

ARKANSAS TEACHER RETIREMENT SYSTEM

December 7, 2020

1400 West Third Street

BOARD ROOM

Little Rock, AR 72201

Board of Trustees Meeting

11:00 a.m.

Trustees

Danny Knight, Chair

Anita Bell

Lloyd Black

Kathy Clayton

Kelly Davis

Dr. Mike Hernandez

Shawn Higginbotham

Michael Johnson

Bobby G. Lester

Chip Martin

Robin Nichols

Ex Officio Trustees

Susannah Marshall, State Bank Commissioner

Johnny Key, Education Commissioner

Honorable Andrea Lea, State Auditor

Honorable Dennis Milligan, State Treasurer

AGENDA
ARKANSAS TEACHER RETIREMENT SYSTEM
BOARD OF TRUSTEES

December 7, 2020
11:00 a.m.
1400 West Third Street
Little Rock, AR 72201

- I. ***Call to Order/Roll Call.** page 1.
- II. ***Adoption of Agenda.** page 2.
- III. ***Election of Board Vice Chair.**
- IV. Executive Summary. (Attachment No. 1) page 6.
- V. ***Approval of Prior Meeting Minutes.**
 - A. ***September 28, 2020 Minutes.** (Attachment No. 2) page 18.
 - B. ***November 9, 2020 Minutes.** (Attachment No. 3) page 29.
- VI. Preliminary Active Actuarial Valuation. *Judy Kermans, Brian Murphy and Heidi Berry of Gabriel, Roeder, Smith and Company* (Attachment No. 4) page 32.
- VII. Statement of Financial Interest. (Attachment No. 5) page 88.
- VIII. ***Proposed 2021 Board of Trustees Schedule.** (Attachment No. 6) page 105.
- IX. Report of Member Interest Waived Under A.C.A. Sec. 24-7-205. (Attachment No. 7) page 106.
- X. Report of Employer Interest and Penalties Waived Under A.C.A. Sec. 24-7-411. (Attachment No. 8) page 107.
- XI. Manifest Injustice Report. (Attachment No. 9) page 108.

* Action Item

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- XII. ***Forfeiture Recommendations Pursuant to A.C.A. 24-7-734(6).** (Attachment No. 10) page 110.
- XIII. Investment Committee Report. *Robin Nichols, Investment Committee Chair*
- A. Arkansas Related and Investment Update.
1. List of Fund Closings.
- a. Axlnfra NA II LP, an Open-Ended Infrastructure Fund Specializing in U.S. and Canadian Energy and Transportation Assets, the Board Authorized Commitment of up to \$50 Million Dollars on October 7, 2019 was Accepted and Closed on November 6, 2020.
- b. LLR Equity Partners VI, L.P., a Growth Equity Fund that will Focus on Small and Middle Market Companies in the Technology and Healthcare Sectors. the Board Authorized Commitment of up to \$30 Million Dollars on June 1, 2020 was Accepted and Closed on September 25, 2020.
- c. Franklin Park Venture Capital Fund XIII, L.P., (formerly Franklin Park Venture Fund Series 2019) a Fund of Funds Managed by Franklin Park Investing in Venture Capital Private Equity Funds, the Board Authorized Additional Commitment of up to \$30 Million Dollars on June 1, 2020 was Accepted and Closed on September 24, 2020.
- d. Additional Commitment of up to \$30 Million Dollars in Franklin Park Corporate Finance Access Fund, L.P., a Fund of Funds Managed by Franklin Park Investing in Smaller Buyout, Growth, and Turnaround Private Equity Funds, the Board Authorized Additional Commitment of up to \$30 Million Dollars on September 28, 2020 was Accepted and Closed on October 22, 2020.
2. ***Recommendation to Change the Legal Structure of Existing Highland Investments.** (Attachment No. 11) page 112.
- a. ***Resolution 2020-36.** (Attachment No. 12) page 114.
3. American Center Management Update.
- B. General Investment Consultant Report.
1. Performance Report for the Quarter Ending September 30, 2020. (Attachment No. 13) page 115.
2. AB TALF Opportunity 2020 (Delaware) Fund Update.
- C. Real Assets Investment Consultant Report.
1. Performance Report for the Quarter Ending June 30, 2020. (Attachment No. 14) page 277.

* Action Item

2. ***2021 Real Assets Commitment Pacing (Total Pacing \$330 Million Dollars).** (Attachment No. 15) page 334.
 - a. ***Core Real Estate No New Allocation.**
 - b. ***Value Added Real Estate \$280 Million Dollars.**
 - c. ***Infrastructure \$50 Million Dollars.**
 3. ***Recommendation to Commit up to \$40 Million Dollars in Mesa West Real Estate Income Fund V, LP, a Closed-End Value Added Real Estate Fund Focused on Originating Senior Debt on Value Add/Transitional Commercial Real Estate Properties.** (Attachment No. 16) page 338.
 - a. ***Resolution 2020-37.** (Attachment No. 17) page 357.
 4. ***Recommendation to Revise Board Policy 6 (Real Assets Investment Policies) and Board Policy 4 (Investment Policy) Related to Performance Benchmarks for Timber and Agriculture and to Change Portfolio Diversification Related to Agriculture, Real Estate and Timber.** (Attachment No. 18) page 358.
- D. Private Equity Consultant Report.
1. ***2021 Private Equity Pacing Schedule (Total Pacing \$300 Million Dollars).** (Attachment No. 19) page 395.
 - a. ***Eight Small or Mid Buyout/Growth/Turnaround \$30 Million Dollars Each in the U.S.**
 - b. ***One Small or Mid Buyout/Growth/Turnaround \$30 Million Dollars Each Outside the U.S.**
 - c. ***One Debt/Distressed Assets \$30 Million Dollars.**
 - d. ***ATRS/FP Private Equity Fund (Co-Investment Fund) No New Allocation.**
 2. ***ATRS/FP Private Equity Fund, L. P., a Multi-Strategy Fund Focused on Co-Investments and Other Strategies That Seeks to Use Accumulated Recallable Distributions to Fund an Investment in Franklin Park Co-Investment Fund V, L.P. and Discussion of Change in Fee Structure.** (Attachment No. 20) page 401.

XIV. Operations Committee Report.

- A. Open Forum for Potential Rule or Law Changes by Committee Members and Board Members Present.
 1. Open Forum.
- B. ***ATRS 2021 Legislative Package.**
 1. ***Definitions and Technical Corrections (JNL090).** (Attachment No. 21) page 410.

* Action Item

2. ***Five Year Lookback (JNL091).** (Attachment No. 22) page 420.
3. ***Unused Sick Leave (JNL092).** (Attachment No. 23) page 423.
4. ***Reciprocity Final Average Salary (JNL093).** (Attachment No. 24) page 425.
5. ***Employer Reporting (JNL094).** (Attachment No. 25) page 427.
6. ***Separation Period (JNL095).** (Attachment No. 26) page 430.

XV. ***Staff Reports.**

- A. ***Medical Committee Report. A total of 13 Disability Retirement Applications were Approved.** *Willie Kincade, Director of Operations* (Attachment No. 27) page 433.
- B. Financial Reports. *Curtis Carter, Chief Fiscal Officer*
 1. Financial Statement Report. (Attachment No. 28) page 435.
 2. Travel Report. (Attachment No. 29) page 437.
- C. Contracts. *Rod Graves, Deputy Director* (Attachment No. 30) page 445.
- D. Personnel Report. *Vicky Fowler, Human Resources Director* (Attachment No. 31) page 446.

XVI. Recognition of the Retirement of Candace Franks, Ex Officio Trustee. *Clint Rhoden, Executive Director and Danny Knight, Board Chair*

- A. Resolution 2020-38. (Attachment No. 32) page 447.

XVII. Other Business.

XVIII. ***Adjourn.**

EXECUTIVE SUMMARY

TO: Board of Trustees
FROM: ATRS Staff
RE: Executive Summary
DATE: December 7, 2020

- VI. Preliminary Active Actuarial Valuation.** This is a standard part of the ATRS Board agenda toward the end of each calendar year. The actuarial valuation for the 2019-2020 fiscal year and the figures cited below are still preliminary, but near completion.
- VII. Statement of Financial Interest.** This is the reminder that ATRS Trustees must file a Statement of Financial Interest (SFI) by the end of January 2021, for their financial information for calendar year 2020. Included with the portal information are the instructions for completing the SFI, and a blank SFI for your use. Since the SFI may be completed on-line at the Secretary of State's website after creating a user name at the login screen: <https://www.ark.org/sos>, many Trustees prefer to complete the on-line version of the SFI. ATRS staff will assist in any way possible to help you file this information. ATRS staff will also follow-up from time to time with any Trustee who has not filed their Statement of Financial Interest in the latter half of January 2021.
- VIII. Proposed 2021 Board of Trustee Schedule.** ATRS staff has attached a proposed meeting schedule for 2021. It is subject to changes requested by the Board, and will be posted on the ATRS and State of Arkansas websites when finalized. It follows much the same pattern as in prior years, with Monday meetings to accommodate Trustees who have to travel a long distance to Little Rock. Consideration was given to the NCTR conference, which be held. **This is an action item.**
- IX. Report of Member Interest Amount Waived Under A.C.A. Sec. 24-7-205.** 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. Since ATRS has implemented the actuarial cost method for the purchase of service credit, interest waived is slowly disappearing, as well as the number of members who purchase service credit. No member interest was waived for this reporting period. This is a standard report for information and is not an action item.
- X. Report of Employer Interest and Penalties Waived Under A.C.A. Sec. 24-7-411.** 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. One (1) employer interest and penalties was waived for this reporting period in the amount of \$164.68. This is a standard report for information and is not an action item.

XI. Manifest Injustice Report. Two (2) Manifest Injustice resolutions have occurred since the previous Manifest Injustice Report. The rule on Manifest Injustice requires reports on Manifest Injustice resolutions to the Board at least two times per year. This is the second report of 2020. This Manifest Injustice report is for information and is not an action item.

XII. Forfeiture Recommendations Pursuant to A.C.A. 24-7-734(6). A.C.A. §24-7-734(b) provides that benefits that are not paid within five (5) years of the date they are due may be forfeited if (1) ATRS is unable to contact the person entitled to the benefit by mail addressed to the last known address on record; or (2) if the person entitled to the benefit fails to submit the required paperwork to ATRS to claim the benefit. The forfeiture of benefits is a question for the Board.

***A.C.A. §24-7-734. Lost payees.** (b) (1) If the board is unable within five (5) years after payment of a benefit is due to a member or beneficiary to make the payment because it cannot ascertain the whereabouts of the member or the identity and whereabouts of the beneficiary or personal representative by mailing to the last known address shown on the board's records and neither the member, the beneficiary, or personal representative has submitted the paperwork and forms required by the system before the expiration of the five (5) years, then, and in each case, **the board shall direct that the amount shall be forfeited to the trust assets of the system.** (emphasis added)*

Staff is continuing its review of a list of four hundred twenty-three (423) member accounts where the member died more than five (5) years ago and where benefits have not been distributed to determine if unpaid benefits should be subject to forfeiture

In this round, staff reviewed thirty-four (34) member accounts and identified benefits in thirty (30) accounts totaling in the aggregate \$89,193.35 that fall within the provisions of this Code section. Staff recommends that the Board find these benefits should be forfeited according to A.C.A. §24-7-734(b) and direct the staff to transfer these benefits to the trust assets of ATRS. **This is an action item.**

XIII. Investment Committee Report. *Robin Nichols, Chair.*

A. Arkansas Related and Investment Update.

1. List of Fund Closings.

- a. AxInfra NA II LP, an Open-Ended Infrastructure Fund Specializing in U.S. and Canadian Energy and Transportation Assets, the Board Authorized Commitment of up to \$50 Million Dollars on October 7, 2019 was Accepted and Closed on November 6, 2020. The ATRS full commitment of \$50 million dollars was negotiated, accepted, and closed on November 6, 2020.**
- b. LLR Equity Partners VI, L.P., a Growth Equity Fund that will Focus on Small and Middle Market Companies in the Technology and Healthcare Sectors. the Board Authorized Commitment of up to \$30 Million Dollars on June 1, 2020 was Accepted and Closed on September 25, 2020. The ATRS full commitment of \$30 million dollars was negotiated, accepted, and closed on September 25, 2020.**
- c. Franklin Park Venture Capital Fund XIII, L.P., (formerly Franklin Park Venture Fund Series 2019) a Fund of Funds Managed by Franklin Park Investing in Venture Capital Private Equity Funds, the Board Authorized Additional Commitment of up to \$30 Million Dollars on June 1, 2020 was Accepted and Closed on September 24, 2020. The ATRS full additional commitment of \$30 million dollars was negotiated, accepted, and closed on September 24, 2020.**
- d. Additional Commitment of up to \$30 Million Dollars in Franklin Park Corporate Finance Access Fund, L.P., a Fund of Funds Managed by Franklin Park Investing in Smaller Buyout, Growth, and Turnaround Private Equity Funds, the Board Authorized Additional Commitment of up to \$30 Million Dollars on September 28, 2020 was Accepted and Closed on October 22, 2020. The ATRS**

additional commitment of \$30 million dollars was negotiated, accepted, and closed on October 22, 2020.

2. **Recommendation to Change the Legal Structure of Existing Highland Investments.** The ATRS Board approved an equity investment of up to \$25 million dollars in 2016, a debt investment of up to \$26 million dollars in 2017, and a promissory note purchase agreement/guaranty for up to \$150 million dollars plus any accrued or PIK interest in 2018. The investments in Highland have continued to evolve including the use of recallable distributions for other investment opportunities, consolidation of debt, and debt to equity conversions for ATRS. The debt consolidations and conversions were intended to simplify the capital structure of Highland.

Highland management continues to see increasing global demand for wood pellets and has been working to upgrade the plant's equipment to increase the plant's production. Highland received debt funding from Orion Energy Partners (Orion) to help finance the plant upgrades. The simplification of the Highland capital structure was important in securing the investment from Orion that was needed to purchase and install the additional equipment and other plant improvements that should increase production. The upgrades are on schedule and Highland expects to ramp up to the increased production levels in the second quarter of 2021. Once the Highland plant in Pine Bluff completes the current upgrade process, Highland management may continue to upgrade or expand the Pine Bluff plant or build additional Highland plants in other locations to capitalize on the increasing global demand for wood pellets.

Previous debt and equity investments along with the use of recallable distributions, conversion, and consolidations have resulted in ATRS having approximately \$230 million dollars invested in Highland. The Highland Pellets LLC valuation as of June 30, 2020 is approximately \$317 million dollars resulting in a significant positive equity return for ATRS. The Highland debt investments also continue to perform. ATRS staff, Highland management, and ATRS legal counsel have been exploring ways to increase the diversification of the existing ATRS investment in the Pine Bluff Highland plant.

In an effort to enhance Highland's ability to obtain third party capital as needed for additional project expansion and development, ATRS legal counsel recommends restructuring the existing investment from a direct investment to a limited partnership. Limited partnerships are viewed as the preferred legal structure utilized in most capital raising and project expansion activities. The restructuring to a limited partnership would make the structure of this investment similar to other investments in the ATRS real asset and private equity portfolios by allowing other partners to join ATRS in the Pine Bluff Highland investment. Other investors have expressed interest in the Pine Bluff Highland plant and interest in plants that may be constructed in the future. If new investors participate in the restructured partnership with ATRS, the new capital they invest could be used by the restructured partnership for future Highland Pine Bluff expansions, additional plants, upgrades, or fund other appropriate investment opportunities in the partnership. To the extent that new investor capital would be invested in the limited partnership, the ATRS ownership in the Pine Bluff plant would decrease but ATRS would receive corresponding interest in the expansions, upgrades, or other related opportunities being funded by the new third-party capital. This would help diversify the ATRS ownership in the Pine Bluff Highland plant without any additional capital from ATRS.

If approved, the restructured partnership would have terms similar to other investment partnerships. The terms would allow for current Highland management to earn a management fee, incentive fee, and other negotiated items. The terms are designed to allow current Highland management to diversify the ATRS investment by attracting more partners that could fund future upgrades, expansions, and other Highland related opportunities.

a. Resolution 2020-36.

- 3. American Center Management Update.** In December of 2000 ATRS partnered with Cooper Communities, Inc. (Cooper) for the purpose of purchasing American Towers located at 3100 West End, Nashville, TN. ATRS owns 80% of American Center with Cooper owning the remaining 20%. Cooper has provided management functions for the property since the initial purchase.

The management agreement with Cooper is up for renewal from time to time and is due for renewal again at the end of this calendar year. In the past ATRS staff has considered renewals of this type to be an administration function. Given the timing of the upcoming renewal and this meeting, ATRS staff would like to provide the Investment Committee and Board the opportunity to ask questions, request additional information, or provide other guidance prior to the execution of the Cooper management agreement renewal.

B. General Investment Consultant Report.

1. **Performance Report for the Quarter Ending September 30, 2020.** PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting will provide the Board with a portfolio update for the quarter ending September 30, 2020.
2. **AB TALF Opportunity 2020 (Delaware) Fund Update.** PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting will provide the Board with an update of the AB TALF Opportunity 2020 (Delaware) Fund.

C. Real Assets Investment Consultant Report.

1. **Performance Report for the Quarter Ending June 30, 2020.** Chae Hong of Aon Hewitt Investment Consulting will provide the Board with a portfolio update for the quarter ending June 30, 2020.
2. **2021 Real Assets Commitment Pacing (Total Pacing \$330 Million Dollars).** Chae Hong of Aon Hewitt Investment Consulting will present the 2021 Real Assets Commitment Pacing. For calendar year 2021, Aon Hewitt Investment Consulting and ATRS staff are recommending approximately **\$330 million dollars for 2021 real assets pacing**. These targets are subject to availability of quality investments and prevailing market conditions. Actual amounts may vary as pacing is subject to change over the year according to available investment opportunities.
 - a. **Core Real Estate No New Allocation.** Core real estate funds employ low leverage, low-risk investment strategies that have predictable cash flows. The funds will generally invest in stable, fully leased, modern, multi-tenant properties within strong, diversified metropolitan areas. The ATRS real

Investment Consulting will present proposed changes to Board Policy 6 related to performance benchmarks and real asset portfolio diversification. A redline of the proposed changes is included in the Investment Committee and Board materials for consideration. Since some of the proposed changes to Policy 6 are also referenced in Board Policy 4 (Investment Policy), a redline reflecting how the proposed changes in Policy 6 would tie to Policy 4 is also included for consideration.

D. Private Equity Consultant Report.

- 1. 2021 Private Equity Pacing Schedule (Total Pacing \$300 Million Dollars).** Michael Bacine of Franklin Park will provide the 2021 pacing schedule for private equity. Typically, ATRS has been pacing up to 2% of its underlying value for private equity for the next calendar year. Based upon assumptions of the projected market value of total assets for the next ten years, Franklin Park and ATRS staff recommend private equity pacing of \$300 million dollars for 2021 in order to maintain a 12% allocation to private equity.

In years past, an allocation of the total pacing amount was made for venture capital and international private equity through Franklin Park vehicles. The Board has already approved a total commitment of \$60 million to Franklin Park Venture Capital Fund XIII (a new multi-year venture fund) this year; therefore, no venture commitment is recommended at this time. In addition, the Board authorized a commitment of \$30 million to Franklin Park International Fund X, a new two-year fund earlier this year; thus, no new commitment is necessary at this time. However, one direct buyout, growth, or turnaround fund investment for \$30 million is planned to be made outside the U.S. in 2021. No new allocation is needed for the ATRS/FP Private Equity Fund (formerly the "Franklin Park Co-Investment Fund") due to the sizable amount of recallable distributions that have accumulated and can be used for new investments. The ATSR/FP Private Equity Fund will target to use these recallable distributions to invest in Franklin Park Co-Investment Fund V, a new five-year fund made up of existing as well as new Franklin Park clients (see item B. below). Franklin Park also expects to commit \$240 million to approximately eight funds with buyout, growth, or turnaround strategies within the U.S. An additional \$30 million dollars will be targeted to invest in a debt/distressed asset fund as well. These targets and amounts are subject to available investment opportunities and prevailing market conditions. Actual amounts may vary as pacing is subject to

change over the year according to available investment opportunities.

- a. **Eight Small or Mid Buyout/Growth/Turnaround \$30 Million Dollars Each in the U.S.** Buyout refers to funds that seek to acquire controlling interests in companies. Growth funds seek a minority interest in successful companies that need additional capital to expand. Turnaround funds invest in troubled or bankrupt companies that require special expertise to become profitable. This is an allocation for eight of these funds at a \$30 million level each for a total of \$240 million dollars.
 - b. **One Small or Mid Buyout/Growth/Turnaround \$30 Million Dollars Each Outside the U.S.** Buyout refers to funds that seek to acquire controlling interests in companies. Growth funds seek a minority interest in successful companies that need additional capital to expand. Turnaround funds invest in troubled or bankrupt companies that require special expertise to become profitable. This is an allocation for one of these funds located outside of the U.S. at a \$30 million level.
 - c. **One Debt/Distressed Assets \$30 Million Dollars.** These funds lend money at higher interest rates to companies with liquidity needs. These managers also purchase the debt obligations of a company at or below actual value using specialized skills. The purpose of the purchase of debt can be to make interest, get the value from the discount price of the debt, or to obtain the company's equity after a default on the debt. This is an allocation for one of these funds at a \$30 million level.
 - d. **ATRS/FP Private Equity Fund (Co-Investment Fund) No New Allocation.** This item is explained below in item B.
2. **ATRS/FP Private Equity Fund, L. P., a Multi-Strategy Fund Focused on Co-Investments and Other Strategies That Seeks to Use Accumulated Recallable Distributions to Fund an**

Investment in Franklin Park Co-Investment Fund V, L.P. and Discussion of Change in Fee Structure. Recallable distributions that have not previously been authorized by the Board for in this fund have accumulated to approximately \$113.6 million at this time. In recent years, the Board has typically approved a new investment of up to \$30 million dollars in this fund. Due to the sizable amount of available recallable distributions, no new allocation is needed at this time. Recallable distributions may only be used by the fund for new investments with the consent of ATRS. ATRS's consent for recallable distributions for this fund is normally obtained by ATRS staff receiving proper notice from the ATRS Board Chair. The consent is typically requested on an "as needed" basis as investment opportunities for the recallable distributions become available.

The ATRS/FP Private Equity Fund originated in 2012 as a vehicle in which ATRS could make private equity co-investments. Through the years, the fund evolved to incorporate other strategies such as small "next generation manager" funds and appraisal rights. Although the fund will still retain the ability to invest in these niche types of strategies, going forward the focus will be primarily on co-investments. A co-investment occurs when ATRS invests directly in a private company alongside a private equity manager. The benefit of private equity co-investment for ATRS is that the fund manager does not charge management fees or any incentive fees that are also called "carried interest" or "carry". Therefore, the potential for return on co-investments is much greater since no fees are netted from the investment.

For the last eight years, Franklin Park has done an excellent job of sourcing co-investment deals for ATRS as well as for their other clients, returning a net IRR of 18.3% on all co-investment transactions to date. ATRS has never paid management fees to the firm to manage the ATRS/FP vehicle as a whole or to manage the co-investment portion of the fund. The typical fees paid to the manager of a co-investment fund are a 1% management fee with 10% carried interest (1/10). Franklin Park's other clients have been paying 50 basis points and 10% carried interest (.5/10) for management of their co-investment portfolios. Franklin Park is now raising Franklin Park Co-Investment Fund V, a fund with a five-year investment period that will be open to both existing clients as well as non-client investors. The terms for the fund will be 1/10 for non-clients and .5/10 for clients. ATRS would benefit by investing in this new fund as it would align ATRS's interests with that of Franklin Park's other co-investment investors, simplify the accounting and administration of the ATRS/FP Fund, and would provide a source of incentive fees for Franklin Park's investment staff. Franklin Park is committed to remaining a small

boutique firm and is not seeking to add large clients to grow their fee base. The small size and high level of expertise of the firm are of significant benefit to ATRS because they allow Franklin Park to access top-tier funds in the small and middle markets where there is generally not enough capital allocation available for larger private equity investors. Small and middle market funds are a “sweet spot” for ATRS as they are often able to obtain better returns than larger funds due to less competition for deals. ATRS staff concurs with Franklin Park’s recommendation to invest in the new co-investment fund and to the fee structure.

Instead of requesting additional capital this year and to simplify the recallable distribution process for the tranche of accumulated distributions available for this fund, ATRS staff is requesting authority to provide ATRS consent to Franklin Park to recall the currently available amount of \$113.6 million plus an additional \$11.4 million (as it becomes available from distributions) for a total of up to \$125 million dollars to be committed in Franklin Park Co-Investment Fund V, L.P. during 2021.

XIV. Operations Committee Report. *Bobby Lester, Chair.*

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

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

B. ATRS 2021 Legislative Package.

- 1, **Definitions and Technical Corrections (JNL090)**
- 2, **Five Year Lookback (JNL091)**
- 3, **Unused Sick Leave (JNL092)**
- 4, **Reciprocity Final Average Salary (JNL093)**
- 5, **Employer Reporting (JNL094)**
6. **Separation Period (JNL095)**

XV. Staff Reports.

- A. Medical Committee Reports. A Total of 13 Disability Retirement Applications Approved.** The Medical Committee Report is a standard report made by staff on behalf of the Medical Committee approving

disability cases. A total of 28 disability applications were received, 13 were approved, 14 were denied, and 1 needed more information. **This is an action item.**

B. Financial Reports.

1. **Financial Statement Report.** The ATRS Chief Financial Officer will give the Board summary information for the financial reports for the year ending June 30, 2020. Plan net assets were \$17.7 billion dollars in fiscal year 2020. No action is needed for this information item.

2. **Travel Report.** The ATRS Chief Financial Officer will present a standard travel report showing the expenses for staff and Trustees for fiscal year ending June 30, 2020. Board travel expenses decreased in 2002 as compared to fiscal year 2019. Other staff travel also decreased in fiscal year 2020 as compared to fiscal year 2019. No action is needed for this information item.

C. Contract Review. Rod Graves, Deputy Director, handles coordinating the ATRS' contracts with the Office of State Procurement (OSP). The ATRS Board reviews the agency's contracts up for renewal annually or as needed as a part of the ATRS contract process. This process provides an opportunity for the Trustees to ask questions about any of the contracts on the list, approve or reject any contract being reviewed as a whole, approve or reject them individually, or ask for more information as needed. Once reviewed by the Board, staff prepares annual contracts and sends the contracts to the vendors for completion. Once the contracts are returned, the contracts are sent to the Arkansas Legislative Council for a legislative review. ATRS contracts are typically approved for a two year term. **This is an action item.**

D. Personnel Report. The personnel report is provided annually for information. ATRS currently has 87 appropriated positions with a cap set at 81. Currently, there are 74 positions filled and 13 are vacant. Ms. Vicky Fowler, the ATRS Human Resources Manager, will be available to answer any questions about this report.

XVI. Recognition of the Retirement of Candance Franks, Ex Officio Trustee.

a. **Resolution 2020-38.**

XVII. Other Business

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

**Monday, September 28, 2020
11:00 a.m.
1400 West Third Street
Little Rock, AR 72201**

ATTENDEES

Board Members Present

Danny Knight, Chair
Dr. Richard Abernathy, Vice Chair*
Anita Bell*
Lloyd Black*
Jason Brady, designee for Hon. Dennis Milligan*
Skot Covert, designee for Auditor Andrea Lea Kelly Davis*
Shawn Higginbotham *
Johnny Key, Cabinet Secretary of Department of Education*
Bobby Lester*
Chip Martin*
John Alhen, designee for Candace Franks
Robin Nichols*

Board Members Absent

Kathy Clayton

Guest Present

Donna Morey, ARTA*
David Kizzia, AEA*
ID# Capitol 2*
ID# 442071391664*
Felicia Smithy*
ID# singhpreeti*
Hannah Shackelford*
ID# 13023835849*

* via ZOOM

ATRS Staff Present

Clint Rhoden, Executive Director
Rod Graves, Deputy Director*
Tammy Porter, Ex. Assistant/Board Secretary
Curtis Carter, Chief Financial Officer
Willie Kincade, Assoc. Dir. Of Operations*
Manju, Director of Information Technology*
Jerry Meyer, Manager, Real Assets*
Martha Miller, General Counsel*
Kevin Odum, Attorney Specialist*
Leslie Ward, Manager, Private Equity*
Brenda West, Int. Audit/Risk Management*

Consultants Present

PJ Kelly, AHIC (Aon Hewitt) *
Katie Comstock, AHIC (Aon Hewitt) *
Chae Hong, AHIC (Aon Hewitt) *
Michael Bacine, Franklin Park*

- I. **Call to Order/Roll Call.** Mr. Danny Knight, Chair, called the Board of Trustees meeting to order at 11:29 a.m. Roll call was taken. Ms. Clayton was absent.

II. Motion for Excused Absences.

Ms. Nichols *moved to excuse Ms. Clayton from the September 28, 2020, Board of Trustees meeting. Mr. Lester seconded the motion, and the Board unanimously approved the motion.*

III. Adoption of Agenda.

Mr. Higginbotham *moved for adoption of the Agenda. Ms. Davis 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. June 1, 2020 Minutes.

Mr. Lester *moved for approval of the Minutes of the Board of Trustees meeting of June 1, 2020. Ms. Bell seconded the motion, and the Board unanimously approved the motion.*

B. June 30, 2020 Minutes.

Ms. Nichols *moved for approval of the Minutes of the Board of Trustees meeting of June 30, 2020. Ms. Davis seconded the motion, and the Board unanimously approved the motion.*

C. April 6, 2020 Minutes. (Scrivener's error)

Mr. Higginbotham *moved for approval of the Amended Minutes of the Board of Trustees meeting of April 6, 2020. Mr. Martin seconded the motion, and the Board unanimously approved the motion.*

VI. Scrivener's Error – Resolution 2020-07. A scrivener's error has been found on Resolution 2020-07, adopted February 3, 2020. The audio recording reflects the correct dates; however, the Resolution had the dates from the previous year

Mr. Lester *moved to adopt Amended Resolution No. 2020-07. Mr. Martin 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 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. Seven (7) employer penalties and interest amounts were waived for this reporting period in the amount of \$2,693.20.
- IX. Manifest Injustice For Board approval.**

In the Matter of MI Claim #2020-04. Mr. Rhoden and Ms. Miller presented the Board with the Manifest Injustice recommendation regarding this matter. The member was given a cost to re-purchase refunded service in early 2011. On March 28, 2011, the member signed a Purchase Account Commitment Statement to pay ATRS \$43,855.98, and the final payment was made in 2017 at about the same time the member filed an application to retire. According to the findings of Internal Audit, the member underpaid \$1,518.73 in contributions and \$34,841.21 in interest for a total underpayment of \$36,359.94.

In this case, the member paid the amount they were told by ATRS, which was over \$43,000. Notes indicate that staff assured the member in 2017 (while her retirement application was being processed) that everything was in order and that they had paid the correct amount to re-purchase the refunded service. The member has been retired and receiving monthly payments for a little over three years. It would be grossly unfair to now notify the member that ATRS had made a mistake in 2017 that would require them to pay another substantial sum---almost as much as the member paid before---or agree to a reduction in the member's monthly benefit

The Manifest Injustice Committee believes that a manifest injustice exists and recommends that the Board approve the remedy to waive repayment of contributions and interest in the total amount of \$36,841.21 as contemplated by A.C.A. §24-7-205(b)(4) and Rule 17.

The executive staff concurs with the Manifest Injustice Committee's recommendation.

Mr. Black moved to approve the Recommendation of the MI Committee to waive repayment of contributions and interest in the total amount of \$36,841.21. Ms. Nichols seconded the motion, and the Board unanimously approved the motion.

- X. Forfeiture Recommendations Pursuant A.C.A 24-7-734(6).** A.C.A. §24-7-734(b) provides that benefits that are not paid within five (5) years of the date they are due may be forfeited if (1) ATRS is unable to contact the person entitled to the benefit by mail addressed to the last known address on record; or (2) if the person entitled to the benefit fails to submit the required paperwork to ATRS to claim the benefit.

ATRS Staff does not currently have any new recommendations for the Board.

- XI. Calculation of Lump Sum Death Benefit.** Mr. Rhoden presented the Board with a recommendation on the Lump Sum Death Benefit. With recent changes to Rule 11, the language for setting the lump sum death benefit was removed so that it could be set by resolution by the Board annually if desired. Analysis of the existing lump sum death benefit calculations for members with mixed contributory and noncontributory service revealed an issue that should be discussed before the Board sets the current lump sum death benefit.

a, Resolution 2020-27

Ms. Bell moved to adopt Resolution 2020-27, Calculation of Lump Sum Death Benefit. Ms. Davis seconded the motion and the Board unanimously adopted the Resolution.

- XII. ATRS CASH Program for Fiscal Year 2021.** The CASH Program expired on June 30, 2020. 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, 2020.

a. Resolution No. 2020-28

Ms. Nichols moved to adopt Resolution 2020-28, ATRS CASH Program for Fiscal Year 2021. Mr. Lester seconded the motion and the Board unanimously adopted the Resolution.

XIII. Adoption of Interest Rate for Regular T-DROP Accounts for Fiscal Year 2021. The ATRS Board annually sets the interest rates on T-DROP accounts. In November 2017, 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 November 2017 resolution allows the Board to award an incentive rate of up to 3% which when combined with the 3% fixed rate provides a maximum T-DROP rate of 6%. The executive staff recommends the combined rate to be set at 3% for the fiscal year 2020-2021.

a. Resolution No. 2020-29

Mr. Higginbotham *moved to adopt* Resolution 2020-29, Adoption of Interest Rate for Regular T-DROP Accounts for Fiscal Year 2021. Ms. Davis *seconded the motion* and the Board *unanimously adopted the Resolution.*

XIV. Adoption of Interest Rate for Post 10 Year T-DROP Accounts for Fiscal Year 2021. The ATRS Board annually sets the interest rates on Post 10 Year T-DROP accounts. In November 2017, 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 November 2017 resolution allows the Board to award an incentive rate of up to 1.5% which when combined with the 6% maximum rate provides a maximum Post 10 Year T-DROP rate of 7.5%. The executive staff recommends the combined rate to be set at 4% for fiscal year 2020-2021.

a. Resolution No. 2020-30

Mr. Lester *moved to adopt* Resolution 2020-30, Adoption of Interest Rate for Post 10 Year T-DROP Accounts for Fiscal Year 2021. Mr. Black *seconded the motion* and the Board *unanimously adopted the Resolution.*

XV. CBA Incentive Interest Determination. 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 2020-2021.

a. Resolution No. 2020-31

Mr. Black moved to adopt Resolution 2020-31, CBA Incentive Interest Determination. Ms. Bell seconded the motion and the Board unanimously adopted the Resolution.

XVI. Audit Committee Report. *Kelly Davis, Audit Committee Chair.*

A. Internal Audit: History Adjustment. Ms. Dena Dixon provided the internal audit report of the History Adjustments.

XVII. Investment Committee Report. *Robin Nichols, Investment Committee Chair.*

A. Arkansas Related and Investment Update. Rod Graves, Deputy Director, gave an update on recent Investment activity.

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

- 1. Preliminary Performance Report for the Quarter Ending June 30, 2020.** PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a preliminary performance report for the quarter ending June 30, 2020.
- 2. Preliminary Performance Report for the Month Ending August, 31, 2020.** PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a preliminary performance report for the month ending August 31, 2020.
- 3. Emerging Manager Report for Fiscal Year Ended June 30, 2020.** P.J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting (AHIC) provided the Committee 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, 2020.

C. Real Assets Consultant Report. *Aon Hewitt Investment Consulting.*

- 1. Performance Report for the Quarter Ended March 31, 2020.** Chae Hong of Aon Hewitt Investment Consulting provided the

Committee with a performance report for the quarter ending March 31, 2020.

2. **Recommendation to Commit up to \$50 Million Dollars in Kayne Anderson Real Estate Partners VI, L.P. (“KAREP VI”), a Closed-End Opportunistic Real Estate Fund Focused on Senior Housing and Medical Offices.** Chae Hong of Aon Hewitt Investment Consulting provided the Committee with the recommendation to Commit up to \$50 Million Dollars in Kayne Anderson Real Estate Partners VI, L.P. (“KAREP VI”), a Closed-End Opportunistic Real Estate Fund Focused on Senior Housing and Medical Offices.

ATRS staff concurs with the recommendation.

Ms. Nichols *moved to adopt* Resolution 2020-24, to Commit up to \$50 Million Dollars in Kayne Anderson Real Estate Partners VI, L.P. (“KAREP VI”), a Closed-End Opportunistic Real Estate Fund Focused on Senior Housing and Medical Offices. The Board *unanimously adopted the Resolution.*

3. **Recommendation to Commit up to \$40 Million Dollars in PGIM Real Estate Capital VII SCSp, (“PRECap VII”), a Closed-End Real Estate Fund Specializing in Junior and Senior Debt in the European Real Estate Market.** Chae Hong of Aon Hewitt Investment Consulting provided the Committee with the recommendation to Commit up to \$40 Million Dollars in PGIM Real Estate Capital VII SCSp, (“PRECap VII”), a Closed-End Real Estate Fund Specializing in Junior and Senior Debt in the European Real Estate Market.

ATRS staff concurs with the recommendation.

Ms. Nichols *moved to adopt* Resolution 2020-25, to Commit up to \$40 Million Dollars in PGIM Real Estate Capital VII SCSp, (“PRECap VII”), a Closed-End Real Estate Fund Specializing in Junior and Senior Debt in the European Real Estate Market. The Board *unanimously adopted the Resolution.*

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

1. **Preliminary Private Equity Portfolio Review for the Quarter Ended June 30, 2020.** Michael Bacine of Franklin Park provided the Committee with a portfolio review for the quarter ending June 30, 2020.
2. **Emerging Manager Report for Fiscal Year Ended June 30, 2020.** Michael Bacine of Franklin Park provided the Committee 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, 2020.
3. **Recommendation to Make an Additional Commitment of up to \$30 Million Dollars in Franklin Park Corporate Finance Access Fund, L.P., a Fund of Funds Managed by Franklin Park Investing in Smaller Buyout, Growth, and Turnaround Private Equity Funds.** Michael Bacine of Franklin Park provided the Committee with the recommendation to make an additional Commitment of up to \$30 Million Dollars in Franklin Park Corporate Finance Access Fund, L.P., a Fund of Funds Managed by Franklin Park Investing in Smaller Buyout, Growth, and Turnaround Private Equity Funds.

ATRS staff concurs with the recommendation.

Ms. Nichols *moved to adopt Resolution 2020-26, to Make an Additional Commitment of up to \$30 Million Dollars in Franklin Park Corporate Finance Access Fund, L.P., a Fund of Funds Managed by Franklin Park Investing in Smaller Buyout, Growth, and Turnaround Private Equity Funds. The Board unanimously adopted the Resolution.*

- E. **Other Business.** Rod Graves provided the Committee with a report on the potential sale of the property owned by ATRS in West Memphis, Arkansas, and Texarkana, Arkansas. ATRS has owned the property since 2000. The property was listed in 2016 for sale. ATRS has a potential buyer for the property. However, the potential buyer has noted a number of needed repairs to the property. ATRS staff is requesting authorization to sell the property for appraised value minus the cost of repairs.

Ms. Nichols *moved to approve Authority to sale the ATRS property in West Memphis and Texarkana, Arkansas, for*

the appraised value minus the cost of repairs. The Board unanimously *approved the motion.*

XVII. Operations Committee Report. 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. ATRS 2021 Legislative Package. Director Rhoden gave the Committee a status report on potential 2021 Legislative Package. Drafts of potential legislation was presented to the Committee.

XIX. Staff Reports.

A. Medical Committee Report. Mr. Kincade reported that a total of 55 disability applications were received. 27 were approved, 13, were denied, and 14 needed more approved.

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

XX. Recognition of Trustees. Director Rhoden recognized Mr. Janet Watson and Dr. Richard Abernathy on their service to the ATRS Board of Trustees.

A. Resolution 2020-32.

Mr. Lester *moved to adopt* Resolution 2020-32, Recognition of Janet Watson’s service to the ATRS Board of Trustees. Mr. Black *seconded the motion*, and the Board *unanimously adopted the Resolution.*

B. Resolution 2020-33.

Mr. Lester *moved to adopt* Resolution 2020-32, Recognition of Dr. Richard Abernathy’s service to the ATRS Board of Trustees. Mr. Black *seconded the motion*, and the Board *unanimously adopted the Resolution.*

XXI. Recognize Vacancies.

A. Resolution 2020-34

Mr. Lester *moved to adopt* Resolution 2020-34, to Recognize that a Vacancy exists for Position #2 – 2nd Congressional District on the ATRS Board of Trustees. Ms. Bell *seconded the motion*, and the Board *unanimously adopted the Resolution*.

B. Resolution 2020-35

Ms. Nichols *moved to adopt* Resolution 2020-35, to Recognize that a Vacancy exists for Position #5 – Administrator Trustee on the ATRS Board of Trustees. Mr. Martin *seconded the motion*, and the Board *unanimously adopted the Resolution*.

XXII. Fulfillment of Vacancies Pursuant to A.C.A. 24-7-302(b)(2).

Mr. Lester *moved to accept* Applications for the 2 vacant positions on the Board of Trustees. Once applications are received, a special meeting will be called sometime in November to consider the applications before the December meeting. Mr. Black *seconded the motion*, and the Board *unanimously approved the Motion*.

XXIII. Other Business. None.

XXIV. Adjourn.

Mr. Lester *moved to adjourn* the Board Meeting. Mr. Black *seconded the motion*, and the Board *unanimously approved the motion*.

Meeting adjourned at 12:10 p.m.

Clint Rhoden,

Mr. Danny Knight, Chair

Executive Director

Board of Trustees

Tammy Porter,
Recorder

Date Approved

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

**Monday, November 9, 2020
4:00 p.m.
1400 West Third Street
Little Rock, AR 72201**

ATTENDEES

Board Members Present

Danny Knight, Chair
Jason Brady designee for Dennis Milligan*
Anita Bell *
Lloyd Black*
Kathy Clayton*
Kelly Davis*
Shawn Higginbotham*
Johnny Key, Secretary, Dep. Of Ed*
Andrea Lea, State Auditor*
Bobby Lester*
Chip Martin*
Susannah Marshall, Bank Commissioner*
Robin Nichols*

ATRS Staff Present

Clint Rhoden, Executive Director
Rod Graves, Deputy Director*
Tammy Porter, Ex. Asst/Board Secretary
Martha Miller, General Counsel*
Wille Kincade, Assoc. Director of Operations*
Manju, Director, Information Systems*

Guest Present

Will Muoio, Reporter, Pageant Media*

* *via telephone*

- I. **Call to Order/Roll Call.** Mr. Danny Knight, called the Board of Trustees meeting to order at 4:00 p.m. Roll call was taken. All members were present

- II. **Adoption of Agenda.**

Ms. Nichols moved for adoption of the Agenda. Ms. Clayton seconded the motion, and the Committee unanimously approved the motion.

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

- V. **Executive Session.** The Board has authority to fill vacant Board positions by appointment for member Trustees. Two vacancies exist and the Board has asked for this item to be placed on the agenda. The Board has traditionally gone into Executive Session to discuss an appointment to the Board as allowed by the

Arkansas Freedom of Information Act. Therefore, staff has placed this item on the Board agenda for that purpose.

Ms. Bell *moved to convene* into Executive Session for the purpose of discussing filling the vacant positions on the Board. Ms. Clayton *seconded the motion* and the Board *unanimously approved the motion*.

Mr. Knight, Chair, called the Executive Session of the Board of Trustee to Order at 4:09 p.m.

Mr. Knight, Chair, reconvened the Board of Trustees meeting at 4:50 p.m.

VI. Appointment of Trustees to fill Unexpired Terms until the next system Election.

A. Appointment of Trustee to fill Unexpired Term for Member Position No. 2.

Ms. Bell *moved to approve* the Appointment of Mr. Michael Allen Johnson, to fill the Unexpired Term until the next system Election for Member Position No. 2 on the Board of Trustees. Mr. Higginbotham *seconded the motion* and the Board *unanimously approved the motion*.

B. Appointment of Trustee to fill Unexpired Term for Member Position No. 5

Ms. Clayton *moved to approve* the Appointment of Dr. Michael Hernandez, to fill the Unexpired Term until the next system Election for Member Position No. 5, on the Board of Trustees. Mr. Lester *seconded the motion* and the Board *unanimously approved the motion*.

VII. Other Business. None

VIII. Adjourn.

With no further business, Mr. Knight *moved to adjourn* the meeting.

Meeting adjourned at 4:55 p.m.

Clint Rhoden
Executive Director

Mr. Danny Knight Chair
Board of Trustees

Tammy Porter,
Board Secretary

Date Approved



Arkansas Teacher Retirement System

Valuation Results as of June 30, 2020

December 7, 2020

Brian B. Murphy, FSA, EA, FCA, MAAA, PhD

Judith A. Kermans, EA, FCA, MAAA

Heidi G. Barry, ASA, FCA, MAAA



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Agenda



June 30, 2020 Valuation Results

1



Going Forward

2



Current Events

3



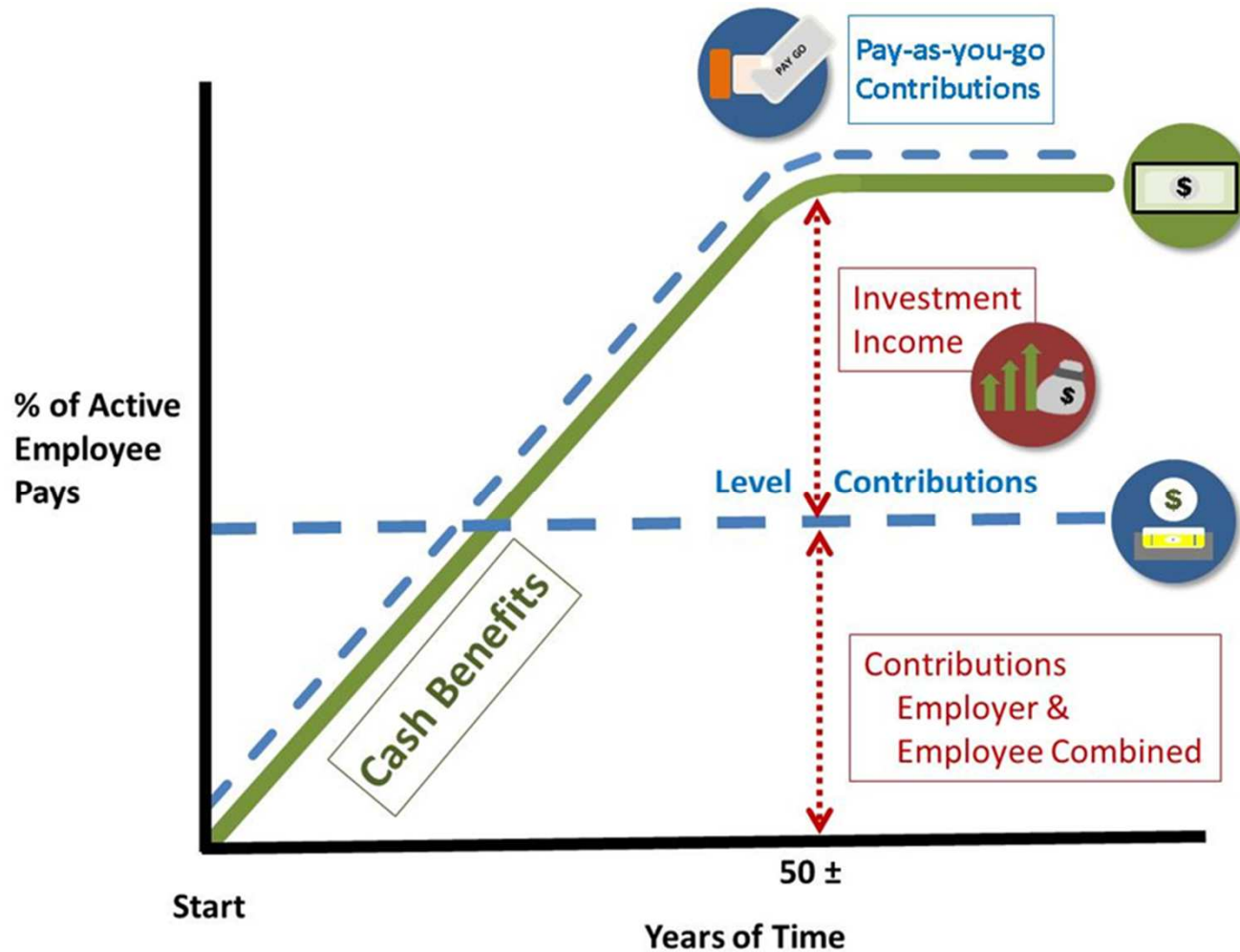
Funding Objectives

24-7-401 (a). Fund contributions -- Fund rates.

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



Financing Increasing Benefit Obligations



What Is Needed to Meet Objectives?

Reasonable forecasts of resources and obligations
(i.e., good assumptions)

Smoothing devices

- Level % of payroll funding method (EANC)
- Market-related asset valuation method

Funding discipline

A sound investment program



Covered Population Overview



	Number at June 30		% Change
	2020	2019	
Active	66,900	68,457	-2.3%
TDROP	3,639	3,707	-1.8%
Inactive	13,338	13,033	2.3%
Retired	50,133	48,677	3.0%
Total	134,010	133,874	0.1%

ATRS receives full employer contributions for Active and TDROP members and for 4,019 retirees who have returned to work.

Active, TDROP and RTW Members

June 30	Number				Total Payroll	% Change
	Active	TDROP	RTW	Total	\$Millions	
2014	70,225	4,127	3,845	78,197	\$ 2,851	
2015	68,945	3,974	3,741	76,660	2,874	0.8%
2016	68,368	3,864	3,829	76,061	2,888	0.5%
2017	68,337	3,811	3,881	76,029	2,922	1.2%
2018	68,645	3,696	4,029	76,370	2,986	2.2%
2019	68,457	3,707	4,077	76,241	3,027	1.4%
2020	66,900	3,639	4,019	74,558	3,078	1.7%

The actuarial valuation assumes the number of working members will remain constant at the current level and that the payroll will increase at 2.75% per year. In recent years the total number of working members has decreased and the payroll has not increased at the assumed rate. A decreasing population means less contribution income for the Retirement System than expected and can lead to funding difficulties in extreme cases.



Non-TDRDP Active Members

		Group Averages			
June 30	Number	Age	Service	Average Earnings	% Change
2014	70,225	44.7	10.2	\$35,673	2.16%
2015	68,945	44.6	10.3	36,717	2.93%
2016	68,368	44.4	10.3	37,235	1.41%
2017	68,337	44.3	10.2	37,707	1.27%
2018	68,645	44.2	10.2	38,477	2.04%
2019	68,457	44.1	10.1	39,065	1.53%
2020	66,900	44.3	10.3	40,709	4.21%



T-DROP Active Members

June 30	Number	Payroll		
		Average	\$ Millions	% Change
2014	4,127	\$61,234	\$252.7	
2015	3,974	61,874	245.9	-2.7%
2016	3,864	61,943	239.3	-2.7%
2017	3,811	62,127	236.8	-2.7%
2018	3,696	62,456	230.8	-1.1%
2019	3,707	62,812	232.8	-2.5%
2020	3,639	63,477	231.0	-0.8%



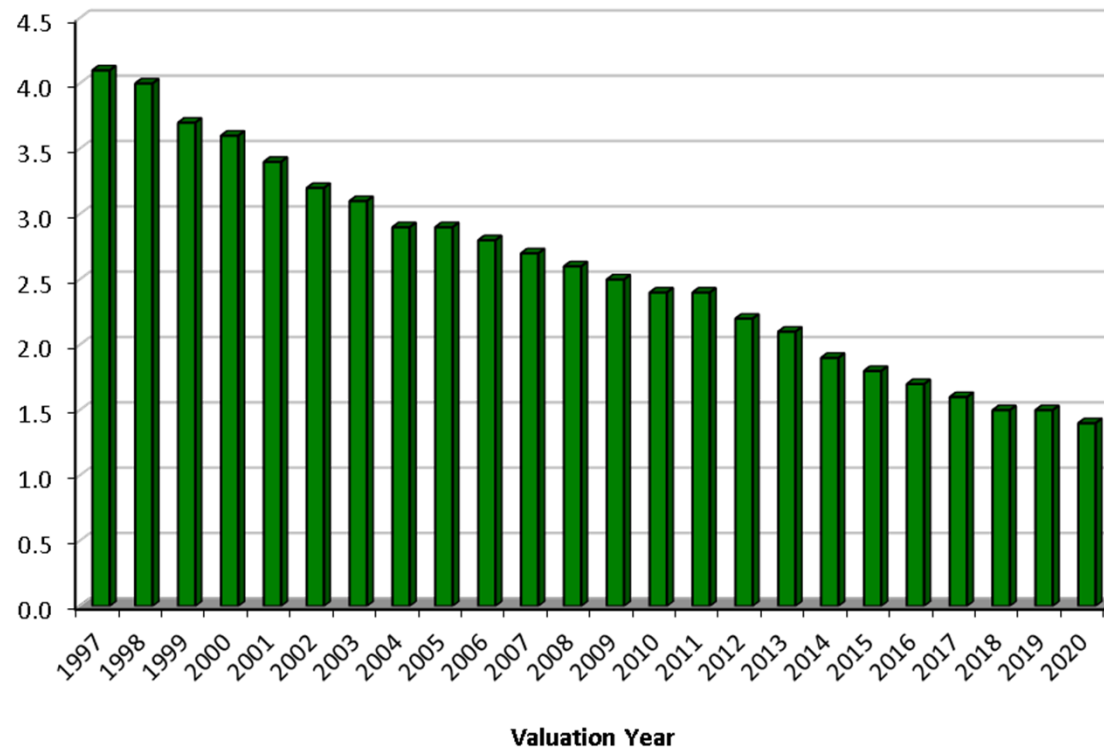
Deferred Vested and Retired Members

June 30	Deferred Members			Retired Members		
	Number	Benefit		Number	Benefit	
		\$ Millions	Average		\$ Millions	Average
2014	11,763	\$60.8	\$5,168	38,478	\$822.2	\$21,368
2015	12,379	66.3	5,353	40,748	916.6	22,495
2016	12,937	72.2	5,577	43,095	983.9	22,830
2017	12,401	72.9	5,877	45,092	1,044.7	23,169
2018	12,544	66.2	5,279	46,824	1,099.3	23,478
2019	13,033	69.5	5,336	48,677	1,146.7	23,558
2020	13,338	72.9	5,464	50,133	1,194.8	23,833



Ratio of Actives to Retirees

Active Members Per Retired Life *

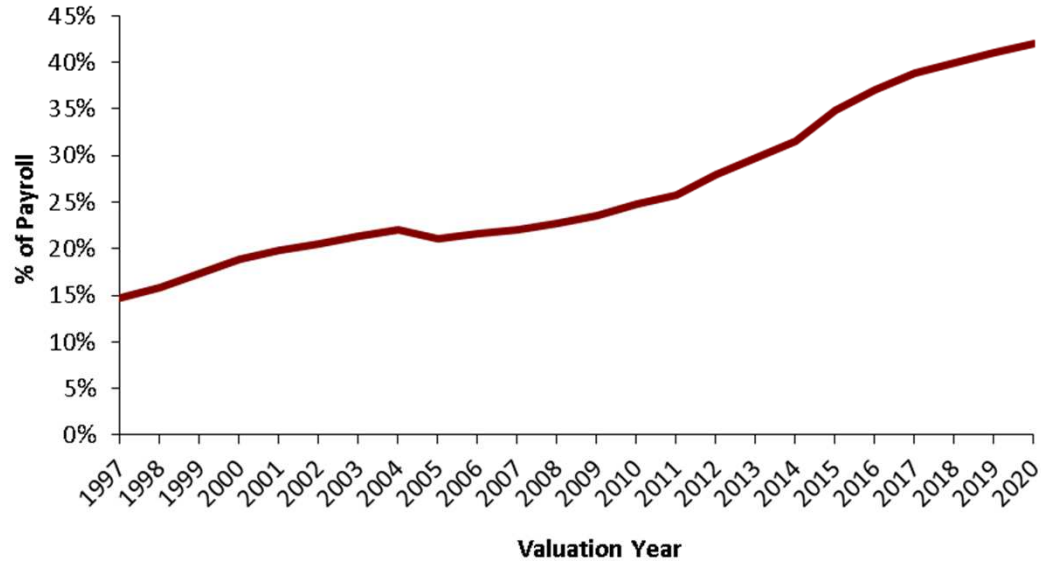


* Members in T-DROP are included with Active members.



Retirement Benefits as a Percent of Active Member (and T-DROP) Payroll

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



** Beginning with the June 30, 2011 valuation, includes T-DROP participants and payroll.*



EXPERIENCE

in FY 2020

The amortization period is 27 years, a decrease from the 28-year period last year

There was an investment loss this year based on the Funding Value of Assets

Details of other experience in the Gain/Loss analysis this spring



Investment Experience

Under the asset valuation method, investment gains and losses are spread over a 4-year period

This year there was a \$1.5 billion (Market Value) investment loss

25% of the loss was recognized this year and the remaining 75% will be recognized over 3 future years

This year's 25% recognized loss was added to portions of gains and losses from prior years producing a net \$20.9 million loss (Funding Value)



Development of Funding Value of Assets

Year Ended June 30:	2019	2020	2021	2022	2023
A. Funding Value Beginning of Year	\$ 16,756,062,928	\$ 17,412,534,651			
B. Market Value End of Year	17,741,621,773	16,902,076,224			
C. Market Value Beginning of Year	17,492,627,740	17,741,621,773			
D. Non-Investment Net Cash Flow	(642,256,050)	(665,324,622)			
E. Investment Return					
E1. Market Total: B - C - D	891,250,083	(174,220,927)			
E2. Assumed Rate	7.50%	7.50%	7.50%		
E3. Amount for Immediate Recognition	1,232,620,118	1,280,990,426			
E4. Amount for Phased-In Recognition: E1-E3	(341,370,035)	(1,455,211,353)			
F. Phased-In Recognition of Investment Return					
F1. Current Year: 0.25 x E4	(85,342,509)	(363,802,838)	Unknown	Unknown	Unknown
F2. First Prior Year	156,914,612	(85,342,509)	\$ (363,802,838)	Unknown	Unknown
F3. Second Prior Year	271,285,424	156,914,612	(85,342,509)	\$ (363,802,838)	Unknown
F4. Third Prior Year	(276,749,872)	271,285,423	156,914,613	(85,342,508)	\$ (363,802,839)
F5. Total Recognized Investment Gain	66,107,655	(20,945,312)	(292,230,734)	(449,145,346)	(363,802,839)
G. Funding Value End of Year:					
G1. Preliminary Funding Value End of Year: A+D+E3+F5	17,412,534,651	18,007,255,143			
G2. Upper Corridor Limit: 120% x B	21,289,946,128	20,282,491,469			
G3. Lower Corridor Limit: 80% x B	14,193,297,418	13,521,660,979			
G4. Funding Value End of Year	17,412,534,651	18,007,255,143			
H. Actual/Projected Difference between Market and Funding Value	329,087,122	(1,105,178,919)	(812,948,185)	(363,802,839)	-
I. Market Rate of Return	5.19 %	(1.00)%			
J. Funding Rate of Return	7.90 %	7.38 %			
K. Ratio of Funding Value to Market Value	98.15 %	106.54 %			



Results of the 6/30/2020 Valuation

Actuarial Accrued Liabilities for:	\$Millions	
	2020	2019
Age and service retirement allowances based on total service likely to be rendered by <i>present active and TDROP members</i>	\$ 8,501	\$ 8,316
Benefits payable to present retirees and beneficiaries	12,890	12,460
Benefits payable for all other reasons	961	933
Total	\$22,352	\$21,709
Funding Value of Assets	18,007	17,413
Unfunded Actuarial Accrued Liabilities (UAAL)	\$ 4,345	\$ 4,296
% Funded Based on		
Funding Value of Assets	81%	80%
Market Value of Assets	76%	82%

If the UAAL were measured based on the market value of assets, it would be \$5,450 Million.



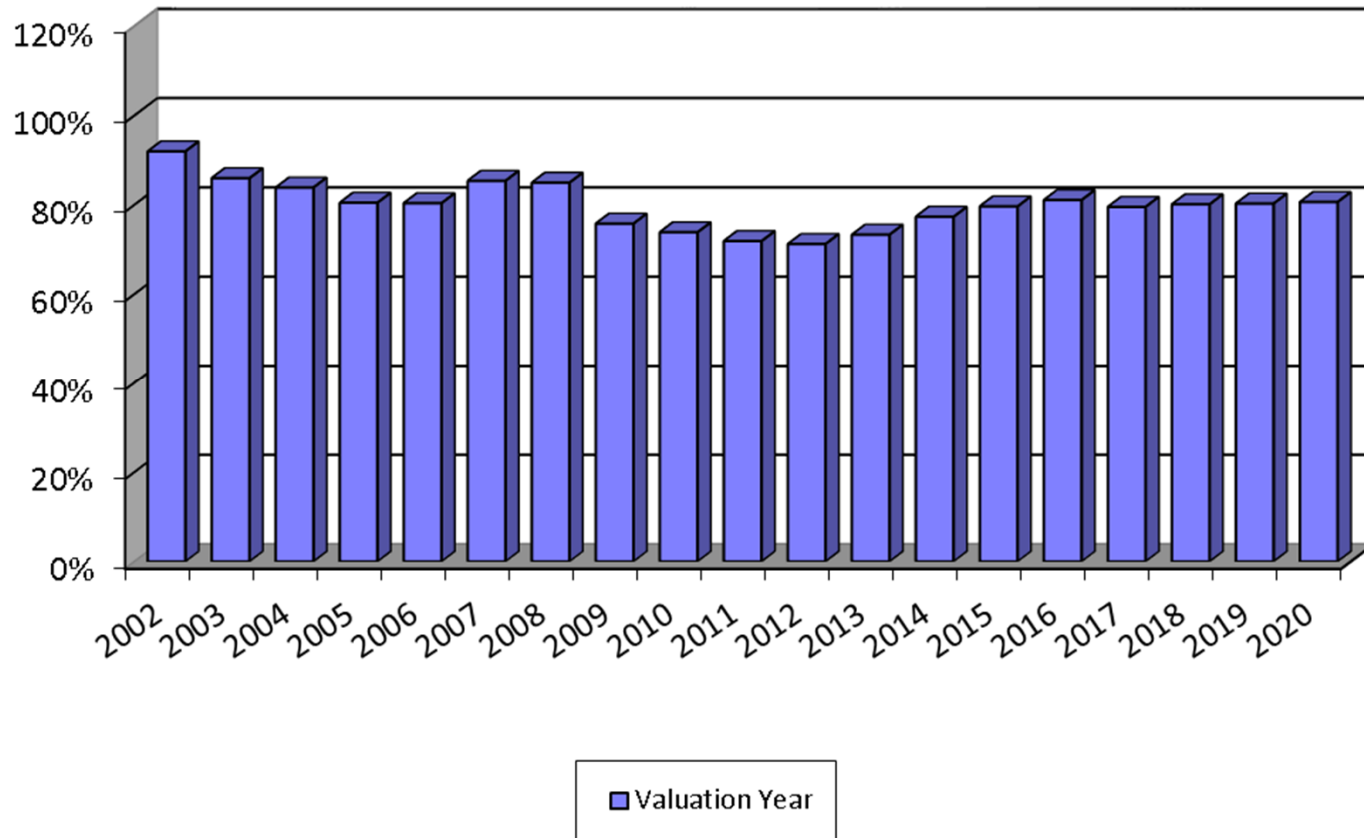
Results of 6/30/2020 Valuation

	% Payroll	
	2020	2019
1) Employer Normal Cost	6.27%	6.26%
2) UAAL	8.73%	8.74%
3) Employer Contribution Rate	15.00%	15.00%
Amortization Years	27	28

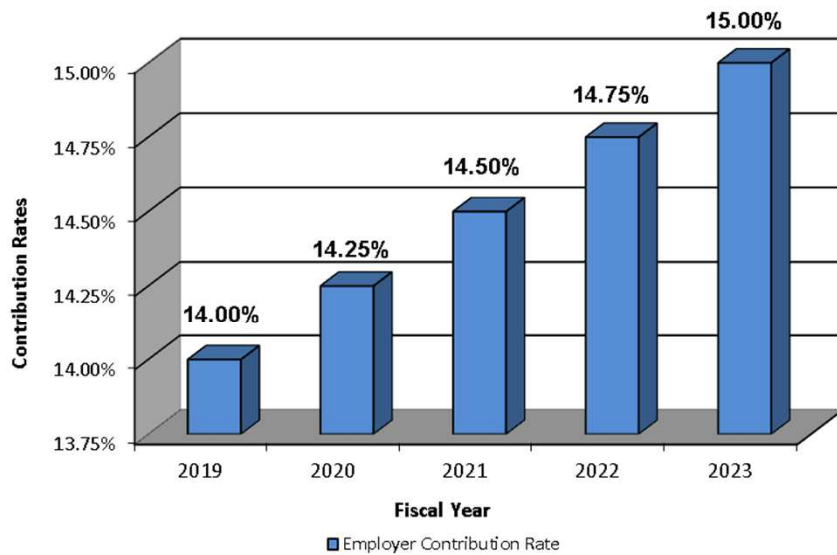
The employer and employee contribution rates each increase by 0.25% per year from FY 2020 through FY 2023 to ultimate levels of 15% and 7% respectively. The increases were taken into account in determining the amortization period. If the Market Value of Assets were used in the calculations instead of the funding value of assets, the resulting amortization period would be 47 years instead of the 27 years that is shown.



Funded Ratio: Actuarial Value of Assets as Percents of Accrued Liabilities

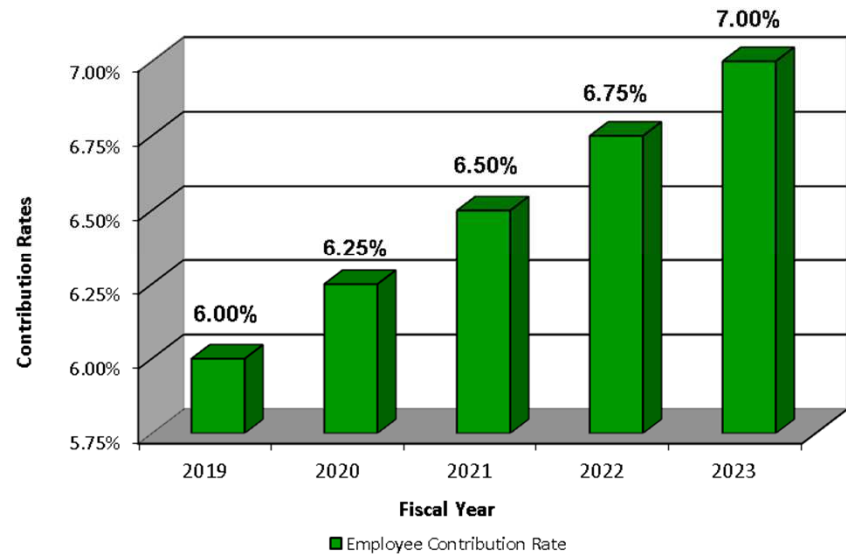


Future Increases in Contribution Rates



The Employer Contribution Rate is scheduled to increase by 0.25% each year and reach an ultimate rate of 15.0% by FY 2023

The Employee Contribution Rate is scheduled to increase by 0.25% each year and reach an ultimate rate of 7.0% by FY 2023



Disclosures of Risk

Maturity Measures

- Ratio of actives to retired, etc.

Scenario Testing

- Specify potential future events that differ from assumptions and estimate the effect on future results.

Stress Testing

- Specify adverse changes in one or a few factors affecting the plans financial condition and assess the impact.

Stochastic Modeling

- Simulations showing envelope of outcomes that could occur.

Other

- Sensitivity testing, liability measures under minimal risk investment policy, etc.

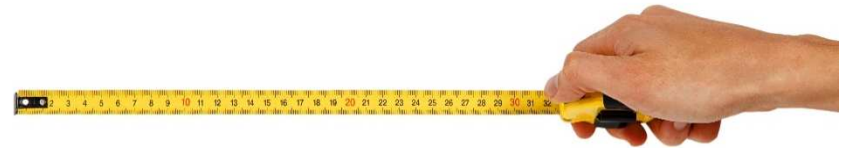


Maturity Measures



	2020	2019	2018	2017	2016
Number of Active and TDROP Participants	70,539	72,164	72,341	72,148	72,232
Number of Terminated Vested Participants	13,338	13,033	12,544	12,401	12,937
Number of Retirees	50,133	48,677	46,824	45,092	43,095
Retiree % of Total Liabilities	57.7%	57.4%	56.6%	55.9%	55.4%
Commentary	Retired participants account for approximately 58% of plan liabilities, a proportion which has been steadily increasing over the past 5 years. This is indicative of a maturing plan. As a plan matures, it becomes more sensitive to investment volatility.				

Maturity Measures (\$Millions)



	2020	2019	2018	2017	2016
Actuarial Accrued Liability	22,352	21,709	20,935	20,298	18,812
Payroll	2,954	2,907	2,872	2,814	2,785
Ratio of Actuarial Accrued Liability to Payroll	756.7%	746.8%	728.9%	721.3%	675.5%
Duration of the Present Value of Future Benefits	13.83	13.82	13.86	13.88	13.39

Commentary

As the ratio of actuarial accrued liability to payroll increases, the amortization period becomes increasingly sensitive to the effects of demographic gains and losses, and assumption changes. For example, a 1% demographic gain or loss would correspond to 7.567% of payroll and would affect the amortization period by 3 years based on the 2020 results.

The duration of the present value of future benefits may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, the current duration of 13.8 indicates that the present value of future benefits would increase approximately 13.8% if the assumed rate of return were lowered 1%. Such a change could affect the amortization period by 20 years or more.



Maturity Measures (\$Millions)



	2020	2019	2018	2017	2016
Market Value of Assets	16,902	17,742	17,493	16,285	14,559
Payroll	2,954	2,907	2,872	2,814	2,785
Ratio of Market Value of Assets to Payroll	572.2%	610.3%	609.1%	578.7%	522.7%

Commentary

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. The market value of assets is currently 5.7 times the payroll indicating that a return on assets 2% different from assumed would equal approximately 11% of payroll. Such a change could affect the amortization period by approximately 5 years based on 2020 results. While asset smoothing would reduce the effect, asset gains and losses much larger than 2% are common. An increasing level of this maturity measure generally indicates an increasing volatility in the amortization period.



Additional Maturity Measures (\$Millions)

Valuation Date June 30	(1) Accrued Liabilities (AAL)	(2) Market Value of Assets	(3) Unfunded AAL (1)-(2)	(4) Valuation Payroll	(5) % Change in Payroll	(6) Funded Ratio (2)/(1)	(7) Annuitant Liabilities (AnnLiab)	(8) AnnLiab/AAL (7)/(1)
2010#	\$14,697	\$9,884	\$4,813	\$2,381	2.7%	67.2%	\$6,516	44.3%
2011#*	\$15,521	\$11,895	\$3,626	\$2,728	14.6%	76.6%	\$7,132	46.0%
2012	\$16,139	\$11,484	\$4,655	\$2,714	-0.5%	71.2%	\$7,649	47.4%
2013#	\$16,718	\$12,830	\$3,888	\$2,727	0.5%	76.7%	\$8,181	48.9%
2014	\$17,310	\$14,856	\$2,454	\$2,758	1.1%	85.8%	\$8,777	50.7%
2015	\$18,136	\$15,036	\$3,100	\$2,777	0.7%	82.9%	\$9,778	53.9%
2016	\$18,812	\$14,559	\$4,253	\$2,785	0.3%	77.4%	\$10,430	55.4%
2017	\$20,298	\$16,285	\$4,013	\$2,814	1.0%	80.2%	\$11,337	55.9%
2018#*	\$20,935	\$17,493	\$3,442	\$2,872	2.1%	83.6%	\$11,851	56.6%
2019	\$21,709	\$17,742	\$3,967	\$2,907	1.2%	81.7%	\$12,460	57.4%
2020	\$22,352	\$16,902	\$5,450	\$2,954	1.6%	75.6%	\$12,890	57.7%

Benefit Change

* Assumption change

Valuation Payroll includes T-DROP beginning in 2011



Additional Maturity Measures (\$Millions)

Valuation Date June 30	(9) Liability/ Payroll (1)/(4)	(10) Assets/ Payroll (2)/(4)	(11) Est. Portfolio Std. Dev	(12) Std Dev % of Pay (10)x(11)	(13) Unfunded/ Payroll (3)/(4)	(14) Net External Cash Flow (NECF)	(15) NECF/ Assets (9)/(2)	(16) Portfolio Rate of Return	(17) 10 year Trailing Average
2010#	617.3%	415.1%			202.2%	(\$203)	-2.1%	14.2%	3.6%
2011#*	569.0%	436.1%			132.9%	(\$201)	-1.7%	22.6%	6.1%
2012	594.7%	423.2%			171.5%	(\$285)	-2.5%	-1.1%	6.6%
2013#	613.1%	470.5%			142.6%	(\$337)	-2.6%	14.9%	8.0%
2014	627.6%	538.6%			89.0%	(\$395)	-2.7%	19.2%	8.2%
2015	653.1%	541.5%			111.6%	(\$445)	-3.0%	4.3%	7.7%
2016	675.5%	522.8%			152.7%	(\$505)	-3.5%	0.2%	6.3%
2017	721.3%	578.7%			142.6%	(\$556)	-3.4%	16.0%	6.0%
2018#*	728.9%	609.0%	12.7%	77.3%	119.9%	(\$607)	-3.5%	11.4%	7.6%
2019	746.8%	610.3%	12.5%	76.3%	136.5%	(\$642)	-3.6%	5.2%	10.4%
2020	756.7%	572.2%	12.6%	71.5%	184.5%	(\$665)	-3.9%	-1.0%	8.8%

Benefit Change

* Assumption change

Valuation Payroll includes T-DROP beginning in 2011



Footnotes



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

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

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

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



Footnotes



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

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

(16) and (17) Investment return is probably the largest single risk that most systems face. The year by year return and the 10 year geometric average give an indicator of past performance of the portfolio. The averages are of course distorted by the extraordinary events of 2008, and the past is not a predictor of the future.

SCENARIO TESTING





About Projections

The projections that follow are based upon many assumptions about the future.

Actual future valuation results will take all known future information into account and will differ from the projections -- perhaps materially.

Projected results are very sensitive to the rates of payroll growth and liability growth that are assumed. In the long run, according to theory, both of those figures should approach 2.75%.



The Future

Let's have a look at projected valuation results and the amortization period for the next few years based on alternate future rates of investment return for 2021.

All scenarios assume a 7.5% return for years after 2021.

All scenarios assume a 15% of pay contribution rate.

Of course, actual experience will determine what actually happens.



Projected Amortization Years

Valuation Year	2021	2022	2023
Projection A			
Investment Return	7.5%	7.5%	7.5%
Amortization Years	31	33	37
Projection B			
Investment Return	10%	7.5%	7.5%
Amortization Years	29	30	32
Projection C			
Investment Return	5%	7.5%	7.5%
Amortization Years	32	36	44





Going Forward

Projections shown indicate that the amortization period will be 31 years in the next valuation if experience is as assumed.

With a 31 year period, the UAAL grows in \$ amount each year, although it declines as a % of payroll. This situation is referred to as “negative amortization” and is falling out of favor, particularly in situations where the active contributing population is declining.

“Negative Amortization” in the context of a mortgage is said to occur during any period during which the loan payment is less than the interest due so that the outstanding balance of the loan actually increases, rather than decreases, as one would normally expect.





Going Forward

Based upon ATRS' assumptions, it takes about an 18-year period to avoid the “negative amortization.”

Unfortunately, it will take some very large investment gains to get us to 18 years in the shorter term. A contribution increase to the 17.6% of pay area would get us there now.



Risk Management

May involve:

- Reduction in assumed rate of investment return
- Reviewing asset allocation with a goal of reducing the standard deviation of the portfolio return
- Reducing asset-liability mismatch
- Other



Risk Management

Experience Study



- ATRS is due for an experience study in the spring of 2021
- The actuary will use five years of data to analyze trends in retirement, quits, mortality, pay raises, etc.
- Additional focus and analysis on the economic assumptions including expected assumed rates of return going forward
- The study will help ATRS reset its sails and move into the future





CURRENT EVENTS



Who Could Have Imagined This a Year Ago?



COVID Effects on People

- 10 Million+ total cases in US so far
- 65,000+ people currently hospitalized
- 233,000+ deaths from COVID
 - Older people
 - Minorities
 - Those with underlying health conditions
 - Tragic cases involving small children
- 4 Million+ recoveries from COVID

Source: COVID Tracking Project as of 11/11/2020



COVID Metrics

NATIONWIDE COVID-19 METRICS. 7-DAY AVERAGE LINES

Apr 1 - Nov 10



Source: The COVID Tracking Project

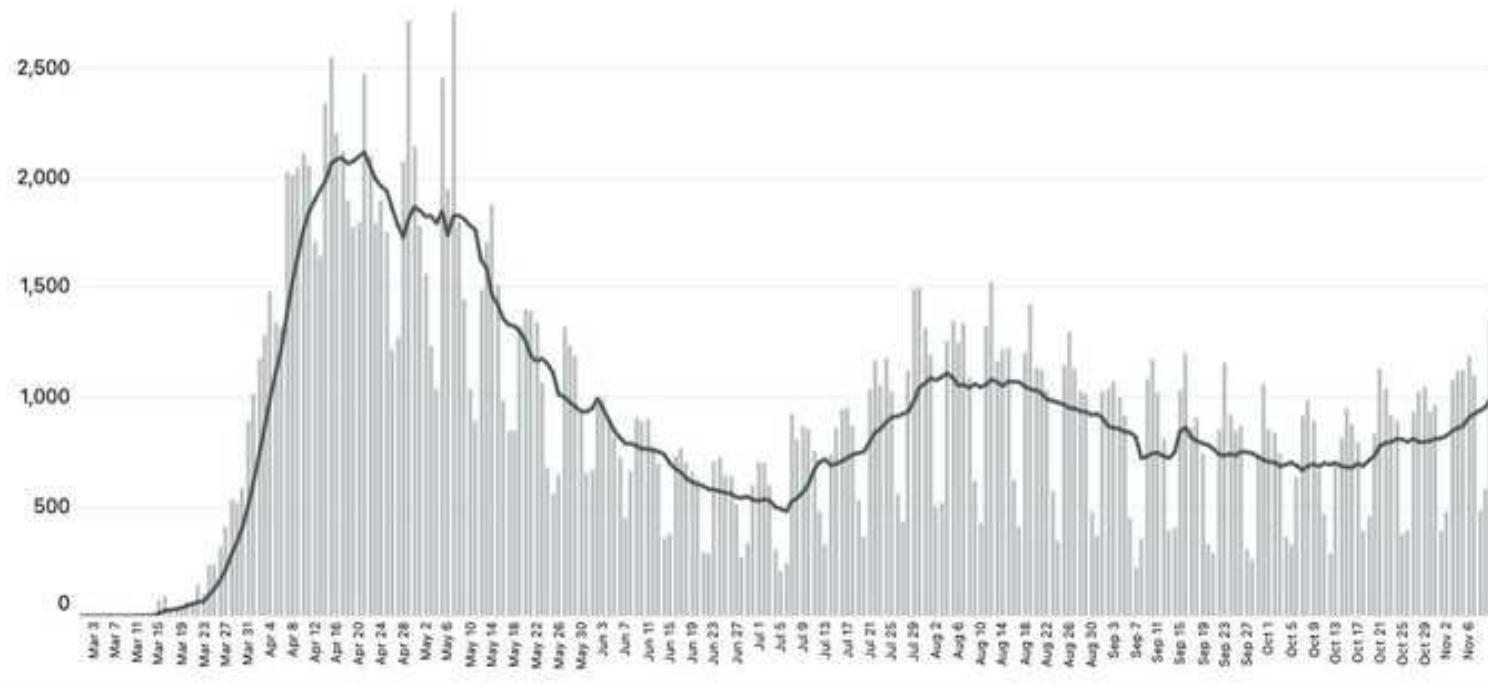
● Single Day Record



COVID Deaths

US DAILY DEATHS. 7-DAY AVERAGE LINE

Mar 1 - Nov 10



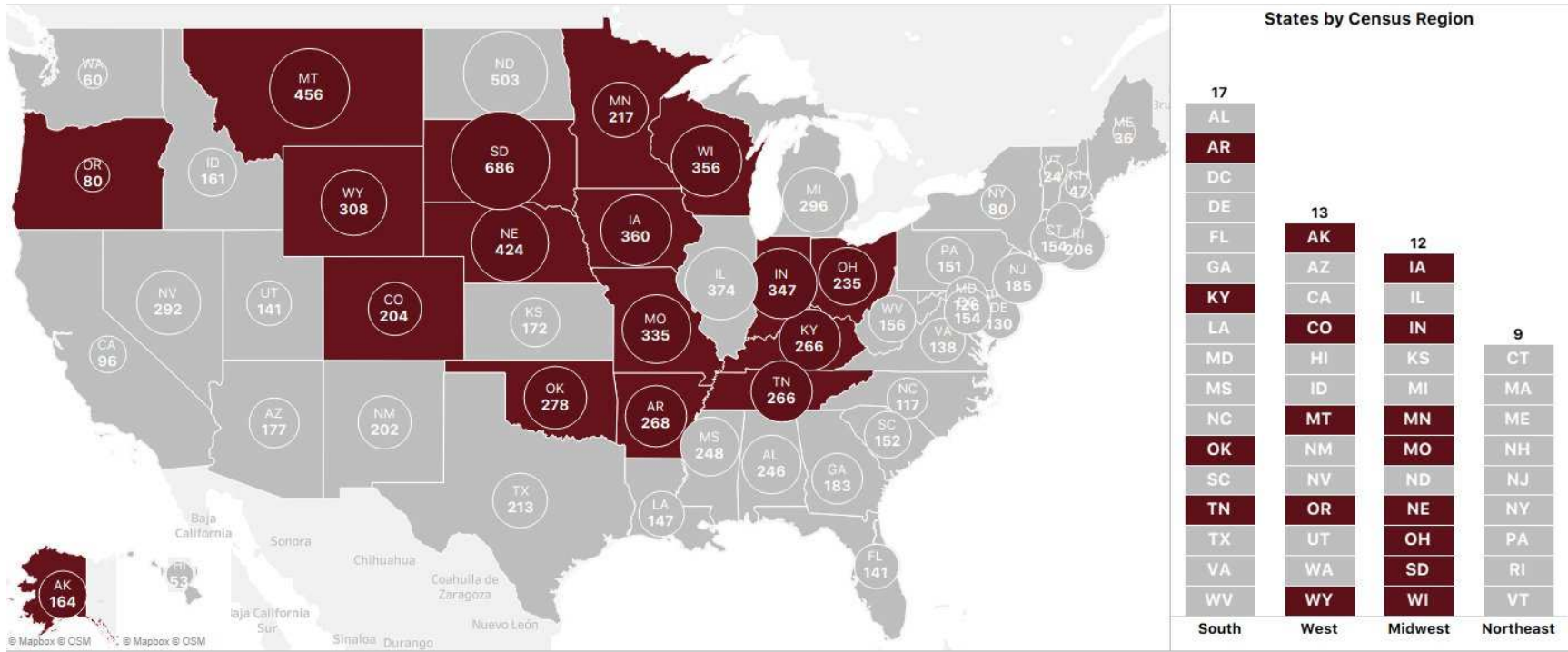
Source: The COVID Tracking Project



COVID Hospitalizations

CURRENTLY HOSPITALIZED PER MILLION PEOPLE

NOV 10



Source: The COVID Tracking Project

Record High Hospitalizations

COVID and School Funding

- Almost half of the nation's 13,000 school districts may be forced to make the deepest cuts to education spending in a generation—slashing programs and laying off hundreds of thousands of administrators, teachers and other staff—to fend off financial collapse brought on by the coronavirus.
- The economic impact on schools will be historic, but not random. The districts most at risk share demographic profiles—student populations that are heavily minority and low-income—and they get more than half their revenue from state aid.
- Even before the coronavirus pandemic, 6,000 districts identified in an Education Week analysis were underfunded and had [yet to recover](#) from the recession between 2007 and 2009. The districts enroll 24 million students—nearly half the population of all U.S. public schools.
- With states now collectively projecting [spending cuts](#) in the coming years in the range of \$500 billion, administrators in such districts will be forced to make very difficult choices.

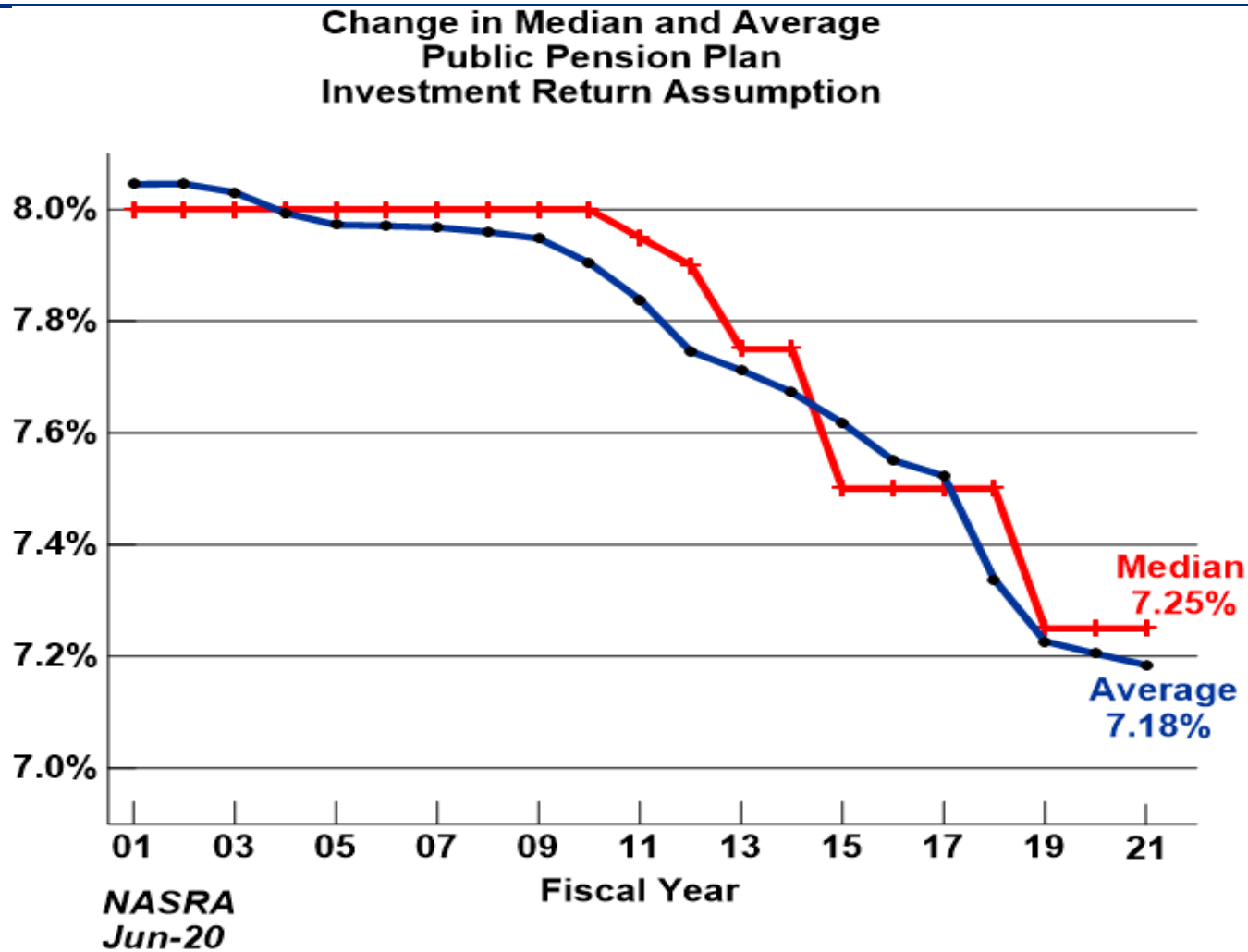


Financial Effects of COVID on Pension Plans

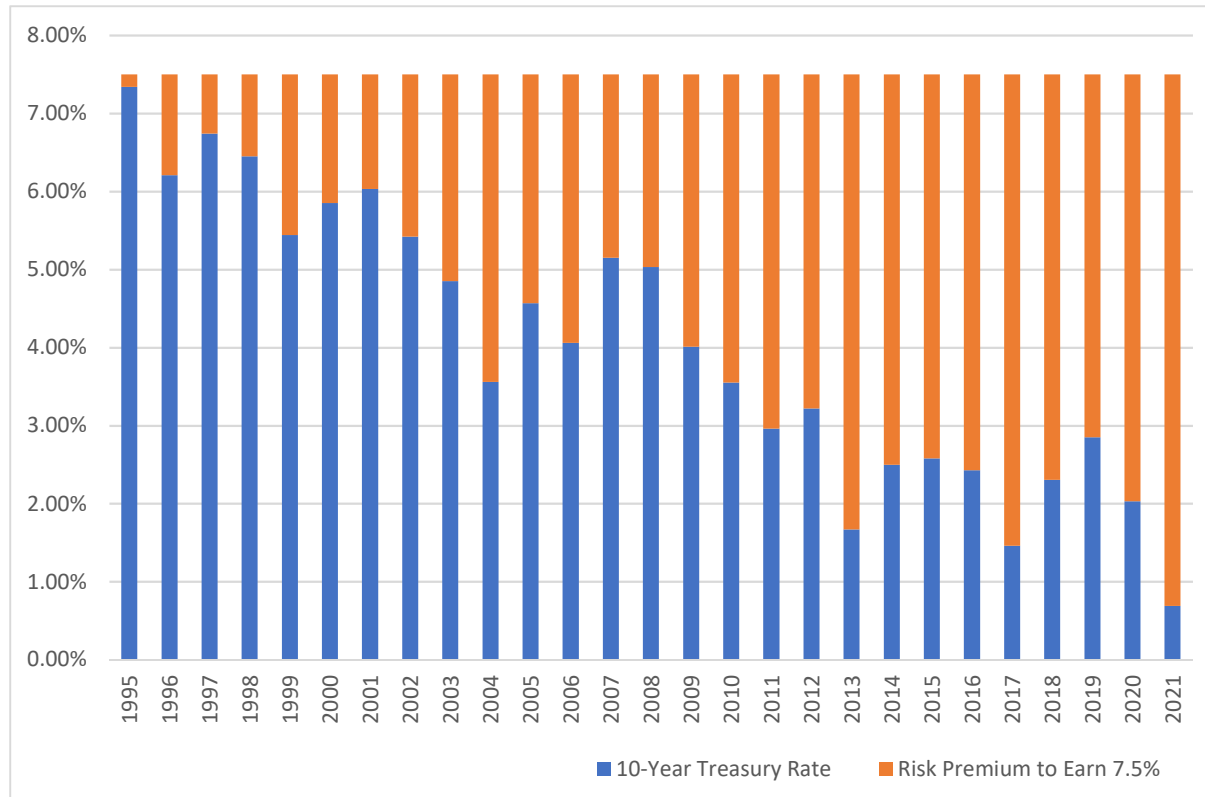
- On March 23, the S&P 500 was down 30.43% from the end of 2019. According to a report from Moody's published March 24, U.S. public plans were on pace for an average investment loss of about 21% for the fiscal year ended June 30.
- Despite stocks plummeting in March when the COVID-19 pandemic was accelerating, most large public plans with heavy exposures to US equities experienced single-digit returns for the fiscal year ended June 30, thanks to markets rebounding since then. The S&P 500 rebounded 39.31% from March 23 through June 30.
 - A little math: $(1-.3043) \times (1+0.3931) = 0.969$
 - A 30% loss followed by a near 40% gain is still a loss.
- This was a relief compared to where they were at end of March.



Actuarial Assumptions Headed Down Anyway



But COVID is Making It Worse



A much more risky portfolio is required to yield 7.5% return today than was the case in the past.



Demographic Effects of COVID on Plans

- Increased retiree mortality (shorter lifetimes)
 - Human effect very significant; Financial effect likely small
- Decreased future mortality (longer lifetimes)
 - Survivors may be fundamentally healthier than those who died.
 - New habits from pandemic may slow the spread of future illnesses
 - BUT virus could have lingering effects among those affected
- Potential increases in disability incidence and mortality from those recovering from COVID-19 and those who have delayed needed non-COVID-19 medical care during the quarantine period
- Discussion of COVID as “Service Connected Death/Disability”



Effects of COVID on Workforce

- Layoffs, furloughs
- Permanent staffing reductions
- Trend toward earlier retirement?
- Lower voluntary turnover

All of the above raise issues for pension plan funding.

Direct Financial Effects on Pension Plans

- Potential sharp reductions in the ongoing revenues available to support public pension plans due to decreased tax collections
- Possible short-term contribution “relief”
- Funding challenges leading to benefit cuts or increased momentum toward Defined Contribution plans

There is Light at the End of the Tunnel



And it's not a train headed toward us



Treatments are Coming

- Remdesivir made by Gilead Sciences under the brand Veklury, is the first drug to gain approval from the FDA for the treatment of Covid-19. It works by interfering with the creation of new viruses, inserting itself into new viral genes.
- U.S. Food and Drug Administration issued an emergency use authorization for the investigational monoclonal antibody therapy bamlanivimab for the treatment of mild-to-moderate COVID-19 in adult and pediatric patients.





Vaccines are Coming

- Pfizer announced positive early results from its coronavirus vaccine trial, cementing the lead in a frenzied global race that has unfolded at record-breaking speed
- Pfizer's early data shows that its vaccine is more than 90% effective
- Moderna's early data indicates that its Covid-19 vaccine works and may be 94.5% effective
- Early results from trials of a Covid-19 vaccine developed in Russia suggest it could be 92% effective

The Way Forward



The course is not always straight and true, but we need to stick to it despite its sharp curves.

Conclusions and Recommendations

- ATRS has survived many challenges in the past
- Apply lessons of the past to the future
 - Maintain sound funding policy
 - Ensure realistic investment return expectations
 - Ensure proper match between financial resources and benefit design
 - Ensure fair treatment of all plan participants

Disclaimers

- This presentation is intended to be used in conjunction with the June 30, 2020 actuarial valuation report. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- Readers are cautioned to examine original source materials and to consult with subject matter experts before making decisions related to the subject matter of this presentation.
- If anything in this presentation or in the full report appears to you to be incorrect or if you need additional information in order to make an informed decision on matters discussed herein, please contact the authors.
- This presentation expresses the views of the authors and does not necessarily express the views of Gabriel, Roeder, Smith & Company.



STATEMENT OF FINANCIAL INTEREST

State/District officials file with:

John Thurston, Secretary of State
State Capitol, Room 026
Little Rock, AR 72201
Phone (501) 682-5070
Fax (501) 682-3548

Calendar year covered _____

(Note: Filing covers the previous calendar year)

For assistance in completing
this form contact:
Arkansas Ethics Commission
Phone (501) 324-9600
Toll Free (800) 422-7773

Is this an amendment? Yes No

Please provide complete information. If the information requested in a particular section does not apply to you, indicate such by noting “**Not Applicable**” in that section. Do not leave any part of this form blank. If additional space is needed, you may attach the information to this document. Do not file this form with the Arkansas Ethics Commission.

SECTION 1- NAME AND ADDRESS

Name _____
(Last) (First) (Middle)

Address _____
(Street or P.O. Box Number) (City) (State) (Zip Code)

Phone _____

Spouse's name _____
(Last) (First) (Middle)

All names under which you and/or your spouse do business: _____

SECTION 2- REASON FOR FILING

- Public Official _____
(office held)
- Candidate _____
(office sought)
- District Judge _____
(name of district)
- City Attorney _____
(name of city)
- State Government: Agency Head/Department Director/Division Director _____
(name of agency/department/division)
- Chief of Staff or Chief Deputy _____
(name of Constitutional Officer, Senate, or House of Representatives)
- Public appointee to State Board or Commission _____
(name of board/commission)
- School Board member _____
(name of school district)
- Candidate for school board _____
(name of school district)
- Public or Charter School Superintendent _____
(name of school district/school)
- Executive Director of Education Service Cooperative _____
(name of cooperative)
- Advertising and Promotion Commission member _____
(name of advertising and promotion commission)
- Research Park Authority Board member under A.C.A. § 14-144-201 et seq. _____
(name of research park authority board)

SECTION 2- REASON FOR FILING (continued)

- Appointee to one of the following municipal, county or regional boards or commissions (list name of board or commission):
- Planning board or commission _____
 - Airport board or commission _____
 - Water or Sewer board or commission _____
 - Utility board or commission _____
 - Civil Service commission _____

SECTION 3- SOURCE OF INCOME

List each employer and/or each other source of income from which you, your spouse, or any other person for the use or benefit of you or your spouse receives gross income amounting to more than \$1,000. (You are not required to disclose the individual items of income that constitute a portion of the gross income of the business or profession from which you or you spouse derives income. For example: accountants, attorneys, farmers, contractors, etc. do not have to list their individual clients.) If you receive gross income exceeding \$1,000 from at least one source, the answer N/A is not correct.

- a) Check appropriate box: More than \$1,000 More than \$12,500

(name of employer or source of income)

(address)

(name under which income received)

Provide a brief description of the nature of the services for which the compensation was received _____

- b) Check appropriate box: More than \$1,000 More than \$12,500

(name of employer or source of income)

(address)

(name under which income received)

Provide a brief description of the nature of the services for which the compensation was received _____

- c) Check appropriate box: More than \$1,000 More than \$12,500

(name of employer or source of income)

(address)

(name under which income received)

Provide a brief description of the nature of the services for which the compensation was received _____

SECTION 4- BUSINESS OR HOLDINGS

List the name of every business in which you, your spouse or any other person for the use or benefit of you or your spouse have an investment or holding. Individual stock holdings should be disclosed. Figures should be based on fair market value at the end of the reporting period.

a) Check appropriate box: More than \$1,000 More than \$12,500

(name of corporation, firm or enterprise)

(address)

(name under which investment held)

b) Check appropriate box: More than \$1,000 More than \$12,500

(name of corporation, firm or enterprise)

(address)

(name under which investment held)

c) Check appropriate box: More than \$1,000 More than \$12,500

(name of corporation, firm or enterprise)

(address)

(name under which investment held)

d) Check appropriate box: More than \$1,000 More than \$12,500

(name of corporation, firm or enterprise)

(address)

(name under which investment held)

e) Check appropriate box: More than \$1,000 More than \$12,500

(name of corporation, firm or enterprise)

(address)

(name under which investment held)

f) Check appropriate box: More than \$1,000 More than \$12,500

(name of corporation, firm or enterprise)

(address)

(name under which investment held)

SECTION 5- OFFICE OR DIRECTORSHIP

List every office or directorship held by you or your spouse in any business, corporation, firm, or enterprise subject to jurisdiction of a regulatory agency of this State, or of any of its political subdivisions.

a) _____
(name of business, corporation, firm, or enterprise)

(address)

(office or directorship held)

(name of office holder)

b) _____
(name of business, corporation, firm, or enterprise)

(address)

(office or directorship held)

(name of office holder)

SECTION 6- CREDITORS

List each creditor to whom the value of five thousand dollars (\$5,000) or more was personally owed or personally obligated and is still outstanding. (This does not include debts owed to members of your family or loans made in the ordinary course of business by either a financial institution or a person who regularly and customarily extends credit.)

a) _____
(name of creditor)

(address of creditor)

b) _____
(name of creditor)

(address of creditor)

c) _____
(name of creditor)

(address of creditor)

SECTION 7- PAST-DUE AMOUNTS OWED TO GOVERNMENT

List the name and address of each governmental body to which you are legally obligated to pay a past-due amount and a description of the nature of the amount of the obligation.

a) _____
(name of governmental body) (address of governmental body)

(amount owed) (nature of the obligation)

b) _____
(name of governmental body) (address of governmental body)

(amount owed) (nature of the obligation)

SECTION 8- GUARANTOR OR CO-MAKER

List each guarantor or co-maker who has guaranteed a debt of yours that is still outstanding. (This includes debt guarantors arising or extended and refinanced after Jan. 1, 1989. Members of your family who are your guarantors are not required to be disclosed.)

a) _____
(name)

(address)

b) _____
(name)

(address)

SECTION 9- GIFTS

List the source, date, description, and a reasonable estimate of the fair market value of each gift of more than \$100 received by you or your spouse and of each gift of more than \$250 received by your dependent children. The term "gift" is defined as "any payment, entertainment, advance, services, or anything of value unless consideration of equal or greater value has been given therefor." There are a number of exceptions to the definition of "gift." Those exceptions are set forth in the Instructions for Statement of Financial Interest prepared for use with this form. (Note: The value of an item shall be considered to be less than \$100 if the public servant reimburses the person from whom the item was received any amount over \$100 and the reimbursement occurs within ten (10) days from the date the item was received.)

a) _____
(description of gift)

(date) (fair market value)

(source of gift)

b) _____
(description of gift)

(date) (fair market value)

(source of gift)

c) _____
(description of gift)

(date) (fair market value)

(source of gift)

d) _____
(description of gift)

(date) (fair market value)

(source of gift)

e) _____
(description of gift)

(date) (fair market value)

(source of gift)

SECTION 10- AWARDS

If you are an employee of a public school district, the Arkansas School for the Blind, the Arkansas School for the Deaf, the Arkansas School for Mathematics, Sciences, and the Arts, a university, a college, a technical college, a technical institute, a comprehensive life-long learning center, or a community college, the law requires you to disclose each monetary or other award over one hundred dollars (\$100) which you have received in recognition of your contributions to education. The information disclosed with respect to each such award should include the source, date, description, and a reasonable estimate of the fair market value.

a) _____
(description of award)

_____ (date) _____ (fair market value)

_____ (source of award)

b) _____
(description of award)

_____ (date) _____ (fair market value)

_____ (source of award)

c) _____
(description of award)

_____ (date) _____ (fair market value)

_____ (source of award)

d) _____
(description of award)

_____ (date) _____ (fair market value)

_____ (source of award)

SECTION 11- NONGOVERNMENTAL SOURCES OF PAYMENT

List each nongovernmental source of payment of your expenses for food, lodging, or travel which bears a relationship to your office when you appear in your official capacity when the expenses incurred exceed \$150.

a) _____
(name of person or organization paying expense)

_____ (business address)

_____ (date of expense) _____ \$ _____ (amount of expense)

_____ (nature of expenditure)

b) _____
(name of person or organization paying expense)

_____ (business address)

_____ (date of expense) _____ \$ _____ (amount of expense)

_____ (nature of expenditure)

SECTION 12- DIRECT REGULATION OF BUSINESS

List any business which employs you and is under direct regulation or subject to direct control by the governmental body which you serve.

a) _____
(name of business)

(governmental body which regulates or controls)

b) _____
(name of business)

(governmental body which regulates or controls)

c) _____
(name of business)

(governmental body which regulates or controls)

d) _____
(name of business)

(governmental body which regulates or controls)

SECTION 13- SALES TO GOVERNMENTAL BODY

List the goods or services sold to the governmental body for which you serve which have a total annual value in excess of \$1,000. List the compensation paid for each category of goods or services sold by you or any business in which you or your spouse is an officer, director, or stockholder owning more than 10% of the stock of the company.

a) _____
(goods or services)

(governmental body to whom sold)

(compensation paid)

b) _____
(goods or services)

(governmental body to whom sold)

(compensation paid)

c) _____
(goods or services)

(governmental body to whom sold)

(compensation paid)

d) _____
(goods or services)

(governmental body to whom sold)

(compensation paid)

SECTION 14- SIGNATURE

I certify under penalty of false swearing that the above information is true and correct.

Signature

STATE OF ARKANSAS

} ss

COUNTY OF _____

Subscribed and sworn before me this _____ day of _____, 20_____ .

(Legible Notary Seal)

Notary Public

My commission expires: _____

Note: If faxed, notary seal must be legible (i.e., either stamped or raised and inked) and the original must follow within ten (10) days pursuant to Ark. Code Ann. § 21-8-703(b)(3).

IMPORTANT

Where to file:

- State or district candidates/public servants file with the Secretary of State.
- Appointees to state boards/commissions file with the Secretary of State.
- County, township, and school district candidates/public servants file with the county clerk.
- Municipal candidates/public servants file with the city clerk or recorder, as the case may be.
- City attorneys file with the city clerk of the municipality in which they serve.
- District judges file with the Secretary of State.
- Members of regional boards or commissions file with the county clerk of the county in which they reside.

General Information:

- * The Statement of Financial Interest should be filed by January 31 of each year.
- * The filing covers the previous calendar year.
- * Candidates for elective office shall file the Statement of Financial Interest for the previous calendar year on the first Monday following the close of the period to file as a candidate for elective office unless already filed by January 31. In addition, if the party filing period ends before January 1 of the year of the general election, candidates for elective office shall file a Statement of Financial Interest for the previous calendar year by no later than January 31 of the year of the general election.
- * Agency heads, department directors, and division directors of state government shall file the Statement of Financial Interest within thirty (30) days of appointment or employment unless already filed by January 31.
- * Appointees to state boards or commissions shall file the Statement of Financial Interest within thirty (30) days after appointment unless already filed by January 31.
- * If a person is included in any category listed above for any part of a calendar year, that person shall file a Statement of Financial Interest covering that period of time regardless of whether they have left their office or position as of the date the statement is due.

INSTRUCTIONS FOR STATEMENT OF FINANCIAL INTEREST

INTRODUCTION/WHO MUST FILE

Ark. Code Ann. § 21-8-701(a) requires that the following persons file a written Statement of Financial Interest on an annual basis:

- A public official, as defined by Ark. Code Ann. § 21-8-402(17);
- A candidate for elective office;
- A district judge; or city attorney, whether elected or appointed;
- Any agency head, department director, or division director of state government;
- Any chief of staff or chief deputy of a constitutional officer, the Senate, or the House of Representatives;
- Any public appointee to any state board or commission (who possesses regulatory authority or is authorized to receive or disburse state or federal funds);¹
- All persons who are elected members of a school board or who are candidates for a position on a school board;
- All public and charter school superintendents;
- All executive directors of education service cooperatives;
- Any person appointed to a municipal, county or regional (i) planning board or commission, (ii) airport board or commission, (iii) water or sewer board or commission, (iv) utility board or commission, or (v) civil service commission;
- Any member of an advertising and promotion commission; and
- Any member of a research park authority board under Ark. Code Ann. § 14-144-201 et seq.

The Arkansas Ethics Commission, which enforces this statute, has prepared these instructions, along with the office of the Secretary of State, whose office maintains the records, to assist persons required to file these statements. If you have any questions concerning the reporting requirements or how to fill out your Statement of Financial Interest, call or write either the **Arkansas Ethics Commission**, Post Office Box 1917, Little Rock, Arkansas 72203-1917, telephone (501) 324-9600 or the **Secretary of State, Elections Division**, State Capitol, Room 026, Little Rock, Arkansas 72201, telephone (501) 682-5070.

When preparing the Statement of Financial Interest, please **print or type the information**. You must also sign the Statement in Section 13 and your signature must be attested to before a Notary Public.

¹ Pursuant to Ark. Code Ann. § 21-8-701(a)(5)(B), a public appointee to a state board or commission which is not charged by law with the exercise of regulatory authority and which receives or disburses state or federal funds only in the form of mileage reimbursement for members attending meetings of the board or commission is not required file a written Statement of Financial Interest.

TIME FOR FILING/PERIOD COVERED

Pursuant to Ark. Code Ann. § 21-8-701(c)(1)(A), a Statement of Financial Interest for the previous calendar year “shall be filed by January 31, of each year, except that a candidate for elective office shall file the Statement of Financial Interest for the previous calendar year on the first Monday following the close of the period to file as a candidate for elective office.” Pursuant to Ark. Code Ann. § 21-8-705, if the party filing period under Ark. Code Ann. § 7-7-203 ends before January 1 of the year of the general election, a candidate for elective office shall file a Statement of Financial Interest for the previous calendar year no later than January 31 of the year of the general election in addition to the Statement of Financial Interest required under Ark. Code Ann. § 12-8-701.

Moreover, an agency head, department director, or division director of state government and any public appointee to a state board or commission authorized or charged by law with the exercise of regulatory authority or authorized to receive or disburse state or federal funds shall file a Statement of Financial Interest for the previous calendar year within thirty (30) days after appointment or employment. Incumbent officeholders who filed a Statement of Financial Interest for the previous calendar year by January 31 of the year in which an election is held are not required to file an additional Statement of Financial Interest upon becoming a candidate for reelection or election to another office during the year. Ark. Code Ann. § 21-8-701(c)(2). If a person required to file a Statement of Financial Interest leaves his or her office or position during a particular calendar year, he or she shall still be required to file a Statement of Financial Interest covering that part of the year which he or she held the office or position. Ark. Code Ann. § 21-8-701(c)(1)(B).

WHERE TO FILE

Pursuant to Ark. Code Ann. § 21-8-703, the Statement of Financial Interest shall be filed as follows:

- (1) State or district public servants (including appointees to state boards/ commissions) and candidates for state or district public office are required to file the statement with the Secretary of State;
- (2) County, township, or school district public servants and candidates for county, township, or school district public office are required to file the statement with the county clerks;
- (3) Municipal public servants and candidates for municipal office are required to file the statement with the city clerk or recorder;
- (4) City attorneys, whether elected or appointed, are required to file the statement with the city clerk of the municipality within which they serve;
- (5) Members of regional boards or commissions are required to file the statement with the county clerk of the county in which they reside; and
- (6) District judges are required to file the statement with the Secretary of State.

SPECIFIC REPORTING INSTRUCTIONS

SECTION 1 (Name and Address)

Answer each of these questions or indicate “Not Applicable”. List all names under which you and/or your spouse do business.

SECTION 2 (Reason for Filing)

Check the box applicable to you and provide the office/position held or name of the board, commission or school district in the appropriate space.

SECTION 3 (Sources of Income)

The term “gross income” is intended to be comprehensive. It refers to all income from whatever source derived, including but not limited to compensation for services, fees, commissions, and income derived from business interests. Report each employer and/or each other source of income from which you, your spouse, or any other person for the use or benefit of you or your spouse receives gross income exceeding \$1,000 on an annual basis. Include your governmental income from the office or position which requires your filing of this form. You are required to use the gross amount received as income. Thus, you must compute your total income from any particular source without first deducting expenses.

You are not required to list the individual items of gross income that constitute a portion of the income of the business or profession from which you or your spouse derives income. (For example: Accountants, attorneys, farmers, contractors, etc. do not have to list their individual clients.) If more than one source/employer/entity compensated you during the past year, you are required to list each source of income greater than \$1,000. If you or your spouse received speaking honoraria, you must report, under the request for “source”, the sponsor of each event for which a payment was made for your speech or appearance, as well as the date and dollar category (“more than \$1,000.00” or “more than \$12,500.00”). The term “honoraria”, as used herein, means a payment of money or any thing of value for an appearance, speech, or article. NOTE: Food, lodging, and travel provided to a public servant in connection with an appearance would not constitute honoraria if the public servant is appearing in his or her official capacity and the appearance bears a relationship to the public servant’s office or position. Section 10 of the Statement of Financial Interest addresses the reporting of payment for such food, lodging, and travel.

You must also provide a brief description of the nature of the services for which the income was received, as well as the name under which the income was received. For example:

Source	Description	Amount
State of Arkansas (address) John Doe	Executive Dir.	More than \$12,500.00
University of Arkansas (address) John M. Doe	Teaching	More than \$12,500.00
450 Main Street, Little Rock, Arkansas John M. Doe	Rent Income	More than \$12,500.00
Ark. Med. Society Annual Meeting (address) John Doe	Speaking fee Oct. 2, Little Rock	More than \$1,000.00
Star National Bank Star, Arkansas John or Jane Doe	Interest Income	More than \$1,000.00
City of Mayberry (address) Jane Doe	Spouse income	More than \$12,500.00
Ark. Bar Association Annual Meeting (address) Jane Doe	Speaking Fee Spouse, June 12 Hot Springs	More than \$1,000.00

Section 4 (Business or Holdings)

In this section, list the name of every business in which you, your spouse or any other person for the use or benefit of you or your spouse have an investment or holding. Stocks, bonds, stock options and other securities held by you or your spouse must be reported. Figures for these items, as well as all other holdings or accounts, should be based on fair market value at the end of the reporting period.

For **securities, stocks, or bonds**, you must disclose each security held in your portfolio which exceeds the \$1,000.00 threshold. If securities are held through an investment firm, the firm will normally provide periodic statements from which you may obtain the information required to be disclosed. If you own different types of securities issued by the same authority, such as U. S. Treasury obligations or bonds, it is not necessary to provide an itemized list of each security worth

over \$1,000.00. Rather, you may simply report the aggregate value of the securities issued by the same authority and identify the type of securities.

In the case of **mutual funds or similar investments**, you need not disclose specific stocks held in a widely diversified investment trust or mutual fund as long as the holdings of the trust or fund are a matter of public record and you have no ability to exercise control over the specific holdings. If you have such control, you must disclose each holding exceeding the threshold level of \$1,000.00, whether or not you exercise the control. Otherwise, you may simply disclose the name, address, etc. of the authority through which your mutual fund is invested (e.g., IDS), the category of the fund and the category of the appropriate amount (e.g., “more than \$1,000.00”).

In the case of **bank accounts**, if the total of accounts (including certificates of deposit) deposited in a particular bank exceeds \$1,000.00, list each institution holding more than \$1,000.00. If no particular bank holds more than \$1,000.00, you need not report any bank accounts. All accounts at one institution, including those for your spouse, may be combined as one entry. Thus, for example, you may report a checking account, savings account, certificate of deposit, and IRA in Smith First National Bank of Arkansas by checking the gross total of the accounts (e.g., “more than \$1,000.00”) and stating “Smith First National Bank of Arkansas” with its address. You need not list each account. If you are listed on an account purely for custodial reasons, and you do not assert any ownership rights to the assets in the account (for example, if you are a joint tenant with an elderly relative), you need not list the account.

For any business interest, if you or your spouse has an interest in a proprietorship, partnership, or corporation that is actively engaged in a trade or business, you must disclose the name and address of each interest. It is not necessary to provide an itemized list of the assets of the business. For example, you need only categorize the total value of your interest (e.g., “more than \$12,500.00”) and not items such as “office equipment.” This includes each asset held in trust for you or your spouse which has a value greater than \$1,000.00. Holdings of a trust for which you or your spouse are merely an administrator and for which you have no beneficial interest need not be reported.

Section 5 (Office or Directorship)

You must report your nongovernmental offices and directorships held by you or your spouse in any business, corporation, firm, or enterprise subject to the jurisdiction of a regulatory agency of this State, or any of its political subdivisions. For each such business, provide the name of the business, its address, the office or directorship held and the name of the person (either you or your spouse) who holds the office or directorship. A “regulatory agency”, as defined by Ark. Code Ann. § 21-8-301(1), means any “state board, commission, department, or officer authorized by law to make rules or to adjudicate contested cases except those in the legislative or judicial branches.”

Section 6 (Creditors)

You must report the name and address of each creditor to whom the value of \$5,000.00 or more is personally owed and outstanding at the end of the reporting period. All information regarding a single creditor may be reported in a single entry. If you have more than one liability owed to the same creditor, add up the items of credit to determine if the \$5,000.00 threshold has

been met. The identity of the creditor is the name of the person or organization to which the liability is owed (e.g., “Bob Smith, 1000 Elm Street, Little Rock, Arkansas”).

You do not need to include debts owed to members of your family. You may also exclude loans made in the ordinary course of business by either a financial institution or a person who regularly and customarily extends credit. This exclusion applies to such items as a mortgage secured by real property which is your personal residence, credit extended to purchase personal items such as furniture or appliances, credit card debts, and car loans, provided the credit does not exceed the value of the item purchased.

Debts not incurred in the ordinary course of business include, but are not limited to, such items as legal judgments, judgment liens, money borrowed from individuals, other than family members, who are not normally in the business of lending money, and tax liens owed to any governmental agency.

Section 7 (Past-Due Amounts Owed to Government)

You must report the name and address of each governmental body to which you are legally obligated to pay a past-due amount and a description of the nature and amount of the obligation. Such debts include, but are not limited to tax liens owed to any governmental agency or other legally obligated debts in which you may be in default to a governmental body.

Section 8 (Guarantor, Co-Maker)

The law requires you to provide the name and address of each guarantor or co-maker, other than a member of your family, who has guaranteed a debt which is still outstanding. The \$5,000.00 threshold of Section 6 does not apply here. To the extent that you have a guarantor or co-maker of any of your outstanding debts, the guarantor or co-maker must be disclosed. There is no exception for debts incurred in the ordinary course of business. This requirement also includes debts arising, extended or refinanced after January 1, 1989.

This requirement extends to situations where you have co-signed a loan to assist another person in obtaining credit, unless the person is a member of your family.

Section 9 (Gifts)

The law requires you to identify the source, date, description, and a reasonable estimate of the fair market value of each gift of more than one hundred dollars (\$100.00) received by you or your spouse during the reporting period or more than two hundred and fifty dollars (\$250.00) received by your dependent children during the reporting period. A gift is any “payment, entertainment, advance, services, or anything of value” unless consideration of equal or greater value has been given therefor. The value of an item shall be considered to be less than one hundred dollars (\$100) if the public servant reimburses the person from whom the item was received any amount over one hundred dollars (\$100) and the reimbursement occurs within ten (10) days from the date the item was received. All types of gifts must be reported. Items such as food, lodging, and travel are considered gifts unless they are received when you are appearing in your official capacity and the appearance bears a relationship to your office or position. [Note: The reporting of food, lodging,

and travel received by a public servant who is appearing in his or her official capacity at an event which bears a relationship to his or her office or position is addressed in Section 11 below.]

A gift can be a tangible item, such as a watch, or an intangible item, such as a hunting or fishing trip. A gift does not include (1) informational material; (2) receiving food, lodging, or travel which bears a relationship to the public servant's office and when appearing in an official capacity; (3) gifts which are not used and returned to the donor within 30 days; (4) gifts from a family member listed in Ark. Code Ann. § 21-8-402(5)(B)(iv), unless the family member is acting as an agent for a person not covered by the exception; (5) campaign contributions; (6) devises or inheritances; (7) anything with a value of \$100 or less; (8) wedding presents and engagement gifts; (9) a monetary or other award presented to an employee of a public school district, the Arkansas School for the Blind, the Arkansas School for the Deaf, the Arkansas School for Mathematics, Sciences, and the Arts, a university, a college, a technical college, a technical institute, a comprehensive life-long learning center, or a community college in recognition of the employee's contribution to education; (10) tickets to charitable fundraising events held within this state by a non-profit organization which is exempt from taxation under Section 501(c)(3) of the Internal Revenue Code; (11) a personalized award, plaque, or trophy with a value of one hundred fifty dollars (\$150) or less; (12) an item which appointed or elected members of a specific governmental body purchase with their own personal funds and present to a fellow member of that governmental body in recognition of public service; (13) food or beverages provided at a conference scheduled event that is part of the program of the conference; (14) food or beverages provided in return for participation in a bona fide panel, seminar, speaking engagement at which the audience is a civic, social, or cultural organization or group; (15) a monetary or other award publicly presented to an employee of state government in recognition of his or her contributions to the community and State of Arkansas when the presentation is made by the employee's supervisor or peers, individually or through a non-profit organization which is exempt from taxation under Section 501(c) of the Internal Revenue Code, and the employee's receipt of the award would not result in or create the appearance of the employee using his or her position for private gain, giving preferential treatment to any person, or losing independence or impartiality (This exception shall not apply to an award presented to an employee of state government by a person having economic interests which may be affected by the performance or nonperformance of the employee's duties or responsibilities.); and (16) anything of value provided by a political party under Ark. Code Ann. § 7-1-101 or § 7-7-205 when serving as the host of the following events to all attendees as part of attendance at the event: (A) the official swearing-in, inaugural, and recognition events of constitutional officers and members of the general assembly; and (B) an official event of a recognized political party so long as all members of either house of the General Assembly affiliated with the recognized political party are invited to the official event.

In reporting a gift, you must report the source, the date it was received, a reasonable estimate of its fair market value, and a brief description. In that regard, the Ethics Commission has issued opinions concerning the "fair market value" of such items as transportation on a private aircraft. A group of items received from the same source at the same time would be considered one gift and the separate values should be added together. As an example, if you receive a tie and tie clip (valued \$50.00) along with a pair of golf shoes (valued at \$75) from one donor, this should be reported and described in Section 9, as the receipt of a gift, "tie, tie clip and shoes." The value would be \$125.00. Similarly, food and beverages provided you in connection with lodging should be aggregated to ascertain if the threshold reporting level has been reached. If you are unsure if the value should be

aggregated for purposes of reporting, you may wish to contact the Arkansas Ethics Commission for an opinion.

In accordance with Ark. Code Ann. § 21-8-804, certain designated officials are authorized to accept gifts, grants, and donations of money or property on behalf of the State of Arkansas, the Arkansas Senate, the Arkansas House of Representatives, and the Arkansas Supreme Court. In addition, the designated officials are authorized to accept donations of money for the purpose of hosting official swearing-in and inaugural events of the constitutional officers, Senate, House of Representatives, and Supreme Court justices, the official recognition event for the President Pro Tempore, and the official recognition event for the Speaker of the House. The public official accepting the gift, grant, or donation of money or property on behalf of an appropriate entity is not required to disclose same on his or her Statement of Financial Interest. Instead, public servants are required to report such gifts, grants, or donations of money or property to the Ethics Commission on a quarterly basis on a separate disclosure form prepared for such purposes.

Section 10 (Awards)

If you are an employee of a public school district, the Arkansas School for the Blind, the Arkansas School for the Deaf, the Arkansas School for Mathematics, Sciences, and the Arts, a university, a college, a technical college, a technical institute, a comprehensive life-long learning center, or a community college, the law requires you to disclose each monetary or other award over one hundred dollars (\$100) which you have received in recognition of your contributions to education. The information disclosed with respect to each such award should include the source, date, description, and a reasonable estimate of the fair market value.

Section 11 (Nongovernmental Sources of Payment)

Payments for food, lodging, or travel are not considered a gift in situations where a public servant is appearing in his or her official capacity and the appearance bears a relationship to the public servant's office or position. However, Section 11 requires that each nongovernmental source of payment of expenses for such food, lodging, or travel be listed when the expenses paid by that source exceed \$150.00. [Note: The reporting of money or things of value received when you are not appearing in an official capacity or the appearance does not bear a relationship to your office or position is addressed in Section 3 ("Sources of Income") or Section 9 ("Gifts).] In this regard, you must list the name and business address of the person or organization which has paid your expenses, the date, nature, and amount of the expenses unless such person or organization was compensated by the governmental body for which the public servant serves. Thus, you must disclose in this section, lodging or travel received in connection with such activities as speaking engagements, conferences, or fact finding events related to your official duties.

Section 11 requires the disclosure of each nongovernmental source of payment when the expenses paid in connection with a particular appearance exceed \$150.00. Thus, if one source provides lodging and food and the total amount paid exceeds \$150.00, that source must be reported in this section.

The **organization** is the source of payment. It should be the name of the sponsor actually paying or providing the expenses. The **date of expenses** should be the inclusive dates of all travel provided. If the travel all occurred on one day, report that day. Otherwise, list the starting and ending dates of each trip provided (i.e., “May 1 - 5, 1997”).

It is permissible to extend the duration of a trip at your own expense, accepting return travel from the sponsor. However, to avoid suggesting that travel was accepted for a longer period of time than was actually the case, you should indicate any time not spent at the sponsor’s expense on either the line requesting the “date” or “nature” of expenses. For example, using the dates listed above, you could report “May 1 - 5, 1997. May 3 - 4 on personal business, expenses paid by me.”

Section 12 (Direct Regulation of Business)

The law requires you to list any business by whom you are employed if the business is under direct regulation or subject to direct control by the governmental body which you serve. You must report the employment by listing the name of this business/employer and provide the governmental body which regulates or controls aspects of the business. Such a business relationship typically exists if your private employer is subject to any rules or regulations of a governmental body or if a governmental body adjudicates contested cases of fact involving your private employer. For example, if you work as a licensed dentist, the appropriate regulatory governing body may be the State Board of Dental Examiners.

Whether your business is under direct regulation or subject to direct control by a governing body is often a question of fact. If you are unsure, you should contact the Arkansas Ethics Commission or, if you know, the agency you suspect may regulate part or all of your activities.

Section 13 (Sales to Governmental Body)

The law requires you to report certain business relationships with the government if a significant sale of goods or services occurs. Specifically, you must set out in detail the goods or services sold having a total annual value in excess of \$1,000.00 sold to the governmental body for which you serve or are employed and the compensation paid for each category of goods or services by you or any business in which you or your spouse is an officer, director, stockholder owning more than ten percent (10%) of the stock, owner, trustee, or partner.

Section 14 (Signature)

Under the law, each person, required to file a Statement of Financial Interest must prepare the statement under penalty of false swearing and sign such form attesting to the truth and accuracy of the information set forth on the form. Ark. Code Ann. § 21-8-702. If a person who is required to file a Statement of Financial Interest is called to active duty in the armed forces of the United States, the statement may be completed by the spouse of the person. If the Statement of Financial Interest is completed by the spouse, under this exception, the spouse’s signature shall be sufficient for the requirement of Ark. Code Ann. § 21-8-702.

2021 Board of Trustees Meeting Schedule

**Arkansas Teacher Retirement System
1400 West Third Street
Little Rock, AR 72201**

Meeting Date*	Audit Committee	Investment Committee	Operations Committee	Board of Trustees
February 1, 2021	8:30 a.m.*	9:00 a.m.*	10:30 a.m.*	11:00 a.m.*
April 5, 2021	8:30 a.m.*	9:00 a.m.*	10:30 a.m.*	11:00 a.m.*
June 7, 2021	8:30 a.m.*	9:00 a.m.*	10:30 a.m.*	11:00 a.m.*
September 27, 2021	8:30 a.m.*	9:00 a.m.*	10:30 a.m.*	11:00 a.m.*
December 6, 2021	8:30 a.m.*	9:00 a.m.*	10:30 a.m.*	11:00 a.m.*

NCTR Trustee Workshop: *To be announced at later date.*

NCTR 98th Annual Conference: *To be announced at later date.*

***Dates and times are subject to change. Meeting times may be adjusted earlier or later than scheduled, depending upon time needed for the previous meeting.**

All meetings will be held on the Third Floor, Room 300, of the Arkansas Teacher Retirement System Building unless noted otherwise.

**800-666-2877 toll free
501-682-1517 local
501-682-2359 fax**

Waiver of Member Interest 2020

December 7, 2020 Board Meeting

A.C.A. Sec. 24-7-205

Amount

Reason to Waive Interest

\$164.68

Internal request – Member had unreported service from School District. ATRS allowed a mutual release. The deductions for the mutual release was not coded and reported to ATRS correctly by the school district. Member should not be held accountable for the error.

Waiver of Employer Report Penalties 2020

December 7, 2020 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	
Total Employer Penalties Waived	\$0.00
Employer Interest Waived	
Total Employer Waived	\$0.00
Total Employer Penalties & Interest Waived	\$0.00

Manifest Injustice Report
 Board Meeting December 7, 2020

MIC Claim #	Claimant Type	Facts and Circumstances	Findings and Recommendations of Committee	Executive Director's Remedy
2020-004	Purchase of Back Contributions	ATRS provided member with cost statement for Back Contributions with Interest. Member's contributions were incorrectly calculated and caused an erroneous history adjustment.	The MI Committee found that a manifest injustice exists and recommends that the Board approve the remedy to waive repayment of contributions and interest in the amount of \$36,841.21.	Concurred with MI Committee and Recommended to the Board approval of the remedy. Board approved the recommendation on 09-28-2020
2020-005	Purchase Out of State Service Credit.	ATRS provided member with a quote to purchase one (1) year of Out of State service. Member was provided the same amount on several occasions by ATRS staff prior to September 23, 2020.	MI Committee found that a manifest injustice exists and recommends the member be given the option to purchase one (1) year of Out of State service for the amount of \$16,732.35 and waive interest for the Months of October, November and December, 2020. In addition to waving of interest, \$5,616.62 of increased costs above the quote will be waived . Member has until December 31, 2020 to accept offer.	Concurred with MI Committee Recommendation.



FORFEITURE RECOMMENDATIONS

A.C.A. §24-7-734(6)

ATRS #	MEMBER	DATE OF DEATH	AMOUNT OF BENEFIT
110409	L. G.	2/1/11	\$ 4,995.75
113687	P. H.	1/1/87	3,516.31
115433	C. B.	10/18/95	4,892.73
115442	O. R.	4/1/75	1,430.52
120240	D. S.	3/5/04	3,963.86
138080	V. McR.	9/2/05	2,530.24
146196	W. C.	7/2/12	2,869.73
147114	H. G.	6/26/15	3,282.95
147670	G. C.	3/31/04	2,819.52
184665	W. N.	1/1/74	2,265.72
194778	R. M.	8/23/08	667.42
197956	T. T.	2/20/14	3,050.00
211878	D. Y.	7/1/77	4,368.73
230220	J. N.	1/12/97	4,524.78
255279	B. J.	12/27/97	2,175.76
261797	B. W.	8/9/08	2,538.81
271307	D. A.	6/1/77	2,429.36
339381	J. C.	3/16/05	2,731.00
369841	R. O'B.	1/23/00	2,118.87
384189	C. M.	10/1/89	776.86
385697	B. B.	9/25/06	4,914.70
392840	F. B.	5/19/02	1,347.69
406209	M. McN.	2/13/94	5,575.88
434951	O. E.	11/15/96	770.21

449432	D. C.	7/18/12	1,472.17
456152	A. E.	4/15/10	2,713.16
470990	P. E.	4/27/11	3,250.08
318778	R. S.	11/6/04	8,675.47
434213	B. B.	9/1/03	2,152.15
116821	M. C.	1/17/15	<u>372.92</u>
	TOTAL		\$ 89,193.35

**GILL
RAGON
OWEN**
ATTORNEYS

Simmons Tower
425 W. Capitol Avenue
Suite 3800
Little Rock, Arkansas 72201
Telephone (501) 376-3800
Telefax (501) 372-3359

MEMORANDUM

To: Arkansas Teacher Retirement System Staff Members
From: Heartsill Ragon III
Date: November 25, 2020
Regarding: Proposed Conversion of Highland LLC to Limited Partnership Status

We've been asked to provide our observations and recommendations regarding a proposed change in the business entity status that currently owns the Highland Pellets Plant in Pine Bluff, Arkansas.

Currently, the plant is held by a limited liability company that is jointly owned by ATRS and a Tom Reilley entity. (ATRS equity has distribution rights that are senior to the Tom Reilley entity distribution rights.) It has been proposed that the business entity status be converted from a limited liability company to a limited partnership.

We had extensive discussions regarding this conversion possibility with ATRS staff, Tom Reilley, and others. We have concluded that ATRS would realize no materially negative profit sharing, management, operational or administrative concerns as a result of this conversion. Accordingly, we recommend this conversion.

ATRS should realize the following benefits as a result of this conversion:

1. The ATRS equity ownership interests in the company would be increased by 30%, assuming the absence of a liquidity event prior to the fifth anniversary date of conversion. (ATRS would realize a 25% ownership increase if a liquidity event were to occur before the fifth anniversary date.)

2. Conversion to a limited partnership structure should enhance the ability of the company to attract new third-party capital and develop new Highland related biomass business opportunities given the fact that limited partnerships are used as the preferred investment entity in virtually all institutional and capital market financings.
3. As a limited partnership, and if new Highland related biomass business opportunities are pursued, ATRS would have a more efficient means of diversifying its capital investment among differing biomass related portfolio opportunities.
4. ATRS is not being requested to invest further capital and the Tom Reilley entity will fund all conversion costs which will be deferred and paid upon realization of positive cashflow.
5. Proposed limited partnership would be structured in a manner materially paralleling the provisions of those various institutional limited partnerships and funds in which ATRS has invested in the past.

In conclusion, we see no downsides related to this proposed conversion and see an opportunity for upside benefits given, among other things, the institutional investment community's consideration of limited partnerships as the best business entity vehicle for the attraction of new capital and the acquisition of new and diverse Highland related biomass opportunities.

Please don't hesitate to contact me with any comments or questions you might have.

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

**RESOLUTION
No. 2020-36**

**Approving Conversion of the Legal Structure of ATRS
Investments in Highland Pellets from a Direct Investment
Structure to a Limited Partnership Structure**

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 outside legal counsel, Gill Ragon Owen, along with the recommendation of the Investment Committee and ATRS staff regarding the conversion of the legal structure of the ATRS investments in Highland Pellets from a direct investment structure to a limited partnership structure in order to potentially provide diversification opportunities in the Highland investments for ATRS.

THEREFORE, BE IT RESOLVED, that the ATRS Board approves the conversion of the legal structure of the appropriate ATRS Highland investments from a direct investment structure to a limited partnership structure with terms similar to other investment limited partnerships; and

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

Adopted this 7th day of December 2020.

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



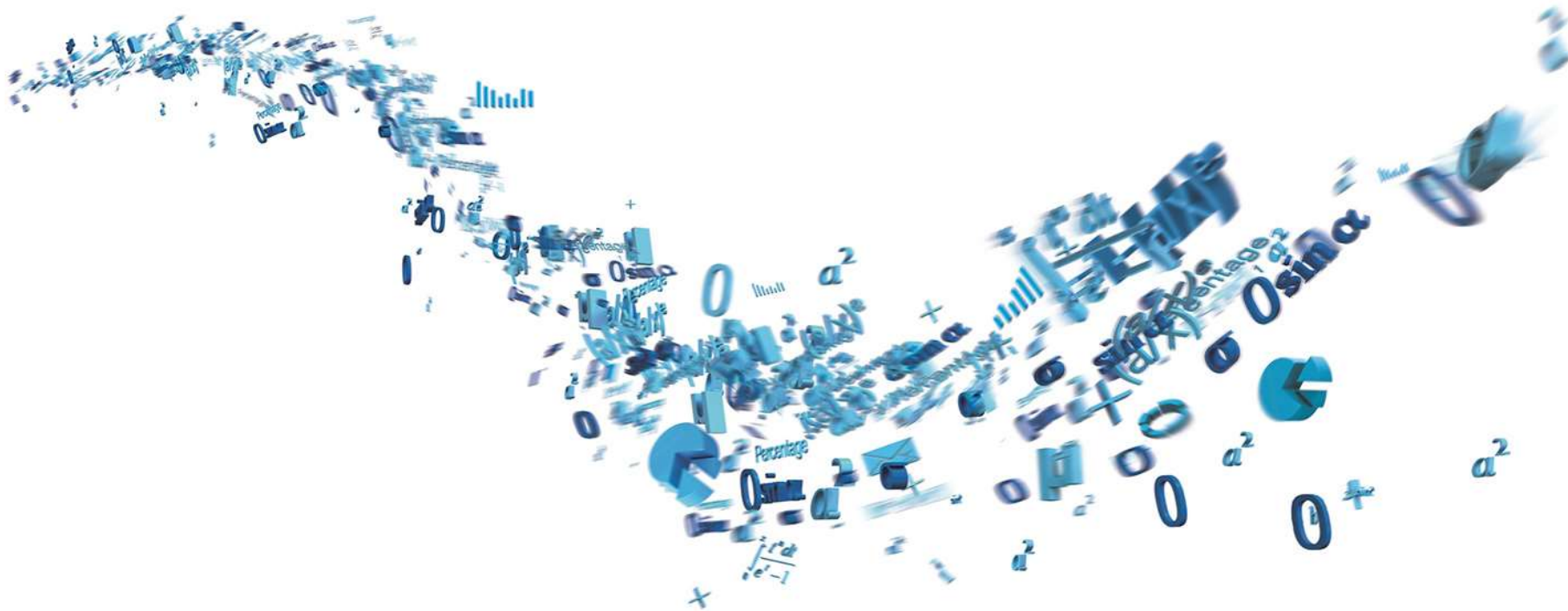
Arkansas Teacher Retirement System | Third Quarter 2020

Quarterly Investment Review

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

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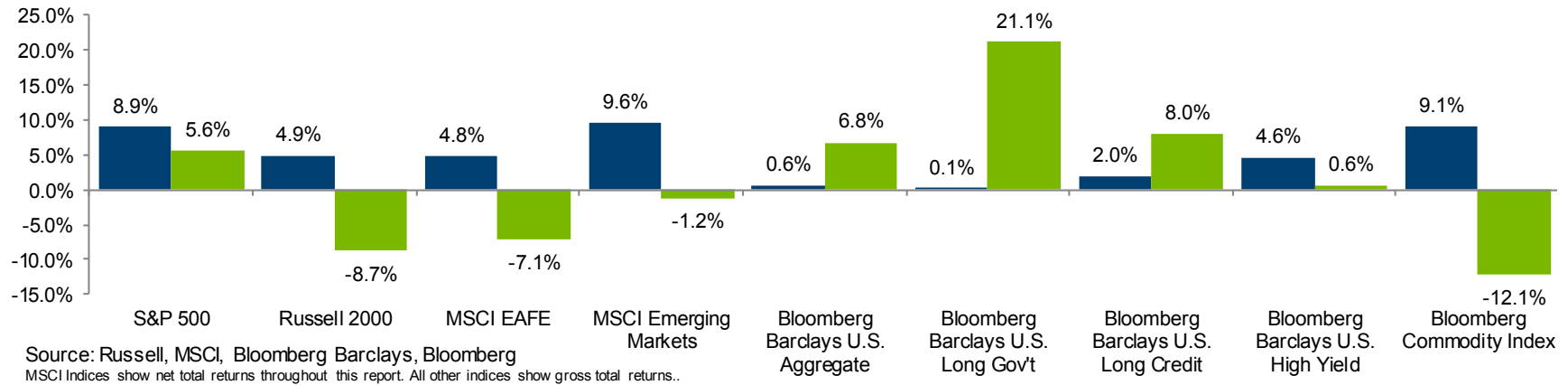


Executive Summary

Market Highlights

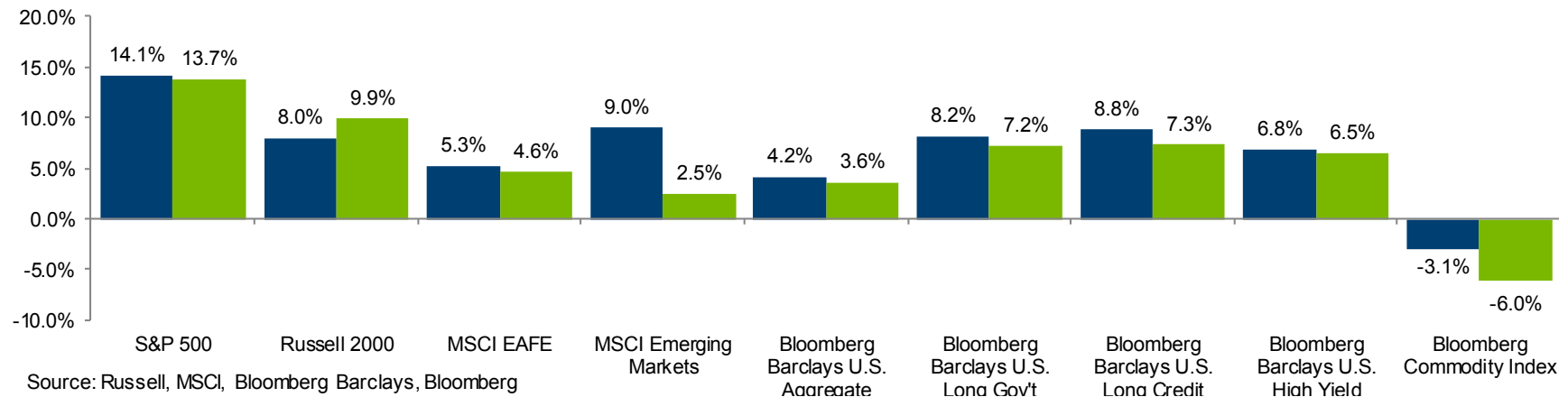
SHORT TERM RETURNS AS OF 09/30/2020

■ Third Quarter 2020 ■ YTD



LONG TERM ANNUALIZED RETURNS AS OF 09/30/2020

■ Five-Year ■ Ten-Year



Aon
Proprietary & Confidential
Investment advice and consulting services provided by Aon Investments USA Inc.

Market Highlights

Returns of the Major Capital Markets

Period Ending 09/30/2020

	Third Quarter	YTD	1-Year	3-Year ¹	5-Year ¹	10-Year ¹
Equity						
MSCI All Country World IMI	8.11%	0.48%	9.57%	6.47%	9.97%	8.47%
MSCI All Country World	8.13%	1.37%	10.44%	7.12%	10.30%	8.55%
Dow Jones U.S. Total Stock Market	9.07%	5.25%	14.77%	11.53%	13.60%	13.43%
Russell 3000	9.21%	5.41%	15.00%	11.65%	13.69%	13.48%
S&P 500	8.93%	5.57%	15.15%	12.28%	14.15%	13.74%
Russell 2000	4.93%	-8.69%	0.39%	1.77%	8.00%	9.85%
MSCI All Country World ex-U.S. IMI	6.80%	-5.21%	3.51%	1.13%	6.31%	4.17%
MSCI All Country World ex-U.S.	6.25%	-5.44%	3.00%	1.16%	6.23%	4.00%
MSCI EAFE	4.80%	-7.09%	0.49%	0.62%	5.26%	4.62%
MSCI EAFE (Local Currency)	1.22%	-9.44%	-4.74%	0.55%	4.83%	6.26%
MSCI Emerging Markets	9.56%	-1.16%	10.54%	2.42%	8.97%	2.50%
Fixed Income						
Bloomberg Barclays Global Aggregate	2.66%	5.72%	6.24%	4.10%	3.92%	2.36%
Bloomberg Barclays U.S. Aggregate	0.62%	6.79%	6.98%	5.24%	4.18%	3.64%
Bloomberg Barclays U.S. Long Gov't	0.13%	21.13%	16.21%	11.79%	8.18%	7.18%
Bloomberg Barclays U.S. Long Credit	1.97%	8.00%	9.28%	8.63%	8.82%	7.32%
Bloomberg Barclays U.S. Long Gov't/Credit	1.22%	14.20%	12.92%	10.21%	8.78%	7.36%
Bloomberg Barclays U.S. TIPS	3.03%	9.22%	10.08%	5.79%	4.61%	3.57%
Bloomberg Barclays U.S. High Yield	4.60%	0.62%	3.25%	4.21%	6.79%	6.47%
Bloomberg Barclays Global Treasury ex U.S.	3.82%	4.67%	4.65%	3.41%	3.72%	1.23%
JP Morgan EMBI Global (Emerging Markets)	2.28%	0.37%	2.47%	3.27%	6.03%	5.21%
Commodities						
Bloomberg Commodity Index	9.07%	-12.08%	-8.20%	-4.18%	-3.09%	-6.03%
Goldman Sachs Commodity Index	4.61%	-33.38%	-27.84%	-9.46%	-7.88%	-8.84%
Hedge Funds						
HFRF Fund-Weighted Composite ²	4.24%	0.64%	4.23%	2.79%	4.07%	3.64%
HFRF Fund of Funds ²	4.13%	2.44%	5.59%	2.84%	3.06%	2.87%
Real Estate						
NAREIT U.S. Equity REITS	1.44%	-17.54%	-18.16%	0.20%	3.95%	7.90%
FTSE Global Core Infrastructure Index	3.62%	-7.36%	-3.88%	5.72%	8.74%	9.00%
Private Equity						
Burgiss Private iQ Global Private Equity ³			0.95%	10.12%	10.00%	11.89%

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 Mar 31, 2020

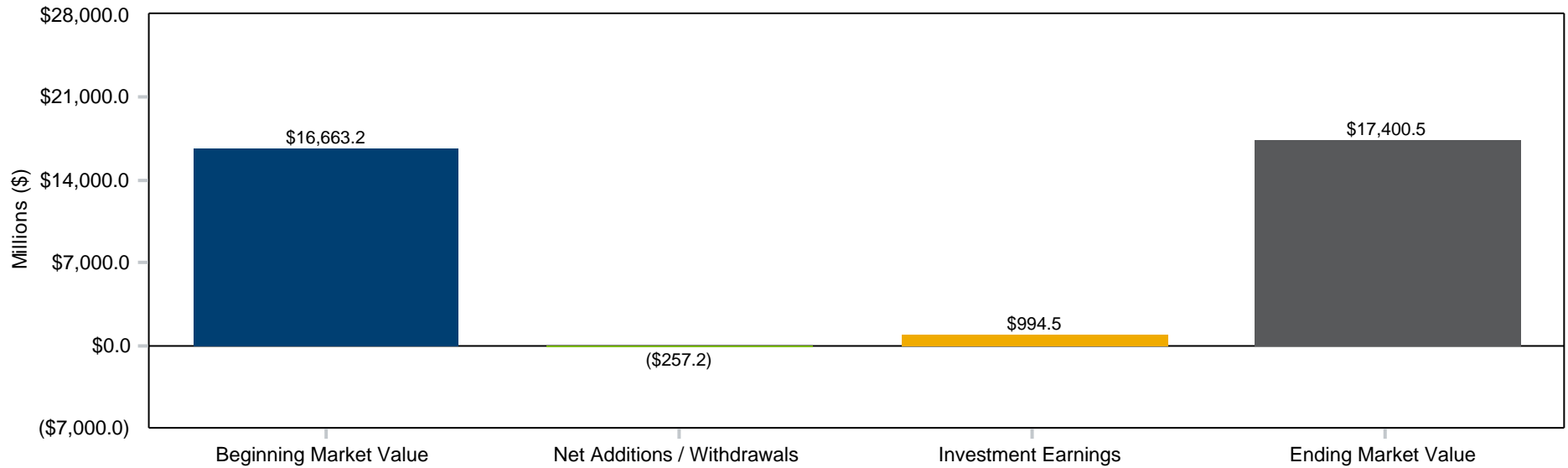
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Total Fund

Total Plan Asset Summary

**Change in Market Value
From July 1, 2020 to September 30, 2020**

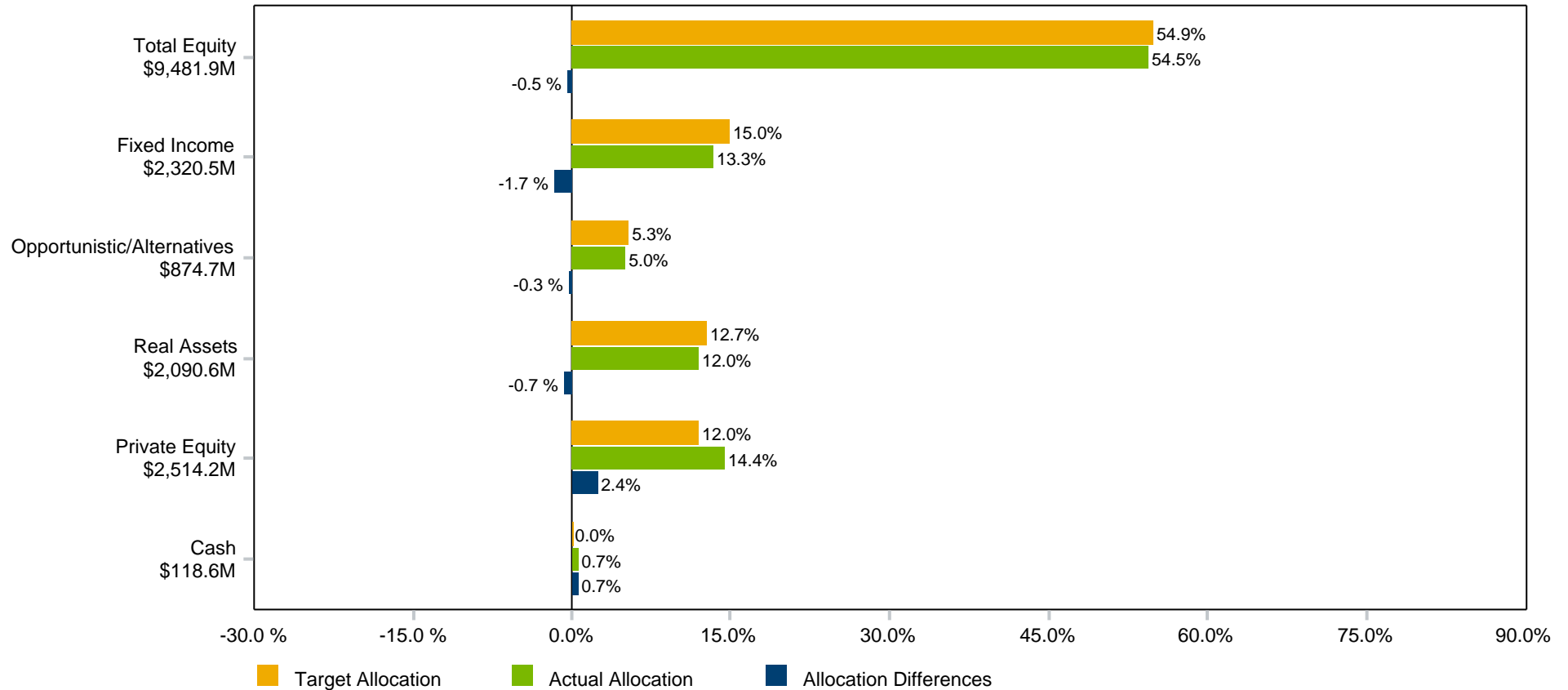


Summary of Cash Flow

	1 Quarter	Year To Date	1 Year
Beginning Market Value	16,663,156,052	18,317,233,920	17,519,721,882
+ Additions / Withdrawals	-257,192,563	-561,999,133	-720,577,638
+ Investment Earnings	994,515,099	-354,756,199	601,334,345
= Ending Market Value	17,400,478,588	17,400,478,588	17,400,478,588

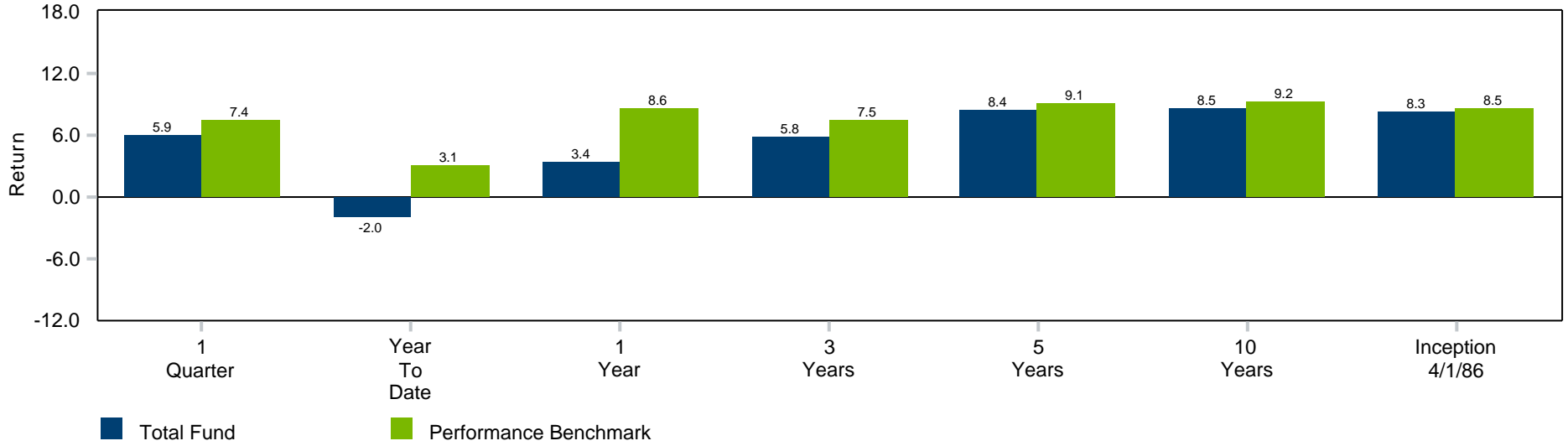
Asset Allocation Compliance

	Market Value (\$M)	Current Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)
Total Fund	17,400.5	100.00	100.00	N/A	N/A
Total Equity	9,481.9	54.49	54.95	50.00	60.00
Fixed Income	2,320.5	13.34	15.00	13.00	17.00
Opportunistic/Alternatives	874.7	5.03	5.34	0.00	7.00
Real Assets	2,090.6	12.01	12.72	10.00	15.00
Private Equity	2,514.2	14.45	12.00	9.50	14.50
Cash	118.6	0.68	0.00	0.00	5.00

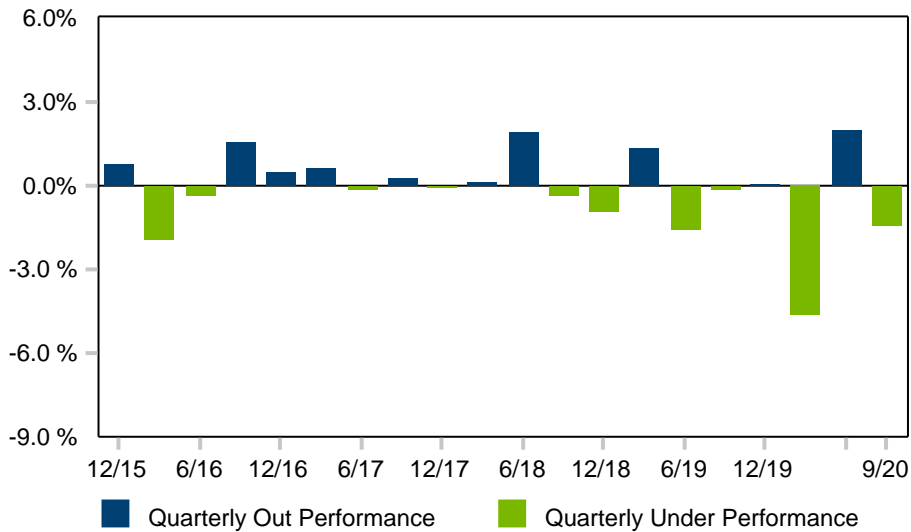


Total Plan Performance Summary

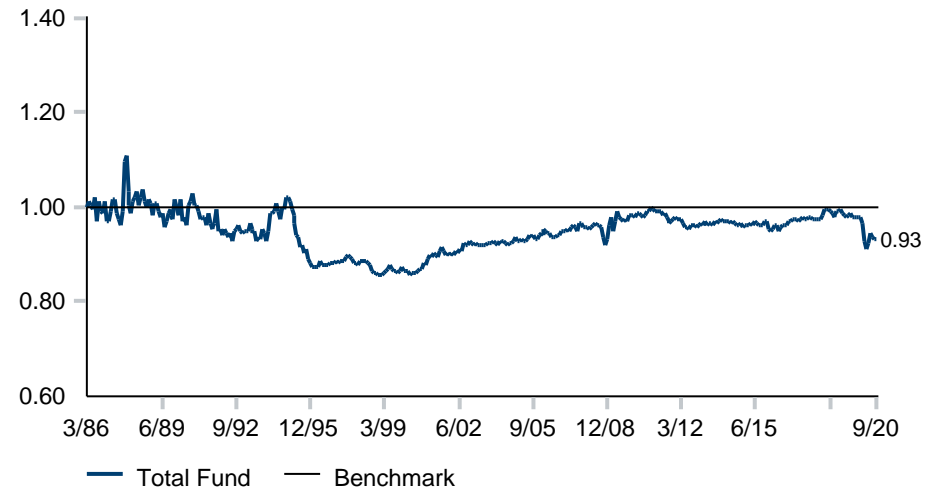
Return Summary



Quarterly Excess Performance

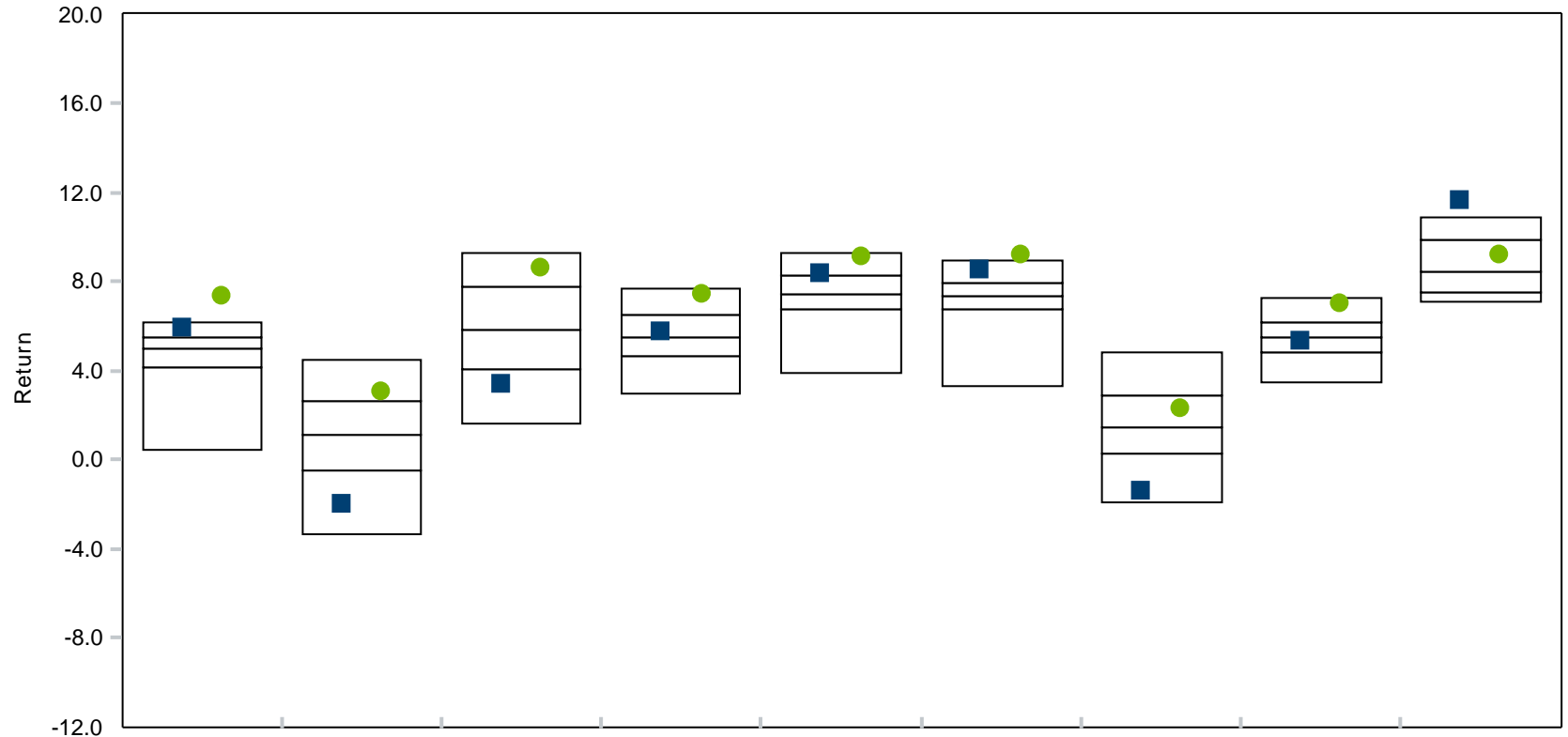


Ratio of Cumulative Wealth - Since Inception



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 2020	Fiscal Year 2019	Fiscal Year 2018
■ Total Fund	5.9 (10)	-2.0 (89)	3.4 (88)	5.8 (38)	8.4 (21)	8.5 (10)	-1.4 (93)	5.3 (60)	11.7 (1)
● Performance Benchmark	7.4 (1)	3.1 (22)	8.6 (15)	7.5 (9)	9.1 (8)	9.2 (2)	2.3 (40)	7.0 (8)	9.2 (36)
5th Percentile	6.2	4.5	9.3	7.7	9.3	9.0	4.8	7.3	10.9
1st Quartile	5.6	2.7	7.8	6.5	8.3	8.0	2.9	6.2	9.9
Median	5.0	1.1	5.9	5.5	7.4	7.4	1.5	5.5	8.5
3rd Quartile	4.1	-0.5	4.1	4.7	6.8	6.8	0.3	4.8	7.5
95th Percentile	0.5	-3.3	1.6	3.0	3.9	3.3	-1.9	3.5	7.1
Population	72	72	72	72	71	63	69	37	13

parentheses contain percentile rankings.

As of September 30, 2020

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	17,400,478,588	100.0	100.0	5.9	-2.0	3.4	5.8	8.4	8.5	8.3	04/01/1986
Performance Benchmark				7.4	3.1	8.6	7.5	9.1	9.2	8.5	
Total Equity	9,481,910,612	54.5	54.9	8.9	-6.6	2.0	4.5	9.1	9.1	6.6	07/01/2015
Total Equity Performance Benchmark				8.4	1.9	11.1	8.0	11.1	10.4	8.7	
Fixed Income	2,320,453,549	13.3	15.0	1.4	5.5	6.2	4.8	4.8	4.3	5.5	07/01/1992
Performance Benchmark				1.0	6.2	6.7	5.1	4.5	3.9	5.7	
Opportunistic/Alternatives	874,689,577	5.0	5.3	2.1	-4.7	-4.5	-0.7	0.6		2.8	05/01/2011
Custom Alternatives Benchmark				1.3	-3.0	-1.7	1.0	1.3		1.4	
Real Assets	2,090,639,385	12.0	12.7	-1.3	-0.3	0.8	4.7	6.3		7.6	07/01/2013
Total Real Assets Benchmark				-0.8	1.2	2.3	4.6	5.7		7.5	
Real Estate	1,320,212,170	7.6		-2.5	-1.8	-1.1	3.8	6.3	9.3	8.5	12/01/1998
NFI-ODCE (Net)				-1.8	0.2	1.3	4.7	6.3	9.7	8.7	
Timber	293,143,814	1.7		-1.5	0.0	2.6	3.8	3.8	3.2	6.9	06/01/1998
Timberland Property Benchmark				0.2	1.3	2.2	1.8	2.3	3.2		
Agriculture	204,352,842	1.2		1.3	1.2	2.2	3.0	4.0		5.3	09/01/2011
Agriculture Benchmark				0.8	3.2	4.4	4.2	4.5			
Infrastructure	272,930,559	1.6		3.5	6.2	7.9				11.3	07/01/2018
CPI + 5%				2.2	5.1	6.4				6.5	
Private Equity	2,514,227,978	14.4	12.0	7.8	5.9	8.4	15.3	13.6	14.6	12.3	03/01/1997
Private Equity Policy				22.7	6.8	8.5	12.2	12.2	16.0	10.5	
Cash	118,557,487	0.7	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.

*Market values and allocation percentages may not add to the sum total due to rounding.

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As of September 30, 2020

Asset Allocation & Performance

	Allocation		Performance(%)								Inception Date
	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception		
Total Fund	17,400,478,588	100.0	5.9 (10)	-2.0 (89)	3.4 (88)	5.8 (38)	8.4 (21)	8.5 (10)	8.3	04/01/1986	
Performance Benchmark			7.4 (1)	3.1 (22)	8.6 (15)	7.5 (9)	9.1 (8)	9.2 (2)	8.5		
Total Equity	9,481,910,612	54.5	8.9 (41)	-6.6 (72)	2.0 (67)	4.5 (63)	9.1 (53)	9.1 (51)	6.6 (57)	07/01/2015	
Total Equity Performance Benchmark			8.4 (45)	1.9 (51)	11.1 (46)	8.0 (40)	11.1 (35)	10.4 (31)	8.7 (36)		
Jacobs Levy 130/30	635,344,897	3.7	2.3 (88)	-6.8 (59)	0.7 (57)	7.3 (46)	12.5 (35)	14.6 (20)	9.3 (31)	01/01/2008	
Russell 3000 Index			9.2 (29)	5.4 (34)	15.0 (32)	11.6 (32)	13.7 (29)	13.5 (29)	9.0 (35)		
Kennedy Capital Management	465,226,156	2.7	3.8 (35)	-19.6 (47)	-12.1 (42)	-5.4 (65)	3.4 (54)	8.3 (37)	10.9 (16)	01/01/1994	
Russell 2000 Value Index			2.6 (46)	-21.5 (62)	-14.9 (56)	-5.1 (61)	4.1 (43)	7.1 (68)	8.4 (92)		
Stephens	484,611,567	2.8	3.7 (94)	11.7 (54)	18.2 (62)	14.2 (48)	14.3 (56)	13.3 (68)	10.2 (65)	08/01/2006	
Russell 2000 Growth Index			7.2 (68)	3.9 (71)	15.7 (67)	8.2 (75)	11.4 (75)	12.3 (78)	9.3 (73)		
Voya Absolute Return	595,647,915	3.4	9.0 (40)	0.0 (55)	9.3 (52)	5.9 (54)	10.3 (41)	12.0 (19)	10.0 (27)	10/01/2008	
Performance Benchmark			8.1 (48)	1.4 (52)	10.4 (49)	7.1 (47)	10.7 (38)	12.0 (19)	10.1 (26)		
Allianz (Nicholas Applegate)	829,656,252	4.8	15.5 (3)	28.8 (6)	38.8 (7)	20.2 (11)	16.5 (17)	13.0 (35)	11.0 (12)	12/01/1998	
Performance Benchmark			13.9 (5)	22.2 (12)	31.2 (15)	15.2 (22)	13.7 (28)	11.3 (48)	8.5 (54)		
Pershing Square International	63,583,760	0.4	9.2 (30)	32.1 (5)	33.7 (12)	25.0 (4)	9.2 (53)	11.0 (51)	11.3 (26)	07/01/2008	
Dow Jones U.S. Total Stock Market Index			9.1 (30)	5.3 (34)	14.8 (32)	11.5 (32)	13.6 (29)	13.4 (29)	10.4 (34)		
Pershing Square Holdings	196,023,004	1.1	16.8 (2)	44.7 (2)	45.0 (5)	29.9 (2)	5.8 (75)		6.8 (82)	01/01/2013	
Dow Jones U.S. Total Stock Market Index			9.1 (30)	5.3 (34)	14.8 (32)	11.5 (32)	13.6 (29)		13.6 (28)		
Trian Partners	73,326,558	0.4	12.2	0.6	6.2	8.1			8.1	11/01/2015	
S&P 500 Index			8.9	5.6	15.1	12.3			12.5		
Trian Co-Investments	89,333,993	0.5	14.1	-5.6	2.1	5.6			4.7	01/01/2017	
S&P 500 Index			8.9	5.6	15.1	12.3			13.7		
SSgA Global Index	975,323,383	5.6	8.2 (48)	0.8 (53)	10.0 (50)	6.8 (49)	10.3 (41)	8.9 (55)	6.2 (52)	04/01/2008	
MSCI AC World IMI (Net)			8.1 (49)	0.5 (54)	9.6 (51)	6.5 (50)	10.0 (43)	8.5 (61)	5.9 (59)		

As of September 30, 2020

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	1,058,151,722	6.1	8.2 (48)	0.7 (54)	9.9 (50)	6.6 (49)	10.2 (42)		7.9 (54)	07/01/2011
MSCI AC World IMI (Net)			8.1 (49)	0.5 (54)	9.6 (51)	6.5 (50)	10.0 (43)		7.6 (61)	
Wellington Global Perspectives	503,666,841	2.9	6.5 (65)	-12.0 (87)	-4.9 (83)	-1.0 (84)	6.3 (77)	9.1 (51)	11.5 (33)	07/01/2009
Performance Benchmark			7.9 (52)	-5.9 (72)	3.2 (65)	2.0 (76)	7.6 (67)	7.7 (71)	10.1 (56)	
T. Rowe Price Global Equity	1,272,587,741	7.3	15.1 (5)	27.2 (6)	42.7 (6)	21.2 (4)	20.9 (4)	15.0 (6)	14.9 (8)	09/01/2009
MSCI AC World Index (Net)			8.1 (48)	1.4 (52)	10.4 (49)	7.1 (47)	10.3 (41)	8.5 (61)	8.9 (63)	
MSCI AC World Index Growth (net)			12.0 (13)	18.1 (12)	30.2 (12)	15.4 (12)	15.4 (14)	11.7 (22)	12.1 (24)	
Lazard	635,161,355	3.7	11.1 (21)	4.6 (39)	14.7 (36)	5.9 (55)	10.5 (39)	8.1 (67)	9.2 (53)	09/01/2009
MSCI AC World Index (Net)			8.1 (48)	1.4 (52)	10.4 (49)	7.1 (47)	10.3 (41)	8.5 (61)	8.9 (63)	
D.E. Shaw	742,238,073	4.3	7.4 (57)	-0.9 (58)	7.6 (57)	5.9 (54)	10.3 (41)	10.5 (31)	10.4 (36)	09/01/2009
MSCI World Index (Net)			7.9 (51)	1.7 (51)	10.4 (49)	7.7 (40)	10.5 (39)	9.4 (46)	9.4 (47)	
GMO Global All Country Equity	424,366,396	2.4	5.6 (70)	-6.2 (72)	3.8 (64)	2.8 (72)	7.6 (68)		3.2 (79)	07/01/2014
MSCI AC World Index (Net)			8.1 (48)	1.4 (52)	10.4 (49)	7.1 (47)	10.3 (41)		6.6 (48)	
MSCI AC World Index Value (Net)			4.0 (82)	-14.5 (91)	-8.0 (91)	-1.2 (85)	5.0 (84)		1.6 (87)	
Harris Global Equity	437,586,869	2.5	5.7 (70)	-10.9 (83)	-0.8 (72)	-2.2 (89)	7.0 (73)		3.5 (79)	06/01/2014
MSCI World Index (Net)			7.9 (51)	1.7 (51)	10.4 (49)	7.7 (40)	10.5 (39)		7.2 (43)	
MSCI World Value (Net)			3.9 (83)	-14.6 (91)	-8.4 (91)	-1.0 (84)	5.0 (83)		2.2 (86)	
Fixed Income	2,320,453,549	13.3	1.4	5.5	6.2	4.8	4.8	4.3	5.5	07/01/1992
Performance Benchmark			1.0	6.2	6.7	5.1	4.5	3.9	5.7	
BlackRock	281,849,500	1.6	1.3 (50)	7.7 (17)	8.1 (17)	5.6 (23)	4.6 (38)	4.2 (40)	4.8 (34)	10/01/2003
Performance Benchmark			1.0 (60)	6.2 (33)	6.7 (33)	5.1 (32)	4.5 (40)	3.9 (47)	4.6 (43)	
Loomis Sayles	471,378,412	2.7	3.0 (21)	7.9 (15)	9.5 (10)	5.9 (17)	6.7 (10)	6.5 (11)	8.3 (7)	09/01/2008
Performance Benchmark			2.1 (29)	5.6 (40)	6.5 (34)	5.4 (27)	5.5 (24)	4.8 (28)	5.9 (26)	
Putnam	373,750,000	2.1	1.2 (68)	-2.2 (61)	-0.4 (60)	2.5 (43)	3.1 (48)	2.3	2.9	08/01/2008
LIBOR			0.1 (88)	1.0 (50)	1.6 (49)	2.0 (50)	1.5 (74)	0.9	1.0	
SSgA Aggregate Bond Index	195,809,215	1.1	0.6 (74)	6.8 (26)	7.0 (29)	5.2 (30)	4.2 (47)	3.6 (54)	3.9 (54)	06/01/2010
Barclays Aggregate Index			0.6 (75)	6.8 (26)	7.0 (29)	5.2 (30)	4.2 (48)	3.6 (54)	3.9 (54)	
Wellington Global Total Return	348,474,605	2.0	0.2 (87)	1.3 (43)	1.3 (50)	4.1 (26)	2.5 (59)		2.1 (53)	05/01/2014
BofA Merrill Lynch 3 Month US T-Bill			0.0 (88)	0.6 (52)	1.1 (51)	1.7 (53)	1.2 (75)		0.9 (72)	
Reams Core Plus Bond Fund	396,160,210	2.3	2.0 (30)	15.0 (4)	15.2 (3)	8.2 (8)	6.1 (17)		5.1 (14)	05/01/2014
Barclays Aggregate Index			0.6 (75)	6.8 (26)	7.0 (29)	5.2 (30)	4.2 (48)		3.9 (40)	
BRS Recycling Tax Credit	176,000,000	1.0								
BRS Recycling Tax Credit Phase 2	77,031,608	0.4								

As of September 30, 2020

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	874,689,577	5.0	2.1	-4.7	-4.5	-0.7	0.6		2.8	05/01/2011
Custom Alternatives Benchmark			1.3	-3.0	-1.7	1.0	1.3		1.4	
Anchorage	72,940,013	0.4	-0.4	-2.1	-1.9	0.0	0.9		4.2	05/01/2011
Credit Suisse Event Driven			2.8	-5.0	-2.9	0.1	1.0		1.4	
York	28,151,581	0.2	-3.9	-38.0	-43.6	-19.0	-10.4		-3.4	05/01/2011
Credit Suisse Event Driven			2.8	-5.0	-2.9	0.1	1.0		1.4	
Capula	89,530,828	0.5	0.6	5.8	9.5	6.4	6.4		6.3	05/01/2011
HFRI Macro (Total) Index			1.2	0.5	0.3	1.7	1.1		0.4	
Graham	62,438,198	0.4	9.4	-0.8	1.4	3.4	1.6		2.2	05/01/2011
HFRI Macro (Total) Index			1.2	0.5	0.3	1.7	1.1		0.4	
Circumference Group Core Value	30,343,995	0.2	1.9	5.6	4.9	7.5	10.7		8.2	08/01/2015
Russell 2000 Index			4.9	-8.7	0.4	1.8	8.0		5.4	
Aeolus Keystone Fund	209,215,661	1.2	4.4	4.3	6.0	-1.1			-0.5	12/01/2015
Citigroup 3 Month T-Bill			0.0	0.6	1.0	1.6			1.2	
Eurekahedge ILS Advisers Index			2.5	3.3	3.5	0.5			-0.1	
Nephila Rubik Holdings	44,514,842	0.3	-1.8	0.3	-2.1	-2.7			-2.6	06/01/2016
Citigroup 3 Month T-Bill			0.0	0.6	1.0	1.6			1.3	
Eurekahedge ILS Advisers Index			2.5	3.3	3.5	0.5			-0.5	
Parametric Global Defensive Equity Fund	167,273,850	1.0	5.3	-4.3	0.3	2.5			3.2	05/01/2017
Performance Benchmark			4.1	1.6	6.3	4.7			5.0	
MSCI AC World Index			8.3	1.8	11.0	7.7			9.2	
Man Alternative Risk Premia	88,131,166	0.5	-3.2	-10.6	-13.7				-5.0	06/01/2018
SG Multi Alternative Risk Premia Index			-0.6	-13.2	-13.9				-5.5	
CFM ISD Fund 1.5x	73,948,799	0.4	-1.2	-25.1	-28.2				-12.0	07/01/2018
SG Multi Alternative Risk Premia Index			-0.6	-13.2	-13.9				-5.5	
AB TALF Opportunity 2020 Fund	4,200,000	0.0								
TCW TALF Opportunities Fund	4,000,645	0.0								

As of September 30, 2020

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Real Assets	2,090,639,385	12.0	-1.3	-0.3	0.8	4.7	6.3		7.6	07/01/2013
Total Real Assets Benchmark			-0.8	1.2	2.3	4.6	5.7		7.5	
Real Estate	1,320,212,170	7.6	-2.5	-1.8	-1.1	3.8	6.3	9.3	8.5	12/01/1998
NFI-ODCE (Net)			-1.8	0.2	1.3	4.7	6.3	9.7	8.7	
Timber	293,143,814	1.7	-1.5	0.0	2.6	3.8	3.8	3.2	6.9	06/01/1998
Timberland Property Benchmark			0.2	1.3	2.2	1.8	2.3	3.2		
BTG Timber Separate Account	106,227,559	0.6								
BTG U.S. Timberland Fund, L.P.	186,916,255	1.1								
Agriculture	204,352,842	1.2	1.3	1.2	2.2	3.0	4.0		5.3	09/01/2011
Agriculture Benchmark			0.8	3.2	4.4	4.2	4.5			
HFMS Farmland	149,589,353	0.9	1.5	0.9	1.8	2.7	3.8		5.3	09/01/2011
HFMS custom NCREIF Farmland Index			0.9	3.6	4.1	3.9	4.0			
UBS Agrivest Core Farmland Fund	54,763,489	0.3	0.8	2.3	3.3	3.7	4.5		4.5	07/01/2015
UBS Agrivest custom NCREIF Farmland Index			0.7	3.3	3.8	5.3	5.8		5.8	
Infrastructure	272,930,559	1.6	3.5	6.2	7.9				11.3	07/01/2018
CPI + 5%			2.2	5.1	6.4				6.5	
Private Equity	2,514,227,978	14.4	7.8	5.9	8.4	15.3	13.6	14.6	12.3	04/01/1997
Private Equity Policy			22.7	6.8	8.5	12.2	12.2	16.0	10.6	
Cash	118,557,487	0.7								

*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.

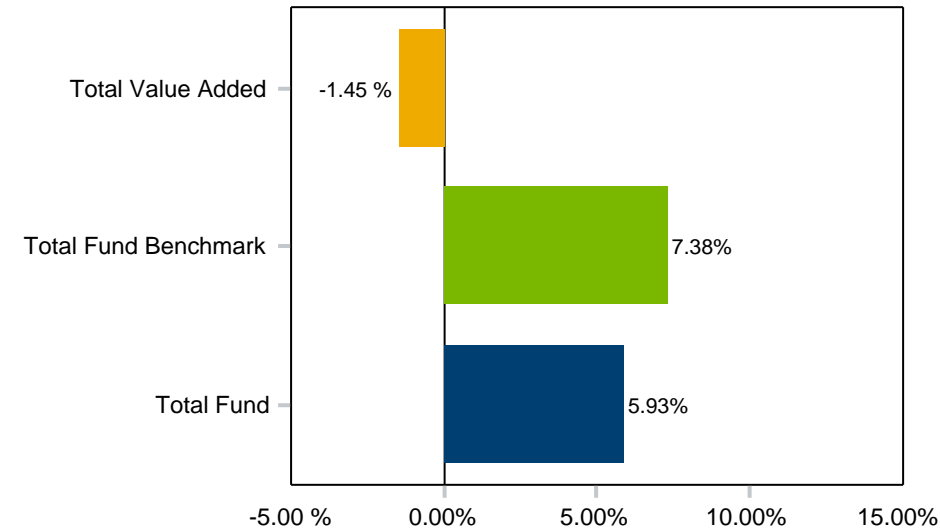
*ATRS made a total commitment of \$100 million to the Triam Co-Investments Fund. As of 9/30/2020, there was an unfunded commitment value equal to \$18,287,776.

*ATRS made a total commitment of \$42 million to the AB TALF Opportunity 2020 Fund. As of 9/30/2020, there was an unfunded commitment value equal to \$37,800,000.

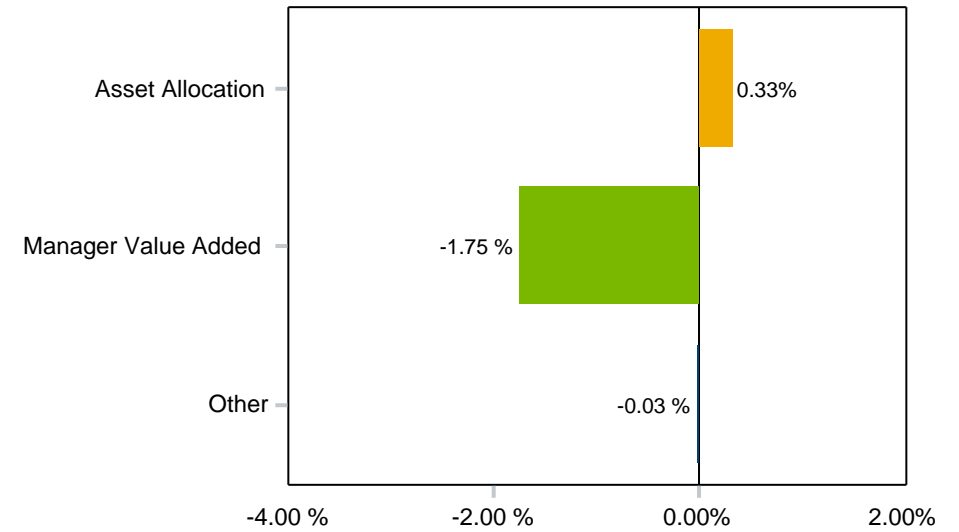
*ATRS made a total commitment of \$40 million to the TCW TALF Opportunities Fund. As of 9/30/2020, there was an unfunded commitment value equal to \$36,000,000.

Total Fund Attribution

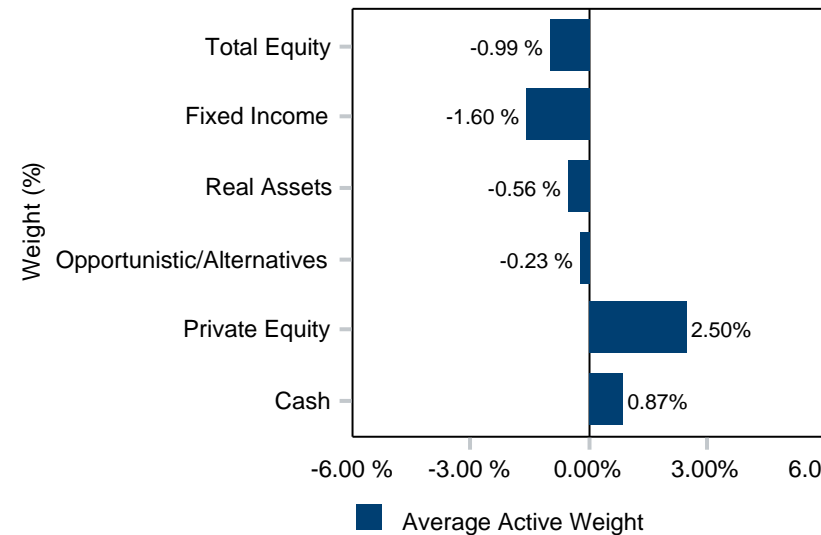
Total Fund Performance



Total Value Added: -1.45 %



Total Asset Allocation: 0.33%

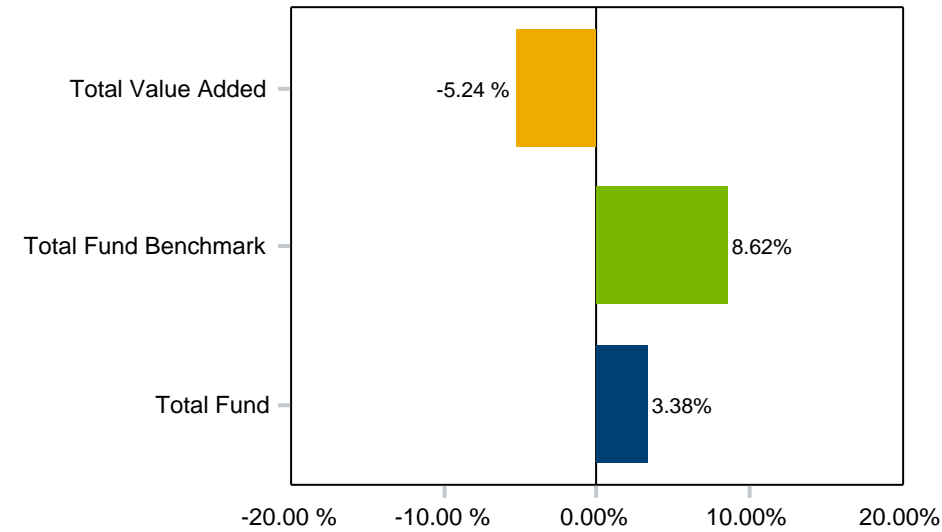


Total Manager Value Added: -1.75 %

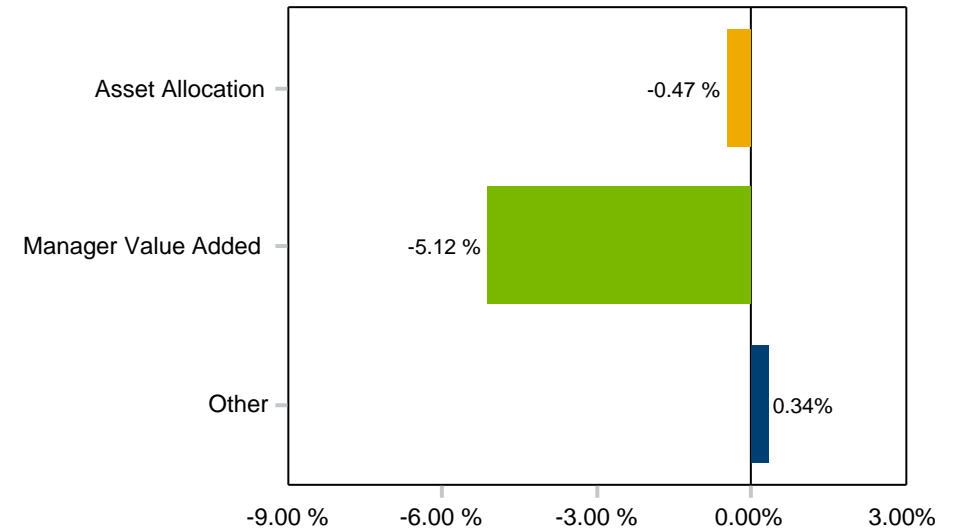


Total Fund Attribution

Total Fund Performance

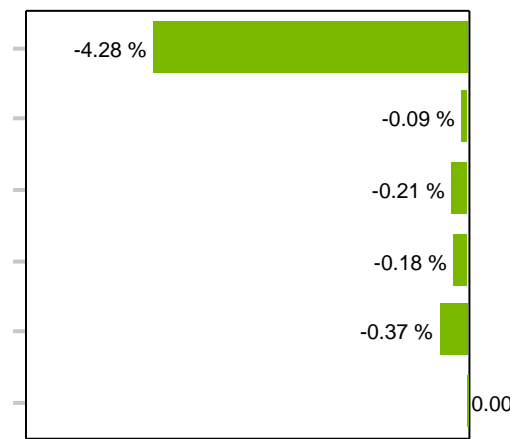
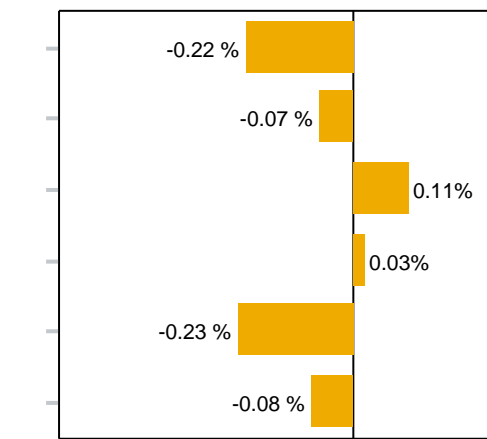
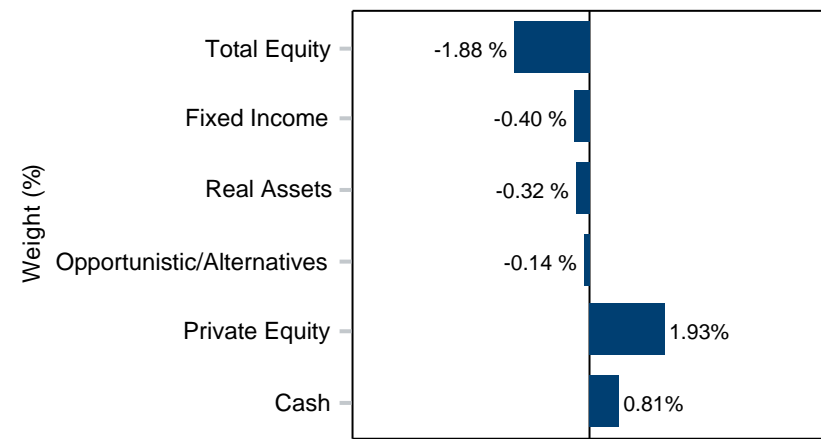


Total Value Added: -5.24 %



Total Asset Allocation: -0.47 %

Total Manager Value Added: -5.12 %



Average Active Weight

Asset Allocation Value Added

Manager Value Added

As of September 30, 2020

Calendar Year Performance

	Performance(%)									
	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	Fiscal Year 2011
Total Fund	-1.4 (93)	5.3 (60)	11.7 (1)	16.1 (1)	-0.5 (79)	5.2	19.0	14.3	-1.0	22.4
Performance Benchmark	2.3 (40)	7.0 (8)	9.2 (36)	13.2 (40)	1.8 (6)	5.2	18.3	13.5	2.1	21.9
Total Equity	-6.4 (77)	4.1 (57)	13.4 (31)	22.1 (29)	-4.8 (57)	4.1 (32)	25.5 (34)	20.3 (32)	-6.3 (58)	31.5 (47)
Total Equity Performance Benchmark	2.7 (45)	5.9 (48)	12.2 (37)	19.0 (48)	-1.5 (38)	3.6 (35)	23.9 (48)	18.9 (43)	-1.8 (28)	31.2 (49)
Jacobs Levy 130/30	0.2 (45)	5.5 (49)	19.9 (23)	24.6 (18)	8.3 (4)	14.2 (7)	24.3 (53)	22.4 (49)	1.4 (41)	43.2 (16)
Russell 3000 Index	6.5 (31)	9.0 (31)	14.8 (45)	18.5 (56)	2.1 (22)	7.3 (43)	25.2 (44)	21.5 (56)	3.8 (25)	32.4 (57)
Kennedy Capital Management	-16.2 (52)	-7.8 (67)	12.2 (50)	24.2 (34)	-4.9 (63)	2.7 (52)	29.4 (9)	34.4 (6)	-4.2 (69)	33.9 (55)
Russell 2000 Value Index	-17.5 (60)	-6.2 (57)	13.1 (42)	24.9 (29)	-2.6 (39)	0.8 (65)	22.5 (71)	24.8 (62)	-1.4 (36)	31.4 (72)
Stephens	7.8 (49)	8.4 (31)	29.5 (27)	18.3 (83)	-7.8 (44)	5.1 (88)	18.4 (78)	18.7 (88)	3.0 (11)	46.7 (35)
Russell 2000 Growth Index	3.5 (57)	-0.5 (78)	21.9 (64)	24.4 (46)	-10.8 (61)	12.3 (38)	24.7 (37)	23.7 (58)	-2.7 (41)	43.5 (56)
Voya Absolute Return	0.1 (55)	4.0 (58)	9.9 (55)	20.3 (39)	1.9 (21)	7.8 (10)	26.9 (25)	19.7 (37)	6.0 (8)	30.5 (55)
Performance Benchmark	2.1 (47)	5.7 (49)	10.7 (50)	18.8 (50)	1.1 (24)	7.4 (11)	24.6 (41)	20.6 (30)	5.4 (8)	30.7 (54)
Allianz (Nicholas Applegate)	20.1 (10)	12.5 (15)	16.4 (36)	15.9 (73)	-7.1 (77)	4.4 (67)	23.1 (64)	19.4 (70)	-2.4 (65)	29.7 (74)
Performance Benchmark	15.3 (15)	7.8 (37)	12.0 (62)	16.8 (67)	-4.7 (64)	3.5 (73)	24.4 (52)	18.6 (76)	-3.2 (71)	22.5 (96)
Pershing Square International	28.0 (3)	30.7 (1)	2.8 (97)	8.2 (95)	-33.2 (100)	12.9 (11)	29.1 (16)	17.3 (80)	0.8 (45)	26.8 (87)
Dow Jones U.S. Total Stock Market Index	6.4 (31)	8.9 (32)	14.8 (45)	18.5 (56)	2.0 (22)	7.2 (44)	25.0 (46)	21.5 (56)	4.0 (24)	32.4 (56)
Pershing Square Holdings	36.5 (2)	21.7 (2)	-2.7 (100)	8.3 (95)	-49.1 (100)	15.2 (5)	30.4 (11)			
Dow Jones U.S. Total Stock Market Index	6.4 (31)	8.9 (32)	14.8 (45)	18.5 (56)	2.0 (22)	7.2 (44)	25.0 (46)			
Triam Partners	-2.3	13.1	2.8	9.5						
S&P 500 Index	7.5	10.4	14.4	17.9						
SSgA Global Index	1.6 (48)	4.8 (54)	11.4 (44)	19.4 (44)	-3.4 (48)	1.2 (55)	23.8 (49)	17.5 (52)	-6.6 (59)	31.4 (47)
MSCI AC World IMI (Net)	1.2 (50)	4.6 (55)	11.1 (46)	19.0 (48)	-3.9 (50)	0.8 (58)	23.4 (52)	17.1 (56)	-6.9 (61)	31.0 (51)

As of September 30, 2020

Calendar Year Performance

	Performance(%)									
	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	Fiscal Year 2011
BlackRock MSCI ACWI IMI Fund	1.5 (49)	4.5 (56)	11.4 (44)	19.1 (47)	-3.4 (48)	1.2 (55)	23.9 (49)	17.7 (51)	-6.6 (59)	
MSCI AC World IMI (Net)	1.2 (50)	4.6 (55)	11.1 (46)	19.0 (48)	-3.9 (50)	0.8 (58)	23.4 (52)	17.1 (56)	-6.9 (61)	
Wellington Global Perspectives	-11.7 (90)	-3.8 (89)	15.7 (20)	24.8 (16)	-4.2 (52)	-1.4 (72)	33.1 (4)	30.7 (4)	-9.1 (73)	45.8 (4)
Performance Benchmark	-5.5 (75)	-3.0 (86)	13.8 (29)	20.5 (38)	-4.7 (56)	1.5 (53)	26.0 (31)	20.6 (30)	-9.9 (78)	35.8 (21)
T. Rowe Price Global Equity	22.8 (6)	8.0 (34)	21.3 (8)	28.8 (8)	-0.6 (33)	7.5 (11)	32.0 (6)	18.2 (48)	-7.7 (63)	28.2 (71)
MSCI AC World Index (Net)	2.1 (47)	5.7 (49)	10.7 (50)	18.8 (50)	-3.7 (49)	0.7 (59)	22.9 (54)	16.6 (61)	-6.5 (59)	30.1 (57)
MSCI AC World Index Growth (net)	16.6 (11)	7.2 (41)	16.1 (20)	18.6 (51)	-2.7 (44)	4.9 (25)	23.1 (53)	15.4 (68)	-5.3 (50)	32.0 (43)
Lazard	1.6 (48)	2.7 (66)	9.8 (55)	26.2 (13)	-10.7 (89)	7.3 (11)	23.3 (52)	15.8 (66)	-11.4 (84)	29.6 (59)
MSCI AC World Index (Net)	2.1 (47)	5.7 (49)	10.7 (50)	18.8 (50)	-3.7 (49)	0.7 (59)	22.9 (54)	16.6 (61)	-6.5 (59)	30.1 (57)
D.E. Shaw	0.1 (55)	2.6 (67)	15.8 (20)	19.2 (46)	0.0 (28)	3.9 (33)	25.6 (33)	19.3 (41)	-1.9 (29)	31.1 (50)
MSCI World Index (Net)	2.8 (44)	6.3 (45)	11.1 (47)	18.2 (53)	-2.8 (45)	1.4 (53)	24.0 (47)	18.6 (45)	-5.0 (48)	30.5 (55)
GMO Global All Country Equity	-2.3	3.5	6.8	20.0	-6.5	-4.5				
MSCI AC World Index (Net)	2.1	5.7	10.7	18.8	-3.7	0.7				
MSCI AC World Index Value (Net)	-11.8	4.3	5.4	19.0	-4.8	-3.4				
Harris Global Equity	-6.6	-2.0	5.0	38.9	-12.8	0.7				
MSCI World Index (Net)	2.8	6.3	11.1	18.2	-2.8	1.4				
MSCI World Value (Net)	-11.3	4.2	5.6	18.7	-3.7	-2.9				
Fixed Income	6.4	6.4	1.3	5.2	3.5	1.0	6.1	3.8	5.2	7.3
Performance Benchmark	7.9	8.1	-0.3	0.9	5.8	1.6	5.2	0.2	7.4	4.8
BlackRock	9.0 (17)	8.0 (26)	-0.3 (77)	0.3 (69)	6.0 (22)	2.4 (16)	5.2 (50)	0.3 (64)	8.0 (28)	6.3 (38)
Performance Benchmark	7.9 (27)	8.1 (24)	-0.3 (75)	0.9 (54)	5.8 (24)	1.6 (36)	5.2 (50)	0.2 (67)	7.4 (37)	4.8 (52)
Loomis Sayles	7.6 (30)	7.4 (36)	1.8 (26)	8.1 (16)	1.9 (68)	1.1 (54)	12.0 (9)	10.7 (7)	4.4 (70)	15.7 (10)
Performance Benchmark	6.6 (38)	8.2 (21)	0.5 (48)	4.0 (27)	5.0 (35)	1.0 (60)	6.8 (34)	2.8 (31)	8.4 (23)	7.8 (28)
Putnam	0.1 (55)	3.7 (32)	4.1 (36)	7.9 (29)	-3.6 (70)	-0.7 (53)	3.7 (71)	5.5 (29)	-1.8 (62)	4.6 (55)
LIBOR	2.1 (35)	2.6 (41)	1.5 (59)	0.8 (83)	0.4 (42)	0.2 (42)	0.3 (85)	0.4 (83)	0.4 (49)	0.4 (88)
SSgA Aggregate Bond Index	8.7 (20)	7.9 (27)	-0.4 (78)	-0.3 (82)	6.0 (22)	1.9 (27)	4.3 (61)	-0.6 (85)	7.4 (36)	3.9 (66)
Barclays Aggregate Index	8.7 (20)	7.9 (27)	-0.4 (78)	-0.3 (84)	6.0 (22)	1.9 (28)	4.4 (60)	-0.7 (86)	7.5 (35)	3.9 (65)
Wellington Global Total Return	2.1 (36)	5.3 (14)	5.1 (32)	-0.7 (85)	1.3 (32)	0.5 (38)				
BofA Merrill Lynch 3 Month US T-Bill	1.6 (41)	2.3 (45)	1.4 (60)	0.5 (83)	0.2 (42)	0.0 (45)				
Reams Core Plus Bond Fund	15.3	8.6	0.0	0.0	6.1	1.5				
Barclays Aggregate Index	8.7	7.9	-0.4	-0.3	6.0	1.9				
BRS Recycling Tax Credit										
BRS Recycling Tax Credit Phase 2										

As of September 30, 2020

Calendar Year Performance

	Performance(%)									
	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	Fiscal Year 2011
Opportunistic/Alternatives	-5.3	-0.2	0.6	6.8	-1.7	5.8	10.2	12.9	-1.0	
Custom Alternatives Benchmark	-2.5	2.1	3.4	2.8	-3.7	1.7	6.3	7.1	-3.9	
Anchorage	-5.4	1.4	6.2	5.9	-3.9	3.8	18.9	19.4	-1.0	
Credit Suisse Event Driven	-6.9	1.9	3.8	9.3	-10.4	-2.0	14.1	14.5	-7.2	
York	-45.2	-5.9	12.2	14.3	-12.9	-7.2	22.4	19.4	-0.8	
Credit Suisse Event Driven	-6.9	1.9	3.8	9.3	-10.4	-2.0	14.1	14.5	-7.2	
Capula	9.8	6.3	3.8	7.8	6.1	8.9	7.9	4.0	3.4	
HFRI Macro (Total) Index	0.8	2.4	1.1	-2.4	1.8	4.2	1.5	-0.1	-2.8	
Graham	-5.6	2.1	6.5	-3.2	-1.0	23.9	2.7	5.9	-8.3	
HFRI Macro (Total) Index	0.8	2.4	1.1	-2.4	1.8	4.2	1.5	-0.1	-2.8	
Circumference Group Core Value	5.0	2.7	15.9	14.0						
Russell 2000 Index	-6.6	-3.3	17.6	24.6						
Aeolus Keystone Fund	5.1	-5.8	-17.9	11.2						
Citigroup 3 Month T-Bill	1.6	2.3	1.3	0.5						
Eurekahedge ILS Advisers Index	2.9	-5.5	-6.6	5.0						
Nephila Rubik Holdings	3.1	-6.9	-7.7	2.2						
Citigroup 3 Month T-Bill	1.6	2.3	1.3	0.5						
Eurekahedge ILS Advisers Index	2.9	-5.5	-6.6	5.0						
Parametric Global Defensive Equity Fund	-4.2	3.9	5.8							
Performance Benchmark	2.4	4.4	6.0							
MSCI AC World Index	2.6	6.3	11.3							
Man Alternative Risk Premia	-7.9	1.8								
SG Multi Alternative Risk Premia Index	-11.6	0.4								
CFM ISD Fund 1.5x	-26.1	2.8								
SG Multi Alternative Risk Premia Index	-11.6	0.4								
AB TALF Opportunity 2020 Fund										
TCW TALF Opportunities Fund										

As of September 30, 2020

Calendar Year Performance

	Performance(%)									
	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	Fiscal Year 2011
Real Assets	3.9	5.6	9.4	7.5	9.5	11.7	9.0			
Total Real Assets Benchmark	4.1	5.7	6.2	6.6	10.0	11.5	11.4			
Real Estate	2.0	5.7	11.1	6.9	12.0	13.4	12.1	7.9	9.8	17.7
NFI-ODCE (Net)	3.9	6.5	7.1	7.4	12.6	12.4	12.7	10.5	13.4	16.0
Timber	12.2	-0.3	1.2	8.0	0.4	9.4	-1.1	6.8	-5.3	4.8
Timberland Property Benchmark	3.1	0.1	2.6	3.7	2.5	10.5	7.7	6.9	-2.9	-0.4
BTG Timber Separate Account										
BTG U.S. Timberland Fund, L.P.										
Agriculture	1.8	3.5	3.3	4.3	9.8	2.5	11.0	11.5		
Agriculture Benchmark	4.0	5.4	3.5	4.5	5.6	6.5	12.8	20.9		
HFMS Farmland	1.4	3.4	2.9	3.9	10.7	2.5	11.0	11.5		
HFMS custom NCREIF Farmland Index	4.6	4.9	2.0	4.0	4.8	6.5	12.8	20.9		
UBS Agrivest Core Farmland Fund	3.1	4.0	4.5	5.0	6.2					
UBS Agrivest custom NCREIF Farmland Index	4.7	6.2	5.0	5.5	8.4					
Infrastructure	7.2	14.6								
CPI + 5%	5.7	6.7								
Private Equity	4.9	12.8	22.3	16.7	7.7	11.9	20.6	12.5	12.5	16.0
Private Equity Policy	-7.5	10.8	16.1	20.4	1.6	14.5	25.0	16.8	9.4	20.1
Cash	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.

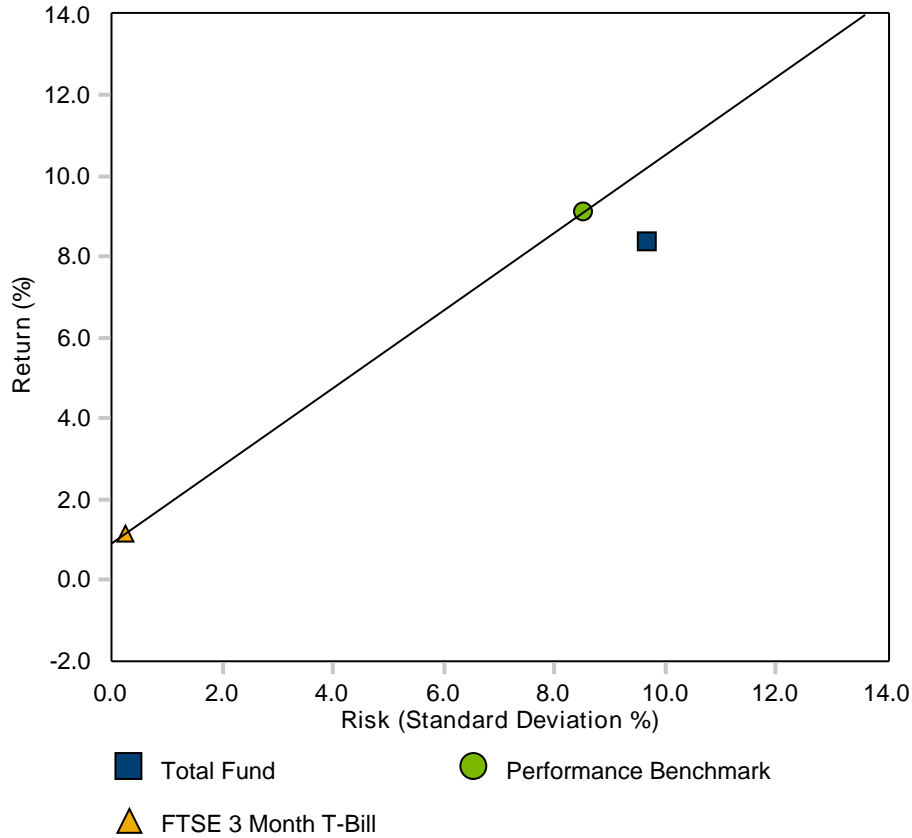
*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 151 of this report.

*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.

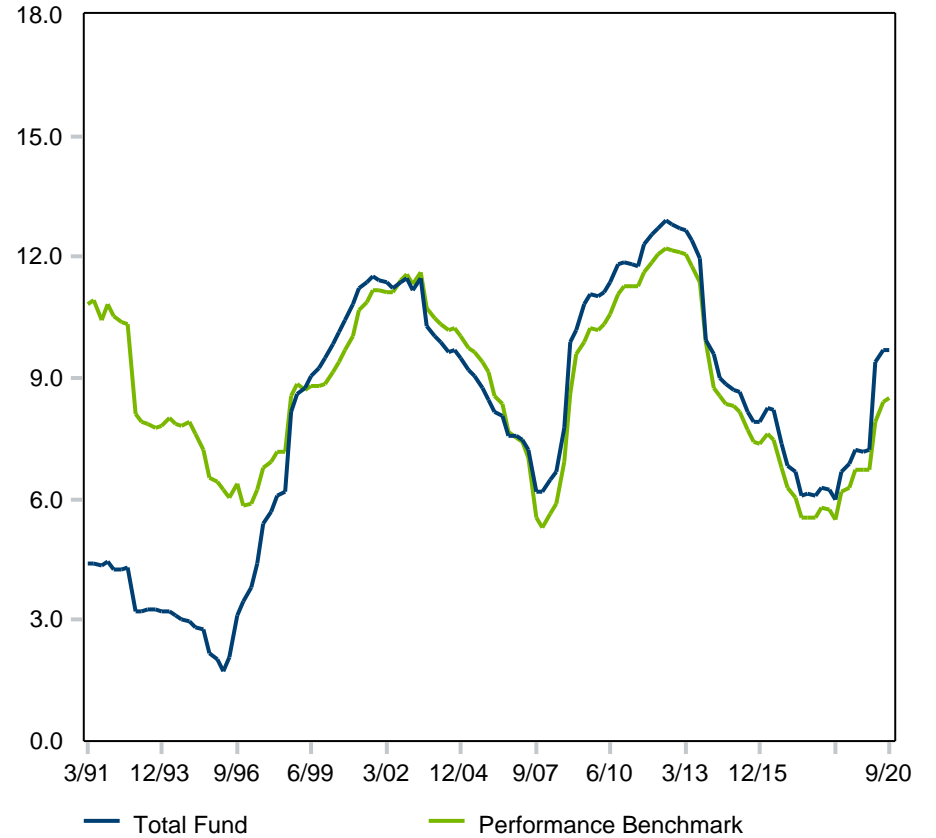
*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance 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



Rolling 5 Years Standard Deviation

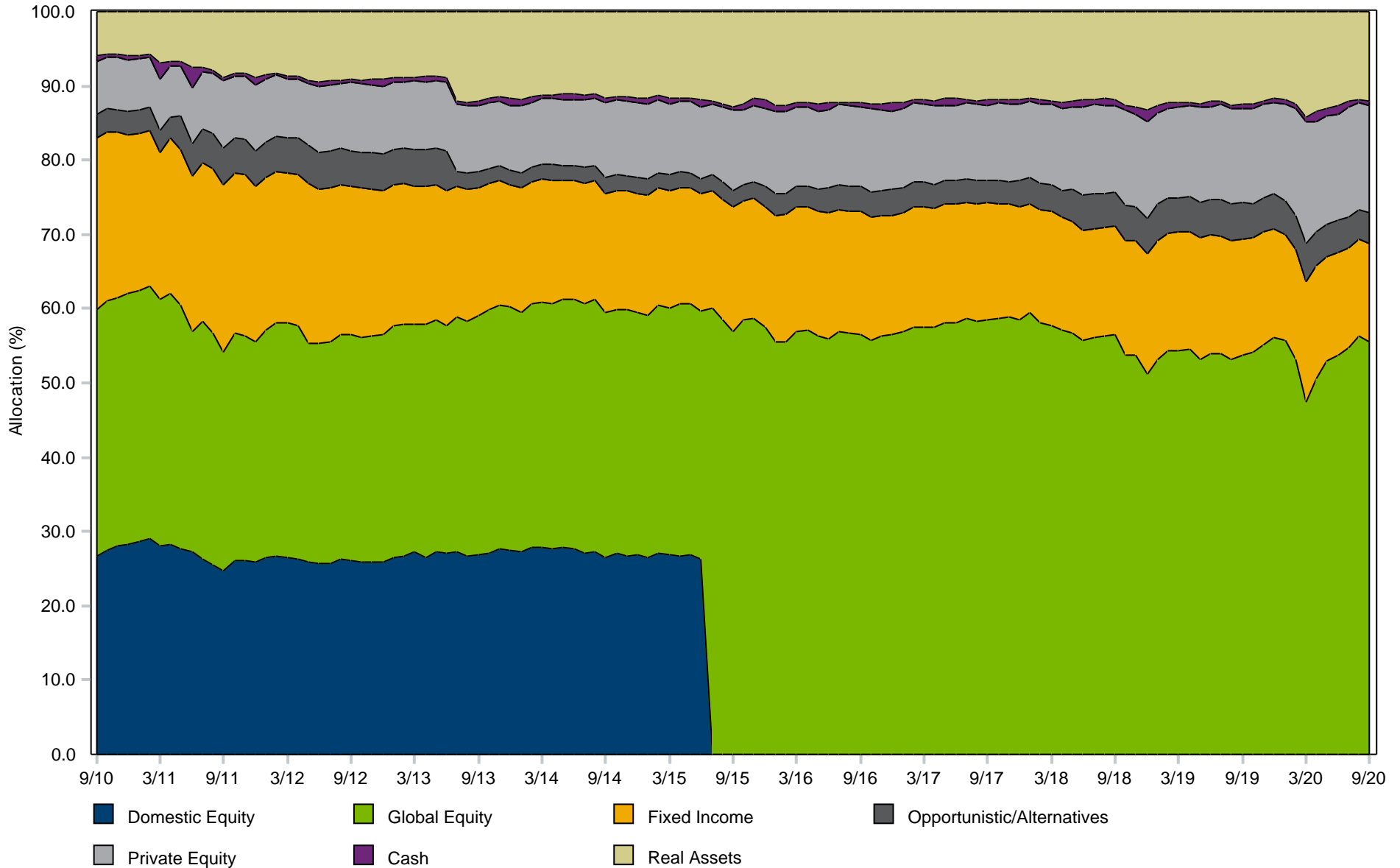


5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Total Fund	-0.59	2.94	-0.20	0.91	0.76	-1.37	1.09	8.36	9.69	0.96
Performance Benchmark	0.00	0.00	N/A	1.00	0.93	0.00	1.00	9.13	8.53	1.00
FTSE 3 Month T-Bill	-7.97	8.56	-0.93	0.02	N/A	1.19	0.00	1.16	0.24	-0.13

Historical Asset Allocation by Segment

Total Fund



Asset Allocation as of 9/30/2020	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	\$635,344.9	--	--	--	--	\$635,344.9	3.65%		
Kennedy Capital Management	\$465,226.2	--	--	--	--	\$465,226.2	2.67%		
Stephens	\$484,611.6	--	--	--	--	\$484,611.6	2.79%		
Voya Absolute Return	\$595,647.9	--	--	--	--	\$595,647.9	3.42%		
Allianz (Nicholas Applegate)	\$829,656.3	--	--	--	--	\$829,656.3	4.77%		
Pershing Square International	\$63,583.8	--	--	--	--	\$63,583.8	0.37%		
Pershing Square Holdings	\$196,023.0	--	--	--	--	\$196,023.0	1.13%		
SSgA Global Index	\$975,323.4	--	--	--	--	\$975,323.4	5.61%		
BlackRock MSCI ACWI IMI Fund	\$1,058,151.7	--	--	--	--	\$1,058,151.7	6.08%		
Wellington Global Perspectives	\$503,666.8	--	--	--	--	\$503,666.8	2.89%		
T. Rowe Price Global Equity	\$1,272,587.7	--	--	--	--	\$1,272,587.7	7.31%		
Lazard	\$635,161.4	--	--	--	--	\$635,161.4	3.65%		
D.E. Shaw	\$742,238.1	--	--	--	--	\$742,238.1	4.27%		
GMO Global All Country Equity	\$424,366.4	--	--	--	--	\$424,366.4	2.44%		
Harris Global Equity	\$437,586.9	--	--	--	--	\$437,586.9	2.51%		
Triam Partners	\$73,326.6	--	--	--	--	\$73,326.6	0.42%		
Triam Partners Co-Investments	\$89,334.0	--	--	--	--	\$89,334.0	0.51%		
Capital Guardian & Knight Vinke	\$74.1	--	--	--	--	\$74.1	0.00%		
Total Equity						\$9,481,910.6	54.49%	54.95%	53.00%
BlackRock	--	\$281,849.5	--	--	--	\$281,849.5	1.62%		
Loomis Sayles	--	\$471,378.4	--	--	--	\$471,378.4	2.71%		
Putnam	--	\$373,750.0	--	--	--	\$373,750.0	2.15%		
SSgA Aggregate Bond Index	--	\$195,809.2	--	--	--	\$195,809.2	1.13%		
Wellington Global Total Return	--	\$348,474.6	--	--	--	\$348,474.6	2.00%		
Reams Core Plus Bond Fund	--	\$396,160.2	--	--	--	\$396,160.2	2.28%		
BRS Recycling Tax Credit	--	\$176,000.0	--	--	--	\$176,000.0	1.01%		
BRS Recycling Tax Credit Phase 2	--	\$77,031.6	--	--	--	\$77,031.6	0.44%		
Total Fixed Income						\$2,320,453.5	13.34%	15.00%	15.00%
Anchorage	--	--	--	\$72,940.0	--	\$72,940.0	0.42%		
Capula	--	--	--	\$89,530.8	--	\$89,530.8	0.51%		
Graham	--	--	--	\$62,438.2	--	\$62,438.2	0.36%		
York	--	--	--	\$28,151.6	--	\$28,151.6	0.16%		
Circumference Group Core Value	--	--	--	\$30,344.0	--	\$30,344.0	0.17%		
Aeolus Keystone Fund	--	--	--	\$209,215.7	--	\$209,215.7	1.20%		
Nephila Rubik Holdings	--	--	--	\$44,514.8	--	\$44,514.8	0.26%		
Parametric Global Defensive Equity	--	--	--	\$167,273.9	--	\$167,273.9	0.96%		
Man Alternative Risk Premia	--	--	--	\$88,131.2	--	\$88,131.2	0.51%		
CFM ISD Fund 1.5x	--	--	--	\$73,948.8	--	\$73,948.8	0.42%		
AB TALF Opportunity 2020 Fund	--	--	--	\$4,200.0	--	\$4,200.0	0.02%		
TCW TALF Opportunities Fund	--	--	--	\$4,000.6	--	\$4,000.6	0.02%		
Total Opportunistic/Alternatives						\$874,689.6	5.03%	5.34%	5.00%
Real Estate			\$1,320,212.2			\$1,320,212.2	7.59%		
Timber			\$293,143.8			\$293,143.8	1.68%		
Agriculture			\$204,352.8			\$204,352.8	1.17%		
Infrastructure			\$272,930.6			\$272,930.6	1.57%		
Total Real Assets						\$2,090,639.4	12.01%	12.72%	15.00%
Total Private Equity				\$2,514,228.0		\$2,514,228.0	14.45%	12.00%	12.00%
Total Cash					\$118,557.5	\$118,557.5	0.68%	0.00%	0.00%
Total Fund	\$9,481,910.6	\$2,320,453.5	\$2,090,639.4	\$3,388,917.6	\$118,557.5	\$17,400,478.6	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 9/30/2020				Values in \$1,000			
	Real Estate	Percent of Real Estate	Percent of Total Fund		Real Estate	Percent of Real Estate	Percent of Total Fund
Almanac Realty Securities Fund V	\$132.6	0.01%	0.00%	LaSalle Income & Growth Fund VI	\$6,479.8	0.49%	0.04%
Almanac Realty Securities Fund VI	\$3,800.7	0.29%	0.02%	LaSalle Income & Growth Fund VII	\$14,170.8	1.07%	0.08%
Almanac Realty Securities Fund VII	\$14,416.8	1.09%	0.08%	LaSalle Income & Growth Fund VIII	\$7,545.0	0.57%	0.04%
Almanac Realty Securities Fund VIII	\$4,147.1	0.31%	0.02%	Lone Star Real Estate Fund IV	\$6,489.9	0.49%	0.04%
American Center	\$27,916.0	2.11%	0.16%	Long Wharf Real Estate Partners V	\$22,983.5	1.74%	0.13%
AR Insurance	\$2,251.3	0.17%	0.01%	Long Wharf Real Estate Partners VI	\$5,927.7	0.45%	0.03%
AR Teachers Retirement Building	\$5,365.5	0.41%	0.03%	Metropolitan RE Co-Investments	\$10,809.4	0.82%	0.06%
Blackstone Real Estate Partners VII	\$19,423.1	1.47%	0.11%	Met Life Commercial Mtg Inc Fund	\$48,697.9	3.69%	0.28%
Blackstone RE Europe VI	\$8,698.0	0.66%	0.05%	New Boston Fund VII	\$50.1	0.00%	0.00%
Carlyle Realty Partners VII	\$11,727.0	0.89%	0.07%	O'Connor NAPP II	\$9,981.6	0.76%	0.06%
Carlyle Realty VIII	\$7,977.3	0.60%	0.05%	PRISA	\$270,360.5	20.48%	1.55%
Carlyle Realty III	\$796.5	0.06%	0.00%	Recoveries Land	\$70.0	0.01%	0.00%
CBREI SP U.S. Opportunity V	\$9,753.3	0.74%	0.06%	Rockwood Capital RE Partners IX	\$5,483.5	0.42%	0.03%
CBREI SP VIII	\$24,325.7	1.84%	0.14%	Rockwood Capital RE XI	-\$257.7	-0.02%	0.00%
CBREI SP IX	\$11,234.1	0.85%	0.06%	Rose Law Firm	\$4,287.6	0.32%	0.02%
Cerberus Institutional RE Partners III	\$12,903.1	0.98%	0.07%	Texarkana DHS	\$1,628.9	0.12%	0.01%
Chenal Retirement Village	\$119.5	0.01%	0.00%	Torchlight Debt Opportunity Fund IV	\$4,773.9	0.36%	0.03%
Calmwater	\$23,431.5	1.77%	0.13%	Torchlight Debt Opportunity Fund V	\$6,880.3	0.52%	0.04%
Fletcher Properties	\$1,158.3	0.09%	0.01%	Torchlight Debt Opportunity Fund VI	\$24,771.5	1.88%	0.14%
FPA Core Plus IV	\$18,819.4	1.43%	0.11%	Torchlight Debt Opportunity Fund VII	\$5,000.0	0.38%	0.03%
Harbert European Real Estate	\$17,037.7	1.29%	0.10%	UBS Trumbull Property Fund	\$198,614.7	15.04%	1.14%
Heitman European Property IV	\$2,762.1	0.21%	0.02%	UBS Trumbull Property Income Fund	\$51,820.0	3.93%	0.30%
JP Morgan Strategic Property Fund	\$278,110.5	21.07%	1.60%	Victory	\$32,835.0	2.49%	0.19%
Kayne Anderson V	\$19,966.0	1.51%	0.11%	Walton Street Real Estate Debt II	\$3,756.5	0.28%	0.02%
Landmark Fund VI	\$2,184.7	0.17%	0.01%	West Mphs. DHS	\$2,324.3	0.18%	0.01%
Landmark Real Estate VIII	\$7,551.5	0.57%	0.04%	Westbrook IX	\$11,021.6	0.83%	0.06%
LaSalle Asia Opportunity Fund IV	\$2,139.3	0.16%	0.01%	Westbrook Real Estate Fund X	\$14,910.6	1.13%	0.09%
LaSalle Asia Opportunity Fund V	\$10,646.8	0.81%	0.06%				
Total Real Estate					\$1,320,212.2	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 9/30/2020				Values in \$1,000			
	Private Equity	Percent of Private Equity	Percent of Total Fund		Private Equity	Percent of Private Equity	Percent of Total Fund
Arlington Capital IV	\$31,952.0	1.27%	0.18%	Insight Mezzanine I	\$1,632.7	0.06%	0.01%
Arlington Capital V	\$3,397.2	0.14%	0.02%	JF Lehman III	\$13,466.3	0.54%	0.08%
Advent GPE VI	\$5,609.6	0.22%	0.03%	JF Lehman IV	\$34,587.0	1.38%	0.20%
Altus Capital II	\$6,488.3	0.26%	0.04%	JF Lehman V	\$5,712.2	0.23%	0.03%
American Industrial Partners VI	\$21,351.1	0.85%	0.12%	KPS III	\$166.4	0.01%	0.00%
American Industrial Partners VII	\$1,337.9	0.05%	0.01%	KPS IV	\$20,055.3	0.80%	0.12%
Altaris Constellation Partners	\$25,334.2	1.01%	0.15%	KPS X	\$5,679.6	0.23%	0.03%
Altaris Health Partners IV	\$17,920.2	0.71%	0.10%	KPS Mid-Cap	\$3,438.4	0.14%	0.02%
Atlas Capital II	\$13,987.8	0.56%	0.08%	Levine Leichtman V	\$18,108.4	0.72%	0.10%
Audax Mezzanine III	\$4,015.4	0.16%	0.02%	Lime Rock III	\$8,979.0	0.36%	0.05%
Big River - Equity	\$377,800.0	15.03%	2.17%	LLR III	\$9,426.7	0.37%	0.05%
Big River - Holdings Note 2023	\$12,871.4	0.51%	0.07%	Mason Wells III	\$8,105.9	0.32%	0.05%
Big River - Holdings Note 3/16/23	\$5,397.4	0.21%	0.03%	NGP IX	\$939.9	0.04%	0.01%
Bison V	\$22,778.0	0.91%	0.13%	NGP X	\$5,658.4	0.23%	0.03%
Boston Ventures VII	\$5,312.3	0.21%	0.03%	NGP XI	\$19,724.5	0.78%	0.11%
Boston Ventures IX	\$22,026.6	0.88%	0.13%	NGP XII	\$13,116.6	0.52%	0.08%
Boston Ventures X	\$391.3	0.02%	0.00%	One Rock Capital Partners II	\$29,341.0	1.17%	0.17%
BV VIII	\$19,419.2	0.77%	0.11%	PineBridge	\$14,300.8	0.57%	0.08%
Castlelake II	\$15,862.8	0.63%	0.09%	Riverside IV	\$696.5	0.03%	0.00%
Castlelake III	\$17,334.4	0.69%	0.10%	Riverside V	\$23,411.1	0.93%	0.13%
Clearlake V	\$33,330.4	1.33%	0.19%	Riverside VI	\$8,256.2	0.33%	0.05%
Clearlake VI	\$3,989.3	0.16%	0.02%	Siris III	\$21,362.2	0.85%	0.12%
Court Square III	\$40,043.5	1.59%	0.23%	Siris IV	\$14,273.6	0.57%	0.08%
CSFB-ATRS 2005-1 Series	\$24,958.1	0.99%	0.14%	SK Capital V	\$6,884.9	0.27%	0.04%
CSFB-ATRS 2006-1 Series	\$70,495.1	2.80%	0.41%	Sycamore Partners II	\$13,742.7	0.55%	0.08%
Diamond State Ventures II	\$4,558.0	0.18%	0.03%	Sycamore Partners III	\$2,678.0	0.11%	0.02%
Doughty Hanson Tech I	\$404.7	0.02%	0.00%	TA XI	\$39,911.8	1.59%	0.23%
DW Healthcare III	\$20,696.0	0.82%	0.12%	Tennenbaum VI	\$10,007.4	0.40%	0.06%
DW Healthcare IV	\$30,909.1	1.23%	0.18%	Thoma Bravo Discover	\$14,448.4	0.57%	0.08%
DW Healthcare V	\$6,541.4	0.26%	0.04%	Thoma Bravo Discover II	\$12,233.0	0.49%	0.07%
EnCap IX	\$6,990.8	0.28%	0.04%	Thoma Bravo XI	\$32,587.7	1.30%	0.19%
EnCap VIII	\$9,112.4	0.36%	0.05%	Thoma Bravo XII	\$42,480.5	1.69%	0.24%
EnCap X	\$18,940.9	0.75%	0.11%	Thoma Bravo XIII	\$18,598.7	0.74%	0.11%
EnCap XI	\$6,791.7	0.27%	0.04%	Vista Equity III	\$4,307.0	0.17%	0.02%
Franklin Park Series	\$695,169.5	27.65%	4.00%	Vista Foundation II	\$15,483.5	0.62%	0.09%
GCG	\$23,471.4	0.93%	0.13%	Vista Foundation III	\$28,861.3	1.15%	0.17%
GTLA Holdings	\$20,000.0	0.80%	0.11%	Wellspring V	\$16,607.1	0.66%	0.10%
Highland	\$279,828.4	11.13%	1.61%	Wicks IV	\$22,698.6	0.90%	0.13%
Insight Equity II	\$18,701.7	0.74%	0.11%	WNG II	\$6,739.2	0.27%	0.04%
Total Private Equity					\$2,514,228.0	100.00%	14.45%

*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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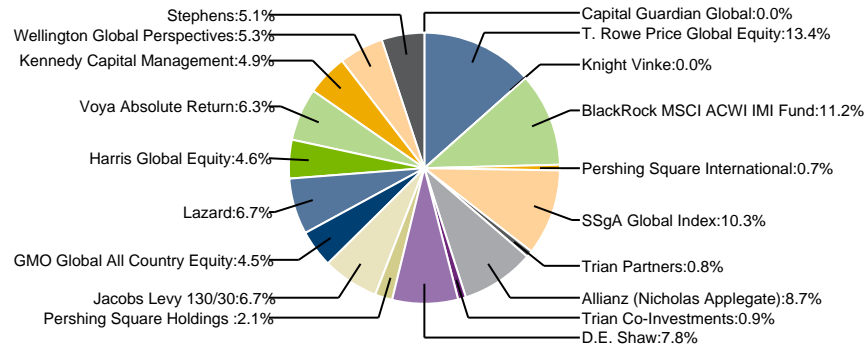


Total Equity

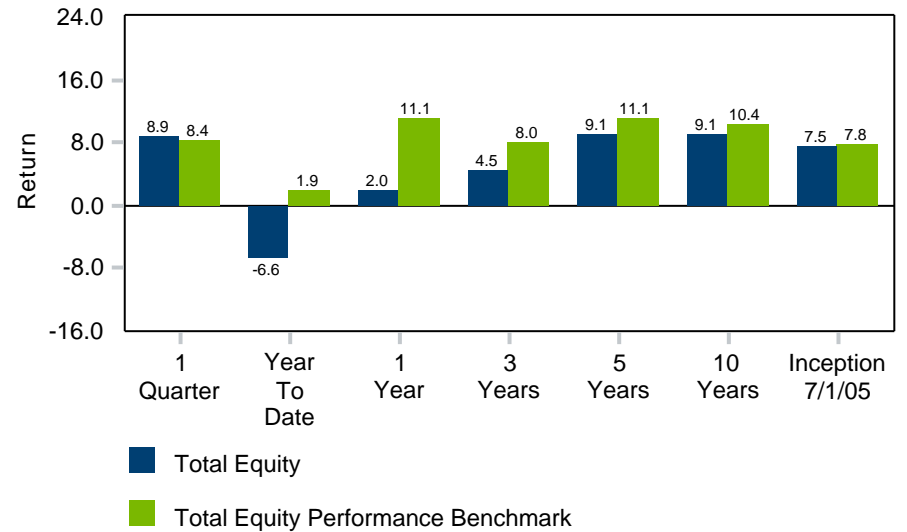
Total Equity Portfolio Overview

Current Allocation

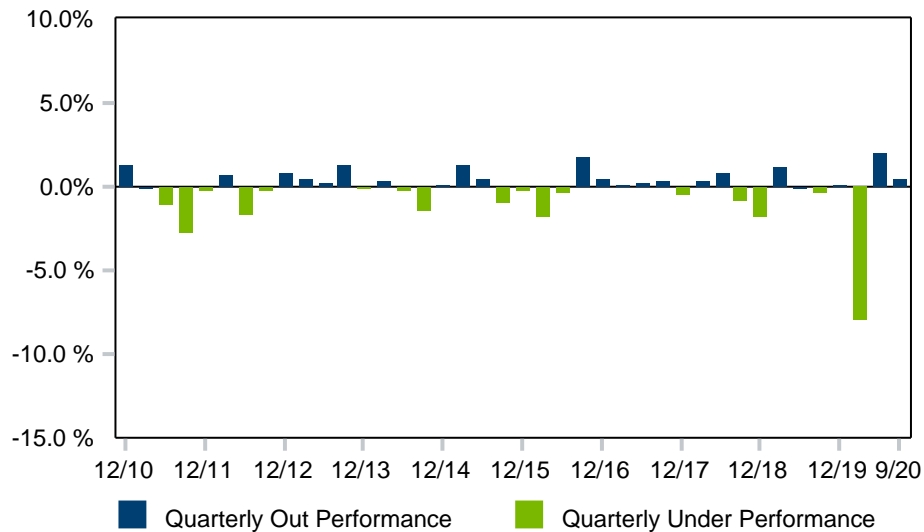
September 30, 2020 : \$9,482M



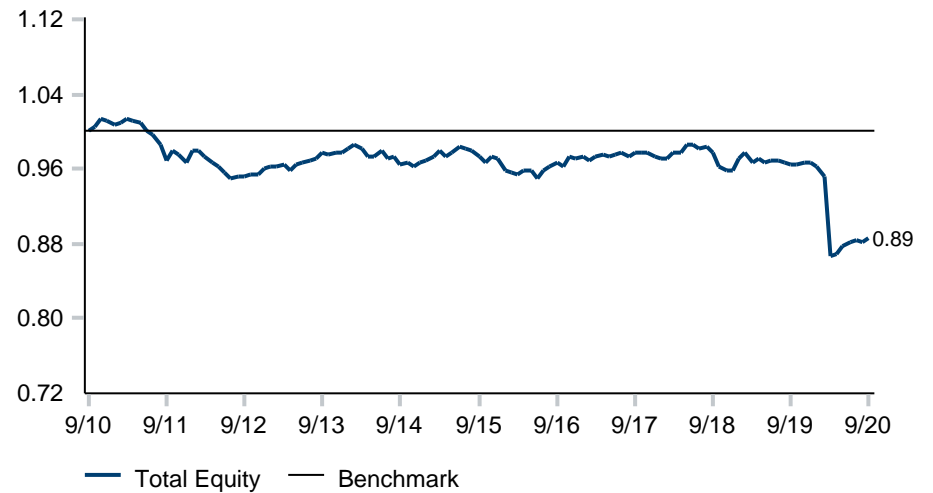
Return Summary



Quarterly Excess Performance



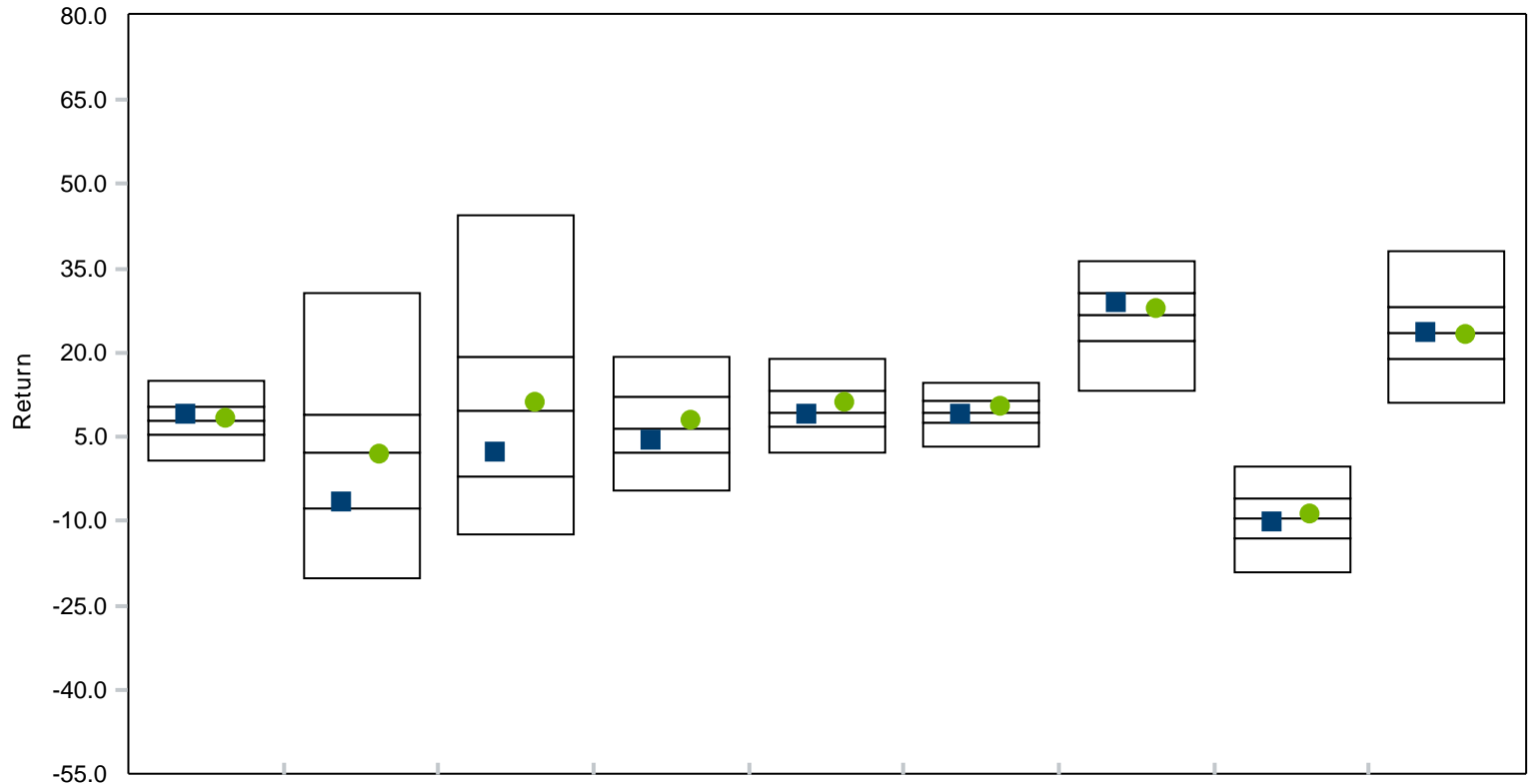
Ratio of Cumulative Wealth - 10 Years



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.

Peer Group Analysis

IM Global Equity (SA+CF)

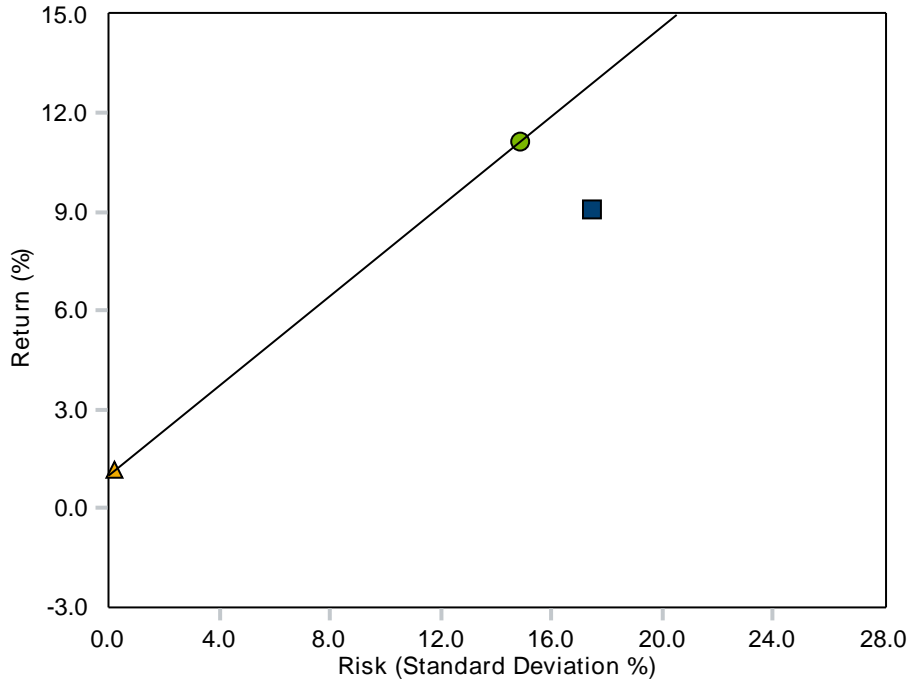


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Total Equity	8.9 (42)	-6.6 (72)	2.0 (68)	4.5 (63)	9.1 (53)	9.1 (51)	29.0 (37)	-10.2 (56)	23.5 (50)
● Total Equity Performance Benchmark	8.4 (46)	1.9 (51)	11.1 (46)	8.0 (40)	11.1 (35)	10.4 (31)	27.8 (44)	-8.7 (44)	23.1 (52)
5th Percentile	14.9	30.5	44.6	19.3	18.8	14.7	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	11.5	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	9.1	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	7.4	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	3.3	13.1	-19.1	11.0
Population	325	324	321	308	281	177	368	385	393

Parenteses contain percentile rankings.

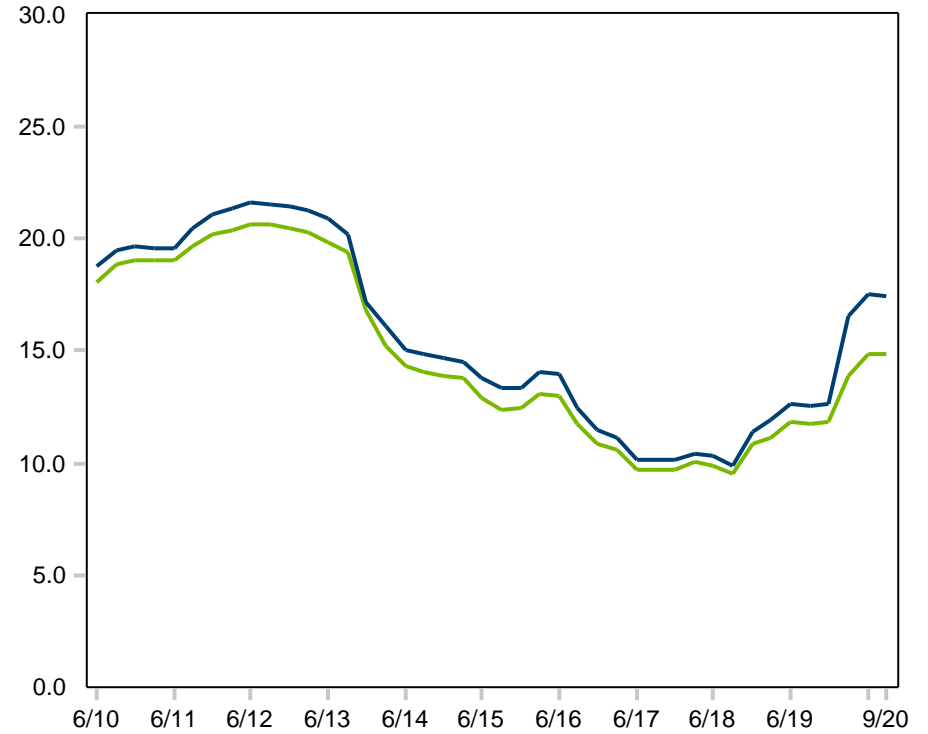
Total Equity Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



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

Rolling 5 Years Standard Deviation



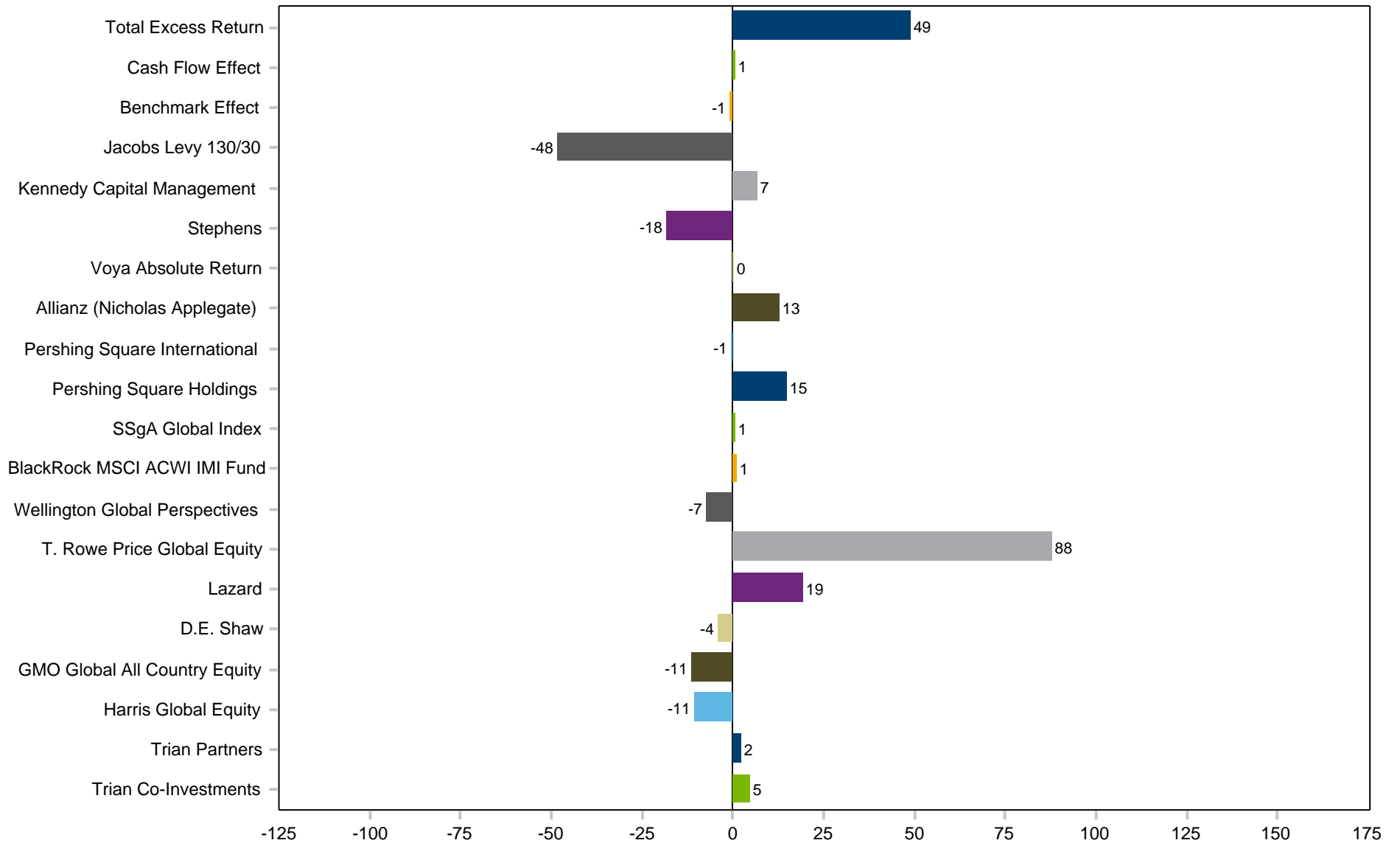
- Total Equity
- Total Equity Performance Benchmark

5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Total Equity	-1.41	3.91	-0.36	0.97	0.52	-3.16	1.15	9.08	17.47	0.98
Total Equity Performance Benchmark	0.00	0.00	N/A	1.00	0.71	0.00	1.00	11.14	14.89	1.00
FTSE 3 Month T-Bill	-10.57	14.93	-0.71	0.02	N/A	1.19	0.00	1.16	0.24	-0.15

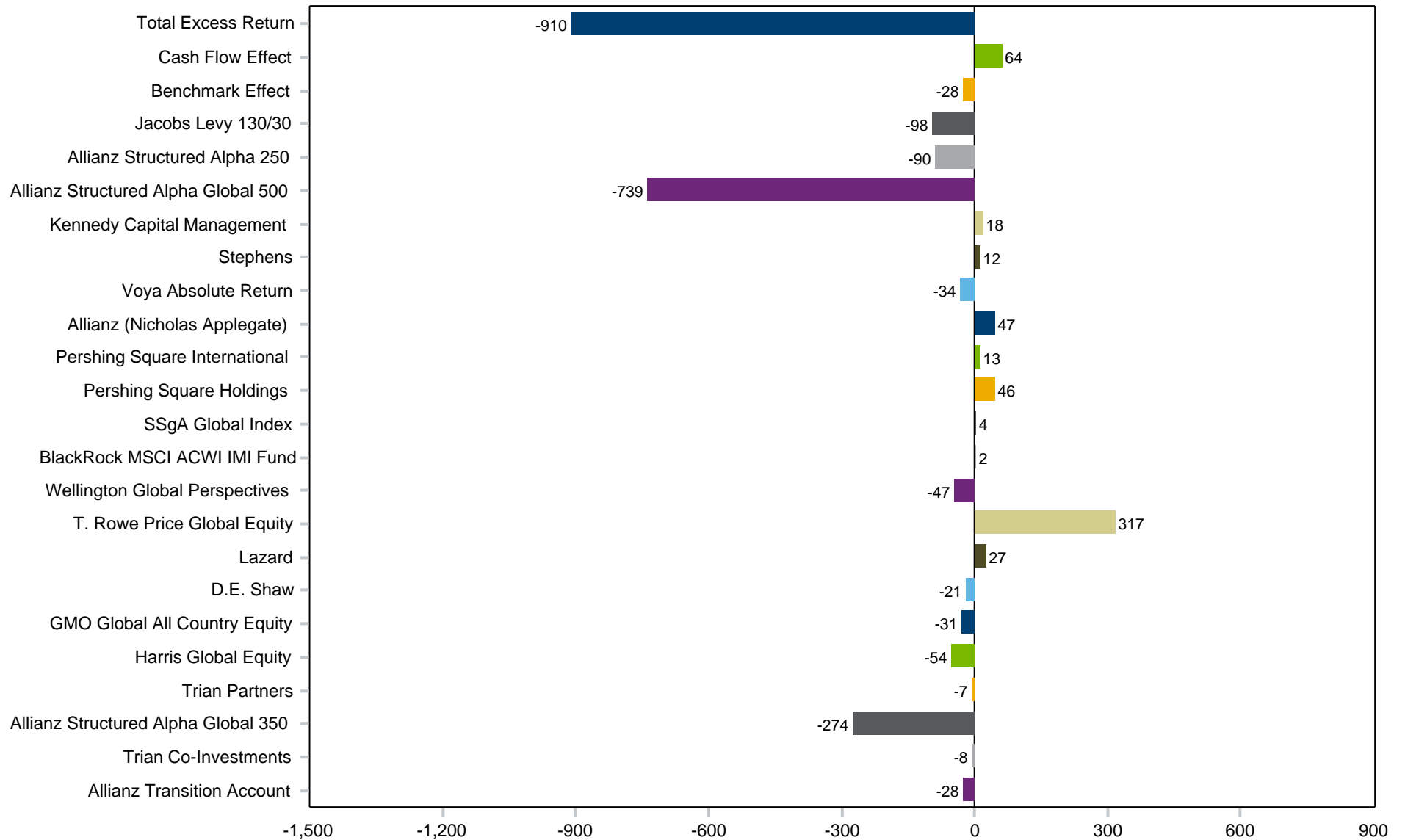
Asset Class Attribution

1 Quarter



Asset Class Attribution

1 Year

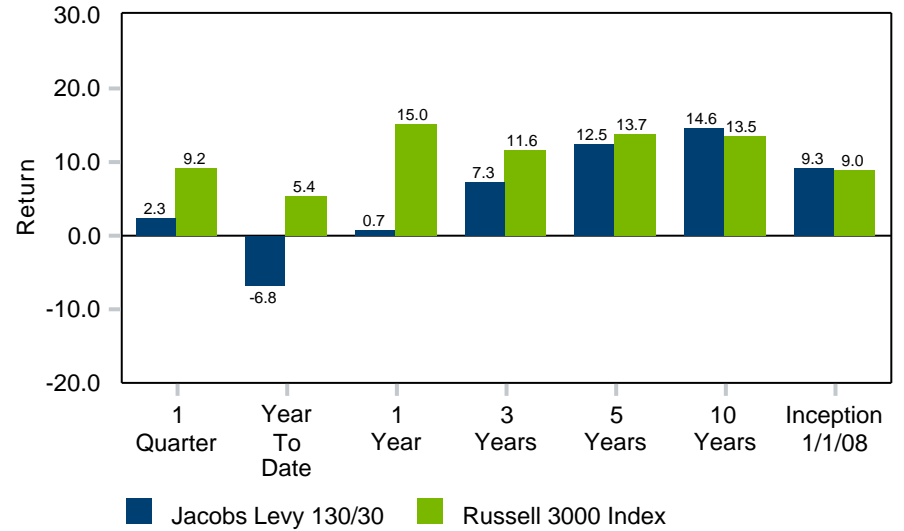


Jacobs Levy 130/30 Performance Summary

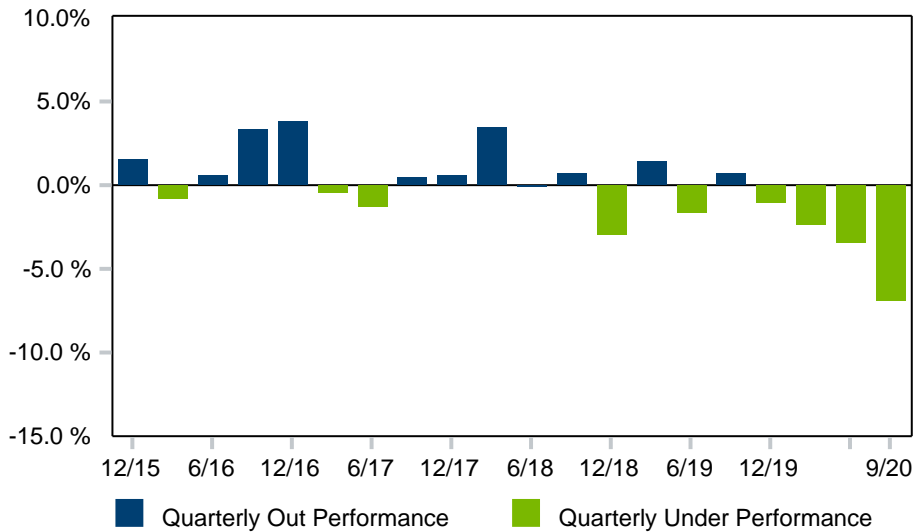
Account Information

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)

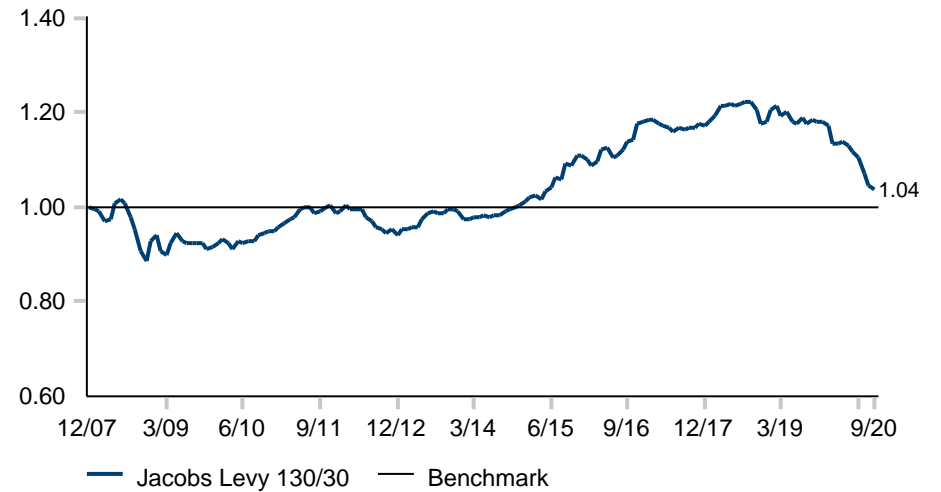
Return Summary



Quarterly Excess Performance

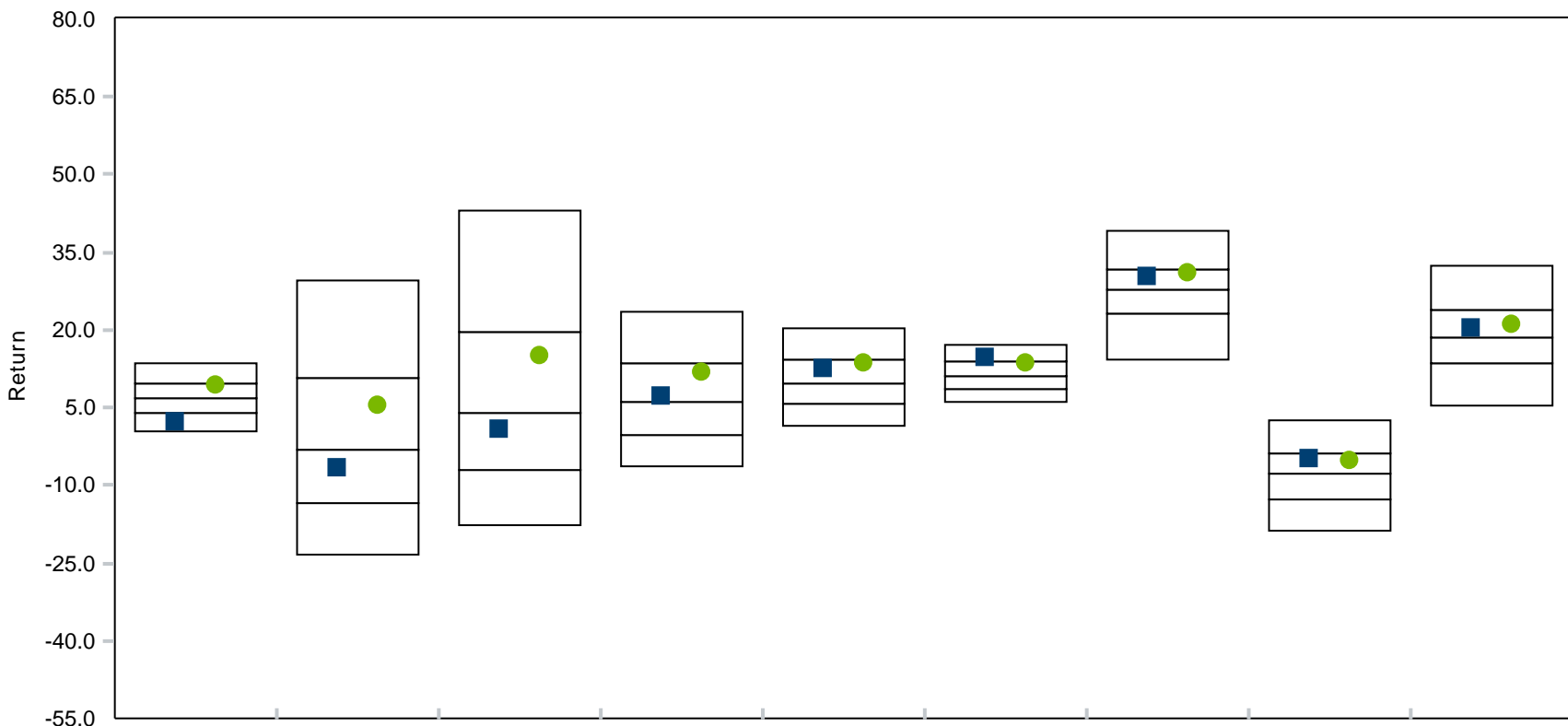


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

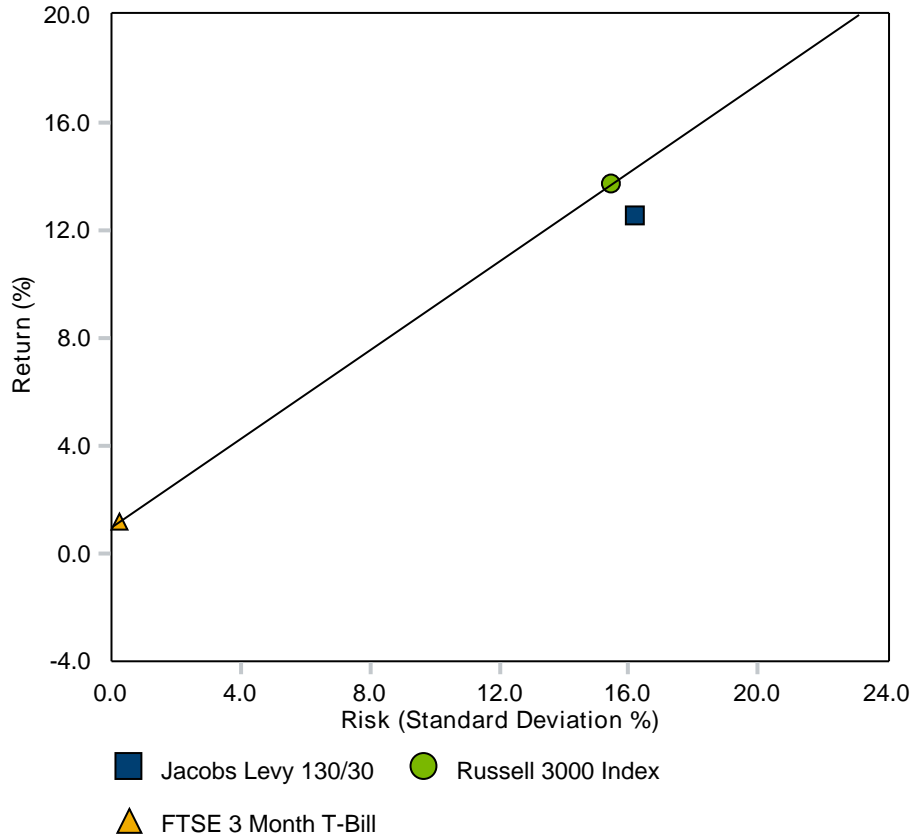


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Jacobs Levy 130/30	2.3 (88)	-6.8 (59)	0.7 (57)	7.3 (46)	12.5 (35)	14.6 (20)	30.2 (35)	-4.7 (31)	20.3 (42)
● Russell 3000 Index	9.2 (29)	5.4 (34)	15.0 (32)	11.6 (32)	13.7 (29)	13.5 (29)	31.0 (30)	-5.2 (35)	21.1 (37)
5th Percentile	13.7	29.4	43.1	23.5	20.5	17.2	39.1	2.7	32.3
1st Quartile	9.6	10.7	19.5	13.7	14.1	13.8	31.8	-3.9	23.7
Median	6.7	-3.3	3.9	6.0	9.6	11.1	27.8	-7.8	18.4
3rd Quartile	4.1	-13.4	-7.0	-0.2	5.7	8.8	23.3	-12.7	13.4
95th Percentile	0.4	-23.5	-17.7	-6.5	1.6	6.1	14.2	-18.9	5.5
Population	1,483	1,478	1,458	1,386	1,317	1,098	1,742	1,835	1,906

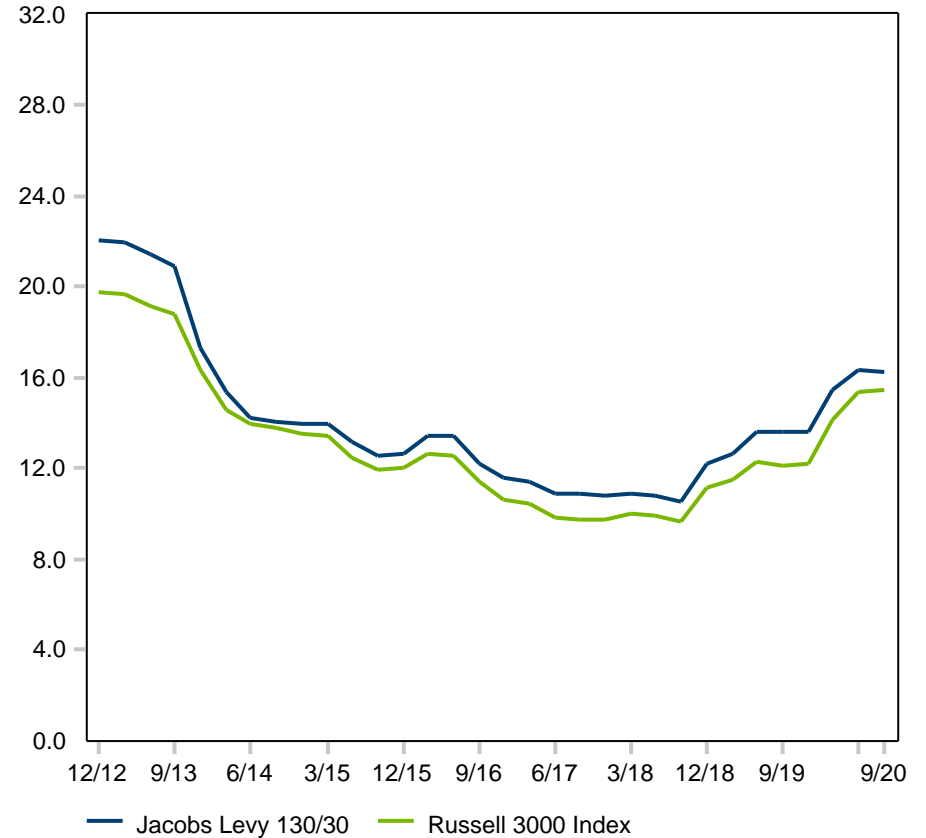
parentheses contain percentile rankings.

Jacobs Levy 130/30 Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

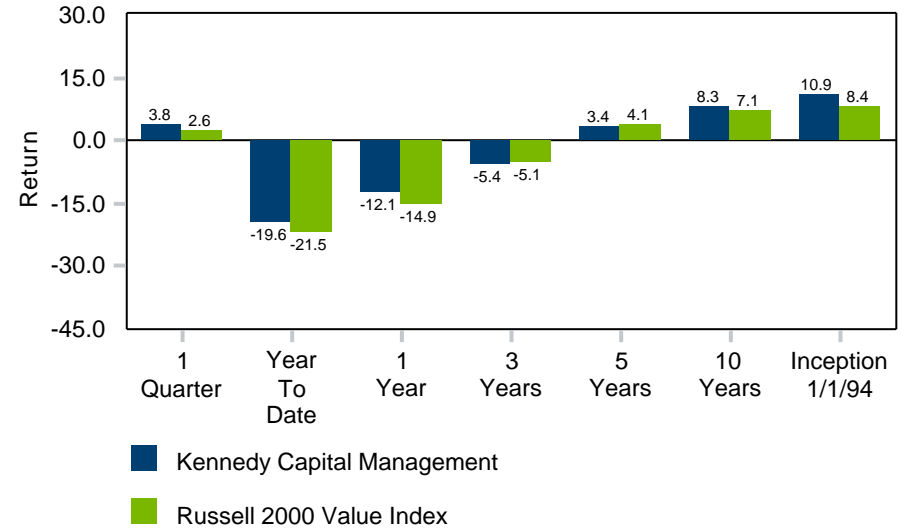
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Jacobs Levy 130/30	-0.95	4.27	-0.22	0.93	0.74	-1.14	1.01	12.49	16.25	0.96
Russell 3000 Index	0.00	0.00	N/A	1.00	0.83	0.00	1.00	13.69	15.47	1.00
FTSE 3 Month T-Bill	-12.94	15.50	-0.83	0.02	N/A	1.19	0.00	1.16	0.24	-0.13

Kennedy Capital Management Performance Summary

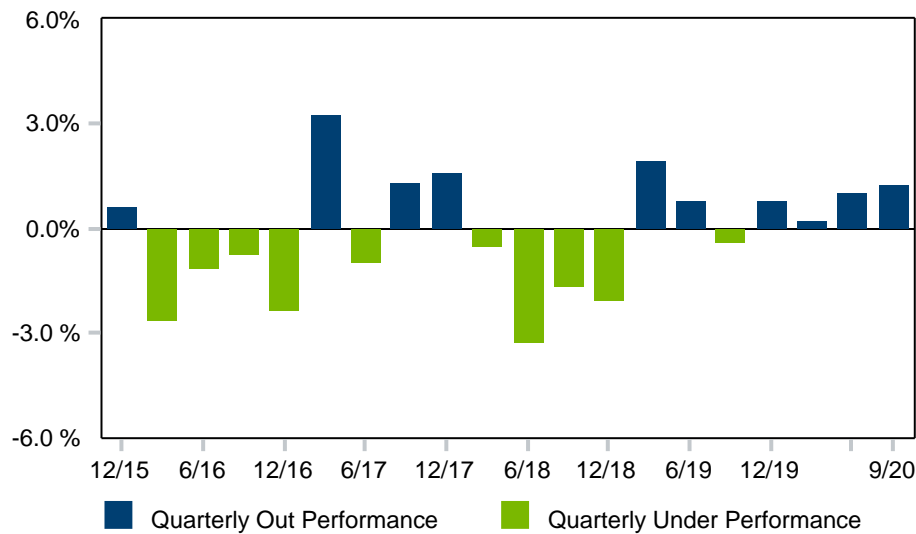
Account Information

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)

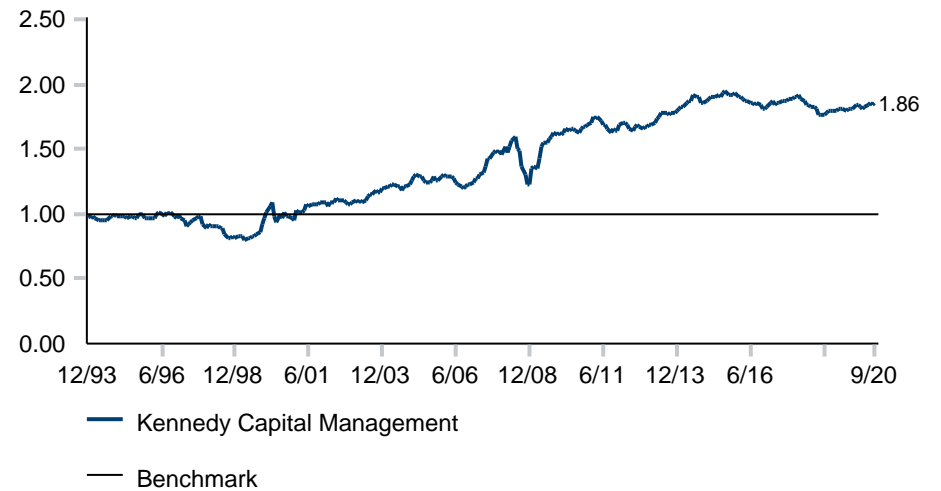
Return Summary



Quarterly Excess Performance

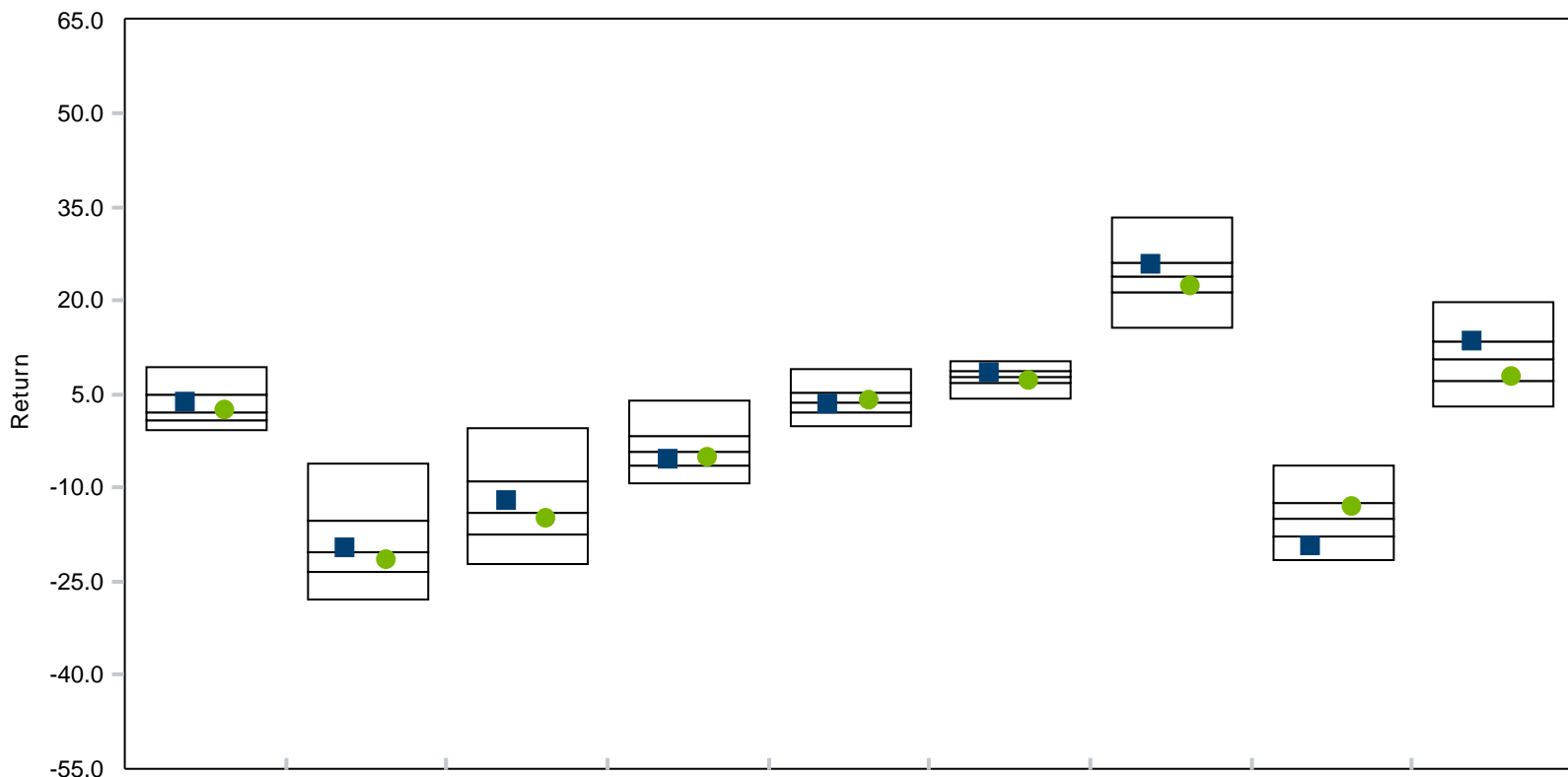


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

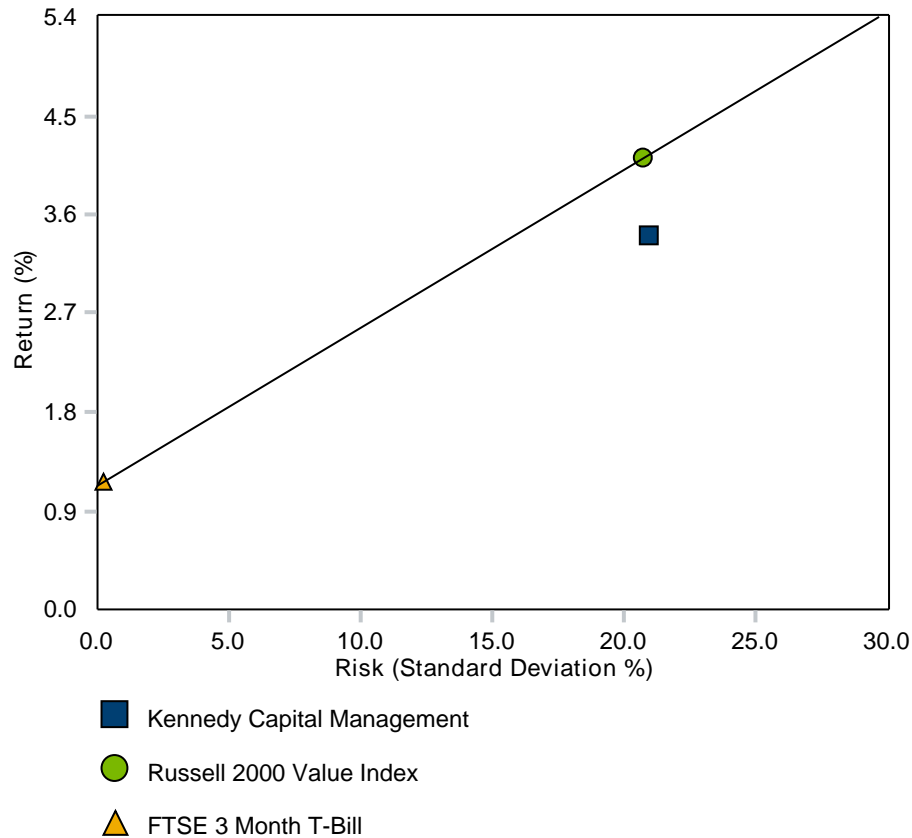


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Kennedy Capital Management	3.8 (35)	-19.6 (47)	-12.1 (42)	-5.4 (65)	3.4 (54)	8.3 (37)	25.9 (30)	-19.4 (84)	13.4 (26)
● Russell 2000 Value Index	2.6 (46)	-21.5 (62)	-14.9 (56)	-5.1 (61)	4.1 (43)	7.1 (68)	22.4 (64)	-12.9 (31)	7.8 (70)
5th Percentile	9.3	-6.1	-0.4	4.0	9.2	10.5	33.3	-6.4	20.0
1st Quartile	4.9	-15.2	-8.9	-1.5	5.3	8.7	26.2	-12.4	13.5
Median	2.1	-20.3	-13.8	-4.2	3.7	7.7	24.1	-15.0	10.6
3rd Quartile	0.9	-23.4	-17.5	-6.4	2.2	6.9	21.3	-17.8	7.1
95th Percentile	-0.7	-27.9	-22.0	-9.1	0.0	4.3	15.8	-21.4	3.1
Population	144	144	144	139	136	120	173	190	196

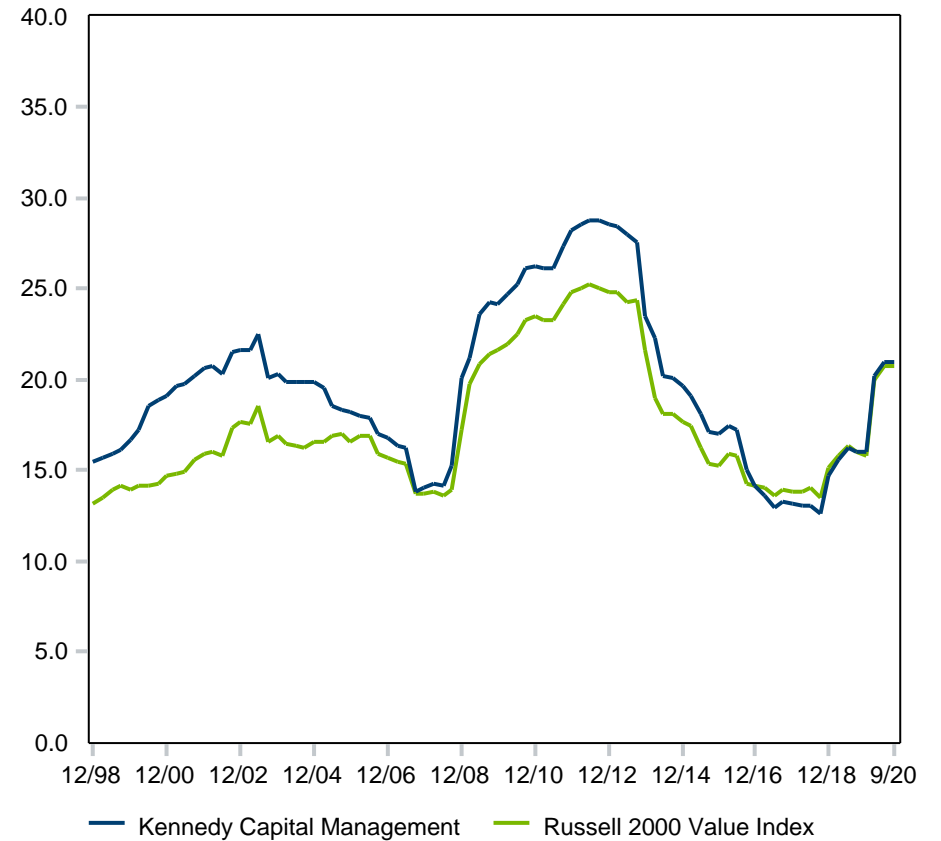
parentheses contain percentile rankings.

Kennedy Capital Management Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

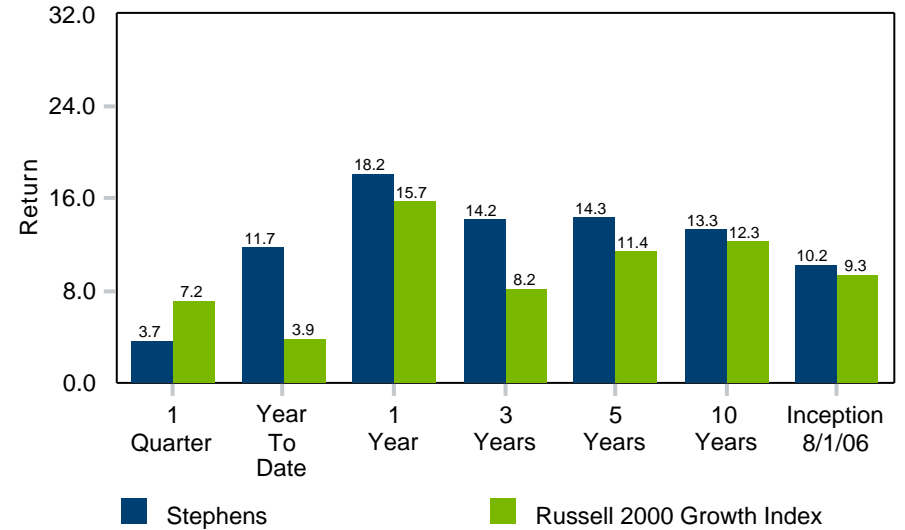
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Kennedy Capital Management	-0.61	2.78	-0.22	0.98	0.21	-0.62	1.00	3.40	20.97	0.99
Russell 2000 Value Index	0.00	0.00	N/A	1.00	0.25	0.00	1.00	4.11	20.74	1.00
FTSE 3 Month T-Bill	-5.12	20.78	-0.25	0.03	N/A	1.17	0.00	1.16	0.24	-0.17

Stephens Performance Summary

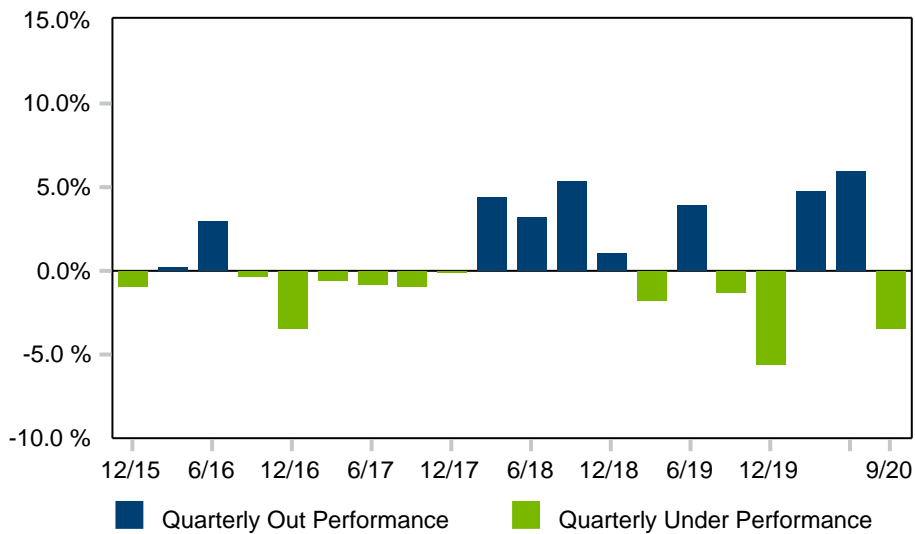
Account Information

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)

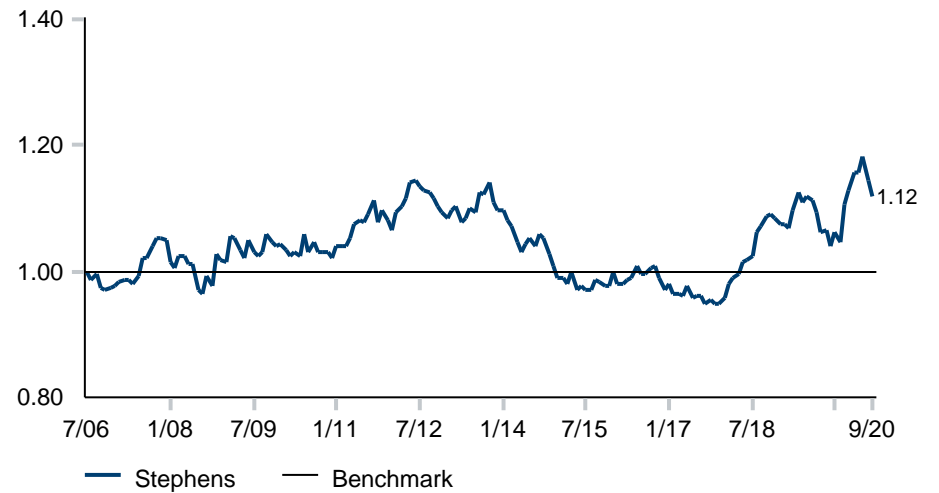
Return Summary



Quarterly Excess Performance

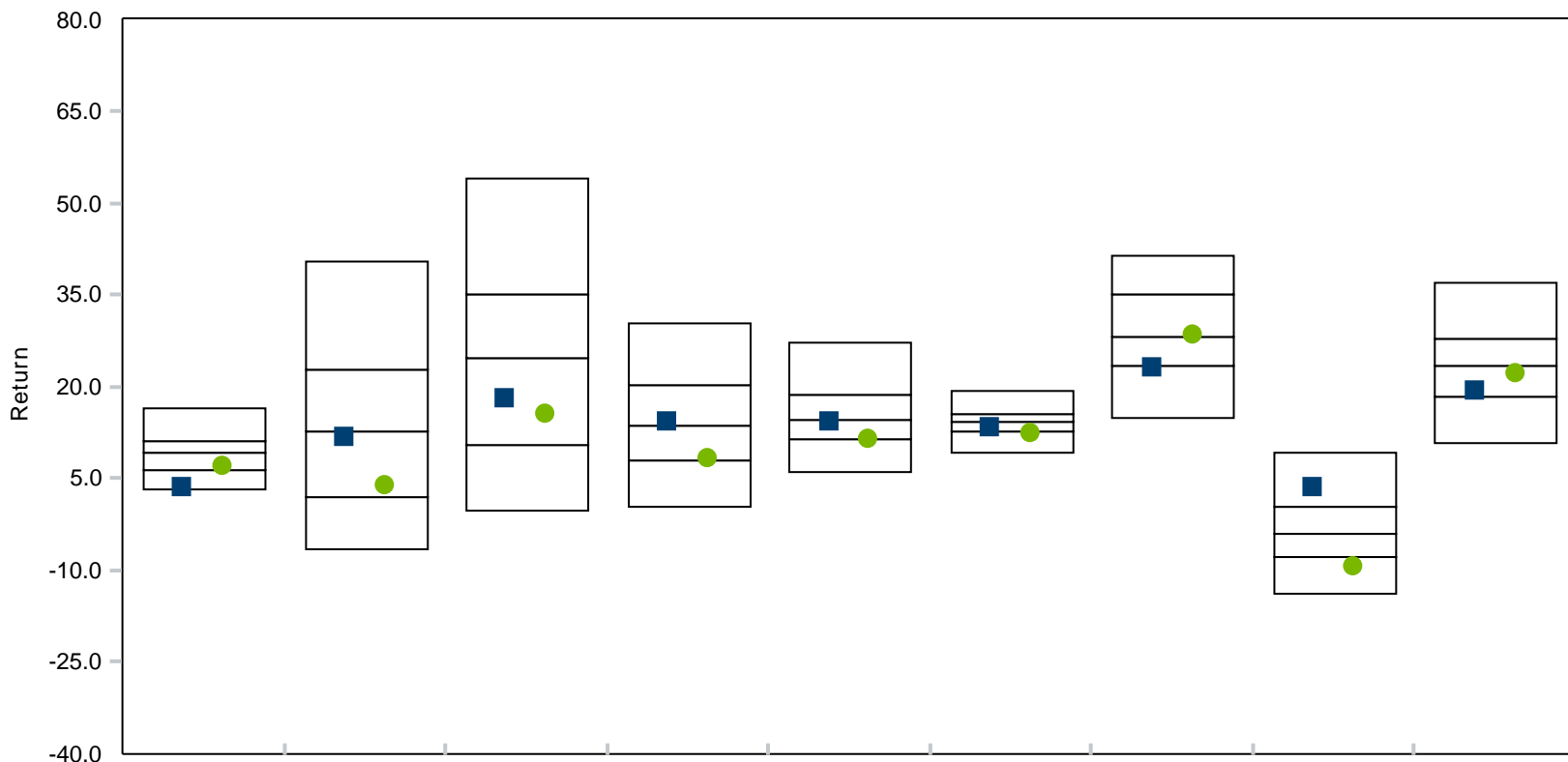


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

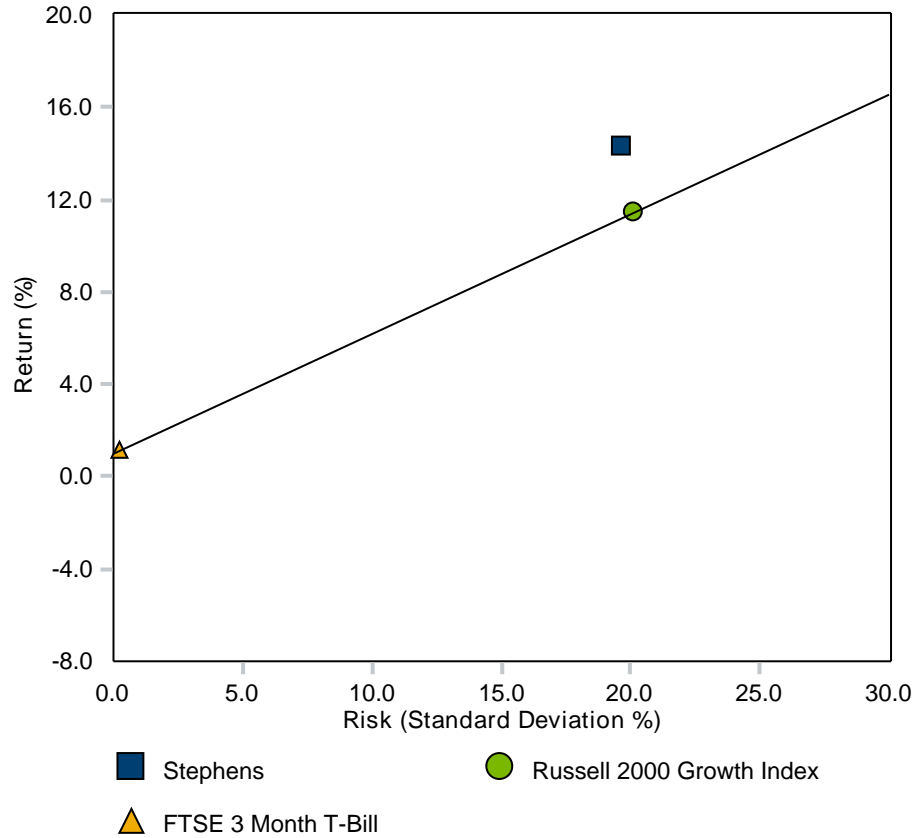


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Stephens	3.7 (94)	11.7 (54)	18.2 (62)	14.2 (48)	14.3 (56)	13.3 (68)	23.2 (77)	3.7 (13)	19.4 (70)
● Russell 2000 Growth Index	7.2 (68)	3.9 (71)	15.7 (67)	8.2 (75)	11.4 (75)	12.3 (78)	28.5 (49)	-9.3 (80)	22.2 (55)
5th Percentile	16.7	40.4	54.0	30.6	27.4	19.5	41.6	9.4	37.1
1st Quartile	11.2	23.0	35.1	20.3	18.6	15.6	35.2	0.5	27.9
Median	9.1	12.8	24.6	13.6	14.8	14.2	28.2	-4.0	23.5
3rd Quartile	6.4	2.1	10.6	8.0	11.3	12.8	23.6	-7.8	18.3
95th Percentile	3.2	-6.5	-0.1	0.5	6.0	9.3	15.1	-13.7	10.9
Population	118	116	115	113	108	96	138	144	146

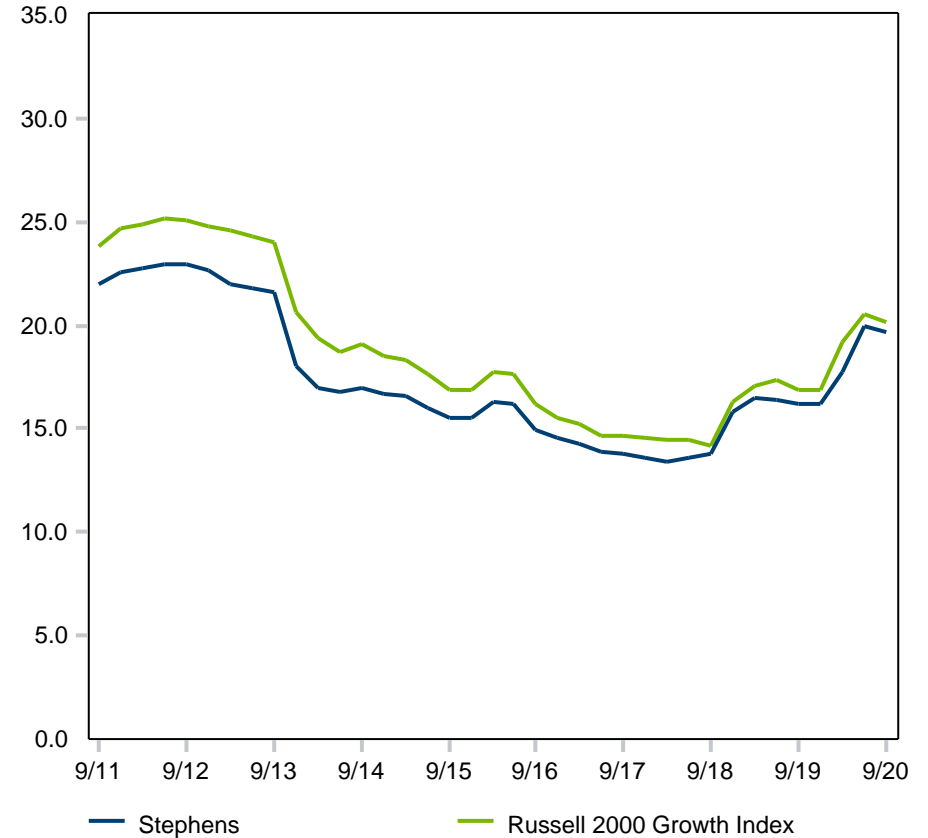
parentheses contain percentile rankings.

Stephens Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

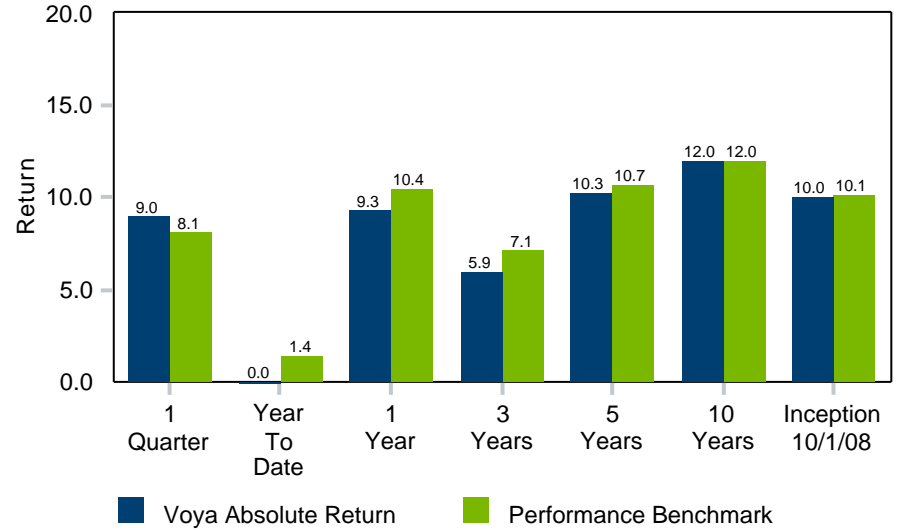
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Stephens	2.41	5.78	0.42	0.92	0.72	3.31	0.93	14.28	19.63	0.96
Russell 2000 Growth Index	0.00	0.00	N/A	1.00	0.58	0.00	1.00	11.42	20.13	1.00
FTSE 3 Month T-Bill	-11.77	20.17	-0.58	0.02	N/A	1.18	0.00	1.16	0.24	-0.14

Voya Absolute Return Performance Summary

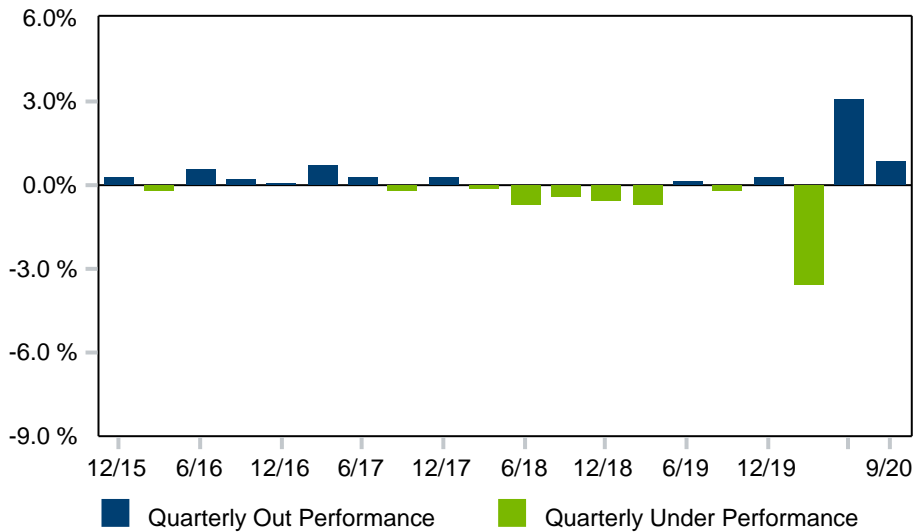
Account Information

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)

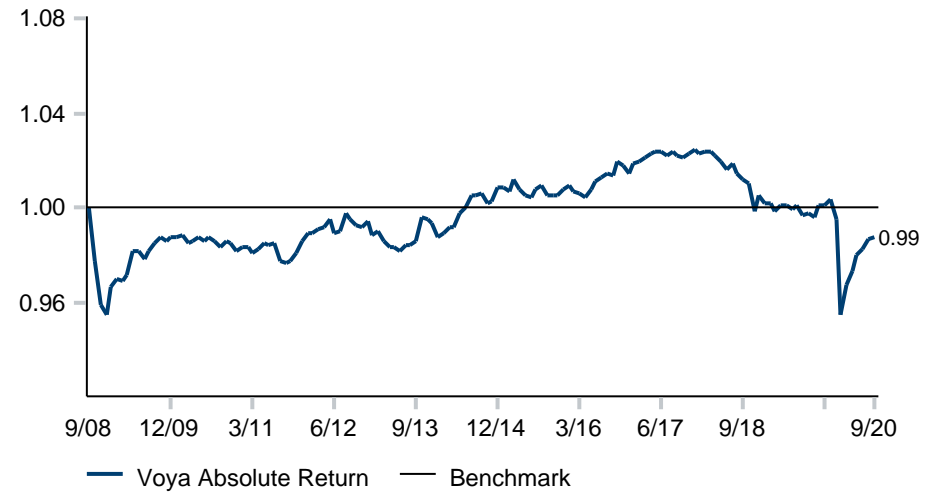
Return Summary



Quarterly Excess Performance

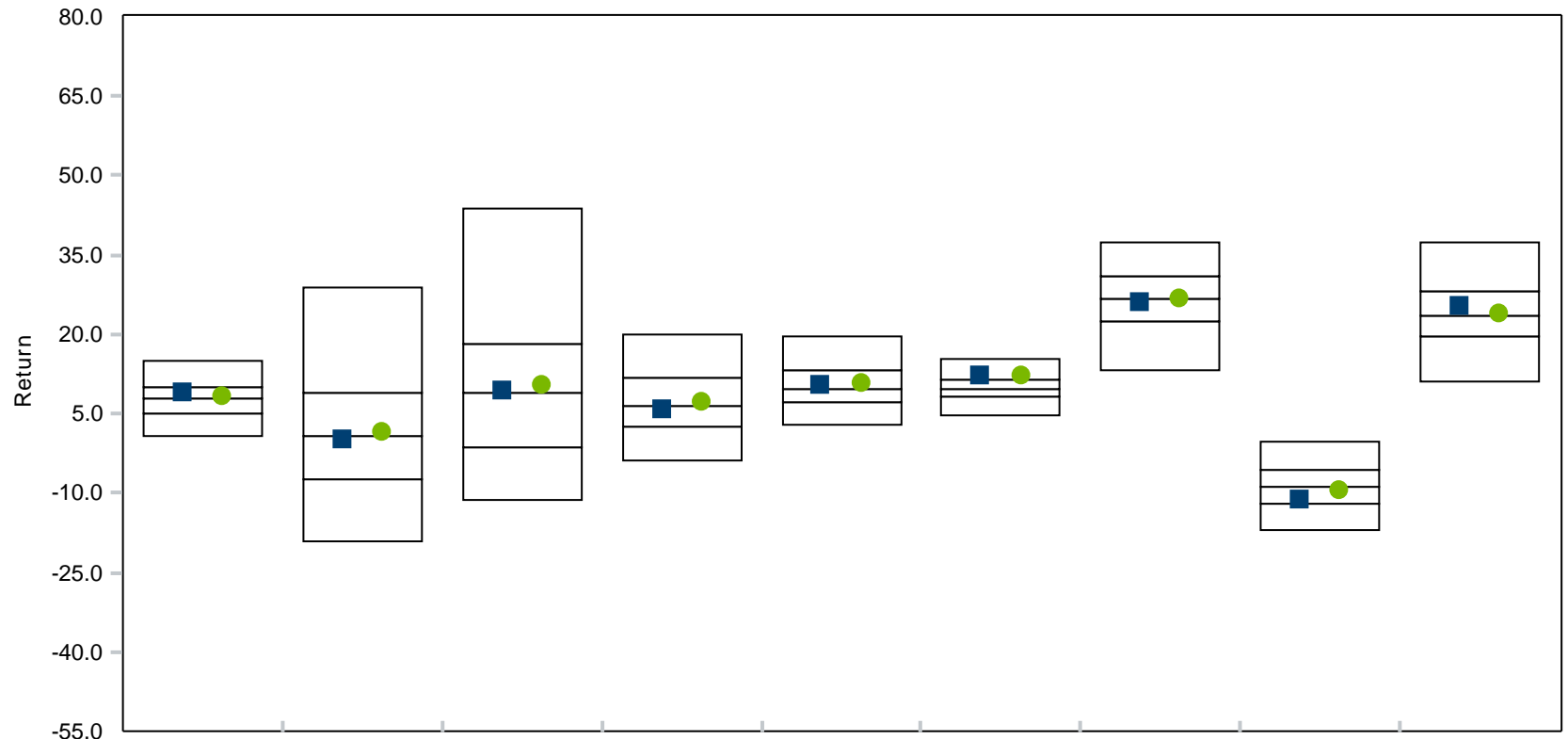


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

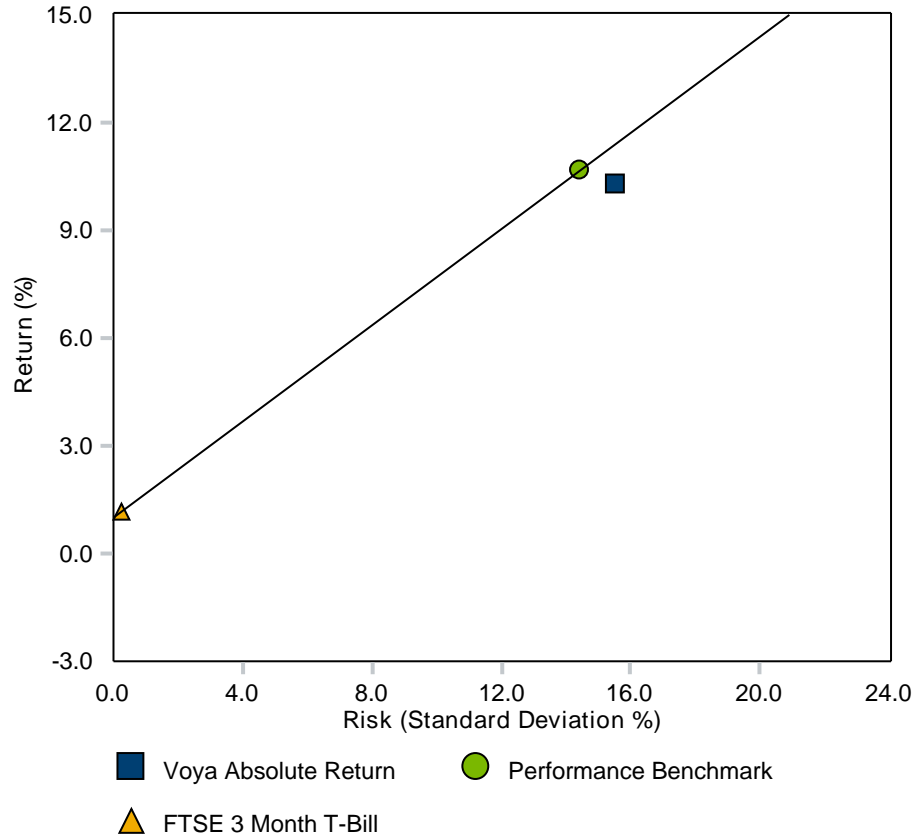


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Voya Absolute Return	9.0 (36)	0.0 (52)	9.3 (50)	5.9 (54)	10.3 (46)	12.0 (22)	26.0 (57)	-11.1 (69)	25.2 (41)
● Performance Benchmark	8.1 (47)	1.4 (49)	10.4 (48)	7.1 (48)	10.7 (42)	12.0 (23)	26.6 (51)	-9.4 (56)	24.0 (48)
5th Percentile	14.8	28.9	43.8	19.9	19.5	15.2	37.3	-0.2	37.3
1st Quartile	9.9	8.9	18.1	11.6	13.4	11.5	30.9	-5.7	28.2
Median	7.7	0.7	8.9	6.6	9.8	9.7	26.7	-8.7	23.4
3rd Quartile	5.1	-7.5	-1.2	2.7	7.3	8.1	22.3	-12.2	19.5
95th Percentile	0.7	-19.2	-11.3	-4.0	3.0	4.6	13.3	-17.0	11.2
Population	429	429	428	414	378	254	508	540	561

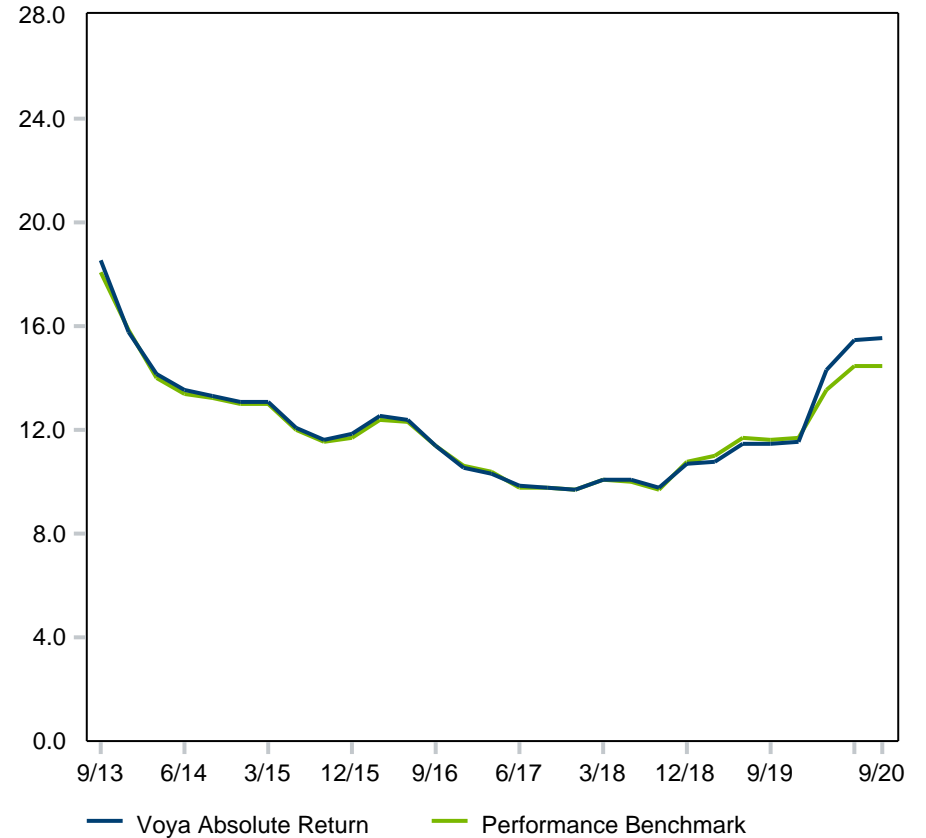
parentheses contain percentile rankings.

Voya Absolute Return Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

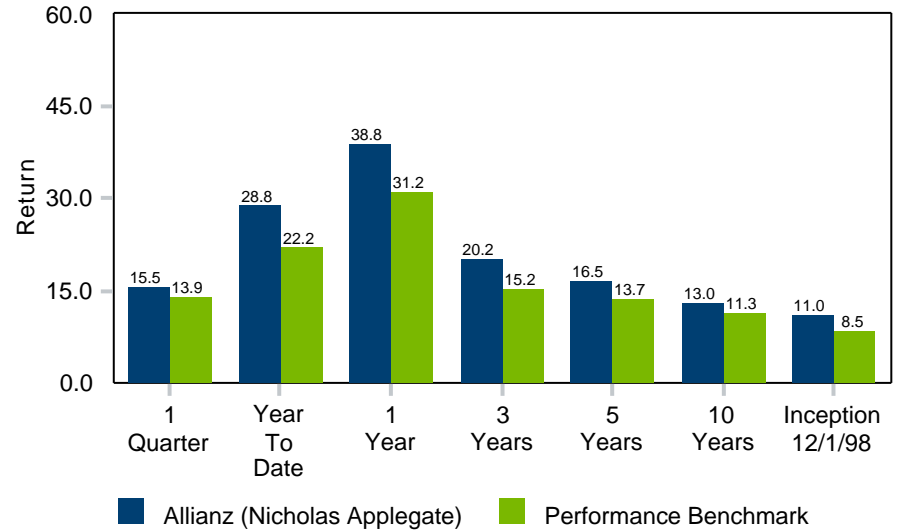
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Voya Absolute Return	-0.19	2.04	-0.09	0.99	0.63	-0.93	1.07	10.27	15.52	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	0.69	0.00	1.00	10.67	14.46	1.00
FTSE 3 Month T-Bill	-10.07	14.50	-0.69	0.03	N/A	1.19	0.00	1.16	0.24	-0.16

Allianz (Nicholas Applegate) Performance Summary

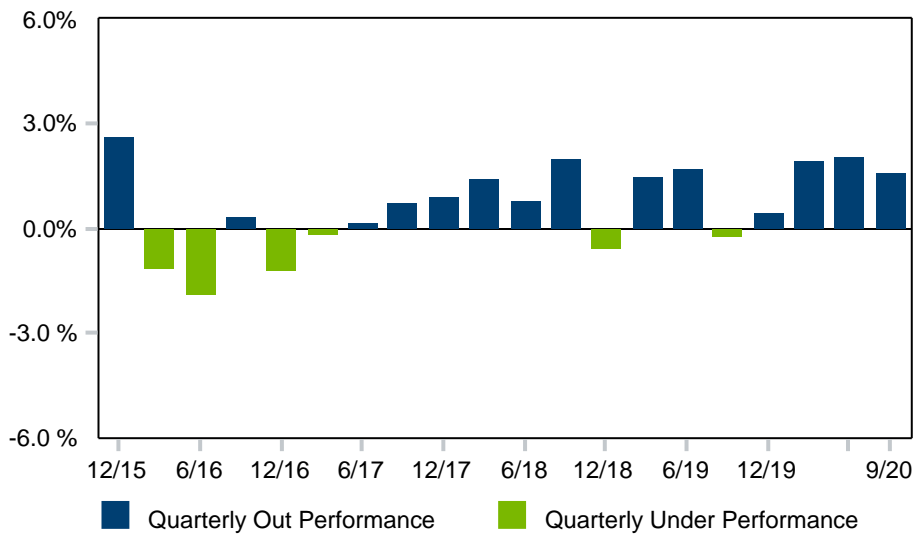
Account Information

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)

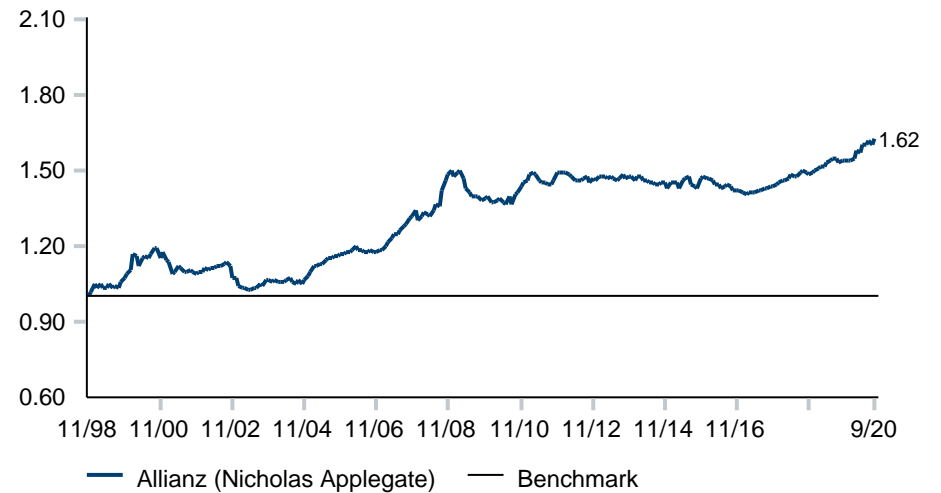
Return Summary



Quarterly Excess Performance

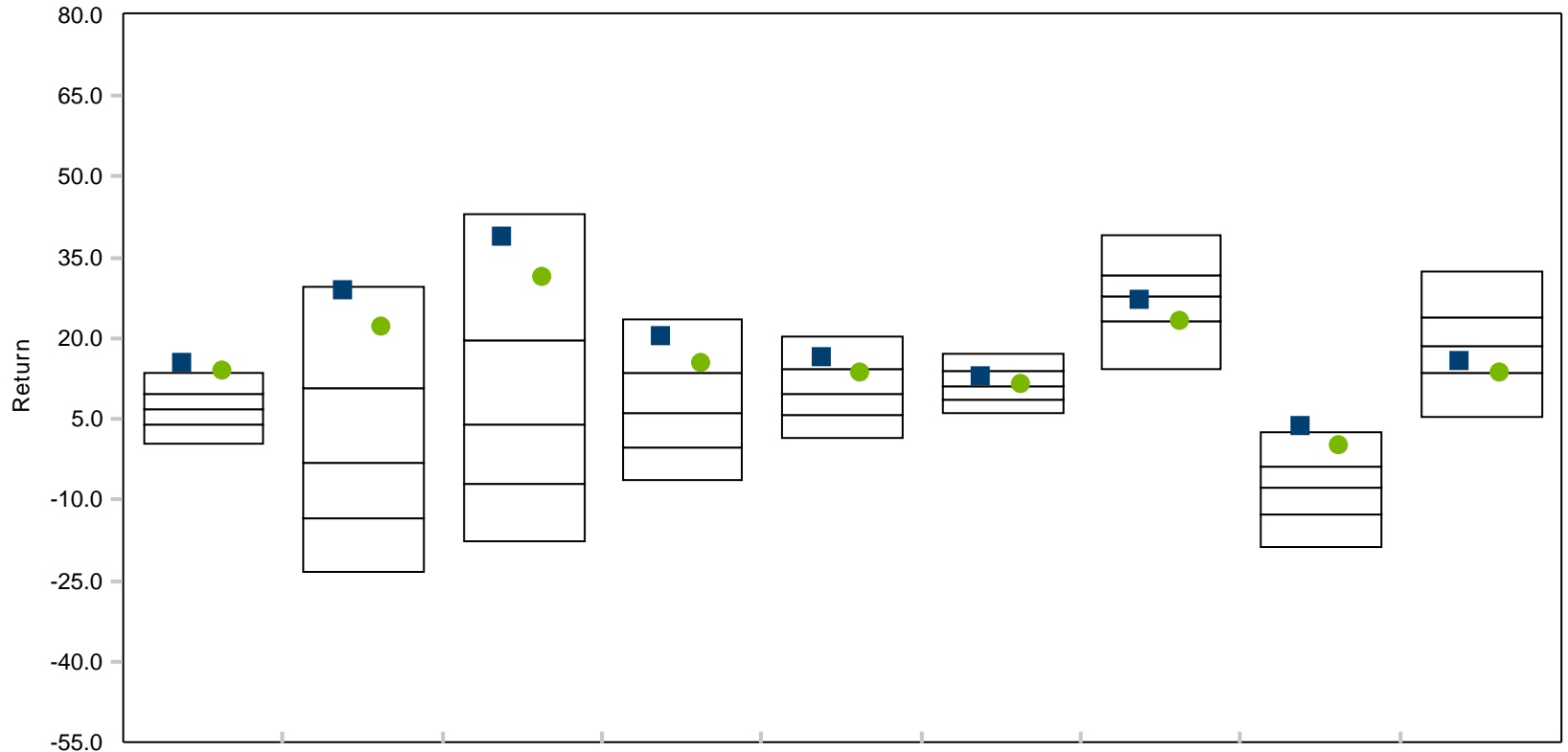


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

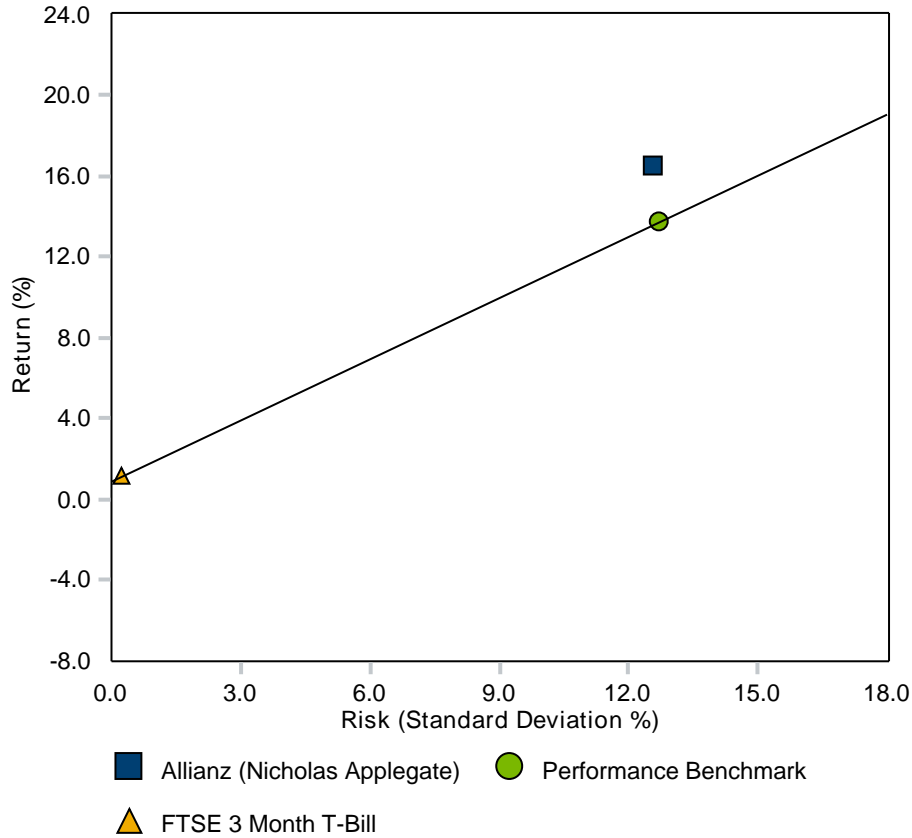


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Allianz (Nicholas Applegate)	15.5 (3)	28.8 (6)	38.8 (7)	20.2 (11)	16.5 (17)	13.0 (35)	27.0 (55)	3.7 (5)	15.6 (65)
● Performance Benchmark	13.9 (5)	22.2 (12)	31.2 (15)	15.2 (22)	13.7 (28)	11.3 (48)	23.1 (77)	0.2 (11)	13.7 (75)
5th Percentile	13.7	29.4	43.1	23.5	20.5	17.2	39.1	2.7	32.3
1st Quartile	9.6	10.7	19.5	13.7	14.1	13.8	31.8	-3.9	23.7
Median	6.7	-3.3	3.9	6.0	9.6	11.1	27.8	-7.8	18.4
3rd Quartile	4.1	-13.4	-7.0	-0.2	5.7	8.8	23.3	-12.7	13.4
95th Percentile	0.4	-23.5	-17.7	-6.5	1.6	6.1	14.2	-18.9	5.5
Population	1,483	1,478	1,458	1,386	1,317	1,098	1,742	1,835	1,906

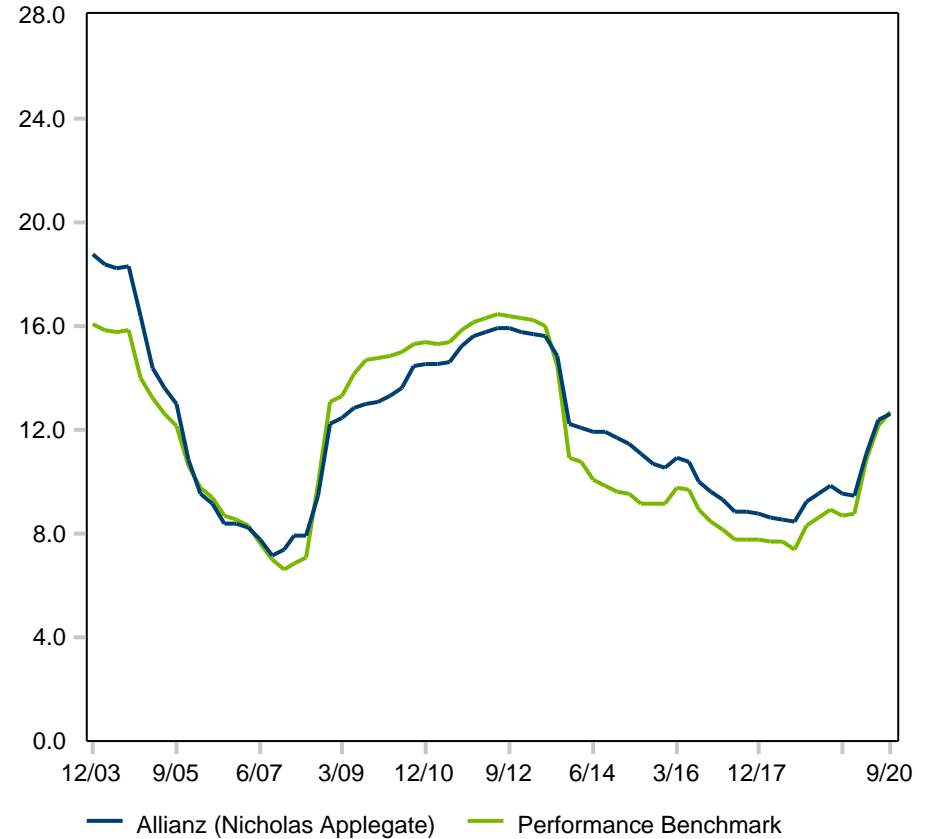
parentheses contain percentile rankings.

Allianz (Nicholas Applegate) Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

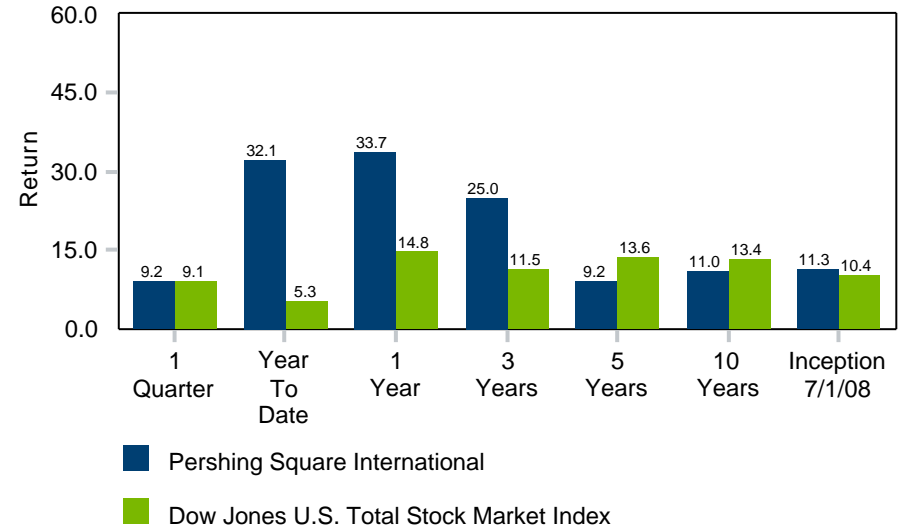
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Allianz (Nicholas Applegate)	2.44	2.46	0.99	0.96	1.19	2.88	0.97	16.53	12.59	0.98
Performance Benchmark	0.00	0.00	N/A	1.00	0.99	0.00	1.00	13.73	12.73	1.00
FTSE 3 Month T-Bill	-12.59	12.76	-0.99	0.02	N/A	1.19	0.00	1.16	0.24	-0.14

Pershing Square International Performance Summary

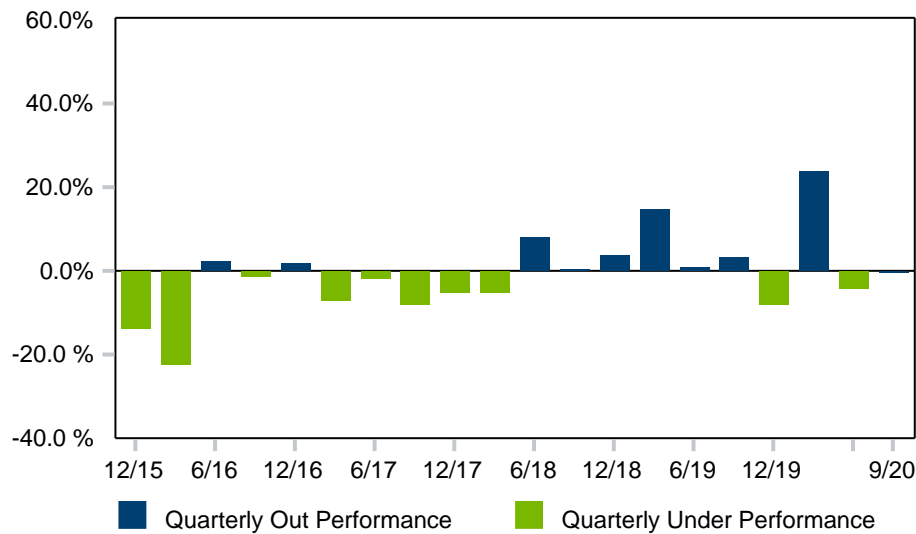
Account Information

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)

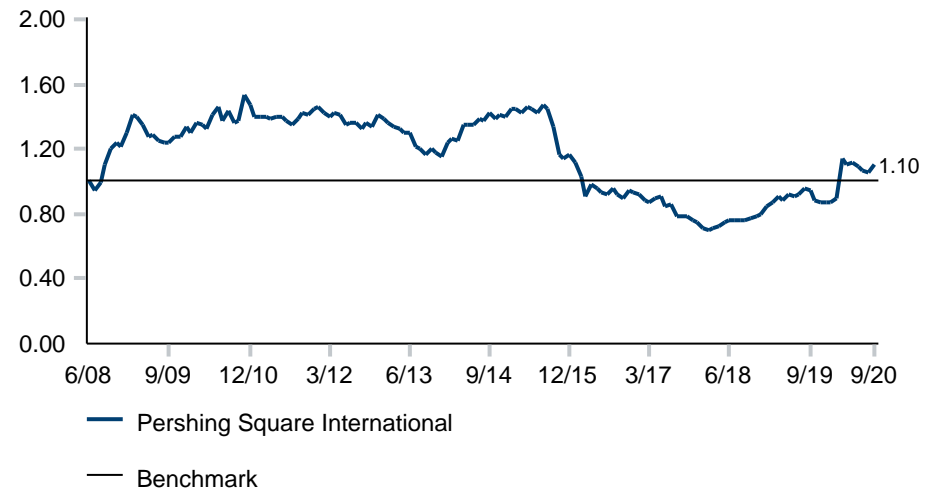
Return Summary



Quarterly Excess Performance

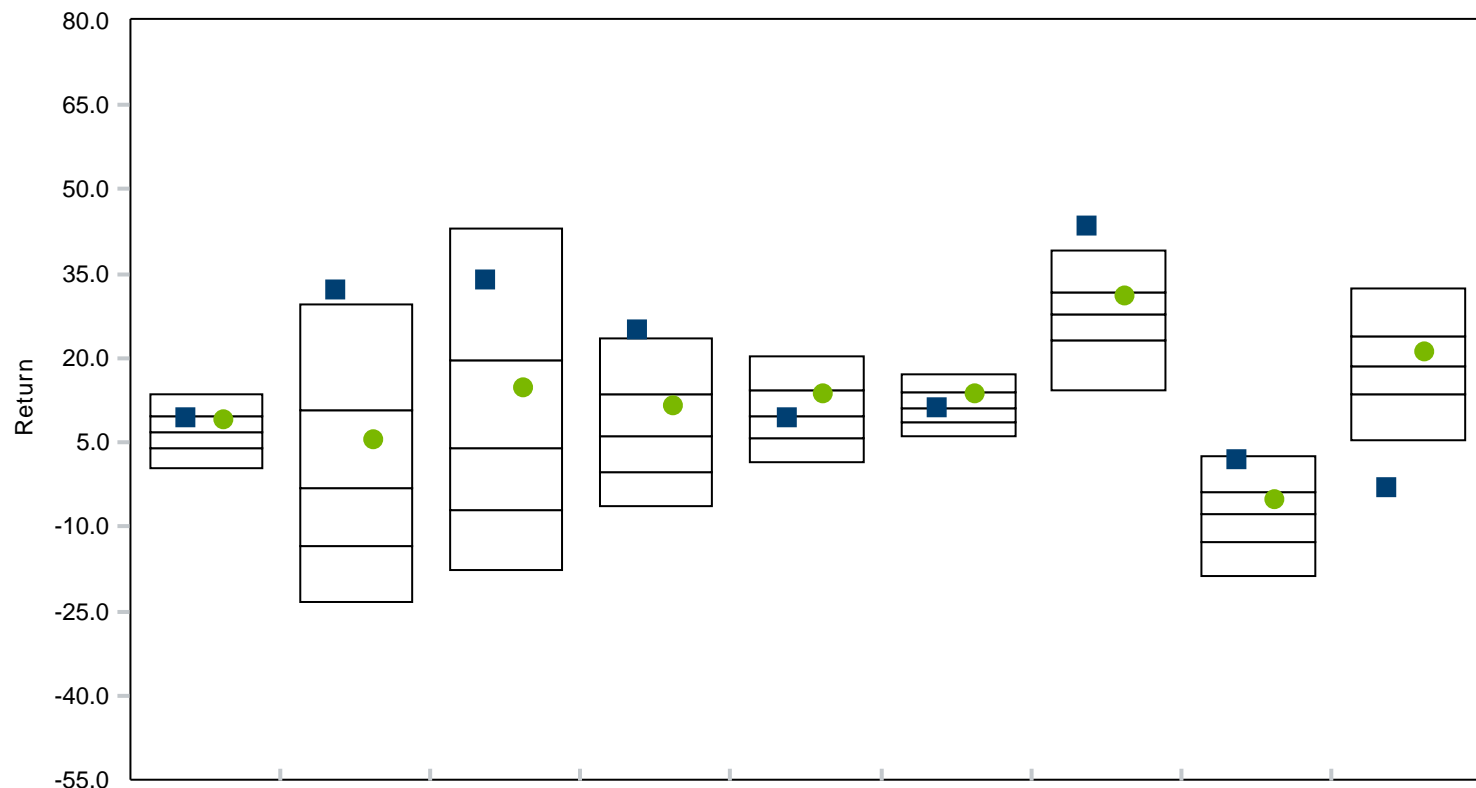


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)



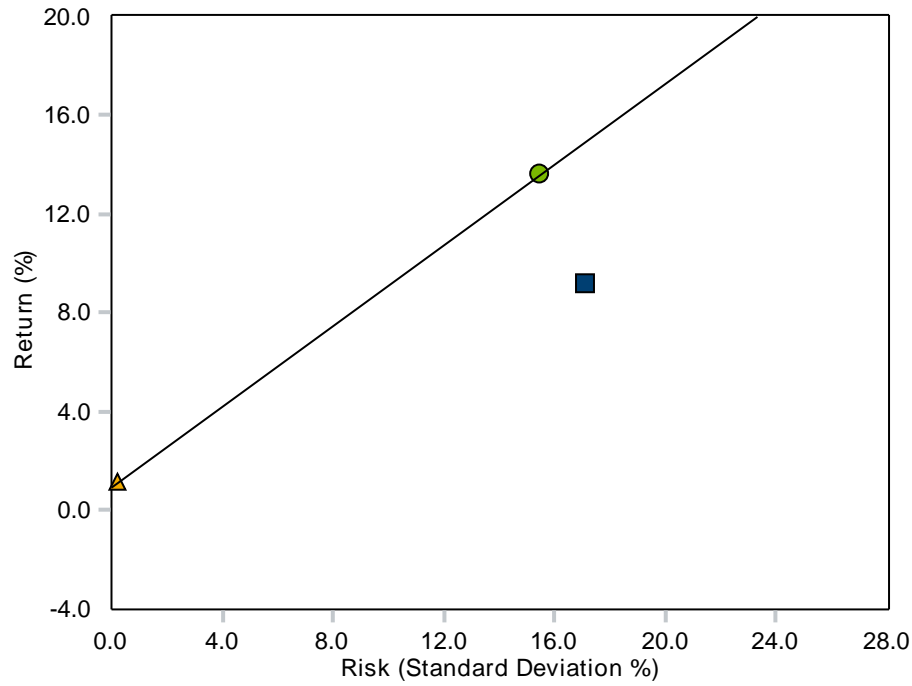
■ Pershing Square International
● Dow Jones U.S. Total Stock Market Index

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
Pershing Square International	9.2 (30)	32.1 (5)	33.7 (12)	25.0 (4)	9.2 (53)	11.0 (51)	43.5 (2)	1.8 (7)	-3.2 (99)
Dow Jones U.S. Total Stock Market Index	9.1 (30)	5.3 (34)	14.8 (32)	11.5 (32)	13.6 (29)	13.4 (29)	30.9 (31)	-5.3 (35)	21.2 (37)
5th Percentile	13.7	29.4	43.1	23.5	20.5	17.2	39.1	2.7	32.3
1st Quartile	9.6	10.7	19.5	13.7	14.1	13.8	31.8	-3.9	23.7
Median	6.7	-3.3	3.9	6.0	9.6	11.1	27.8	-7.8	18.4
3rd Quartile	4.1	-13.4	-7.0	-0.2	5.7	8.8	23.3	-12.7	13.4
95th Percentile	0.4	-23.5	-17.7	-6.5	1.6	6.1	14.2	-18.9	5.5
Population	1,483	1,478	1,458	1,386	1,317	1,098	1,742	1,835	1,906

parentheses contain percentile rankings.

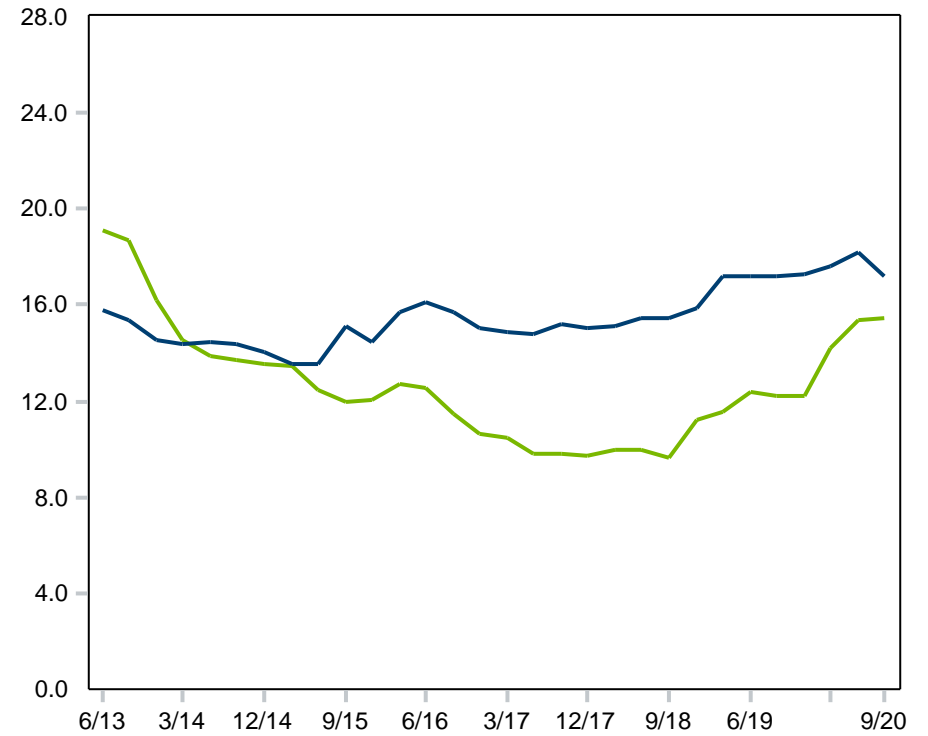
Pershing Square International Risk Profile

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

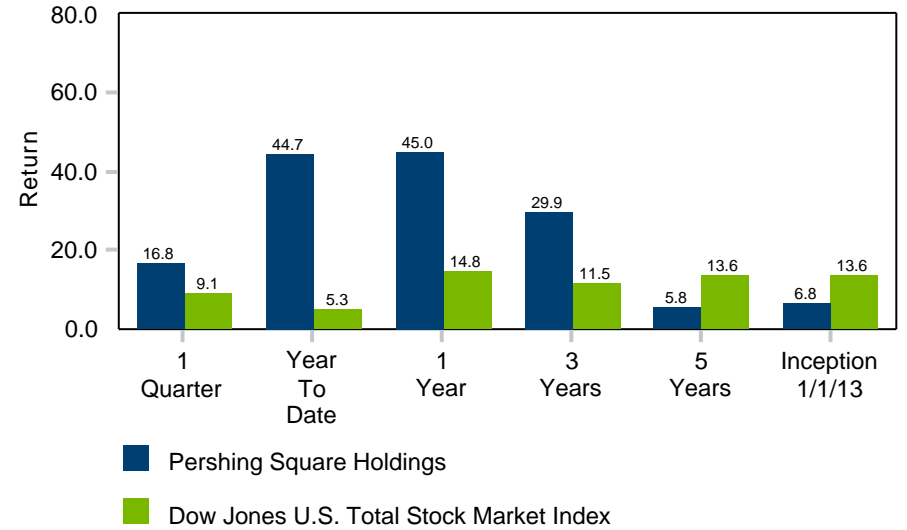
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Pershing Square International	-3.76	17.39	-0.22	0.19	0.53	3.53	0.48	9.19	17.16	0.44
Dow Jones U.S. Total Stock Market Index	0.00	0.00	N/A	1.00	0.83	0.00	1.00	13.60	15.48	1.00
FTSE 3 Month T-Bill	-12.86	15.52	-0.83	0.02	N/A	1.19	0.00	1.16	0.24	-0.13

Pershing Square Holdings Performance Summary

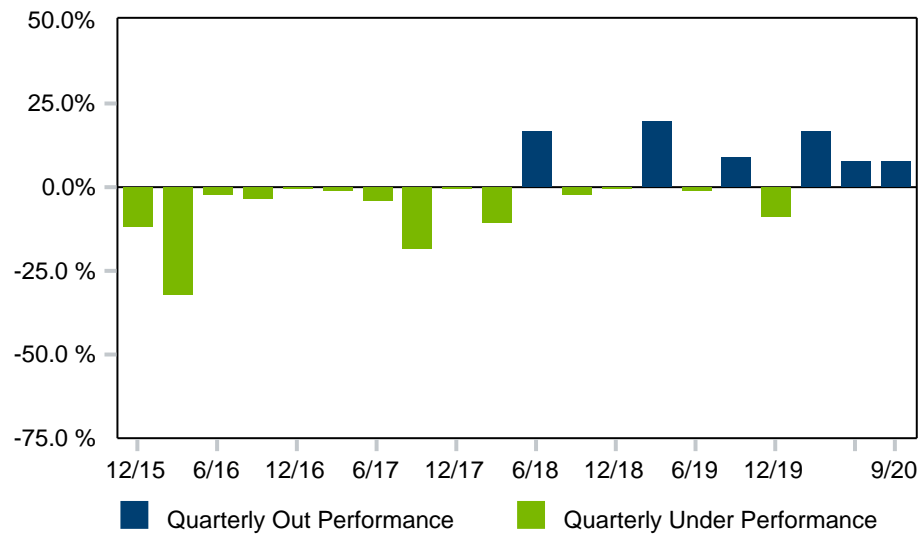
Account Information

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)

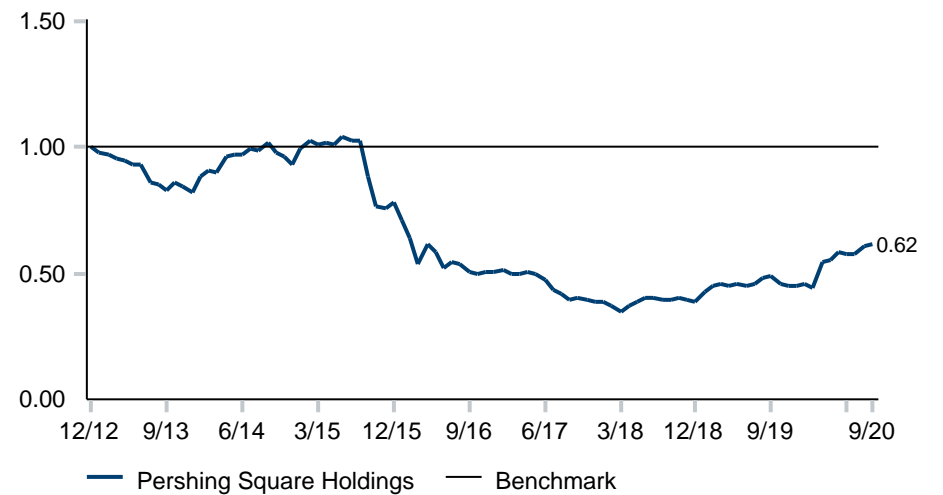
Return Summary



Quarterly Excess Performance

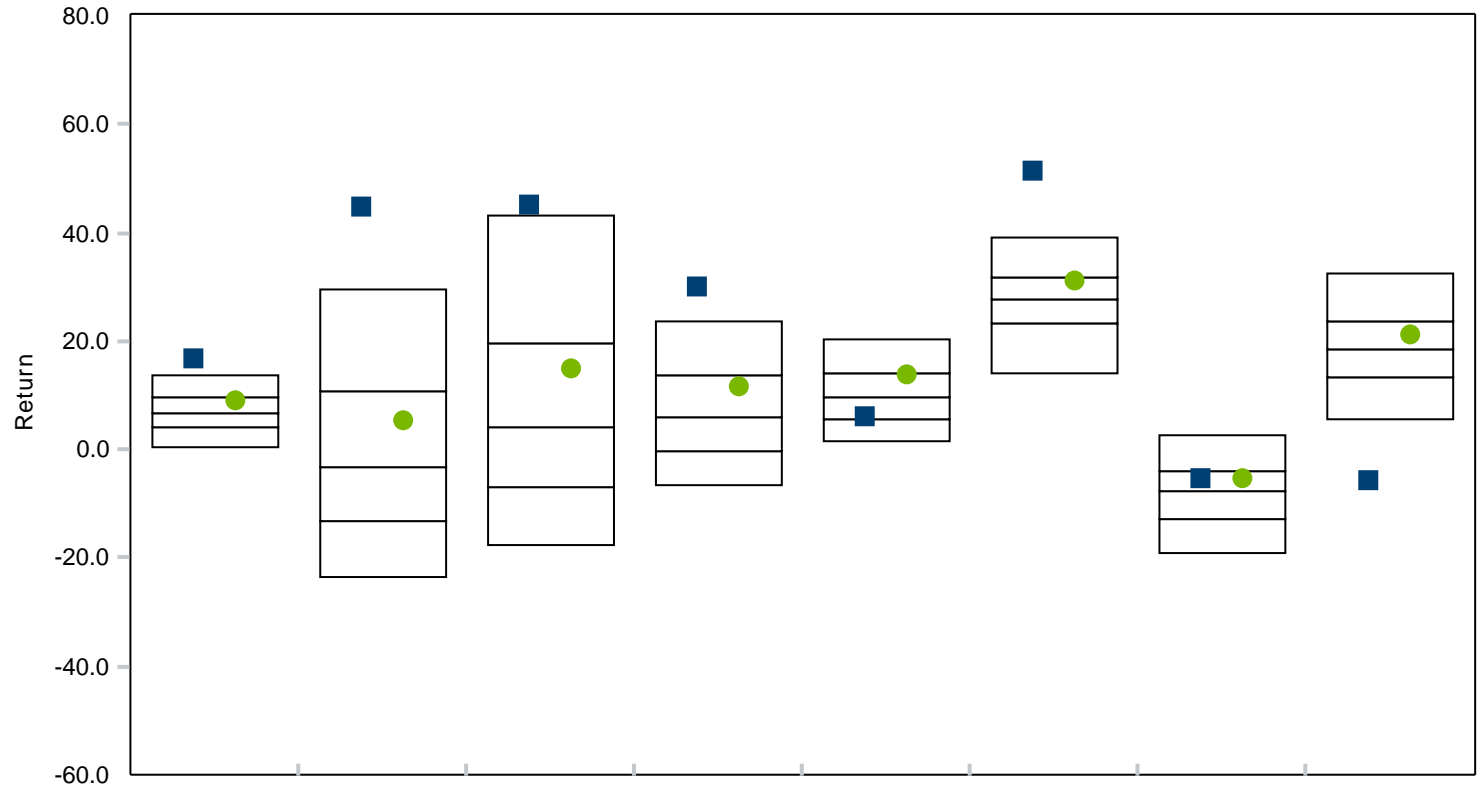


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

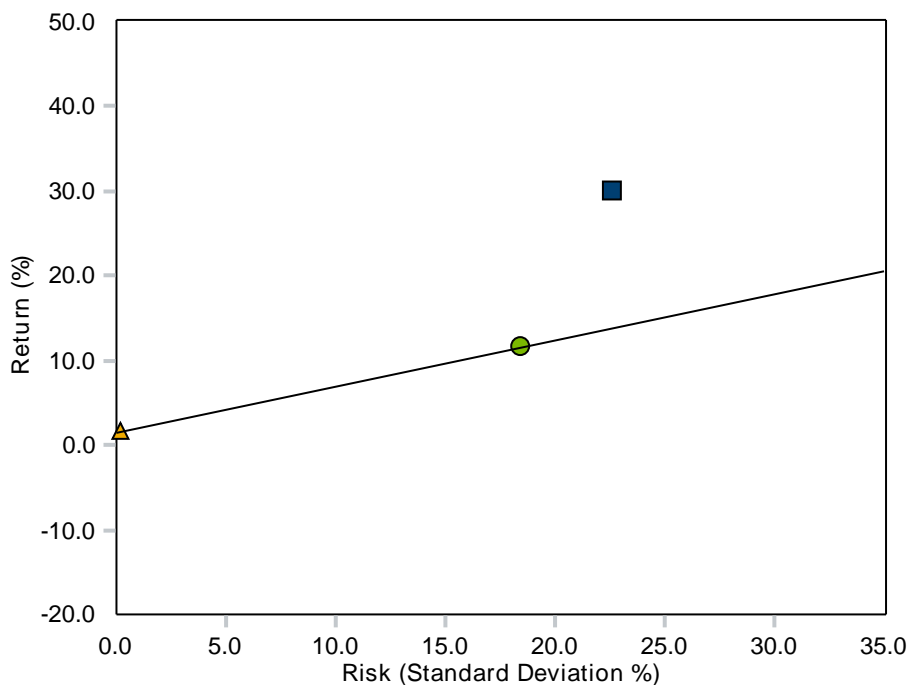


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ Pershing Square Holdings	16.8 (2)	44.7 (2)	45.0 (5)	29.9 (2)	5.8 (75)	51.3 (1)	-5.3 (35)	-6.0 (100)
● Dow Jones U.S. Total Stock Market Index	9.1 (30)	5.3 (34)	14.8 (32)	11.5 (32)	13.6 (29)	30.9 (31)	-5.3 (35)	21.2 (37)
5th Percentile	13.7	29.4	43.1	23.5	20.5	39.1	2.7	32.3
1st Quartile	9.6	10.7	19.5	13.7	14.1	31.8	-3.9	23.7
Median	6.7	-3.3	3.9	6.0	9.6	27.8	-7.8	18.4
3rd Quartile	4.1	-13.4	-7.0	-0.2	5.7	23.3	-12.7	13.4
95th Percentile	0.4	-23.5	-17.7	-6.5	1.6	14.2	-18.9	5.5
Population	1,483	1,478	1,458	1,386	1,317	1,742	1,835	1,906

parentheses contain percentile rankings.

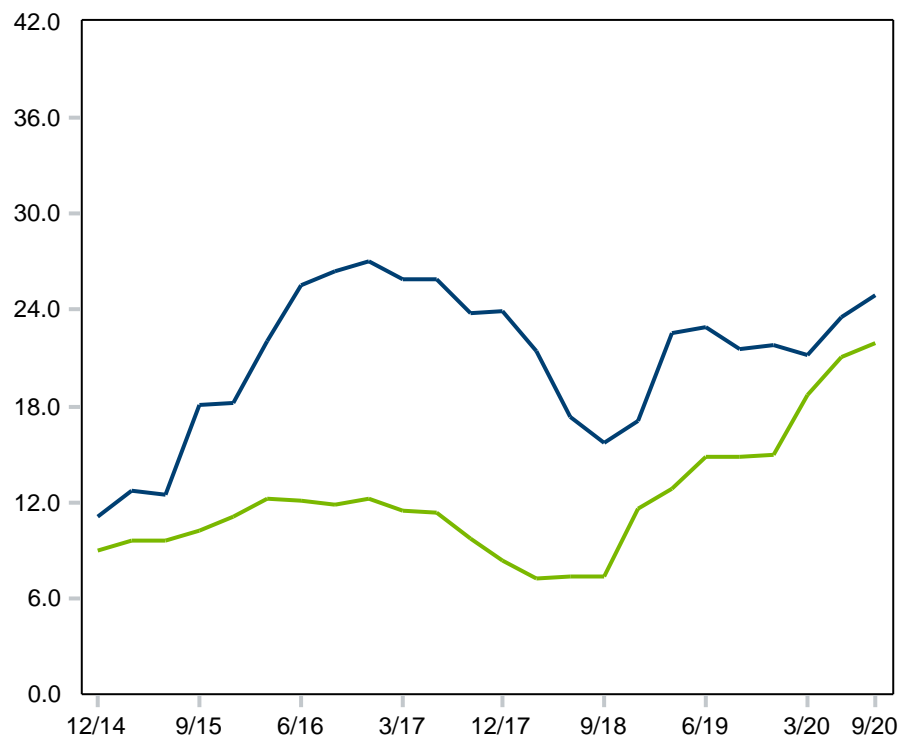
Pershing Square Holdings Risk Profile

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

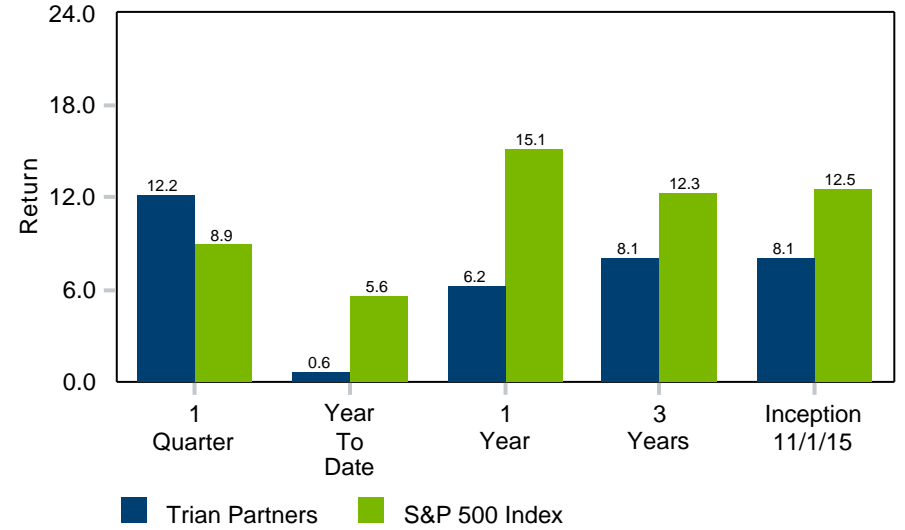
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Pershing Square Holdings	16.22	16.21	1.00	0.50	1.20	19.48	0.86	29.89	22.62	0.71
Dow Jones U.S. Total Stock Market Index	0.00	0.00	N/A	1.00	0.60	0.00	1.00	11.53	18.47	1.00
FTSE 3 Month T-Bill	-11.01	18.50	-0.60	0.03	N/A	1.68	0.00	1.65	0.21	-0.18

Trian Partners Performance Summary

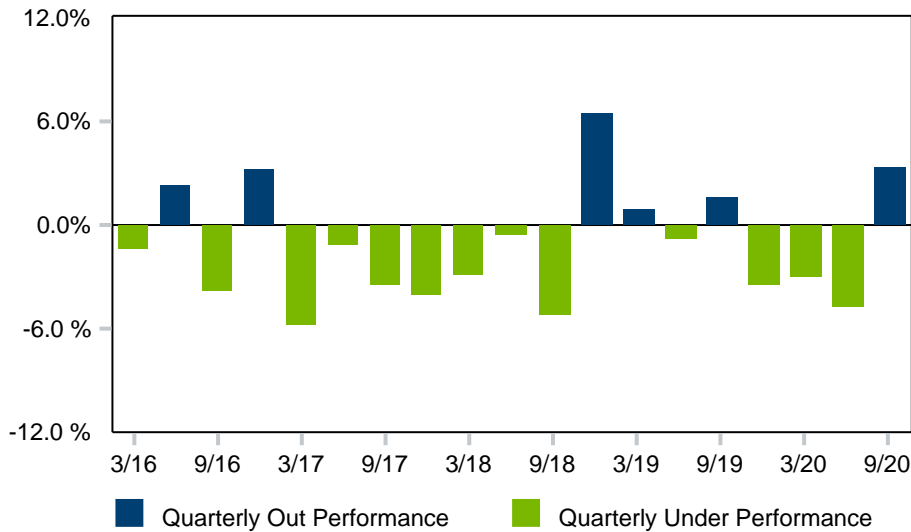
Account Information

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

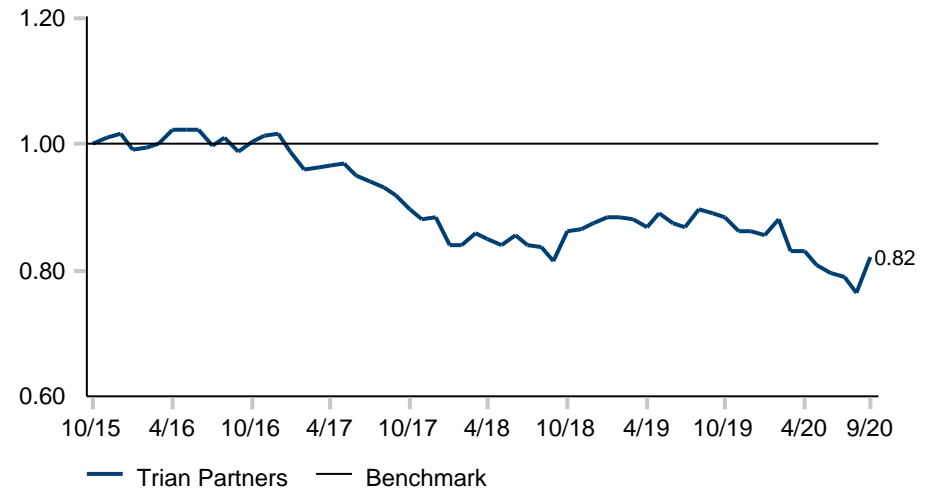
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

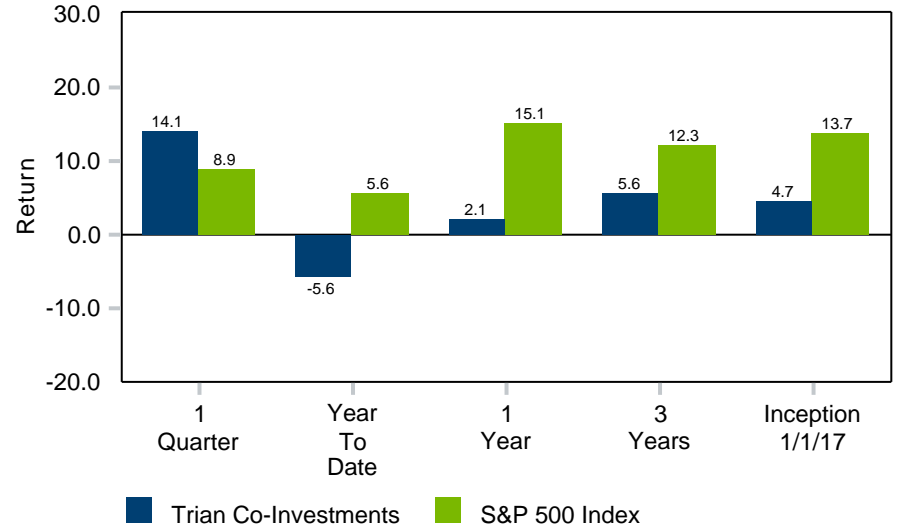


Trian Co-Investments Performance Summary

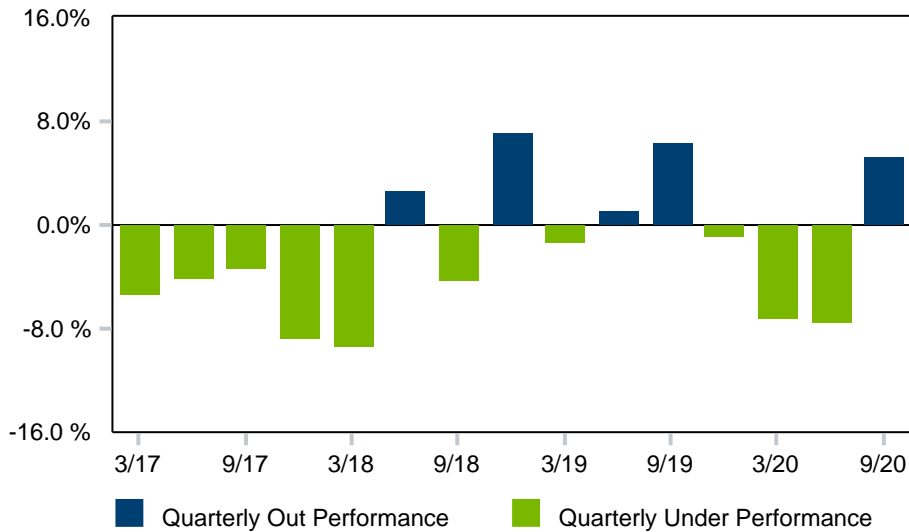
Account Information

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:

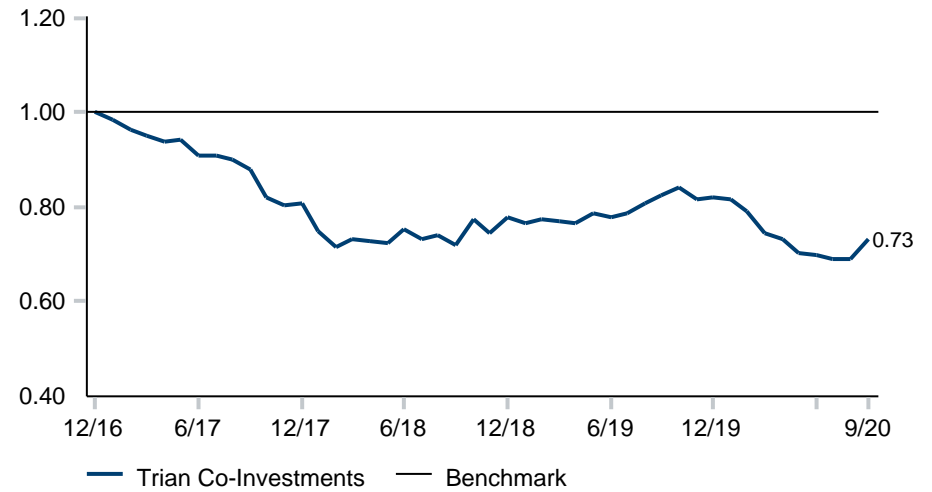
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

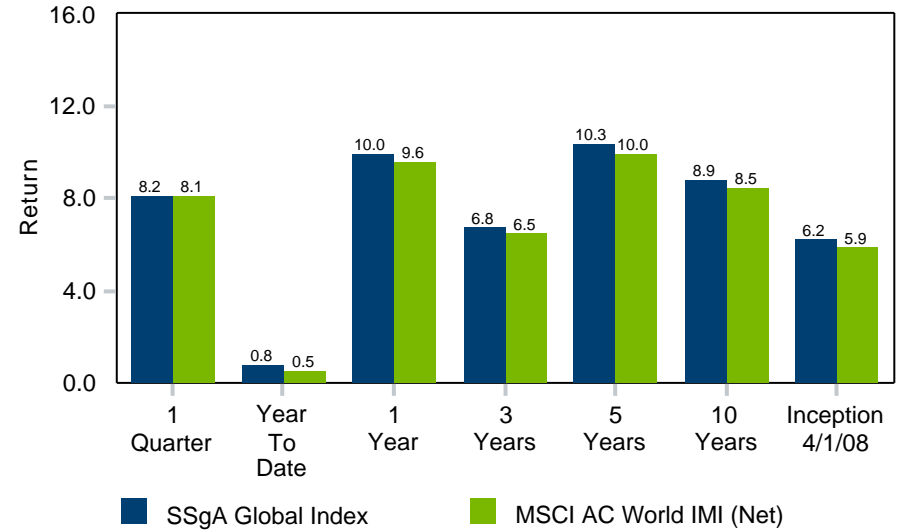


SSgA Global Index Performance Summary

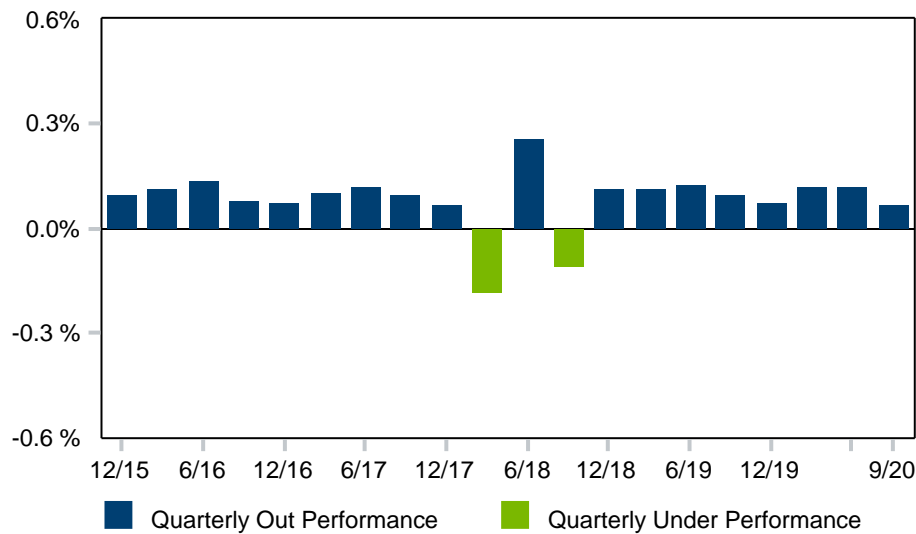
Account Information

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)

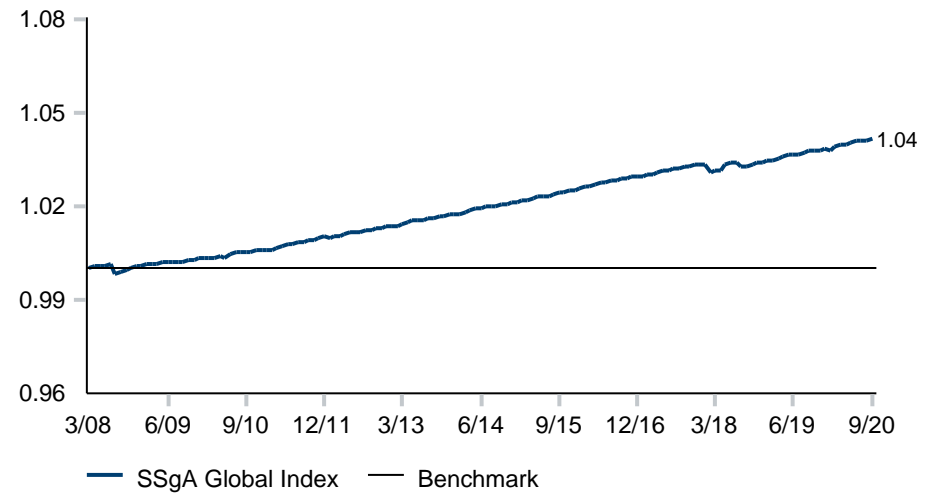
Return Summary



Quarterly Excess Performance

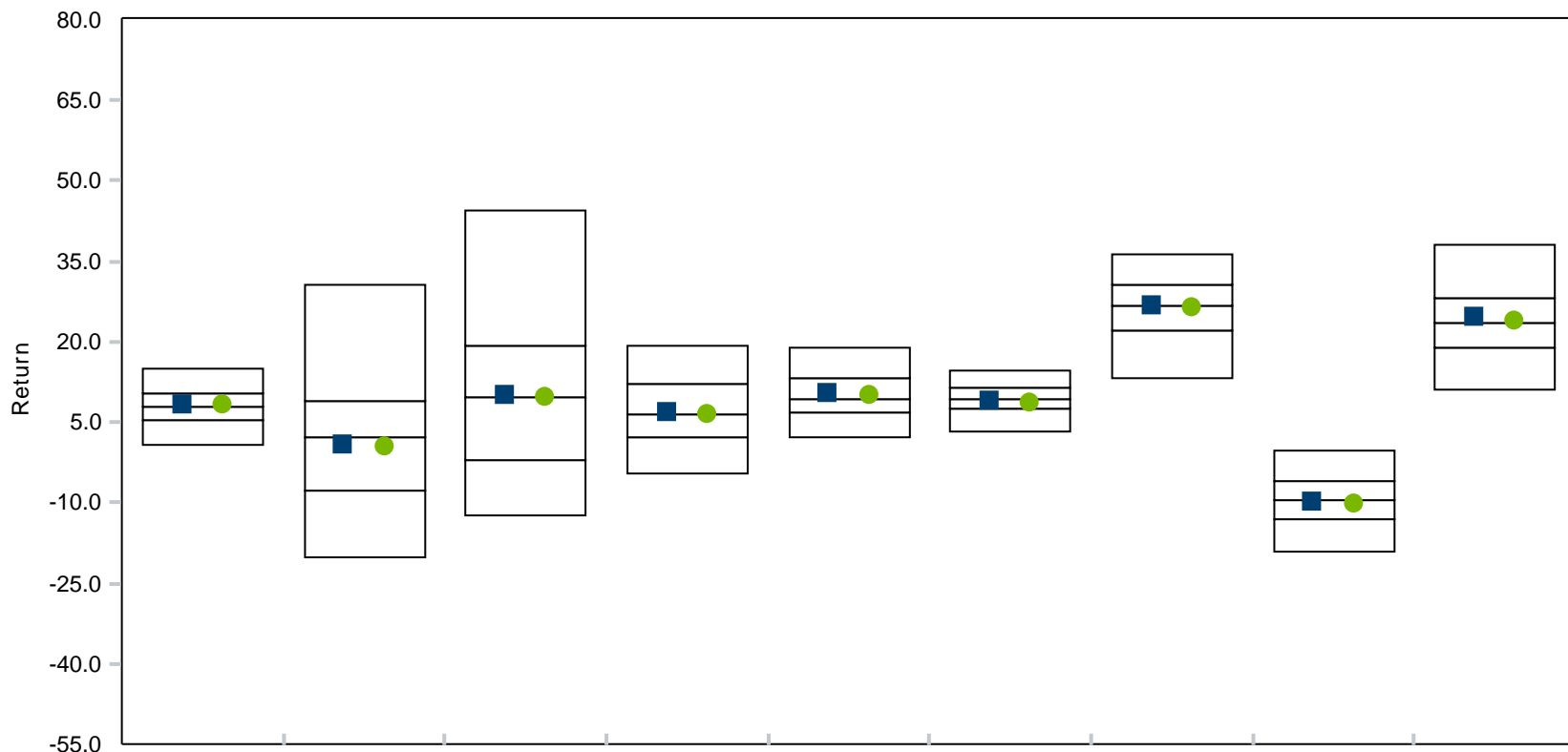


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

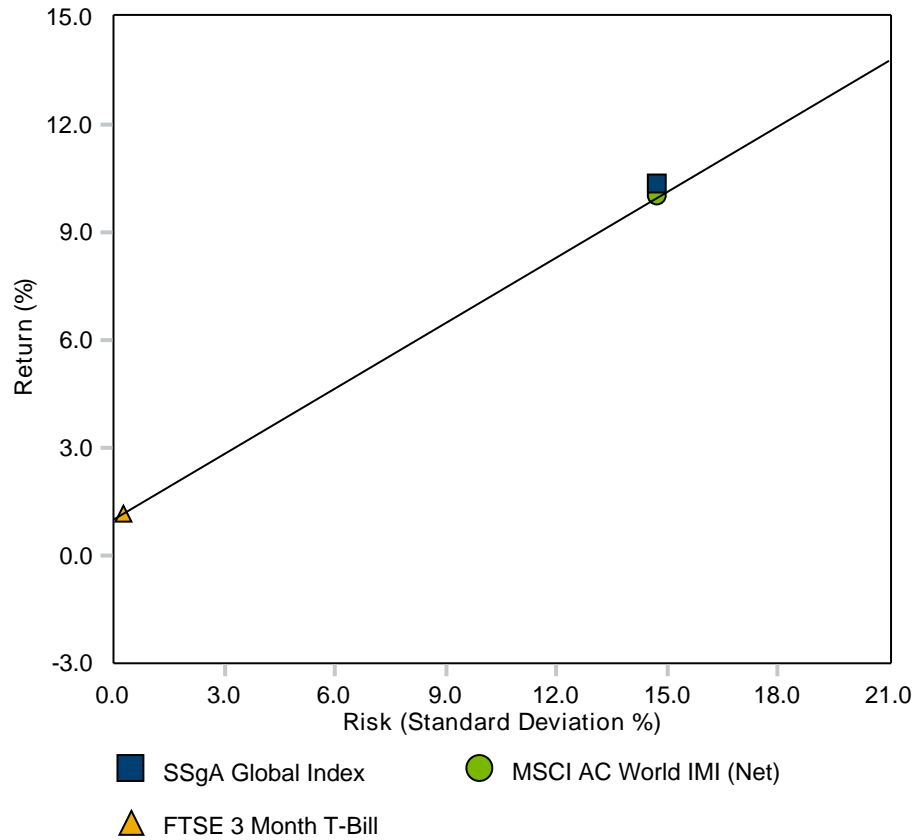


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ SSgA Global Index	8.2 (48)	0.8 (53)	10.0 (50)	6.8 (49)	10.3 (41)	8.9 (55)	26.8 (50)	-10.0 (55)	24.4 (44)
● MSCI AC World IMI (Net)	8.1 (49)	0.5 (54)	9.6 (51)	6.5 (50)	10.0 (43)	8.5 (61)	26.4 (52)	-10.1 (56)	23.9 (47)
5th Percentile	14.9	30.5	44.6	19.3	18.8	14.7	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	11.5	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	9.1	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	7.4	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	3.3	13.1	-19.1	11.0
Population	325	324	321	308	281	177	368	385	393

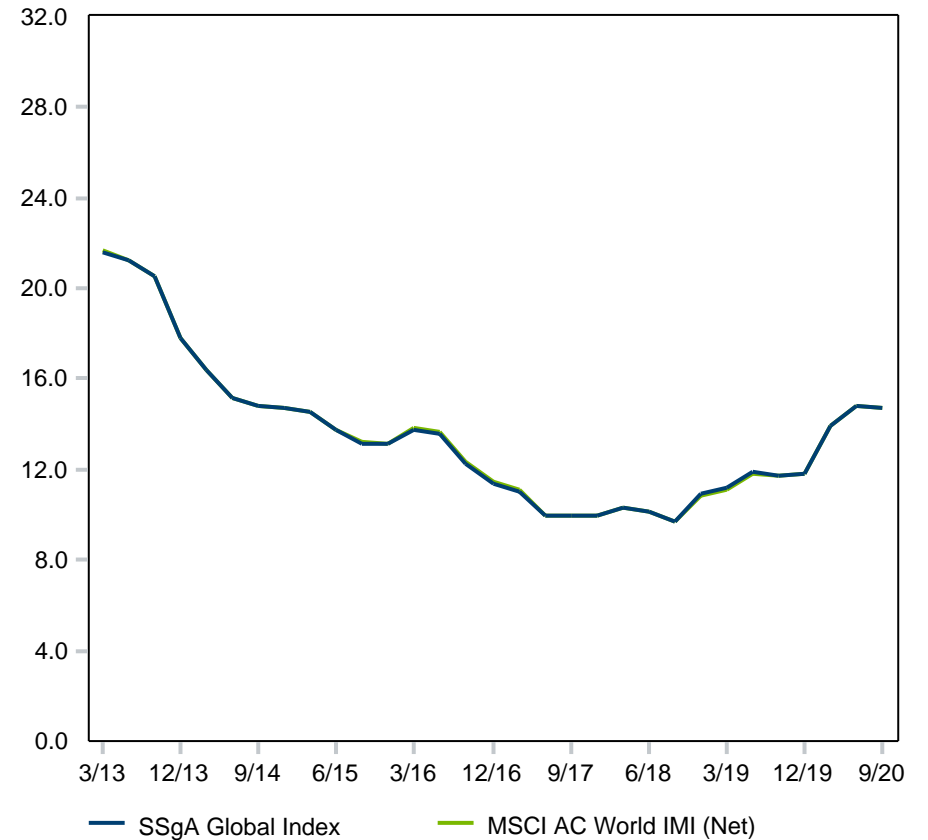
parentheses contain percentile rankings.

SSgA Global Index Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

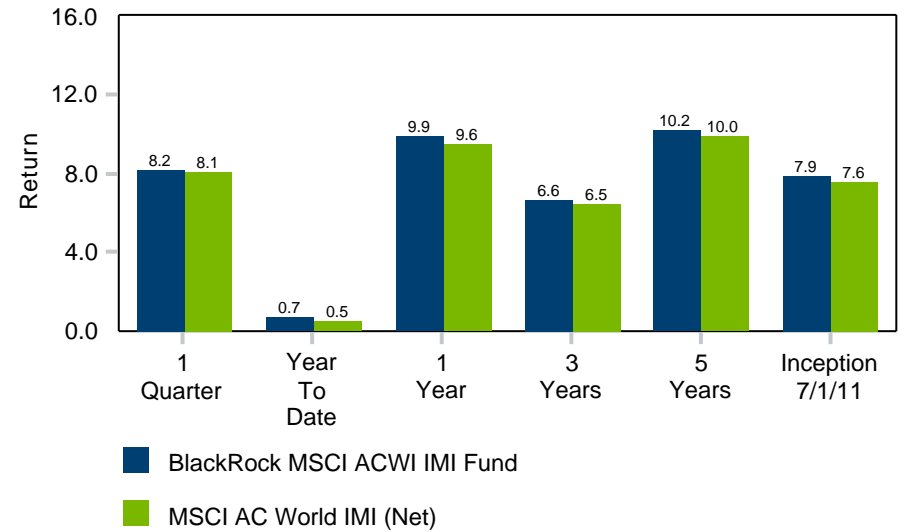
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Global Index	0.33	0.18	1.89	1.00	0.66	0.34	1.00	10.34	14.73	1.00
MSCI AC World IMI (Net)	0.00	0.00	N/A	1.00	0.64	0.00	1.00	9.97	14.74	1.00
FTSE 3 Month T-Bill	-9.48	14.78	-0.64	0.02	N/A	1.18	0.00	1.16	0.24	-0.16

BlackRock MSCI ACWI IMI Fund Performance Summary

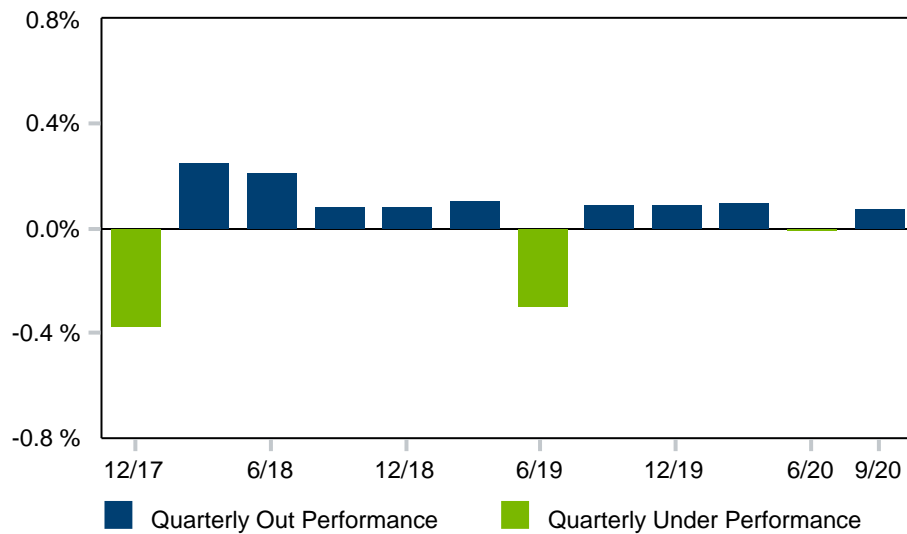
Account Information

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)

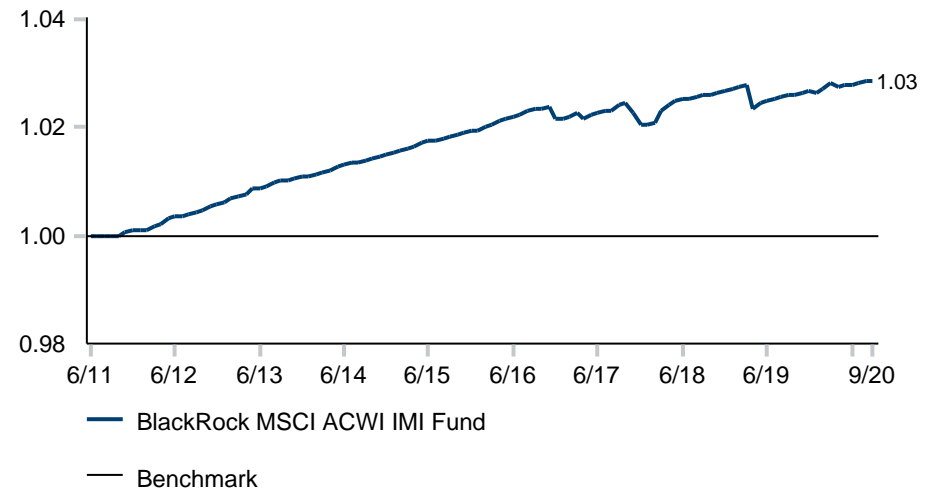
Return Summary



Quarterly Excess Performance

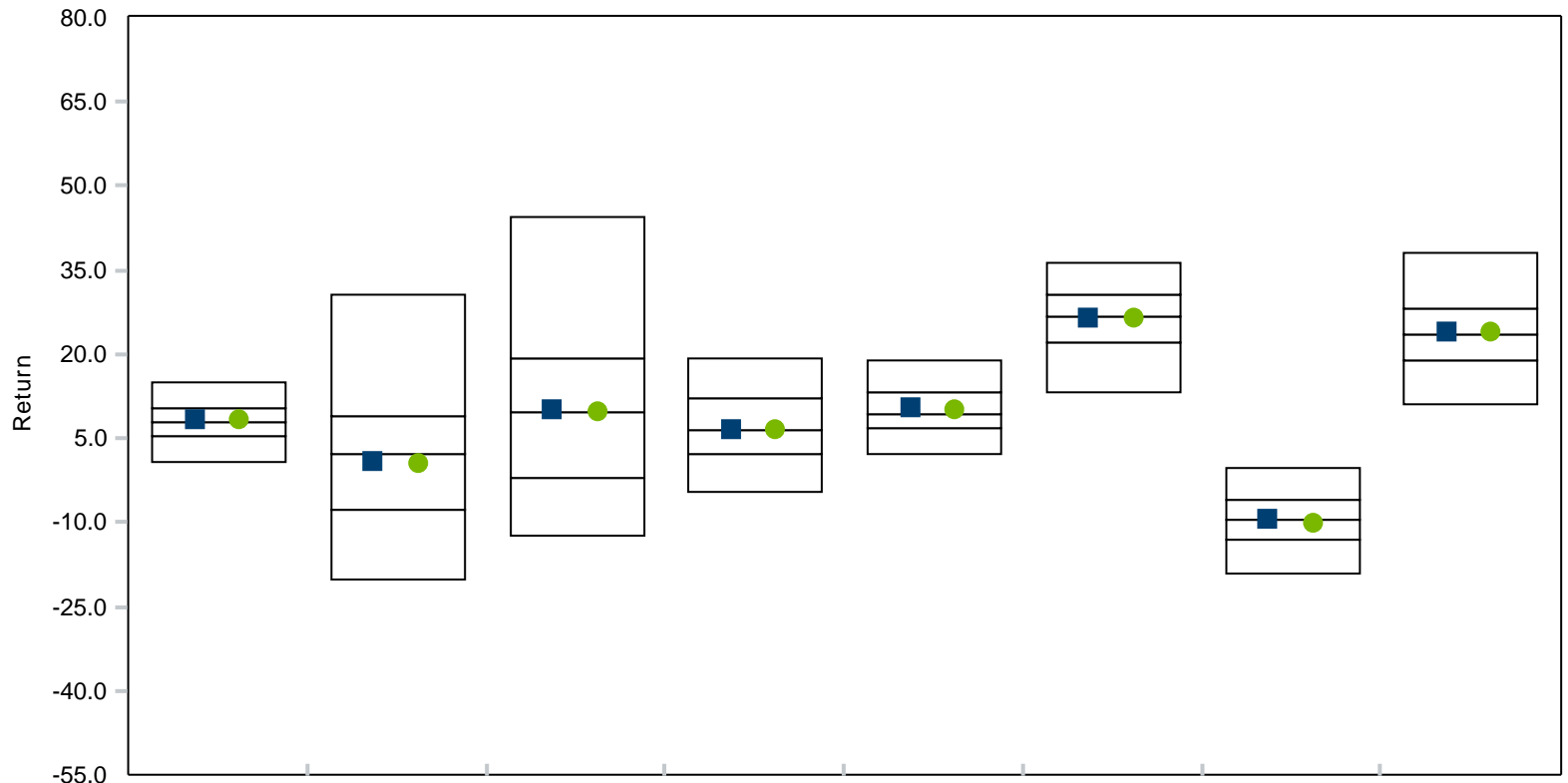


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

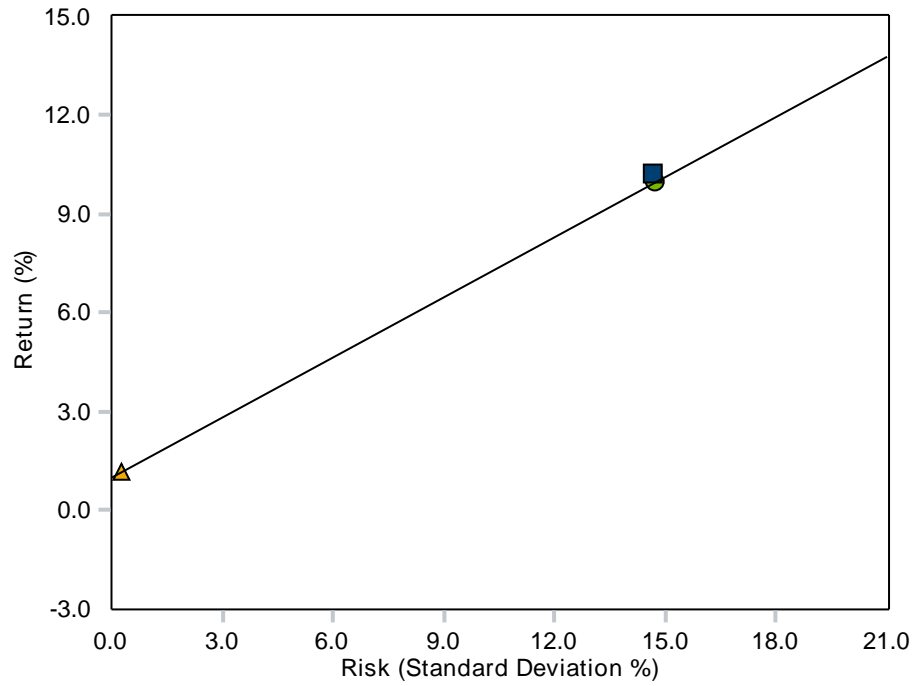


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ BlackRock MSCI ACWI IMI Fund	8.2 (48)	0.7 (54)	9.9 (50)	6.6 (49)	10.2 (42)	26.3 (52)	-9.5 (50)	23.8 (48)
● MSCI AC World IMI (Net)	8.1 (49)	0.5 (54)	9.6 (51)	6.5 (50)	10.0 (43)	26.4 (52)	-10.1 (56)	23.9 (47)
5th Percentile	14.9	30.5	44.6	19.3	18.8	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	13.1	-19.1	11.0
Population	325	324	321	308	281	368	385	393

parentheses contain percentile rankings.

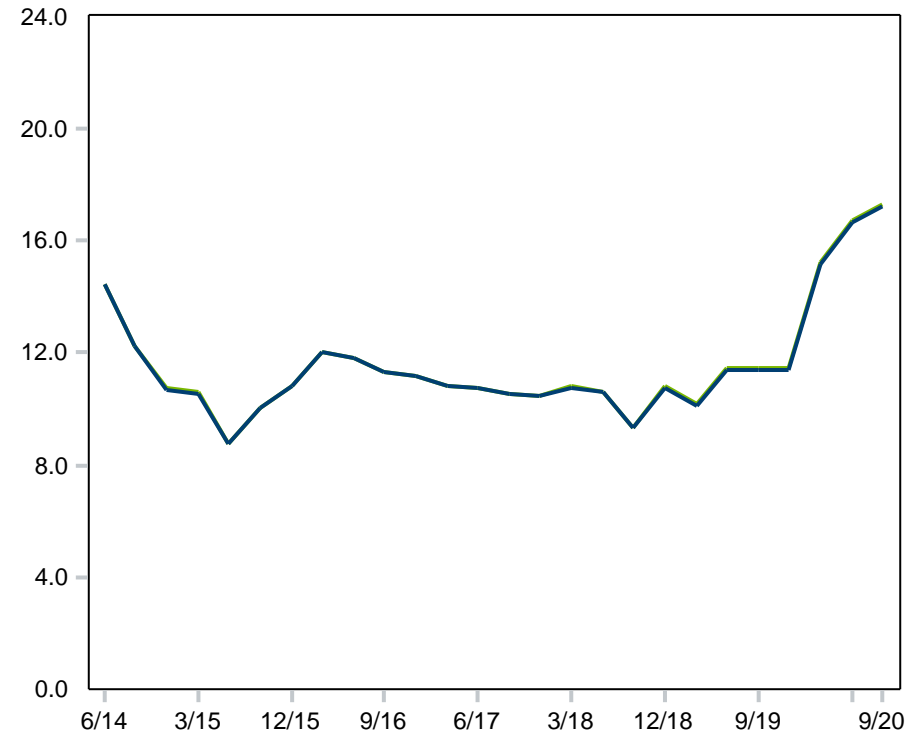
BlackRock MSCI ACWI IMI Fund Risk Profile

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

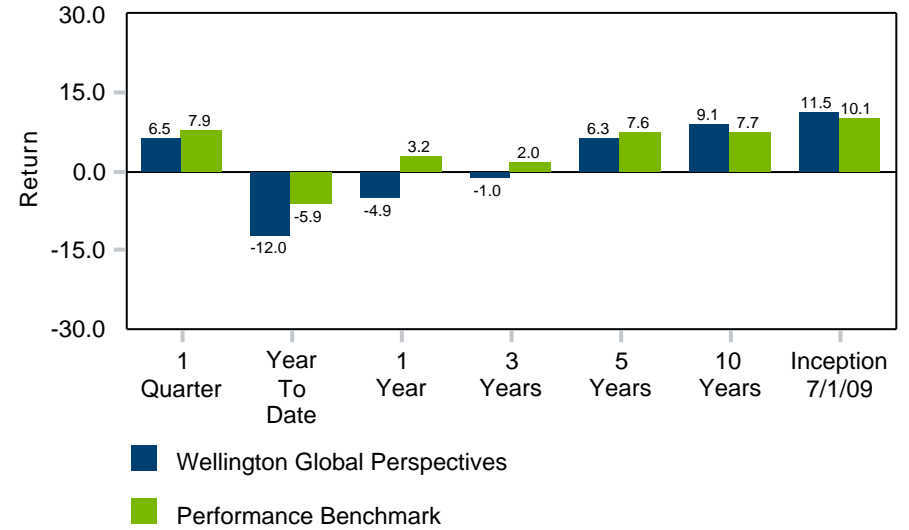
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock MSCI ACWI IMI Fund	0.20	0.31	0.63	1.00	0.66	0.24	1.00	10.20	14.68	1.00
MSCI AC World IMI (Net)	0.00	0.00	N/A	1.00	0.64	0.00	1.00	9.97	14.74	1.00
FTSE 3 Month T-Bill	-9.48	14.78	-0.64	0.02	N/A	1.18	0.00	1.16	0.24	-0.16

Wellington Global Perspectives Performance Summary

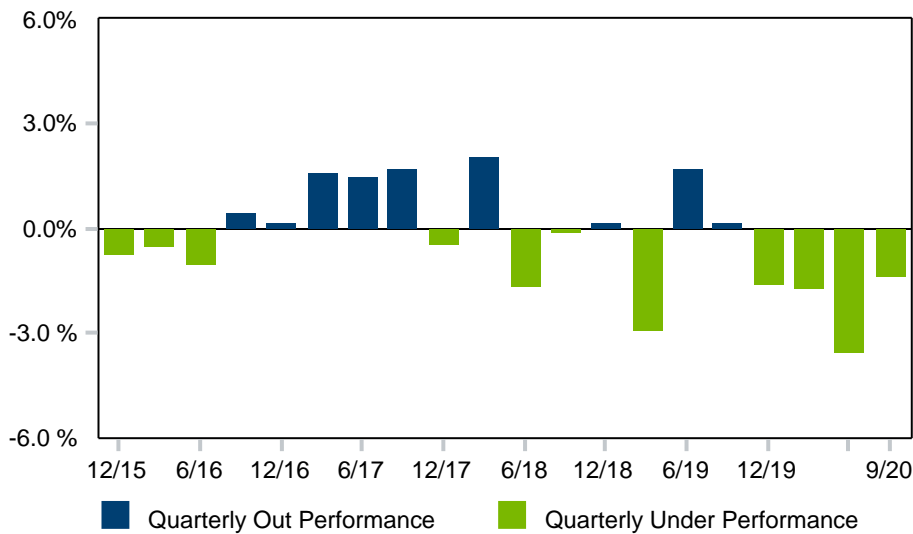
Account Information

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)

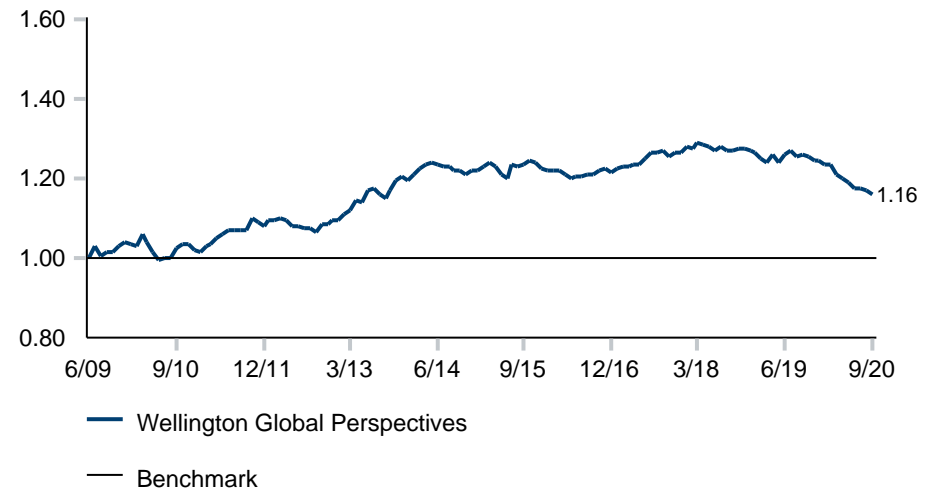
Return Summary



Quarterly Excess Performance

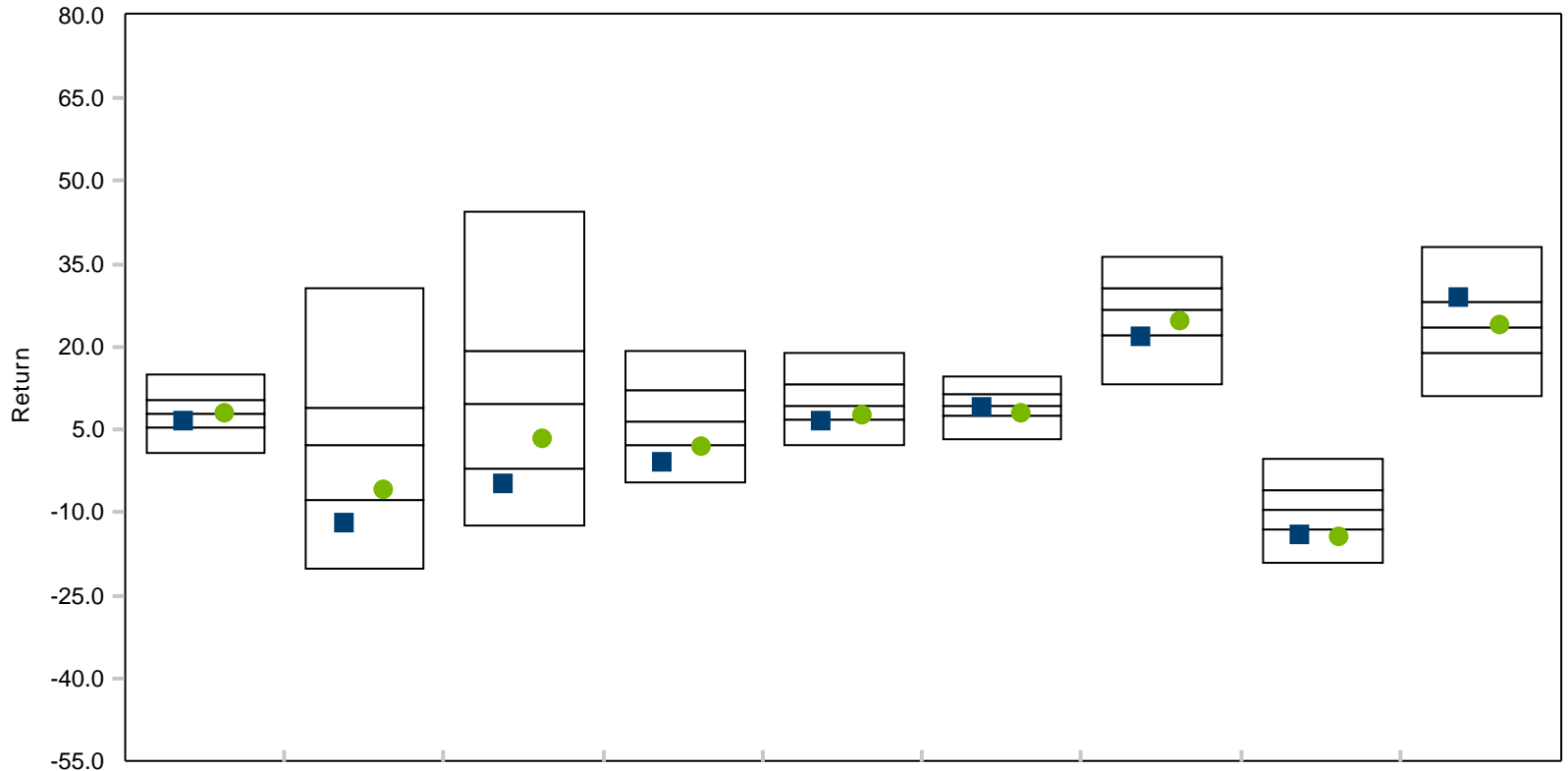


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

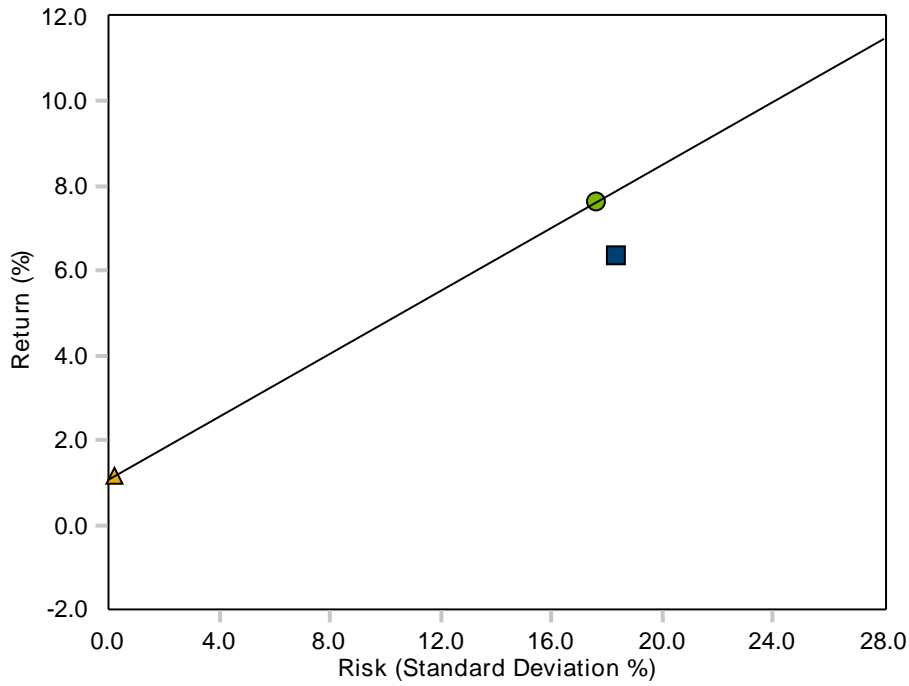


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Wellington Global Perspectives	6.5 (66)	-12.0 (86)	-4.9 (83)	-1.0 (83)	6.3 (77)	9.1 (51)	21.9 (76)	-14.0 (80)	29.0 (23)
● Performance Benchmark	7.9 (52)	-5.9 (72)	3.2 (66)	2.0 (76)	7.6 (67)	7.7 (71)	24.7 (64)	-14.4 (81)	23.8 (48)
5th Percentile	14.9	30.5	44.6	19.3	18.8	14.7	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	11.5	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	9.1	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	7.4	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	3.3	13.1	-19.1	11.0
Population	325	324	321	308	281	177	368	385	393

parentheses contain percentile rankings.

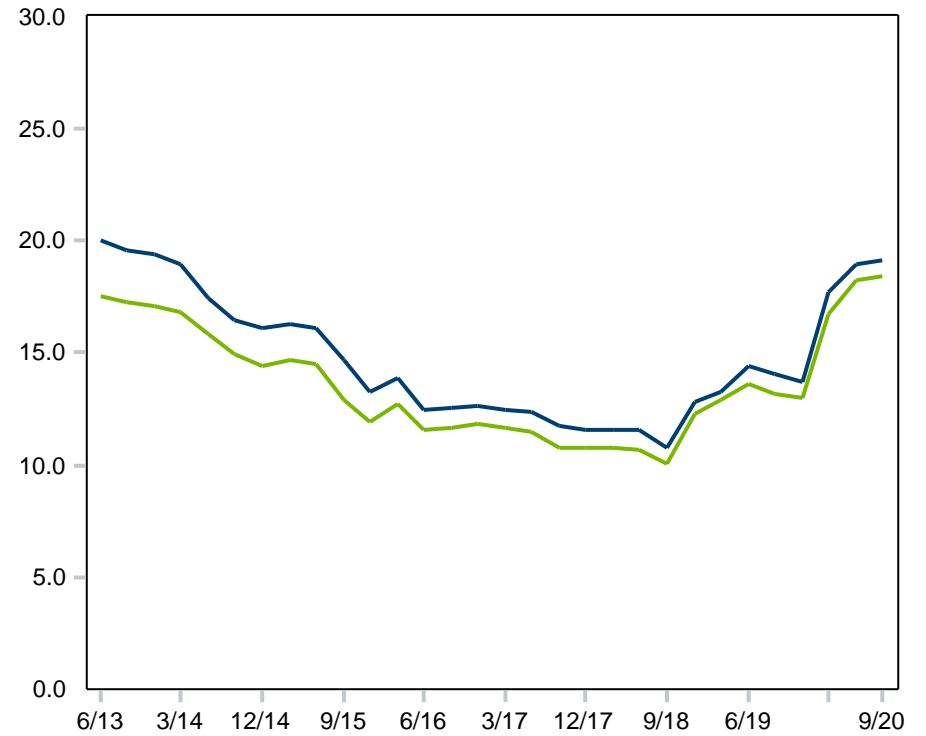
Wellington Global Perspectives Risk Profile

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

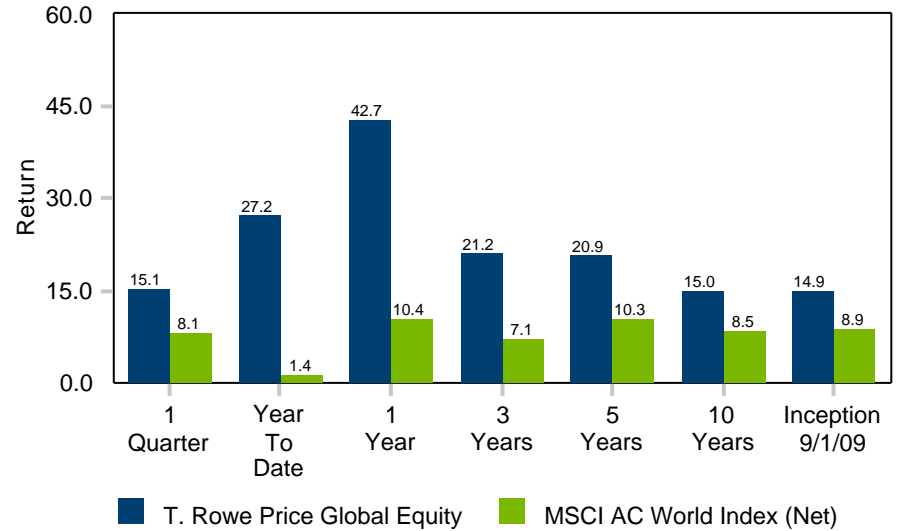
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Perspectives	-1.06	2.72	-0.39	0.98	0.37	-1.31	1.03	6.35	18.33	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	0.44	0.00	1.00	7.63	17.63	1.00
FTSE 3 Month T-Bill	-7.82	17.67	-0.44	0.03	N/A	1.18	0.00	1.16	0.24	-0.18

T. Rowe Price Global Equity Performance Summary

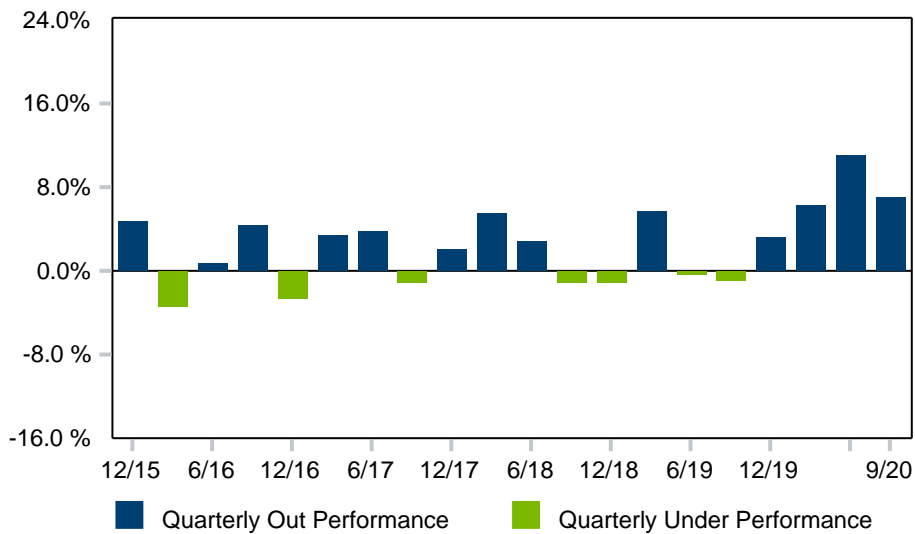
Account Information

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)

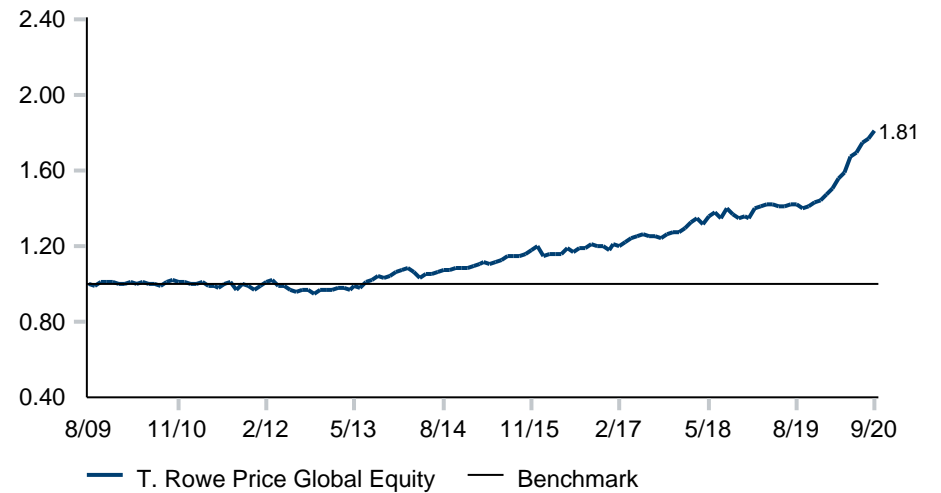
Return Summary



Quarterly Excess Performance

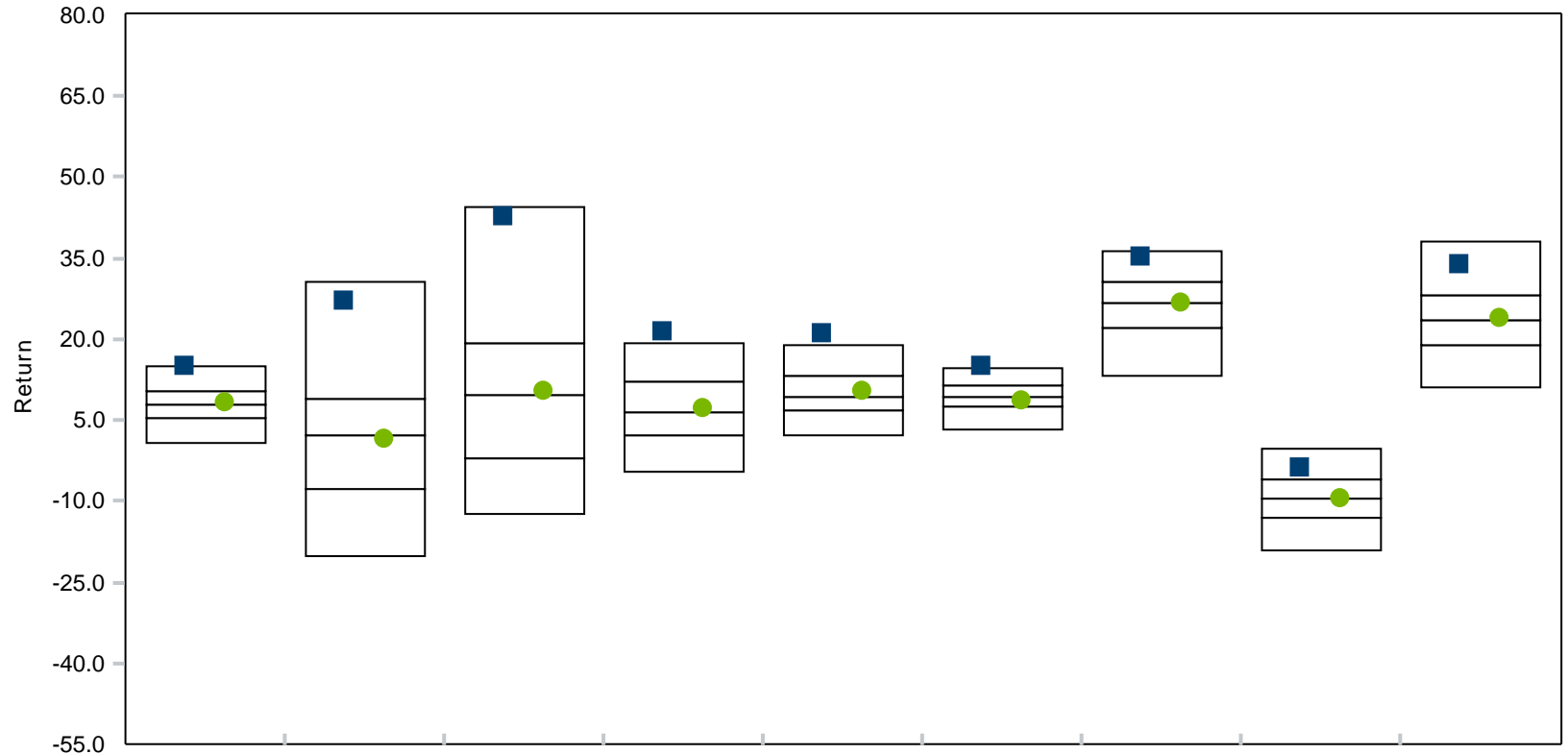


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

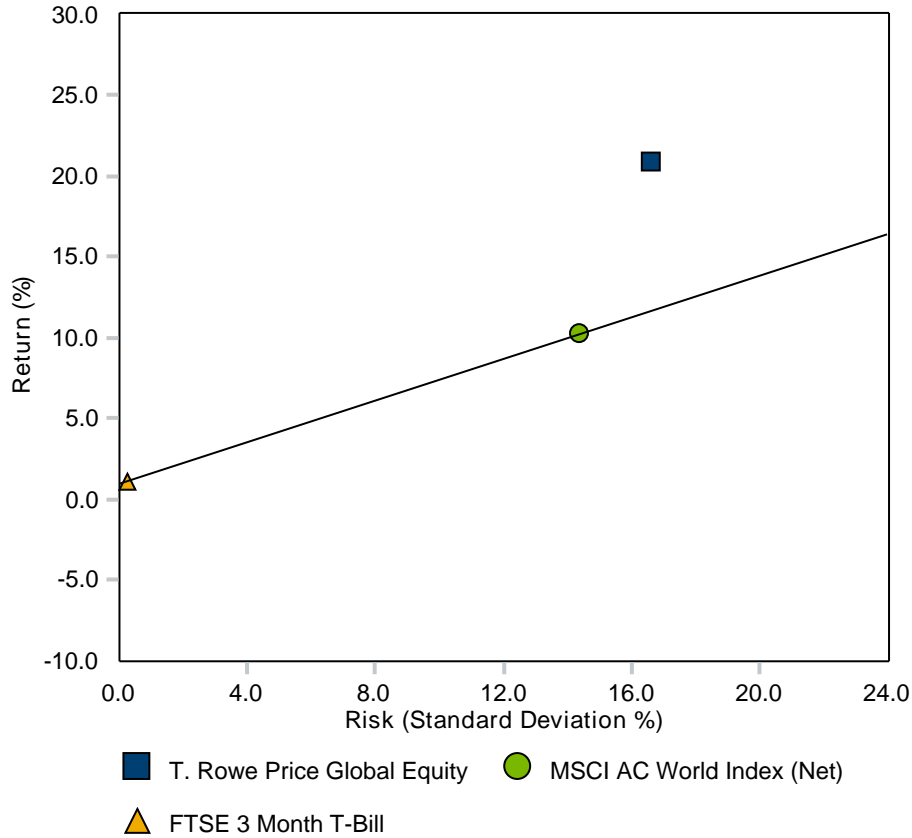


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ T. Rowe Price Global Equity	15.1 (5)	27.2 (6)	42.7 (6)	21.2 (4)	20.9 (4)	15.0 (5)	35.2 (10)	-4.0 (17)	33.7 (11)
● MSCI AC World Index (Net)	8.1 (49)	1.4 (52)	10.4 (49)	7.1 (47)	10.3 (41)	8.5 (61)	26.6 (51)	-9.4 (49)	24.0 (47)
5th Percentile	14.9	30.5	44.6	19.3	18.8	14.7	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	11.5	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	9.1	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	7.4	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	3.3	13.1	-19.1	11.0
Population	325	324	321	308	281	177	368	385	393

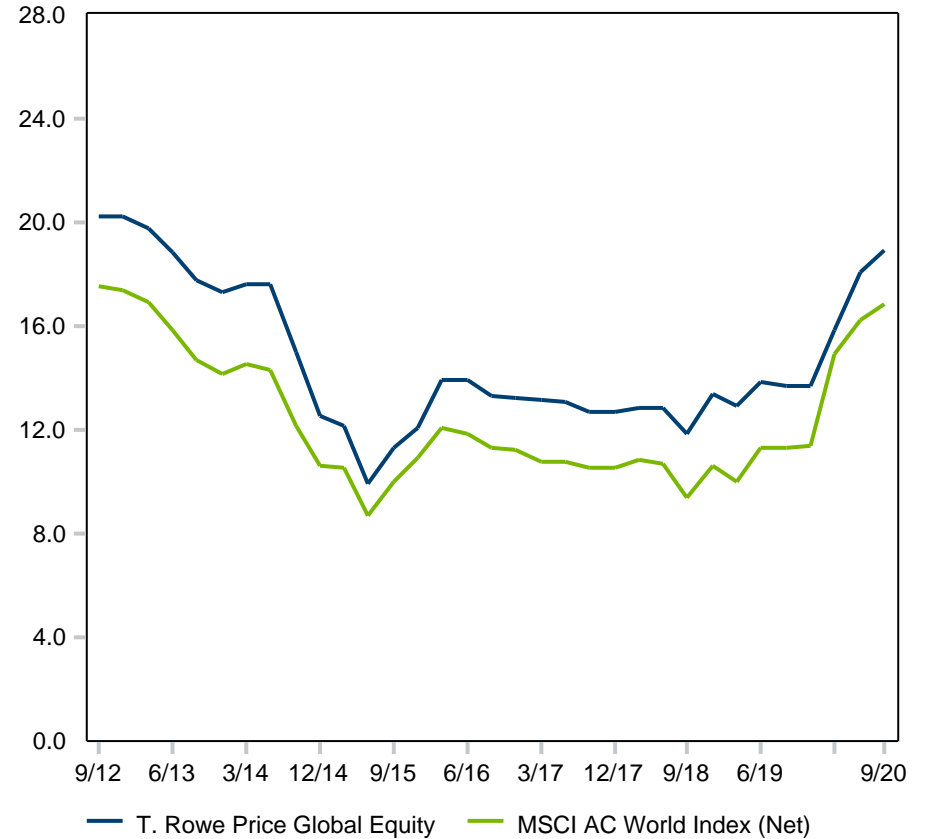
parentheses contain percentile rankings.

T. Rowe Price Global Equity Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

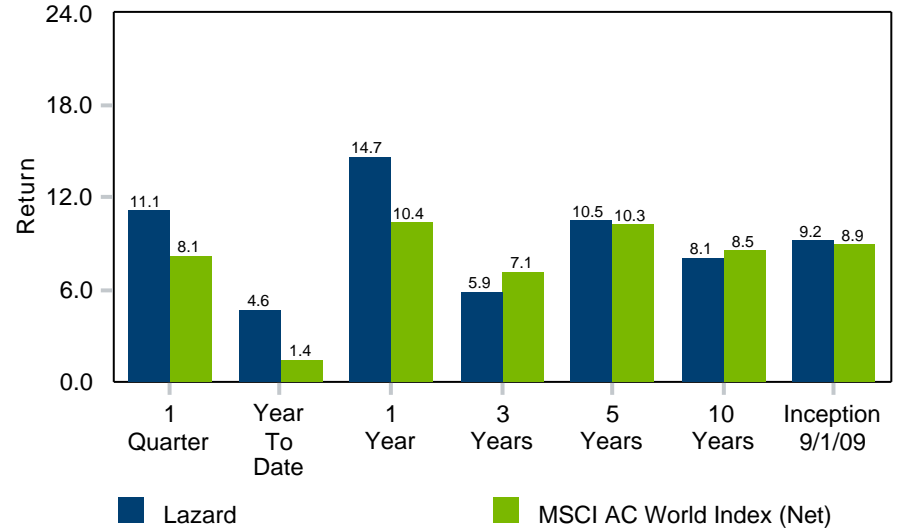
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
T. Rowe Price Global Equity	9.57	5.88	1.63	0.88	1.16	9.04	1.08	20.86	16.63	0.94
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.67	0.00	1.00	10.30	14.42	1.00
FTSE 3 Month T-Bill	-9.73	14.46	-0.67	0.02	N/A	1.18	0.00	1.16	0.24	-0.15

Lazard Performance Summary

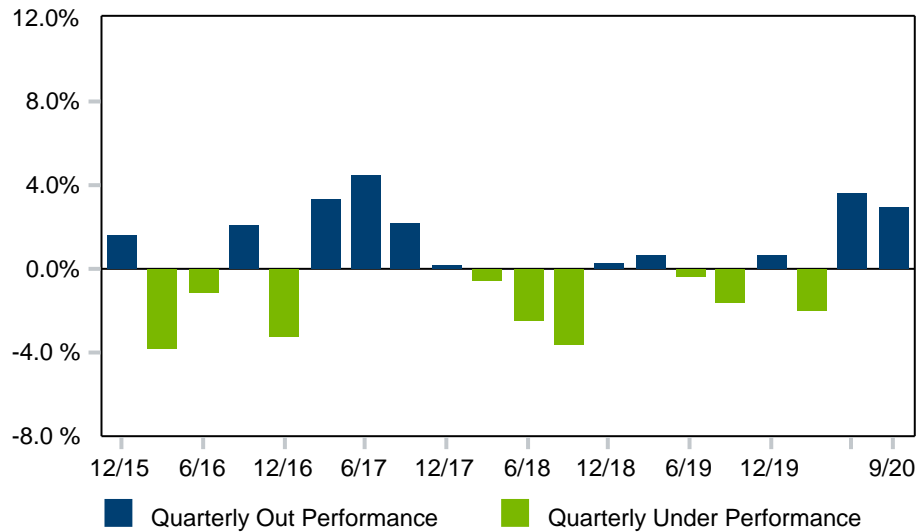
Account Information

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)

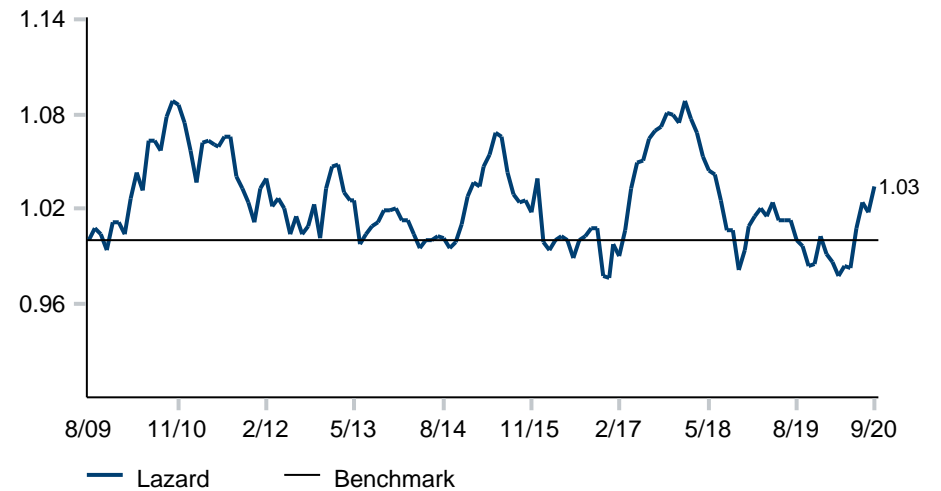
Return Summary



Quarterly Excess Performance

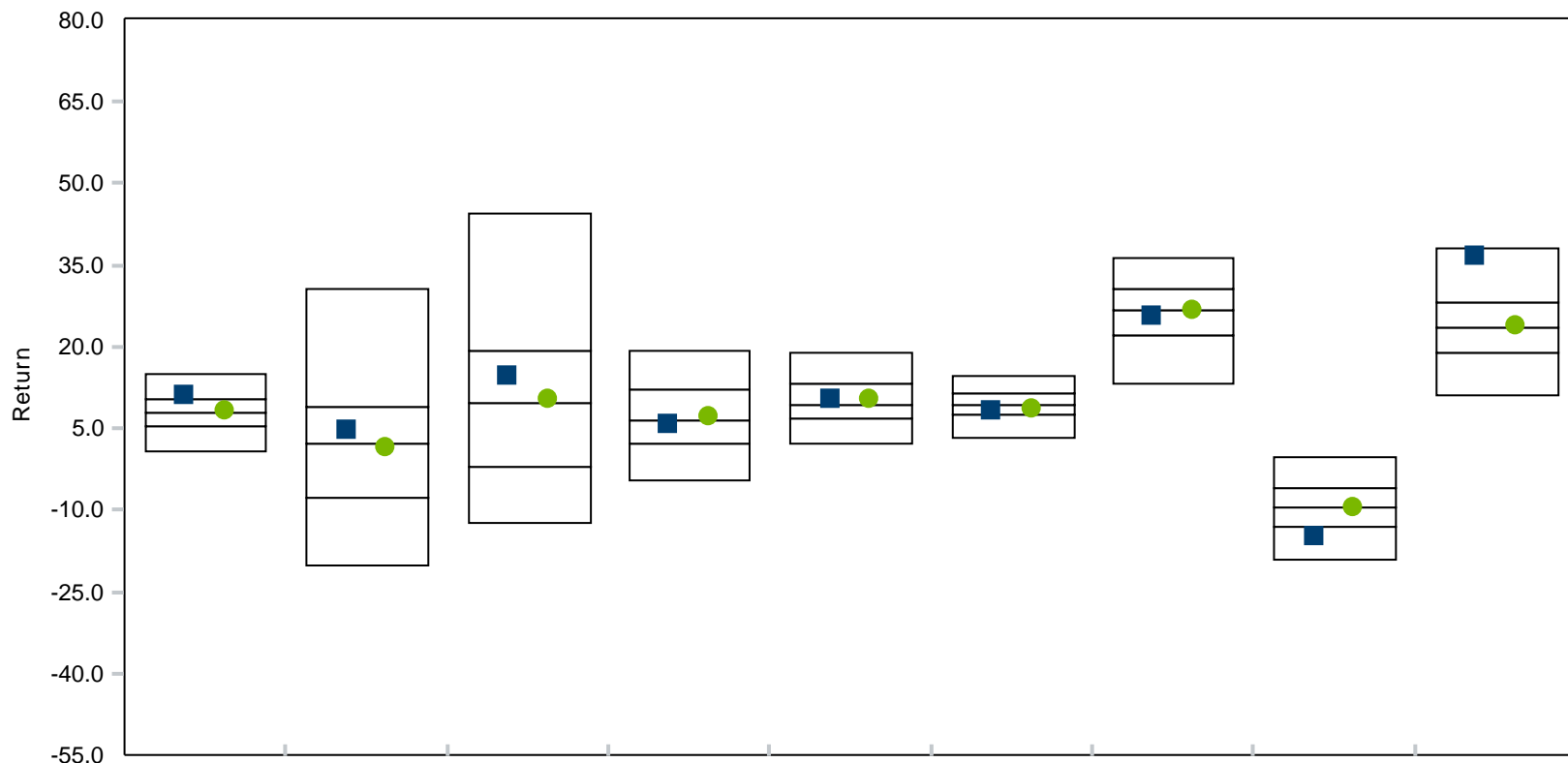


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

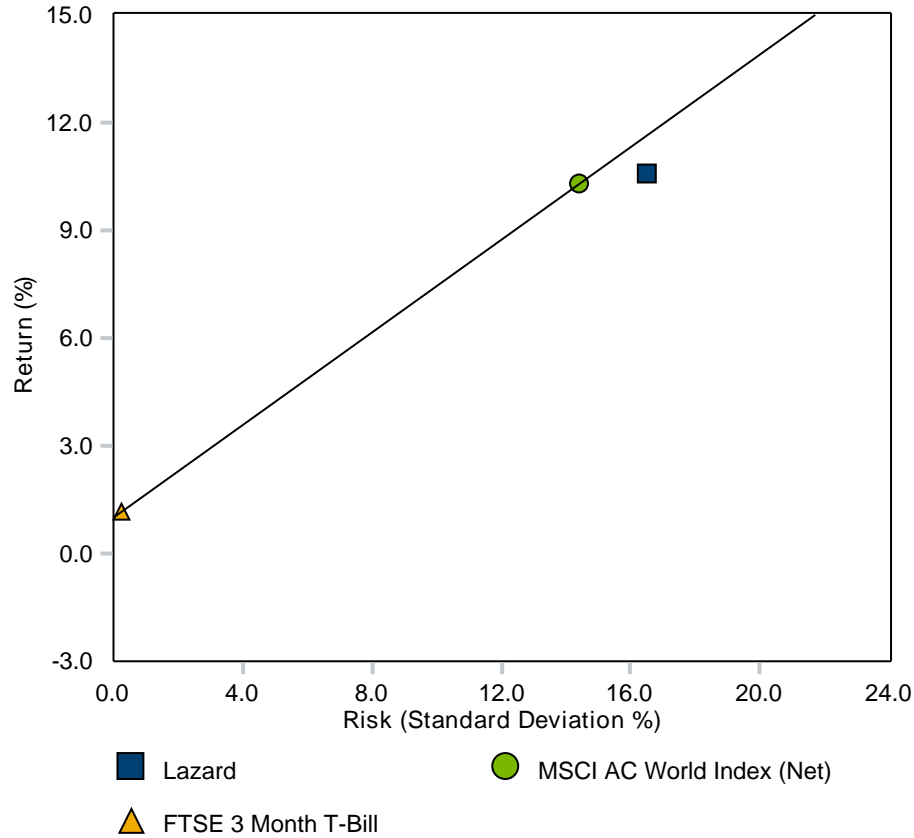


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Lazard	11.1 (21)	4.6 (39)	14.7 (36)	5.9 (54)	10.5 (39)	8.1 (67)	25.7 (56)	-14.9 (84)	36.5 (7)
● MSCI AC World Index (Net)	8.1 (49)	1.4 (52)	10.4 (49)	7.1 (47)	10.3 (41)	8.5 (61)	26.6 (51)	-9.4 (49)	24.0 (47)
5th Percentile	14.9	30.5	44.6	19.3	18.8	14.7	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	11.5	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	9.1	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	7.4	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	3.3	13.1	-19.1	11.0
Population	325	324	321	308	281	177	368	385	393

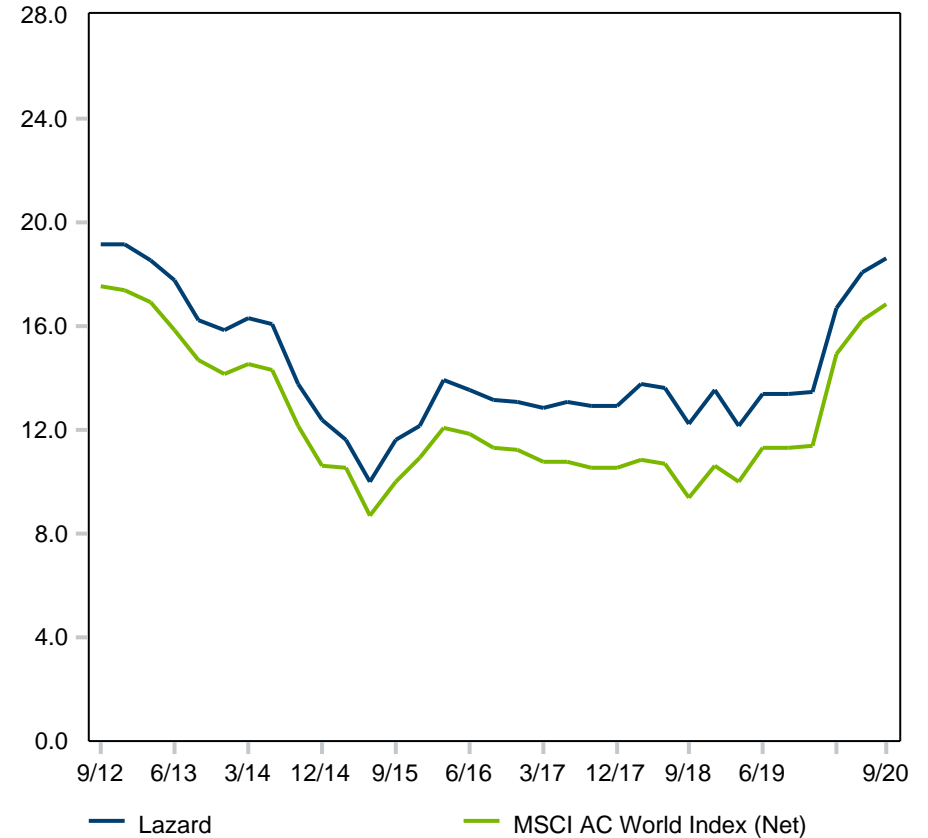
parentheses contain percentile rankings.

Lazard Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

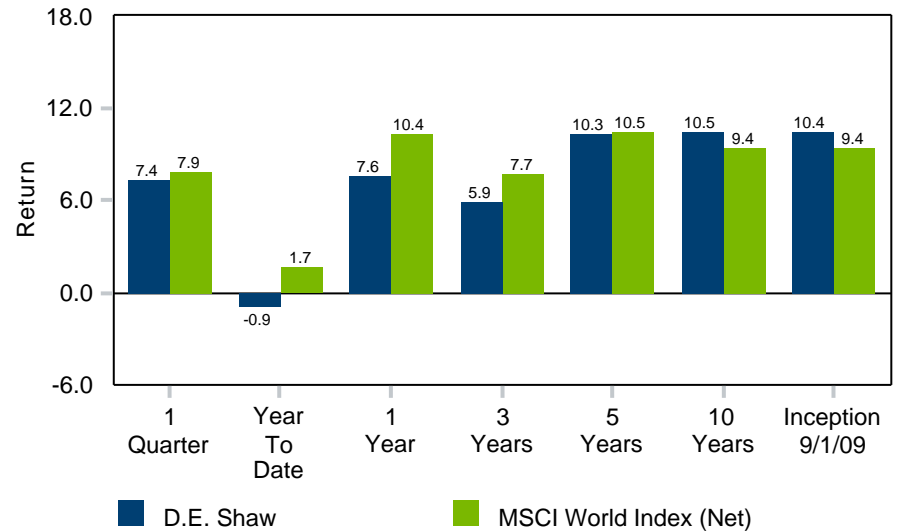
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Lazard	0.55	4.48	0.12	0.94	0.62	-0.63	1.11	10.54	16.53	0.97
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.67	0.00	1.00	10.30	14.42	1.00
FTSE 3 Month T-Bill	-9.73	14.46	-0.67	0.02	N/A	1.18	0.00	1.16	0.24	-0.15

D.E. Shaw Performance Summary

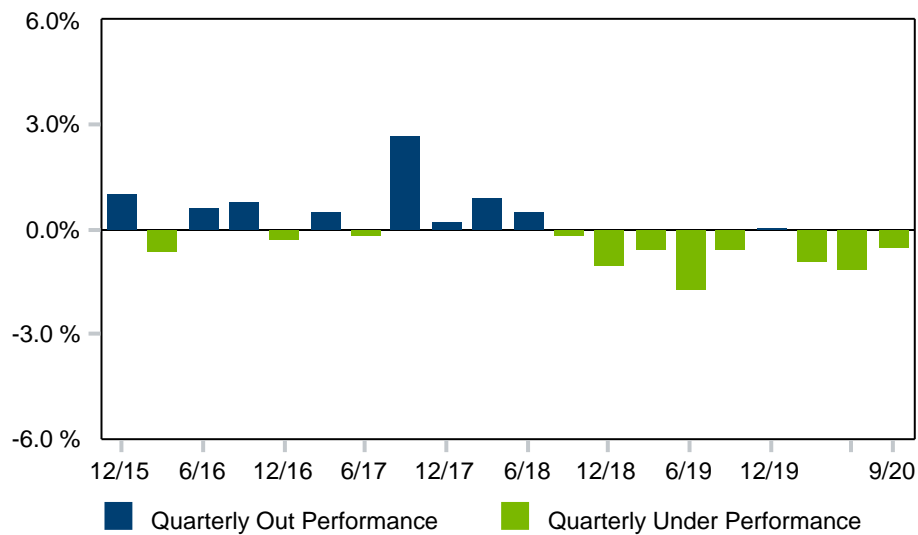
Account Information

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)

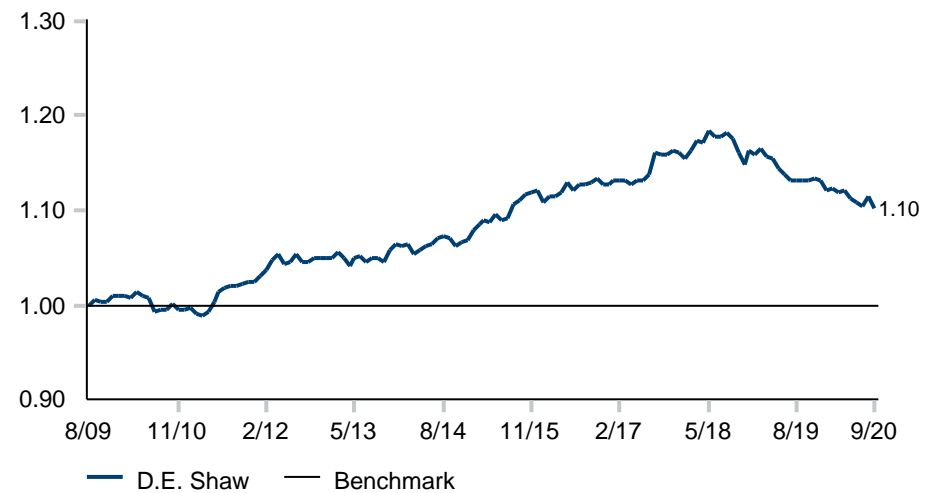
Return Summary



Quarterly Excess Performance

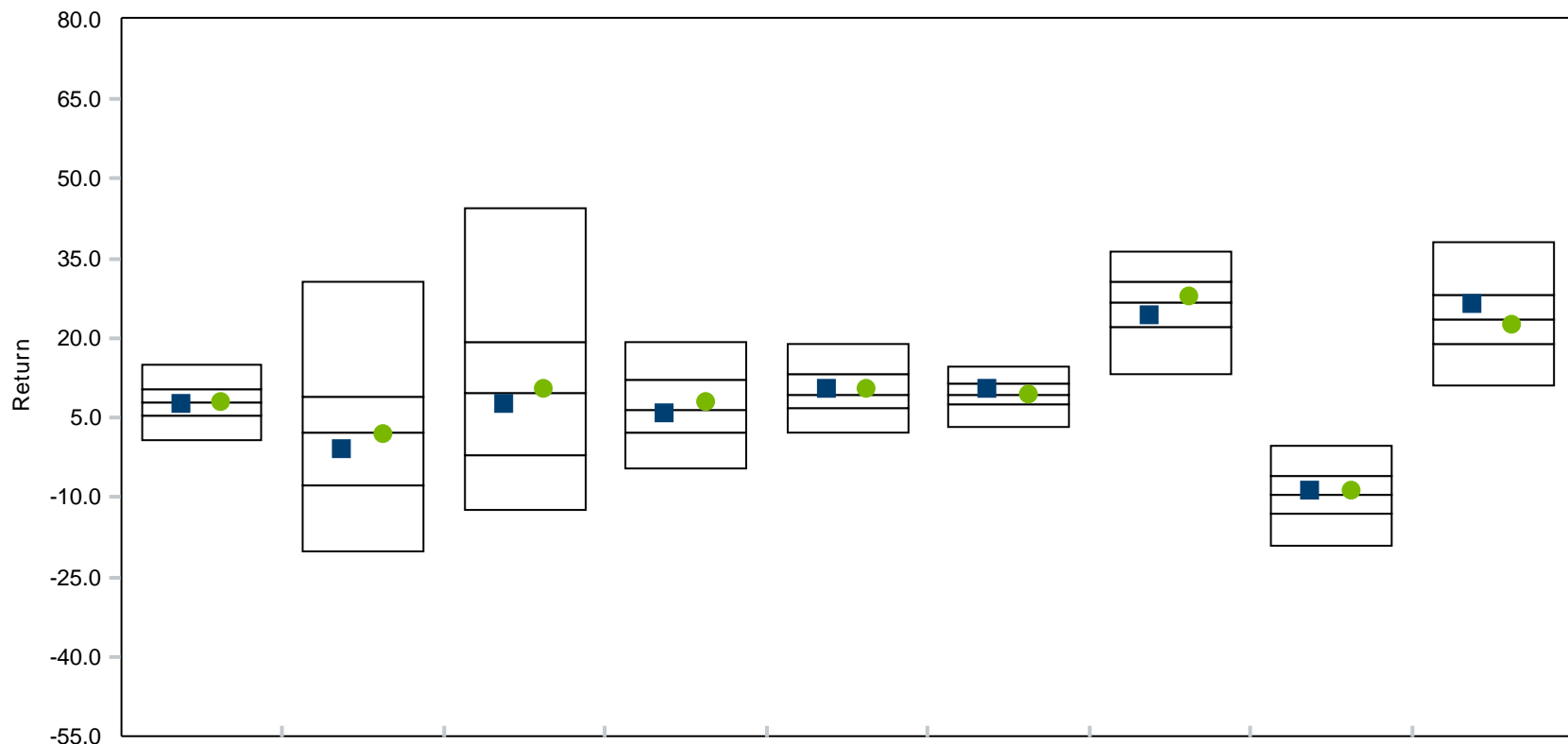


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

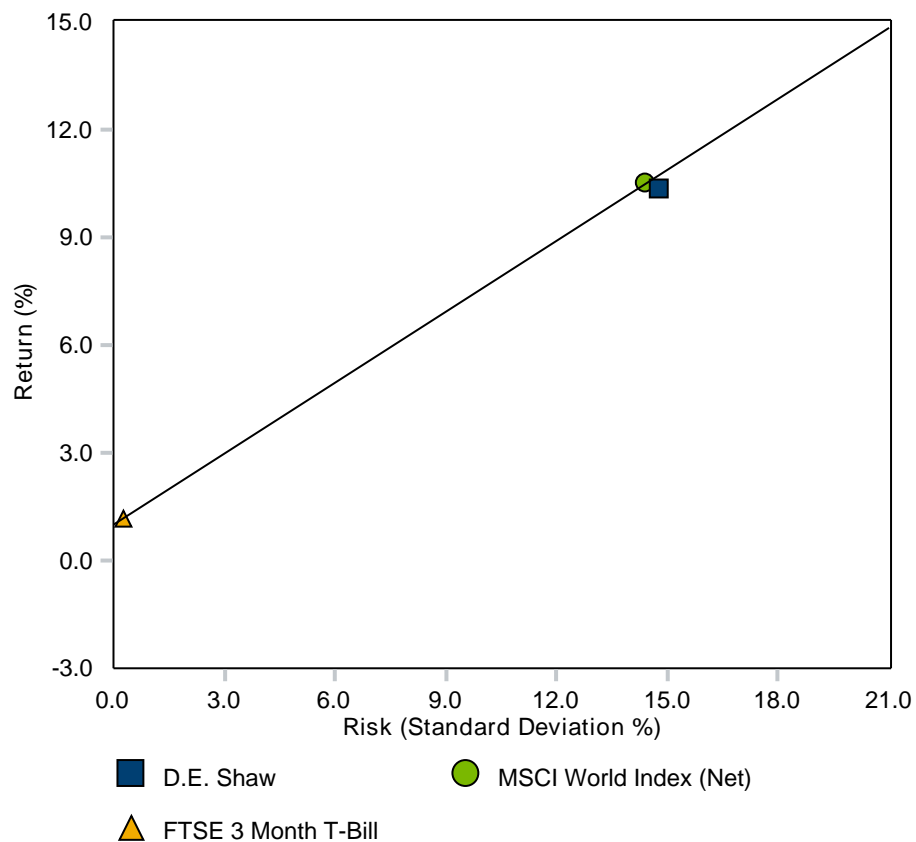


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ D.E. Shaw	7.4 (57)	-0.9 (58)	7.6 (57)	5.9 (54)	10.3 (41)	10.5 (31)	24.2 (65)	-8.6 (44)	26.2 (33)
● MSCI World Index (Net)	7.9 (52)	1.7 (51)	10.4 (49)	7.7 (40)	10.5 (39)	9.4 (46)	27.7 (44)	-8.7 (45)	22.4 (55)
5th Percentile	14.9	30.5	44.6	19.3	18.8	14.7	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	11.5	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	9.1	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	7.4	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	3.3	13.1	-19.1	11.0
Population	325	324	321	308	281	177	368	385	393

parentheses contain percentile rankings.

D.E. Shaw Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

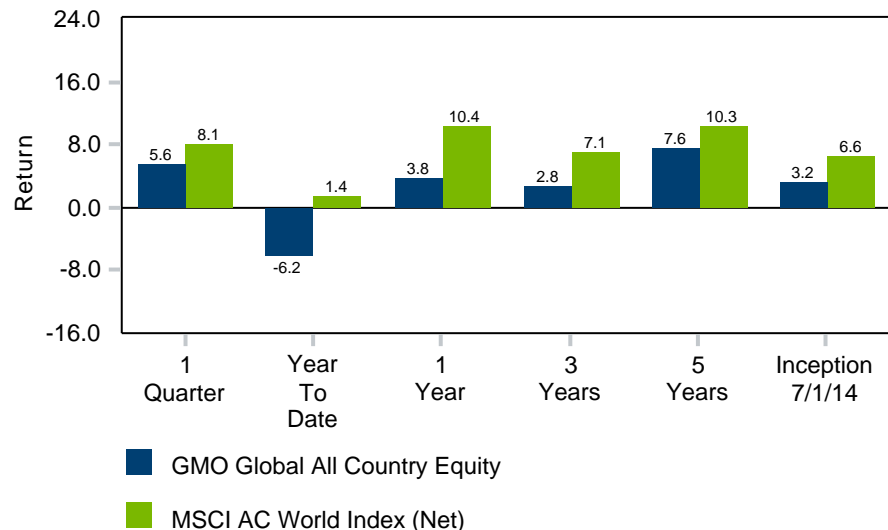
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
D.E. Shaw	-0.09	2.17	-0.04	0.98	0.66	-0.27	1.02	10.31	14.79	0.99
MSCI World Index (Net)	0.00	0.00	N/A	1.00	0.69	0.00	1.00	10.48	14.40	1.00
FTSE 3 Month T-Bill	-9.89	14.43	-0.69	0.02	N/A	1.18	0.00	1.16	0.24	-0.14

GMO Global All Country Equity Performance Summary

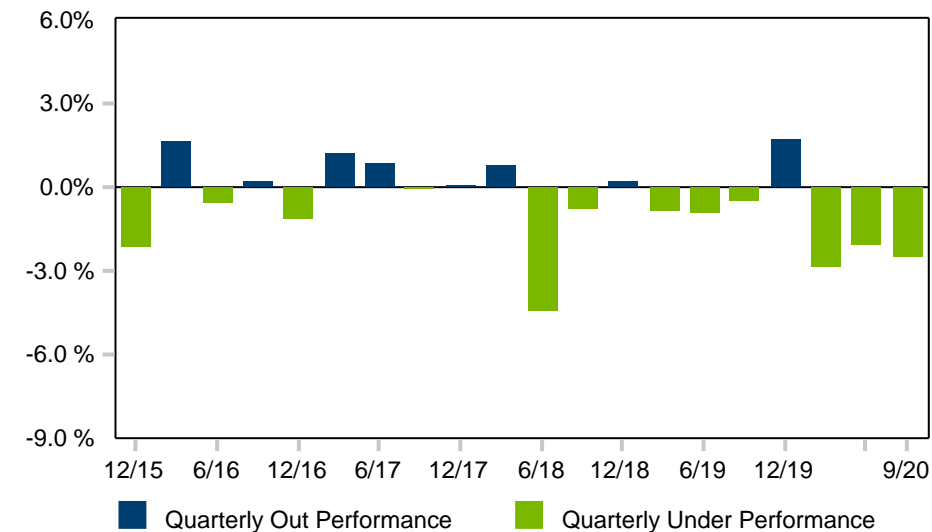
Account Information as of 09/30/20

Product Name : GMO:Global Eq All;III (GMGEX)
 Fund Family : Grantham Mayo Van Otterloo & Co LLC
 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 : \$1,470.00 Million
 Total Assets Date : 09/30/2020
 Gross Expense : 0.59%
 Net Expense : 0.58%
 Turnover : 20%

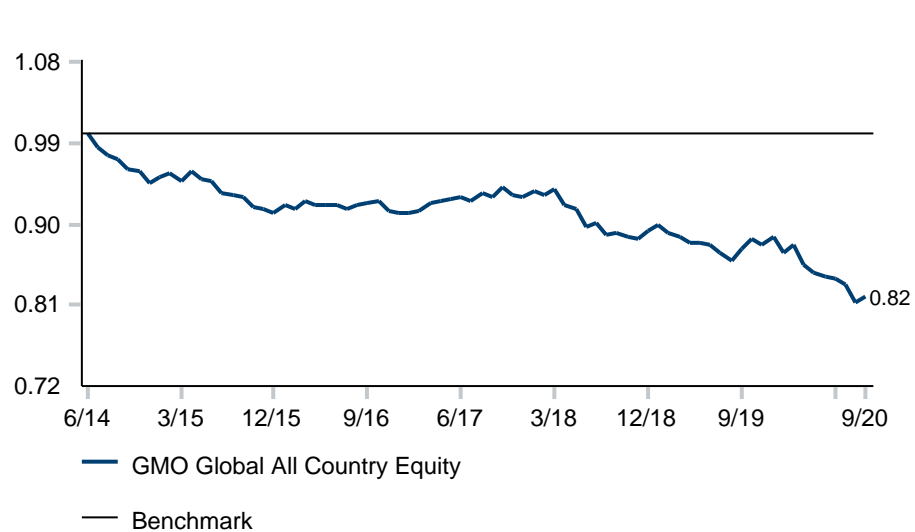
Return Summary



Quarterly Excess Performance

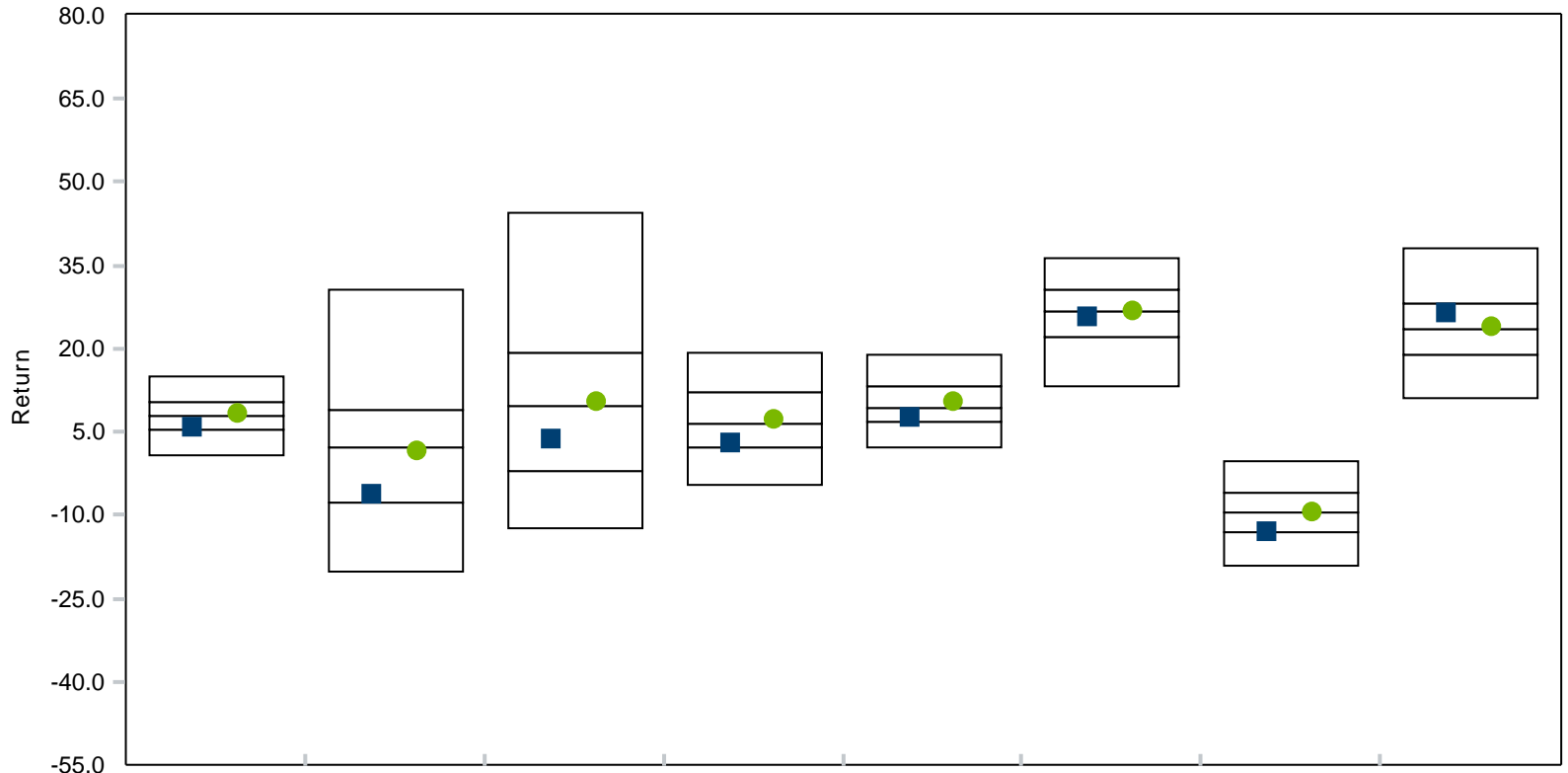


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

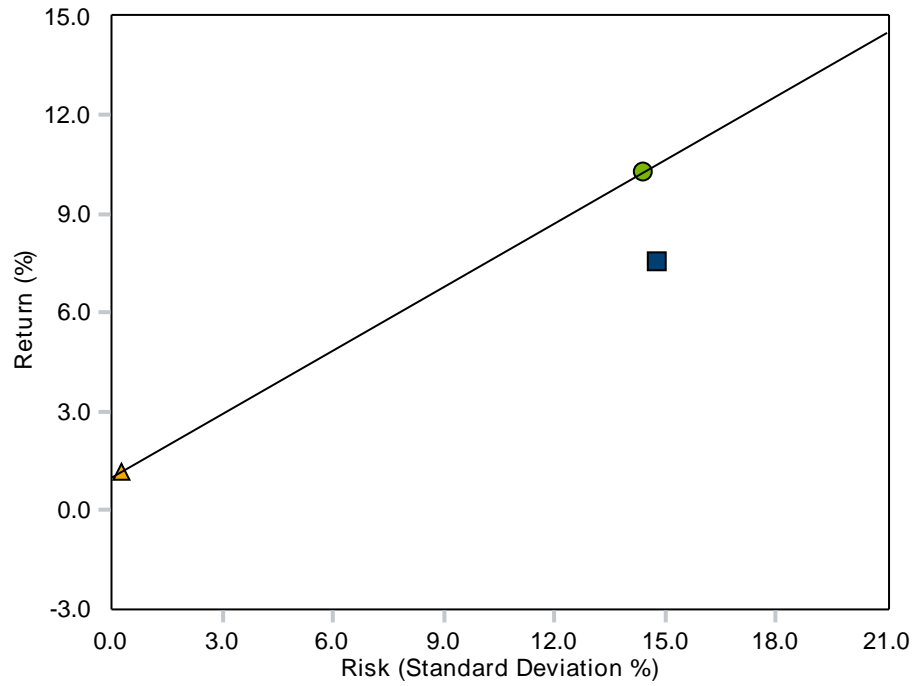


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ GMO Global All Country Equity	5.6 (72)	-6.2 (72)	3.8 (65)	2.8 (72)	7.6 (68)	25.8 (56)	-13.1 (76)	26.4 (33)
● MSCI AC World Index (Net)	8.1 (49)	1.4 (52)	10.4 (49)	7.1 (47)	10.3 (41)	26.6 (51)	-9.4 (49)	24.0 (47)
5th Percentile	14.9	30.5	44.6	19.3	18.8	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	13.1	-19.1	11.0
Population	325	324	321	308	281	368	385	393

1911
 Parentheses contain percentile rankings.

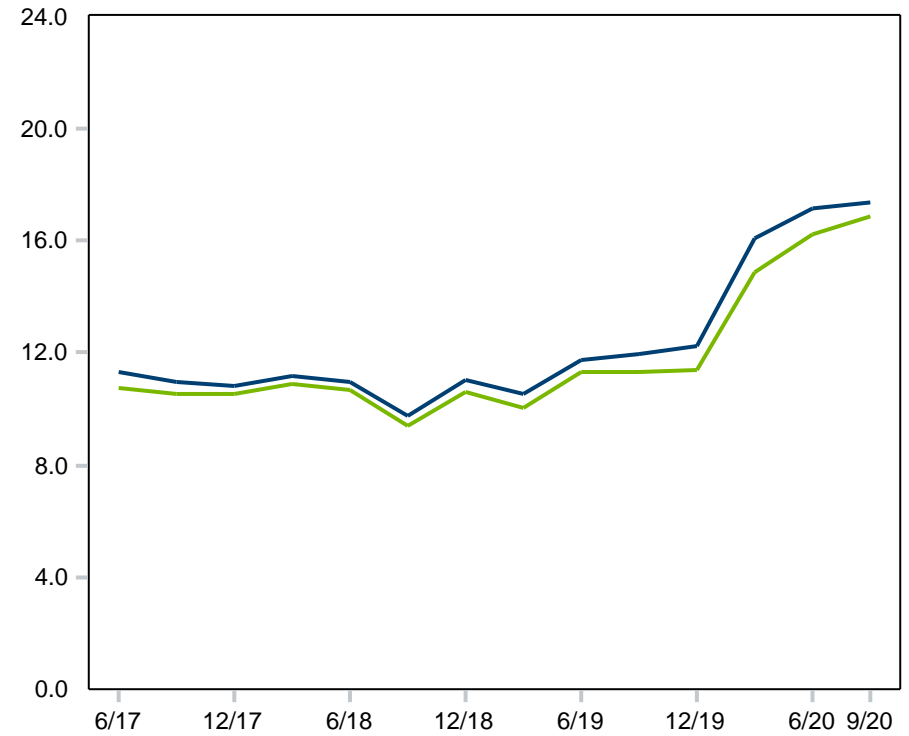
GMO Global All Country Equity Risk Profile

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

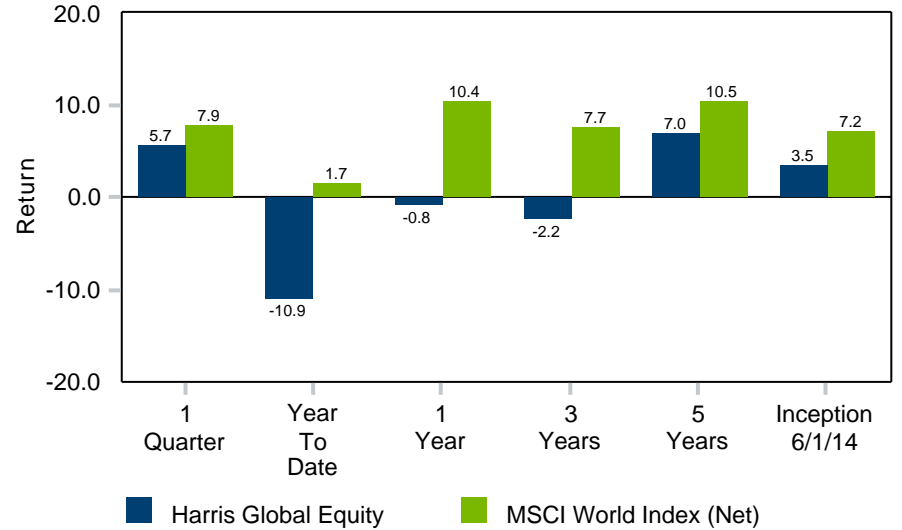
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
GMO Global All Country Equity	-2.48	3.23	-0.77	0.95	0.49	-2.45	1.00	7.55	14.77	0.98
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.67	0.00	1.00	10.30	14.42	1.00
FTSE 3 Month T-Bill	-9.73	14.46	-0.67	0.02	N/A	1.18	0.00	1.16	0.24	-0.15

Harris Global Equity Performance Summary

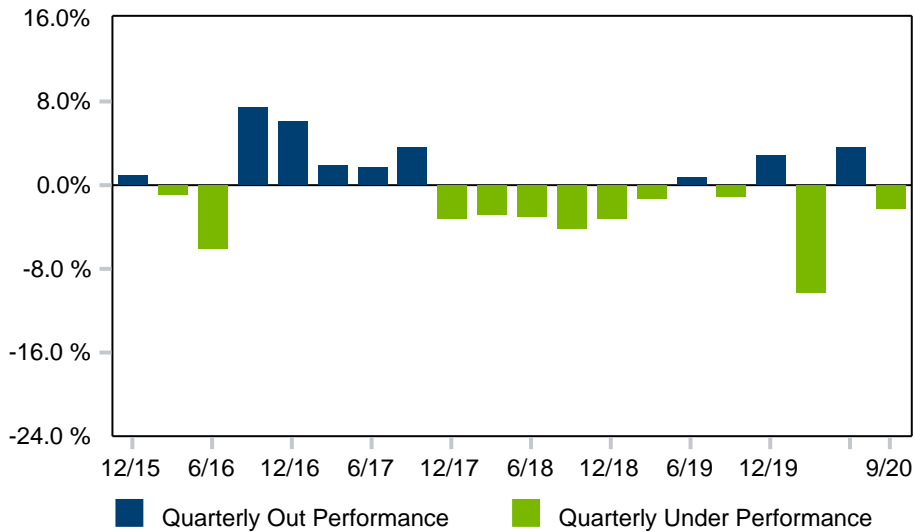
Account Information

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)

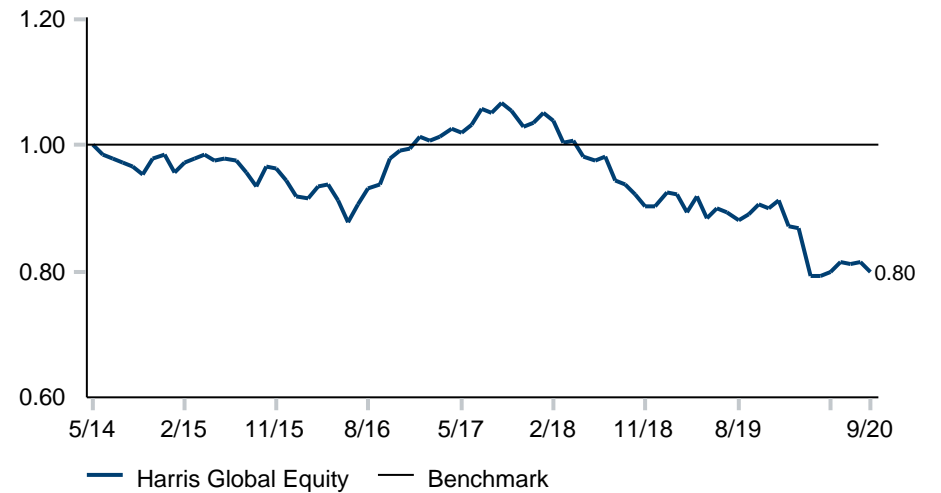
Return Summary



Quarterly Excess Performance

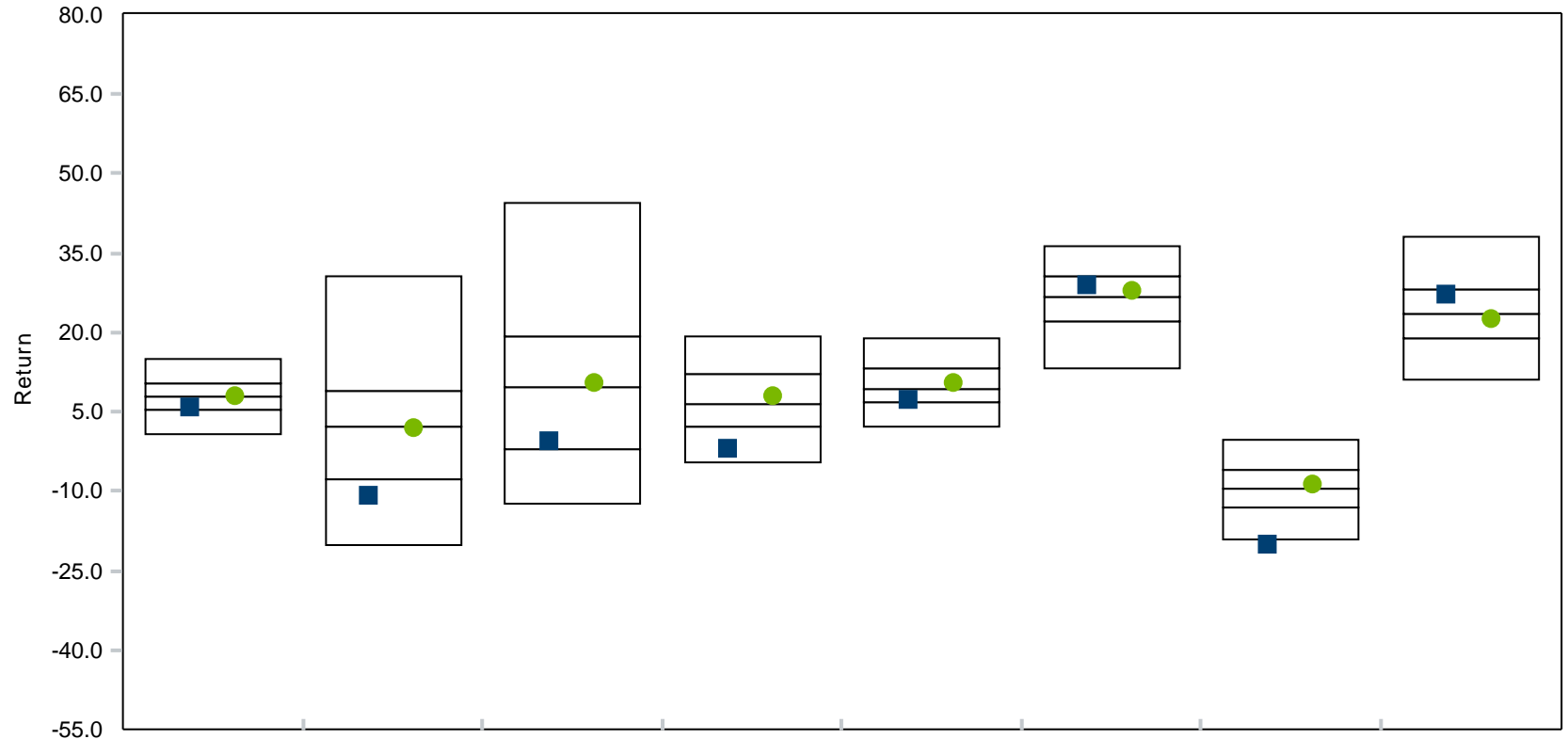


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

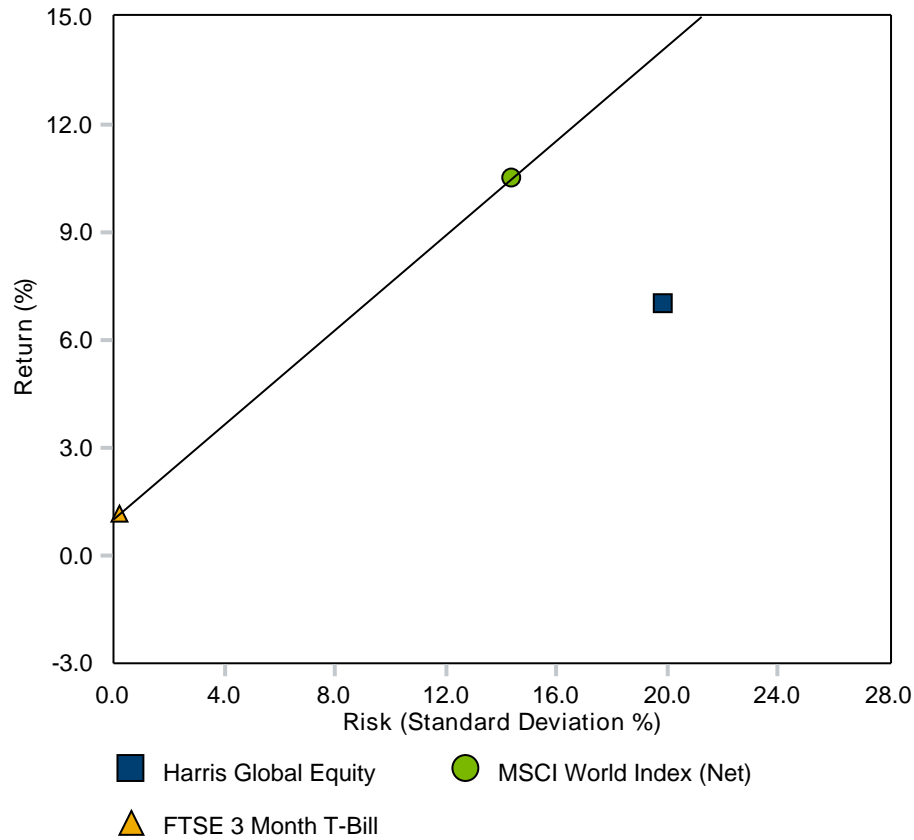


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ Harris Global Equity	5.7 (71)	-10.9 (83)	-0.8 (72)	-2.2 (89)	7.0 (73)	28.9 (37)	-20.4 (97)	27.2 (29)
● MSCI World Index (Net)	7.9 (52)	1.7 (51)	10.4 (49)	7.7 (40)	10.5 (39)	27.7 (44)	-8.7 (45)	22.4 (55)
5th Percentile	14.9	30.5	44.6	19.3	18.8	36.3	-0.2	38.0
1st Quartile	10.4	9.0	19.4	12.3	13.1	30.6	-6.0	28.0
Median	8.0	2.2	9.8	6.3	9.3	26.6	-9.5	23.5
3rd Quartile	5.3	-7.7	-2.2	2.2	6.7	22.1	-13.1	19.0
95th Percentile	0.6	-20.2	-12.4	-4.5	2.4	13.1	-19.1	11.0
Population	325	324	321	308	281	368	385	393

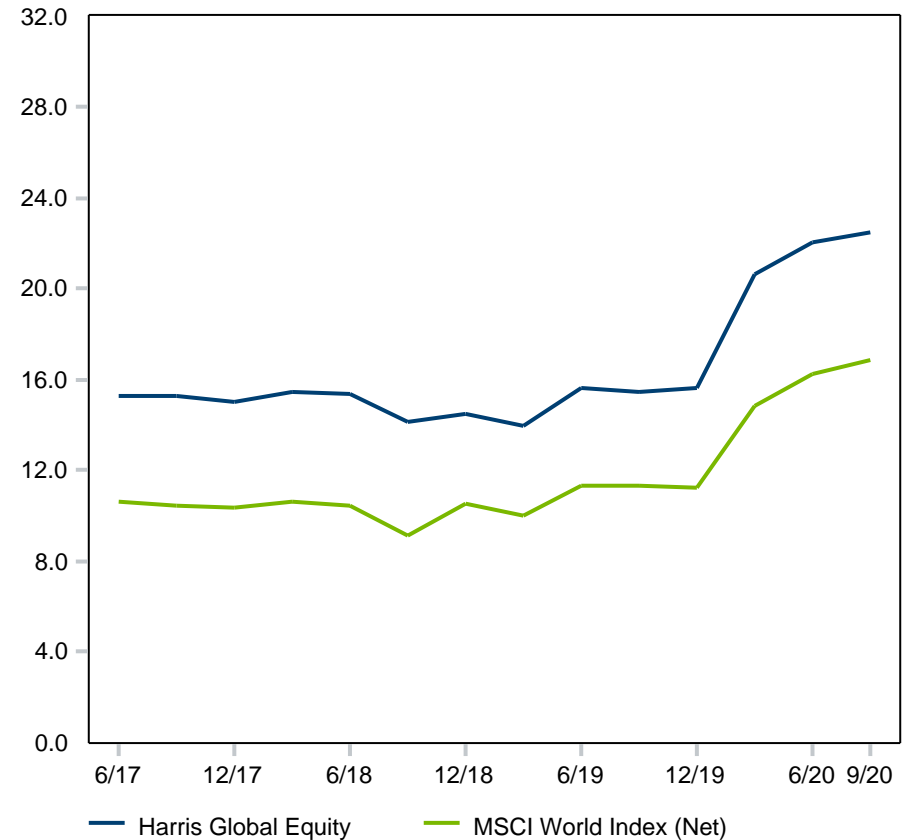
parentheses contain percentile rankings.

Harris Global Equity Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Harris Global Equity	-2.23	7.76	-0.29	0.90	0.39	-5.46	1.31	7.02	19.85	0.95
MSCI World Index (Net)	0.00	0.00	N/A	1.00	0.69	0.00	1.00	10.48	14.40	1.00
FTSE 3 Month T-Bill	-9.89	14.43	-0.69	0.02	N/A	1.18	0.00	1.16	0.24	-0.14

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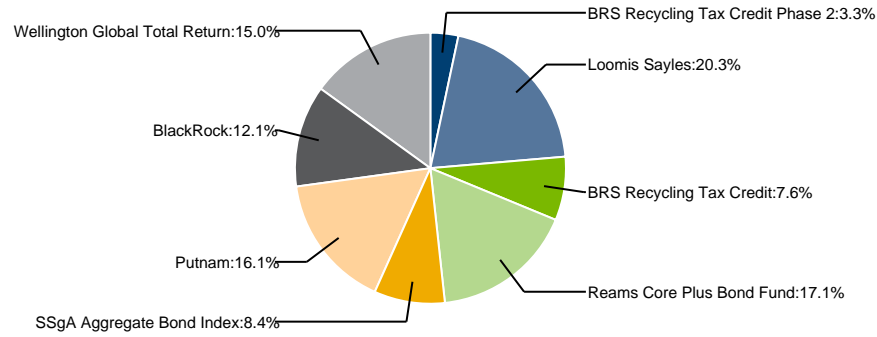


Fixed Income

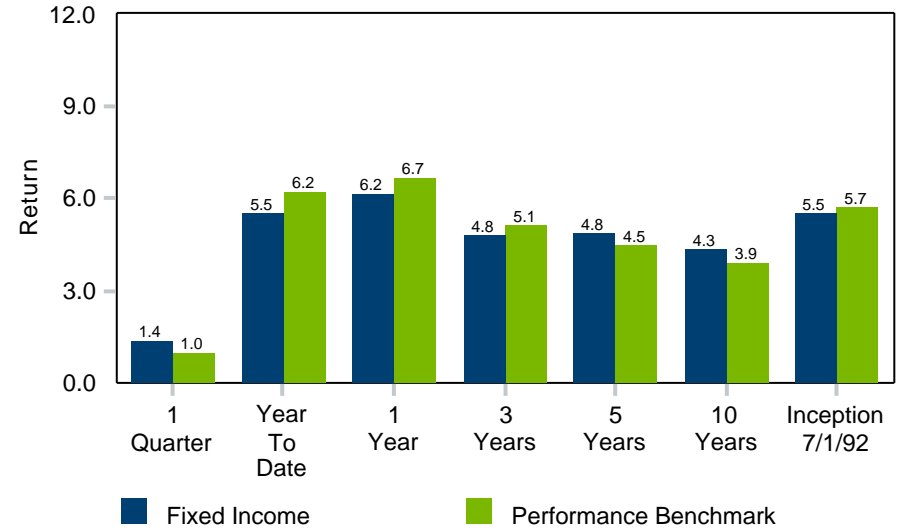
Fixed Income Portfolio Overview

Current Allocation

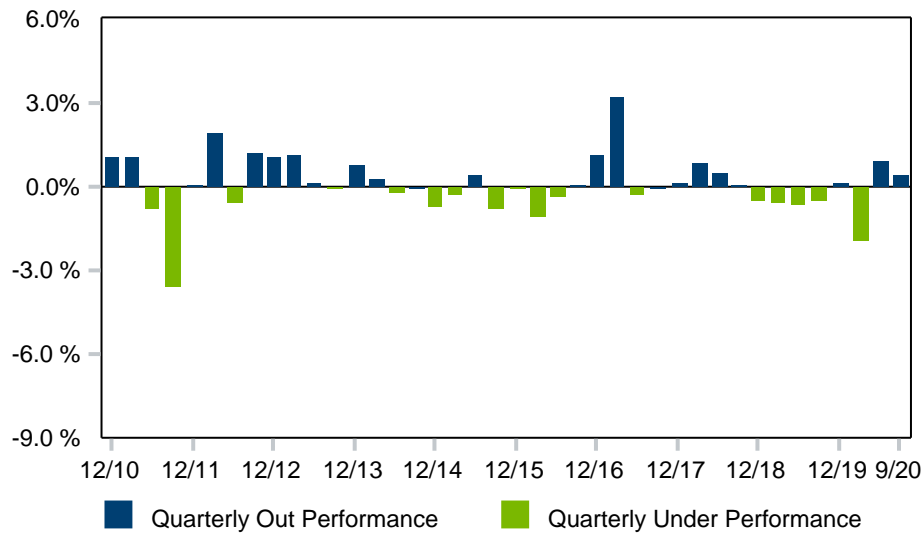
September 30, 2020 : \$2,320M



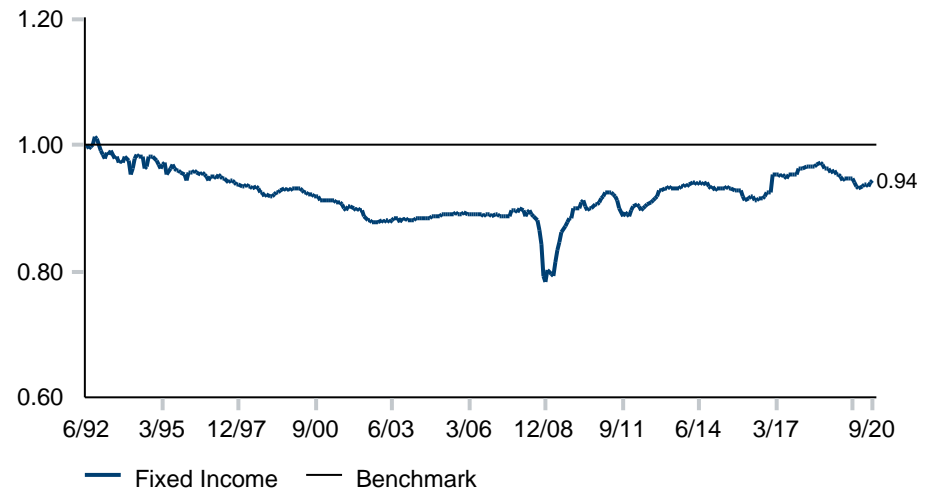
Return Summary



Quarterly Excess Performance

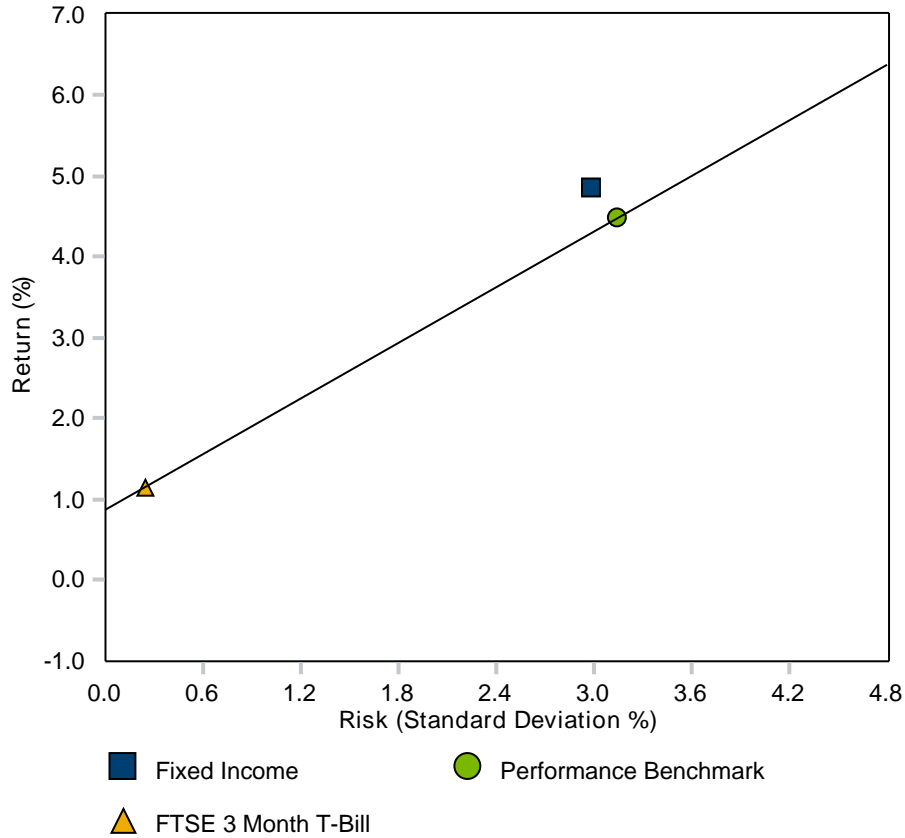


Ratio of Cumulative Wealth - Since Inception

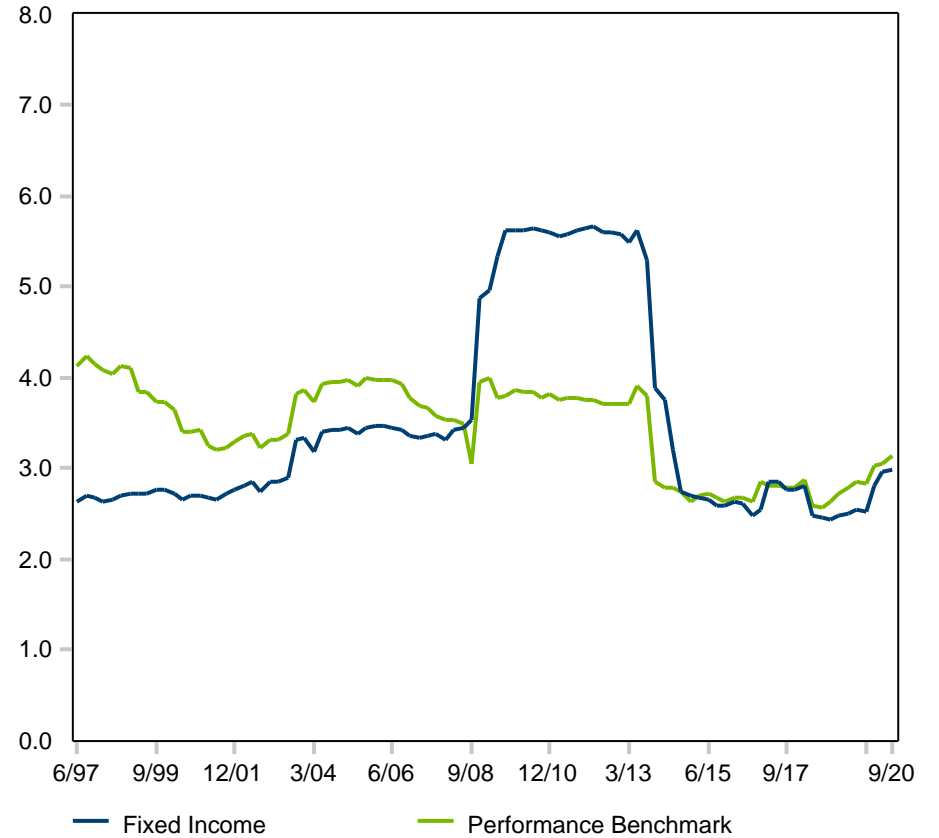


Fixed Income Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation

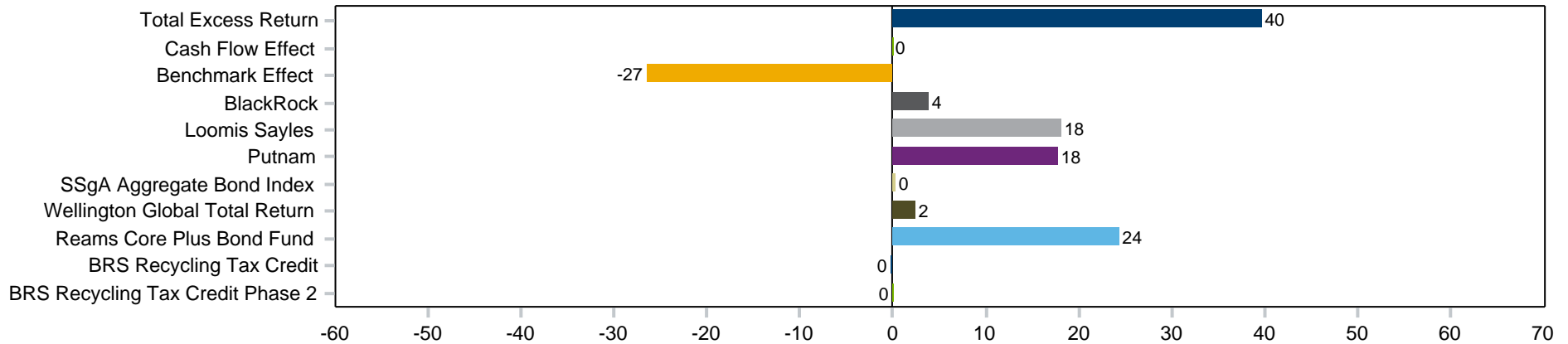


5 Years Historical Statistics

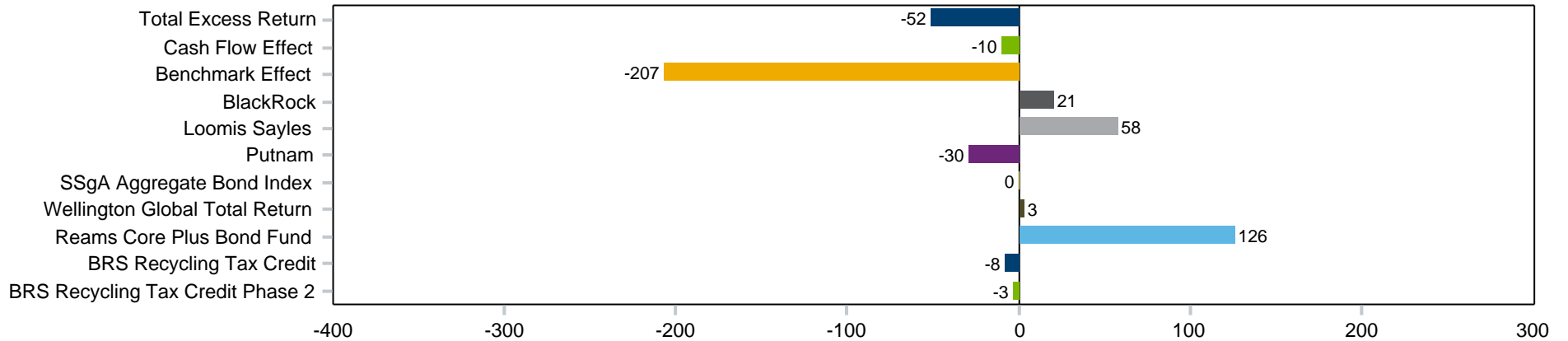
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Fixed Income	0.33	1.83	0.18	0.68	1.21	1.32	0.78	4.84	2.98	0.82
Performance Benchmark	0.00	0.00	N/A	1.00	1.05	0.00	1.00	4.49	3.15	1.00
FTSE 3 Month T-Bill	-3.30	3.12	-1.05	0.02	N/A	1.11	0.01	1.16	0.24	0.13

Asset Class Attribution

1 Quarter



1 Year



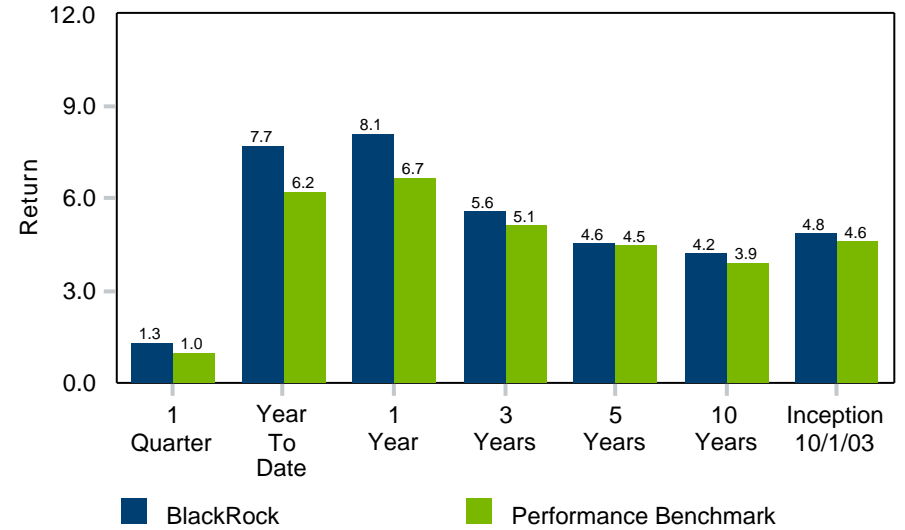
*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance 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

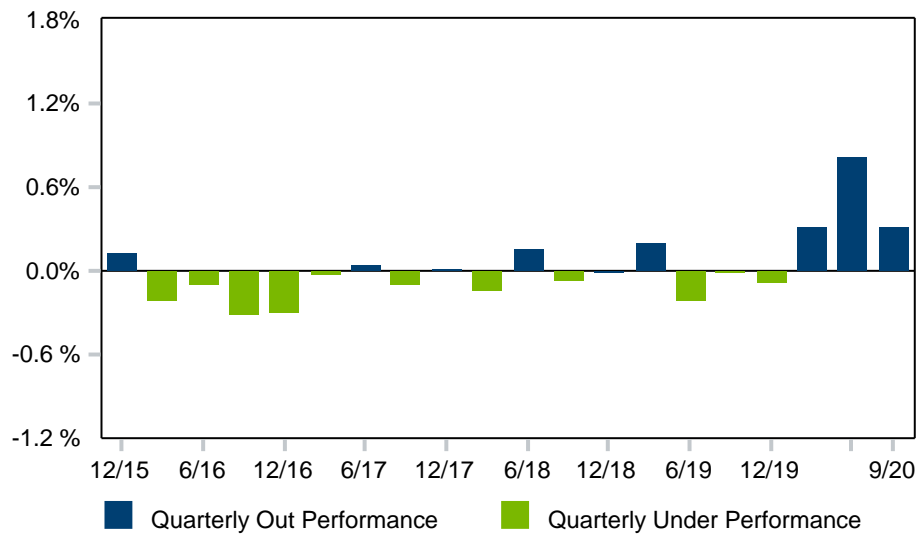
Account Information

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)

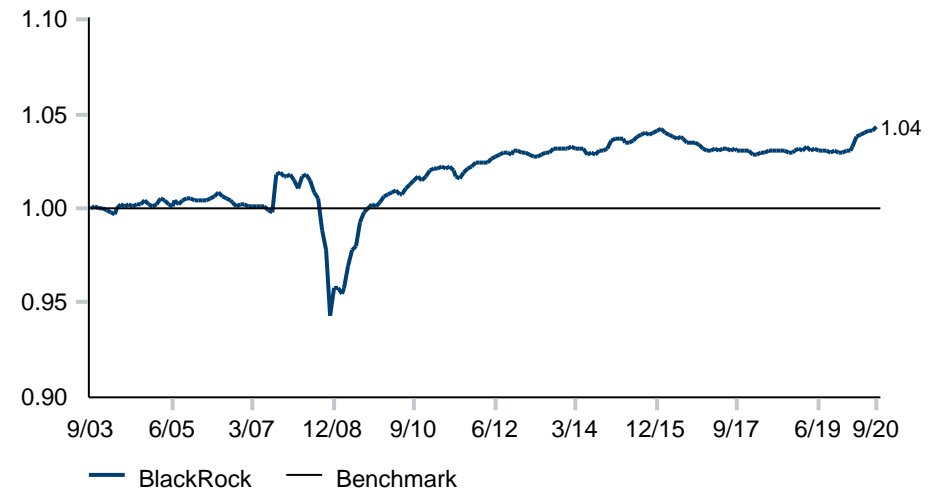
Return Summary



Quarterly Excess Performance

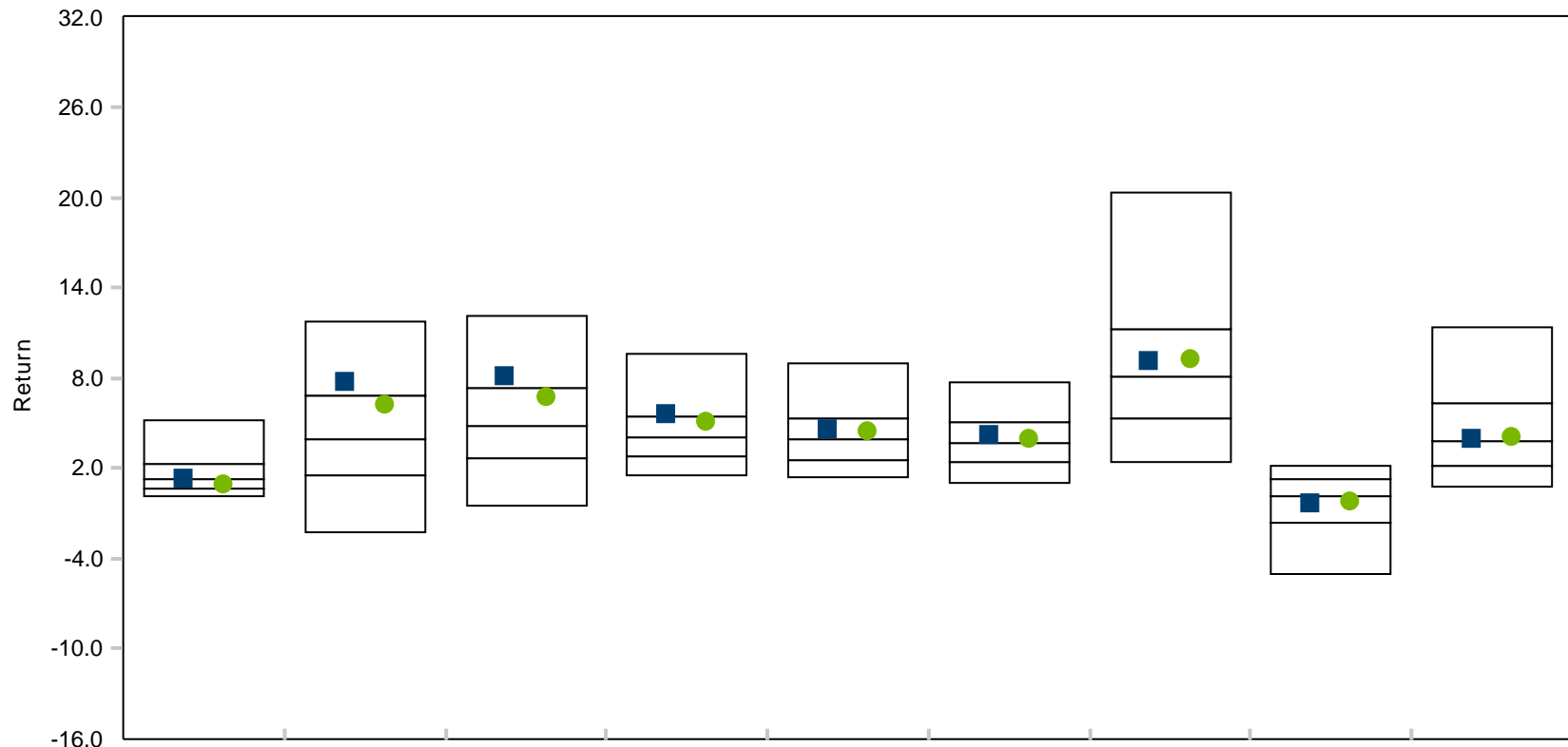


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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



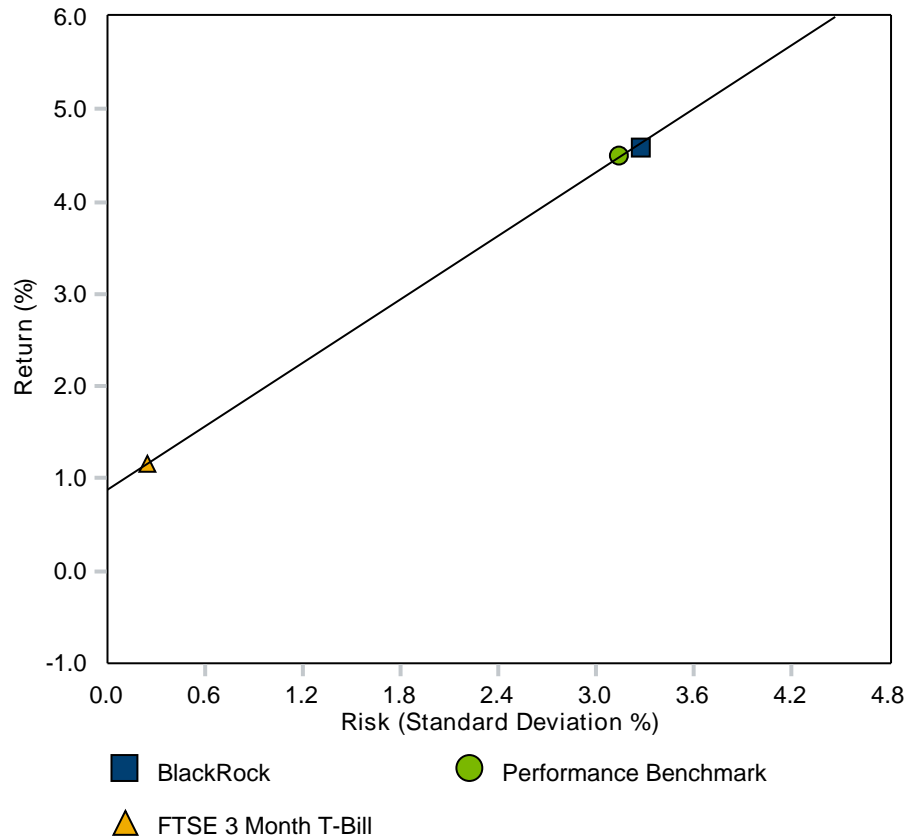
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ BlackRock	1.3 (50)	7.7 (17)	8.1 (17)	5.6 (23)	4.6 (38)	4.2 (40)	9.2 (39)	-0.3 (59)	4.0 (48)
● Performance Benchmark	1.0 (60)	6.2 (33)	6.7 (33)	5.1 (32)	4.5 (40)	3.9 (47)	9.3 (38)	-0.3 (58)	4.1 (47)
5th Percentile	5.2	11.8	12.1	9.6	9.0	7.7	20.3	2.2	11.4
1st Quartile	2.4	6.8	7.3	5.4	5.3	5.1	11.2	1.3	6.3
Median	1.3	4.0	4.8	4.1	4.0	3.8	8.2	0.1	3.8
3rd Quartile	0.6	1.5	2.7	2.8	2.6	2.4	5.3	-1.6	2.2
95th Percentile	0.1	-2.2	-0.5	1.6	1.4	1.0	2.4	-5.0	0.8
Population	795	792	773	751	717	604	978	1,033	1,063

Parenteses contain percentile rankings.

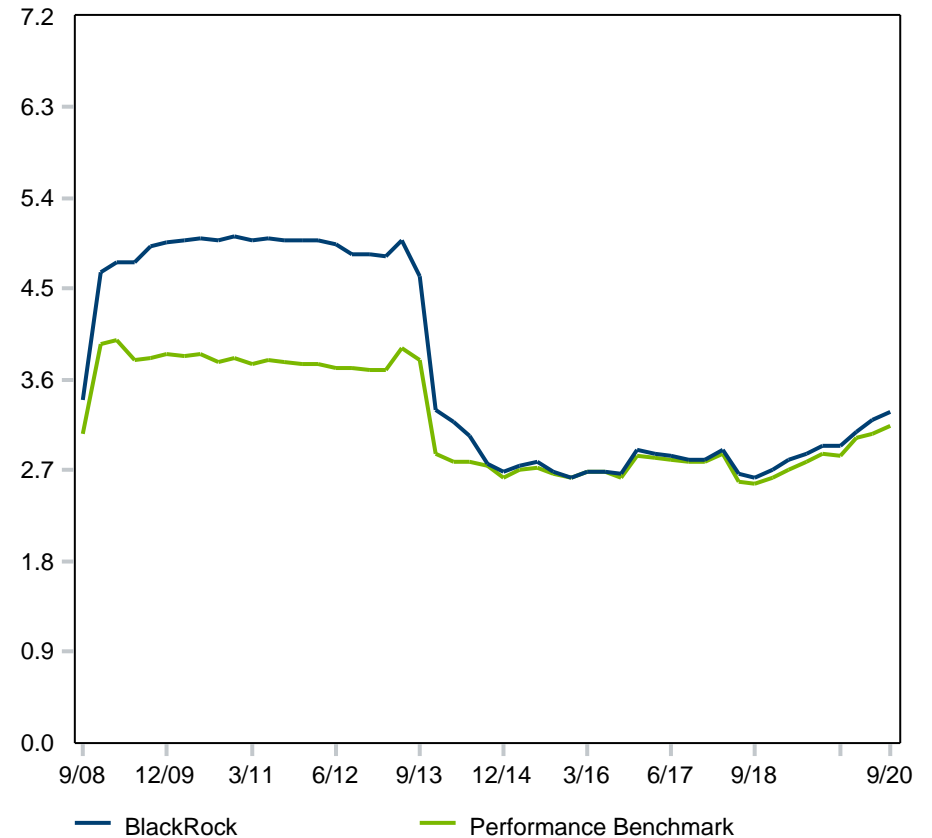
2020

BlackRock Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

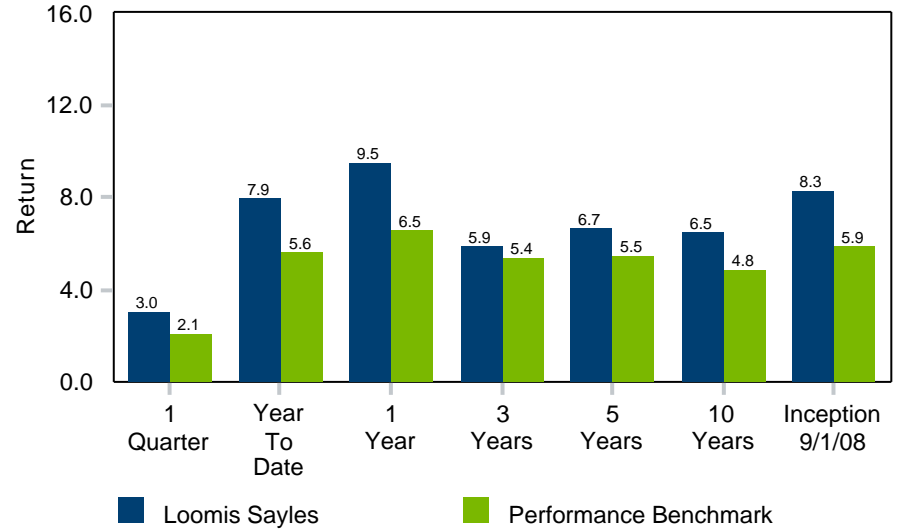
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock	0.08	0.42	0.20	0.98	1.04	-0.07	1.03	4.57	3.28	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	1.05	0.00	1.00	4.49	3.15	1.00
FTSE 3 Month T-Bill	-3.30	3.12	-1.05	0.02	N/A	1.11	0.01	1.16	0.24	0.13

Loomis Sayles Performance Summary

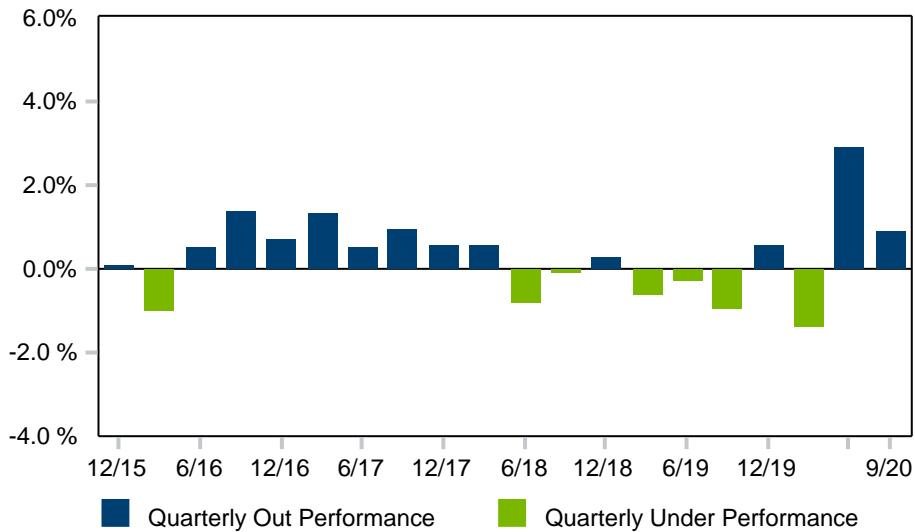
Account Information

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)

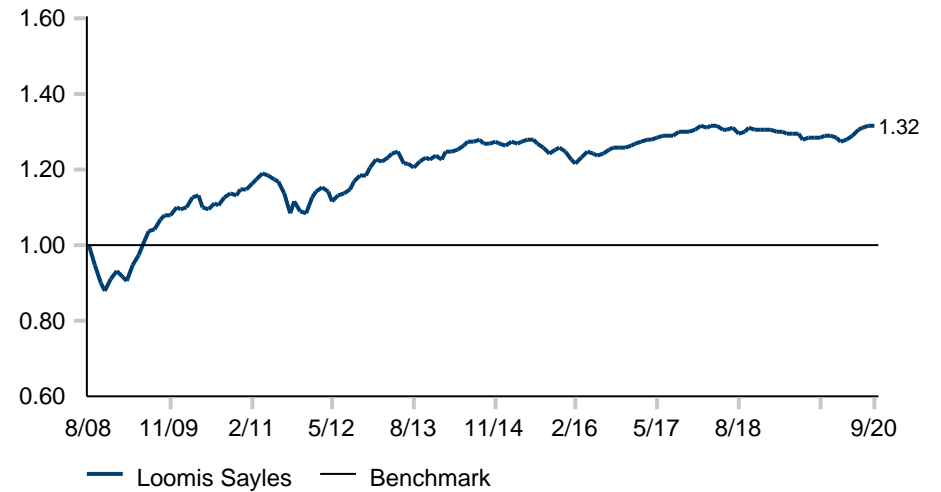
Return Summary



Quarterly Excess Performance

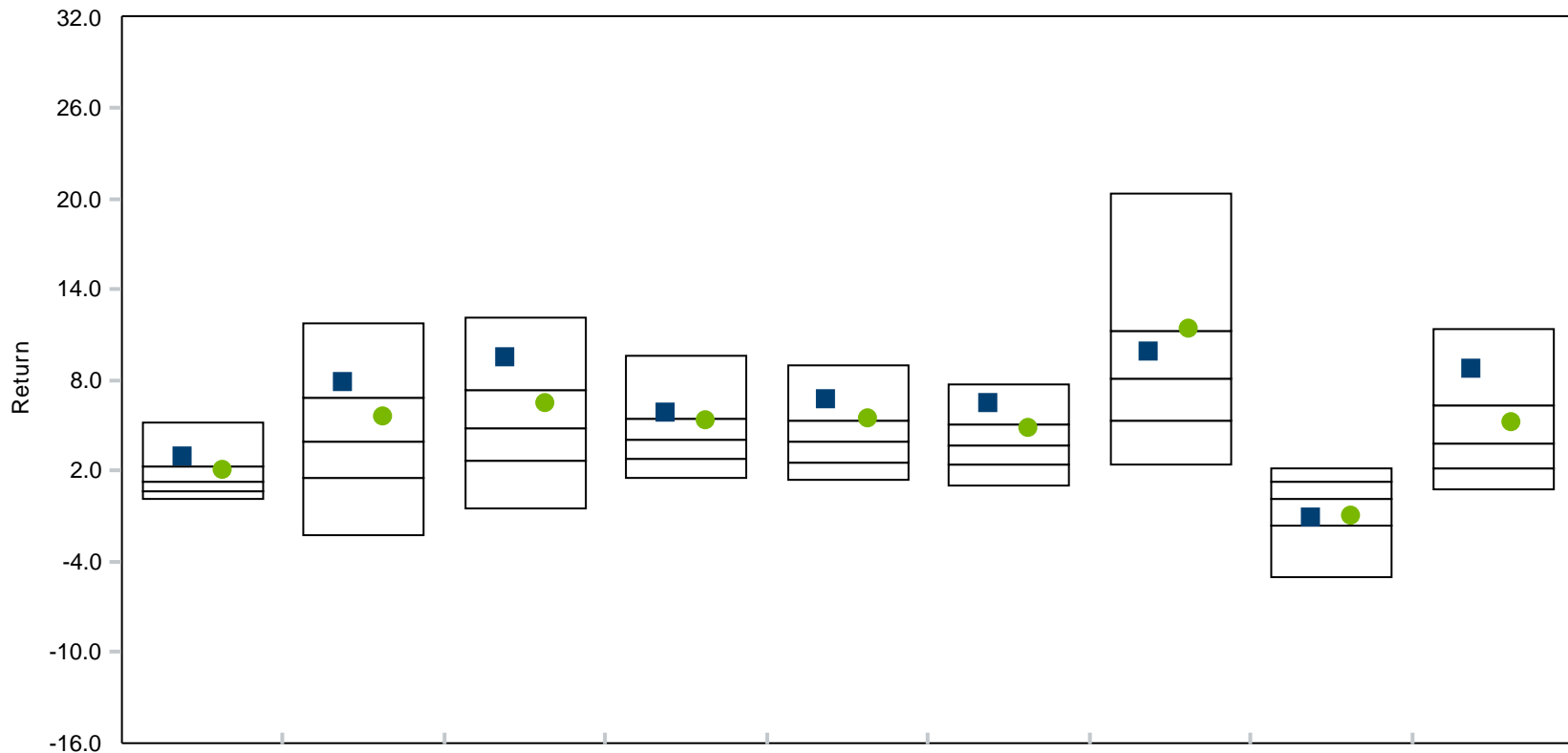


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

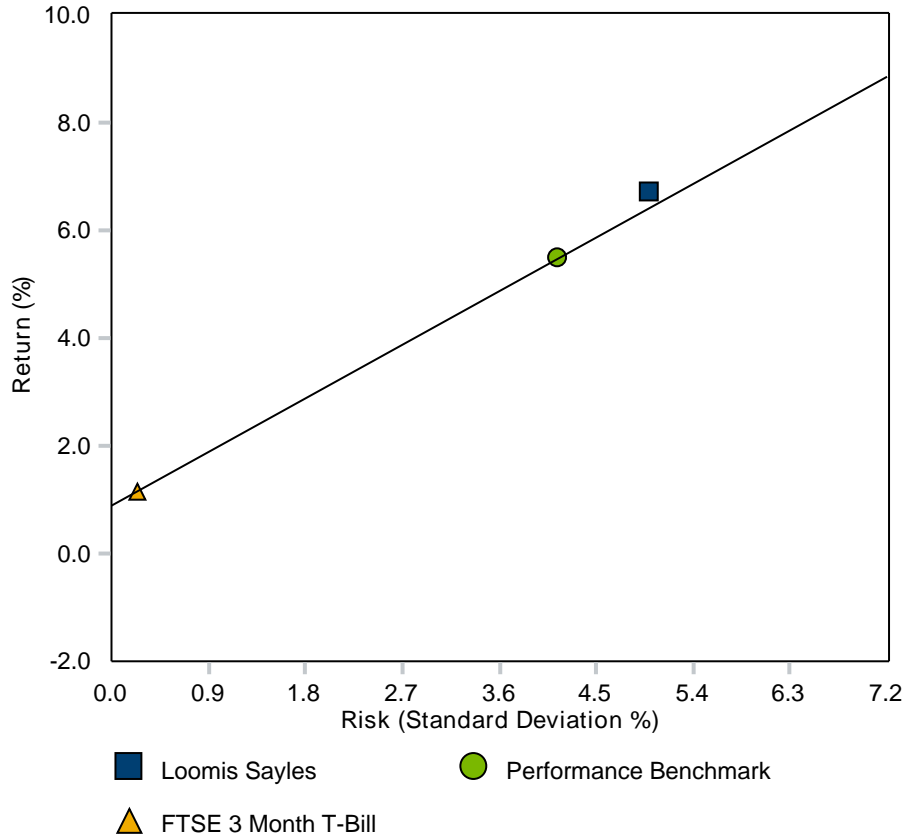


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Loomis Sayles	3.0 (21)	7.9 (15)	9.5 (10)	5.9 (17)	6.7 (10)	6.5 (11)	10.0 (31)	-1.1 (71)	8.8 (10)
● Performance Benchmark	2.1 (29)	5.6 (40)	6.5 (34)	5.4 (27)	5.5 (24)	4.8 (28)	11.4 (25)	-1.0 (69)	5.2 (33)
5th Percentile	5.2	11.8	12.1	9.6	9.0	7.7	20.3	2.2	11.4
1st Quartile	2.4	6.8	7.3	5.4	5.3	5.1	11.2	1.3	6.3
Median	1.3	4.0	4.8	4.1	4.0	3.8	8.2	0.1	3.8
3rd Quartile	0.6	1.5	2.7	2.8	2.6	2.4	5.3	-1.6	2.2
95th Percentile	0.1	-2.2	-0.5	1.6	1.4	1.0	2.4	-5.0	0.8
Population	795	792	773	751	717	604	978	1,033	1,063

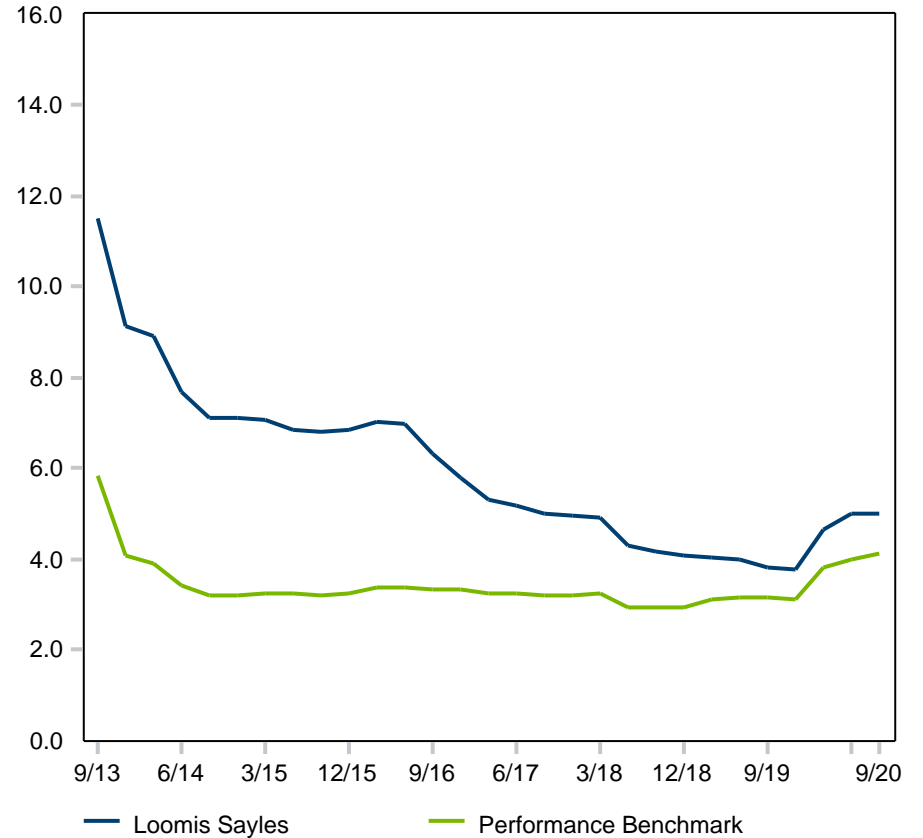
Parenteses contain percentile rankings.

Loomis Sayles Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

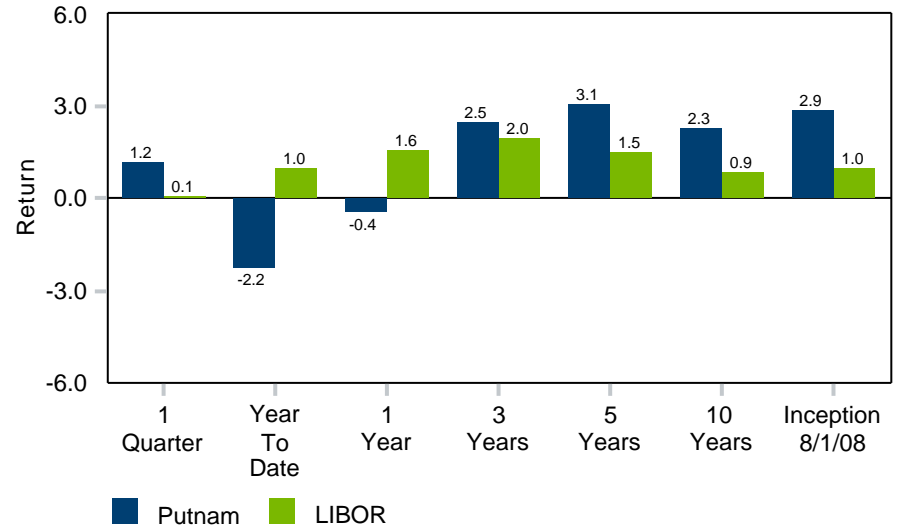
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Loomis Sayles	1.20	2.01	0.60	0.85	1.09	0.60	1.11	6.70	5.01	0.92
Performance Benchmark	0.00	0.00	N/A	1.00	1.03	0.00	1.00	5.47	4.15	1.00
FTSE 3 Month T-Bill	-4.28	4.16	-1.03	0.00	N/A	1.16	0.00	1.16	0.24	0.00

Putnam Performance Summary

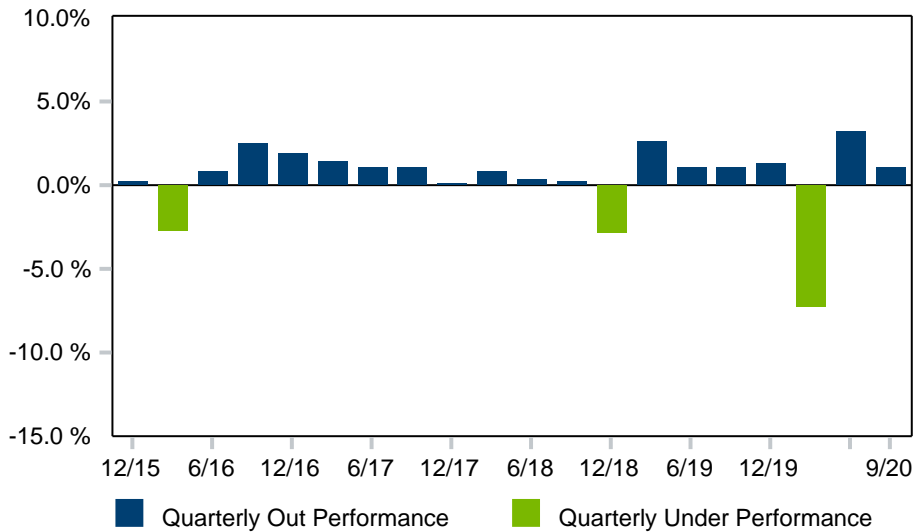
Account Information

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)

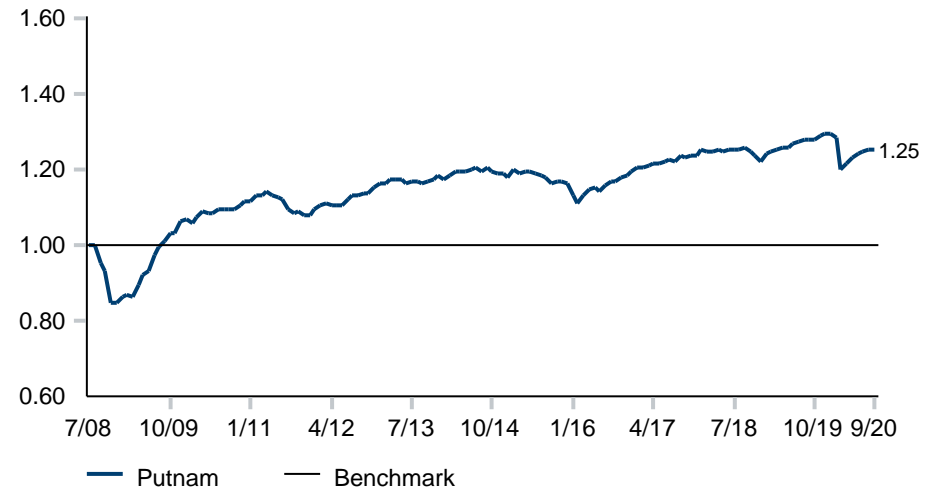
Return Summary



Quarterly Excess Performance

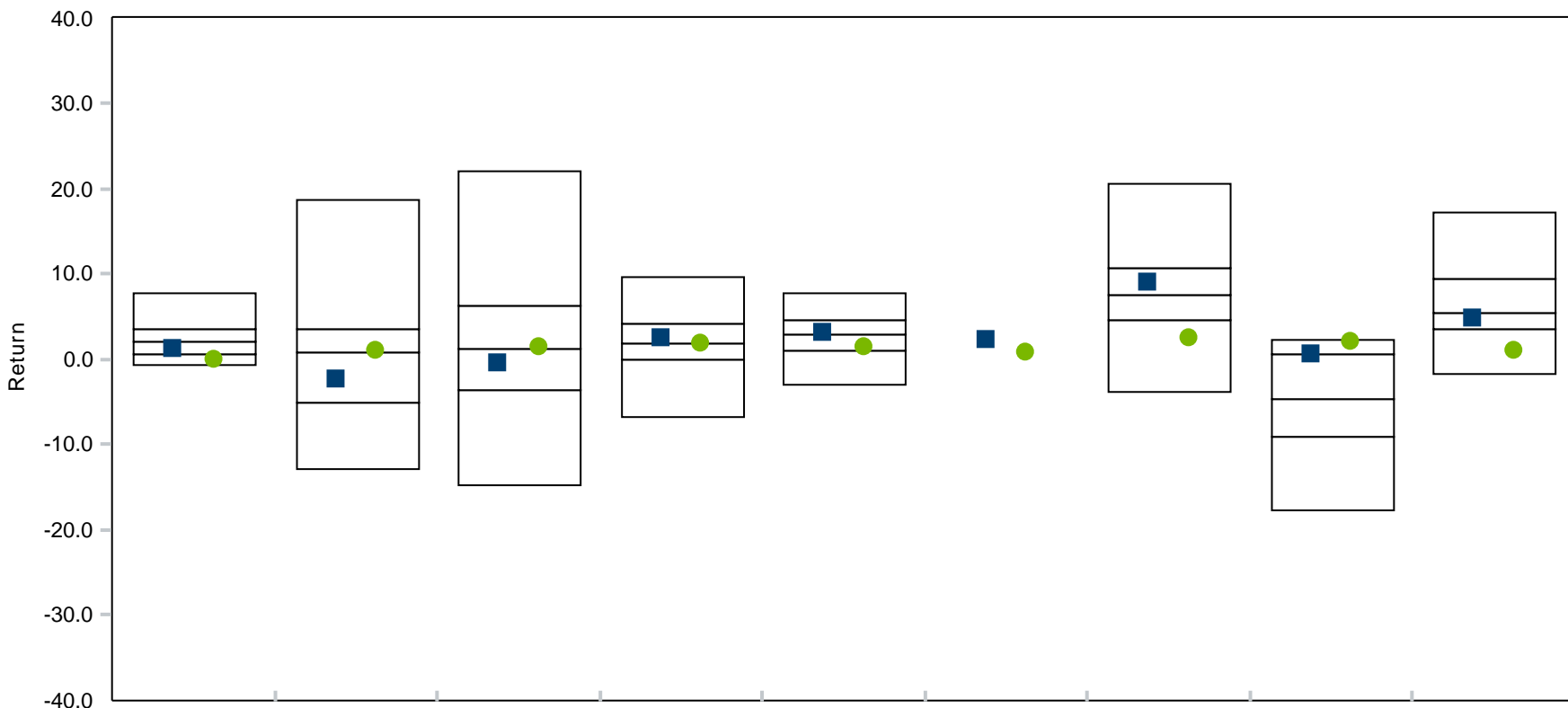


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Absolute Return (MF)

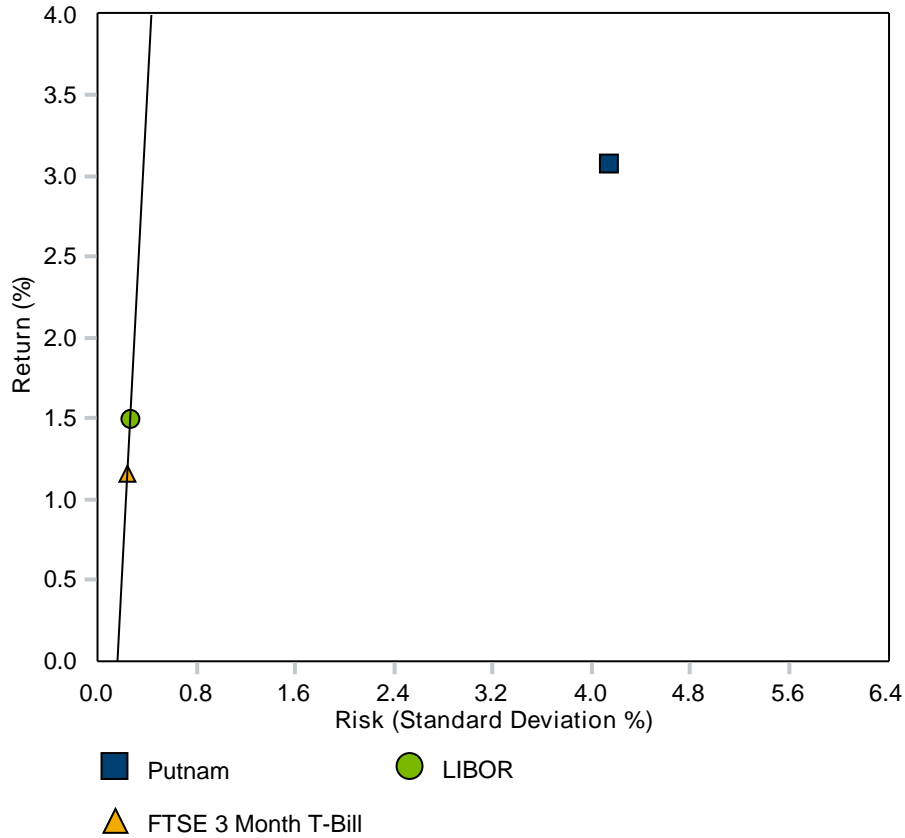


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Putnam	1.2 (68)	-2.2 (61)	-0.4 (60)	2.5 (43)	3.1 (48)	2.3 (-)	9.0 (31)	0.7 (23)	4.9 (57)
● LIBOR	0.1 (88)	1.0 (50)	1.6 (49)	2.0 (50)	1.5 (74)	0.9 (-)	2.6 (84)	2.1 (6)	1.1 (91)
5th Percentile	7.9	18.7	22.1	9.8	7.7	-	20.7	2.4	17.2
1st Quartile	3.7	3.6	6.3	4.2	4.5	-	10.7	0.5	9.5
Median	2.2	0.9	1.2	1.9	2.9	-	7.7	-4.6	5.5
3rd Quartile	0.6	-5.1	-3.6	-0.1	1.0	-	4.6	-9.0	3.5
95th Percentile	-0.6	-12.8	-14.7	-6.8	-2.9	-	-3.8	-17.6	-1.7
Population	36	36	36	36	36	9	40	49	51

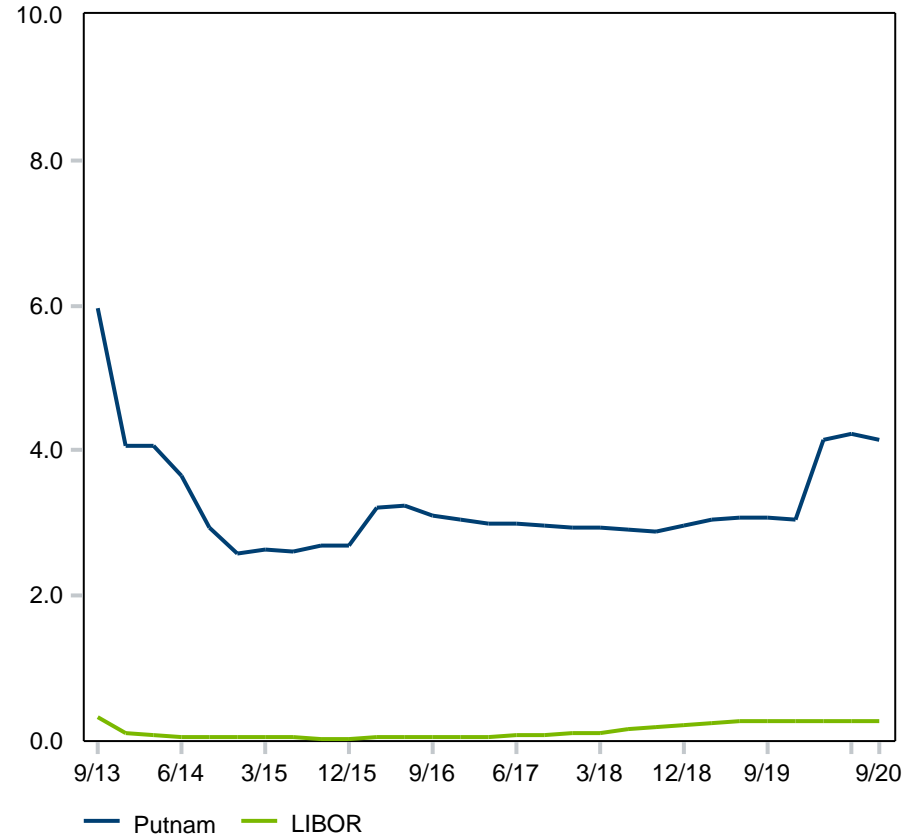
Parenteses contain percentile rankings.

Putnam Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

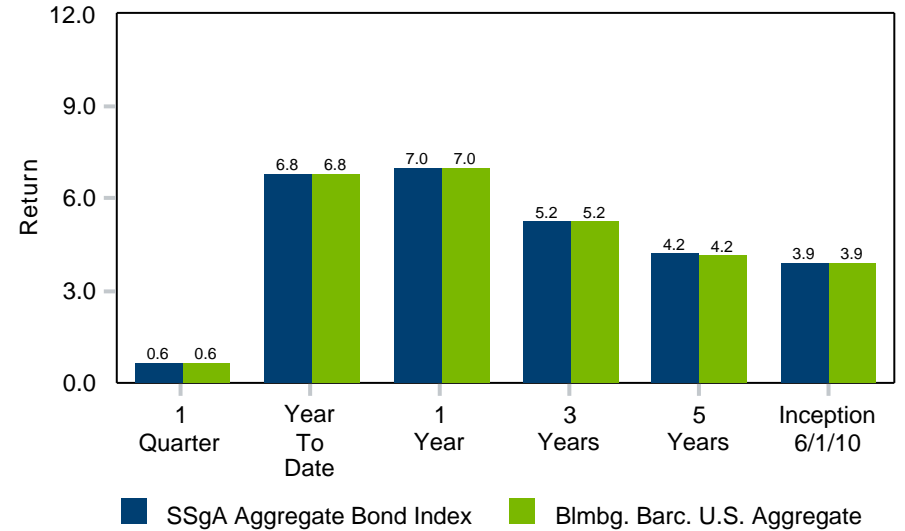
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Putnam	1.63	4.14	0.39	0.01	0.47	0.74	1.60	3.07	4.16	0.10
LIBOR	0.00	0.00	N/A	1.00	2.86	0.00	1.00	1.50	0.27	1.00
FTSE 3 Month T-Bill	-0.34	0.12	-2.86	0.80	N/A	-0.07	0.82	1.16	0.24	0.90

SSgA Aggregate Bond Index Performance Summary

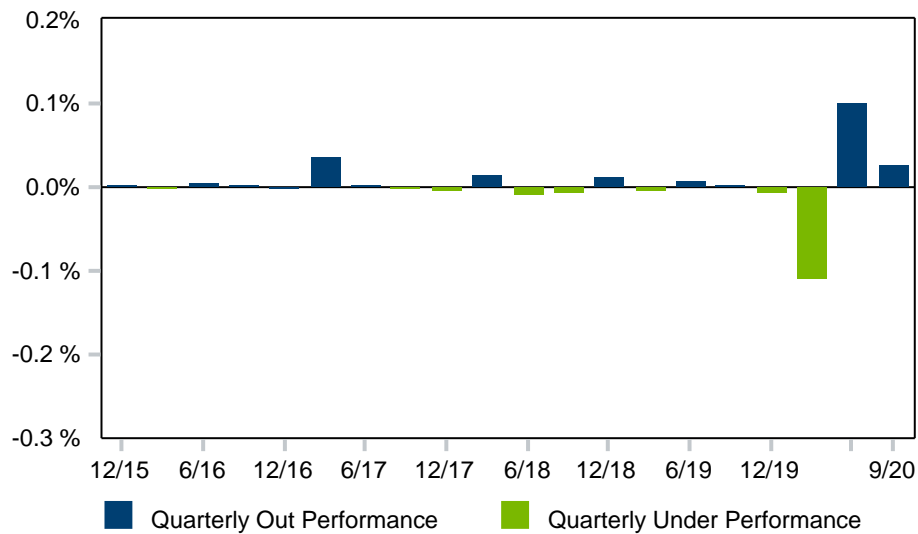
Account Information

Account Name: SSgA Aggregate Bond Index
 Inception Date: 01/01/1901
 Account Structure: Commingled Fund
 Asset Class: US Fixed Income
 Benchmark: Blmbg. Barc. U.S. Aggregate
 Peer Group: IM U.S. Fixed Income (SA+CF)

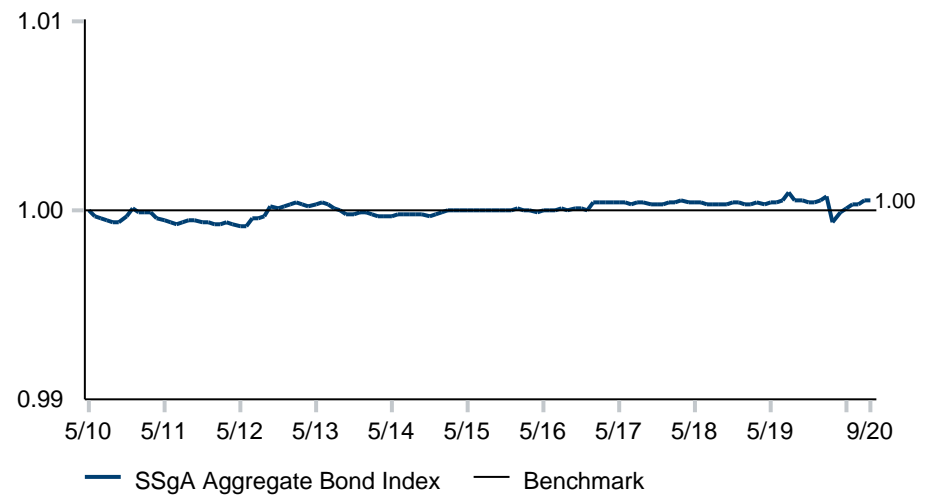
Return Summary



Quarterly Excess Performance

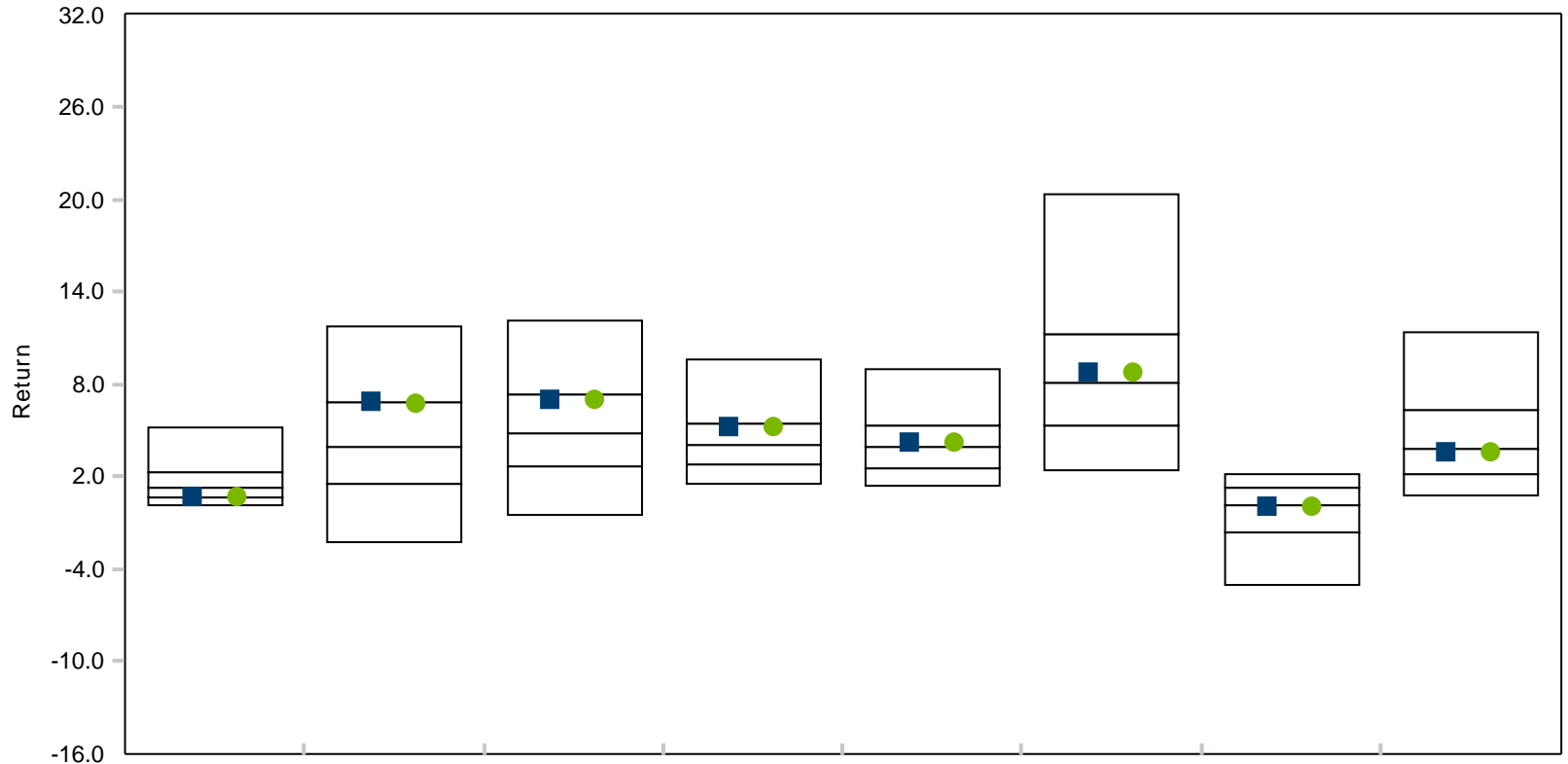


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

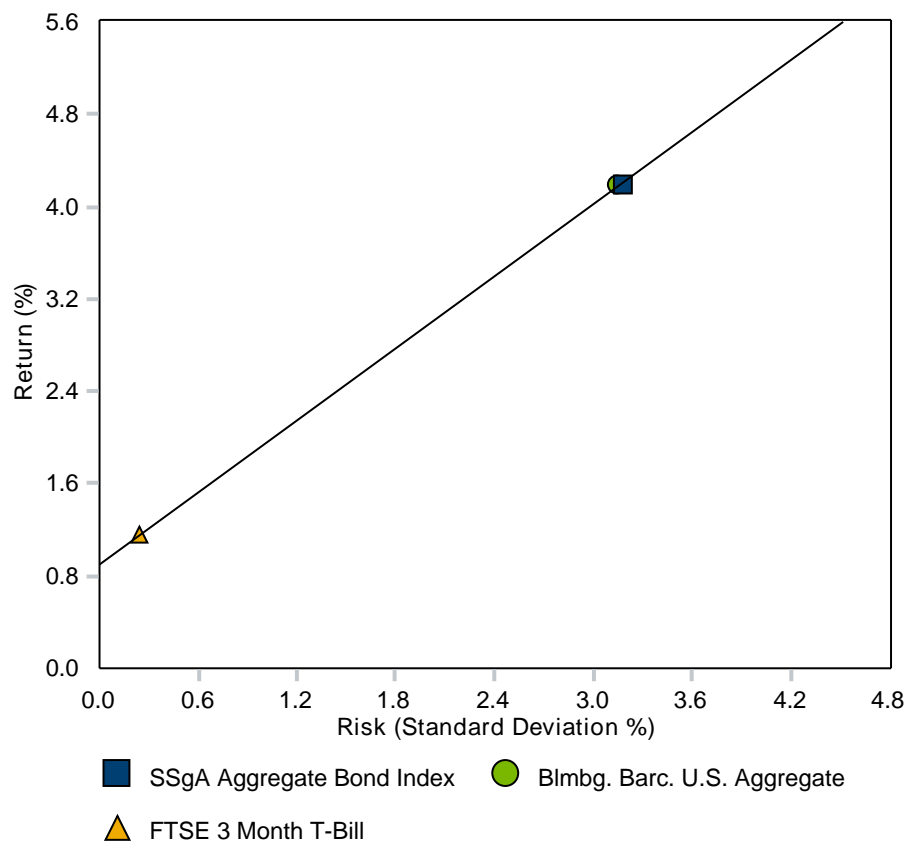


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ SSgA Aggregate Bond Index	0.6 (74)	6.8 (26)	7.0 (29)	5.2 (30)	4.2 (47)	8.7 (45)	0.0 (52)	3.6 (55)
● Blmbg. Barc. U.S. Aggregate	0.6 (75)	6.8 (26)	7.0 (29)	5.2 (30)	4.2 (48)	8.7 (45)	0.0 (53)	3.5 (56)
5th Percentile	5.2	11.8	12.1	9.6	9.0	20.3	2.2	11.4
1st Quartile	2.4	6.8	7.3	5.4	5.3	11.2	1.3	6.3
Median	1.3	4.0	4.8	4.1	4.0	8.2	0.1	3.8
3rd Quartile	0.6	1.5	2.7	2.8	2.6	5.3	-1.6	2.2
95th Percentile	0.1	-2.2	-0.5	1.6	1.4	2.4	-5.0	0.8
Population	795	792	773	751	717	978	1,033	1,063

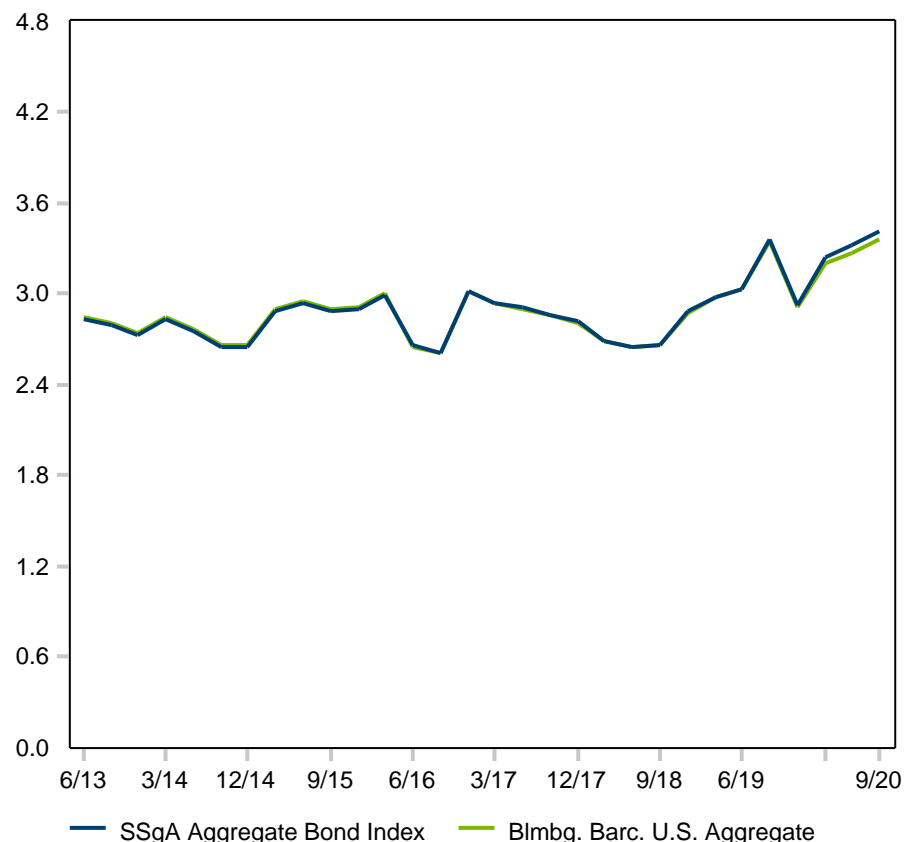
Paraphrases contain percentile rankings.

SSgA Aggregate Bond Index Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

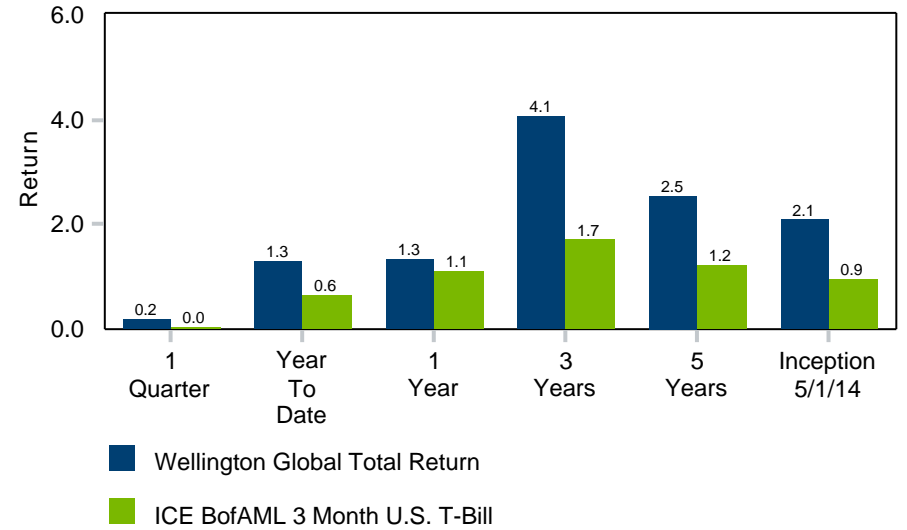
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Aggregate Bond Index	0.01	0.08	0.17	1.00	0.96	-0.02	1.01	4.19	3.18	1.00
Blmbg. Barc. U.S. Aggregate	0.00	0.00	N/A	1.00	0.96	0.00	1.00	4.18	3.15	1.00
FTSE 3 Month T-Bill	-3.00	3.12	-0.96	0.04	N/A	1.09	0.02	1.16	0.24	0.20

Wellington Global Total Return Performance Summary

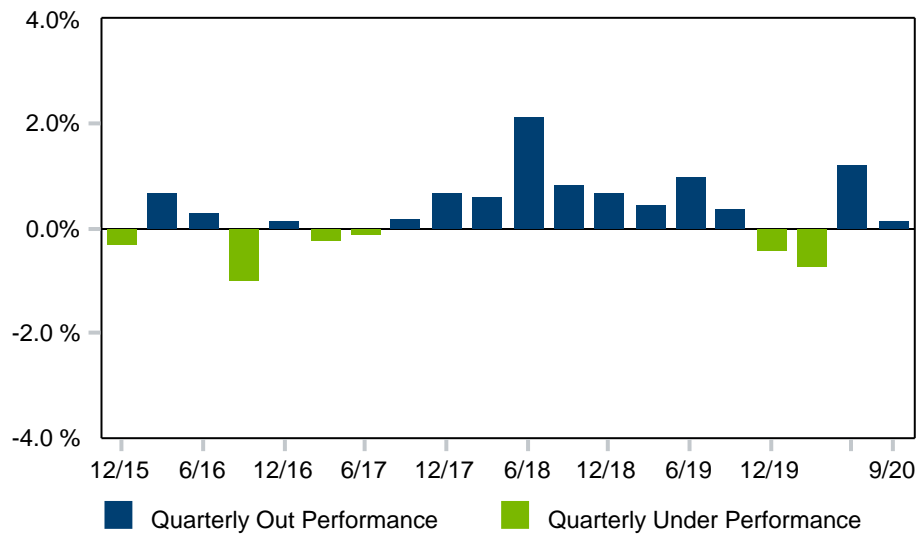
Account Information

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)

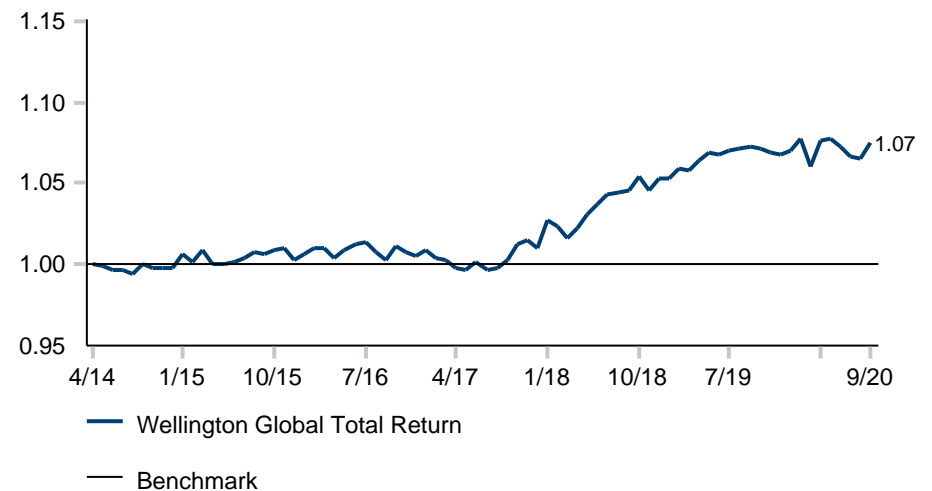
Return Summary



Quarterly Excess Performance

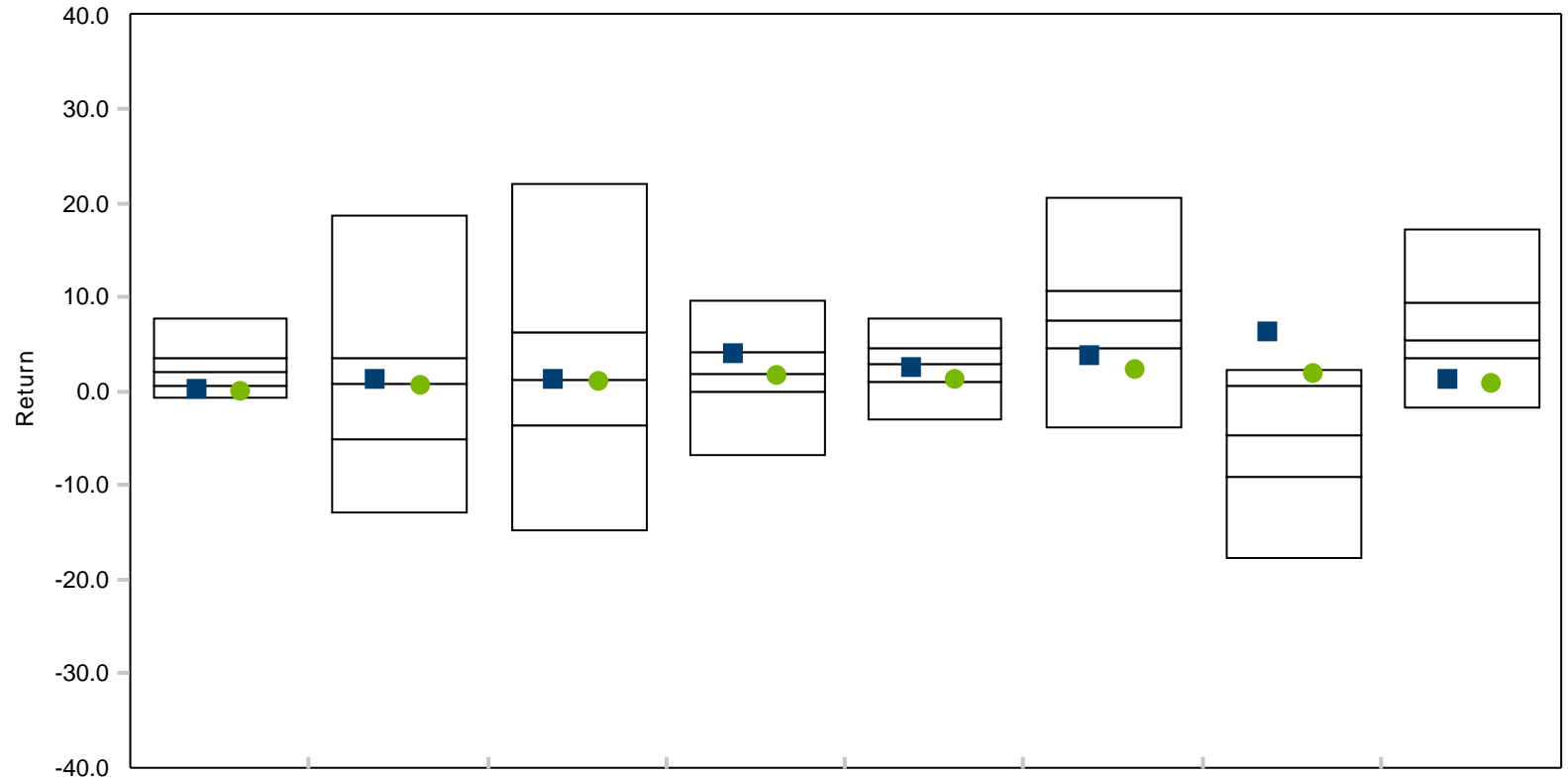


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Absolute Return (MF)

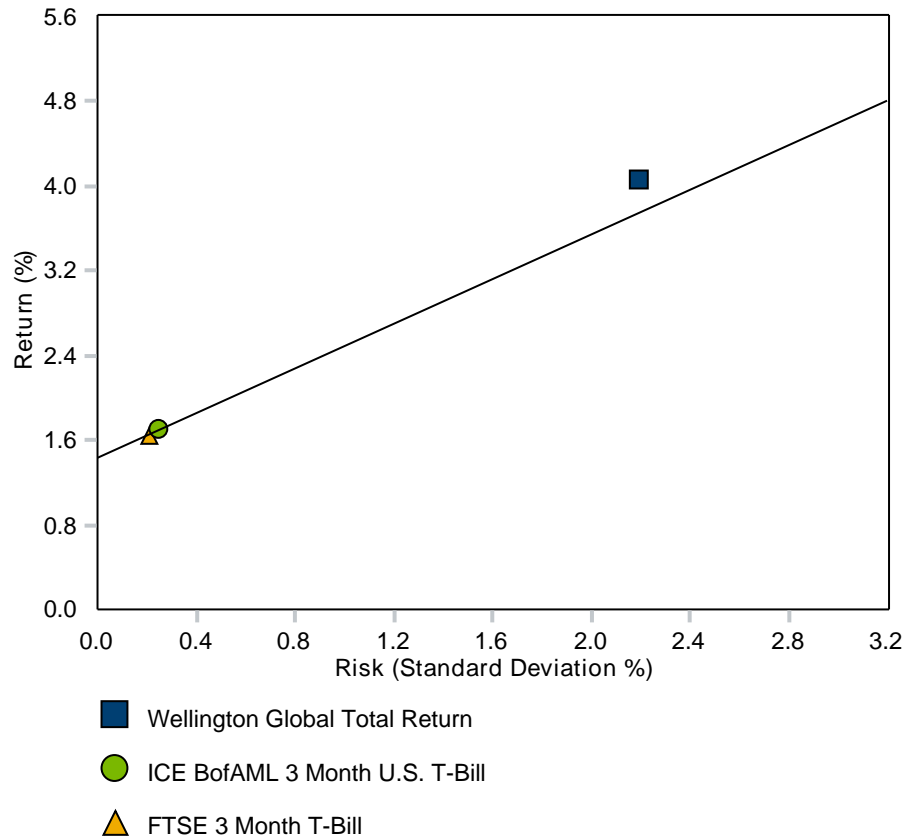


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
Wellington Global Total Return	0.2 (87)	1.3 (43)	1.3 (50)	4.1 (26)	2.5 (59)	3.7 (83)	6.2 (4)	1.4 (91)
ICE BofAML 3 Month U.S. T-Bill	0.0 (88)	0.6 (52)	1.1 (51)	1.7 (53)	1.2 (75)	2.3 (84)	1.9 (6)	0.9 (91)
5th Percentile	7.9	18.7	22.1	9.8	7.7	20.7	2.4	17.2
1st Quartile	3.7	3.6	6.3	4.2	4.5	10.7	0.5	9.5
Median	2.2	0.9	1.2	1.9	2.9	7.7	-4.6	5.5
3rd Quartile	0.6	-5.1	-3.6	-0.1	1.0	4.6	-9.0	3.5
95th Percentile	-0.6	-12.8	-14.7	-6.8	-2.9	-3.8	-17.6	-1.7
Population	36	36	36	36	36	40	49	51

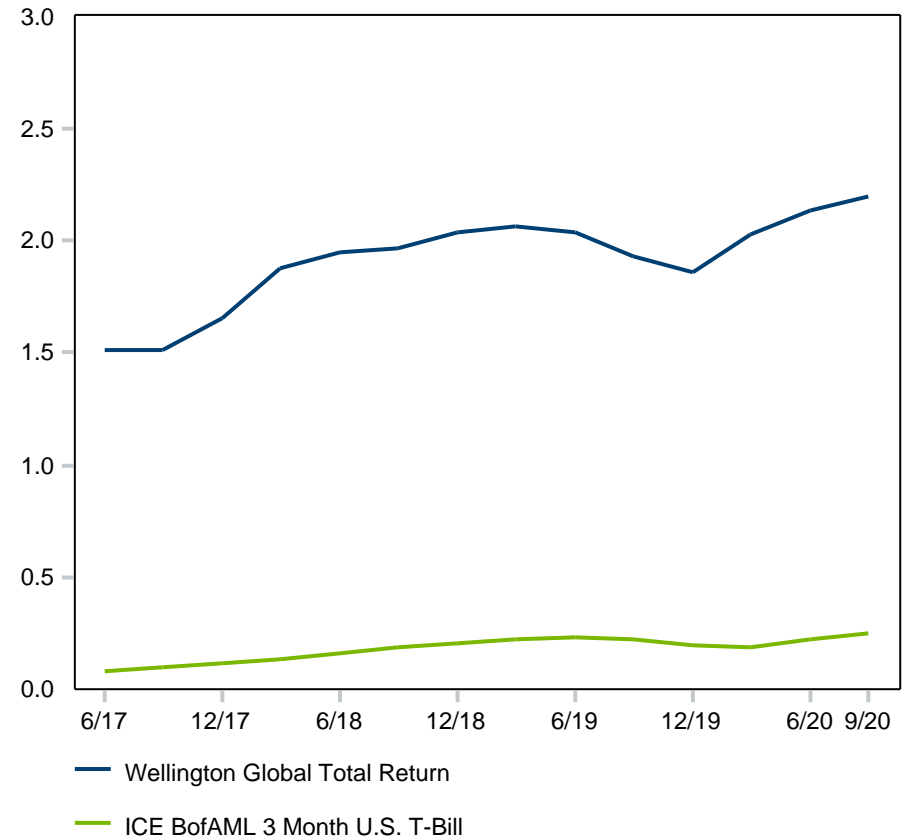
parentheses contain percentile rankings.

Wellington Global Total Return Risk Profile

Annualized Return vs. Annualized Standard Deviation 3 Years



Rolling 3 Years Standard Deviation



3 Years Historical Statistics

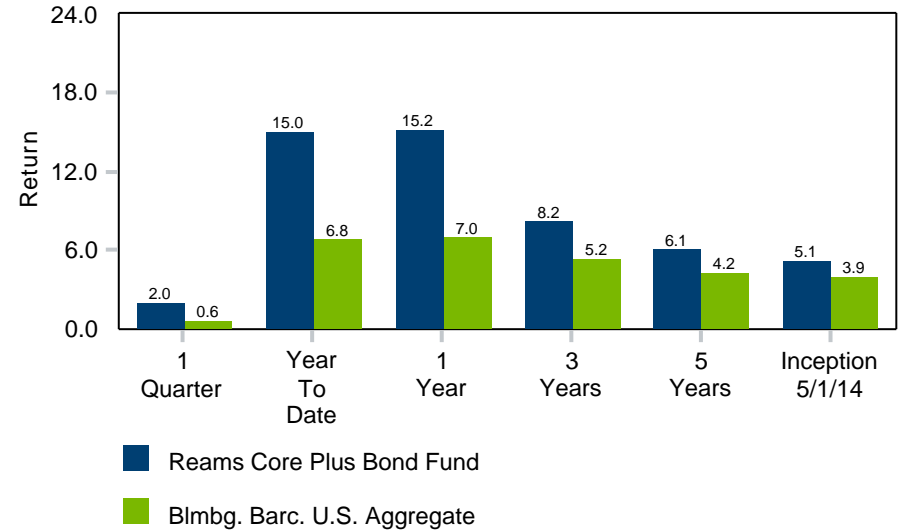
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Total Return	2.33	2.24	1.04	0.01	1.09	5.78	-0.96	4.06	2.20	-0.11
ICE BofAML 3 Month U.S. T-Bill	0.00	0.00	N/A	1.00	0.35	0.00	1.00	1.69	0.25	1.00
FTSE 3 Month T-Bill	-0.04	0.12	-0.35	0.78	N/A	0.39	0.75	1.65	0.21	0.89

Reams Core Plus Bond Fund Performance Summary

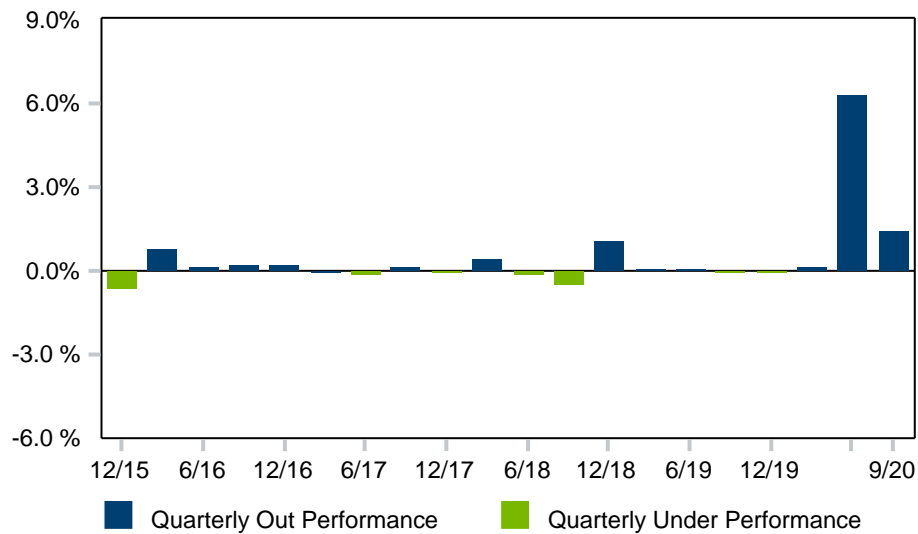
Account Information

Account Name: Reams Core Plus Bond Fund
 Inception Date: 05/08/2014
 Account Structure: Commingled Fund
 Asset Class: US Fixed Income
 Benchmark: Blmbg. Barc. U.S. Aggregate
 Peer Group: IM U.S. Fixed Income (SA+CF)

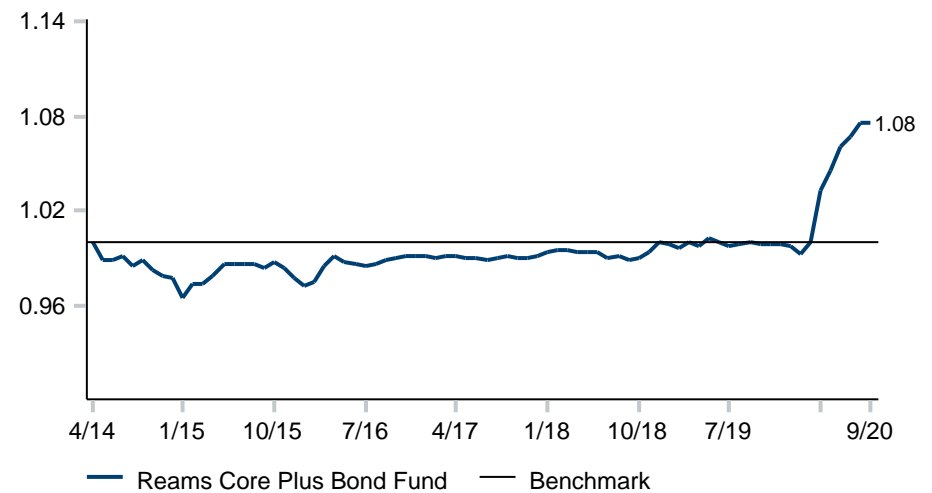
Return Summary



Quarterly Excess Performance

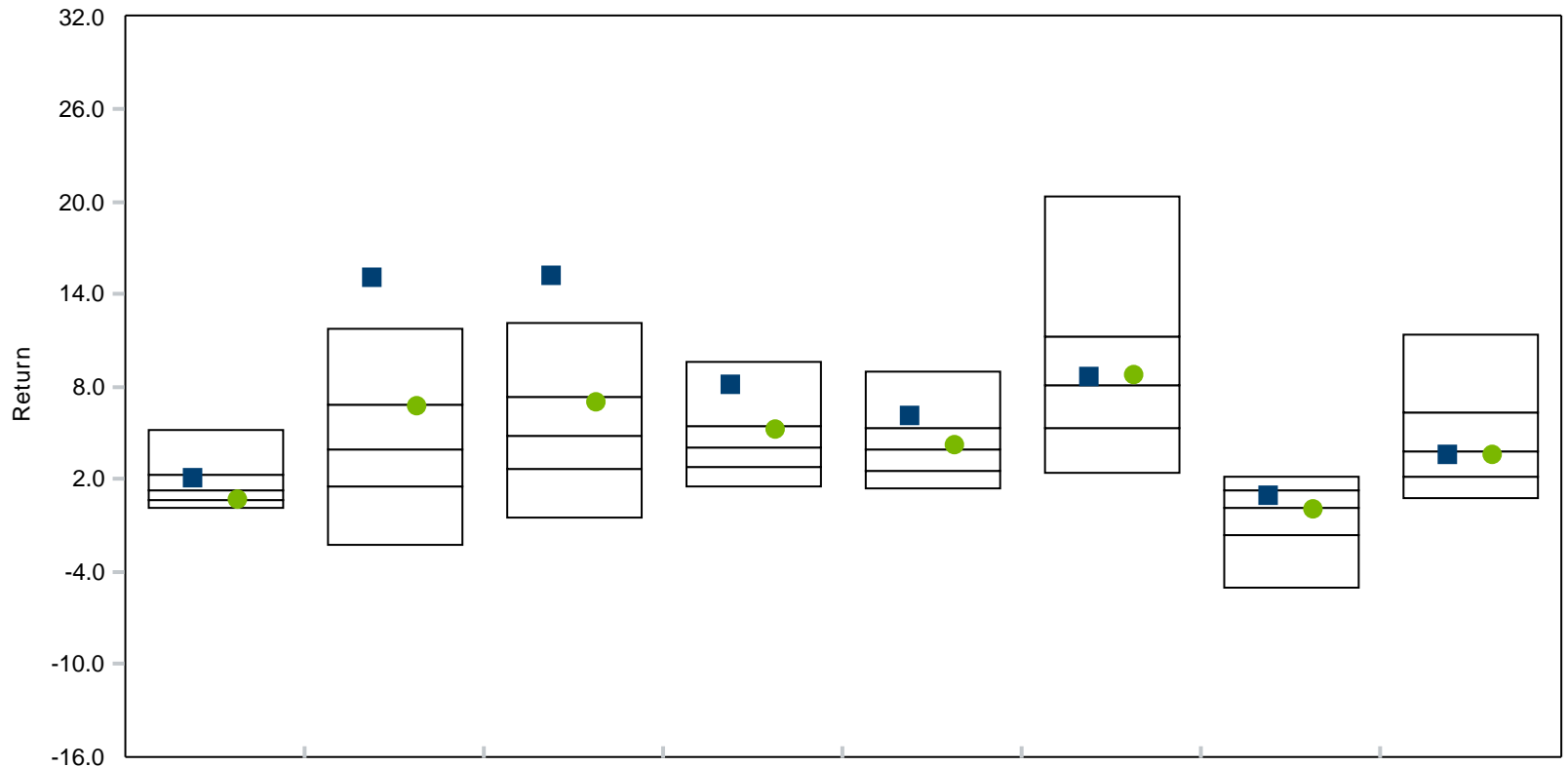


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

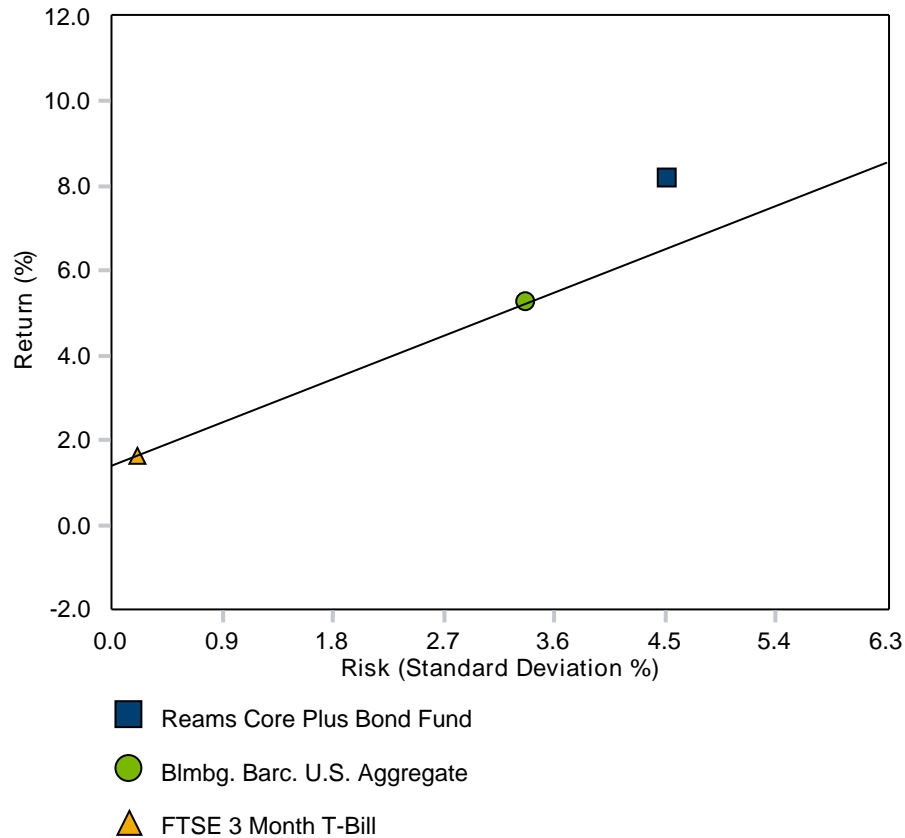


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ Reams Core Plus Bond Fund	2.0 (30)	15.0 (4)	15.2 (3)	8.2 (8)	6.1 (17)	8.6 (47)	0.9 (36)	3.6 (55)
● Blmbg. Barc. U.S. Aggregate	0.6 (75)	6.8 (26)	7.0 (29)	5.2 (30)	4.2 (48)	8.7 (45)	0.0 (53)	3.5 (56)
5th Percentile	5.2	11.8	12.1	9.6	9.0	20.3	2.2	11.4
1st Quartile	2.4	6.8	7.3	5.4	5.3	11.2	1.3	6.3
Median	1.3	4.0	4.8	4.1	4.0	8.2	0.1	3.8
3rd Quartile	0.6	1.5	2.7	2.8	2.6	5.3	-1.6	2.2
95th Percentile	0.1	-2.2	-0.5	1.6	1.4	2.4	-5.0	0.8
Population	795	792	773	751	717	978	1,033	1,063

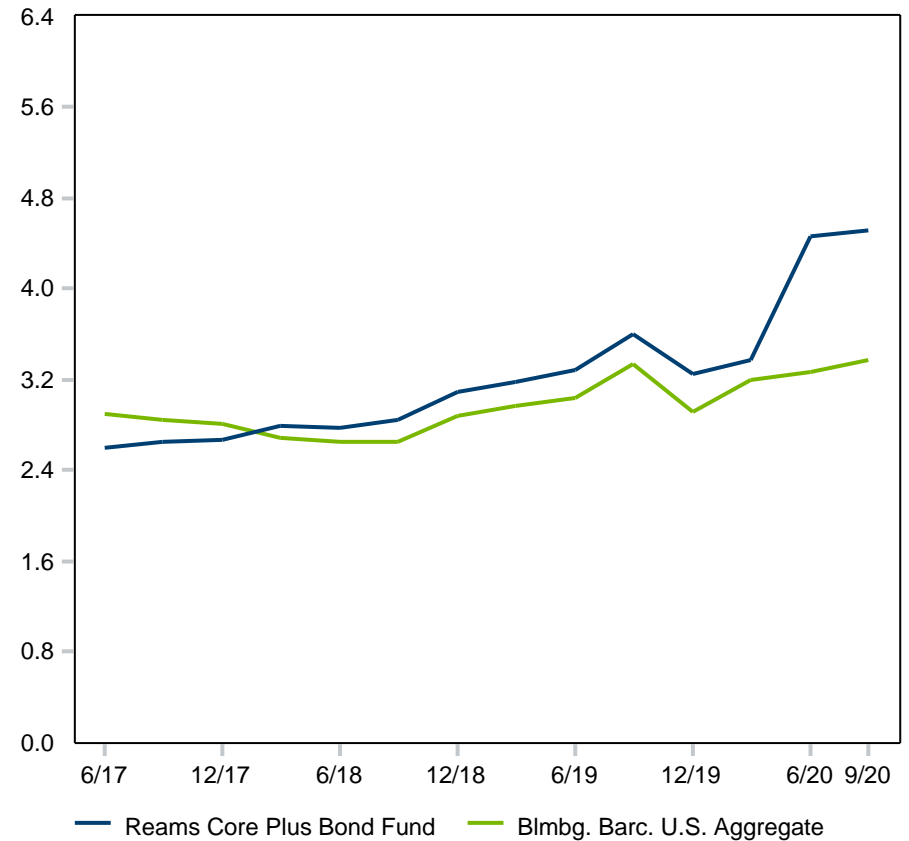
parentheses contain percentile rankings.

Reams Core Plus Bond Fund Risk Profile

Annualized Return vs. Annualized Standard Deviation 3 Years

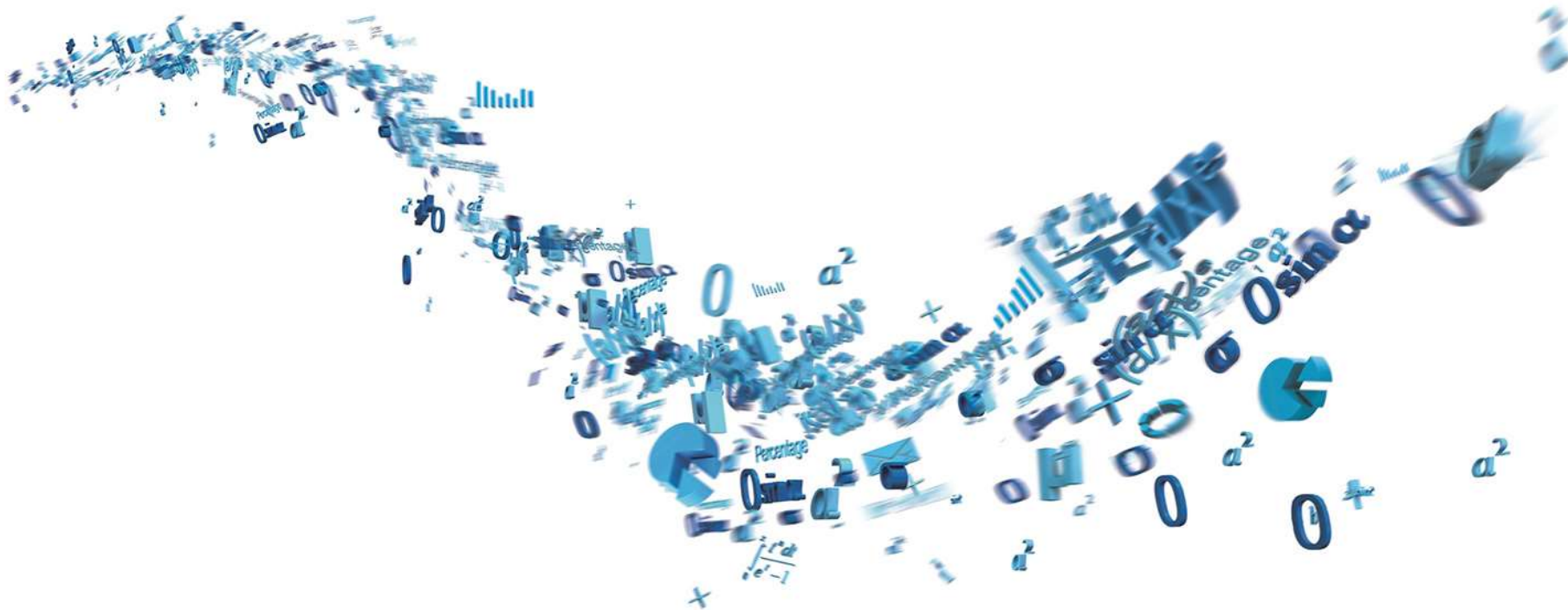


Rolling 3 Years Standard Deviation



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	2.79	2.38	1.17	0.73	1.39	2.03	1.15	8.16	4.52	0.86
Blmbg. Barc. U.S. Aggregate	0.00	0.00	N/A	1.00	1.06	0.00	1.00	5.24	3.37	1.00
FTSE 3 Month T-Bill	-3.54	3.33	-1.06	0.04	N/A	1.59	0.01	1.65	0.21	0.19

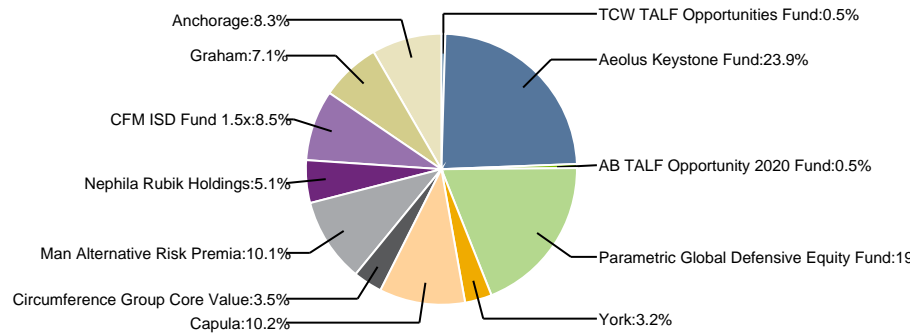


Opportunistic/Alternatives

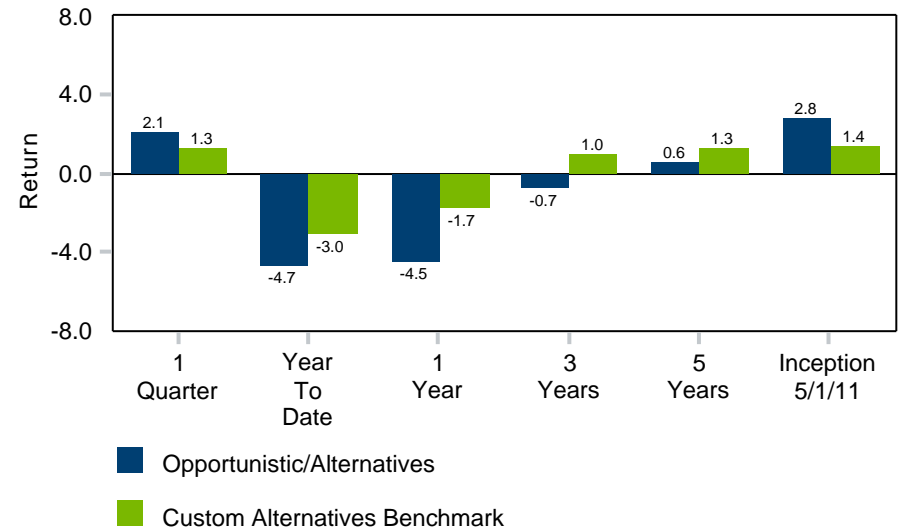
Opportunistic/Alternatives Portfolio Overview

Current Allocation

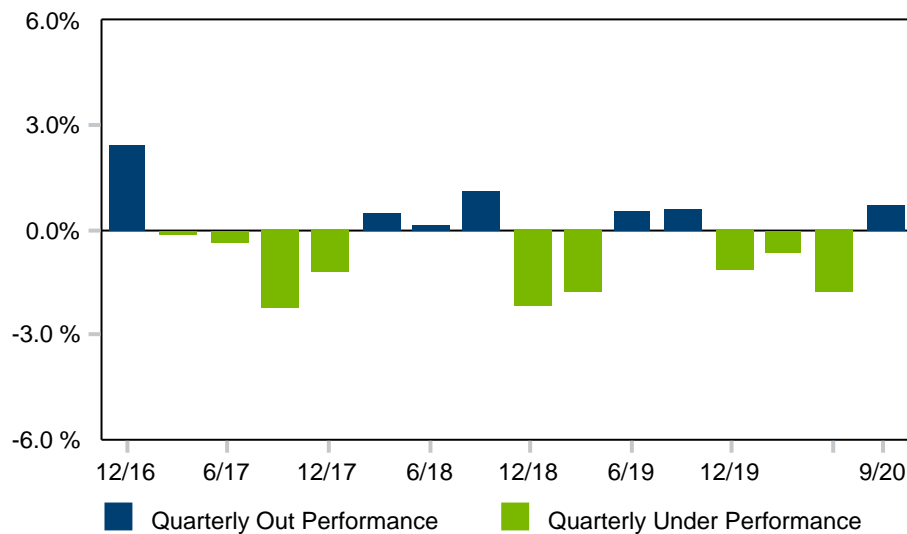
September 30, 2020 : \$875M



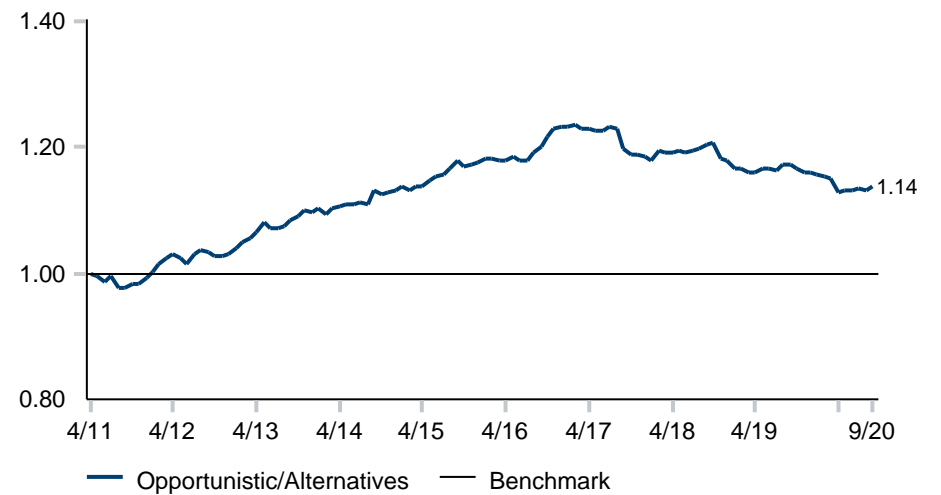
Return Summary



Quarterly Excess Performance

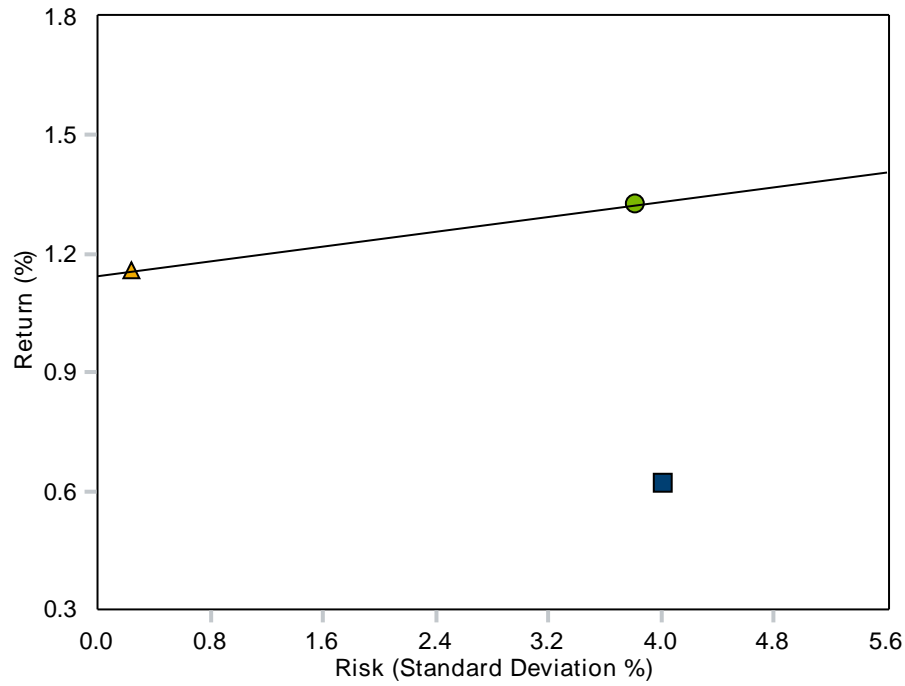


Ratio of Cumulative Wealth - Since Inception



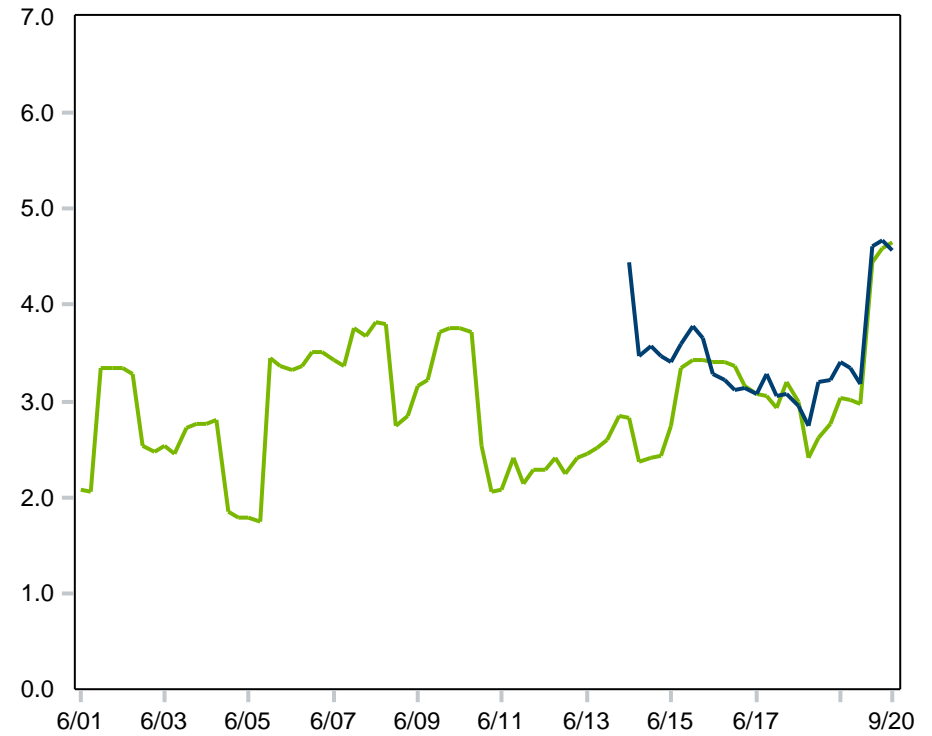
Opportunistic/Alternatives Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



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

Rolling 3 Years Standard Deviation



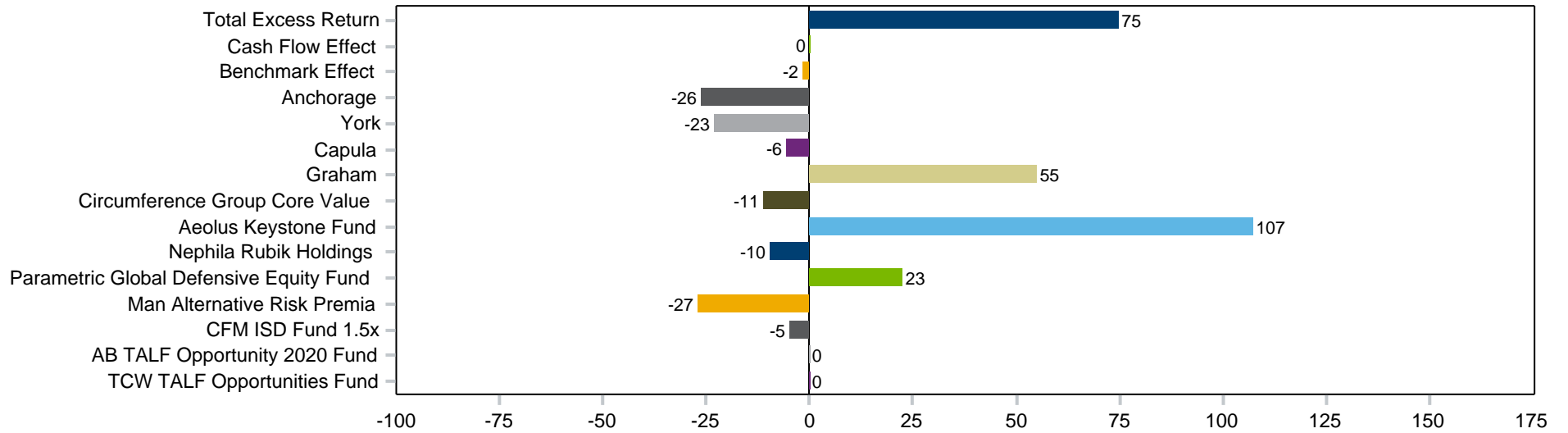
- Opportunistic/Alternatives
- Custom Alternatives Benchmark

5 Years Historical Statistics

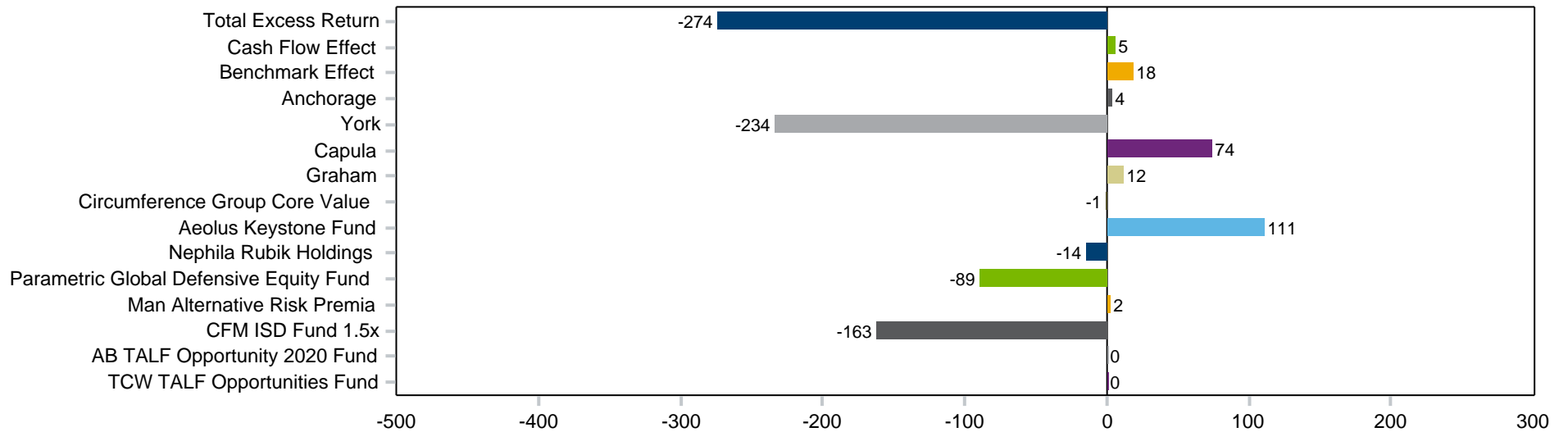
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Opportunistic/Alternatives	-0.69	2.36	-0.29	0.67	-0.11	-0.50	0.86	0.62	4.02	0.82
Custom Alternatives Benchmark	0.00	0.00	N/A	1.00	0.06	0.00	1.00	1.32	3.82	1.00
FTSE 3 Month T-Bill	-0.24	3.84	-0.06	0.00	N/A	1.16	0.00	1.16	0.24	-0.05

Asset Class Attribution

1 Quarter



1 Year

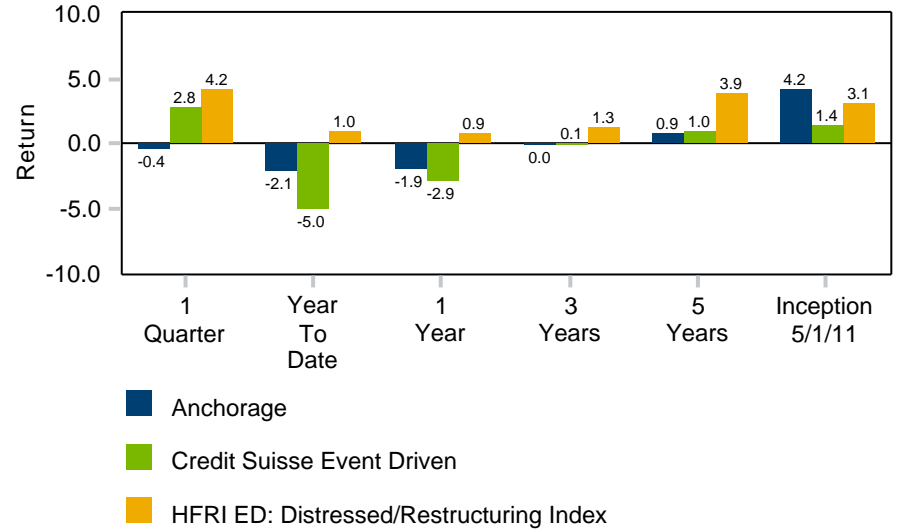


Anchorage Performance Summary

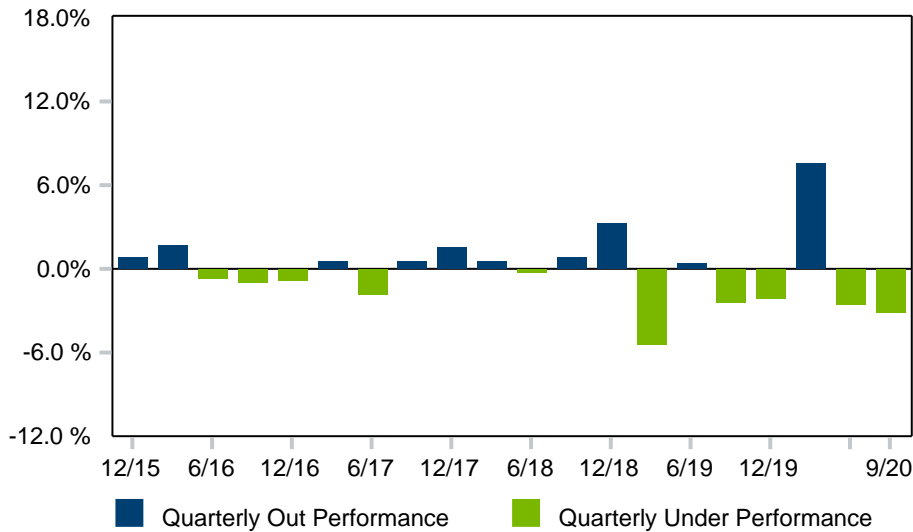
Account Information

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

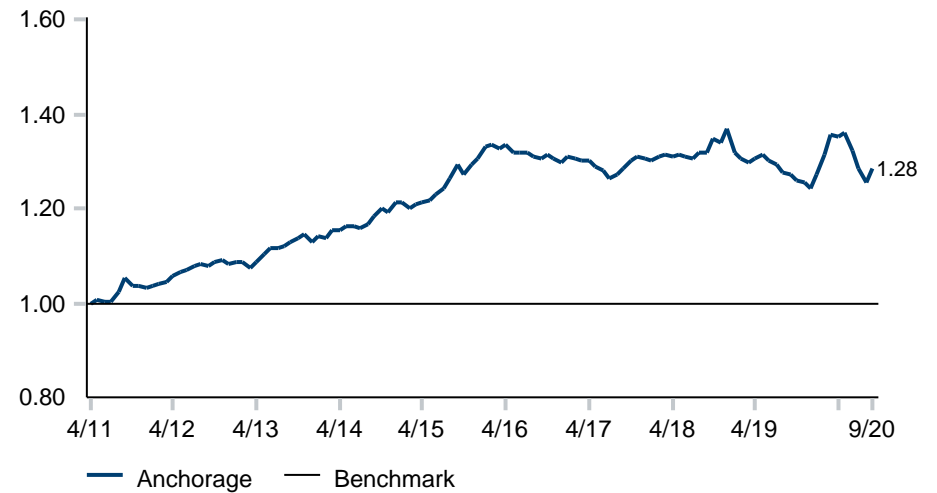
Return Summary



Quarterly Excess Performance

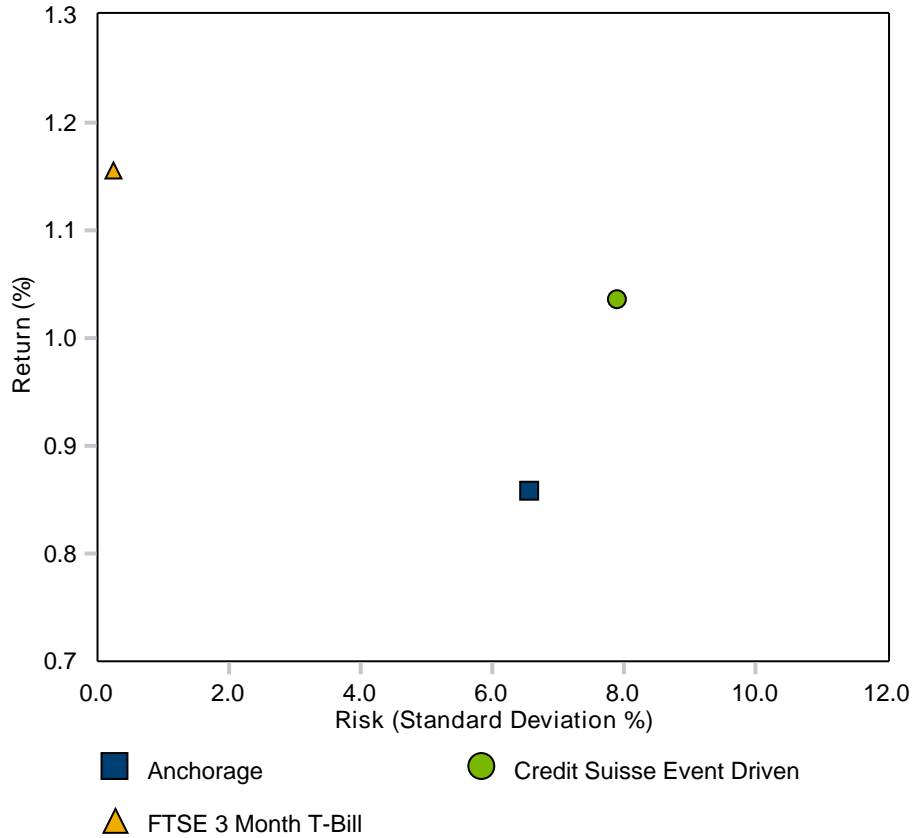


Ratio of Cumulative Wealth - Since Inception

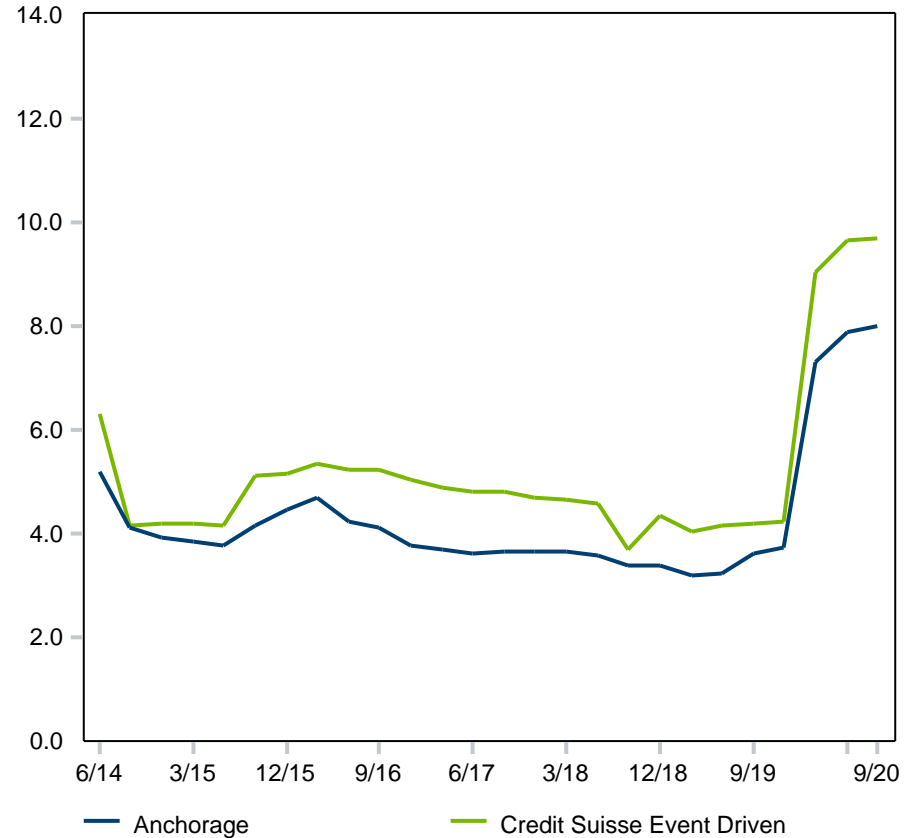


Anchorage Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

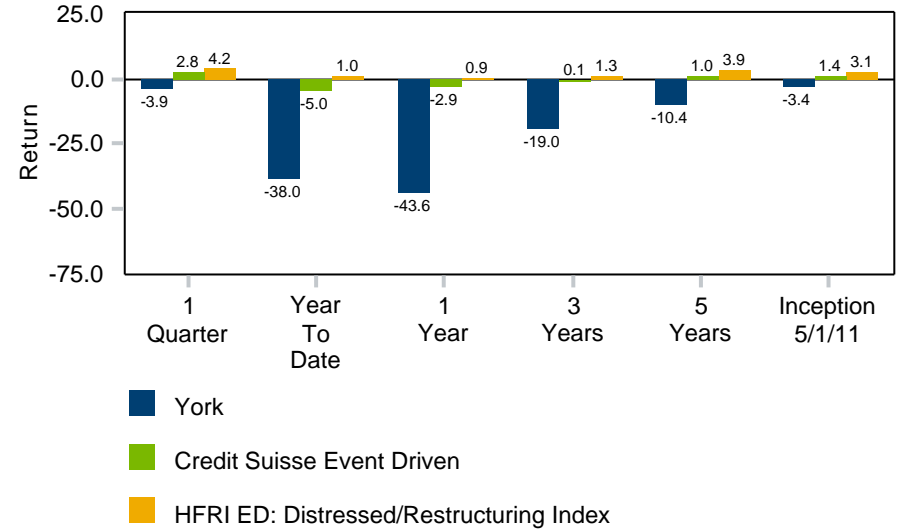
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Anchorage	-0.28	4.61	-0.06	0.66	-0.01	0.16	0.68	0.86	6.59	0.81
Credit Suisse Event Driven	0.00	0.00	N/A	1.00	0.03	0.00	1.00	1.04	7.90	1.00
FTSE 3 Month T-Bill	-0.21	7.93	-0.03	0.01	N/A	1.16	0.00	1.16	0.24	-0.11

York Performance Summary

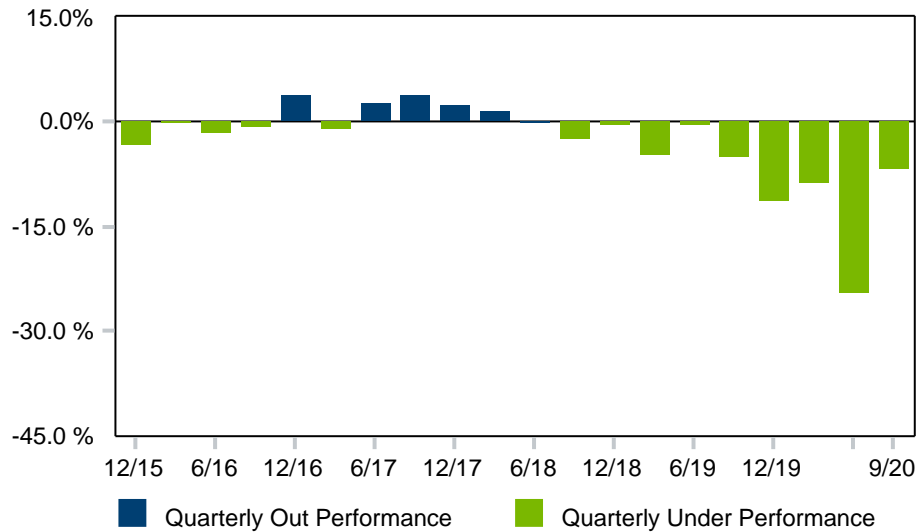
Account Information

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

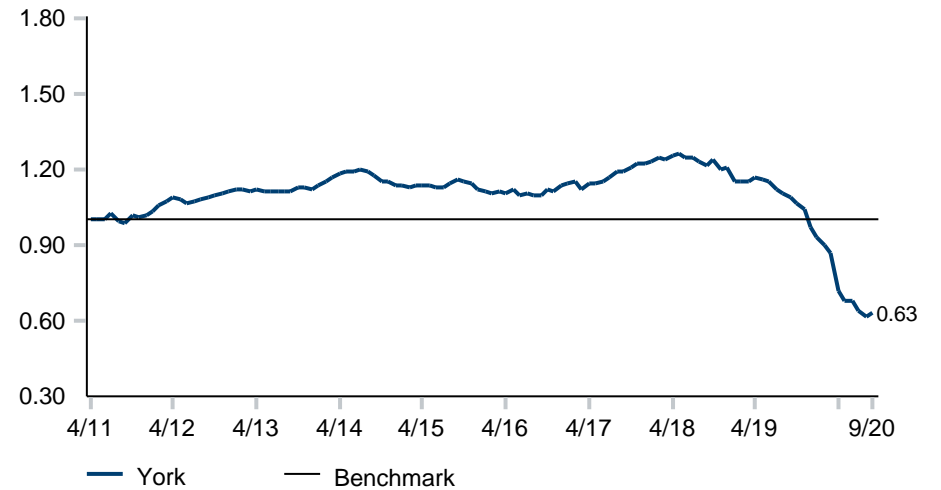
Return Summary



Quarterly Excess Performance

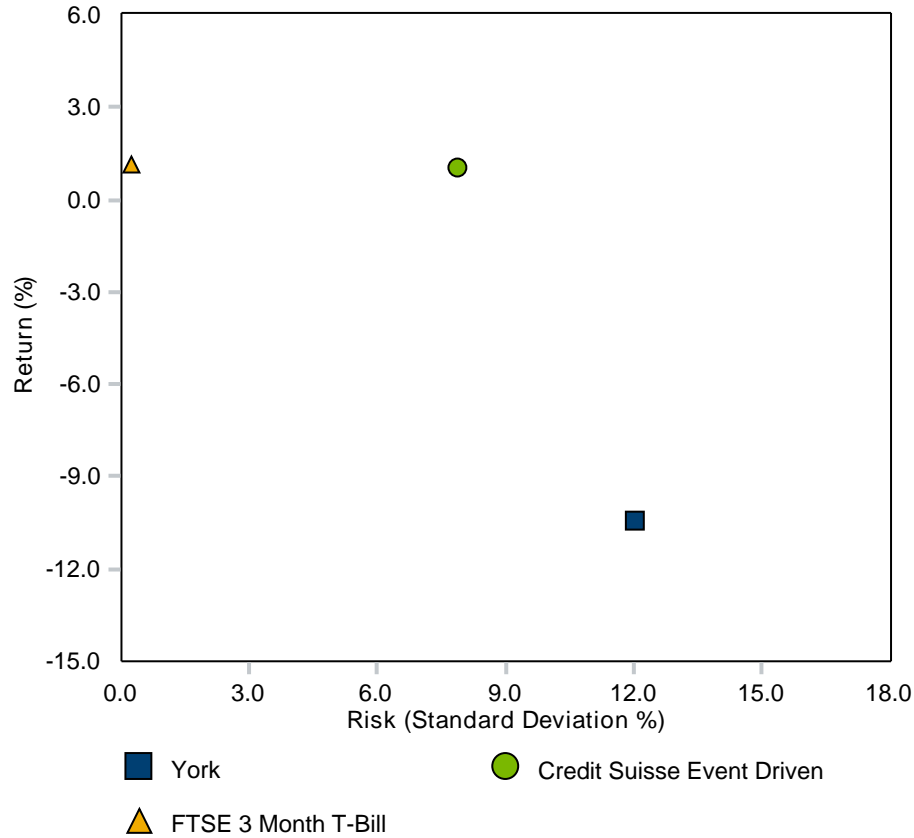


Ratio of Cumulative Wealth - Since Inception

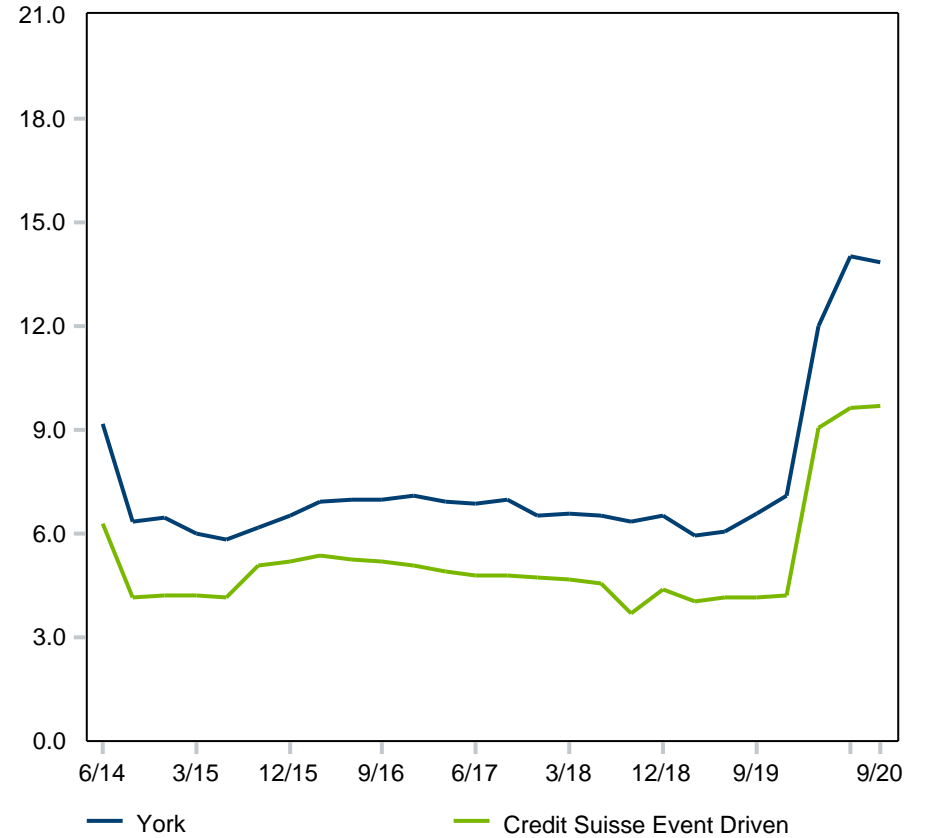


York Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

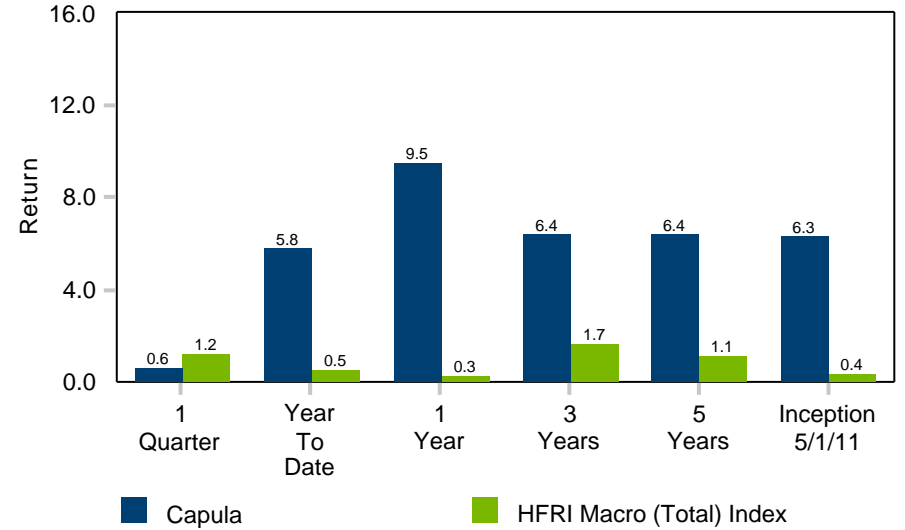
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
York	-11.57	10.58	-1.09	0.26	-0.94	-10.70	0.77	-10.44	12.08	0.51
Credit Suisse Event Driven	0.00	0.00	N/A	1.00	0.03	0.00	1.00	1.04	7.90	1.00
FTSE 3 Month T-Bill	-0.21	7.93	-0.03	0.01	N/A	1.16	0.00	1.16	0.24	-0.11

Capula Performance Summary

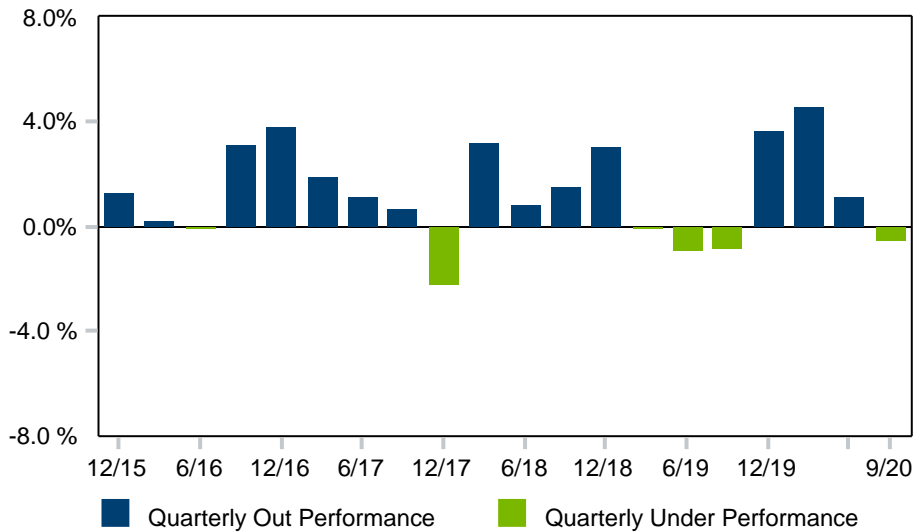
Account Information

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

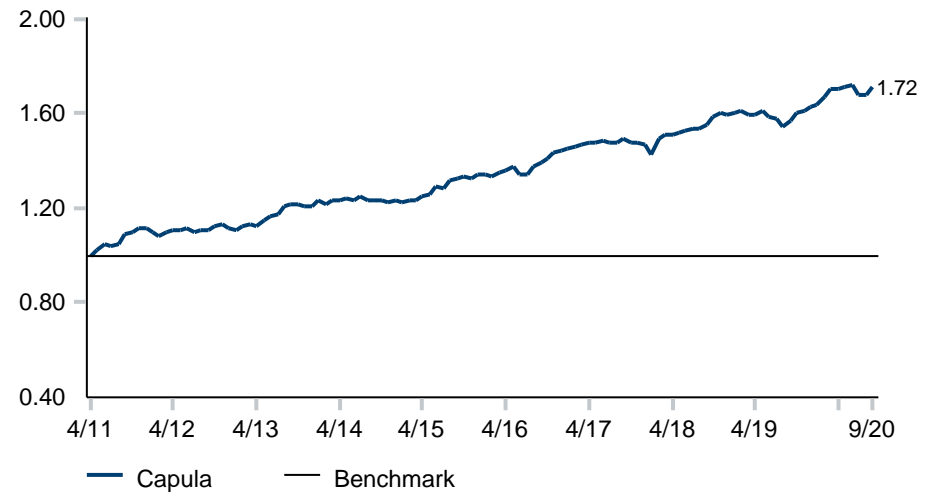
Return Summary



Quarterly Excess Performance

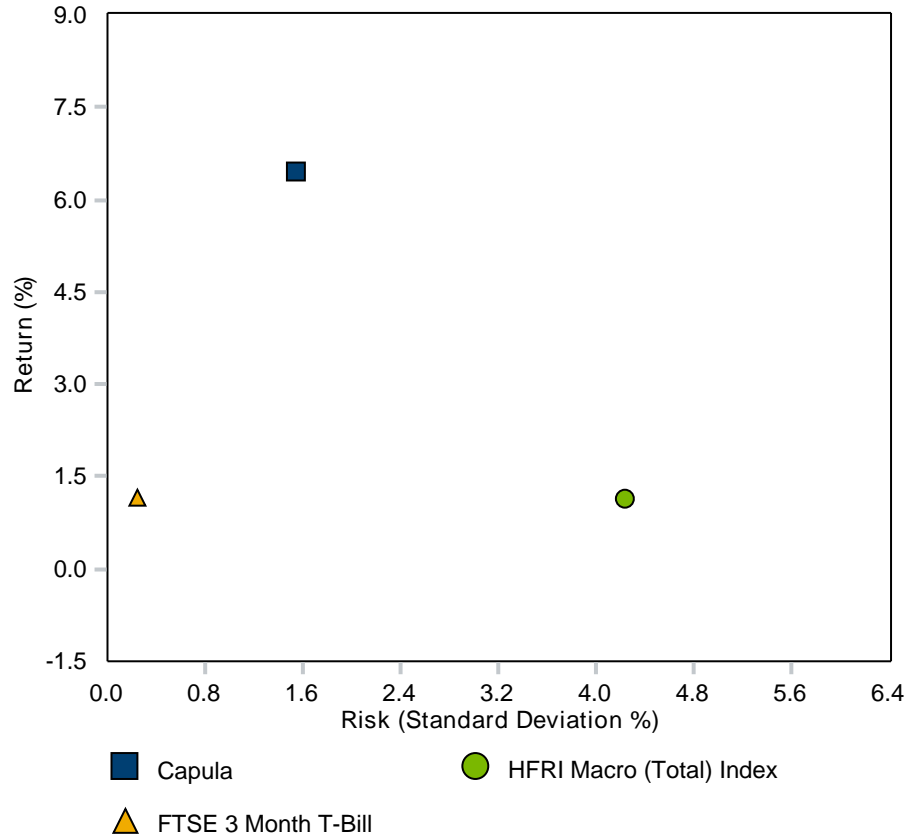


Ratio of Cumulative Wealth - Since Inception

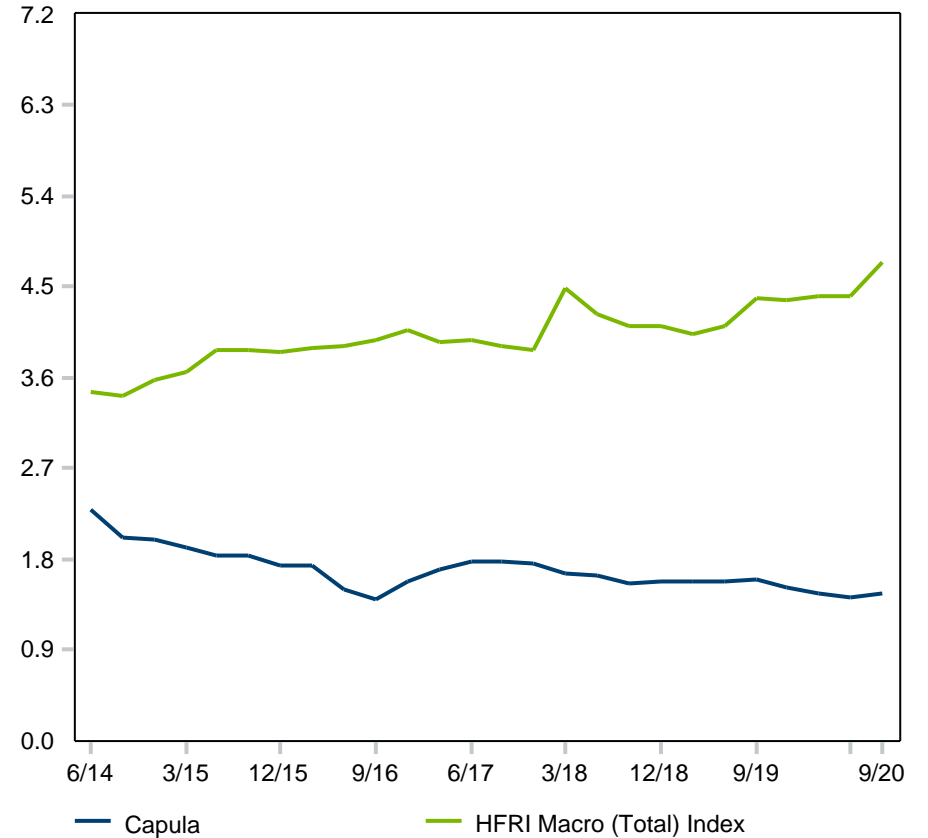


Capula Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

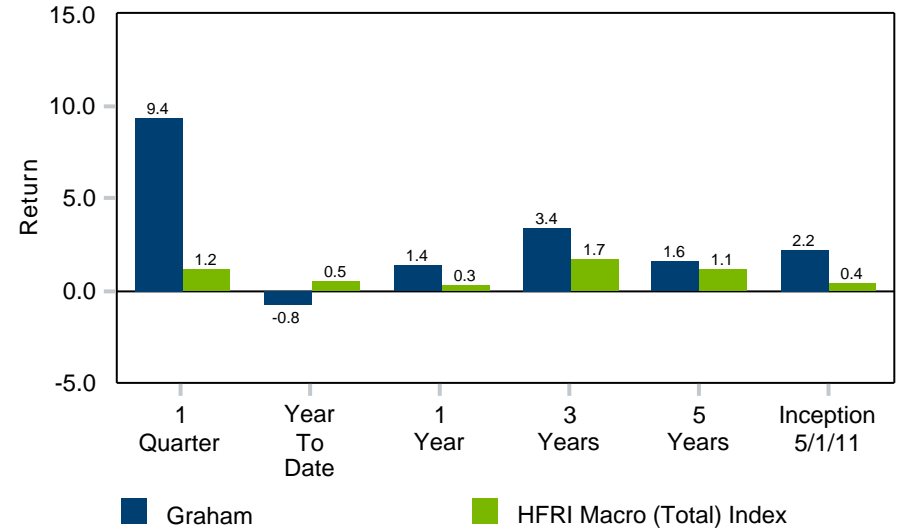
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Capula	5.05	4.53	1.11	0.00	3.27	6.45	0.00	6.44	1.55	0.00
HFRI Macro (Total) Index	0.00	0.00	N/A	1.00	0.02	0.00	1.00	1.14	4.25	1.00
FTSE 3 Month T-Bill	-0.07	4.25	-0.02	0.00	N/A	1.15	0.00	1.16	0.24	0.04

Graham Performance Summary

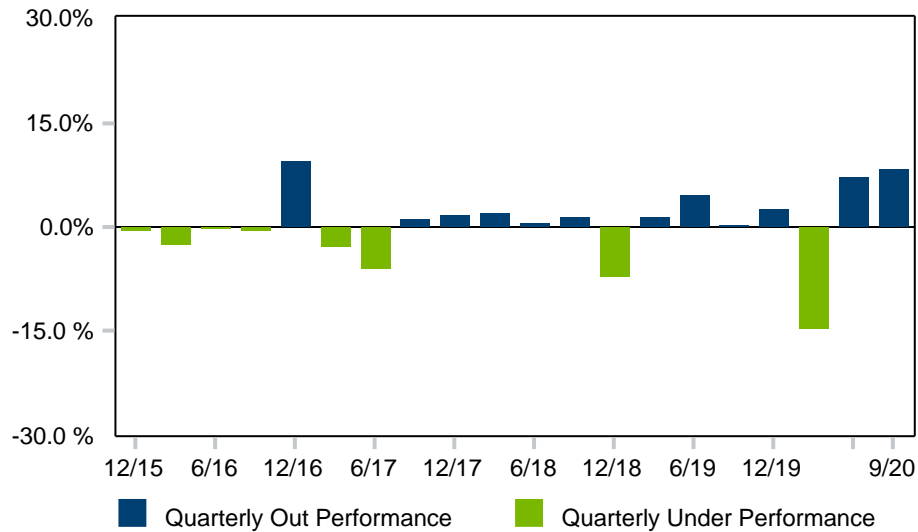
Account Information

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

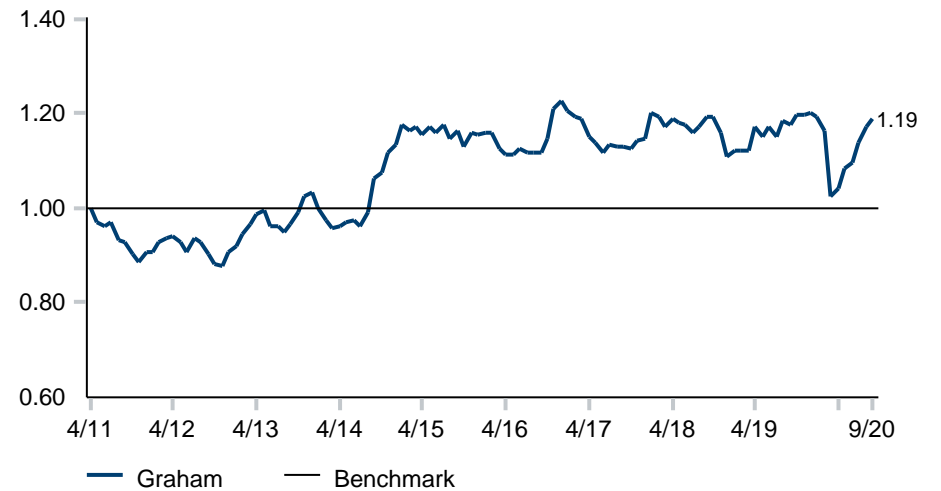
Return Summary



Quarterly Excess Performance

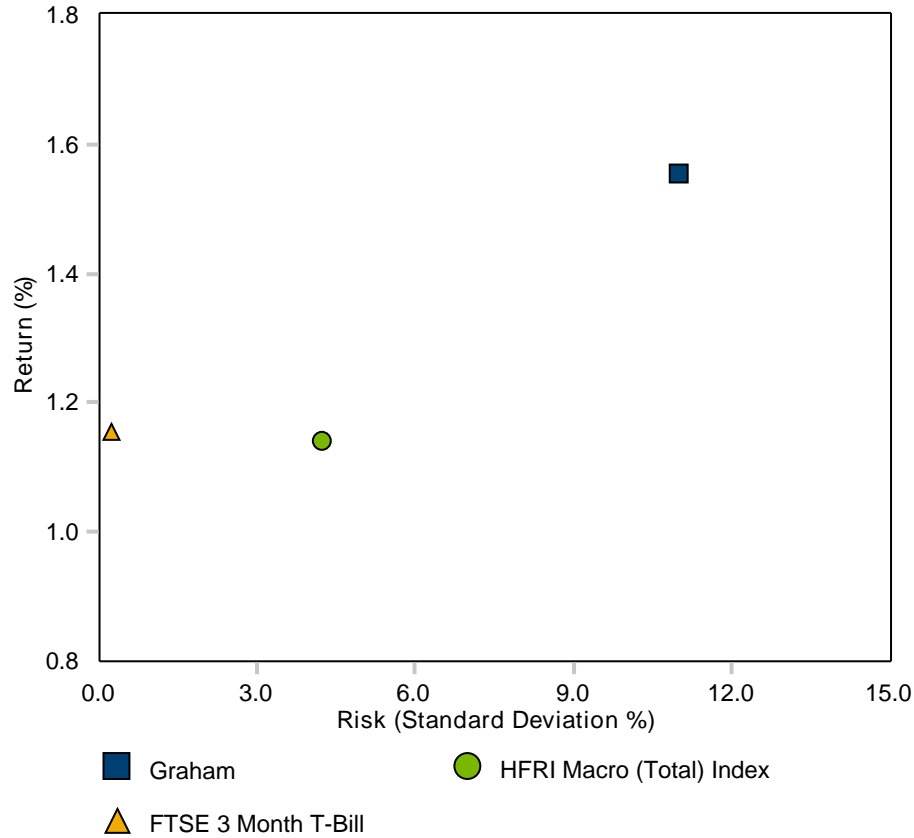


Ratio of Cumulative Wealth - Since Inception

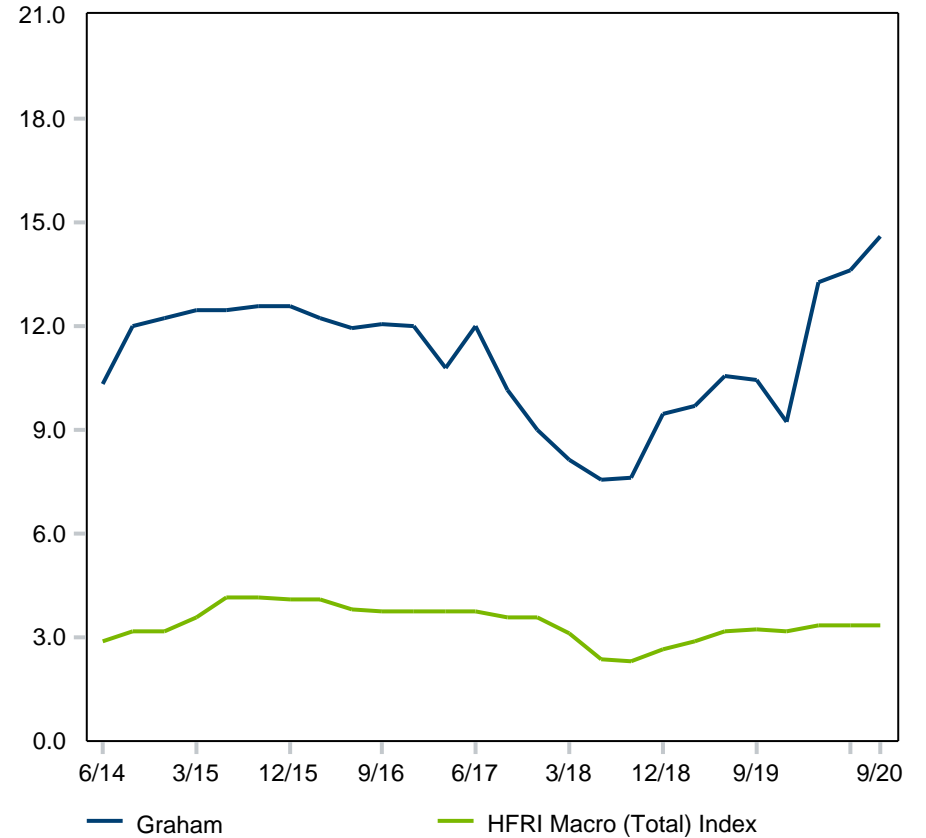


Graham Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

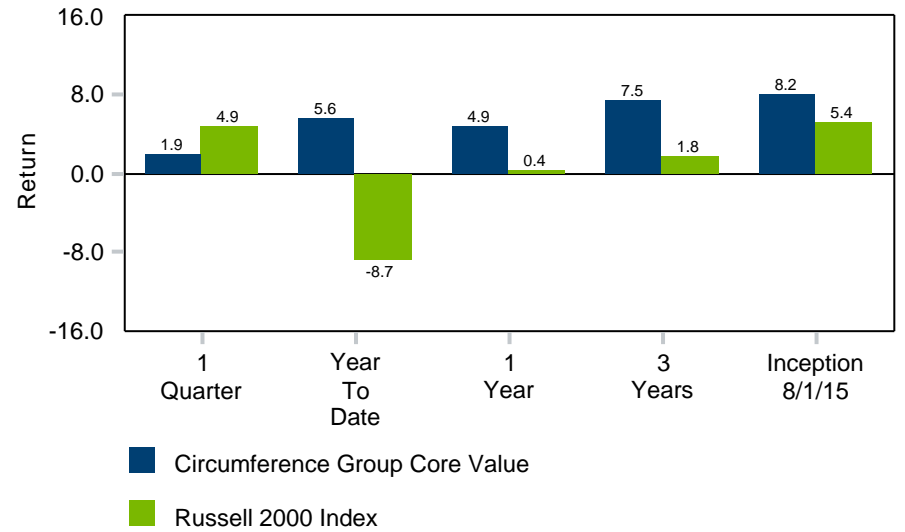
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Graham	0.93	8.93	0.10	0.41	0.09	0.12	1.66	1.55	11.03	0.64
HFRI Macro (Total) Index	0.00	0.00	N/A	1.00	0.02	0.00	1.00	1.14	4.25	1.00
FTSE 3 Month T-Bill	-0.07	4.25	-0.02	0.00	N/A	1.15	0.00	1.16	0.24	0.04

Circumference Group Core Value Performance Summary

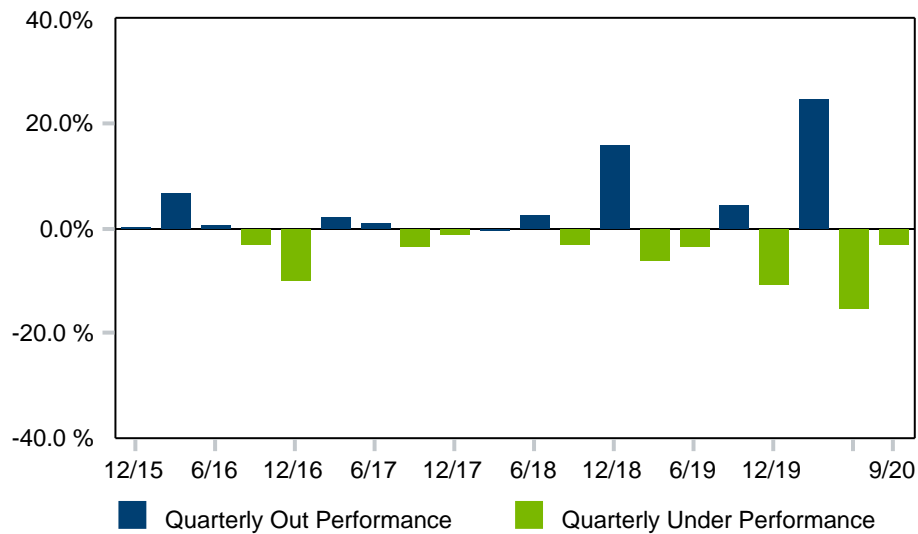
Account Information

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:

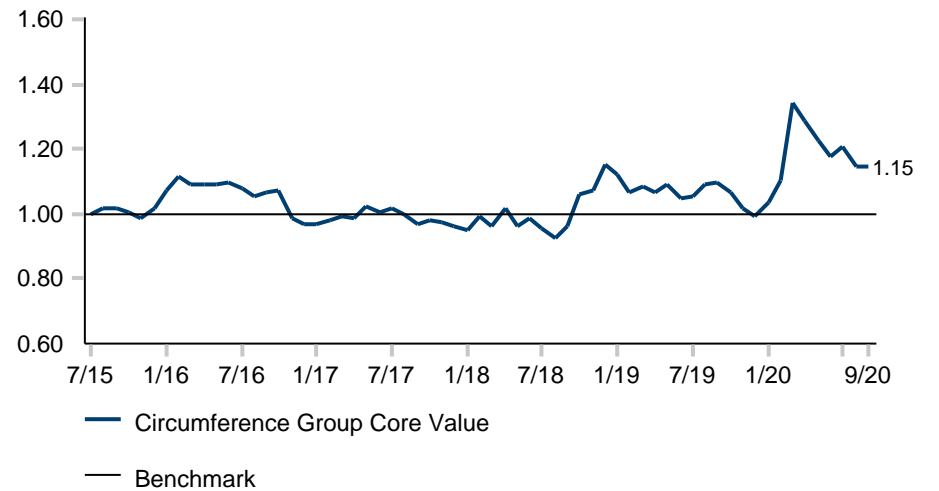
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

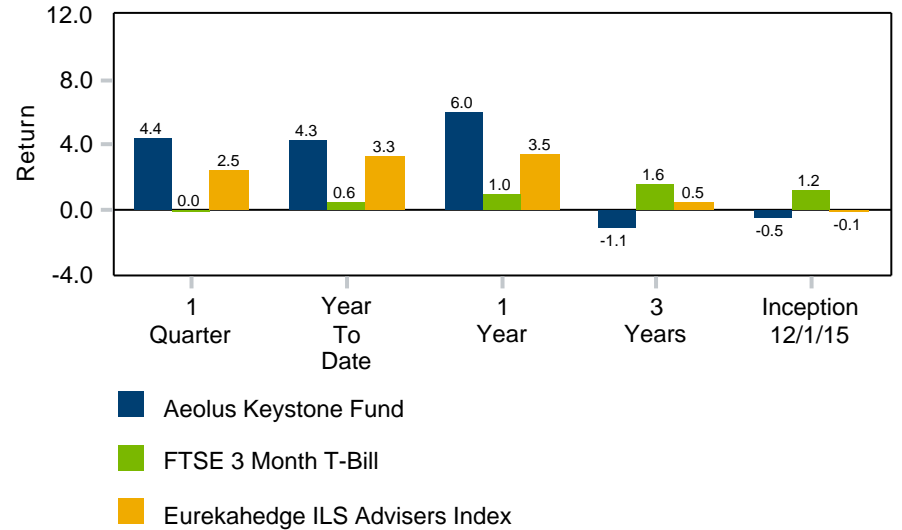


Aeolus Keystone Fund Performance Summary

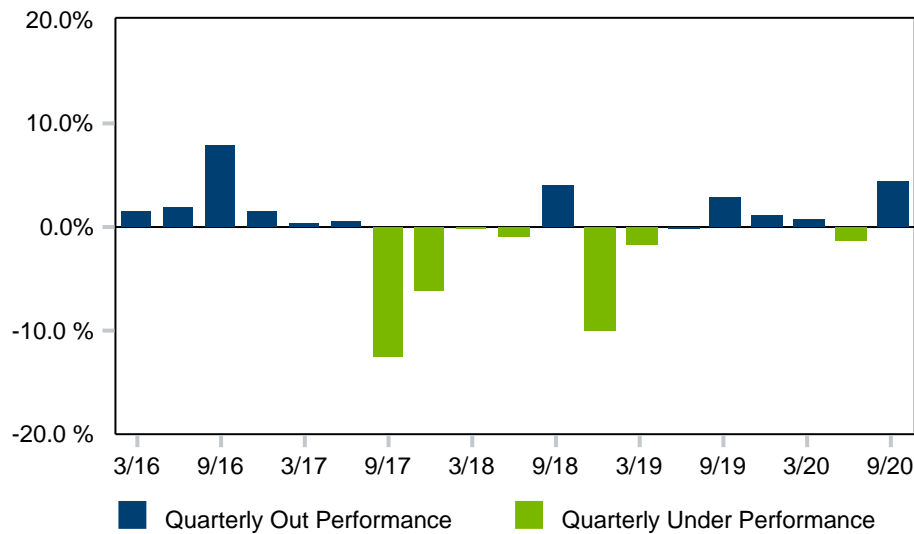
Account Information

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:

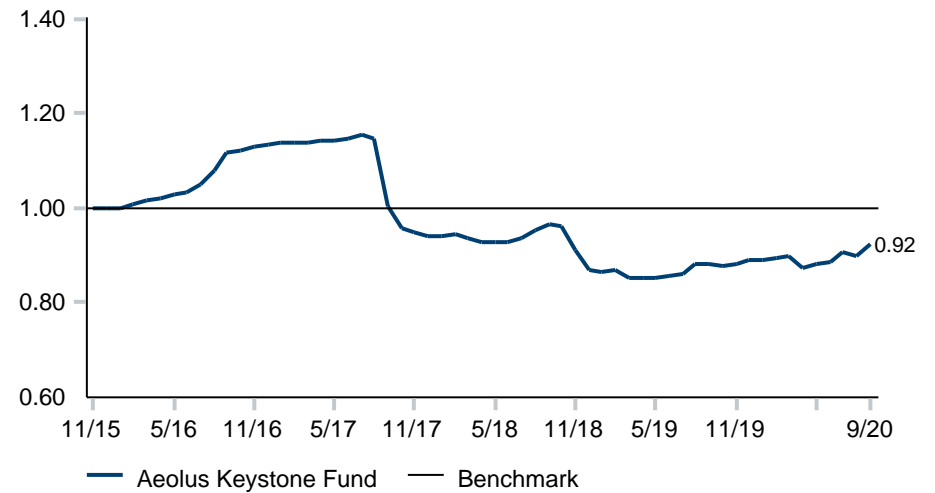
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

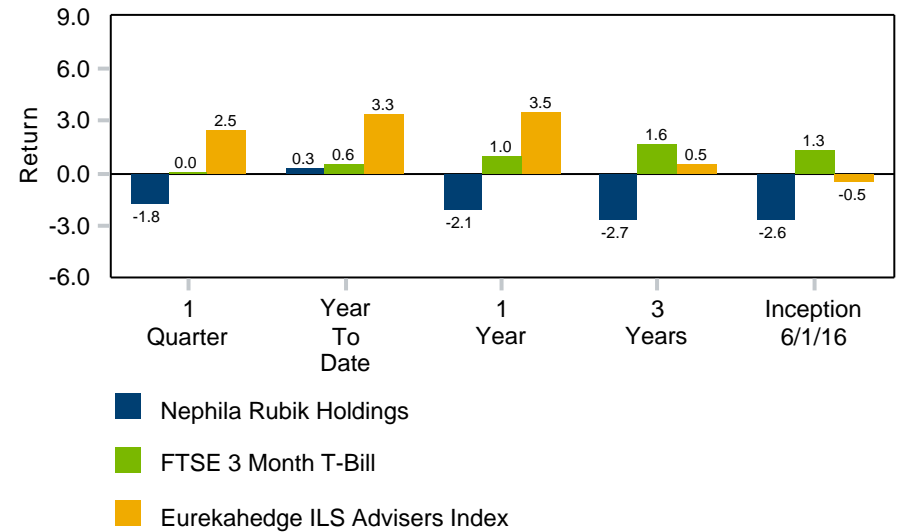


Nephila Rubik Holdings Performance Summary

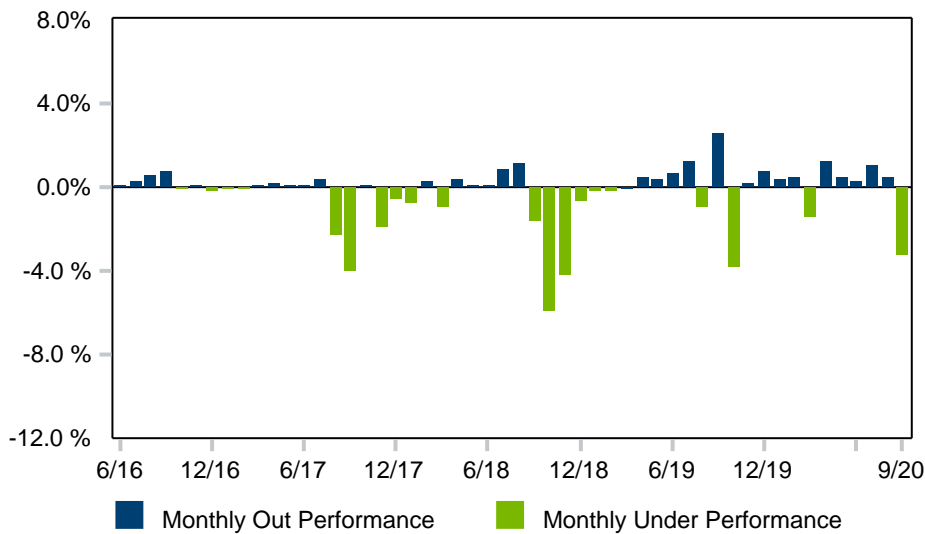
Account Information

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

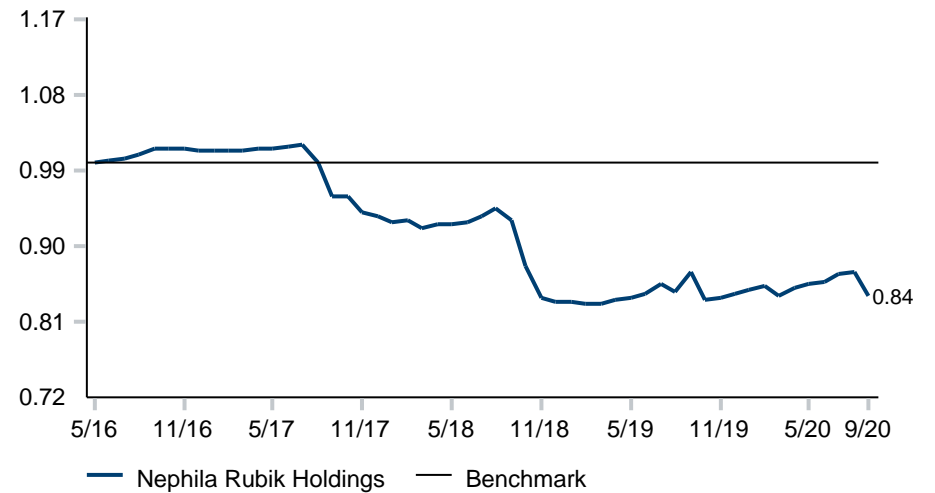
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

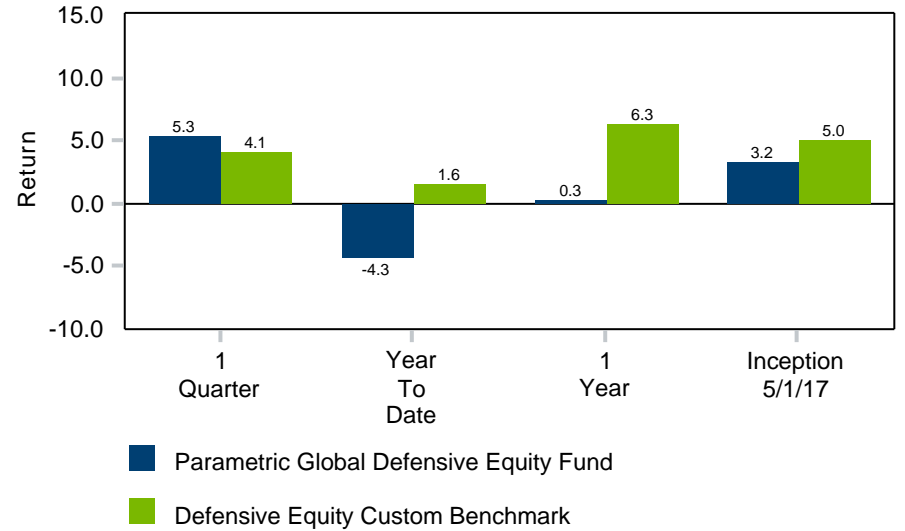


Parametric Global Defensive Equity Fund Performance Summary

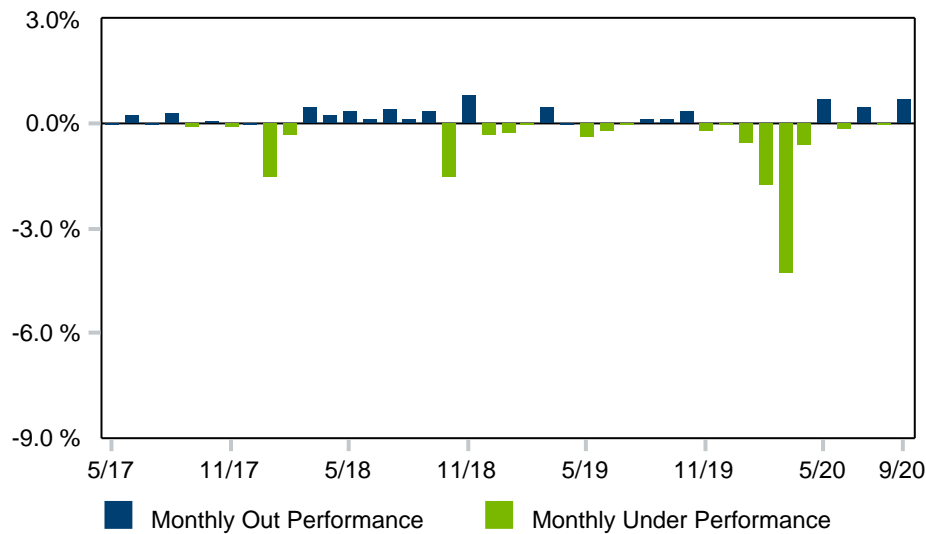
Account Information

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:

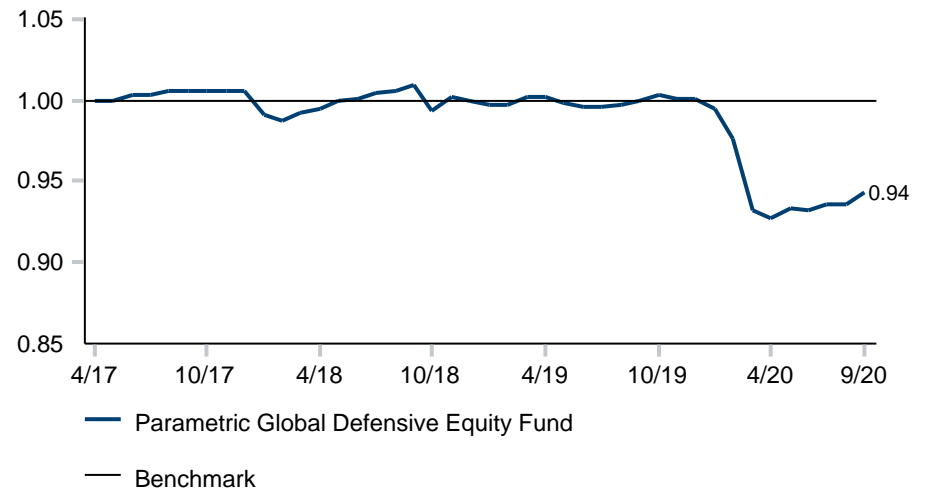
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

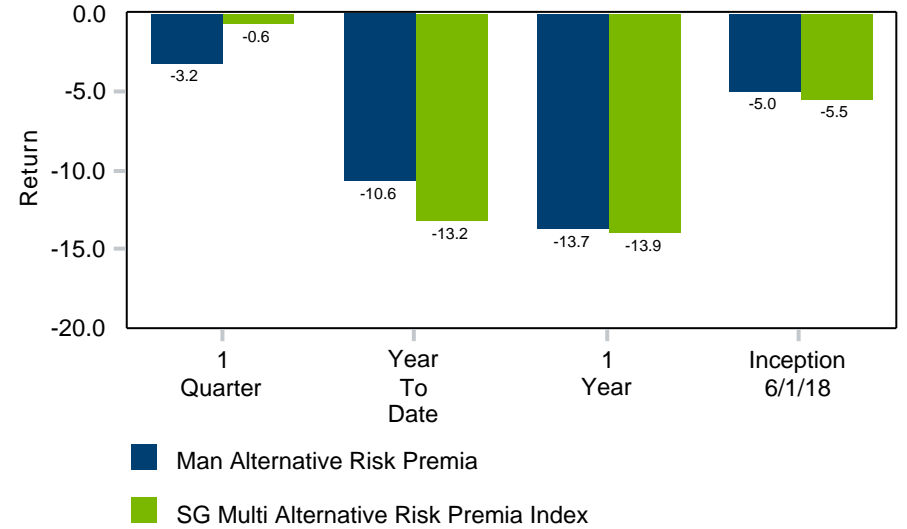


Man Alternative Risk Premia Performance Summary

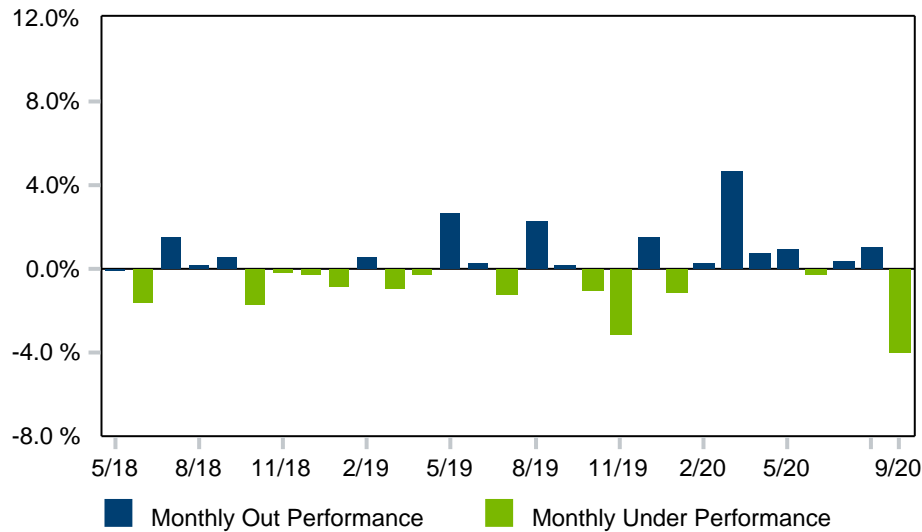
Account Information

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:

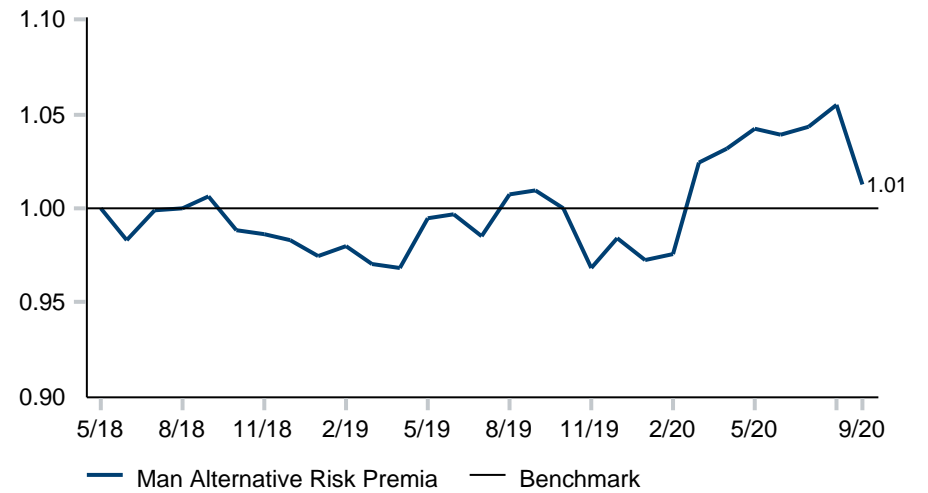
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

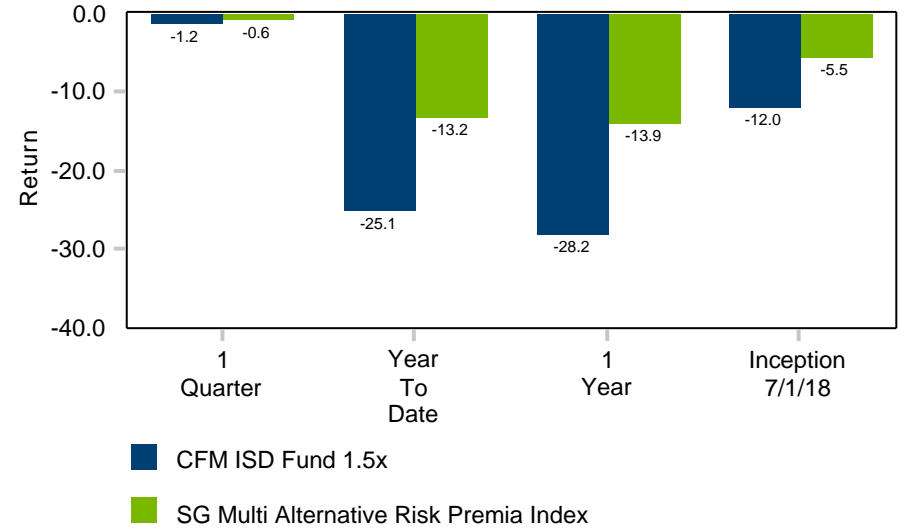


CFM ISD Fund 1.5x Performance Summary

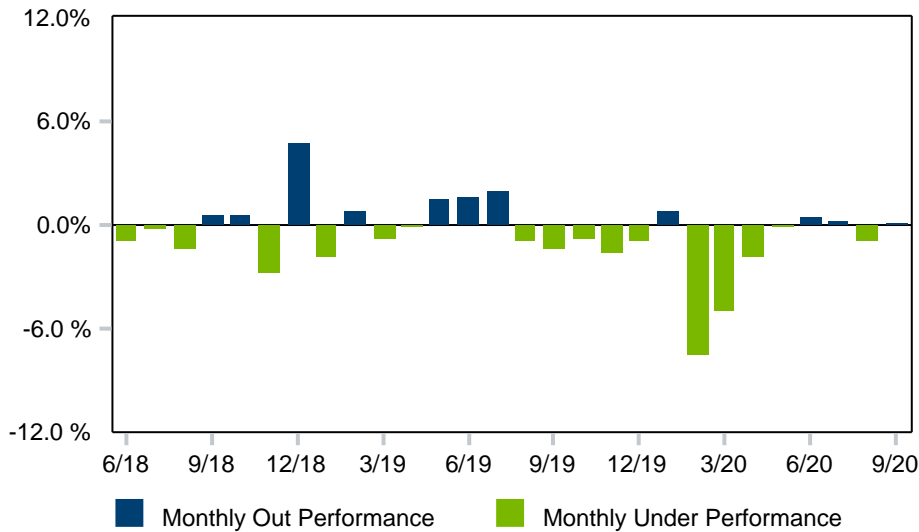
Account Information

Account Name: CFM ISD Fund 1.5x
 Inception Date: 07/01/2018
 Account Structure: Commingled Fund
 Asset Class: US Equity
 Benchmark: SG Multi Alternative Risk Premia Index
 Peer Group:

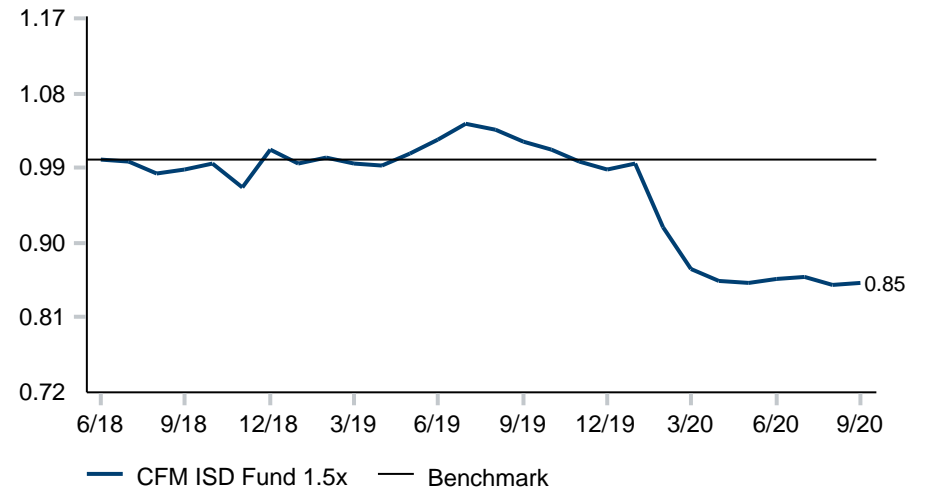
Return Summary

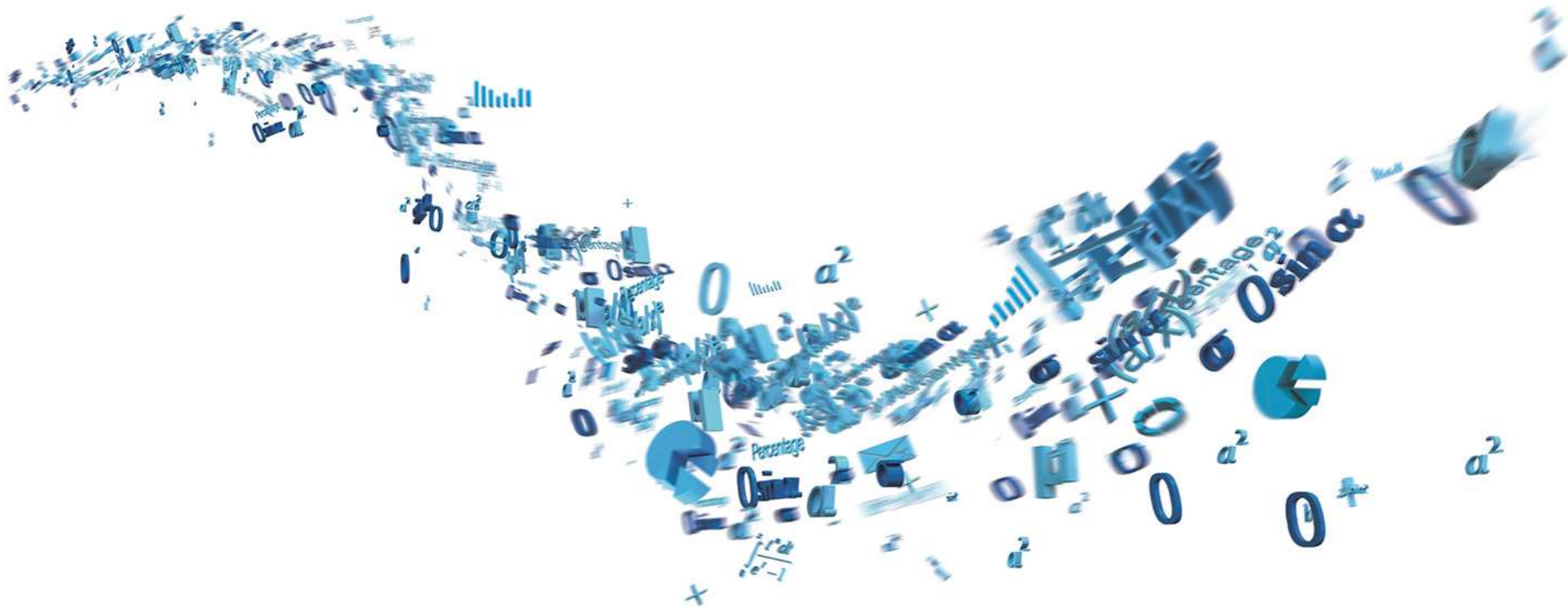


Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception



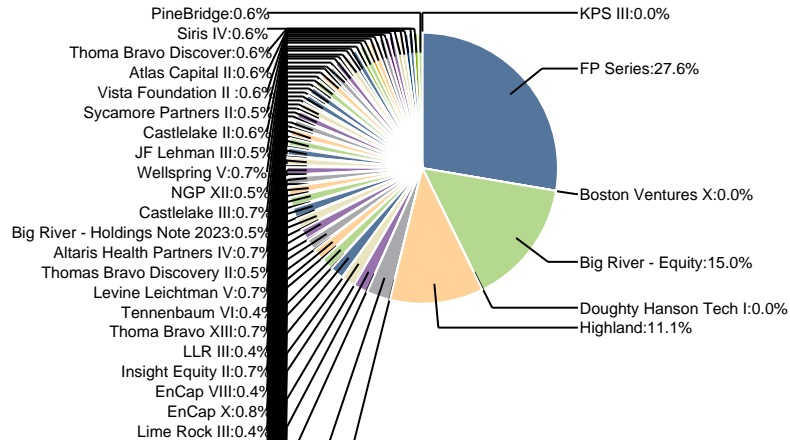


Private Equity

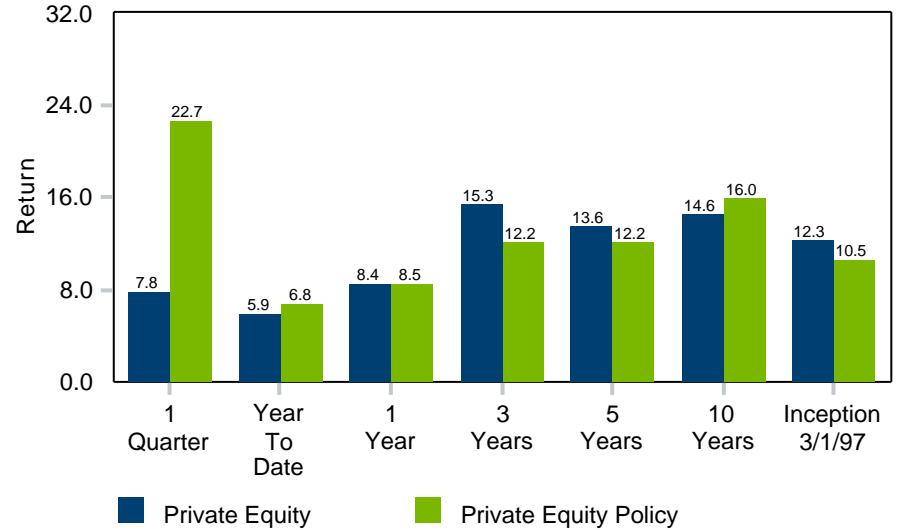
Private Equity Portfolio Overview

Current Allocation

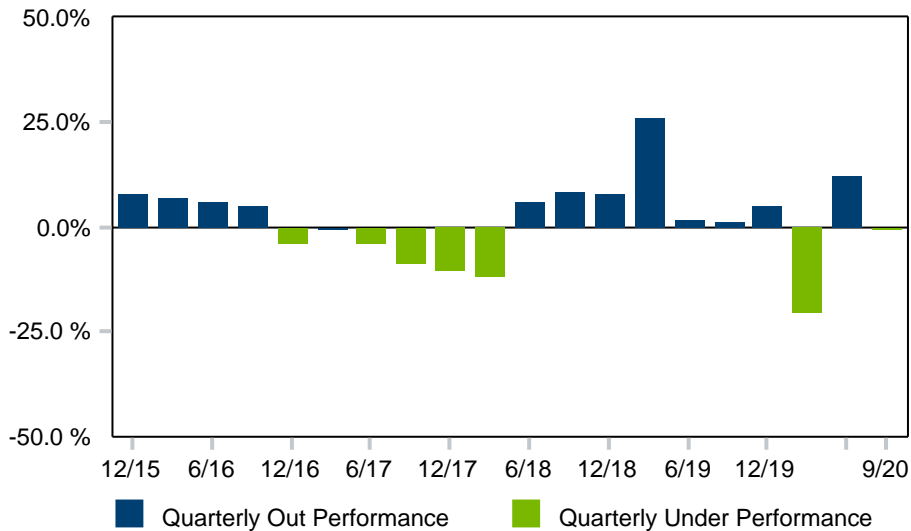
September 30, 2020 : \$2,514M



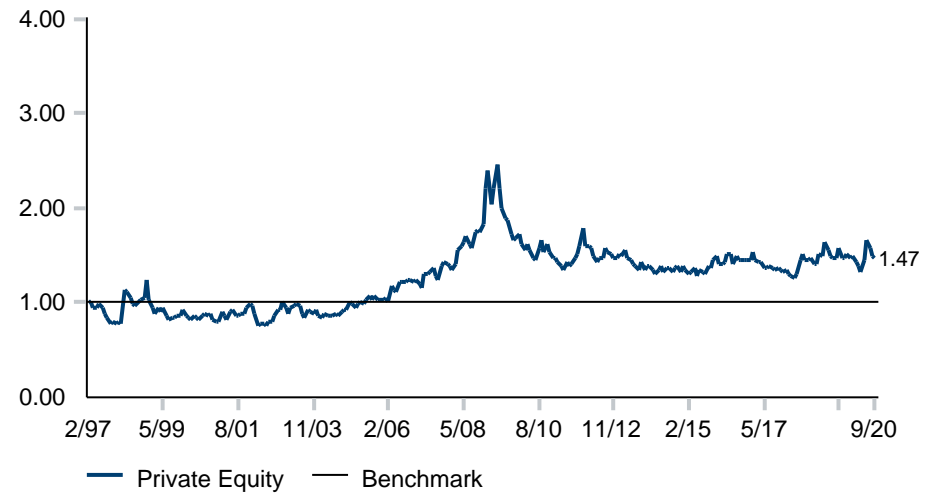
Return Summary

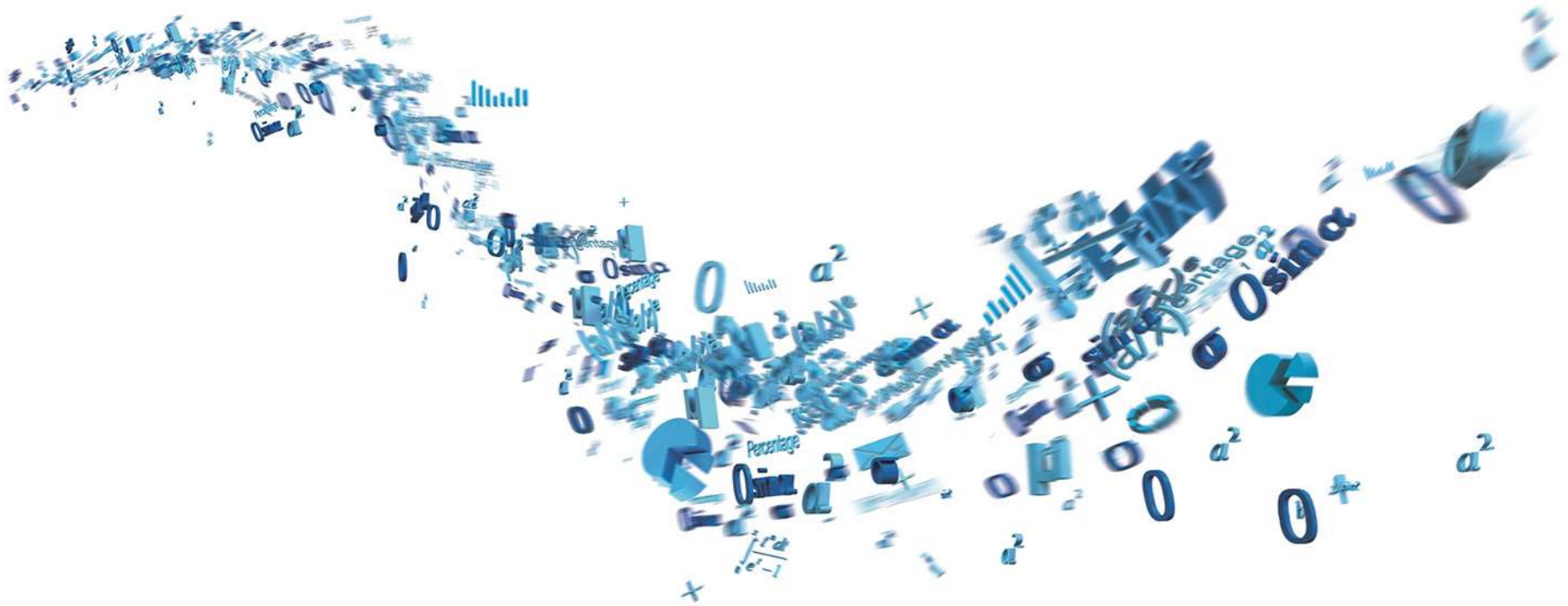


Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception



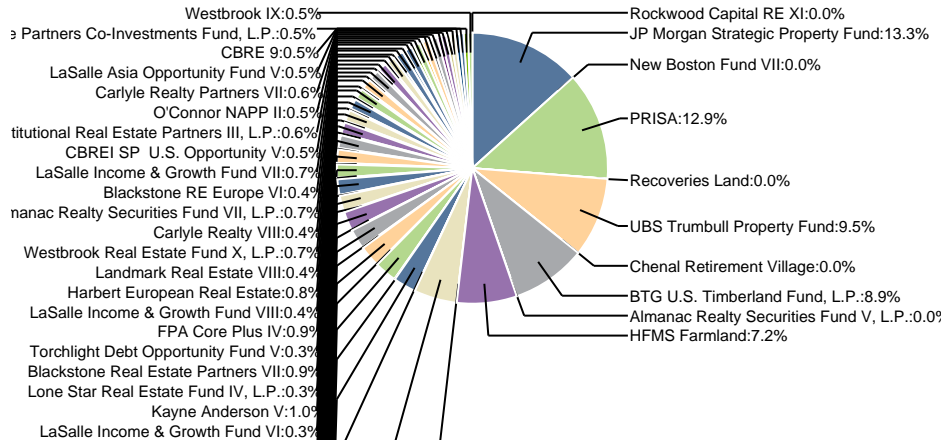


Real Assets

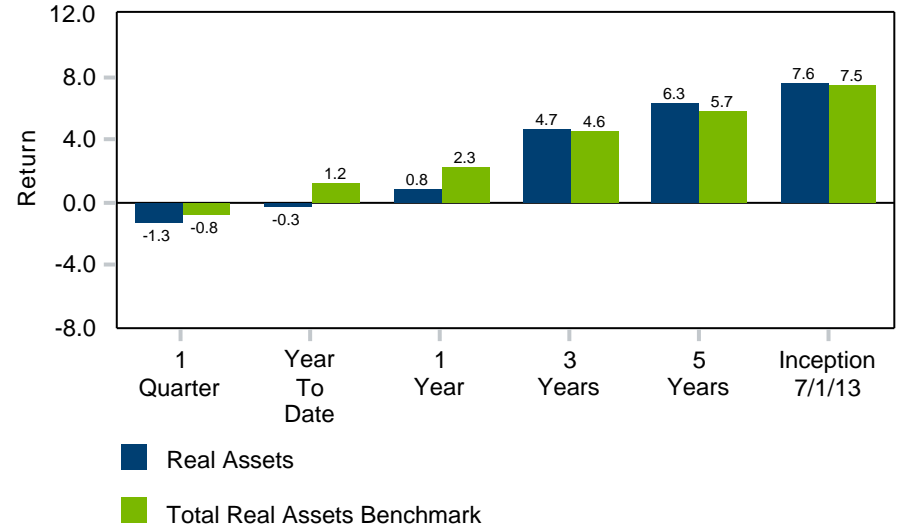
Real Assets Portfolio Overview

Current Allocation

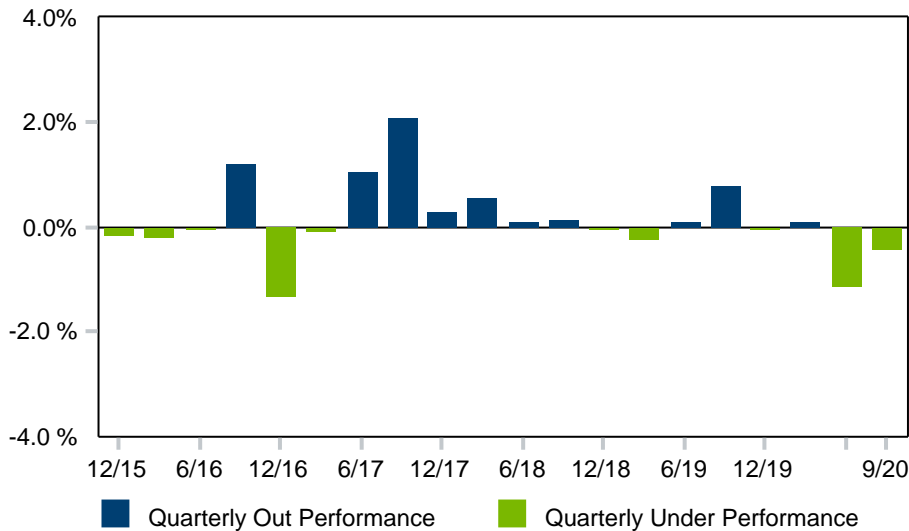
September 30, 2020 : \$2,091M



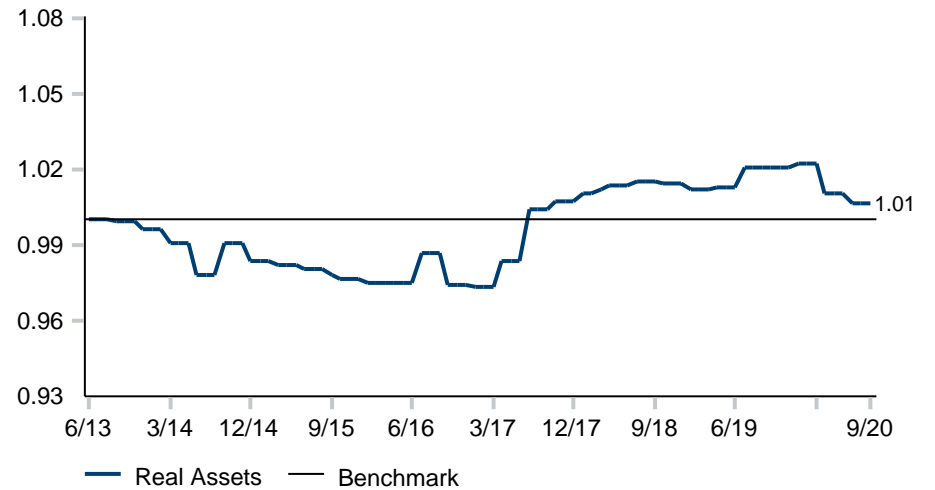
Return Summary

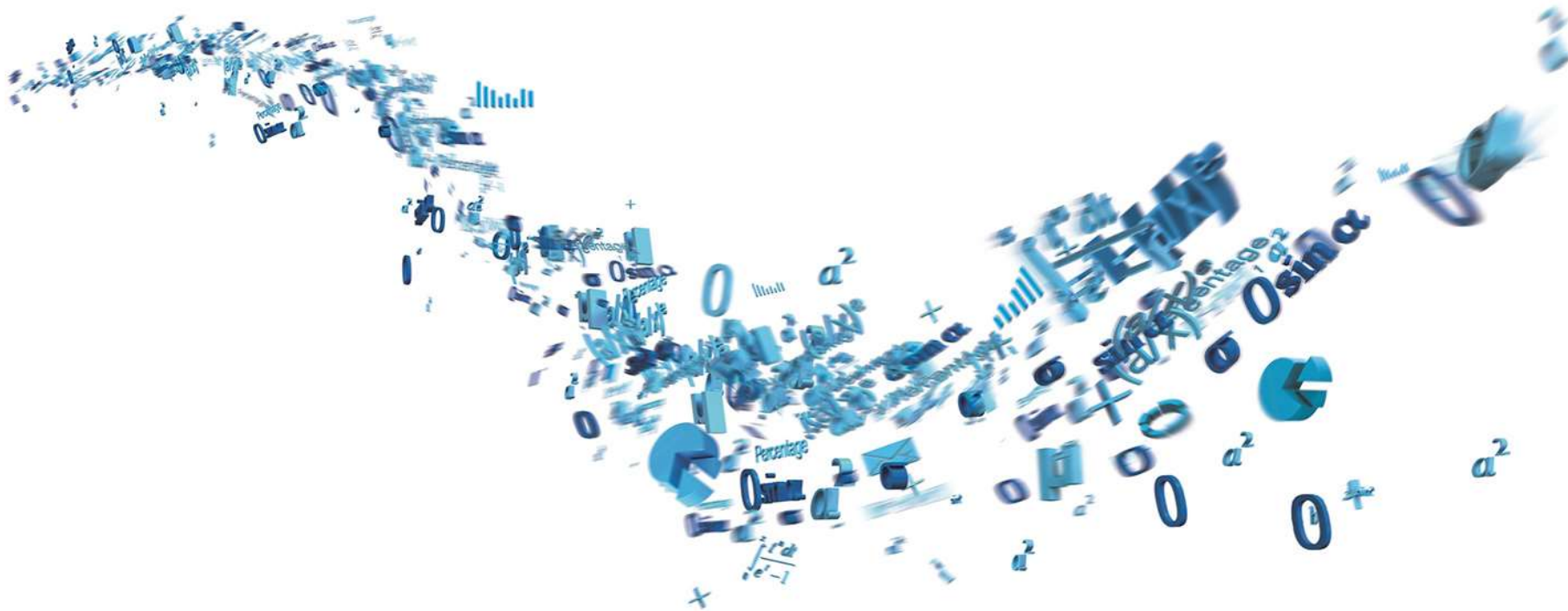


Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception





Market Environment

Aon Investments' Key Themes for Public Pensions

Market Environment

- Public market securities are expensive across most equities and fixed income
- The economic recovery has been stronger than expected
- COVID cases remain stubbornly high, and economic normalcy cannot resume until we get this under control

Current Investment Themes

- Market appreciation has reduced the attractiveness of public equity
- Compensation for credit risk in public markets is reasonable, but not great
- Diversifying asset classes retain an important role in portfolios given the degree of market uncertainty
- Near-term, expect volatility
- Prepare for opportunities that will arise as we move through the downturn
- Increasing attention to ESG & Diverse Manager Investing

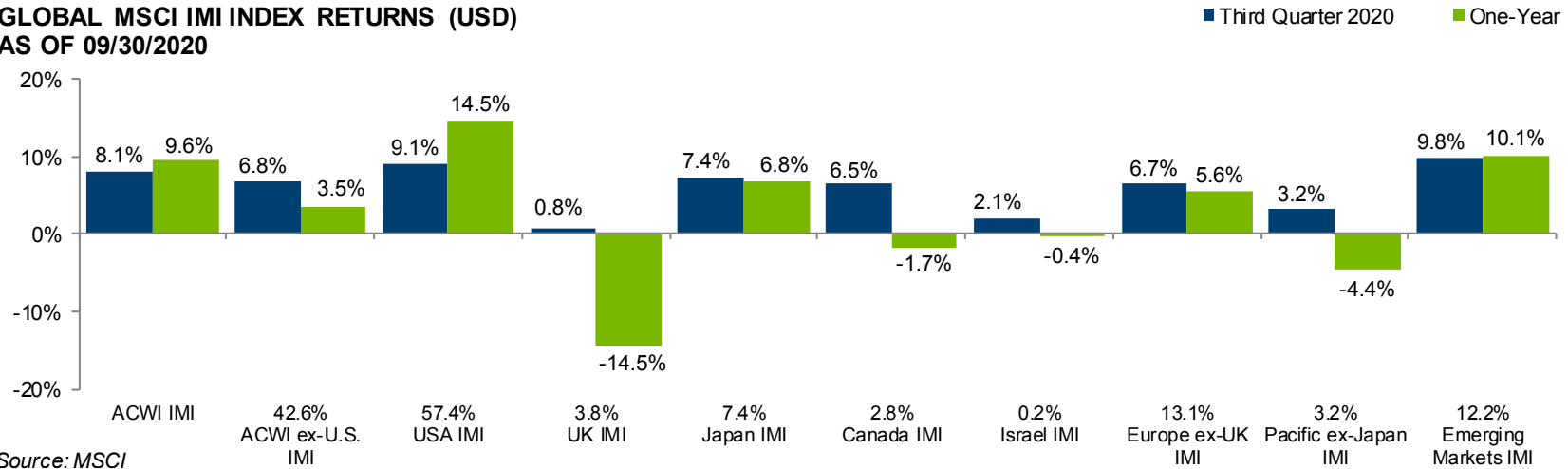
Long-Term Strategy

- Liquidity is important in the short and long-term given the economic impacts from the crisis; review overall portfolio liquidity and net cash flow positions under different funding scenarios
- Ensure appropriate exposure to public equity diversifiers such as private credit, insurance-linked securities, non-directional hedge funds, and segments of the real estate market
- Consider addition of an Opportunity Fund for efficient ability to capitalize on attractive and timely opportunities

The opinions referenced are as of September 30, 2020 and are subject to change due to changes in the market or economic conditions and may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice. Diversification does not ensure a profit nor does it protect against loss of principal. Diversification among investment options and asset classes may help to reduce overall volatility.

Global Equity Markets

GLOBAL MSCI IMI INDEX RETURNS (USD) AS OF 09/30/2020



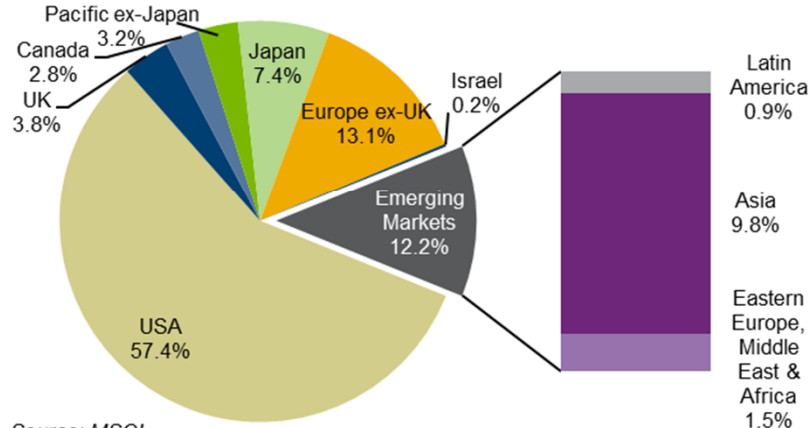
Source: MSCI

- Global equities continued their rebound over the third quarter as they broke through their pre-pandemic all time highs in early September. This performance was supported by optimism over progress in Covid-19 vaccine trials and supportive monetary and fiscal policies. However, rising fears of a second wave coronavirus outbreak and failure to agree further fiscal stimulus reversed some of the equity market's gains, bringing the MSCI AC World Investable Market Index's local currency return over the quarter to 6.9%. Depreciation of the U.S. dollar further pushed up the returns to 8.1% in USD terms.
- Emerging Markets equities were the best performers with a return of 9.8% over the quarter, supported by strong returns from the Consumer Discretionary and Information Technology sectors. Chinese equities continued their strong performance, boosted by the government's successful containment of Covid-19, despite increasing U.S.-China tensions.
- UK equities were the worst performer, returning 0.8% over the quarter. The UK's economy contracted by 19.8% over the second quarter, the worst Q2 contraction of any major developed economy. Heightened Brexit uncertainty also weighed on UK equities, as trade negotiations continue ahead of the end of the transition period in December.

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

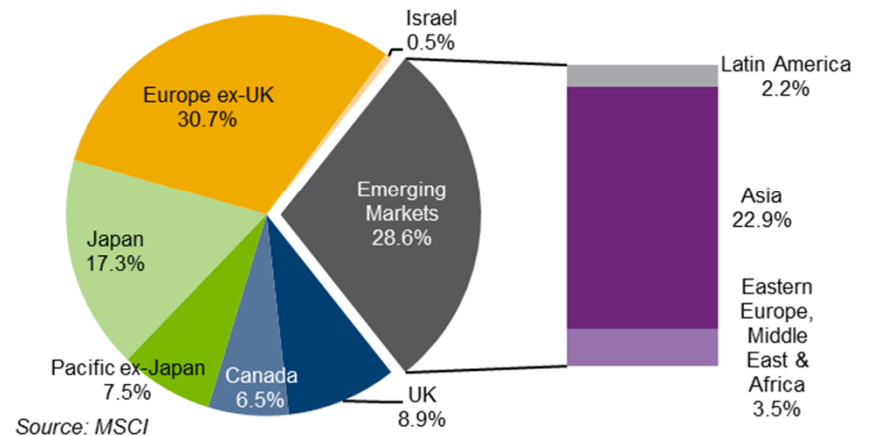
Global Equity Markets

**MSCI ALL COUNTRY WORLD IMI INDEX
GEOGRAPHIC ALLOCATION AS OF 09/30/2020**



Source: MSCI

**MSCI ALL COUNTRY WORLD EX-U.S. IMI INDEX
GEOGRAPHIC ALLOCATION AS OF 09/30/2020**

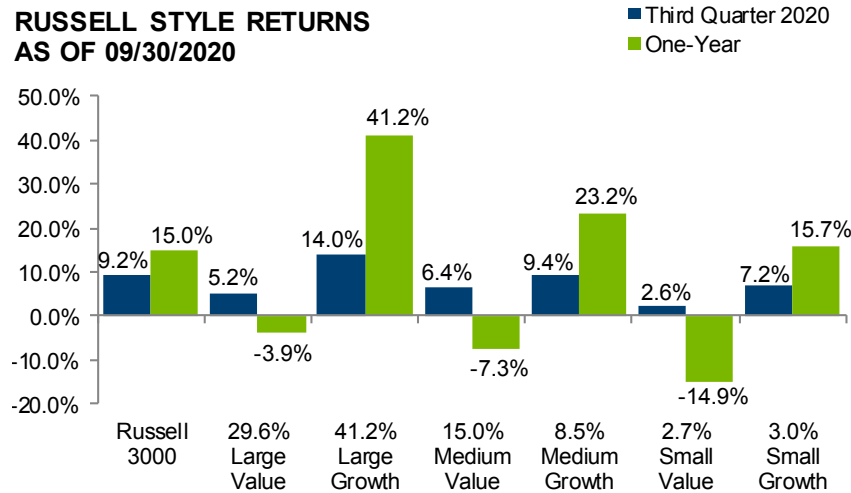


Source: MSCI

- The two exhibits on this slide illustrate the percentage that each country/region represents of the global and international equity markets as measured by the MSCI All Country World IMI Index and the MSCI All Country World ex-U.S. IMI Index, respectively.

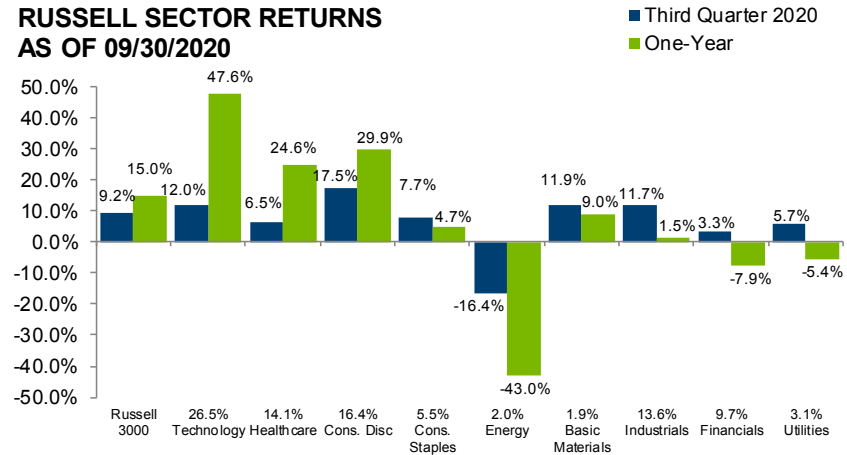
U.S. Equity Markets

RUSSELL STYLE RETURNS AS OF 09/30/2020



Source: Russell Indexes

RUSSELL SECTOR RETURNS AS OF 09/30/2020

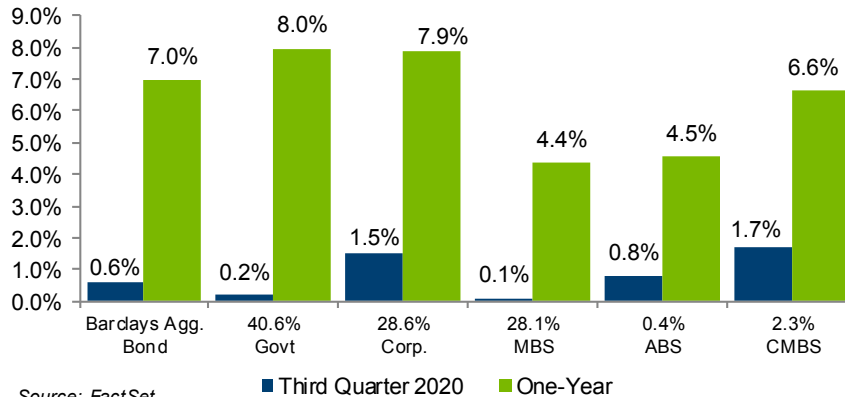


Source: Russell Indexes. Russell introduced Telecommunications and Real Estate as new sectors on 09/30/2020. Returns for the new sectors have been excluded due to the lack of historical data.

- U.S. equities ended the quarter above the pre-pandemic high set in February 2020, as rebounding economic data and strong performances from big tech stocks continued to push equity markets. The U.S. unemployment rate fell to 8.4% in August, down from April's all-time high of 14.7%, with jobless claims data suggesting that over half of the jobs lost since the start of the pandemic have now been recovered. However, an acrimonious election campaign ahead of November's presidential election and deadlocked congressional negotiations over a new fiscal stimulus package cast a shadow over the market. The Russell 3000 Index rose 9.2% during the third quarter and 15.0% over the one-year period.
- Except Energy, all sectors generated positive returns over the quarter. Consumer Discretionary was the best performing sector with a return of 17.5% while the Energy sector fell by 16.4%.
- Small cap stocks underperformed both large and medium cap stocks over the quarter, whilst Value stocks continued to underperform their Growth counterparts in Q3 2020.

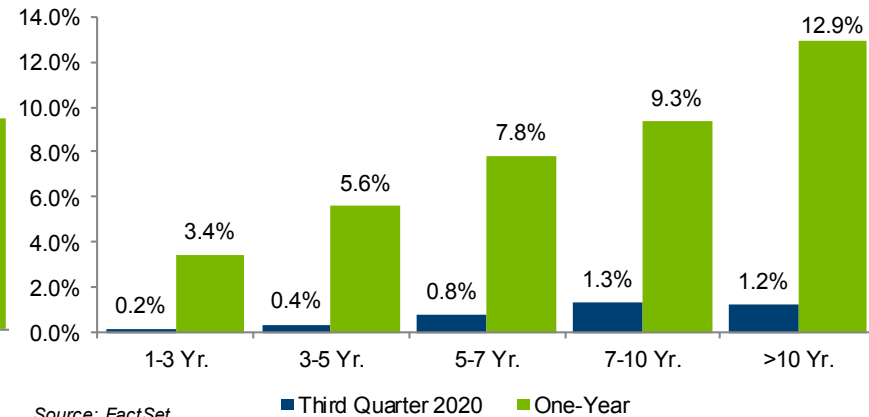
U.S. Fixed Income Markets

BLOOMBERG BARCLAYS AGGREGATE RETURNS BY SECTOR AS OF 09/30/2020



Source: FactSet

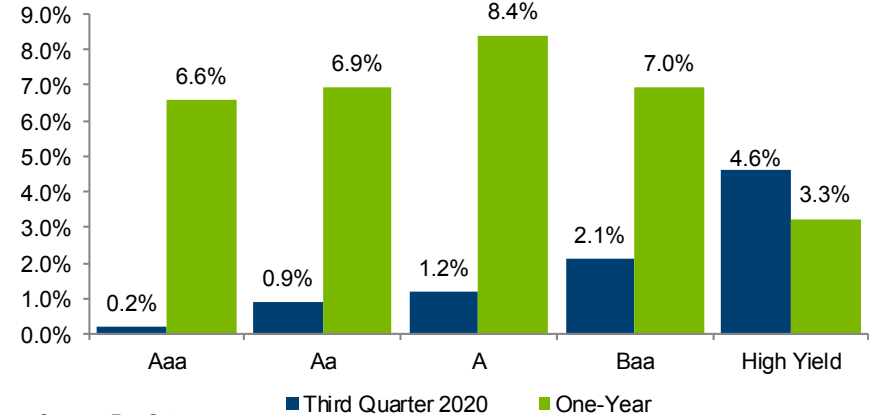
BLOOMBERG BARCLAYS AGGREGATE RETURNS BY MATURITY AS OF 09/30/2020



Source: FactSet

- The Bloomberg Barclays U.S. Aggregate Bond Index rose by 0.6%.
- CMBS bonds were the best performer with a return of 1.7%, followed by corporate bonds which rose by 1.5%.
- Bonds with 7-10 year maturities performed the best with a return of 1.3%.
- The Federal Reserve (Fed) continued to buy corporate bonds through its \$750 billion corporate lending facility, ensuring that demand remains high
- High yield bonds rose by 4.6%. Within investment grade bonds, Baa bonds outperformed with a return of 2.1%.

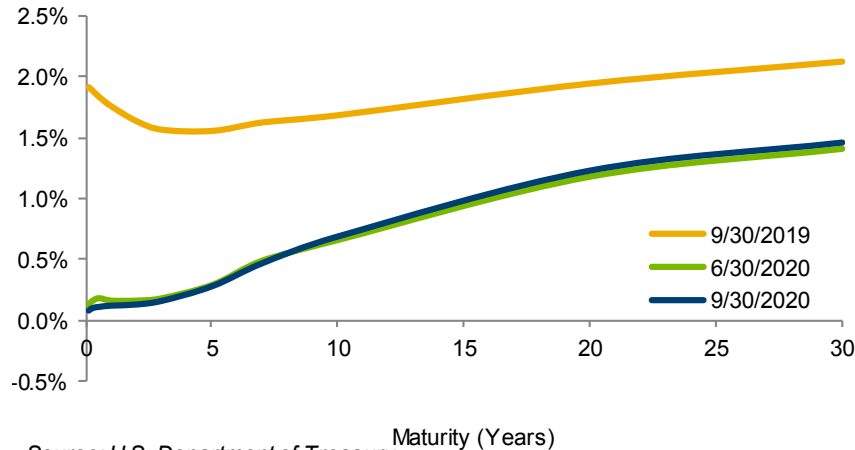
BLOOMBERG BARCLAYS AGGREGATE RETURNS BY QUALITY AND HIGH YIELD RETURNS AS OF 09/30/2020



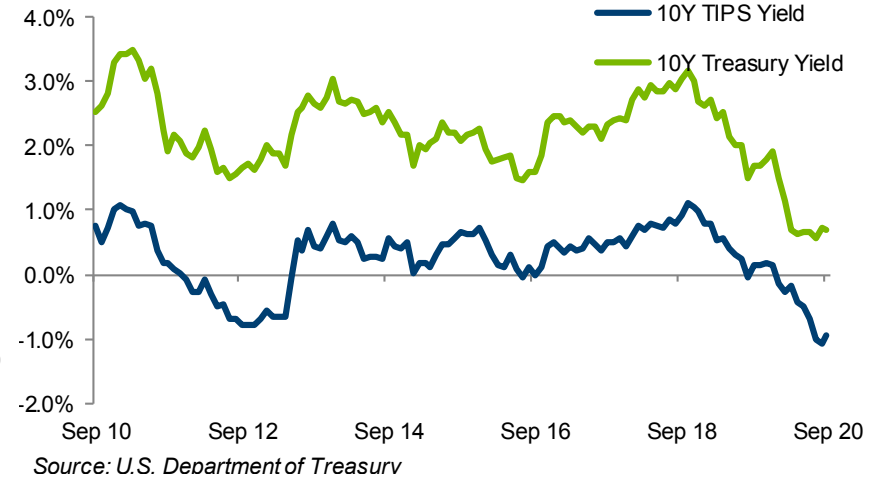
Source: FactSet

U.S. Fixed Income Markets

U.S. TREASURY YIELD CURVE



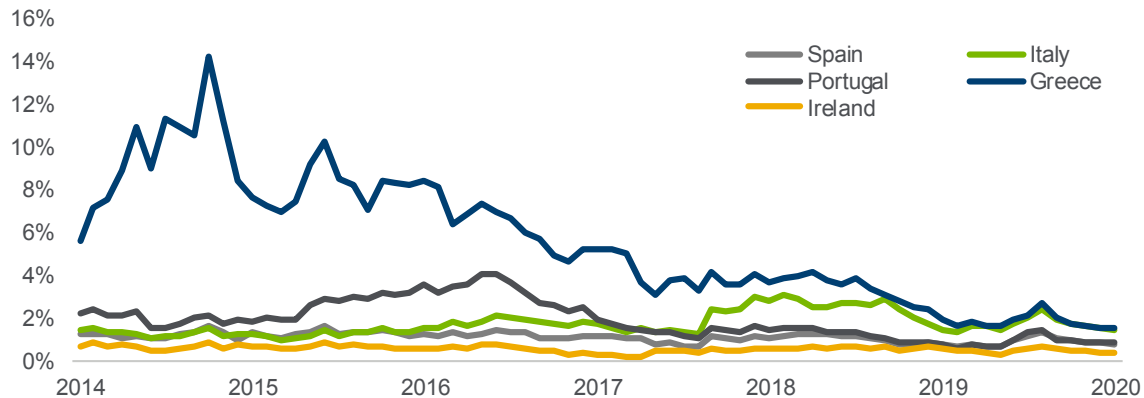
U.S. 10-YEAR TREASURY AND TIPS YIELDS



- The U.S. nominal yield curve slightly steepened over the quarter, but overall yields were broadly unchanged. The Fed projected that it would keep interest rates near zero until at least 2023. During the quarter, the Fed also announced a major policy shift by adopting an “average inflation targeting” approach. Under this new approach the Fed will seek an average of 2.0% inflation over time by allowing inflation to run above the target to make up for periods where inflation ran below the target. Since inflation has recently run below the target, a period of higher inflation could be tolerated under the approach without the Fed having to tighten monetary policy.
- The 10-year U.S. treasury yield ended the quarter 3bps higher at 0.69% and the 30-year yield increased by 5bps to 1.46%.
- The 10-year TIPS yield fell by 26bps over the quarter to -0.94%. Breakeven inflation rose across the curve, with the short end rising by a greater extent. The Fed’s new “average inflation targeting” approach, the continued relaxation of lockdown measures and the anticipation of further fiscal stimulus raised inflationary expectations over the quarter.

European Fixed Income Markets

**EUROZONE PERIPHERAL BOND SPREADS
(10-YEAR SPREADS OVER GERMAN BUNDS)**



Source: FactSet

- European government bond spreads over 10-year German bunds continued to narrow across the Euro Area. European Union leaders struck a deal on a €750bn coronavirus recovery package, which the European Commission will fund by borrowing in the capital markets for the first time. Elsewhere, the Eurozone witnessed a second consecutive month of deflation, putting pressure on the European Central Bank to allow inflation to overshoot its target in the future.
- German bund yields fell by 5bps to -0.53% over the quarter. In Q2 2020 the Eurozone economy suffered the sharpest drop in growth since its inception, with GDP contracting by 12.1% on a quarter-on-quarter basis. Spain, which is one of the worst hit countries by the Covid-19 pandemic, was the worst performing major Eurozone economy over the quarter as it contracted by 18.5%.
- Italian government bond yields fell the most at 37bps to 0.87%, whereas, Spanish and Portuguese government bond yields fell by 22bps and 21bps to 0.25% and 0.26% respectively.

Credit Spreads

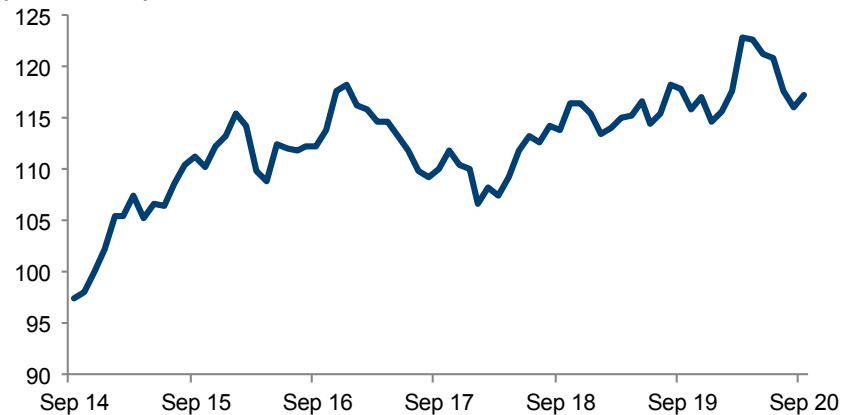
Spread (bps)	09/30/2020	06/30/2020	09/30/2019	Quarterly Change (bps)	One-Year Change (bps)
U.S. Aggregate	60	68	46	-8	14
Long Govt	0	1	1	-1	-1
Long Credit	188	202	167	-14	21
Long Govt/Credit	111	120	95	-9	16
MBS	61	70	46	-9	15
CMBS	106	132	70	-26	36
ABS	41	68	37	-27	4
Corporate	136	150	115	-14	21
High Yield	517	626	373	-109	144
Global Emerging Markets	334	393	312	-59	22

Source: FactSet, Bloomberg Barclays

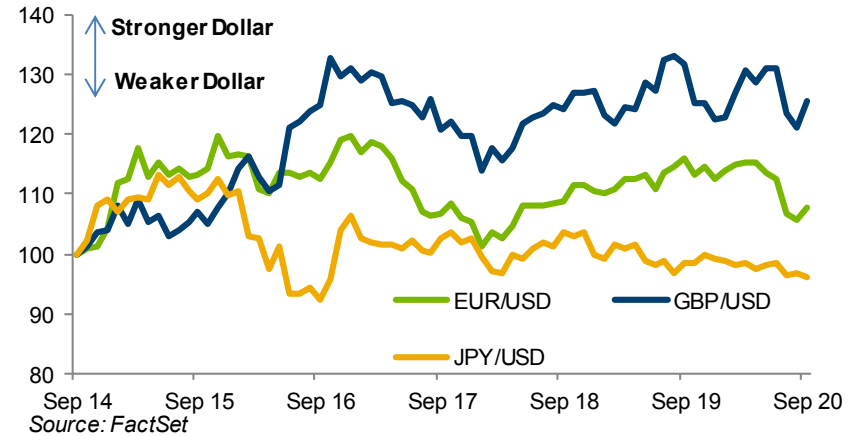
- Credit markets generally performed well as spreads continued to fall, especially in the riskier credit areas. However, similar to equity markets, growing concerns over rising COVID cases and uncertainty with regards to the next round of fiscal stimulus caused spreads to widen in September. Overall, credit spreads over U.S. treasuries narrowed over the quarter.
- Riskier areas of credit, such as U.S. high yield bonds and emerging market debt performed well. High yield credit spreads narrowed significantly in Q3 2020, decreasing by 109bps, whilst Global Emerging Markets spreads narrowed by 59bps over the quarter.

Currency

**TRADE WEIGHTED U.S. DOLLAR INDEX
(1973 = 100)**



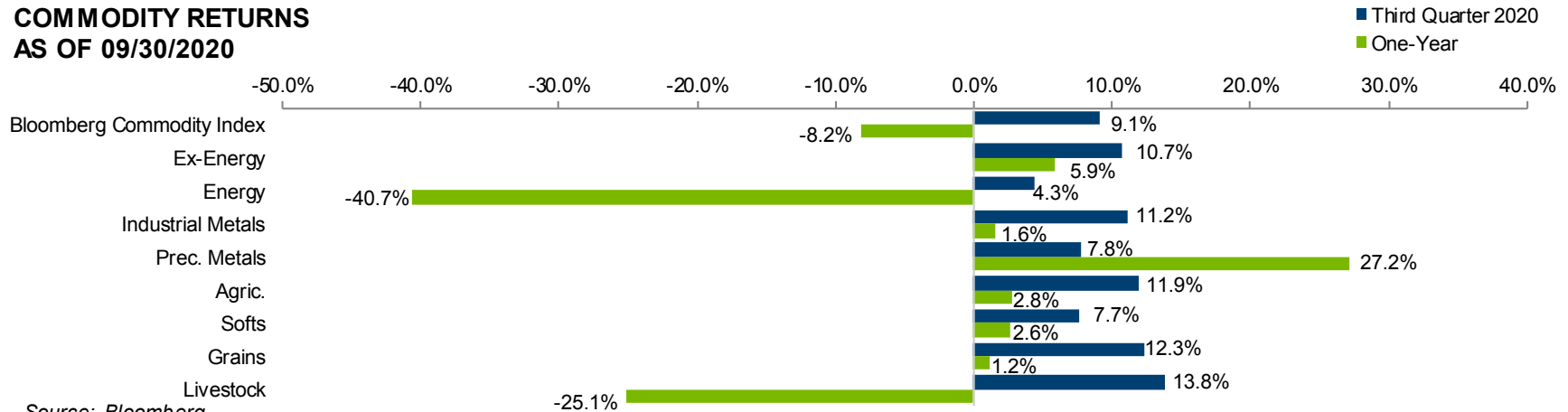
**U.S. DOLLAR RELATIVE TO EUR, GBP AND JPY
REBASED TO 100 AT 09/30/2014**



- The U.S. dollar weakened against major currencies over the quarter as it fell by 2.9% on a trade-weighted basis. The resurgence of Covid-19 cases in the US and heightened political uncertainty ahead of November's presidential election was a drag on the dollar, whilst expectations of looser monetary policy and a higher inflation outlook provided further headwinds.
- Sterling rose by 1.8% on a trade-weighted basis over the quarter. Hopes that a UK-EU trade deal will be reached by the end of the year boosted sterling over July and August, but sterling came under renewed pressure in September as UK-EU clashes over the Internal Markets Bill raised fears of a chaotic departure. Over the quarter sterling appreciated by 4.4% against the U.S. dollar.
- The U.S. dollar depreciated by 4.2% and 2.2% against the euro and yen respectively.

Commodities

COMMODITY RETURNS AS OF 09/30/2020



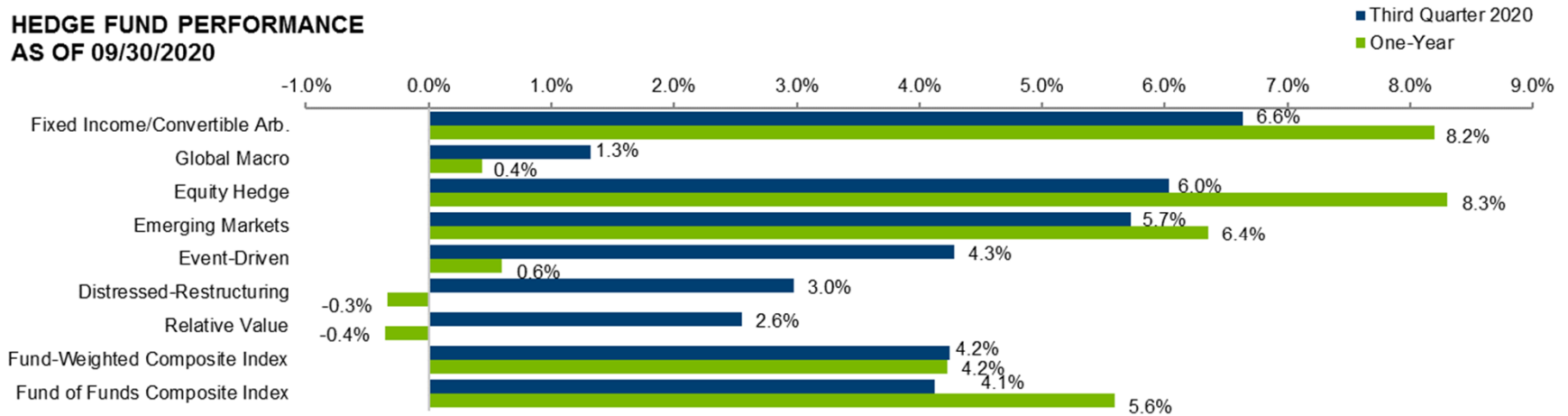
Source: Bloomberg

Note: Softs and Grains are part of the wider Agriculture sector

- Commodities started the quarter off strong before falling back in tandem with equity markets in September. Despite the poor performance in September, the Bloomberg Commodity Index returned 9.1%.
- The Energy sector rose by 4.3% over the quarter. Oil had another turbulent quarter with prices seeming to stabilize in July and August as OPEC+ agreed to scale back its production cuts from 9.7 million barrels per day to 7.7 million barrels per day until the end of the year. However, WTI crude prices fell by 5.6% in September as OPEC reduced its demand expectations for the rest of 2020 to 90.2 million barrels per day as global coronavirus cases continued to grow.
- The price of Brent crude oil fell by 0.5% to \$40.9/bbl. whilst WTI crude oil spot prices rose by 2.4% to \$40.2/bbl. On a one-year basis, the Energy sector is down by 40.7%.
- Livestock was the best performing sector, rising by 13.8% in Q3 2020.

Hedge Fund Markets Overview

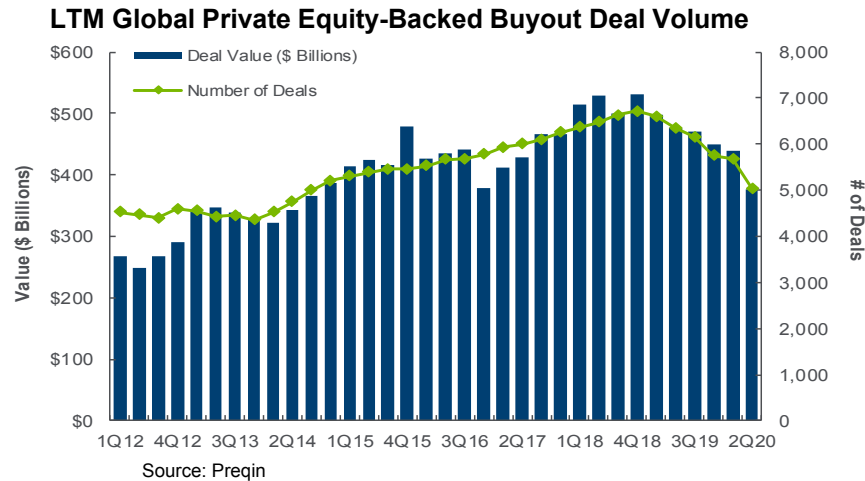
HEDGE FUND PERFORMANCE AS OF 09/30/2020



*Note: Latest 5 months of HFR data are estimated by HFR and may change in the future.
Source: HFR*

- Hedge fund performance was positive across all strategies in the third quarter.
- Over the quarter, Fixed Income/Convertible Arbitrage and Equity Hedge strategies were the best performers, returning 6.6% and 6.0% respectively.
- HFRI Fund-Weighted Composite Index and the HFRI Fund of Funds Composite Index produced returns of 4.2% and 4.1% respectively.

Private Equity Market Overview – Q2 2020 Slide 1 of 2



- Fundraising:** In 2Q 2020, \$162.3 billion was raised by 349 funds, which was a decrease of 17.7% on a capital basis and 15.9% by number of funds over the prior quarter. Dry powder stood at nearly \$2.2 trillion at the end of the quarter, a modest increase compared to the previous quarter.¹
- Buyout:** Global private equity-backed buyout deals totaled \$61.9 billion in 2Q 2020, which was down 40.1% on a capital basis and down 30.0% by number of deals from 1Q 2020.¹ In 2Q 2020, the average purchase price multiple for all U.S. LBOs was 9.2x EBITDA, a decrease of 2.0x over 1Q 2020 and lower than the five-year average (10.6x).² Large cap purchase price multiples stood at 9.2x in 2Q 2020, down compared to 1Q 2020's level of 10.9x.² The weighted average purchase price multiple across all European transaction sizes averaged 12.6x EBITDA for 2Q 2020, up from the 12.2x multiple seen at the end of 1Q 2020. Purchase prices for transactions of greater than €1.0 billion increased to 12.7x at the end of 2Q 2020, a jump from the 12.1x seen at the previous quarter end. Globally, exit value totaled \$36.4 billion from 296 deals during the second quarter, meaningfully down from the \$70.0 billion in exits from 453 deals during 1Q 2020.¹
- Venture:** During the second quarter, 1,374 venture-backed transactions totaling \$26.9 billion were completed in the U.S., which was a decrease on a capital basis over the prior quarter's total of \$27.0 billion across 1,336 deals. This was 16.3% higher than the five-year quarterly average of \$23.1 billion.³ Total U.S. venture-backed exit activity totaled approximately \$21.2 billion across 147 completed transactions in 2Q 2020, down on a capital basis from the \$24.1 billion across 229 exits in 1Q 2020. Through 2Q 2020, U.S. exit activity represented only 17.3% of 2019's total.⁴
- Mezzanine:** Six funds closed on \$2.6 billion during the second quarter. This was up from the prior quarter's total of \$2.3 billion raised by six funds and represented 53.0% of the five-year quarterly average of \$4.9 billion. Estimated dry powder was \$48.6 billion at the end of 2Q 2020, up from the \$48.5 billion seen at the end of 1Q 2020.¹

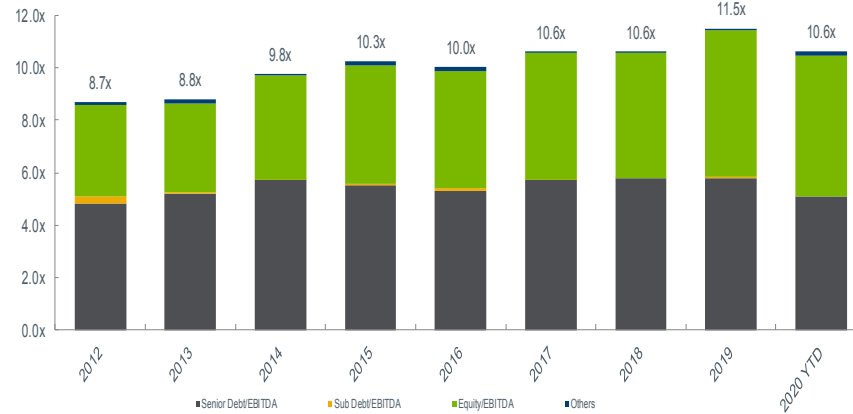
Sources: ¹ Preqin ² Standard & Poor's ³ PwC/CB Insights MoneyTree Report ⁴ PitchBook/NVCA Venture Monitor ⁵ Fitch Ratings ⁶ Thomson Reuters ⁷ UBS

Notes: FY=Fiscal year ended 12/31; YTD=Year to date; LTM=Last 12 months (aka trailing 12 months); PPM=Purchase Price Multiples: Total Purchase Price ÷ EBITDA.

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Private Equity Market Overview – Q2 2020 Slide 2 of 2

U.S. LBO Purchase Price Multiples – All Transactions Sizes



Source: S&P

- Distressed Debt:** The LTM U.S. high-yield default rate was 5.1% at June 2020, and was expected to increase during the following month.⁵ During the quarter, \$22.5 billion was raised by 18 funds, substantially higher than the \$4.5 billion raised by 10 funds in 1Q 2020 and the five-year quarterly average of \$11.4 billion.¹ Dry powder was estimated at \$127.3 billion at the end of 2Q 2020, which was up from the \$117.2 billion seen at the end of 4Q 2019. This remained above the five-year annual average level of \$109.3 billion.¹
- Secondaries:** 11 funds raised \$22.7 billion during the quarter, up from the \$21.3 billion raised by 16 funds in 1Q 2020. The quarter surpassed the record-breaking amount raised in 1Q 2020, which was the most raised since Q1 2017.¹ At the end of 2Q 2020, there were an estimated 82 secondary and direct secondary funds in market targeting roughly \$71.7 billion.¹ The average discount rate for all private equity sectors finished the quarter at 20.8%, lower than the 18.1% discount at the end of 1Q 2020.⁶
- Infrastructure:** \$13.9 billion of capital was raised by 28 funds in 2Q 2020 compared to \$38.7 billion of capital raised by 23 partnerships in 1Q 2020. At the end of the quarter, dry powder stood at an estimated \$219.7 billion, down slightly from 1Q 2020's total of \$220.7 billion. Infrastructure managers completed 313 deals with an estimated aggregate deal value of \$47.0 billion in 2Q 2020 compared to 644 deals totaling \$81.8 billion a quarter ago.¹
- Natural Resources:** During 2Q 2020, two funds closed on \$0.3 billion compared to six funds totaling \$4.6 billion in 1Q 2020. Energy and utilities industry managers completed approximately 67 deals totaling an estimated \$8.1 billion through 2Q 2020, which represented 47.8% of energy and utilities deal value during all of 2019.¹

Sources: ¹ Preqin ² Standard & Poor's ³ PwC/CB Insights MoneyTree Report ⁴ PitchBook/NVCA Venture Monitor ⁵ Fitch Ratings ⁶ Thomson Reuters ⁷ UBS

Notes: FY=Fiscal year ended 12/31; YTD=Year to date; LTM=Last 12 months (aka trailing 12 months); PPM=Purchase Price Multiples: Total Purchase Price ÷ EBITDA.

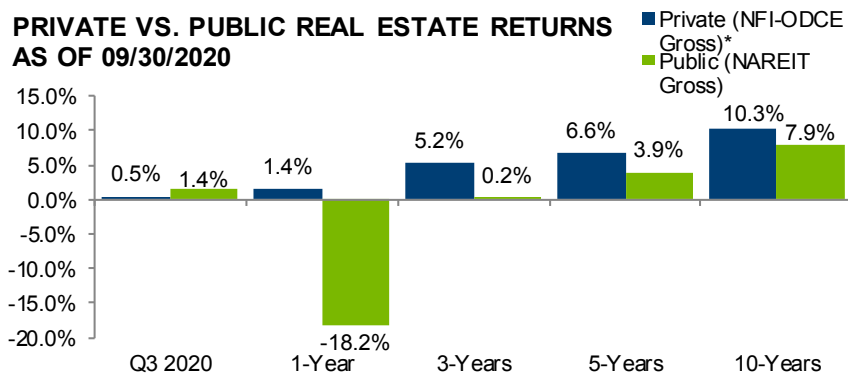
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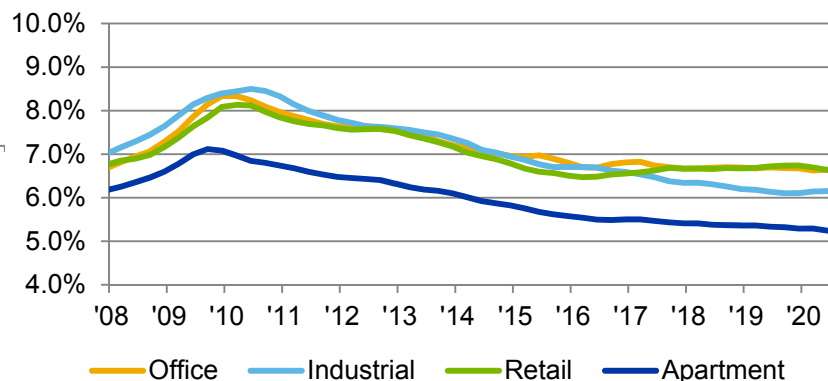
U.S. Commercial Real Estate Markets

PRIVATE VS. PUBLIC REAL ESTATE RETURNS AS OF 09/30/2020



*Third quarter returns are preliminary
Sources: NCREIF, FactSet

CAP RATES BY SECTOR
SOURCE: RCA, AON 6/30/2020

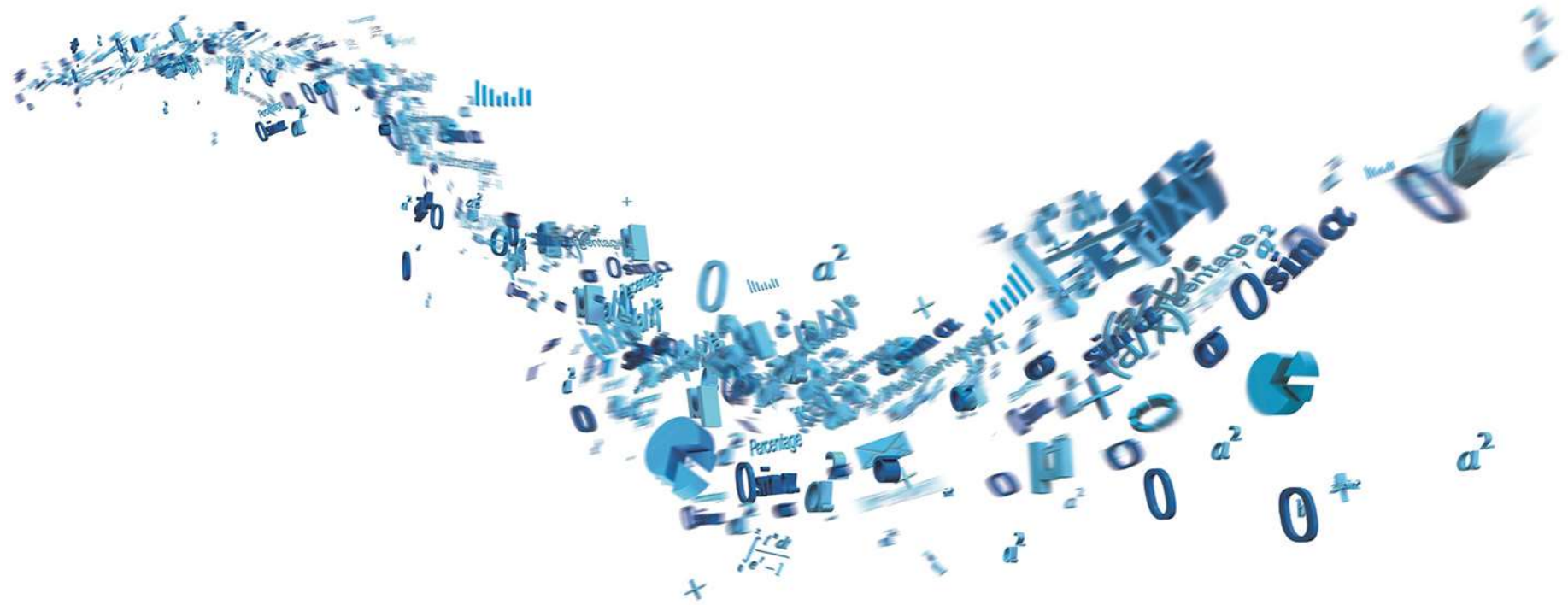


- U.S. Core Real Estate returned 0.48%* over the third quarter, equating to a 1.4% total gross return year-over-year, including a 4.0% income return. Shelter in place orders and social distancing practices have most severely impacted the retail and hotel property sectors. Property valuations have begun to price in the loss of cash flow as a result of COVID-19. Transaction volume has contracted -57% YoY through Q3 2020, and price discovery continues to be limited.
- Global property markets, as measured by the FTSE EPRA/NAREIT Developed Real Estate Index, returned 2.3% (USD) in aggregate during the third quarter and experienced a cumulative decline of -19.1% YTD. REIT market performance was driven by Asia Pacific (2.0% USD), North America (0.9% USD) and Europe (3.1% USD). The U.S. REIT markets (FTSE NAREIT Equity REITs Index) returned 1.4% in the third quarter. The U.S. 10-year treasury bond yields rose by 3bps to 0.69% during the quarter.
- The coronavirus fueled market volatility in the stock and bond markets has created a situation of uncertainty for private real estate pricing. Public markets are searching for the right pricing level in light of the global pandemic, and how it will affect the regional and global economies. Implied volatility continues to signal elevated levels of uncertainty concerning public market implied valuations. Considering this situation, we are recommending that investments with pre-specified assets be postponed. Private market transactions based on appraisal valuations lag the most current information, and they do not fully reflect the current market conditions.
- We are proactively evolving our investment strategy. In the post-coronavirus world, supply chains may move back to North America which will require corresponding real estate infrastructure. Demand for last mile logistics, already a key investment theme, will accelerate. Live and work preference changes will create opportunities. Interest rates are likely to remain lower for even longer, making real estate a very compelling alternative to fixed income investments.
- Blind pool funds offer a potential to have capital available when the new opportunity set presents itself. Those strategies need careful review in light of the changing market dynamics. Strategies that worked previously in a growth-oriented market may not be appropriate for what may be more opportunistic style investing. Regions, countries and property types all need to be reevaluated.

*Indicates preliminary NFI-ODCE data gross of fees

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Fee Schedule

Total Equity

As of September 30, 2020

Fee Schedule

	Fee Schedule	Market Value As of 09/30/2020 \$000	Estimated Annual Fee \$000	Estimated Annual Fee (%)
Total Equity		9,481,911	43,687	0.46
Jacobs Levy 130/30	0.60 % of First \$200 M 0.35 % of Next \$300 M 0.30 % Thereafter	635,345	2,656	0.42
Kennedy Capital Management	0.60 % of First \$100 M 0.50 % Thereafter	465,226	2,426	0.52
Stephens	0.75 % of First \$150 M 0.70 % of Next \$50 M 0.65 % Thereafter	484,612	3,325	0.69
Voya Absolute Return	0.60 % of First \$250 M 0.40 % Thereafter	595,648	2,883	0.48
Allianz (Nicholas Applegate)	0.40 % of First \$100 M 0.30 % of Next \$100 M 0.25 % of Next \$100 M 0.20 % Thereafter	829,656	2,009	0.24
Pershing Square International	1.50 % of Assets	63,584	954	1.50
Pershing Square Holdings	1.50 % of Assets	196,023	2,940	1.50
Triam Partners	1.50 % of Assets	73,327	1,100	1.50
Triam Co-Investments	0.50 % of Assets	89,334	447	0.50
SSgA Global Index	0.04 % of First \$1000 M 0.03 % Thereafter	975,323	390	0.04
BlackRock MSCI ACWI IMI Fund	0.05 % of First \$250 M 0.04 % Thereafter	1,058,152	448	0.04
Wellington Global Perspectives	0.80 % of Assets	503,667	4,029	0.80
T. Rowe Price Global Equity	0.43 % of First \$500 M 0.40 % Thereafter	1,272,588	5,215	0.41
Lazard	0.68 % of First \$300 M 0.65 % Thereafter	635,161	4,219	0.66
D.E. Shaw	0.84 % of First \$100 M 0.80 % of Next \$100 M 0.76 % Thereafter	742,238	5,761	0.78
GMO Global All Country Equity	0.64 % of Assets	424,366	2,716	0.64
Harris Global Equity	0.60 % of First \$100 M 0.50 % of Next \$100 M 0.45 % Thereafter	437,587	2,169	0.50

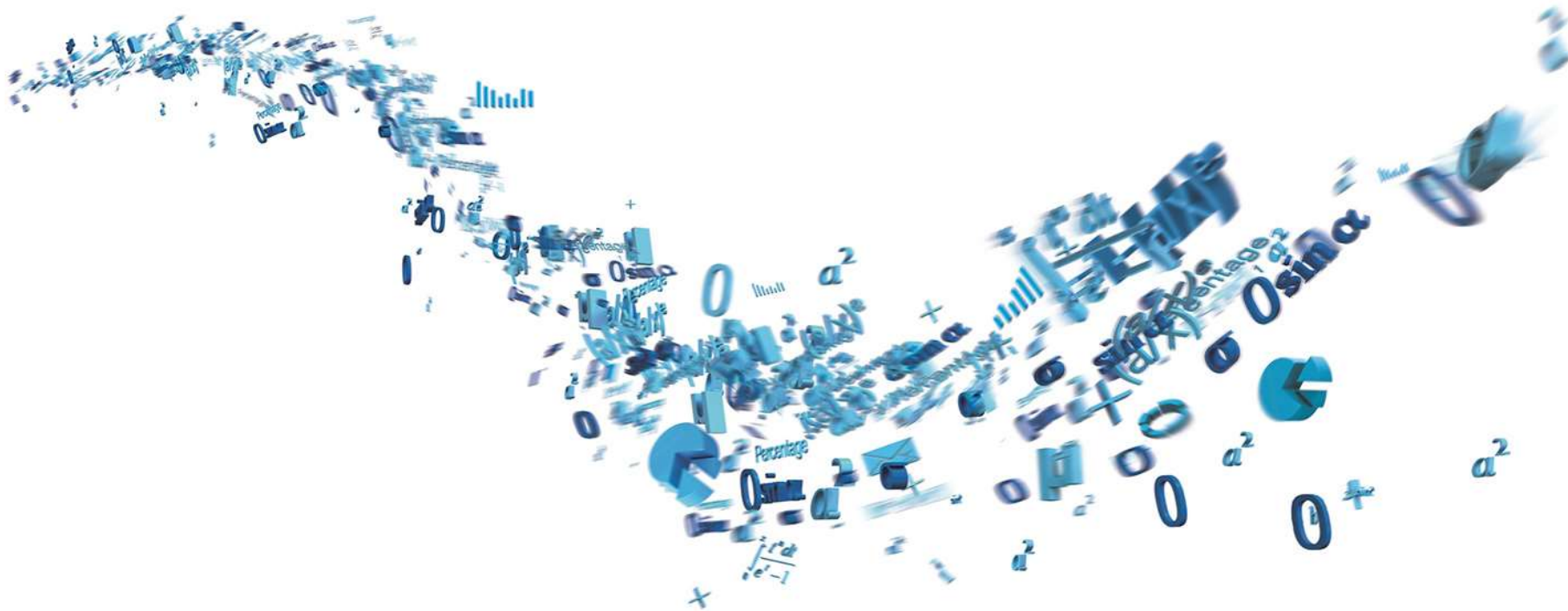
258 Above fees reflect only the current base management fee and excludes any performance fee arrangement.

Fee Schedule

	Fee Schedule	Market Value As of 09/30/2020 \$000	Estimated Annual Fee \$000	Estimated Annual Fee (%)
Fixed Income		2,320,454	5,195	0.22
BlackRock	0.20 % of First \$200 M 0.15 % of Next \$200 M 0.10 % of Next \$400 M 0.08 % Thereafter	281,849	523	0.19
Loomis Sayles	0.50 % of First \$20 M 0.40 % of Next \$30 M 0.30 % Thereafter	471,378	1,484	0.31
Putnam	0.40 % of First \$100 M 0.35 % of Next \$150 M 0.30 % of Next \$250 M 0.25 % Thereafter	373,750	1,296	0.35
SSgA Aggregate Bond Index	0.04 % of First \$100 M 0.02 % Thereafter	195,809	54	0.03
Wellington Global Total Return	0.30 % of Assets	348,475	1,045	0.30
Reams Core Plus Bond Fund	0.20 % of Assets	396,160	792	0.20
BRS Recycling Tax Credit		176,000	-	-
BRS Recycling Tax Credit Phase 2		77,032	-	-
Opportunistic/Alternatives		874,690	12,122	1.39
Anchorage	2.00 % of Assets	72,940	1,459	2.00
York	1.50 % of Assets	28,152	422	1.50
Capula	2.00 % of Assets	89,531	1,791	2.00
Graham	2.00 % of Assets	62,438	1,249	2.00
Circumference Group Core Value	1.50 % of Assets	30,344	455	1.50
Aeolus Keystone Fund	2.00 % of Assets	209,216	4,184	2.00
Nephila Rubik Holdings	1.50 % of Assets	44,515	668	1.50
Parametric Global Defensive Equity Fund	0.40 % of First \$150 M 0.35 % Thereafter	167,274	660	0.39
Man Alternative Risk Premia	0.85 % of Assets	88,131	749	0.85
CFM ISD Fund 1.5x	0.60 % of Assets	73,949	444	0.60
AB TALF Opportunity 2020 Fund	0.50 % of Assets	4,200	21	0.50
TCW TALF Opportunities Fund	0.50 % of Assets	4,001	20	0.50

259 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 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 September 1, 2020, the Total Equity Performance Benchmark was comprised of 29.7% DJ U.S. Total Stock Market Index and 70.3% 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

Allianz (Convertibles) Performance Benchmark - On January 1, 2005, the benchmark for the portfolio was changed to the Merrill Lynch Convertible Bond (All Quality) Index. Prior to January 1, 2005, the performance benchmark for the Allianz (previously 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.

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 Retirement Plans

Plan Design	Are Your Public Sector Employees Ready for Retirement? The Real Deal on Retirement Readiness	Link
Aon United	Helping Clients Navigate an Increasingly Complex World	Link
Governance	Investing in a Volatile World	Link
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Market View	U.S. Month in Markets (Updated Monthly)	Link
Market View	Video on Aon's Market Outlook for Q4 (9 minute video with passcode 'aon2020')	Link
Strategy Review	To Deliver ESG Progress, Go Beyond the Ratings	Link
Strategy Review	Video on Opportunistic Credit Strategies (3 minute video)	Link
Strategy Review	Webinar Invitation (Oct 22): 4Q 2020 Investment Market Update – Trends in Credit and Real Assets	Link to Register
Strategy Review	Webinar: Responsible and Diverse Manager Investing: Key Themes for Non-Profit Organizations in 2021 and Beyond	Link to Replay
Talent Management	Aon Business Recovery Readiness Assessment	Link
Talent Management	Beyond Good Intentions: Why Diversity is Vital in Investment Decisions	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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Arkansas Teachers Retirement System Second Quarter 2020 Real Assets Performance Review

PROPRIETARY & CONFIDENTIAL
December 2020

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Agenda

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Section 2	Market Overview
Section 3	Real Assets Portfolio Update
Section 4	Glossary

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Real Assets Markets Performance and Overview

MARKET RETURN SUMMARY

As of 6/30/2020	Quarter	1 year	3 years	5 years	10 years
NFI-ODCE (Net)	-1.8%	1.3%	4.7%	6.3%	9.8%
NPI	-1.0%	2.7%	5.4%	6.8%	9.7%
NCREIF Timberland Index	0.1%	0.3%	2.3%	2.7%	4.4%
NCREIF Farmland Index	0.6%	3.9%	5.4%	6.4%	10.9%

Note: Please see Glossary for Index Definitions

- In the second quarter of 2020, the NFI-ODCE (net) returned -1.8%, down 100 basis points quarter-over-quarter. NFI-ODCE returns are struggling, due to the maturity of the real estate cycle, as well as the distress created by the COVID-19 pandemic. Negative appreciation continues to be the larger driver of the total return.
- The NCREIF Timberland Index (“NTI”) returned 0.1% for the quarter. The NTI’s trailing one-year return was 0.3% and driven primarily by an income return of 2.5% while app returned -2.1%. Regionally, the South was the NTI’s top performer while the Northwest and Northeast regions lagged for the quarter
- The NCREIF Farmland Index returned 0.6%, up 70 basis points from the prior quarter. Annual crops drove performance with a return of 0.8%. For the trailing one-year, permanent crops returned 3.82% compared to row crops’ 3.89%

Portfolio Funding Status and Composition

As of June 30, 2020	ATRS' Portfolio \$ in Millions
Number of Investments	69
Total Commitments	\$3,624.6
Unfunded Commitments	\$461.6
Total Paid-In Capital	\$3,286.9
Total Distributions	\$2,791.1
Net Asset Value	\$2,091.4
Gross Asset Value	\$2,925.0
DPI*	0.8x
TVPI*	1.5x
Since Inception IRR*	7.0%
<i>*Active and Liquidated</i>	

PORTFOLIO COMPOSITION TO TARGETS (As of 6/30/2020)		
	Target	Actual Funded
Target Real Asset Allocation	15%	12.5%
<u>Portfolio Style Composition</u>		
Real Estate	10%	7.9%
Core*	50%-70%	71.1%
Non-Core	30%-50%	28.9%
<i>Value-Added**</i>	N/A	15.3%
<i>Opportunistic**</i>	N/A	13.7%
Agriculture	1%	1.2%
Timber	2%	1.8%
Infrastructure	2%	1.7%
Leverage	50%	28.5%

* 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:
 - Slight overweight to core real estate, which will correct over time as noncore commitments are fully funded
 - An overallocation to hotels though still less than 5% of the real estate portfolio
 - Timber geographic concentration remains out of compliance though significantly improved with recent BTG OEF commitment
 - Infrastructure is currently overweight Non-U.S., however Townsend and Staff are actively pursuing US focused managers

ATRS' Real Assets Performance

ATRS TOTAL REAL ASSETS RETURN SUMMARY

As of 6/30/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Real Assets Portfolio	-1.1%	1.1%	4.7%	6.3%	8.2%
Real Assets Benchmark*	-0.8%	2.3%	4.6%	5.7%	8.2%

- The table shows the returns for ATRS' Total Real Assets Portfolio and the Real Assets Benchmark. ATRS has underperformed over the quarter, and 1-year periods; however, has outperformed over longer term periods

ATRS' Real Estate Performance

ATRS TOTAL REAL ESTATE RETURN SUMMARY

As of 6/30/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Real Estate	-2.5%	-0.9%	3.9%	6.3%	9.6%
NFI-ODCE (Net)	-1.8%	1.3%	4.7%	6.3%	9.8%

- The table shows the time-weighted, net of fee returns for ATRS' Total Real Estate Portfolio and the NFI-ODCE benchmark. ATRS underperformed the benchmark for the quarter and 1-year periods by 70 basis points and 220 basis points respectively
- There are a number of Non-Core Funds that have entered the J-curve and performance is expected to have a more meaningful impact as newer funds move out of the J-Curve and investments are realized
- For the quarter, the Arkansas Investments was the primary detractor of real estate returns with a -15.7% total return, while Metlife Commercial Mortgage Income had the only positive return with a 0.1% total return

ATRS' Timberland and Agriculture Performance

As of 6/30/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Timberland	-1.5%	2.8%	3.8%	3.8%	3.2%
Timberland Property Benchmark*	0.2%	2.2%	1.8%	2.3%	3.2%
Total Agriculture	1.3%	2.2%	3.0%	4.0%	N/A
Agriculture Benchmark*	0.8%	4.4%	4.2%	4.5%	N/A
CPI + 500 BPS	1.1%	5.7%	6.8%	6.6%	3.7%

- The timber portfolio underperformed the benchmark over the quarter, returning -1.5%
- The agriculture portfolio overperformed the benchmark over the quarter, returning 1.3%. The portfolio still underperforms over the trailing one, three, and five-year time periods
- Timber Property and Agriculture benchmarks are reported gross of fees. If ATRS managers were to account for fees, the portfolio would look better in comparison

ATRS' Infrastructure Performance



As of 6/30/2020

Asset Class	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
Infrastructure	345,459,704	46,114,685	311,874,260	132,383,325	279,606,960	411,990,285	0.42x	1.32x	11.92%

- ATRS' Infrastructure portfolio has been slowly moving out of the J-Curve and performance has been showing solid results to date
- First Reserve Energy Infrastructure Fund II is currently driving portfolio performance; the fund is achieving a 23.71% Net IRR

*Infrastructure Benchmark: Over the long term (10 years or longer), the infrastructure portfolio is expected to generate a minimum internal rate of return ("IRR") equal to the Consumer Price Index plus 500 basis points, net of all investment management fees and expenses. The Consumer Price Index plus 500 basis points will be used as the benchmark to reflect the opportunity cost of investing in infrastructure.

ATRS' Real Assets Portfolio Highlights

- Commitment activity update
 - ATRS made the following commitments during the quarter or subsequent to quarter end
 - CBRE Strategic Partners U.S. Value 9: \$50 million
 - Torchlight Debt Fund VII: \$50 million
 - Macquarie Infrastructure Partners V: \$50 million
 - PGIM Real Estate Capital VII: \$40 million
 - Kayne Anderson Real Estate Partners VI: \$50 million
 - ATRS is in the queue for a partial redemption of UBS TPF
 - Subsequent to quarter end, TPF's queue is up to \$8 billion and all redemption requests have been delayed as of 2Q20 given the uncertainty surrounding COVID-19

Significant Events

- During the previous quarter, a novel coronavirus (COVID-19) spread throughout the world. The implications of this virus are expected to impact real estate valuations. As a result, the Townsend Group recommends its clients proceed with caution on new capital investments in funds with pre-specified assets and instead consider blind pool funds.
- During the quarter, SEI Global Services/SEI Investments Company reported a ransomware attack. Manager's potentially exposed to the SEI breach within the real estate/real assets portfolio include: Blackstone Real Estate Advisors and Macquarie Group. No material breaches of ATRS information has been reported, and Townsend will continue to monitor the situation.
- Subsequent to quarter end, CBRE announced that Vance Maddock (President, Americas Real Estate Division) will step down from his role at the end of the year and serve as non-executive Vice Chairman, Americas. Robert Perry, who serves as the Head of the Strategic Partners fund series, will replace Mr. Maddock at the beginning of 2021. Townsend has reviewed this and is comfortable with the change in leadership.

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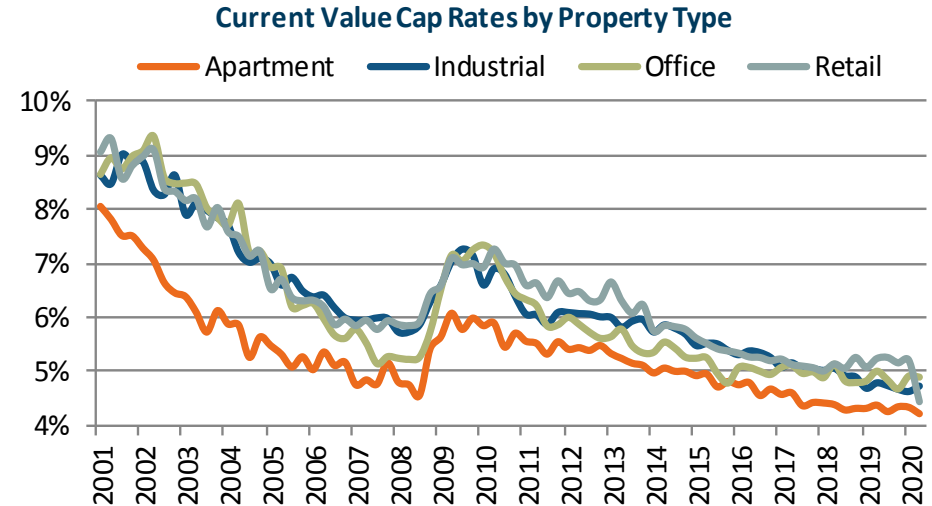
United States Real Estate Market Update (2Q20)

General

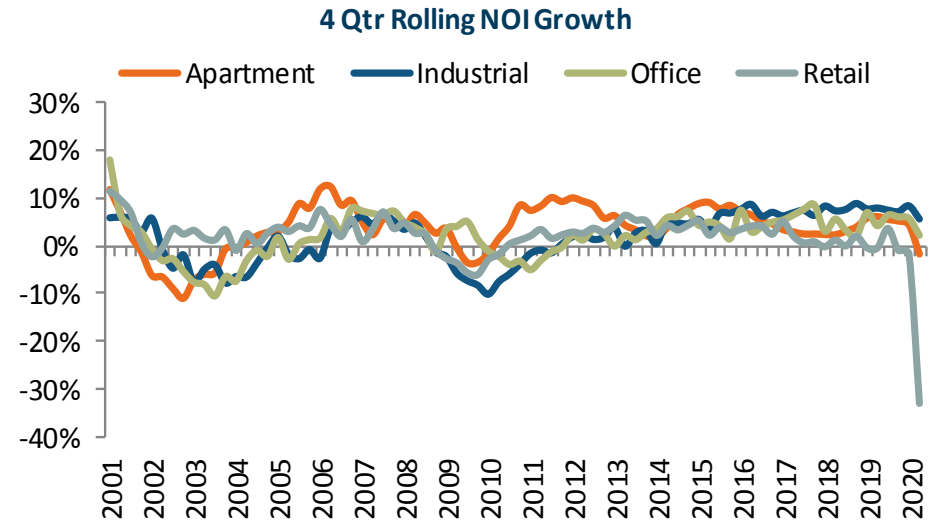
- On March 13, President Trump declared a national emergency. National, state, and local governments across the world implemented stay-at-home orders, which caused a near complete halt of the world economy. governments have dramatically expanded expenditures in order to protect people and businesses from large-scale disruption. In the 2nd quarter, equity markets bounced back from the March rout, and the S&P 500 produced a gross total return of 20.0%. The MSCI US REIT index rebounded and produced a return of 10.7% but remains down -20.0%.
- The U.S. entered a recession in February; GDP grew at an annualized rate of -32.9% in the 2nd quarter. Initial jobless claims reached 10 million in March alone, while the unemployment rate peaked in April at 14.7% but declined to 11.1% by quarter end. The Federal Reserve has acted aggressively via quantitative easing and rate cuts, thus far financial markets have stabilized. The CARES Act provided \$1.5 trillion of stimulus to the economy. The International Monetary Fund has projected that the world economy will shrink by 4.9% in 2020.

Commercial Real Estate

- Shelter in place orders and social distancing have restricted the ability to complete due diligence and acquire assets. Transaction volume has declined by nearly 50% over the last 6 months. Transactions have primarily occurred in the apartment and industrial sectors.
- Private real estate market carrying values contracted marginally over the quarter. Transaction cap rates (5.5%) expanded 12 bps during the quarter. Current valuation cap rates declined due to a reduction in cash flows, apartments (-12 bps), office (-2 bps), and retail (-77 bps). A lack of transactions has limited evidence to revalue real estate.
- NOI growth has substantially diverged between property sector due to the impacts of COVID-19. Retail NOI contracted substantially (-3273 bps) as rent collections declined and retailers were shutdown. The retail sector has seen rent collections of 30-50% vs. more than 85% in the other major sectors. Public market signals have been divergent by property type.
- In the second quarter of 2020, \$44 bn of aggregate capital was raised by real estate funds. There continues to be substantial dry powder, ~\$322 billion, seeking exposure to private real estate.
- 10-year treasury bond yields remained approximately flat 0.7% during the quarter.



Source: NCREIF



Source: NCREIF

United States Property Matrix (2Q20)

INDUSTRIAL

- In 2Q20, industrial properties were the highest returning sector at 1.0% and outperformed the NPI by 200 bps.
- Transaction volumes fell to \$12.3 billion in the second quarter of the year, a 40.0% year-over-year decrease. Individual asset sales were down 41.8% year-over-year, while portfolio purchases turned in a year-over-year volume decrease of 28.0%. The portfolio transaction volume continued to regress to the mean growth rate in 2Q20 following a second half of 2019 that was full of astronomical growth.
- The industrial sector turned in NOI growth of 5.6% over the past year, significantly decreasing from the prior periods TTM growth of 8.3% in 1Q20. Market rent growth is expected to decelerate compared to its recent pace, but still remains very strong.
- Vacancy increased by 26 bps year-over-year to 3.4%, still remaining close to all-time historic lows. E-commerce continues to drive demand.
- Industrial cap rates compressed approximately 6 bps from a year ago, to 4.74%. Industrial fundamentals still top all property sectors.

MULTIFAMILY

- The apartment sector delivered a -0.6% return during the quarter, outperforming the NPI by 35 bps.
- Transaction volume in the second quarter of 2020 fell to \$15.0 billion, a decrease of 68.0% year-over-year. This volume continues to make multifamily the most actively traded sector for the twelfth straight quarter.
- Cap rates decreased to 4.20%, compressing 16 bps year-over-year. Multifamily cap rates have fallen to their lowest in years.
- The multifamily sector has seen increasing vacancy rates due to the pandemic but has still held steady relatively speaking, vacancy has increased 175 bps from a year ago. 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 -0.5% in 2Q20, 50 bps above the NPI return over the period.
- Transaction volumes decreased by 70.0% year-over-year in Q2. Annual sales volumes equaled \$11.6 billion for the quarter. Single asset transactions accounted for 87% of volume.
- Occupancy growth within the office sector has slowed, decreasing by 44 bps year-over-year. Office continues to be the highest vacancy property type at close to 10.2%.
- NOI growth of 2.3% in the last year is a negative for the sector as this is a decrease of 350 bps from 1Q20. Due to a number of work from home orders put in place at the end of the first quarter that have remained in place, NOI growth is expected to continue trending downward.
- Office cap rates compressed from a year ago to approximately 4.89% in the second quarter. Office-using job growth was hit significantly hard in the first quarter and continued into the second. Many work from home policies continued through the second quarter. Substantially slowing overall office growth.

RETAIL

- As of 2Q20, the retail sector delivered a quarterly return of -3.9%, performing 285 bps below the NPI.
- Transaction volumes totaled \$5.0 billion in the second quarter, falling 71.0% year-over-year. Single asset transactions accounted for just over 91% of all sales volume.
- Cap rates have compressed approximately 80 bps within the sector over the last year, to 4.45%.
- NOI growth significantly decreased, -32.7% over the last year. This is a 31.2% decrease from last quarter. Retail is expected to continue to suffer from the shift towards e-commerce and the recent shelter in place orders.
- Retail vacancy rates increased 114 bps over the past year to 7.9%. 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 that has had a significant negative impact on this sector.

Global Real Estate Market Update (2Q20)

- Global investment activity during the second quarter of 2020 was significantly down relative to the same period in 2019 and reached the worst quarterly level since 2Q 2009. Although transaction volumes fell during 2Q 2020, the New York, Los Angeles, San Francisco metro markets continued to witness the greatest transaction volume.
- Rising COVID cases across the world caused lockdowns across major economies resulting in a short but deep recession and affecting all sectors of the real estate industry. Uncertainty about the state of the economy threw some doubts on the future needs for certain property types.

Global Total Commercial Real Estate Volume - 2019 - 2020

\$ US Billions	% Change			% Change		
	Q2 2020	Q2 2019	Q2 20 - Q2 19	H1 2020	H1 2019	H1 20-H1 19
Americas	40	124	-68%	162	224	-28%
EMEA	55	80	-31%	132	146	-10%
Asia Pacific	211	271	-22%	331	460	-28%
Total	306	474	-36%	624	830	-25%

Source: Real Capital Analytics, Inc., Q2' 20

- Investment activity in the Americas witnessed a sharp decline and fell by 68% year-over-year. COVID cases continued to increase in the US, putting plans of fully reopening the economy on hold. In the US, transaction volume decreased by 70% compared to the same quarter last year.
- In the Asia Pacific region, volumes declined but transaction activity was mixed across the region. China witnessed a strong investment quarter recovering from a severe plunge over the previous period. Japan continued to be the regions' largest investment market. Conversely, transactions fell in both Australia and Singapore.
- Although investment activity dropped in the EMEA region, Europe appeared to be more in control of the outbreak. Germany witnessed a 15% growth in the quarter as several apartment megadeals closed. In addition, Denmark saw a substantial increase of 74% in sales compared to the same quarter last year. On the other hand, both France and Netherlands recorded declines in transactions.
- All sectors were impacted by the spread of the pandemic but the hotel and retail sectors were affected the most
- In the office sector, global leasing activity declined by 59% year-over-year and vacancy rates began to increase in all regions. The declines represent an uncertainty about future office space needs. The US witnessed a 65% decline in leasing activity. Across the main European markets, demand for office space is expected to fall by 40%. In the APAC region, net absorption is anticipated to decrease by 40% to 50%.
- The retail sector continued to suffer globally as the shutdowns and social distancing measures of the COVID-19 outbreak posed challenges for operators. Vacancy rates increased as rents and NOI continued to compress. Retailers that were able to adapt their strategy to the digital world witnessed a recovery in sales.
- Despite the multifamily market recording a significant decrease in investments globally, the sector remains the most liquid in commercial real estate highlighting its attractiveness. In the U.S., rents fell by approximately 1% and demands fell. However, in Europe effective rent rates were stable. On the other hand, the APAC region recorded a stronger sales performance as cities like Beijing and Shanghai attracted home buyers.
- While the industrial market was affected by short-term headwinds from the recession as global vacancy recorded a slight uptick of 8.2%, the sector remains resilient. Despite the slowdown in the construction of industrial properties at the beginning of the year, new development resumed during the second quarter.

Global Outlook - GDP (Real) Growth % pa, 2020-2022

	2020	2021	2022
Global	-3.9	5.1	3.5
Asia Pacific	-0.7	4.8	4.6
Australia	-3.9	3.0	3.2
China	2.0	8.0	5.5
India	-5.5	7.2	
Japan	-5.3	2.5	1.3
North America	-5.4	3.8	2.8
US	-5.0	3.7	2.8
MENA*	-4.1	3.1	3.3
European Union	-8.0	5.6	2.6
France	-10.0	7.0	2.7
Germany	-6.0	5.0	2.4
UK	-9.9	6.4	2.8

*Middle East North Africa

Source: Bloomberg

Market Update: Real Estate Four Quadrants Summary







September 14 – October 9

Real Estate Private Equity	Real Estate Public Equity
<ul style="list-style-type: none"> • Most open-end fund managers continue to limit redemptions to preserve cash and protect assets. Redemption queues remain elevated, continuing to stand at roughly \$16.5 billion for NFI-ODCE Funds (7% of the total index value). • Open-end funds reported rent collections increased from approximately 80% in April to approximately 90% in September, with retail rent collection significantly increasing by more than 30% in that same time period. • Though very early, indications are pointing to a slightly positive third quarter total gross return for NFI-ODCE, with a preliminary gross return of 0.40%. • With nearly all of the closed-end funds having reported results for 2Q20, indications point to an average decrease in value of 2.8%. There is a wide disparity in reported results, with just over half adjusting values negatively (approximately one in ten with double digit write-downs). • Global investment volume fell in 2Q20 to its lowest quarterly total since 2010. This reflects the impact of lockdowns and various controls put in place to combat the pandemic. Investment volume is expected to remain lower through the second half of 2020 but to recover significantly in 2021. 	<ul style="list-style-type: none"> • Although REITs were shielded from the stock market turmoil during the first three weeks of September, the FTSE NAREIT All Equity total return index dropped by 2.3% during the last week of September. • Negative returns were triggered by general worry about economic expansion during the COVID-19 pandemic. • Despite the challenging conditions for REIT stocks during the end of September, September as a whole saw REITs outperform both the S&P 500 and Russell 1000 indexes with month-to-date returns of -4.3% for the FTSE NAREIT All Equity total return index compared with -5.7% and -5.5% for the S&P 500 and Russell 1000, respectively. • Similar to the previous months, the REIT sectors most affected negatively by the social distancing rules and lockdowns during the pandemic are retail, lodging and diversified which are down by 40.5%, 50.4% and 34.8% YTD, respectively. • On the other hand, the sectors most sheltered from effects of the COVID-19 pandemic continue to be infrastructure and data centers generating 12.5% and 23.8% in total returns YTD, respectively.
Real Estate Private Debt	Real Estate Public Debt
<ul style="list-style-type: none"> • Uncertainty remains for a number of private real estate lenders. Spreads have retrenched from their pandemic highs; however, distressed selling has yet to overwhelm the market. A prolonged pandemic coupled with economic shut-downs may lead to distressed selling and widen spreads from their current levels. • Real estate sectors that have not seen an outsized negative impact from the pandemic are able to achieve a very low cost of debt. This affordable and readily available debt assists values for many sectors, specifically industrial, multifamily, and single family rental. • Excess spreads on private real estate debt are attractive when compared to corporate bonds, as investment grade bond yields are reaching all-time lows. For example, the excess spreads for 5-year A-rated credit for a real estate loan is approximately 125 bps greater than comparable corporate bonds. Similarly, negative real rates of return make for a compelling argument to invest in real estate debt. 	<ul style="list-style-type: none"> • The credit curve continues to flatten in response to stronger economic data. • Credit spreads in junior tranches remain wide with BBB bonds trading at spreads of 500 to 550 bps, in line with B+ rated corporate bond spreads. • Excess spreads over comparable corporate bonds remains attractive across the curve. However, spreads are sensitive to upbeat pricing in corporate bonds (policy influenced) that are trading 100 to 150 bps tighter on a historical, cycle-adjusted (early phases of a recovery) basis. • Anecdotally, volatility is expected to be event driven leading into the remainder of 2020. Uncertainty around the November election may sideline investors who would otherwise be active in the market. Also, an increase in COVID-19 cases could pose a threat to risk-on assets such as BBB conduit CMBS.

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Market Update: Property Type Summary

September 14 – October 9

Property Type	Market Sentiment	Commentary
Multifamily		Multifamily has entered a fragmented landscape at a fast pace as of late due to uncertainty around Government's responsiveness to additional stimulus. Going into the pandemic Class C multifamily properties performed well as their tenant base sustained above average rent growth. In today's market, investment managers of Class C multifamily express a growing concern as some tenants have begun to pay their rent with credit cards. Class A and Class B multifamily is supported by stronger fundamentals and a lack of supply, respectively. A growing desire to relocate from urban multifamily has, and should continue to be tailwind for suburban Class A and B multifamily properties.
Office		Historically, the office sector has been the property type with the highest correlation to the economic cycle. As we have seen work from home trends not only increase as a result of stay at home orders, but continue, there is an expectation that office space will de-densify through larger square footage office leases. Internationally, in some East Asian countries, continued work from home trends are unlikely due to small living spaces. Comparably, in the US it is likely that more office tenants will move to suburban markets in order to take advantage of the larger space.
Industrial		E-commerce continues to drive demand for warehouse space, especially in light of the need for an online presence for many retailers due to social distancing. In the longer term, industrial should prosper from the continued and elevated shift in e-commerce shopping habits, but short term demand will likely face some challenges due to the variety of underlying tenants. Large and infill industrial REITs are trading at a premium to private market valuations, showing that the market has high conviction for the e-commerce driven demand.
Retail		While retail has continued to suffer, there has been a bounce back in rent collection. Per NCREIF, rent collection has jumped to 70.5%. This can be attributed, in part, to the expiration of rent deferral agreements. Many tenants had agreements to halt rental payments until stores re-opened. While some tenants are still requesting deferrals and abatements, many retail tenants are now back to paying full rent.
Hotel		The Palmer House Hilton in Chicago is an example of higher risk business plans stressing operations in the current pandemic. Outsized leverage used to refurbish the hotel led to an outsized debt service the previous owners were not able to keep up with. This resulted in a foreclosure of the hotel, a trend that may continue if the pandemic persists well into 2021. Urban hotels with a heavy reliance on travel and conferences continue to suffer compared to their suburban peers, which have benefited by locals looking for a short and safe weekend getaway.
Other		<u>Life Sciences</u> : Rent collections of life science properties remains high as the demand for these properties has been relatively unscathed. Life sciences tenants tend to be fairly "sticky" as their offices require a heightened amount of CapEx when compared to a typical office building. <u>Student Housing</u> : As Colleges and Universities across the nation begin to pivot to a virtual learning model as a result of on campus outbreaks, owners of student housing properties have begun to feel the pressure. Anecdotally, opportunistic investment managers of student housing have started to capitalize on distressed properties with strong fundamentals such as less expensive public schools offering degrees across the bachelors and masters programs with an emphasis on a low exposure of international students.

Farmland - Second Quarter 2020 Market Update

FARMLAND MARKETS

- Global economies began lifting quarantine lockdowns during the quarter, leading many consumers back to a pre-COVID consumption trend for food and related items, especially an increase in away from home food items as restaurants resumed operations at reduced capacities.
- As global activity resumed demand for many major commodities improved as well, such as biofuels (increased travel) driving an uptick in sugar and (lesser) corn demand for ethanol along with modest increases in other major commodities like soybeans. **(FIGURE 1)**
- Tree nut markets were again mixed during the quarter, with downward price pressure on both almonds (record production year) and pistachios (COVID driven decline in exports), while walnut prices were up 45% coming off of last year's record low.
- Brazil remained strong as soybean exports surged 19% over last quarter (up 11% YoY) driven by a weakening currency, a strong USD, and increased Chinese demand. Brazil is now the world's largest soybean producer. **(FIGURE 2)**
- Australian export volumes remained challenged during the quarter by increasing global supplies and Chinese tariffs on select crops. Farmland returns remained in-line with those of the same period last year, but most of the return is now driven by income instead of capital appreciation as observed in previous years.

FIGURE 1: Key Commodity Prices 1Q20

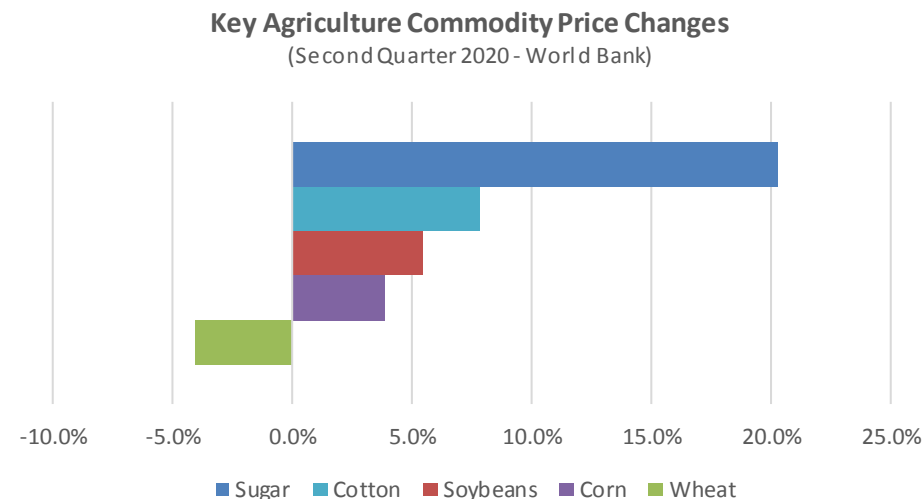
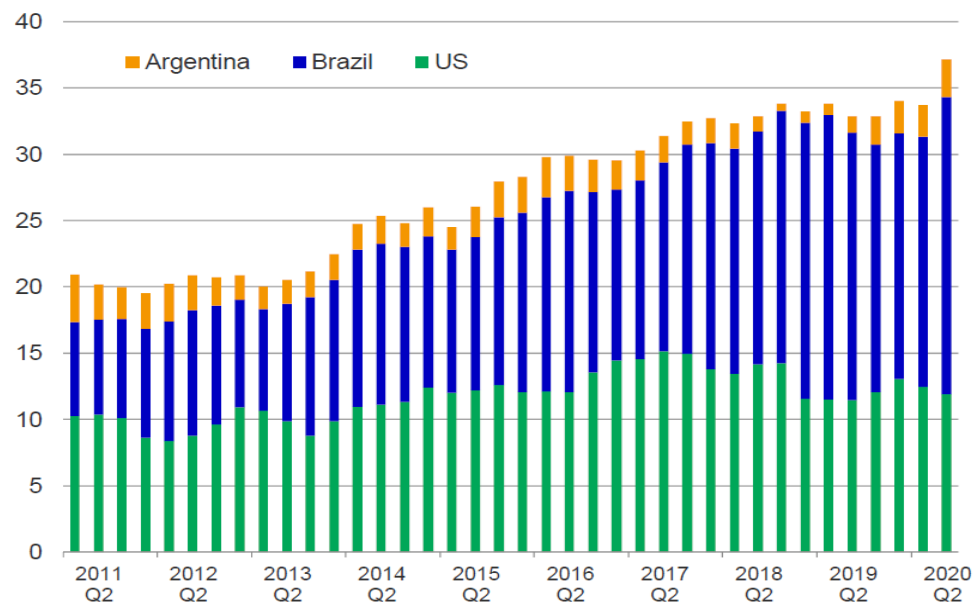


FIGURE 2: Soybean Exports, Major Producer (4-qrt moving avg.)



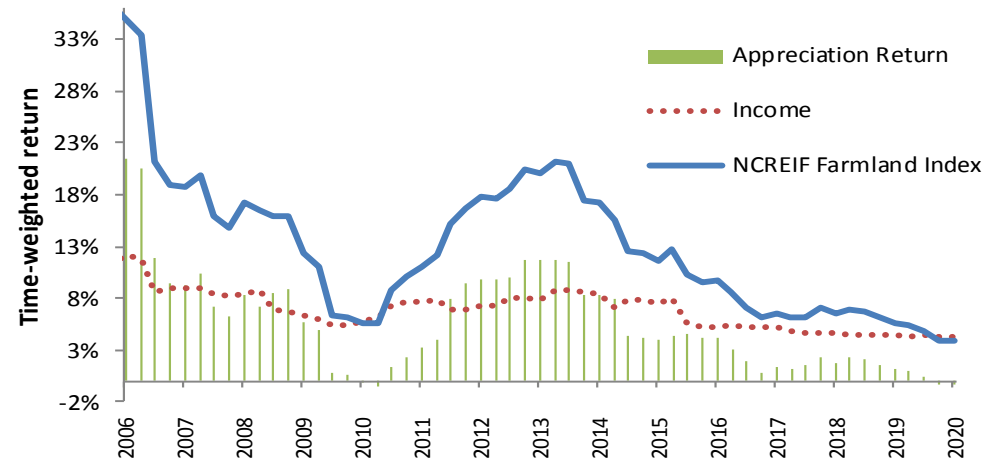
Farmland - Second Quarter 2020 Market Update

FARMLAND PERFORMANCE

- The NCREIF Farmland Index (“NFI”) moved back into positive territory during the quarter with a 0.6% return. The quarterly return consisted of a 0.58% income return and a flat appreciation return of 0.02%.
- The trailing 12-month total return was 3.85%, compared to 5.67% for the four-quarters ending in the second quarter 2019. The annual total return was comprised of a 4.23% income return and -0.37% appreciation.
- Row crops outperformed permanent crops with a 0.8% return versus a 0.3% return for permanent crops. Performance for both was driven by income as values were flat for the quarter. Row crops consisted of a 0.8% income return and 0.03% appreciation; permanent crops consisted of a 0.25% income return and 0.01% appreciation.
- Performance between farm types continues to converge and since the last commodity markets peak in 2012/2013. Permanent crops remain an outperformer over longer periods however, with outperformance relative to row crops over the three-year, five-year, ten-year and since inception periods.
- Despite flat values for permanent crops, this was the first quarter of positive appreciation since 2Q19. Citrus and apples (2.75%/1.57%) were the top performing permanent crop types, while wine grapes and pistachios (-0.68%/-0.22%) were the underperformers for the quarter.

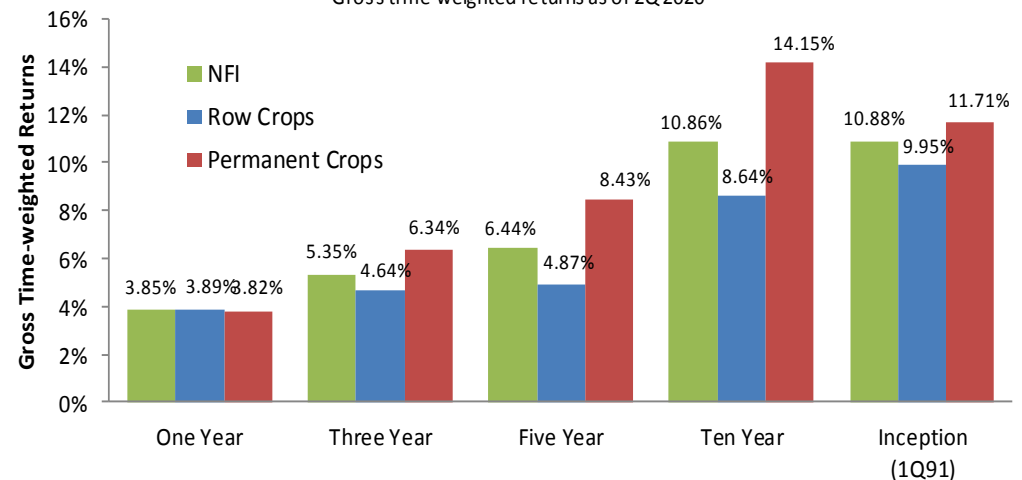
NCREIF Farmland Index Performance

(Rolling 1-year total returns through 2Q 2020)



NCREIF Farmland Index Farm Type Returns

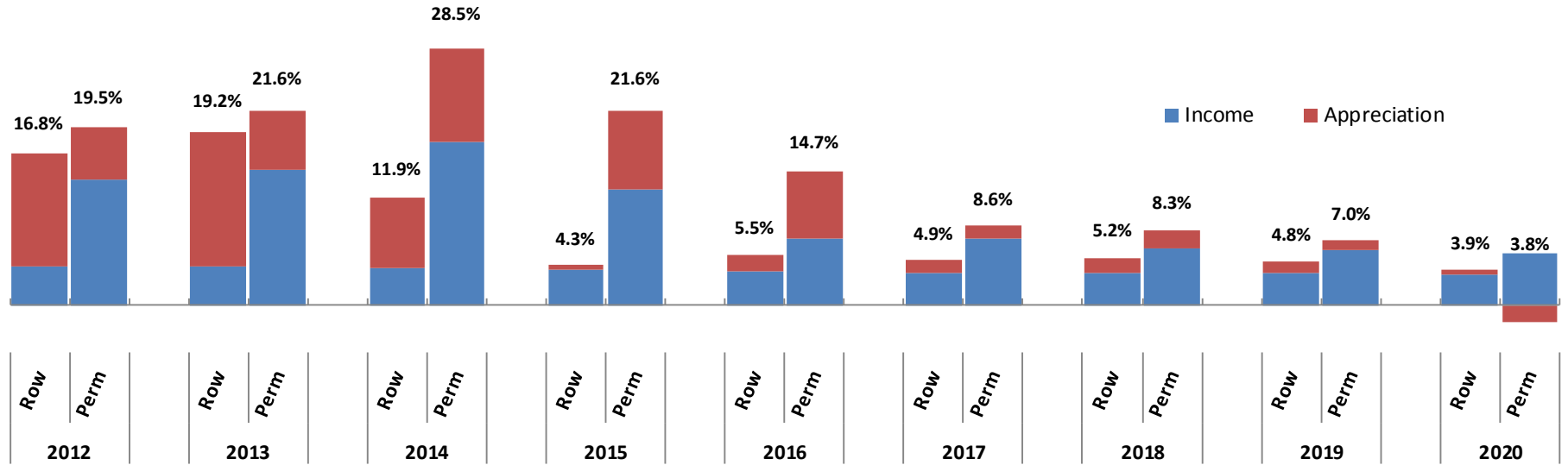
Gross time-weighted returns as of 2Q 2020



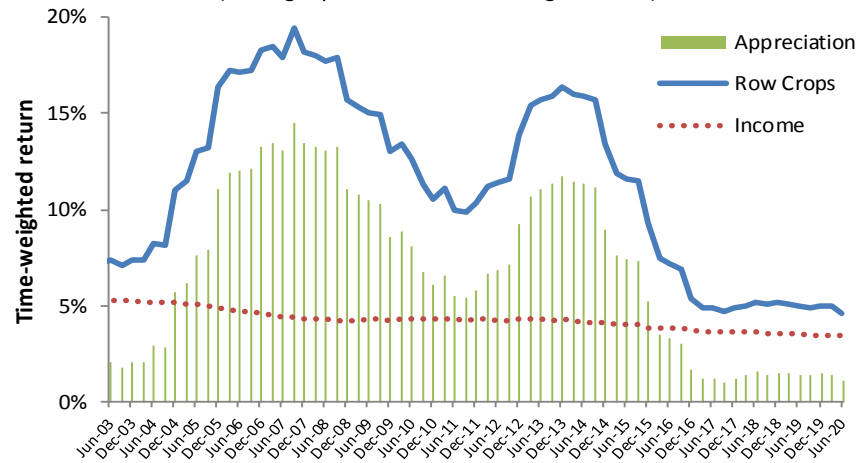
Farmland - Second Quarter 2020 Market Update

FARMLAND PERFORMANCE

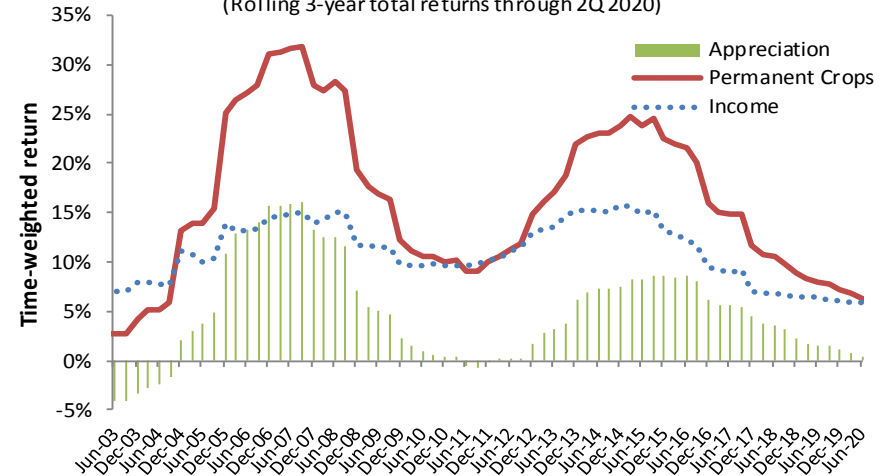
NCREIF Farm Type Performance Attribution
(Trailing Twelve Month time-weighted returns as of 2Q 2020)



NCREIF Row Crop Performance
(Rolling 3-year total returns through 2Q 2020)



NCREIF Permanent Crop Performance
(Rolling 3-year total returns through 2Q 2020)



Infrastructure – Second Quarter 2020 Market Update



GENERAL

The impact of COVID-19 took its toll on the infrastructure market with funds taking longer to reach final dose and a slight slowdown in deals across all regions and sub sectors. 15 funds reached a final dose in Q2 2020, securing US\$12.0bn in aggregate capital. Despite a drop in capital raised for this quarter, year on year capital raised is in line with the previous year at US\$112.0bn. Deal value for the quarter fell by 21% in comparison to last quarter (est. aggregate value of US\$245.1bn) and there was a 35% decrease in the number of deals. Average deal size decreased by 23% quarter-on-quarter.

EUROPE

Notable transactions that dosed in the quarter included the development of a 1.1GW offshore wind farm (SeaGreen) in the UK, which reached financial dose with an estimated US\$3.9bn of capex. Other notable transactions included the acquisition of Currenta by Macquarie, a German chemicals company bought for US\$3.8bn. Renewable energy capacity investment for the second quarter was dominated by 3 offshore wind transactions, aside from SeaGreen, a development of a 498MW farm in France reached financial dose and the sale of a operational 396MW farm in Germany completed for US\$2.2bn.

NORTH AMERICA

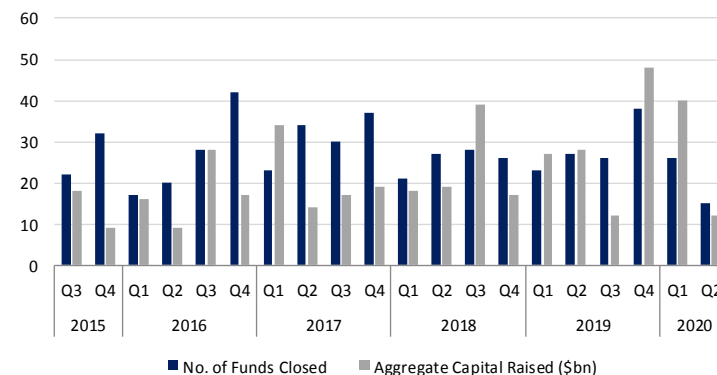
Deal flow was dominated by a number of transactions, notably the expansion of JFK airport in New York which reached financial dose with an estimated US\$7.3bn of capex. Another notable transaction included the take-private of the midstream energy company, Tallgrass Energy by Blackstone for US\$6.9bn. Over the quarter, notable transactions in the renewables sector included the sale of Coronal Energy’s portfolio of solar assets to Capital Dynamics for US\$376.9m, the portfolio consists of various solar parks totaling c.200MW.

ASIA PACIFIC

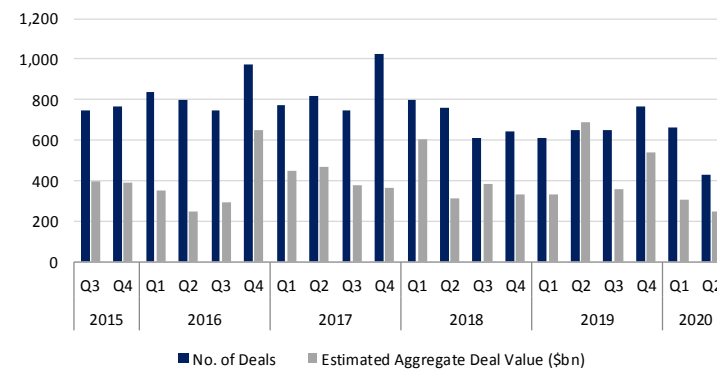
Deal flow over the quarter included the acquisition of an 88% stake in AirTrunk (Australian based, data center builder and operator) for US\$1.6bn by Macquarie. Other notable transactions include the financial dose of India’s first 6 lane, high speed tolled expressway (Mumbai-Pune Expressway) with an estimated US\$1.1bn of capex. On the renewables side,

Adani Green Energy signed a deal with Total for US\$510.0m, creating a joint venture to build a 2.1GW portfolio of solar projects across India.

Unlisted Infrastructure Fundraising



Infrastructure Deals Completed



Source: Preqin

Timberland – Second Quarter 2020 Market Update

TIMBERLAND MARKETS

- U.S. housing starts began 2020 strong, reaching their highest level in 13 years, but by the end of April had fallen by over 40% as construction activity ceased due to the COVID-19 restrictions. However, through the remainder of the quarter housing has recovered much faster than anticipated and despite concern over high unemployment rates, demand for homes appears to be robust, with new mortgage applications in June reaching their highest level since 2009. (FIGURE 1)
- The extent of the COVID-19 impact on the forest products economy remains uncertain, but after a period of weakness log markets are beginning to show signs of improvement. Wood products mills in the U.S. began to restart production mid-quarter given increased demand from home centers for do-it-yourself projects and increased housing activity. At present, around 15-20% of North American lumber capacity remains curtailed.
- Pacific Northwest markets experienced declines in demand during the quarter, with average delivered prices for the region’s various types declining within a range of 2-7% over quarter (FIGURE 2). Southern pine sawtimber prices decreased 9.4% during the quarter (FIGURE 3). Owners in the south are reacting to lower demand by doing more thinnings and less clearcutting, which yields more pulpwood where demand is higher. In the Pacific Northwest, owners have been delaying or pulling sales off the market where local demand is down due to mill curtailments.

FIGURE 1: US Housing Starts (Mil Units) SAAR¹

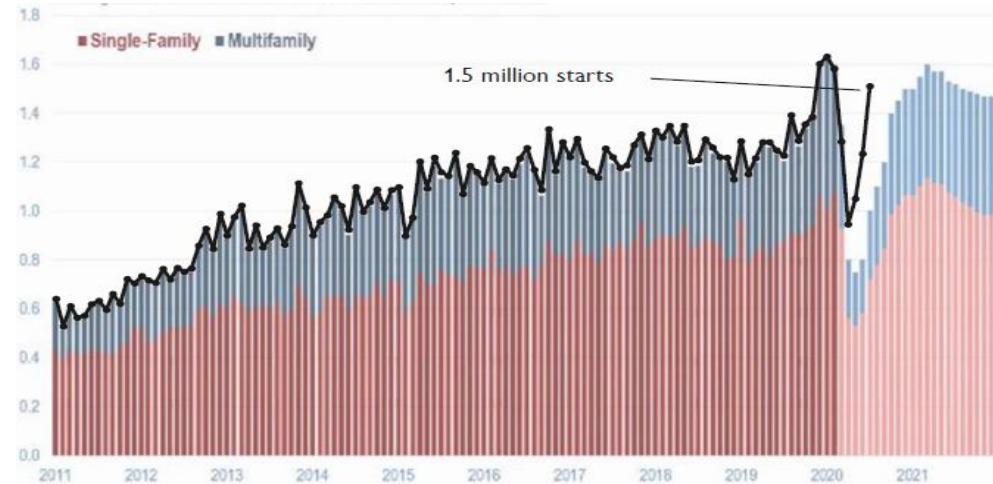


FIGURE 2: U.S. Pacific Northwest Log Prices

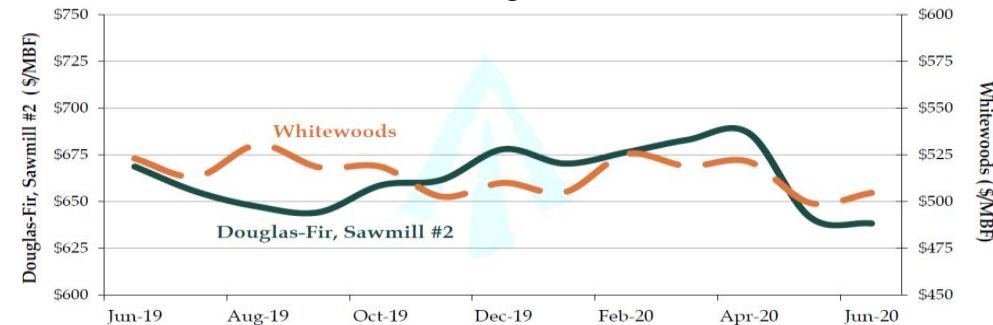
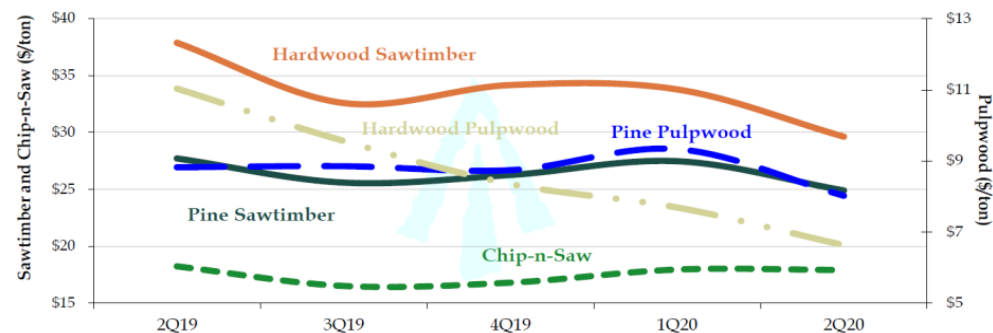


FIGURE 3: U.S. Southeastern Timber Prices



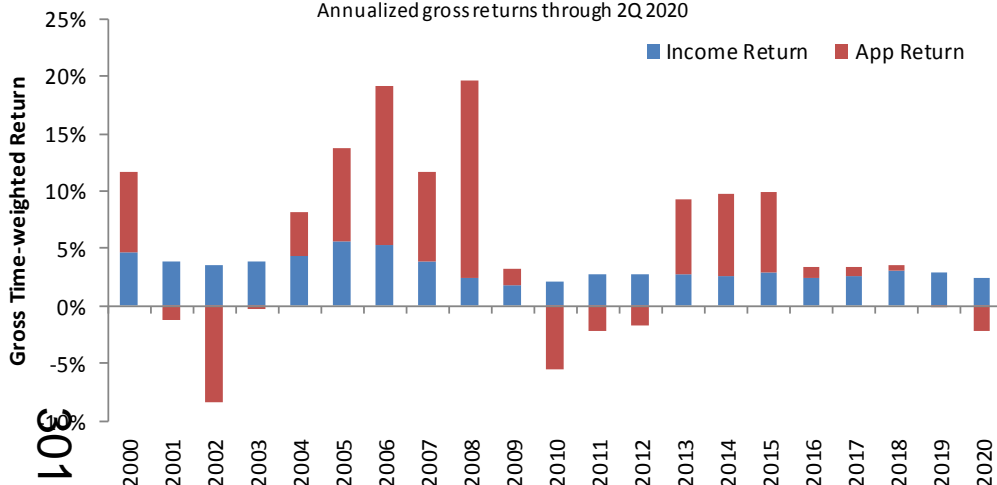
Timberland – Second Quarter 2020 Market Update

TIMBERLAND PERFORMANCE

- The NCREIF Timberland Index (“NTI”) returned 0.08% for the quarter, declining from last quarter’s 0.11% return and 2Q19’s 1.04% return. The return was comprised of a 0.47% income return and a negative appreciation return of -0.4% marking the fourth straight quarter of value declines.
- The NFI’s largest timberland region - the U.S. South – returned 0.3% for the quarter which consisted of a 0.5% income return and a -0.2% appreciation return as land values retreated slightly amidst a general COVID-driven slowdown in forestry activity. Despite the region’s below-expectations performance since the GFC, it has remained relatively resilient with only one negative quarterly return since 2011 coupled with consistent income returns averaging 2.5% per year over the last ten years.
- The Northwest returned -0.5% for the quarter, as timberland values remained under pressure coming off of historic highs from several years ago, driving the region’s negative return for the quarter. The return consisted of 0.4% income and -0.9% appreciation. This marks the fourth consecutive quarter for a negative return out of the Northwest all driven by depreciating values. Values have declined by 7.1% over the past 12-months.
- Timberland per acre values declined by 5%, reaching \$1,769/acre versus last quarter’s value of \$1,865/acre. The Northwest led all regions in declining values (-3.4%); however, all NTI regions declined in per acre values during the quarter with the South declining least among regions (-0.49%).

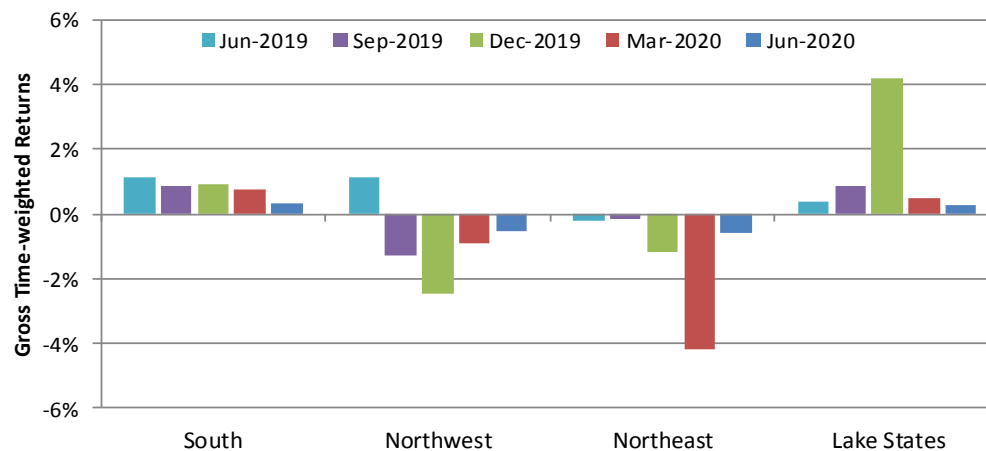
NCREIF Timber Index Return Attribution

Annualized gross returns through 2Q 2020



NTI Quarterly Regional Return Trends

(Quarterly total returns 2Q19-2Q20)

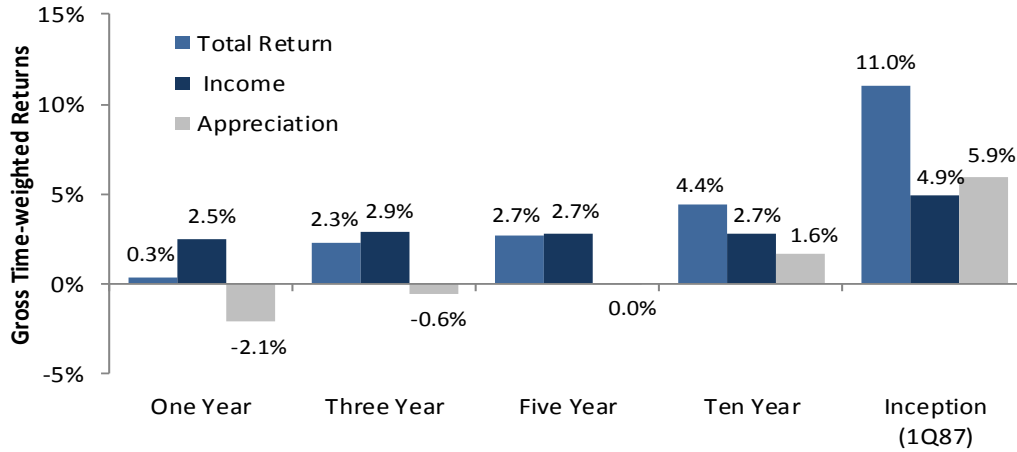


Timberland – Second Quarter 2020 Market Update

TIMBERLAND PERFORMANCE

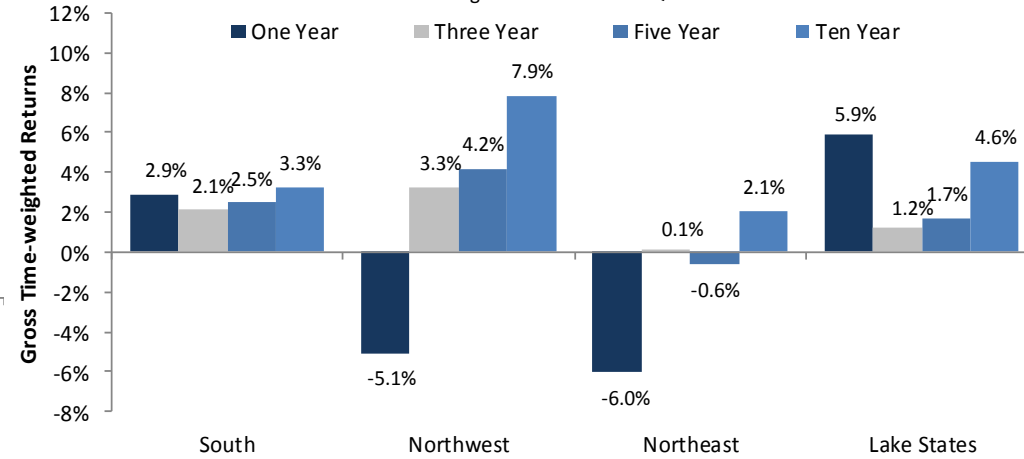
NCREIF Timber Index Returns

Gross time-weighted returns as of 2Q 2020



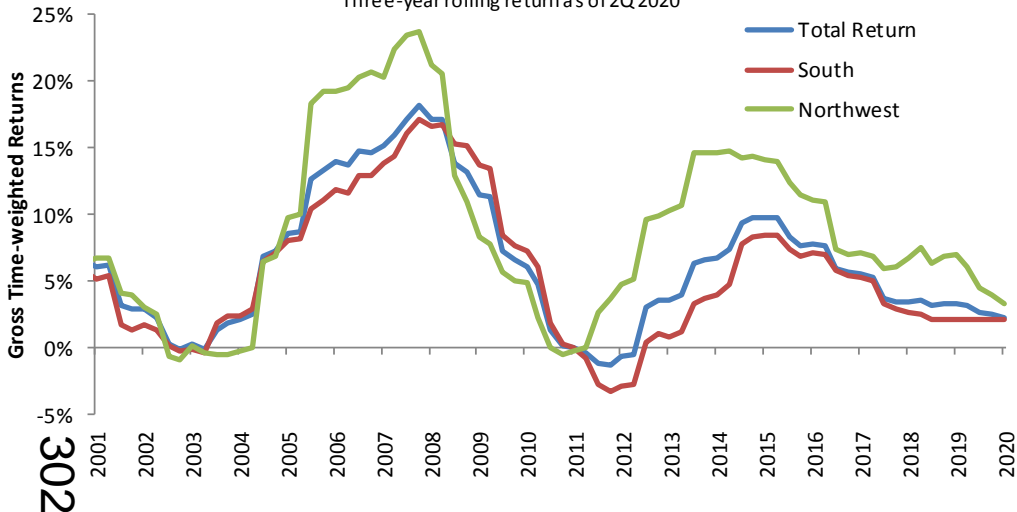
NCREIF Timber Index Regional Returns

Gross time-weighted returns as of 2Q 2020



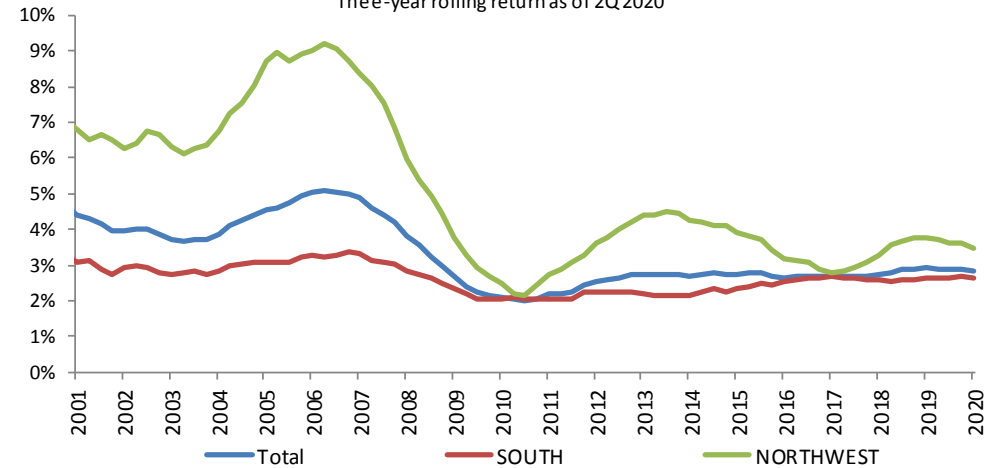
Total Returns by Region

Three-year rolling return as of 2Q 2020



EBITDA Returns by Region

Three-year rolling return as of 2Q 2020



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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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ATRS' Portfolio Overview

As of 6/30/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Real Assets Portfolio	-1.1%	1.1%	4.7%	6.3%	8.2%
Real Assets Benchmark*	-0.8%	2.3%	4.6%	5.7%	8.2%

As of June 30, 2020	ATRS' Portfolio \$ in Millions
Number of Investments	69
Total Commitments	\$3,624.6
Unfunded Commitments	\$461.6
Total Paid-In Capital	\$3,286.9
Total Distributions	\$2,791.1
Net Asset Value	\$2,091.4
Gross Asset Value	\$2,925.0
DPI*	0.8x
TVPI*	1.3x
Since Inception IRR*	11.2%
<i>*Active and Liquidated</i>	

As of June 30, 2020	Market Value (\$ millions)	Current Allocation (%)	Target (%)
ATRS Total Assets	\$16,665.3		
Real Assets Portfolio:	2,091.4	12.5%	15%
Real Estate	1,313.9	7.9%	10%
Core*	933.9	71.1%	50-70%
Non-Core	380.0	28.9%	30-50%
Value-Added**	200.6	15.3%	N/A **
Opportunistic**	179.4	13.7%	N/A **
Agriculture	204.5	1.2%	1%
Timber	293.0	1.8%	2%
Infrastructure	279.6	1.7%	2%
Unfunded Commitments	461.6	2.8%	
Market Value + Unfunded	2,553.0	15.3%	

* Includes Arkansas Investments

** No stated targets

ATRS' Real Estate Performance: Core Portfolio

As of 6/30/2020

Fund Name	Vintage Year	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
Arkansas Investments	2007	142,694,200	0	144,624,546	190,183,346	80,136,854	270,320,200	1.32x	1.87x	8.28%
JPMorgan Strategic Property Fund	2007	170,000,000	0	170,000,000	68,759,120	280,075,613	348,834,733	0.40x	2.05x	6.48%
MetLife Commercial Mortgage Income Fund, LP	2019	50,000,000	0	50,000,000	2,254,661	49,085,814	51,340,475	0.05x	1.03x	2.73%
Prudential Property Investment Separate Account	2005	170,000,000	0	184,182,196	105,801,250	272,532,288	378,333,538	0.57x	2.05x	6.33%
UBS Trumbull Property Fund	2006	170,000,000	0	190,587,980	139,203,628	199,807,220	339,010,848	0.73x	1.78x	5.40%
UBS Trumbull Property Income Fund	2017	50,000,000	0	50,000,000	4,415,242	52,255,019	56,670,261	0.09x	1.13x	4.69%
Total Core		752,694,200	0	789,394,723	510,617,246	933,892,808	1,444,510,054	0.65x	1.83x	6.39%

Time Weighted Returns:

As of 6/30/2020 Partnership Name	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Arkansas Investments	-15.7%	-16.8%	-3.4%	8.0%	8.3%
JPMorgan Strategic Property Fund	-2.2%	1.4%	4.2%	5.9%	9.7%
MetLife Commercial Mortgage Income Fund, LP	0.1%	2.7%	N/A	N/A	N/A
Prudential Property Investment Separate Account	-1.3%	2.7%	5.8%	7.2%	10.5%
UBS Trumbull Property Fund	-2.6%	-1.8%	1.4%	3.6%	7.3%
UBS Trumbull Property Income Fund	-1.4%	1.8%	4.6%	N/A	N/A
Total Core & Open-End Portfolio	-3.2%	-0.9%	3.2%	6.1%	9.0%

Note: Arkansas Investments are included in Core portfolio

ATRS' Real Estate Performance: Value-Add Portfolio

As of 6/30/2020

Fund Name	Vintage Year	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
Almanac Realty Securities V, LP	2008	50,000,000	0	21,787,314	48,380,466	132,588	48,513,054	2.22x	2.23x	11.93%
Almanac Realty Securities VI	2012	30,000,000	0	19,102,008	21,006,051	3,800,670	24,806,721	1.10x	1.30x	9.77%
Almanac Realty Securities VII	2015	30,000,000	7,946,045	27,978,973	21,978,923	14,644,915	36,623,838	0.79x	1.31x	13.33%
Almanac Realty Securities VIII	2018	30,000,000	25,114,817	4,885,183	95,438	4,012,060	4,107,498	0.02x	0.84x	-25.40%
Calmwater Real Estate Credit Fund III	2017	30,000,000	7,427,676	23,113,383	2,119,906	24,020,803	26,140,709	0.09x	1.13x	7.19%
CBRE Strategic Partners U.S. Value 8	2017	25,000,000	2,454,016	22,545,984	3,408,228	24,045,175	27,453,403	0.15x	1.22x	9.44%
CBRE Strategic Partners U.S. Value 9	2020	50,000,000	0	0	0	0	0	0.00x	0.00x	0.00%
Fidelity Real Estate Growth Fund III	2008	30,000,000	3,223,908	26,776,092	35,542,816	0	35,542,816	1.33x	1.33x	7.36%
FPA Core Plus Fund IV	2018	30,000,000	10,500,000	19,500,000	1,071,683	19,060,417	20,132,100	0.05x	1.03x	2.38%
Harbert European Real Estate Fund IV	2016	25,011,918	1,709,368	23,920,550	9,391,844	20,297,346	29,689,190	0.39x	1.24x	7.07%
JP Morgan Special Situation Property Fund	2007	50,000,000	0	49,970,569	64,199,362	0	64,199,362	1.28x	1.28x	3.01%
LaSalle Income & Growth Fund VI	2013	20,000,000	952,381	19,047,619	21,551,268	6,479,772	28,031,040	1.13x	1.47x	11.35%
LaSalle Income & Growth Fund VII	2017	20,000,000	4,162,741	19,023,650	8,420,223	13,622,589	22,042,812	0.44x	1.16x	7.66%
LaSalle Income & Growth Fund VIII	2020	50,000,000	42,484,500	7,515,500	0	6,302,100	6,302,100	0.00x	0.84x	-16.26%
Long Wharf Real Estate Partners V	2015	30,000,000	0	29,828,371	11,858,007	24,354,492	36,212,499	0.40x	1.21x	8.37%
Long Wharf Real Estate Partners VI, L.P.	2020	50,000,000	43,230,922	6,727,731	0	5,630,369	5,630,369	0.00x	0.84x	-18.23%
New Boston Real Estate Investment Fund VII	2008	10,000,000	0	9,668,685	7,966,530	50,145	8,016,675	0.82x	0.83x	-2.76%
Rockwood Capital Real Estate Partners Fund IX	2012	30,000,000	2,577,040	27,422,960	31,097,878	5,483,475	36,581,353	1.13x	1.33x	10.72%
Rockwood Capital Real Estate Partners Fund XI	2019	40,000,000	39,735,362	264,638	0	-257,199	-257,199	0.00x	-0.97x	0.00%
Walton Street Real Estate Debt Fund II, L.P.	2019	40,000,000	36,338,202	5,061,741	1,411,259	3,893,552	5,304,811	0.28x	1.05x	8.61%
Westbrook Real Estate Fund IX	2013	40,000,000	3,603,488	46,131,861	45,995,329	10,988,885	56,984,214	1.00x	1.24x	8.62%
Westbrook Real Estate Fund X	2016	25,000,000	6,672,069	22,482,586	11,798,246	14,062,429	25,860,675	0.52x	1.15x	10.40%
Total Value Added		735,011,918	238,132,535	432,755,398	347,293,456	200,624,582	547,918,038	0.80x	1.27x	6.65%

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

Time Weighted Returns:

As of 6/30/2020 Partnership Name	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Almanac Realty Securities V, LP	-7.8%	-5.9%	8.9%	9.1%	10.6%
Almanac Realty Securities VI	0.6%	-28.4%	-12.2%	-0.5%	N/A
Almanac Realty Securities VII	5.9%	12.9%	14.6%	12.9%	N/A
Almanac Realty Securities VIII	0.4%	-20.8%	N/A	N/A	N/A
Calmwater Real Estate Credit Fund III	1.8%	7.5%	N/A	N/A	N/A
CBRE Strategic Partners U.S. Value 8	-1.0%	6.2%	10.8%	N/A	N/A
CBRE Strategic Partners U.S. Value 9	N/A	N/A	N/A	N/A	N/A
FPA Core Plus Fund IV	1.0%	4.3%	N/A	N/A	N/A
Harbert European Real Estate Fund IV	-2.2%	0.6%	7.0%	N/A	N/A
LaSalle Income & Growth Fund VI	-4.1%	-4.4%	1.2%	4.6%	N/A
LaSalle Income & Growth Fund VII	-4.2%	-1.9%	6.6%	N/A	N/A
LaSalle Income & Growth Fund VIII	-5.4%	N/A	N/A	N/A	N/A
Long Wharf Real Estate Partners V	-2.0%	2.2%	10.0%	N/A	N/A
Long Wharf Real Estate Partners VI, L.P.	-8.1%	N/A	N/A	N/A	N/A
New Boston Real Estate Investment Fund VII	-2.3%	-34.8%	-20.0%	-8.7%	-4.8%
Rockwood Capital Real Estate Partners Fund IX	-0.9%	-33.4%	-8.0%	-0.1%	N/A
Rockwood Capital Real Estate Partners Fund XI ¹	N/M	N/A	N/A	N/A	N/A
Walton Street Real Estate Debt Fund II, L.P.	1.3%	7.4%	N/A	N/A	N/A
Westbrook Real Estate Fund IX	-0.3%	-20.4%	-2.3%	3.0%	N/A
Westbrook Real Estate Fund X	0.6%	5.1%	10.6%	N/A	N/A
Total Value Added	-0.7%	-1.4%	6.1%	7.9%	11.8%

¹ Rockwood Capital Real Estate Partners Fund XI's N/M designation is the result of small AIC leading to a negative NAV, which has led to negative appreciation due to new acquisitions being market below asset value due to closing costs, as well as negative income attributable to the closing costs expensed being greater than the net income generated during the period

ATRS' Real Estate Performance: Opportunistic Portfolio

As of 6/30/2020

Fund Name	Vintage Year	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
Blackstone Real Estate Partners Europe VI	2019	49,096,184	41,105,848	8,337,540	0	7,819,325	7,819,325	0.00x	0.94x	-16.23%
Blackstone Real Estate Partners VII	2012	50,000,000	6,287,502	63,653,138	80,478,149	19,807,032	100,285,181	1.26x	1.58x	14.92%
Carlyle Realty Partners VII	2014	30,000,000	20,530,832	28,334,798	28,653,735	11,840,708	40,494,443	1.01x	1.43x	14.52%
Carlyle Realty Partners VIII	2018	25,000,000	17,282,848	8,864,982	1,147,829	7,977,333	9,125,162	0.13x	1.03x	3.55%
CBRE Strategic Partners U.S. Opportunity 5	2008	50,000,000	1,643,033	48,619,340	57,378,777	9,753,310	67,132,087	1.18x	1.38x	5.25%
Cerberus Institutional Real Estate Partners III	2013	30,000,000	7,307,395	37,777,980	39,751,239	13,668,872	53,420,111	1.05x	1.41x	12.01%
Doughty Hanson & Co European Real Estate Partners	1999	26,068,792	0	34,359,852	91,947,138	0	91,947,138	2.68x	2.68x	28.48%
Heitman European Property Partners IV	2008	44,089,700	2,271,226	34,546,944	24,356,037	3,102,763	27,458,800	0.71x	0.79x	-3.73%
Kayne Anderson Real Estate Partners V	2018	25,000,000	8,750,000	16,250,000	489,595	17,895,419	18,385,014	0.03x	1.13x	8.76%
Landmark Real Estate Fund VI	2010	40,000,000	4,909,392	35,090,608	52,405,721	2,184,731	54,590,452	1.49x	1.56x	18.95%
Landmark Real Estate Fund VIII	2017	25,000,000	18,319,287	10,430,713	3,934,116	7,768,521	11,702,637	0.38x	1.12x	10.63%
LaSalle Asia Opportunity Fund IV	2014	30,000,000	2,013,173	28,674,871	38,913,010	2,139,328	41,052,338	1.36x	1.43x	33.24%
LaSalle Asia Opportunity V	2016	30,000,000	14,782,208	22,604,406	14,021,462	11,233,655	25,255,117	0.62x	1.12x	11.56%
Lone Star Real Estate Fund IV	2015	24,260,817	5,102,992	19,157,825	18,533,721	7,009,863	25,543,584	0.97x	1.33x	12.74%
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	2015	20,000,000	1,621,917	19,103,299	15,154,494	10,814,137	25,968,631	0.79x	1.36x	12.12%
O'Connor North American Property Partners II, L.P.	2008	50,000,000	5,000,000	58,229,919	40,129,867	9,981,607	50,111,474	0.69x	0.86x	-2.72%
Olympus Real Estate Fund III	2000	100,000,000	0	112,839,568	98,504,479	355,396	98,859,875	0.87x	0.88x	-3.67%
RECP Fund II, L.P.	1999	112,725,609	0	115,482,666	179,444,842	0	179,444,842	1.55x	1.55x	19.11%
Torchlight Debt Fund VII, LP	2020	50,000,000	0	0	0	0	0	0.00x	0.00x	0.00%
Torchlight Debt Opportunity Fund II	2007	55,000,000	0	54,347,597	48,726,348	0	48,726,348	0.90x	0.90x	-1.43%
Torchlight Debt Opportunity Fund III	2008	30,000,000	0	30,000,000	46,350,933	0	46,350,933	1.55x	1.55x	13.83%
Torchlight Debt Opportunity Fund IV	2013	30,000,000	0	29,369,211	37,327,322	4,773,870	42,101,192	1.27x	1.43x	9.91%
Torchlight Debt Opportunity Fund V	2015	25,000,000	5,000,000	20,001,024	18,313,820	6,880,300	25,194,120	0.92x	1.26x	10.48%
Torchlight Debt Opportunity Fund VI	2018	25,000,000	0	25,000,000	0	24,771,525	24,771,525	0.00x	0.99x	-1.56%
Westbrook Fund IV	2000	109,242,960	0	115,556,652	190,913,983	0	190,913,983	1.65x	1.65x	20.65%
Westbrook Real Estate Fund II	1997	75,000,000	0	80,737,536	120,795,230	0	120,795,230	1.50x	1.50x	13.42%
Westbrook Real Estate Fund III	1998	100,000,000	0	112,862,649	147,939,777	0	147,939,777	1.31x	1.31x	8.79%
Westbrook SHP, LLC (Sunstone Hotel Investors, LLC)	1999	40,000,000	0	40,000,000	44,660,669	0	44,660,669	1.12x	1.12x	2.47%
Total Opportunistic		1,300,484,062	161,927,652	1,210,233,118	1,440,272,293	179,777,695	1,620,049,988	1.19x	1.34x	10.19%

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

Time Weighted Returns:

As of 6/30/2020 Partnership Name	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Blackstone Real Estate Partners Europe VI	-4.5%	N/A	N/A	N/A	N/A
Blackstone Real Estate Partners VII	-7.9%	-17.6%	0.4%	3.4%	N/A
Carlyle Realty Partners VII	2.0%	11.0%	15.8%	15.7%	N/A
Carlyle Realty Partners VIII	2.8%	17.3%	N/A	N/A	N/A
CBRE Strategic Partners U.S. Opportunity 5	-0.1%	7.2%	7.7%	10.0%	11.0%
Cerberus Institutional Real Estate Partners III	0.3%	8.2%	8.4%	7.7%	N/A
Heitman European Property Partners IV	1.8%	19.1%	-19.0%	-12.9%	N/A
Kayne Anderson Real Estate Partners V	1.5%	19.9%	N/A	N/A	N/A
Landmark Real Estate Fund VI	-4.8%	-15.7%	-8.6%	-4.5%	28.0%
Landmark Real Estate Fund VIII	-6.3%	0.2%	16.8%	N/A	N/A
LaSalle Asia Opportunity Fund IV	2.2%	-25.8%	-7.7%	4.6%	N/A
LaSalle Asia Opportunity V	-0.3%	-1.7%	9.5%	N/A	N/A
Lone Star Real Estate Fund IV	4.2%	-19.9%	2.8%	N/A	N/A
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	1.7%	-4.9%	10.1%	N/A	N/A
O'Connor North American Property Partners II, L.P.	-0.2%	-5.3%	N/A	N/A	N/A
Torchlight Debt Opportunity Fund IV	0.6%	-5.4%	4.3%	6.4%	N/A
Torchlight Debt Opportunity Fund V	-0.2%	1.5%	7.8%	8.8%	N/A
Torchlight Debt Opportunity Fund VI	-0.1%	-1.4%	N/A	N/A	N/A
Total Opportunistic	-0.7%	-1.1%	4.8%	6.3%	10.5%

ATRS' Timberland, Agriculture, and Infrastructure Performance

As of 6/30/2020

Fund Name	Vintage Year	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	2019	182,930,629	0	182,930,628	0	186,916,255	186,916,255	0.00x	1.02x	2.19%
BTG Timber Separate Account	1998	133,069,371	0	155,447,694	309,750,000	106,042,400	415,792,400	1.99x	2.67x	5.16%
Total Timber		316,000,000	0	338,378,323	309,750,000	292,958,654	602,708,654	0.92x	1.78x	5.15%
Agrivest Farmland Fund	2015	50,000,000	0	50,000,000	6,143,614	54,955,050	61,098,664	0.12x	1.22x	4.44%
HFMS Farmland Separate Account	2011	125,000,000	15,463,892	154,218,170	44,682,061	149,589,353	194,271,414	0.29x	1.26x	5.00%
Total Agriculture		175,000,000	15,463,892	204,218,170	50,825,675	204,544,403	255,370,078	0.25x	1.25x	4.87%

Fund Name	Vintage Year	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
DIF Infrastructure Fund V	2018	47,762,784	15,517,783	32,355,580	2,679,375	32,175,807	34,855,182	0.08x	1.08x	6.12%
IFM Global Infrastructure	2018	50,000,000	0	50,000,000	1,422,315	55,771,950	57,194,265	0.03x	1.14x	8.08%
KKR Global Infrastructure Investors II	2014	50,000,000	1,710,535	53,528,163	41,808,714	39,581,772	81,390,486	0.78x	1.52x	16.34%
Macquarie Infrastructure Partners III	2013	50,000,000	7,304,366	47,391,057	21,577,747	46,304,690	67,882,437	0.46x	1.43x	12.33%
Total Core		197,762,784	24,532,684	183,274,801	67,488,151	173,834,220	241,322,371	0.37x	1.32x	13.01%
Antin Infrastructure Partners Fund II	2014	47,696,920	5,111,211	35,953,565	19,703,402	37,269,821	56,973,223	0.55x	1.58x	10.32%
Global Energy & Power Infrastructure Fund II	2014	50,000,000	3,777,739	51,116,818	38,625,779	31,733,330	70,359,109	0.76x	1.38x	23.71%
Global Infrastructure Partners III	2016	50,000,000	12,693,051	41,529,076	6,565,993	36,769,589	43,335,582	0.16x	1.04x	1.90%
Total Non-Core		147,696,920	21,582,001	128,599,459	64,895,174	105,772,740	170,667,914	0.50x	1.33x	11.15%
Total Infrastructure		345,459,704	46,114,685	311,874,260	132,383,325	279,606,960	411,990,285	0.42x	1.32x	12.15%

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

Time Weighted Returns:

As of 6/30/2020 Partnership Name	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	0.9%	N/A	N/A	N/A	N/A
BTG Timber Separate Account	-5.3%	-2.1%	2.1%	2.8%	2.7%
Total Timber	-1.5%	2.8%	3.8%	3.8%	3.2%
Agrivest Farmland Fund	0.8%	3.3%	3.7%	4.5%	N/A
HFMS Farmland Separate Account	1.5%	1.8%	2.7%	3.7%	N/A
Total Agriculture	1.3%	2.2%	3.0%	4.0%	N/A

Time Weighted Returns:

As of 6/30/2020 Partnership Name	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
DIF Infrastructure Fund V	5.4%	4.4%	N/A	N/A	N/A
IFM Global Infrastructure	1.1%	4.5%	N/A	N/A	N/A
KKR Global Infrastructure Investors II	6.4%	29.9%	17.9%	13.5%	N/A
Macquarie Infrastructure Partners III	2.0%	9.5%	13.5%	13.1%	N/A
Total Core	3.3%	12.9%	13.3%	12.2%	N/A
Antin Infrastructure Partners Fund II	4.2%	2.7%	12.0%	9.6%	N/A
Global Energy & Power Infrastructure Fund II	0.7%	2.3%	9.4%	19.5%	N/A
Global Infrastructure Partners III	5.0%	-6.9%	-1.0%	N/A	N/A
Total Non-Core	3.5%	-0.4%	8.6%	10.9%	N/A
Total Infrastructure	3.4%	7.7%	11.5%	11.8%	N/A

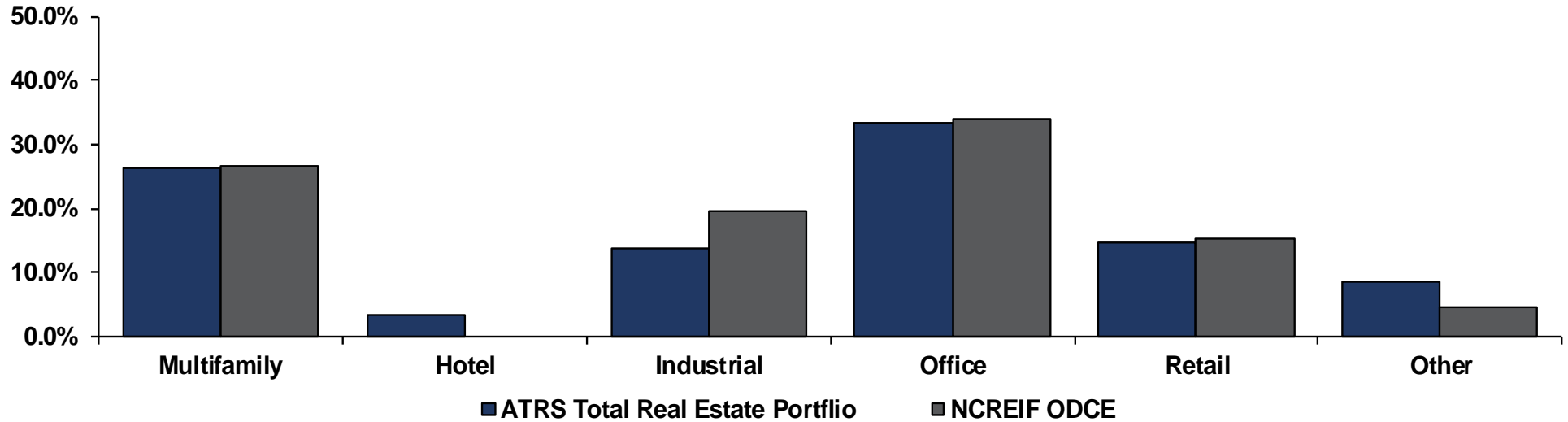
Portfolio Performance Detail: By Vintage Year

As of 6/30/2020

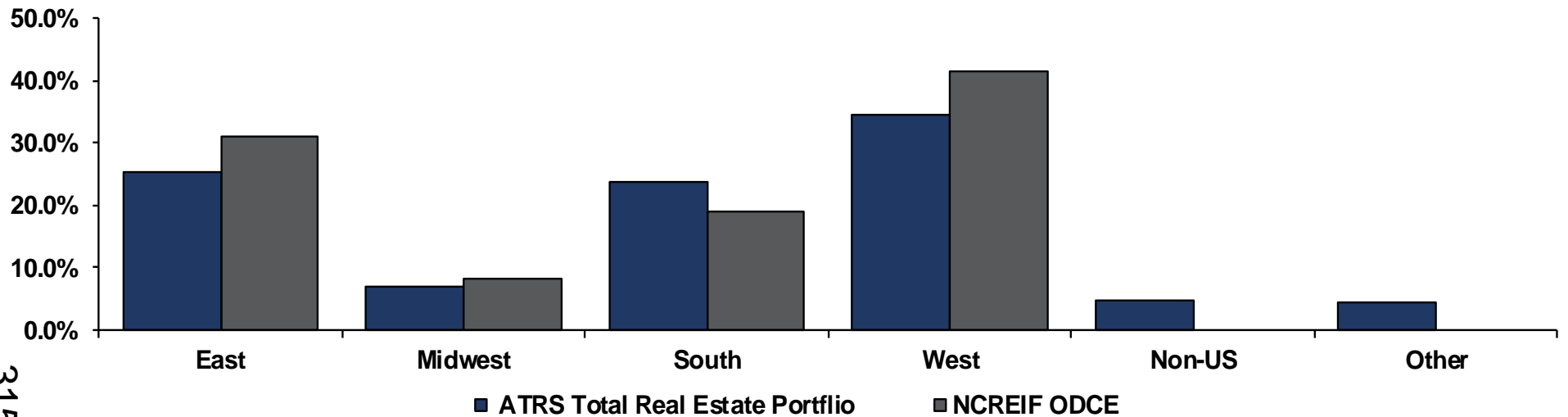
Vintage Year (ATRS)	Total Commitment	Unfunded Commitment	Total Paid-In	Total Distributions	Net Asset Value as of 6/30/2020	Total Value	DPI	TVPI	Net IRR
1997	75,000,000	0	80,737,536	120,795,230	0	120,795,230	1.50x	1.50x	13.42%
1998	233,069,371	0	268,310,343	457,689,777	106,042,400	563,732,177	1.71x	2.10x	5.54%
1999	178,794,401	0	189,842,518	316,052,649	0	316,052,649	1.66x	1.66x	15.90%
2000	209,242,960	0	228,396,220	289,418,462	355,396	289,773,858	1.27x	1.27x	8.51%
2005	340,000,000	0	374,770,176	245,004,878	472,339,508	717,344,386	0.65x	1.91x	5.89%
2006	220,000,000	0	219,970,569	132,958,482	280,075,613	413,034,095	0.60x	1.88x	5.90%
2007	197,694,200	0	198,972,143	238,909,694	80,136,854	319,046,548	1.20x	1.60x	6.18%
2008	220,000,000	9,866,941	195,081,350	235,749,389	19,917,650	255,667,039	1.21x	1.31x	5.15%
2009	44,089,700	2,271,226	34,546,944	24,356,037	3,102,763	27,458,800	0.71x	0.79x	-3.73%
2010	40,000,000	4,909,392	35,090,608	52,405,721	2,184,731	54,590,452	1.49x	1.56x	18.95%
2011	175,000,000	21,751,394	217,871,308	125,160,210	169,396,385	294,556,595	0.57x	1.35x	7.42%
2012	130,000,000	13,487,923	130,434,809	137,850,497	33,941,902	171,792,399	1.06x	1.32x	10.33%
2013	150,000,000	8,256,747	145,807,887	86,599,951	112,513,382	199,113,333	0.59x	1.37x	8.61%
2014	157,696,920	31,432,955	144,080,052	125,895,926	82,983,187	208,879,113	0.87x	1.45x	15.93%
2015	204,260,817	28,053,558	192,080,241	139,445,925	117,347,908	256,793,833	0.73x	1.34x	12.92%
2016	180,011,918	31,638,643	160,600,016	37,802,769	144,600,784	182,403,553	0.24x	1.14x	5.54%
2017	150,000,000	29,909,704	127,567,746	15,896,560	125,955,388	141,851,948	0.12x	1.11x	7.26%
2018	257,762,784	119,649,948	139,371,245	7,738,581	136,508,950	144,247,531	0.06x	1.03x	3.19%
2019	312,026,813	117,179,412	196,594,547	1,411,259	198,371,933	199,783,192	0.01x	1.02x	3.33%
2020	150,000,000	43,230,922	6,727,731	0	5,630,369	5,630,369	0.00x	0.84x	0.00%
Grand Total(s):	3,624,649,884	461,638,765	3,286,853,989	2,791,141,997	2,091,405,103	4,882,547,100	0.85x	1.49x	11.15%

Portfolio Diversification – Real Estate

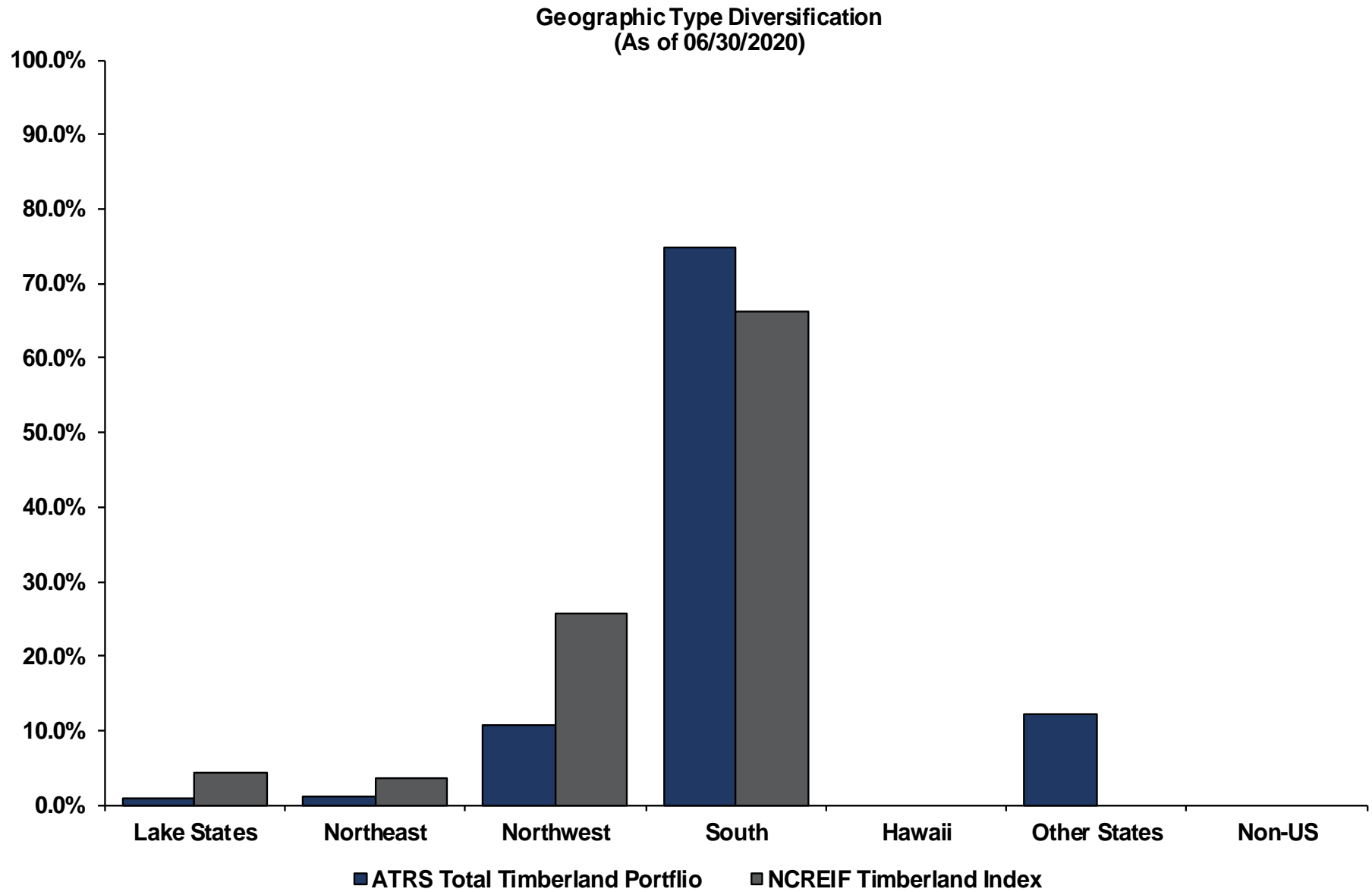
Property Type Diversification
(As of 06/30/2020)



Geographic Type Diversification
(As of 06/30/2020)

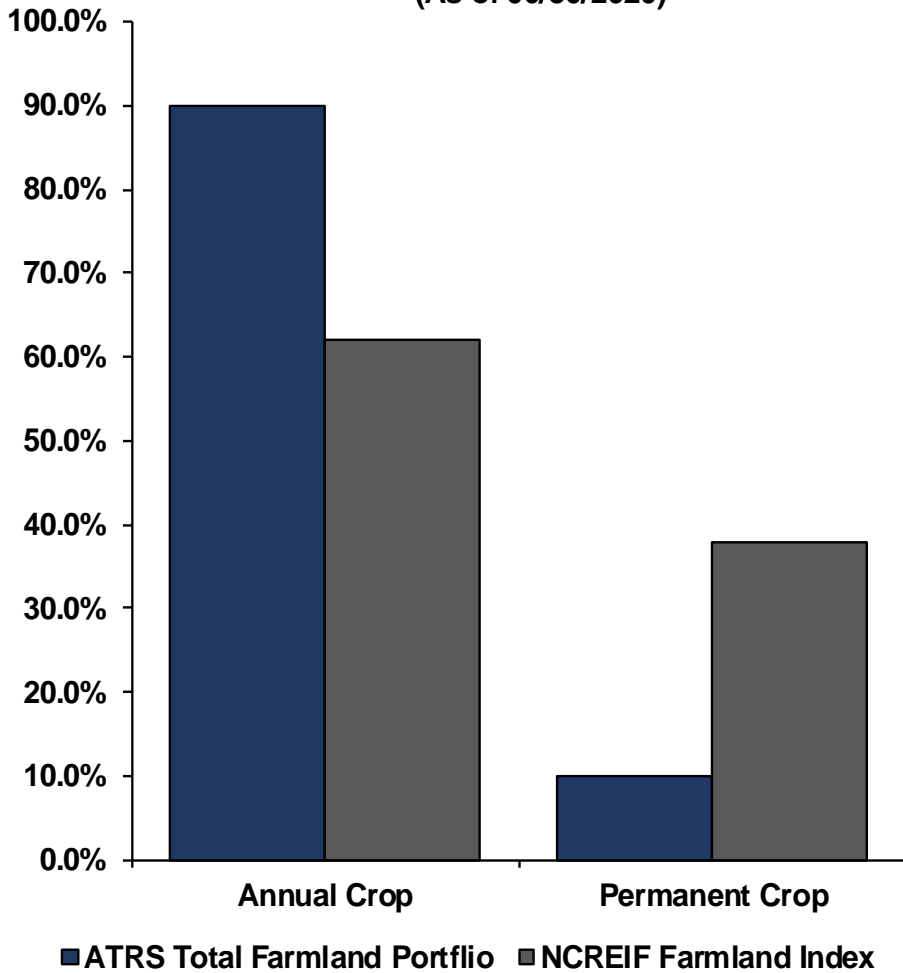


Portfolio Diversification – Timberland

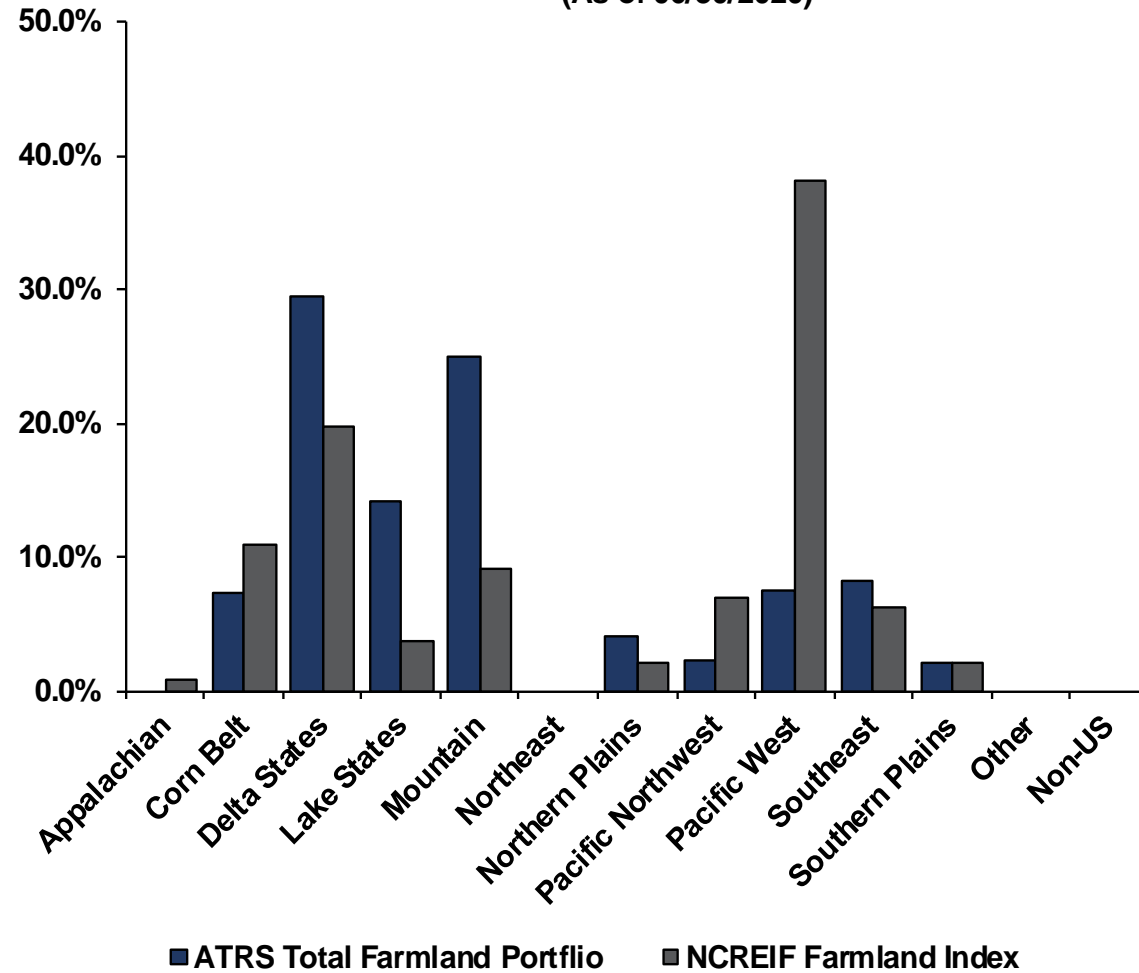


Portfolio Diversification – Agriculture

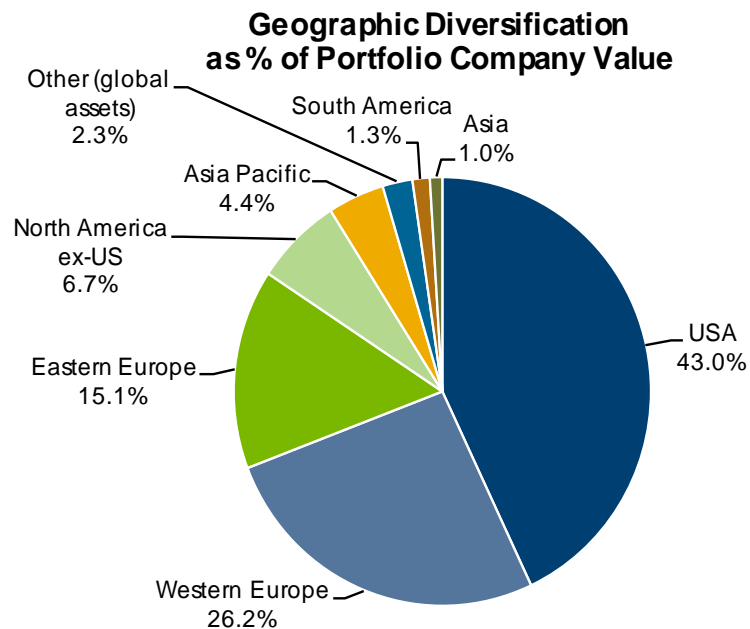
Crop Type Diversification
(As of 06/30/2020)



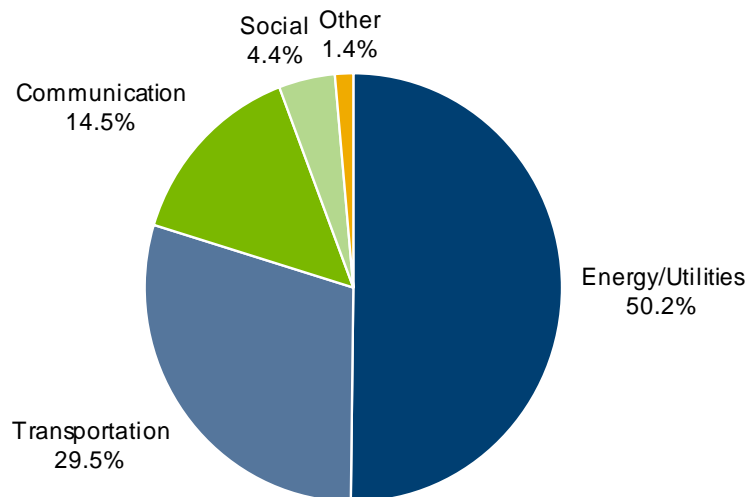
Geographic Type Diversification
(As of 06/30/2020)



Portfolio Diversification – Infrastructure

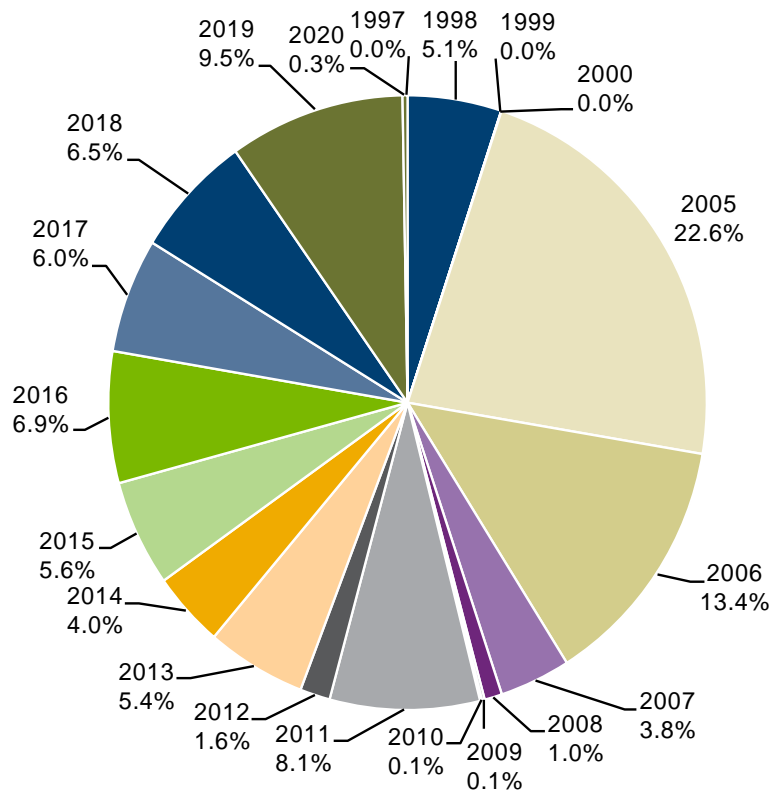


**Industry Diversification
as % of Portfolio Company Value**

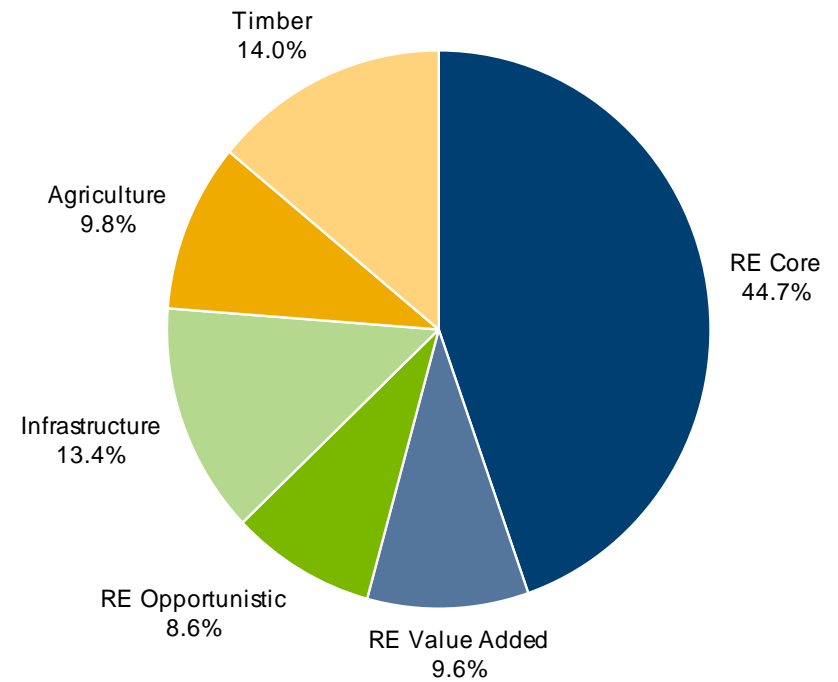


Portfolio Diversification (cont'd)

**Vintage Year Diversification by Net Asset Value
(As of 06/30/2020)**



**Style Diversification by Net Asset Value
(As of 06/30/2020)**



Note: Arkansas Investments are included in Core portfolio

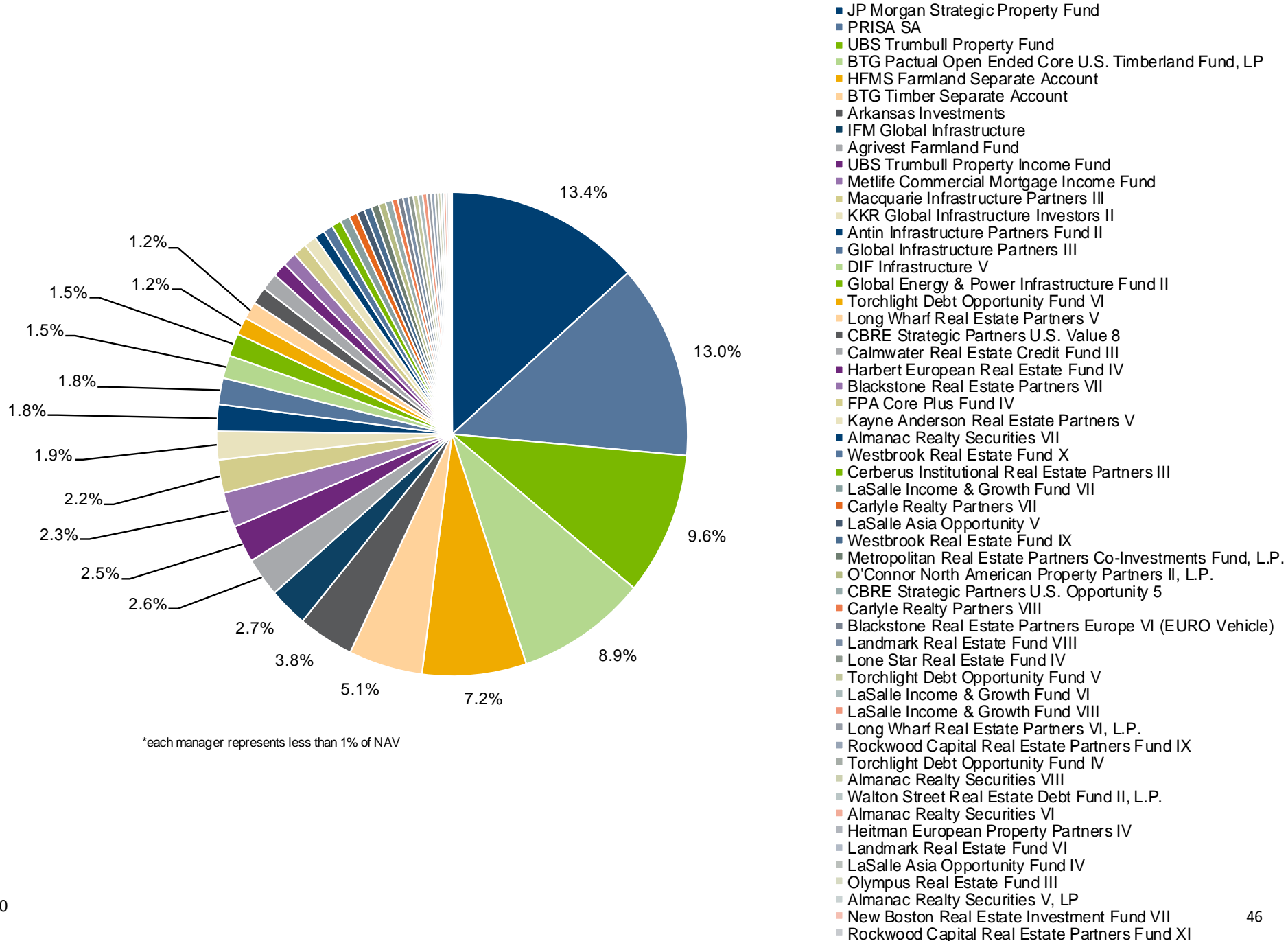
Portfolio Funding Summary

Partnership Name	Funded Commitment as of 6/30/2020	Unfunded Commitment as of 6/30/2020	Total Commitment
Almanac Realty Securities Fund V, L.P.	21,787,314	0	50,000,000
Almanac Realty Securities Fund VI, L.P.	19,102,008	0	30,000,000
Almanac Realty Securities Fund VII, L.P.	27,978,973	7,946,045	30,000,000
Almanac Realty Securities Fund VIII, L.P.	4,885,183	25,114,817	30,000,000
Antin Infrastructure Partners II, L.P.	35,953,565	5,111,211	47,696,920
Blackstone Real Estate Partners Europe VI	8,337,540	41,105,848	49,096,184
Blackstone Real Estate Partners VII, L.P.	63,653,138	6,287,502	50,000,000
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	182,930,628	0	182,930,629
BTG Timber Separate Account	155,447,694	0	133,069,371
Calmwater Fund III	23,113,383	7,427,676	30,000,000
Carlyle Realty Partners VII, L.P.	28,334,798	20,530,832	30,000,000
Carlyle Realty Partners VIII, L.P.	8,864,982	17,282,848	25,000,000
CB Richard Ellis Strategic Partners U.S. Opportunity Fund V, L.P.	48,619,340	1,643,033	50,000,000
CBRE Strategic Partners U.S. Value 8, L.P.	22,545,984	2,454,016	25,000,000
CBRE Strategic Partners U.S. Value 9, L.P.	0	0	50,000,000
Cerberus Institutional Real Estate Partners III, L.P.	37,777,980	7,307,395	30,000,000
DIF Infrastructure Fund V	32,355,580	15,517,783	47,762,784
First Reserve Energy Infrastructure Fund II, L.P.	51,116,818	3,777,739	50,000,000
FPA Core Plus Fund IV, L.P.	19,500,000	10,500,000	30,000,000
Global Infrastructure Partners III, L.P.	41,529,076	12,693,051	50,000,000
Harbert European Real Estate Fund IV	23,920,550	1,709,368	25,011,918
Heitman European Property Partners IV	34,546,944	2,271,226	44,089,700
HFMS Farmland Separate Account	154,218,170	15,463,892	125,000,000
IFM Global Infrastructure (US), L.P.	50,000,000	0	50,000,000
JPMorgan Strategic Property Fund	170,000,000	0	170,000,000
Kayne Anderson Real Estate Partners V, L.P.	16,250,000	8,750,000	25,000,000
KKR Global Infrastructure Investors II, L.P.	53,528,163	1,710,535	50,000,000
Landmark Real Estate Partners VI, L.P.	35,090,608	4,909,392	40,000,000
Landmark Real Estate Partners VIII, L.P.	10,430,713	18,319,287	25,000,000

Portfolio Funding Summary (cont'd)

Partnership Name	Funded Commitment as of 6/30/2020	Unfunded Commitment as of 6/30/2020	Total Commitment
LaSalle Asia Opportunity Fund IV	28,674,871	2,013,173	30,000,000
LaSalle Asia Opportunity Fund V	22,604,406	14,782,208	30,000,000
LaSalle Income & Growth Fund VI	19,047,619	952,381	20,000,000
LaSalle Income & Growth Fund VII	19,023,650	4,162,741	20,000,000
LaSalle Income & Growth Fund VIII	7,515,500	42,484,500	50,000,000
Lone Star Real Estate Fund IV, L.P.	19,157,825	5,102,992	24,260,817
Long Wharf Real Estate Partners V	29,828,371	0	30,000,000
Long Wharf Real Estate Partners VI, L.P.	6,727,731	43,230,922	50,000,000
Macquarie Infrastructure Partners III, L.P.	47,391,057	7,304,366	50,000,000
MetLife Commercial Mortgage Income Fund, LP	50,000,000	0	50,000,000
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	19,103,299	1,621,917	20,000,000
New Boston Real Estate Investment Fund VII	9,668,685	0	10,000,000
O'Connor North American Property Partners II	58,229,919	5,000,000	50,000,000
Olympus Real Estate Fund III, L.P.	112,839,568	0	100,000,000
Prudential Property Investment Separate Account	184,182,196	0	170,000,000
Rockwood Capital Real Estate Partners Fund IX, L.P.	27,422,960	2,577,040	30,000,000
Rockwood Capital Real Estate Partners Fund XI, L.P.	264,638	39,735,362	40,000,000
Torchlight Debt Opportunity Fund III	30,000,000	0	30,000,000
Torchlight Debt Opportunity Fund IV	29,369,211	0	30,000,000
Torchlight Debt Opportunity Fund V	20,001,024	5,000,000	25,000,000
Torchlight Debt Opportunity Fund VI, LP	25,000,000	0	25,000,000
UBS Agrivest Core Farmland Fund	50,000,000	0	50,000,000
UBS Trumbull Property Fund	190,587,980	0	170,000,000
UBS Trumbull Property Income Fund	50,000,000	0	50,000,000
Walton Street Real Estate Debt Fund II, LP	5,061,741	36,338,202	40,000,000
Westbrook Real Estate Fund IX, L.P.	46,131,861	3,603,488	40,000,000
Westbrook Real Estate Fund X, L.P.	22,482,586	6,672,069	25,000,000
	2,512,135,830	458,414,857	2,833,918,323

Manager Diversification



Management Fees

ATRS Sub-Asset Class	ATRS Style	Partnership Name	Current Quarter Management Fees as of 06/30/2020	YTD Management Fees
Agriculture		HFMS Farmland Separate Account	(442,678.56)	(872,771.25)
Agriculture		UBS Agrivest Core Farmland Fund	(136,412.39)	(407,694.93)
Subtotal:			(579,090.95)	(1,723,144.74)
Subtotal: Agriculture			(579,090.95)	(1,723,144.74)
Infrastructure		Antin Infrastructure Partners II, L.P.	(58,189.20)	(193,184.90)
Infrastructure		DIF Infrastructure Fund V	(158,644.12)	(473,096.94)
Infrastructure		First Reserve Energy Infrastructure Fund II, L.P.	(179,294.00)	(500,200.84)
Infrastructure		Global Infrastructure Partners III, L.P.	(212,303.00)	(644,566.00)
Infrastructure		IFM Global Infrastructure (US), L.P.	(106,334.00)	(322,249.13)
Infrastructure		KKR Global Infrastructure Investors II, L.P.	(132,361.00)	(388,357.00)
Infrastructure		Macquarie Infrastructure Partners III, L.P.	(113,715.52)	(341,121.66)
Subtotal:			(960,840.85)	(2,862,776.47)
Subtotal: Infrastructure			(960,840.85)	(2,862,776.47)
Real Estate	Core	JPMorgan Strategic Property Fund	(594,825.65)	(1,804,524.32)
Real Estate	Core	MetLife Commercial Mortgage Income Fund, LP	(100,000.00)	(300,000.00)
Real Estate	Core	Prudential Property Investment Separate Account	(538,207.85)	(1,625,872.02)
Real Estate	Core	UBS Trumbull Property Fund	(360,574.23)	(1,109,912.14)
Real Estate	Core	UBS Trumbull Property Income Fund	(105,717.56)	(318,226.65)
Subtotal: Core			(1,699,325.29)	(5,158,535.13)

Management Fees (cont'd)

ATRS Sub-Asset Class	ATRS Style	Partnership Name	Current Quarter Management Fees as of 06/30/2020	YTD Management Fees
Real Estate	Opportunistic	Blackstone Real Estate Partners Europe VI	(107,092.04)	(214,184.07)
Real Estate	Opportunistic	Blackstone Real Estate Partners VII, L.P.	(59,798.00)	(183,130.61)
Real Estate	Opportunistic	Carlyle Realty Partners VII, L.P.	(44,666.00)	(133,998.00)
Real Estate	Opportunistic	Carlyle Realty Partners VIII, L.P.	(87,022.00)	(261,066.00)
Real Estate	Opportunistic	CB Richard Ellis Strategic Partners U.S. Opportunity Fund V, L.P.	0.00	0.00
Real Estate	Opportunistic	Cerberus Institutional Real Estate Partners III, L.P.	(21,989.00)	(64,268.00)
Real Estate	Opportunistic	Heitman European Property Partners IV	0.00	0.00
Real Estate	Opportunistic	Kayne Anderson Real Estate Partners V, L.P.	(109,375.00)	(328,125.00)
Real Estate	Opportunistic	Landmark Real Estate Partners VI, L.P.	(6,241.00)	(20,138.00)
Real Estate	Opportunistic	Landmark Real Estate Partners VIII, L.P.	(62,500.00)	(187,500.00)
Real Estate	Opportunistic	LaSalle Asia Opportunity Fund IV	(3,851.00)	(11,553.00)
Real Estate	Opportunistic	LaSalle Asia Opportunity Fund V	(86,794.00)	(263,060.00)
Real Estate	Opportunistic	Lone Star Real Estate Fund IV, L.P.	(6,345.00)	(18,583.00)
Real Estate	Opportunistic	Metropolitan Real Estate Partners Co-Investments Fund, L.P.	(24,243.76)	(75,670.76)
Real Estate	Opportunistic	O'Connor North American Property Partners II	(17,443.00)	(52,552.00)
Real Estate	Opportunistic	Olympus Real Estate Fund III, L.P.	0.00	0.00
Real Estate	Opportunistic	Torchlight Debt Opportunity Fund III	0.00	0.00
Real Estate	Opportunistic	Torchlight Debt Opportunity Fund IV	(14,604.00)	(43,631.00)
Real Estate	Opportunistic	Torchlight Debt Opportunity Fund V	(21,509.00)	(68,028.00)
Real Estate	Opportunistic	Torchlight Debt Opportunity Fund VI, LP	(79,688.00)	(239,064.00)
Subtotal: Opportunistic			(753,160.80)	(2,164,551.44)

Management Fees (cont'd)

ATRS Sub-Asset Class	ATRS Style	Partnership Name	Current Quarter Management Fees as of 06/30/2020	YTD Management Fees
Real Estate	Value Added	Almanac Realty Securities Fund V, L.P.	(236.00)	(708.00)
Real Estate	Value Added	Almanac Realty Securities Fund VI, L.P.	(11,110.00)	(33,330.00)
Real Estate	Value Added	Almanac Realty Securities Fund VII, L.P.	(39,972.00)	(116,353.00)
Real Estate	Value Added	Almanac Realty Securities Fund VIII, L.P.	(93,238.00)	(279,714.00)
Real Estate	Value Added	Calmwater Fund III	(91,961.26)	(276,477.67)
Real Estate	Value Added	CBRE Strategic Partners U.S. Value 8, L.P.	(53,156.00)	(158,488.00)
Real Estate	Value Added	CBRE Strategic Partners U.S. Value 9, L.P.	0.00	0.00
Real Estate	Value Added	FPA Core Plus Fund IV, L.P.	(31,371.00)	(95,752.00)
Real Estate	Value Added	Harbert European Real Estate Fund IV	(65,144.37)	(201,678.75)
Real Estate	Value Added	LaSalle Income & Growth Fund VI	(15,004.18)	(45,012.54)
Real Estate	Value Added	LaSalle Income & Growth Fund VII	(45,568.30)	(135,494.70)
Real Estate	Value Added	LaSalle Income & Growth Fund VIII	(124,316.93)	(372,950.79)
Real Estate	Value Added	Long Wharf Real Estate Partners V	(77,185.46)	(232,018.42)
Real Estate	Value Added	Long Wharf Real Estate Partners VI, L.P.	(186,475.41)	(1,177,919.37)
Real Estate	Value Added	New Boston Real Estate Investment Fund VII	0.00	0.00
Real Estate	Value Added	Rockwood Capital Real Estate Partners Fund IX, L.P.	(59,908.53)	(180,718.39)
Real Estate	Value Added	Rockwood Capital Real Estate Partners Fund XI, L.P.	(86,213.21)	(291,716.19)
Real Estate	Value Added	Walton Street Real Estate Debt Fund II, LP	(18,169.00)	(47,247.00)
Real Estate	Value Added	Westbrook Real Estate Fund IX, L.P.	(34,498.00)	(104,568.00)
Real Estate	Value Added	Westbrook Real Estate Fund X, L.P.	(49,519.00)	(148,410.00)
Subtotal: Value Added			(1,083,046.65)	(3,898,556.82)
Subtotal: Real Estate			(3,535,532.74)	(11,221,643.40)
Timber		BTG Pactual Open Ended Core U.S. Timberland Fund, LP	(442,678.56)	(1,351,956.95)
Timber		BTG Timber Separate Account	(442,678.56)	(819,678.22)
Subtotal:			(885,357.12)	(2,171,635.17)
Subtotal: Timber			(885,357.12)	(2,171,635.17)
Grand Total(s):			(5,960,821.66)	(17,979,199.77)

Compliance Matrix

RISK MANAGEMENT						
Property Type - Real Estate	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Office	33.9%	NFI-ODCE +/- 50%	17.0%	50.0%	33.3%	Yes
Retail	15.2%	NFI-ODCE +/- 50%	7.6%	22.8%	14.7%	Yes
Industrial	19.7%	NFI-ODCE +/- 50%	9.9%	29.6%	13.8%	Yes
Multifamily	26.8%	NFI-ODCE +/- 50%	13.4%	40.2%	26.4%	Yes
Lodging/Hotel	0.0%	NFI-ODCE +/- 50%	0.0%	0.0%	3.3%	No
Other ¹	4.5%	NFI-ODCE +/- 50%	2.3%	6.8%	8.4%	No
Geography - Real Estate	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
West	41.6%	NFI-ODCE +/- 50%	20.8%	62.4%	34.4%	Yes
East	31.1%	NFI-ODCE +/- 50%	15.6%	46.7%	25.5%	Yes
Midwest	8.2%	NFI-ODCE +/- 50%	4.1%	12.3%	7.0%	Yes
South	19.1%	NFI-ODCE +/- 50%	9.6%	28.7%	23.7%	Yes
Other ^{2,3}	0.0%	n/a	n/a	n/a	4.5%	Yes
Non-U.S.	0.0%	n/a	0.0%	40.0%	4.8%	Yes
Geography - Timber	NCREIF Timberland	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Lake States	4.4%	NCREIF Timberland +/- 50%	2.2%	6.6%	0.8%	No
Northeast	3.7%	NCREIF Timberland +/- 50%	1.9%	5.6%	1.3%	No
Northwest	25.7%	NCREIF Timberland +/- 50%	12.8%	38.5%	10.8%	No
South	66.3%	NCREIF Timberland +/- 50%	33.1%	99.4%	75.0%	Yes
Other	0.0%	NCREIF Timberland +/- 50%	0.0%	0.0%	12.1%	No

Compliance Matrix (cont'd)

RISK MANAGEMENT							
Geography - Agriculture	NCREIF Farmland	Target/Constraint	Minimum	Maximum	Actual	Compliant?	
Appalachian	0.8%		0.0%	50.0%	0.0%	Yes	
Corn Belt	10.9%		0.0%	50.0%	7.4%	Yes	
Delta States	19.8%		0.0%	50.0%	29.4%	Yes	
Lake States	3.7%		0.0%	50.0%	14.1%	Yes	
Mountain	9.1%		0.0%	50.0%	25.0%	Yes	
Northeast	0.0%		0.0%	50.0%	0.0%	Yes	
Northern Plains	2.1%		0.0%	50.0%	4.1%	Yes	
Pacific Northwest	7.0%		0.0%	50.0%	2.3%	Yes	
Pacific West	38.2%		0.0%	50.0%	7.4%	Yes	
Southeast	6.2%		0.0%	50.0%	8.2%	Yes	
Southern Plains	2.1%		0.0%	50.0%	2.2%	Yes	
Other	0.0%		0.0%	50.0%	0.0%	Yes	
Non-U.S.	0.0%		0.0%	50.0%	0.0%	Yes	
Geography - Infrastructure		Target/Constraint	Minimum	Maximum	Actual	Compliant?	
U.S.			n/a	n/a	43.0%	No	
Non-U.S.			0.0%	50.0%	57.0%	No	
Asset Type - Infrastructure		Target/Constraint	Minimum	Maximum	Actual	Compliant?	
Energy/Utilities			0.0%	70.0%	50.2%	Yes	
Transportation			0.0%	70.0%	29.5%	Yes	
Social			0.0%	70.0%	14.5%	Yes	
Communications			0.0%	70.0%	4.4%	Yes	
Other			0.0%	70.0%	1.4%	Yes	
Manager		Target/Constraint	Minimum	Maximum	Max	Compliant?	
			0.0%	30.0%	14.7%	Yes	
Style - Real Estate		Target/Constraint	Minimum	Maximum	Actual	Compliant?	
Core			50.0%	70.0%	71.1%	No	
Non-Core			30.0%	50.0%	28.9%	No	

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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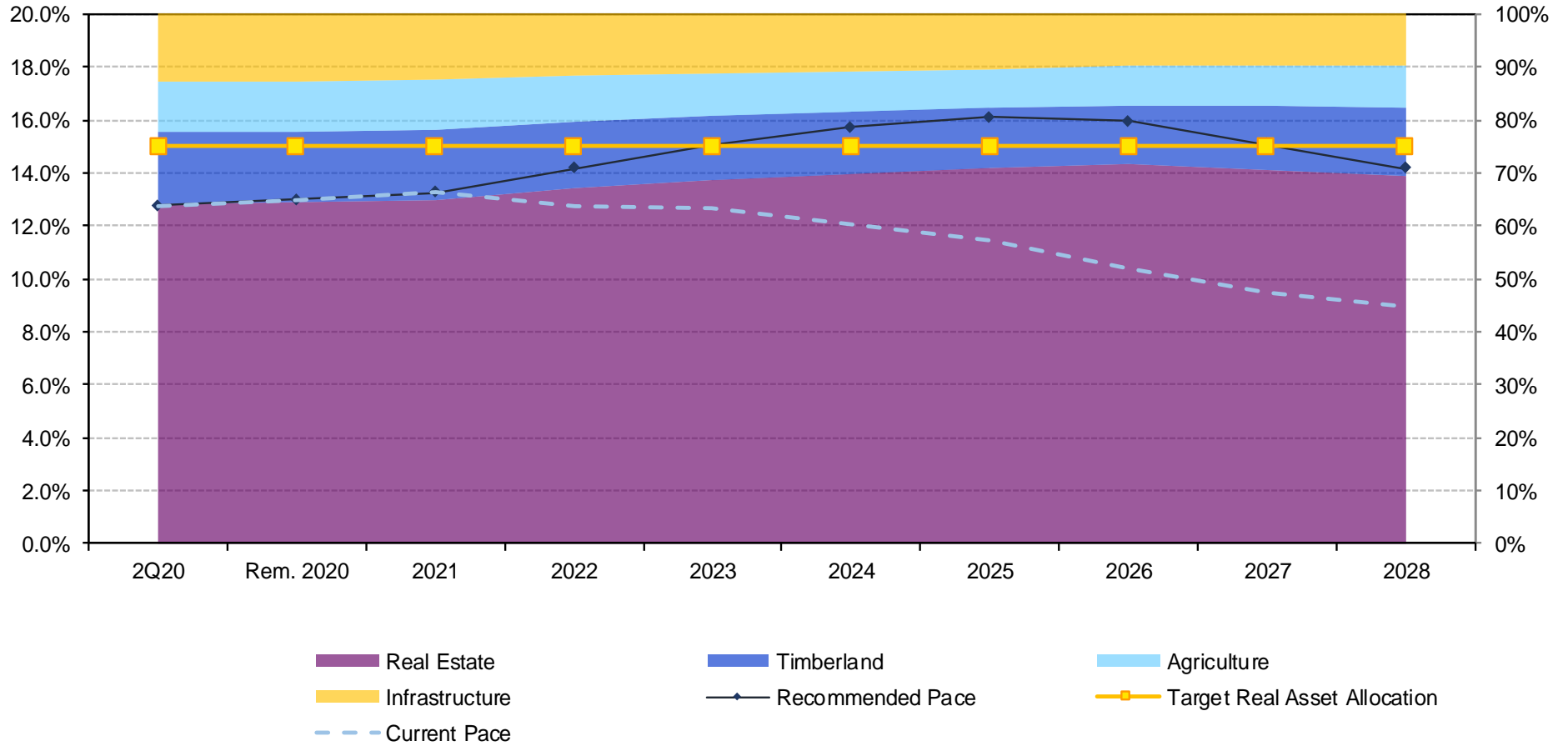
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Arkansas Teacher's Retirement System 2021 Annual Planning

PROPRIETARY & CONFIDENTIAL
December 2020

Real Assets 2021 Pacing

ATRS Real Assets Pacing



Real Assets 2021 Pacing Commitment Overview

	Complete 2020	2021	2022	2023	2023 Forecasted Allocations	
Non-Core (< 50%)	\$280	\$280	\$200	\$150	46%	30%-50% Target
Core (50-70%)	\$0	\$0	\$170	\$0	54%	
Real Estate Total		<u>\$280</u>	<u>\$370</u>	<u>\$150</u>	<u>100%</u>	
Infrastructure (2%)	\$50	\$50	\$50	\$0	2%	
Agriculture (1%)	\$0	\$0	\$0	\$0	1%	
Timberland (2%)	\$0	\$0	\$0	\$0	2%	
Real Assets Total		<u>\$50</u>	<u>\$50</u>	<u>\$0</u>		

2021 Investment Themes

- **KEY INVESTMENT THEMES FOR 2021 INCLUDE:**

- Cautiously approach new commitments to Core Real Estate and reposition the portfolio for current market conditions.
 - UBS TPF partial redemption to be reallocated in 2022.
 - Reduce allocation to COVID-19 impacted property types such as Retail and Office.
 - Increase allocation to property types with secular tailwinds such as Apartments and Industrial.
- Increase exposure to Non-Core Real Estate opportunities by continuing to commit capital to funds capitalizing on market distress.
 - Commit capital to fund managers opportunistically investing capital into projects with a higher risk and return profile.
 - Search for complementary real estate debt opportunities looking to capitalize on market distress caused by the COVID-19 pandemic.
- Increase exposure to the non-traditional Real Estate property classes.
 - The COVID-19 pandemic has introduced to the market a period of uncertainty which should provide investment managers an opportunity to acquire properties below their replacement cost.
- Continue to search for complementary Infrastructure investments.

Memorandum

To: Arkansas Teacher Retirement System (“ATRS”)
From: Chae Hong
CC: PJ Kelly; Jack Dowd; Richard Ferguson
Date: December 7, 2020
Re: Mesa West Real Estate Income Fund V – \$40 million Commitment Recommendation

Background and Recommendation

Mesa West Capital, LLC. (“Mesa West”) is forming Mesa West Real Estate Income Fund V, LP (the “Fund”), the next vehicle within its flagship series of debt funds. The \$1 billion closed-end fund is targeting a levered 8%-10% net IRR over an 8-year term. Consistent with the prior fund in the series, the Fund will originate senior loans on value-add/transitional institutional quality commercial real estate properties throughout the U.S. Then apply leverage to pools of loans to create the targeted fund return.

Aon Investments, USA is satisfied with the strategy of the Fund and its appropriateness for ATRS. Additionally, we believe that the merits of this offering outweigh its risks. A Mesa West Real Estate Income Fund V InDetail is attached for reference. We recommend that ATRS invest \$40 million in the Fund to fulfill ATRS’ 2020 Value-Added real estate allocation, in accordance with the previously approved 2020 ATRS Real Asset Pacing Schedule.



InDetail

Mesa West Real Estate Income Fund V

A U.S. Real Estate Debt Fund

August 2020

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EXECUTIVE SUMMARY

OVERVIEW

Review Date	Rating	Prior Fund Rating
August 2020	Buy	Buy

Mesa West Capital, LLC. (“Mesa West” or the “Sponsor”) is forming Mesa West Real Estate Income Fund V, LP (“MWREIF V” or the “Fund”), the next vehicle within its flagship series of debt funds. The \$1 billion closed-end fund is targeting a levered 8%-10% net IRR over an 8-year term.

Primary Strategy: Originate senior loans on value-add/transitional institutional quality commercial real estate properties throughout the U.S. Then apply leverage to pools of loans to create the targeted fund return.

Sponsor:

Ownership	Wholly owned by Morgan Stanley (as of 1Q 2018)	Parent	Morgan Stanley (NYSE: MS)
Founded	2004	HQ	Los Angeles, CA
Employees	40	Equity AUM	\$3.9 billion (\$7.3 billion gross)
Organization	Wholly-owned subsidiary of Morgan Stanley within the Morgan Stanley Investment Management Real Assets group. Doing business as Mesa West and operating as an independent business unit.		

Performance (as of March 31, 2020):

Vehicle	Vintage	Fund Size (\$Millions)	Fair Market Value			Percent Realized (As a % of projected distributions)	Distributions to Paid-In (DPI)
			Net IRR	Net Equity Multiple	Quartile Ranking* by Net IRR/EM		
MWREIF I	2005	\$208	5.5%	1.26x	1Q / 2Q	100%	126%
MWREIF II	2010	\$615	13.3%	1.39x	1Q / 1Q	100%	139%
MWREIF III	2013	\$726	9.3%	1.31x	2Q / 2Q	95%	125%
MWREIF IV	2016	\$900	8.4%	1.13x	3Q / 2Q	9%	10%
MWREIF V	2020/21	\$1,000	fundraising				

*Compared to similar vintage U.S. closed-end real estate debt funds, using multi-year vintage periods for deeper data sets (13 funds comprised the 2005 vintage period data set, 9 funds comprised the 2010 period, 24 funds comprised the 2013 period, and 23 funds comprised the 2016 period). Source is Townsend plus Preqin data.

Fund/Portfolio Characteristics:

Structure	Closed-end commingled fund	Risk Segment	Enhanced return/value-add
Targeted Size	\$1 billion	Sponsor Commitment	3%
Fund Term	8 Years from final close	Investment Period	3 years from final close
Loan Size	\$50 million average (Ranging from ~\$20M to ~\$150M)	Typical Loan Terms	3 to 5 years; floating rate; 60% to 75% LTV

Fees:

Management Fees	150 bps on Committed during Investment Period, then on Invested.	Incentive Fees	20% of total profits above a 6% preferred return.
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Fundraise Status/Timing:

- First close mid-November 2020.
- Final close 12 months (or earlier) from First Close.

COMPARATIVE ADVANTAGES

1. Experience

- The day-to-day senior team is comprised of eight long time debt professionals averaging 24 years of investment experience and 13 years with Mesa West (collectively, the “Manager”). This experience spans the pre-GFC market conditions that created the GFC, the GFC itself and its multi-year workout to normalization, and the now long running Fed-led manipulation of interest rates with its recent acceleration to near zero.
- Since inception in 2004, the firm has underwritten and closed over \$20 billion of loans on behalf of its sponsored funds and separate accounts, in over 350 separate transactions.
- The Sponsor has invested in a fiduciary capacity for commingled fund-based institutional capital since 2004, sponsoring four investment funds for institutional clients, including public and corporate pensions, E&Fs, and as an originator for GSEs.

2. Established Brand/Reputation

- Mesa West has been building and establishing its business and its reputation for 16 years. The platform and its strategy are that of a relationship lender, and one that specializes in financing value-add acquisition/execution. Business plans have inherent risk of deviating from budgets and timeframes. Lender reputation regarding flexibility and experience is key to winning the business and maintaining good repeat borrowers¹.
- The company is dedicated to a single focus: The firm’s business is CRE lending, with complimentary business lines comprised of an open-end lower risk vehicle, higher risk closed-end fund series, and separate accounts.
- The firm has seven Principals with each having worked together for a minimum of nine years. Four out of the seven Principals have worked together 15 years or more, which dates to near the inception of the firm.

3. High Dividend Yield

- The Sponsor has a good track record of producing yield in a yield-starved continuously collapsing interest rate environment.
- The strategy is designed to produce distributions significantly in excess of the unlevered current income component of typical fixed income benchmarks.
- Gross yield is typically in the form of current coupon plus fee revenue received from borrowers. Net revenue (net of leverage cost, fund fees and expenses, and loan servicing) is distributed to LPs and comprises 90% to 100% of the funds returns historically.
- Since inception of this fund series, now spanning 15 years, funds have averaged 9% net IRR (ranging from 5.5% to 13.3%) almost entirely in the form of current income.

POTENTIAL ISSUES AND CONCERNS

1. Leverage

The last five loans originated averaged under a 4.25% coupon. That coupon income plus fee revenue from borrowers and some small increase in Libor are all collectively assumed to produce about half of the targeted return. Leverage is then relied upon to produce a gross fund level IRR of 10%-13%. The current fund is 72.5% levered in order to manufacture the targeted IRR to LPs. Banks providing that financing generally tend to be rigidly regulated recourse credit providers with various mark-to-market margin requirements making such financing a higher risk type of financing. The fund is now reliant upon a high level of usage, i.e. 72.5%, introducing some severe loss potential from creditor-forced liquidations in extreme down scenarios. Verbiage and metrics referenced within the investment guidelines and limitations allow for a higher risk than targeted.

¹ Quite a few well established active non-core fund managers borrow from Mesa West including AEW, AG, Brookfield, Carlyle, CBRE, CIM, GreenOak, Invesco, JPM, Oaktree, PGIM, Rockwood, Rockpoint, and Westbrook for examples.

Discussion: There are two key structural risk mitigants:

- Firstly, the fund specifically is a senior loan originator, giving it first mortgage position for control; the Manager sets loan terms and can enforce its rights and remedies.
- Also, the fund utilizes multiple non-crossed creditors, each with recourse limited to an assigned pool and not the whole loan portfolio, and, each pool has rights of substitution.
- As an option utilized in the past, the Manager has the capability to employ alternative financing methods that solve for some of the inherent risks in bank provided warehouse lines and repo facilities, such as CLO issuance.

2. Platform Change

The platform is no longer privately held. In March 2018, Mesa West became a wholly owned subsidiary of Morgan Stanley. The platform is now operating as a separate business unit within Morgan Stanley Investment Management's Real Assets group. The seven Principals who had owned Mesa West, all active employees with senior roles in the day-to-day operation of the firm, successfully grew their business over a 16-year period and sold it. They may or may not have plans to stay, and mid-level employees no longer have a path to private company partnership. In the meantime, the platform must integrate into large publicly listed financial services firm culture, commit time/attention to gathering AUM and increasing revenue, and deal with requisite corporate compliance, legal, HR, and IT security protocols.

Discussion: The following may significantly reduce disruption:

- First and foremost, Mesa West retains its brand;
- Secondly, the seven founders/owners of the platform signed multi-year² employment agreements;
- And, MS did not have an overlapping business so to date there has been no formal intention of a personnel integration or headcount reduction.

STRATEGY

OVERVIEW

An enhanced mortgage strategy consistent with the prior funds in the series, outlined as follows:

- Originate 60 to 70 new senior loans.
 - 3 to 5 year floating rate loans based off Libor;
 - Averaging 65% to 70% loan-to-assumed-value upon stabilization;
 - Loan size ranges (~\$20M to ~150M), averaging \$50M in prior fund;
 - Loans on value-add, transitional properties throughout the US; Primarily traditional property types; institutional quality, often held by real estate fund sponsors.
 - Non-recourse loans.
- Hold in multiple pools, applying pool-level leverage provided by different credit providers.
 - Leveraged around 65% to 75% including use of a subscription facility.
 - Discussed further in *Leverage* section.

The Manager and its borrower base are focused predominantly on primary and strong secondary markets (e.g., Denver, Chicago, Austin). Property types, using the Fund IV portfolio as illustrative of the Fund V model, are expected to be weighted towards Office (~50%), Apartments (~35%), Industrial (5%-10%), Retail (5%-10%), and Hotel (<5%).

All loans originated by the Manager are expected to be held to maturity and repaid through a refinancing or in connection with a sale of the underlying property by the borrower.

² Five years starting in 2018.

Using Fund IV loan portfolio characteristics, current market conditions, and reasonable go-forward expectations, the primary strategy components for Fund V are modeled as follows:

- 5.2% gross unlevered yield target:
 - 4.7% average coupon; priced at L+320 on average with a 1.5% Libor floor.
 - 0.5% fee revenues received from borrowers (all loan fees accrue to the benefit of the Fund).
- 72% leverage³:
 - L+200 average cost of leverage with a 0.50% floor;
 - Producing a 12% gross levered return within the Fund's targeted range of 11%-13%.
- Less the fund's Management Fee (1.5%), and Servicing Fees (0.5%), and Incentive fees (1.2%);
 - Producing a 9% net levered return within the targeted range of 8%-10%.

LEVERAGE

Leverage is a primary driver of return for the Mesa West strategy. The Sponsor previously and currently utilizes a variety of forms, including warehouse lines, repo agreements, a subscription facility during the Investment Period, and securitization-type financings secured through CLO issuance which evolved in part from the previously utilized CDO product.

Fund IV is currently leveraging through the following means/providers:

- \$400m subscription facility with WFC;
- Repo agreements with WFC, USB, CIBC, GoldmanSachs, and MetLife.

The Fund V leverage limitation is a maximum of 60% LTV based off underlying property/collateral value. Several points are important to clarify as far as inherent risks in that limitation:

- The LTV metric in this calculation refers to loan-to-value upon stabilization. At the date of a loan origination, the property value used in the LTV calculation is an appraised value of what the transitional property will be worth upon stabilization. The actual loan commitment is often in excess of the as-is value of the property prior to the execution of the value-add business plan.
- Fund-held assets are 60% to 75% LTV loans, not the property/collateral. 60% of the collateral value represents anywhere from 80% to 100% of the value of fund-held assets.
- The formal leverage limitation excludes subscription facility usage and match-term structured financings.

Ultimately, given such broad latitude, an LP relies upon the Manager. In this case, the Manager's (i) experience with leverage risk, (ii) its general tolerance/conservatism with respect to leverage risk, and (iii) its own money at risk has historically governed an appropriate risk profile for the targeted returns.

INVESTMENT GUIDELINES

- Based on Capital Commitments, 15% max to a single investment.
- At the fund level, 75% max weighted average loan-to-value ratio upon stabilization;
 - No LTV limits on any individual senior loans.
 - For mezzanine and preferred equity positions: Maximum loan-to-value upon stabilization of 90%.
- No equity investments (unless resulting from a fund-held loan position).

FUND PIPELINE

Exhibit A is the pipeline for Mesa West including this fund series and its open-end lower risk "core" lending fund. Fund IV is still actively finishing its Investment Period. Fund V has not started to originate loans.

³ Leverage is referenced here and in the prior sections of this report in a PERE sense; borrowings from third-party creditors against the value of fund-held assets. Because fund-held assets in this case are loans, Mesa West (and other debt fund sponsors) may reference those borrowings relative to the underlying property/collateral value.

SPONSOR

OVERVIEW

Background: Founded in 2004 by Jeff Friedman and Mark Zytko to originate custom tailored commercial real estate first mortgage portfolios on behalf of institutional investors. The firm grew organically, expanding ownership to include additional Principals Matt Cohen, Raphael Fishbach, Steve Fried, Ronnie Gul, and Ryan Krauch. In March 2018, Mesa West became a wholly owned subsidiary of Morgan Stanley. It remains dedicated to private market lending in commercial real estate, operating as a separate business unit within MS Investment Management's Real Assets group, utilizing Morgan Stanley resources for Human resources, Legal and Compliance, and IT.

Ownership: Morgan Stanley; 100%.

Equity AUM: \$3.9 billion.

- 100% private debt;
- 55% in an open-end "core" lending fund; 30% in this fund series; and 15% in separate accounts.

Staffing: 40 professionals in originations, asset management, capital markets, accounting, and investor relations located across four office locations:

- Los Angeles (HQ): 26 professionals - all functions
- New York: 10 professionals - East coast originations and capital markets
- Chicago: 3 professionals - Midwest area originations
- San Francisco: 1 professional – West coast originations

Organization: **Exhibit B** is the firm's organization chart.

AFFILIATED RESOURCES

Mesa West utilizes Mesa West Asset Services ("MWAS") for all loan servicing.

- A wholly-owned affiliate of Mesa West; Structured as a joint venture formed in 2011 with Cohen Financial.
- MWAS will charge a per-loan servicing fee that is no greater (and often less) than market rates for similar services.
 - Currently, that rate is approximately five basis points per annum of the aggregate loan amount.

TURNOVER, COMPENSATION, AND RETENTION

Turnover: Turnover hasn't historically been an issue with the company. Some minimal amount has occurred in mid levels, comprised of a VP in originations that left in 2017, and three people left in 2019 (two originators at the Director level and one VP in asset management). That was the first year there were multiple departures.

Compensation and Retention: 50% of the carried interest is retained by MS and 50% is awarded to senior employees based on tenure and role. Vesting is over a 5-year period.

INVESTOR BASE

Public pensions (50%), Taft Hartley (12%), corporate pensions (10%), GSE (10%), life insurance companies (7%), individual retail investors (6%), E&Fs (4%), other (1%).

COMPLIANCE AND LITIGATION DISCLOSURE

Per Mesa West disclosures:

- In 2013 the firm had a routine SEC audit and findings did not have a material adverse impact on the firm's business.
- No disclosures of any pending lawsuits material to the GP or key real estate executives. There have been no judgments filed against the firm over the past 10 years.

ESG POLICIES AND PRACTICES

Mesa West in isolation has limitations as a lender in its ability to apply ESG practices to its investments, but, the much broader parent Morgan Stanley Investment Management has extensive policies and practices as follows:

- Utilizes an internal Sustainable Investing Council, a global cross-functional team of leaders chaired by a member of MSIM’s Operating Committee to promote an overall framework for integrating ESG into MSIM’s investment processes, product development, measurement, education, client engagement, and reporting.
- Completes and publishes an annual sustainability report available on its website, and an annual Stewardship Report which reports on its proxy voting and company engagement practices.
- Has active participation in the following external organizations:
 - Business for Social Responsibility
 - Carbon Disclosure Project
 - Ceres Investor Network on Climate Risk and Sustainability
 - Climate Bonds Initiative
 - Green Bond Principles
 - Global Real Estate Sustainability Benchmark (“GRESB”)
 - International Emissions Trading Association
 - Principles for Responsible Investing (“PRI”)
 - US Partnership for Renewable Energy
 - Sustainability Accounting Standards Board
 - The Financial Stability Board Task Force on Climate-Related Financial Disclosures
 - The Global Impact Investing Network
- Scored above median in PRI’s recent (2019) analysis of its relative performance.

OPERATIONAL DUE DILIGENCE

OVERVIEW

Independent of investment due diligence, the Aon Operational Risk Solutions and Analytics (“Aon ORSA”) group reviewed the Sponsor’s policies, procedures, and capabilities across a range of operations, middle and back office, and control functions looking for established controls and operating procedures that align with best practice. Areas covered during AON ORSA’s review include: (i) corporate governance, (ii) transaction execution, (iii) cash controls, (iv) valuations, (v) compliance, regulatory, and legal controls, (vi) counterparty risk oversight, (vii) business continuity/disaster recovery, (viii) cyber security, and (ix) service provider selection and monitoring.

The review concluded the firm has implemented an institutional operating infrastructure with proper oversight and a documented set of policies and procedures to guide functional activities; garnering an A2 Pass rating. Although Mesa West’s policies and procedures largely align with best practices, Aon ORSA prefers the following:

- Third-party fund administration, while Mesa West performs such functions in-house.

INVESTMENT PROCESS

OVERVIEW

Sourcing/Originations: Sourcing is through brokers and directly with borrowers, with 50%+ of loans done with repeat borrowers. Originations are headed by Principals Ronnie Gul, Steve Fried (both based in Los Angeles) and Raphael Fishbach (based in the New York office). Mr. Gul is responsible for Los Angeles and all areas north, as well as Denver and Chicago; Mr. Fried is responsible for Los Angeles and all areas south, as well as Phoenix and multiple markets in Texas. Mr. Fishbach is responsible for the East Coast. Origination teams are responsible for the sourcing, underwriting, and closing of loan investments.

Due Diligence: Conducted in-house involving underwriting of property, market, and sponsor information according to the firm’s due diligence checklist. Includes an MAI appraisal from a third-party and external legal for structure and documents/agreements. Teams prepare internal quote briefs, term sheets, and committee memos for IC approvals.

Asset Management: Led by Principal and Co-Founder Mark Zytko, supported by three vice presidents and one associate in the Los Angeles and New York offices. Responsible for (i) monitoring and managing each loan in the portfolio, (ii) managing the workout of any sub- or non-performing loans, and (iii) producing quarterly asset reviews for reporting purposes.

INVESTMENT COMMITTEE

All investment and major decisions (outside the scope of standard consents relating to the management of the collateral/property) are made by the firm's IC.

All actions require a unanimous vote.

To date all eight members vote.

Member	Title	Years of Experience	Years with Firm
Jeff Friedman	Co-Founder; Principal	26	16
Mark Zytko	Co-Founder; Principal; Head of Asset Management	31	16
Ronnie Gul	Principal; Co-Head of West Coast	15	15
Steve Fried	Principal; Co-Head of West Coast	15	15
Ryan Krauch	Principal; Head of Business Development	18	13
Raphael Fishbach	Principal; Head of East Coast	20	10
Matt Cohen	Principal; Head of Capital Markets	26	9
John Klopp	Investment Committee Member	41	10*

*Represents years at Morgan Stanley. Served on the Mesa West Investment Committee since acquisition in 2018

Exhibit C provides IC member bios.

LP ADVISORY COMMITTEE

To be formed at GP discretion, not to exceed seven members, with any investor committing \$100M+ offered a seat. Typical LPAC duties: review/vote on material conflicts of interest, material amendments to policies of the Fund, waivers of the investment limitations or leverage restrictions, and extensions of the term of the Fund. Approvals/consents typically require a simple majority of members. Fund IV LPAC is comprised of five state pensions and one large corporate pension.

VALUATIONS

Done quarterly by the Altus Group, subject to input and review from the in-house Valuation Committee.⁴

USE OF PLACEMENT AGENT

Sponsor is not currently using a placement agent.

EXCLUSIVITY & ALLOCATIONS

The Fund has priority over any loans that fit its strategy.

FUND STRUCTURE

OVERVIEW

Formed as a Delaware limited partnership executing through underlying REIT vehicles. The Manager may form parallel funds to meet certain tax, legal, regulatory and other structuring needs of certain investors.

- General Partner of the Fund: Mesa West Real Estate Income Fund V GP, LLC.
- Investment Advisor: Mesa West Capital;
 - SEC registered investment advisor.
- The Fund's current legal structure is illustrated in **Exhibit D**.

⁴ Comprised of MS employees Toby Norris (COO for Private Investment Management) and John Klopp (Head of MSIM), and Mesa West employees Brett Burns (CAO), and Principals Mark Zytko, Jeff Friedman, Ronnie Gul, Raphael Fishbach, Matt Cohen, and Ryan Krauch.

TERMS & CONDITIONS

Key Terms		Townsend Comments	
Target Return:	10%-13% gross IRR; 8%-10% net	Neutral	
Fund Size:	\$1 billion	Neutral	
Sponsor Commitment:	3%	Positive	Predominantly funded by MS balance sheet, remainder by senior employees at Mesa West.
Investment Period:	3 years from Final Close	Neutral	
Fund Term:	8 years from Final Close	Neutral	GP may extend for a one-year period at its discretion; LPAC consents required for further one-year extensions.
Key Person Provision:	Triggered by four of the seven Principals departing.	Neutral	If triggered, the Commitment Period is suspended. Without qualified replacements or other cure approved by LPAC, the Commitment Period ceases.
No-Fault Remedies:	GP/manager removal by two-thirds of LP capital. Termination of Investment Period by two-thirds of LP capital.	Neutral	

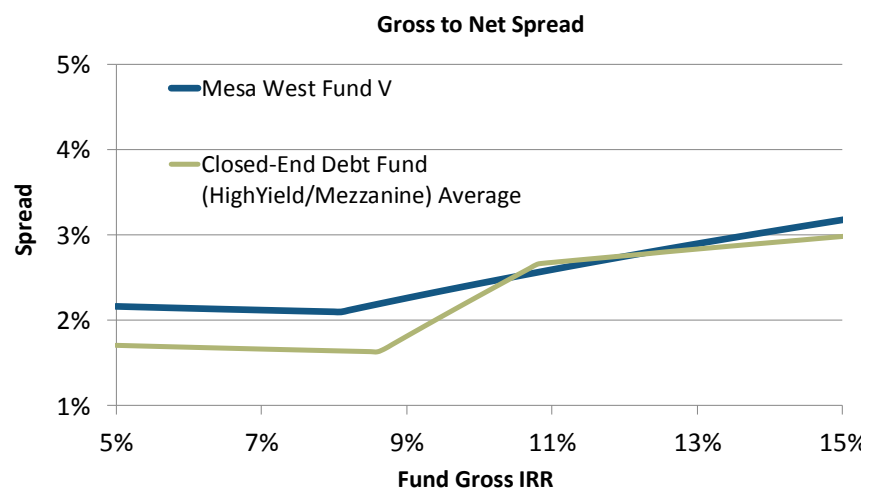
Fees and Distribution Waterfall

Org Expenses:	0.15% of the fund (\$1.5 M assuming \$1B fundraise)
Investment Management Fees:	150 bps on Commitments during Investment Period; 150 bps on Invested capital thereafter.
Incentive Fee/Waterfall Distribution:	20% of profits after a 6% preferred return. Fully pooled waterfall (requiring all contributions and payments to be returned before the GP receives any carry). Subject to clawback triggered if cumulative LP distributions fall below a return of capital plus a complete preferred return.

FEES AND EXPENSE ANALYSIS

The chart at right does not assume any discounts for size or for First Close timing. At the targeted midpoint of 12% gross IRR, the fee structure plus typical fund-level expenses model to ~290 bps.

- There is a small range of fee structures for mid-level-risk debt funds. For those using a closed-end vehicle, Management Fees range from 1% to 1.5% and are based more often on Invested Capital, but some base the fee off Committed Capital. MWREIF V is a slightly more expensive fund at lower return levels.
- Prefs range from 6% to 8%, with higher prefs followed by a catch-up. MWREIF V has a lower pref of 6% with no catch-up which has a meaningfully favorable impact compared to debt funds with catch-ups.
- Carried interest is increasingly 15%, not 20%, but in the case of MWREIF V which charges 20%, because there is no catch-up the total fee load at targeted returns for the Fund is very much a market rate competitive with peers that charge the lower 15% carried interest but employ a catch-up.



PERFORMANCE (as of March 31, 2020)

On page 1 of this report, the fund series performance is compared to similar vintage debt fund peers executing strategies generally with a mid-level risk profile. The series is not a conservative “core” lending strategy targeting 4%-6% net returns, nor is it a high risk/return strategy targeting 13%-15% net returns. Stripping those strategies out of the debt fund universe and comparing the Mesa West performance to similar mid-level risk peers, strategies targeting 7%-12% net type returns, the fund series compares very well, historically populating the top quartile or second quartile.

RELATIVE TO SAME VINTAGE PEERS

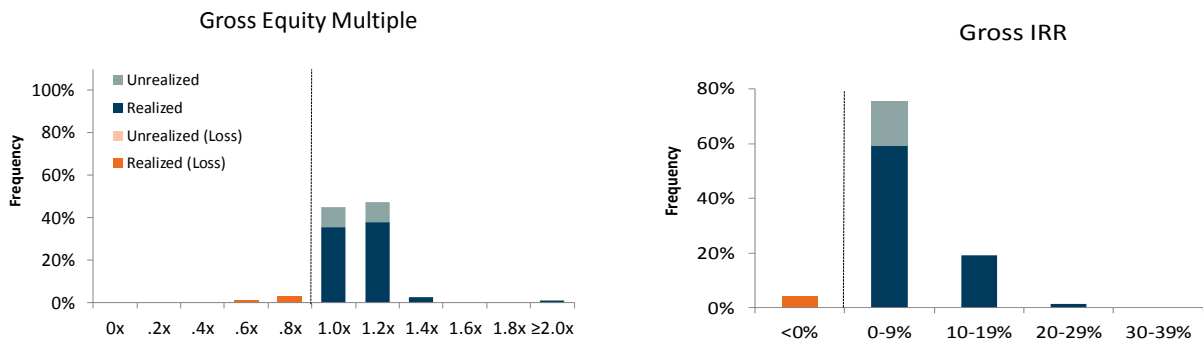


Source: Townsend and Prequin fund data as of March 31, 2020. Range shown is 95th to 5th percentile.

Only the Fund IV net IRR slipped below median, currently producing an 8.4% net IRR, but the fund as well as the vintage in general is mostly unrealized, and currently being tested by pandemic/economic conditions. The Mesa West strategy is more conservatively positioned relative to peers that have land loans, construction loans, and higher exposures to Hotel and Retail collateral.

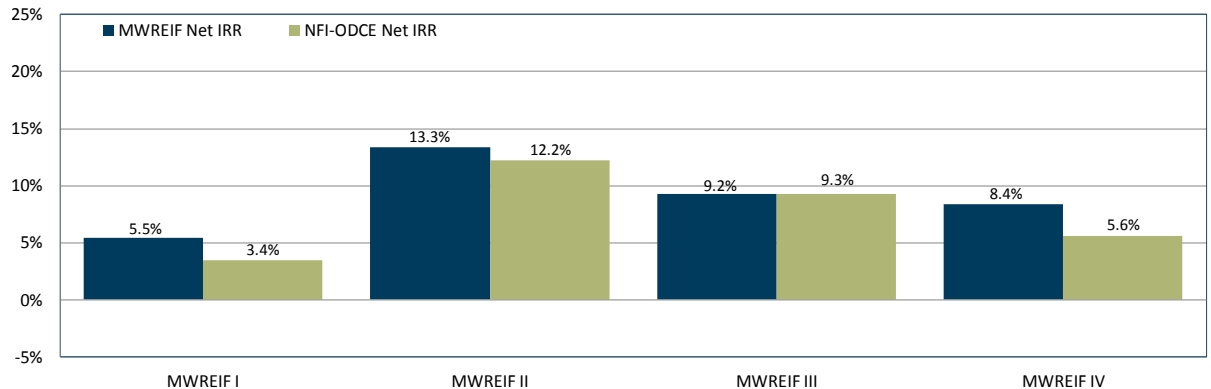
DISPERSION OF RETURNS

The fund record is comprised of 278 line item loans, 83% realized. Only eleven lost money, all of which were within the GFC-impacted Fund I that ultimately produced a top quartile return relative to peers.



PREMIUM TO BENCHMARK

The following assumes cash flows for the funds were instead invested in and out of a benchmark for core equity real estate.



The funds have coincidentally performed in line or slightly better than a Core real estate benchmark⁵. It should not imply that Core is the appropriate benchmark for highly levered floating rate loans on value-add properties. Unfortunately the industry lacks a widely accepted benchmark for private market high yield/mezzanine CRE debt strategies.

In the case of Mesa West, the fund series on average has produced returns over time consistent with the Giliberto-Levy High Yield Real Estate Debt Index (aka "G-L 2")⁶

Total return As of 12/31/19	Annualized Returns and Volatility			
	G-L 2 All Loans	G-L 1 All Loans	CMBS Inv. Grade	Corporate High-Yield
4Q 2019*	1.5%	-0.1%	-0.3%	2.5%
1 year	7.6%	8.4%	8.3%	13.9%
3 years	9.2%	5.5%	4.2%	6.2%
5 years	8.7%	4.4%	3.4%	5.9%
10 years	8.8%	5.4%	5.7%	7.3%
Since G-L 2 inception: (1-1-2010)	8.8%	5.4%	5.7%	7.3%
Volatility (annualized)	2.3%	2.9%	3.7%	6.0%

This Index currently represents about \$200B in debt, predominantly comprised of high LTV whole loans, b-notes, and mezzanine loans. 72% of the Index is floating rate.

This Index does not have a long history, being established in 2010, but since inception it performs well within Fixed Income despite its dominant floating rate component that has been challenged by the years of Fed-led manipulation to near zero rates.

Mesa West performance, given its floating rate strategy, has been similarly challenged. Three of its four funds have underperformed their own targets primarily because of collapsing rates, yet, the Sponsor was able to negotiate LIBOR floors on enough deals to stay near its targets and still produced above-median results relative to peer debt funds.

Total return As of 12/31/19	Annualized Returns and Volatility			
	G-L 2 (High-Yield CRE Debt)			
	All Loans	Floating Rate	Fixed Rate	Mezzanine
4Q 2019 *	1.5%	1.5%	1.3%	0.5%
1 year	7.6%	7.7%	6.7%	5.5%
3 years	9.2%	9.8%	8.0%	7.8%
5 years	8.7%	9.2%	7.7%	7.8%
10 years	8.8%	8.1%	9.5%	8.4%
Since G-L 2 inception (1-1-2010)	8.8%	8.1%	9.5%	8.4%
Volatility (annualized)	2.3%	2.5%	3.2%	1.9%

* 4Q 2019 return is not annualized.

OTHER PERFORMANCE

Vehicle	Vintage	Fund Size (\$Millions)	Total Number of Loans Since Inception* (Realized Loans)	Target Return (Net TWR)	Since Inception	
					Net TWR	Net Equity Multiple
Mesa West Core Lending Fund	open-end	\$2.2 billion	70 (32)	6%-8%	6.9%	1.22x

* 2013 Inception

~60% LTV loans, fixed rate and floating rate first mortgage originations, blending to a five-year duration, on core and core-plus properties. Fund may lever its portfolio up to 35%.

⁵ Not true however for non-core proxies. Compared to 46 (2005), 43 (2010), 65 (2013), and 49 (2016) similar vintage U.S. Non-Core closed-end equity real estate funds, only Fund I is above median, ranked in the 2nd quartile by IRR and by multiple. Funds II and III and IV rank in the 3rd and 4th quartiles by IRR, and by equity multiple all rank in the 4th quartiles of their respective vintages.

⁶ Compliments the well-established G-L 1 Index measuring insurance co and pension held fixed rate senior mortgages.

Exhibit A: Pipeline

Mesa West Capital Pipeline: All Active Loans- All Activity

Loan #	Date Rcvd	Fund	Deal Name	City	State	Prop Type	Sponsor	Loan Amt	Status
2019-11-087	11/22/19	Core	Esprit Marina Del Rey	Marina Del Rey	CA	Multifamily	PGIM Real Estate	\$206,000,000	In Closing
2019-11-049	11/13/19	Core	N. Rodeo Drive	Los Angeles	CA	Office	Walter Marks	\$50,000,000	In Closing
2020-01-002	01/02/20	Fund 4	Hawthorne at the District	Austin	TX	Multifamily	Wildhorn Capital	\$33,500,000	In Closing
3			Subtotal for In Closing					\$288,500,000	
2020-01-058	01/19/20	TBD	1800 Market Street	Philadelphia	PA	Office	AREP + LaSalle + Independencia	\$160,000,000	App/Term Sheet Sent
2020-02-034	02/13/20	TBD	Tysons Pointe	Tysons	VA	Office	AREP + Partners Group	\$109,400,000	App/Term Sheet Sent
2020-01-073	01/21/20	TBD	Bridge Point Interchange - 55	Romeoville	IL	Industrial	Bridge Development Partners	\$67,400,000	App/Term Sheet Sent
2019-12-004	12/02/19	TBD	Avondale 50	Phoenix	AZ	Industrial	Opus Group + LaSalle	\$38,251,000	App/Term Sheet Sent
2020-01-061	01/19/20	TBD	Modera Observatory Park	Denver	CO	Multifamily	Bascom	\$67,600,000	App/Term Sheet Sent
2020-01-088	01/20/20	TBD	Truck Terminal	San Bernardino	CA	Industrial	Deceaux Partners	\$30,000,000	App/Term Sheet Sent
2020-02-043	02/12/20	TBD	FiveTwo at Highland	Austin	TX	Multifamily	Greystar + PIMCO	\$75,000,000	App/Term Sheet Sent
7			Subtotal for App/Term Sheet Sent					\$547,711,000	
2020-01-034	01/14/20	TBD	Harvard Square	Cambridge	MA	Office	Pearlmark + Centremark	\$50,000,000	Under Review High Priority
2020-02-008	02/04/20	TBD	Crescent Center	Memphis	TN	Office	Priam Properties	\$50,950,000	Under Review High Priority
2020-02-031	02/13/20	TBD	412 West 15th Street & 413 West 14th Street	New York	NY	Office	Rookpoint	\$195,000,000	Under Review High Priority
2020-02-047	02/19/20	TBD	1818 Market Street	Philadelphia	PA	Office	Shorenstein	\$200,000,000	Under Review High Priority
2020-02-053	02/19/20	TBD	166 W 75th Street	New York	NY	Multifamily	Benchmark Real Estate Group	\$33,000,000	Under Review High Priority
2020-02-073	02/28/20	TBD	109 Brookline	Boston	MA	Office	IQHQ	\$164,000,000	Under Review High Priority
2020-02-030	02/14/20	TBD	Tellus on Dexter	Seattle	WA	Multifamily	-	\$31,000,000	Under Review High Priority
2020-02-040	02/17/20	TBD	Mesa Ridge Apartments	Las Vegas	NV	Multifamily	The Calida Group	\$22,360,000	Under Review High Priority
2020-02-045	02/19/20	TBD	Speedway 10	Las Vegas	NV	Industrial	LaSalle Investment Management	\$20,000,000	Under Review High Priority
2020-02-098	02/21/20	TBD	Presidents Plaza	Chicago	IL	Office	Draper and Kramer	\$168,780,000	Under Review High Priority
2020-02-099	02/28/20	TBD	The Draper	Chicago	IL	Multifamily	Cedar Street	\$81,250,000	Under Review High Priority
2020-02-027	02/13/20	TBD	The SW	Los Angeles	CA	Multifamily	California Landmark Group	\$40,000,000	Under Review High Priority
2020-02-048	02/20/20	TBD	Flatiron Domain	Austin	TX	Multifamily	Stonelake Capital	\$73,000,000	Under Review High Priority
13			Subtotal for Under Review High Priority					\$1,129,340,000	
2014-05-037	05/13/14	TBD	680 Madison Ave	New York	NY	Retail	Thor Equities	\$235,000,000	Under Review
2020-02-014	02/07/20	TBD	Liberty Luxe & Liberty Green	New York	NY	Multifamily	Milstein Properties + Canoe Brook Development	\$420,100,000	Under Review
2020-02-035	02/13/20	TBD	Hutton Hotel Nashville	Nashville	TN	Hotel	Watermark Lodging Trust	\$43,100,000	Under Review
2020-02-038	02/17/20	TBD	25 Kent St	Brooklyn	NY	Office	Rubenstein Partners	\$355,000,000	Under Review
2020-02-050	02/19/20	TBD	The Cadence	Tucson	AZ	Multifamily	Pebb Capital	\$35,000,000	Under Review
2020-02-078	02/19/20	TBD	801 Eye St	Washington	DC	Office	The Meridian Group	\$105,800,000	Under Review
2020-02-096	02/28/20	TBD	Valo Park	Tysons	VA	Office	Tameres	TBD	Under Review
2020-02-071	02/28/20	TBD	120 Union Avenue	Brooklyn	NY	Multifamily	Adam America	\$65,000,000	Under Review
2020-02-072	02/29/20	TBD	Pacific Gateway	Kent	WA	Industrial	Blackstone + Panattoni	\$103,000,000	Under Review
2020-02-070	02/27/20	TBD	The Victoria	New York	NY	Mixed Use	Lam Group + Exact Capital	\$180,000,000	Under Review
2020-02-074	02/27/20	TBD	The Factory	Queens	NY	Office	Atlas Capital Group	\$300,000,000	Under Review
2020-02-075	02/27/20	TBD	The Portrait Building	Washington	DC	Office	Clarion Partners	\$50,000,000	Under Review
2020-02-076	02/28/20	TBD	11 Penn Plaza	New York	NY	Office	Vornado Realty Trust	\$500,000,000	Under Review
2020-02-077	02/28/20	TBD	The Roulston House	Brooklyn	NY	Mixed Use	Industrie Capital Partners + Aurora Capital Associates	\$50,000,000	Under Review
2020-02-067	02/28/20	TBD	Steven's Creek Executive Park	San Jose	CA	Mixed Use	Miramor Capital	\$48,000,000	Under Review
2020-01-065	01/15/20	TBD	451 Rodeo	Beverly Hills	CA	Retail	UHW Private Family	\$39,292,000	Under Review
2020-01-077	01/22/20	TBD	The Park at Live Oak	Inwindale	CA	Industrial	Inwindale Partners	\$128,000,000	Under Review
2020-01-044	01/28/20	TBD	Villa Grande	El Cajon	CA	Multifamily	Clear Sky Capital	\$17,200,000	Under Review
2020-02-008	02/05/20	TBD	Cannon Oak Apartments	Austin	TX	Multifamily	Sterling Real Estate	\$27,675,000	Under Review
2020-02-007	02/07/20	TBD	Stonelake Infill Portfolio	Various	TX	Industrial	Stonelake	\$105,000,000	Under Review
2020-02-044	02/12/20	TBD	Retreat at St. Johns	Jacksonville	FL	Multifamily	RangeWater + Crow Holdings	\$52,500,000	Under Review
2020-02-023	02/12/20	TBD	The Ellie	Austin	TX	Multifamily	Blurook Residential	\$36,000,000	Under Review
2020-02-046	02/19/20	TBD	The Milan	Apopka	FL	Multifamily	McDowell Properties	\$33,800,000	Under Review
2020-02-052	02/20/20	TBD	Sheraton Kauai Resort	Kauai	HI	Hotel	KSL Capital Partners	\$77,000,000	Under Review
2020-02-057	02/24/20	TBD	5500 Jefferson	Culver City	CA	Office	Hackman Capital Partners	\$54,000,000	Under Review
2020-02-082	02/24/20	TBD	One Oxford Centre	Pittsburgh	PA	Office	Shorenstein	TBD	Under Review
2020-02-059	02/25/20	TBD	The Summit at Las Colinas	Dallas	TX	Office	Gemini Rosemont	\$61,340,000	Under Review
2020-02-090	02/25/20	TBD	Wilshire Rodeo Plaza	Beverly Hills	CA	Mixed Use	Ocean West Capital	\$265,000,000	Under Review
2020-02-084	02/27/20	TBD	Sorrento Tech	San Diego	CA	Office	Longfellow Real Estate Partners	\$41,060,000	Under Review
2020-02-079	02/27/20	TBD	4040 Forest Lane	Garland	TX	Industrial	Xebec Realty	\$17,552,000	Under Review
2020-02-063	02/27/20	TBD	International Plaza I & II	Dallas	TX	Office	Taconic Capital Advisors	\$208,000,000	Under Review
2020-03-001	03/04/20	TBD	Bristol Heights	Austin	TX	Multifamily	-	\$45,822,000	Under Review
32			Subtotal for Under Review					\$3,695,044,000	
2019-09-092	01/14/20	TBD	Legacy West End	Washington	DC	Multifamily	Tasea Investment Company	\$96,450,000	On Hold
2020-01-044	01/14/20	TBD	Cathedral Hill Plaza	San Francisco	CA	Multifamily	Veritas Investments	\$98,000,000	On Hold
2020-01-093	01/29/20	TBD	Burbank Town Center	Burbank	CA	Mixed Use	Buchannon Street Partners	\$175,000,000	On Hold
2019-03-017	03/02/19	TBD	Fontana Global Commerce Center Industrial Park	Fontana	CA	Industrial	Bridge Development Partners, LLC	\$263,000,000	On Hold
2020-02-056	02/24/20	TBD	Saks Fifth Avenue	Beverly Hills	CA	Retail	A&H Acquisitions	TBD	On Hold
5			Subtotal for On Hold					\$632,450,000	
60			Grand Totals					\$6,293,045,000	

Exhibit B: Mesa West Org Chart

INVESTMENT COMMITTEE							
Jeff Friedman	Mark Zytko	Ryan Krauch	Matt Cohen	Raphael Fishbach	Steve Fried	Ronnie Gul	John Klopp*
ORIGINATIONS Jeff Friedman <u>LOS ANGELES</u> Steve Fried Ronnie Gul Danielle Duenas Hoony Shin Andrew Steele Henry Rickbeil Natalie Yost Brittany Farriella <u>NEW YORK</u> Raphael Fishbach Russell Frahm Pamir Niaz David Cummins Brian Hahn Lauren Connolly <u>CHICAGO</u> Matt Snyder Brian Hirsh Chris Lozinak <u>SAN FRANCISCO</u> Joshua Westerberg	ASSET MANAGEMENT Mark Zytko <u>LOS ANGELES</u> Stewart Myers Alex Haas Jack Perry Ashley Diaz <u>NEW YORK</u> David Myers	INVESTOR RELATIONS, ACCOUNTING & COMPLIANCE Ryan Krauch Brett Burns Jessica Hobbs Danny Snell Shelby Jones Coco Wang Emily LeoGrande Emily Roehr Olivia Ben-David George Kotrikadze Tracey Korn	CAPITAL MARKETS Mark Zytko <u>NEW YORK</u> Matt Cohen Noah Bilenker Josh Tarrow	ASSET SERVICES <u>LOS ANGELES</u> Jeffrey Begley Samantha Shafer <u>KANSAS CITY</u> Brenden Estrada Hunter Petermann Leah Burke			

Exhibit C: Bios**JEFF FRIEDMAN, PRINCIPAL, CO-FOUNDER**

Mr. Friedman is a Principal with Mesa West Capital. Prior to co-founding Mesa West in 2004, Mr. Friedman spent three years at Maguire Partners as a Principal and was in charge of capital market activities which included the restructuring of the firm's debt, the buy-out of partners, and the firm's eventual \$800 million initial public offering. Mr. Friedman transitioned into real estate finance in 1994 initially at Nomura Securities and later as a Director at Credit Suisse in New York. Mr. Friedman began his career as a corporate lawyer, working initially in Tokyo, Japan, for an affiliate of Sidley & Austin and then as an associate in New York for Simpson Thacher & Bartlett. Mr. Friedman received a bachelor's degree from the University of California, Los Angeles (UCLA) and a master's degree in Applied Economics and a JD from the University of Michigan.

MARK ZYTKO, PRINCIPAL, CO-FOUNDER

Mr. Zytko is a Principal with Mesa West Capital and heads asset management. Prior to co-founding Mesa West in 2004, Mr. Zytko spent five years with Credit Suisse First Boston as a Director and Head of its West Coast office located in Los Angeles. Mr. Zytko was responsible for relationship management of major accounts in the western United States and for originating a variety of real estate debt products for the firm, including balance sheet debt and equity, CMBS and mezzanine loans for securitization and sale. Previous to CSFB, Mr. Zytko was a Vice President with GE Capital Real Estate. Mr. Zytko spent three years with GE Capital, having successfully opened and run their Seattle office. Previous to GE Capital, Mr. Zytko was a Manager of mortgage lending with SunAmerica Investments in Los Angeles. For five years at SunAmerica, he originated mortgage loans for the insurance company's portfolio, made RTC portfolio acquisitions, and was involved in the issuance and purchase of commercial mortgage-backed securities. Mr. Zytko began his career as a Senior Real Estate Analyst with CB Commercial in their Investment Banking Services unit. Mr. Zytko received a bachelor's degree in Economics from Stanford University.

MATTHEW COHEN, PRINCIPAL

Mr. Cohen is a Principal with Mesa West Capital and heads capital markets, including the structuring, acquisition and distribution of commercial real estate loans and the management of Mesa West's balance sheet. Prior to joining Mesa West in 2011, Mr. Cohen spent seven years at Natixis North America, a U.S. subsidiary of a French Investment Bank. As a Managing Director of Natixis' Real Estate Group, Mr. Cohen was responsible for debt distribution, which included whole loan sales, securitizations, syndications and subordinate debt. Previous to Natixis, Mr. Cohen was a Vice President in Genworth's Stamford, CT office. Mr. Cohen began his career at Fortis Advisers (now known as Assurant) in the New York office. As a Vice President, Mr. Cohen focused on loan origination for the life company's balance sheet. Mr. Cohen received a bachelor's degree in Business Administration from the University of Michigan and an MBA from NYU's Stern School of Business.

RAPHAEL FISHBACH, PRINCIPAL

Mr. Fishbach is a Principal with Mesa West Capital and heads East Coast originations. Prior to joining Mesa West in 2010, Mr. Fishbach spent three years at Ramius LLC, an \$8 billion asset management firm based in New York City with a specialty investment platform in real estate. As Director of Ramius' Real Estate Group, Mr. Fishbach's responsibilities included deal sourcing, origination and underwriting, negotiation of acquisitions, joint ventures and financings, as well as asset management. Mr. Fishbach was responsible for over \$500 million of transactions. Previous to Ramius, Mr. Fishbach was at Wells Fargo Bank in the Real Estate Merchant Banking Group, both in Los Angeles and New York. As a Vice President, Mr. Fishbach's primary responsibilities included sourcing, structuring, negotiating, closing and managing senior loans, mezzanine loans and preferred equity investments on various types of commercial real estate assets. While at Wells Fargo, Mr. Fishbach was directly responsible for over \$1 billion of debt originations.

STEVE FRIED, PRINCIPAL

Mr. Fried is a Principal with Mesa West Capital and co-heads West Coast originations. Prior to joining Mesa West in 2005, Mr. Fried worked in Credit Suisse First Boston's CMBS group underwriting commercial real estate loans and as a Senior Accountant for Deloitte & Touche's Private Equity Group in New York. At Deloitte, he planned, managed and implemented financial audits for private equity and real estate funds, including Morgan Stanley's real estate funds, The Blackstone Group's mezzanine funds and Kelso & Co.'s and Rockefeller & Co.'s private equity funds. Mr. Fried's work with The Blackstone Group also included working with Blackstone Debt Advisors LP to help create its first CDO. Mr. Fried received a bachelor's degree in

Accounting from Yeshiva University in New York and an MBA from UCLA's Anderson School of Management with a focus in Real Estate Finance.

RONNIE GUL, PRINCIPAL

Mr. Gul is a Principal with Mesa West Capital and co-heads West Coast originations. Prior to joining Mesa West in 2005, Mr. Gul spent four years as a marketing and business development executive at firms backed by NBC and Universal Pictures and co-founded and published a general-interest magazine. Mr. Gul received a bachelor's degree in Economics with Phi Beta Kappa honors from UCLA and an MBA from UCLA's Anderson Graduate School of Management. Mr. Gul is past-president of the UCLA Ziman Real Estate Alumni Group.

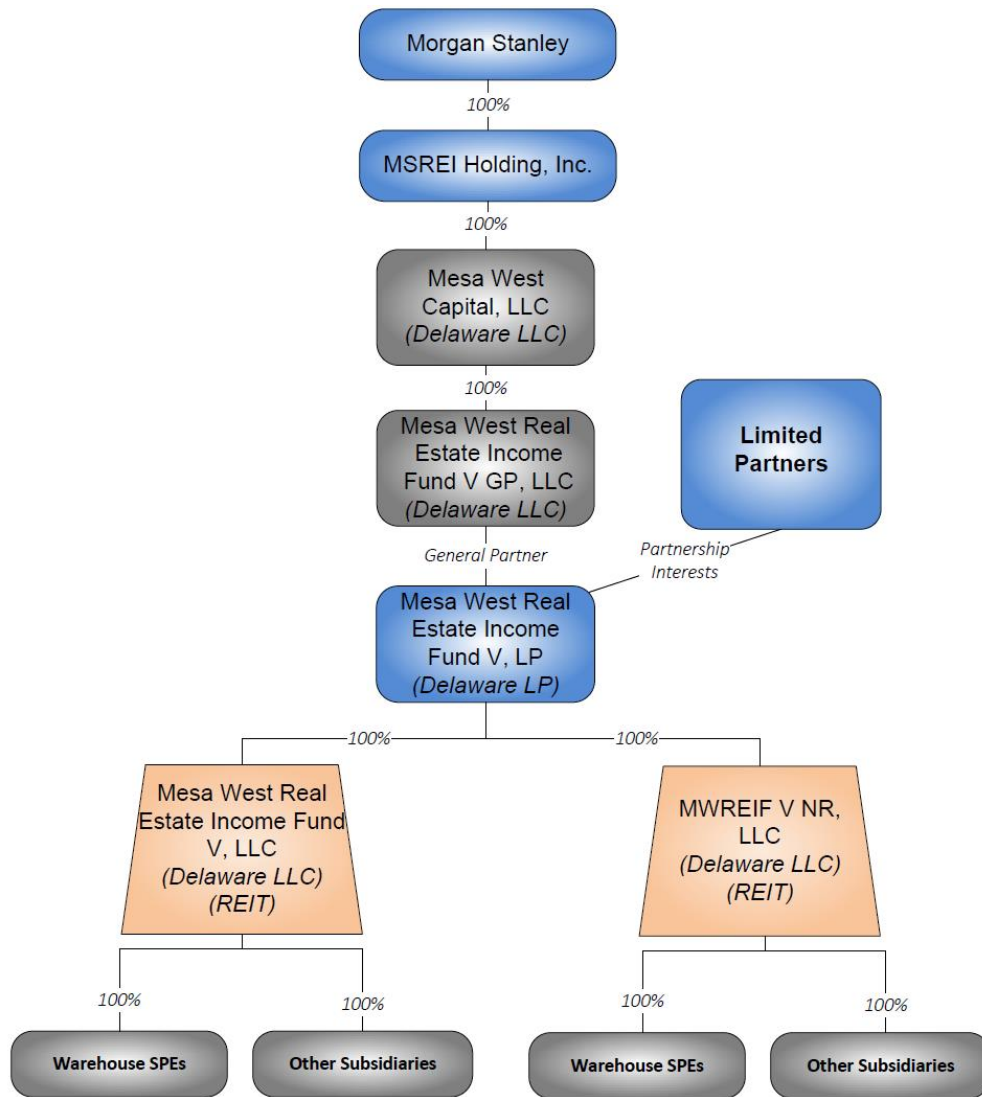
RYAN KRAUCH, PRINCIPAL

Mr. Krauch is a Principal with Mesa West Capital and heads business development and operations. Prior to joining Mesa West in 2007, Mr. Krauch headed the joint venture equity acquisitions platform for Somera Capital Management, a value-add real estate equity funds manager. In addition to his primary responsibilities in acquiring office, industrial, retail, hotel, multi-family and specialty assets, Mr. Krauch was a management executive contributing to the growth of the company from a single-office, west coast syndication firm to a nationally oriented multi-office funds manager. Previous to Somera Capital, Mr. Krauch was a consultant for PricewaterhouseCoopers Consulting (now IBM Global Services). Mr. Krauch received his bachelor's degree from Dartmouth College. Mr. Krauch currently serves on the Board of the National Association of Real Estate Investment Managers (NAREIM), the Defined Contribution Real Estate Council (DCREC), and is actively involved in the Urban Land Institute (ULI) and the Young Presidents' Organization (YPO).

JOHN R. KLOPP, HEAD OF GLOBAL REAL ASSETS, MORGAN STANLEY

Mr. Klopp is a Managing Director of Morgan Stanley, Head of Global Real Assets and a member of the management committee at Morgan Stanley Investment Management. Mr. Klopp joined Morgan Stanley in 2010 and served as Co-Chief Executive Officer, Co-Chief Investment Officer and Head of the Americas for MSREI until early 2016. He has over 40 years of investing experience. Prior to joining Morgan Stanley, Mr. Klopp was the Chief Executive Officer of Capital Trust, Inc., a publicly traded real estate finance and investment management company that he co-founded. From 1989 to 1997, Mr. Klopp was the founder and Managing Partner of Victor Capital Group, L.P. Mr. Klopp had previously served as Managing Director and Co-Head of Chemical Realty Corporation, the real estate merchant banking arm of Chemical Bank. Mr. Klopp serves as the Chair of Columbia Business School's Real Estate Advisory Committee and is an active member of various real estate organizations including the Pension Real Estate Association. He received a bachelor's degree in Economics from Tufts University and an MBA in Finance and Real Estate from The Wharton School of the University of Pennsylvania.

Exhibit D: Fund Legal Structure



APPENDIX

Rating Rationale

Strategy	Amongst debt strategies, has the control and risk management abilities afforded by an originated first mortgage position. Designed to produce its return through current pay income.
Sponsor	Experienced senior team, well-known brand in the market, well-established network.
ESG Policy & Practices	Notably strong efforts of the parent highlighted in the ESG section of this report.
Operational Due Diligence	Rated an A2-Pass by dedicated Aon ORSA team.
Investment Process	All members of the seven-person senior-most team spread throughout the process.
Fund Structure, Terms & Conditions	Appropriate and within market.
Performance	Consistently produces attractive absolute returns for its asset class; Above-median performer amongst the proper peer set, high yield/mezzanine debt.
Overall	Buy Rated

Investment Rating Explanation

The comments and assertions reflect Townsend views of the specific investment product, its strengths and weaknesses in general and in the context of Townsend's *View of the World* and same vintage alternative choices.

- **Buy** - Suitable for institutional investors that have a portfolio construction need. Appropriate overall risk profile given the strategy.
- **Qualified** - Suitable for institutional capital. In addition to customary risks, contains one or more heightened risks that should be weighed against an investor's preferences, risk tolerances, and portfolio construction needs.

Operation due diligence rating provided by Aon's dedicated multi-asset class Operational Due Diligence team according to its autonomous review of the Sponsor's policies and procedures, infrastructure and capabilities across a range of operations, middle and back office, and control functions.

- **A1 Pass** – No material operational concerns; firm's operations largely align with a well-controlled operating environment.
- **A2-Pass** – Firm's operations largely align with well-controlled operating environment, with limited exceptions due to resource limitations or where isolated areas do not align with best practice.
- **Conditional Pass** – Material operational concerns that introduce the potential for economic loss or reputational risk exposure.

About Townsend Group – An Aon Company

Founded in 1983, The Townsend Group provides custom real asset solutions that help clients worldwide achieve their unique investment goals. As an Aon company, The Townsend Group is now part of one of the top three outsourced chief investment officer (OCIO) providers in the world measured by global assets under management. Aon's Investment organization, including Townsend, manages more than \$130 billion of worldwide assets under management and has advised on more than \$240 billion of real estate assets.

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

**RESOLUTION
No. 2020-37**

**Approving Investment in Mesa West Real Estate Income Fund V,
LP**

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

WHEREAS, the ATRS Board has reviewed the recommendation of its real assets investment consultant, Aon Hewitt Investment Consulting, Inc., along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **Mesa West Real Estate Income Fund V, LP**, a closed-end, value add fund originating commercial real estate senior mortgage loans within the United States.

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **\$40 million dollars (\$40,000,000.00)** in **Mesa West Real Estate Income Fund V, LP**; 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 7th day of December, 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

ATRS Board Policy 6

REAL ASSETS INVESTMENT POLICIES

A.C.A. § 24-7-305

I. Board - Investment Policies and Procedures

A. Real Assets Investment Policies

1. Scope

This policy applies to the Real Asset category ("Real Assets") of the Arkansas Teacher Retirement System's ("ATRS") investment portfolio. This policy governs the private market investments and not the public real asset securities exposure within the Domestic Equity or Global Equity asset classes.

2. Purpose and Objectives

The purpose of this statement of investment policy is to formalize the ATRS' Board of Trustees' (the "Board") investment objectives, policies, and procedures, with respect to Real Assets, and to define the duties and responsibilities of the various entities involved in the Real Assets investment process. This statement is to be considered an extension of ATRS' general Statement of Investment Policy.

B. Investment Philosophy

1. ATRS allocates a portion of its total assets to Real Assets. ATRS defines Real Assets as investments relating to the ownership, financing, or operation of real estate, timber, agriculture, and infrastructure assets. ATRS allocates capital to Real Assets with the following goals:

- a. *Diversification with Other Asset Classes*

Real Asset returns have historically performed differently than the returns of other asset classes in which ATRS invests. ATRS believes that Real Asset returns will continue to perform differently than those of other asset classes, allowing ATRS to lower the risk of its overall portfolio through diversification by allocating to the asset class.

- b. *Potential Inflation Hedge*

Real Asset returns have historically shown the ability to provide a hedge against rising inflation. By allocating a portion of its investments to an asset class with these characteristics the overall risk of rising inflation to the ATRS portfolio is reduced.

C. Allocation

1. ATRS controls allocation risk at the total fund level. The allocation establishes a 15% target for the Real Asset class. As provided in ATRS' general Statement of Investment Policy, a range of minimum and maximum relative to the target has not been set as it is not prudent to set rebalancing ranges for the real asset classes due to their illiquid nature. This target allocation is to be reached and maintained over a reasonable period of time using a pacing schedule established by the joint effort of the Executive Director and Real Asset Consultant. There will be no fixed targets for the Real Assets subasset classes but the following general parameters have been identified for the Real Asset subasset classes:

- 10% Real Estate
- 2% Timber
- 1% Agriculture
- 2% Infrastructure

D. Performance Benchmark

1. ATRS' Real Asset portfolio is benchmarked on a net of fee basis against the following sub-asset class benchmarks over rolling five year periods.

- a. Real Estate Benchmark: The net return for ATRS' real estate investments is expected to meet or exceed the net NCREIF Fund Index Open-end Diversified Core Equity Index ("NFI-ODCE") over five year rolling period.
- b. Timber Benchmark: The net return for ATRS' timber investments is expected to meet or exceed the NCREIF Timberland Property Index ("NTPI") over a five year rolling period ~~weighted according to ATRS' regional exposure based on Net Asset Value.~~

- Given the highly concentrated nature of the NTPI, it is advised that an additional performance measurement tool be utilized in order to gauge the timber portfolio's performance compared to the opportunity cost of investing in timber. The Consumer Price Index plus 3500 basis points will be used for measurement.

- c. Agriculture Benchmark: The net return for ATRS' agriculture investments is expected to meet or exceed the NCREIF Farmland Index ("NFI") over a five year rolling period ~~weighted according to ATRS' regional and crop type exposure based on Net Asset Value.~~

- Much like NTPI, NFI also has a concentrated nature and it is

advised that an additional performance measurement tool be utilized in order to gauge the agriculture portfolio's performance compared to the opportunity cost of investing in agriculture. The Consumer Price Index plus ~~3500~~ 500 basis points will be used for measurement.

d. Infrastructure Benchmark: Over the long term (10 years or longer), the infrastructure portfolio is expected to generate a minimum internal rate of return ("IRR") equal to the Consumer Price Index plus 500 basis points, net of all investment management fees and expenses. The Consumer Price Index plus 500 basis points will be used as the benchmark to reflect the opportunity cost of investing in infrastructure.

2. The ATRS Total Real Asset Benchmark is weighted by the allocations based on Net Asset Values across the various sub-categories, and thus defined as Real Estate benchmark, Timber benchmark, Agriculture benchmark, and Infrastructure benchmark. The net of fee return for ATRS' Total Real Asset Portfolio is expected to meet or exceed the Total Real Asset Benchmark over rolling five year periods.

E. Portfolio Composition

1. The majority of the Real Asset class investments should consist of equity ownership of privately-held institutional real estate, timber, agriculture, and infrastructure investments.
2. This policy authorizes the use of all types of investment structures including, but not limited to:
 - Separate Accounts
 - Co-investments
 - Joint ventures
 - Open and closed-end funds
 - Partnerships
 - Private and public Real Estate Investment Trusts ("REITs") and Real Estate Operating Companies ("REOCs")
 - Listed or publicly traded infrastructure

F. Risk Management

1. For ATRS' Real Asset investments, the following sections identify the most significant risks and the method of control. Compliance with the following risk parameters shall be based on the percentage of ATRS' Real Asset portfolio's Net Asset Value at Fair Value at the end of each

quarter.

a. *Investment Manager Diversification*

Investment manager risk consists of two elements: the exposure to an investment manager and the number of investment managers in ATRS' Real Asset portfolio. To control investment manager exposure, the allocation to a single Real Asset manager is typically limited to 30% of ATRS' Real Asset target allocation.

b. *Individual Investment Diversification*

In order to mitigate the risk of large losses, ATRS will diversify its Real Asset investments across many different individual investments. Individual investments, measured by gross asset value, shall generally not exceed 10% of the overall Real Asset target allocation. For Real Estate, the 10% individual investment limitation will apply to Core properties, but Non-Core properties will generally be limited to 5%. Core properties are generally defined as industrial, apartment, retail, and office portfolios that are at least 80% leased, located in major metropolitan areas, and typically use no more than 50% leverage. Non-core is generally defined as the remainder of the Real Estate property opportunity set.

c. *Liquidity*

The majority of Real Assets are illiquid. As such, ATRS understands and recognizes that the Real Asset class will not be structured in a way to provide liquidity. Should market values for the Real Asset class change such that the asset class falls outside of these and the below risk management parameters, the Executive Director and Real Asset Consultant will determine the most effective solution and timeframe to bring the Real Asset exposure into compliance.

2. Additional risk parameters at the subasset class level are defined below and compliance shall be based on the percentage of each subasset class' Net Asset Value at Fair Value at the end of each quarter:

a. Real Estate:

Property Diversification - ATRS seeks to minimize the risk of its Real Estate portfolio by allocating its assets across the spectrum of property types, with the majority of its investments allocated to the primary sectors of the NFI-ODCE. No single traditional property type shall account for greater than 50% of the portfolio. In addition, the allowable-general range of property type allocations will be 0.5x - 1.5x the NFI-ODCE's weight in each property type. Other

property types, as defined by NFI-ODCE, are allowed but (on a combined basis) should not exceed 20% of the real estate portfolio.

Geographic Diversification - The Plan seeks to minimize the risk of its real estate portfolio by allocating its investments across the geographic spectrum. Within the United States, the ~~allowable-~~general range of geographic allocations will be 0.5x - 1.5x the NFI-ODCE weight in each region. With respect to non-U.S. investing, no more than 40% of the portfolio may be invested outside of the U.S. ATRS may initiate Arkansas-related mortgage loans and direct Real Estate investments to meet the goal of investing in quality Arkansas related investments. The Executive Director and Real Estate Consultant will monitor the Arkansas-related Real Estate holdings to protect against excessive risk due to sector or geographic exposure. The goal of Arkansas-related investments shall be to achieve a total rate of return, net of all fees and costs that will exceed the real estate performance benchmark over time.

Leverage - ATRS allows some of its investment managers the ability to use modest amounts of leverage in their investment strategy as a means of enhancing the overall risk-adjusted returns available to ATRS. In keeping with its goal of risk mitigation, leverage at the total asset class level ~~will~~should be kept below a 50% loan-to-value ratio.

Life Cycle - ATRS will endeavor to invest the majority of its assets in fully established, income-producing Real Estate, commonly referred to as Core Real Estate. As defined above, the ATRS goal will be to have between 50% and 70% of its Real Estate asset class in Core investments. Non-Core opportunities, such as Value Added and Opportunistic real estate strategies, may provide better alpha generation but will be viewed tactically and have an operating allocation range of 30% to 50% of the real estate portfolio.

b. Timber:

Geographic Diversification - The Plan seeks to minimize the risk of its timber portfolio by allocating its investments across the geographic spectrum. Within the United States, the allowable range of geographic allocations will be ~~0.5x - 1.5x~~plus or minus 15% of the NCREIF timberland index weight in each region.

c. Agriculture:

Crop Diversification - The majority of the portfolio will be comprised of existing crop properties. With the exception of the portfolio creation stage, no crop shall comprise in excess of ~~4~~50% of the agriculture portfolio.

Geographic Diversification - Investments will be primarily located within the continental United States. Properties located within the state of Arkansas are preferred within a prudent range of exposure for the total portfolio. It is desired that the investments will have attractive locations with good market access. No region, as defined by the NCREIF Farm Index regional definitions, will comprise more than 450% of the agriculture portfolio.

Leverage - In keeping with its goal of risk mitigation, leverage at the total asset class level should be kept below a 20% loan-to-value ratio. ~~The agriculture portfolio will remain unlevered unless approved by ATRS.~~

- d. Infrastructure: ATRS will use diversification of its infrastructure portfolio as a risk mitigation tactic. Relevant risk factors considered are strategy, manager, firm, vintage year, asset type, geographic and liquidity issues. However, initial allocations during early implementation may result in temporary variances.

Strategy - The portfolio should be appropriately diversified across infrastructure asset classes and vehicles due to various risk/return characteristics.

Manager - Manager risk consists of two elements, the exposure within an investment vehicle, and the number of managers (general partners) in a given infrastructure fund. The exposure to a specific manager within an investment vehicle is controlled by limiting its commitment size. The cohesion of the general partners and the vesting rights to interest carry are important elements of insuring a successfully performing general partnership as are the past success of the business model employed and the length of time the team has remained stable.

Vintage - Vintage reflects the year of first capital draw and vintage risk refers to the variability of infrastructure commitments over time. Commitments to partnership investments will be staged over time such that the infrastructure portfolio invests over business cycles and insulates the portfolio from event risk.

Asset Type - Typically, infrastructure partnerships are permitted to invest in assets in a wide variety of industries (Transportation, Energy/Utility and Other) with limited controls. Risk from investing in assets with different return characteristics is controlled primarily through appropriate diversification across business sectors and sub-sectors. No infrastructure asset class shall account for more than 70% of the portfolio.

Geographic - Over the long-term, the infrastructure portfolio should

seek diversification with regard to major regional areas both domestically and internationally. The infrastructure portfolio will accept the currency risks consistent with the geographic constraints. Infrastructure partnerships generally do not hedge currency risk, though with increasing globalization, one can see this practice increasing. With respect to ~~non-U.S. investing, no more than 50% of the portfolio may be invested outside of the U.S.~~ the portfolio should generally target at least 40%.

G. Distinction of Responsibilities

1. The Board, as Trustees, is responsible for approving the Real Asset Statement of Investment Policy.
2. ATRS' Board of Trustees is responsible for selecting the investment managers used to implement the Real Asset Statement of Investment Policy.
3. ATRS' Investment Staff and the Real Asset Consultant are jointly responsible for recommending the Investment Managers to the Board, as well as managing the Real Asset class, as described by the Real Asset Statement of Investment Policy, on an on-going basis, including monitoring the investment managers.
4. The Real Asset Consultant will assist ATRS' Investment Staff in recommending investment managers to the Board, monitoring investment managers, presenting Real Asset class performance to the Board, and will assist Investment Staff in developing and recommending the Real Asset Statement of Investment Policy and any changes to this document.
5. Investment Managers are utilized by ATRS to implement the specific investment strategies selected by ATRS.

H. Reporting and Monitoring

1. The Investment Staff and the Real Asset Consultant will monitor performance on a quarterly basis, providing a quarterly report to the Board. The report will provide a comprehensive review of the Real Asset portfolio in a form approved by ATRS' Investment Staff and the Real Asset Consultant.

HISTORY

Adopted October 7, 2013

Adopted October 5, 2015

Amended February 3, 2020

Amended December 7, 2020

ATRS Board Policy 6

REAL ASSETS INVESTMENT POLICIES

A.C.A. § 24-7-305

I. Board - Investment Policies and Procedures

A. Real Assets Investment Policies

1. Scope

This policy applies to the Real Asset category ("Real Assets") of the Arkansas Teacher Retirement System's ("ATRS") investment portfolio. This policy governs the private market investments and not the public real asset securities exposure within the Domestic Equity or Global Equity asset classes.

2. Purpose and Objectives

The purpose of this statement of investment policy is to formalize the ATRS' Board of Trustees' (the "Board") investment objectives, policies, and procedures, with respect to Real Assets, and to define the duties and responsibilities of the various entities involved in the Real Assets investment process. This statement is to be considered an extension of ATRS' general Statement of Investment Policy.

B. Investment Philosophy

1. ATRS allocates a portion of its total assets to Real Assets. ATRS defines Real Assets as investments relating to the ownership, financing, or operation of real estate, timber, agriculture, and infrastructure assets. ATRS allocates capital to Real Assets with the following goals:

- a. *Diversification with Other Asset Classes*

Real Asset returns have historically performed differently than the returns of other asset classes in which ATRS invests. ATRS believes that Real Asset returns will continue to perform differently than those of other asset classes, allowing ATRS to lower the risk of its overall portfolio through diversification by allocating to the asset class.

- b. *Potential Inflation Hedge*

Real Asset returns have historically shown the ability to provide a hedge against rising inflation. By allocating a portion of its investments to an asset class with these characteristics the overall risk of rising inflation to the ATRS portfolio is reduced.

C. Allocation

1. ATRS controls allocation risk at the total fund level. The allocation establishes a 15% target for the Real Asset class. As provided in ATRS' general Statement of Investment Policy, a range of minimum and maximum relative to the target has not been set as it is not prudent to set rebalancing ranges for the real asset classes due to their illiquid nature. This target allocation is to be reached and maintained over a reasonable period of time using a pacing schedule established by the joint effort of the Executive Director and Real Asset Consultant. There will be no fixed targets for the Real Assets subasset classes but the following general parameters have been identified for the Real Asset subasset classes:

- 10% Real Estate
- 2% Timber
- 1% Agriculture
- 2% Infrastructure

D. Performance Benchmark

1. ATRS' Real Asset portfolio is benchmarked on a net of fee basis against the following sub-asset class benchmarks over rolling five year periods.

- a. Real Estate Benchmark: The net return for ATRS' real estate investments is expected to meet or exceed the net NCREIF Fund Index Open-end Diversified Core Equity Index ("NFI-ODCE") over five year rolling period.
- b. Timber Benchmark: The net return for ATRS' timber investments is expected to meet or exceed the NCREIF Timberland Property Index ("NTPI") over a five year rolling period.
 - Given the highly concentrated nature of the NTPI, it is advised that an additional performance measurement tool be utilized in order to gauge the timber portfolio's performance compared to the opportunity cost of investing in timber. The Consumer Price Index plus 300 basis points will be used for measurement.
- c. Agriculture Benchmark: The net return for ATRS' agriculture investments is expected to meet or exceed the NCREIF Farmland Index ("NFI") over a five year rolling period.
 - Much like NTPI, NFI also has a concentrated nature and it is

advised that an additional performance measurement tool be utilized in order to gauge the agriculture portfolio's performance compared to the opportunity cost of investing in agriculture. The Consumer Price Index plus 300 basis points will be used for measurement.

d. Infrastructure Benchmark: Over the long term (10 years or longer), the infrastructure portfolio is expected to generate a minimum internal rate of return ("IRR") equal to the Consumer Price Index plus 500 basis points, net of all investment management fees and expenses. The Consumer Price Index plus 500 basis points will be used as the benchmark to reflect the opportunity cost of investing in infrastructure.

2. The ATRS Total Real Asset Benchmark is weighted by the allocations based on Net Asset Values across the various sub-categories, and thus defined as Real Estate benchmark, Timber benchmark, Agriculture benchmark, and Infrastructure benchmark. The net of fee return for ATRS' Total Real Asset Portfolio is expected to meet or exceed the Total Real Asset Benchmark over rolling five year periods.

E. Portfolio Composition

1. The majority of the Real Asset class investments should consist of equity ownership of privately-held institutional real estate, timber, agriculture, and infrastructure investments.

2. This policy authorizes the use of all types of investment structures including, but not limited to:

- Separate Accounts
- Co-investments
- Joint ventures
- Open and closed-end funds
- Partnerships
- Private and public Real Estate Investment Trusts ("REITs") and Real Estate Operating Companies ("REOCs")
- Listed or publicly traded infrastructure

F. Risk Management

1. For ATRS' Real Asset investments, the following sections identify the most significant risks and the method of control. Compliance with the following risk parameters shall be based on the percentage of ATRS' Real Asset portfolio's Net Asset Value at Fair Value at the end of each

quarter.

a. *Investment Manager Diversification*

Investment manager risk consists of two elements: the exposure to an investment manager and the number of investment managers in ATRS' Real Asset portfolio. To control investment manager exposure, the allocation to a single Real Asset manager is typically limited to 30% of ATRS' Real Asset target allocation.

b. *Individual Investment Diversification*

In order to mitigate the risk of large losses, ATRS will diversify its Real Asset investments across many different individual investments. Individual investments, measured by gross asset value, shall generally not exceed 10% of the overall Real Asset target allocation. For Real Estate, the 10% individual investment limitation will apply to Core properties, but Non-Core properties will generally be limited to 5%. Core properties are generally defined as industrial, apartment, retail, and office portfolios that are at least 80% leased, located in major metropolitan areas, and typically use no more than 50% leverage. Non-core is generally defined as the remainder of the Real Estate property opportunity set.

c. *Liquidity*

The majority of Real Assets are illiquid. As such, ATRS understands and recognizes that the Real Asset class will not be structured in a way to provide liquidity. Should market values for the Real Asset class change such that the asset class falls outside of these and the below risk management parameters, the Executive Director and Real Asset Consultant will determine the most effective solution and timeframe to bring the Real Asset exposure into compliance.

2. Additional risk parameters at the subasset class level are defined below and compliance shall be based on the percentage of each subasset class' Net Asset Value at Fair Value at the end of each quarter:

a. Real Estate:

Property Diversification - ATRS seeks to minimize the risk of its Real Estate portfolio by allocating its assets across the spectrum of property types, with the majority of its investments allocated to the primary sectors of the NFI-ODCE. No single traditional property type shall account for greater than 50% of the portfolio. In addition, the general range of property type allocations will be 0.5x - 1.5x the NFI-ODCE's weight in each property type. Other property

types, as defined by NFI-ODCE, are allowed but (on a combined basis) should not exceed 20% of the real estate portfolio.

Geographic Diversification - The Plan seeks to minimize the risk of its real estate portfolio by allocating its investments across the geographic spectrum. Within the United States, the general range of geographic allocations will be 0.5x - 1.5x the NFI-ODCE weight in each region. With respect to non-U.S. investing, no more than 40% of the portfolio may be invested outside of the U.S. ATRS may initiate Arkansas-related mortgage loans and direct Real Estate investments to meet the goal of investing in quality Arkansas related investments. The Executive Director and Real Estate Consultant will monitor the Arkansas-related Real Estate holdings to protect against excessive risk due to sector or geographic exposure. The goal of Arkansas-related investments shall be to achieve a total rate of return, net of all fees and costs that will exceed the real estate performance benchmark over time.

Leverage - ATRS allows some of its investment managers the ability to use modest amounts of leverage in their investment strategy as a means of enhancing the overall risk-adjusted returns available to ATRS. In keeping with its goal of risk mitigation, leverage at the total asset class level should be kept below a 50% loan-to-value ratio.

Life Cycle - ATRS will endeavor to invest the majority of its assets in fully established, income-producing Real Estate, commonly referred to as Core Real Estate. As defined above, the ATRS goal will be to have between 50% and 70% of its Real Estate asset class in Core investments. Non-Core opportunities, such as Value Added and Opportunistic real estate strategies, may provide better alpha generation but will be viewed tactically and have an operating allocation range of 30% to 50% of the real estate portfolio.

b. Timber:

Geographic Diversification - The Plan seeks to minimize the risk of its timber portfolio by allocating its investments across the geographic spectrum. Within the United States, the allowable range of geographic allocations will be plus or minus 15% of the NCREIF timberland index weight in each region.

c. Agriculture:

Crop Diversification - The majority of the portfolio will be comprised of existing crop properties. With the exception of the portfolio creation stage, no crop shall comprise in excess of 40% of the agriculture portfolio.

Geographic Diversification - Investments will be primarily located within the continental United States. Properties located within the state of Arkansas are preferred within a prudent range of exposure for the total portfolio. It is desired that the investments will have attractive locations with good market access. No region, as defined by the NCREIF Farm Index regional definitions, will comprise more than 40% of the agriculture portfolio.

Leverage - In keeping with its goal of risk mitigation, leverage at the total asset class level should be kept below a 20% loan-to-value ratio.

- d. Infrastructure: ATRS will use diversification of its infrastructure portfolio as a risk mitigation tactic. Relevant risk factors considered are strategy, manager, firm, vintage year, asset type, geographic and liquidity issues. However, initial allocations during early implementation may result in temporary variances.

Strategy - The portfolio should be appropriately diversified across infrastructure asset classes and vehicles due to various risk/return characteristics.

Manager - Manager risk consists of two elements, the exposure within an investment vehicle, and the number of managers (general partners) in a given infrastructure fund. The exposure to a specific manager within an investment vehicle is controlled by limiting its commitment size. The cohesion of the general partners and the vesting rights to interest carry are important elements of insuring a successfully performing general partnership as are the past success of the business model employed and the length of time the team has remained stable.

Vintage - Vintage reflects the year of first capital draw and vintage risk refers to the variability of infrastructure commitments over time. Commitments to partnership investments will be staged over time such that the infrastructure portfolio invests over business cycles and insulates the portfolio from event risk.

Asset Type - Typically, infrastructure partnerships are permitted to invest in assets in a wide variety of industries (Transportation, Energy/Utility and Other) with limited controls. Risk from investing in assets with different return characteristics is controlled primarily through appropriate diversification across business sectors and sub-sectors. No infrastructure asset class shall account for more than 70% of the portfolio.

Geographic - Over the long-term, the infrastructure portfolio should seek diversification with regard to major regional areas both

domestically and internationally. The infrastructure portfolio will accept the currency risks consistent with the geographic constraints. Infrastructure partnerships generally do not hedge currency risk, though with increasing globalization, one can see this practice increasing. With respect to U.S. investing, the portfolio should generally target at least 40%.

G. Distinction of Responsibilities

1. The Board, as Trustees, is responsible for approving the Real Asset Statement of Investment Policy.
2. ATRS' Board of Trustees is responsible for selecting the investment managers used to implement the Real Asset Statement of Investment Policy.
3. ATRS' Investment Staff and the Real Asset Consultant are jointly responsible for recommending the Investment Managers to the Board, as well as managing the Real Asset class, as described by the Real Asset Statement of Investment Policy, on an on-going basis, including monitoring the investment managers.
4. The Real Asset Consultant will assist ATRS' Investment Staff in recommending investment managers to the Board, monitoring investment managers, presenting Real Asset class performance to the Board, and will assist Investment Staff in developing and recommending the Real Asset Statement of Investment Policy and any changes to this document.
5. Investment Managers are utilized by ATRS to implement the specific investment strategies selected by ATRS.

H. Reporting and Monitoring

1. The Investment Staff and the Real Asset Consultant will monitor performance on a quarterly basis, providing a quarterly report to the Board. The report will provide a comprehensive review of the Real Asset portfolio in a form approved by ATRS' Investment Staff and the Real Asset Consultant.

HISTORY

Adopted October 7, 2013
Adopted October 5, 2015
Amended February 3, 2020
Amended December 7, 2020

ATRS Board Policy 4

STATEMENT OF INVESTMENT POLICY

A.C.A. § 24-7-305

I. Board - Investment Policies and Procedures

A. Statement of Investment Policy

1. This Investment Policy has been prepared within the context of applicable Arkansas laws and is intended to allow for sufficient flexibility in the investment process to capture opportunities, yet ensure that both prudence and care are maintained in the execution of the investment program. While safety of principal is given primary consideration, the Arkansas Teacher Retirement System Board of Trustees, hereinafter "Board" may take appropriate levels of risk to earn higher levels of investment return.
2. The Board has arrived at this policy through careful study of the rates of return and risks associated with various investment strategies in relation to the current and projected liabilities of the Arkansas Teacher Retirement System, hereinafter, "the System". This policy has been chosen as the most appropriate for achieving the financial objectives of the System. The policy will be reviewed periodically as circumstances dictate.
3. The Board has adopted a long-term investment horizon so that the chances and duration of investment losses are carefully weighed against the long-term potential for appreciation of assets. The assets of the System will be invested in a manner that provides the safeguards and diversity to which a prudent investor would adhere. All transactions undertaken on behalf of the System will be in the sole interest of the members of the System.
4. To achieve the overall investment goal of the System, one or more investment consultants may be retained by the Board as investment advisors. The scope of duties, together with the terms and conditions of engagement, of any investment consultant will be set forth in a contract approved by the Board. Throughout this document, investment advisors are referred to as investment consultants.
5. The System shall manage those assets not specifically allocated to investment managers. No investment shall be made without an investment consultant's recommendation.

B. Standard of Care

1. The standard of care for the Board and Executive Director of the assets of the System is: when investing and reinvesting trust assets and in acquiring, retaining, managing and disposing of investments of the trust assets, there shall be exercised the reasonable care, skill, and caution that a prudent investor would use after considering the purposes, terms, distribution requirements, and other circumstances of the trust. Investment and management decisions respecting individual assets shall be evaluated not in isolation but in the context of the trust portfolio as a whole and as a part of an overall investment strategy having risk and return objectives reasonably suited to the trust. The investments of the trust shall be diversified unless the Board reasonably determines that, because of special circumstances, the purposes of the trust are better served without diversifying. The trust assets shall be invested and managed solely in the interest of the members and benefit recipients of the trust. The trust assets shall be invested in a manner to only incur costs that are appropriate and reasonable in relation to the assets and purposes of the investment. Compliance with the standard of care is determined in light of facts and circumstances at the time of action, not in hindsight.
2. Investment and management functions may be delegated to an investment agent that a prudent trustee of comparable skills could properly delegate under the circumstances. When making such delegation, the Board shall establish the scope and terms of the delegation, consistent with the purposes and terms of the trust, and shall monitor the investment agent performance and compliance with the terms of the delegation. In performing a delegated function, an investment agent owes a duty to the System and the trust to exercise reasonable care to comply with the terms of the delegation. The assets of the System allocated to the investment managers shall be diligently managed, which may include selling investments and realizing losses, if such action is considered advantageous to longer-term return maximization. In addition, the Executive Director may delegate certain duties to the System's investment staff without relieving the Executive Director from the ultimate responsibility.
3. Each party serving in a fiduciary capacity for the trust shall apply the standard of care set forth herein.

C. Asset Allocation

1. The Board is responsible for the prudent investment of funds and to maintain a proper allocation of the System's investment assets. The Board, in conjunction with its investment consultants, shall set and adjust the System's asset allocation ranges as necessary to provide an optimal allocation to obtain its target returns. The general investment

consultant shall notify the Executive Director and the Board when an asset liability modeling study should be undertaken. It shall be the goal of the System to maintain the following asset allocation targets and ranges:

Asset Category	Minimum*	Target	Maximum*
Total Equity	48.0	53.0	58.0**
Fixed Income	13.0	15.0	17.0
Opportunistic/Alternatives	N/A	5.0	N/A
Real Assets***	N/A	15.0	N/A
Private Equity	N/A	12.0	N/A
Cash Equivalents	0.0	0.0	5.0

* Due to the illiquid nature of opportunistic/alternatives, real assets, and private equity, it is not prudent to set rebalancing ranges for these asset classes

**Additional allocations to total equity may be made beyond the maximum range to serve as a placeholder for unfunded and uncommitted opportunistic/alternatives, real assets, and private equity

***Real assets includes real estate, timber, agriculture, and infrastructure

D. Rebalancing

1. The asset allocation ranges established by the Board represent the Board's judgment of a portfolio mix that provides the greatest risk/return value. Allowing the portfolio to exceed the Board limits strays from the financial discipline, which the Board believes will - over time - provide the appropriate risk-adjusted return to the System.
2. The Executive Director is responsible for rebalancing the allowable asset classes and the individual portfolios if any of the asset classes falls outside of the designated range. The general investment consultant shall provide guidance and advice to the Executive Director to best achieve the rebalancing.
3. Rebalancing among individual investment manager portfolios within asset classes may also be necessary to ensure the appropriate level of diversification is achieved by investment style, market capitalization or risk levels (see total asset class guidelines) and/or to take advantage of market conditions, fund manager expertise, opportunities, or other circumstances that could be beneficial to ATRS.
4. The Executive Director may rebalance across all equity managers, all equity holdings, all fixed income managers, and all fixed income holdings. A Board approved transition manager may be used for

rebalancing. Rebalancing including the use of a Board approved transition manager, as needed, may be initiated by the Executive Director after recommendation from the appropriate investment consultant and positive notice to the Board Chair. The Executive Director and general investment consultant will monitor the asset values by classification for each asset manager on a monthly basis, based on month-end data provided by the custodial bank. The Executive Director and general investment consultant shall regularly inform the Board on the rebalancing pacing and strategy.

5. Whenever the minimum or maximum range of total equity or fixed income has been exceeded, a transfer of funds or other appropriate action will occur to bring the actual allocation within the prescribed range within a time frame determined to be prudent by the Executive Director in consultation with the general investment consultant.
6. Normal plan cash flows should be used to the extent possible to rebalance. Interest, dividends, and plan contributions should be used to the extent possible to fund asset classes that are below their target. Withdrawals should be made from asset classes that are above their target.

E. Investment Manager Selection

1. In order to implement its investment strategy, the System will use individual investment managers. Arkansas Code § 24-2-610 et seq. requires ATRS to always operate under the prudent investor rule. The prudent investor rule requires all investment decisions to be made based on the experience of management, rates of return, appropriate risk, reasonable cost, and all other relevant factors that should be used by prudent investors.
2. It is the policy of the Board to include, whenever appropriate, qualified minority-owned and women-owned business enterprises in the System's investment manager selection process and to objectively evaluate all qualified investment manager candidates regardless of race, gender or disability.
3. The Board will evaluate all qualified investment manager candidates with emphasis on demonstrated professional performance, organizational depth, institutional investment management capability, and reasonableness of fee structure regardless of the amount of investment assets under management or the age of the investment management firm.
4. The Board will use professional consultants that do not use discriminatory practices in the creation and maintenance of their investment manager databases and will require the investment

consultants to affirm their use of non-discriminatory practices when recommending investment manager candidates to the Board.

F. Goals

1. Recognizing the purpose of the System is to remain actuarially sound and pay member benefits, the overall investment goal is to achieve, over a period of years, the greatest rate of return for the System with due consideration given to preserving capital and its purchasing power, and to maintain an appropriate level of risk consistent with the obligations of a prudent investor. The return of the System should exceed, net of fees, a policy benchmark comprised of the respective asset class benchmarks weighted by the asset class policy targets over a full market cycle (approximately five years). During periods of transition to and from nonmarketable and illiquid asset classes such as private equity and real assets, actual allocations may be used over extended periods to reflect these changes in the policy targets. Periodic performance reports will provide a detailed description of the policy benchmark composition over time.
2. The System's actuary sets an expected return based on the Board's policy decisions. Market cycles may result in the System earning a return materially above or below the actuarial rate of return for extended periods of time. Therefore, the actuarial rate of return will not be used for performance comparison purposes.

G. Total Equity

1. The total equity exposure of the portfolio shall be well diversified with broad exposures to small, mid, and large capitalization companies and growth and value style sectors across U.S. and non-U.S. markets.
2. The goal for total equity shall be to achieve a total rate of return that will exceed, net of all fees and costs, the return of the aggregate global equity market as measured by the Morgan Stanley Capital International (MSCI) All Country World Index (ACWI) Investable Market Index (IMI) over a full market cycle (approximately five years). Because the total equity portfolio was previously segregated into domestic and global equity components, the total equity portfolio has a bias to domestic equity relative to the MSCI ACWI IMI. Therefore, to ensure appropriate performance measurement, the benchmark for total equity will be appropriately weighted between the Dow Jones U.S. Total Stock Market Index and the MSCI ACWI IMI Index to reflect the current domestic / global asset mix until the domestic allocation is in line with the global opportunity set as defined by the MSCI ACWI IMI. The manager structure of the total equity portfolio should resemble the weighted average of their respective benchmarks and avoid any

material biases due to a concentration of managers or management styles. To achieve this goal, the Board may employ various actively managed and passive mandates. The structure of the equity component will be analyzed annually to ensure proper diversification is achieved.

H. Fixed Income

1. The manager structure of the aggregate fixed income portfolio's risk exposure should resemble the aggregate domestic fixed income market as measured by the Barclays U.S. Universal Bond Index. To help achieve this goal, the Board will employ investment managers that invest assets in a broad array of sectors (government, mortgage backed, credits, asset backed, and commercial mortgage backed bonds), maturities, and credit qualities so that the overall portfolio structure is not materially different from that of the domestic and global fixed income markets. To provide a broad base of low-cost diversification and readily available liquidity, the Board may allocate a portion of the fixed income assets to a passive investment portfolio that approximates the return of the broad fixed income market.
2. The goal for fixed income investments shall be to achieve a total rate of return that will exceed, net of all costs and fees, the return of the Barclays U.S. Universal Bond Index over a full market cycle (approximately five years).

I. Opportunistic/Alternative Investments

1. The Opportunistic/Alternatives asset class may include investments in direct hedge funds, hedge fund of funds, commodities, currency mandates, and other alternative strategies that are not closely correlated or related to the traditional asset classes (fixed income, equities, private equity, and real assets). Unique investments that do not fit within the other asset class categories may also be included in the Opportunistic/Alternative category at the Board's discretion. Because this category may include illiquid investments made through closed end investment partnerships, it may take a period of time to reach and maintain the target allocation of 5%. Assets will be invested in the total equity asset class when the opportunity/alternative allocation is below its long-term target of 5%. The benchmark for the category will be a weighted average of the benchmarks of the underlying strategies.
2. The goal of the credit, global macro, and other liquid alternative investments shall be to achieve a total rate of return that will exceed, net of all fees and costs, the return of the appropriate institutional quality hedge fund index over a full market cycle (approximately five

years). Appropriate benchmarks will be determined as investments are added to the portfolio.

J. Real Assets

1. The Real Asset category may include real estate, timber, agriculture, and infrastructure. While no fixed targets are set, the following general parameters have been identified:

- 10% Real Estate
- 2% Timber
- 1% Agriculture
- 2% Infrastructure

The total target of the asset class will be 15%. Because this category may include illiquid investments made through closed end investment partnerships, it will take a period of time to reach these targets. Assets will be invested in the U.S. total equity asset class until the total target is attained.

The System may initiate investments in real estate as governed by the Real Asset Statement of Investment Policy. The System's goal for real estate is to not materially exceed the System's approved target asset allocation for total real estate investments as determined by the Board at the beginning of each fiscal year. Should the real estate target asset allocation be exceeded, the Executive Director, working with the Real Estate Consultant, shall develop a pacing and strategy plan to address the over allocation.

ATRS' Real Estate portfolio is benchmarked on a net of fee basis against the NCREIF Fund Index Open-end Diversified Core Equity Index ("NFIODCE"). Once ATRS' Real Estate portfolio reaches its full target allocation for a five year period, it is expected to meet or exceed the NFIODCE over rolling five year periods.

The System may initiate direct ownership in timberland or indirect investments in fund of funds, partnerships, corporations, or real estate investment trusts ("REITs") investing in investment grade properties of like kind.

2. The goal of the timberland investments shall be to achieve a total rate of return that will exceed, net of all fees and costs, the return of the NCREIF Timberland Property Index ("NTPI") over a five year rolling period weighted according to ATRS' regional exposure based on Net Asset Value. The Consumer Price Index plus 300 basis points will be used as a secondary measurement to gauge the timber portfolio's performance compared to the opportunity cost of investing in timber.

| The goal of the agriculture investments shall be to achieve a total rate.

of return that will exceed, net of all fees and costs, the return of the NCREIF Farmland Index ("NFI") over a five year rolling period.~~— weighted according to ATRS' regional and crop type exposure based on Net Asset Value~~ The Consumer Price Index plus 300 basis points will be used as a secondary measurement to gauge the agriculture portfolio's performance compared to the opportunity cost of investing in agriculture.

The goal of the infrastructure investments shall be to achieve a total rate of return that will exceed, net of all fees and costs, the return of the Consumer Price Index (CPI) plus 5 percentage points over a full market cycle (approximately ten years). The Consumer Price Index plus 5 percentage points will be used as the benchmark to reflect the opportunity cost of investing in infrastructure. Similar infrastructure programs of institutional investors will also be used as a secondary benchmark to the extent such data is made available.

The ATRS Total Real Asset Benchmark is weighted by the allocations based on Net Asset Values across the various sub-categories, and thus defined as Real Estate benchmark, Timber benchmark, Agriculture benchmark and Infrastructure benchmark. The net of fee return for ATRS' Total Real Asset Portfolio is expected to meet or exceed the Total Real Asset Benchmark over rolling five year periods.

K. Private Equity

1. The System may initiate investments in private equity as governed by the Private Equity Statement of Investment Policy. Private equity investments may include domestic and foreign private equity partnerships, venture capital, and mezzanine financing partnerships that are intended to diversify the assets and reduce the likelihood of material losses in any individual investment classification. The investment consultant responsible for private equity shall advise the Executive Director and Board on the Private Equity Statement of Investment Policy and the structure of private equity investments best suited for the System.
2. The System's goal for private equity investments is to achieve a total rate of return that will exceed, net of all costs and fees, the return of the public equity markets, as measured by the Dow Jones U.S. Total Stock Market Index, plus a liquidity premium of 2 percentage points per year over a full market cycle for private equity (approximately ten years).

L. Cash Equivalents

1. The System may hold direct ownership in short-term investments or may permit or require managers to hold cash or cash equivalents to meet liquidity needs of the investment manager or of the System.

2. The System's cash management goal shall be to preserve capital and maintain liquidity.

M. Arkansas-Related Investments

1. The System may initiate Arkansas-related mortgage loans, promissory notes, direct real estate investments, or purchase insured certificates of deposit or short term securities of Arkansas financial institutions to meet the goals of the mandated requirements. Arkansas-related investments are categorized according to the appropriate asset class for each investment. In addition, Arkansas related investments include, but are not limited to, investments managed by an Arkansas related manager, Arkansas related investments held by other fund managers, Arkansas timberland, partnerships based in Arkansas, and partnerships holding Arkansas properties.

N. Commingled or Mutual Funds

1. If a commingled fund or mutual fund is utilized, the portfolio will be governed by the prospectus or similar document for the fund. In those cases, the System will utilize the prudent investor rule and advice of the investment consultant in selecting and evaluating funds initially and in monitoring them on an on-going basis.

O. Derivatives

1. Derivatives may be used to reduce the risk in a portfolio and provide desired market and security level positions as an alternative to purchasing cash securities. Excessive leverage shall not be created through the use of derivatives in a manner that substantially increases the System's portfolio risk. Each investment manager's derivative usage shall be specified in the investment management agreement or specific guidelines.
2. The use of futures and options shall be matched by cash or cash equivalent securities, and all short futures positions shall be matched by equivalent long security positions, unless otherwise stated in the investment manager guidelines or authorizing fund documents.

P. Loaning of Securities

1. The lending agent will evaluate the credit-worthiness of potential borrowers of securities, and will loan securities only to financially sound borrowers. The lending agent will maintain a diversified list of such borrowers in order to mitigate the counterparty risk that is inherent in securities lending.
2. Collateral levels should be based on the nature of the loaned security and will generally be between 102% and 105% of the market value of the borrowed security. Marking to market will be performed every

business day subject to de minimis rules of change in value, and borrowers will be required to deliver additional assets as necessary to maintain overcollateralization of securities loans.

Q. Securities Lending Reinvestment Guidelines

1. The cash collateral portfolio will be managed on an amortized cost basis (maintain a \$1 net asset value) and have investment guidelines that are 2a-7-like in nature (money market fund guidelines) to ensure that only a moderate amount of risk is taken on the reinvestment of the cash collateral. This will control the amount of credit and duration risk that can be taken by the short duration fixed income manager, which will help to mitigate losses due to insufficient collateral relative to the amount on loan. In addition, guidelines for the cash collateral portfolio will be created in conjunction with the lending strategy and with input from the securities lending agent.
2. The collateral pool should also maintain a reasonable level of overnight liquidity in order to allow for the smooth recall of securities over time.

R. Investment Manager Reporting

1. The System will require all investment managers, managing partners, and general partners to provide on at least a quarterly and an annual basis, reporting appropriate for the investment.

S. Roles

1. The Executive Director and investment consultant are jointly responsible for the initial selection of investment managers and any increase or decrease in an investment manager's funding. The Executive Director and investment consultant are jointly responsible for monitoring existing investment managers on performance, stability, and compliance. The Executive Director and investment consultant may also recommend termination of an investment manager when circumstances justify termination. Reasons for termination include, but are not limited to, relative performance, relative stability, costs, strategic allocation of assets, or other relevant factors that a prudent investor would use.

T. Proxies

1. The System authorizes the investment manager to vote all proxies related to stocks in which it invests the System's assets. The System expects the investment manager to cast votes solely in the best interest of plan beneficiaries.

U. Soft Dollars

1. Commissions paid by investment managers for the purchase of equity securities are System assets and must be used for the sole benefit of the System members. Whenever possible, investment managers should seek to execute trades at the lowest possible commission rate but not to the detriment of best execution, which can result in a higher cost to the System. So that the Board may fulfill its obligation to ensure that System assets are being used appropriately, relevant equity investment managers shall provide periodic reports to the general investment consultant on brokerage activity, commissions, services, and such other information as may be requested by the investment consultant or Board. The investment consultant shall provide a periodic report to the Board summarizing such equity investment managers' reports and highlighting any questionable or problem areas.

HISTORY

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Amended: November 13, 2017

Amended: April 1, 2019

Amended: February 3, 2020

Amended: December 7, 2020

ATRS Board Policy 4

STATEMENT OF INVESTMENT POLICY

A.C.A. § 24-7-305

I. Board - Investment Policies and Procedures

A. Statement of Investment Policy

1. This Investment Policy has been prepared within the context of applicable Arkansas laws and is intended to allow for sufficient flexibility in the investment process to capture opportunities, yet ensure that both prudence and care are maintained in the execution of the investment program. While safety of principal is given primary consideration, the Arkansas Teacher Retirement System Board of Trustees, hereinafter "Board" may take appropriate levels of risk to earn higher levels of investment return.
2. The Board has arrived at this policy through careful study of the rates of return and risks associated with various investment strategies in relation to the current and projected liabilities of the Arkansas Teacher Retirement System, hereinafter, "the System". This policy has been chosen as the most appropriate for achieving the financial objectives of the System. The policy will be reviewed periodically as circumstances dictate.
3. The Board has adopted a long-term investment horizon so that the chances and duration of investment losses are carefully weighed against the long-term potential for appreciation of assets. The assets of the System will be invested in a manner that provides the safeguards and diversity to which a prudent investor would adhere. All transactions undertaken on behalf of the System will be in the sole interest of the members of the System.
4. To achieve the overall investment goal of the System, one or more investment consultants may be retained by the Board as investment advisors. The scope of duties, together with the terms and conditions of engagement, of any investment consultant will be set forth in a contract approved by the Board. Throughout this document, investment advisors are referred to as investment consultants.
5. The System shall manage those assets not specifically allocated to investment managers. No investment shall be made without an investment consultant's recommendation.

B. Standard of Care

1. The standard of care for the Board and Executive Director of the assets of the System is: when investing and reinvesting trust assets and in acquiring, retaining, managing and disposing of investments of the trust assets, there shall be exercised the reasonable care, skill, and caution that a prudent investor would use after considering the purposes, terms, distribution requirements, and other circumstances of the trust. Investment and management decisions respecting individual assets shall be evaluated not in isolation but in the context of the trust portfolio as a whole and as a part of an overall investment strategy having risk and return objectives reasonably suited to the trust. The investments of the trust shall be diversified unless the Board reasonably determines that, because of special circumstances, the purposes of the trust are better served without diversifying. The trust assets shall be invested and managed solely in the interest of the members and benefit recipients of the trust. The trust assets shall be invested in a manner to only incur costs that are appropriate and reasonable in relation to the assets and purposes of the investment. Compliance with the standard of care is determined in light of facts and circumstances at the time of action, not in hindsight.
2. Investment and management functions may be delegated to an investment agent that a prudent trustee of comparable skills could properly delegate under the circumstances. When making such delegation, the Board shall establish the scope and terms of the delegation, consistent with the purposes and terms of the trust, and shall monitor the investment agent performance and compliance with the terms of the delegation. In performing a delegated function, an investment agent owes a duty to the System and the trust to exercise reasonable care to comply with the terms of the delegation. The assets of the System allocated to the investment managers shall be diligently managed, which may include selling investments and realizing losses, if such action is considered advantageous to longer-term return maximization. In addition, the Executive Director may delegate certain duties to the System's investment staff without relieving the Executive Director from the ultimate responsibility.
3. Each party serving in a fiduciary capacity for the trust shall apply the standard of care set forth herein.

C. Asset Allocation

1. The Board is responsible for the prudent investment of funds and to maintain a proper allocation of the System's investment assets. The Board, in conjunction with its investment consultants, shall set and adjust the System's asset allocation ranges as necessary to provide an optimal allocation to obtain its target returns. The general investment

consultant shall notify the Executive Director and the Board when an asset liability modeling study should be undertaken. It shall be the goal of the System to maintain the following asset allocation targets and ranges:

Asset Category	Minimum*	Target	Maximum*
Total Equity	48.0	53.0	58.0**
Fixed Income	13.0	15.0	17.0
Opportunistic/Alternatives	N/A	5.0	N/A
Real Assets***	N/A	15.0	N/A
Private Equity	N/A	12.0	N/A
Cash Equivalents	0.0	0.0	5.0

* Due to the illiquid nature of opportunistic/alternatives, real assets, and private equity, it is not prudent to set rebalancing ranges for these asset classes

**Additional allocations to total equity may be made beyond the maximum range to serve as a placeholder for unfunded and uncommitted opportunistic/alternatives, real assets, and private equity

***Real assets includes real estate, timber, agriculture, and infrastructure

D. Rebalancing

1. The asset allocation ranges established by the Board represent the Board's judgment of a portfolio mix that provides the greatest risk/return value. Allowing the portfolio to exceed the Board limits strays from the financial discipline, which the Board believes will - over time - provide the appropriate risk-adjusted return to the System.
2. The Executive Director is responsible for rebalancing the allowable asset classes and the individual portfolios if any of the asset classes falls outside of the designated range. The general investment consultant shall provide guidance and advice to the Executive Director to best achieve the rebalancing.
3. Rebalancing among individual investment manager portfolios within asset classes may also be necessary to ensure the appropriate level of diversification is achieved by investment style, market capitalization or risk levels (see total asset class guidelines) and/or to take advantage of market conditions, fund manager expertise, opportunities, or other circumstances that could be beneficial to ATRS.
4. The Executive Director may rebalance across all equity managers, all equity holdings, all fixed income managers, and all fixed income holdings. A Board approved transition manager may be used for

rebalancing. Rebalancing including the use of a Board approved transition manager, as needed, may be initiated by the Executive Director after recommendation from the appropriate investment consultant and positive notice to the Board Chair. The Executive Director and general investment consultant will monitor the asset values by classification for each asset manager on a monthly basis, based on month-end data provided by the custodial bank. The Executive Director and general investment consultant shall regularly inform the Board on the rebalancing pacing and strategy.

5. Whenever the minimum or maximum range of total equity or fixed income has been exceeded, a transfer of funds or other appropriate action will occur to bring the actual allocation within the prescribed range within a time frame determined to be prudent by the Executive Director in consultation with the general investment consultant.
6. Normal plan cash flows should be used to the extent possible to rebalance. Interest, dividends, and plan contributions should be used to the extent possible to fund asset classes that are below their target. Withdrawals should be made from asset classes that are above their target.

E. Investment Manager Selection

1. In order to implement its investment strategy, the System will use individual investment managers. Arkansas Code § 24-2-610 et seq. requires ATRS to always operate under the prudent investor rule. The prudent investor rule requires all investment decisions to be made based on the experience of management, rates of return, appropriate risk, reasonable cost, and all other relevant factors that should be used by prudent investors.
2. It is the policy of the Board to include, whenever appropriate, qualified minority-owned and women-owned business enterprises in the System's investment manager selection process and to objectively evaluate all qualified investment manager candidates regardless of race, gender or disability.
3. The Board will evaluate all qualified investment manager candidates with emphasis on demonstrated professional performance, organizational depth, institutional investment management capability, and reasonableness of fee structure regardless of the amount of investment assets under management or the age of the investment management firm.
4. The Board will use professional consultants that do not use discriminatory practices in the creation and maintenance of their investment manager databases and will require the investment

consultants to affirm their use of non-discriminatory practices when recommending investment manager candidates to the Board.

F. Goals

1. Recognizing the purpose of the System is to remain actuarially sound and pay member benefits, the overall investment goal is to achieve, over a period of years, the greatest rate of return for the System with due consideration given to preserving capital and its purchasing power, and to maintain an appropriate level of risk consistent with the obligations of a prudent investor. The return of the System should exceed, net of fees, a policy benchmark comprised of the respective asset class benchmarks weighted by the asset class policy targets over a full market cycle (approximately five years). During periods of transition to and from nonmarketable and illiquid asset classes such as private equity and real assets, actual allocations may be used over extended periods to reflect these changes in the policy targets. Periodic performance reports will provide a detailed description of the policy benchmark composition over time.
2. The System's actuary sets an expected return based on the Board's policy decisions. Market cycles may result in the System earning a return materially above or below the actuarial rate of return for extended periods of time. Therefore, the actuarial rate of return will not be used for performance comparison purposes.

G. Total Equity

1. The total equity exposure of the portfolio shall be well diversified with broad exposures to small, mid, and large capitalization companies and growth and value style sectors across U.S. and non-U.S. markets.
2. The goal for total equity shall be to achieve a total rate of return that will exceed, net of all fees and costs, the return of the aggregate global equity market as measured by the Morgan Stanley Capital International (MSCI) All Country World Index (ACWI) Investable Market Index (IMI) over a full market cycle (approximately five years). Because the total equity portfolio was previously segregated into domestic and global equity components, the total equity portfolio has a bias to domestic equity relative to the MSCI ACWI IMI. Therefore, to ensure appropriate performance measurement, the benchmark for total equity will be appropriately weighted between the Dow Jones U.S. Total Stock Market Index and the MSCI ACWI IMI Index to reflect the current domestic / global asset mix until the domestic allocation is in line with the global opportunity set as defined by the MSCI ACWI IMI. The manager structure of the total equity portfolio should resemble the weighted average of their respective benchmarks and avoid any

material biases due to a concentration of managers or management styles. To achieve this goal, the Board may employ various actively managed and passive mandates. The structure of the equity component will be analyzed annually to ensure proper diversification is achieved.

H. Fixed Income

1. The manager structure of the aggregate fixed income portfolio's risk exposure should resemble the aggregate domestic fixed income market as measured by the Barclays U.S. Universal Bond Index. To help achieve this goal, the Board will employ investment managers that invest assets in a broad array of sectors (government, mortgage backed, credits, asset backed, and commercial mortgage backed bonds), maturities, and credit qualities so that the overall portfolio structure is not materially different from that of the domestic and global fixed income markets. To provide a broad base of low-cost diversification and readily available liquidity, the Board may allocate a portion of the fixed income assets to a passive investment portfolio that approximates the return of the broad fixed income market.
2. The goal for fixed income investments shall be to achieve a total rate of return that will exceed, net of all costs and fees, the return of the Barclays U.S. Universal Bond Index over a full market cycle (approximately five years).

I. Opportunistic/Alternative Investments

1. The Opportunistic/Alternatives asset class may include investments in direct hedge funds, hedge fund of funds, commodities, currency mandates, and other alternative strategies that are not closely correlated or related to the traditional asset classes (fixed income, equities, private equity, and real assets). Unique investments that do not fit within the other asset class categories may also be included in the Opportunistic/Alternative category at the Board's discretion. Because this category may include illiquid investments made through closed end investment partnerships, it may take a period of time to reach and maintain the target allocation of 5%. Assets will be invested in the total equity asset class when the opportunity/alternative allocation is below its long-term target of 5%. The benchmark for the category will be a weighted average of the benchmarks of the underlying strategies.
2. The goal of the credit, global macro, and other liquid alternative investments shall be to achieve a total rate of return that will exceed, net of all fees and costs, the return of the appropriate institutional quality hedge fund index over a full market cycle (approximately five

years). Appropriate benchmarks will be determined as investments are added to the portfolio.

J. Real Assets

1. The Real Asset category may include real estate, timber, agriculture, and infrastructure. While no fixed targets are set, the following general parameters have been identified:

- 10% Real Estate
- 2% Timber
- 1% Agriculture
- 2% Infrastructure

The total target of the asset class will be 15%. Because this category may include illiquid investments made through closed end investment partnerships, it will take a period of time to reach these targets. Assets will be invested in the total equity asset class until the total target is attained.

The System may initiate investments in real estate as governed by the Real Asset Statement of Investment Policy. The System's goal for real estate is to not materially exceed the System's approved target asset allocation for total real estate investments as determined by the Board at the beginning of each fiscal year. Should the real estate target asset allocation be exceeded, the Executive Director, working with the Real Estate Consultant, shall develop a pacing and strategy plan to address the over allocation.

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The goal of the agriculture investments shall be to achieve a total rate

of return that will exceed, net of all fees and costs, the return of the NCREIF Farmland Index ("NFI") over a five year rolling period. The Consumer Price Index plus 300 basis points will be used as a secondary measurement to gauge the agriculture portfolio's performance compared to the opportunity cost of investing in agriculture.

The goal of the infrastructure investments shall be to achieve a total rate of return that will exceed, net of all fees and costs, the return of the Consumer Price Index (CPI) plus 5 percentage points over a full market cycle (approximately ten years). The Consumer Price Index plus 5 percentage points will be used as the benchmark to reflect the opportunity cost of investing in infrastructure. Similar infrastructure programs of institutional investors will also be used as a secondary benchmark to the extent such data is made available.

The ATRS Total Real Asset Benchmark is weighted by the allocations based on Net Asset Values across the various sub-categories, and thus defined as Real Estate benchmark, Timber benchmark, Agriculture benchmark and Infrastructure benchmark. The net of fee return for ATRS' Total Real Asset Portfolio is expected to meet or exceed the Total Real Asset Benchmark over rolling five year periods.

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2. The System's goal for private equity investments is to achieve a total rate of return that will exceed, net of all costs and fees, the return of the public equity markets, as measured by the Dow Jones U.S. Total Stock Market Index, plus a liquidity premium of 2 percentage points per year over a full market cycle for private equity (approximately ten years).

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1. The lending agent will evaluate the credit-worthiness of potential borrowers of securities, and will loan securities only to financially sound borrowers. The lending agent will maintain a diversified list of such borrowers in order to mitigate the counterparty risk that is inherent in securities lending.
2. Collateral levels should be based on the nature of the loaned security and will generally be between 102% and 105% of the market value of the borrowed security. Marking to market will be performed every

business day subject to de minimis rules of change in value, and borrowers will be required to deliver additional assets as necessary to maintain overcollateralization of securities loans.

Q. Securities Lending Reinvestment Guidelines

1. The cash collateral portfolio will be managed on an amortized cost basis (maintain a \$1 net asset value) and have investment guidelines that are 2a-7-like in nature (money market fund guidelines) to ensure that only a moderate amount of risk is taken on the reinvestment of the cash collateral. This will control the amount of credit and duration risk that can be taken by the short duration fixed income manager, which will help to mitigate losses due to insufficient collateral relative to the amount on loan. In addition, guidelines for the cash collateral portfolio will be created in conjunction with the lending strategy and with input from the securities lending agent.
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Arkansas Teacher Retirement System 2021 Investment Plan

December 7, 2020

2020 Actual Commitments vs. Plan

ATRS committed \$275 million in 2020 vs. the original plan of \$300 million

ATRS Commitments

Investment	Strategy	Region	ATRS Commitment
BV X	Mid Market Buyouts	U.S.	\$30m
GCG V	Sponsored Mezzanine	U.S.	\$35m
Thoma Bravo Discover III	Mid Market Buyouts	U.S.	\$20m
Thoma Bravo XIV	Large Buyouts	U.S.	\$20m
Thoma Bravo Explorer	Small Buyouts	U.S.	\$20m
LLR VI	Mid Market Buyouts	U.S.	\$30m
FP CF Access	Small/Mid Market Funds	U.S.	\$30m
FP International X	Buyout/Growth/Turnaround	Non-U.S.	\$30m
FP Venture XIII	Early/Late/Growth	U.S./Non-U.S.	\$30m
FP Venture XIII	Early/Late/Growth	U.S./Non-U.S.	\$30m
Total			\$275m

Due Diligence Activities

Activity	# of Funds (3Q19 LTM)	# of Funds (3Q20 LTM)	% of Funds Reviewed (3Q20 LTM)
Preliminary Reviews	811	911	100%
Manager Meetings	317	384	42%
Due Diligence Analyses	119	136	15%
ATRS Funds Closed	7	6	<1%

*Excludes FP Vehicles



Policy

ATRS' Objective, Guidelines and Constraints are outlined below

Objectives

- Achieve a target 12% allocation to private equity
- Generate a long-term return of 200 bps over the Dow Jones U.S. Total Stock Market index (+400 bps as of 6/30/20)

Guidelines

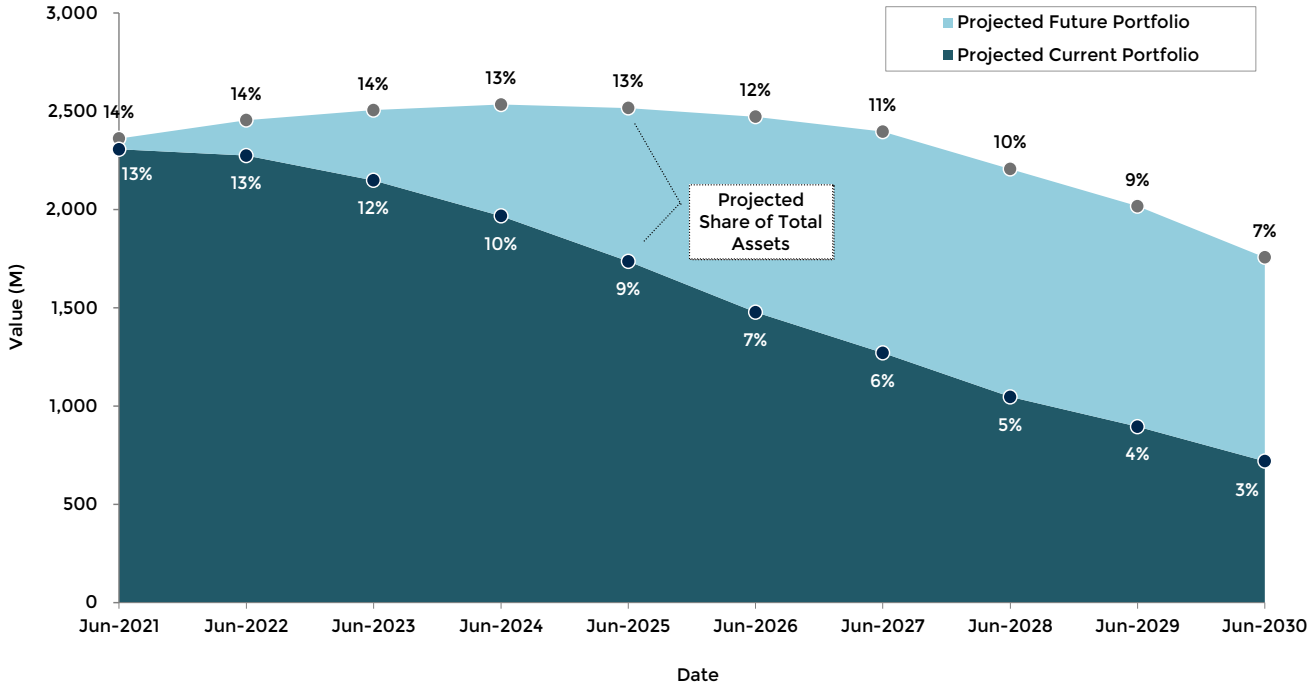
- Achieve a target 12% allocation to private equity (14.3% as of 6/30/20)
- Target 80-100% of PE commitments to Corporate Finance strategies, including buyout, turnaround, growth capital and private debt funds (84.1% as of 6/30/20)
- Target 0-20% of PE commitments to Venture Capital strategies (15.9% as of 6/30/20)

Constraints

- Individual commitments should be at least \$10 million
- A commitment can be no more than 15% of the total amount raised by a primary fund
- No more than 35% of new private equity commitments can be invested with any one fund manager

Investment Pacing

To reach and maintain a 12% allocation to PE, \$300 million should be committed annually



Methodology

- Franklin Park’s pacing model approximates the amount of capital that an investor should commit each year to reach its target allocation over a specified horizon
- The model is based on historical industry cash flow rates generated from Thomson One Private Equity’s database

Assumptions

- Total assets as of 6/30/20 (\$16.7B) was used as the beginning portfolio value
- 3.6% annual net growth rate for total assets as provided by Aon Hewitt
- 12% target allocation to private equity
- Existing private equity portfolio data as of 6/30/20
- Future commitments allocated 80% to corporate finance equity funds, 10% to private debt funds, and 10% to venture capital funds

Commitment Plan

It is recommended that ATRS allocate the planned 2021 commitments to approximately 10 funds/vehicles

ATRS Commitments

Investment	Strategy	Region	ATRS Commitment
Direct Fund	Buyout/Growth/Turnaround	U.S.	\$30m
Direct Fund	Buyout/Growth/Turnaround	U.S.	\$30m
Direct Fund	Buyout/Growth/Turnaround	U.S.	\$30m
Direct Fund	Buyout/Growth/Turnaround	U.S.	\$30m
Direct Fund	Buyout/Growth/Turnaround	U.S.	\$30m
Direct Fund	Buyout/Growth/Turnaround	U.S.	\$30m
Direct Fund	Buyout/Growth/Turnaround	U.S.	\$30m
Direct Fund	Buyout/Growth/Turnaround/Debt	U.S.	\$30m
FP International X	Buyout/Growth/Turnaround	Non-U.S.	\$30m
FP CF Access	Buyout/Growth/Turnaround	U.S.	\$30m
Total			\$300m

Recommendation

Maintain current policy targets and investment guidelines

Seek to commit \$300 million in 2021

Allocate the planned commitments to approximately 10 funds/vehicles



Arkansas Teacher Retirement System
ATRS/FP Private Equity Fund, L.P.

December 7, 2020

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Executive Summary

ATRS has been making co-investments since 2012 and should consider continuing to be active in the segment

Co-investments represent an opportunity to access deals sponsored by private equity managers considered by Franklin Park to be “top-tier” at a lower cost

Franklin Park has been executing co-investments since 2012 and has a proven track record in the space

ATRS should consider continuing co-investment activity in ATRS/FP Private Equity Fund, L.P. through a commitment of recyclable capital to Franklin Park Co-Investment Fund V, L.P.

Overview of ATRS/FP Private Equity Fund, L.P.

ATRS/FP Private Equity Fund, L.P. has invested in three investment types

Investment Type	Description	% of 3/31/20 Value	Future Exposure
Co-Investments	<ul style="list-style-type: none">Direct investments in portfolio companies alongside established PE fund managers	82%	<ul style="list-style-type: none">Franklin Park Co-Investment Fund V, L.P. (discussed on slides 6-7)
Funds	<ul style="list-style-type: none">Commitments to Corporate Finance funds (small/mid market & next generation funds)	17%	<ul style="list-style-type: none">Franklin Park Corporate Finance Access Fund, L.P.
Appraisal Rights	<ul style="list-style-type: none">Investments in Appraisal Rights opportunities	1%	<ul style="list-style-type: none">None

ATRS/FP Private Equity Fund, L.P. – Portfolio Summary

As of March 31, 2020, ATRS/FP Private Equity Fund, L.P. had committed \$300.6 million to 52 investments

SUMMARY	COMMITTED	CONTRIBUTED	DISTRIBUTED	REMAINING	TVPI	NET IRR
ATRS	\$263.8	\$239.3	\$140.1	\$231.1	1.6x	16.7%

INVESTMENTS	#	COMMITTED	INVESTED	REALIZED	UNREALIZED	ROI
Co-Investments	37	\$203.2	\$193.3	\$137.1	\$189.0	1.7x
Funds	13	89.0	40.8	2.3	40.1	1.0x
Appraisal Rights	2	8.4	8.4	5.5	2.7	1.0x
Total	52	\$300.6	\$242.6	\$144.8	\$231.8	1.6x

Franklin Park Co-Investment Fund V, L.P. – Overview

Franklin Park plans to raise a commingled vehicle for co-investment activities going forward

Strategy

Direct co-investments alongside middle market corporate finance private fund sponsors
(same strategy as historically completed within ATRS/FP Private Equity Fund, L.P.)

Target Fund Size

\$500 million

Investment Period

5 years

Portfolio Composition

30-50 deals during the investment period

Estimated First Closing Timing

December 2020/January 2021

Franklin Park Co-Investment Fund V, L.P. – Rationale

The vehicle consolidates all of Franklin Park's co-investment activities and enhances alignment of interest

Single Vehicle for Co-Investments

- ATRS was FP's initial client making co-investments in 2012
- Two other clients have since commenced co-investment activities
- Several other clients have expressed interest in co-investments
- New fund designed to consolidate all investors into a single vehicle and apply consistent economic terms across existing clients

Economic Terms Designed to Align Interests

- No fees or carried interest paid on underlying investments (removes typical 2% fee and 20% carried interest on primary PE fund commitments)
- Franklin Park proposes to charge below market fees and carried interest for co-investments going forward
 - 50 bps on commitments during investment period (vs. typical market co-investment fee of 100 bps which will be charged to non-existing FP clients)
 - 10% carried interest, which is only paid after full return of contributions and an 8% preferred return

Proposal

Consider continuing co-investment activity in ATRS/FP Private Equity Fund, L.P. through a commitment of recyclable capital to Franklin Park Co-Investment Fund V, L.P.

Size commitment appropriately given the 5 year investment period (historical ATRS co-investment pace has been \$25-30m/year)

Footnotes

Risk of Loss: Past Performance is Not a Guarantee: Prospective investors must be aware that investments in private equity funds such as the Fund are speculative and involve a substantial risk of loss. No assurance can be given that the Fund will achieve its investment objectives or avoid substantial losses. Information about other investments made by Franklin Park, including the past performance of other Franklin Park vehicles and investments, is provided solely to illustrate Franklin Park's investment experience, and processes and strategies used by Franklin Park in the past with respect to other Franklin Park vehicles and investments. The performance information relating to Franklin Park's previous investments is not intended to be indicative of the Fund's future results. Past performance is not necessarily indicative, or a guarantee, of future results. There can be no assurance that the Fund will achieve comparable results as those presented or that investors in the Fund will not lose any of their invested capital.

Potential Future Returns: There can be no assurance that investments with an unrealized value will be realized at the valuations shown, as actual realized returns will depend on, among other factors, future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs, and the timing and manner of sale, all of which may differ from the assumptions on which the valuations contained herein are based. Accordingly, the actual realized return of these unrealized investments may differ materially from the returns indicated herein.

No Investment Advice: References to the portfolio funds in this Presentation should not be considered a recommendation or solicitation for the portfolio funds mentioned, nor should individual portfolio fund performance be considered representative of portfolio funds held, or to be held, by the Fund.

This draft is a working document. All information contained herein is subject to change and may differ substantially from the final document. The information contained in this document should not be considered the position or views of the Arkansas Teacher Retirement System Board of Trustees or the Governor.

ATRS DRAFT BILL: DEFINITIONS/TECHNICAL
November 30, 2020

Summary: Minor definition changes and technical changes required after the most recent review of the ATRS laws.

Justification: These are minor changes to clarify ATRS laws.

State of Arkansas
93rd General Assembly
Regular Session, 2021
By: Representative <NA>

A Bill

DRAFT JNL/JNL090
HOUSE BILL

For An Act To Be Entitled
AN ACT TO ENACT THE ARKANSAS TEACHER RETIREMENT
SYSTEM'S GENERAL OMNIBUS; TO MAKE TECHNICAL
CORRECTIONS TO TITLE 24 OF THE ARKANSAS CODE
CONCERNING THE ARKANSAS TEACHER RETIREMENT
SYSTEM; TO DECLARE AN EMERGENCY; AND FOR OTHER
PURPOSES.

Subtitle
TO ENACT THE ARKANSAS TEACHER
RETIREMENT SYSTEM'S GENERAL OMNIBUS; TO
MAKE TECHNICAL CORRECTIONS TO TITLE 24 OF
THE ARKANSAS CODE CONCERNING THE
ARKANSAS TEACHER RETIREMENT SYSTEM;
AND TO DECLARE AN EMERGENCY.

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

MOVE TO: JNL095-Separation Period Bill.

SECTION 1. Arkansas Code § 24-7-202(17), concerning the definition of "employer" as applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(17) "Employer", ~~or~~ "covered employer", or "system-covered employer" means ~~any~~ a public school, a public educational agency, or other eligible employer participating in the Arkansas Teacher Retirement System unless the context clearly indicates that the employer is not a covered employer;

SECTION 2. Arkansas Code § 24-7-202(18)(D), concerning the definition of "employment with a school" as applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(18) (D)(i) Employment in a position with an ~~educationally related~~ education-related agency or organization if the employee is or has been a member of the Arkansas Teacher Retirement System for a minimum of five (5) years and elects to become or remain a member of the Arkansas Teacher Retirement System. The employment shall be related to:

- (a) Training public school employees or school board members;
- (b) Teaching public school students; or
- (c) Adult education programs.

(ii) The employment shall not be related in any manner to private schools.

(iii) Each ~~educationally related~~ education-related agency or organization shall be:

- (a) Approved according to rules established by the board;
- (b) Considered an employer under subdivision (17) of this section; and
- (c) Responsible for all required employer contributions;

SECTION 3. Arkansas Code § 24-7-202(26), concerning the definition of "nonteacher" as applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(26) "Nonteacher" means a member who is not a teacher or an administrator;

SECTION 00. Arkansas Code § 24-7-202(41), concerning the definition of "T-DROP plan interest" as applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

(41) "T-DROP plan interest" means the rate or rates per annum that the board shall adopt from time to time that will be used to compute interest paid on T-DROP mean balances at the end of each fiscal year;

SECTION 4. Arkansas Code § 24-7-406(b)(4)(A), concerning retirement fund assets accounts, member deposit accounts, and contributions under the Arkansas Teacher Retirement System, is amended to read as follows:

(4)(A) For each member who first became a member before July 1, 1971, member contributions for the period after June 30, 1969, shall be six percent (6%) of the first seven thousand eight hundred dollars (\$7,800) of his or her annual salary through June 30, 2013, unless he or she shall have elected, in accordance with rules ~~and regulations~~ established by the Board of Trustees of the Arkansas Teacher Retirement System, to contribute six percent (6%) of his or her full salary for the period after June 30, 1969, through June 30, 2013.

SECTION 5. Arkansas Code § 24-7-406(e)(1)(B)(iv), concerning retirement fund assets accounts, member deposit accounts, and contributions under the Arkansas Teacher Retirement System, is amended to read as follows:

(iv) An active member who ~~previously elected to become a~~ has previous noncontributory ~~member of the system~~ 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 00. Arkansas Code § 24-7-601(b)(3), concerning concurrent service credit under the Arkansas Teacher Retirement System, is amended to read as follows:

(3) A member shall not receive more than one (1) year of service credit for their employment by covered employers and reciprocal system employers in any one (1) fiscal year.

SECTION 6. Arkansas Code § 24-7-603(c)-(e), concerning out-of-state service under the Arkansas Teacher Retirement System, are amended to read as follows:

(c) ~~From and after July 1, 1987, an active~~ A member shall be eligible to establish out-of-state service to be credited as service under this subchapter under the following conditions:

(1)(A) The out-of-state service credit to be granted shall be limited to service for which no benefit could be paid by another system similar in purpose to this system, except Social Security, if the member had left on deposit his or her contributions to the other system.

(B) The credit under subdivision (c)(1)(A) of this section is limited to fifteen (15) years;

(2)(A) The member shall pay to the system for each year of service credit granted the actuarial equivalent of the member's benefits.

(B) The payment shall be credited to the member's account in the members' deposit account and shall be in addition to regular member contributions ~~thereto~~ credited to the member's deposit account;

(3)(A) The out-of-state service shall not become credited service under this system until the member has established five (5) or more years of actual service.

(B) If a member ceases to be an active member before the out-of-state service has been established as system-credited service, the member payments made under this section shall be refundable;

(4) The benefit program to be applied to each year of service credit being granted shall be the benefit program in effect at the time of retirement; and

(5) ~~Such~~ Any other rules consistent with this subchapter as the Board of Trustees of the Arkansas Teacher Retirement System may ~~from time to time~~ adopt.

(d) ~~An active~~ A member may purchase a fraction of a year of out-of-state service to be credited as service under this subchapter in the same manner as provided for out-of-state service under subsection (c) of this section if the service meets the following requirements:

(1) The member has not less than one-fourth ($\frac{1}{4}$) year of out-of-state credited service in the fiscal year; and

(2) The fraction of a year of out-of-state service may be credited in keeping with policies of the board under § 24-7-601.

(e) ~~An active~~ A member shall be eligible, upon application, to purchase service rendered outside the state during a period of employment with an education coordinating council to be credited as out-of-state service under the provisions of this section, provided that the conditions of subsection (c) of this section are met.

SECTION 7. Arkansas Code § 24-7-607(b)-(d), concerning private school service under the Arkansas Teacher Retirement System, are amended to read as follows:

(b) ~~An active~~ A member purchasing certified private school service shall be eligible, upon application, to purchase private school service for a period not to exceed fifteen (15) years, to be credited as certified service under this subchapter under the following conditions:

(1) The private school service credit to be purchased shall be limited to service for which no benefit could be paid by another system similar in purpose to the Arkansas Teacher Retirement System, except Social Security, if the member left on deposit his or her contributions to the other system;

(2)(A) The member shall pay the actuarial equivalent of benefits as set forth under § 24-7-202 to the Arkansas Teacher Retirement System for each year of private school service credit being purchased.

- (B) The payment shall be credited to the member's account in the members' deposit account and shall be in addition to regular member contributions ~~thereto~~ credited to the member's deposit account;
- (3) The private school service shall not become credited service under the Arkansas Teacher Retirement System until:
- (A) The member payment under this section has been paid in full; and
- (B)(i) The member has established five (5) or more years of actual service, exclusive of private school service.
- (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;
- (4) The benefit program to be applied to each year of private school service credit and private educationally related entity service credit being purchased shall be the benefit program in effect at the time of retirement; and
- (5) ~~Such~~ Any other rules consistent with this subchapter as the Board of Trustees of the Arkansas Teacher Retirement System may from time to time adopt.

(c)(1) ~~An active~~ A member is eligible to purchase noncertified private school service or private ~~educationally related~~ education-related entity private school service for a period of five (5) years or less that will be credited as noncertified service under this subchapter when:

- (A) The member properly submits an application to purchase noncertified private school service or private ~~educationally related~~ education-related entity private school service;
- (B) The noncertified service credit to be purchased is limited to service for which no benefit could be paid by another state-supported pension system or a system with a similar purpose when the contributions of the member were left on deposit with the other system; and
- (C)(i) The member pays the actuarial equivalent of benefits as set forth under § 24-7-202 to the Arkansas Teacher Retirement System for each year of service credit being purchased.
- (ii) The payment shall be credited to the member's account in the members' deposit account and shall be in addition to regular member contributions ~~thereto~~ credited to the member's deposit account.
- (2) The noncertified service shall not become credited service under the Arkansas Teacher Retirement System until:
- (A) The member payment under this section has been paid in full; and
- (B)(i) The member has established five (5) or more years of actual service in the Arkansas Teacher Retirement System.
- (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.
- (3) The benefit program applied to each year of private school service or private ~~educationally related~~ education-related entity private school service credit being purchased shall be the benefit program in effect at the time of retirement.
- (4) The purchase and application of the noncertified service credit shall be subject to the rules consistent with this subchapter as that the Arkansas Teacher Retirement System may ~~from time to time~~ adopt.

(d) ~~An active~~ A member may purchase a fraction of a year of private school service to be credited as service under this subchapter in the same manner as provided for private school service under subsection (b) of this section if the service meets the following requirements:

- (1) The member has not less than one-fourth ($\frac{1}{4}$) of a year of private school service in a fiscal year under § 24-7-601; and

(2) The fraction of a year of private school service may be credited in keeping with policies as provided by § 24-7-601.

SECTION 00. Arkansas Code § 24-7-610(c), concerning the purchase of National Guard service under the Arkansas Teacher Retirement System, is amended to read as follows:

(c) A member may, ~~one (1) time each fiscal year,~~ purchase ~~up to~~ one (1) year of service credit for each one (1) year of service in the National Guard or armed forces reserve.

SECTION 8. Arkansas Code § 24-7-610(e) and (f), concerning credit for service in the National Guard and armed forces reserve under the Arkansas Teacher Retirement System, are amended to read as follows:

(e) Service in the National Guard or armed forces reserve service shall be credited to the year in which it was rendered even if the member has concurrent service with a system-covered employer.

(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.

~~(f) (1)~~ (g) (1) This section is supplemental to §§ 24-7-602, and this section does not diminish the right of ~~any~~ a member of the system to obtain credited service in the system for active duty military service within the limits permitted by §§ 24-7-602.

(2) However, a member shall not be entitled to or receive in excess of five (5) years of credited service rendered by the member under this section.

SECTION 9. Arkansas Code § 24-7-611(b) and (c), concerning domestic federal service under the Arkansas Teacher Retirement System, are amended to read as follows:

(b) ~~From On~~ and after January 1, 2003, ~~an active~~ a member shall be eligible upon application to purchase domestic federal service to be credited as service under this section under the following conditions:

(1) The domestic federal service credit to be granted shall be limited to service for which no benefit could be paid by a retirement system similar in purpose to the Arkansas Teacher Retirement System except Social Security if the member left on deposit his or her contributions to the other system, and it shall be limited to ten (10) years;

(2)(A) For each year of domestic federal service credit granted, the member shall pay to the system the employee and employer contributions based on the actuarial equivalent of the member's benefits.

(B) The payment is credited to the member's account in the members' deposit account and is in addition to regular member contributions;

(3) The domestic federal service shall not become credited service under this system until:

(A) The member payment under this section has been paid in full; and

(B)(i) The member has established five (5) or more years of actual service exclusive of domestic federal service.

(ii) If a member ceases to be an active member before the domestic federal service has been established as system credited service, the member payments contributed under this section shall be refunded to the member upon request;

(4) The benefit program to be applied to each year of service credit being granted shall be the benefit program in effect at the time of retirement; and

(5) ~~The~~ Any other rules consistent with this section as that the Board of Trustees of the Arkansas Teacher Retirement System may ~~from time to time~~ adopt.

(c) ~~An active~~ A member may purchase a fraction of a year of domestic federal service to be credited as service under this subchapter in the manner as provided for domestic federal service under subsection (b) of this section if the service meets the following requirements:

- (1) The member has not less than one-fourth ($\frac{1}{4}$) year of domestic federal service in a fiscal year under § 24-7-601; and
- (2) The fraction of a year of domestic federal service may be credited in keeping with policies as provided by § 24-7-601.

SECTION 10. Arkansas Code § 24-7-701(c)(2), concerning the beginning date of an annuity upon voluntary retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(2) The member's termination of ~~active membership~~ covered employment;

SECTION 11. Arkansas Code § 24-7-701(d), concerning limitations on the beginning date of an annuity following voluntary retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(d) If a member has accrued a full year of service credit for a fiscal year, the annuity shall not begin earlier than on ~~the~~ July 1 after the fiscal year ends, in accordance with the rules and resolutions of the Arkansas Teacher Retirement System.

SECTION 12. Arkansas Code § 24-7-702(b)(2)(A), concerning the percentage decrease of an annuity following voluntary early retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(2)(A) The percent shall be one hundred percent (100%) reduced by between five-twelfths percent ($\frac{5}{12}\%$) and fifteen-twelfths percent ($\frac{15}{12}\%$) multiplied by the number of months by which the time of early retirement precedes the earlier of either completion of twenty-eight (28) years of credited service or attainment of sixty (60) years of age.

SECTION 13. Arkansas Code § 24-7-702(c)(2), concerning early voluntary retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(2) The member's termination of ~~active membership~~ covered employment; or

SECTION 14. Arkansas Code § 24-7-702(e), concerning early voluntary retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(e) If a member has accrued a full year of service credit for a fiscal year, the annuity shall not begin earlier than on ~~the~~ July 1 after the fiscal year ends, in accordance with the rules and resolutions of the Arkansas Teacher Retirement System.

SECTION 15. Arkansas Code § 24-7-704(a)(1)(D), concerning disability retirement under the Arkansas Teacher Retirement System, is amended to read as follows:

(D) The member is qualified to receive disability retirement benefits if the member provides the system with a Social Security Administration determination letter finding the member is disabled, or if, by

majority opinion, the medical committee reports to the board in writing that ~~its~~ upon review of the member's application and accompanying documentation finds:

- (i) The member is physically or mentally incapacitated;
- (ii) The member exhibits symptoms of physical or mental incapacitation while the member is employed by a system employer as an active member;
- (iii) The member is unable to perform his or her current work duties;
- (iv) The incapacity will most likely be permanent; and
- (v) The member should be retired.

SECTION 16. Arkansas Code § 24-7-708 is amended to read as follows:

24-7-708. Employment of retired members by covered employers.

(a) Effective July 1, 2009, after terminating employment under § 24-7-502 or reaching the ~~age of~~ normal retirement age, a ~~retirant~~ retiree may:

(1) Accept employment with an employer covered by the Arkansas Teacher Retirement System without a limitation of his or her retirement annuity; and

(2) Continue to receive his or her monthly retirement annuity.

(b) Employers covered by the system that hire an employee who meets the conditions under subsection (a) of this section shall report the hiring of the ~~retirant~~ retiree to the system in a time and a manner that the system may reasonably require.

(c) A ~~retirant~~ retiree who receives monthly benefits and is employed by a covered employer shall not accrue additional service credit.

(d)(1) For a retired member employed in a position covered by the system, the covered employer shall remit the contributions on all salary paid to the ~~retirant~~ retiree in an amount equal to the employer contribution rate applicable to active members.

(2) Contributions shall be paid by the employer and are not the responsibility of the ~~retirant~~ retiree.

(e)(1) The Board of Trustees of the Arkansas Teacher Retirement System shall adopt rules to carry out the provisions of this section.

(2) A covered employer that employs ~~retirants~~ retirees is subject to the rules adopted by the board.

SECTION 17. Arkansas Code § 24-7-711(a)(1), concerning the refund of member contributions upon termination of employment under the Arkansas Teacher Retirement System, is amended to read as follows:

(a)(1) If a member discontinues covered employment and does not plan to be rehired by a covered employer, the member may elect to be paid a refund, of his or her contributions and regular interest credited to the member's deposit account, within six (6) months following the date the member's written application is filed with the Arkansas Teacher Retirement System.

SECTION 00. Arkansas Code § 24-7-711(b)(5), concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(5) Interest Regular interest on a deceased member's accumulated contributions under this subsection shall cease to accrue on the July 1 after the member's death.

SECTION 18. Arkansas Code § 24-7-720(c), concerning lump-sum benefits under the Arkansas Teacher Retirement System, is amended to read as follows:

(c) The amount of the lump-sum 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.

SECTION 19. Arkansas Code § 24-7-720(j)(1)(A), concerning lump-sum benefits under the Arkansas Teacher Retirement System, is amended to read as follows:

(j)(1)(A) If a member accrues a minimum of ~~fifteen (15)~~ 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.

SECTION 20. Arkansas Code § 24-7-730(a)(1), concerning required distributions under the Arkansas Teacher Retirement System, is amended to read as follows:

(a)(1) Notwithstanding the provisions of this subchapter regarding the required dates of distribution of benefits under the Arkansas Teacher Retirement System to former members, the distribution of a former member's benefits under the system shall in any event be made or begun by April 1 of the calendar year following the later of the calendar year in which the member attains age ~~seventy and one-half (70 1/2)~~ seventy-two (72) or the calendar year in which the member retires.

SECTION 21. Arkansas Code § 24-7-730(b)(2)(C), concerning required distributions to a spouse who is the beneficiary under the Arkansas Teacher Retirement System, is amended to read as follows:

(C) (i) If the designated beneficiary is the member's surviving spouse, the date distributions required to begin in accordance with subdivision (b)(2)(A) of this section shall not be earlier than the date on which the member would have attained age ~~seventy and one-half (70 1/2)~~ seventy-two (72).
(ii) If the spouse dies before payments begin, subsequent distributions shall be made as if the spouse had been the member.

SECTION 22. Arkansas Code § 24-7-736(c)(1), concerning the calculation of final average salary under the Arkansas Teacher Retirement System, is amended to read as follows:

(c)(1) The Board of Trustees of the Arkansas Teacher Retirement System shall set ~~annually~~ the applicable number of years to be used in computing final average salary for retirement benefits at not less than three (3) years and not more than five (5) years.

SECTION 23. Arkansas Code § 24-7-736(c)(3)-(6), concerning the calculation of final average salary under the Arkansas Teacher Retirement System, are amended to read as follows:

(3)(A) The applicable number of highest salary years shall be ranked from lowest to highest remuneration.

(B) The lowest remuneration year in the ranking shall be the base year.

(C) The next-highest-ranked remuneration year shall be compared to the base year.

(D) The next-highest year's value in the calculation of final average salary shall not exceed the ~~percentage increase of the base year, unless the difference in value between the next-highest year and~~

~~the base year is within the amount of the salary differential~~ base year value plus the salary differential, unless it is less than or equal to the percentage increase of the base year value.

(4) ~~(E)~~ After comparison of the base year to the next-highest year to meet the requirements of subdivision (c)(3)(D) of this section, any required reduction to the next-highest year shall be made.

~~(5) (F)~~ The next-highest year, with any required reduction, becomes the new base year to compare to the next succeeding highest remuneration year in the ranking until all years in the ranking have been compared ~~to its base and reduced as necessary under subdivision (c)(3) of this section.~~

~~(6) (G)~~ The total value of the base years shall then be averaged to determine final average salary.

SECTION 24. Arkansas Code § 24-7-736(f)(1)(A), concerning the adjustment of the final average salary calculation by the Board of Trustees of the Arkansas Teacher Retirement System, is amended to read as follows:

(f)(1) The board may adjust the final average salary calculated in accordance with subsection (c) of this section by board resolution provided that:

(A) The percentage increase under subdivision (c)(3)(D) of this section is ~~adjusted~~ set no lower than one hundred five percent (105%) per year and no higher than one hundred twenty percent (120%) per year; and

SECTION 00. Arkansas Code § 24-7-736(f)(2), concerning the partial service years in the final average salary calculation by the Board of Trustees of the Arkansas Teacher Retirement System, is amended to read as follows:

(2) A partial service year is excluded from the calculation of the final average salary under this subsection unless the partial service year is higher than a full service year.

SECTION 25. Arkansas Code § 24-7-1307(c)(1), concerning accounts and credit under the Teacher Deferred Retirement Option Plan, is amended to read as follows:

(c)(1) The board shall determine the plan interest rate to members' plan accounts based on:

(A) A fixed interest rate that is adopted by board resolution ~~prior to the beginning~~ by the end of the first quarter of the fiscal year in which the interest rate shall apply and which that applies to subsequent fiscal years unless modified by the board; or

(B) ~~(i)~~ A variable interest rate formula that is based on investment returns and other factors adopted by board resolution ~~prior to the beginning~~ by the end of the first quarter of the fiscal year in which the interest rate shall apply and that applies to subsequent fiscal years unless modified by the board.

~~(ii) If the board uses a variable interest rate formula, the board shall adopt by board resolution the plan interest rate prior to the beginning of the fiscal year in which the plan interest rate applies.~~

SECTION 26. Arkansas Code § 24-7-1307(e), concerning the calculation of the interest rate to a member's Teacher Deferred Retirement Option Plan, is amended to read as follows:

(e) For the purposes of this section, the ten (10) year plus plan interest rate shall be the rate determined to be appropriate by the board and adopted by board resolution ~~prior to the beginning~~ by the end of the first quarter of the fiscal year in which the interest rate shall apply and that applies to subsequent fiscal years unless modified by the board.

SECTION 27. Arkansas Code § 24-7-1604(b), concerning coverage for employees enrolled in the Arkansas Teacher Retirement System before July 1, 2011, is amended to read as follows:

(b) The nonmandatory employer shall remit employer contributions under § 24-7-401 et seq. for an employee under this section and shall be subject to the rights and obligations of an employer under the Arkansas Teacher Retirement System Act for the employees of the nonmandatory employer participating in the system.

SECTION 28. Arkansas Code § 24-7-1605(e)(1), concerning optional participation in the Arkansas Teacher Retirement System by an institution of higher education employers on or after July 1, 2011, is amended to read as follows:

(e)(1) The PSHE employer shall remit employer contributions under § 24-7-401 et seq. and be subject to the rights and obligations of an employer under the Arkansas Teacher Retirement System Act once a benefits-eligible employee elects to participate in the system for the employees of the PSHE employer participating in the system.

SECTION 29. EMERGENCY CLAUSE. It is found and determined by the General Assembly of the State of Arkansas that the operations of a state public retirement system are complex; that the Arkansas Teacher Retirement System must be able to meet the needs of its members as anticipated by the General Assembly; that certain provisions of the Arkansas Teacher Retirement System Act, § 24-7-201 et seq., are imminently in need of revision and updating to bring them into conformance with sound public pension policy and actuarial requirements; that such revision and updating is of great importance to members of the Arkansas Teacher Retirement System and to other citizens of the State of Arkansas; that the Arkansas Teacher Retirement System needs to have the ability to make changes to maintain and improve its actuarial status; and that this act is necessary in order to maintain an orderly system of benefits for the members of the Arkansas Teacher Retirement System. Therefore, an emergency is declared to exist, and this act being necessary for the preservation of the public peace, health, and safety shall become effective on July 1, 2021.

SECTION 30. DO NOT CODIFY. CONSTRUCTION AND LEGISLATIVE INTENT.

It is the intent of the General Assembly that:

- (1) The enactment and adoption of this act shall not expressly or impliedly repeal an act passed during the regular session of the Ninety-Third General Assembly;
- (2) To the extent that a conflict exists between an act of the regular session of the Ninety- Third General Assembly and this act:
 - (A) The act of the regular session of the Ninety- Third General Assembly shall be treated as a subsequent act passed by the General Assembly for the purposes of:
 - (i) Giving the act of the regular session of the Ninety- Third General Assembly its full force and effect; and
 - (ii) Amending or repealing the appropriate parts of the Arkansas Code of 1987; and
 - (B) Section 1-2-107 shall not apply; and
- (3) This act shall make only technical, not substantive, changes to the Arkansas Code of 1987.

Desired effective date: July 1, 2021.

This draft is a working document. All information contained herein is subject to change and may differ substantially from the final document. The information contained in this document should not be considered the position or views of the Arkansas Teacher Retirement System Board of Trustees or the Governor.

ATRS DRAFT BILL: FIVE YEAR LOOK-BACK
November 30, 2020

Summary: This section of the Code relates to member contributions and contributory service credit. Some minor clarifications are needed to distinguish contributory service from noncontributory service.

Justification: The policy here is that if a member meets their end of the agreement by providing service, they should at least get noncontributory service credited. In order to get contributory service, they must also make sure ATRS is paid the member contributions on that service. The member's service history should not be affected by an employer's failure to pay employer contributions, that issue should be between ATRS and the employer.

State of Arkansas
93rd General Assembly
Regular Session, 2021
By: Representative <NA>

A Bill

DRAFT JNL/JNL091
HOUSE BILL

For An Act To Be Entitled
AN ACT TO AMEND THE LAW CONCERNING MEMBER
CONTRIBUTIONS, SERVICE CREDIT, CORRECTION OF ERRORS,
AND TERMINATION OF MEMBERSHIP UNDER THE ARKANSAS
TEACHER RETIREMENT SYSTEM; TO DECLARE AN
EMERGENCY; AND FOR OTHER PURPOSES.

Subtitle
TO AMEND THE LAW CONCERNING MEMBER
CONTRIBUTIONS, SERVICE CREDIT, CORRECTION
OF ERRORS, AND TERMINATION OF
MEMBERSHIP UNDER THE ARKANSAS TEACHER
RETIREMENT SYSTEM; AND TO DECLARE AN
EMERGENCY.

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

SECTION 00. Arkansas Code § 24-7-205(b)(1)(C), concerning credited service where member contributions are due under the Arkansas Teacher Retirement System, is amended to read as follows:

(C)(i) ~~Cancel~~ Convert any contributory service credit to noncontributory service credit for the fiscal year for which there is a member contribution balance due to the system, if the member that owes the member contribution balance elects to have the system ~~cancel~~ convert the contributory service credit to noncontributory service credit rather than pay the balance due.

(ii) If contributory service credit is ~~earned~~ converted to noncontributory service credit under subdivision (b)(1)(C)(i) of this section, the system shall return any member contributions for the affected portion of that fiscal year without interest.

SECTION 1. Arkansas Code § 24-7-205(c), concerning the correction of errors under the Arkansas Teacher Retirement System, is amended to read as follows:

(c) A determination, review, administrative action, cause of action, request to enforce, change, or modify an obligation, duty, benefit calculation, designation, refund, contribution, service credit, or other right arising under this subchapter shall not be valid unless commenced within the look-back period unless the system determines that the justification to commence the process is due to intentional nondisclosure, fraud, misrepresentation, criminal act, or an obvious or documented error by an employer or the system that understated the service credit or salary of a member ~~upon which all required contributions have been paid.~~

SECTION 2. Arkansas Code § 24-7-406(c)(1)(B), concerning the failure of an employer to report service and remit contributions to the Arkansas Teacher Retirement System, is amended to read as follows:

(B)(i) ~~Before July 1, 2011, if~~ If the employer fails to report the required service or salary of a member and remit the contributions to the system, the system shall have the right to collect from the member employee and the employer the contributions due, if any, from each, together with interest beginning with the subsequent fiscal year ~~if the unreported service is within the look-back period under § 24-7-205.~~

~~(ii) If the unreported service is not within the look-back period, the unreported required service shall be considered an optional purchase of service and the actuarial equivalent of the member's benefits due to the system shall be required by the member.~~

~~(iii)~~ (ii) A member shall not be given credit for service rendered until all member contributions on the unreported service are paid in full or the service is converted to noncontributory service credit under § 24-7-205(b)(1)(C).

SECTION 3. Arkansas Code § 24-7-502(b)(4), concerning termination of active membership under the Arkansas Teacher Retirement System, is amended to read as follows:

~~(4)(A)(i) Before July 1, 2011, an active member shall receive credit for any previous unreported service after July 1, 1937, by paying the system the employee and employer contributions in effect during the previous service, together with interest from the dates of the service to the date of payment in full.~~

~~(ii) On or after July 1, 2011, previous unreported service rendered after July 1, 1937, may be established by paying the actuarial equivalent of the member's benefits to the system.~~

~~(B)~~ For previous service rendered before July 1, 1971, service credit shall be permitted for service in a fiscal year only if the minimum days of service rendered is sufficient for one (1) year of service credit under § 24-7-601 in a fiscal year.

SECTION 4. EMERGENCY CLAUSE. It is found and determined by the General Assembly of the State of Arkansas that the operations of a state public retirement system are complex; that the Arkansas Teacher Retirement System must be able to meet the needs of its members as anticipated by the General Assembly; that certain provisions of the Arkansas Teacher Retirement System Act, § 24-7-201 et seq., are imminently in need of revision and updating to bring them into conformance with sound public pension policy and actuarial requirements; that such revision and updating is of great importance

to members of the Arkansas Teacher Retirement System and to other citizens of the State of Arkansas; that the Arkansas Teacher Retirement System needs to have the ability to make changes to maintain and improve its actuarial status; and that this act is necessary in order to maintain an orderly system of benefits for the members of the Arkansas Teacher Retirement System. Therefore, an emergency is declared to exist, and this act being necessary for the preservation of the public peace, health, and safety shall become effective on July 1, 2021.

Desired effective date: July 1, 2021.

This draft is a working document. All information contained herein is subject to change and may differ substantially from the final document. The information contained in this document should not be considered the position or views of the Arkansas Teacher Retirement System Board of Trustees or the Governor.

ATRS DRAFT BILL: UNUSED SICK LEAVE
November 30, 2020

Summary: The use of compensation for accumulated sick leave has always been allowed for to be part of the final average salary for all ATRS members, if paid to the member by an ATRS employer. This language is not contained in the ATRS section of the A.C.A. and should be repealed.

Justification: There is no evidence of ATRS ever discriminating based on employers in this fashion.

State of Arkansas
93rd General Assembly
Regular Session, 2021
By: Representative <NA>

A Bill

DRAFT JNL/JNL092
HOUSE BILL

For An Act To Be Entitled
AN ACT TO AMEND THE LAW CONCERNING UNUSED SICK
LEAVE; TO DECLARE AN EMERGENCY; AND FOR OTHER
PURPOSES.

Subtitle
TO AMEND THE LAW CONCERNING UNUSED SICK
LEAVE; AND TO DECLARE AN EMERGENCY.

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

SECTION 1. Arkansas Code § 21-4-503(c), concerning the applicability of financial incentives to decrease the use of sick leave, is repealed.

~~(c) Compensation for accumulated unused sick leave under the provisions of this subchapter shall not be used by the Arkansas Teacher Retirement System in the calculation of final average salary pursuant to § 24-7-202.~~

SECTION 2. Arkansas Code § 21-4-505(b), concerning compensation for unused sick leave of nonclassified employees of state-supported institutions of higher education and the calculation for unused sick leave, is amended to read as follows:

(b) Compensation for accumulated unused sick leave under this section shall not be used by the:
~~(1) Arkansas Teacher Retirement System in the calculation of final average salary under § 24-7-202; or~~
~~(2) Arkansas Public Employees' Retirement System in the calculation of final average compensation under § 24-4-101.~~

SECTION 3. EMERGENCY CLAUSE. It is found and determined by the General Assembly of the State of Arkansas that the operations of a state public retirement system are complex; that the Arkansas

Teacher Retirement System must be able to meet the needs of its members as anticipated by the General Assembly; that this act concerns provisions of the Arkansas Code that affect the Arkansas Teacher Retirement System and are imminently in need of revision and updating in order for the Arkansas Teacher Retirement System to maintain a system of benefits that conforms with sound public pension policy and actuarial requirements; that such revision and updating is of great importance to members of the Arkansas Teacher Retirement System and to other citizens of the State of Arkansas; that the Arkansas Teacher Retirement System needs to have the ability to make changes to maintain and improve its actuarial status; and that this act is necessary in order to maintain an orderly system of benefits for the members of the Arkansas Teacher Retirement System. Therefore, an emergency is declared to exist, and this act being necessary for the preservation of the public peace, health, and safety shall become effective on July 1, 2021.

Desired effective date: 90 days after adjournment sine die. (no need for emergency clause)

This draft is a working document. All information contained herein is subject to change and may differ substantially from the final document. The information contained in this document should not be considered the position or views of the Arkansas Teacher Retirement System Board of Trustees or the Governor.

ATRS DRAFT BILL: RECIPROCITY FINAL AVERAGE SALARY
November 30, 2020

Summary: This change repeals a complicated formula that involves using service rendered in a reciprocal retirement system to calculate a retiree's final average salary. Members get the full benefit of their reciprocal service credit, but they need to be a member of the reciprocal system three (3) or more years to get the benefit of higher reciprocal salaries used in their final average salary. This bill also resolves a conflict between reciprocal systems in which concurrent service occurs.

Justification: The complicated formula was adopted at a time when ATRS had a three(3) year final average salary. The protection of ATRS from having to pay inflated retirement benefits for small amounts of reciprocal service is upheld.

A.C.A § 24-7-601(g)(3)(B) is in conflict with § 24-2-306(1) that requires concurrent service be forfeited by refunding employer and employee contributions.

State of Arkansas
93rd General Assembly
Regular Session, 2021
By: Representative <NA>

A Bill

DRAFT JNL/JNL093
HOUSE BILL

For An Act To Be Entitled
AN ACT TO AMEND THE LAW CONCERNING THE FINAL
AVERAGE SALARY AND CREDITED SERVICE UNDER THE
ARKANSAS TEACHER RETIREMENT SYSTEM; TO DECLARE AN
EMERGENCY; AND FOR OTHER PURPOSES.

Subtitle
TO AMEND THE LAW CONCERNING THE FINAL
AVERAGE SALARY AND CREDITED SERVICE
UNDER THE ARKANSAS TEACHER RETIREMENT
SYSTEM; AND TO DECLARE AN EMERGENCY.

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

SECTION 1. Arkansas Code § 24-7-601(e)(4)-(6), concerning credited service under the Arkansas Teacher Retirement System, are amended to read as follows:

(4) The final average salary used shall be that of the Arkansas Teacher Retirement System or any reciprocal system that in which the member has at least three (3) years of service credit, whichever furnishes the highest final average salary at the time of retirement.

~~(5) Beginning July 1, 2014, if the reciprocal system in which a member has service credit has fewer than the number of years of service credit required in the Arkansas Teacher Retirement System's formula for the calculation of final average salary for a member, then the Arkansas Teacher Retirement~~

~~System shall obtain the salary and service credit information from the reciprocal system and use the combined salary and service credit information to calculate the member's final average salary as if the salary and service credit have all been earned in the Arkansas Teacher Retirement System.~~

~~(6)~~(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.

SECTION 2. Arkansas Code § 24-7-601(g)(3), concerning credited service under the Arkansas Teacher Retirement System, is amended to read as follows:

(3) A member may elect to waive all or part of the concurrent service credited to the member in the system and retire under a reciprocal system if:

~~(A) The~~ the member acknowledges that the waiver is a voluntary surrender of the member's concurrent service credit in the system and cancels the member's concurrent service credit in the system; ~~and~~ .

~~(B) The member's employer accrued contributions and employee accrued contributions in the system remain with the system.~~

SECTION 3. EMERGENCY CLAUSE. It is found and determined by the General Assembly of the State of Arkansas that the operations of a state public retirement system are complex; that the Arkansas Teacher Retirement System must be able to meet the needs of its members as anticipated by the General Assembly; that certain provisions of the Arkansas Teacher Retirement System Act, § 24-7-201 et seq., are imminently in need of revision and updating to bring them into conformance with sound public pension policy and actuarial requirements; that such revision and updating is of great importance to members of the Arkansas Teacher Retirement System and to other citizens of the State of Arkansas; that the Arkansas Teacher Retirement System needs to have the ability to make changes to maintain and improve its actuarial status; and that this act is necessary in order to maintain an orderly system of benefits for the members of the Arkansas Teacher Retirement System. Therefore, an emergency is declared to exist, and this act being immediately necessary for the preservation of the public peace, health, and safety shall become effective on:

- (1) The date of its approval by the Governor;
- (2) If the bill is neither approved nor vetoed by the Governor, the expiration of the period of time during which the Governor may veto the bill; or
- (3) If the bill is vetoed by the Governor and the veto is overridden, the date the last house overrides the veto.

Desired effective date: Upon enactment.

This draft is a working document. All information contained herein is subject to change and may differ substantially from the final document. The information contained in this document should not be considered the position or views of the Arkansas Teacher Retirement System Board of Trustees or the Governor.

ATRS DRAFT BILL: EMPLOYER REPORTING
November 30, 2020

Summary: The ATRS employers remit to ATRS their required contributions on a monthly basis. The deadlines and penalties are specified in ATRS Rules and can be removed from this section for efficiency. Also, in the effort of efficient operations it is desired that all employers transmit their monthly contributions electronically.

Justification: ATRS Rules already contain the deadlines and interest rates for employer contributions. Electronic transfer is the most efficient method for ATRS to received regular employer contributions and most employers already use this method.

State of Arkansas
93rd General Assembly
Regular Session, 2021
By: Representative <NA>

A Bill

DRAFT JNL/JNL094
HOUSE BILL

For An Act To Be Entitled
AN ACT TO AMEND THE LAW CONCERNING THE COMPELLING
OF PAYMENTS FROM A DELINQUENT EMPLOYER UNDER THE
ARKANSAS TEACHER RETIREMENT SYSTEM; TO DECLARE AN
EMERGENCY; AND FOR OTHER PURPOSES.

Subtitle
TO AMEND THE LAW CONCERNING THE
COMPELLING OF PAYMENTS FROM A
DELINQUENT EMPLOYER UNDER THE ARKANSAS
TEACHER RETIREMENT SYSTEM; AND TO
DECLARE AN EMERGENCY.

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

SECTION 1. Arkansas Code § 24-7-411(a) and (b), concerning the compelling of payments from a delinquent participating employer under the Arkansas Teacher Retirement System, are amended to read as follows:

~~(a)(1) If any participating employer fails to remit to the Arkansas Teacher Retirement System contributions that are required by law, rule, or regulation by the fifteenth day of the month in which the moneys are due, then the system shall impose an interest penalty of eight percent (8%) per annum with a daily interest accrual.~~

~~(2) For purposes of this subsection, an employer's remittance is not delinquent if the employer's remittance is:~~

~~(A) Received by the system by the fifteenth day of the month in which the payment is due; or~~

~~(B) Postmarked by the fourteenth day of the month in which the payment is due.~~

(a) (1) If any employer fails to remit to the Arkansas Teacher Retirement System those moneys which are required by law or rule to the Arkansas Teacher Retirement System by the date and at the frequency established by the Board of Trustees of the Arkansas Teacher Retirement System, the system shall impose an interest penalty equal to the actuarially assumed rate of return on investments of the Arkansas Teacher Retirement System Fund in the form of interest on an annual basis to the moneys due.

~~(3)~~(2) The interest penalty shall be determined by the system on the date the delinquent funds are received, and a statement of the interest penalty shall be sent to the participating ~~public~~ employer.

~~(4)~~(3) If the interest penalty or delinquent moneys are not received by the system by the last business day of the month in which the moneys were originally due, then the system **shall may** cause the sums of moneys, including the interest penalty, to be transferred from any moneys due the participating employer from the Treasurer of State and the Department of Education as provided in § 19-5-106(a)(5).

~~(5)~~(4) ~~This~~ The interest penalty shall be computed on the actual days of delinquency and shall be paid to the system to reimburse the trust fund for the money that would have been earned on the moneys had they been paid when due.

(b)(1) If a participating employer fails to file with the system a report required by the Board of Trustees of the Arkansas Teacher Retirement System by the ~~fifteenth day of the month in which the report is due~~ date established by the board, then the system shall impose a penalty of one hundred fifty dollars (\$150) for each late report.

(2) ~~For purposes of this subsection, a report is not late if the report is:~~

~~(A) Received by the system by the fifteenth day of the month in which the report is due; or~~

~~(B) Postmarked by the fourteenth day of the month in which the report is due.~~

~~(3)~~(2) A statement of the penalty shall be sent to the participating employer.

~~(4)~~(3) If the penalty is not received by the last business day of the month in which the report was due, then the system **shall may** cause the penalty amount to be transferred from any moneys due the participating employer from the Treasurer of State and the Department of Education as provided in § 19-5-106(a)(5).

~~(5)~~(4) The penalty amounts collected shall be deposited to the credit of the administrative funds of the system to help defray the cost of additional expenses incurred due to the additional work required to process late reports.

~~(6)~~(5) In addition to the late report penalty under subdivision (b)(1) of this section, the system may impose an additional penalty of five hundred dollars (\$500) for a report that is filed with the system over one (1) month late.

SECTION 2. Arkansas Code § 24-7-411, concerning the compelling of payments from a delinquent participating employer under the Arkansas Teacher Retirement System, is amended to add additional subsections to read as follows:

(e) (1) Beginning **on the effective date of this Act**, the member and employer contributions made by a participating employer **provided for in § 24-7-401 and § 24-7-406** shall be:

(A) Reported electronically by the participating employer through the Arkansas Teacher Retirement System portal; and

(B) Paid by the participating employer through electronic transfer.

(2) A participating employer contribution shall be:

(A) Paid to the Arkansas Teacher Retirement System at the time and at the frequency established by the board; and

(B) Paid concurrently with contributions made by the employees of the participating employer to the Arkansas Teacher Retirement System.

(f)(1) A participating employer shall submit a written request for a temporary waiver to the board by January 1, 2022, when the participating employer is unable to:

(A) Report contributions electronically through the Arkansas Teacher Retirement System; or

(B) Pay contributions to the Arkansas Teacher Retirement System by electronic transfer.

(2) A request for a temporary waiver submitted under subdivision (f)(1) of this section shall include a timeline for when the participating employer will be able to comply with the payment and reporting requirements under this section.

SECTION 3. EMERGENCY CLAUSE. It is found and determined by the General Assembly of the State of Arkansas that the operations of a state public retirement system are complex; that the Arkansas Teacher Retirement System must be able to meet the needs of its members as anticipated by the General Assembly; that certain provisions of the Arkansas Teacher Retirement System Act, § 24-7-201 et seq., are imminently in need of revision and updating to bring them into conformance with sound public pension policy and actuarial requirements; that such revision and updating is of great importance to members of the Arkansas Teacher Retirement System and to other citizens of the State of Arkansas; that the Arkansas Teacher Retirement System needs to have the ability to make changes to maintain and improve its actuarial status; and that this act is necessary in order to maintain an orderly system of benefits for the members of the Arkansas Teacher Retirement System. Therefore, an emergency is declared to exist, and this act being necessary for the preservation of the public peace, health, and safety shall become effective on July 1, 2021.

Desired effective date: July 1, 2021.

This draft is a working document. All information contained herein is subject to change and may differ substantially from the final document. The information contained in this document should not be considered the position or views of the Arkansas Teacher Retirement System Board of Trustees or the Governor.

ATRS DRAFT BILL: SEPARATION PERIOD
November 30, 2020

Summary: Currently once an ATRS member reaches sixty-five (65) years of age they can retire and continue to work for their ATRS employer. ATRS also currently allows a 1 month separation period for members that have 38 years of service. This 1 month separation period should be eliminated as an inadequate amount of separation. The changes allow a member to have no separation period if their age and their years of service total 100 or more. Otherwise a six (6) month separation period is required.

Justification: The IRS requires a separation period before a retired member that has not reached the normal retirement age can go back to work with an ATRS employer. A six (6) month separation period is an adequate amount of time.

State of Arkansas
93rd General Assembly
Regular Session, 2021
By: Representative <NA>

A Bill

DRAFT JNL/JNL095
HOUSE BILL

For An Act To Be Entitled
AN ACT TO AMEND THE DEFINITION OF "NORMAL
RETIREMENT AGE"; TO AMEND THE LAW CONCERNING
TERMINATION OF ACTIVE MEMBERSHIP UNDER THE
ARKANSAS TEACHER RETIREMENT SYSTEM; TO DECLARE AN
EMERGENCY; AND FOR OTHER PURPOSES.

Subtitle
TO AMEND THE DEFINITION OF "NORMAL
RETIREMENT AGE"; TO AMEND THE LAW
CONCERNING TERMINATION OF ACTIVE
MEMBERSHIP UNDER THE ARKANSAS TEACHER
RETIREMENT SYSTEM; AND TO DECLARE AN
EMERGENCY.

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

SECTION 1. Arkansas Code § 24-7-202(27), concerning the definition of "normal retirement age" as applicable to the Arkansas Teacher Retirement System, is amended to read as follows:

Submitted to BLR:

(27) "Normal retirement age" means sixty-five (65) years of age; or at least sixty (60) years of age and years of age and years of credited service in the system, Teacher Deferred Retirement Option Plan, or reciprocal service in another eligible state retirement system added together are 100 or more;

BLR:

(27) "Normal retirement age" means:

~~(A) sixty five~~ Sixty-five (65) years of age; or

(B) Sixty (60) years of age when the member's age added to the member's years of credited service in the system, Teacher Deferred Retirement Option Plan, or reciprocal service in another eligible retirement system and sixty (60) years of credited service in the system equal one hundred (100) years or more;

Change to:

(27) "Normal retirement age" means:

~~(A) sixty five~~ Sixty-five (65) years of age; or

(B) At least sixty (60) years of age provided that the member's age added to the member's combined total years of credited service in the system, Teacher Deferred Retirement Option Plan, or reciprocal service in another eligible retirement system equal one hundred (100) years or more;

SECTION 2. Arkansas Code § 24-7-502(a)(2), concerning the termination of active membership under the Arkansas Teacher Retirement System, is amended to read as follows:

~~(2)(A) Effective July 1, 2011, July 1, 2021,~~ a member shall not be terminated from employment for purposes of retirement eligibility if within six (6) calendar months of the member's effective date of retirement the member:

~~(i) Meets both of the following requirements:~~

~~(a) (A) Becomes employed with an employer covered by the system~~ a covered employer; and

~~(b) (B) Has not attained the system's normal retirement age; or.~~

~~(ii) Does not have a total or a combined total of thirty eight (38) years or more of credited service in the system, Teacher Deferred Retirement Option Plan, or reciprocal service in another eligible state retirement system.~~

~~(B) If a member has a combined total of thirty eight (38) years or more of credited service in the system, Teacher Deferred Retirement Option Plan, or reciprocal credited service in another eligible state retirement system, then the member shall not be terminated from employment for purposes of retirement eligibility if within one (1) calendar month of the member's effective date of retirement the member:~~

~~(i) Becomes employed with an employer covered by the system; and~~

~~(ii) Has not attained the system's normal retirement age.~~

SECTION 3. Arkansas Code § 24-7-502(d)(1) and (2)(A), concerning the termination of active membership under the Arkansas Teacher Retirement System, is amended to read as follows:

~~(1) "System covered employer" means all employers as defined in § 24-7-202 and also includes all employers offering the Arkansas Teacher Retirement System as an optional retirement plan on or before January 1, 2011, to any employee;~~

~~(2)(A) (1)(A) "Terminate" means:~~

~~(i) The member's covered employment has ended at all system-covered employers;~~

~~(ii) A complete severance of the employer-employee relationship has occurred at all system-covered employers that the member was employed with before the member retired from the Arkansas Teacher Retirement System;~~

- (iii) The member has ceased performing any employment services for any system-covered employer, except for uncompensated functions related to the transfer of the duties or the transfer of the position of the member;
- (iv) The member has not formed any express or implied employment agreement or taken action that would obligate the member to render compensable services to a system-covered employer or entitle a system-covered employer to the services of the member after the termination separation period;
- (v) The member has followed normal retirement procedures for resigning from the system-covered employer unless involuntarily terminated before the member's effective date of retirement; and
- (vi) All system-covered employers have paid or have initiated the process to pay all accumulated benefits such as annual leave and sick leave to the member by the effective date of retirement.

SECTION 4. EMERGENCY CLAUSE. It is found and determined by the General Assembly of the State of Arkansas that the operations of a state public retirement system are complex; that the Arkansas Teacher Retirement System must be able to meet the needs of its members as anticipated by the General Assembly; that certain provisions of the Arkansas Teacher Retirement System Act, § 24-7-201 et seq., are imminently in need of revision and updating to bring those provisions into conformance with sound public pension policy and actuarial requirements; that such revision and updating is of great importance to members of the Arkansas Teacher Retirement System and to other citizens of the State of Arkansas; that the Arkansas Teacher Retirement System needs to have the ability to make immediate changes to maintain and improve its actuarial status; and that this act is immediately necessary in order to maintain an orderly system of benefits for the members of the Arkansas Teacher Retirement System. Therefore, an emergency is declared to exist, and this act being necessary for the preservation of the public peace, health, and safety shall become effective on July 1, 2021.

Desired effective date: September 1, 2021.

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 October 7, 2020. 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, five were approved. Seven were denied. One had more information requested.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,

Anne Marie Lehman Berardi

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 November 4, 2020. 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 fifteen disability applications were considered. Of the fifteen applicants, eight were approved. Seven were denied.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,



Anne Marie Lehman Berardi
Retirement Benefits Counselor

ARKANSAS TEACHER RETIREMENT SYSTEM
FINANCIAL COMPARISON

PLAN NET POSITION

	June 30, 2020	June 30, 2019	Percentage Change
ASSETS			
Cash and cash equivalents	348,737,178	256,387,142	
Accounts receivable	72,911,127	97,493,073	
Investments	16,535,192,016	17,457,160,225	
Invested securities lending	315,851,510	469,822,525	
Equipment (net of accumulated depreciation)	113,544	149,770	
Deferred Outflows Related to OPEB	1,310,404		
Other assets	73,276	72,877	
TOTAL ASSETS	17,274,189,055	18,281,085,612	-5.51%
LIABILITIES			
Deferred Inflows Related to OPEB	719,096		
Securities lending collateral	315,851,510	469,786,940	
Investment principal payable	45,253,144	60,879,610	
Survivor benefits for minors	256,126	227,543	
Other payables	10,032,955	8,569,746	
TOTAL LIABILITIES	372,112,831	539,463,839	-31.02%
NET POSITION HELD IN TRUST FOR PENSION BENEFITS	16,902,076,224	17,741,621,773	-4.73%

CHANGES IN PLAN NET POSITION

	For the Year Ended		Percentage Change
	June 30, 2020	June 30, 2019	
ADDITIONS			
Contributions	599,333,262	572,750,288	4.64%
Investment income			
Interest and dividends	135,744,503	130,866,590	
Gain / (loss) on investments	(269,255,964)	806,983,870	
Real estate operating income	7,545,561	7,671,704	
Securities lending activity	3,072,879	4,421,291	
Other investment income	1,662,896	1,182,214	
Total investment income	(121,230,125)	951,125,669	
Less investment expense	44,536,364	52,740,802	
Net income from investing activities	(165,766,489)	898,384,867	
TOTAL ADDITIONS	433,566,773	1,471,135,155	-70.53%
DEDUCTIONS			
Benefits	1,255,065,793	1,205,326,555	
Refunds	9,592,091	9,679,783	
Administrative expenses	8,454,436	7,134,784	
TOTAL DEDUCTIONS	1,273,112,320	1,222,141,122	4.17%
CHANGE IN NET PLAN POSITION	(839,545,547)	248,994,033	
NET POSITION - BEGINNING OF YEAR	17,741,621,773	17,492,627,740	
NET POSITION - END OF YEAR	16,902,076,226	17,741,621,773	-4.73%

ON

Board Member Travel
July 1, 2019 - June 30, 2020

Board Member Travel Report for the Year Ended June 30, 2020												Overall Total	
Board Member	Date		Destination/Conference	Lodging	Meals	Mileage	Registration Fees	Common Carrier (Airfare)	Taxi/Car Rental	Parking	Miscellaneous		Total Expense
	from:	to:											
Abernathy, Richard												0.00	0.00
Bell, Anita	7/19/2019	7/19/2019	Board of trustees training			10.08						10.08	10.08
	9/11/2019	9/11/2019	September Board meeting			10.08						10.08	10.08
	10/7/2019	10/7/2019	October Board meeting			10.08						10.08	10.08
	10/11/2019	10/15/2019	Nashville, TN - NCTR annual conference	1,019.60	45.11	296.94	1,300.00			152.96		2,814.61	2,814.61
	2/15/2019	9/14/2019	Internet Reimbursement Mar 2019 - Sep 2019								210.00	210.00	210.00
	12/2/2019	12/2/2019	December Board meeting			10.08						10.08	10.08
	2/3/2020	2/3/2020	February Board meeting			10.08						10.08	10.08
	9/15/2019	1/14/2020	Internet Reimbursement Oct 2019 - Jan 2020								120.00	120.00	120.00
												0.00	3,195.01
Black, Lloyd	7/19/2019	7/19/2019	Board of trustees training			6.72						6.72	6.72
	9/11/2019	9/11/2019	September Board meeting			6.72						6.72	6.72
	10/7/2019	10/7/2019	October Board meeting			6.72						6.72	6.72
	10/11/2019	10/16/2019	Nashville, TN - NCTR annual conference	764.70	52.58	9.24	1,300.00	276.50	52.70			2,455.72	2,455.72
	12/2/2019	12/2/2019	December Board meeting			6.72						6.72	6.72
	2/3/2020	2/3/2020	February Board meeting			6.72						6.72	6.72
												0.00	2,489.32
Brady, Jason	7/21/2019	7/25/2019	Berkeley, CA - NCTR annual workshop	2,170.86	57.09		2,550.00	600.48	63.85		60.00	5,502.28	5,502.28
												0.00	0.00
Clayton, Kathy	7/19/2019	7/19/2019	Board of trustees training			40.32						40.32	40.32
	10/7/2019	10/7/2019	October Board meeting			40.32						40.32	40.32
	12/2/2019	12/2/2019	December Board meeting			40.32						40.32	40.32
	2/3/2020	2/3/2020	February Board meeting			40.32						40.32	40.32
												0.00	161.28
Davis, Kelly	7/19/2019	7/19/2019	Board of trustees training			138.18						138.18	138.18
	9/11/2019	9/11/2019	September Board meeting			138.18						138.18	138.18
	10/6/2019	10/7/2019	October Board meeting	110.40	26.08	138.18				10.00		284.66	284.66
	12/2/2019	12/2/2019	December Board meeting	110.40		138.18						248.58	248.58
	6/1/2019	10/31/2019	Internet Reimbursement Jun 2019 - Oct 2019								243.29	243.29	243.29
	2/3/2020	2/3/2020	February Board meeting	116.39	37.27	138.18						291.84	291.84
												0.00	1,344.73
Knight, Danny	9/11/2019	9/11/2019	September Board meeting			10.08						10.08	10.08
	10/7/2019	10/7/2019	October Board meeting			10.08						10.08	10.08
	10/11/2019	10/16/2019	Nashville, TN - NCTR annual conference	1,019.60	115.00	291.48	1,450.00			152.96		3,029.04	3,029.04
	12/2/2019	12/2/2019	December Board meeting			10.08						10.08	10.08
	2/3/2020	2/3/2020	February Board meeting			10.08						10.08	10.08
												0.00	3,069.36
Lester, Bobby	9/11/2019	9/11/2019	September Board meeting			13.44						13.44	13.44
	10/7/2019	10/7/2019	October Board meeting			13.44						13.44	13.44
	12/2/2019	12/2/2019	December Board meeting			13.44						13.44	13.44
	2/3/2020	2/3/2020	February Board meeting			13.44						13.44	13.44
												0.00	53.76

Board Member Travel
July 1, 2019 - June 30, 2020

Board Member Travel Report for the Year Ended June 30, 2020													
Board Member	Date		Destination/Conference	Lodging	Meals	Mileage	Registration Fees	Common Carrier (Airfare)	Taxi/Car Rental	Parking	Miscellaneous	Total Expense	Overall Total
	from:	to:											
Martin, Arthur	7/18/2019	7/19/2019	Board of trustees training		22.87	162.96						185.83	1,290.15
	9/11/2019	9/11/2019	September Board meeting			162.96						162.96	
	10/6/2019	10/7/2019	October Board meeting	171.35	8.89	162.96				10.00		353.20	
	12/2/2019	12/2/2019	December Board meeting	122.84		162.96				14.00		299.80	
	2/2/2020	2/3/2020	February Board meeting	110.40		162.96				15.00		288.36	
											0.00		
Nichols, Robin	7/21/2019	7/25/2019	Berkeley, CA - NCTR annual workshop	1,326.08	74.50	67.62	2,550.00	617.00	140.00	45.00		4,820.20	9,180.10
	7/18/2019	7/19/2019	Board of trustees training	108.10	20.00	112.56				14.00		254.66	
	9/11/2019	9/11/2019	September Board meeting			112.56						112.56	
	10/6/2019	10/7/2019	October Board meeting	111.84	20.00	112.56				16.00		260.40	
	3/1/2019	8/31/2019	Internet Reimbursement Mar 2019 - Aug 2019								434.94	434.94	
	10/12/2019	10/16/2019	Nashville, TN - NCTR annual conference	1,019.60	86.00	223.86	1,300.00			152.96		2,782.42	
	12/1/2019	12/2/2019	December Board meeting	110.40	20.00	112.56				14.00		256.96	
2/2/2020	2/3/2020	February Board meeting	110.40	20.00	112.56				15.00		257.96		
											0.00		
Stubblefield, Jeff												0.00	0.00
Watson, Janet	7/19/2019	7/19/2019	Board of trustees training			15.96						15.96	31.92
	9/11/2019	9/11/2019	September Board meeting			15.96						15.96	
												0.00	
BOARD TOTALS FY20				\$ 8,502.96	\$ 605.39	\$ 3,328.92	\$ 10,450.00	\$ 1,493.98	\$ 256.55	\$ 611.88	\$ 1,068.23	\$ 26,317.91	\$ 26,317.91
BOARD TOTALS FY19				\$ 16,520.81	\$ 1,139.94	\$ 4,324.74	\$ 18,250.00	\$ 6,503.00	\$ 579.36	\$ 253.32	\$ 3,474.41	\$ 51,045.58	\$ 51,045.58
DIFFERENCE				\$ (8,017.85)	\$ (534.55)	\$ (995.82)	\$ (7,800.00)	\$ (5,009.02)	\$ (322.81)	\$ 358.56	\$ (2,406.18)	\$ (24,727.67)	\$ (24,727.67)

Staff Travel
July 1, 2019 - June 30, 2020

Senior Staff & Staff Travel Report for the Year Ended June 30, 2020														Overall Total
Staff	Date		Destination/Conference	Registration Fees	Common Carrier(Air)	Lodging	Meals	Taxi/Car Rental	Parking	Private Car Mileage	Other Travel Exp	Non-Travel Reimbursement	Total 02 Expense	
Carter, Curtis	9/20/2019	9/21/2019	Little Rock, AR - Fraud conference	175.00									175.00	
	10/20/2019	10/24/2019	Salt Lake City, UT - P2F2 annual conference	425.00	479.00	632.84	110.09	2.50		54.50		60.00	1,763.93	
														1,938.93
Fowler, Vicky	7/19/2019	7/19/2019	Little Rock, AR - Skillpath Conference	199.00									199.00	
														199.00
Graves, Rod	9/25/2019	9/26/2019	Chicago IL - Aon Hewitt client conference		596.00	327.55	46.67	70.50		28.34			1,069.06	
	12/9/2019	12/9/2019	Oscola, AR - Big River Steel meeting								143.64		143.64	
														1,212.70
Kincade, Willie	7/30/2019	7/30/2019	Hot Springs, AR - ABEA conference								46.20		46.20	
	9/3/2019	9/3/2019	Crossett, AR - ARTA meeting								107.52		107.52	
	9/17/2019	9/17/2019	Conway, AR - Faulkner County ARTA								26.88		26.88	
	9/19/2019	9/19/2019	Pine Bluff, AR - Jefferson County ARTA								36.96		36.96	
	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00	
	2/13/2020	2/13/2020	Arkadelphia, AR - Dawson co-op workshop								57.96		57.96	
3/5/2020	3/5/2020	Hot Springs, AR - ABEA conference								46.20		46.20		
														391.72
Odum, Kevin	2/6/2020	2/7/2020	Arkansas Bar Association February ABA meeting and CLE	275.00									275.00	
														275.00
Rhoden, Clint	9/3/2019	9/3/2019	Dardanelle, AR - Yell County ARTA meeting								65.52		65.52	
	8/12/2019	8/12/2019	Searcy, AR - White County ARTA meeting								42.00		42.00	
	7/11/2019	7/11/2019	Heber Springs, AR - Superintendent Retreat								54.60		54.60	
	9/5/2019	9/6/2019	Hope & Hot Springs, AR - Town Hall meetings, JT retirement committee			110.10					93.86		203.76	
	9/9/2019	9/9/2019	Hope, AR - Hempstead County ARTA								84.84		84.84	
	9/12/2019	9/12/2019	Farmington, AR - NWA Education Coop								160.44		160.44	
	9/17/2019	9/17/2019	Sheridan, AR - Grant County ARTA								26.88		26.88	
	9/19/2019	9/19/2019	Pine Bluff, AR - Jefferson County ARTA								36.96		36.96	
	9/24/2019	9/25/2019	Bentonville & Fort Smith, AR - Town Hall meetings			107.87	20.00				190.26		318.13	
	10/1/2019	10/4/2019	Jonesboro, W. Memphis, AR - Town Hall meetings			110.16	15.00				136.92		262.08	
	10/2/2019	10/4/2019	Memphis TN & New York, NY - Town Hall mtg & Tesla mediation **REIMBURSED**		634.00	690.92	53.72	96.14		35.00	18.06		1,527.84	
	10/14/2019	10/14/2019	Texarkana, AR - ARTA meeting								106.68		106.68	
	10/22/2019	10/23/2019	Mt Home & Batesville, AR - JR Retirement meeting			110.40	31.00				134.40		275.80	
	10/28/2019	10/28/2019	Little Rock, AR - Digital Government Summit	25.00									25.00	
	10/29/2019	10/29/2019	Benton, AR - ARTA annual convention								7.98		7.98	
5/19/2020	5/22/2020	NCBERS NAF Program 1&2 (virtual)	400.00									400.00		
5/26/2020	5/29/2020	NCBERS NAF Program 3&4 (virtual)	400.00									400.00		
														3,998.51
SENIOR STAFF TOTALS FY20				1,969.00	1,709.00	2,089.84	276.48	169.14	117.84	1,624.56	60.00	0.00	8,015.86	
SENIOR STAFF TOTALS FY19				\$ 4,570.00	\$ 1,549.21	\$ 3,926.98	\$ 595.97	\$ 238.99	\$ 214.85	\$ 2,580.90	\$ 85.00	\$ -	\$ 13,761.90	
DIFFERENCE				\$ (2,601.00)	\$ 159.79	\$ (1,837.14)	\$ (319.49)	\$ (69.85)	\$ (97.01)	\$ (956.34)	\$ (25.00)	\$ -	\$ (5,746.04)	
Berardi, Anne Marie	11/1/2019	11/1/2019	Russellville, AR - Million Women Mentors								62.58		62.58	
														62.58
Ellis, Greg	9/3/2019	9/6/2019	Taylor & Bradley, AR			325.35	129.83				190.26		645.44	
	9/9/2019	9/12/2019	Bradley, Magnolia & Emerson, AR			325.35	128.50				191.52		645.37	
	9/16/2019	9/20/2019	Melbourne, AR			449.68	174.49				201.18		825.35	
	9/23/2019	9/25/2019	Ola, AR			197.54	94.40				102.48		394.42	
	9/30/2019	10/4/2019	Paragould, AR			435.49	173.25				136.92		745.66	

439

**Staff Travel
July 1, 2019 - June 30, 2020**

Senior Staff & Staff Travel Report for the Year Ended June 30, 2020													Overall Total	
Staff	Date		Destination/Conference	Registration Fees	Common Carrier(Air)	Lodging	Meals	Taxi/Car Rental	Parking	Private Car Mileage	Other Travel Exp	Non-Travel Reimbursement		Total 02 Expense
	from:	to:												
	10/7/2019	10/10/2019	Paragould, AR			311.22	131.92			134.40			577.54	
	10/14/2019	10/17/2019	Alma, AR			442.56	158.14			143.64			744.34	
	10/21/2019	10/24/2019	Branch, AR			240.99	135.11			164.22			540.32	
	10/28/2019	11/1/2019	Nashville, AR			449.48	168.77			194.04			812.29	
	11/4/2019	11/7/2019	Siloam Springs, AR			245.16	132.52			178.92			556.60	
	11/12/2019	11/15/2019	Siloam Springs, AR			245.16	134.24			178.92			558.32	
	11/19/2019	11/21/2019	Mansfield, AR			220.32	93.60			160.86			474.78	
	12/2/2019	12/5/2019	Newark, AR			342.24	134.51			125.58			602.33	
	12/9/2019	12/13/2019	Pocahontas, AR			420.18	175.20			128.10			723.48	
	12/16/2019	12/18/2019	Alma, AR			216.68	91.56			130.20			438.44	
	1/6/2020	1/10/2020	Ashdown, AR			442.56	176.38			185.64			804.58	
	1/13/2020	1/16/2020	Paris, AR			268.53	128.72			149.94			547.19	
	1/21/2020	1/24/2020	Russellville, AR			328.32	129.21			65.10			522.63	
	1/27/2020	1/30/2020	Lamar, AR			326.88	132.28			88.20			547.36	
	2/3/2020	2/7/2020	Russellville, AR			437.76	175.94			67.62			681.32	
	2/24/2020	2/27/2020	Fort Smith, AR			330.48	134.21			131.46			596.15	
	3/2/2020	3/6/2020	Fort Smith, AR			440.64	167.18			134.82			742.64	
	3/9/2020	3/12/2020	Springdale, AR			311.79	130.74			174.72			617.25	
														14,343.80
Fricke, Marilyn	10/15/2019	10/15/2019	White Hall, AR							30.24			30.24	
	10/21/2019	10/28/2019	Conway & Jacksonville, AR							59.64			59.64	
	10/30/2019	11/7/2019	N Little Rock & White Hall, AR							37.38			37.38	
	11/14/2019	12/13/2019	N.Little Rock, Pine Bluff,Jacksonville, Maumelle, Hot Springs, AR							108.78			108.78	
	1/7/2020	1/9/2020	Ward / Cabot, AR							52.08			52.08	
	1/14/2020	1/16/2020	Cabot, AR							47.04			47.04	
	2/3/2020	2/7/2020	Norman, Mt Ida, Hot Springs, AR			478.48	171.75			185.64			835.87	
	1/24/2020	2/12/2020	Little Rock & Booneville, AR			220.32	98.82			166.74			485.88	
	2/24/2020	2/27/2020	Fort Smith, AR			330.48	123.01			139.02			592.51	
	3/2/2020	3/4/2020	Fort Smith, AR			220.32	95.77			138.18			454.27	
	3/9/2020	3/12/2020	Springdale, AR			329.76	145.11			185.22			660.09	
														3,363.78
Gourley, Brooke	9/20/2019	9/21/2019	Little Rock, AR - Fraud conference	175.00									175.00	
														175.00
Hendrix, Brent	9/3/2019	9/4/2019	Batesville, AR			84.12	45.36						129.48	
	9/9/2019	9/12/2019	Jonesboro, AR			320.07	121.96						442.03	
	9/16/2019	9/19/2019	Fayetteville, AR			320.79	131.90						452.69	
	9/23/2019	9/26/2019	Warren, AR			217.44	121.98						339.42	
	9/30/2019	10/2/2019	Marion, West Memphis, AR			215.74	76.18			116.76			408.68	
	10/21/2019	10/24/2019	Salem, AR			187.28	103.44						290.72	
	10/28/2019	11/1/2019	Jasper & Harrison, AR			405.88	162.34						568.22	
	11/12/2019	11/13/2019	Rector, AR			107.17	45.87						153.04	
	11/19/2019	11/21/2019	Manila & Blytheville, AR			320.07	128.88						448.95	
	12/9/2019	12/12/2019	DeQueen, AR			177.45	135.96						313.41	
	12/16/2019	12/18/2019	Pocahontas, AR			195.59	54.12						249.71	
	1/15/2020	1/16/2020	Murfreesboro, AR			108.10	49.42						157.52	
	1/21/2020	1/22/2020	Lewisville, AR			110.76	54.31						165.07	
	2/3/2020	2/6/2020	Amity & Kirby, AR			218.40	122.97						341.37	

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Staff Travel
July 1, 2019 - June 30, 2020

Senior Staff & Staff Travel Report for the Year Ended June 30, 2020													Overall Total	
Staff	Date		Destination/Conference	Registration Fees	Common Carrier(Air)	Lodging	Meals	Taxi/Car Rental	Parking	Private Car Mileage	Other Travel Exp	Non-Travel Reimbursement		Total 02 Expense
	from:	to:												
	1/10/2020	2/14/2020	El Dorado, AR			431.48	144.38						575.86	6,370.10
	2/18/2020	2/21/2020	El Dorado, AR			323.61	143.47						467.08	
	2/24/2020	2/28/2020	Fort Smith, AR			440.64	134.03						574.67	
	3/2/2020	3/4/2020	Fort Smith, AR			220.32	71.86						292.18	

Staff Travel
July 1, 2019 - June 30, 2020

Senior Staff & Staff Travel Report for the Year Ended June 30, 2020													Overall Total
Staff	Date		Destination/Conference	Registration Fees	Common Carrier(Air)	Lodging	Meals	Taxi/Car Rental	Parking	Private Car Mileage	Other Travel Exp	Non-Travel Reimbursement	
Hilton, Sheila	9/12/2019	9/12/2019	Hope, AR - Bookkeeper training workshop							98.28			98.28
	9/19/2019	9/19/2019	Harrisburg, AR - Bookkeeper training							81.06			81.06
	11/7/2019	11/7/2019	Monticello, AR - Bookkeeper Training							76.44			76.44
	11/14/2019	11/14/2019	Ozark, AR - Bookkeeper Training							103.32			103.32
													359.10
Honeysuckle, Eva	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00
													70.00
Infante, Clementine	2/6/2020	2/7/2020	Arkansas Bar Association February ABA meeting and CLE	275.00									275.00
													275.00
Kelley, Deborah	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00
													70.00
Meadowcroft, Virginia	9/9/2019	9/10/2019	Texarkana, AR			88.74	34.63			120.96			244.33
	9/23/2019	9/24/2019	Harrison, AR			107.16	26.99			115.92			250.07
	9/30/2019	10/1/2019	Mountain Home, AR			106.69	31.26			119.28			257.23
	10/7/2019	10/8/2019	Batesville, AR			113.86	42.47			73.08			229.41
	10/14/2019	10/14/2019	Pine Bluff, AR							37.80			37.80
	10/21/2019	10/22/2019	Bentonville, Rogers, AR			108.96	43.55			177.24			329.75
	10/28/2019	10/29/2019	Rogers, AR			108.96	46.87			175.14			330.97
	11/12/2019	11/13/2019	Van Buren, AR			110.64	35.97			127.26			273.87
	11/18/2019	11/19/2019	Fayetteville, AR			95.55	35.37			162.54			293.46
	12/9/2019	12/16/2019	Beebe & Hot Springs, AR							73.08			73.08
	1/6/2020	1/21/2020	Little Rock, N Little Rock, Bryant, AR							28.98			28.98
	1/27/2020	1/27/2020	Forrest City, AR							78.12			78.12
	2/10/2020	2/18/2020	Plumerville & Malvern, AR							79.80			79.80
	2/24/2020	2/24/2020	Mena, AR							112.56			112.56
3/2/2020	3/2/2020	Pocahontas, AR							110.88			110.88	
3/9/2020	3/10/2020	Brookland & Jonesboro, AR			106.69	34.67			110.04			251.40	
													2,981.71
Meyer, Jerry	10/1/2019	10/3/2019	Denver, CO - UBS Client Advisory Council **REIMBURSED**		492.78				67.20	32.70			592.68
	10/4/2019	10/4/2019	W Memphis, AR - DHS building inspection							105.84			105.84
													698.52
Miller, Martha	8/5/2019	8/5/2019	Ash Flat, AR - court hearing							110.04			110.04
	2/19/2020	2/21/2020	Tempe, AZ - NAPPA Winter Seminar	555.00									555.00
													665.04
Oglesby, Teresa	9/9/2019	9/10/2019	Texarkana & Fouke, AR				48.74						48.74
	9/16/2019	9/19/2019	Nashville & Hope, AR			330.30	125.62						455.92
	9/23/2019	9/24/2019	Harrison, AR			107.16	50.94						158.10
	9/30/2019	10/1/2019	Mountain Home & Cotter, AR			105.56	52.78						158.34
	10/7/2019	10/9/2019	Batesville, Pleasant Plains, Floral, AR			227.72	91.51						319.23
	10/21/2019	10/24/2019	Bentonville, Rogers, AR			329.76	137.12						466.88
	10/28/2019	11/1/2019	Rogers, AR			439.68	182.10						621.78
	11/4/2019	11/5/2019	El Dorado & Junction City, AR			107.87	46.60						154.47
	11/12/2019	11/14/2019	Van Buren, Hackett, Ft Smith, AR			220.32	86.03						306.35
	11/18/2019	11/19/2019	Fayetteville & Elkins, AR			101.24	50.05						151.29
	12/2/2019	12/4/2019	Monticello, AR			220.80	82.93						303.73
	1/27/2020	1/28/2020	Forrest City, AR			110.76	46.47						157.23
	2/3/2020	2/4/2020	Helena, AR			92.73	48.46						141.19

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Staff Travel
July 1, 2019 - June 30, 2020

Senior Staff & Staff Travel Report for the Year Ended June 30, 2020														Overall Total
Staff	Date		Destination/Conference	Registration Fees	Common Carrier(Air)	Lodging	Meals	Taxi/Car Rental	Parking	Private Car Mileage	Other Travel Exp	Non-Travel Reimbursement	Total 02 Expense	
	from:	to:												
	2/24/2020	2/26/2020	Mena, Acorn, Oden, AR			212.98	88.92						301.90	4,367.55
	3/2/2020	3/4/2020	Pocahontas & Brookland, AR			217.92	92.85						310.77	
	3/9/2020	3/11/2020	Brookland & Valley View, AR			217.92	93.71						311.63	
Palmer, Marla	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00	70.00
Peters, Andrew	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00	70.00
Porter, Kyle	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00	70.00
Porter, Tammy	7/25/2019	7/25/2019	Little Rock, AR - HRKANSAS for supervisors	60.00									60.00	642.40
	8/8/2019	8/8/2019	Little Rock, AR - You've Got Problems, We've Got Solutions	60.00									60.00	
	8/14/2019	8/14/2019	Little Rock, AR - Interpersonal Communications	35.00									35.00	
	6/22/2020	6/25/2020	Madison, WI - NCTR Administrative Assistant Workshop		487.40								487.40	
Rich, Nikki	7/19/2019	7/19/2019	Little Rock, AR - Skillpath Conference	199.00									199.00	269.00
	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00	
Stevenson, Frederick	9/3/2019	9/5/2019	Bismark & Hot Springs, AR							146.16			146.16	7,246.64
	9/9/2019	9/10/2019	Texarkana, AR			88.74	46.67			138.60			274.01	
	9/15/2019	9/16/2019	Nashville, Hope, Rosston, AR			110.10	47.92			114.66			272.68	
	9/23/2019	9/24/2019	McGehee, AR			108.10	48.98			113.40			270.48	
	9/30/2019	10/3/2019	Dumas, AR			223.71	128.21			76.02			427.94	
	10/7/2019	10/9/2019	Batesville, Floral, Morrilton AR			220.80	84.63			128.52			433.95	
	10/14/2019	10/17/2019	Pine Bluff, White Hall, AR							128.10			128.10	
	10/21/2019	10/24/2019	Bentonville, Rogers, AR			322.89	125.08			182.28			630.25	
	10/28/2019	11/1/2019	Rogers, AR			439.68	158.73			177.66			776.07	
	11/4/2019	11/7/2019	El Dorado & White Hall, AR			215.74	75.46			145.74			436.94	
	11/12/2019	11/14/2019	Van Buren & Brinkley, AR			110.64	37.47			186.06			334.17	
	11/18/2019	11/19/2019	Fayetteville & Bentonville, AR			107.63	46.29			183.96			337.88	
	12/2/2019	12/4/2019	Monticello, AR			216.20	81.75			83.16			381.11	
	12/9/2019	12/11/2019	Beebe & Bald Knob, AR							131.88			131.88	
	12/16/2019	12/18/2019	Hot Springs & Jessieville, AR							130.20			130.20	
	1/7/2020	1/10/2020	Ward / Cabot, AR							91.56			91.56	
	1/13/2020	1/16/2020	N Little Rock & Cabot, AR							67.62			67.62	
	1/21/2020	1/22/2020	Cabot, AR							43.68			43.68	
	1/27/2020	1/28/2020	Forrest City & Cherry Valley, AR			110.76	48.84			99.54			259.14	
	2/3/2020	2/5/2020	Helena & Lexa, AR			217.52	88.41			101.64			407.57	
	1/10/2020	2/11/2020	Plumerville & Hazen, AR							76.02			76.02	
	2/18/2020	2/18/2020	Malvern, AR							31.92			31.92	
	2/24/2020	2/27/2020	Fort Smith, AR			323.91	124.27			137.34			585.52	
	3/2/2020	3/4/2020	Fort Smith, AR			220.32	86.45			136.50			443.27	
	3/10/2020	3/12/2020	Morrilton, AR							128.52			128.52	
Taylor, Elizabeth	8/12/2019	9/24/2019	Maumelle, Little Rock, N Little Rock, AR							97.44			97.44	
	10/9/2019	10/17/2019	Little Rock, Jacksonville, N Little Rock, AR							46.20			46.20	
	10/21/2019	10/28/2019	Conway, N Little Rock, Jacksonville, AR							72.66			72.66	

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Staff Travel
July 1, 2019 - June 30, 2020

Senior Staff & Staff Travel Report for the Year Ended June 30, 2020													Overall Total	
Staff	Date		Destination/Conference	Registration Fees	Common Carrier(Air)	Lodging	Meals	Taxi/Car Rental	Parking	Private Car Mileage	Other Travel Exp	Non-Travel Reimbursement		Total 02 Expense
	from:	to:												
	10/30/2019	12/12/2019	N.Little Rock, Jacksonville, Maumelle, Sherwood, AR							46.20			46.20	523.74
	1/6/2020	1/9/2020	Cabot, AR							88.20			88.20	
	1/13/2020	1/23/2020	Cabot, AR							173.04			173.04	
Willis, Otis	9/16/2019	9/16/2019	Nashville, AR - Nashville workshop							87.36			87.36	87.36
Wilbourn, Levi	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00	70.00
Yant, Misty	10/23/2019	10/23/2019	American First Response - CPR/AED & First Aid Training	70.00									70.00	112.00
	3/4/2020	3/4/2020	Hot Springs, AR - AASBO Conference							42.00			42.00	
STAFF TOTALS FY20				\$ 1,919.00	\$ 980.18	\$ 20,765.34	\$ 8,599.36	\$ 67.20	\$ 32.70	\$ 10,599.54	\$ -	\$ -	\$ 42,963.32	\$ 42,963.32
STAFF TOTALS FY19				\$ 495.00	\$ -	\$ 26,598.19	\$ 10,908.51	\$ -	\$ 39.34	\$ 13,934.76	\$ -	\$ -	\$ 51,975.80	\$ 51,975.80
DIFFERENCE				\$ 1,424.00	\$ 980.18	\$ (5,832.85)	\$ (2,309.15)	\$ 67.20	\$ (6.64)	\$ (3,335.22)	\$ -	\$ -	\$ (9,012.48)	\$ (9,012.48)

VENDOR	OUTLINE AGREEMENT #	START DATES	FY 21 CONTRACT EXPIRATION DATE	TOTAL POSSIBLE EXTENSIONS	STATUS - ORIGINAL OR AMENDMENT	TOTAL EXTENSION AMOUNT	CURRENT PCS TOTAL	TO DATE (as of 9/30/20 except as noted)	REQUESTED RENEWAL AMOUNT FOR FISCAL YEARS 2022 AND 2023
INVESTMENT CONTRACTS									
T ROWE PRICE ¹	4600012350	7/1/2007	6/30/2021	Act 304	AMENDMENT #11	\$ 35,000,000.00	\$ 31,700,000.00	\$ 26,384,105.76	\$ 13,500,000.00
KENNEDY CAPITAL MANAGEMENT	4600012617/4600036995	7/1/2007	6/30/2021	Act 304	AMENDMENT #9	\$ 40,000,000.00	\$ 36,800,000.00	\$ 30,442,162.00	\$ 6,000,000.00
STEPHENS	4600012349	7/1/2007	6/30/2021	Act 304	AMENDMENT #8	\$ 30,000,000.00	\$ 27,600,000.00	\$ 22,783,153.12	\$ 8,100,000.00
ALLIANZ GLOBAL INVESTORS (FORMERLY NICHOLAS APPLGATE) ¹	4600019519	7/1/2010	6/30/2021	Act 304	AMENDMENT #6	\$ 20,000,000.00	\$ 16,000,000.00	\$ 13,221,816.15	\$ 4,500,000.00
BLACKROCK INSTITUTIONAL TRUST	4600028186	11/26/2012	6/30/2021	Act 304	AMENDMENT #4	\$ 12,800,000.00	\$ 3,200,000.00	\$ -	\$ -
LOOMIS SAYLES	4600015081/4600037041	7/1/2008	6/30/2021	Act 304	AMENDMENT #9	\$ 20,000,000.00	\$ 15,300,000.00	\$ 13,249,733.33	\$ 4,000,000.00
LAZARD	4600016862	7/1/2009	6/30/2021	Act 304	AMENDMENT #6	\$ 44,000,000.00	\$ 35,500,000.00	\$ 29,231,310.44	\$ 10,500,000.00
AON HEWITT INVESTMENT CONSULTING (FORMERLY HEWITT ENNIS KNUPP) ^{2*}	4600014421	11/25/2007	6/30/2021	Act 304	AMENDMENT #11	\$ 6,000,000.00	\$ 5,780,000.00	\$ 5,253,768.01	\$ 900,000.00
AON HEWITT INVESTMENT CONSULTING (FORMERLY HEWITT ENNIS KNUPP) ^{2*}	4600015870	10/1/2008	6/30/2021	Act 304	AMENDMENT #10	\$ 12,000,000.00	\$ 10,070,000.00	\$ 9,178,849.05	\$ 1,650,000.00
FRANKLIN PARK ^{2*}	4600014424	11/25/2007	6/30/2021	Act 304	AMENDMENT #10	\$ 17,000,000.00	\$ 15,525,000.00	\$ 14,504,201.72	\$ 2,750,000.00
WELLINGTON ¹	4600012581/4600034016	7/1/2007	6/30/2021	Act 304	AMENDMENT #10	\$ 50,000,000.00	\$ 46,700,000.00	\$ 39,011,573.77	\$ 7,200,000.00
STATE STREET BANK ³	4600016738	7/1/2009	6/30/2021	Act 304	AMENDMENT #7	\$ 490,000,000.00	\$ 70,000,000.00	\$ 49,949,103.38	\$ -
HARRIS ASSOCIATES	4600031567	5/1/2014	6/30/2021	Act 304	AMENDMENT #3	\$ 18,000,000.00	\$ 16,400,000.00	\$ 12,002,093.00	\$ 4,500,000.00
RUSSELL IMPLEMENTATION SERVICES	4600031854	7/1/2014	6/30/2021	Act 304	AMENDMENT #3	\$ 3,200,000.00	\$ 3,200,000.00	\$ -	\$ -
SIMMONS BANK ²	4600036642	3/1/2016	6/30/2021	Act 304	AMENDMENT #2	\$ 1,750,000.00	\$ 500,000.00	\$ 207,250.00	\$ -
ADMINISTRATIVE PROFESSIONAL SERVICES CONTRACTS									
Gill Elrod Owen & Sherman PA ²	4600019605/4600030541	7/1/2010	6/30/2021	Act 304	AMENDMENT #8	\$ 1,000,000.00	\$ 900,000.00	\$ 792,617.28	\$ 150,000.00
Kutak Rock LLP ²	4600016199	11/15/2008	6/30/2021	Act 304	AMENDMENT #6	\$ 290,000.00	\$ 290,000.00	\$ 129,490.49	\$ -
Rose Law Firm ²	4600019607/4600030539	7/1/2010	6/30/2021	Act 304	AMENDMENT #7	\$ 300,000.00	\$ 300,000.00	\$ 120,961.86	\$ -
ADMINISTRATIVE TECHNICAL SERVICES CONTRACTS									
BancorpSouth Insurance Services ²	4600039655	7/1/2017	6/30/2021	6/30/2024	AMENDMENT #8	\$ 47,250.00	\$ 27,000.00	\$ 27,000.00	\$ 13,500.00
First Security	4600018594/4600029415	10/20/2010	6/30/2115	Act 304	RENEWAL #7	\$ 1.00	\$ -	\$ -	\$ -
Gabriel, Roeder, Smith & Co. Special ²	4600015685/4600023873	7/1/2008	6/30/2021	Act 304	AMENDMENT #12	\$ 1,950,000.00	\$ 1,950,000.00	\$ 1,039,705.50	\$ 150,000.00
Gabriel, Roeder, Smith & Co. Regular ²	4600015684/4600023872	7/1/2008	6/30/2021	Act 304	AMENDMENT #12	\$ 2,500,000.00	\$ 2,500,000.00	\$ 1,947,896.00	\$ 250,000.00
SECURITIES MONITORING FIRMS									
Bernstein Litowitz Berger & Grossman LLP	4600046424	5/18/2020	6/30/2021	Act 304	Original	\$ -	\$ -	\$ -	\$ -
Bleichmar Fonti & Auld	4600046425	5/18/2020	6/30/2021	Act 304	Original	\$ -	\$ -	\$ -	\$ -
Cohen Milstein Sellers & Toll	4600046426	5/18/2020	6/30/2021	Act 304	Original	\$ -	\$ -	\$ -	\$ -
Kaplan Fox and Kilsheimer	4600046427	5/18/2020	6/30/2021	Act 304	Original	\$ -	\$ -	\$ -	\$ -
Kessler Topaz Meltzer & Check LLP	4600046428	5/18/2020	6/30/2021	Act 304	Original	\$ -	\$ -	\$ -	\$ -
Labaton Sucharow	4600046429	5/18/2020	6/30/2021	Act 304	Original	\$ -	\$ -	\$ -	\$ -
¹ As of 6/30/2020 ² As of 11/18/2020 ³ As of 8/31/2020 *Based on current fee schedule									

TO: ATRS Board of Trustees
Mr. Clint Rhoden, Executive Director

FROM: Vicky Fowler, Human Resources Manager

Date: December 7, 2020

RE: Personnel Report

ATRS currently has a total of 87 appropriated positions with a cap set at 81. There are 74 positions filled and 13 vacant.

Breakdown of current vacancies

- 7 due to Internal Promotion
- 2 due to Termination
- 3 due to Retirement
- 1 due to Death of employee

Position Activity for December 1, 2019 to November 23, 2020.

- 4 Positions advertised
- 163 Applications received
- 15 Applicants interviewed
- 3 Positions filled

The ATRS Human Resources Manager will be available to answer any questions regarding this report.

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

**RESOLUTION
No. 2020-38**

**Commending Ms. Candace Franks
for her Service to the
Arkansas Teacher Retirement System**

WHEREAS, Ms. Candace Franks has served on the Board of Trustees of the Arkansas Teacher Retirement System as an Ex Officio Trustee as State Bank Commissioner from July 1, 2007, until October 1, 2020; and

WHEREAS, Ms. Franks compiled a long record of strong leadership during her years on the Board, having served on the Investment Committee; and

WHEREAS, Ms. Franks' involvement with the Arkansas Teacher Retirement System Board provided a valuable service to the System by means of her knowledge, counsel, and leadership; and

WHEREAS, Ms. Franks' dedication 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. Candace Franks 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 7th day of December, 2020

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System Board