVOR ANNUITY
BENEFITS UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM;
AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAW CONCERNING SURVIVOR
ANNUITY BENEFITS UNDER THE ARKANSAS
TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-710 is amended to read as follows:

24-7-710. Survivor annuity benefits.

(a)(1) If an active member with five (5) or more years of actual and reciprocal service, including credited service for the year immediately preceding his or her death, dies before the receipt of retirement benefits from the Arkansas Teacher Retirement System, then the benefits provided in this section shall be paid to eligible survivors.

(2)(A) An immediately eligible survivor is entitled to receive monthly benefits beginning the month after the death of the active member if the survivor application is filed with the system ~~within three (3) months of the death of the member~~ no later than the end of the sixth full calendar month following the date of the member's death, otherwise the monthly benefits shall begin the month that the survivor application is filed with the system.

(B) If an immediately eligible survivor or the minor survivor's guardian or legal representative fails to complete the application process ~~within six (6) calendar months after~~ by the end of the sixth full calendar month following the date on which the application required under subdivision (a)(2)(A) of this section is filed, including the submission of any additional documentation required by the system, the application shall be void unless an extension is granted by the system.

(b)(1)(A)(i) Unless the active member otherwise directs an alternative beneficiary by using a beneficiary form approved by the system, ~~a~~ the active member's surviving spouse, who was married to the active member for at least the two (2) years immediately preceding the active member's death, shall receive an annuity computed in the same manner in all respects as if the active member had retired on the date of the active member's death and elected Option A under § 24-7-706 to provide one hundred percent (100%) survivor annuity benefits, including benefits applicable under § 24-7-713, for his or her spouse.

(ii) The system shall continue to pay any benefits applicable under § 24-7-713 for an eligible surviving spouse, including a spouse who began receiving benefits on or after July 1, 2009.

(B)(i) If a surviving spouse is immediately eligible to receive a monthly benefit immediately after the death of ~~a~~ an active member, the immediately eligible surviving spouse is entitled to receive monthly benefits beginning the month after the death of the active member if the survivor application is filed with the system ~~within three (3) months of the death of the member~~ no later than the end of the sixth full

calendar month following the date of the active member's death, otherwise the monthly benefits shall begin the month that the survivor application is filed with the system if at the time of the active member's death the active member had:

(a) Accumulated twenty-five (25) years or more of credited service and qualified as eligible to receive a retirement annuity under §§ 24-7-701 and 24-7-702; or

(b) Reached sixty (60) years of age and qualified as eligible to receive a retirement annuity under § 24-7-707.

(ii) If an immediately eligible spouse fails to complete the application process ~~within six (6) calendar months after~~ by the end of the sixth full calendar month following the date on which the application required under subdivision (b)(1)(B)(i) of this section is filed, including the submission of all additional documentation required by the system, the application shall be void unless an extension is granted by the system.

(C)(i) If the surviving spouse is not immediately eligible to receive monthly benefits under subdivision (b)(1)(B) of this section, the surviving spouse's benefits shall begin the later of either the month following the date the active member would have been eligible to receive benefits had the active member survived or the date that an application for a surviving spouse's benefits is filed with the system.

(ii) If a surviving spouse becomes eligible for surviving spouse benefits and fails to complete the application process ~~within six (6) calendar months after~~ by the end of the sixth full calendar month following the date on which the application required under subdivision (b)(1)(B)(i) of this section is filed, including the submission of any additional documentation required by the system, the application shall be void unless an extension is granted by the system.

(D) If the surviving spouse is eligible to receive the survivor annuity and the active member had not reached sixty (60) years of age at the time of the active member's death, the surviving spouse may elect to defer receipt of the annuity until the active member would have reached sixty (60) years of age, and the surviving spouse's benefits shall not be reduced under the early retirement provisions of § 24-7-702.

(E) The surviving spouse's benefits under this section are payable for the surviving spouse's lifetime.

(F) If the active member directs an alternative beneficiary by using a beneficiary form approved by the system, the active member may designate one or more residual beneficiaries to receive a lump-sum payment of the active member's residue amount under § 24-7-709 in lieu of the active member's surviving spouse.

(2) If at the time of the active member's death there are no dependent children and the surviving spouse who is eligible to receive the annuity under this subsection files with the system a written waiver of his or her right to the spousal annuity, a lump-sum distribution of the deceased active member's accumulated contributions plus regular interest may be made to the surviving spouse.

(3) The Board of Trustees of the Arkansas Teacher Retirement System may adopt rules to carry out the provisions of this section.

(c)(1)(A)(i) A surviving dependent child of the active member shall receive an annuity in an amount equal to one percent (1%) of the member's highest salary year for each quarter of a year credited as actual service in the system but not to exceed twenty (20) quarters of a year that are credited as actual service in the system for up to a maximum of twenty thousand dollars (\$20,000).

(ii) If the member's highest salary year occurs in the year that the active member died, the system shall calculate the surviving dependent child's annuity on the basis of a full year of salary by the member.

(B) If a an active member has more than three (3) surviving dependent children, the aggregate amount of the surviving dependent children's annuity shall not exceed the lesser of sixty percent (60%) of the active member's highest salary year or sixty thousand dollars (\$60,000) per year and shall be divided equally among the surviving dependent children.

(2)(A) A child shall be considered a dependent child and eligible for the dependent child annuity until he or she reaches eighteen (18) years of age.

~~(B)(i) The child of a deceased member is considered a dependent child and is eligible for the dependent child annuity at eighteen (18) years of age or older, but not older than twenty-three (23) years~~

of age, if the dependent child stays continuously enrolled as a full-time student at an accredited secondary school, college, or university. The child of a deceased active member shall be considered a dependent child who is eligible for dependent child annuity if the child:

(a) Is at least eighteen (18) years of age and not older than twenty-two (22) years of age;

(b) Stays continuously enrolled as a full-time student at an accredited secondary school, college, or university.

(ii) Regardless of age, a deceased active member's child who has been deemed physically or mentally incapacitated by a court of competent jurisdiction is eligible to receive a dependent child annuity for as long as the incapacity exists.

(C)(i) A dependent child may have his or her dependent child annuity suspended if the dependent child:

(a) Is called to active military duty or active military training; and

(b) Submits a copy of his or her military orders to the system.

(ii) The dependent child's dependent child annuity shall be suspended for the duration of the dependent child's participation in active military duty or active military training.

(iii) The dependent child's dependent child annuity shall be reinstated if the dependent child:

(a) Is at least eighteen (18) years of age and not older than twenty-two (22) years of age;

(b) Immediately enrolls as a full-time student at an accredited secondary school, college, or university after returning from active military duty or active military training; and

(c) Submits documentation of his or her enrollment at an accredited secondary school, college, or university to the system.

(3) When a dependent child ceases to be a dependent qualify as a dependent child or dies, the dependent child shall not be eligible to qualify as dependent child of the deceased active member again and his or her share of the dependent child annuity shall terminate.

(d) For the purposes of § 24-7-709 related to the disposition of a member's residue amount, a survivor annuity received from the an active member's deposit account under this section shall be considered annuity payments received by the active member or his or her designated beneficiary and shall offset any disposition of residue payable under § 24-7-709 to the estate of the active member or to an alternate payee.

(e) If the an active member had previously received benefits from the system and has not repaid in full all amounts payable by him or her to the system, the annuity amounts otherwise provided by this section shall be withheld until the total amount owed to the system is repaid.

(f)(1) For eligibility under this section, a member is considered active for an additional fiscal year following the last fiscal year that the member renders actual service to a covered employer and obtains at least one-fourth (1/4) of a year of service credit.

(2) In addition, a member is considered active for eligibility under this section if in the fiscal year of a member's death, the member earned at least ten (10) days of service credit in each quarter before and including the quarter of the member's death.

(3) Service credit used in calculating any benefits paid under this section means days of service, including paid sick leave covered by the employer.

(g) If a retiree who returns to work dies, benefits shall be payable to each surviving dependent child of the retiree according to the provisions of this section and the rules and resolutions of the system.

(h) The law in effect at the time of a member's death shall be used to determine the member's effective retirement date and when survivor benefits under this section are payable.

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO ALLOW INACTIVE MEMBERS TO BE ELIGIBLE FOR FREE MILITARY SERVICE CREDIT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; TO ALLOW INACTIVE MEMBERS TO PURCHASE MILITARY, CONTRIBUTORY, AND FEDERAL SERVICE CREDIT IN THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO ALLOW INACTIVE MEMBERS TO BE ELIGIBLE FOR FREE MILITARY SERVICE CREDIT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND TO ALLOW INACTIVE MEMBERS TO PURCHASE MILITARY, CONTRIBUTORY, AND FEDERAL SERVICE CREDIT IN THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-1-107(b)(1)(B), concerning recognition of federal retirement programs, is amended to read as follows:

(B) ~~An active~~ A member of the Arkansas Teacher Retirement System shall receive credit for the member's federal service upon the payment of the cost of service under § 24-7-502(b) and as prescribed by the Board of Trustees of the Arkansas Teacher Retirement System.

SECTION 2. Arkansas Code § 24-7-406(e)(1)(B)(iv), concerning retirement fund assets accounts, members' deposit accounts, and contributions under the Arkansas Teacher Retirement System, is amended to read as follows:

(iv) ~~An active~~ A member who has previous noncontributory credited service may change credited service on which a member contribution has not been paid to contributory credited service by paying the system the actuarial equivalent of the member benefits.

SECTION 3. Arkansas Code § 24-7-602(a)(1) and (2), concerning military service credit under the Arkansas Teacher Retirement System, are amended to read as follows:

(a)(1) If ~~An active~~ a member of the Arkansas Teacher Retirement System enters the United States Armed Forces during a period that a federal military draft was in effect and obtains a refund of member contributions from the system, the compulsory military service required of the member may be established as free credited service under this subchapter, if after an honorable discharge from the United States Armed Forces and before retirement the member repays to the system the actuarial equivalent of the member's refunded service.

(2)~~(A) In addition, an active member who entered the United States Armed Forces during any~~

~~period that a federal military draft was in effect and who becomes an active member after an honorable discharge from the United States Armed Forces is eligible to receive free military service credit under this section, whether or not the member has five (5) or more years of credited service at the time of the reemployment. In addition, a member is eligible to receive free military service credit under this section if the member:~~

~~(i) Entered the United States Armed Forces during any period that a federal military draft was in effect; and~~

~~(ii) Becomes an active member after an honorable discharge from the United States Armed Forces.~~

~~(B) Subdivision (a)(2)(A) of this section applies to a member irrespective of whether or not the member has five (5) or more years of credited service at the time of the member's reemployment.~~

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO AMEND THE LAW CONCERNING THE MULTIPLIER USED TO CALCULATE A LIFE ANNUITY UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAW CONCERNING THE MULTIPLIER USED TO CALCULATE A LIFE ANNUITY UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-705(b)(2)(G)(i) - (iii), concerning the life annuity under the Arkansas Teacher Retirement System, are amended to read as follows:

- ~~(i) The multiplier rate for contributory service shall not be less than one and seventy-five hundredths percent (1.75%) or higher than two and fifteen hundredths percent (2.15%);~~
- ~~(ii)(i) The multiplier rate for contributory service used for the first ten (10) years of service shall not be higher than the multiplier rate for subsequent years of service less than one and seventy-five hundredths percent (1.75%) or more than two percent (2%); and~~
- ~~(iii)(ii) After a member earns ten (10) years of credited service, the board may increase the multiplier rate earned in the first ten (10) years to the standard multiplier rate for contributory service for all or part of the first ten (10) years of service.~~

SECTION 2. Arkansas Code § 24-7-705(b)(3)(G)(i), concerning the life annuity under the Arkansas Teacher Retirement System, is amended to read as follows:

- ~~(i) The multiplier rate for noncontributory service used for the first ten (10) years of service shall not be higher than the multiplier rate for subsequent years of service less than five-tenths of one percent (0.5%) or more than one and twenty-five hundredths percent (1.25%); and~~

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT CONCERNING ELIGIBILITY FOR THE STATE AND PUBLIC SCHOOL LIFE AND HEALTH INSURANCE PROGRAM; CONCERNING THE CLASSIFICATION OF MEMBERS OF PUBLIC EMPLOYEE RETIREMENT PLANS; TO AMEND VARIOUS DEFINITIONS APPLICABLE TO THE ARKANSAS TEACHER RETIREMENT SYSTEM; CONCERNING DEPENDENT CHILD SURVIVOR ANNUITIES; CONCERNING THE DE MINIMUS AMOUNT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO ENACT THE ARKANSAS TEACHER RETIREMENT SYSTEM'S GENERAL OMNIBUS.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 21-5-411(a)(1)(A)(v), concerning the eligibility of certain retired employees to participate in the State and Public School Life and Health Insurance Program, is amended to read as follows:

(v) An alternate retirement plan ~~of a qualifying institution as defined under § 24-7-801~~ in § 24-7-202; and

SECTION 2. Arkansas Code § 24-2-302(3)(D), concerning the classification of members of public employee retirement plans generally, is amended to read as follows:

(D) Any person employed in a position requiring professional training or certification with an area vocational-technical school or employed by the Arkansas Educational Television Commission, except that employees of area vocational-technical schools and the Division of Career and Technical Education, the Adult Education Section, and the Office of Skills Development, who have elected to participate in an alternate retirement plan established ~~by §§ 24-7-901 and 24-7-903~~ 24-7-908 § 24-7-901 et seq. shall be active members of the alternate retirement plan; and

SECTION 3. Arkansas Code § 24-2-401(3)(F), concerning definitions applicable to public employee retirement plans generally, is amended to read as follows:

(F) An alternate retirement plan ~~for:~~
(i) ~~A college, university, or the Division of Higher Education provided for under § 24-7-801 et seq.; or~~
(ii) ~~A vocational-technical school or the Division of Career and Technical Education, the Adult Education Section of the Division of Workforce Services, the Division of Higher Education, and the Office of Skills Development, with respect to plans provided for under § 24-7-901 et seq. as defined in § 24-7-202; or~~

SECTION 4. Arkansas Code § 24-2-401(4)(D), concerning definitions applicable to public employee retirement plans generally, is amended to read as follows:

(D) A public employer ~~who is:~~ that is an alternate retirement plan as defined in § 24-7-202;

(i) ~~A college, university, or the Division of Higher Education whose employees are covered by an alternate retirement plan provided for under § 24-7-801 et seq.; or~~

(ii) ~~A vocational-technical school or the Division of Career and Technical Education, the Adult Education Section, and the Office of Skills Development, whose employees are covered by an alternate retirement plan provided for under § 24-7-901 et seq.;~~

SECTION 5. Arkansas Code § 24-2-402(g)(6), concerning retirement eligibility and the calculation of reciprocal service using deferred service credit, is amended to read as follows:

(6) If the reciprocal system is an alternate retirement plan ~~under § 24-7-801 et seq. or § 24-7-901 et seq. as defined in § 24-7-202,~~ death-in-service benefits shall be contingent on death-in-service benefits having been provided by the alternate retirement plan and having been selected by the member as a benefit.

SECTION 6. Arkansas Code § 24-2-402(k), concerning retirement eligibility and the calculation of reciprocal service using deferred service credit, is amended to read as follows:

(k) If the reciprocal system is an alternate retirement plan ~~for a college, a university, or the Division of Higher Education provided for under § 24-7-801 et seq., or for a vocational-technical school or the Department of Career Education provided for under § 24-7-901 et seq. as defined in § 24-7-202,~~ the benefits payable shall be in accordance with terms specified in the written alternate retirement plan document for purchasing the insurance policies or annuity contracts, both fixed and variable in nature, for the participants.

SECTION 7. Arkansas Code § 24-4-901(a)(1)(F), concerning credited service and reciprocity under the Arkansas Public Employees' Retirement System, is amended to read as follows:

(F) An alternate retirement plan ~~under § 24-8-101 et seq. or § 24-9-201 et seq. as defined in § 24-7-202;~~ or

SECTION 8. Arkansas Code § 24-4-901(a)(3)(B), concerning credited service and reciprocity under the Arkansas Public Employees' Retirement System, is amended to read as follows:

(B) Compensation for credited service in the Arkansas Judicial Retirement System or an alternate retirement plan ~~under § 24-8-101 et seq. or § 24-9-201 et seq. as defined in § 24-7-202~~ shall not be used to determine final average compensation.

SECTION 9. Arkansas Code § 24-4-901(b)(1)(F), concerning credited service and reciprocity under the Arkansas Public Employees' Retirement System, is amended to read as follows:

(F) An alternate retirement plan ~~under § 24-8-101 et seq. or § 24-9-201 et seq. as defined in § 24-7-202;~~ or

SECTION 10. Arkansas Code § 24-4-901(b)(4), concerning credited service and reciprocity under the Arkansas Public Employees' Retirement System, is amended to read as follows:

(4) If a member has service credit in an alternate retirement plan ~~under § 24-8-101 et seq. or § 24-9-201 et seq. as defined in § 24-7-202,~~ disability and death-in-service benefits shall be contingent on provisions of those benefits having been provided by the alternate retirement plan and having been selected by the member as a benefit.

SECTION 11. Arkansas Code § 24-4-901(d)(6), concerning credited service and reciprocity under the Arkansas Public Employees' Retirement System, is amended to read as follows:

(6) An alternate retirement plan ~~for a college, university, or the Division of Higher Education provided for under § 24-8-101 et seq. or for a vocational-technical school or the Division of Career and~~

~~Technical Education, the Adult Education Section, and the Office of Skills Development, provided for under § 24-9-201 et seq. as defined in § 24-7-202; and~~

SECTION 12. Arkansas Code § 24-7-202(14), concerning the definitions applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(42) “T-DROP” means the Teacher ~~or rates~~ Deferred Retirement Option Plan established by the Arkansas Teacher Retirement System;

SECTION 13. Arkansas Code § 24-7-202(19)(D)(iii), concerning the definitions applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(iii) Each education-related agency or organization shall be:

~~(a) Approved~~ Be approved according to rules established by the board;

~~(b) Considered an employer under subdivision (18) of this section~~

Become a covered employer at the time that an employee elects to become or remain a member of the Arkansas Teacher Retirement System;

(c) Be considered a covered employer only for each employee who elects to become or remain a member of the Arkansas Teacher Retirement System; and

~~(e)(d) Responsible~~ Be responsible for all required employer contributions;

SECTION 14. Arkansas Code § 24-7-202(28) and (29), concerning definitions applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(28) “Normal retirement age” means:

(A) Sixty-five (65) years of age if the member has at least five (5) years of actual service or reciprocal service; or

~~(B) At least sixty (60) years of age if the member has a combined total of thirty-eight (38) years or more of credited service in the Arkansas Teacher Retirement System, Teacher Deferred Retirement Option Plan, or reciprocal service in another eligible state retirement system; Sixty (60) years of age or older if the member’s age and the member’s combined years of credited service in the Arkansas Teacher Retirement System, Teacher Deferred Retirement Option Plan, or reciprocal service in another eligible state retirement system total ninety-eight (98);~~

(29) “Normal retirement age” means sixty-five (65) years of age;

SECTION 15. Arkansas Code § 24-7-202(42), concerning definitions applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(42) “Credited service” means service which is ~~ereditable~~ credited as service by the Arkansas Teacher Retirement System;

SECTION 16. Arkansas Code § 24-7-202, concerning definitions applicable to the Arkansas Teacher Retirement System, is amended to add additional subdivisions to read as follows:

(46) “Benefit enhancement” means any change to the current benefit policy for retired, active, vested, and non-vested members of the system that increases the actuarially determined contribution rate, increases the amortization period, or decreases the funded ratio of the system; and

(47) “Employment with a covered employer” means the employment of an employee that would require a covered employer to pay employer contributions to the system.

SECTION 17. Arkansas Code § 24-7-305(b)(5), concerning the duties and responsibilities of the Board of Trustees of the Arkansas Teacher Retirement System, is amended to read as follows:

(5) The board may set or amend by a motion or resolution at any board meeting a de minimis amount ~~of twenty-five dollars (\$25.00) or less~~ concerning the system’s obligation to distribute or collect payments, penalties, interest, funds, or moneys.

SECTION 18. Arkansas Code § 24-7-601(e)(5), concerning credited service under the Arkansas Teacher Retirement System, is amended to read as follows:

(5) When the Arkansas Teacher Retirement System provides a benefit amount that is not dependent on length of credited service, the benefit amount shall be reduced to the proportion that actual system service bears to total ~~reciprocal system credited service~~ credited by a reciprocal system.

SECTION 19. Arkansas Code § 24-7-601(g)(1), concerning credited service generally under the Arkansas Teacher Retirement System, is amended to add an additional subdivision to read as follows:

(C) A member's part-time employment with a PSHE employer or an employer covered by the Arkansas Public Employees' Retirement System shall not prevent the member from earning service credit under the Arkansas Teacher Retirement System if the member does not earn service credit in an alternate retirement plan or the Arkansas Public Employees' Retirement System.

SECTION 20. Arkansas Code § 24-7-602(c)(1), concerning military service credit under the Arkansas Teacher Retirement System, is amended to read as follows:

(c)(1)(A) Effective December 12, 1994, a member who leaves employment with a school or employment with a covered employer to serve, on a voluntary or involuntary basis, in the uniformed services of the United States and returns to employment with a school or employment with a covered employer shall be treated as not having incurred a break in service with the employer.

(B) The employer shall certify to the system that reemployment was in accordance with the requirements set forth in section 4312 of the Uniformed Services Employment and Reemployment Rights Act of 1994, Pub. L. No. 103-353.

SECTION 21. Arkansas Code § 24-7-701(a)(1)(B), concerning voluntary retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(B) If a member fails to submit a complete retirement application ~~within six (6) calendar months after~~ by the end of the sixth full calendar month immediately following the effective date of benefits, including all additional documentation required by the system, the application shall be void unless an extension is granted by the ~~system~~ Executive Director of the Arkansas Teacher Retirement System.

SECTION 22. Arkansas Code § 24-7-702(a)(1)(A) and (B), concerning early voluntary retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(a)(1)(A) Except as provided under subdivision (a)(2) of this section, an active or inactive member who has a combined total of twenty-five (25) or more years of actual and reciprocal service, including purchased or free credited service, but has not attained sixty (60) years of age and is not eligible for retirement under § 24-7-701 may voluntarily retire early by filing a written application with the ~~Board of Trustees of the Arkansas Teacher Retirement System~~ Arkansas Teacher Retirement System.

(B) If a member fails to submit a complete retirement application ~~within six (6) calendar months after~~ by the end of the sixth full calendar month immediately following the effective date of benefits, including all additional documentation required by the Arkansas Teacher Retirement System, the application shall be void unless an extension is granted by the ~~system~~ Executive Director of the Arkansas Teacher Retirement System.

SECTION 23. Arkansas Code § 24-7-704(a)(1)(D)(i), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(D)(i) A member has ~~six (6) calendar months from~~ until the end of the sixth full calendar month immediately following the date of his or her application for disability retirement to submit a completed application and accompanying documentation.

SECTION 24. Arkansas Code § 24-7-704(a)(1)(D)(ii), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(ii) If a member does not provide all accompanying documentation requested by the system ~~within the six (6) calendar months~~ by the end of the sixth full calendar month immediately following the date of his or her application for disability retirement, the system shall:

(a) Submit the application to the medical committee for review as complete; or

(b) Withdraw the application at the request of the member unless an extension is granted by the ~~system~~ Executive Director of the Arkansas Teacher Retirement System.

SECTION 25. Arkansas Code § 24-7-704(a)(1)(G), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(G) If the medical committee requests additional documentation upon initial review, a member has ~~six (6) calendar months from~~ until the end of the sixth full calendar month immediately following the date of a medical committee request to submit any additional accompanying documentation unless an extension is granted by the ~~system~~ executive director.

SECTION 26. Arkansas Code § 24-7-704(a)(1)(H), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(H)(i) If the medical committee finds that a member is not qualified to receive disability benefits, written notice of the medical committee's finding shall be sent to the member and the member may request a second review provided the member submits additional medical documentation.

(ii)(a) ~~A second review may be requested one (1) time. A member may request a second review one (1) time for each application for disability retirement filed by the member.~~

(b) A member's option to request a second review does not apply to a disability retiree who applies for a review under subsection (b) of this section.

(ii) The member has ~~six (6) calendar months~~ until the end of the sixth full calendar month immediately following the date of the written notice to submit additional medical documentation unless an extension is granted by the ~~system~~ executive director.

SECTION 27. Arkansas Code § 24-7-704(a)(3)(B), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(B) If a member does not submit the required documents ~~within six (6) calendar month after~~ by the end of the sixth full calendar month immediately following the date on which the medical committee finds that the member qualifies to receive disability benefits, the member's application shall be void unless an extension is granted by the ~~system~~ executive director.

SECTION 28. Arkansas Code § 24-7-704(b)(3)(C)(iii), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(iii) Apply for a review by the system's medical committee ~~within three (3) months of disability benefits ceasing~~ by the end of the third full calendar month immediately following the cessation of disability benefits due to the lack of a Social Security Administration determination letter finding that the disability retiree is unable to perform his or her former work duties as described in subdivision (a)(1)(E) (iii) of this section.

SECTION 29. Arkansas Code § 24-7-704(b)(3)(D)(i), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(D)(i) A disability retiree who seeks and fails to receive a determination letter finding the disability retiree is unable to perform his or her former work duties as described in subdivision (a)(1)(E)(iii) of this section by the Social Security Administration may seek a review permitted under subdivision (b)(3)(C) (iii) of this section no earlier than three (3) full calendar months before the date on which the member's disability retirement would otherwise end and no later than ~~three (3) months after~~ the end of the third full calendar month immediately following the termination of disability retirement.

SECTION 30. Arkansas Code § 24-7-707(d), concerning deferred retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(d) If a member fails to submit a complete deferred retirement application within six (6) calendar months of the effective date of benefits, including all additional documentation required by the system, the application shall be void unless an extension is granted by the ~~system~~ Executive Director of the Arkansas Teacher Retirement System.

SECTION 31. Arkansas Code § 24-7-709 is amended to read as follows:

24-7-709. Disposition of member contributions — Residue

(a) As used in this subchapter, “residue” means the difference between the accumulated contributions and regular interest credited to the retirement reserve account as of the member’s retirement effective date and the total amount of retirement annuities paid.

~~(a)(1)(A)(b)(1)~~ (b)(1) If a ~~retiree member~~ retiree member and his or her option annuitants, if any, die before receiving annuity payments equal to the member’s residue amount, then the residue amount shall be paid to ~~such persons as the retiree shall have nominated by written designation duly~~ one (1) or more beneficiaries nominated by the member in a written designation that is executed and filed with the Arkansas Teacher Retirement System.

~~(B) As used in this subchapter, “residue” means the difference between the accumulated contributions and regular interest credited to the retirement reserve account as of the member’s retirement effective date and the total amount of retirement annuities paid.~~

(2) If a member designates more than one (1) beneficiary, the residue shall be divided equally amongst each designated beneficiary.

~~(2)(3)~~ (3) If a ~~retiree member~~ retiree member and his or her option annuitants die and the member has failed to designate a beneficiary or if all designated beneficiaries have predeceased the ~~retiree member~~ retiree member, the residue shall be paid to the ~~retiree’s member’s~~ retiree’s member’s estate.

(4) If all designated beneficiaries predecease the member, the residue shall be paid to the estate of the most recently deceased designated beneficiary.

~~(b)(c)~~ (c) If upon the termination of the option annuity no surviving beneficiary designated by the member survives and it is impracticable to make payment to the member’s estate, the residue shall be forfeited to the trust assets of the system subject to any valid claim of the member’s estate under § 24-7-734.

SECTION 32. Arkansas Code § 24-7-710(a)(2)(B), concerning survivor annuity benefits under the Arkansas Teacher Retirement System, is amended to read as follows:

(B) If an immediately eligible survivor or the minor survivor’s guardian or legal representative fails to complete the application process within six (6) calendar months after the application required under subdivision (a)(2)(A) of this section is filed, including the submission of any additional documentation required by the system, the application shall be void unless an extension is granted by the ~~system~~ Executive Director of the Arkansas Teacher Retirement System.

SECTION 33. Arkansas Code § 24-7-710(b)(1)(A)(i), concerning survivor annuity benefits under the Arkansas Teacher Retirement System, is amended to read as follows:

(ii) Unless the member otherwise directs an alternative beneficiary to receive the member’s residue amount by using a beneficiary form approved by the system, a member’s surviving spouse, who was married to the member for at least the two (2) years immediately preceding the member’s death, shall receive an annuity computed in the same manner in all respects as if the member had retired on the date of the member’s death and elected Option A under § 24-7-706 to provide one hundred percent (100%) survivor annuity benefits, including benefits applicable under § 24-7-713, for his or her spouse.

SECTION 34. Arkansas Code § 24-7-710(b)(1)(B)(ii), concerning survivor annuity benefits under the Arkansas Teacher Retirement System, is amended to read as follows:

(ii) If an immediately eligible spouse fails to complete the application process within six (6) calendar months after the application required under subdivision (b)(1)(B)(i) of this section is

filed, including the submission of all additional documentation required by the system, the application shall be void unless an extension is granted by the system executive director.

SECTION 35. Arkansas Code § 24-7-710(b)(1)(C)(ii), concerning survivor annuity benefits under the Arkansas Teacher Retirement System, is amended to read as follows:

(ii) If a surviving spouse becomes eligible for surviving spouse benefits and fails to complete the application process within six (6) calendar months after the application required under subdivision (b)(1)(B)(i) of this section is filed, including the submission of any additional documentation required by the system, the application shall be void unless an extension is granted by the system executive director.

SECTION 36. Arkansas Code § 24-7-735(c), concerning contract buyout agreements, settlements, judgments, and calculation of benefits under the Arkansas Teacher Retirement System, is amended to add an additional subdivision to read as follows:

(4)(i) Service credit purchased under a settlement agreement or court order shall off-set service credit that is earned by the member as an employee of another covered employer during the same period of time covered by the service credit purchased under the settlement agreement or court order.

(ii) Service credit purchased under a settlement agreement or court order shall not be applied in a manner that allows the member to earn more than one (1) year of service credit in a fiscal year.

SECTION 37. Arkansas Code § 24-7-1601, concerning legislative history, findings, and intent under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

(e) As used in this section, “alternate retirement plan” has the same meaning as provided in § 24-7-202.

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO PROVIDE FOR A REFUND OF UNUSED PURCHASED SERVICE CREDIT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO PROVIDE FOR A REFUND OF UNUSED PURCHASED SERVICE CREDIT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-1-107(b)(1)(B), concerning recognition of federal retirement programs, is amended to read as follows:

(B)(i) An active member of the Arkansas Teacher Retirement System shall receive credit for the member's federal service upon the payment of the cost of service under § 24-7-502(b) and as prescribed by the Board of Trustees of the Arkansas Teacher Retirement System.

(ii) At the member's request, a member's payment for federal service credit under this section shall be refundable if the:

(a) Member ceases to be an active member before the federal service credit is established as credited service in the system; or

(b) Federal service credit is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 2. Arkansas Code § 24-7-602(b), concerning military service credit under the Arkansas Teacher Retirement System, is amended to read as follows:

(b)(1) ~~All United States Armed Forces service not otherwise that is not creditable under this section shall be creditable, provided if the member pays to the system the actuarial equivalent for the service credit.~~

(2) At the member's request, a member's payment under this section shall be refundable if the:

(A) Member ceases to be an active member before the military service credit is established as credited service in the system; or

(B) Military service credit is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 3. Arkansas Code § 24-7-602(c)(4), concerning military service credit under the Arkansas Teacher Retirement System, is amended to read as follows:

(4)(A) A member reemployed under this subsection shall be entitled to accrue benefits for the time he or she served in the uniformed services by paying the employee contributions set forth in § 24-7-406.

(B) At the member's request, a member's payment under this section shall be refundable if the:

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- (i) Member ceases to be an active member before the credit for time served in the uniformed services is established as credited service in the system; or
 - (ii) Credit for time served in the uniformed services is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 4. Arkansas Code § 24-7-603, concerning out-of-state service under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

- (f) At the member's request, a member's payment under this section shall be refundable if the:
 - (1) Member ceases to be an active member before the out-of-state service is established as credited service in the system; or
 - (2) Out-of-state service is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 5. Arkansas Code § 24-7-604, concerning overseas service under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

- (f) At the member's request, a member's payment under this section shall be refundable if the:
 - (1) Member ceases to be an active member before the overseas service is established as credited service in the system; or
 - (2) Overseas service is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 6. Arkansas Code § 24-7-605, concerning service in the General Assembly under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

- (c) At the member's request, member's payment under this section shall be refundable if the:
 - (1) Member ceases to be an active member before the General Assembly service is established as credited service in the system; or
 - (2) General Assembly service is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 7. Arkansas Code § 24-7-606, concerning service for leave of absence to obtain advanced degree under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

- (d) At the member's request, a member's payment under this section shall be refundable if the:
 - (1) Member ceases to be an active member before the service for leave of absence to obtain an advanced degree is established as credited service in the system; or
 - (2) Service for leave of absence to obtain an advanced degree is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 8. Arkansas Code § 24-7-607(b)(3)(B)(ii), concerning private school service under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

- ~~(ii) If a member ceases to be an active member before the private school service has been established as system-credited service, the member payments contributed under this section shall be refunded to the member upon request;~~ At the member's request, a member's payment for certified private school service credit shall be refundable if the:
 - (a) Member ceases to be an active member before the certified private school service is established as credited service in the system; or
 - (b) Certified private school service is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 9. Arkansas Code § 24-7-607(c)(2)(B)(ii), concerning private school service under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

~~(ii) If a member ceases to be an active member before the noncertified service has been established as system-credited service, the member payments contributed under this section shall be refunded to the member upon request; At the member's request, a member's payment for noncertified private school service credit or noncertified private education-related entity private school service shall be refundable if the:~~

(a) Member ceases to be an active member before the noncertified private school service or private education-related entity private school service is established as credited service in the system; or

(b) Noncertified private school service or private education-related entity private school service is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 10. Arkansas Code § 24-7-610(f), concerning service in the National Guard and armed forces reserve under the Arkansas Teacher Retirement System, is amended to read as follows:

~~(f) If a member ceases to be an active member before the service in the National Guard or the armed forces reserve has been established as system-credited service, the member payments contributed as specified in subdivision (b)(1)(C) of this section shall be refundable. At the member's request, a member's payment under this section shall be refundable if the:~~

(1) Member ceases to be an active member before the service in the National Guard or the armed forces reserve is established as credited service in the system; or

(2) Service in the National Guard or the armed forces reserve is not otherwise used to establish the member's eligibility for retirement under the system.

SECTION 11. Arkansas Code § 24-7-611, concerning private school service under the Arkansas Teacher Retirement System, is amended to add an additional subsection to read as follows:

(e) At the member's request, a member's payment under this section shall be refundable if the:

(1) Member ceases to be an active member before the domestic federal service is established as credited service in the system; or

(2) Domestic federal service is not otherwise used to establish the member's eligibility for retirement under the system.

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO AMEND THE LAW CONCERNING ANNUITY OPTIONS UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAW CONCERNING ANNUITY OPTIONS UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-706(a)(2)(A)(ii), concerning annuity options under the Arkansas Teacher Retirement System, is amended to read as follows:

~~(ii)~~ A retirant may designate more than one (1) person as his or her beneficiary.

~~(ii)(iii)(a)~~ The person designated as a beneficiary by the retirant shall be the spouse or a dependent child of the retirant.:

~~(a)(b)~~ The retirant's spouse for not less than one (1) year immediately preceding the first payment due date; or A retirant may designate his or her spouse as his or her beneficiary if the retirant has been married to the spouse for at least one (1) year immediately preceding the first payment due date.

~~(b)(c)~~ A dependent child of the retirant who has been adjudged physically or mentally incapacitated by a court of competent jurisdiction; A retirant may designate his or her dependent child as his or her beneficiary if the dependent child has:

(1) Been adjudged physically or mentally incapacitated by a court of competent jurisdiction; or

(2) A Social Security Administration determination letter finding him or her disabled;

SECTION 2. Arkansas Code § 24-7-706(a)(2)(B)(ii), concerning annuity options under the Arkansas Teacher Retirement System, is amended to read as follows:

~~(ii)~~ A retirant may designate more than one (1) person as his or her beneficiary.

~~(ii)(iii)(a)~~ The person designated as a beneficiary by the retirant shall be the spouse or a dependent child of the retirant.:

~~(a)(b)~~ The retirant's spouse for not less than one (1) year immediately preceding the first payment due date; or A retirant may designate his or her spouse as his or her beneficiary if the retirant has been married to the spouse for at least one (1) year immediately preceding the first payment due date.

~~(b)(c)~~ A dependent child of the retirant who has been adjudged physically or mentally incapacitated by a court of competent jurisdiction; A retirant may designate his or her dependent child as his or her beneficiary if the dependent child has:

court of competent jurisdiction; or
finding him or her disabled;

(1) Been adjudged physically or mentally incapacitated by a
(2) A Social Security Administration determination letter

SECTION 3. Arkansas Code § 24-7-706(d), concerning annuity options under the Arkansas Teacher Retirement System, is amended to add additional subdivisions to read as follows:

(4) A surviving spouse who is eligible to receive an annuity under this section may elect to receive a lump-sum distribution of the retiree's residue in lieu of the spousal annuity if:

(A) The retiree did not designate a dependent child as a beneficiary; and

(B) The surviving spouse files a written waiver of his or her right to the spousal annuity with the system.

(5) If the residue beneficiary who elects an Option A — 100% Survivor Annuity under this subsection is the surviving spouse of a disability retiree, the same procedures used under § 24-7-710 to determine when an active member's surviving spouse is entitled to begin receiving benefit payments shall be used to determine when the residue beneficiary is entitled to begin receiving benefit payments.

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO AMEND THE LAW CONCERNING THE CONTRIBUTORY AND NONCONTRIBUTORY STATUS OF CERTAIN MEMBERS OF THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAW CONCERNING THE CONTRIBUTORY AND NONCONTRIBUTORY STATUS OF CERTAIN MEMBERS OF THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-406(e)(3)(E), concerning retirement fund asset accounts, member deposits, and contributions under the Arkansas Teacher Retirement System, is amended to read as follows:

(iii) If a member enters into a contract with a covered employer after the start of the fiscal year, the system may prorate the number of contracted days in order to determine whether the member should be classified as a contributory member or a noncontributory member who may make an election under subdivision (e)(3)(E)(ii) of this section.

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO AMEND THE LAW CONCERNING THE LUMP-SUM
BENEFIT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM;
AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAW CONCERNING THE LUMP-SUM
BENEFIT UNDER THE ARKANSAS TEACHER
RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-720 is amended to read as follows:

27-7-720. Lump-sum death benefit — Definitions.

~~(a)(1)(A) If prior to July 1, 2007, an active member of the Arkansas Teacher Retirement System with five (5) or more years of actual service, including actual service for the year immediately preceding the member's death, dies in employer service before retirement, then a lump sum of up to ten thousand dollars (\$10,000) shall be paid to such persons as he or she shall have nominated by written designation duly executed and filed with the Board of Trustees of the Arkansas Teacher Retirement System. If an active member, T-DROP participant, or retiree with five (5) years of actual service, including actual service for the year immediately preceding the member's death, dies before July 1, 2007, then a lump-sum death benefit of up to ten thousand dollars (\$10,000) shall be paid to each person designated by the member as a beneficiary in the manner required by the Arkansas Teacher Retirement System.~~

~~(B) Effective July 1, 2009, if a member who retired or became a T-DROP participant on or before July 1, 2007, with five (5) or more years of actual service dies, then a lump-sum death benefit of up to ten thousand dollars (\$10,000) shall be paid to each person designated by the member as a beneficiary in the manner required by the system.~~

~~(B)(C) If on or after July 1, 2007, an active member of the Arkansas Teacher Retirement System with ten (10) or more years of actual service dies in employer service before retirement, then a lump sum of up to ten thousand dollars (\$10,000) shall be paid to the persons he or she has nominated by written designation executed and filed with the board. Effective July 1, 2007, if an active member, T-DROP participant, or retiree with ten (10) or more years of actual service dies, then a lump-sum death benefit of up to ten thousand dollars (\$10,000) shall be paid to each person designated by the member as a beneficiary in the manner required by the system.~~

~~(D)(i) If a member accrues a minimum of ten (10) years of actual, contributory service, regardless of noncontributory service accrued in combination with the contributory service, the member shall receive the maximum lump-sum death benefit as determined by the board under this section.~~

~~(ii) Upon the member's death, the lump-sum death benefit shall be paid to each person designated by the member as a beneficiary in the manner required by the system.~~

~~(iii) The board may set a lump-sum death benefit for noncontributory service as the board deems appropriate.~~

~~(2) If there are no designated persons who survive the member, the lump sum shall be paid to the member's estate. If all the member's designated beneficiaries do not survive the member, the lump-sum death benefit shall be paid to the member's estate.~~

~~(3) If a member designates more than one (1) beneficiary, the lump-sum death benefit shall be divided equally amongst each designated beneficiary.~~

~~(b)(1) If a retired member of the system dies prior to July 1, 2007, and the retired member accrued five (5) or more years of actual service, including actual service for the year immediately preceding the member's death, then a lump sum of up to ten thousand dollars (\$10,000) shall be paid to such persons as he or she shall have nominated by written designation duly executed and filed with the board.~~

~~(2) If a retired member of the system dies on or after July 1, 2007, and the retired member accrued ten (10) or more years of actual service, including actual service for the year immediately preceding the member's death, then a lump sum of up to ten thousand dollars (\$10,000) shall be paid to such persons as he or she shall have nominated by written designation duly executed and filed with the board.~~

~~(3) If there are no designated persons who survive the member, the lump sum shall be paid to the member's estate.~~

~~(e)(b) The amount of the lump-sum death benefit payments under this section shall be set periodically and not more often than annually by rules and resolutions of the board as the board determines is actuarially appropriate for the system.~~

~~(d)(1) For determining eligibility for the lump-sum death benefit under this section, "actual service" means service rendered in a position covered by the system.~~

~~(2) "Actual service" does not include purchased or free credited service or reciprocal service.~~

~~(e)(1)(c)(1) A benefit enhancement provided for under this section shall not be implemented if it would cause the system's unfunded actuarial accrued liabilities to exceed an eighteen-year amortization.~~

~~(2) If the system's unfunded actuarial accrued liabilities exceed an eighteen-year amortization, a benefit enhancement provided for under this section shall not be implemented until the unfunded actuarial accrued liability is reduced to a level less than the standards prescribed by § 24-1-101 et seq.~~

~~(f)(1)(d) Pursuant to the board's fiduciary duty, the board shall implement this benefit provision for lump-sum payments by either making the lump-sum death benefit payments directly from the system or by purchasing a group life insurance policy for the benefit of system members.~~

~~(2) A lump-sum payment under this subsection is intended to be exempt from income tax.~~

~~(g) Effective July 1, 2009, a retired member of the system who retired on or before July 1, 2007, and had five (5) or more years of actual service credited in his or her account at retirement shall have the lump-sum death benefit paid upon the retired member's death under subsection (b) of this section.~~

~~(h)(e) A lump-sum death benefit payment under this section is intended to be exempt from income tax.~~

~~(i)(f) For eligibility under this section, a member is considered active for an additional fiscal year following the last fiscal year that the member renders actual service in a position reported to the system by a covered employer and the member obtains at least one-fourth (1/4) year of service credit.~~

~~(j)(1)(A) If a member accrues a minimum of ten (10) years of actual, contributory service, regardless of noncontributory service accrued in combination with the contributory service, the member shall receive the maximum lump-sum death benefit as determined by the board under this section.~~

~~(B) Upon the member's death, the lump-sum death benefit shall be paid to persons the member selects by written designation executed and filed with the board .~~

~~(2) The board may set a lump-sum benefit for noncontributory service as the board deems appropriate.~~

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO AMEND THE LAW CONCERNING THE FINAL AVERAGE SALARY UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAW CONCERNING THE FINAL AVERAGE SALARY UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-736(c)(2), concerning the calculation of the final average salary under the Arkansas Teacher Retirement System, is amended to add an additional subdivision to read as follows:

(C) A partial service year shall not be used in the calculation of the final average salary if the:

- (i) Partial service year is higher than a full service year; or
- (ii) Member has less than the number of years required to calculate the final average salary.

SECTION 2. Arkansas Code § 24-7-736(c)(4)(D), concerning the calculation of the final average salary under the Arkansas Teacher Retirement System, is amended to read as follows:

(D)(i) 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 the ~~salary differential~~ anti-spiking amount unless the next-highest year's value is less than or equal to the ~~percentage increase~~ anti-spiking percentage of the base salary.

(ii) Subdivision (c)(4)(D)(i) of this section shall not apply to a partial service year or a fiscal year immediately following a partial service year.

SECTION 3. Arkansas Code § 24-7-736(e), concerning the calculation of the final average salary under the Arkansas Teacher Retirement System, is amended to read as follows:

(e) The board may adjust the final average salary calculated in accordance with subsection (c) of this section by board resolution provided that:

(1) The ~~percentage increase~~ anti-spiking percentage under subdivision (c)(4)(D) of this section is set no lower than one hundred five percent (105%) per year and no higher than one hundred twenty percent (120%) per year; and

(2) The ~~salary differential~~ anti-spiking amount permitted under subdivision (c)(4)(D) of this section is set no lower than one thousand two hundred fifty dollars (\$1,250) per year and no higher than five thousand dollars (\$5,000) per year.

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT CONCERNING THE PURCHASE OF PERMISSIVE SERVICE CREDIT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

CONCERNING THE PURCHASE OF PERMISSIVE SERVICE CREDIT UNDER THE ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-202, concerning definitions applicable to the Arkansas Teacher Retirement System Act, is amended to add additional subdivisions to read as follows:

(45) “Gap-year” means a period of time:

(A) In which a member:

(i) Was an inactive member;

(ii) Was either:

(a) Unemployed; or

(b) Did not provide qualified service; and

(B) For which the system may grant the member permissive service credit.

(46) “Permissive service credit” means service:

(A) That is credited under the system for the purpose of calculating a member’s benefit;

(B) That has not previously been credited under the system; and

(C) For which a member contributes or pays the amount necessary to fund the benefit attributable to the service as required by the system; and

(47) “Qualified service” means the service described in 26 U.S.C. § 415(n)(3)(C)(i)-(iv), as in effect on January 1, 2023.

SECTION 2. Arkansas Code Title 24, Chapter 7, Subchapter, 6, is amended to add a new section to read as follows:

24-7-613. Permissive Service Credit — Gap-year service.

(a) A member of the Arkansas Teacher Retirement System may purchase permissive service credit for one (1) or more gap-years if:

(1) The member has five (5) years of actual service in the system;

(2) The member left his or her position as a classroom teacher immediately before the gap-year;

(3) The member returns to his or her position as a classroom teacher after one (1) or more gap-years;

(4) The member accrues at least one-half (1/2) year of service credit after returning to his or her position as a classroom teacher;

(5) The member was inactive during the gap-year;

(6) The member's gap-year was for an entire fiscal year; and

(7) Under another provision of the law applicable to the system, the member is ineligible to receive free service credit or purchase service credit for the gap-year.

(b)(1) A member may purchase one (1) year of permissive service credit for each one (1) gap-year.

(2) A member shall not purchase more than five (5) years of permissive service credit.

(c) Permissive service credit for one (1) or more gap-years shall not be purchasable after a member retires from the system.

(d) Permissive service credit shall be credited in accordance with § 24-7-601.

(e)(1) The member shall pay the actuarial equivalent of the member's benefits to the system for each year of permissive service credit purchased.

(2) A year of permissive service credit that is being purchased by a member shall not become credited service under the system until the actuarial equivalent of the member's benefits is paid in full.

SECTION 3. DO NOT CODIFY. Effective Date.

Section 2 of this act is effective on and after July 1, 2023.

State of Arkansas
94th General Assembly
Regular Session, 2023
By: Senator/Representative

A Bill

SENATE/HOUSE BILL

For An Act To Be Entitled

AN ACT TO AMEND THE LAW CONCERNING THE
TERMINATION SEPARATION PERIOD UNDER THE ARKANSAS
TEACHER RETIREMENT SYSTEM; AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAW CONCERNING THE
TERMINATION SEPARATION PERIOD UNDER THE
ARKANSAS TEACHER RETIREMENT SYSTEM.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code § 24-7-502(a)(2), concerning termination of active membership under the Arkansas Teacher Retirement System, is amended to read as follows:

(2) Effective ~~September 1, 2021~~, July 1, 2023, a member shall not be terminated from employments for purposes of retirement eligibility if within ~~six (6)~~ three (3) full calendar months of the member's effective date of retirement the member:

- (A) Becomes employed with a covered employer; and
- (B) Has not attained the system's normal retirement age.

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 June 15, 2022. Those members present were Dr. Eddie Phillips, Dr. Hoyte Pyle, and Dr. Jim Morse. Anne Marie Lehman Berardi of the Teacher Retirement System was also in attendance.

A total of thirteen disability applications were considered. Of the thirteen applicants, seven were approved. Five applicants had more information requested. One applicant was denied.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,



Anne Marie Lehman Berardi
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 9:30 a.m. on July 13, 2022. Those members present were Dr. Eddie Phillips, Dr. Hoyte Pyle, and Dr. Jim Morse. Anne Marie Lehman Berardi of the Teacher Retirement System was also in attendance.

A total of eleven disability applications were considered. Of the eleven applicants, eight were approved. Two applicants had more information requested. One applicant was denied.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,



Anne Marie Lehman Berardi
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 9:30 a.m. on August 17, 2022. Those members present were Dr. Eddie Phillips, and Dr. Hoyte Pyle. Anne Marie Lehman Berardi of the Teacher Retirement System was also in attendance.

A total of sixteen disability applications were considered. Of the sixteen applicants, eleven were approved. Four applicants had more information requested. One applicant was denied.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,



Anne Marie Lehman Berardi
Retirement Benefits Counselor