

ARKANSAS TEACHER RETIREMENT SYSTEM

September 28, 2020

1400 West Third Street

BOARD ROOM

Little Rock, AR 72201

Board of Trustees Meeting

11:00 a.m.

Trustees

Danny Knight, Chair

Dr. Richard Abernathy, Vice Chair

Anita Bell

Lloyd Black

Kathy Clayton

Kelly Davis

Shawn Higginbotham

Bobby G. Lester

Chip Martin

Robin Nichols

Ex Officio Trustees

Candace A. Franks, 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

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

- I. ***Call to Order/Roll Call.** page 1.
- II. ***Motion for Excused Absences.**
- III. ***Adoption of Agenda.** page 2.
- IV. Executive Summary. (Attachment No. 1) page 6.
- V. ***Approval of Prior Meeting Minutes.**
 - A. ***June 1, 2020 Minutes.** (Attachment No. 2) page 15.
 - B. ***June 30, 2020 Minutes.** (Attachment No. 3) page 23.
 - C. ***April 6, 2020 - Scrivener's error.** (Attachment No. 4) page 25.
- VI. ***Scrivener's Error - Resolution 2020.07.** (Attachment No. 5) page 31.
- VII. Report of Member Interest Amount Waived Under A.C.A. Sec. 24-7-205. No Member interest was waived for this reporting period.
- VIII. Report of Employer Penalties and Interest Waived Under A.C.A. Sec. 24-7-411. . Seven (7) employer penalties and interest amounts were waived for this reporting period in the amount of \$2,693.20. (Attachment No. 6) page 32.
- IX. ***Manifest Injustice for Board Approval.** *Clint Rhoden, Executive Director and Martha Miller, General Counsel*
 - A. ***In the Matter of MI Claim #2020-04.**
- X. Forfeiture Recommendations Pursuant to A.C.A. 24-7-734(6). This report is for information purposes only. *Martha Miller, General Counsel*

* Action Item

2020-09-23 10:27:29.276008

- XI. ***Calculation of Lump Sum Death Benefit.** *Clint Rhoden, Executive Director*
 - A. ***Resolution 2020-27.** (Attachment No. 7) page 33.

- XII. ***ATRS CASH Program for Fiscal Year 2021.**
 - A. ***Resolution 2020-28.** (Attachment No. 8) page 34.

- XIII. ***Adoption of Interest Rate for Regular T-DROP Accounts for Fiscal Year 2021.**
 - A. ***Resolution 2020-29.** (Attachment No. 9) page 38.

- XIV. ***Adoption of Interest Rate for Post 10 Year T-DROP Accounts for Fiscal Year.**
 - A. ***Resolution 2020-30.** (Attachment No. 10) page 39.

- XV. ***CBA Incentive Interest Determination.**
 - A. ***Resolution 2020-31.** (Attachment No. 11) page 40.

- XVI. Audit Committee Report. *Kelly Davis, Audit Committee Chair*
 - A. Internal Audit: History Adjustments. (Attachment No. 12) page 41.

- XVII. Investment Committee Report. *Robin Nichols, Investment Committee Chair*
 - A. Arkansas Related and Investment Update.
 - 1. List of Fund Closings.
 - a. Thoma Bravo Discover Fund III, L.P., a Buyout Fund Focused on U.S. Investments with a Specialization in Software Companies with Imminent Need, the Board Authorized Commitment of up to \$20 Million Dollars on April 6, 2020 was Accepted and Closed on May 29, 2020.
 - b. Thoma Bravo Fund XIV, L.P., a Private Equity Buyout Fund that Invests in Larger Market Software Companies with Imminent Need, the Board Authorized Commitment of up to \$20 Million Dollars on April 6, 2020 was Accepted and Closed on May 29, 2020.
 - c. TCW TALF Opportunities Fund, LP a Fund Focused on Investments in Asset-Backed Securities with Imminent Need, the Board Authorized Commitment of up to \$100 Million Dollars on May 20, 2020 was Accepted Closed for \$40 Million Dollars on May 28, 2020.

* Action Item

- d. AB TALF Opportunity 2020 (Delaware) Fund, L.P. a Fund Focused on Investments in Asset-Backed Securities with Imminent Need, the Board Authorized Commitment of up to \$100 Million Dollars on May 20, 2020 was Accepted Closed for \$42 Million Dollars on May 27, 2020.
- e. Torchlight Debt Fund VII, L.P., an Opportunistic Real Estate Fund Focused on High Yield Debt Investments in Both the Public and Private Markets, the Board Authorized Commitment of up to \$50 Million Dollars on June 1, 2020 was Accepted and Closed on July 1, 2020.
- f. CBRE Strategic Partners U.S. Value 9, L.P, a Value Added Real Estate Fund Focused on Institutional Quality Multifamily, Office, and Retail Properties in the U.S., the Board Authorized Commitment of up to \$50 Million Dollars on June 1, 2020 was Accepted and Closed on July 6, 2020.
- g. Macquarie Infrastructure Partners V, L.P. a Core Infrastructure Fund Focused Primarily on North American Infrastructure Assets, the Board Authorized Commitment of up to \$50 Million Dollars on June 1, 2020 was Accepted and Closed on July 16, 2020.

B. General Investment Consultant.

- 1. Performance Report for the Quarter Ended June 30, 2020. (Attachment No. 13) page 48.
- 2. Preliminary Performance Report for the Month Ended August 31, 2020. (Attachment No. 14) page 208.
- 3. Emerging Manager Report for Fiscal Year Ended June 30, 2020. (Attachment No. 15) page 232.

C. Real Assets Consulting Report.

- 1. Performance Report for the Quarter Ended March 31, 2020. (Attachment No. 16) page 251.
- 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.** (Attachment No. 17) page 305.
 - a. ***Resolution 2020-24.** (Attachment No. 18) page 333.
- 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.** (Attachment No. 19) page 334.
 - a. ***Resolution 2020-25.** (Attachment No. 20) page 370.

D. Private Equity Consultant Report.

* Action Item

1. Preliminary Private Equity Portfolio Review for the Quarter Ended June 30, 2020. (Attachment No. 21) page 371.
2. Emerging Manager Report for Fiscal Year Ended June 30, 2020. (Attachment No. 22) page 425.
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.** (Attachment No. 23) page 432.
 - a. ***Resolution 2020-26.** (Attachment No. 24) page 443.

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

- A. Open Forum for Potential Rule or Law Changes by Committee Members and Board Members Present.
 1. Open Forum.
- B. ATRS 2021 Legislative Package. (Attachment No. 25) page 444.

XIX. ***Staff Report.**

- A. ***Medical Committee Reports. A total of 27 Disability Applications were Approved.** *Willie Kincade, Director of Operations* (Attachment No. 26) page 458.

XX. ***Recognition of Trustees.** *Clint Rhoden, Executive Director*

XXI. ***Recognize Vacancies.**

- A. ***Resolution 2020-34.** (Attachment No. 27) page 462.
- B. ***Resolution 2020-35.** (Attachment No. 28) page 463.

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

XXIII. Other Business.

XXIV. ***Adjourn.**

EXECUTIVE SUMMARY

TO: Board of Trustees
FROM: ATRS Staff
RE: Executive Summary
DATE: September 28, 2020

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. **This is an action item.**

VII. 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.

VIII. Report of Employer Penalties and Interest 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. Seven (7) employer penalties and interest amounts were waived for this reporting period in the amount of \$2,693.20. This is a standard report for information and is not an action item.

IX. Manifest Injustice for Board Approval.

A. In the Matter of MI Claim #2020-04.

The individual with ATRS ID 211810 (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.

In 2017, as Member's retirement application was being processed, staff realized that the 2011 calculation of the cost to re-purchase service was not correct. When the error was discovered, staff decided that the

incorrect calculation had occurred outside the five year look back period and couldn't be corrected and charged to the member. Instead, staff entered history adjustments to reflect contributions and service credit as though the member had fully and correctly re-purchased the refunded service. The member retired from ATRS shortly thereafter, effective August 1, 2017.

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. **This is an action item.**

- X. 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.

The Board has previously approved forfeitures in 55 member accounts totaling in the aggregate \$349,094.46. Staff does not currently have any new recommendations for the Board. However, staff does have a correction from a previous forfeiture to report.

The forfeiture at the February 3, 2020 Board meeting of \$7,569.00 in the account of ATRS ID 133605 was erroneous and has been corrected. The error was due to an incorrect date of death in the member's account.

This is not an action item.

- XI. Calculation of 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. **This is an action item.**

a. Resolution No. 2020-27

- 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. **This is an action item.**

a. Resolution No. 2020-28

- 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. **This is an action item.**

a. Resolution No. 2020-29

- 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. **This is an action item.**

a. Resolution No. 2020-30

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. **This is an action item.**

a. Resolution No. 2020-31

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

A. Internal Audit: History Adjustments

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

A. Arkansas Related and Investment Update

1 List of Fund Closings

a. Thoma Bravo Discover Fund III, L.P., a Buyout Fund Focused on U.S. Investments with a Specialization in Software Companies with Imminent Need, the Board Authorized Commitment of up to \$20 Million Dollars on April 6, 2020 was Accepted and Closed on May 29, 2020. The ATRS full commitment of \$20 million dollars was negotiated, accepted, and closed on May 29, 2020.

b. Thoma Bravo Fund XIV, L.P., a Private Equity Buyout Fund that Invests in Larger Market Software Companies with Imminent Need, the Board Authorized Commitment of up to \$20 Million Dollars on April 6, 2020 was Accepted and Closed on May 29, 2020. The ATRS full commitment of \$20 million dollars was negotiated, accepted, and closed on May 29, 2020.

c. TCW TALF Opportunities Fund, LP a Fund Focused on Investments in Asset-Backed Securities with Imminent Need, the Board Authorized Commitment of up to \$100 Million Dollars on May 20, 2020 was Accepted Closed for

- \$40 Million Dollars on May 28, 2020.** Due to very high demand for TCW TALF Opportunities Fund, LP, ATRS was able to obtain a commitment of \$40 million dollars of the \$100 million dollars requested. The commitment was negotiated, accepted, and closed on May 28, 2020.
- d. **AB TALF Opportunity 2020 (Delaware) Fund, L.P. a Fund Focused on Investments in Asset-Backed Securities with Imminent Need, the Board Authorized Commitment of up to \$100 Million Dollars on May 20, 2020 was Accepted Closed for \$42 Million Dollars on May 27, 2020.** Due to very high demand for AB TALF Opportunity 2020 (Delaware) Fund, L.P., ATRS was able to obtain a commitment of \$42 million dollars of the \$100 million dollars requested. The commitment was negotiated, accepted, and closed on May 27, 2020.
- e. **Torchlight Debt Fund VII, L.P., an Opportunistic Real Estate Fund Focused on High Yield Debt Investments in Both the Public and Private Markets, the Board Authorized Commitment of up to \$50 Million Dollars on June 1, 2020 was Accepted and Closed on July 1, 2020.** The ATRS full commitment of \$50 million dollars was negotiated, accepted, and closed on July 1, 2020.
- f. **CBRE Strategic Partners U.S. Value 9, L.P, a Value Added Real Estate Fund Focused on Institutional Quality Multifamily, Office, and Retail Properties in the U.S., the Board Authorized Commitment of up to \$50 Million Dollars on June 1, 2020 was Accepted and Closed on July 6, 2020.** The ATRS full commitment of \$50 million dollars was negotiated, accepted, and closed on July 6, 2020.
- g. **Macquarie Infrastructure Partners V, L.P. a Core Infrastructure Fund Focused Primarily on North American Infrastructure Assets, the Board Authorized Commitment of up to \$50 Million Dollars on June 1, 2020 was Accepted and Closed on July 16, 2020.** The ATRS full commitment of \$50 million dollars was negotiated, accepted, and closed on July 16, 2020.

B. General Investment Consultant

1. **Performance Report for the Quarter Ended June 30, 2020.** P.J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting will provide the Board with a portfolio update for the quarter ending June 30, 2020.
2. **Preliminary Performance Report for the Month Ended August 31, 2020.** P. J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting will provide the Board with a preliminary portfolio update for the month ending August 31, 2020.
3. **Emerging Manager Report for Fiscal Year Ended June 30, 2020.** P.J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting (AHIC) will provide the Board with a report of AHIC's manager research process, including coverage of emerging managers, and provide an update on due diligence activities on emerging managers conducted on behalf of ATRS for the fiscal year ended June 30, 2020.

C. Real Assets

1. **Performance Report for the Quarter Ended March 31, 2020.** Chae Hong of Aon Hewitt Investment Consulting will provide the Board 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.** Based in Los Angeles, Kayne Anderson Capital Advisors, L.P., was founded in 1984 by Rick Kayne and John Anderson, and is an alternative asset management firm focused on investing in oil and gas companies, specialized real estate, energy infrastructure, middle market credit and growth private equity. Kayne manages approximately \$31 billion in assets for institutional investors, family offices, high net worth and retail clients and employs 140 investment professionals in eight offices across the United States. KAREP VI is a closed-end, opportunistic fund targeting specialized real estate sectors including medical office, senior housing and student housing within the U.S. KAREP VI will focus on these specialized areas with

strong operating partners and joint ventures through development, acquisition, and management of the properties. The fund is targeting a net IRR of 15% to 17%. ATRS invested in KAREP V which has a 6.3% IRR as of July 31, 2020 but is still relatively early in fund life. Both ATRS staff and Aon Hewitt Investment Consulting recommend an investment of up to \$50 million dollars in KAREP VI.

a. Resolution 2020-24.

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.** PGIM Real Estate Europe was established in 1982 and has offices in the UK, Germany, and France. PGIM has gross assets under management of over \$12.6 billion. The European team is led by Andrew Radkiewicz, Andrew Macland, Mathew Crowther, Mary Hamilton, Leroy Mattis, and Ruediger Schwarz who will be responsible for the day to day management of the fund, including the origination, structuring and execution of its investments.

Governmental pressure for banks to remain better capitalized continues to restrict the willingness of some banks to provide real estate finance for some borrowers. This provides non-bank lenders such as the fund an ongoing opportunity to provide loans to quality borrowers at attractive rates for investors. The fund is targeting equity-like returns of 12% net IRR. ATRS has previously invested in PGIM’s Core Fund (PRISA) in 2005 which has produced a 6.4% IRR. Both ATRS staff and Aon Hewitt Investment Consulting recommend an investment of up to \$40 million dollars in PRECap VII.

a. Resolution 2020-25

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 will provide the Board with a preliminary 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 will provide the Board with a report of Franklin Park's manager research process, including coverage of emerging managers, and provide an update on due diligence activities on emerging managers conducted on behalf of ATRS for the fiscal year ended June 30, 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.** In June 2019, the Board authorized an investment of up to \$30 million in Franklin Park Corporate Finance Access Fund (FPCFAC). This fund of funds was formed to allow other investors to invest in smaller buyout, growth equity and turnaround funds with ATRS as the anchor. Though the fund sizes are smaller, the managers chosen are experienced investors, often having spun-out from a larger successful firm. The managers are usually sector-focused with competitively advantaged domain knowledge. They generally have an operationally intensive value-add approach. Previously, ATRS had invested in these smaller or "next generation" funds through the ATRS/FP Fund. Over the years, the ATRS/FP Fund had become fairly complicated with various types of investments. Investing in these smaller funds through FPCFAC has helped to simplify the monitoring and accounting processes for the ATRS/FP Fund. As with other Franklin Park vehicles, ATRS pays no fees or carry for this fund.

At this time, FPCFAC has invested approximately \$53 million in six investments. Though the investments are young, they are all on track to perform well. A number of high quality, smaller funds will be coming to market in the next few months, and FPCFAC is looking to make more commitments before the end of the year. As a result, the fund will require an increase in capital commitments from its investors. Both Franklin Park and ATRS staff recommend an additional commitment of up to \$30 million in Franklin Park Corporate Finance Access Fund, L.P.

a. Resolution 2020-26

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

- A. Open Forum for Potential Rule or Law Changes by Committee Members and Board Members Present.**
- B. ATRS 2021 Legislative Package**

XIX. Staff Reports.

- A. Medical Committee Reports. A Total of 27 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 55 disability applications were received, 27 were approved, 13 were denied, and 15 needed more information. **This is an action item.**

XX. Recognition of Trustees

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

**Monday, June 1, 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*
Kathy Clayton*
Kelly Davis*
Shawn Higginbotham *
Johnny Key, Cabinet Secretary of Department of Education*
Hon Andrea Lea, State Auditor
Bobby Lester*
Chip Martin *
Susannah Marshall, designee for Candace Franks, Bank Commissioner*
Robin Nichols*
Janet Watson*

ATRS Staff Present

Clint Rhoden, Executive Director
Rod Graves, Deputy Director*
Tammy Porter, Ex. Assistant/Board Secretary
Curtis Carter, Chief Financial Officer
Dena Dixson, Internal Audit/Risk Mgmt.*
Willie Kincade, Assoc. Director of Operations*
Manju, Director of Information Technology*
Martha Miller, General Counsel*
Brenda West, Internal Audit/Risk Mgmt.*

Guest Present

PJ Kelly, AHIC (Aon Hewitt)*
Katie Comstock, AHIC (Aon Hewitt)*
Chae Hong, AHIC (Aon Hewitt)*
Jack Dowd, AHIC (Aon Hewitt)*
Michael Bacine, Franklin Park*
Donna Morey, ARTA*
Duncan Baird, APERS*
Gar Chung*

* *via teleconference*

- 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. All members were present.
- II. **Motion for Excused Absences.** None.
- III. **Adoption of Agenda.**

Dr. Abernathy moved for adoption of the Agenda. Ms. Nichols seconded the motion, and the Board unanimously approved the motion.

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

V. Approval of Prior Meeting Minutes.

A. April 6, 2020 Minutes.

Mr. Lester moved for approval of the Minutes of the Board of Trustees meeting of April 6, 2020. Ms. Bell seconded the motion, and the Board unanimously approved the motion.

B. May 20, 2020 Minutes.

Mr. Lester moved for approval of the Minutes of the Board of Trustees meeting of May 20, 2020. Dr. Abernathy seconded the motion, and the Board unanimously approved the motion.

VI. 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.

VII. 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 \$2,250.00.

VIII. Manifest Injustice Report. The rule on Manifest Injustice requires reports on Manifest Injustice resolutions to the Board at least two times per year. This Manifest Injustice report is for information and is not an action item

IX. Forfeiture Recommendations Pursuant A.C.AA 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 reviewed forty-one (41) member accounts and identified benefits in thirty-two (32) accounts totaling in the aggregate \$167,975.13 that fall within the provisions of this Code section. Staff recommended 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.

Dr. Abernathy moved to approved the Forfeiture Recommendations of 32 member accounts and direct staff to transfer these benefits to the trust assets of ATRS. Ms. Davis seconded the motion, and the Board unanimously approved the motion.

X. Audit Committee Report. Kelly Davis, Chair, gave a report on the Audit Committee meeting.

A. 2020 Risk Assessment. Report presented by Dena Dixon.

B. 2020-2021 Audit Plan. Dena Dixon presented the Audit Plan for FY 2021. Discussions from the Committee about the Outsourcing Audit and what it included. Ms. West responded that the Audit Committee has procedures in place by Legislative Audit. Auditor Lea requested to add an additional item to the Audit Plan for FY 2021. The item would be to check IT to ensure they are doing training on phishing scams.

Ms. Davis moved to approve the Audit Plan for FY 2021. The Board unanimously approved the Motion.

C. Evaluation of Internal Auditor, Brenda West. The Audit Committee went into executive session to discuss the evaluation of Ms. Brenda West. The committee moved to submit the evaluation of Ms. West to the Executive Director to be sent to the appropriate agency for approval.

X. Investment Committee Report. Robin Nichols, Chair, gave a report on the Investment Committee meeting.

A. Arkansas Related and Investment Update. Rod Graves, Deputy Director, gave the Committee a report on Arkansas Related and Investment Update

B. General Investment Consultant Report.

1. **Preliminary Performance Report for the Quarter Ending March 31, 2020.** PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a preliminary performance report for the quarter ending March 31, 2020.
2. **Preliminary Performance Report for the Month Ending April 30, 2020.** PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a preliminary performance report for the month ending April 30, 2020.

C. Real Assets Consultant Report.

1. **Performance Report for the Quarter Ended December 31, 2019.** Chae Hong of Aon Hewitt Investment Consulting provided the Committee with a performance report for the quarter ending December 31, 2019.
2. **Recommendation to Commit up to \$50 Million Dollars in Torchlight Debt Fund VII, L.P., an Opportunistic Real Estate Fund Focused on High Yield Debt Investments in Both the Public and Private Markets.** Jack Dowd of Aon Hewitt Investment Consulting provided the Committee with the recommendation to Commit up to \$50 Million Dollars in Torchlight Debt Fund VII, L.P., an Opportunistic Real Estate Fund Focused on High Yield Debt Investments in Both the Public and Private Markets.

ATRS staff concurs with the recommendation.

Ms. Nichols *moved to adopt* Resolution 2020-19, to Commit up to \$50 Million Dollars in Torchlight Debt Fund VII, L.P., an Opportunistic Real Estate Fund Focused on High Yield Debt Investments in Both the Public and Private Markets. The Board *unanimously adopted the Resolution.*

3. **Recommendation to Commit up to \$50 Million Dollars in CBRE Strategic Partners U.S. Value 9, L.P, a Value Added Real Estate Fund Focused on Institutional Quality Multifamily, Office, and Retail Properties in the U.S.** Jack Dowd of Aon Hewitt Investment Consulting provided the Committee with the recommendation to Commit up to \$50

Million Dollars in CBRE Strategic Partners U.S. Value 9, L.P, a Value Added Real Estate Fund Focused on Institutional Quality Multifamily, Office, and Retail Properties in the U.S..

ATRS staff concurs with the recommendation

Ms. Nichols moved to adopt Resolution 2020-20, to Commit up to \$50 Million Dollars in CBRE Strategic Partners U.S. Value 9, L.P, a Value Added Real Estate Fund Focused on Institutional Quality Multifamily, Office, and Retail Properties in the U.S. The Board unanimously adopted the Resolution.

4. **Recommendation to Commit up to \$50 Million Dollars in Macquarie Infrastructure Partners V, L.P. a Core Infrastructure Fund Focused Primarily on North American Infrastructure Assets.** Iftikhar Ahmed of Aon Hewitt Investment Consulting provided the Committee with the recommendation to Commit up to \$50 Million Dollars in Macquarie Infrastructure Partners V, L.P. a Core Infrastructure Fund Focused Primarily on North American Infrastructure Assets.

ATRS staff concurs with the recommendation

Ms. Nichols moved to adopt Resolution 2020-21, to Commit up to \$50 Million Dollars in Macquarie Infrastructure Partners V, L.P. a Core Infrastructure Fund Focused Primarily on North American Infrastructure Assets. The Board unanimously adopted the Resolution.

D. Private Equity Consultant Report.

1. **Private Equity Portfolio Review for the Quarter Ended December 31, 2019.** Michael Bacine of Franklin Park provided the Committee with a portfolio review for the quarter ending December 31, 2019.
2. **Recommendation to Commit up to \$30 Million Dollars in 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.** Michael Bacine of Franklin Park provided the Committee with the recommendation

to Commit up to \$30 Million Dollars in 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.

ATRS staff concurs with the recommendation.

Ms. Nichols *moved to adopt* Resolution 2020-22, to Commit up to \$30 Million Dollars in 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 *unanimously adopted the Resolution.*

3. **Recommendation to Make an Additional Commitment of up to \$30 Million Dollars in 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.** 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 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.

ATRS staff concurs with the recommendation.

Ms. Nichols *moved to adopt* Resolution 2020-23, to Make an Additional Commitment of up to \$30 Million Dollars in 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 *unanimously adopted the Resolution.*

XII. 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. Update on Rules.** Director Rhoden gave the Committee a report on the 2nd batch of Rules promulgated. Rule 6, Rule 7, Rule 8, Rule 9, Rule 10 and Rule 11 were effective May 28, 2020. Staff will proceed to promulgate the 3rd batch of Rules. The Committee had no objections.
- C. 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.

XIII. Staff Reports.

- A. Year End Litigation Report.** Martha Miller, General Counsel, provided the Board with the Year End Litigation Report.

Dr. Abernathy moved to authorize ATRS Staff to update the Policy to reflect that ATRS staff will provide a recommendation for potential claims, including the recommended securities monitoring firm or firms to be retained for each potential claim, to the Board for consideration and approval prior to initiating any claim. Ms. Nichols seconded the motion, and the Board unanimously approved the motion.

- B. Medical Committee Report.** Mr. Kincade reported that a total of 24 disability applications were reviewed. 14 applications were approved, 6 were denied, and 4 needed more information.

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

- XIV Executive Session to Discuss Executive Director's Performance Evaluation.** Mr. Knight, Chair, called the Executive Session of the Board of Trustees to order at 12:04 p.m. Mr. Knight, Chair, reconvened the Board of Trustees meeting at 12:30 p.m.

The Board expressed their satisfaction and appreciation to Mr. Rhoden for his hard work and service to ATRS. The Board will pass the evaluation to HR for processing.

- XV. Other Business: Director Rhoden notified the Board of damage to the Victory building during the protest at the Capitol. Subway and Capitol Bistro had windows damages.**

XVI. Adjourn.

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

Meeting adjourned at 12:30 p.m.

Clint Rhoden,
Executive Director

Mr. Danny Knight, Chair
Board of Trustees

Tammy Porter,
Recorder

Date Approved

**MINUTES
ARKANSAS TEACHER RETIREMENT SYSTEM
BOARD OF TRUSTEES – CALLED MEETING**

**Tuesday, June 30, 2020
1:30 p.m.
1400 West Third Street
Little Rock, AR 72201**

ATTENDEES

Board Members Present

Danny Knight, Chair
Richard Abernathy, Vice Chair*
Anita Bell*
Lloyd Black*
Kathy Clayton*
Kelly Davis*
Shawn Higginbotham*
Bobby Lester*
Robin Nichols*
Susannah Marshall, designee for Candace Franks*
Hon. Andrea Lea, State Auditor*
Jason Brady, designee for Dennis Milligan*

Board Members Absent

Chip Martin
Janet Watson
Johnny Key, Cabinet Secretary, Dept of Ed.

**via telephone*

ATRS Staff Present

Clint Rhoden, Executive Director
Rod Graves, Deputy Director*
Tammy Porter, Ex. Assistant/Board Secretary
Willie Kincade, Director of Operations*
Manju, Director of Information Technology*
Martha Miller, General Counsel*

Guest Present

Donna Morey, ARTA*
Duncan Baird, APERS

- I. **Call to Order/Roll Call.** Mr. Danny Knight, Chair, called the Board of Trustees meeting to order at 1:30 p.m. Roll call was taken. Ms. Watson, Mr. Martin and Mr. Key were absent.

- II. **Adoption of Agenda.**

Mr. Higginbotham *moved for adoption of the Agenda. Ms. Davis 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.

- IV. **Approval of Updates to the Securities Monitoring and Asset Recovery Litigation Policy.** Director Rhoden presented the Board with a draft update to

the Security Monitoring and Asset Recovery Litigation Policy. Based on the June 1, 2020 BOT meeting, Dr. Abernathy requested staff update the Policy to reflect that ATRS staff will provide a recommendation for potential claims, including the recommended securities monitoring firm or firms to be retained for each potential claim, to the Board for consideration and approval prior to initiating any claim. Director Rhoden stated that up until now, it has always been the executive staff's decision.

Mr. Black *moved to approve* the updated language in the Securities Monitoring and Asset Recovery Litigation Policy as presented to the Board. Dr. Abernathy *seconded the motion*, and the Committee *unanimously approved the motion*.

- V. **Potential ATRS Initiated Litigation.** Martha Miller, General Counsel, provided the Board with a staff recommendation to proceed with the Board approve litigation claim against Allianz Global Investors U.S. LLC.

Mr. Black *moved to approve* the recommendation to proceed with the Board approved litigation claim against Allianz Global Investors U.S. LLC. Dr. Abernathy *seconded the motion*, and the Committee *unanimously approved the motion*.

- VI. **Other Business.** None.

- X. **Adjourn.**

Mr. Danny Knight *moved to adjourn* the Board of Trustees Meeting. Dr. Abernathy *seconded the motion*, and the Committee *unanimously approved the motion*.

Meeting adjourned at 1:46 p.m.

Clint Rhoden,
Executive Director

Mr. Danny Knight, Chair
Board of Trustees

Tammy Porter,
Recorder

Date Approved

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

**Monday, April 6, 2020
10:00 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*
Kathy Clayton*
Kelly Davis*
Shawn Higginbotham *
Bobby Lester*
Chip Martin *
Robin Nichols*
Janet Watson*
Candace Franks, Bank Commissioner*
Hon Andrea Lea, State Auditor*
Jason Brady, designee for Hon. Dennis Milligan*

Board Members Absent

Johnny Key, Cabinet Secretary of Department of Education

Reporters Present

Mike Wickline, Ark. Democrat Gazette

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. Director of Operations
Mike Lauro, Information System Manager
Manju, Director of Information Technology*
Martha Miller, General Counsel*
Kevin Odum, Attorney Specialist*
Brenda West, Internal Audit/Risk Mgmt.*

Guest Present

PJ Kelly, AHIC (Aon Hewitt)*
Katie Comstock, AHIC (Aon Hewitt)*
Michael Bacine, Franklin Park*
Donna Morey, ARTA*

- I. **Call to Order/Roll Call.** Mr. Danny Knight, Chair, called the Board of Trustees meeting to order at 10:01 a.m. Roll call was taken. Mr. Johnny Key was absent

- II. **Adoption of Agenda.**

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

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

IV. Approval of Prior Meeting Minutes.

A. February 3, 2020 Minutes

Ms. Bell moved for approval of the Minutes of the Board of Trustees meeting of February 3, 2020. Ms. Watson seconded the motion, and the Board unanimously approved the motion.

B. March 9, 2020 Minutes.

Mr. Martin moved for approval of the Minutes of the Board of Trustees meeting of March 9, 2020. Dr. Abernathy seconded the motion, and the Board unanimously approved the motion.

V. 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.

VI. 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. Two (2) employer penalties and interest were waived for this reporting period in the amount of \$48.90. This is a standard report for information and is not an action item.

VII. Legislative Audit Report June 30, 2019 Official Review. Mr. Clint Rhoden, Executive Director, presented the Board with the Legislative Audit Report for June 30, 2019-Official Review for review and approval by the Board.

Mr. Lester moved for approval of the Legislative Audit Report, June 30, 2019-Official Review. Dr. Abernathy seconded the motion, and the Board unanimously approved the motion.

VIII. GASB Report after Legislative Audit Review. Mr. Curtis Carter, Chief Financial Officer, presenting the Board with the GASB Report after Legislative Audit Review for review and approval by the Board.

Mr. Lester moved for approval of the GASB Report after Legislative Audit Review. Ms. Nichols seconded the motion, and the Board unanimously approved the motion.

- IX. Adoption of Number of Years for Calculating Final Average Salary pursuant to A.C.A. 24-7-736(c)(1).** Director Rhoden presented the Board with a proposal for Adoption of Number of Years for Calculating Final Average Salary.

Mr. Higginbotham moved for adoption of Resolution 2020-10, Adoption of Number of Years for Calculating Final Average Salary pursuant to A.C.A. 24-7-736(c)(1). Dr. Abernathy seconded the motion, and the Board unanimously adopted the Resolution.

- X. Investment Committee Report.** Robin Nichols, Chair, gave a report on the Investment Committee meeting.

A. Arkansas Related and Investment Update. Rod Graves, Deputy Director, gave the Committee a report on Arkansas Related and Investment Update

B. General Investment Consultant Report.

- 1. Preliminary Performance Report for the Month Ending February 29, 2020.** PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a preliminary performance report for the month ending February 29, 2020.
- 2. Market Update March 2020.** P.J. Kelly and Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a market update for March 2020.
- 3. Recommendation to Redeem in Full the ATRS Investments in the Three Allianz Structured Alpha Funds.** P.J. Kelly of Aon Hewitt Investment Consulting presented the Committee with the recommendation to redeem in full the ATRS Investments in the Three Allianz Structured Alpha Funds.

ATRS staff concurs with the recommendation.

Ms. Nichols moved to adopt Resolution 2020-14, to Redeem ATRS assets in the AllianzGI Structured

Alpha U.S. Equity 250, LLC. The Board *unanimously adopted the Resolution.*

Ms. Nichols *moved to adopt* Resolution 2020-16, to Redeem ATRS assets in the AllianzGI Structured Alpha U.S. Equity 500, LLC The Board *unanimously adopted the Resolution.*

Ms. Nichols *moved to adopt* Resolution 2020-15, to Redeem ATRS assets in the AllianzGI Structured Alpha U.S. Equity 350, LLC. The Board *unanimously adopted the Resolution.*

C. Private Equity Consultant Report.

1. **Recommendation to Commit up to \$35 Million Dollars in GCG Investors V, L.P., a Mezzanine Fund Focused on Investments in both Debt and Equity Securities in the Small and Lower Middle Market with Imminent Need.** Michael Bacine provided the Committee with the recommendation to Commit up to \$35 Million Dollars in GCG Investors V, L.P., a Mezzanine Fund Focused on Investments in both Debt and Equity Securities in the Small and Lower Middle Market with Imminent Need.

ATRS staff concurs with the recommendation.

Ms. Nichols *moved to adopt* Resolution 2020-11, to Commit up to \$35 Million Dollars in GCG Investors V, L.P., a Mezzanine Fund Focused on Investments in both Debt and Equity Securities in the Small and Lower Middle Market with Imminent Need. The Board *unanimously adopted the Resolution.*

2. **Recommendation to Commit up to \$20 Million Dollars in Thoma Bravo Discover Fund III, L.P., a Buyout Fund Focused on U.S. Investments with a Specialization in Software Companies with Imminent Need.** Michael Bacine provided the Committee with the recommendation to commit up to \$20 Million Dollars in Thoma Bravo Discover Fund III, L.P., a Buyout Fund Focused on U.S. Investments with a Specialization in Software Companies with Imminent Need.

ATRS staff concurs with the recommendation.

Ms. Nichols moved to adopt Resolution 2020-12, to Commit up to \$20 Million Dollars in Thoma Bravo Discover Fund III, L.P., a Buyout Fund Focused on U.S. Investments with a Specialization in Software Companies with Imminent Need. The Board unanimously adopted the Resolution.

3. **Recommendation to Commit up to \$20 Million Dollars in Thoma Bravo Fund XIV, L.P., a Private Equity Buyout Fund that Invests in Larger Market Software Companies with Imminent Need.** Michael Bacine provided the Committee with the recommendation to commit up to \$20 Million Dollars in Thoma Bravo Fund XIV, L.P., a Private Equity Buyout Fund that Invests in Larger Market Software Companies with Imminent Need.

ATRS staff concurs with the recommendation.

Ms. Nichols moved to adopt Resolution 2020-13, to Commit up to \$20 Million Dollars in Thoma Bravo Fund XIV, L.P., a Private Equity Buyout Fund that Invests in Larger Market Software Companies with Imminent Need. The Board unanimously adopted the Resolution.

XI. Staff Reports.

- A. **Medical Committee Report.** Mr. Kincade reported that a total of Eight (8) Disability Retirement Applications were approved.

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

XII. Other Business: None

XIII. Adjourn.

Mr. Lester moved to adjourn the Board Meeting. Dr. Abernathy seconded the motion, and the Board unanimously approved the motion.

Meeting adjourned at 10:38 a.m.

Clint Rhoden,
Executive Director

Mr. Danny Knight, Chair
Board of Trustees

Tammy Porter,
Recorder

Date Approved

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

RESOLUTION
No. 2020-07

2020-2021 Member Contribution Rate

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

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

WHEREAS, Arkansas Teacher Retirement System is 80% funded, with an amortization period to pay off unfunded liabilities of 28 years, which shows that ATRS is in a strong financial position as of the last actuarial valuation at the end of the last fiscal year; and

WHEREAS, The ATRS Board, on November 13, 2017, adopted an member contribution rate schedule that established the member contribution rate for FY2021 should be 6.5%.

NOW, THEREFORE, BE IT RESOLVED, That the Board of Trustees in accordance with the legislative restrictions hereby sets the member contribution rate for the fiscal year beginning July 1, 2020, at six and one-half percent (6.5%).

Adopted this 3rd day of February, 2020.

Mr. Danny Knight, Chair

Waiver of Employer Report Penalties 2020
September 28, 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	
Des Arc School District Des Arc, AR	\$450.00
Earle School District Earle, AR	\$450.00
Searcy School District Searcy, AR	\$150.00
Southeast AR Preparatory High School	\$1,500.00
Total Employer Penalties Waived	\$2,550.00
Employer Interest Waived	
ASU - Three Rivers	\$49.41
Cossatot Community College	\$33.28
Earle School District	\$20.12
Northwest Arkansas Community College	\$40.39
Total Employer Waived	\$143.20
Total Employer Penalties & Interest Waived	\$2,693.20

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

RESOLUTION
No. 2020-27

Calculation of Lump Sum Death Benefit

WHEREAS, A.C.A. § 24-7-720, authorizes the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) to set the amount of the lump sum death benefit of up to ten thousand dollars (\$10,000) for eligible members; and

WHEREAS, A.C.A. § 24-7-720 provides that the amount of the lump sum death benefit may vary depending upon the status of the member being either active or retired, the number of years of actual service, and whether the service is contributory or noncontributory; and

WHEREAS, A.C.A. § 24-7-720 provides that as of July 1, 2007, ten (10) or more years of actual service is required to qualify for the lump sum death benefit, however retired members who retired on or before July 1, 2007 must have five (5) or more years of actual service to qualify for the lump sum death benefit; and

WHEREAS, A.C.A. § 24-7-720 and Rule 11 provides that the Board may adjust the amount of the lump-sum death benefit each year and prorate the amount of the lump-sum benefit based on the ratio of the member's contributory and noncontributory service credit.

NOW, THEREFORE, BE IT RESOLVED, That the Board of Trustees in accordance with the legislative directives stated in A.C.A. § 24-7-720 hereby sets the minimum amount of the lump sum death benefit for all eligible members to six thousand six hundred sixty-seven dollars (\$6,667); retired members who retired on or before July 1, 2007 will receive an additional six hundred sixty-six dollars and sixty cents (\$666.60) for each contributory year of service credit up to the maximum amount of ten thousand dollars (\$10,000); and all other members will receive an additional three hundred thirty-three dollars and thirty cents (\$333.30) for each contributory year of service credit up to the maximum amount of ten thousand dollars (\$10,000).

Adopted this 28th day of September, 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System Board

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

RESOLUTION
No. 2020-28

Extension of ATRS CASH Program for Fiscal Year 2021

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

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

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

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

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

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

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

NOW, THEREFORE, BE IT RESOLVED, That this resolution establishes the ATRS Rule 16 CASH Program for the Fiscal Year 2021 for Inactive Vested Members as set forth herein:

The Fiscal Year 2021 CASH Program for Inactive, Vested Members

I. Applicable to Inactive, Vested Members Only

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

II. The Offering Period

The offering period for this CASH Program opportunity begins October 1, 2020 and ends June 30, 2021.

III. The CASH Program Formula

- A. Final Average Salary is defined under A.C.A. § 24-7-202(18) and calculated using the formula set in A.C.A. § 24-7-736.
- B. The member's age shall be the age attained as July 1, 2020.
- C. The CASH Program Payment is calculated on the following formula:

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

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

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

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

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

VIII. ACCRUED LIABILITY FACTOR TABLE

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

54	97.35	90	50.09
55	105.31		

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

Adopted this 28th day of September, 2020.

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

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

**R E S O L U T I O N
No. 2020-29**

**AUTHORIZATION TO PAY REGULAR T-DROP
INTEREST FOR FISCAL YEAR 2021**

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

WHEREAS, Act 1049 of 2017 allows the Board to set a fixed standard interest rate until changed by subsequent resolution and an incentive interest rate for T-DROP participants if investment returns justify an incentive rate; and

WHEREAS, through Resolution 2017-35, the Board determined it was appropriate to set a fixed interest rate of 3% for fiscal year 2019, and each fiscal year thereafter, until such time as the ATRS Board makes a subsequent adjustment; and

WHEREAS, Resolution 2017-35 authorizes the Board to set an incentive rate of up to 3% which when combined with the 3% fixed rate can provide a maximum potential T-DROP interest rate of 6% for regular participants; and

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board sets the regular T-DROP standard interest rate to 3% for the 2020-2021 fiscal year, and each fiscal year thereafter, until such time as the ATRS Board makes a subsequent adjustment.

FURTHER BE IT RESOLVED, that the ATRS Board awards a regular T-DROP incentive interest rate to 0% for the 2020-2021 fiscal year.

Adopted this 28th day of September, 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

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

RESOLUTION
No. 2020-30

**AUTHORIZATION TO PAY POST 10-YEAR T-DROP
INTEREST FOR FISCAL YEAR 2021**

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

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

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

WHEREAS, Resolution 2017-36 states that in no event can the incentive rate when combined with the standard Post 10-Year T-DROP interest rate exceed 7.5%; and

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board sets the Post 10-Year T-DROP standard interest rate to 4% for the 2020-2021 fiscal year, and each fiscal year thereafter, until such time as the ATRS Board makes a subsequent adjustment.

FURTHER BE IT RESOLVED, that the ATRS Board awards a Post 10-Year T-DROP incentive interest rate to 0% for the 2020-2021 fiscal year.

Adopted this 28th day of September, 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

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

**RESOLUTION
No. 2020-31**

**AUTHORIZATION TO PAY AN INCENTIVE INTEREST RATE
ON T-DROP CASH BALANCE ACCOUNTS
ON JUNE 30, 2021**

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

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

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

WHEREAS, the investment returns for fiscal year 2020 were approximately -1%; and

NOW, THEREFORE, BE IT RESOLVED, that in addition to the regular CBA interest rate payable in fiscal year 2021 that the ATRS Board approves an additional incentive interest payment of 0% to be paid on all CBA account balances that are held by ATRS on June 30, 2021.

Adopted this 28th day of September, 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System



INTERNAL AUDIT DEPARTMENT

INTERNAL AUDIT REPORT:

History Adjustments

July 1, 2017 – June 30, 2018

September 28, 2020

Introduction

Arkansas Teacher Retirement System (ATRS) maintains a history of each member's salary, service, and contributions on the Arkansas Teacher Retirement Member Information System (ATRMIS). A member's history is an essential part of providing the member with accurate information in regards to their retirement choices. A member's history provides the staff with the information needed to counsel a member on their eligibility to retire, the amount of their benefit, the eligibility and cost of purchasing service, the eligibility and amount of a Cash and Savings Help Program (CASH) refund distribution or a refund of contributions. It is imperative that ATRS maintain an accurate member history for all our members and to facilitate this process any adjustment to the member's history needs to be made in a timely manner.

A member's history is established through salary and service reported by covered employers. Current salary and service is reported and updated quarterly. History adjustments are for changes made to the member's history. Most adjustments are made manually by ATRS staff. A few history adjustments are made through programming. A member's history can be changed through a member purchasing service or establishing free military service; correcting member information including salary, service, or social security number; any manually processed payment of contributions or deceased benefits; and the removal of overlapping service with a reciprocal system.

Objectives

Our objectives in conducting this audit were as follows:

1. Verifying that the history adjustments were made according to ATRS laws, rules and procedures.
2. Verifying that the history adjustments were accurate, properly approved and made in a timely manner to the member's history.
3. Evaluate the internal controls surrounding history adjustments including review procedures.

Scope and Methodology

The audit included members whose history had been adjusted by ATRS manually by adding to or overriding the member's history for the period July 1, 2017 through June 30, 2018.

To accomplish our objectives for accuracy and timeliness, we obtained a listing of all member histories adjusted during our audit period. Due to technical issues with March, May and June 2018, they were not included in the population. From this listing of 941 members, we selected a sample of 30 adjustments using a random number generator. The selected adjustments were analyzed for the accuracy of the adjustment, the approval of the adjustment, and the timeliness of updating the member's history in compliance with ATRS laws, and procedures.

An additional review of members who retired or entered the Teacher Deferred Retirement Option Plan (T-Drop) and whose history were adjusted from the member purchasing service or establishing free military was analyzed due to comments made during staff interviews. From

the 941, there was fifteen members who met these requirements. We reviewed all fifteen to determine if the member's retirement or T-Drop was being delayed. We analyzed the accuracy of the adjustment, the approval of the adjustment, and the timeliness of updating the member's history in compliance with ATRS laws, and procedures.

In order to evaluate internal controls over history adjustments, we reviewed procedures and conducted interviews with ATRS staff.

Findings and Recommendations

Finding 1: Member files in ATRMIS are not properly documented and lack of an audit trail.

1a. Staff meetings that decide issues that affect a member's record or benefit are not documented. One sampled member was charged an incorrect amount to repay refunded service and reestablish service credit. Staff held a meeting to determine how to handle the member's underpayment. The staff determined the member would not be required to pay any additional contributions or interest and would receive service credit for the service. There is no written documentation of the meeting. Staff could not state definitively who attended the meeting and who made the decision, only that the issue was discussed and it was decided the issue fell under five year look back period and any additional amount owed would not be collected. The member's underpaid \$1,518.73 in contributions and \$34,841.21 in interest for a total underpayment of \$36,359.94.

Recommendation 1a: Member's files should be documented with any meetings that pertain to their record or benefit. Documentation is to include the time, place, who is in attendance, the subject, the resolution, and proper approval by the proper level of management.

Management Response: Staff understands this finding stems from actions taken with respect to one member's account. Therefore, these responses reflect actions taken in regards to that account as well as general information pertaining to the interpretation of the 5-year lookback statute.

In March 2011 a member opted to purchase service (Repay Refund) and a cost statement was prepared. Subsequently, upon application for retirement in June 2017 an error in the cost statement was discovered at which time a meeting was held consisting of managers and senior staff.

Staff concurs that the meeting regarding this member's was not documented. Staff concurs that is best practice to document meetings pertaining to decisions regarding member accounts, particularly any application of the 5-year lookback statute.

However, staff asserts that the look-back period (LBP) provision was applied correctly and in accordance with all directives and normal business practices in place at the time. A memo sent by former Executive Director George Hopkins in October 2015, states that the LBP is a statute of Limitations and prohibits the collection of an obligation outside the LBP. In the June 2017 meeting it was discussed and decided that the system could not correct the cost statement due to the LBP. All agreed that the account would remain underpaid in contributions and no additional interest could be billed. No additional billing occurred and the member's account was updated to reflect service credit as established by the previous cost statement.

1b. Staff made decisions that should have been made by the ATRS Board of Trustees (Board). Any waived interest is to be approved by the ATRS Board of Trustees. This member's interest was never presented to the Board.

Recommendation 1b: All interest to be waived is to be presented to the Board for approval, A.C.A. Sec. 24-7-205.

Management Response: Staff asserts that all actions taken were in line with common practices and known directives at the time. However, staff agrees all interest that any interest *billed* within the LBP and later waived must be presented to the Board for approval.

1c. Decisions were made by the staff that should have been presented and approved by the Executive Director. The member received service credit for contributory service that contributions had not been received. There is no indication in the member's file that the Executive Director was ever informed or consulted regarding the member's service.

Recommendation 1c: Staff have implemented a new process where all five year look back decision are made and signed off on by either the Executive Director or the Director of Operations.

Management Response: Senior Staff routinely meets regarding member issues and applied interpretations of the systems laws, rules, and procedures. At the time this decision was made there was no protocol that dictated the matter should have been presented and approved by the Executive Director nor that he must be informed.

1d. Member records were manipulated to remove the contributions the member owes. Member records did not show interest was waived. It took Internal Audit ten hours to review the member's file to determine the events of this member's repayment of refunded service.

Recommendation 1d: Member records should accurately reflect member's history. Records should be documented that the member contributions and interest are waived and how much has been waived. Member records should be well document to reflect all activity involving the member's history of salary, service and contributions.

Management Response: This finding refers to alternations made to the member History Card. Staff concurs that any changes should be clearly marked and noted.

Finding 2: There is no accountability or tracking of history adjustments. It is possible for a member's history to be updated fraudulently.

2a: All adjustments made to a member's history account in the ATRMIS system are recorded and obtainable in report Audit Log – History Adjustments. There is currently no one reviewing this report to verify that all adjustments made have proper documentation to support the adjustment.

Recommendation 2a: The Audit Log – History Adjustment report should be reviewed for every adjustment made to a member's history for accuracy and legitimacy.

Management Response: Staff agrees and will include the Audit Log in procedures.

2b: History adjustments are not pre-numbered. There is no accountability or tracking of history adjustments to ensure all adjustments requested are made to a member's history. There is no reconciliation being done or an adequate means to do a reconciliation of history adjustments made to a member's history. IA used the Audit Log-History Adjustment report to build a population to pull a sample for review. When IA ran the Audit Log-History Adjustment reports, three months for fiscal year 2018 produced a report that indicated no adjustments had been made during these months. IA inquired if any adjustments had been made during these months. Reporting staff was unaware the reports were showing no adjustments had been made during these months. The missing months made for an incomplete population for IA to pull a sample. A sample was obtained from the months that were available.

After the sample had been reviewed, Information Technology addressed the issue and made it possible for IA to generate the three months. IA did a separate review of these three months for reasonableness. There were no issues with the three months.

Recommendation 2b: Pre-number all history adjustments and account for all history adjustments generated during a fiscal year. Reconciliation of member history adjustments requested to member's histories being updated.

Management Response: All history adjustments are processed from a Form 160 and routed through a queue. However, there are history adjustments through automated processes that will not necessitate the use of a form.

Staff will coordinate with Information Technology (IT) and other departments to develop an appropriate tracking system for history adjustments that may preclude the need for prenumbered forms. Staff understands the intent of this recommendation is to improve the tracking of adjustments and will work diligently to achieve this objective.

2c: The ability to fraudulently update a member's history is not addressed by Reporting on ATRS Risk Assessment.

Recommendation 2c: Amend the risk assessment to address the risk of the updating a member's history fraudulently.

Management Response: The current risk assessment does address the maintaining of a member's history and addresses the risk of incorrect salary, contributions or service credit. Staff will review and update if needed.

Finding 3: Written procedures do not provide clear guidance for staff on how to process history adjustment or instruct staff on when a history adjustment needs to be done to the member's history. Procedure manuals are not kept up to date with changes in procedure or location of templates. Some procedures are only in handwritten form.

Recommendation: Develop detailed written procedures that are consistent with ATRS rules and laws to cover all aspects of adjusting a member's history. Procedures should include examples of each type of adjustment.

Management Response: History adjustment frequently involve multiple departments with separate procedures. All procedures are being departmentally reviewed.

The ATRS Director of Operations has compiled standard operating procedures for history adjustments originating from the Membership department. For brevity, those procedures are not detailed here but have been provided to Internal Audit for reference.

Finding 4: Members histories are not updated in a timely manner. Twenty three percent of the thirty sampled took more than twenty-one days from the initiation of the history adjustment until the history was updated. Interviews with staff indicated there is a problem with members who are retiring or entering T-Drop and purchasing service or establishing military service. An additional review was performed on all members who met this criterion during fiscal year 2018. Forty seven percent of the fifteen reviewed took more than twenty-one days from the initiation of the history adjustment until the history was updated. The chart below shows the delay times for the different stages in processing a history adjustment. The delay in processing the member's history request for most of these fourteen members is due to the wait time for the approval by the Reporting Manager.

Reason For History Adjustment	Department That Processed History Adjustment Request	Source Documentation Received till History Adjustment Request Form Completed	History Adjustment Form Placed In Member's Docmage File	Days till Reporting Manager Approved	Days till Member History Updated	Total Days from Source Documentaiton Received Until Member History Updated
Free Military	B&C	225	1	26	0	252 *
Free Military	B&C	0	3	28	0	31
Free Military	B&C	6	1	4	63	74
Free Military	B&C	3	3	28	0	34
Pymt on Purchase by Employer Pickup	Reporting					35 ***
Pymt on Purchase by Employer Pickup	Reporting					35 ***
Add Retiree Rehire Service	Reporting	35	1	14	0	50
Correction to Salary	Reporting	11	1	14	0	26
Member Forfeit Service	Reporting	0	20	11	3	34
Member Forfeit Service	Reporting	9	8	16	0	33
Actuarial Purchase of Service	Reporting	33	0	16	1	50
Actuarial Purchase of Service	Reporting	7	7	8	3	25
Actuarial Purchase of Service	Reporting	20	177	0	0	197
Actuarial Purchase of Service	Reporting					27 **, ***

* Member's source documentation was filed without history adjustment form being completed, not discovered for 225 days.

** Member in Finding 1.

*** Check received on purchase service, history adjustment is not processed through history adjustment form.

The delay in updating the member's history is causing delays in processing a member's retirement application and T-Drop application. It wastes staff time with the additional reviews they are performing on a member's file. IA looked at four of the sampled members to determine how many times a counselor had to review a member's file to process their application before the member's history was updated and they were able to complete the application process. The files were reviewed from four to eleven times.

Recommendation: Member histories are maintained by the Reporting Department. Adjustments to a member's history are generated from a history adjustment request that is prepared by the department working the document or receipt of payment that generates a need for a member's history to be adjusted. The history adjustment request is reviewed and

approved by someone else in the same department that created the request. It is then reviewed and approved by the Manager of Reporting. The member's history is then updated by Reporting staff.

There only needs to be one review of the history adjustment request. History adjustments should be generated by staff, reviewed by their Supervisor or Manager, and then updated by Reporting staff. The second review by the Manager of Reporting is an unnecessary step. History adjustments should be worked within twenty-one days of the initiation of the adjustment and from within four working days from time the request is scanned into member's docmage file. Members retiring or entering the T-Drop program should be given priority. A member should be notified within five working days if there is additional paperwork due in order to process the member's adjustment.

Management Response: Staff appreciates and recognizes the need for history adjustments to be made with a reasonable timeframe and just as important to be made accurately. The Reporting Manager does not perform a second review all history adjustments under the current process. Staff will continue to update written procedures and train appropriate staff on history adjustment procedures.

Again, with regards the time frame in which history adjustments are being made, staff agrees with the general twenty-one (21) day turnaround time for the complete process of the time from which the system receives documentation / payment and the completion of the adjustment to member's history. However, staff will need to further consider an appropriate time frame from the time the Form 160 is scanned into the member's docmage file. Staff cannot at this time give assurance that the four (4) days recommended is adequate. Staff recommends and is committed to a seven (7) to ten (10) days.

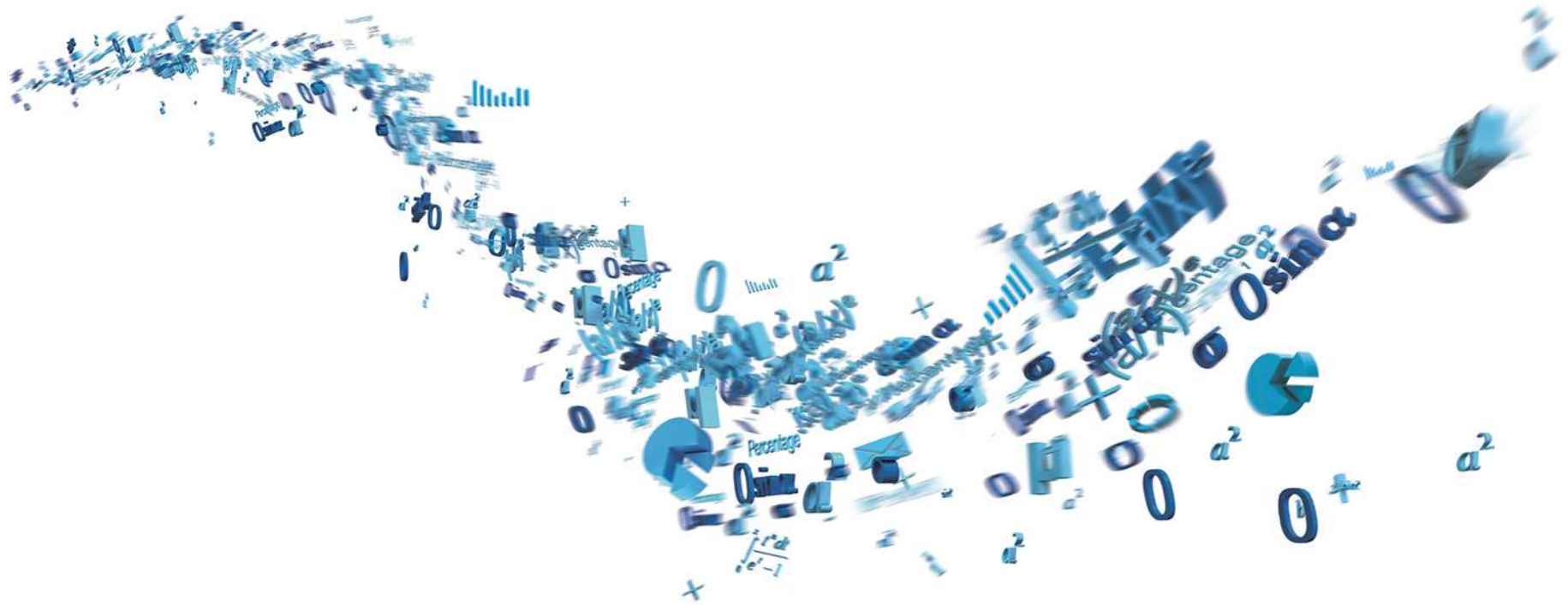
Finding 5: Reporting staff who updated the member's history was on leave most of fiscal year 2018. Employee was terminated May, 2019. Beginning January 2019, the Reporting Manager began to do the manual updates to the member's history. The Reporting Manager also continued to approve history adjustment request. There was no separation of duties. January 2020, an employee in the Reporting Department started approving history adjustments. The Reporting Manager is still doing the manual updates to the member's history.

Recommendation: There should be a segregation of duties with updating performed by staff and approval performed by Management.

Management Response: Staff appreciates and agrees that there should be a segregation of duties.

Conclusion

A member's history is an essential tool necessary to accurately counsel the member on all retirement issues. It is imperative that the history be updated accurately and timely in order for the member to receive their best information on their retirement choices. Member histories are not being updated in a timely manner. The adjustments audit trail is difficult to follow and understand. All decisions need to go through the proper channels. Member's records need to be documented with any decisions made in regards to the member's history. Procedures need to be brought up to date with clear direction and examples.



Arkansas Teacher Retirement System | Second Quarter 2020

Quarterly Investment Review

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

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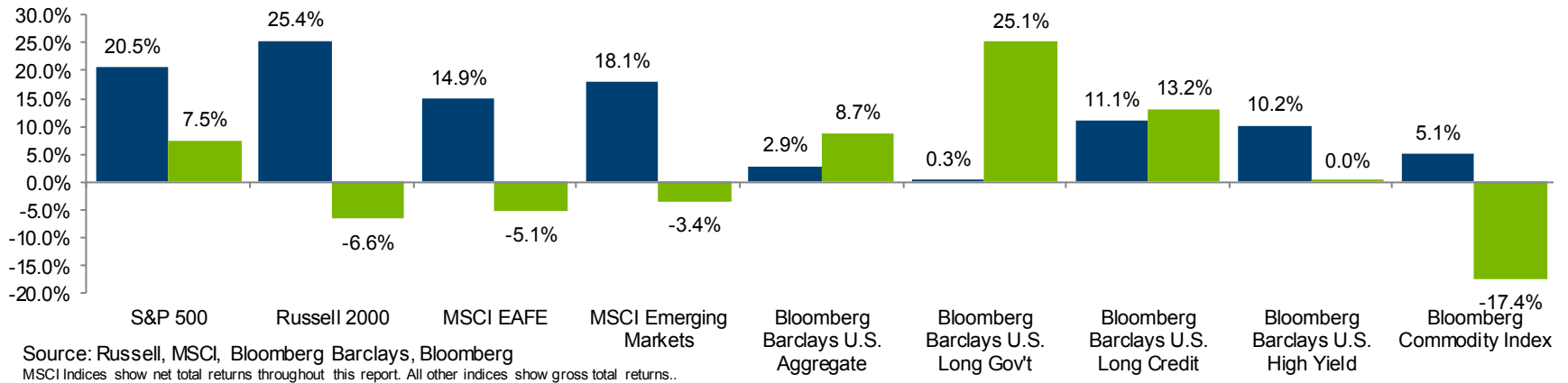


Executive Summary

Market Highlights

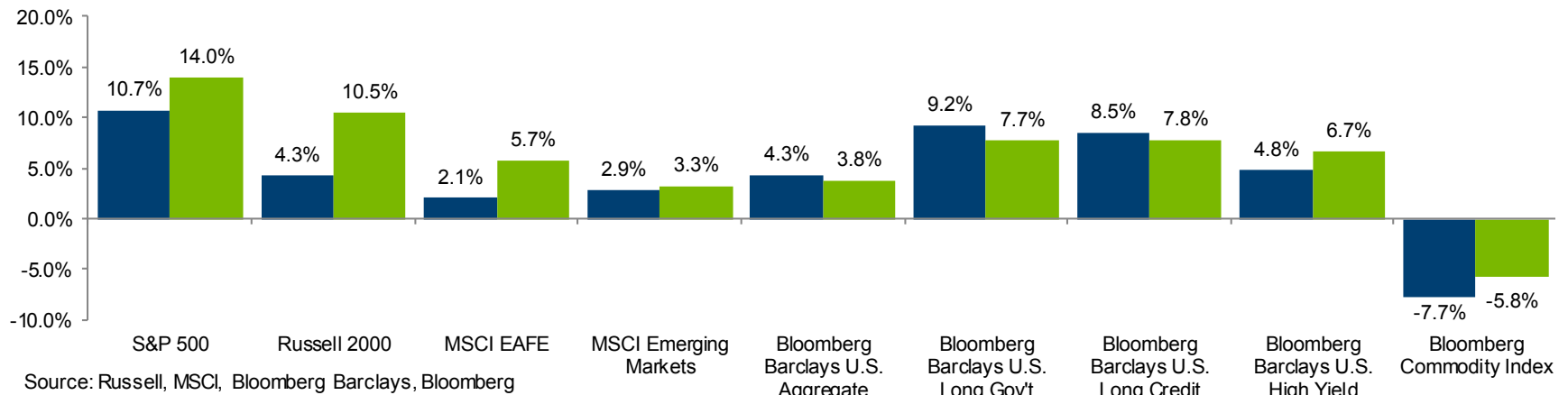
SHORT TERM RETURNS AS OF 06/30/2020

■ Second Quarter 2020 ■ One-Year



LONG TERM ANNUALIZED RETURNS AS OF 06/30/2020

■ Five-Year ■ Ten-Year



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Market Highlights

Returns of the Major Capital Markets

Period Ending 06/30/2020

	Second Quarter	YTD	1-Year	3-Year ¹	5-Year ¹	10-Year ¹
Equity						
MSCI All Country World IMI	19.83%	-7.06%	1.17%	5.55%	6.11%	9.10%
MSCI All Country World	19.22%	-6.25%	2.11%	6.14%	6.46%	9.16%
Dow Jones U.S. Total Stock Market	22.09%	-3.50%	6.41%	9.97%	9.97%	13.68%
Russell 3000	22.03%	-3.48%	6.53%	10.04%	10.03%	13.72%
S&P 500	20.54%	-3.08%	7.51%	10.73%	10.73%	13.99%
Russell 2000	25.42%	-12.98%	-6.63%	2.01%	4.29%	10.50%
MSCI All Country World ex-U.S. IMI	16.96%	-11.24%	-4.74%	0.96%	2.30%	5.11%
MSCI All Country World ex-U.S.	16.12%	-11.00%	-4.80%	1.13%	2.26%	4.97%
MSCI EAFE	14.88%	-11.34%	-5.13%	0.81%	2.05%	5.73%
MSCI EAFE (Local Currency)	12.60%	-10.53%	-4.24%	1.26%	2.63%	6.86%
MSCI Emerging Markets	18.08%	-9.78%	-3.39%	1.90%	2.86%	3.27%
Fixed Income						
Bloomberg Barclays Global Aggregate	3.32%	2.98%	4.22%	3.79%	3.56%	2.81%
Bloomberg Barclays U.S. Aggregate	2.90%	6.14%	8.74%	5.32%	4.30%	3.82%
Bloomberg Barclays U.S. Long Govt	0.28%	20.97%	25.14%	11.96%	9.21%	7.71%
Bloomberg Barclays U.S. Long Credit	11.08%	5.92%	13.19%	8.70%	8.51%	7.77%
Bloomberg Barclays U.S. Long Govt/Credit	6.23%	12.82%	18.91%	10.32%	8.98%	7.84%
Bloomberg Barclays U.S. TIPS	4.24%	6.01%	8.28%	5.05%	3.75%	3.52%
Bloomberg Barclays U.S. High Yield	10.18%	-3.80%	0.03%	3.33%	4.79%	6.68%
Bloomberg Barclays Global Treasury ex U.S.	2.39%	0.82%	0.87%	2.82%	3.23%	1.85%
JP Morgan EMBI Global (Emerging Markets)	11.21%	-1.87%	1.52%	3.31%	5.12%	5.82%
Commodities						
Bloomberg Commodity Index	5.08%	-19.40%	-17.38%	-6.14%	-7.69%	-5.82%
Goldman Sachs Commodity Index	10.47%	-36.31%	-33.90%	-8.71%	-12.54%	-8.53%
Hedge Funds						
HFR I Fund-Weighted Composite ²	9.08%	-3.43%	-0.54%	2.13%	2.33%	3.72%
HFR I Fund of Funds ²	7.48%	-1.97%	0.09%	2.12%	1.41%	2.75%
Real Estate						
NAREIT U.S. Equity REITS	11.82%	-18.71%	-13.04%	0.03%	4.06%	9.05%
NCREIF NFI - ODCE	-1.55%			5.66%	7.31%	10.80%
FTSE Global Core Infrastructure Index	8.89%	-10.59%	-4.61%	5.49%	7.01%	9.75%
Private Equity						
Burgiss Private IQ Global Private Equity ³			15.31%	14.78%	12.30%	13.19%

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 Dec 31, 2019

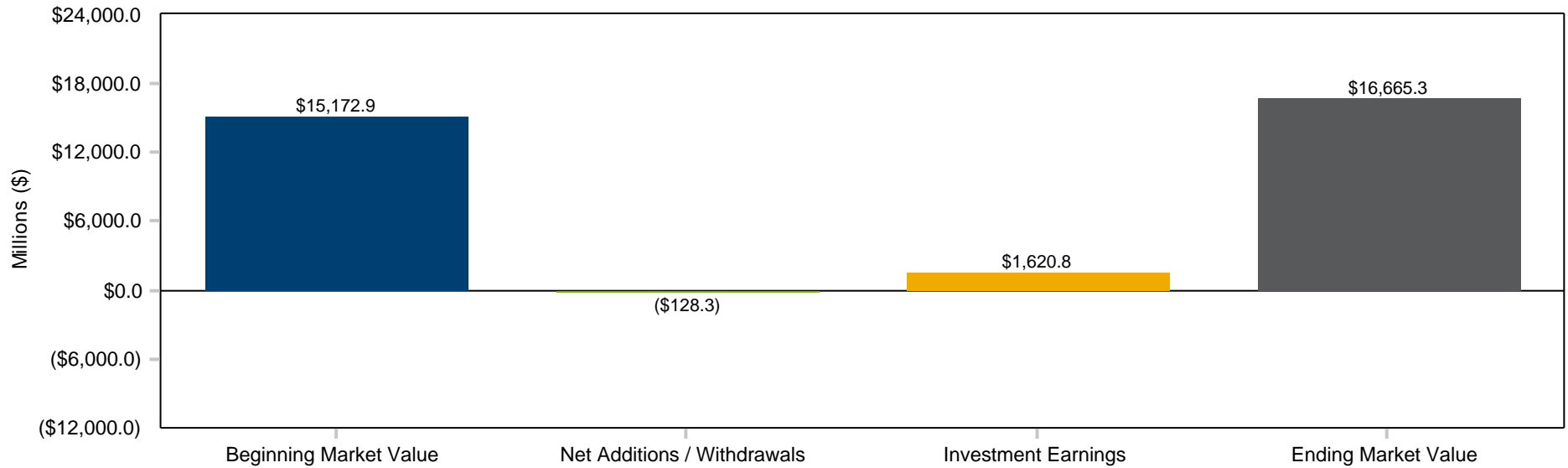
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Total Fund

Total Plan Asset Summary

**Change in Market Value
From April 1, 2020 to June 30, 2020**

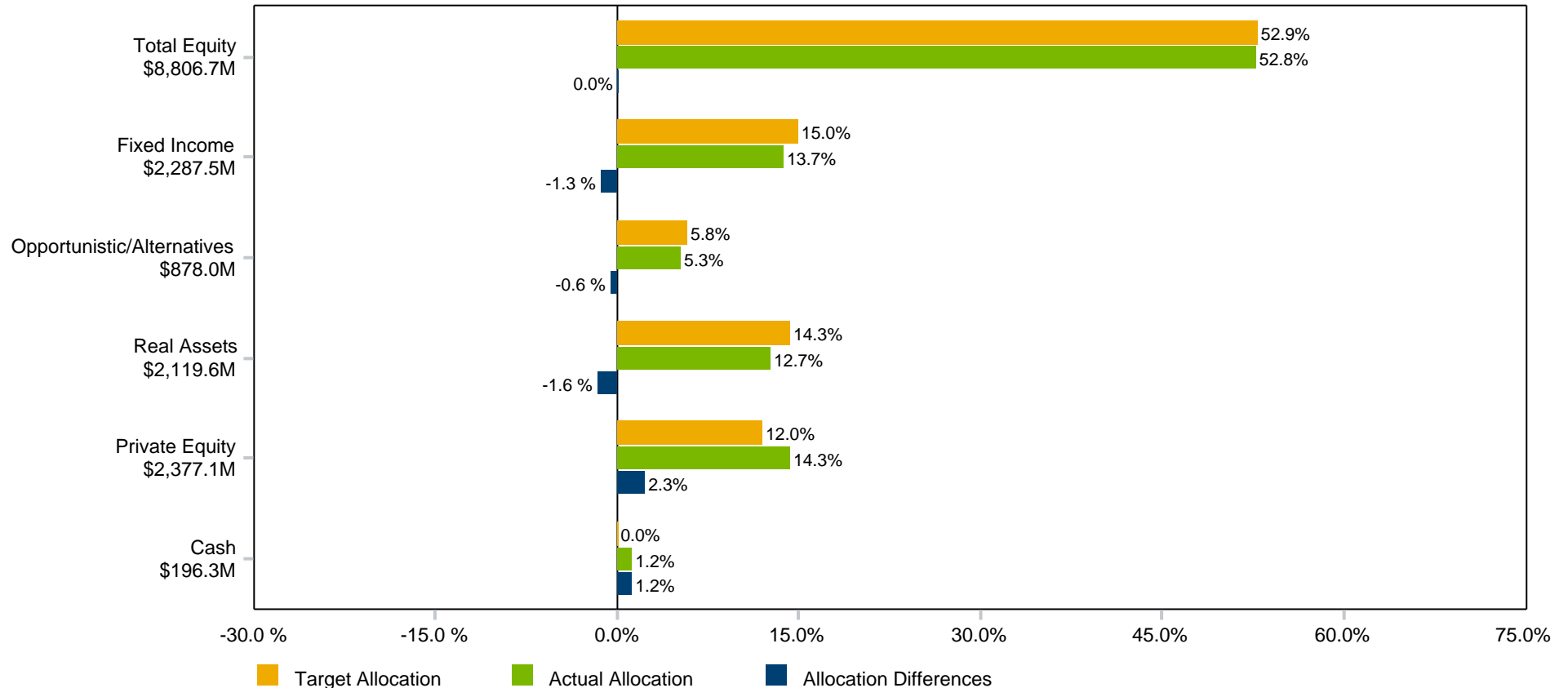


Summary of Cash Flow

	1 Quarter	Year To Date	Fiscal YTD
Beginning Market Value	15,172,859,602	18,317,233,920	17,586,476,970
+ Additions / Withdrawals	-128,295,720	-304,806,570	-718,015,129
+ Investment Earnings	1,620,752,042	-1,347,111,427	-203,145,917
= Ending Market Value	16,665,315,924	16,665,315,924	16,665,315,924

Asset Allocation Compliance

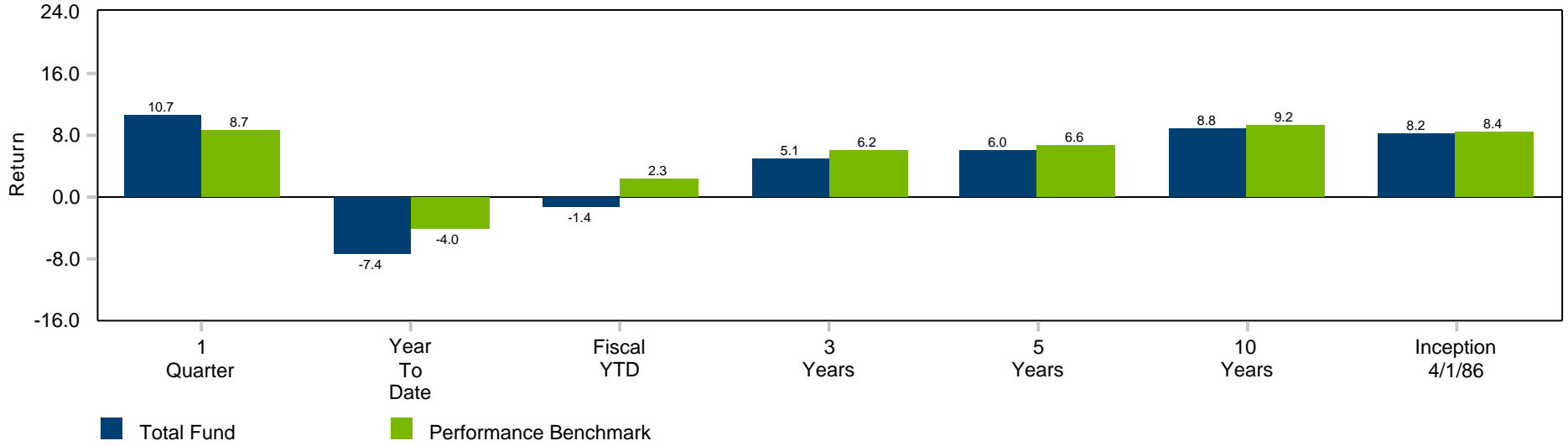
	Market Value (\$M)	Current Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)
Total Fund	16,665.3	100.00	100.00	N/A	N/A
Total Equity	8,806.7	52.84	52.88	50.00	60.00
Fixed Income	2,287.5	13.73	15.00	13.00	17.00
Opportunistic/Alternatives	878.0	5.27	5.85	0.00	7.00
Real Assets	2,119.6	12.72	14.27	10.00	15.00
Private Equity	2,377.1	14.26	12.00	9.50	14.50
Cash	196.3	1.18	0.00	0.00	5.00



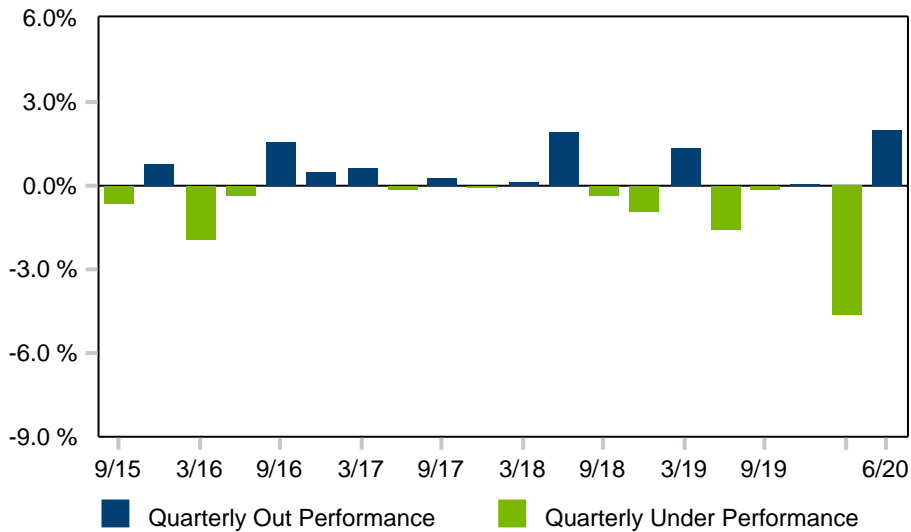
Market values and allocation percentages may not add to the sum total due to rounding.

Total Plan Performance Summary

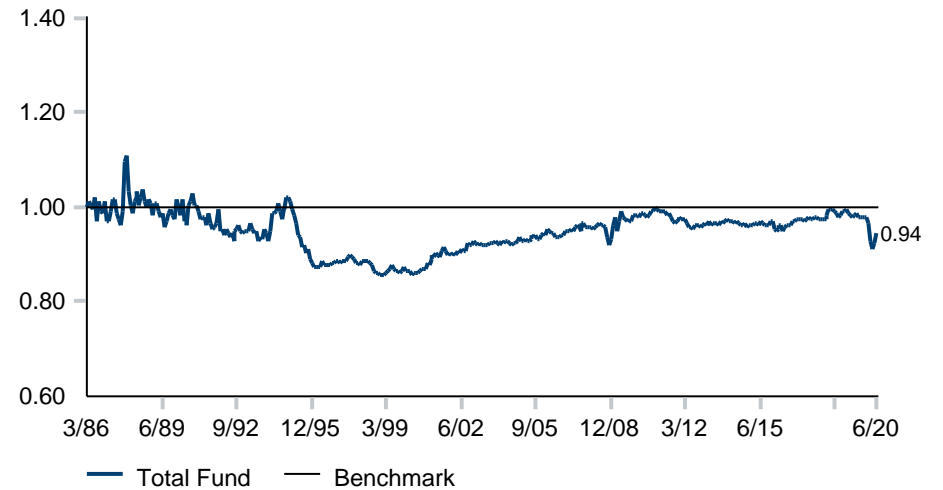
Return Summary



Quarterly Excess Performance

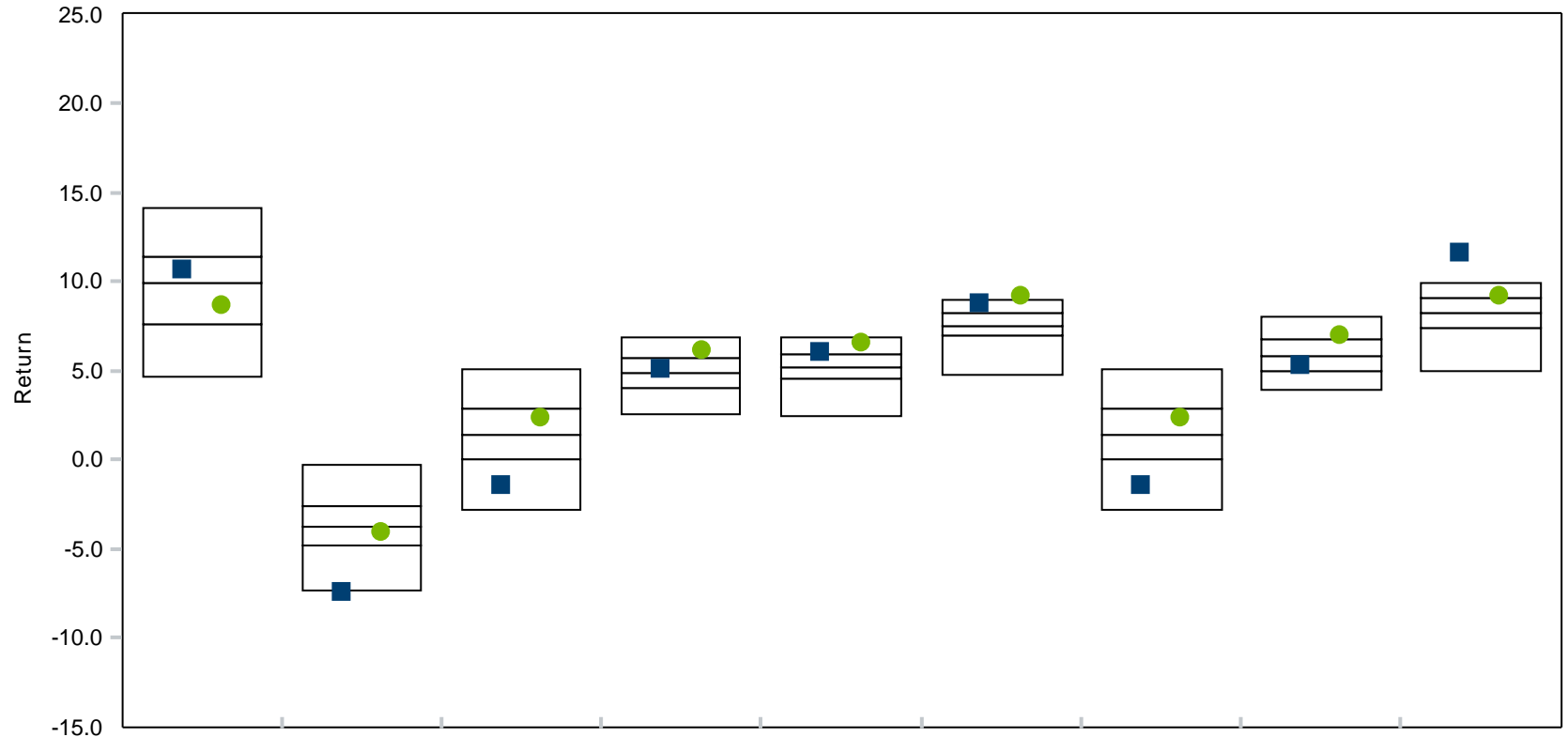


Ratio of Cumulative Wealth - Since Inception



Plan Sponsor Peer Group Analysis

All Public Plans > \$1B-Total Fund



	1 Quarter	Year To Date	Fiscal YTD	3 Years	5 Years	10 Years	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018
■ Total Fund	10.7 (36)	-7.4 (96)	-1.4 (92)	5.1 (43)	6.0 (19)	8.8 (10)	-1.4 (92)	5.3 (67)	11.7 (1)
● Performance Benchmark	8.7 (66)	-4.0 (57)	2.3 (35)	6.2 (17)	6.6 (9)	9.2 (2)	2.3 (35)	7.0 (16)	9.2 (19)
5th Percentile	14.2	-0.3	5.1	6.9	6.8	9.0	5.1	8.1	10.0
1st Quartile	11.5	-2.5	2.9	5.8	5.9	8.2	2.9	6.8	9.1
Median	10.0	-3.8	1.4	4.9	5.2	7.6	1.4	5.8	8.3
3rd Quartile	7.7	-4.8	0.0	4.0	4.6	7.0	0.0	5.0	7.5
95th Percentile	4.7	-7.3	-2.7	2.6	2.4	4.8	-2.7	4.0	5.0
Population	144	143	143	141	139	132	143	112	89

509 Parentheses contain percentile rankings.

As of June 30, 2020

Asset Allocation & Performance

	Allocation			Performance(%)							
	Market Value (\$)	%	Policy(%)	1 Quarter	Year To Date	Fiscal YTD	3 Years	5 Years	10 Years	Since Inception	Inception Date
Total Fund	16,665,315,924	100.0	100.0	10.7	-7.4	-1.4	5.1	6.0	8.8	8.2	04/01/1986
Performance Benchmark				8.7	-4.0	2.3	6.2	6.6	9.2	8.4	
Total Equity	8,806,733,708	52.8	52.9	22.6	-14.2	-6.4	3.4	5.1	9.5	5.1	07/01/2015
Total Equity Performance Benchmark				20.6	-6.0	2.7	6.9	7.4	10.9	7.4	
Fixed Income	2,287,510,324	13.7	15.0	4.7	4.1	6.4	4.7	4.5	4.6	5.5	07/01/1992
Performance Benchmark				3.8	5.2	7.9	5.2	4.4	4.1	5.7	
Opportunistic/Alternatives	878,031,690	5.3	5.8	1.4	-6.6	-5.3	-1.7	0.0		2.6	05/01/2011
Custom Alternatives Benchmark				3.1	-4.3	-2.4	1.0	0.4		1.3	
Real Assets	2,119,594,003	12.7	14.3	-0.3	1.1	4.0	6.3	7.2		8.1	07/01/2013
Total Real Assets Benchmark				0.8	2.0	4.1	5.3	6.5		7.9	
Real Estate	1,349,241,306	8.1		-0.4	0.7	2.0	6.2	7.5	9.8	8.7	12/01/1998
NFI-ODCE (Net)				0.8	2.0	3.9	5.9	7.5	10.2	8.9	
Timber	297,522,018	1.8		0.7	1.5	12.2	4.2	4.2	3.5	7.1	06/01/1998
Timberland Property Benchmark				0.4	1.1	3.1	1.9	2.4	3.3		
Agriculture	201,906,489	1.2		-0.7	-0.1	1.8	2.9	4.5		5.3	09/01/2011
Agriculture Benchmark				0.7	2.3	4.0	4.3	4.6			
Infrastructure	270,924,189	1.6		-0.1	3.4	8.0				11.3	07/01/2018
CPI + 5%				1.1	2.8	5.7				6.2	
Private Equity	2,377,140,385	14.3	12.0	-4.5	-1.8	4.9	13.1	12.7	13.7	12.1	03/01/1997
Private Equity Policy				-20.6	-13.0	-7.5	6.0	7.8	12.3	9.6	
Cash	196,305,814	1.2	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 149 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.

As of June 30, 2020

Asset Allocation & Performance

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Quarter	Year To Date	Fiscal YTD	3 Years	5 Years	10 Years	Since Inception	Inception Date	
Total Fund	16,665,315,924	100.0	10.7 (36)	-7.4 (96)	-1.4 (92)	5.1 (43)	6.0 (19)	8.8 (10)	8.2 (11)	04/01/1986	
Performance Benchmark			8.7 (66)	-4.0 (57)	2.3 (35)	6.2 (17)	6.6 (9)	9.2 (2)	8.4 (6)		
Total Equity	8,806,733,708	52.8	22.6 (26)	-14.2 (82)	-6.4 (75)	3.4 (62)	5.1 (54)	9.5 (40)	5.1 (54)	07/01/2015	
Total Equity Performance Benchmark			20.6 (39)	-6.0 (48)	2.7 (41)	6.9 (35)	7.4 (30)	10.9 (28)	7.4 (30)		
Jacobs Levy 130/30	620,765,150	3.7	18.6 (72)	-9.0 (50)	0.2 (43)	8.2 (36)	11.4 (17)	15.8 (8)	9.3 (16)	01/01/2008	
Russell 3000 Index			22.0 (49)	-3.5 (34)	6.5 (28)	10.0 (29)	10.0 (22)	13.7 (20)	8.4 (26)		
Kennedy Capital Management	447,475,455	2.7	20.0 (54)	-22.6 (54)	-16.2 (46)	-4.7 (52)	0.5 (42)	8.9 (16)	10.9 (1)	01/01/1994	
Russell 2000 Value Index			18.9 (67)	-23.5 (61)	-17.5 (57)	-4.3 (48)	1.3 (29)	7.8 (43)	8.4 (78)		
Stephens	466,624,527	2.8	36.5 (37)	7.8 (33)	7.8 (45)	14.8 (33)	10.6 (28)	13.9 (37)	10.1 (27)	08/01/2006	
Russell 2000 Growth Index			30.6 (62)	-3.1 (67)	3.5 (56)	7.9 (68)	6.9 (67)	12.9 (56)	8.9 (55)		
Voya Absolute Return	545,934,413	3.3	22.3 (28)	-8.2 (60)	0.1 (51)	4.6 (49)	7.0 (35)	12.3 (17)	9.4 (22)	10/01/2008	
Performance Benchmark			19.2 (49)	-6.3 (49)	2.1 (44)	6.1 (39)	7.5 (30)	12.3 (16)	9.6 (21)		
Allianz (Nicholas Applegate)	717,818,133	4.3	26.2 (30)	11.5 (8)	20.1 (9)	16.3 (13)	11.1 (18)	12.6 (32)	10.4 (7)	12/01/1998	
Performance Benchmark			24.2 (39)	7.2 (15)	15.3 (14)	11.7 (23)	9.2 (27)	10.9 (47)	8.0 (46)		
Pershing Square International	77,459,561	0.5	17.9 (75)	21.0 (3)	28.0 (3)	19.8 (6)	4.4 (56)	10.5 (51)	10.7 (16)	07/01/2008	
Dow Jones U.S. Total Stock Market Index			22.1 (49)	-3.5 (34)	6.4 (28)	10.0 (29)	10.0 (22)	13.7 (21)	9.8 (25)		
Pershing Square Holdings	167,815,686	1.0	29.8 (17)	23.9 (2)	36.5 (1)	17.4 (10)	-2.3 (96)		4.8 (90)	01/01/2013	
Dow Jones U.S. Total Stock Market Index			22.1 (49)	-3.5 (34)	6.4 (28)	10.0 (29)	10.0 (22)		12.8 (22)		
Trian Partners	65,324,877	0.4	15.8	-10.4	-2.3	4.4			5.9	11/01/2015	
S&P 500 Index			20.5	-3.1	7.5	10.7			11.2		
Trian Co-Investments	59,173,620	0.4	13.1	-17.3	-3.4	1.4			1.1	01/01/2017	
S&P 500 Index			20.5	-3.1	7.5	10.7			11.9		
SSgA Global Index	901,559,429	5.4	20.0 (44)	-6.8 (53)	1.6 (45)	5.9 (41)	6.5 (38)	9.5 (40)	5.7 (37)	04/01/2008	
MSCI AC World IMI (Net)			19.8 (46)	-7.1 (54)	1.2 (47)	5.5 (43)	6.1 (42)	9.1 (46)	5.3 (42)		

As of June 30, 2020

Asset Allocation & Performance

	Allocation		Performance(%)							Inception Date
	Market Value (\$)	%	1 Quarter	Year To Date	Fiscal YTD	3 Years	5 Years	10 Years	Since Inception	
BlackRock MSCI ACWI IMI Fund	1,082,961,342	6.5	19.8 (46)	-6.9 (53)	1.5 (46)	5.7 (42)	6.3 (39)		7.2 (43)	07/01/2011
MSCI AC World IMI (Net)			19.8 (46)	-7.1 (54)	1.2 (47)	5.5 (43)	6.1 (42)		6.9 (46)	
Wellington Global Perspectives	471,875,308	2.8	21.3 (33)	-17.4 (88)	-11.7 (89)	-0.6 (82)	3.3 (75)	10.3 (30)	11.2 (29)	07/01/2009
Performance Benchmark			24.8 (18)	-12.8 (78)	-5.5 (73)	1.4 (72)	3.7 (72)	8.5 (54)	9.5 (41)	
T. Rowe Price Global Equity	1,104,684,382	6.6	30.3 (9)	10.5 (8)	22.8 (5)	17.2 (4)	15.5 (4)	15.1 (4)	13.8 (7)	09/01/2009
MSCI AC World Index (Net)			19.2 (49)	-6.3 (49)	2.1 (44)	6.1 (39)	6.5 (38)	9.2 (45)	8.3 (46)	
MSCI AC World Index Growth (net)			25.1 (18)	5.5 (13)	16.6 (10)	13.2 (11)	10.8 (13)	12.0 (19)	11.2 (21)	
Lazard	570,785,100	3.4	22.8 (25)	-5.8 (48)	1.6 (45)	4.7 (48)	5.3 (54)	8.6 (52)	8.4 (45)	09/01/2009
MSCI AC World Index (Net)			19.2 (49)	-6.3 (49)	2.1 (44)	6.1 (39)	6.5 (38)	9.2 (45)	8.3 (46)	
D.E. Shaw	691,109,300	4.1	18.2 (55)	-7.8 (57)	0.1 (51)	6.0 (40)	7.3 (32)	11.0 (28)	9.9 (29)	09/01/2009
MSCI World Index (Net)			19.4 (48)	-5.8 (48)	2.8 (41)	6.7 (37)	6.9 (36)	10.0 (32)	8.9 (36)	
GMO Global All Country Equity	401,769,492	2.4	17.1 (61)	-11.2 (73)	-2.3 (63)	2.6 (68)	3.9 (70)		2.4 (74)	07/01/2014
MSCI AC World Index (Net)			19.2 (49)	-6.3 (49)	2.1 (44)	6.1 (39)	6.5 (38)		5.5 (39)	
MSCI AC World Index Value (Net)			12.7 (84)	-17.8 (89)	-11.8 (89)	-1.0 (83)	1.9 (81)		1.0 (82)	
Harris Global Equity	413,526,468	2.5	23.0 (24)	-15.7 (85)	-6.6 (75)	-1.3 (84)	3.1 (75)		2.7 (76)	06/01/2014
MSCI World Index (Net)			19.4 (48)	-5.8 (48)	2.8 (41)	6.7 (37)	6.9 (36)		6.2 (36)	
MSCI World Value (Net)			12.6 (84)	-17.8 (89)	-11.3 (88)	-0.8 (82)	2.2 (78)		1.6 (80)	
Fixed Income	2,287,510,324	13.7	4.7 (57)	4.1 (64)	6.4 (69)	4.7 (67)	4.5 (42)	4.6 (45)	5.5	07/01/1992
Performance Benchmark			3.8 (72)	5.2 (52)	7.9 (43)	5.2 (39)	4.4 (51)	4.1 (67)	5.7	
BlackRock	278,113,839	1.7	4.6 (50)	6.3 (14)	9.0 (14)	5.5 (15)	4.5 (20)	4.5 (33)	4.8 (27)	10/01/2003
Performance Benchmark			3.8 (59)	5.2 (27)	7.9 (24)	5.2 (20)	4.4 (21)	4.1 (39)	4.6 (32)	
Loomis Sayles	457,246,311	2.7	8.9 (19)	4.8 (33)	7.6 (26)	5.6 (14)	5.3 (12)	7.0 (8)	8.2 (6)	09/01/2008
Performance Benchmark			6.0 (38)	3.4 (44)	6.6 (35)	5.1 (22)	4.8 (16)	5.1 (26)	5.8 (24)	
Putnam	369,050,000	2.2	3.7 (56)	-3.4 (55)	0.1 (55)	2.6 (32)	2.4 (41)	2.3	2.8	08/01/2008
LIBOR			0.4 (74)	0.9 (26)	2.1 (35)	2.1 (38)	1.5 (55)	0.9	1.0	
SSgA Aggregate Bond Index	194,539,361	1.2	3.0 (69)	6.1 (16)	8.7 (16)	5.3 (17)	4.3 (24)	3.8 (45)	4.0 (44)	06/01/2010
Barclays Aggregate Index			2.9 (70)	6.1 (16)	8.7 (16)	5.3 (17)	4.3 (24)	3.8 (46)	4.0 (44)	
Wellington Global Total Return	347,511,514	2.1	1.2 (68)	1.1 (26)	2.1 (36)	4.1 (18)	2.6 (39)		2.1 (45)	05/01/2014
BofA Merrill Lynch 3 Month US T-Bill			0.0 (77)	0.6 (29)	1.6 (41)	1.8 (44)	1.2 (56)		1.0 (65)	
Reams Core Plus Bond Fund	388,017,690	2.3	9.2 (17)	12.7 (3)	15.3 (5)	7.8 (8)	5.8 (9)		5.0 (10)	05/01/2014
Barclays Aggregate Index			2.9 (70)	6.1 (16)	8.7 (16)	5.3 (17)	4.3 (24)		4.0 (22)	
BRS Recycling Tax Credit	176,000,000	1.1								
BRS Recycling Tax Credit Phase 2	77,031,608	0.5								

As of June 30, 2020

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Quarter	Year To Date	Fiscal YTD	3 Years	5 Years	10 Years	Since Inception	Inception Date
Opportunistic/Alternatives	878,031,690	5.3	1.4	-6.6	-5.3	-1.7	0.0		2.6	05/01/2011
Custom Alternatives Benchmark			3.1	-4.3	-2.4	1.0	0.4		1.3	
Anchorage	73,237,602	0.4	7.2	-1.7	-5.4	0.6	0.7		4.3	05/01/2011
Credit Suisse Event Driven			9.8	-7.6	-6.9	-0.5	-0.7		1.2	
York	30,500,478	0.2	-14.7	-35.5	-45.2	-16.7	-10.4		-3.0	05/01/2011
Credit Suisse Event Driven			9.8	-7.6	-6.9	-0.5	-0.7		1.2	
Capula	88,994,444	0.5	2.1	5.2	9.8	6.6	6.7		6.4	05/01/2011
HFRI Macro (Total) Index			1.0	-0.6	0.9	1.5	0.8		0.3	
Graham	57,059,647	0.3	8.2	-9.4	-5.6	0.9	-0.3		1.3	05/01/2011
HFRI Macro (Total) Index			1.0	-0.6	0.9	1.5	0.8		0.3	
Circumference Group Core Value	29,768,164	0.2	10.2	3.6	5.0	7.7			8.2	08/01/2015
Russell 2000 Index			25.4	-13.0	-6.6	2.0			4.6	
Aeolus Keystone Fund	220,252,570	1.3	-1.2	-0.2	5.1	-6.7			-1.4	12/01/2015
Citigroup 3 Month T-Bill			0.1	0.5	1.6	1.7			1.3	
Eurekahedge ILS Advisers Index			0.7	0.9	3.0	-3.1			-0.6	
Nephila Rubik Holdings	45,311,893	0.3	2.2	2.1	3.1	-4.0			-2.4	06/01/2016
Citigroup 3 Month T-Bill			0.1	0.5	1.6	1.7			1.4	
Eurekahedge ILS Advisers Index			0.7	0.9	3.0	-3.1			-1.1	
Parametric Global Defensive Equity Fund	158,804,566	1.0	9.4	-9.1	-4.2	1.7			1.8	05/01/2017
Performance Benchmark			9.4	-2.4	2.4	4.3			4.1	
MSCI AC World Index			19.4	-6.0	2.6	6.7			7.3	
Man Alternative Risk Premia	91,051,807	0.5	-2.9	-7.7	-7.9				-4.1	06/01/2018
SG Multi Alternative Risk Premia Index			-4.3	-12.6	-11.6				-5.8	
CFM ISD Fund 1.5x	74,850,519	0.4	-5.7	-24.1	-26.1				-12.8	07/01/2018
SG Multi Alternative Risk Premia Index			-4.3	-12.6	-11.6				-5.8	
AB TALF Opportunity 2020 Fund	4,200,000	0.0								
TCW TALF Opportunities Fund	4,000,000	0.0								

As of June 30, 2020

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Quarter	Year To Date	Fiscal YTD	3 Years	5 Years	10 Years	Since Inception	Inception Date
Real Assets	2,119,594,003	12.7	-0.3	1.1	4.0	6.3	7.2		8.1	07/01/2013
Total Real Assets Benchmark			0.8	2.0	4.1	5.3	6.5		7.9	
Real Estate	1,349,241,306	8.1	-0.4	0.7	2.0	6.2	7.5	9.8	8.7	12/01/1998
NFI-ODCE (Net)			0.8	2.0	3.9	5.9	7.5	10.2	8.9	
Timber	297,522,018	1.8	0.7	1.5	12.2	4.2	4.2	3.5	7.1	06/01/1998
Timberland Property Benchmark			0.4	1.1	3.1	1.9	2.4	3.3		
BTG Timber Separate Account	118,310,479	0.7								
BTG U.S. Timberland Fund, L.P.	179,211,540	1.1								
Agriculture	201,906,489	1.2	-0.7	-0.1	1.8	2.9	4.5		5.3	09/01/2011
Agriculture Benchmark			0.7	2.3	4.0	4.3	4.6			
HFMS Farmland	147,407,279	0.9	-1.2	-0.6	1.4	2.5	4.4		5.3	09/01/2011
HFMS custom NCREIF Farmland Index			1.5	2.7	4.6	3.8	4.1			
UBS Agrivest Core Farmland Fund	54,499,210	0.3	1.0	1.4	3.1	3.8	4.6		4.6	07/01/2015
UBS Agrivest custom NCREIF Farmland Index			1.6	2.6	4.7	5.3	5.9		5.9	
Infrastructure	270,924,189	1.6	-0.1	3.4	8.0				11.3	07/01/2018
CPI + 5%			1.1	2.8	5.7				6.2	
Private Equity	2,377,140,385	14.3	-4.5	-1.8	4.9	13.1	12.7	13.7	12.1	04/01/1997
Private Equity Policy			-20.6	-13.0	-7.5	6.0	7.8	12.3	9.7	
Cash	196,305,814	1.2								

*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 149 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.

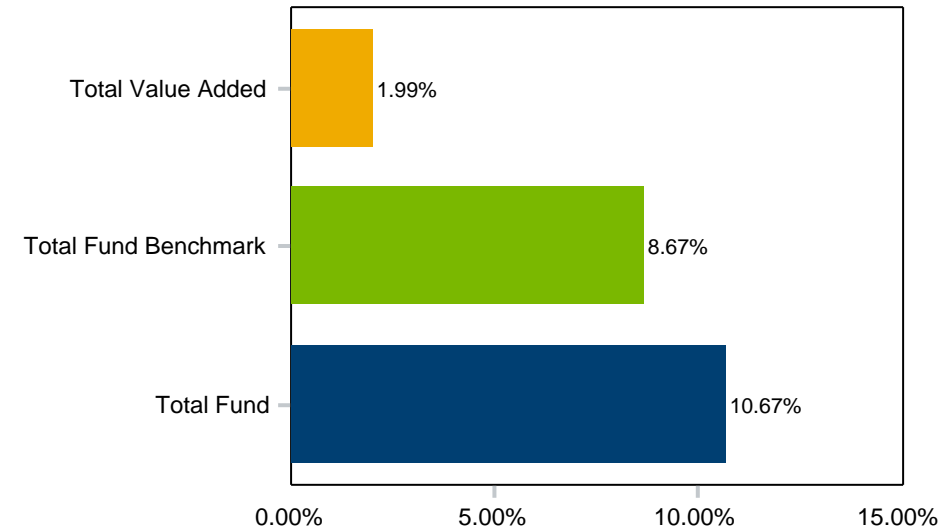
*ATRS made a total commitment of \$100 million to the Triam Co-Investments Fund. As of 6/30/2020, there was an unfunded commitment value equal to \$39,700,586.

*ATRS made a total commitment of \$42 million to the AB TALF Opportunity 2020 Fund. As of 6/30/2020, there was an unfunded commitment value equal to \$37,800,000.

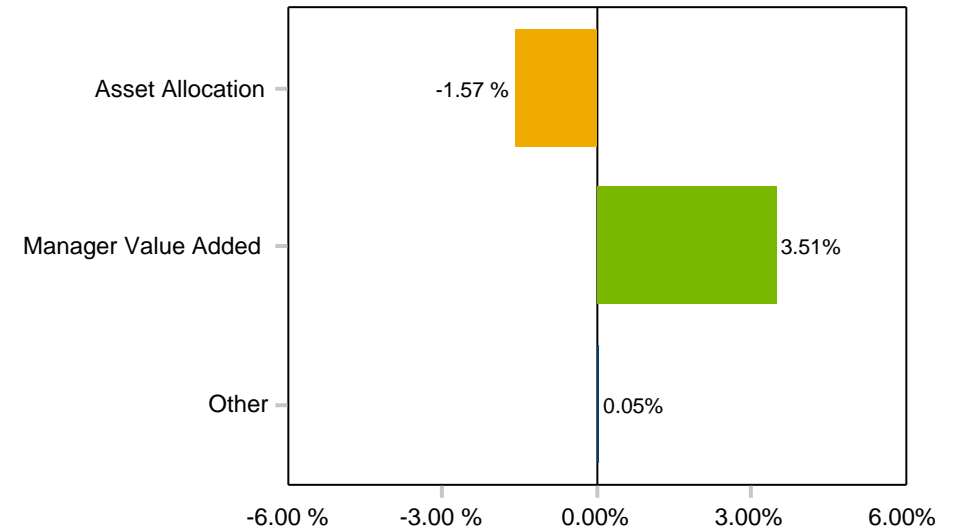
*ATRS made a total commitment of \$40 million to the TCW TALF Opportunities Fund. As of 6/30/2020, there was an unfunded commitment value equal to \$36,000,000.

Total Fund Attribution

Total Fund Performance

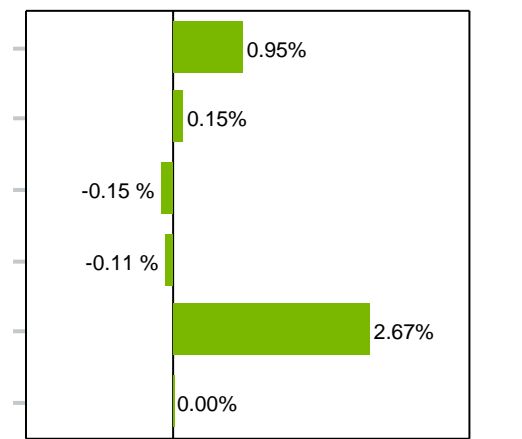
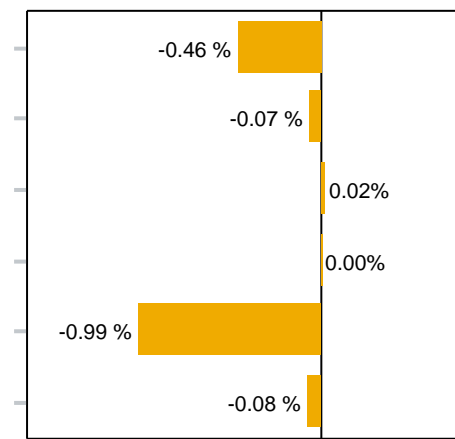
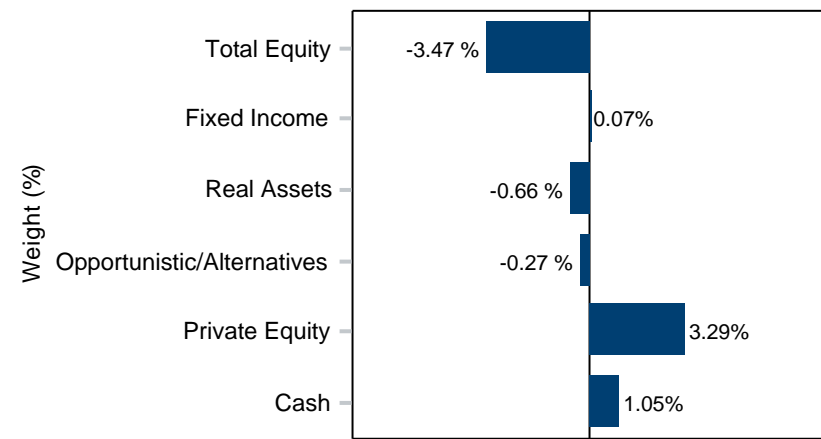


Total Value Added: 1.99%



Total Asset Allocation: -1.57%

Total Manager Value Added: 3.51%



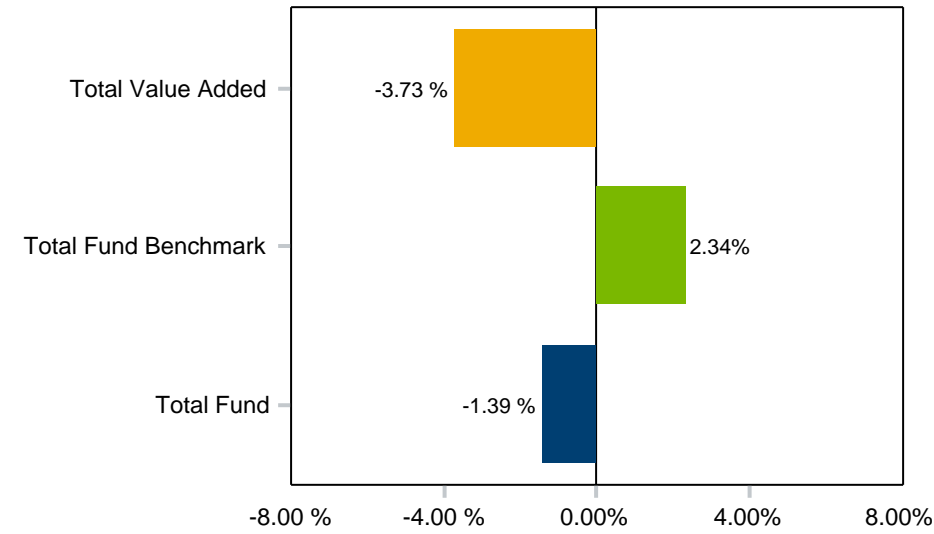
Average Active Weight

Asset Allocation Value Added

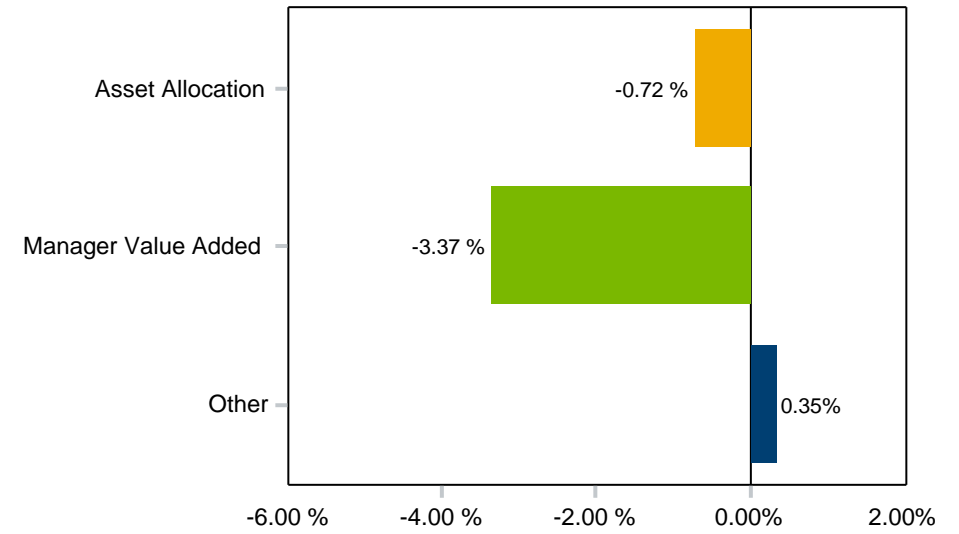
Manager Value Added

Total Fund Attribution

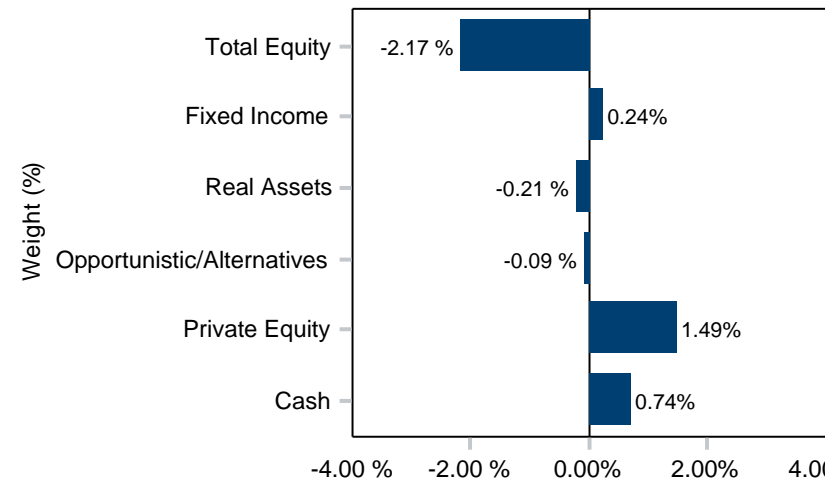
Total Fund Performance



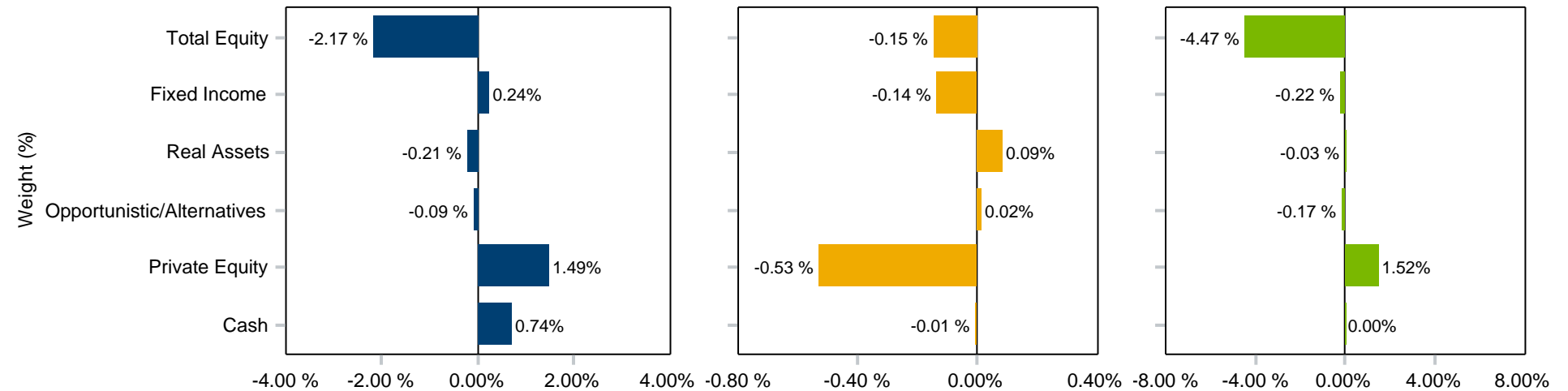
Total Value Added: -3.73 %



Total Asset Allocation: -0.72 %



Total Manager Value Added: -3.37 %



Average Active Weight

Asset Allocation Value Added

Manager Value Added

As of June 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 (92)	5.3 (67)	11.7 (1)	16.1 (1)	-0.5 (70)	5.2 (2)	19.0 (4)	14.3 (5)	-1.0 (100)	22.4 (29)
Performance Benchmark	2.3 (35)	7.0 (16)	9.2 (19)	13.2 (27)	1.8 (10)	5.2 (2)	18.3 (11)	13.5 (12)	2.1 (25)	21.9 (40)
Total Equity	-6.4 (75)	4.1 (54)	13.4 (28)	22.1 (25)	-4.8 (52)	4.1 (25)	25.5 (28)	20.3 (26)	-6.3 (52)	31.5 (40)
Total Equity Performance Benchmark	2.7 (41)	5.9 (43)	12.2 (32)	19.0 (42)	-1.5 (34)	3.6 (29)	23.9 (38)	18.9 (37)	-1.8 (25)	31.2 (42)
Jacobs Levy 130/30	0.2 (43)	5.5 (44)	19.9 (20)	24.6 (14)	8.3 (4)	14.2 (5)	24.3 (44)	22.4 (43)	1.4 (35)	43.2 (13)
Russell 3000 Index	6.5 (28)	9.0 (28)	14.8 (40)	18.5 (50)	2.1 (18)	7.3 (36)	25.2 (34)	21.5 (49)	3.8 (20)	32.4 (51)
Kennedy Capital Management	-16.2 (46)	-7.8 (60)	12.2 (41)	24.2 (24)	-4.9 (55)	2.7 (43)	29.4 (5)	34.4 (5)	-4.2 (58)	33.9 (48)
Russell 2000 Value Index	-17.5 (57)	-6.2 (49)	13.1 (36)	24.9 (21)	-2.6 (33)	0.8 (59)	22.5 (60)	24.8 (53)	-1.4 (28)	31.4 (64)
Stephens	7.8 (45)	8.4 (27)	29.5 (21)	18.3 (77)	-7.8 (37)	5.1 (82)	18.4 (72)	18.7 (83)	3.0 (7)	46.7 (27)
Russell 2000 Growth Index	3.5 (56)	-0.5 (71)	21.9 (57)	24.4 (37)	-10.8 (55)	12.3 (30)	24.7 (27)	23.7 (45)	-2.7 (36)	43.5 (48)
Voya Absolute Return	0.1 (51)	4.0 (54)	9.9 (49)	20.3 (33)	1.9 (19)	7.8 (9)	26.9 (18)	19.7 (30)	6.0 (6)	30.5 (47)
Performance Benchmark	2.1 (44)	5.7 (45)	10.7 (43)	18.8 (42)	1.1 (21)	7.4 (10)	24.6 (34)	20.6 (25)	5.4 (7)	30.7 (45)
Allianz (Nicholas Applegate)	20.1 (9)	12.5 (12)	16.4 (32)	15.9 (68)	-7.1 (74)	4.4 (62)	23.1 (56)	19.4 (1)	-2.4 (60)	29.7 (67)
Performance Benchmark	15.3 (14)	7.8 (33)	12.0 (56)	16.8 (61)	-4.7 (59)	3.5 (67)	24.4 (42)	18.6 (1)	-3.2 (65)	22.5 (94)
Pershing Square International	28.0 (3)	30.7 (1)	2.8 (96)	8.2 (94)	-33.2 (100)	12.9 (8)	29.1 (12)	17.3 (77)	0.8 (40)	26.8 (84)
Dow Jones U.S. Total Stock Market Index	6.4 (28)	8.9 (28)	14.8 (40)	18.5 (50)	2.0 (18)	7.2 (36)	25.0 (36)	21.5 (49)	4.0 (20)	32.4 (51)
Pershing Square Holdings	36.5 (1)	21.7 (1)	-2.7 (100)	8.3 (94)	-49.1 (100)	15.2 (4)	30.4 (8)			
Dow Jones U.S. Total Stock Market Index	6.4 (28)	8.9 (28)	14.8 (40)	18.5 (50)	2.0 (18)	7.2 (36)	25.0 (36)			
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 (45)	4.8 (50)	11.4 (37)	19.4 (39)	-3.4 (44)	1.2 (49)	23.8 (40)	17.5 (46)	-6.6 (53)	31.4 (41)
MSCI AC World IMI (Net)	1.2 (47)	4.6 (51)	11.1 (39)	19.0 (41)	-3.9 (47)	0.8 (53)	23.4 (44)	17.1 (49)	-6.9 (57)	31.0 (43)

As of June 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 (46)	4.5 (51)	11.4 (37)	19.1 (41)	-3.4 (44)	1.2 (49)	23.9 (39)	17.7 (45)	-6.6 (53)	
MSCI AC World IMI (Net)	1.2 (47)	4.6 (51)	11.1 (39)	19.0 (41)	-3.9 (47)	0.8 (53)	23.4 (44)	17.1 (49)	-6.9 (57)	
Wellington Global Perspectives	-11.7 (89)	-3.8 (86)	15.7 (17)	24.8 (14)	-4.2 (49)	-1.4 (67)	33.1 (4)	30.7 (4)	-9.1 (69)	45.8 (3)
Performance Benchmark	-5.5 (73)	-3.0 (85)	13.8 (26)	20.5 (33)	-4.7 (51)	1.5 (48)	26.0 (25)	20.6 (25)	-9.9 (74)	35.8 (17)
T. Rowe Price Global Equity	22.8 (5)	8.0 (29)	21.3 (7)	28.8 (7)	-0.6 (28)	7.5 (10)	32.0 (4)	18.2 (42)	-7.7 (61)	28.2 (64)
MSCI AC World Index (Net)	2.1 (44)	5.7 (45)	10.7 (43)	18.8 (42)	-3.7 (47)	0.7 (53)	22.9 (49)	16.6 (53)	-6.5 (53)	30.1 (50)
MSCI AC World Index Growth (net)	16.6 (10)	7.2 (35)	16.1 (17)	18.6 (44)	-2.7 (40)	4.9 (20)	23.1 (48)	15.4 (64)	-5.3 (44)	32.0 (38)
Lazard	1.6 (45)	2.7 (62)	9.8 (49)	26.2 (12)	-10.7 (86)	7.3 (10)	23.3 (45)	15.8 (60)	-11.4 (81)	29.6 (55)
MSCI AC World Index (Net)	2.1 (44)	5.7 (45)	10.7 (43)	18.8 (42)	-3.7 (47)	0.7 (53)	22.9 (49)	16.6 (53)	-6.5 (53)	30.1 (50)
D.E. Shaw	0.1 (51)	2.6 (63)	15.8 (17)	19.2 (40)	0.0 (25)	3.9 (27)	25.6 (28)	19.3 (32)	-1.9 (25)	31.1 (42)
MSCI World Index (Net)	2.8 (41)	6.3 (41)	11.1 (40)	18.2 (48)	-2.8 (40)	1.4 (48)	24.0 (38)	18.6 (39)	-5.0 (41)	30.5 (47)
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 (69)	6.4 (70)	1.3 (18)	5.2 (7)	3.5 (88)	1.0 (63)	6.1 (46)	3.8 (14)	5.2 (98)	7.3 (35)
Performance Benchmark	7.9 (43)	8.1 (13)	-0.3 (81)	0.9 (63)	5.8 (31)	1.6 (39)	5.2 (75)	0.2 (58)	7.4 (83)	4.8 (87)
BlackRock	9.0 (14)	8.0 (19)	-0.3 (66)	0.3 (61)	6.0 (19)	2.4 (12)	5.2 (47)	0.3 (57)	8.0 (24)	6.3 (37)
Performance Benchmark	7.9 (24)	8.1 (18)	-0.3 (63)	0.9 (49)	5.8 (21)	1.6 (25)	5.2 (46)	0.2 (59)	7.4 (32)	4.8 (49)
Loomis Sayles	7.6 (26)	7.4 (30)	1.8 (22)	8.1 (16)	1.9 (65)	1.1 (42)	12.0 (8)	10.7 (6)	4.4 (68)	15.7 (8)
Performance Benchmark	6.6 (35)	8.2 (16)	0.5 (42)	4.0 (26)	5.0 (30)	1.0 (49)	6.8 (33)	2.8 (29)	8.4 (20)	7.8 (27)
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 (16)	7.9 (21)	-0.4 (69)	-0.3 (76)	6.0 (19)	1.9 (18)	4.3 (57)	-0.6 (79)	7.4 (31)	3.9 (60)
Barclays Aggregate Index	8.7 (16)	7.9 (21)	-0.4 (69)	-0.3 (77)	6.0 (19)	1.9 (19)	4.4 (57)	-0.7 (81)	7.5 (31)	3.9 (60)
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 June 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	-2.4	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	0.9	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	0.9	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	3.0	-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	3.0	-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 June 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	4.0	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	8.0	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.

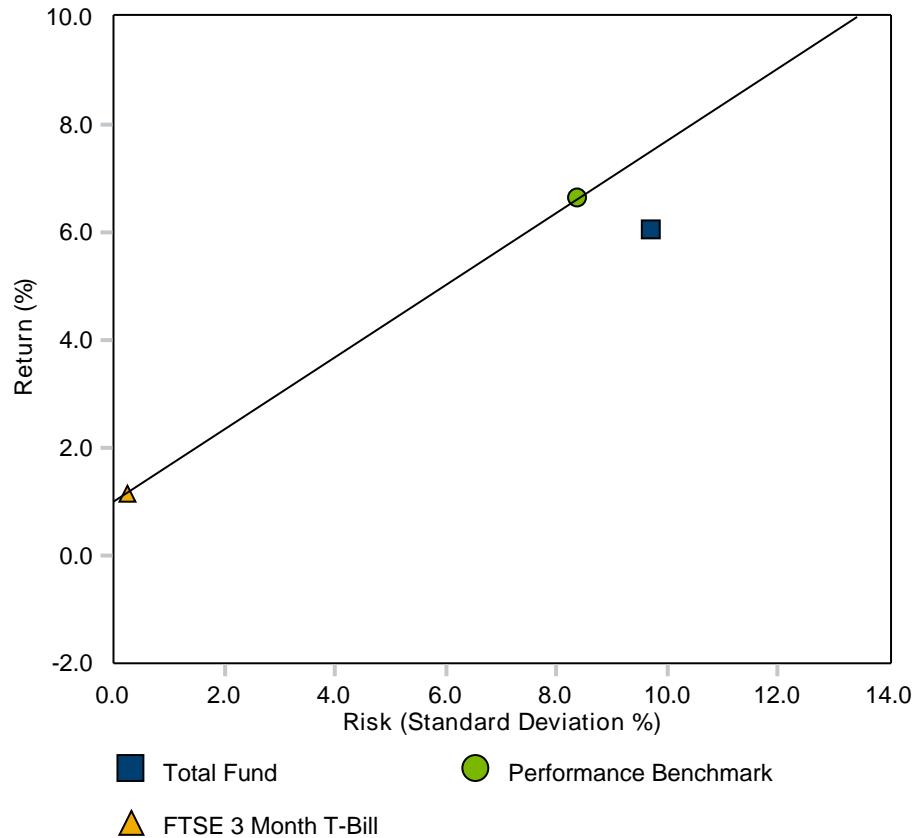
*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 149 of this report.

*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.

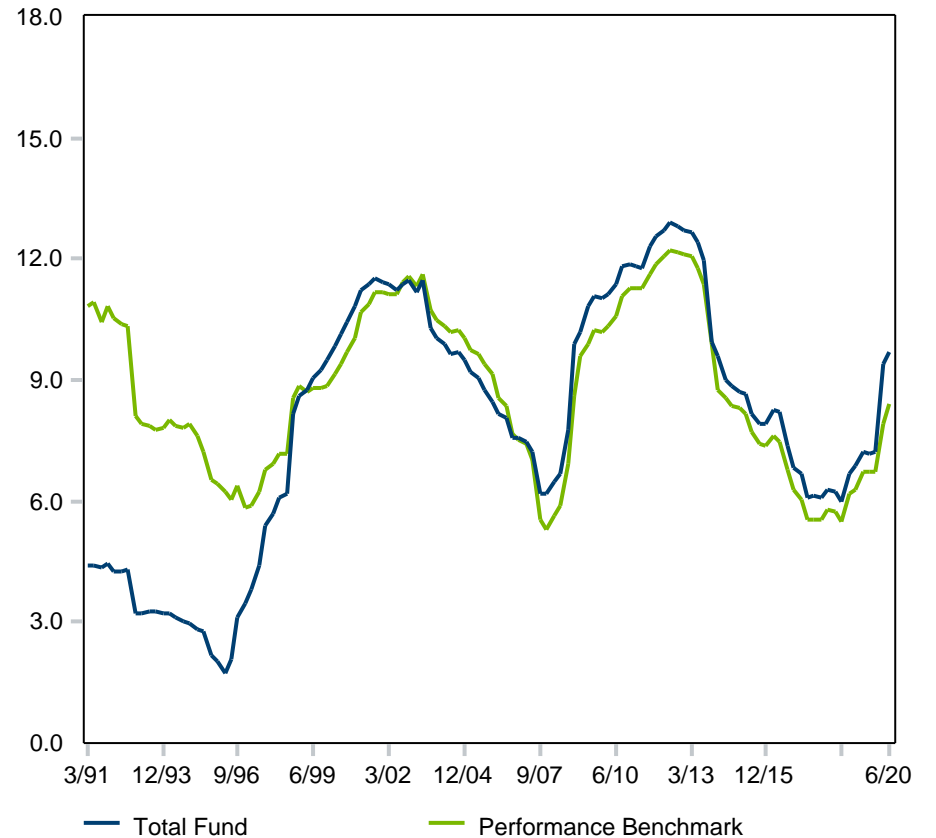
*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance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

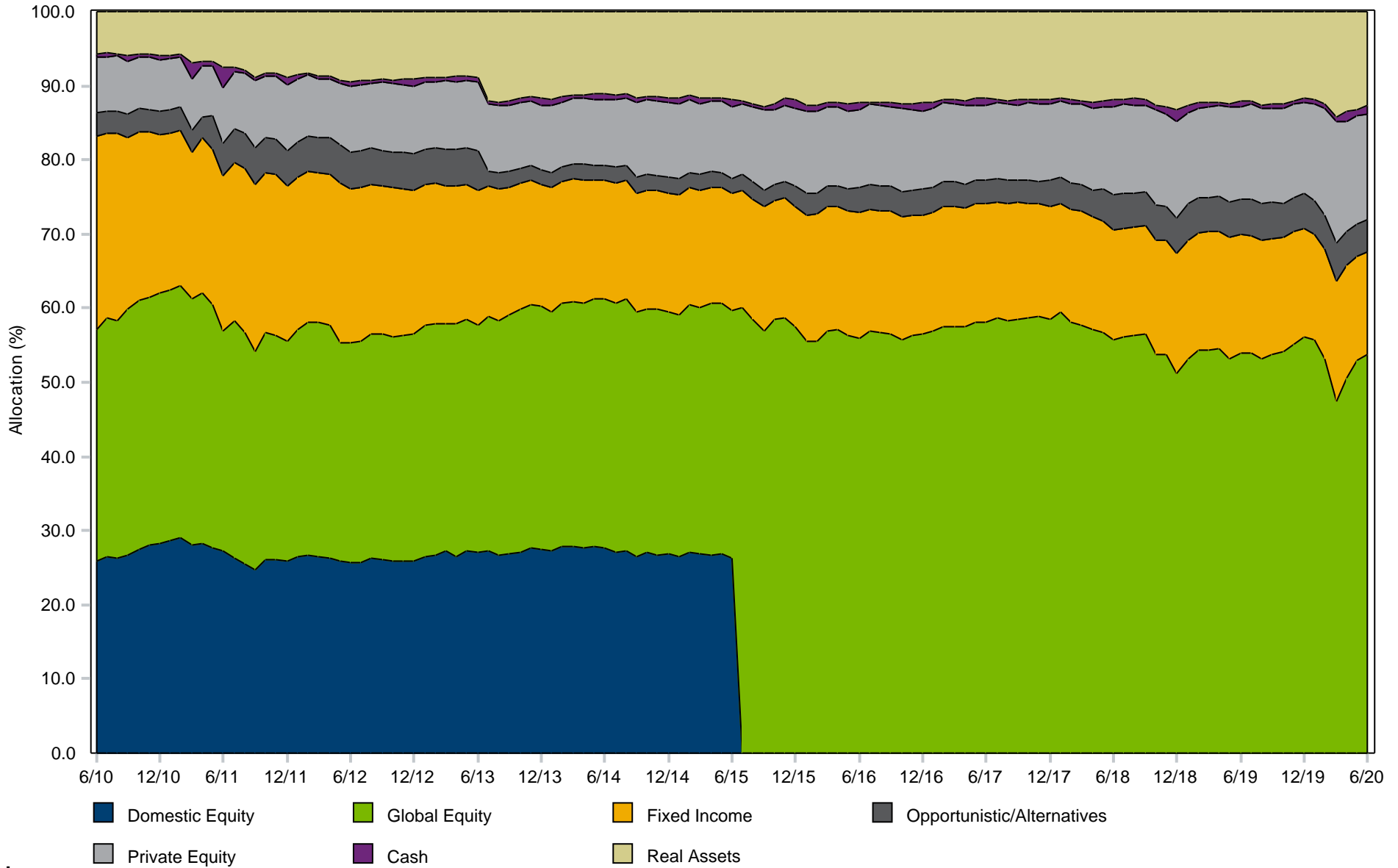


5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Total Fund	-0.44	2.92	-0.15	0.92	0.53	-1.17	1.11	6.03	9.72	0.96
Performance Benchmark	0.00	0.00	N/A	1.00	0.67	0.00	1.00	6.63	8.40	1.00
FTSE 3 Month T-Bill	-5.64	8.41	-0.67	0.00	N/A	1.16	0.00	1.15	0.25	-0.03

Historical Asset Allocation by Segment

Total Fund



Asset Allocation as of 6/30/2020	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	\$620,765.2	--	--	--	--	\$620,765.2	3.72%		
Kennedy Capital Management	\$447,475.5	--	--	--	--	\$447,475.5	2.69%		
Stephens	\$466,624.5	--	--	--	--	\$466,624.5	2.80%		
Voya Absolute Return	\$545,934.4	--	--	--	--	\$545,934.4	3.28%		
Allianz (Nicholas Applegate)	\$717,818.1	--	--	--	--	\$717,818.1	4.31%		
Pershing Square International	\$77,459.6	--	--	--	--	\$77,459.6	0.46%		
Pershing Square Holdings	\$167,815.7	--	--	--	--	\$167,815.7	1.01%		
SSgA Global Index	\$901,559.4	--	--	--	--	\$901,559.4	5.41%		
BlackRock MSCI ACWI IMI Fund	\$1,082,961.3	--	--	--	--	\$1,082,961.3	6.50%		
Wellington Global Perspectives	\$471,875.3	--	--	--	--	\$471,875.3	2.83%		
T. Rowe Price Global Equity	\$1,104,684.4	--	--	--	--	\$1,104,684.4	6.63%		
Lazard	\$570,785.1	--	--	--	--	\$570,785.1	3.42%		
D.E. Shaw	\$691,109.3	--	--	--	--	\$691,109.3	4.15%		
GMO Global All Country Equity	\$401,769.5	--	--	--	--	\$401,769.5	2.41%		
Harris Global Equity	\$413,526.5	--	--	--	--	\$413,526.5	2.48%		
Triam Partners	\$65,324.9	--	--	--	--	\$65,324.9	0.39%		
Triam Partners Co-Investments	\$59,173.6	--	--	--	--	\$59,173.6	0.36%		
Capital Guardian & Knight Vinke	\$71.5	--	--	--	--	\$71.5	0.00%		
Total Equity						\$8,806,733.7	52.84%	52.88%	53.00%
BlackRock	--	\$278,113.8	--	--	--	\$278,113.8	1.67%		
Loomis Sayles	--	\$457,246.3	--	--	--	\$457,246.3	2.74%		
Putnam	--	\$369,050.0	--	--	--	\$369,050.0	2.21%		
SSgA Aggregate Bond Index	--	\$194,539.4	--	--	--	\$194,539.4	1.17%		
Wellington Global Total Return	--	\$347,511.5	--	--	--	\$347,511.5	2.09%		
Reams Core Plus Bond Fund	--	\$388,017.7	--	--	--	\$388,017.7	2.33%		
BRS Recycling Tax Credit	--	\$176,000.0	--	--	--	\$176,000.0	1.06%		
BRS Recycling Tax Credit Phase 2	--	\$77,031.6	--	--	--	\$77,031.6	0.46%		
Total Fixed Income						\$2,287,510.3	13.73%	15.00%	15.00%
Anchorage	--	--	--	\$73,237.6	--	\$73,237.6	0.44%		
Capula	--	--	--	\$88,994.4	--	\$88,994.4	0.53%		
Graham	--	--	--	\$57,059.6	--	\$57,059.6	0.34%		
York	--	--	--	\$30,500.5	--	\$30,500.5	0.18%		
Circumference Group Core Value	--	--	--	\$29,768.2	--	\$29,768.2	0.18%		
Aeolus Keystone Fund	--	--	--	\$220,252.6	--	\$220,252.6	1.32%		
Nephila Rubik Holdings	--	--	--	\$45,311.9	--	\$45,311.9	0.27%		
Parametric Global Defensive Equity	--	--	--	\$158,804.6	--	\$158,804.6	0.95%		
Man Alternative Risk Premia	--	--	--	\$91,051.8	--	\$91,051.8	0.55%		
CFM ISD Fund 1.5x	--	--	--	\$74,850.5	--	\$74,850.5	0.45%		
AB TALF Opportunity 2020 Fund	--	--	--	\$4,200.0	--	\$4,200.0	0.03%		
TCW TALF Opportunities Fund	--	--	--	\$4,000.0	--	\$4,000.0	0.02%		
Total Opportunistic/Alternatives						\$878,031.7	5.27%	5.85%	5.00%
Real Estate			\$1,349,241.3			\$1,349,241.3	8.10%		
Timber			\$297,522.0			\$297,522.0	1.79%		
Agriculture			\$201,906.5			\$201,906.5	1.21%		
Infrastructure			\$270,924.2			\$270,924.2	1.63%		
Total Real Assets						\$2,119,594.0	12.72%	14.27%	15.00%
Total Private Equity				\$2,377,140.4		\$2,377,140.4	14.26%	12.00%	12.00%
Total Cash					\$196,305.8	\$196,305.8	1.18%	0.00%	0.00%
Total Fund	\$8,806,733.7	\$2,287,510.3	\$2,119,594.0	\$3,255,172.1	\$196,305.8	\$16,665,315.9	100.00%	100.00%	100.00%

*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the sum total due to rounding.

Asset Allocation as of 6/30/2020				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	\$143.9	0.01%	0.00%	LaSalle Income & Growth Fund VI	\$6,755.1	0.50%	0.04%
Almanac Realty Securities Fund VI	\$3,779.1	0.28%	0.02%	LaSalle Income & Growth Fund VII	\$14,213.1	1.05%	0.09%
Almanac Realty Securities Fund VII	\$13,855.4	1.03%	0.08%	LaSalle Income & Growth Fund VIII	\$6,663.4	0.49%	0.04%
Almanac Realty Securities Fund VIII	\$3,998.8	0.30%	0.02%	Lone Star Real Estate Fund IV	\$6,721.3	0.50%	0.04%
American Center	\$44,358.8	3.29%	0.27%	Long Wharf Real Estate Partners V	\$24,846.2	1.84%	0.15%
AR Insurance	\$2,258.7	0.17%	0.01%	Long Wharf Real Estate Partners VI	\$6,093.7	0.45%	0.04%
AR Teachers Retirement Building	\$5,201.9	0.39%	0.03%	Metropolitan RE Co-Investments	\$10,630.5	0.79%	0.06%
Blackstone Real Estate Partners VII	\$20,907.5	1.55%	0.13%	Met Life Commercial Mtg Inc Fund	\$48,829.5	3.62%	0.29%
Blackstone Real Estate Partners VIII	\$595.4	0.04%	0.00%	New Boston Fund VII	\$51.3	0.00%	0.00%
Blackstone RE Europe VI	\$8,030.0	0.60%	0.05%	O'Connor NAPP II	\$10,001.4	0.74%	0.06%
Carlyle Realty Partners VII	\$11,755.9	0.87%	0.07%	Olympus	\$355.4	0.03%	0.00%
Carlyle Realty VIII	\$8,008.8	0.59%	0.05%	PRISA	\$276,099.4	20.46%	1.66%
CBREI SP U.S. Opportunity V	\$9,762.0	0.72%	0.06%	Recoveries Land	\$70.0	0.01%	0.00%
CBREI SP VIII	\$24,278.0	1.80%	0.15%	Rockwood Capital RE Partners IX	\$5,531.7	0.41%	0.03%
Cerberus Institutional RE Partners III	\$13,617.2	1.01%	0.08%	Rockwood Capital RE XI	-\$222.7	-0.02%	0.00%
Chenal Retirement Village	\$1,900.0	0.14%	0.01%	Rose Law Firm	\$4,331.1	0.32%	0.03%
Calmwater	\$23,592.5	1.75%	0.14%	Texarkana DHS	\$1,640.8	0.12%	0.01%
Fletcher Properties	\$1,167.9	0.09%	0.01%	Torchlight Debt Opportunity Fund IV	\$4,743.5	0.35%	0.03%
FPA Core Plus IV	\$18,868.0	1.40%	0.11%	Torchlight Debt Opportunity Fund V	\$6,897.2	0.51%	0.04%
Harbert European Real Estate	\$20,741.1	1.54%	0.12%	Torchlight Debt Opportunity Fund VI	\$24,789.1	1.84%	0.15%
Heitman European Property IV	\$3,047.7	0.23%	0.02%	UBS Trumbull Property Fund	\$205,140.2	15.20%	1.23%
JP Morgan Strategic Property Fund	\$286,447.4	21.23%	1.72%	UBS Trumbull Property Income Fund	\$53,007.3	3.93%	0.32%
Kayne Anderson V	\$17,624.6	1.31%	0.11%	Victory	\$32,990.8	2.45%	0.20%
Landmark Fund VI	\$2,295.9	0.17%	0.01%	Walton Street Real Estate Debt II	\$3,843.6	0.28%	0.02%
Landmark Real Estate VIII	\$8,290.4	0.61%	0.05%	West Mphs. DHS	\$2,326.8	0.17%	0.01%
LaSalle Asia Opportunity Fund IV	\$2,094.0	0.16%	0.01%	Westbrook IX	\$11,020.2	0.82%	0.07%
LaSalle Asia Opportunity Fund V	\$11,266.8	0.84%	0.07%	Westbrook Real Estate Fund X	\$13,983.6	1.04%	0.08%
Total Real Estate					\$1,349,241.3	100.00%	8.10%

*Note: The market values for the real estate investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the sum total due to rounding.

Asset Allocation as of 6/30/2020				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	\$28,076.2	1.18%	0.17%	Insight Mezzanine I	\$1,624.3	0.07%	0.01%
Arlington Capital V	\$3,130.7	0.13%	0.02%	JF Lehman III	\$16,242.5	0.68%	0.10%
Advent GPE VI	\$4,740.4	0.20%	0.03%	JF Lehman IV	\$29,031.2	1.22%	0.17%
Altus Capital II	\$6,463.6	0.27%	0.04%	JF Lehman V	-\$78.7	0.00%	0.00%
American Industrial Partners VI	\$20,895.7	0.88%	0.13%	KPS III	\$351.2	0.01%	0.00%
American Industrial Partners VII	\$1,059.8	0.04%	0.01%	KPS IV	\$19,170.8	0.81%	0.12%
Altaris Constellation Partners	\$22,375.1	0.94%	0.13%	KPS Mid-Cap	\$3,415.6	0.14%	0.02%
Altaris Health Partners IV	\$15,794.7	0.66%	0.09%	Levine Leichtman V	\$17,436.5	0.73%	0.10%
Atlas Capital II	\$13,723.6	0.58%	0.08%	Lime Rock III	\$10,238.8	0.43%	0.06%
Audax Mezzanine III	\$4,070.6	0.17%	0.02%	LLR III	\$9,364.9	0.39%	0.06%
Big River - Equity	\$327,000.0	13.76%	1.96%	Mason Wells III	\$6,692.0	0.28%	0.04%
Big River - Equity (Phase 2)	\$58,295.6	2.45%	0.35%	NGP IX	\$883.0	0.04%	0.01%
Big River - Holdings Note 2023	\$12,871.4	0.54%	0.08%	NGP X	\$5,896.7	0.25%	0.04%
Big River - Holdings Note 3/16/23	\$5,397.4	0.23%	0.03%	NGP XI	\$19,709.4	0.83%	0.12%
Bison V	\$18,892.9	0.79%	0.11%	NGP XII	\$12,250.4	0.52%	0.07%
Boston Ventures VII	\$6,694.5	0.28%	0.04%	One Rock Capital Partners II	\$27,623.9	1.16%	0.17%
Boston Ventures IX	\$23,298.4	0.98%	0.14%	PineBridge	\$13,726.5	0.58%	0.08%
BV VIII	\$18,960.9	0.80%	0.11%	Riverside IV	\$702.7	0.03%	0.00%
Castlelake II	\$15,654.1	0.66%	0.09%	Riverside V	\$21,308.2	0.90%	0.13%
Castlelake III	\$17,383.9	0.73%	0.10%	Riverside VI	\$8,158.1	0.34%	0.05%
Clearlake V	\$28,847.7	1.21%	0.17%	Siris III	\$20,502.6	0.86%	0.12%
Clearlake VI	\$2,925.3	0.12%	0.02%	Siris IV	\$13,584.3	0.57%	0.08%
Court Square III	\$39,735.4	1.67%	0.24%	SK Capital V	\$7,492.6	0.32%	0.04%
CSFB-ATRS 2005-1 Series	\$27,577.9	1.16%	0.17%	Sycamore Partners II	\$13,936.2	0.59%	0.08%
CSFB-ATRS 2006-1 Series	\$82,443.9	3.47%	0.49%	Sycamore Partners III	\$1,758.2	0.07%	0.01%
Diamond State Ventures II	\$4,730.3	0.20%	0.03%	TA XI	\$20,721.3	0.87%	0.12%
Doughty Hanson Tech I	\$395.2	0.02%	0.00%	Tennenbaum VI	\$7,410.6	0.31%	0.04%
DW Healthcare III	\$26,422.9	1.11%	0.16%	Thoma Bravo Discover	\$12,321.0	0.52%	0.07%
DW Healthcare IV	\$29,903.5	1.26%	0.18%	Thoma Bravo Discover II	\$10,266.1	0.43%	0.06%
DW Healthcare V	\$6,676.0	0.28%	0.04%	Thoma Bravo XI	\$25,412.3	1.07%	0.15%
EnCap IX	\$6,222.9	0.26%	0.04%	Thoma Bravo XII	\$38,894.0	1.64%	0.23%
EnCap VIII	\$6,434.2	0.27%	0.04%	Thoma Bravo XIII	\$22,857.4	0.96%	0.14%
EnCap X	\$17,378.2	0.73%	0.10%	Vista Equity III	\$3,980.3	0.17%	0.02%
EnCap XI	\$6,365.8	0.27%	0.04%	Vista Foundation II	\$14,284.5	0.60%	0.09%
Franklin Park Series	\$669,680.2	28.17%	4.02%	Vista Foundation III	\$27,973.1	1.18%	0.17%
GCG	\$25,968.7	1.09%	0.16%	Wellspring V	\$15,960.5	0.67%	0.10%
GTLA Holdings	\$20,000.0	0.84%	0.12%	Wicks IV	\$22,913.1	0.96%	0.14%
Highland	\$221,295.3	9.31%	1.33%	WNG II	\$7,463.9	0.31%	0.04%
Insight Equity II	\$17,877.7	0.75%	0.11%				
Total Private Equity					\$2,377,140.4	100.00%	14.26%

*Note: The market values for the private equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the sum total due to rounding.

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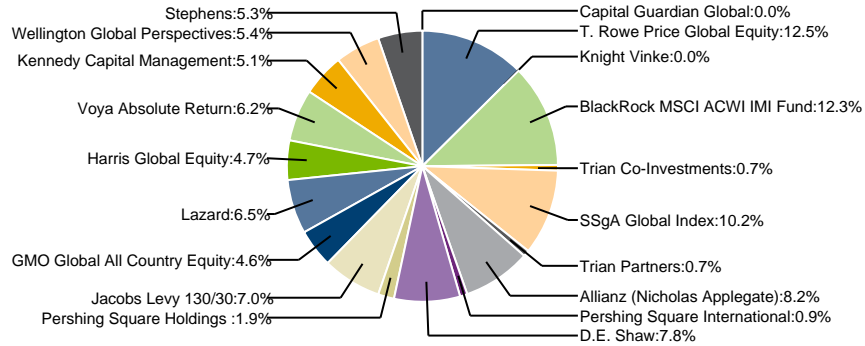


Total Equity

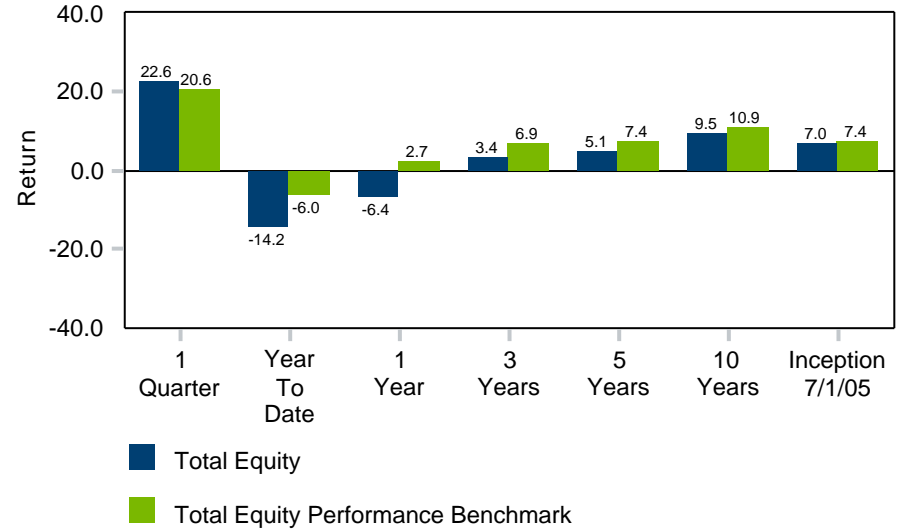
Total Equity Portfolio Overview

Current Allocation

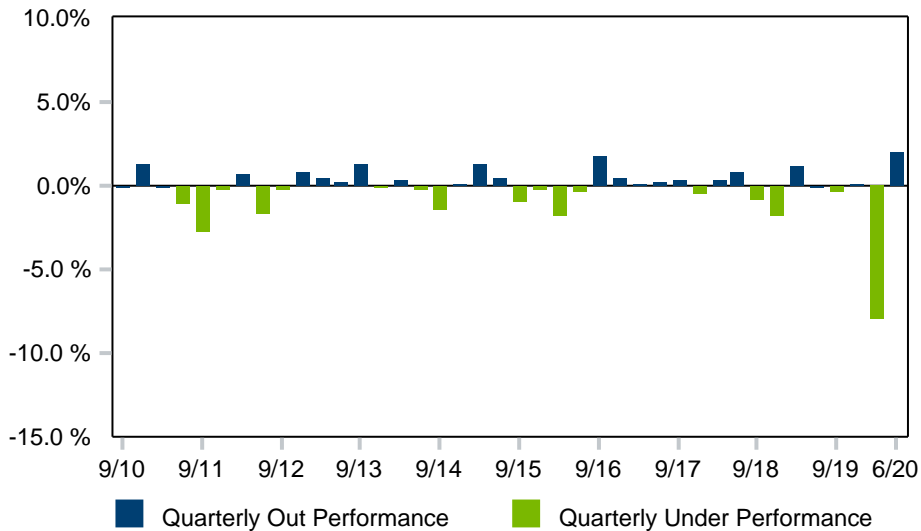
June 30, 2020 : \$8,807M



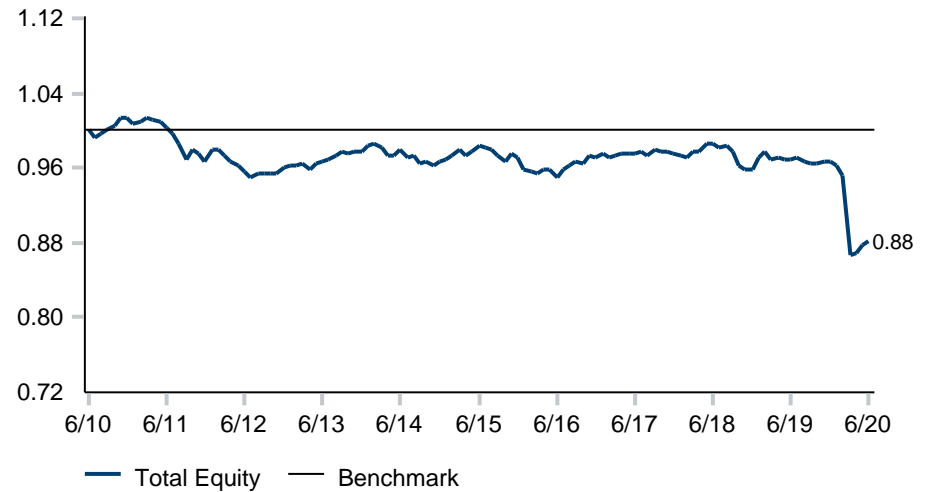
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - 10 Years

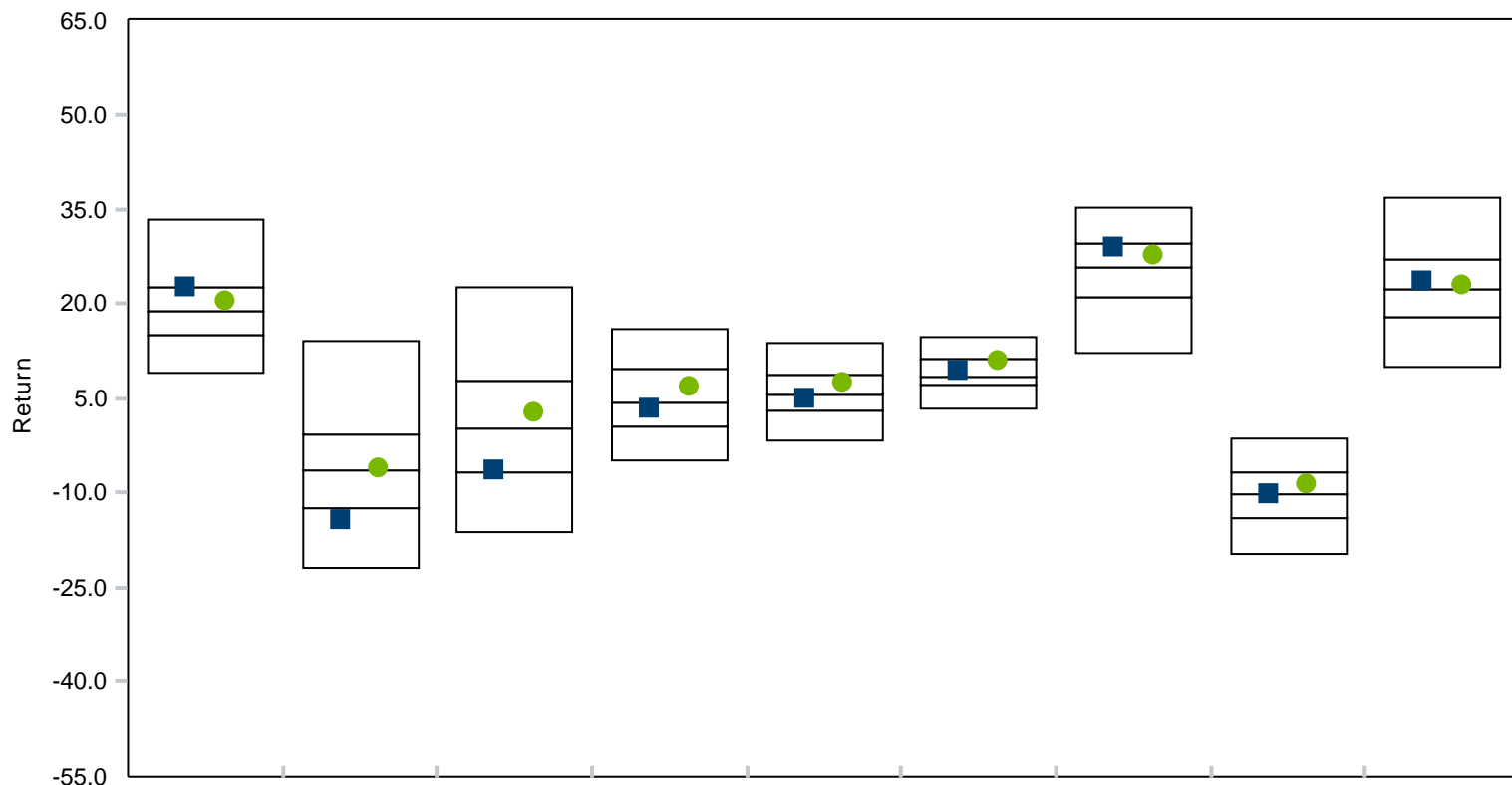


*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 149 of this report.

As of June 30, 2020

Peer Group Analysis

IM Global Equity (SA+CF)

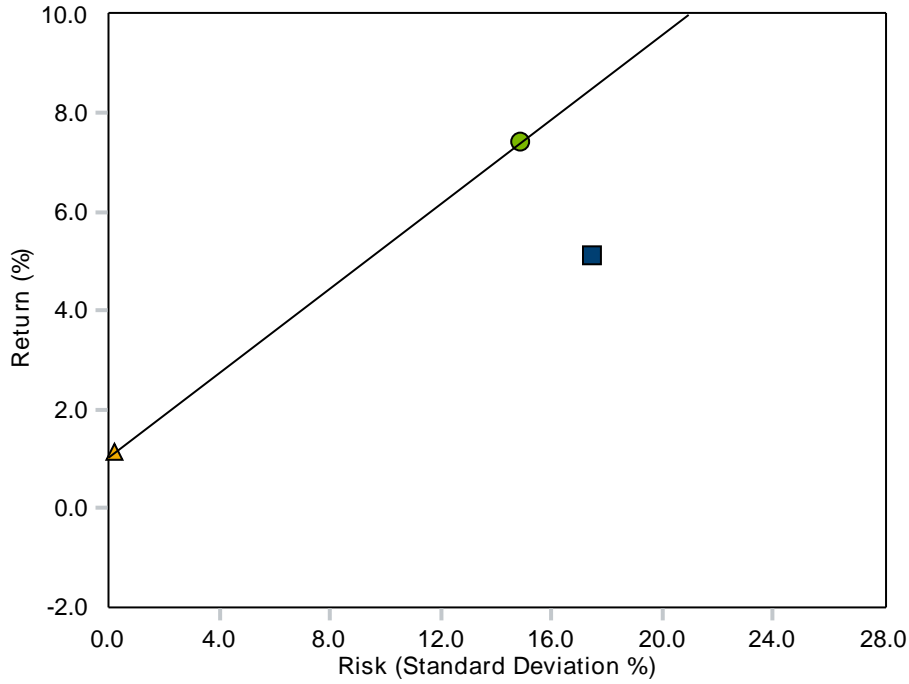


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Total Equity	22.6 (26)	-14.2 (82)	-6.4 (75)	3.4 (62)	5.1 (54)	9.5 (40)	29.0 (31)	-10.2 (51)	23.5 (44)
● Total Equity Performance Benchmark	20.6 (39)	-6.0 (48)	2.7 (41)	6.9 (35)	7.4 (30)	10.9 (28)	27.8 (39)	-8.7 (39)	23.1 (45)
5th Percentile	33.5	14.3	22.7	16.0	14.0	14.9	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	11.2	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	8.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	7.1	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	3.4	12.2	-19.7	10.2
Population	345	344	342	326	296	183	362	380	388

70 Parentheses contain percentile rankings.

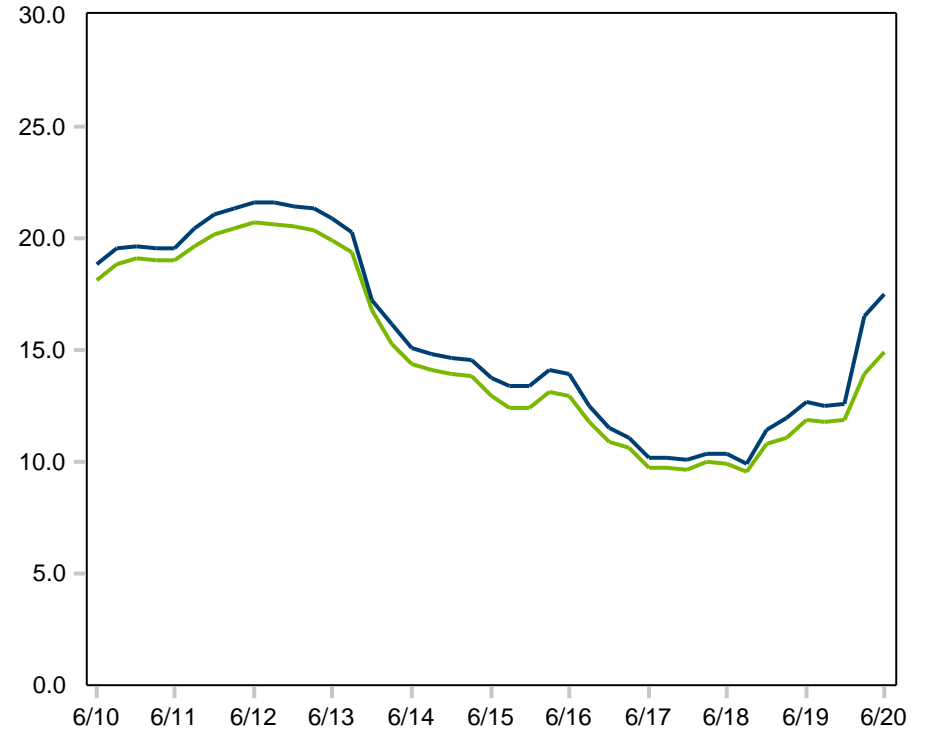
Total Equity Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



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

Rolling 5 Years Standard Deviation



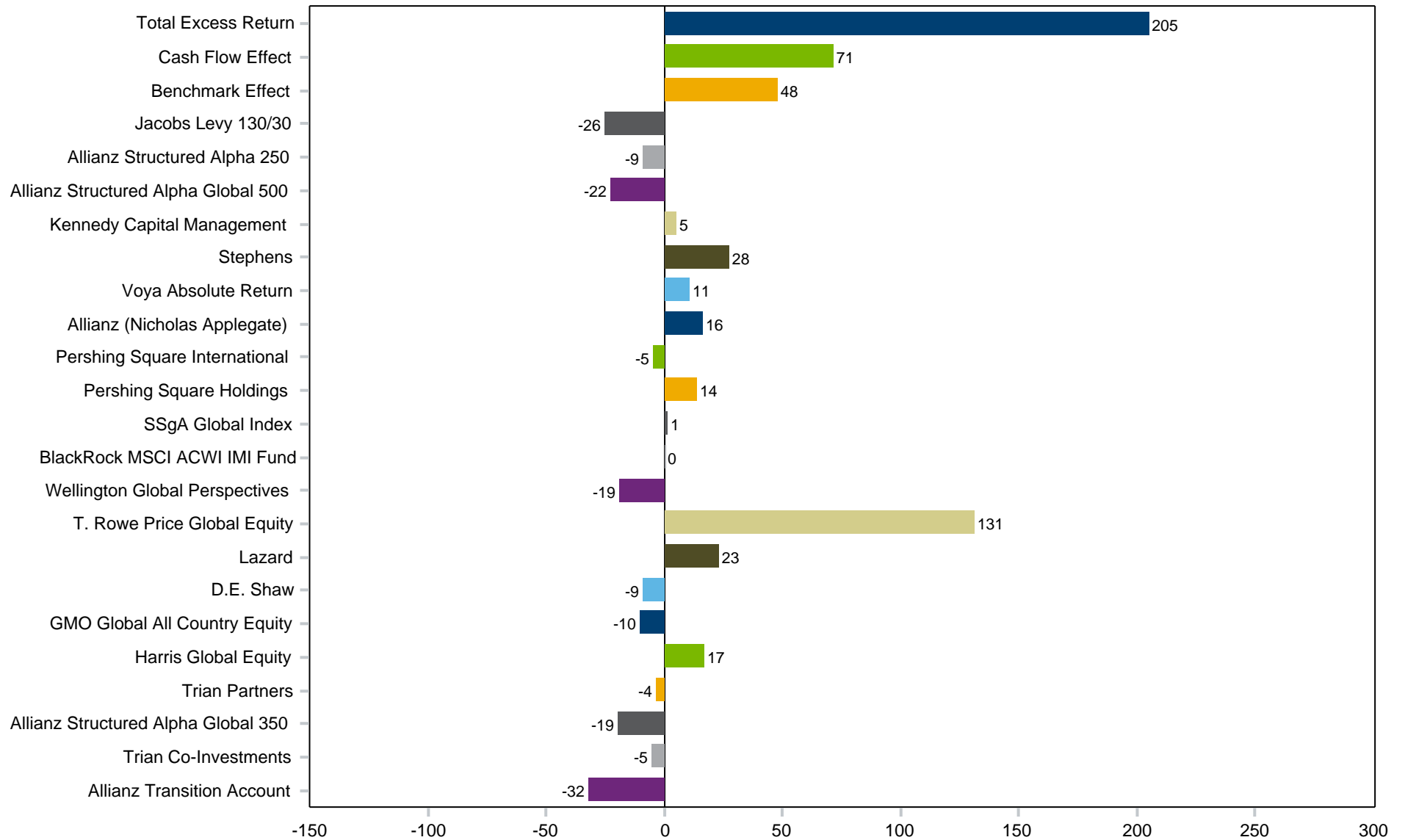
- Total Equity
- Total Equity Performance Benchmark

5 Years Historical Statistics

	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Total Equity	-1.70	3.91	-0.44	0.97	0.31	-2.96	1.16	5.11	17.52	0.98
Total Equity Performance Benchmark	0.00	0.00	N/A	1.00	0.48	0.00	1.00	7.42	14.91	1.00
FTSE 3 Month T-Bill	-7.15	14.92	-0.48	0.00	N/A	1.16	0.00	1.15	0.25	-0.06

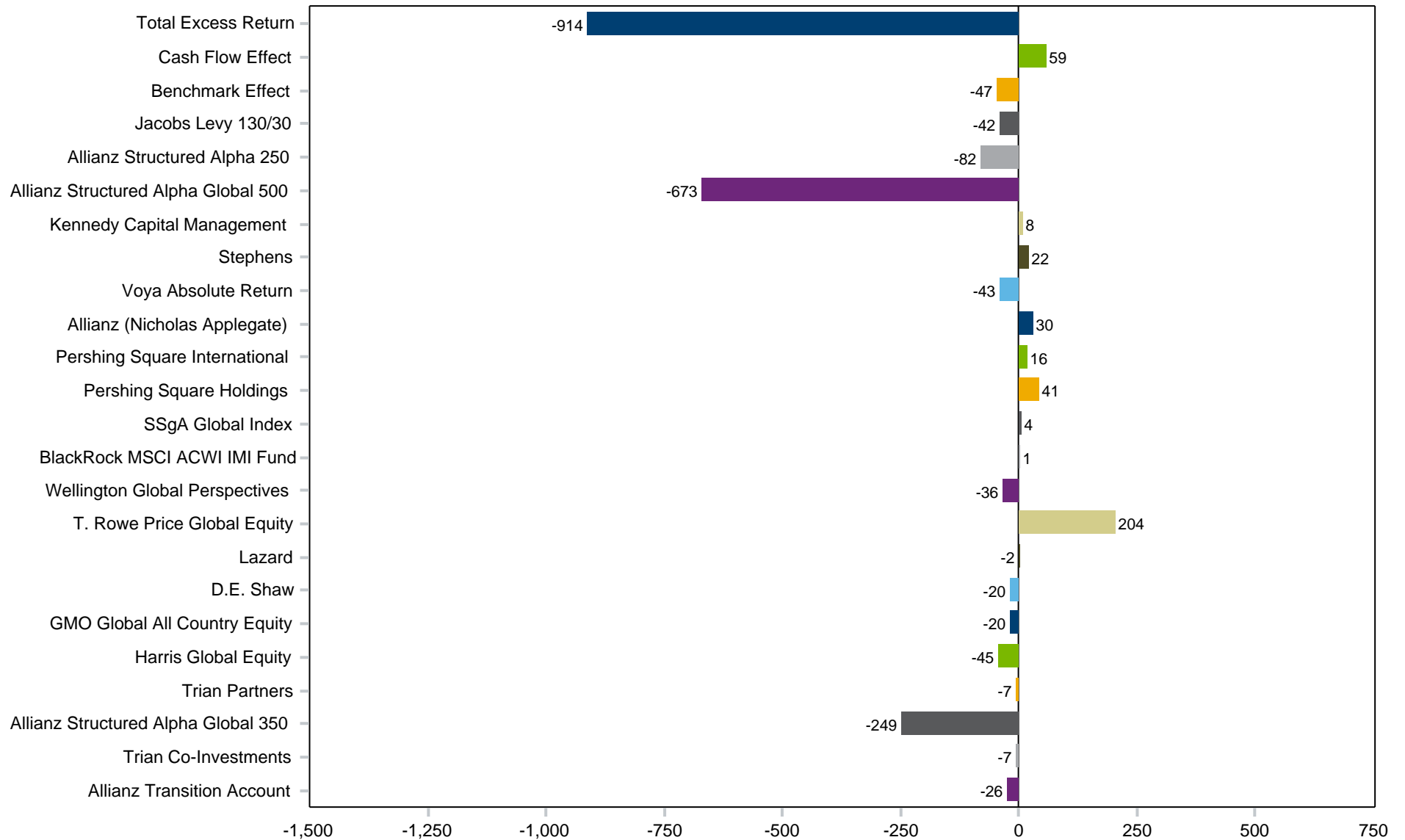
Asset Class Attribution

1 Quarter



Asset Class Attribution

1 Year

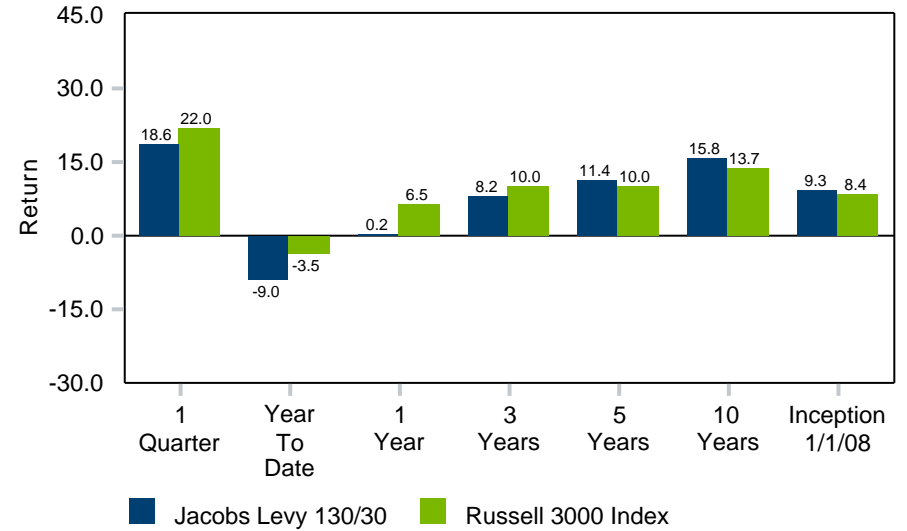


Jacobs Levy 130/30 Performance Summary

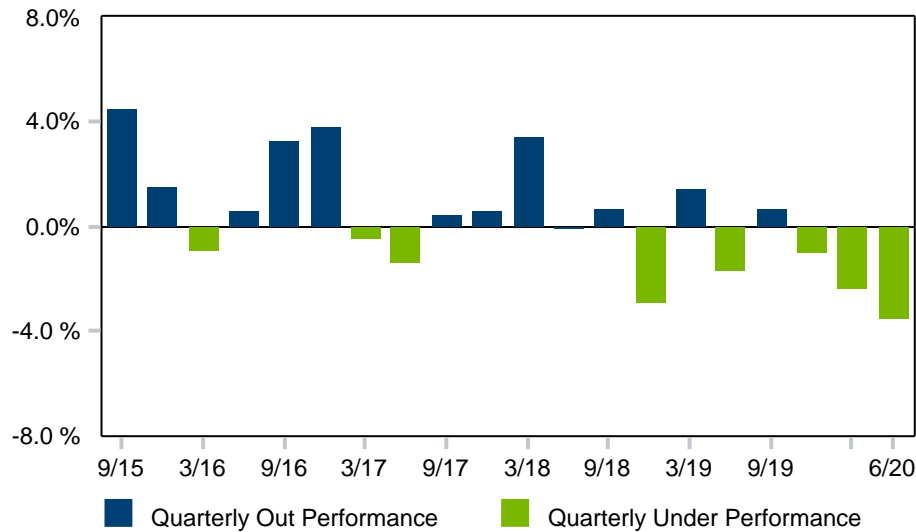
Account Information

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)

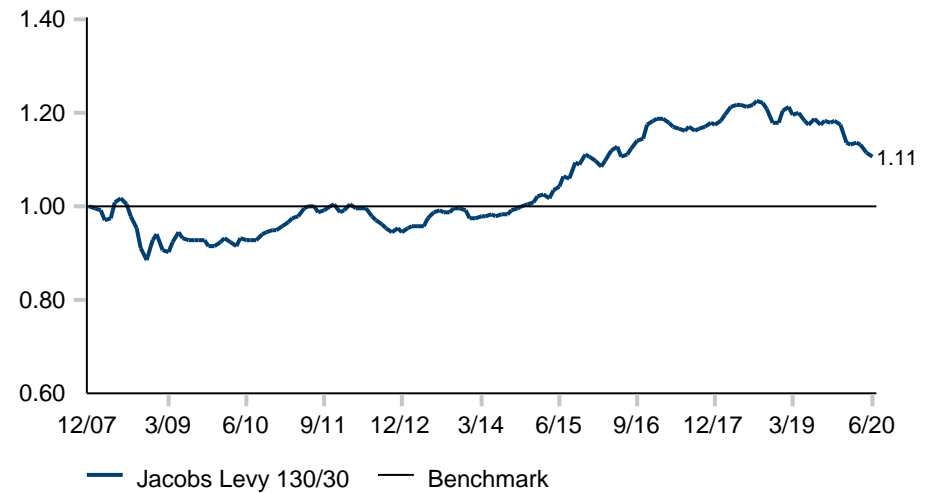
Return Summary



Quarterly Excess Performance

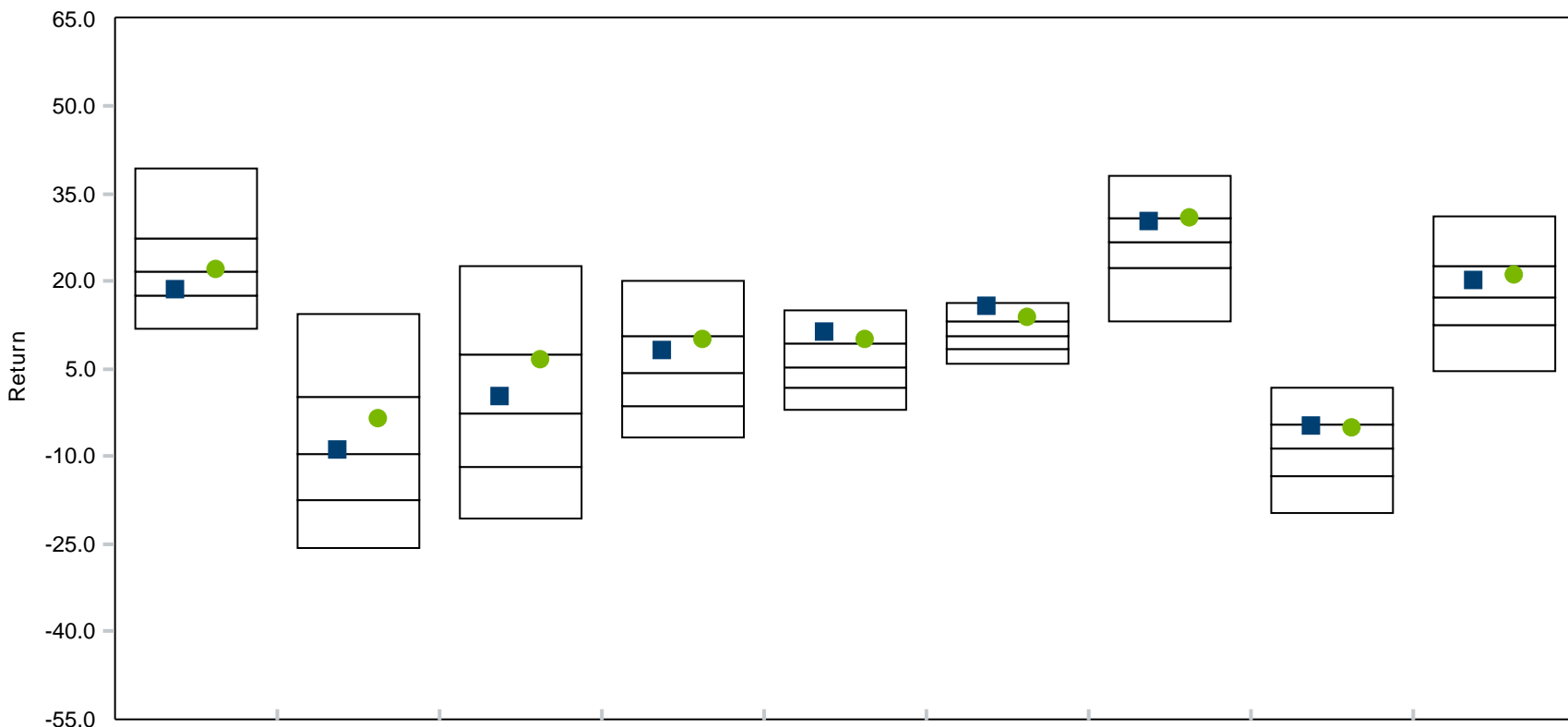


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

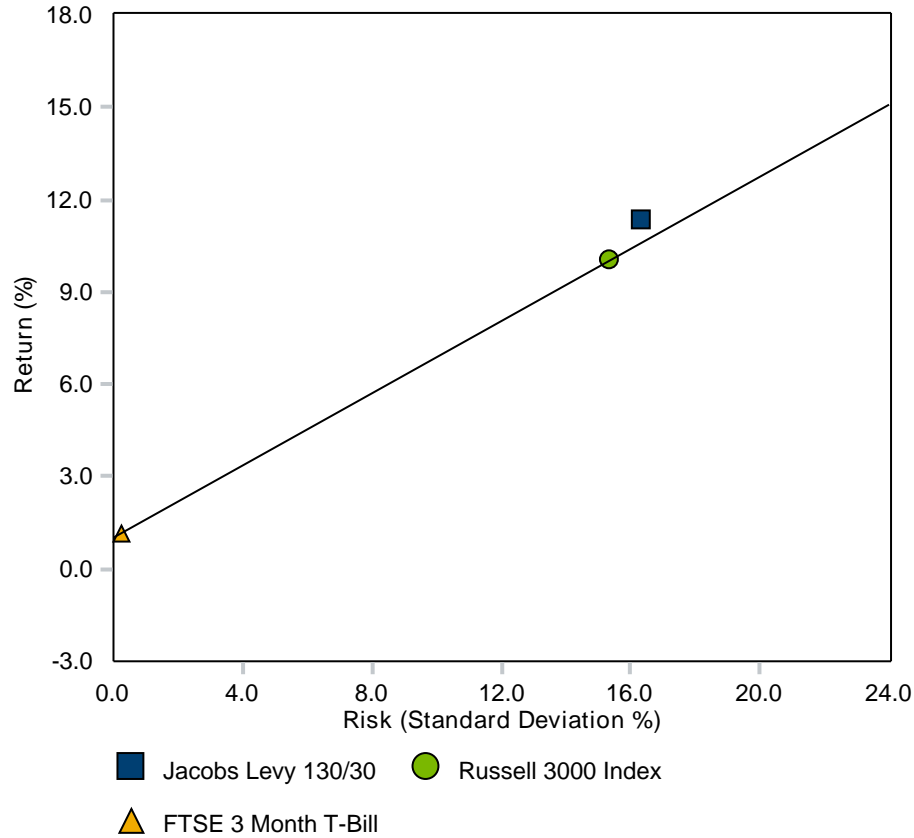


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Jacobs Levy 130/30	18.6 (72)	-9.0 (50)	0.2 (43)	8.2 (36)	11.4 (17)	15.8 (8)	30.2 (29)	-4.7 (26)	20.3 (37)
● Russell 3000 Index	22.0 (49)	-3.5 (34)	6.5 (28)	10.0 (29)	10.0 (22)	13.7 (20)	31.0 (24)	-5.2 (29)	21.1 (32)
5th Percentile	39.3	14.6	22.6	20.2	15.1	16.4	38.0	1.9	31.3
1st Quartile	27.3	0.1	7.5	10.8	9.4	13.1	30.8	-4.6	22.8
Median	21.8	-9.5	-2.5	4.4	5.4	10.6	26.8	-8.6	17.5
3rd Quartile	17.7	-17.5	-11.7	-1.3	2.0	8.6	22.3	-13.4	12.5
95th Percentile	12.1	-25.7	-20.7	-6.7	-2.0	5.8	13.3	-19.6	4.7
Population	1,619	1,613	1,589	1,504	1,424	1,166	1,728	1,828	1,899

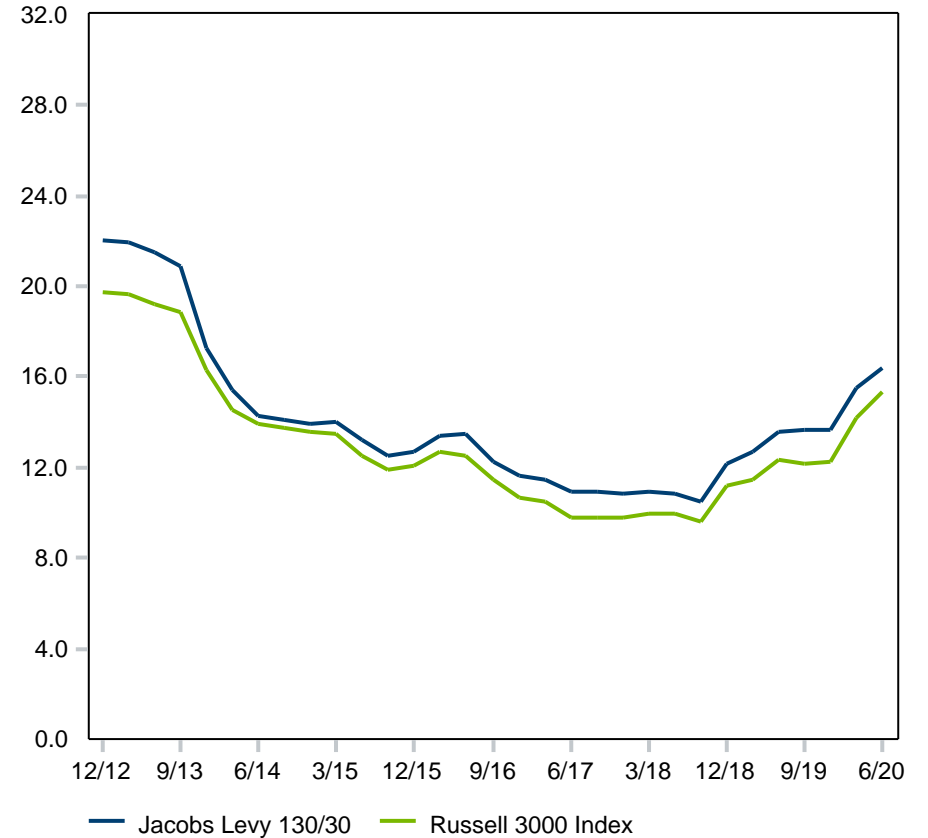
Population
 Parentheses contain percentile rankings.

Jacobs Levy 130/30 Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

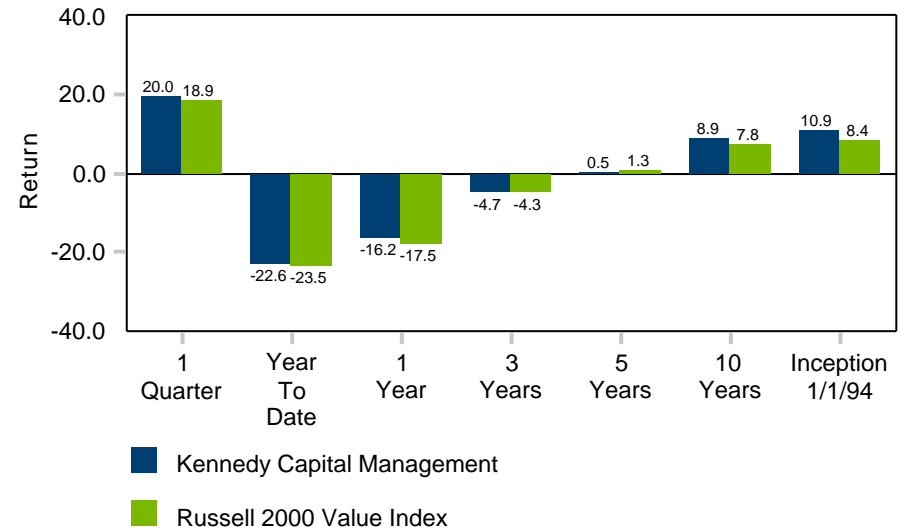
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Jacobs Levy 130/30	1.35	4.19	0.32	0.94	0.67	1.04	1.03	11.35	16.36	0.97
Russell 3000 Index	0.00	0.00	N/A	1.00	0.63	0.00	1.00	10.03	15.36	1.00
FTSE 3 Month T-Bill	-9.63	15.38	-0.63	0.00	N/A	1.16	0.00	1.15	0.25	-0.05

Kennedy Capital Management Performance Summary

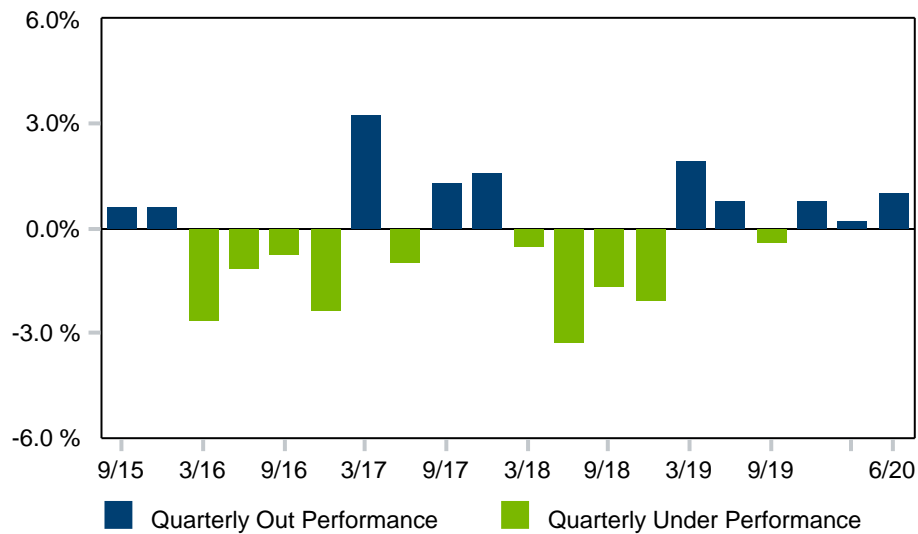
Account Information

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)

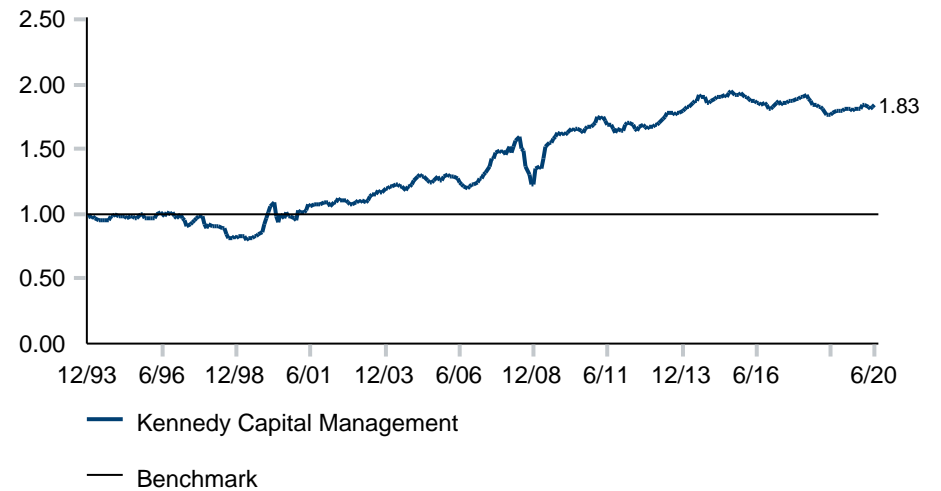
Return Summary



Quarterly Excess Performance

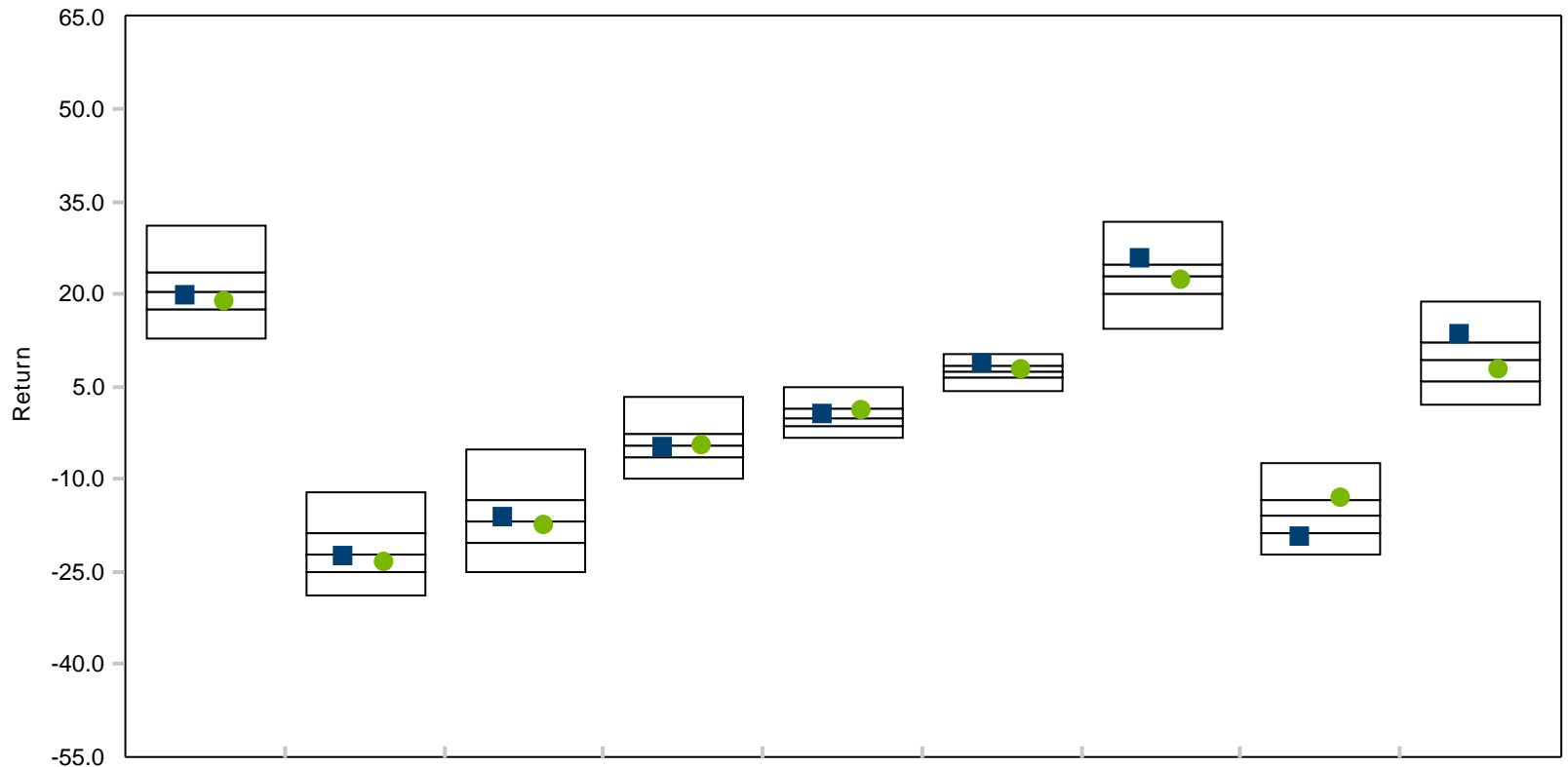


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

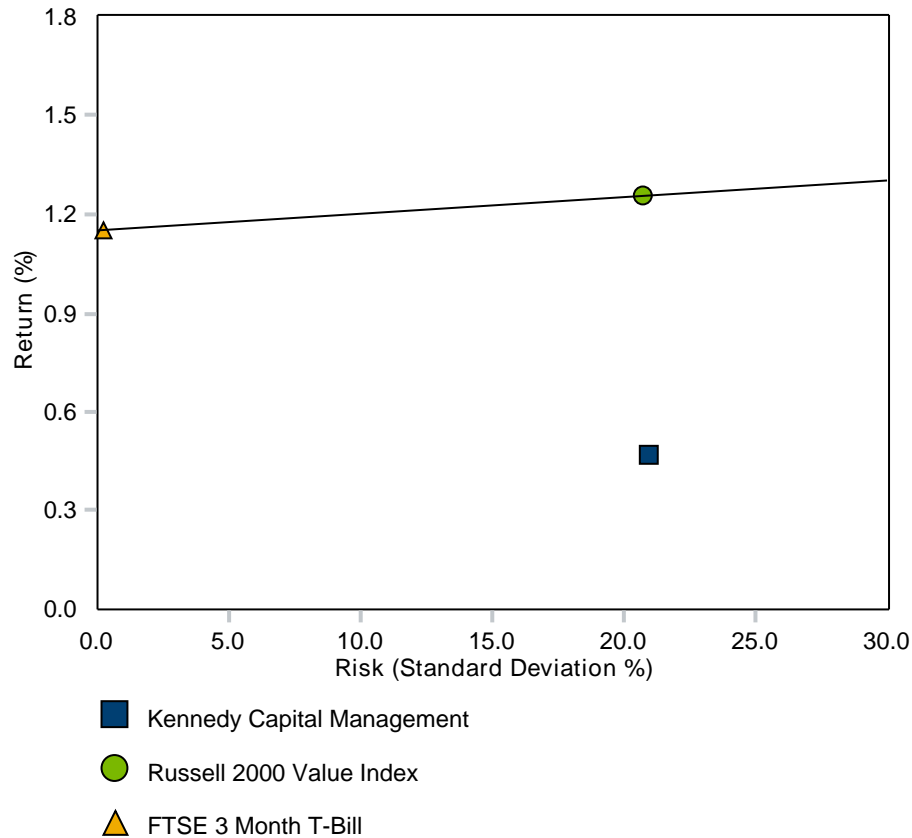


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Kennedy Capital Management	20.0 (54)	-22.6 (54)	-16.2 (46)	-4.7 (52)	0.5 (42)	8.9 (16)	25.9 (19)	-19.4 (81)	13.4 (20)
● Russell 2000 Value Index	18.9 (67)	-23.5 (61)	-17.5 (57)	-4.3 (48)	1.3 (29)	7.8 (43)	22.4 (55)	-12.9 (25)	7.8 (63)
5th Percentile	31.3	-12.1	-5.1	3.4	5.0	10.4	31.9	-7.3	18.8
1st Quartile	23.6	-18.7	-13.2	-2.4	1.6	8.5	24.9	-13.2	12.3
Median	20.4	-22.2	-16.8	-4.5	0.0	7.5	22.9	-15.9	9.4
3rd Quartile	17.7	-25.0	-20.4	-6.3	-1.5	6.4	20.1	-18.7	6.1
95th Percentile	13.0	-28.9	-25.0	-9.9	-3.4	4.3	14.6	-22.2	2.1
Population	165	165	164	159	154	126	174	191	197

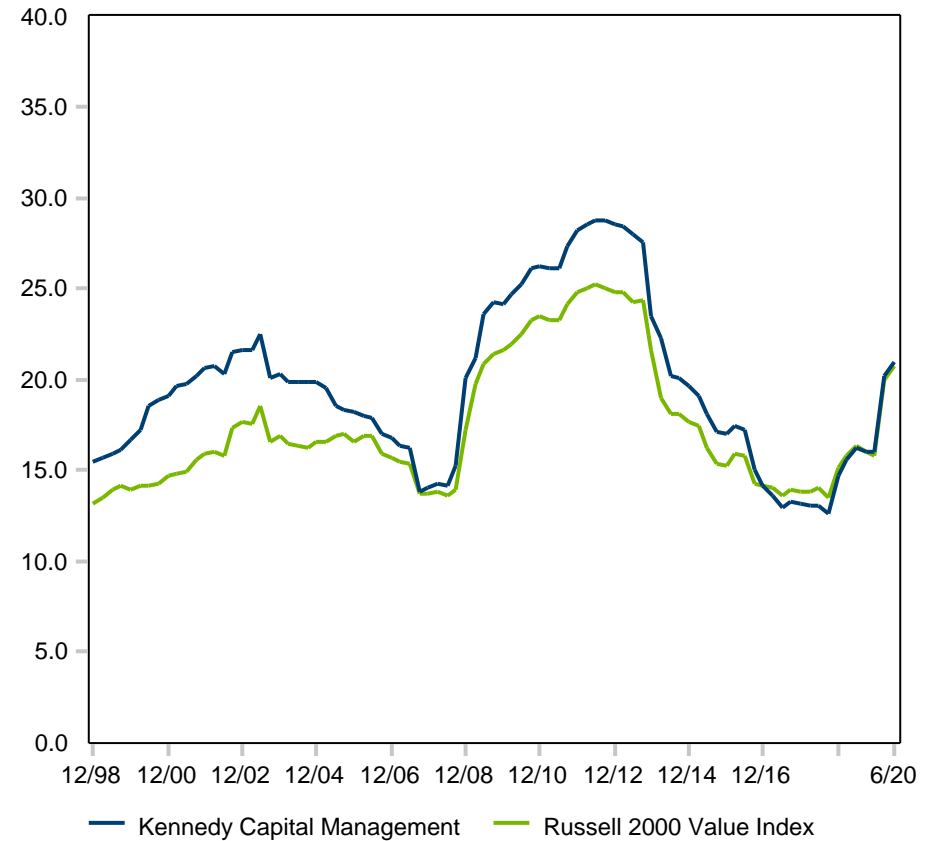
88
89
parentheses contain percentile rankings.

Kennedy Capital Management Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

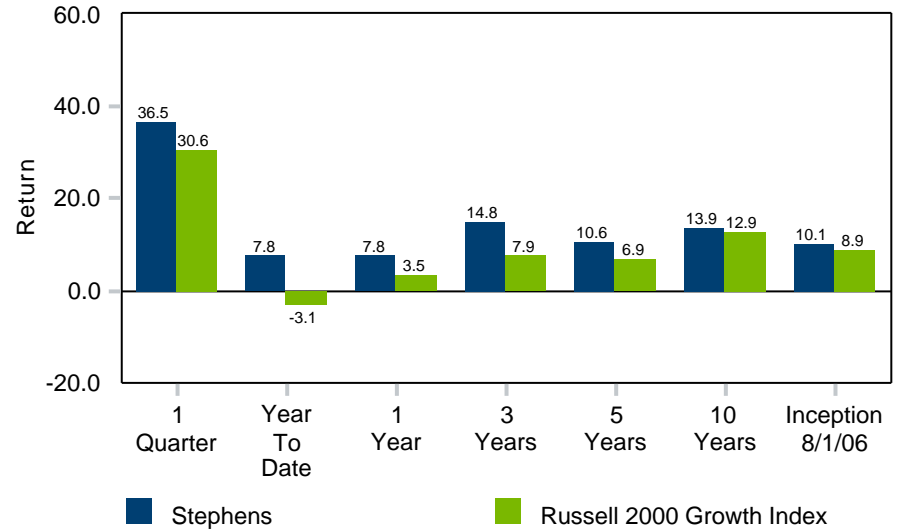
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Kennedy Capital Management	-0.71	2.82	-0.25	0.98	0.08	-0.71	1.00	0.47	20.99	0.99
Russell 2000 Value Index	0.00	0.00	N/A	1.00	0.11	0.00	1.00	1.26	20.74	1.00
FTSE 3 Month T-Bill	-2.34	20.77	-0.11	0.01	N/A	1.16	0.00	1.15	0.25	-0.11

Stephens Performance Summary

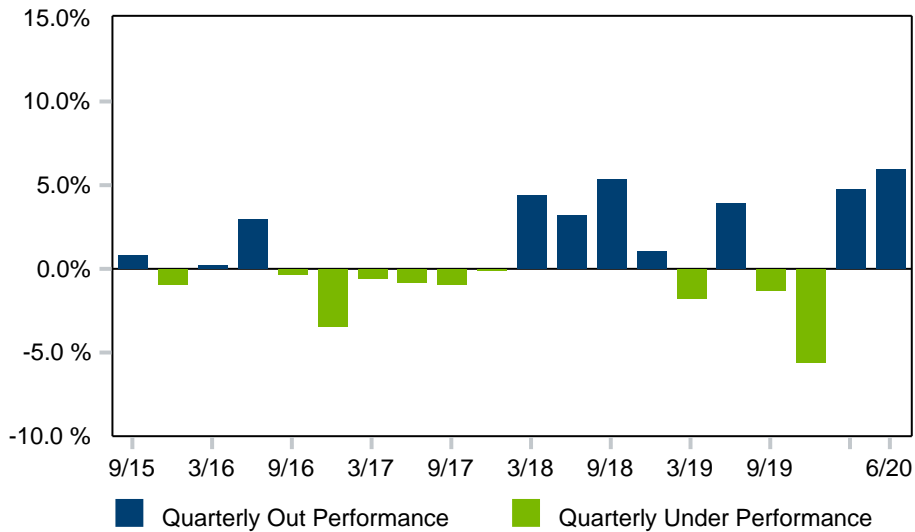
Account Information

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)

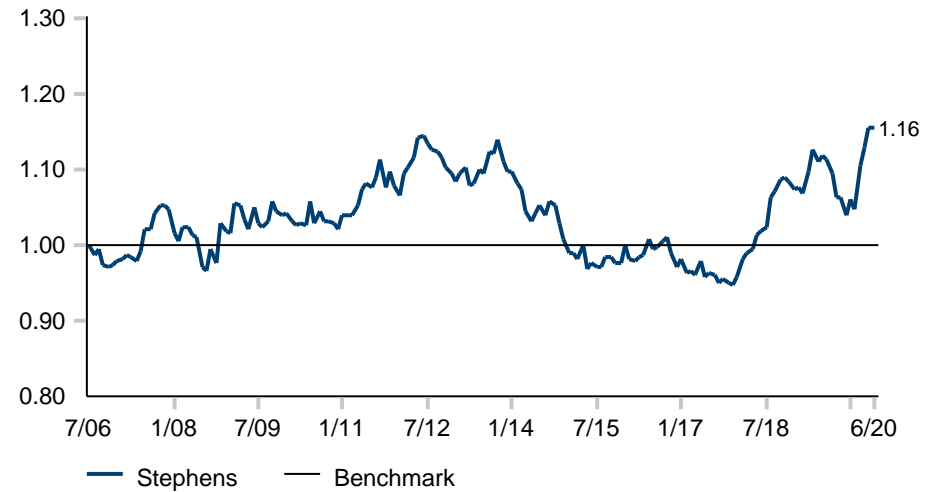
Return Summary



Quarterly Excess Performance

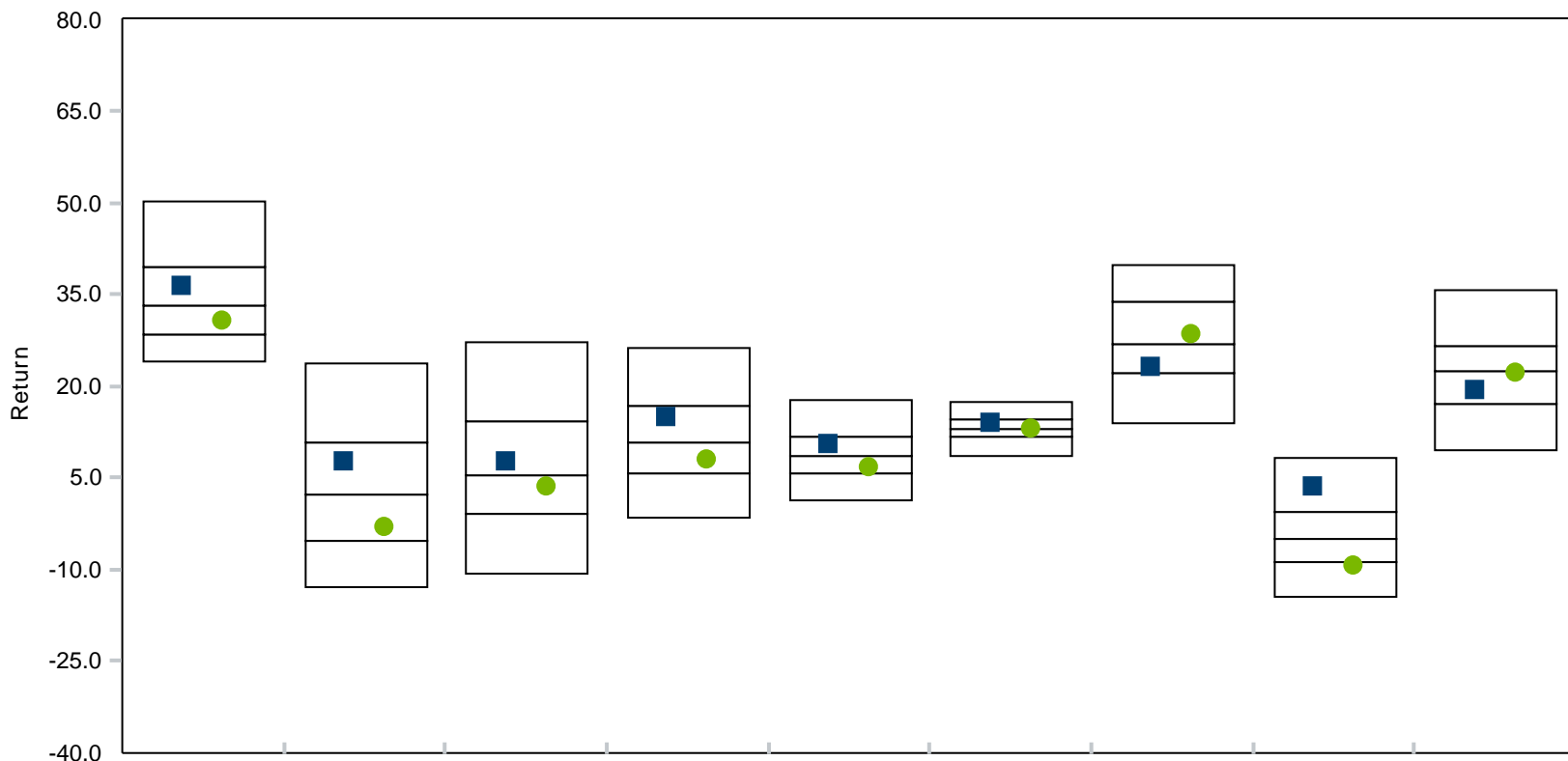


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

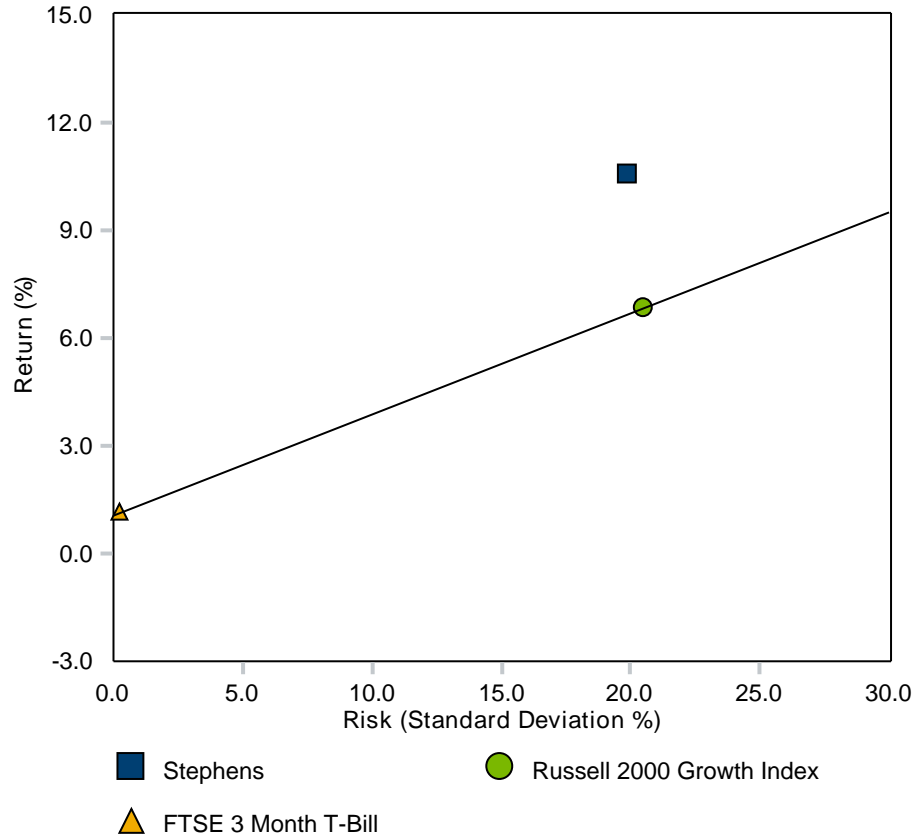


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Stephens	36.5 (37)	7.8 (33)	7.8 (45)	14.8 (33)	10.6 (28)	13.9 (37)	23.2 (70)	3.7 (10)	19.4 (64)
● Russell 2000 Growth Index	30.6 (62)	-3.1 (67)	3.5 (56)	7.9 (68)	6.9 (67)	12.9 (56)	28.5 (44)	-9.3 (77)	22.2 (51)
5th Percentile	50.4	23.6	27.4	26.3	17.9	17.4	39.9	8.3	35.8
1st Quartile	39.7	10.9	14.3	16.8	11.7	14.8	33.8	-0.4	26.7
Median	33.2	2.4	5.4	10.8	8.7	13.2	26.9	-4.9	22.5
3rd Quartile	28.4	-5.3	-0.9	5.9	5.9	11.9	22.4	-8.8	17.1
95th Percentile	24.1	-12.7	-10.5	-1.6	1.4	8.5	13.9	-14.5	9.7
Population	130	129	128	124	118	102	137	143	145

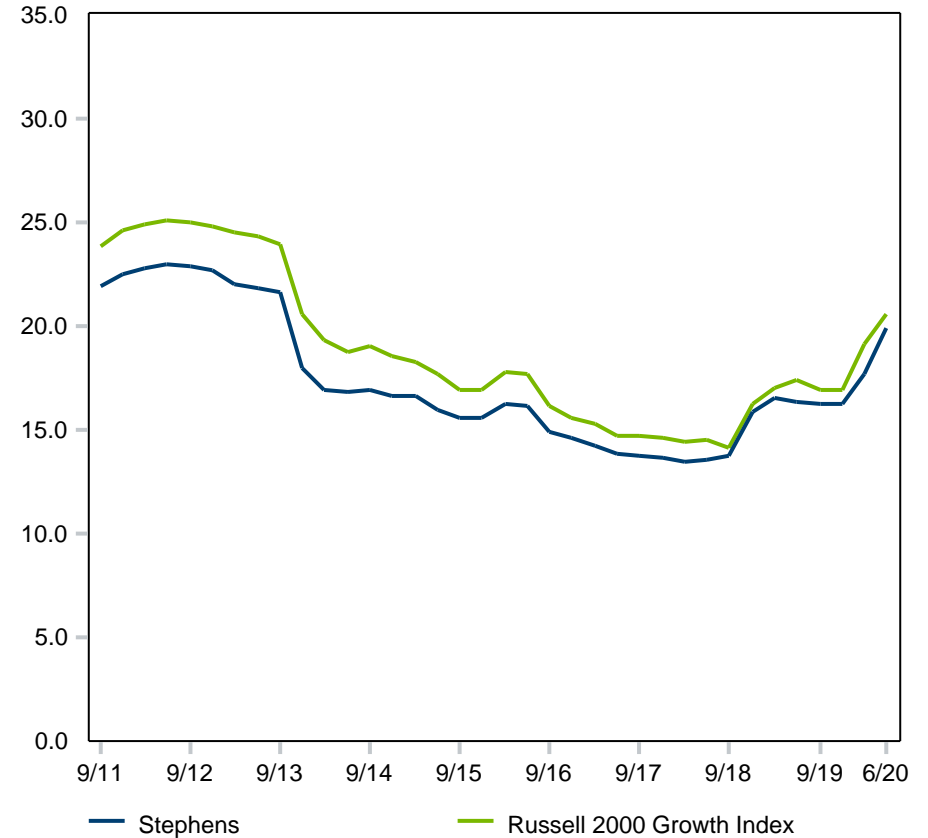
Ⓞ Parentheses contain percentile rankings.

Stephens Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

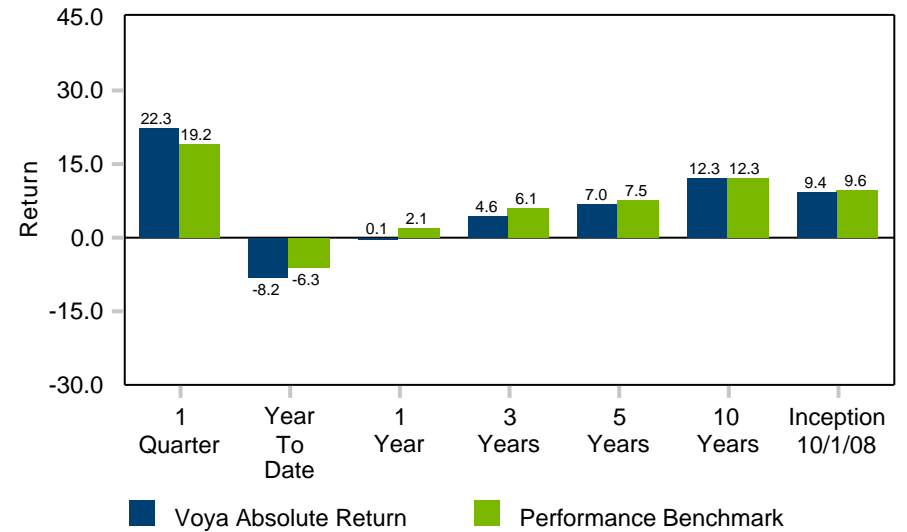
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Stephens	3.25	5.36	0.61	0.93	0.55	3.87	0.94	10.55	19.93	0.97
Russell 2000 Growth Index	0.00	0.00	N/A	1.00	0.37	0.00	1.00	6.86	20.55	1.00
FTSE 3 Month T-Bill	-7.64	20.57	-0.37	0.00	N/A	1.16	0.00	1.15	0.25	-0.06

Voya Absolute Return Performance Summary

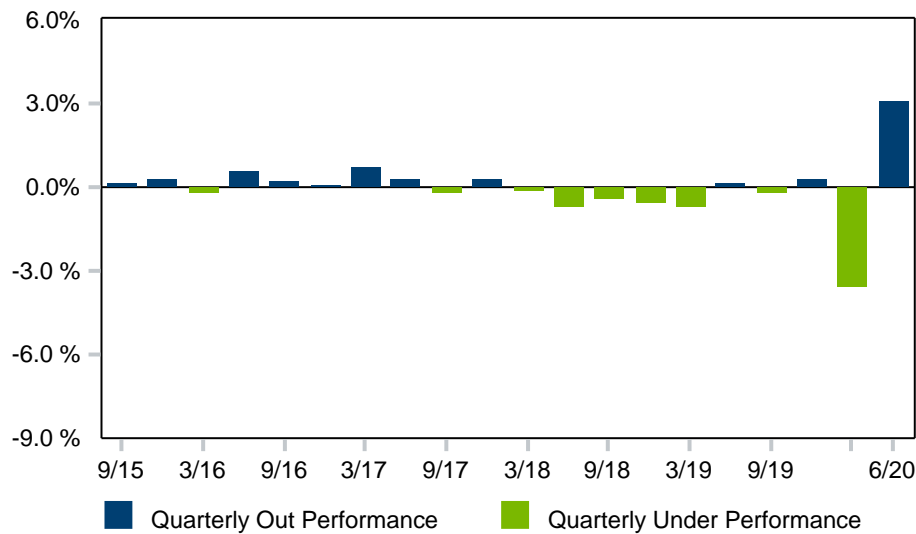
Account Information

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)

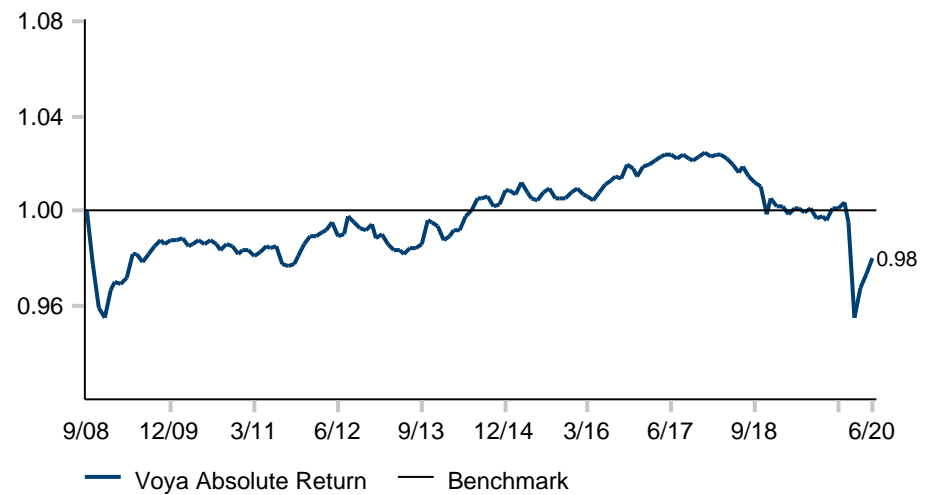
Return Summary



Quarterly Excess Performance

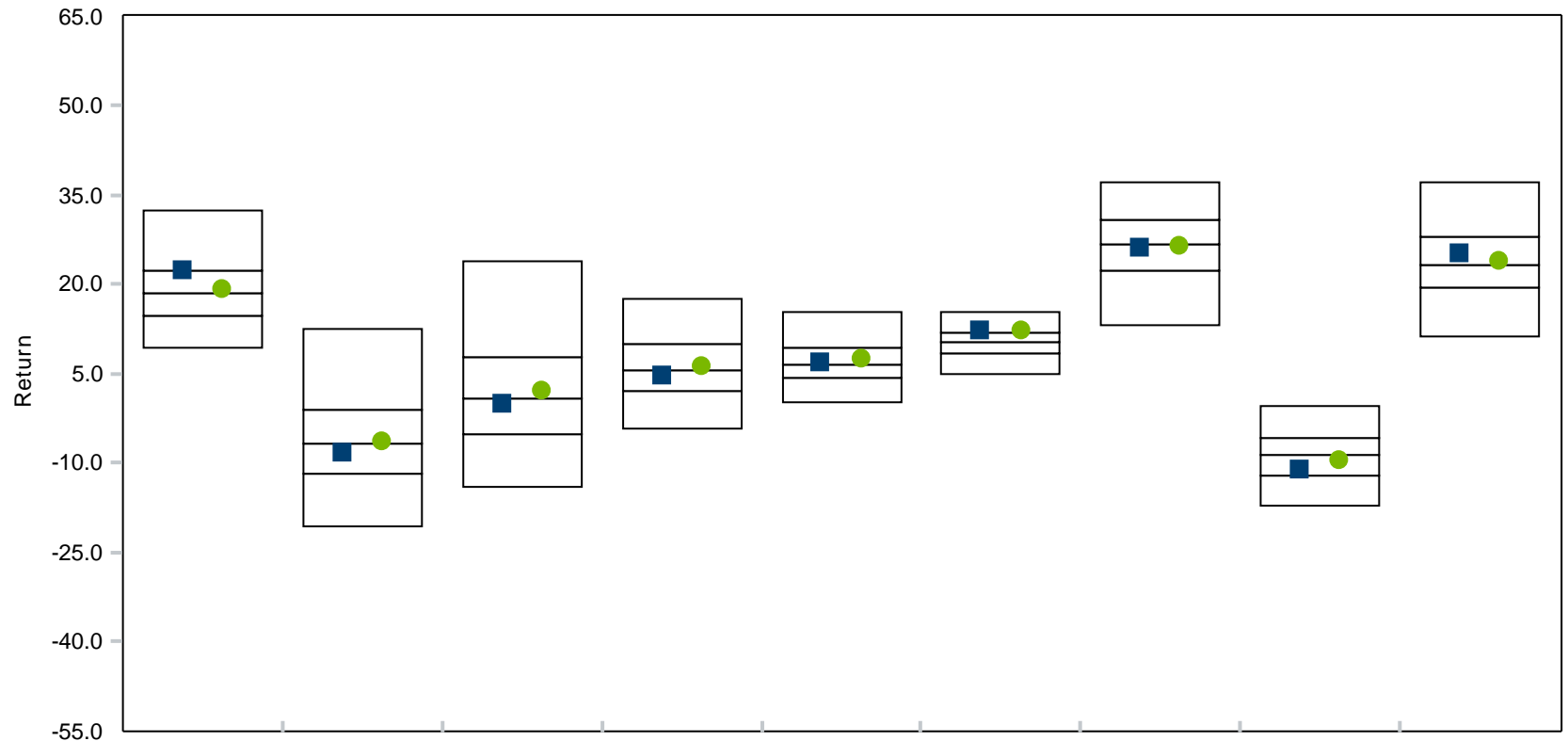


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)



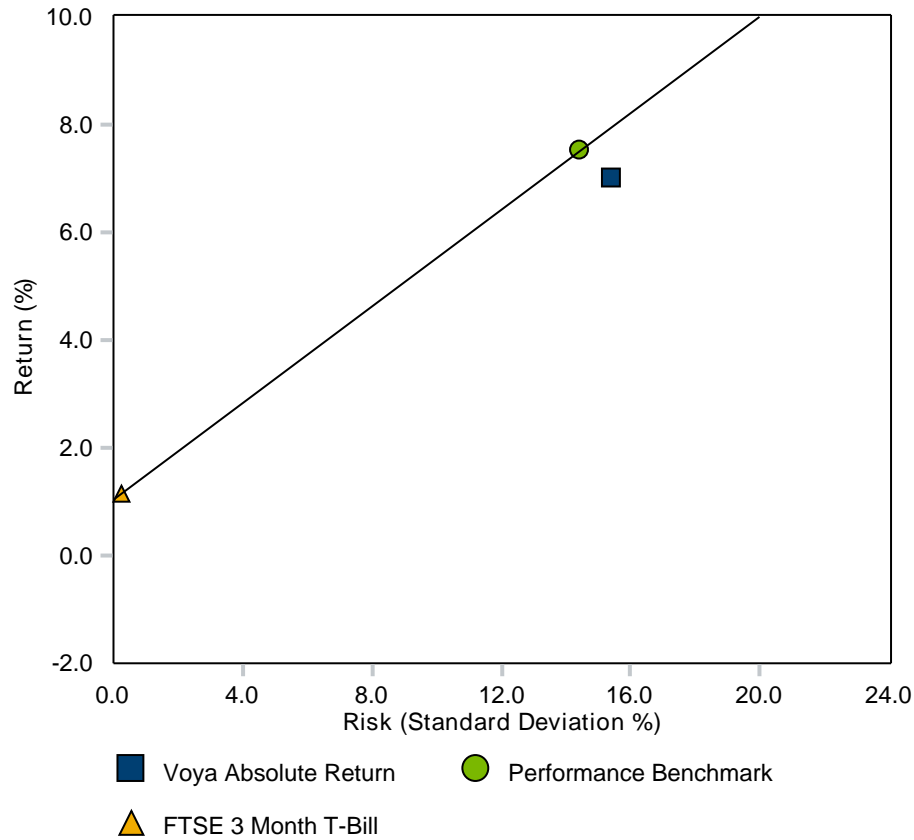
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Voya Absolute Return	22.3 (26)	-8.2 (58)	0.1 (54)	4.6 (61)	7.0 (45)	12.3 (24)	26.0 (57)	-11.1 (69)	25.2 (41)
● Performance Benchmark	19.2 (47)	-6.3 (50)	2.1 (45)	6.1 (46)	7.5 (38)	12.3 (24)	26.6 (52)	-9.4 (56)	24.0 (48)
5th Percentile	32.6	12.4	24.0	17.5	15.3	15.6	37.3	-0.2	37.1
1st Quartile	22.4	-0.9	8.0	10.0	9.3	12.1	30.9	-5.7	28.2
Median	18.6	-6.8	0.9	5.6	6.5	10.3	26.7	-8.7	23.4
3rd Quartile	14.8	-11.8	-5.1	2.2	4.2	8.6	22.3	-12.2	19.5
95th Percentile	9.5	-20.7	-14.0	-4.1	0.2	5.1	13.3	-17.1	11.2
Population	468	468	468	452	412	263	502	535	556

26

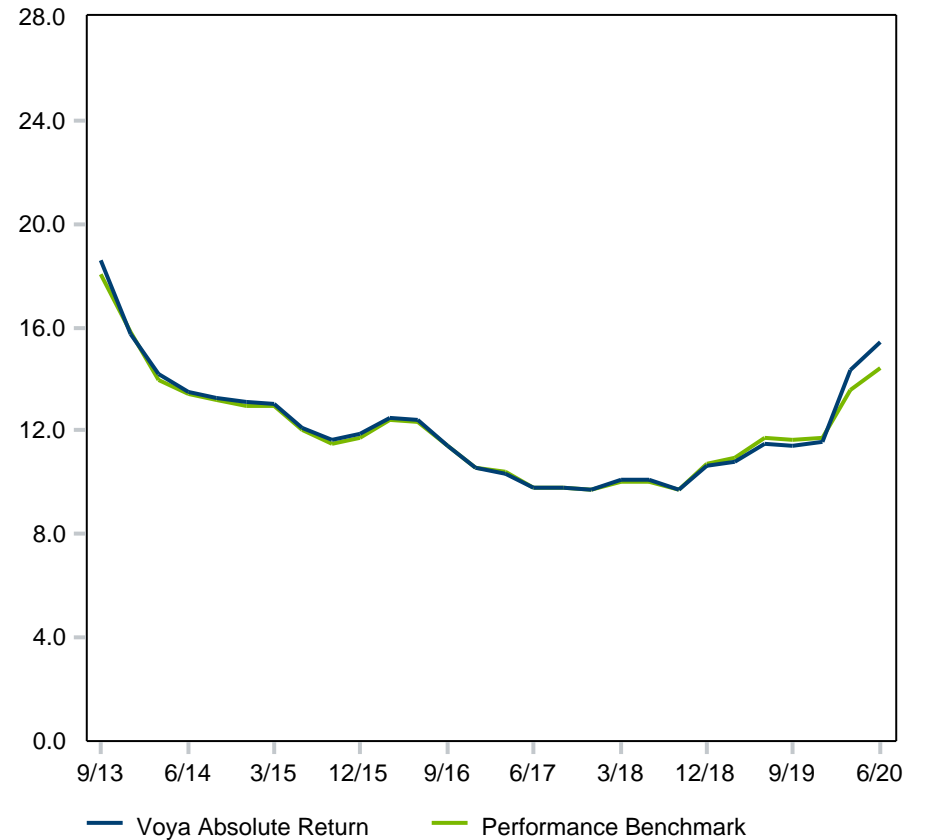
parentheses contain percentile rankings.

Voya Absolute Return Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

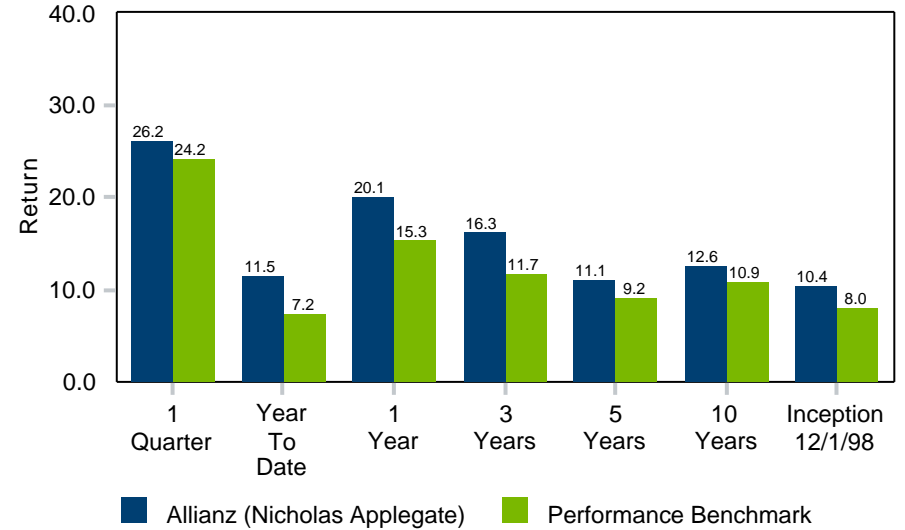
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Voya Absolute Return	-0.33	2.03	-0.16	0.99	0.44	-0.85	1.06	6.99	15.44	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	0.50	0.00	1.00	7.51	14.43	1.00
FTSE 3 Month T-Bill	-7.16	14.45	-0.50	0.01	N/A	1.16	0.00	1.15	0.25	-0.08

Allianz (Nicholas Applegate) Performance Summary

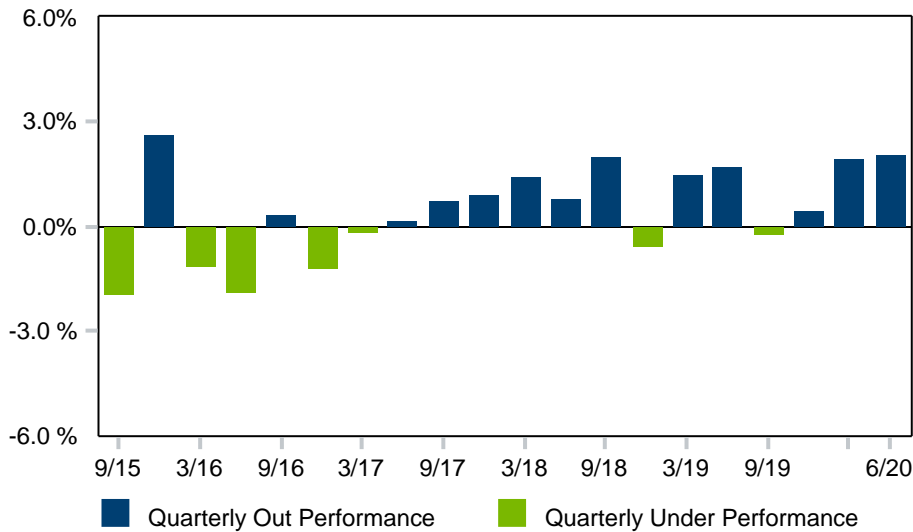
Account Information

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)

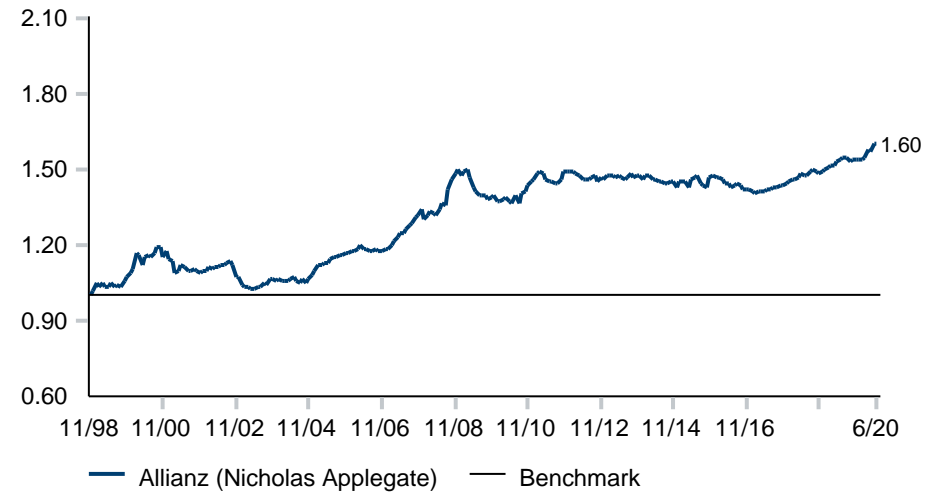
Return Summary



Quarterly Excess Performance

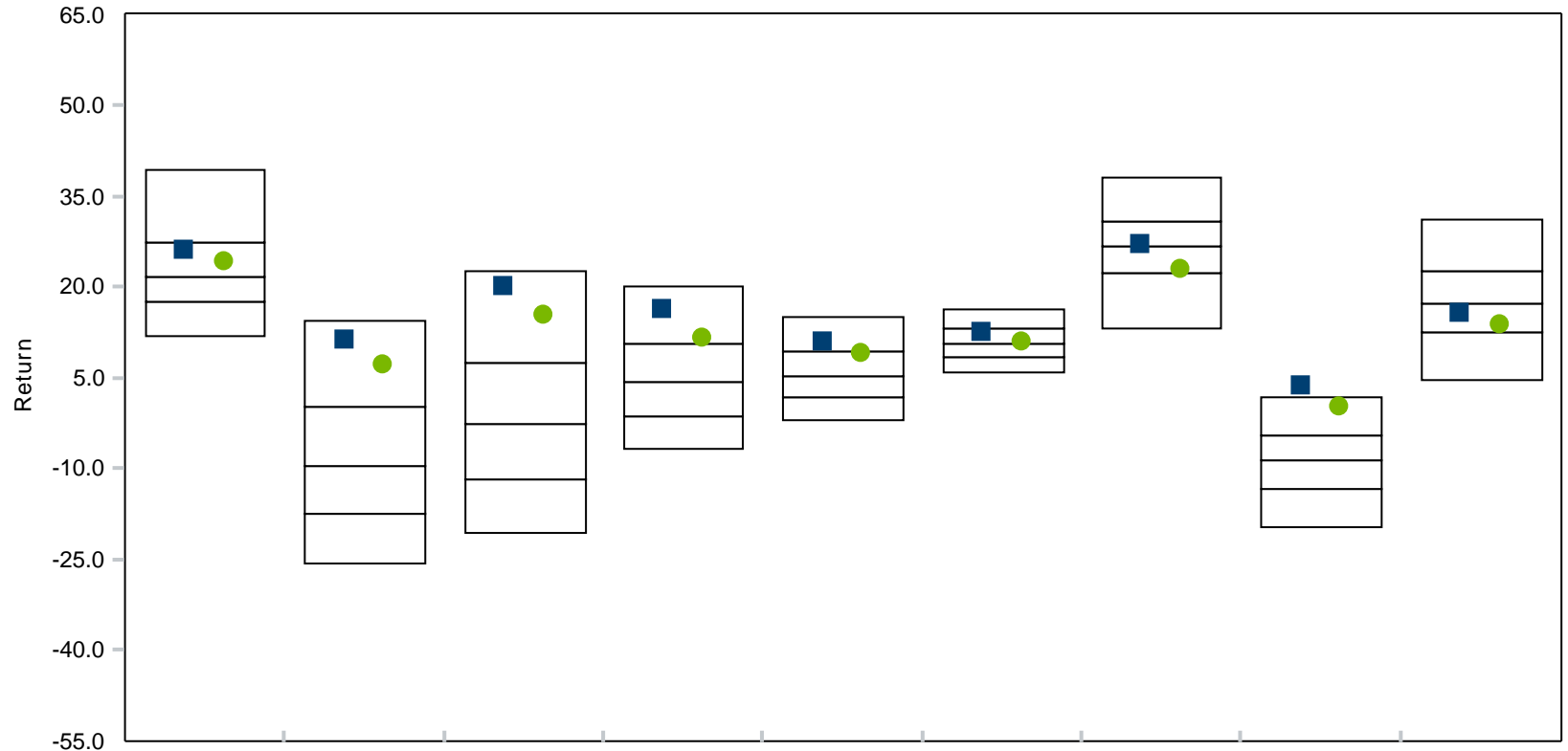


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

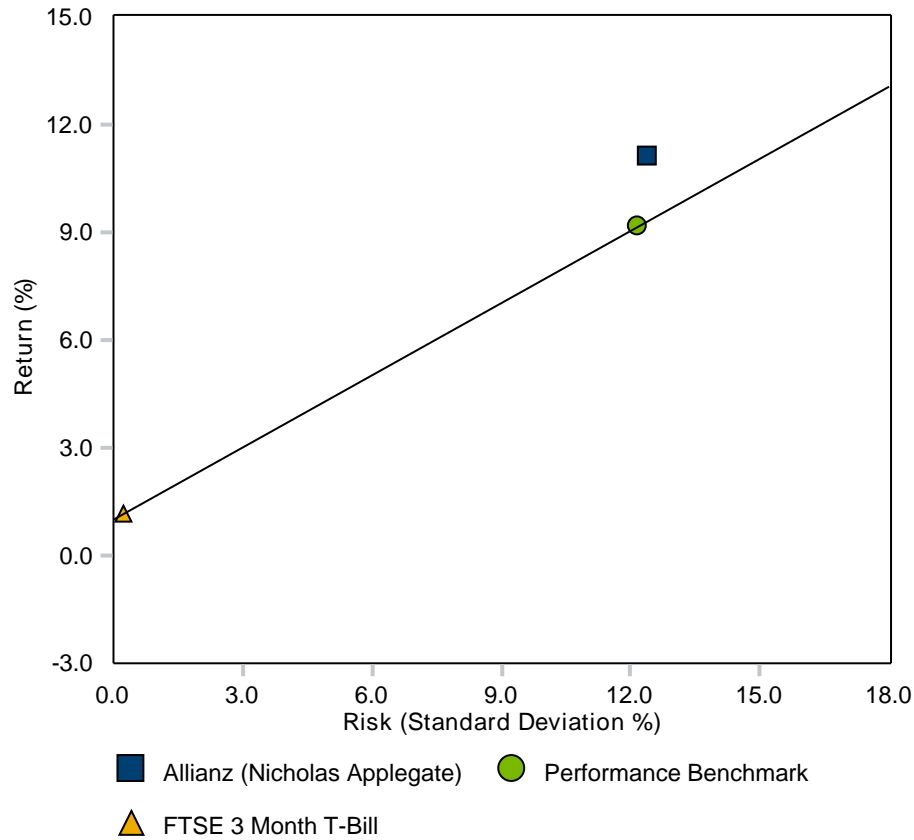


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Allianz (Nicholas Applegate)	26.2 (30)	11.5 (8)	20.1 (9)	16.3 (13)	11.1 (18)	12.6 (32)	27.0 (49)	3.7 (4)	15.6 (59)
● Performance Benchmark	24.2 (39)	7.2 (15)	15.3 (14)	11.7 (23)	9.2 (27)	10.9 (47)	23.1 (72)	0.2 (9)	13.7 (70)
5th Percentile	39.3	14.6	22.6	20.2	15.1	16.4	38.0	1.9	31.3
1st Quartile	27.3	0.1	7.5	10.8	9.4	13.1	30.8	-4.6	22.8
Median	21.8	-9.5	-2.5	4.4	5.4	10.6	26.8	-8.6	17.5
3rd Quartile	17.7	-17.5	-11.7	-1.3	2.0	8.6	22.3	-13.4	12.5
95th Percentile	12.1	-25.7	-20.7	-6.7	-2.0	5.8	13.3	-19.6	4.7
Population	1,619	1,613	1,589	1,504	1,424	1,166	1,728	1,828	1,899

59 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

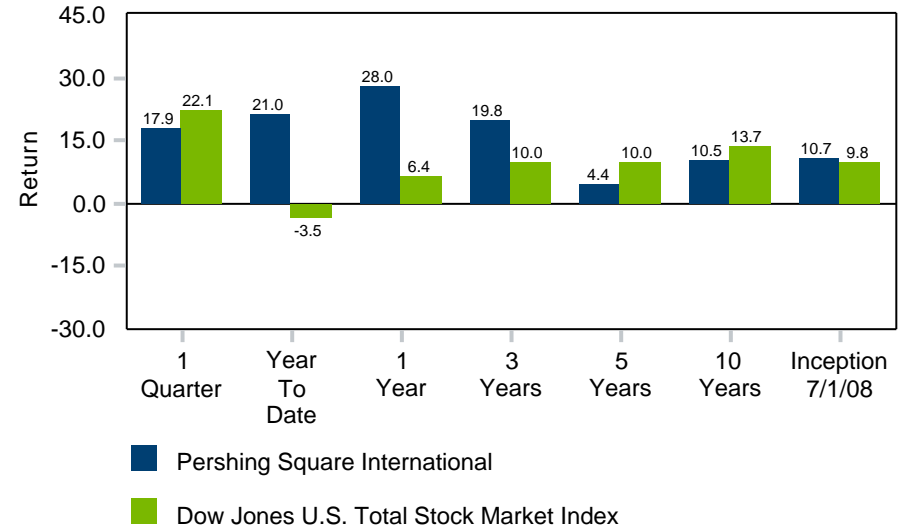
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Allianz (Nicholas Applegate)	1.78	2.60	0.69	0.96	0.82	1.83	1.00	11.09	12.42	0.98
Performance Benchmark	0.00	0.00	N/A	1.00	0.69	0.00	1.00	9.17	12.19	1.00
FTSE 3 Month T-Bill	-8.40	12.20	-0.69	0.00	N/A	1.16	0.00	1.15	0.25	-0.02

Pershing Square International Performance Summary

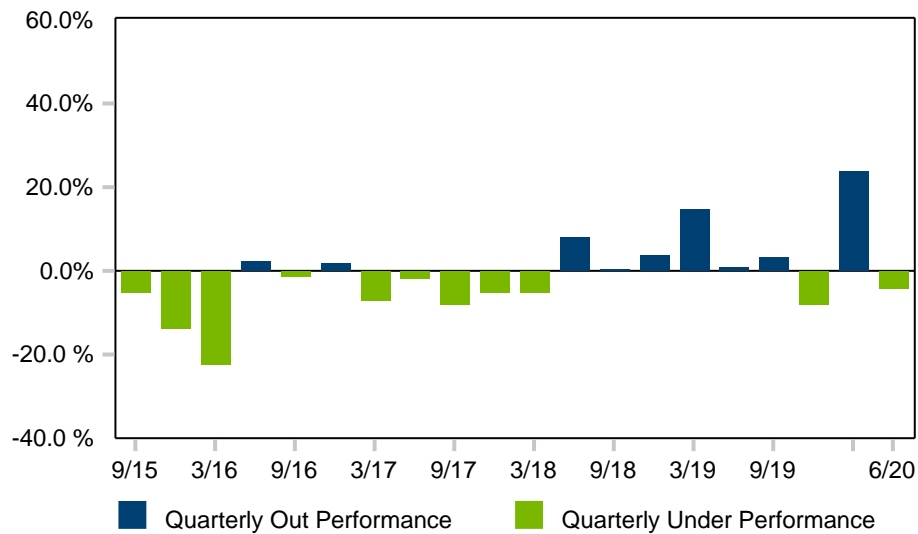
Account Information

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)

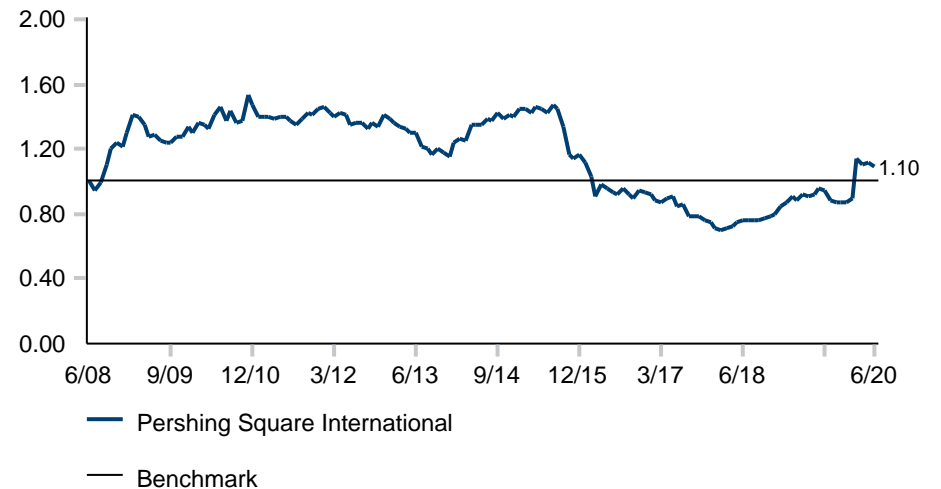
Return Summary



Quarterly Excess Performance

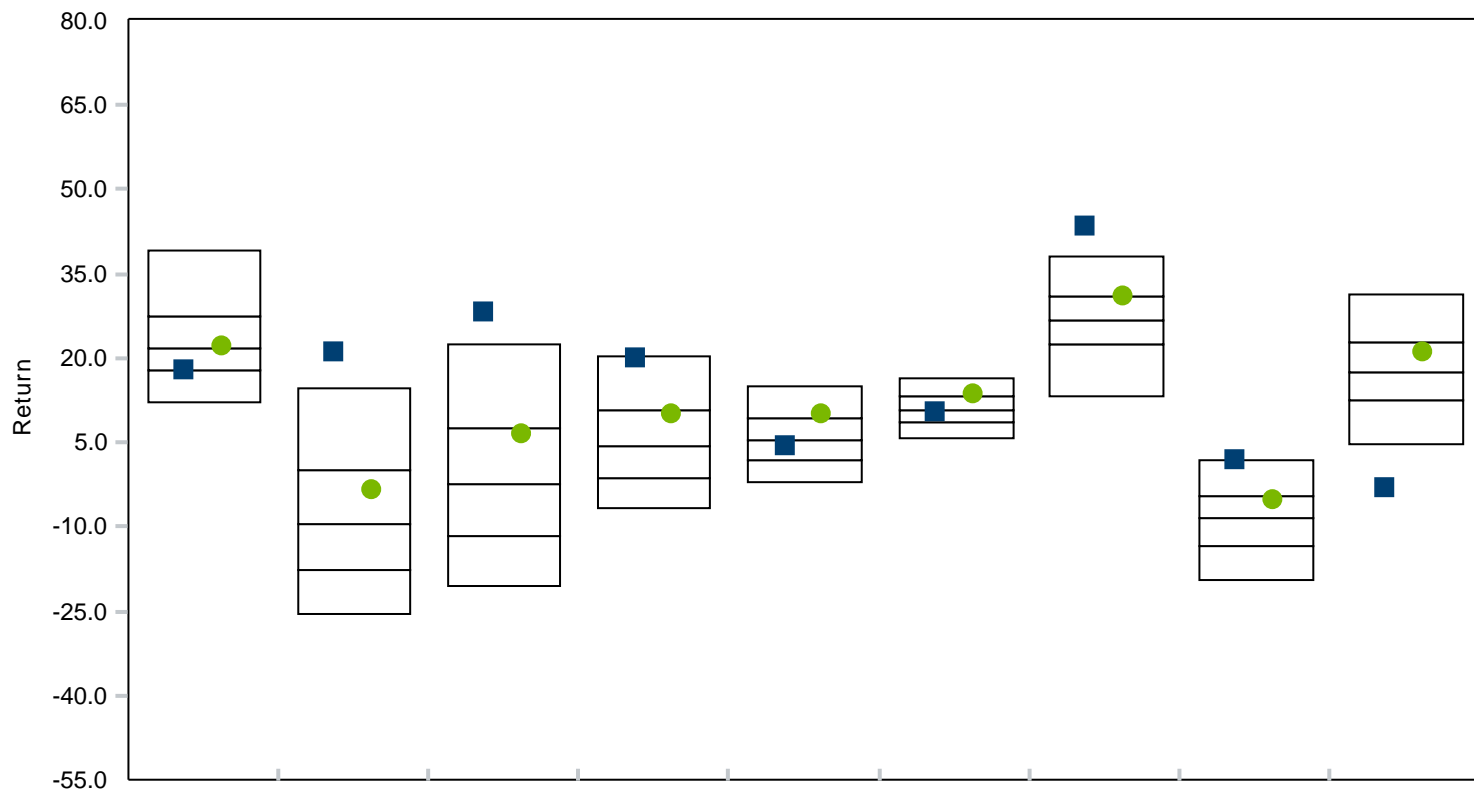


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)



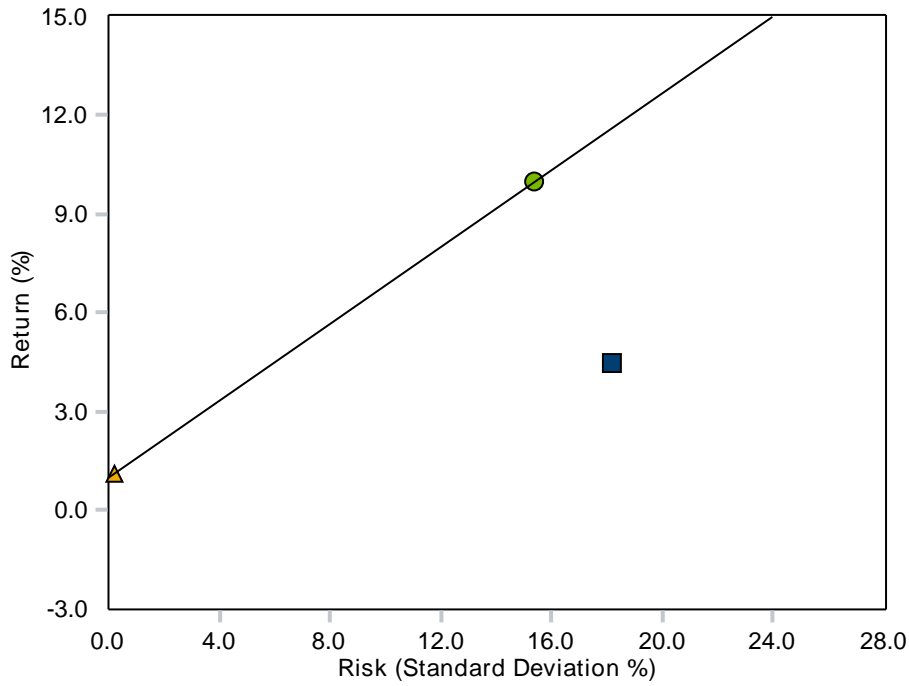
■ Pershing Square International
● Dow Jones U.S. Total Stock Market Index

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Pershing Square International	17.9 (75)	21.0 (3)	28.0 (3)	19.8 (6)	4.4 (56)	10.5 (51)	43.5 (1)	1.8 (6)	-3.2 (99)
● Dow Jones U.S. Total Stock Market Index	22.1 (49)	-3.5 (34)	6.4 (28)	10.0 (29)	10.0 (22)	13.7 (21)	30.9 (25)	-5.3 (30)	21.2 (32)
5th Percentile	39.3	14.6	22.6	20.2	15.1	16.4	38.0	1.9	31.3
1st Quartile	27.3	0.1	7.5	10.8	9.4	13.1	30.8	-4.6	22.8
Median	21.8	-9.5	-2.5	4.4	5.4	10.6	26.8	-8.6	17.5
3rd Quartile	17.7	-17.5	-11.7	-1.3	2.0	8.6	22.3	-13.4	12.5
95th Percentile	12.1	-25.7	-20.7	-6.7	-2.0	5.8	13.3	-19.6	4.7
Population	1,619	1,613	1,589	1,504	1,424	1,166	1,728	1,828	1,899

06 Parentheses contain percentile rankings.

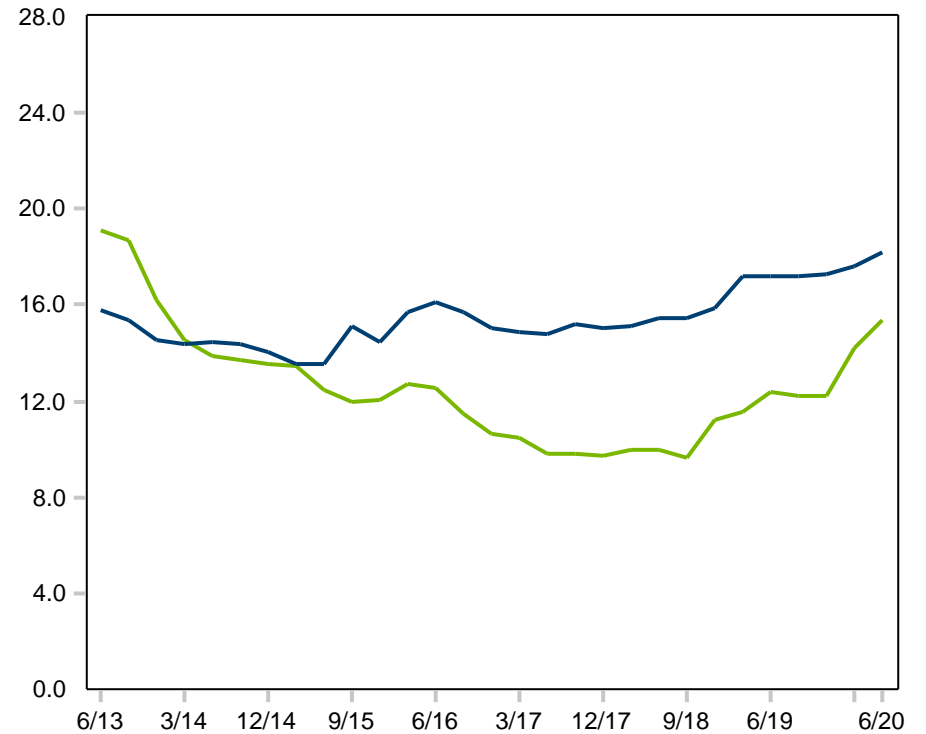
Pershing Square International Risk Profile

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

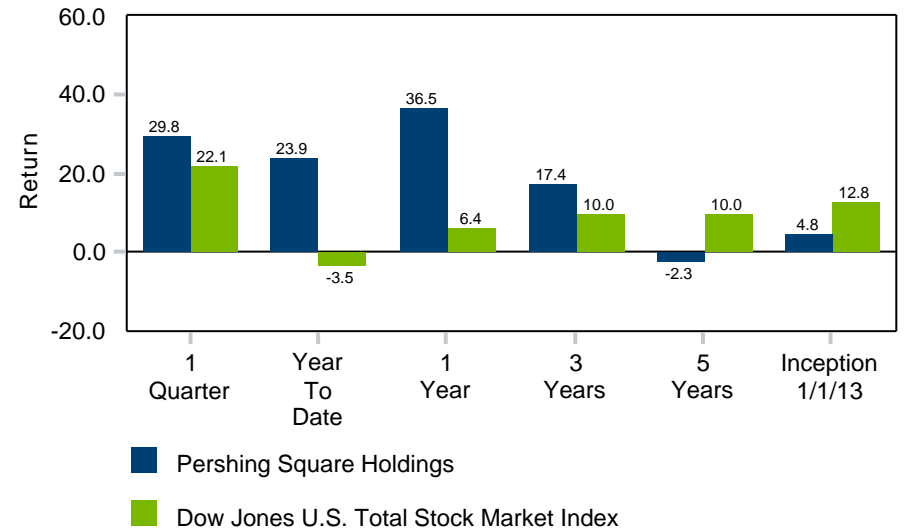
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Pershing Square International	-4.74	17.67	-0.27	0.21	0.27	0.19	0.54	4.45	18.20	0.46
Dow Jones U.S. Total Stock Market Index	0.00	0.00	N/A	1.00	0.62	0.00	1.00	9.97	15.38	1.00
FTSE 3 Month T-Bill	-9.58	15.39	-0.62	0.00	N/A	1.16	0.00	1.15	0.25	-0.05

Pershing Square Holdings Performance Summary

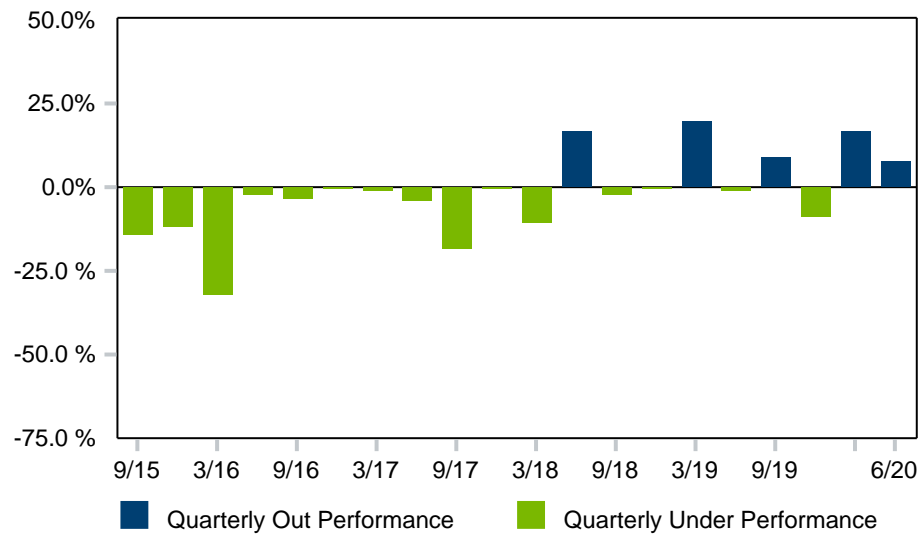
Account Information

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)

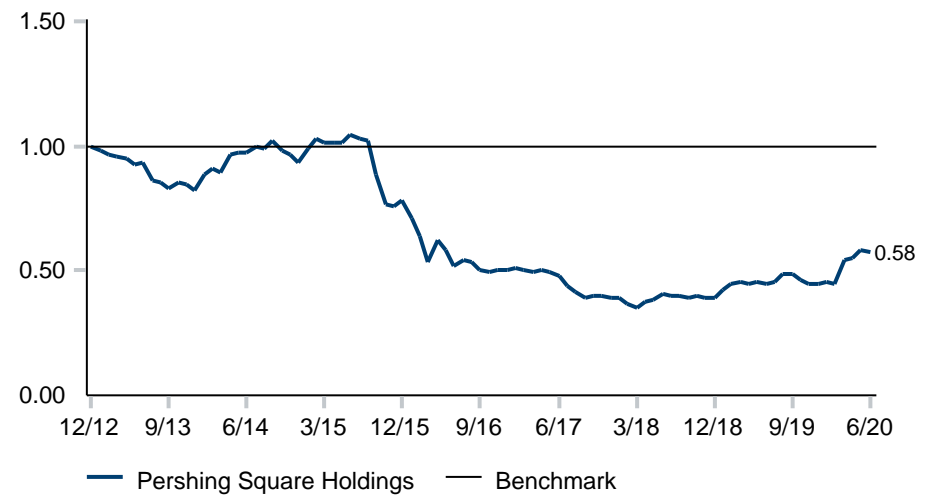
Return Summary



Quarterly Excess Performance

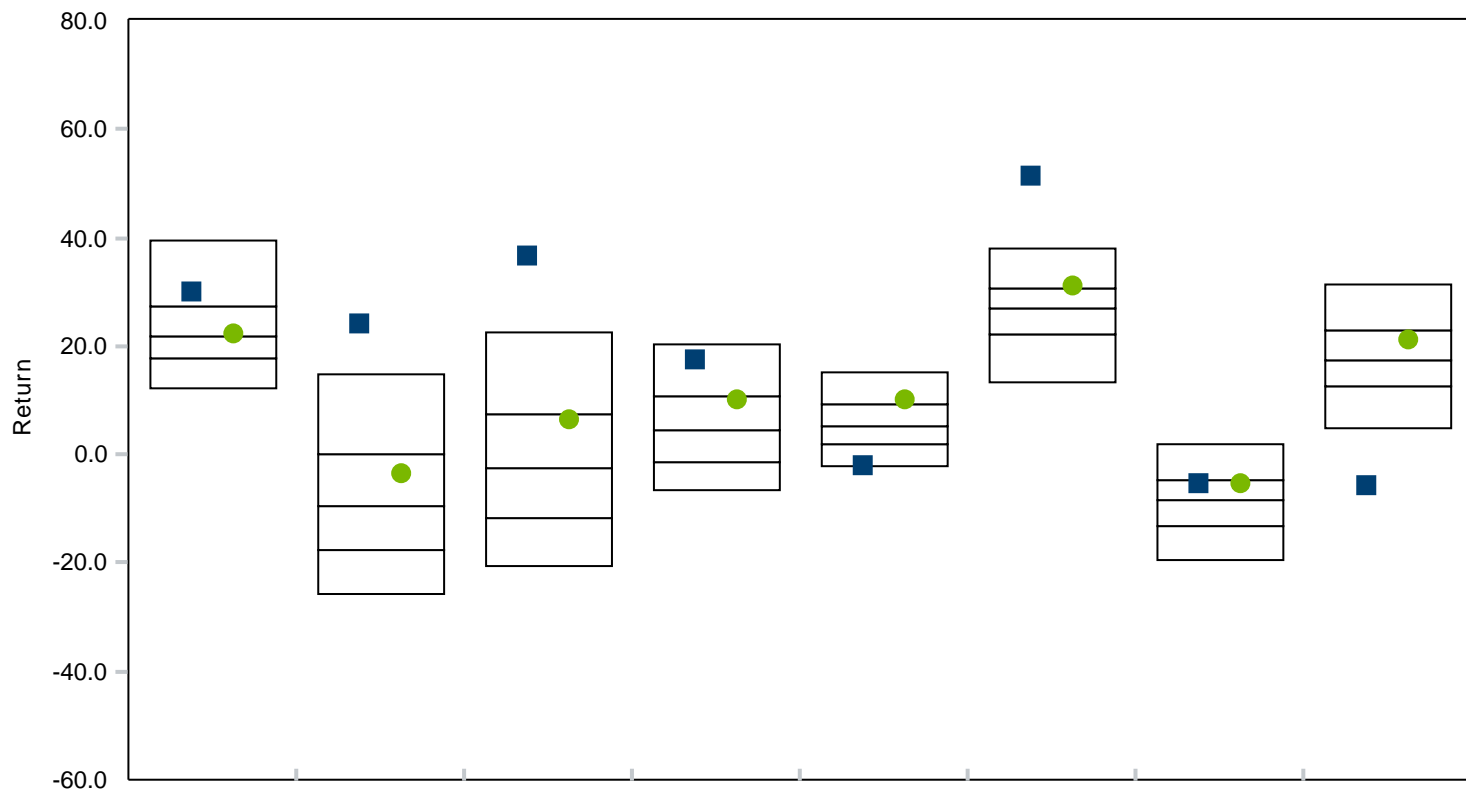


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM U.S. Equity (SA+CF)

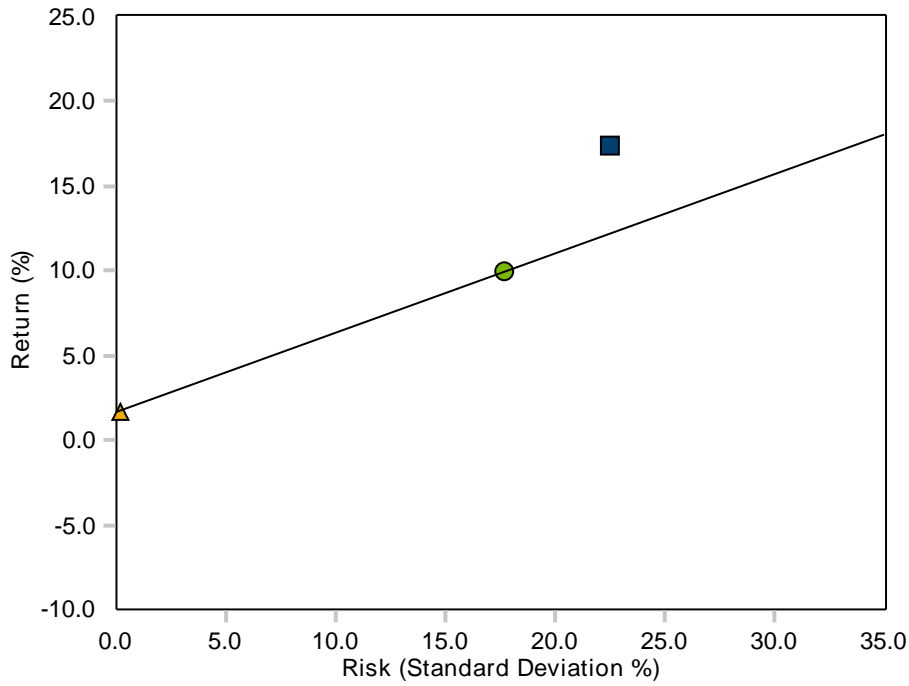


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ Pershing Square Holdings	29.8 (17)	23.9 (2)	36.5 (1)	17.4 (10)	-2.3 (96)	51.3 (1)	-5.3 (30)	-6.0 (100)
● Dow Jones U.S. Total Stock Market Index	22.1 (49)	-3.5 (34)	6.4 (28)	10.0 (29)	10.0 (22)	30.9 (25)	-5.3 (30)	21.2 (32)
5th Percentile	39.3	14.6	22.6	20.2	15.1	38.0	1.9	31.3
1st Quartile	27.3	0.1	7.5	10.8	9.4	30.8	-4.6	22.8
Median	21.8	-9.5	-2.5	4.4	5.4	26.8	-8.6	17.5
3rd Quartile	17.7	-17.5	-11.7	-1.3	2.0	22.3	-13.4	12.5
95th Percentile	12.1	-25.7	-20.7	-6.7	-2.0	13.3	-19.6	4.7
Population	1,619	1,613	1,589	1,504	1,424	1,728	1,828	1,899

Parantheses contain percentile rankings.

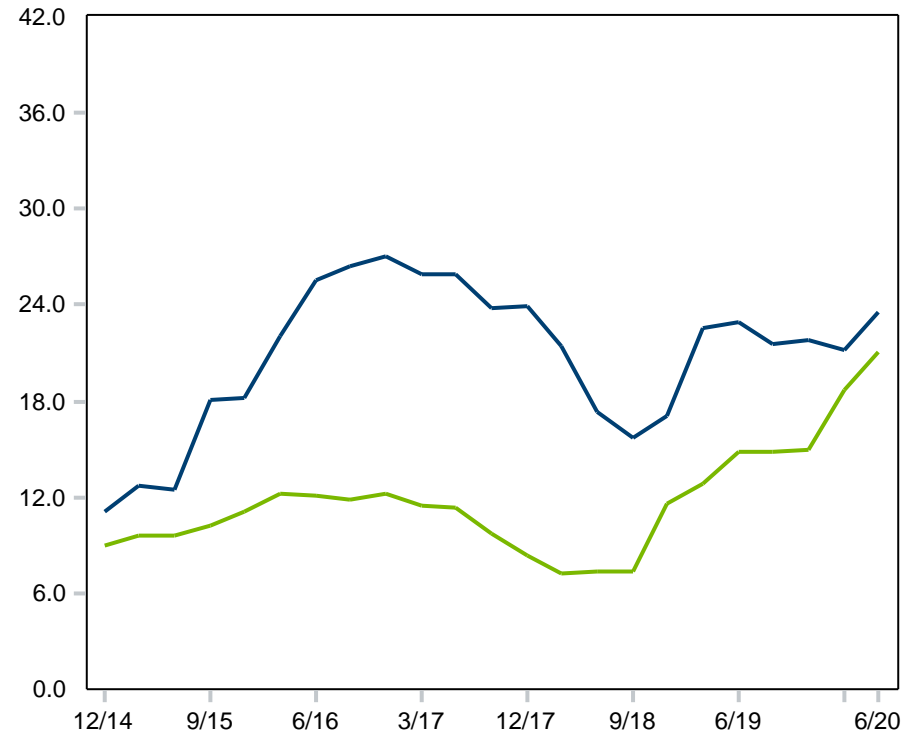
Pershing Square Holdings Risk Profile

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

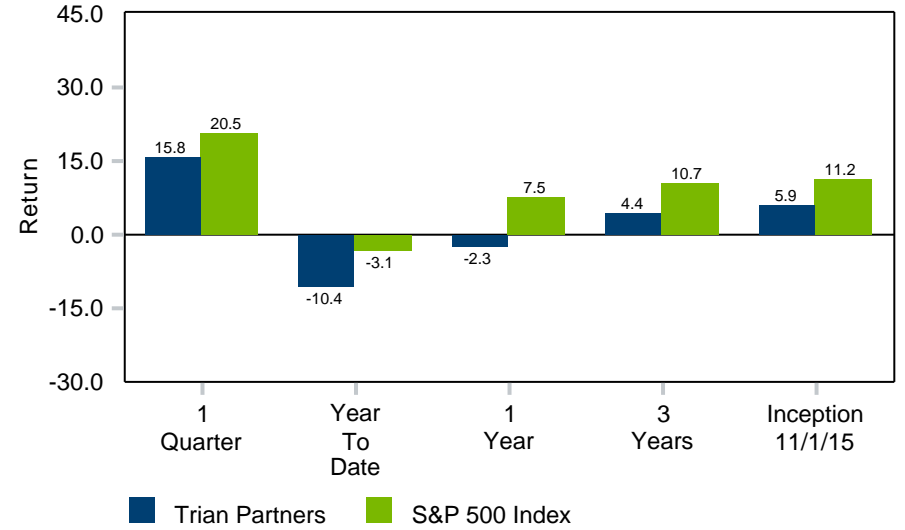
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Pershing Square Holdings	7.45	17.62	0.42	0.41	0.75	9.92	0.82	17.37	22.56	0.64
Dow Jones U.S. Total Stock Market Index	0.00	0.00	N/A	1.00	0.53	0.00	1.00	9.97	17.72	1.00
FTSE 3 Month T-Bill	-9.39	17.75	-0.53	0.02	N/A	1.74	0.00	1.72	0.17	-0.15

Trian Partners Performance Summary

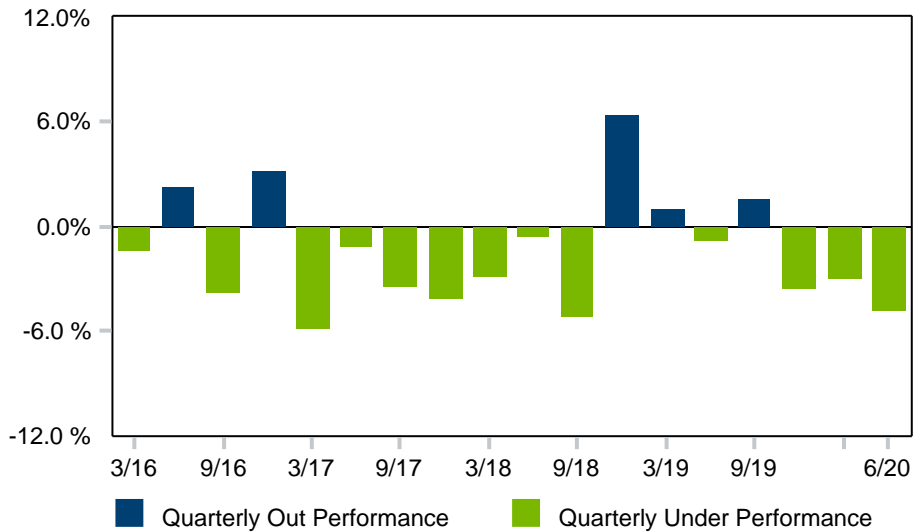
Account Information

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

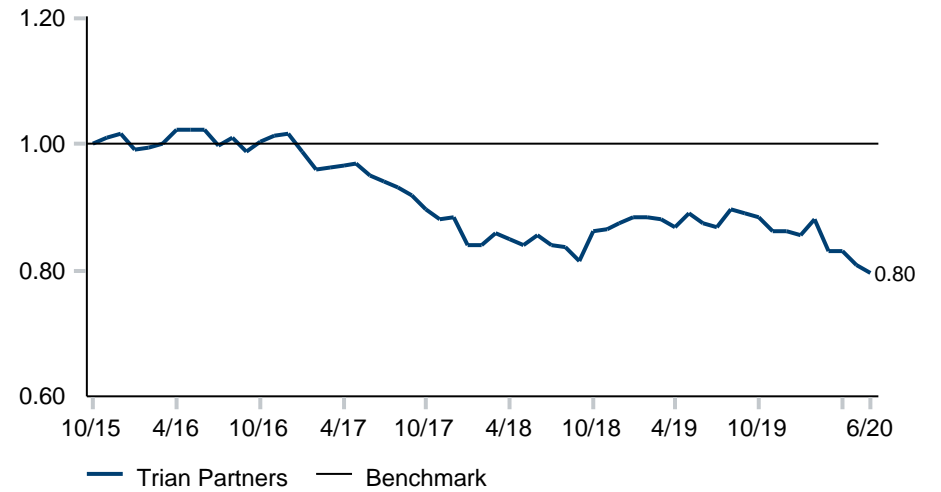
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

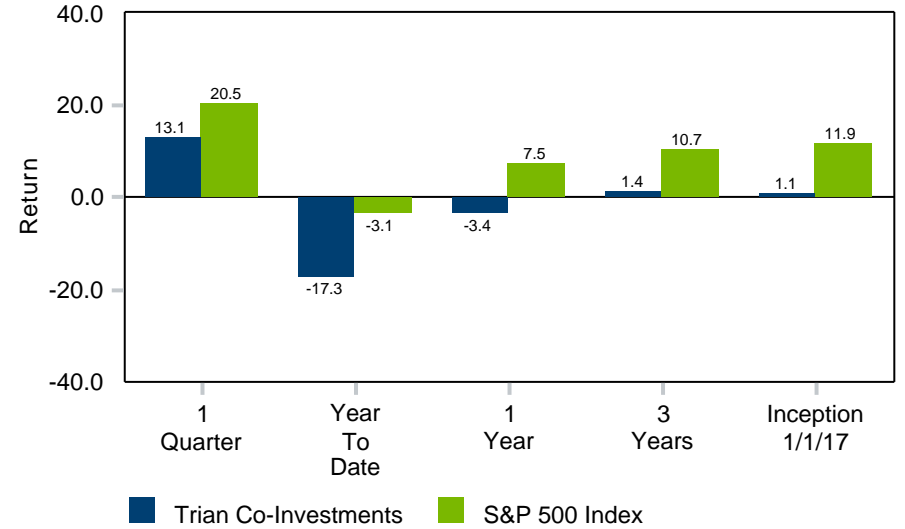


Trian Co-Investments Performance Summary

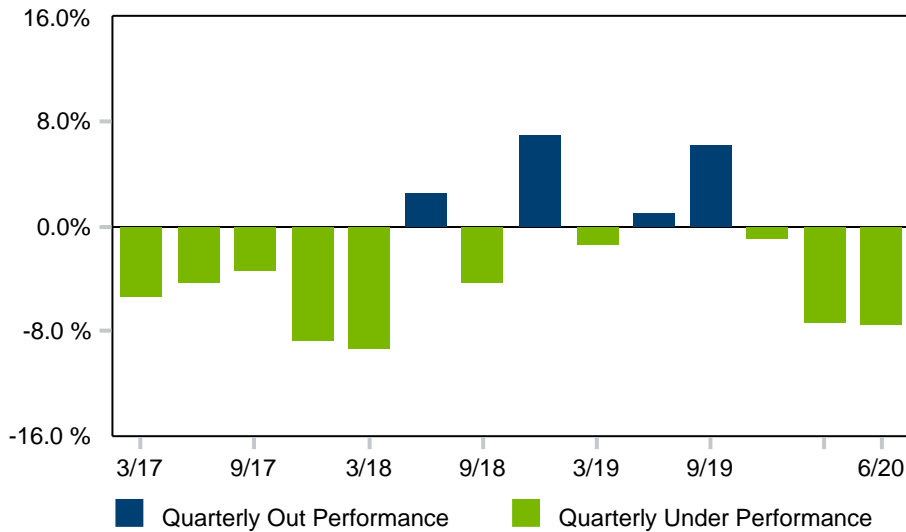
Account Information

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:

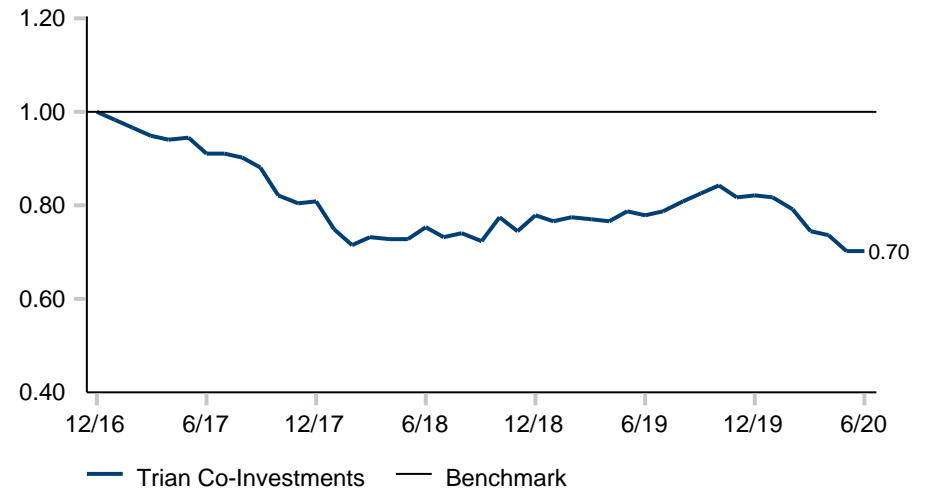
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

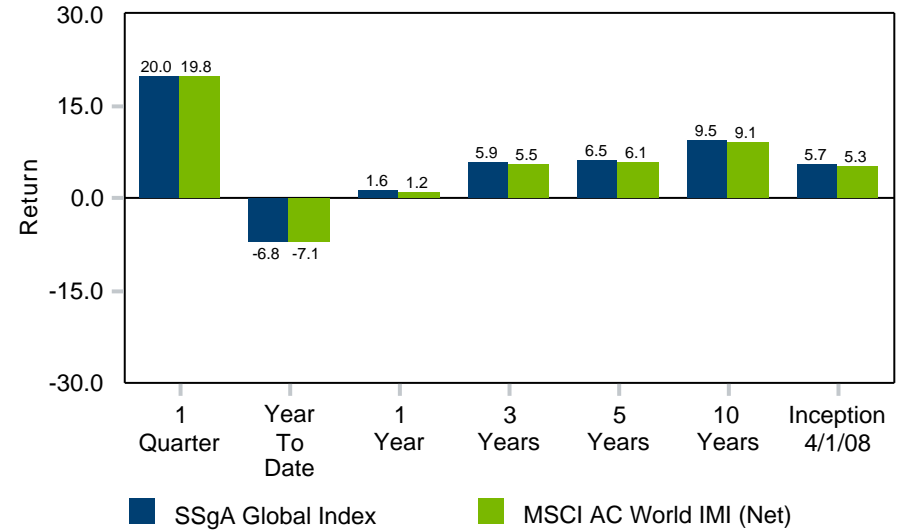


SSgA Global Index Performance Summary

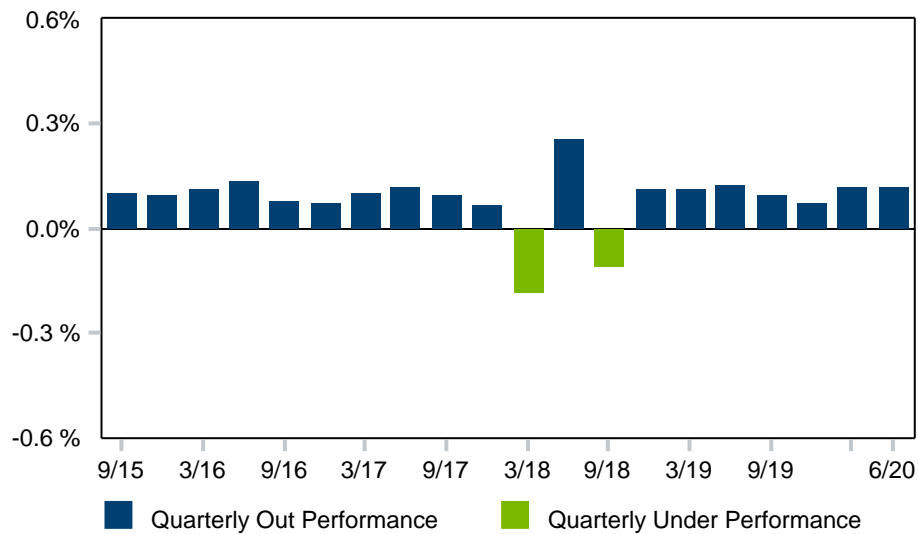
Account Information

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)

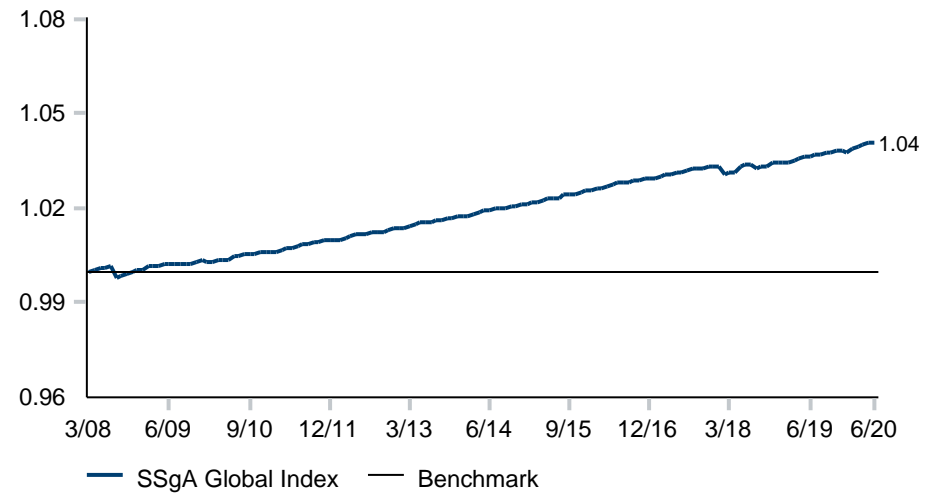
Return Summary



Quarterly Excess Performance

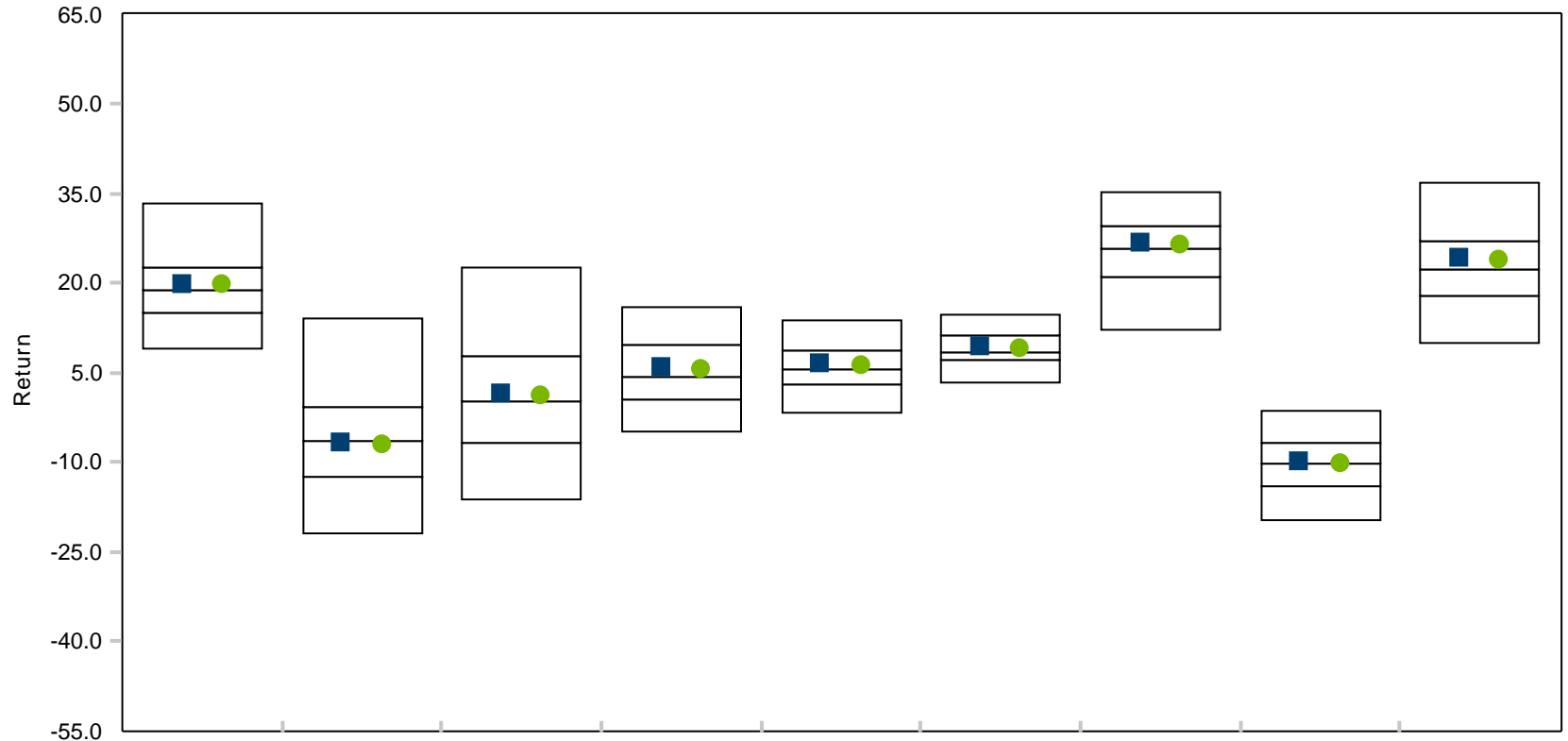


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

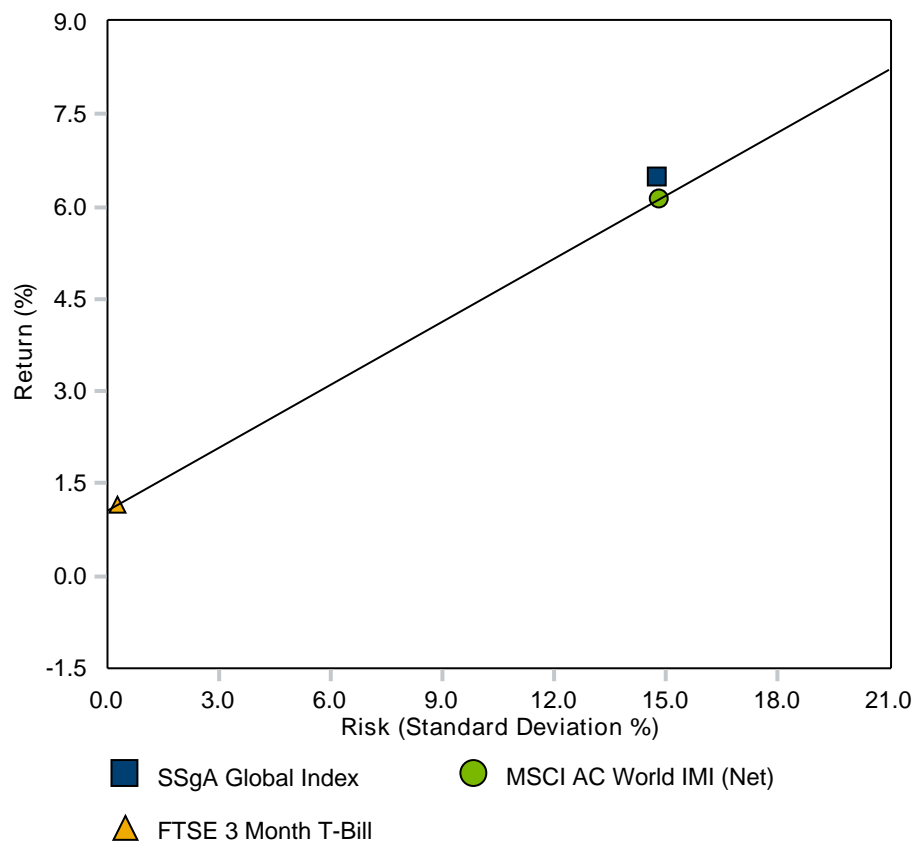


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ SSgA Global Index	20.0 (44)	-6.8 (53)	1.6 (45)	5.9 (41)	6.5 (38)	9.5 (40)	26.8 (44)	-10.0 (48)	24.4 (39)
● MSCI AC World IMI (Net)	19.8 (46)	-7.1 (54)	1.2 (47)	5.5 (43)	6.1 (42)	9.1 (46)	26.4 (46)	-10.1 (49)	23.9 (41)
5th Percentile	33.5	14.3	22.7	16.0	14.0	14.9	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	11.2	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	8.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	7.1	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	3.4	12.2	-19.7	10.2
Population	345	344	342	326	296	183	362	380	388

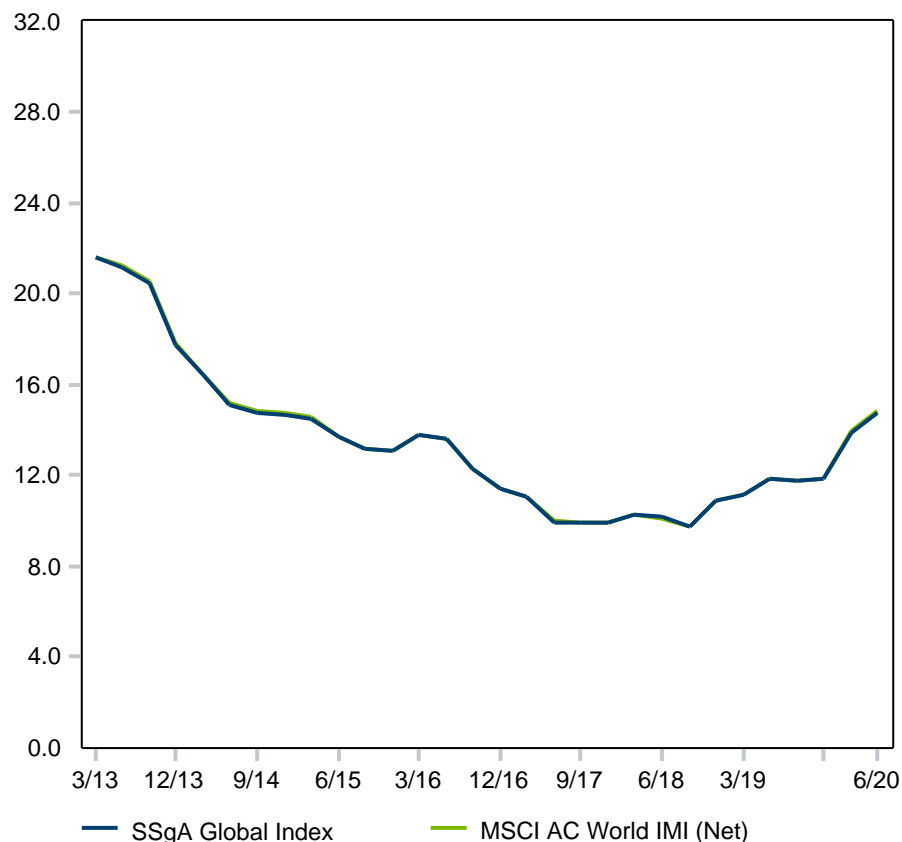
Parenteses contain percentile rankings.

SSgA Global Index Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

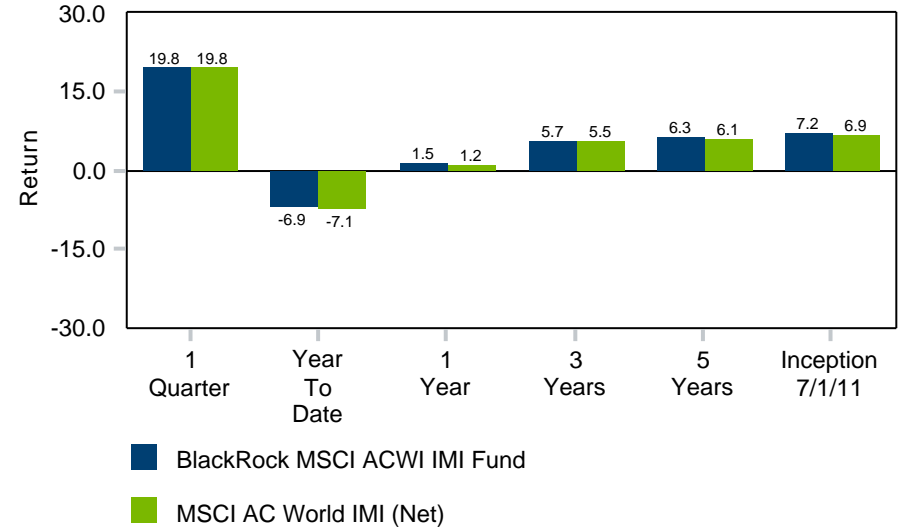
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Global Index	0.34	0.18	1.93	1.00	0.42	0.35	1.00	6.47	14.81	1.00
MSCI AC World IMI (Net)	0.00	0.00	N/A	1.00	0.40	0.00	1.00	6.11	14.82	1.00
FTSE 3 Month T-Bill	-5.90	14.83	-0.40	0.00	N/A	1.16	0.00	1.15	0.25	-0.06

BlackRock MSCI ACWI IMI Fund Performance Summary

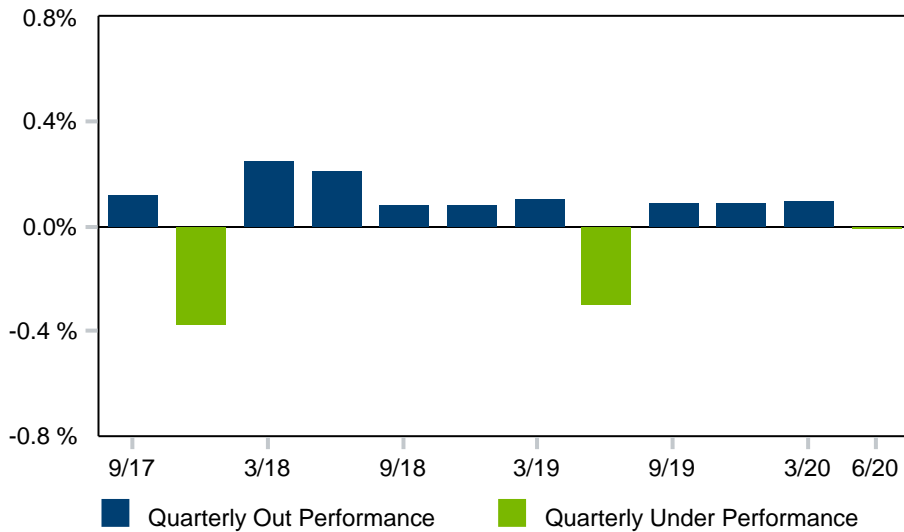
Account Information

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)

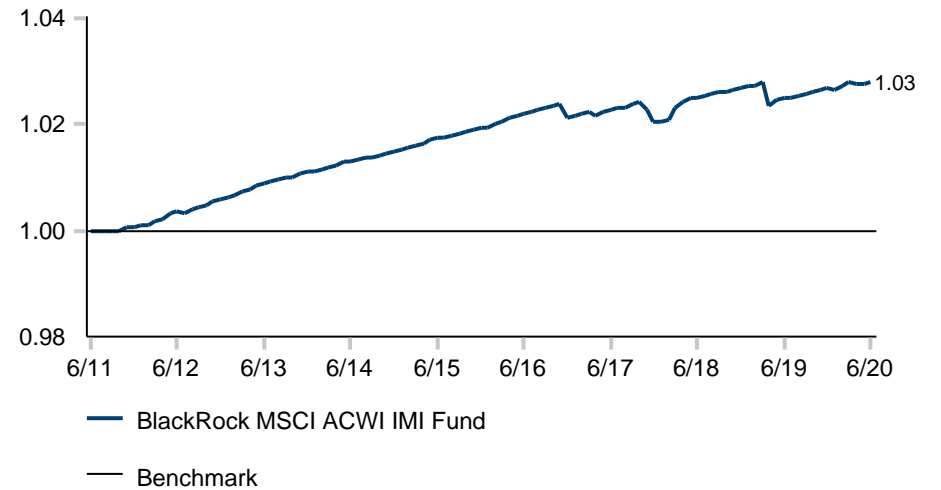
Return Summary



Quarterly Excess Performance

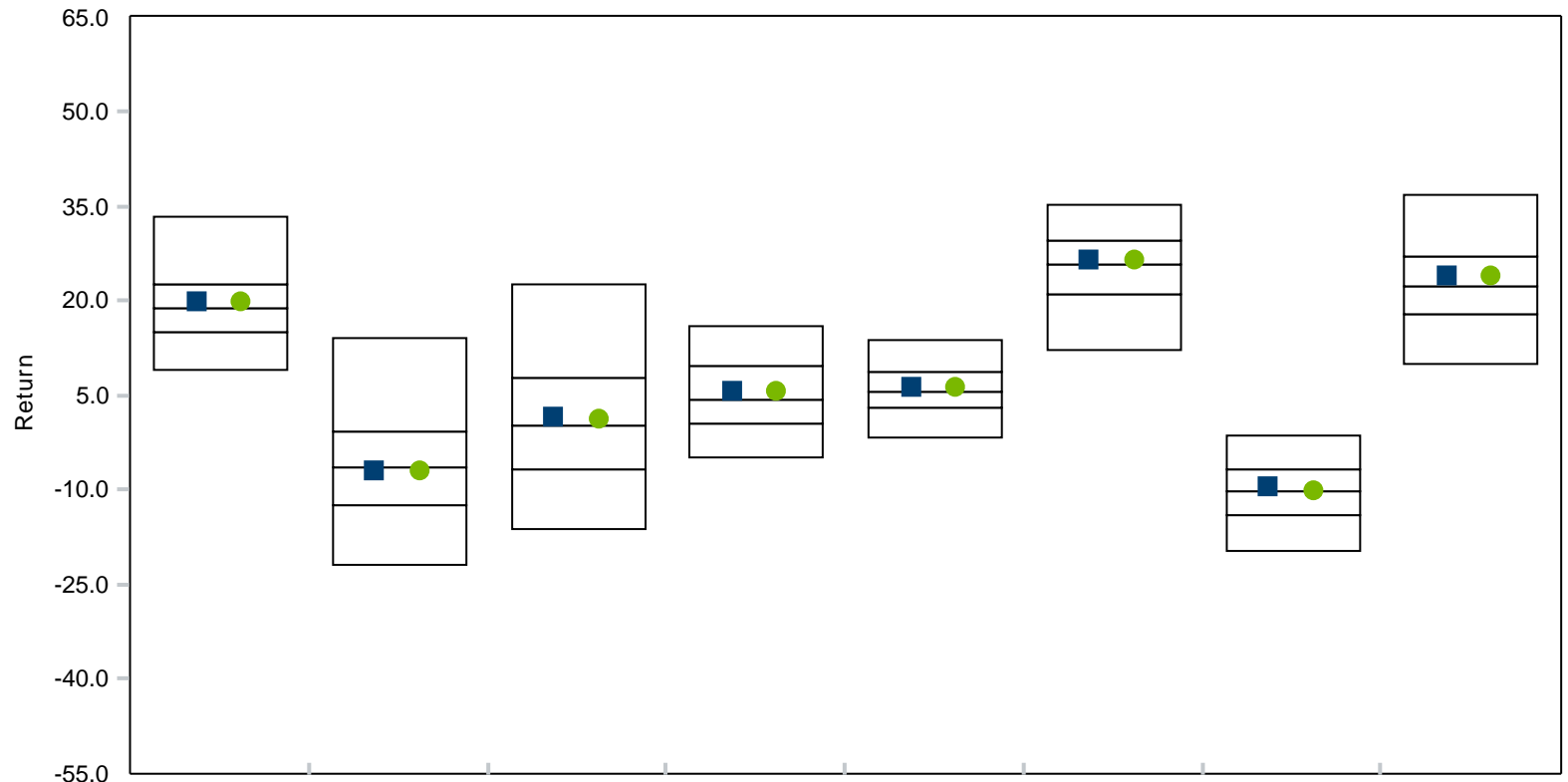


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

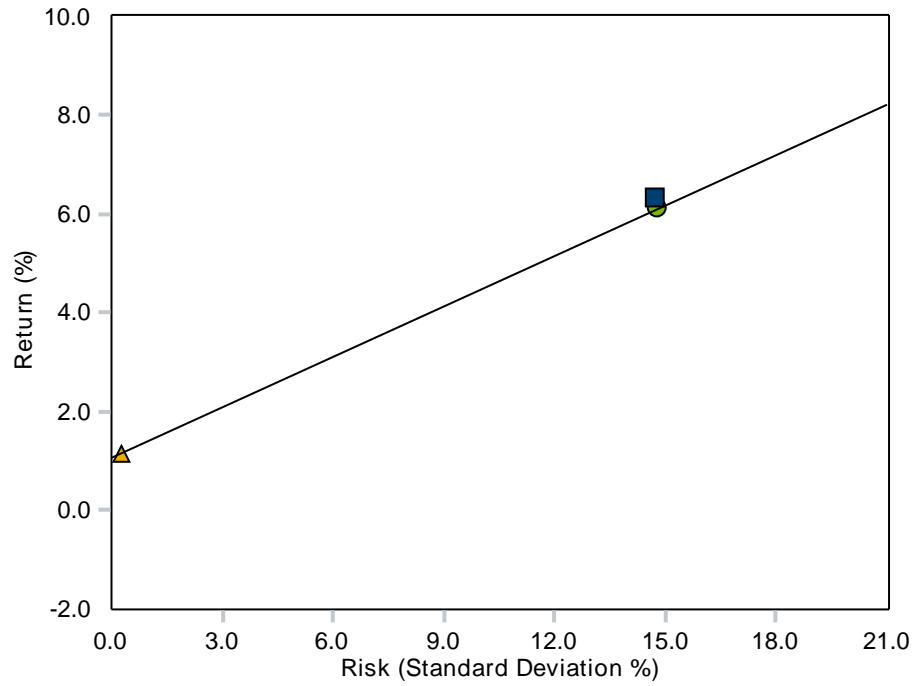


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ BlackRock MSCI ACWI IMI Fund	19.8 (46)	-6.9 (53)	1.5 (46)	5.7 (42)	6.3 (39)	26.3 (46)	-9.5 (45)	23.8 (42)
● MSCI AC World IMI (Net)	19.8 (46)	-7.1 (54)	1.2 (47)	5.5 (43)	6.1 (42)	26.4 (46)	-10.1 (49)	23.9 (41)
5th Percentile	33.5	14.3	22.7	16.0	14.0	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	12.2	-19.7	10.2
Population	345	344	342	326	296	362	380	388

Parenteses contain percentile rankings.

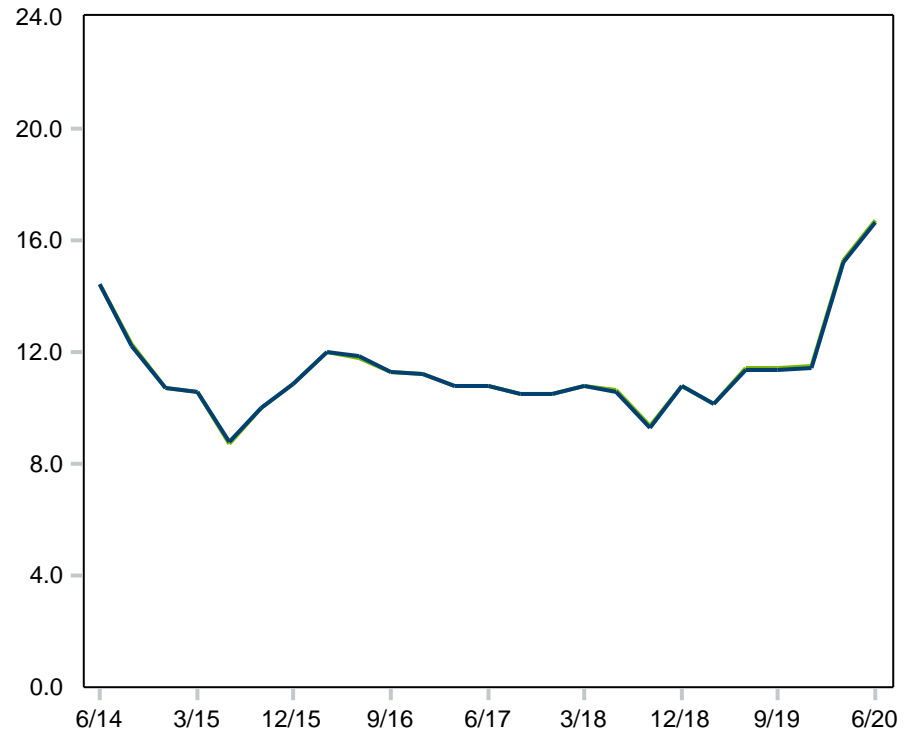
BlackRock MSCI ACWI IMI Fund Risk Profile

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

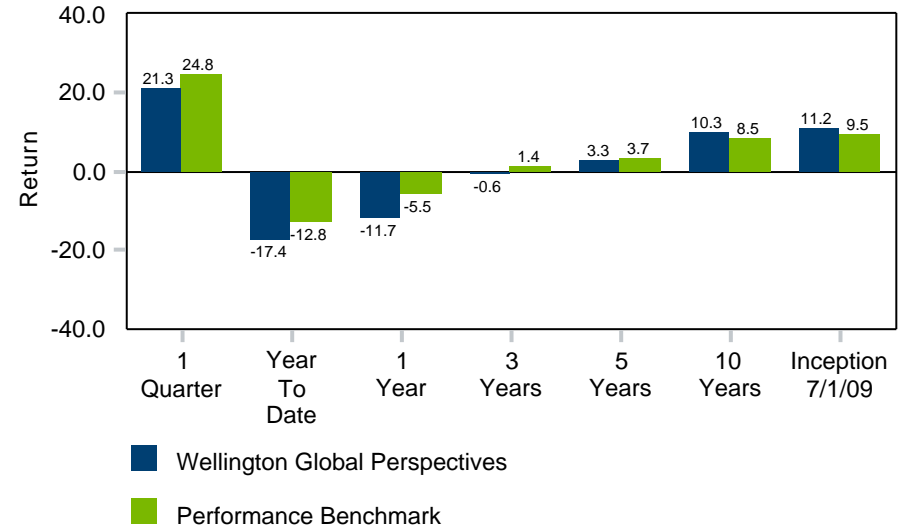
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock MSCI ACWI IMI Fund	0.20	0.31	0.64	1.00	0.41	0.23	1.00	6.33	14.76	1.00
MSCI AC World IMI (Net)	0.00	0.00	N/A	1.00	0.40	0.00	1.00	6.11	14.82	1.00
FTSE 3 Month T-Bill	-5.90	14.83	-0.40	0.00	N/A	1.16	0.00	1.15	0.25	-0.06

Wellington Global Perspectives Performance Summary

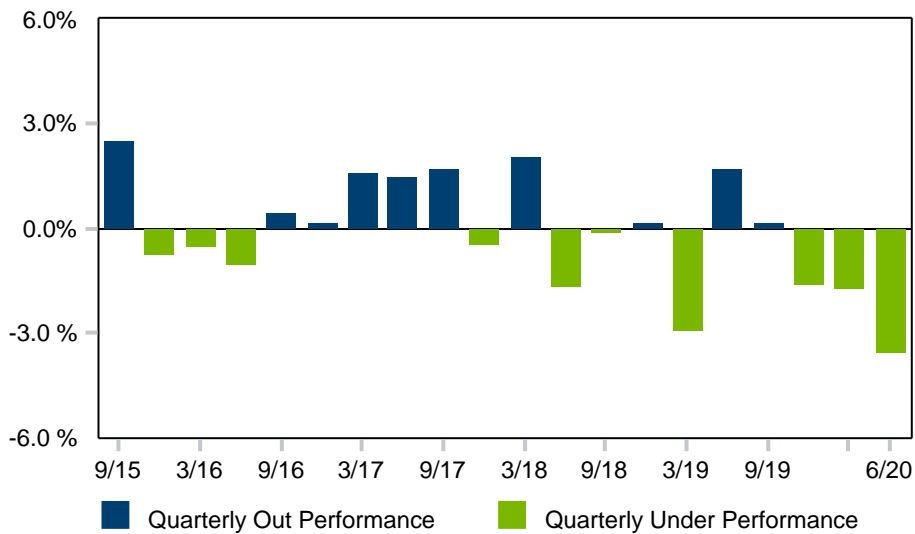
Account Information

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)

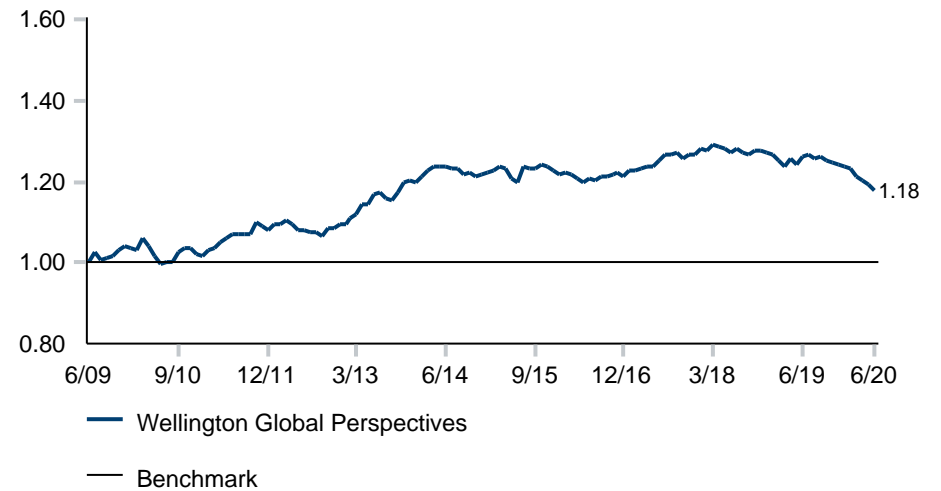
Return Summary



Quarterly Excess Performance



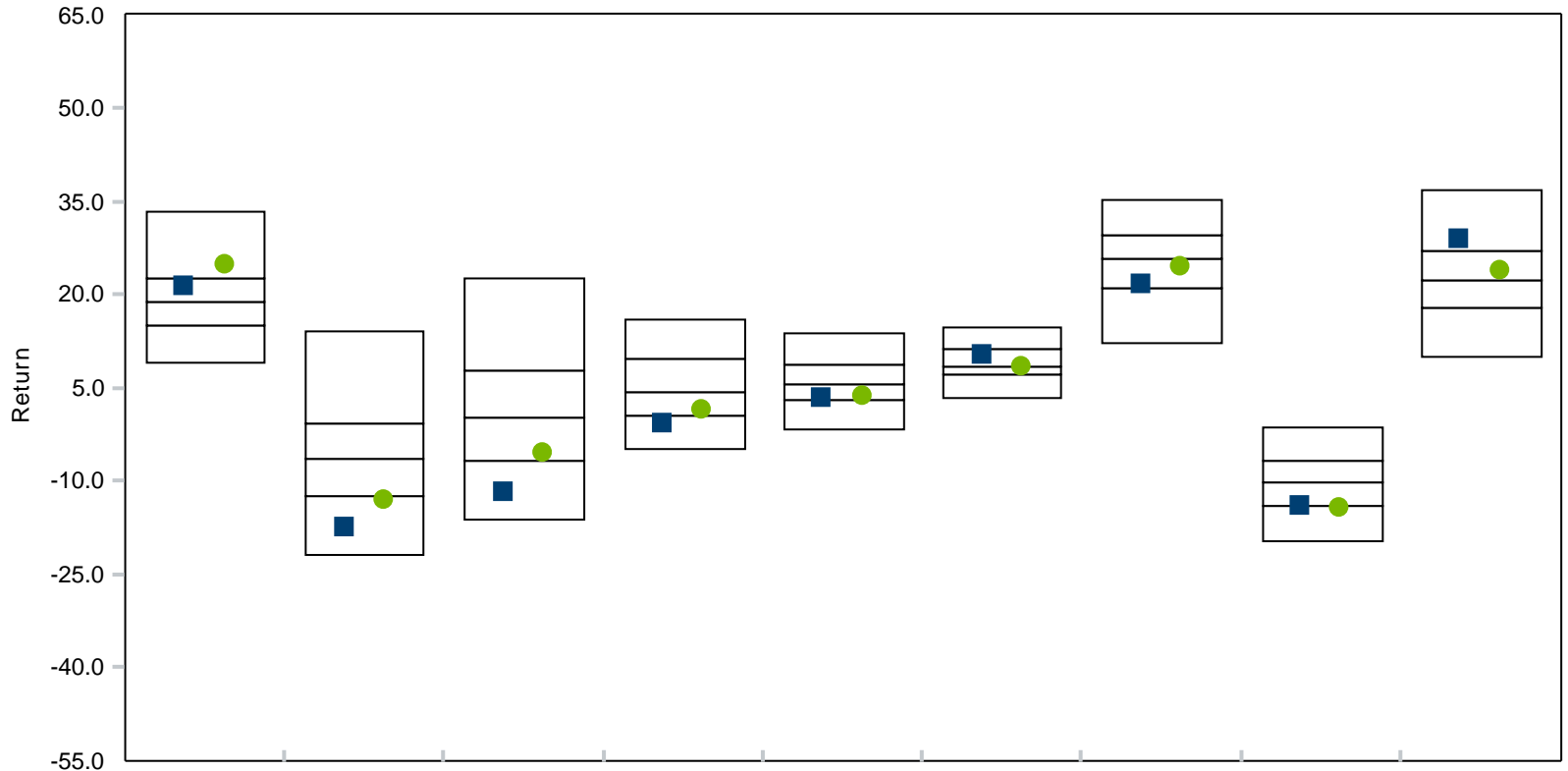
Ratio of Cumulative Wealth - Since Inception



111

Peer Group Analysis

IM Global Equity (SA+CF)

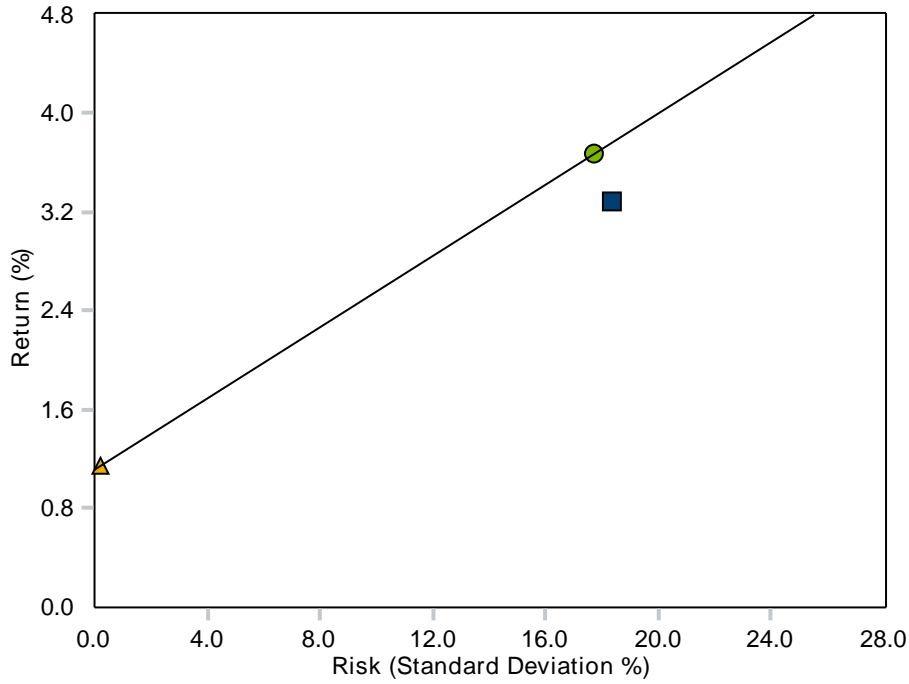


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
Wellington Global Perspectives	21.3 (33)	-17.4 (88)	-11.7 (89)	-0.6 (82)	3.3 (75)	10.3 (30)	21.9 (72)	-14.0 (76)	29.0 (21)
Performance Benchmark	24.8 (18)	-12.8 (78)	-5.5 (73)	1.4 (72)	3.7 (72)	8.5 (54)	24.7 (58)	-14.4 (78)	23.8 (42)
5th Percentile	33.5	14.3	22.7	16.0	14.0	14.9	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	11.2	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	8.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	7.1	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	3.4	12.2	-19.7	10.2
Population	345	344	342	326	296	183	362	380	388

112
 Parentheses contain percentile rankings.

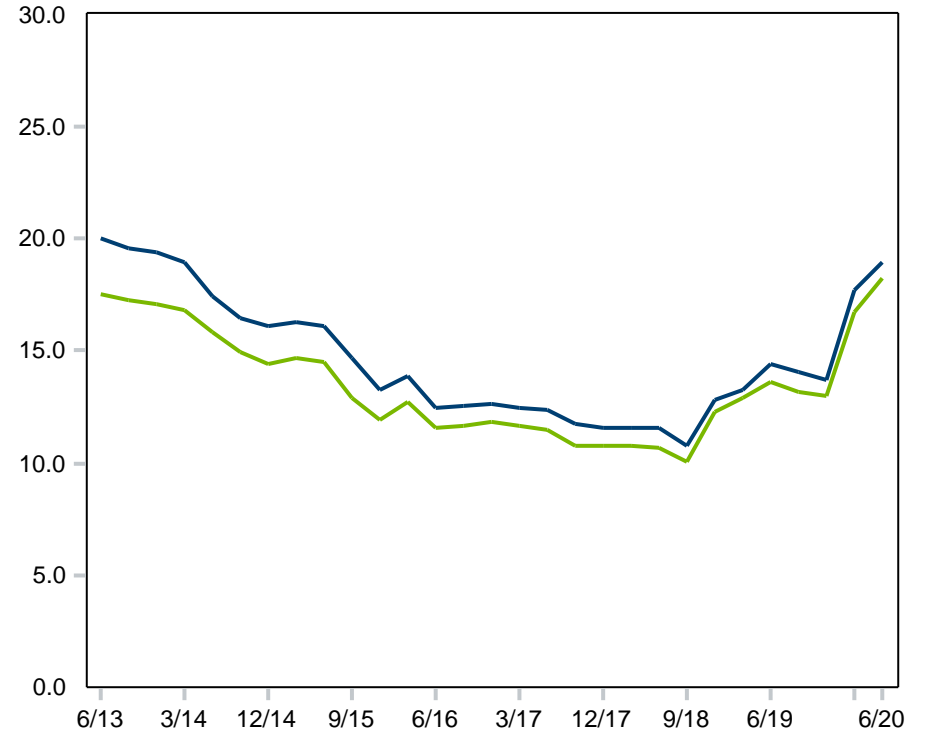
Wellington Global Perspectives Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



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

Rolling 4 Years Standard Deviation



- Wellington Global Perspectives
- Performance Benchmark

5 Years Historical Statistics

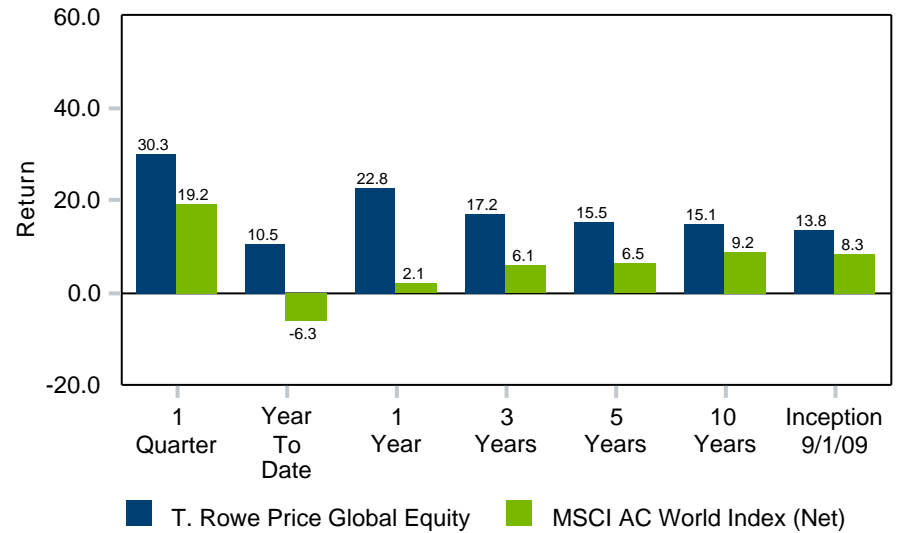
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Perspectives	-0.24	3.00	-0.08	0.97	0.21	-0.36	1.02	3.28	18.40	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	0.23	0.00	1.00	3.67	17.72	1.00
FTSE 3 Month T-Bill	-4.08	17.75	-0.23	0.01	N/A	1.16	0.00	1.15	0.25	-0.10

T. Rowe Price Global Equity Performance Summary

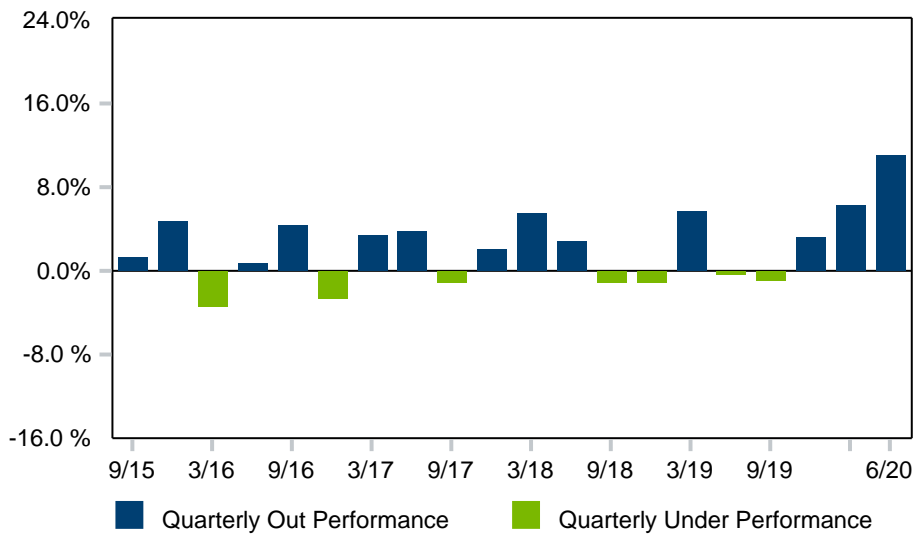
Account Information

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)

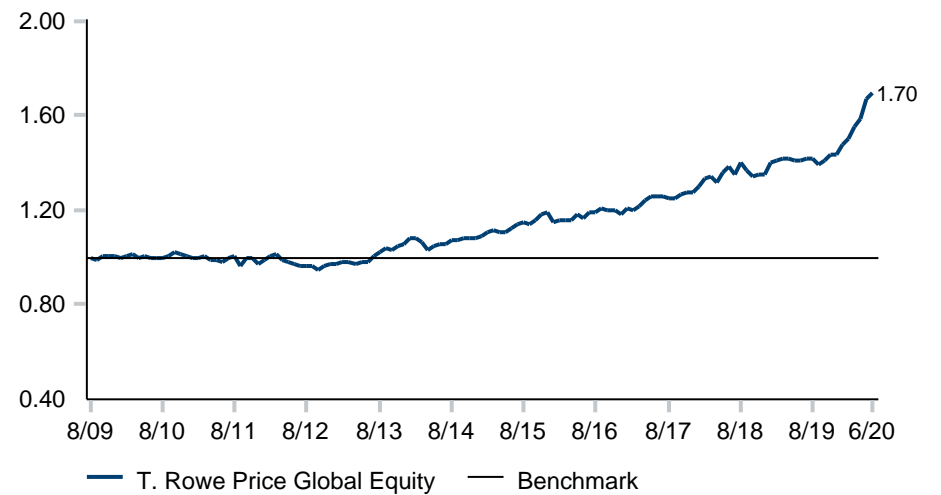
Return Summary



Quarterly Excess Performance

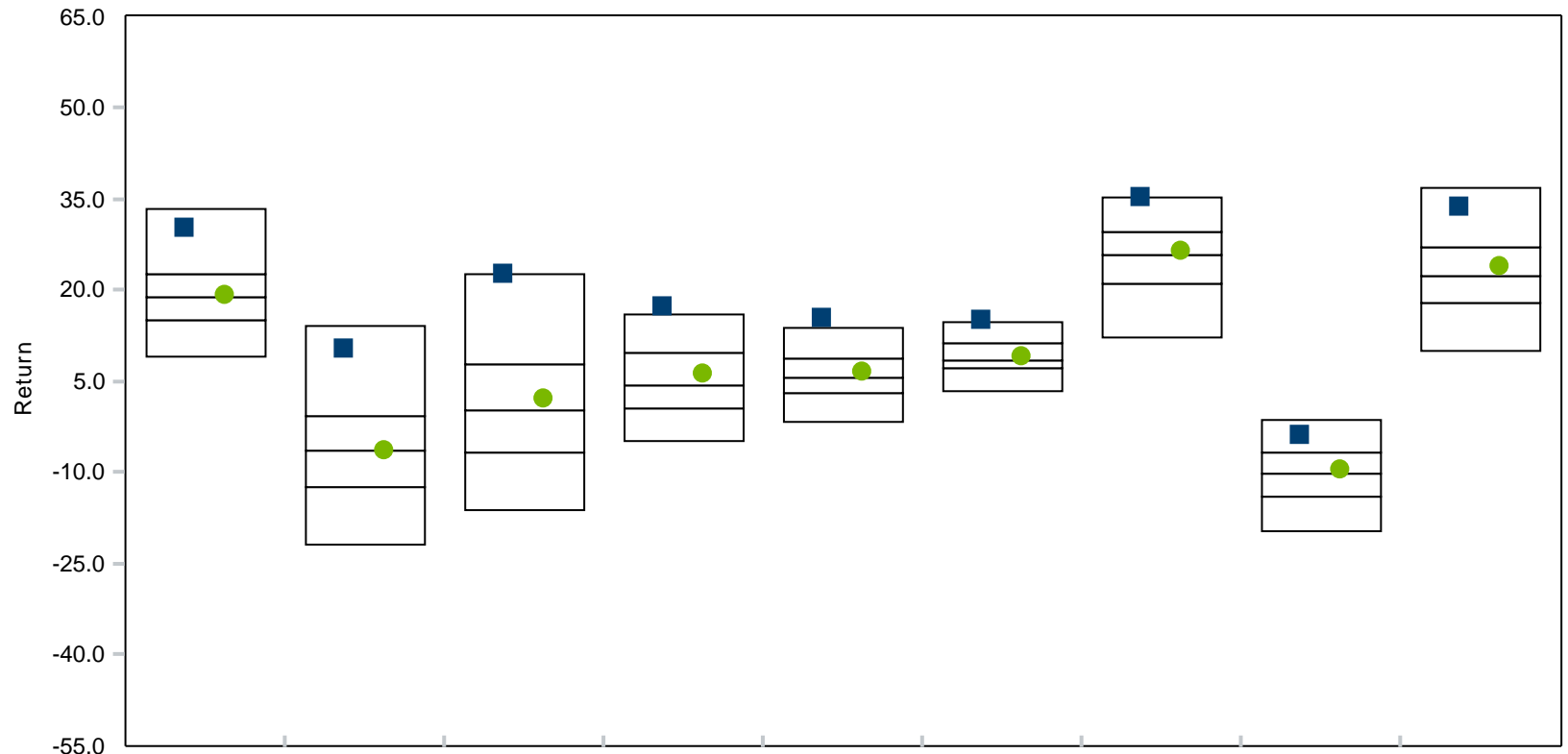


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

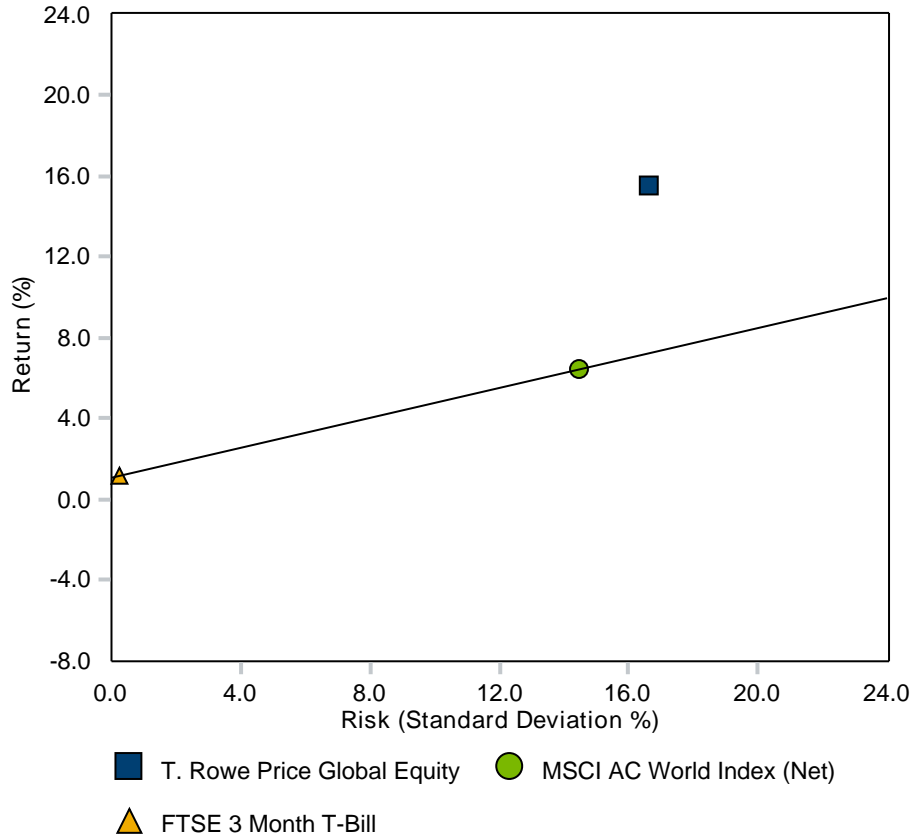


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ T. Rowe Price Global Equity	30.3 (9)	10.5 (8)	22.8 (5)	17.2 (4)	15.5 (4)	15.1 (4)	35.2 (6)	-4.0 (15)	33.7 (9)
● MSCI AC World Index (Net)	19.2 (49)	-6.3 (49)	2.1 (44)	6.1 (39)	6.5 (38)	9.2 (45)	26.6 (45)	-9.4 (45)	24.0 (41)
5th Percentile	33.5	14.3	22.7	16.0	14.0	14.9	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	11.2	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	8.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	7.1	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	3.4	12.2	-19.7	10.2
Population	345	344	342	326	296	183	362	380	388

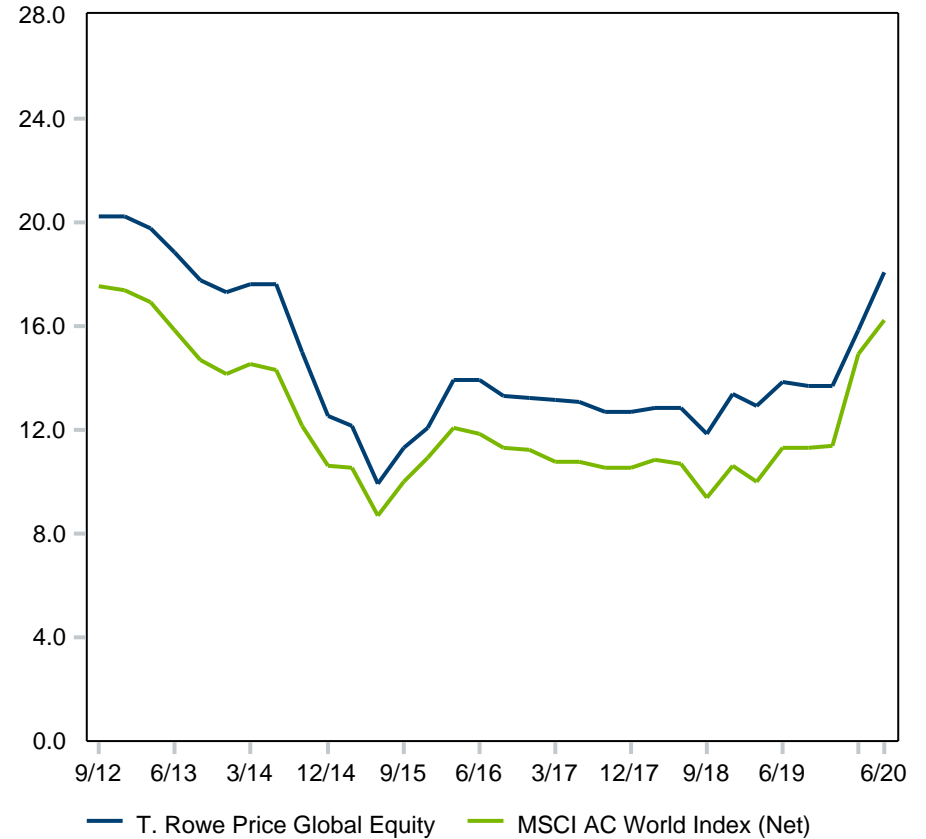
Parenteses contain percentile rankings.

T. Rowe Price Global Equity Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

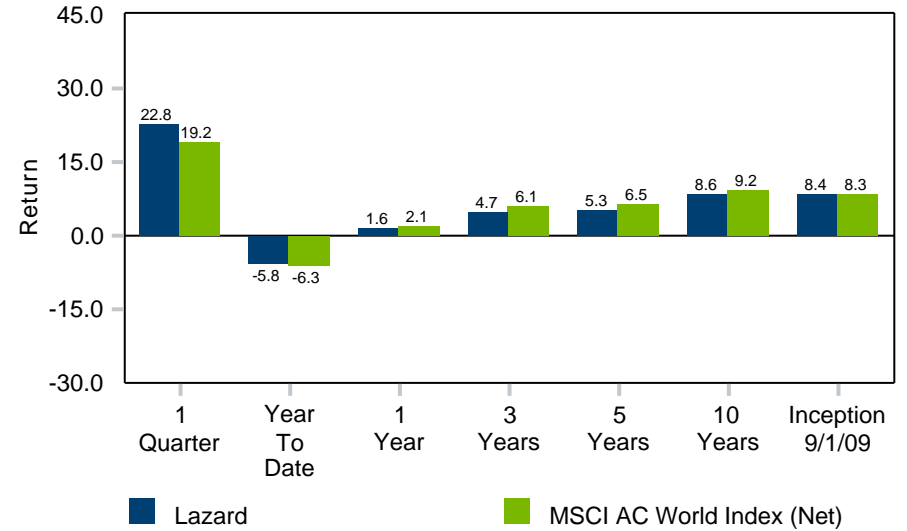
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
T. Rowe Price Global Equity	8.56	5.78	1.48	0.88	0.88	8.28	1.08	15.53	16.65	0.94
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.43	0.00	1.00	6.46	14.51	1.00
FTSE 3 Month T-Bill	-6.18	14.52	-0.43	0.00	N/A	1.16	0.00	1.15	0.25	-0.06

Lazard Performance Summary

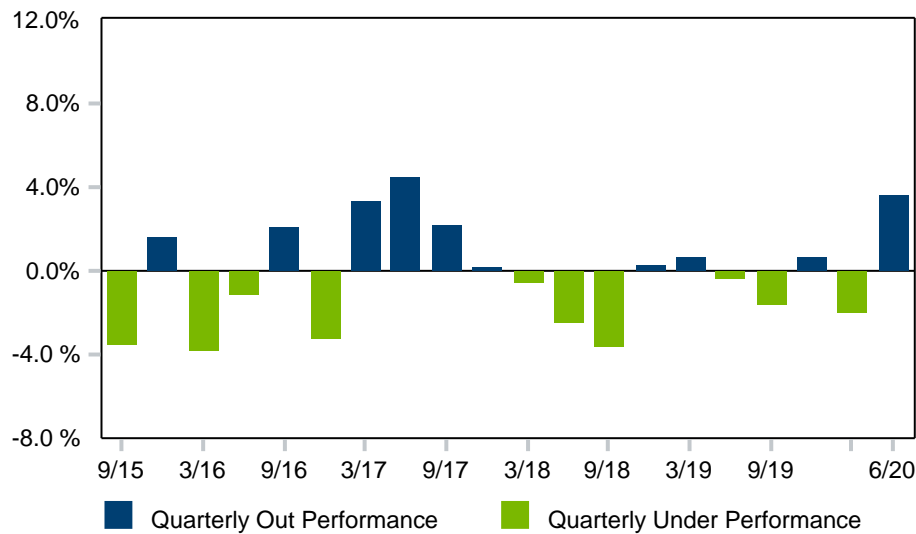
Account Information

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)

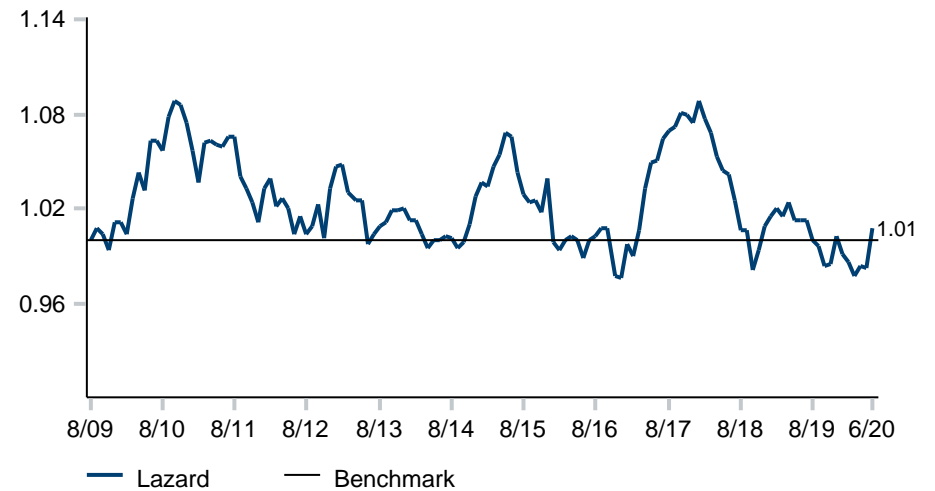
Return Summary



Quarterly Excess Performance

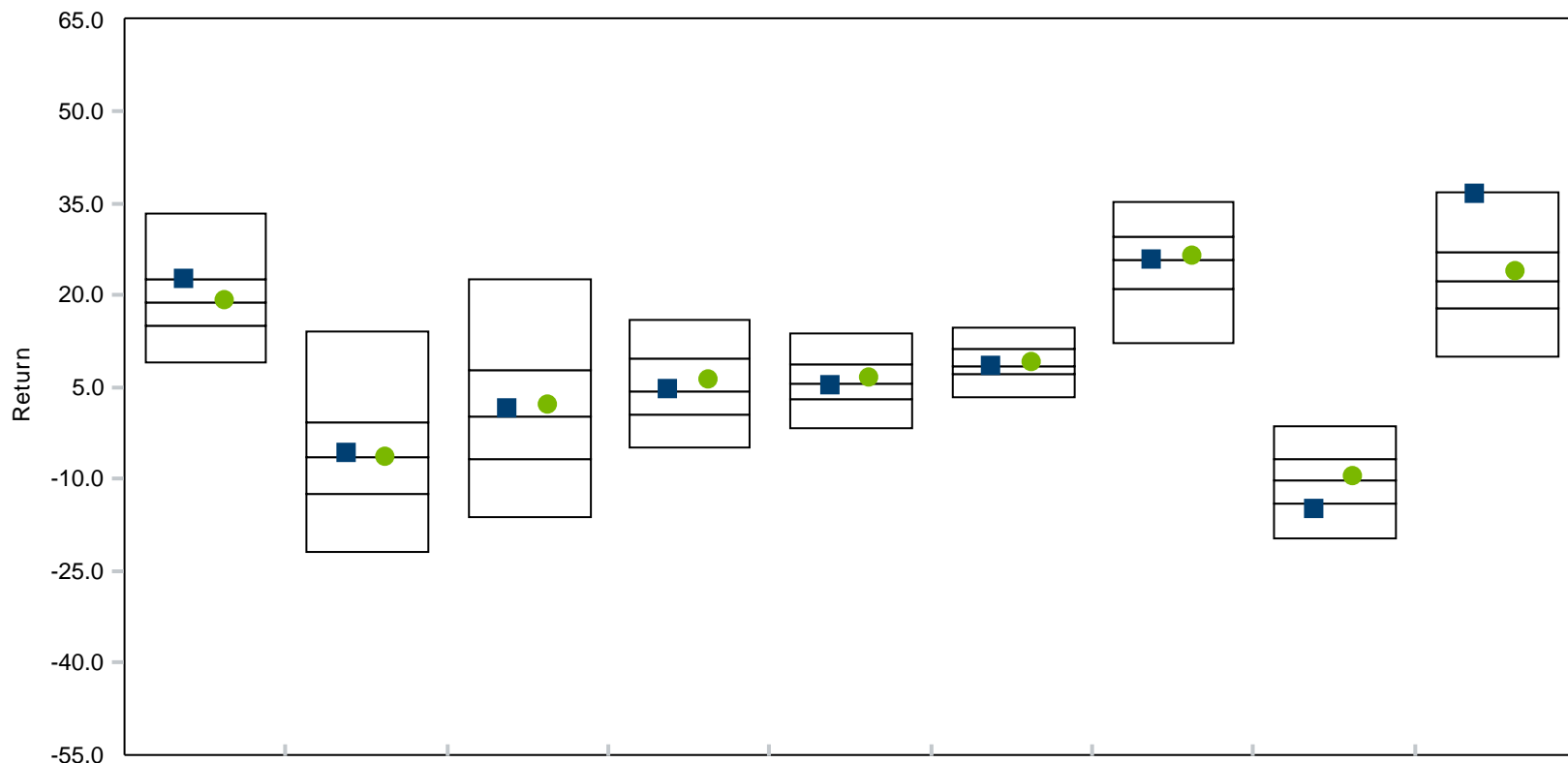


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

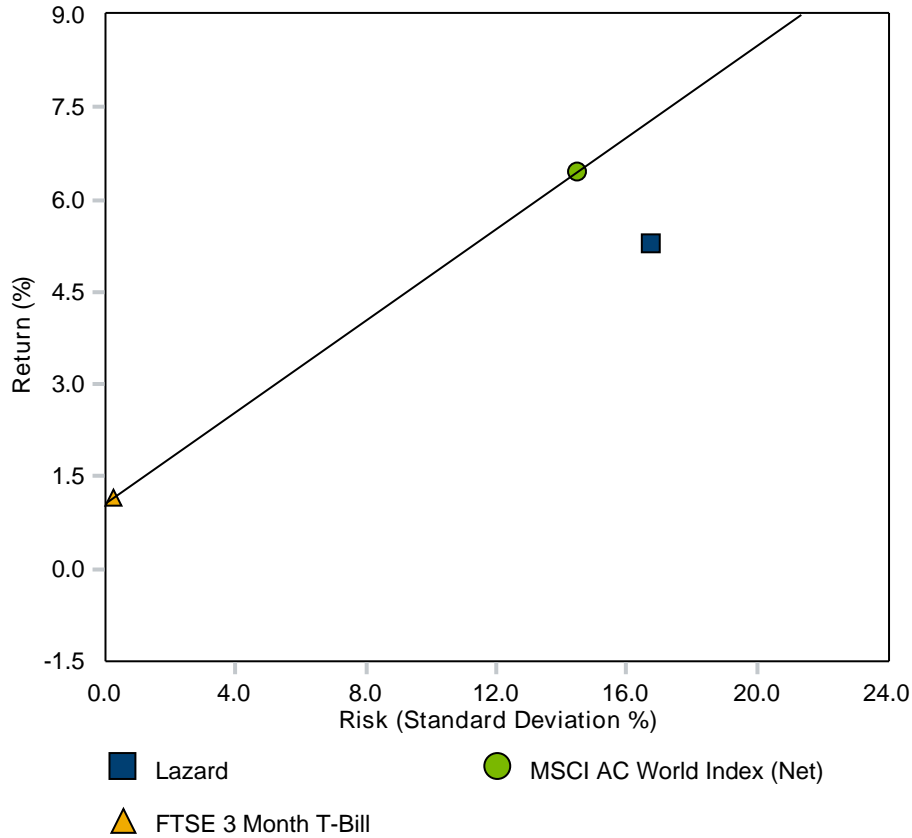


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Lazard	22.8 (25)	-5.8 (48)	1.6 (45)	4.7 (48)	5.3 (54)	8.6 (52)	25.7 (51)	-14.9 (81)	36.5 (6)
● MSCI AC World Index (Net)	19.2 (49)	-6.3 (49)	2.1 (44)	6.1 (39)	6.5 (38)	9.2 (45)	26.6 (45)	-9.4 (45)	24.0 (41)
5th Percentile	33.5	14.3	22.7	16.0	14.0	14.9	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	11.2	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	8.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	7.1	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	3.4	12.2	-19.7	10.2
Population	345	344	342	326	296	183	362	380	388

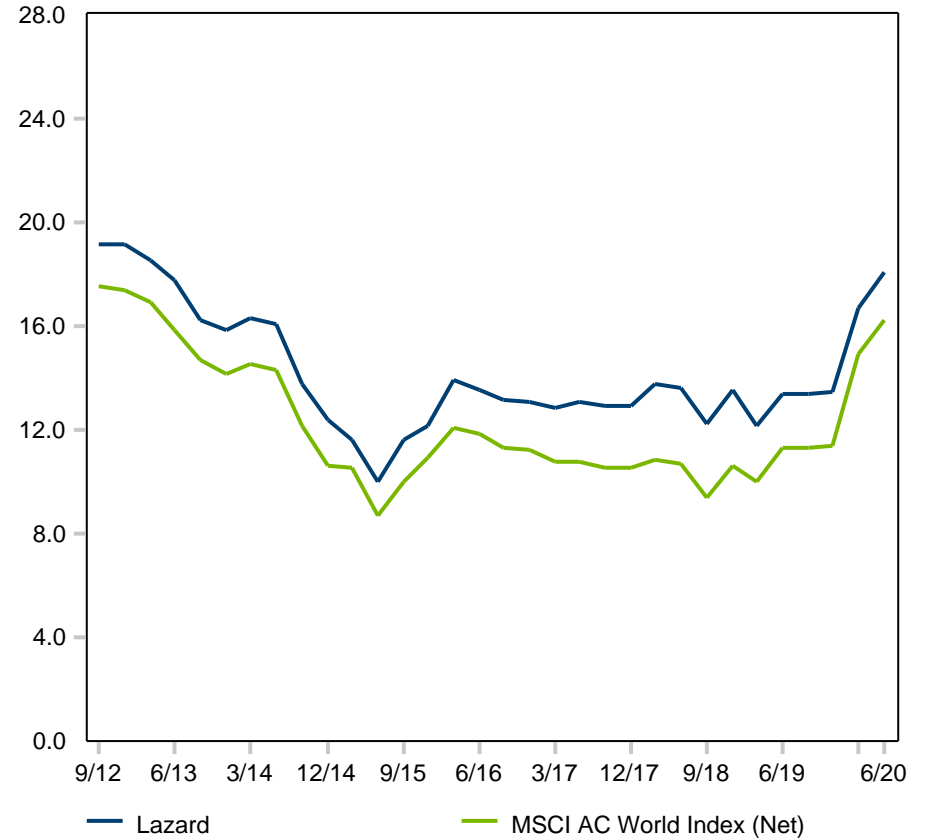
11
8
Parentheses contain percentile rankings.

Lazard Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

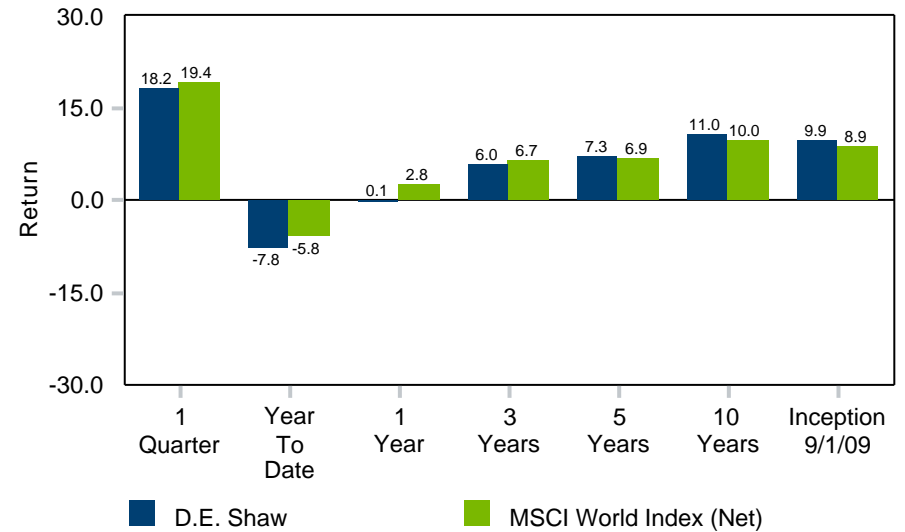
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Lazard	-0.78	4.48	-0.17	0.94	0.32	-1.64	1.12	5.26	16.76	0.97
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.43	0.00	1.00	6.46	14.51	1.00
FTSE 3 Month T-Bill	-6.18	14.52	-0.43	0.00	N/A	1.16	0.00	1.15	0.25	-0.06

D.E. Shaw Performance Summary

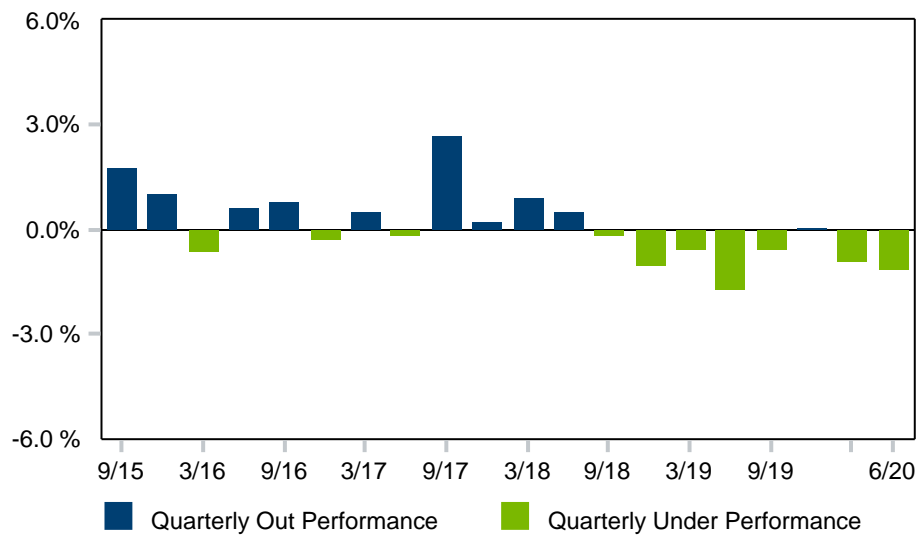
Account Information

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

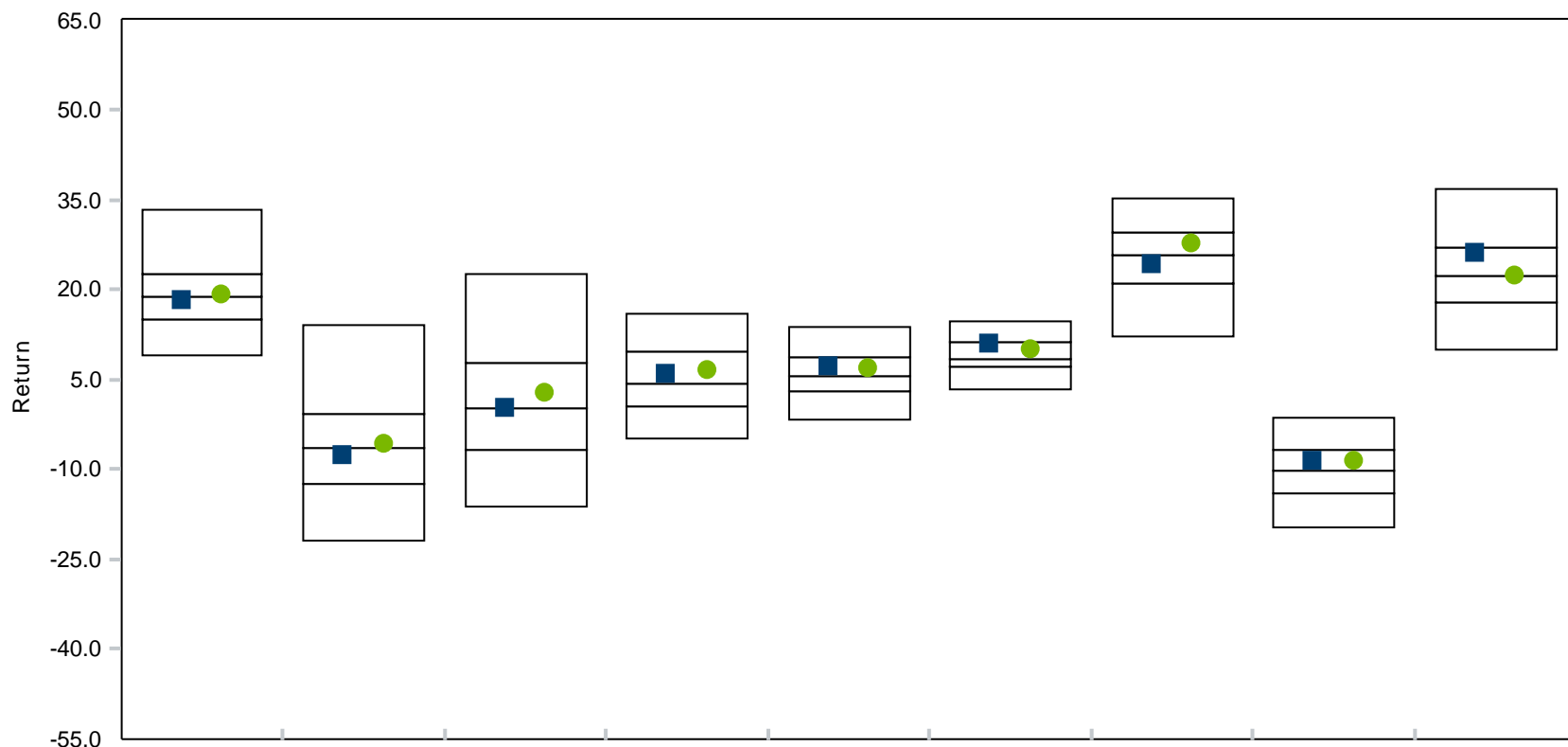


Quarterly Excess Performance



Peer Group Analysis

IM Global Equity (SA+CF)

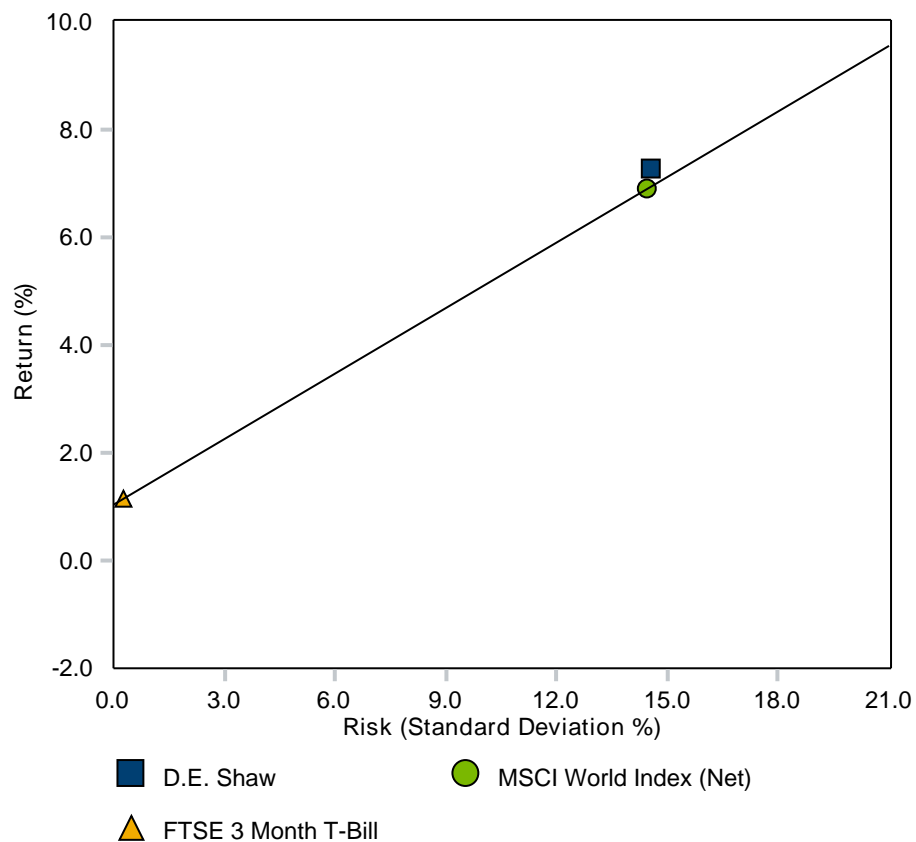


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ D.E. Shaw	18.2 (55)	-7.8 (57)	0.1 (51)	6.0 (40)	7.3 (32)	11.0 (28)	24.2 (61)	-8.6 (39)	26.2 (29)
● MSCI World Index (Net)	19.4 (48)	-5.8 (48)	2.8 (41)	6.7 (37)	6.9 (36)	10.0 (32)	27.7 (39)	-8.7 (39)	22.4 (51)
5th Percentile	33.5	14.3	22.7	16.0	14.0	14.9	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	11.2	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	8.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	7.1	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	3.4	12.2	-19.7	10.2
Population	345	344	342	326	296	183	362	380	388

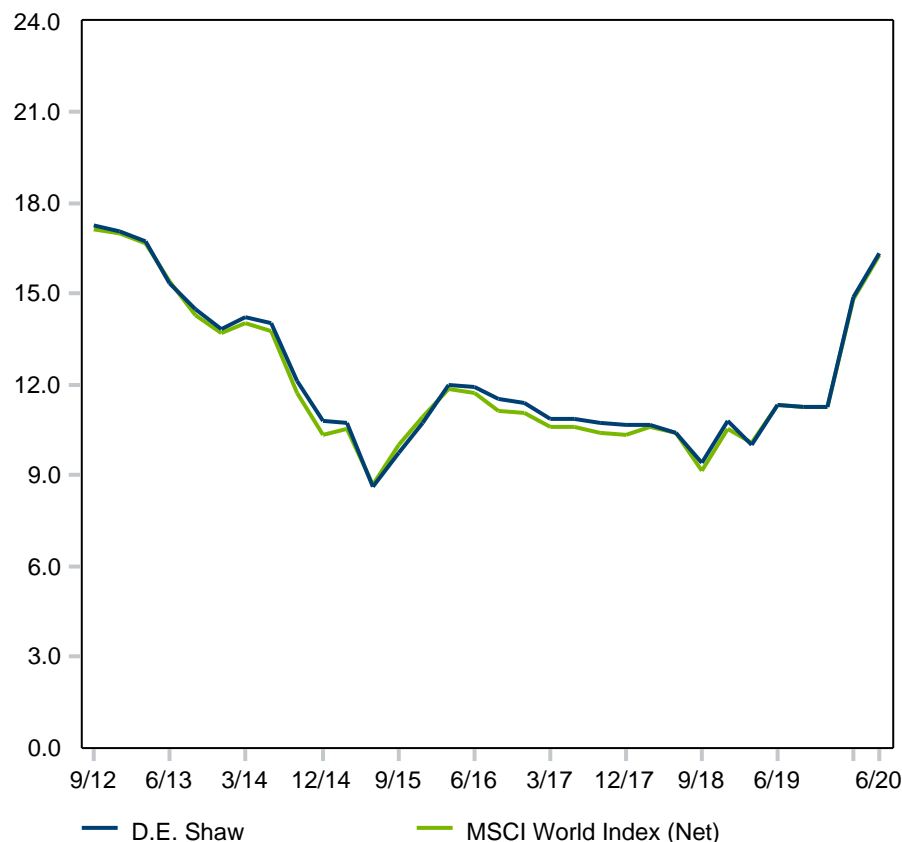
121
 Parentheses contain percentile rankings.

D.E. Shaw Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

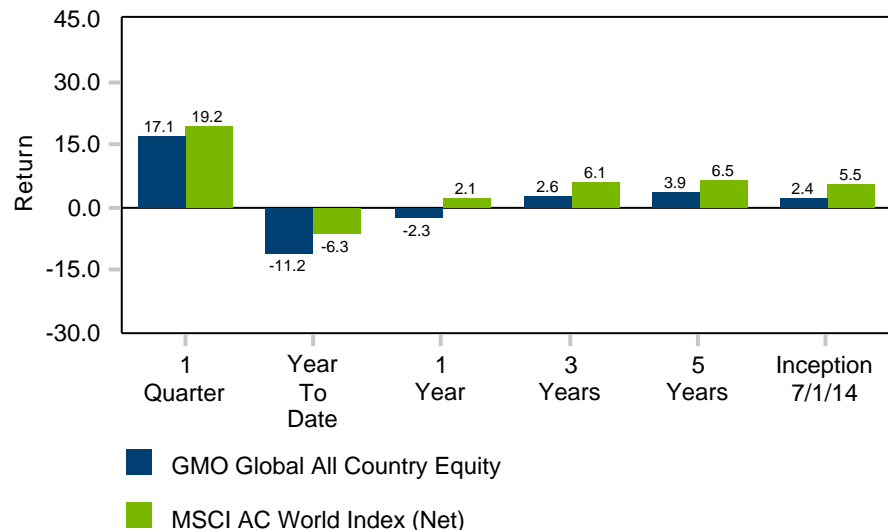
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
D.E. Shaw	0.35	2.15	0.16	0.98	0.48	0.37	1.00	7.25	14.57	0.99
MSCI World Index (Net)	0.00	0.00	N/A	1.00	0.46	0.00	1.00	6.90	14.44	1.00
FTSE 3 Month T-Bill	-6.59	14.46	-0.46	0.00	N/A	1.16	0.00	1.15	0.25	-0.05

GMO Global All Country Equity Performance Summary

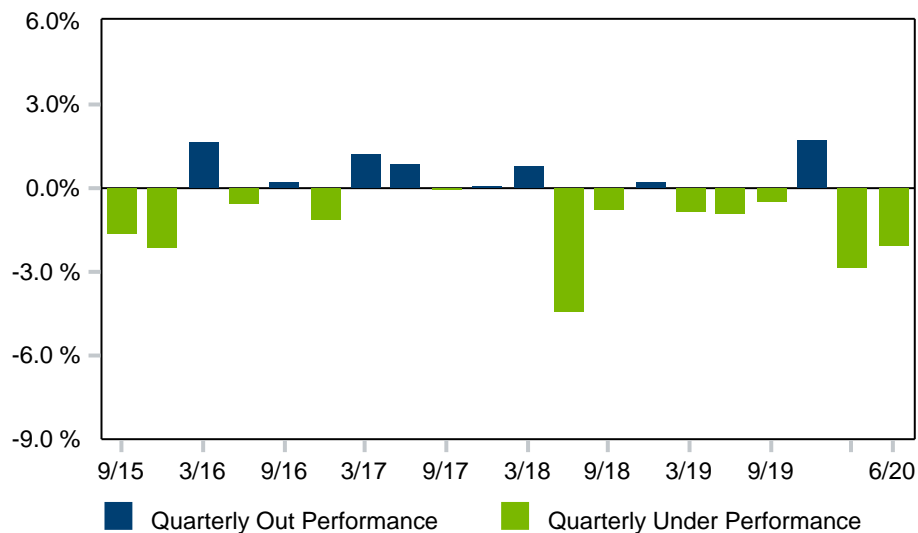
Account Information as of 06/30/20

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 : Inker/Thorndike
Total Assets : \$1,432.60 Million
Total Assets Date : 06/30/2020
Gross Expense : 0.59%
Net Expense : 0.58%
Turnover : 20%

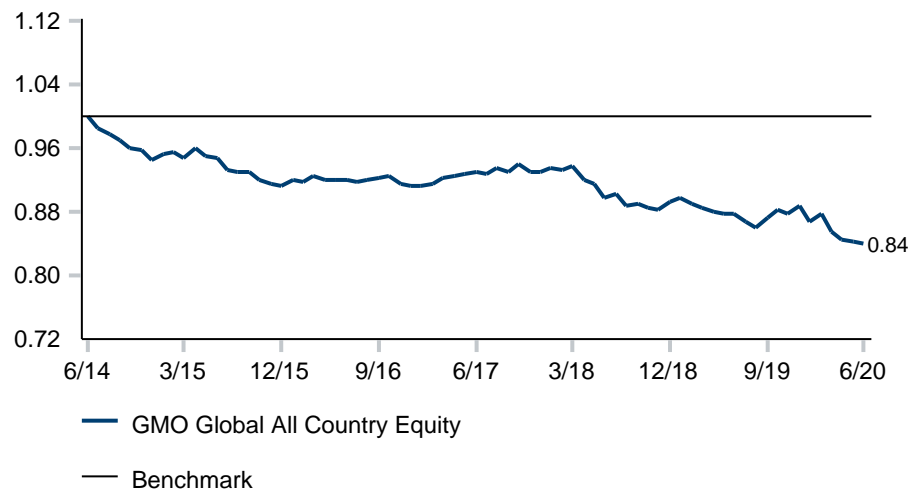
Return Summary



Quarterly Excess Performance

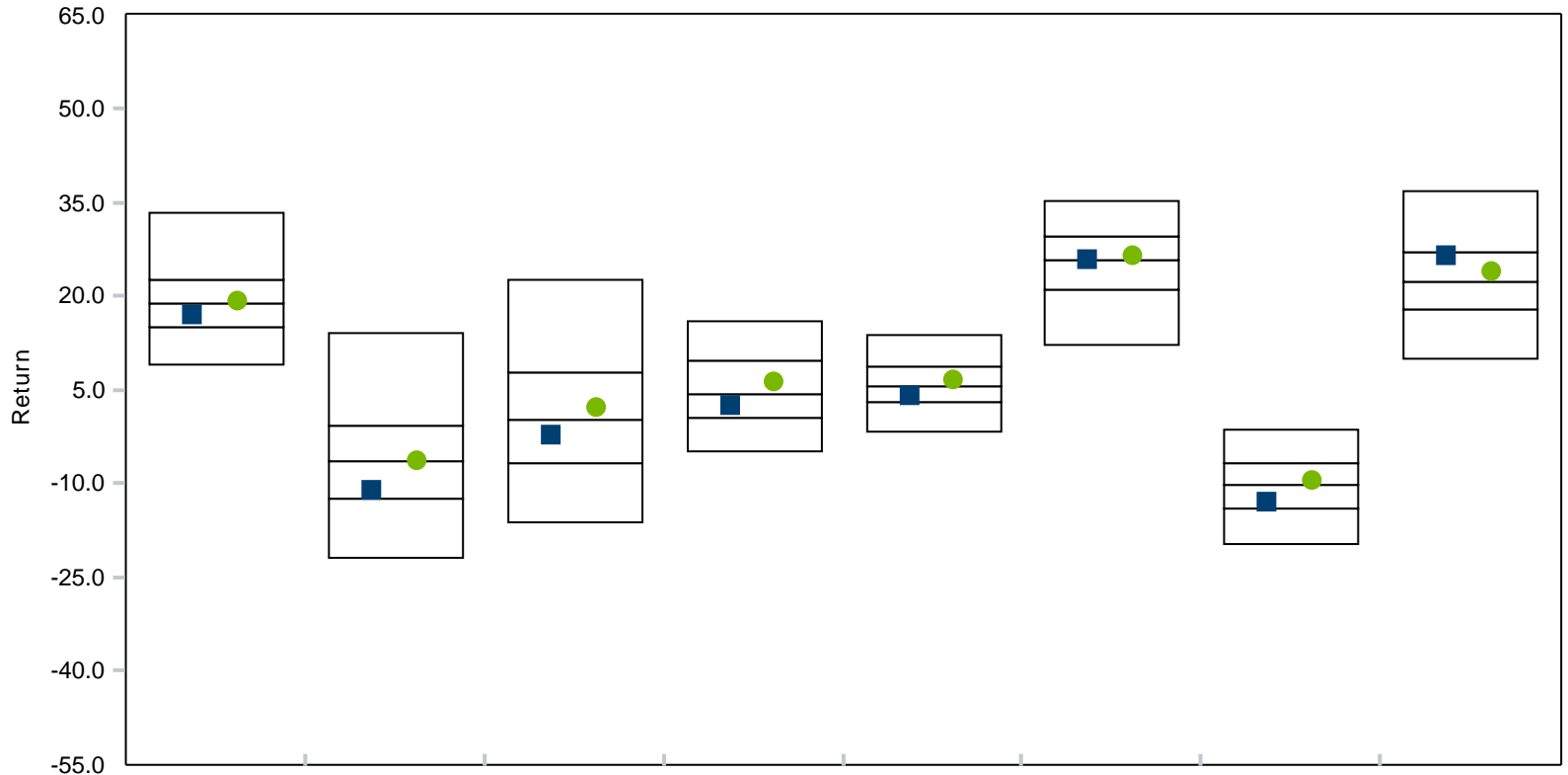


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

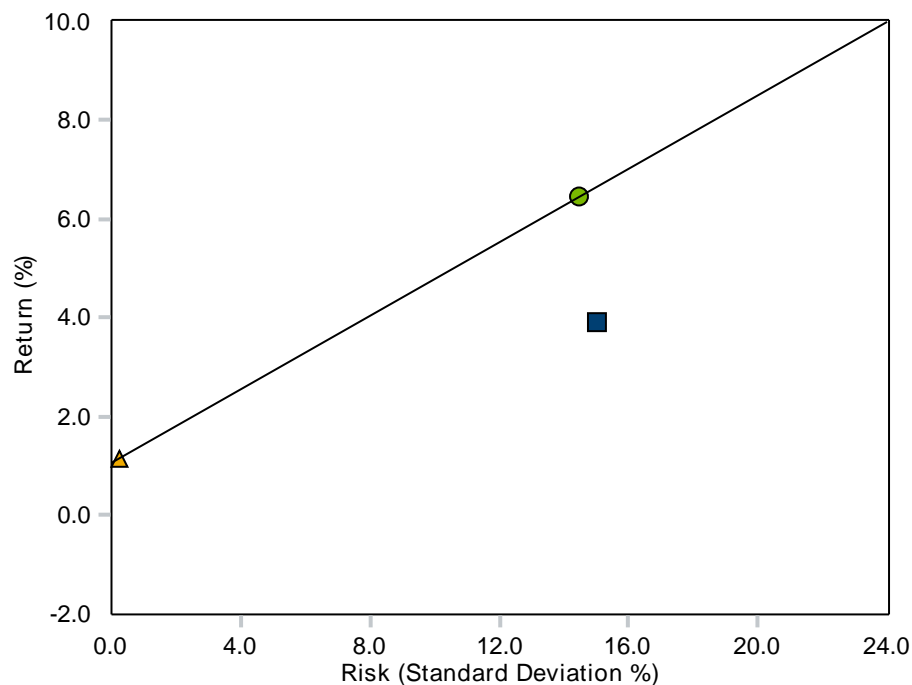


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ GMO Global All Country Equity	17.1 (61)	-11.2 (73)	-2.3 (63)	2.6 (68)	3.9 (70)	25.8 (50)	-13.1 (71)	26.4 (28)
● MSCI AC World Index (Net)	19.2 (49)	-6.3 (49)	2.1 (44)	6.1 (39)	6.5 (38)	26.6 (45)	-9.4 (45)	24.0 (41)
5th Percentile	33.5	14.3	22.7	16.0	14.0	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	12.2	-19.7	10.2
Population	345	344	342	326	296	362	380	388

parentheses contain percentile rankings.

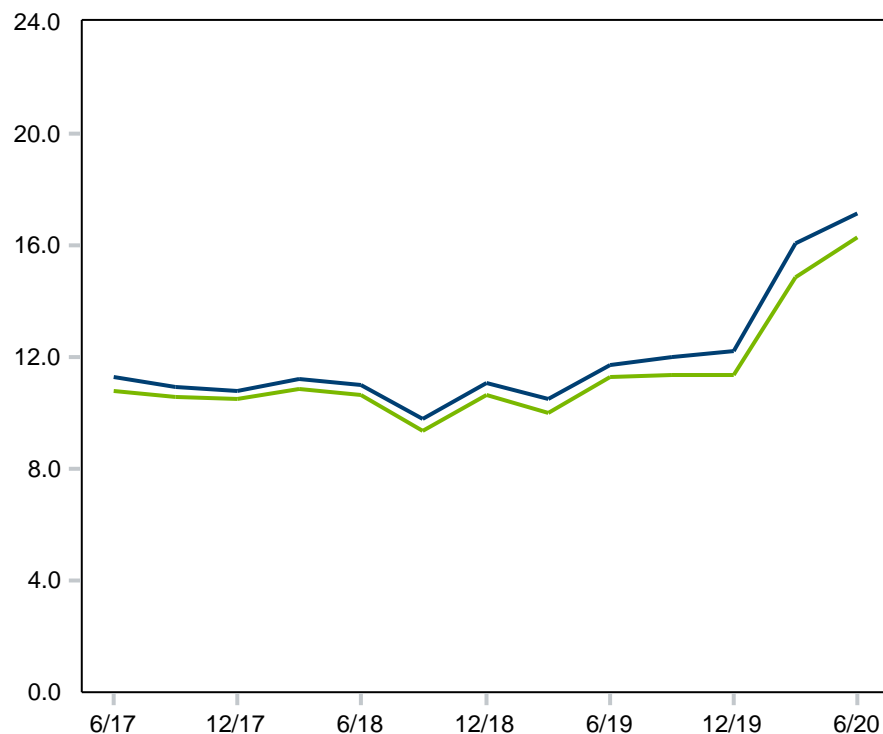
GMO Global All Country Equity Risk Profile

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

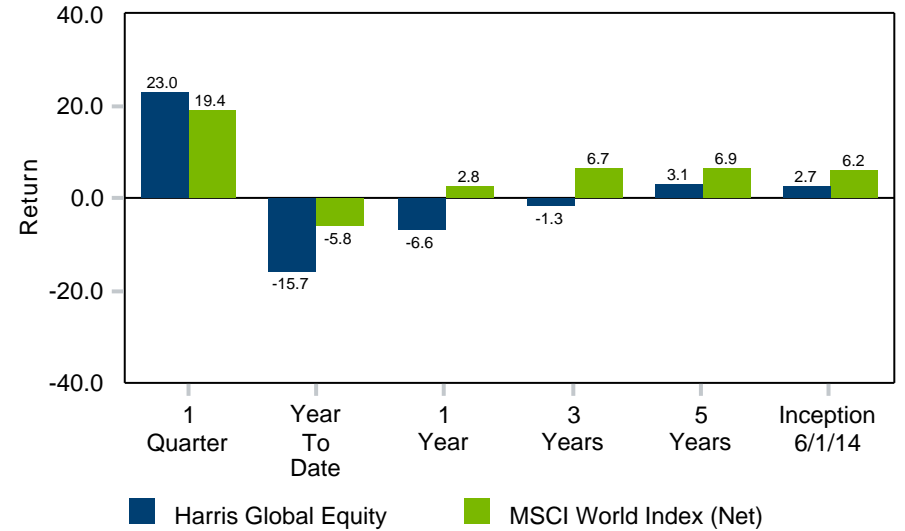
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
GMO Global All Country Equity	-2.35	3.04	-0.77	0.96	0.25	-2.45	1.02	3.90	15.08	0.98
MSCI AC World Index (Net)	0.00	0.00	N/A	1.00	0.43	0.00	1.00	6.46	14.51	1.00
FTSE 3 Month T-Bill	-6.18	14.52	-0.43	0.00	N/A	1.16	0.00	1.15	0.25	-0.06

Harris Global Equity Performance Summary

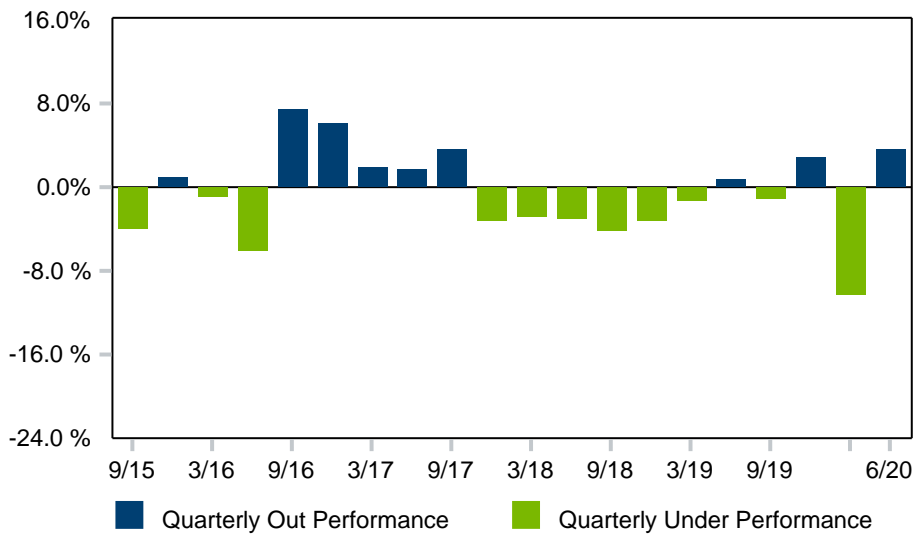
Account Information

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)

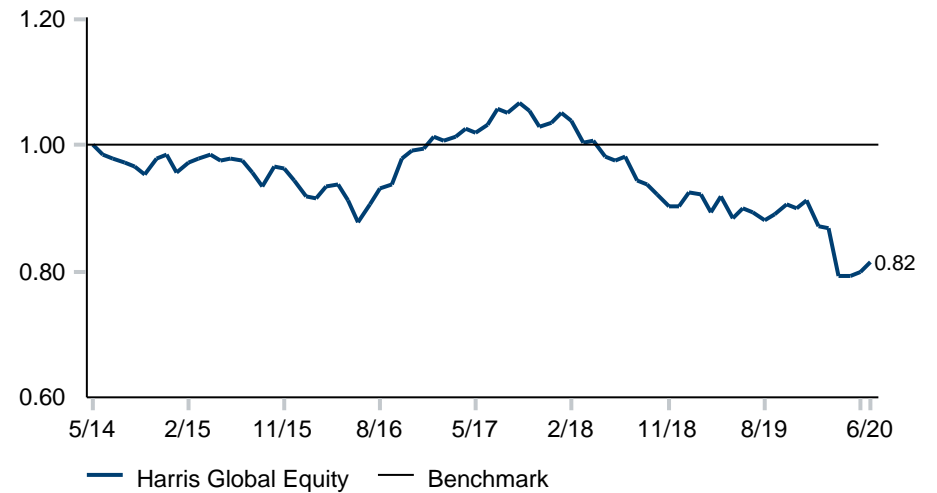
Return Summary



Quarterly Excess Performance

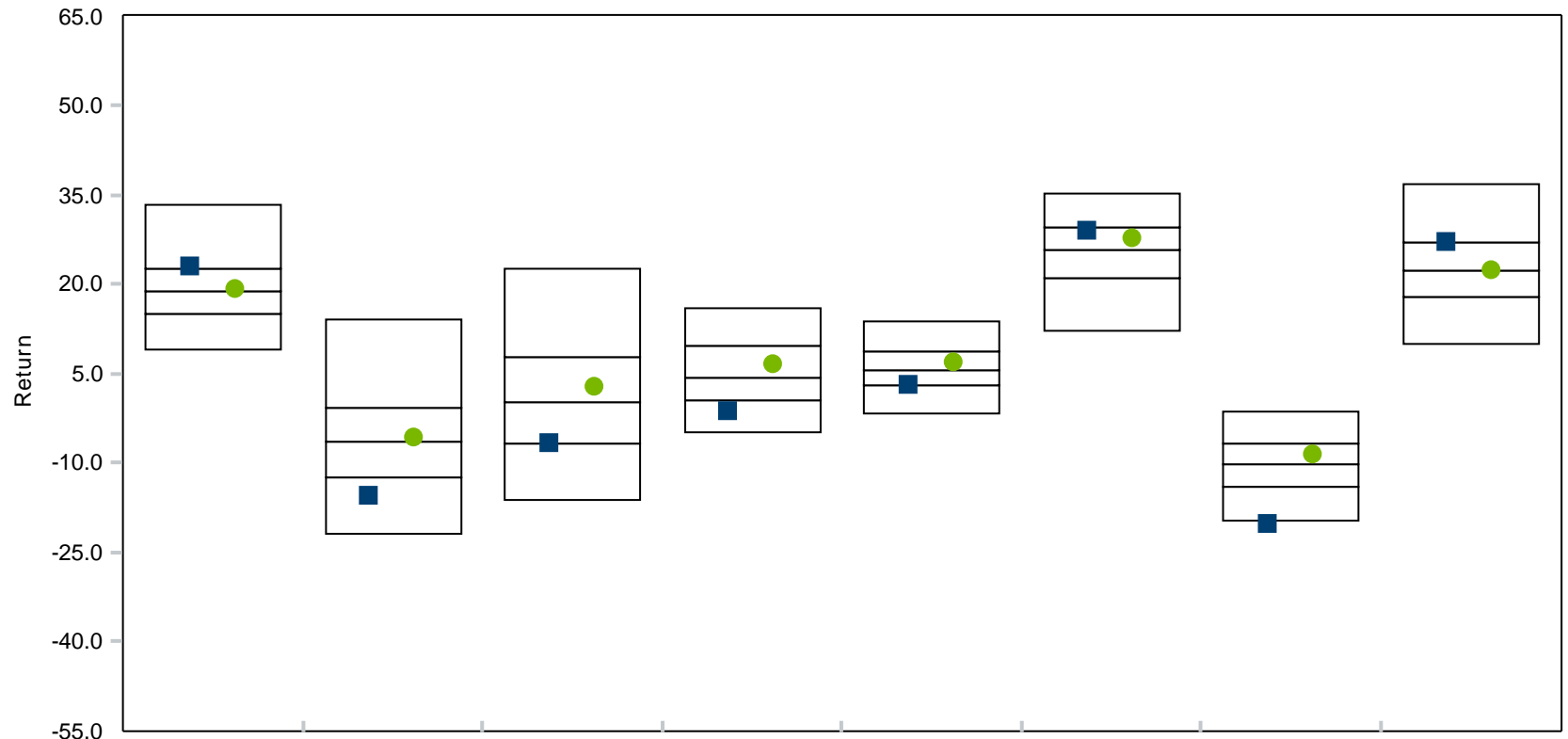


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Global Equity (SA+CF)

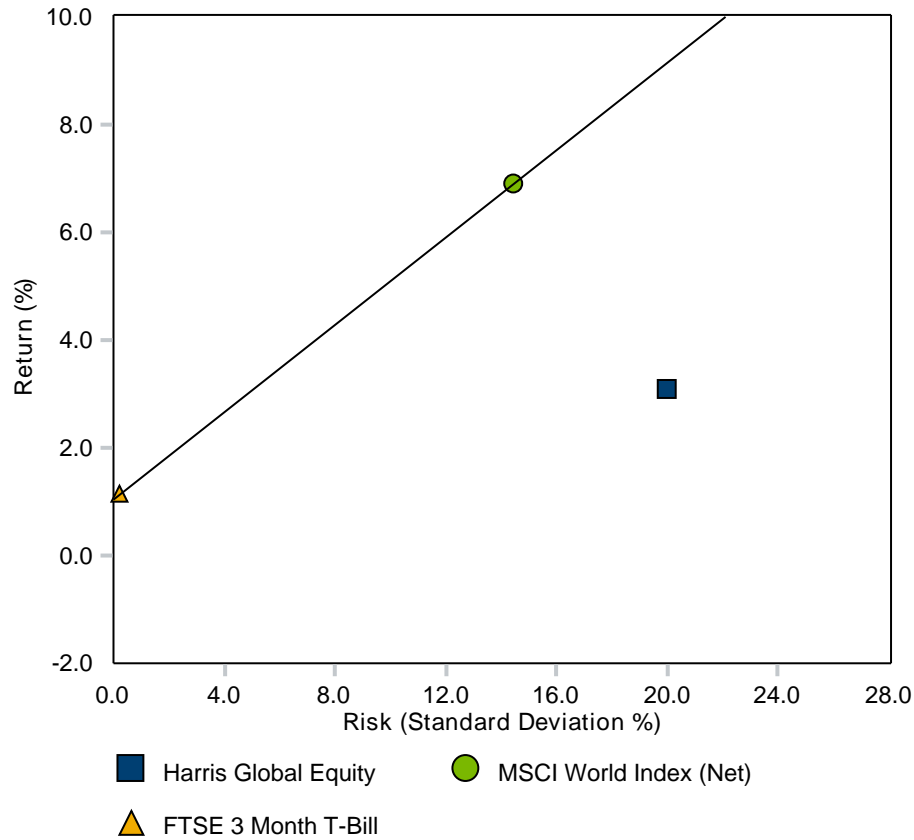


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ Harris Global Equity	23.0 (24)	-15.7 (85)	-6.6 (75)	-1.3 (84)	3.1 (75)	28.9 (32)	-20.4 (97)	27.2 (25)
● MSCI World Index (Net)	19.4 (48)	-5.8 (48)	2.8 (41)	6.7 (37)	6.9 (36)	27.7 (39)	-8.7 (39)	22.4 (51)
5th Percentile	33.5	14.3	22.7	16.0	14.0	35.3	-1.2	36.8
1st Quartile	22.7	-0.7	7.7	9.9	8.8	29.7	-6.7	27.0
Median	19.0	-6.4	0.2	4.4	5.6	25.8	-10.2	22.5
3rd Quartile	15.0	-12.2	-6.6	0.7	3.0	21.1	-13.8	18.1
95th Percentile	9.2	-21.8	-16.1	-4.9	-1.7	12.2	-19.7	10.2
Population	345	344	342	326	296	362	380	388

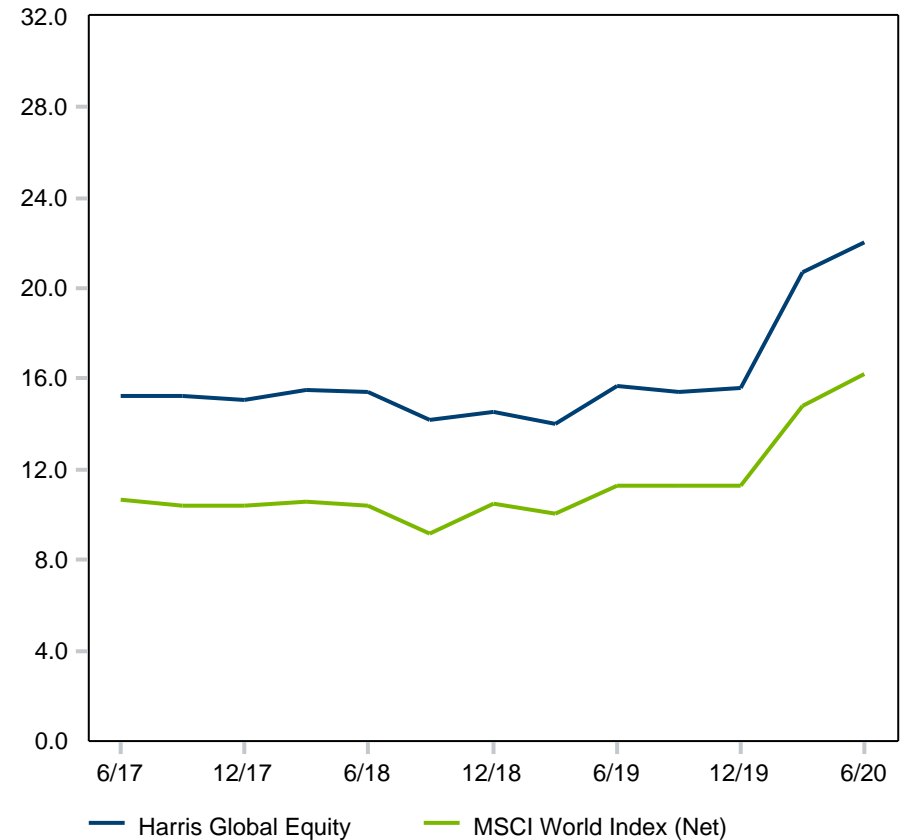
Parenteses contain percentile rankings.

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	-2.67	7.79	-0.34	0.90	0.20	-4.97	1.31	3.07	19.99	0.95
MSCI World Index (Net)	0.00	0.00	N/A	1.00	0.46	0.00	1.00	6.90	14.44	1.00
FTSE 3 Month T-Bill	-6.59	14.46	-0.46	0.00	N/A	1.16	0.00	1.15	0.25	-0.05

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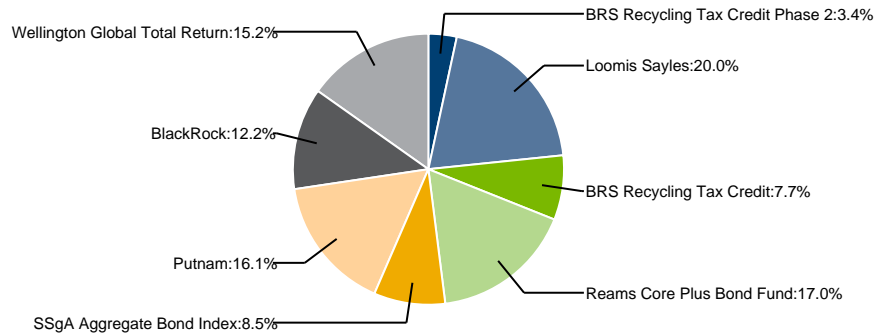


Fixed Income

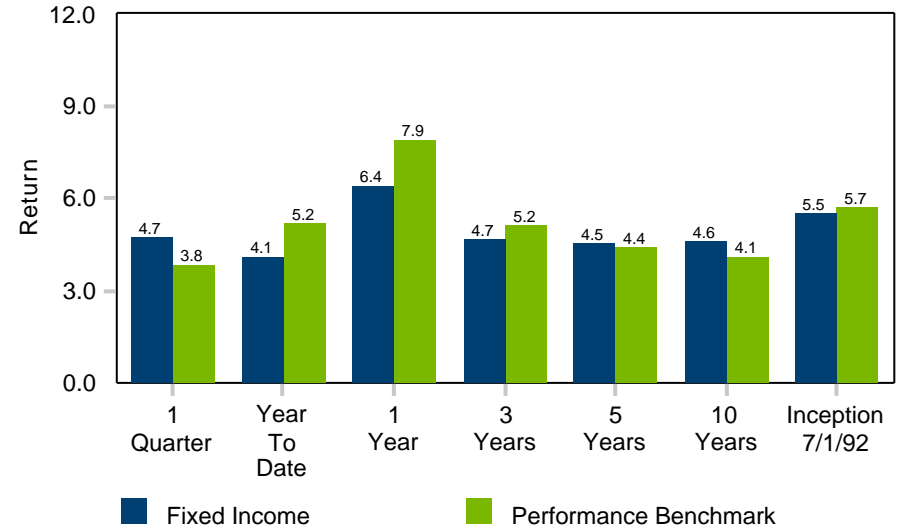
Fixed Income Portfolio Overview

Current Allocation

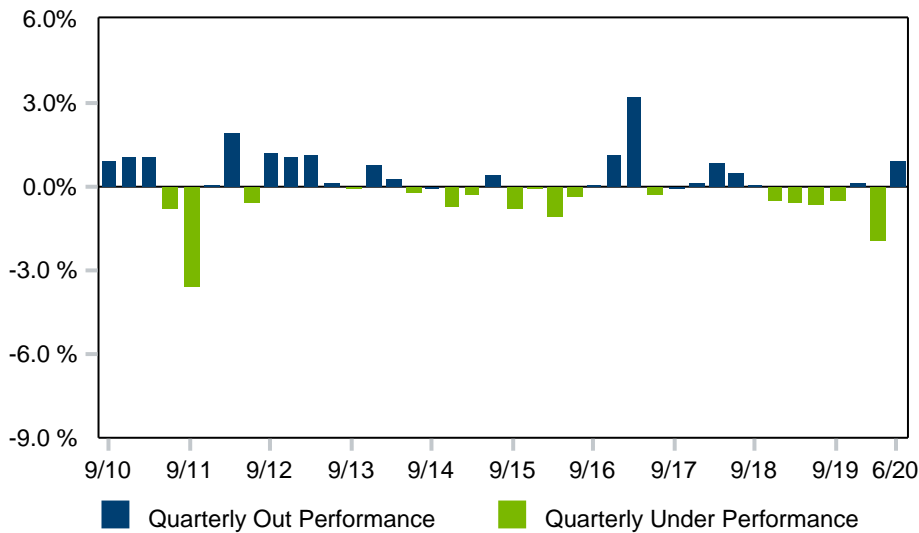
June 30, 2020 : \$2,288M



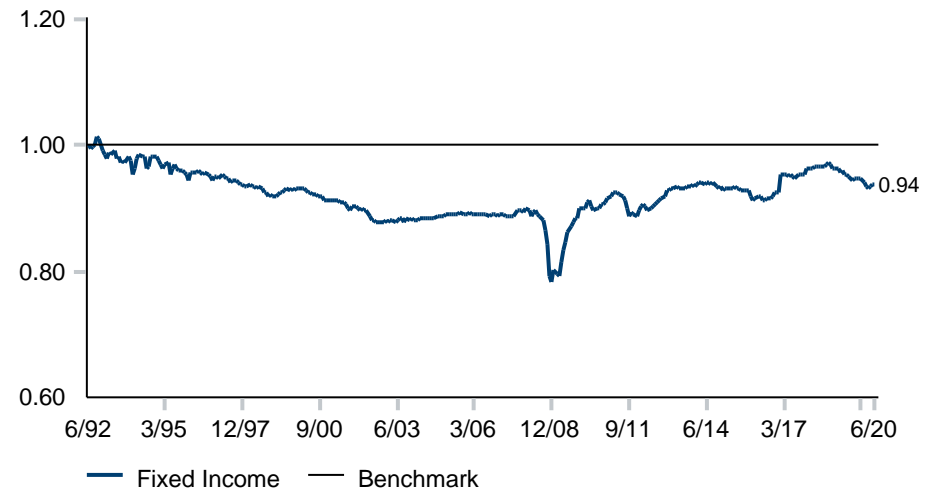
Return Summary



Quarterly Excess Performance

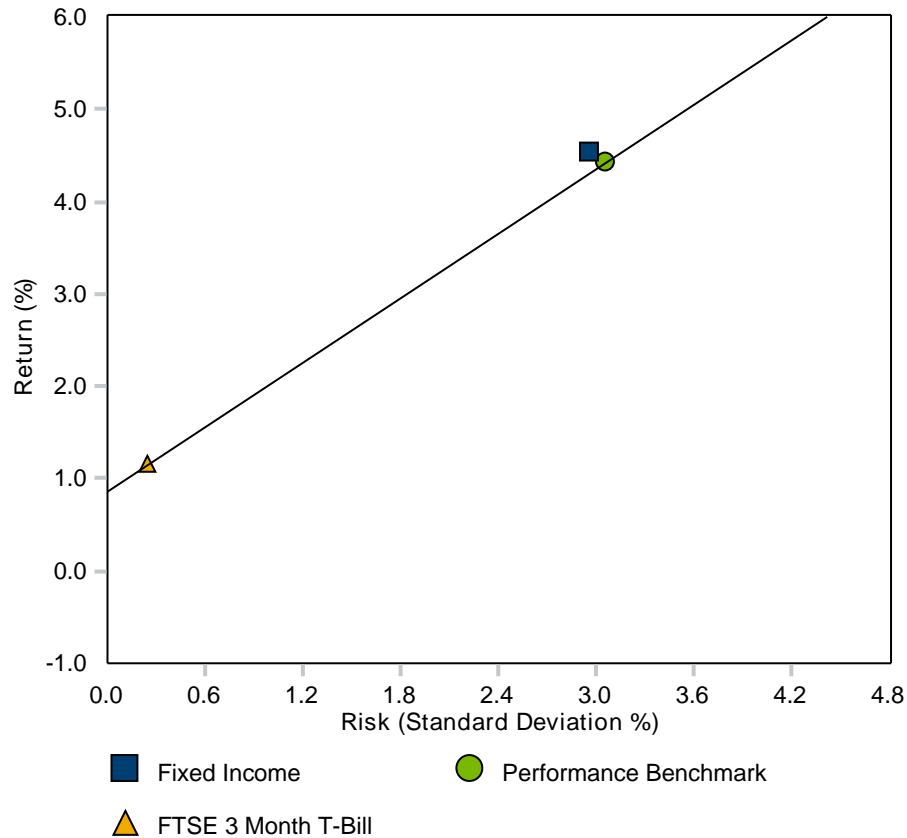


Ratio of Cumulative Wealth - Since Inception

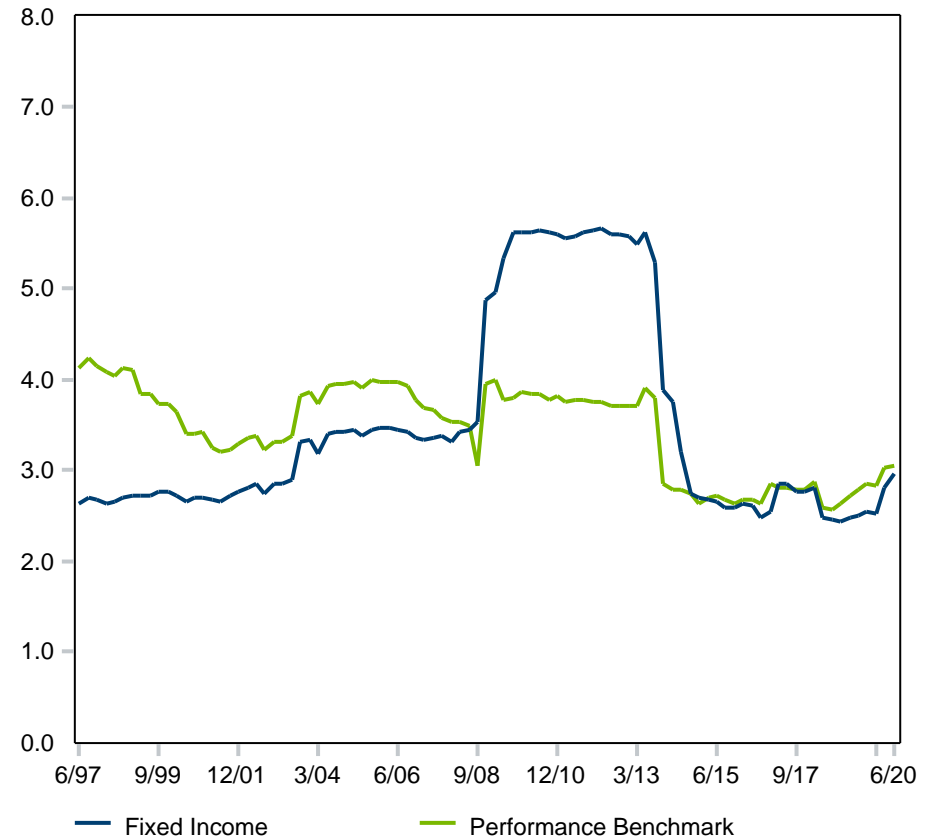


Fixed Income Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation

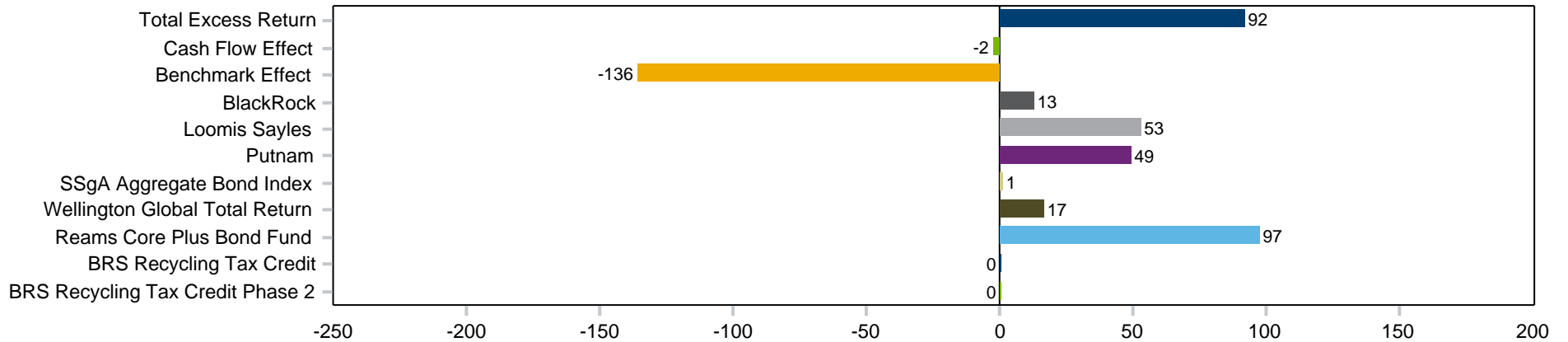


5 Years Historical Statistics

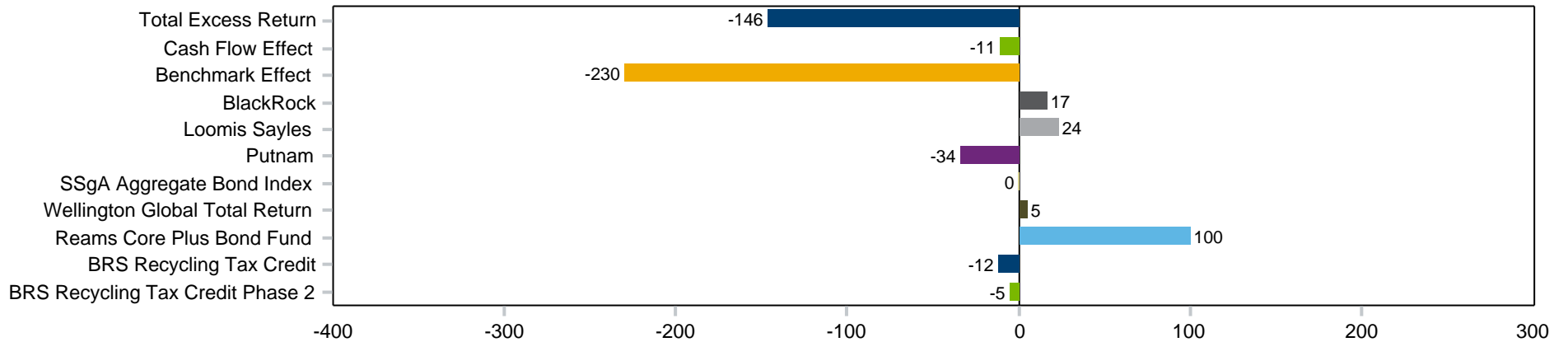
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Fixed Income	0.10	1.83	0.05	0.67	1.13	1.02	0.79	4.53	2.97	0.82
Performance Benchmark	0.00	0.00	N/A	1.00	1.07	0.00	1.00	4.42	3.06	1.00
FTSE 3 Month T-Bill	-3.24	3.04	-1.07	0.02	N/A	1.10	0.01	1.15	0.25	0.14

Asset Class Attribution

1 Quarter



1 Year



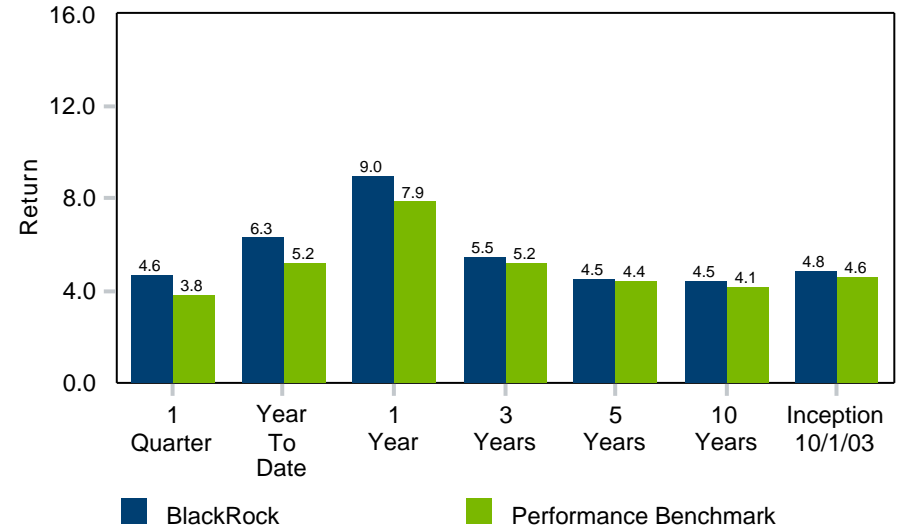
*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. This represents an approximate 9.9% yield for the 2017 fiscal year. The value shown above represents the year-end market value in accordance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

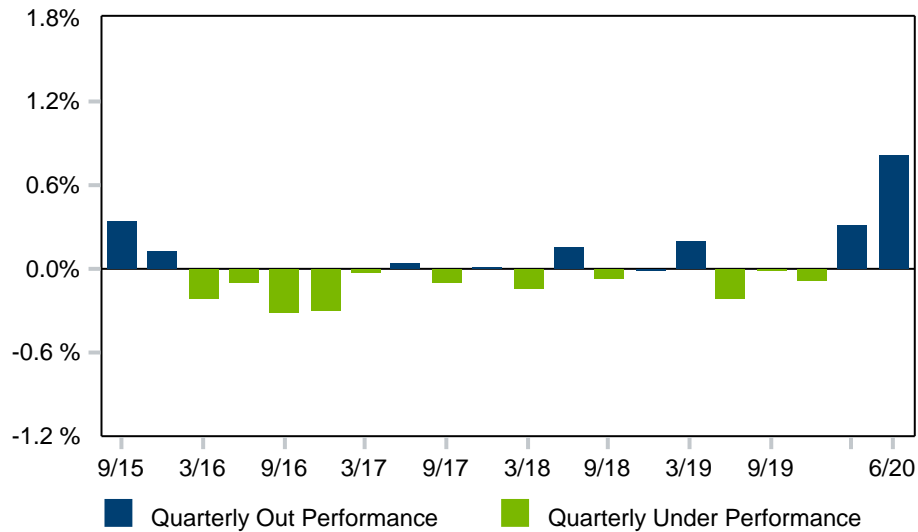
Account Information

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)

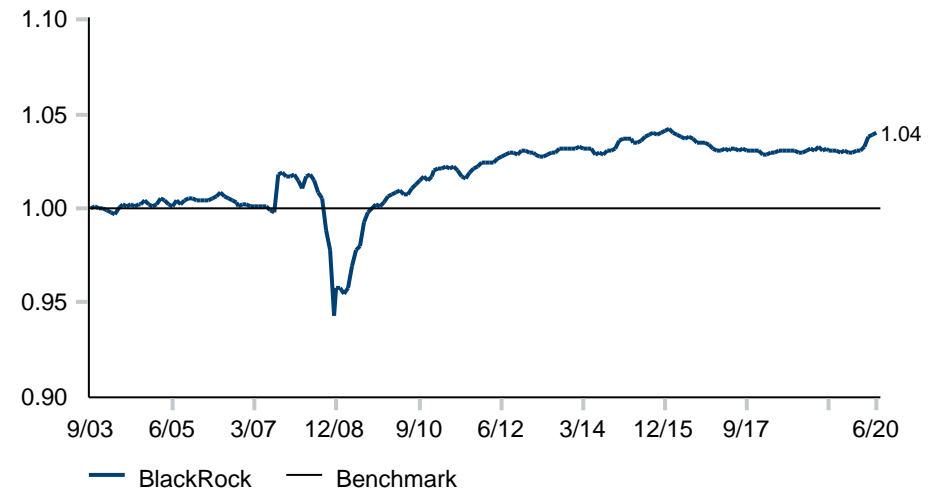
Return Summary



Quarterly Excess Performance

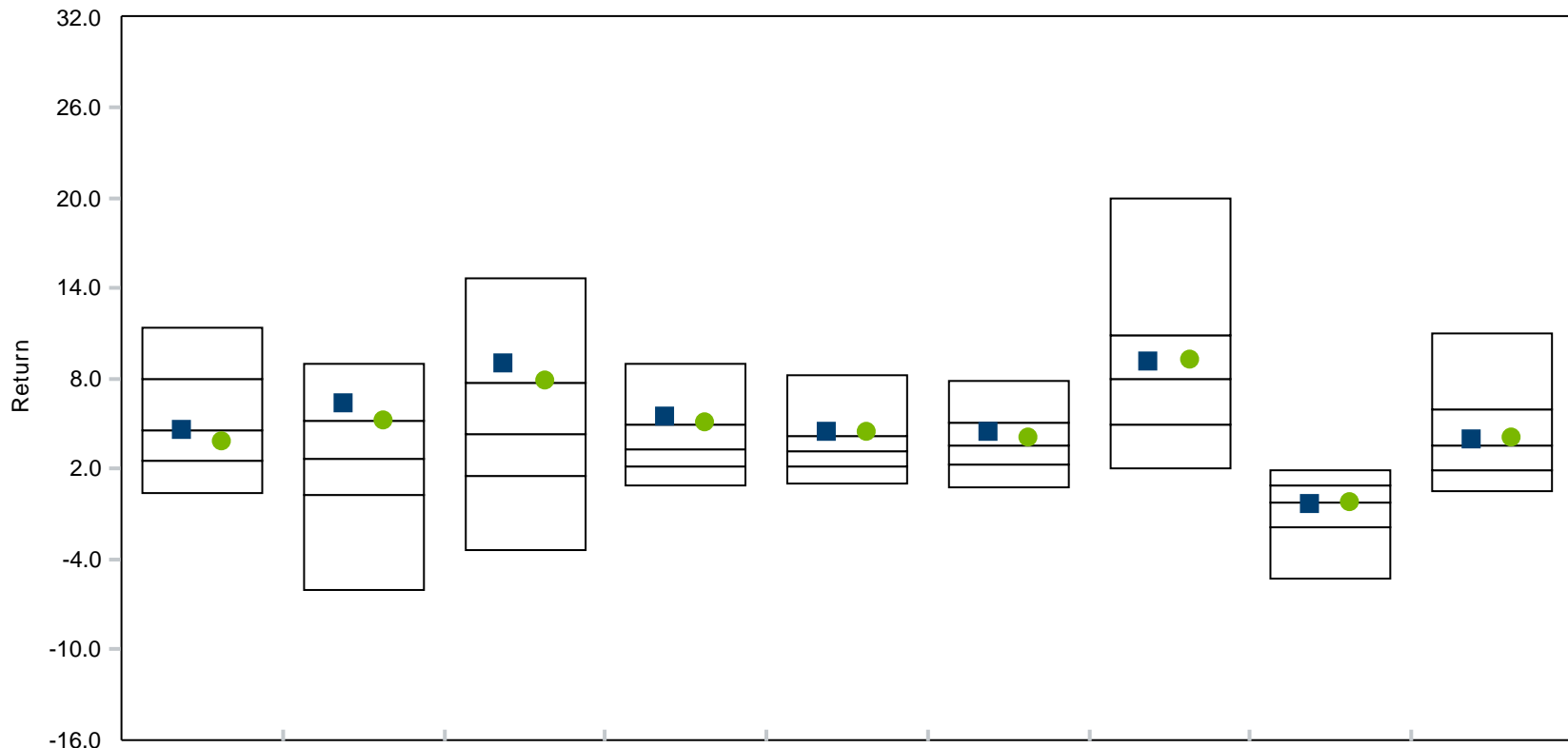


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

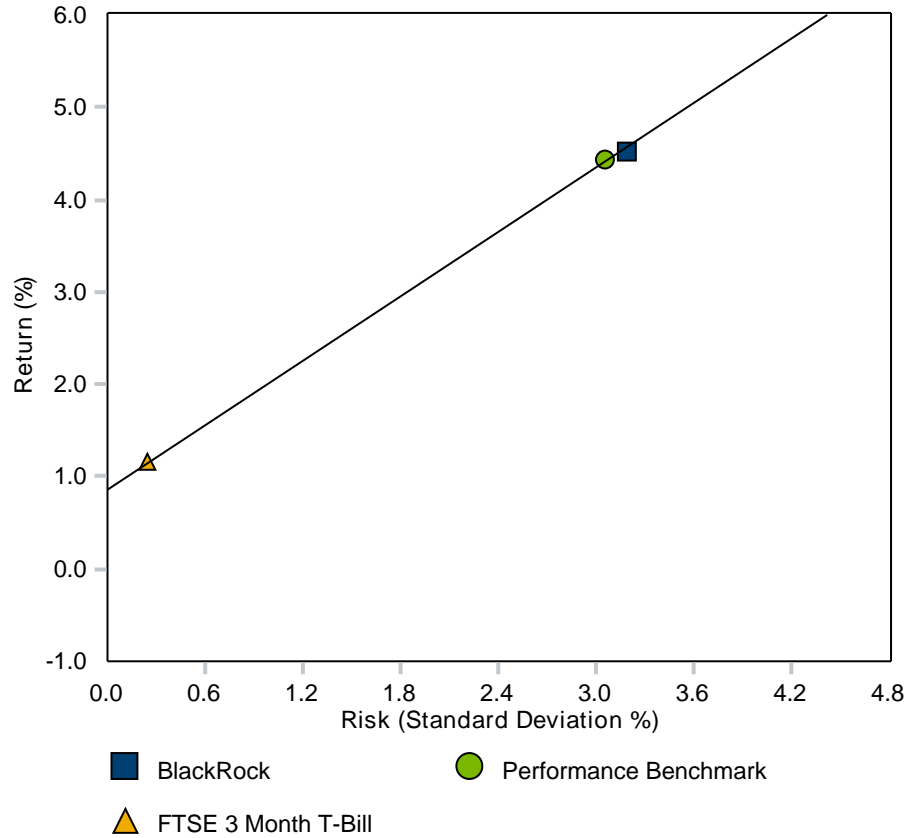


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ BlackRock	4.6 (50)	6.3 (14)	9.0 (14)	5.5 (15)	4.5 (20)	4.5 (33)	9.2 (35)	-0.3 (53)	4.0 (43)
● Performance Benchmark	3.8 (59)	5.2 (27)	7.9 (24)	5.2 (20)	4.4 (21)	4.1 (39)	9.3 (34)	-0.3 (52)	4.1 (42)
5th Percentile	11.4	9.0	14.7	9.1	8.2	7.8	20.0	1.9	11.1
1st Quartile	8.1	5.3	7.7	4.9	4.3	5.1	10.9	1.0	6.0
Median	4.6	2.7	4.3	3.4	3.2	3.6	8.0	-0.2	3.5
3rd Quartile	2.5	0.3	1.5	2.2	2.2	2.3	5.0	-1.8	1.9
95th Percentile	0.4	-6.0	-3.4	0.9	1.0	0.8	2.1	-5.3	0.5
Population	907	903	880	844	806	665	958	1,017	1,047

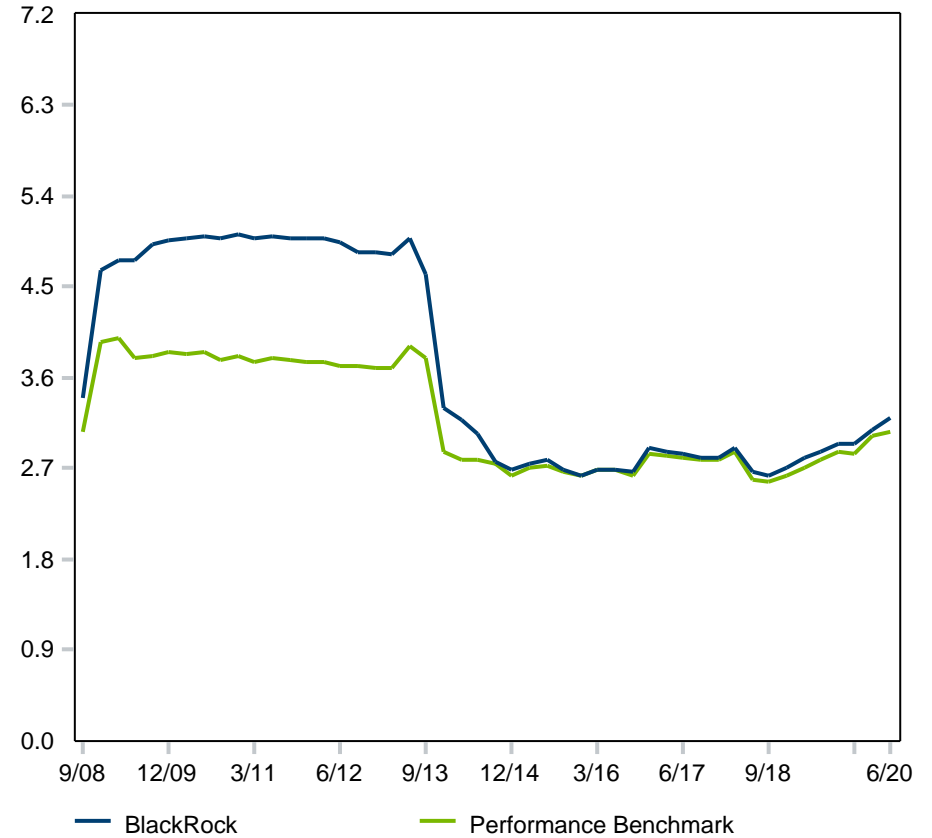
parentheses contain percentile rankings.

BlackRock Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

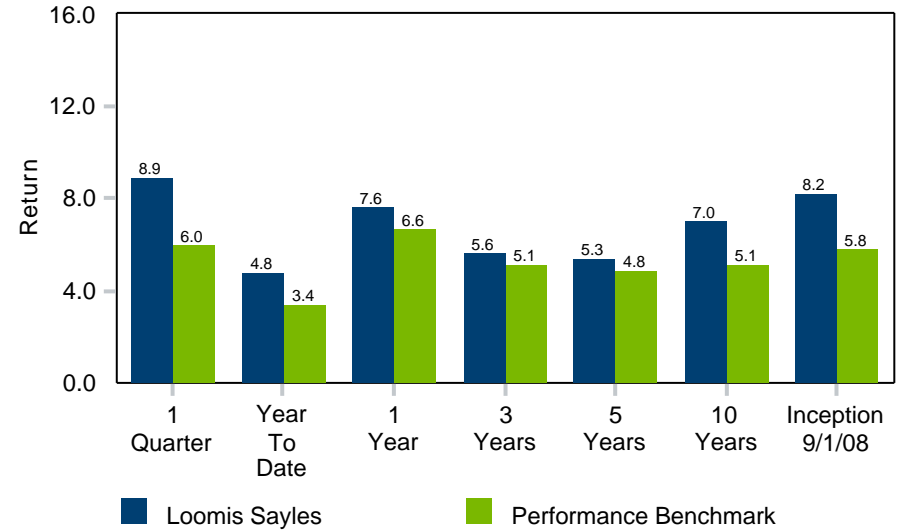
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
BlackRock	0.09	0.42	0.21	0.98	1.05	-0.08	1.04	4.51	3.20	0.99
Performance Benchmark	0.00	0.00	N/A	1.00	1.07	0.00	1.00	4.42	3.06	1.00
FTSE 3 Month T-Bill	-3.24	3.04	-1.07	0.02	N/A	1.10	0.01	1.15	0.25	0.14

Loomis Sayles Performance Summary

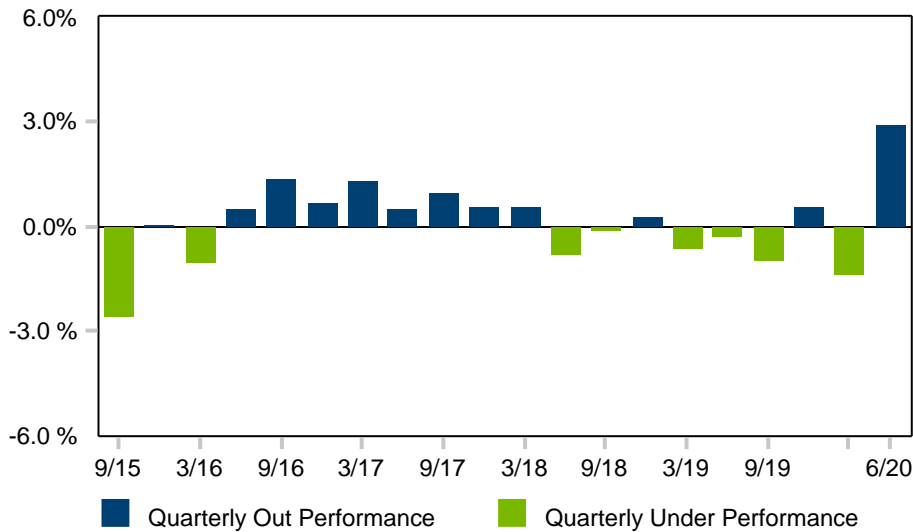
Account Information

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)

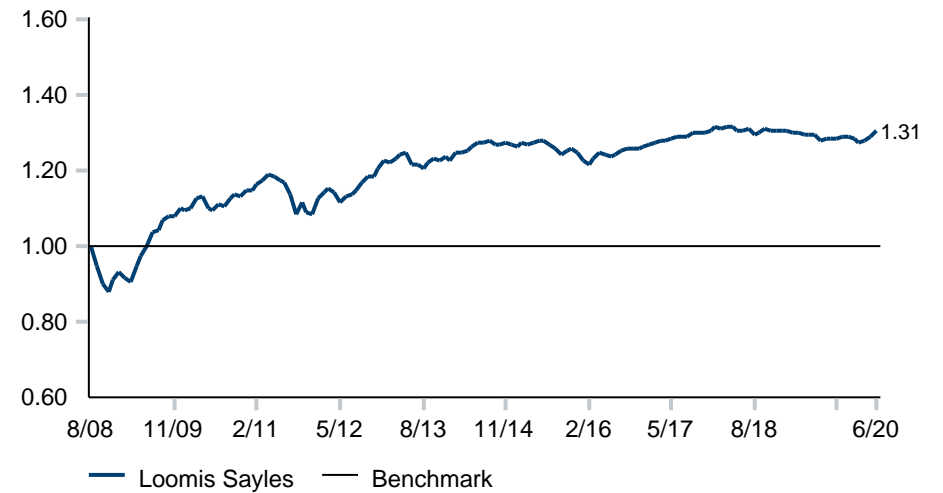
Return Summary



Quarterly Excess Performance

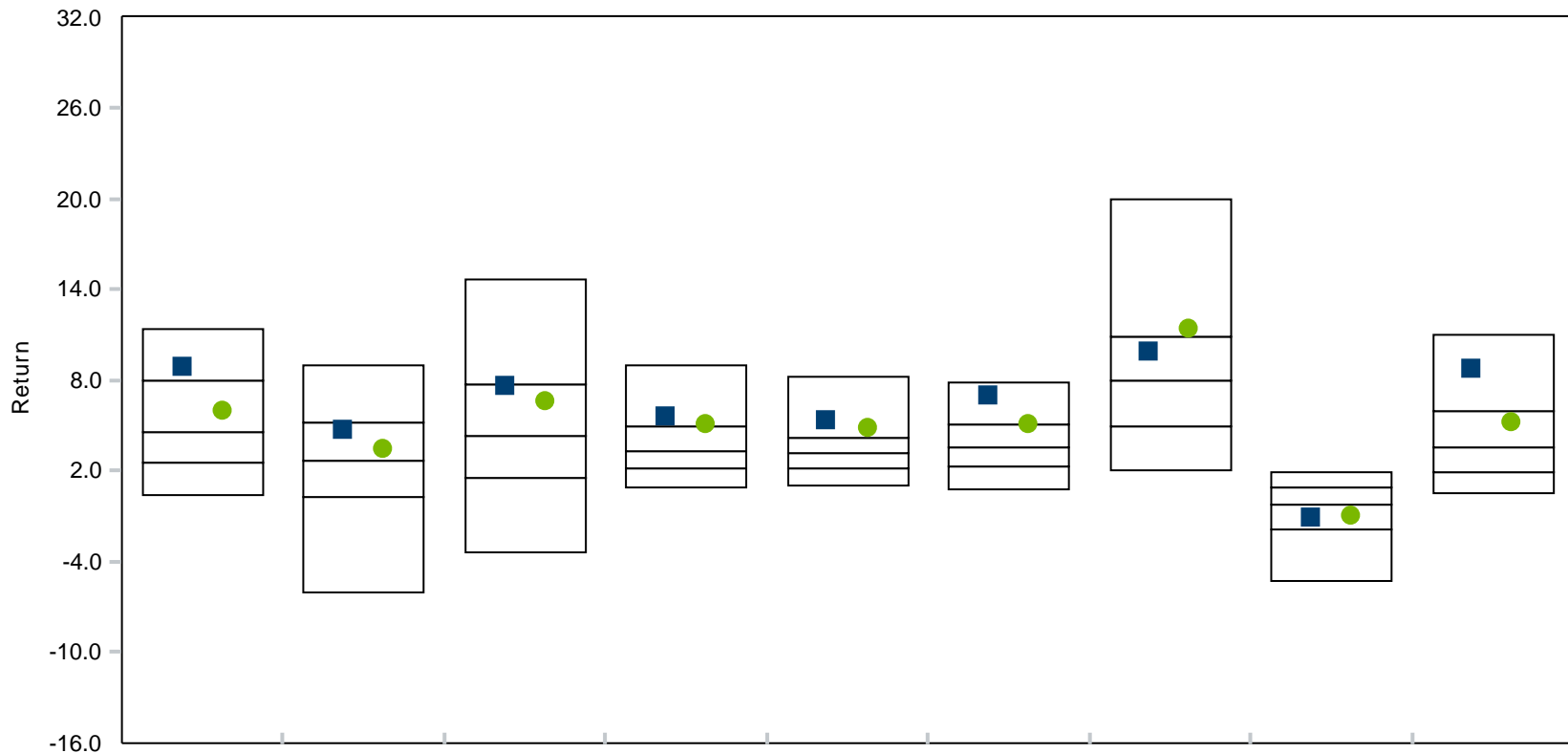


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

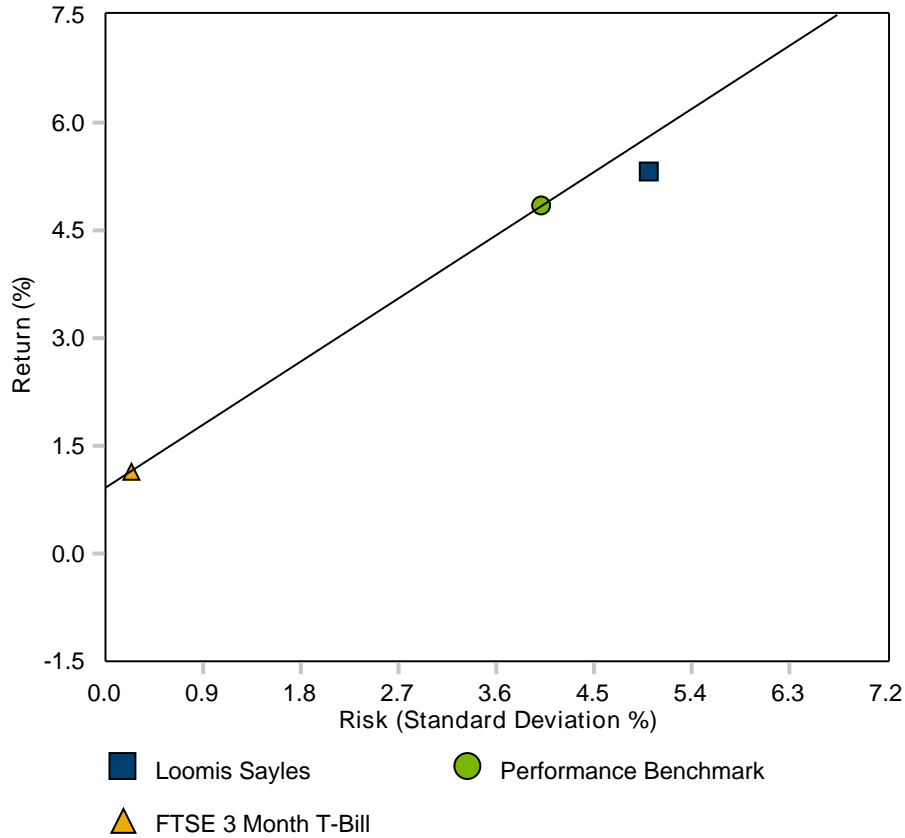


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years	2019	2018	2017
■ Loomis Sayles	8.9 (19)	4.8 (33)	7.6 (26)	5.6 (14)	5.3 (12)	7.0 (8)	10.0 (29)	-1.1 (67)	8.8 (10)
● Performance Benchmark	6.0 (38)	3.4 (44)	6.6 (35)	5.1 (22)	4.8 (16)	5.1 (26)	11.4 (24)	-1.0 (66)	5.2 (31)
5th Percentile	11.4	9.0	14.7	9.1	8.2	7.8	20.0	1.9	11.1
1st Quartile	8.1	5.3	7.7	4.9	4.3	5.1	10.9	1.0	6.0
Median	4.6	2.7	4.3	3.4	3.2	3.6	8.0	-0.2	3.5
3rd Quartile	2.5	0.3	1.5	2.2	2.2	2.3	5.0	-1.8	1.9
95th Percentile	0.4	-6.0	-3.4	0.9	1.0	0.8	2.1	-5.3	0.5
Population	907	903	880	844	806	665	958	1,017	1,047

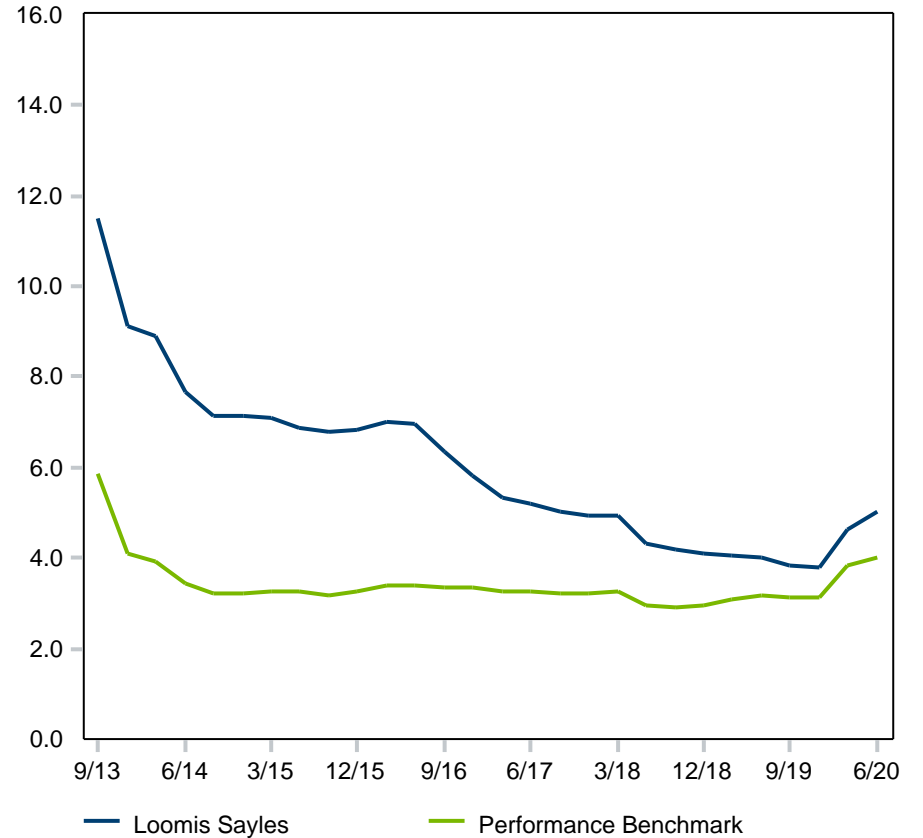
Parenteses contain percentile rankings.

Loomis Sayles Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

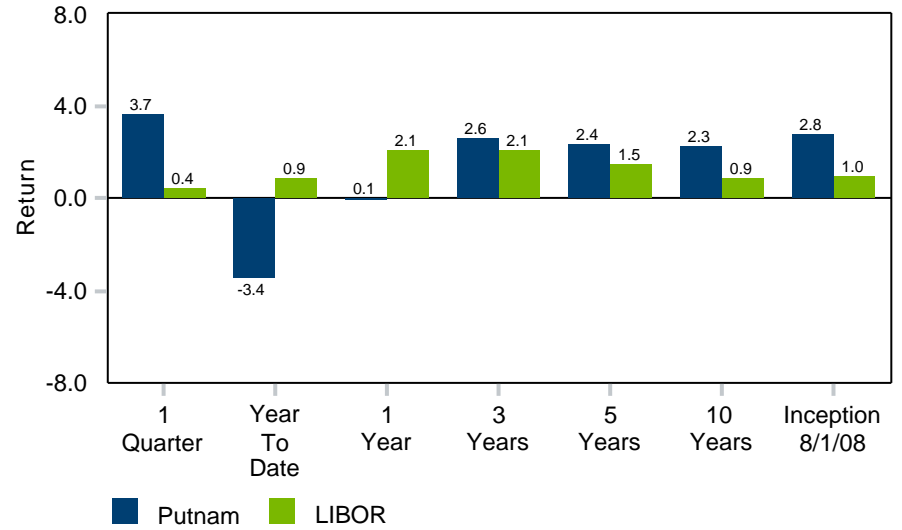
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Loomis Sayles	0.51	2.13	0.24	0.83	0.83	-0.15	1.14	5.32	5.01	0.91
Performance Benchmark	0.00	0.00	N/A	1.00	0.91	0.00	1.00	4.83	4.01	1.00
FTSE 3 Month T-Bill	-3.66	4.01	-0.91	0.00	N/A	1.13	0.00	1.15	0.25	0.06

Putnam Performance Summary

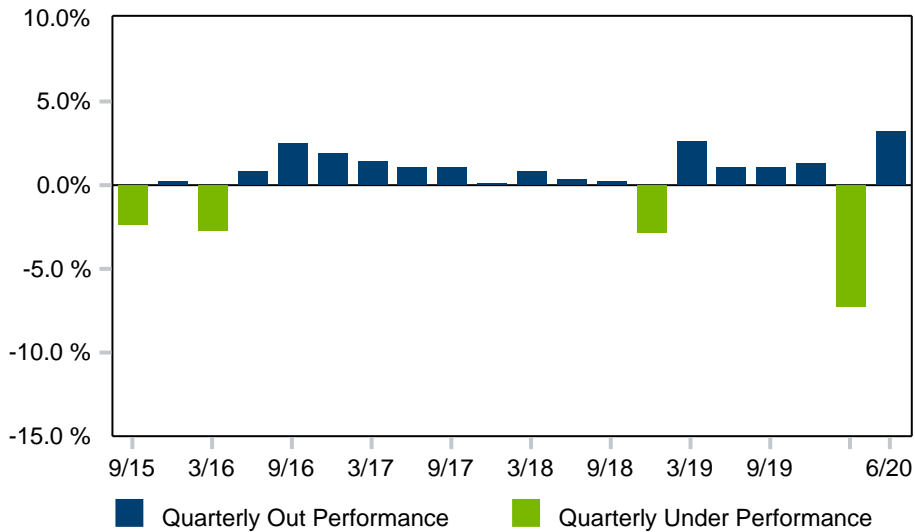
Account Information

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)

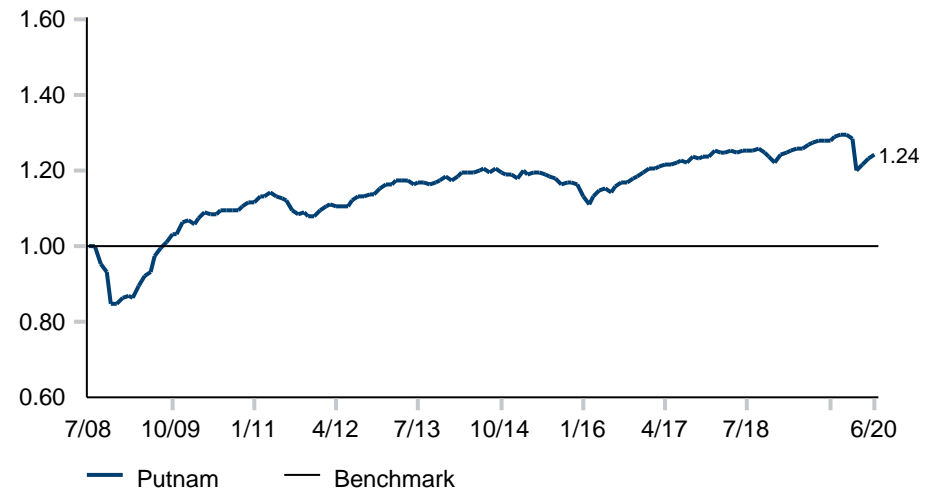
Return Summary



Quarterly Excess Performance

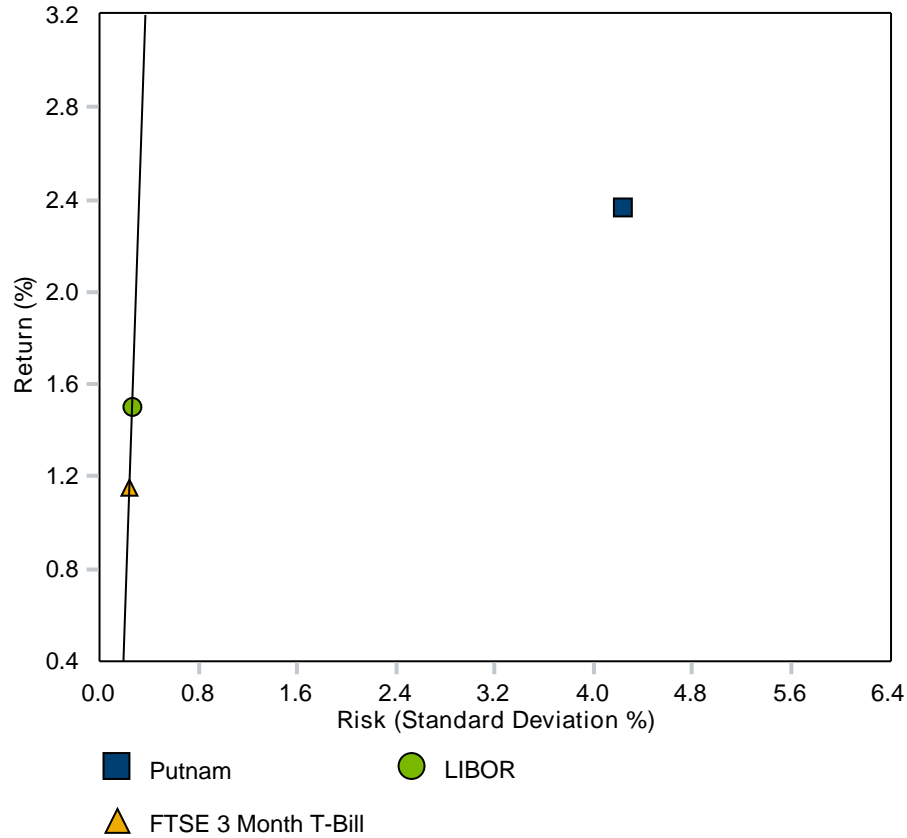


Ratio of Cumulative Wealth - Since Inception

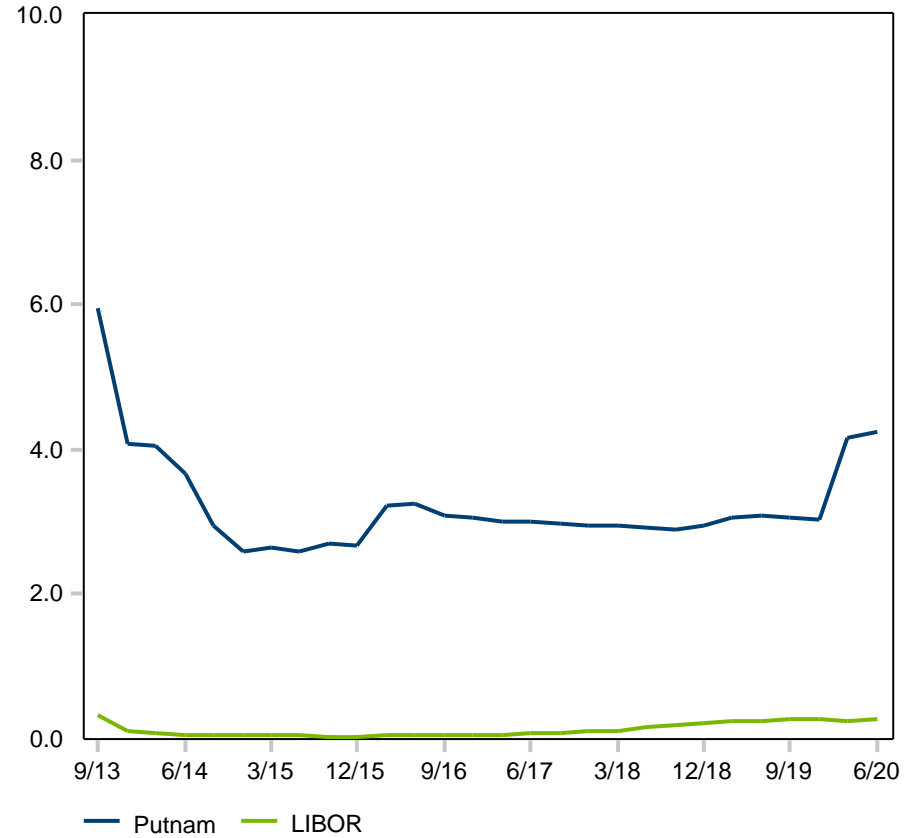


Putnam Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 5 Years Standard Deviation



5 Years Historical Statistics

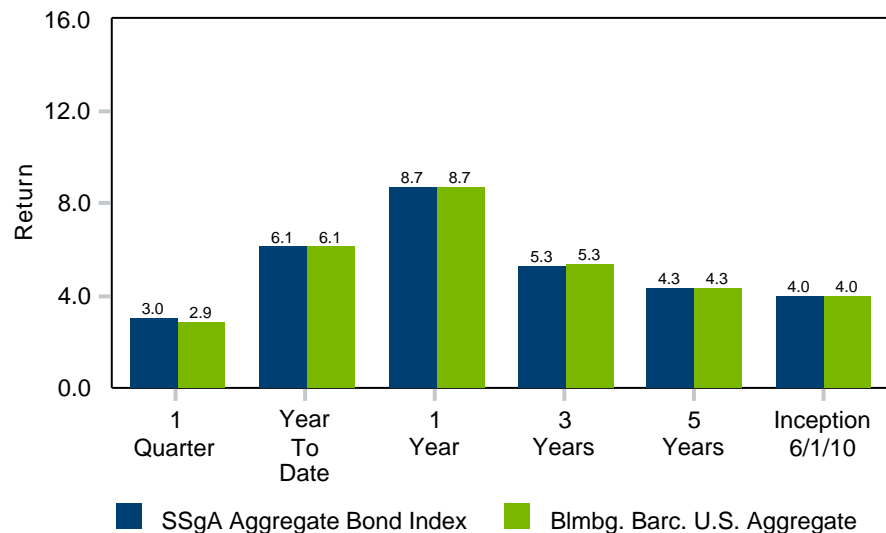
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Putnam	0.94	4.21	0.22	0.03	0.30	-1.37	2.55	2.36	4.24	0.16
LIBOR	0.00	0.00	N/A	1.00	2.90	0.00	1.00	1.50	0.27	1.00
FTSE 3 Month T-Bill	-0.34	0.12	-2.90	0.81	N/A	-0.08	0.82	1.15	0.25	0.90

SSgA Aggregate Bond Index Performance Summary

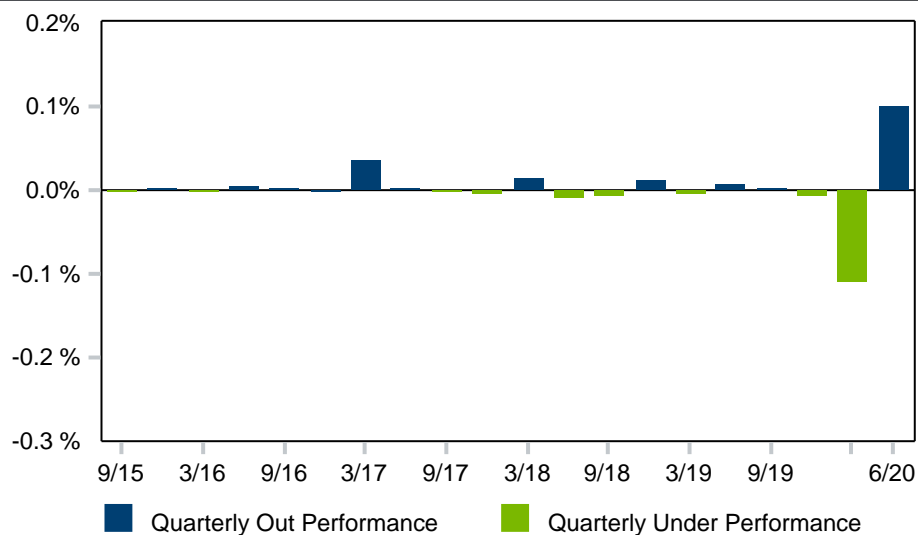
Account Information

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)

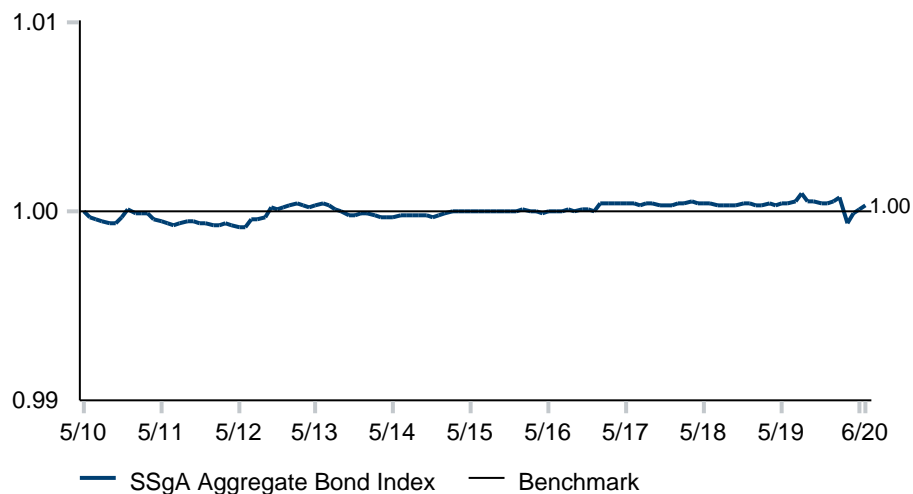
Return Summary



Quarterly Excess Performance

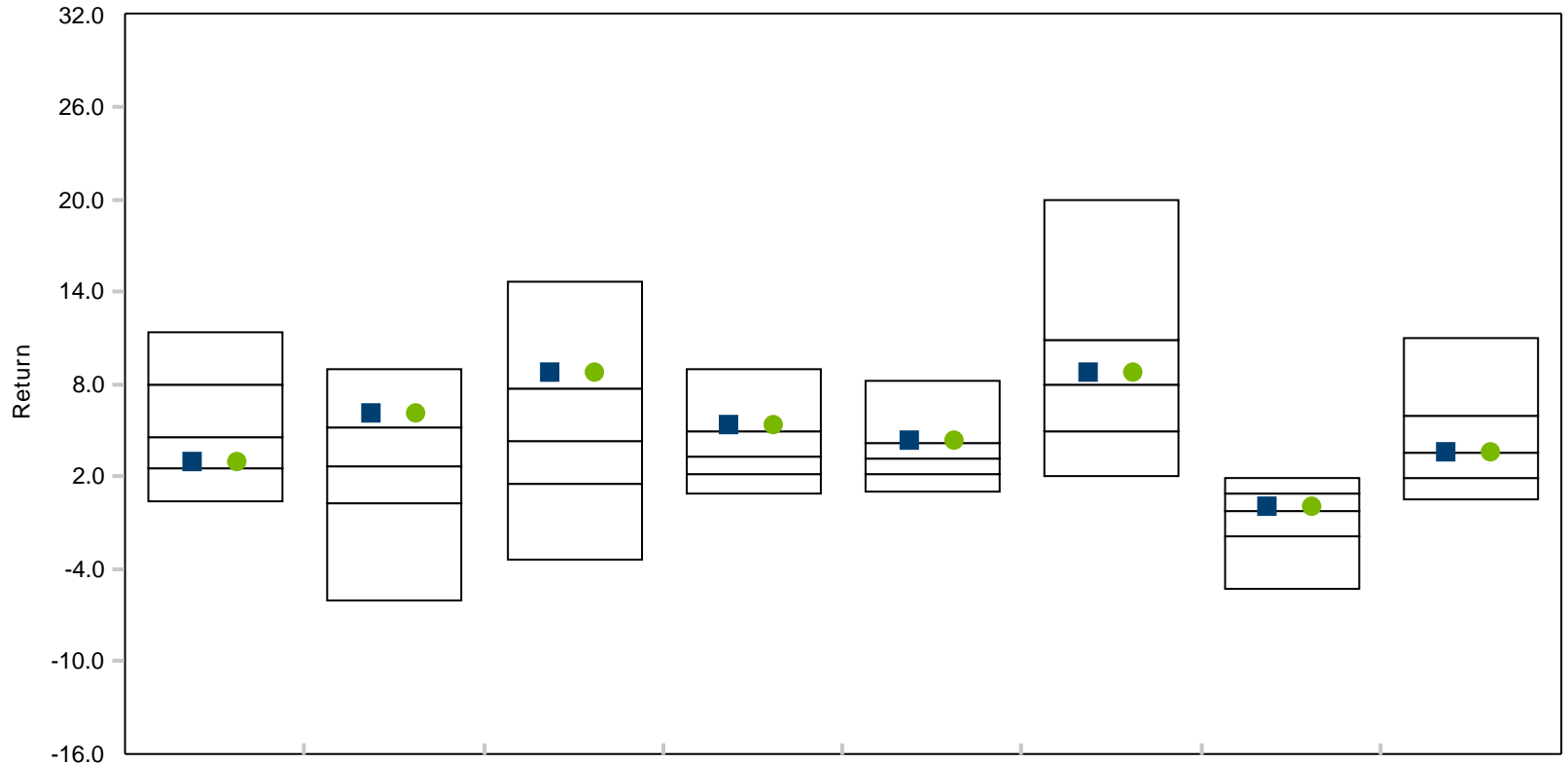


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

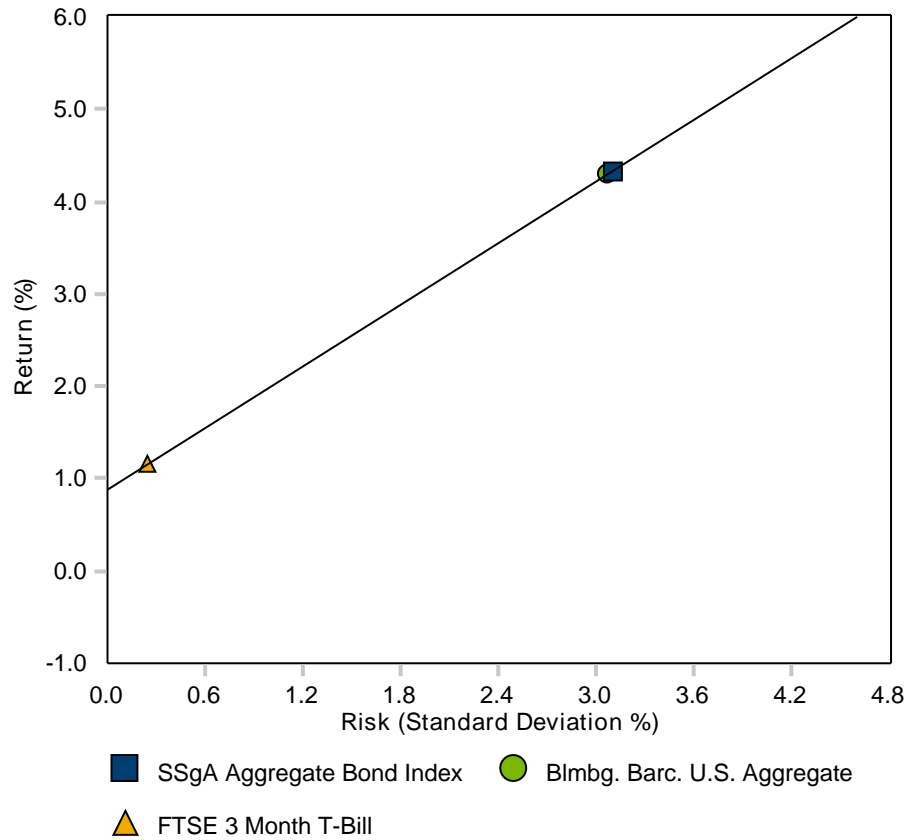


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ SSgA Aggregate Bond Index	3.0 (69)	6.1 (16)	8.7 (16)	5.3 (17)	4.3 (24)	8.7 (41)	0.0 (47)	3.6 (50)
● Blmbg. Barc. U.S. Aggregate	2.9 (70)	6.1 (16)	8.7 (16)	5.3 (17)	4.3 (24)	8.7 (41)	0.0 (47)	3.5 (50)
5th Percentile	11.4	9.0	14.7	9.1	8.2	20.0	1.9	11.1
1st Quartile	8.1	5.3	7.7	4.9	4.3	10.9	1.0	6.0
Median	4.6	2.7	4.3	3.4	3.2	8.0	-0.2	3.5
3rd Quartile	2.5	0.3	1.5	2.2	2.2	5.0	-1.8	1.9
95th Percentile	0.4	-6.0	-3.4	0.9	1.0	2.1	-5.3	0.5
Population	907	903	880	844	806	958	1,017	1,047

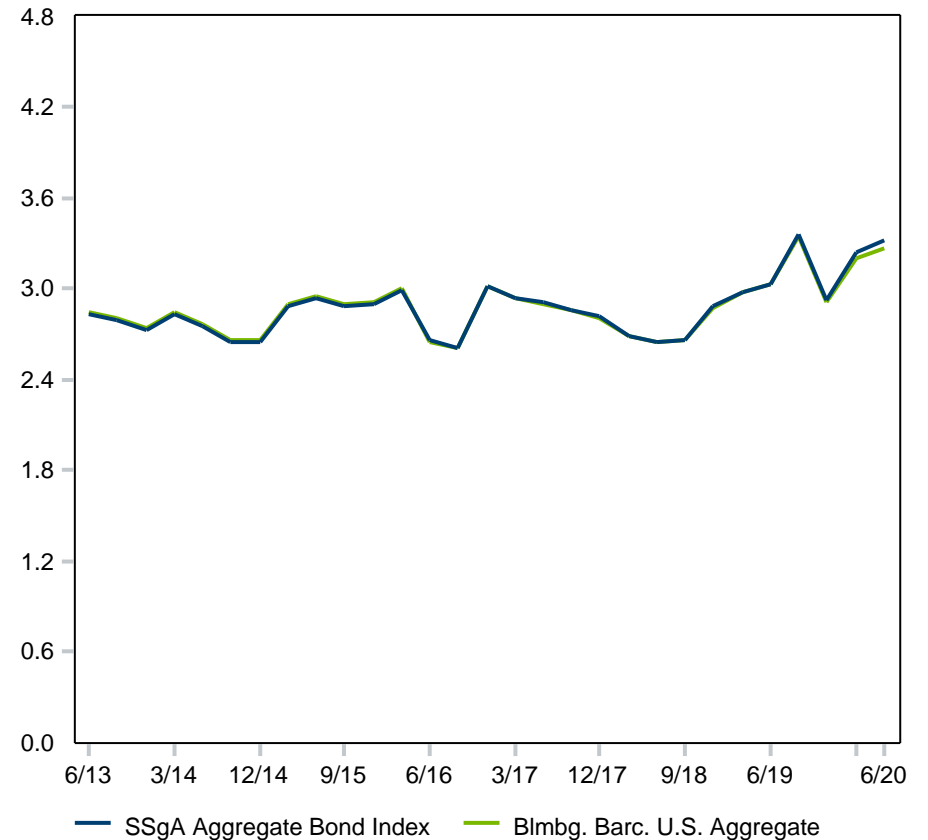
Partheses contain percentile rankings.

SSgA Aggregate Bond Index Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

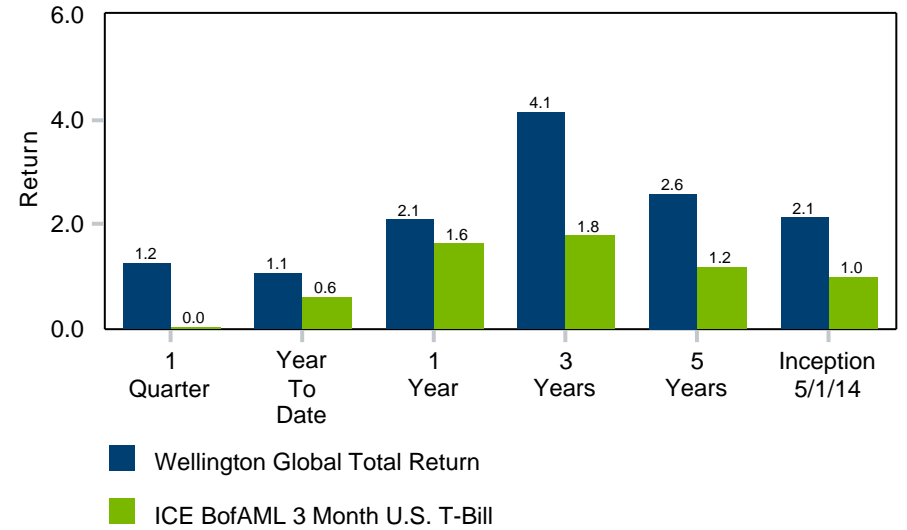
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
SSgA Aggregate Bond Index	0.01	0.08	0.10	1.00	1.02	-0.03	1.01	4.31	3.11	1.00
Blmbg. Barc. U.S. Aggregate	0.00	0.00	N/A	1.00	1.03	0.00	1.00	4.30	3.08	1.00
FTSE 3 Month T-Bill	-3.12	3.04	-1.03	0.03	N/A	1.09	0.01	1.15	0.25	0.19

Wellington Global Total Return Performance Summary

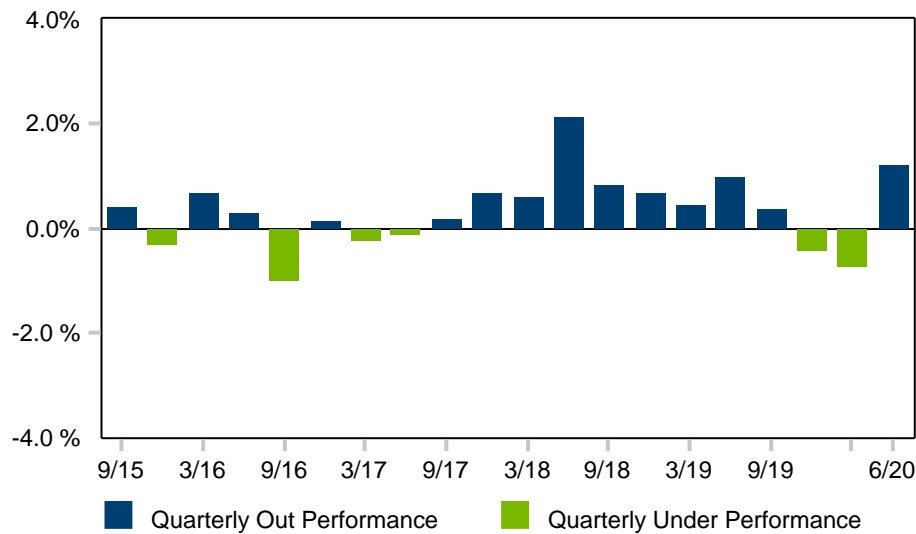
Account Information

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)

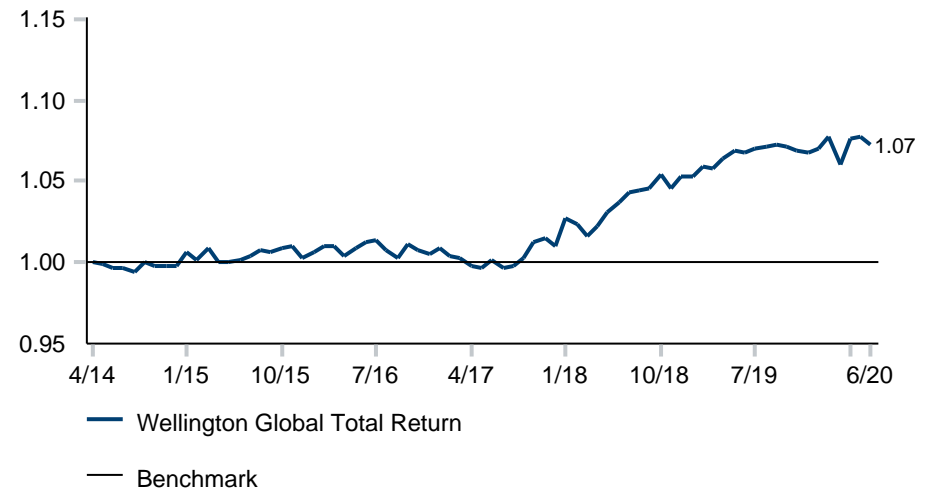
Return Summary



Quarterly Excess Performance

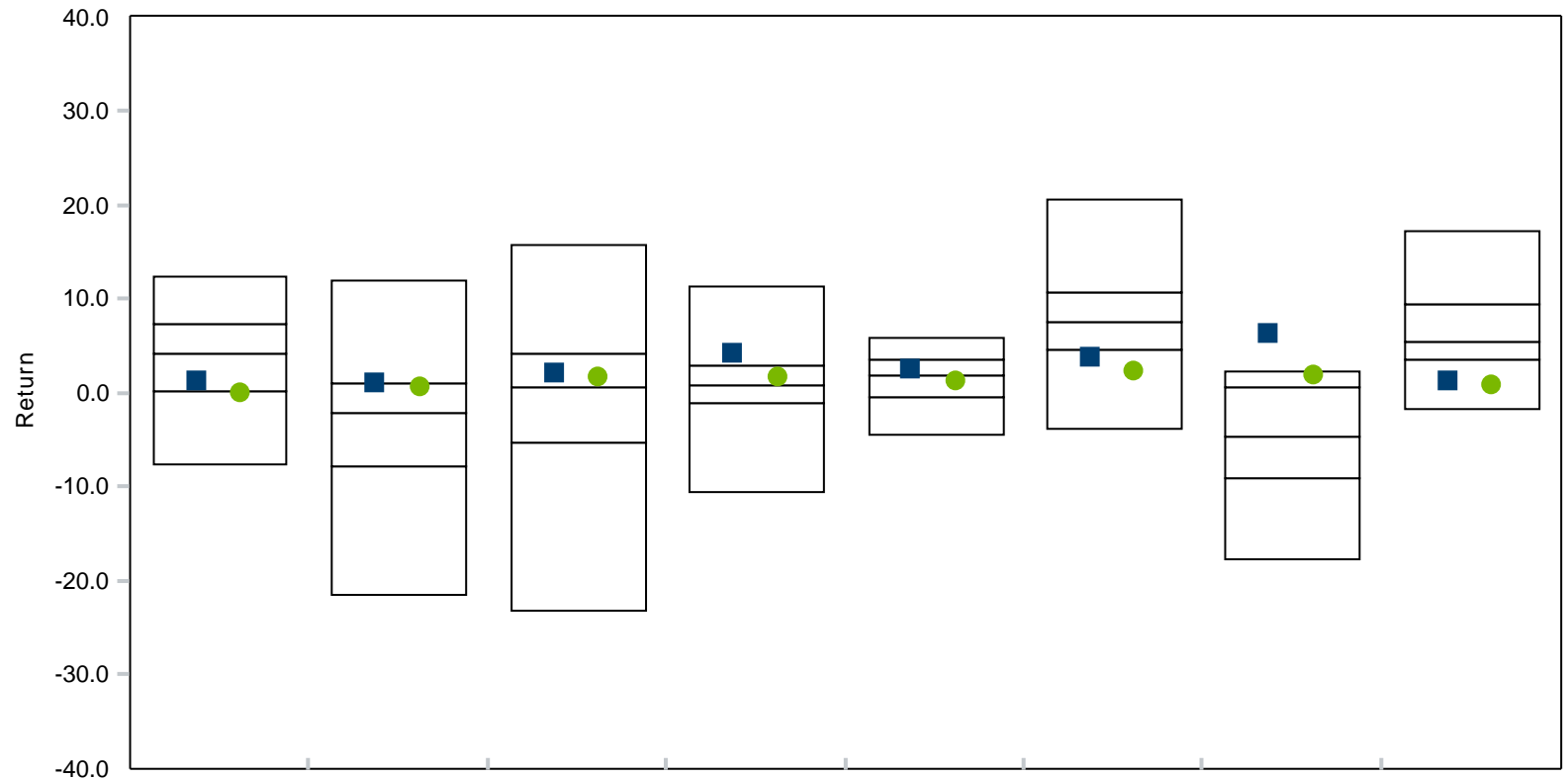


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

IM Absolute Return (MF)

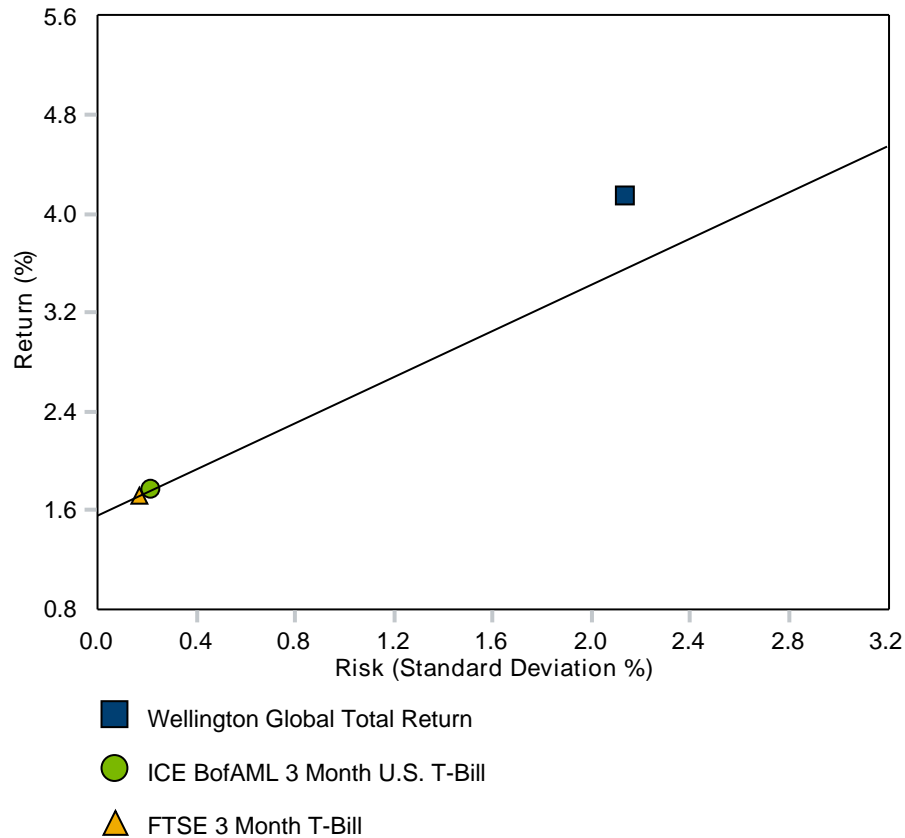


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
Wellington Global Total Return	1.2 (68)	1.1 (26)	2.1 (36)	4.1 (18)	2.6 (39)	3.7 (83)	6.2 (4)	1.4 (91)
ICE BofAML 3 Month U.S. T-Bill	0.0 (77)	0.6 (29)	1.6 (41)	1.8 (44)	1.2 (56)	2.3 (84)	1.9 (6)	0.9 (91)
5th Percentile	12.5	12.1	15.8	11.3	5.9	20.7	2.4	17.2
1st Quartile	7.3	1.1	4.1	3.0	3.5	10.7	0.5	9.5
Median	4.3	-2.2	0.6	0.9	1.9	7.7	-4.6	5.5
3rd Quartile	0.3	-7.8	-5.2	-1.0	-0.5	4.6	-9.0	3.5
95th Percentile	-7.5	-21.5	-23.2	-10.5	-4.4	-3.8	-17.6	-1.7
Population	38	38	38	38	38	40	49	51

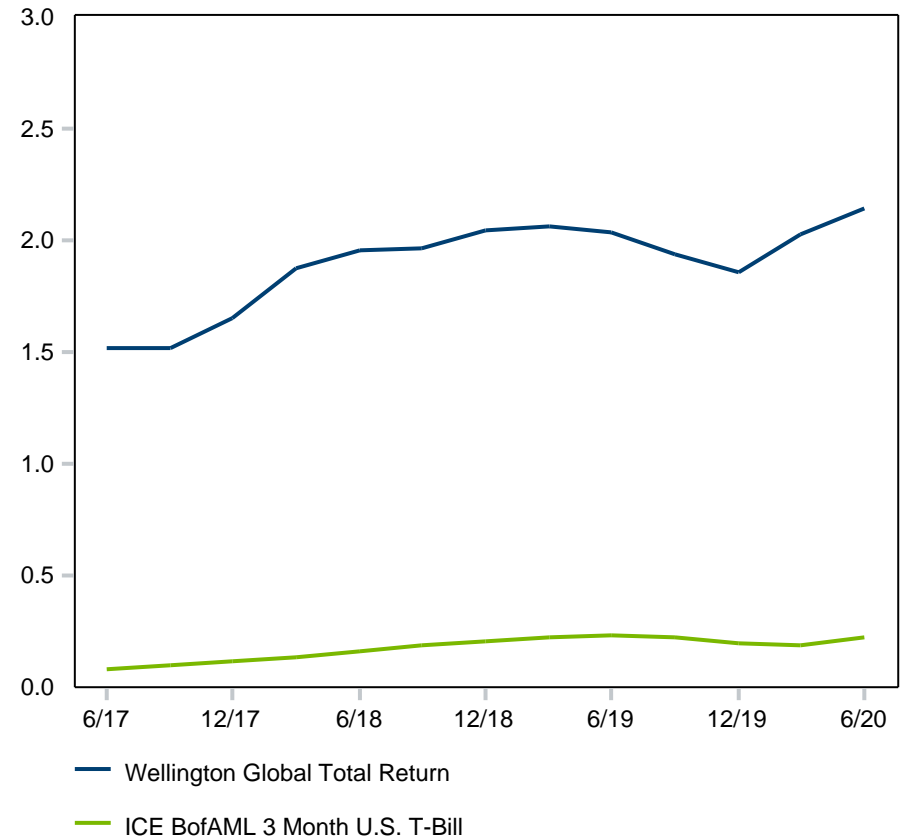
Parenteses contain percentile rankings.

Wellington Global Total Return Risk Profile

Annualized Return vs. Annualized Standard Deviation 3 Years



Rolling 3 Years Standard Deviation



3 Years Historical Statistics

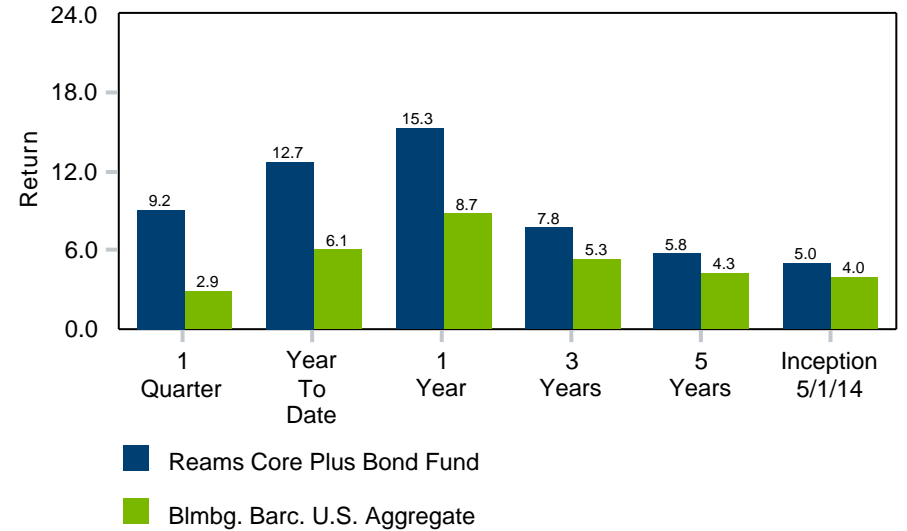
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Wellington Global Total Return	2.34	2.19	1.07	0.03	1.12	7.37	-1.74	4.15	2.14	-0.18
ICE BofAML 3 Month U.S. T-Bill	0.00	0.00	N/A	1.00	0.36	0.00	1.00	1.77	0.22	1.00
FTSE 3 Month T-Bill	-0.04	0.12	-0.36	0.72	N/A	0.53	0.67	1.72	0.17	0.85

Reams Core Plus Bond Fund Performance Summary

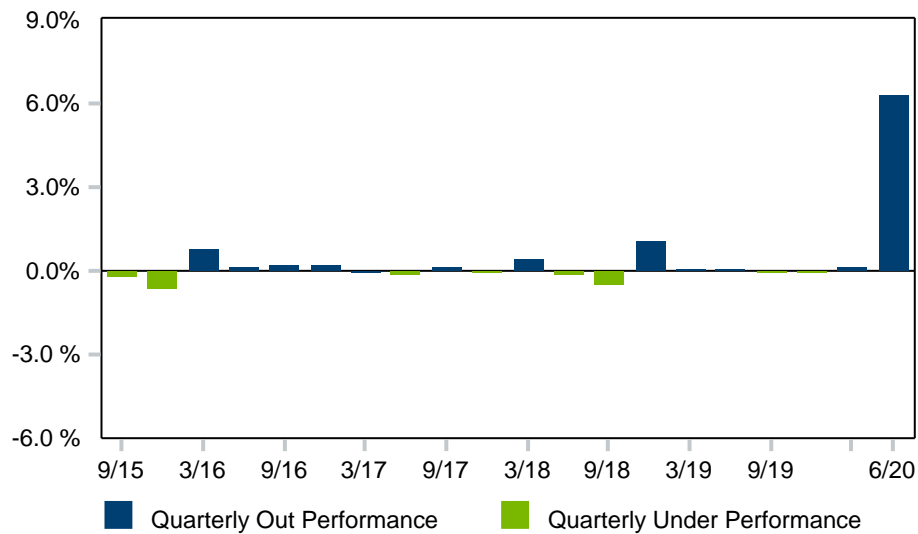
Account Information

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)

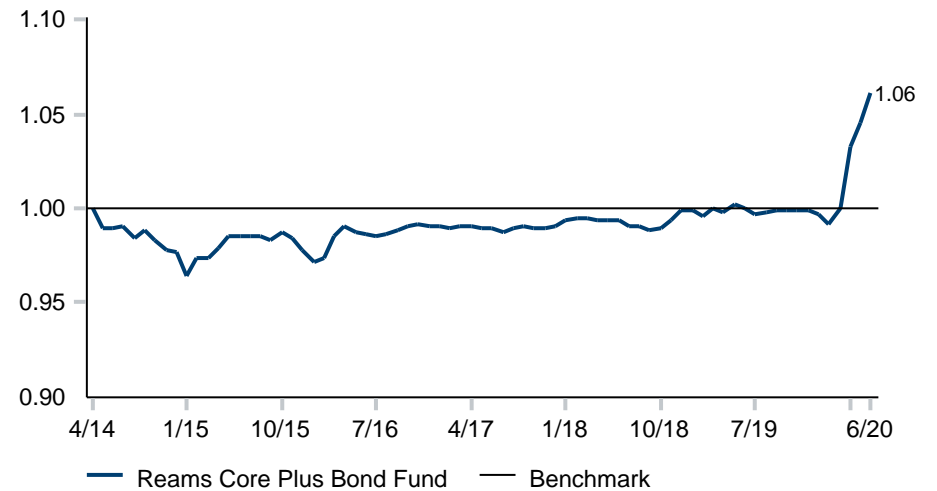
Return Summary



Quarterly Excess Performance

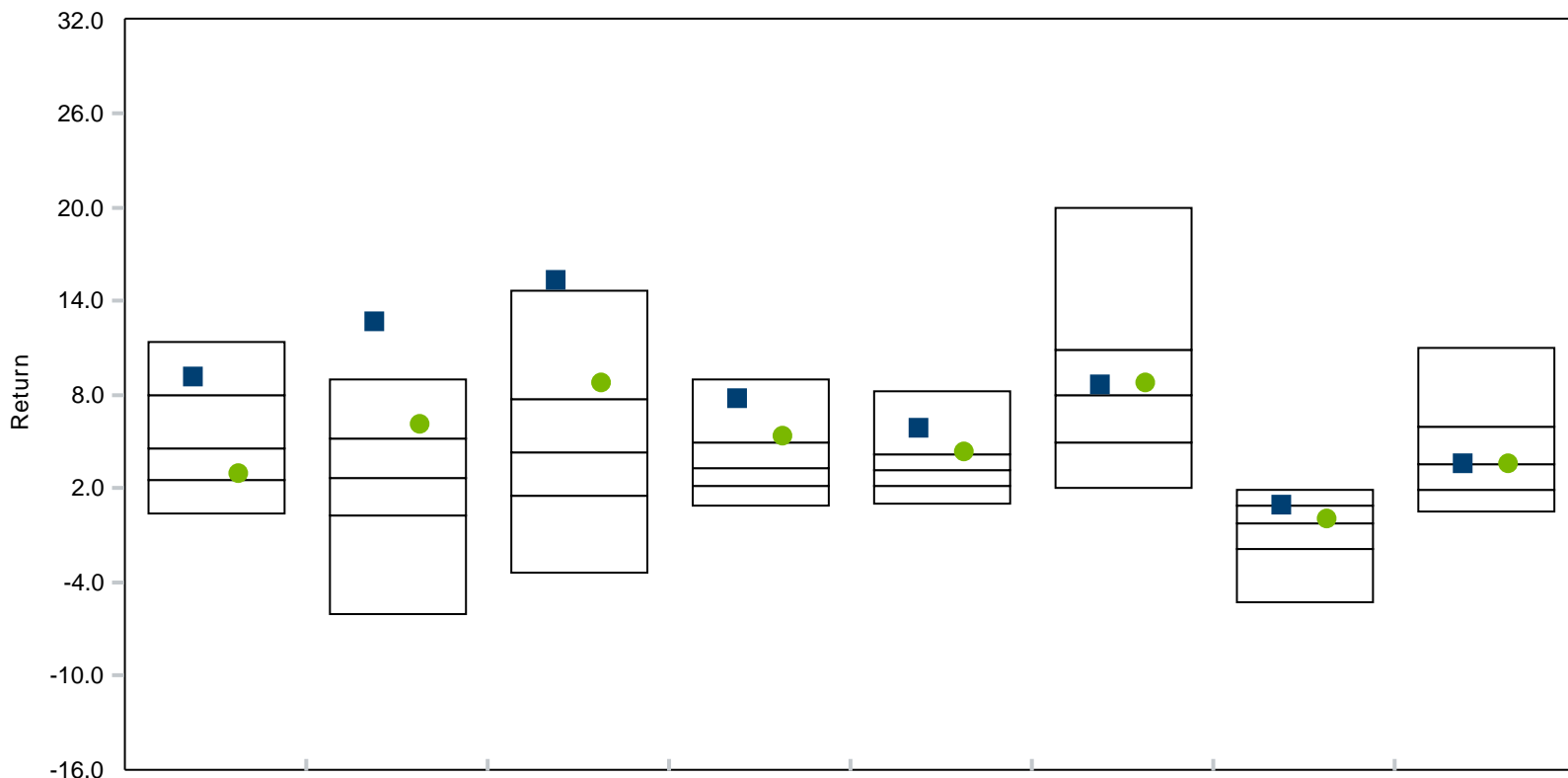


Ratio of Cumulative Wealth - Since Inception



Peer Group Analysis

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

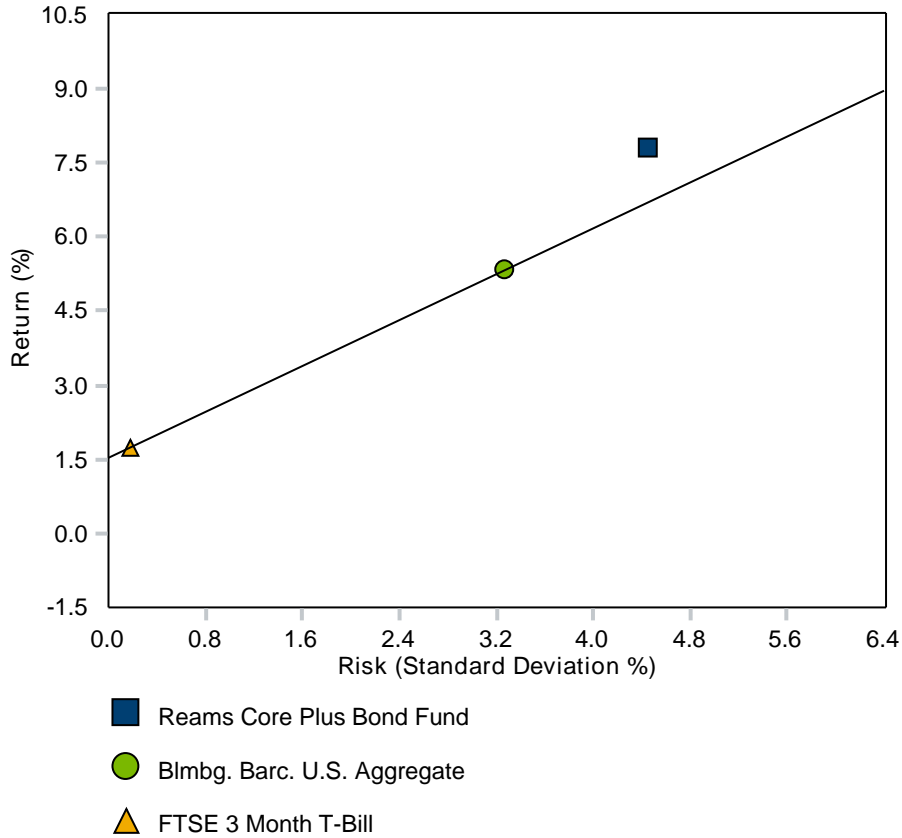


	1 Quarter	Year To Date	1 Year	3 Years	5 Years	2019	2018	2017
■ Reams Core Plus Bond Fund	9.2 (17)	12.7 (3)	15.3 (5)	7.8 (8)	5.8 (9)	8.6 (42)	0.9 (27)	3.6 (50)
● Blmbg. Barc. U.S. Aggregate	2.9 (70)	6.1 (16)	8.7 (16)	5.3 (17)	4.3 (24)	8.7 (41)	0.0 (47)	3.5 (50)
5th Percentile	11.4	9.0	14.7	9.1	8.2	20.0	1.9	11.1
1st Quartile	8.1	5.3	7.7	4.9	4.3	10.9	1.0	6.0
Median	4.6	2.7	4.3	3.4	3.2	8.0	-0.2	3.5
3rd Quartile	2.5	0.3	1.5	2.2	2.2	5.0	-1.8	1.9
95th Percentile	0.4	-6.0	-3.4	0.9	1.0	2.1	-5.3	0.5
Population	907	903	880	844	806	958	1,017	1,047

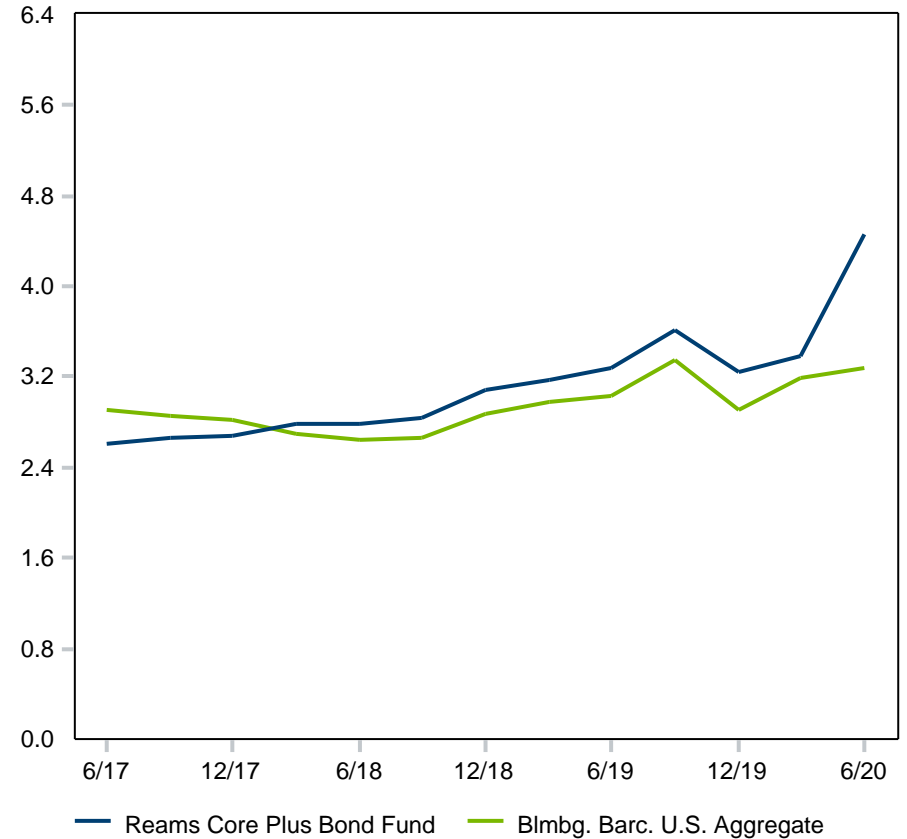
parentheses contain percentile rankings.

Reams Core Plus Bond Fund Risk Profile

Annualized Return vs. Annualized Standard Deviation 3 Years

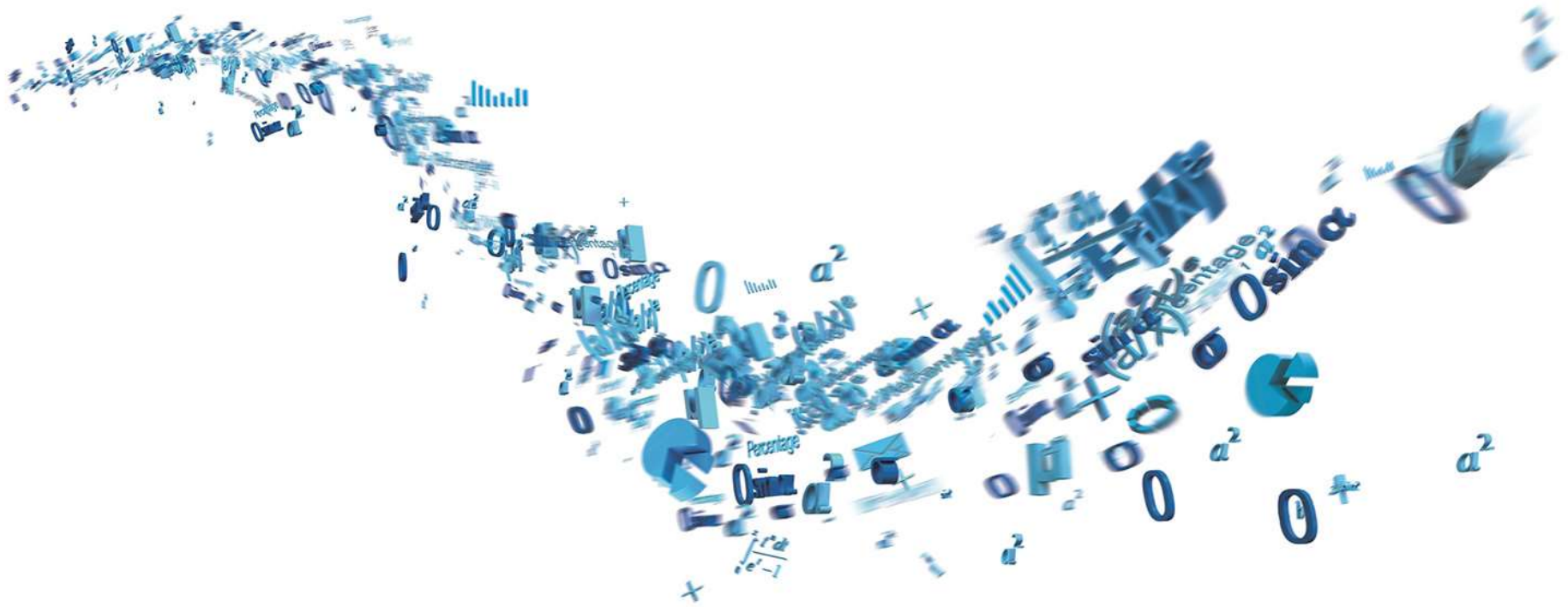


Rolling 3 Years Standard Deviation



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	2.37	2.36	1.01	0.74	1.32	1.50	1.17	7.79	4.46	0.86
Blmbg. Barc. U.S. Aggregate	0.00	0.00	N/A	1.00	1.09	0.00	1.00	5.32	3.27	1.00
FTSE 3 Month T-Bill	-3.54	3.24	-1.09	0.04	N/A	1.67	0.01	1.72	0.17	0.20

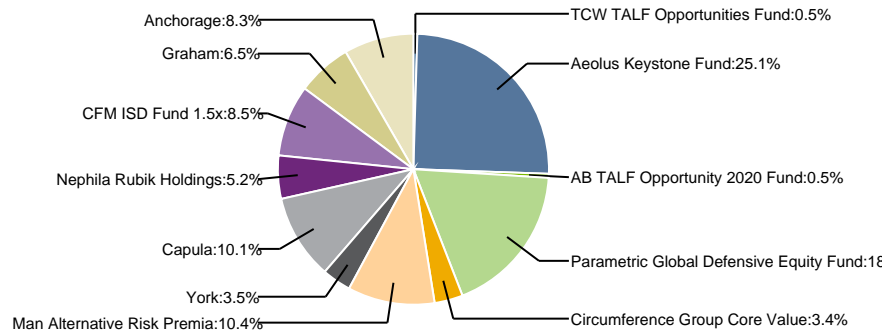


Opportunistic/Alternatives

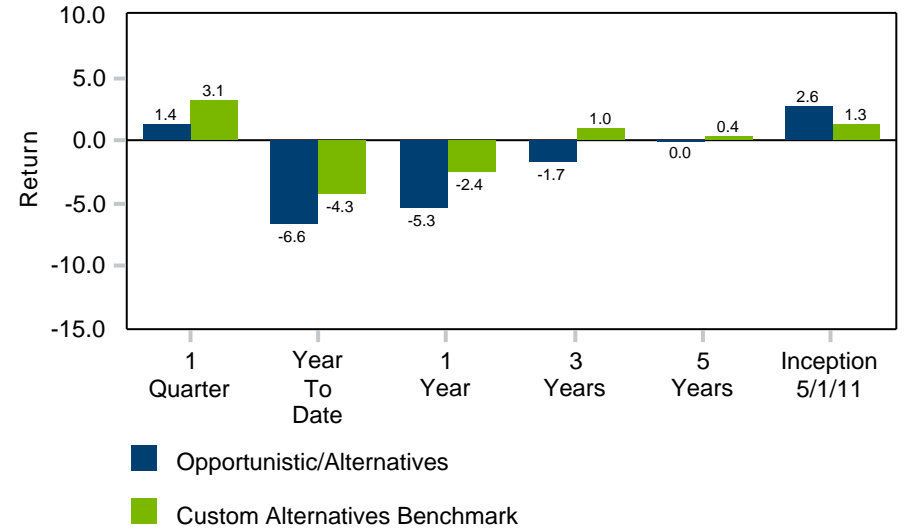
Opportunistic/Alternatives Portfolio Overview

Current Allocation

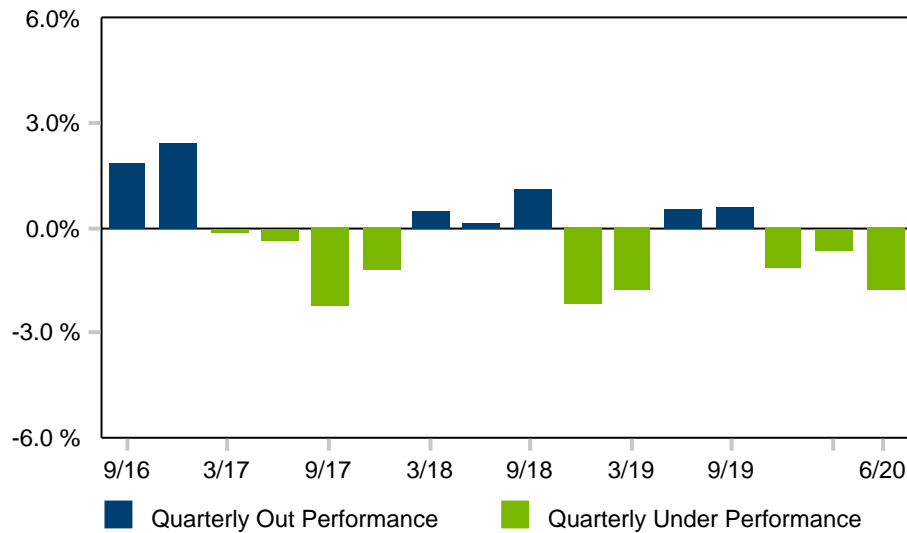
June 30, 2020 : \$878M



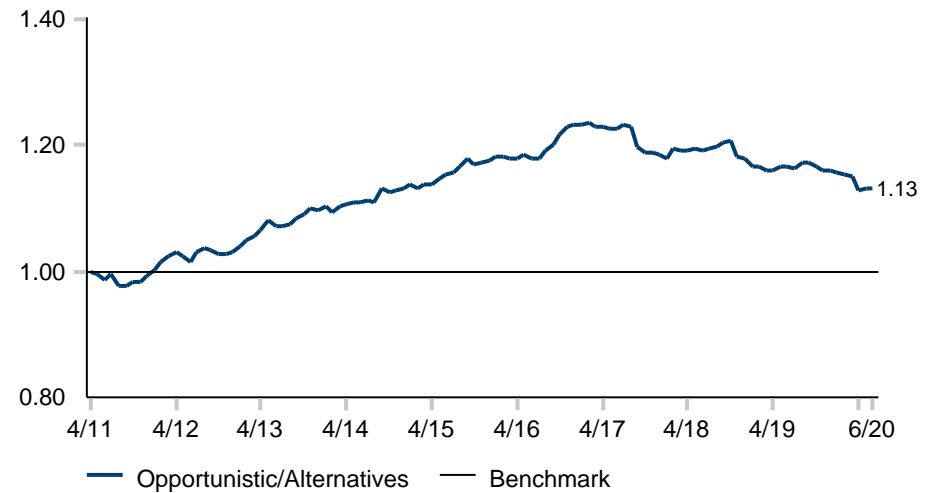
Return Summary



Quarterly Excess Performance

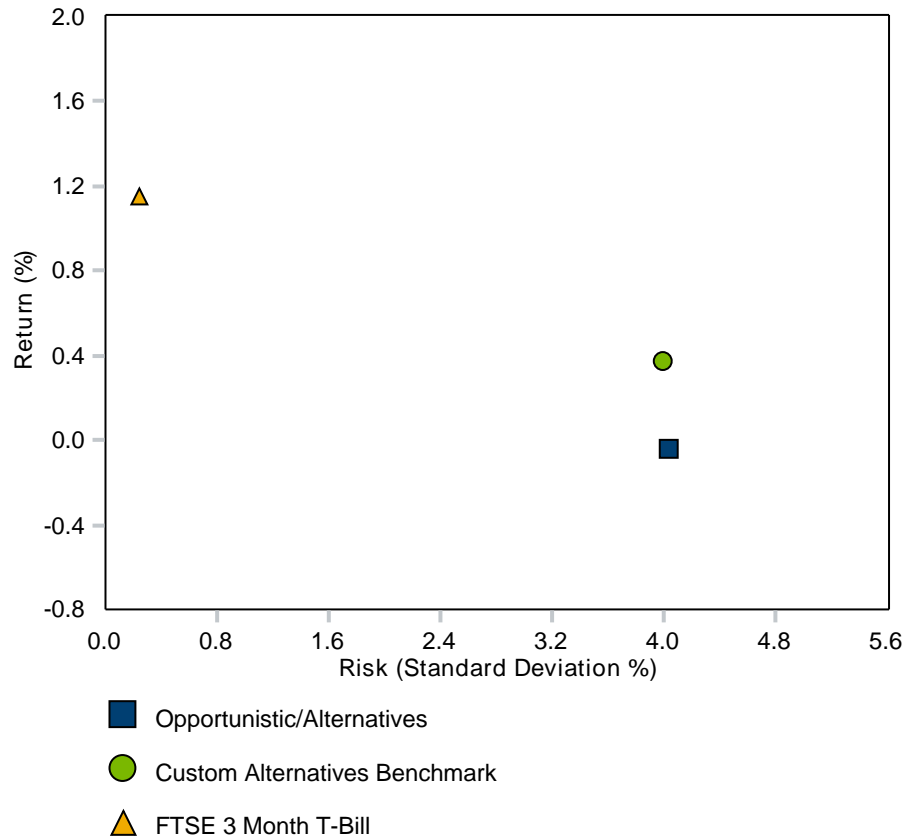


Ratio of Cumulative Wealth - Since Inception

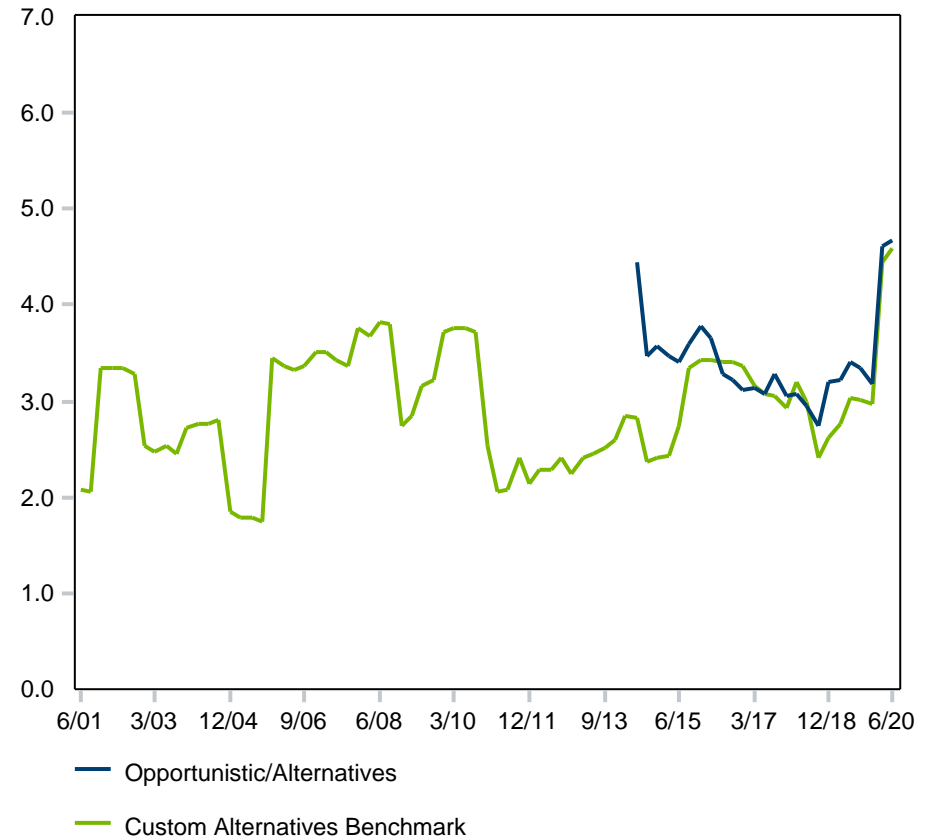


Opportunistic/Alternatives Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation

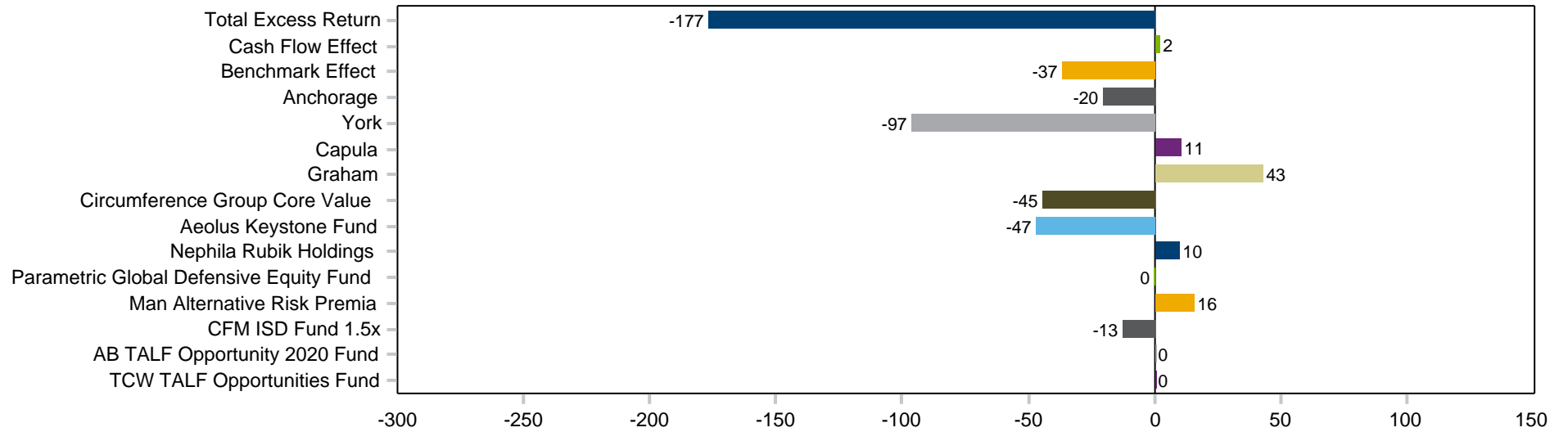


5 Years Historical Statistics

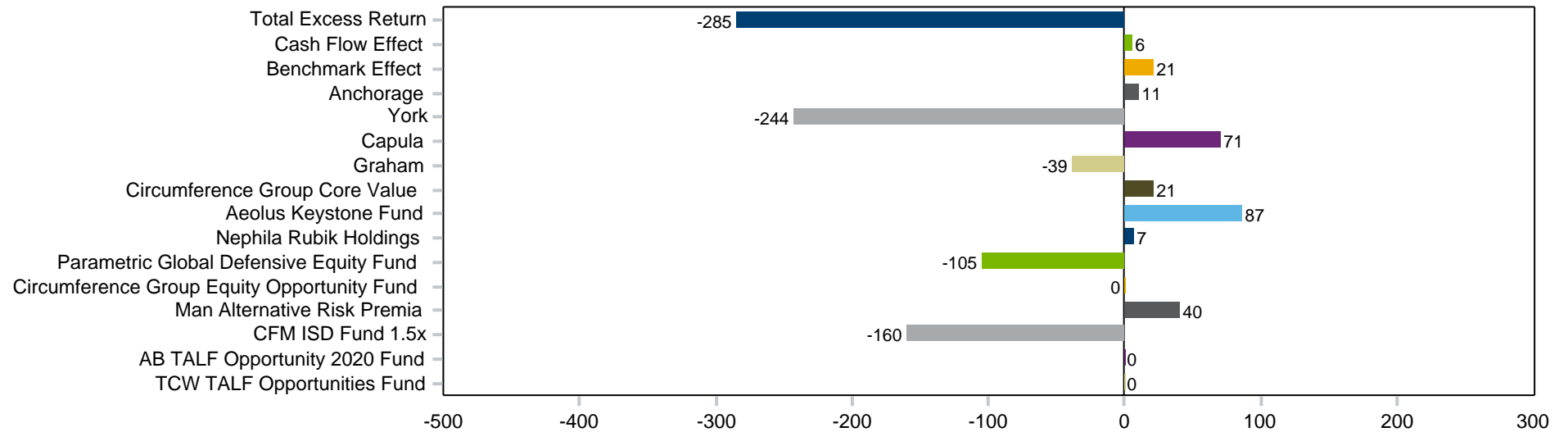
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Opportunistic/Alternatives	-0.42	2.41	-0.17	0.67	-0.27	-0.34	0.83	-0.04	4.04	0.82
Custom Alternatives Benchmark	0.00	0.00	N/A	1.00	-0.17	0.00	1.00	0.37	4.00	1.00
FTSE 3 Month T-Bill	0.69	3.99	0.17	0.00	N/A	1.15	0.00	1.15	0.25	0.04

Asset Class Attribution

1 Quarter



1 Year

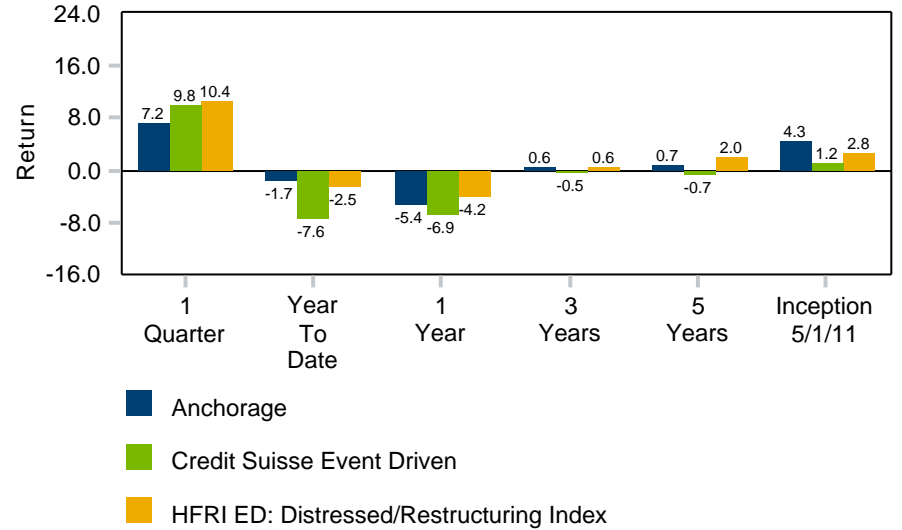


Anchorage Performance Summary

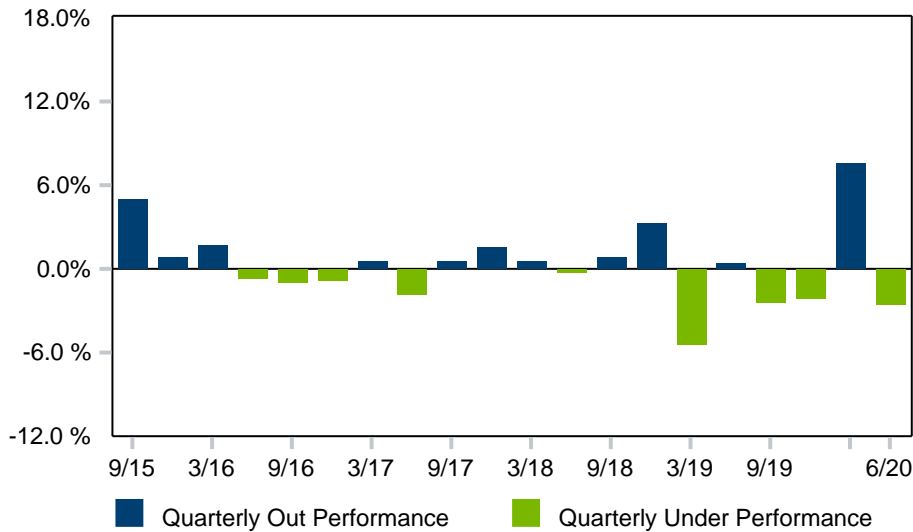
Account Information

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

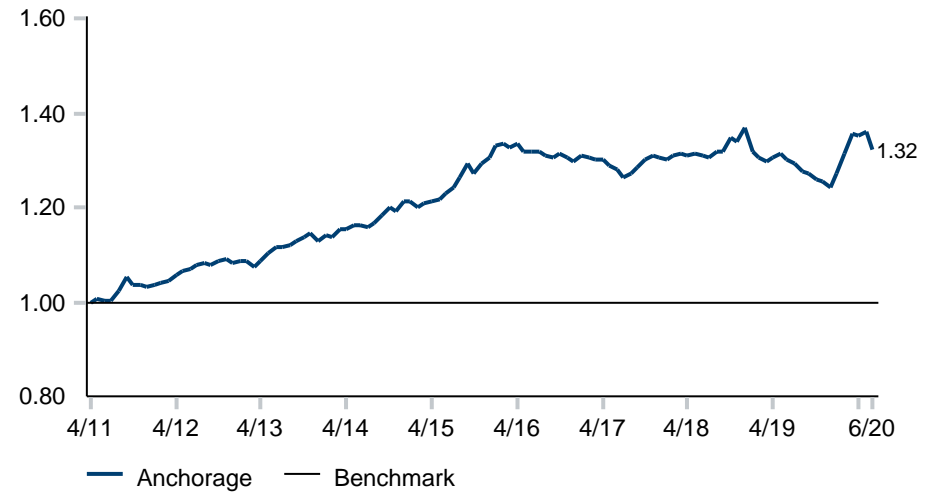
Return Summary



Quarterly Excess Performance

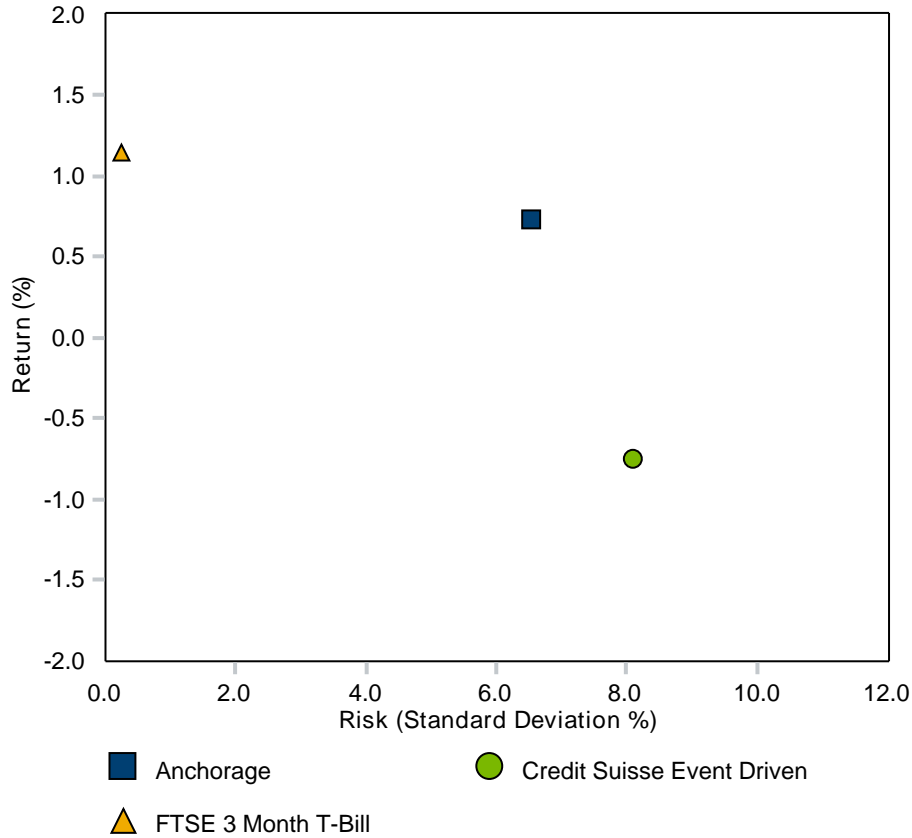


Ratio of Cumulative Wealth - Since Inception

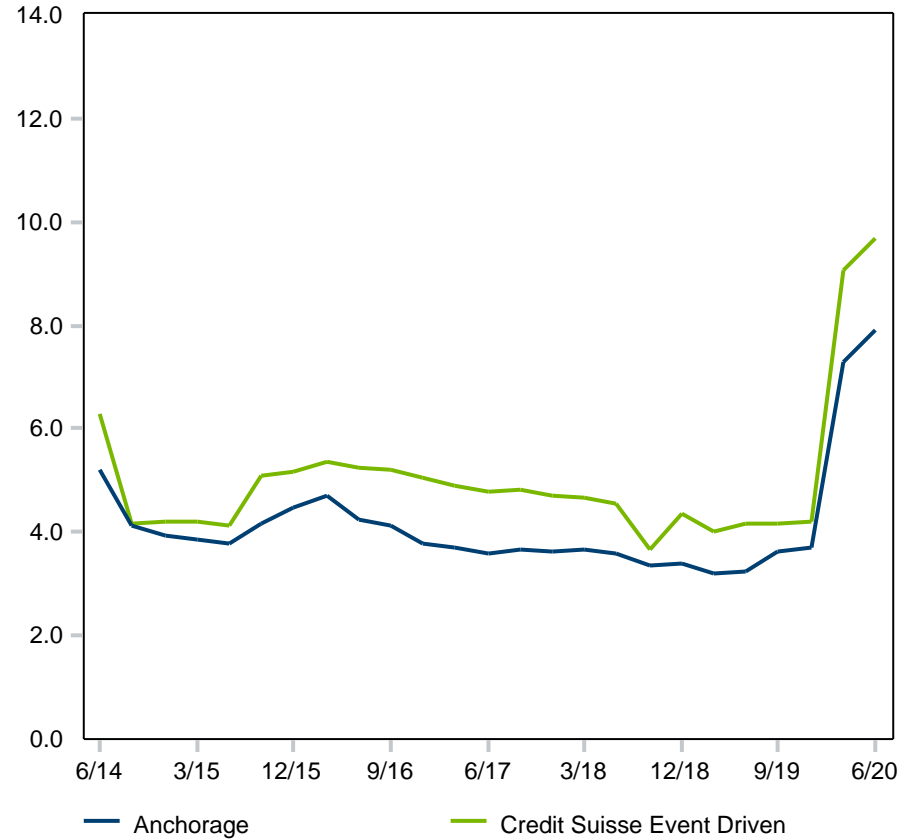


Anchorage Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

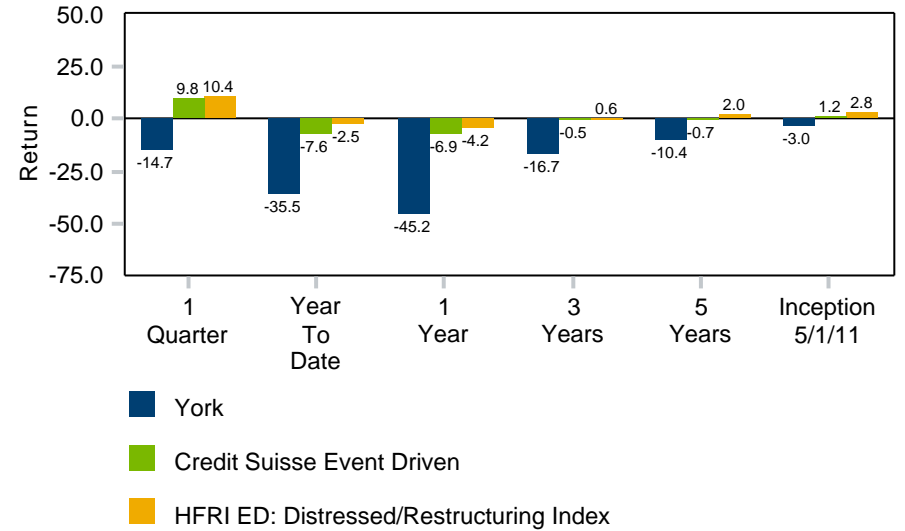
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Anchorage	1.36	4.37	0.31	0.71	-0.03	1.24	0.68	0.73	6.55	0.84
Credit Suisse Event Driven	0.00	0.00	N/A	1.00	-0.19	0.00	1.00	-0.75	8.11	1.00
FTSE 3 Month T-Bill	1.56	8.12	0.19	0.00	N/A	1.15	0.00	1.15	0.25	-0.02

York Performance Summary

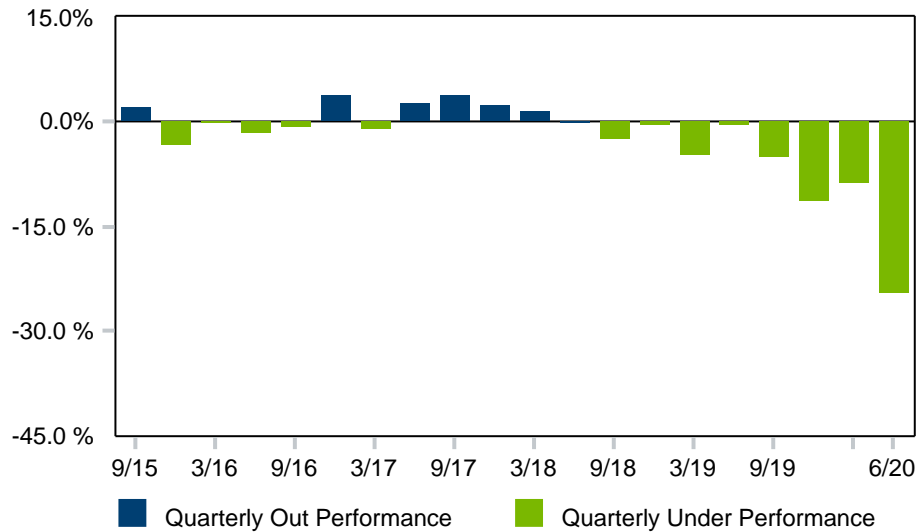
Account Information

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

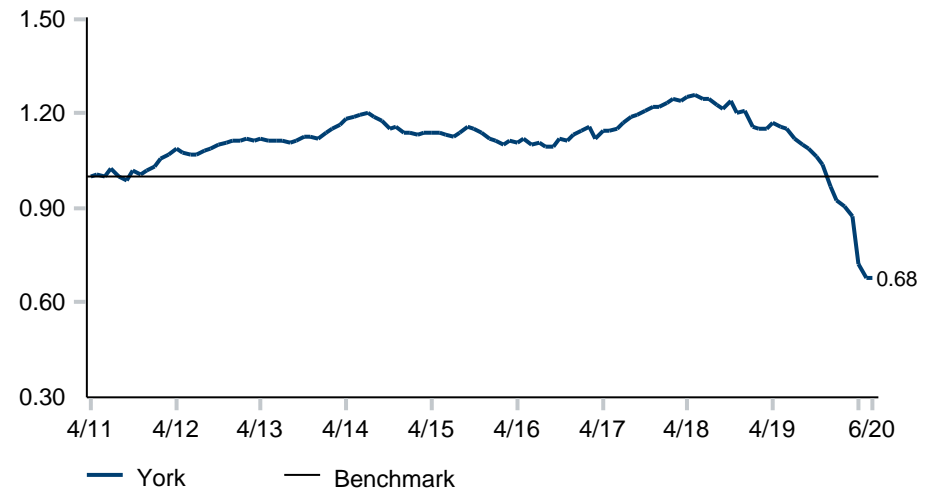
Return Summary



Quarterly Excess Performance

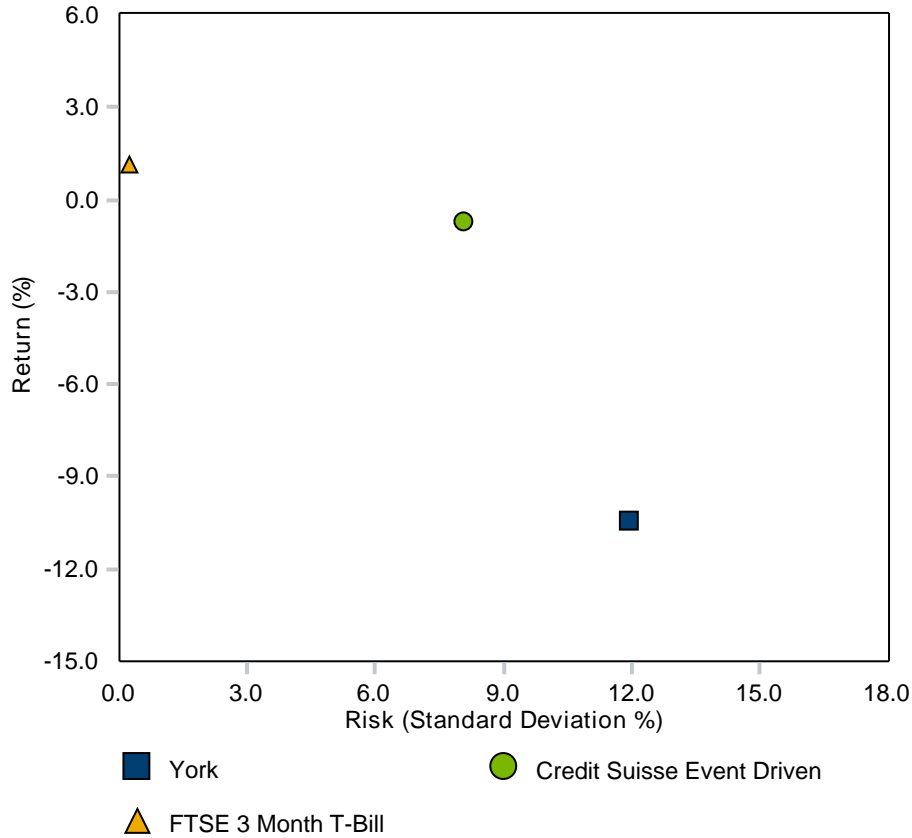


Ratio of Cumulative Wealth - Since Inception

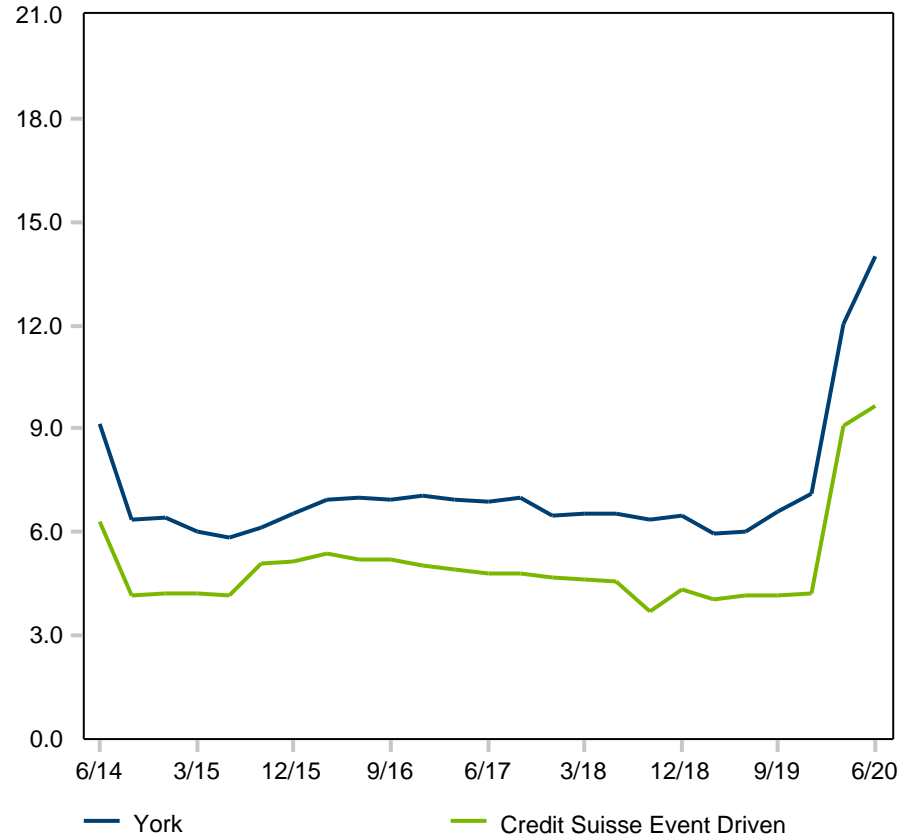


York Risk Profile

Annualized Return vs. Annualized Standard Deviation 5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

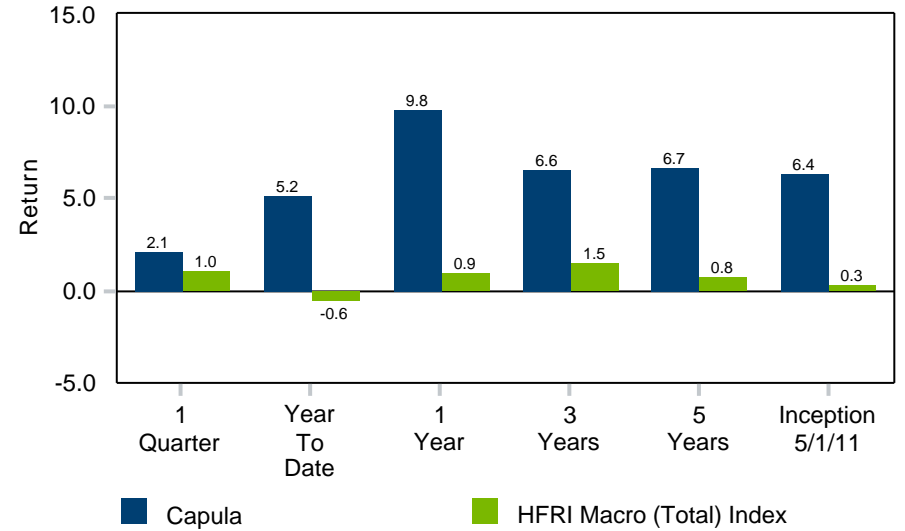
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
York	-9.81	10.29	-0.95	0.28	-0.95	-9.47	0.78	-10.44	11.95	0.53
Credit Suisse Event Driven	0.00	0.00	N/A	1.00	-0.19	0.00	1.00	-0.75	8.11	1.00
FTSE 3 Month T-Bill	1.56	8.12	0.19	0.00	N/A	1.15	0.00	1.15	0.25	-0.02

Capula Performance Summary

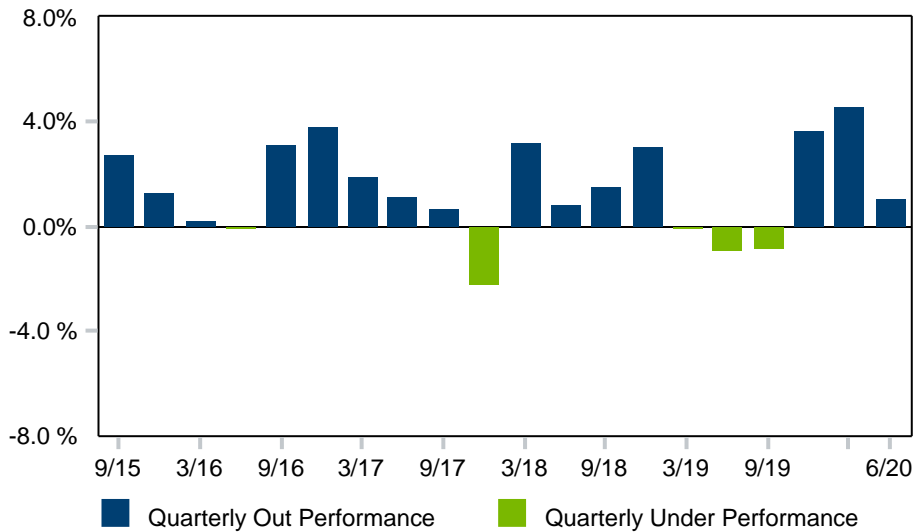
Account Information

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

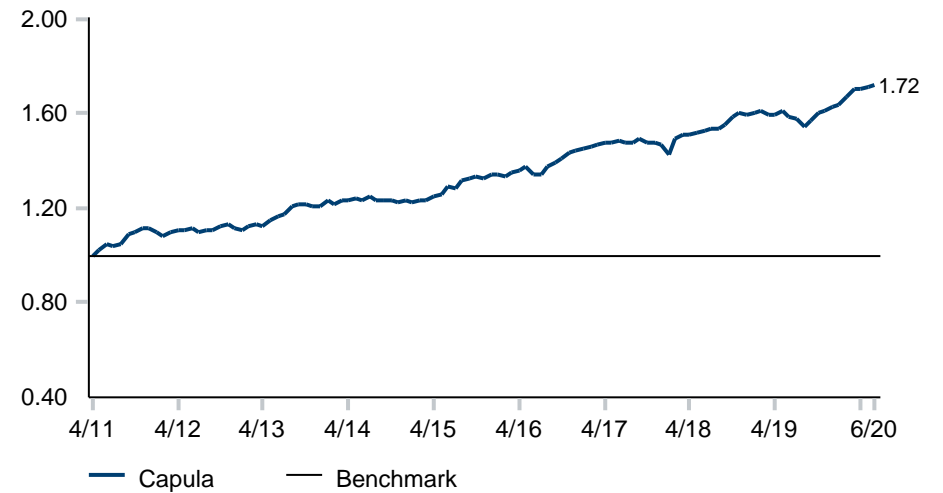
Return Summary



Quarterly Excess Performance

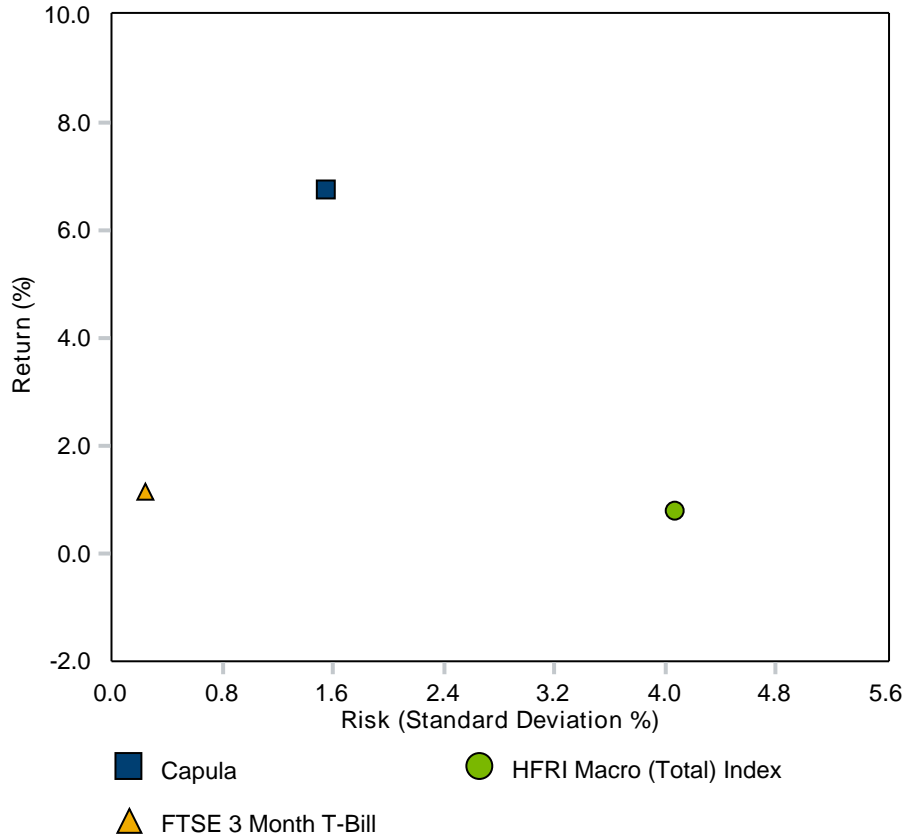


Ratio of Cumulative Wealth - Since Inception

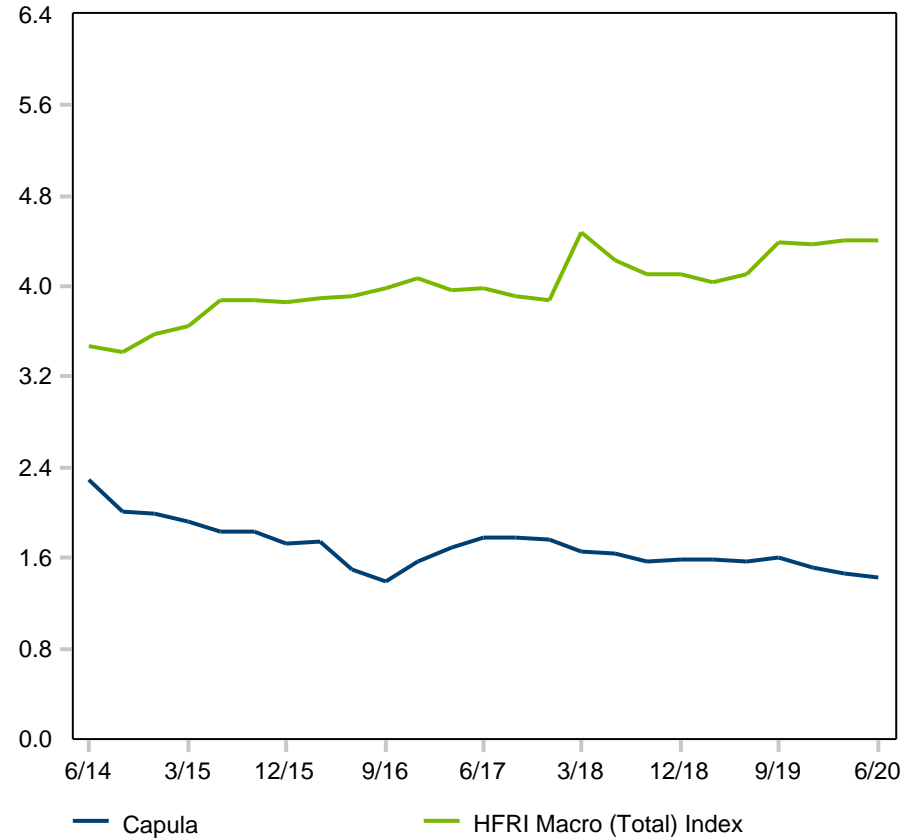


Capula Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

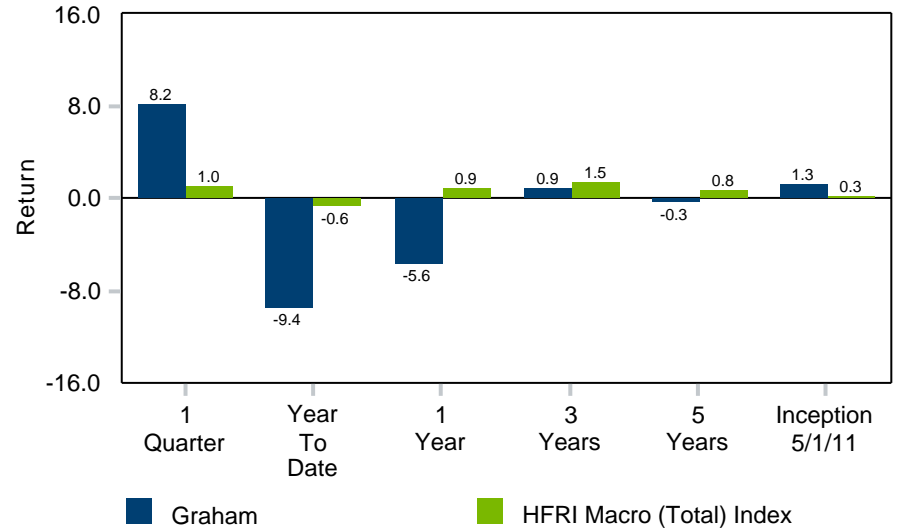
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Capula	5.69	4.41	1.29	0.00	3.40	6.75	-0.01	6.73	1.56	-0.04
HFRI Macro (Total) Index	0.00	0.00	N/A	1.00	-0.07	0.00	1.00	0.77	4.07	1.00
FTSE 3 Month T-Bill	0.30	4.06	0.07	0.01	N/A	1.15	0.00	1.15	0.25	0.07

Graham Performance Summary

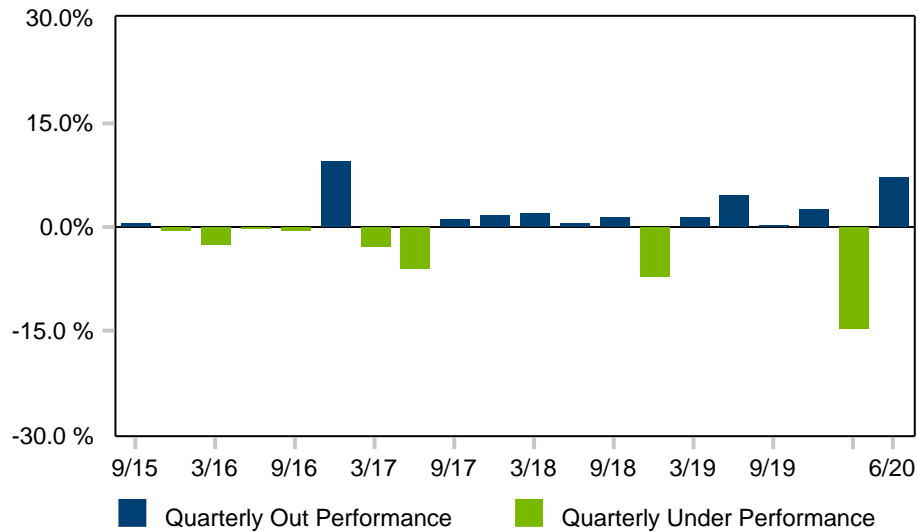
Account Information

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

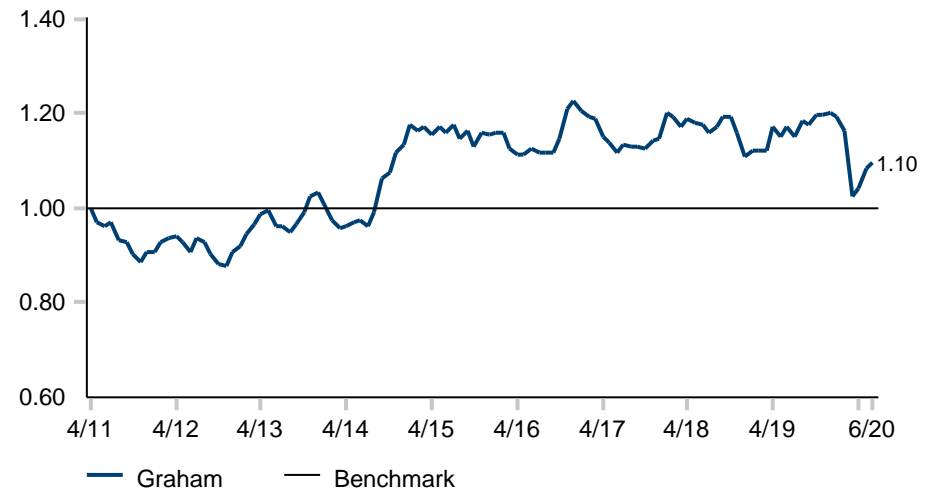
Return Summary



Quarterly Excess Performance

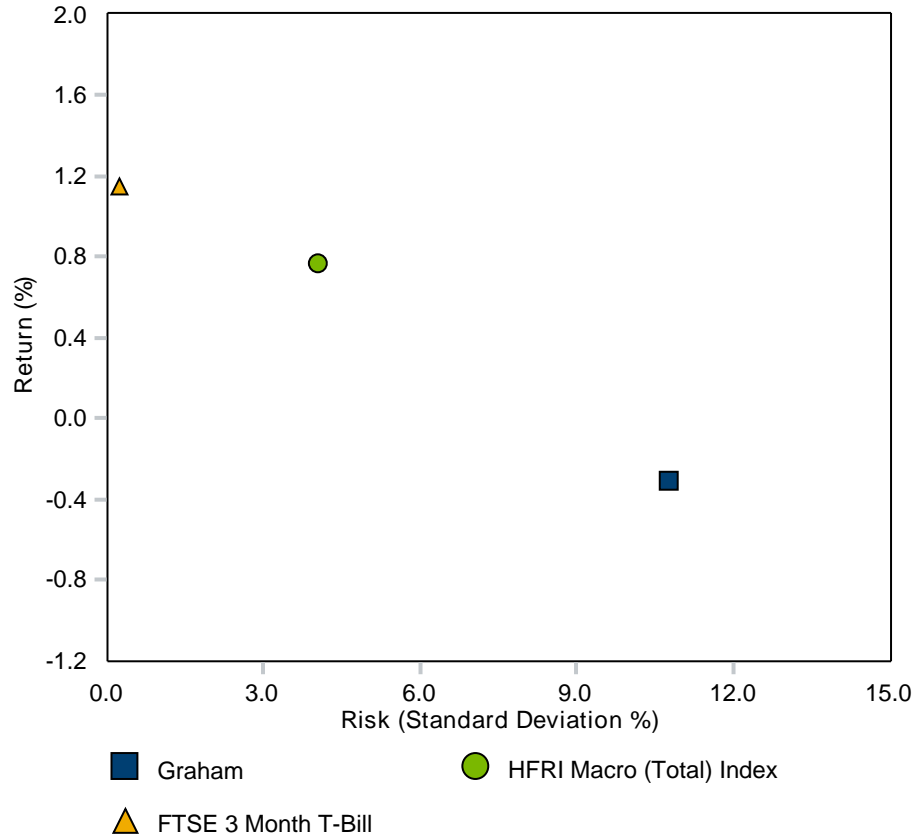


Ratio of Cumulative Wealth - Since Inception

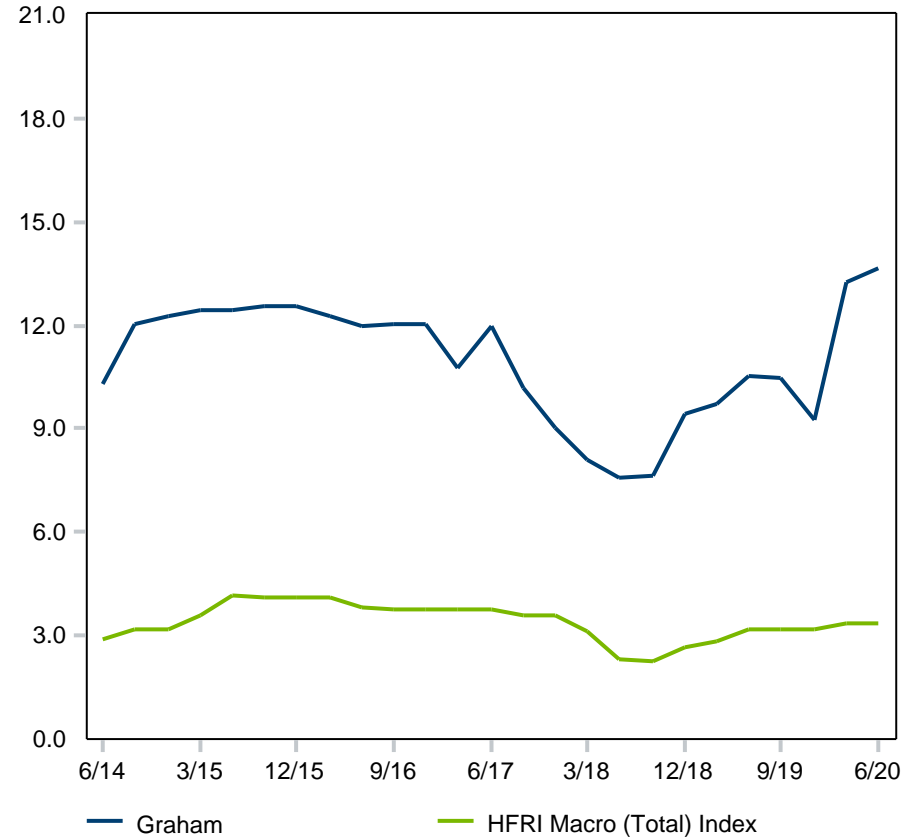


Graham Risk Profile

Annualized Return vs. Annualized Standard Deviation
5 Years



Rolling 3 Years Standard Deviation



5 Years Historical Statistics

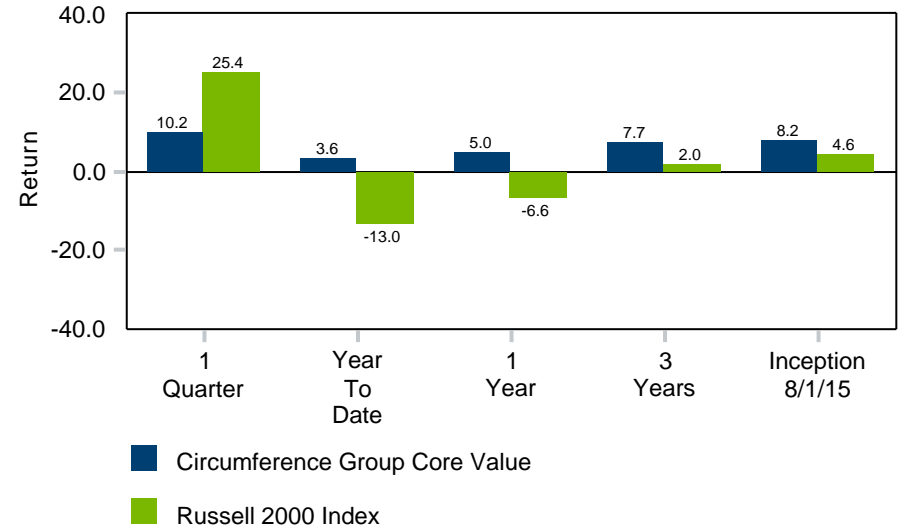
	Active Return	Tracking Error	Information Ratio	R-Squared	Sharpe Ratio	Alpha	Beta	Return	Standard Deviation	Actual Correlation
Graham	-0.58	8.79	-0.07	0.41	-0.08	-1.16	1.69	-0.31	10.80	0.64
HFRI Macro (Total) Index	0.00	0.00	N/A	1.00	-0.07	0.00	1.00	0.77	4.07	1.00
FTSE 3 Month T-Bill	0.30	4.06	0.07	0.01	N/A	1.15	0.00	1.15	0.25	0.07

Circumference Group Core Value Performance Summary

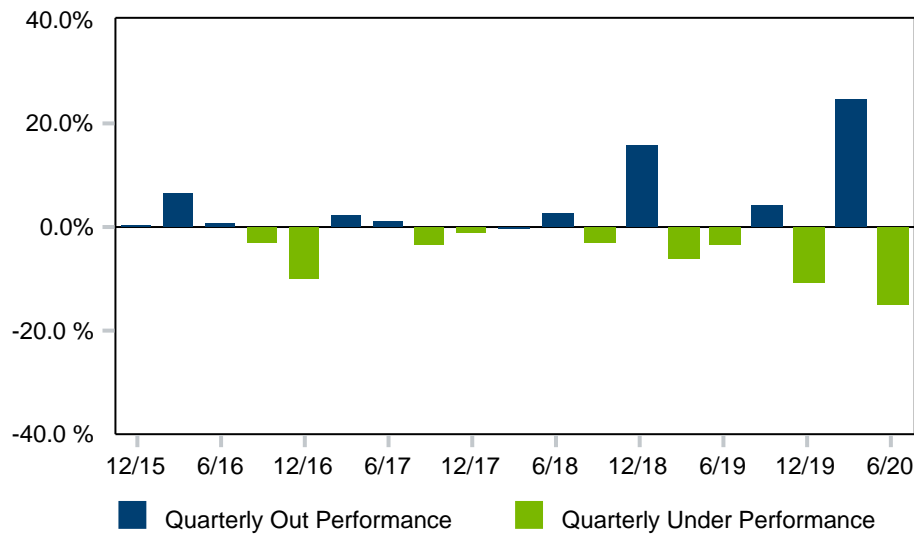
Account Information

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:

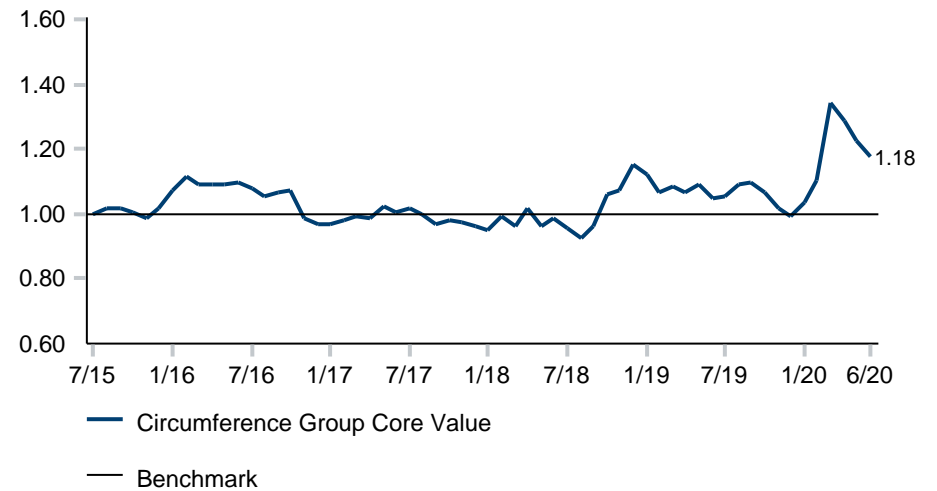
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

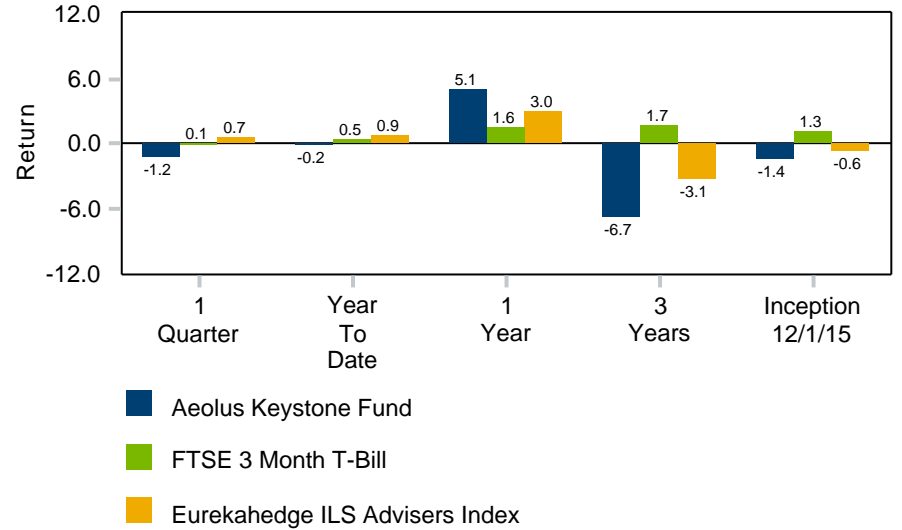


Aeolus Keystone Fund Performance Summary

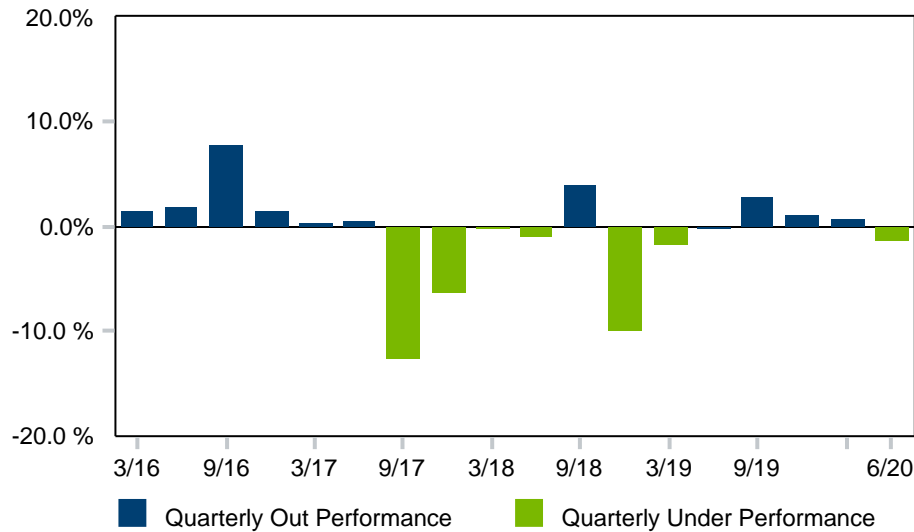
Account Information

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:

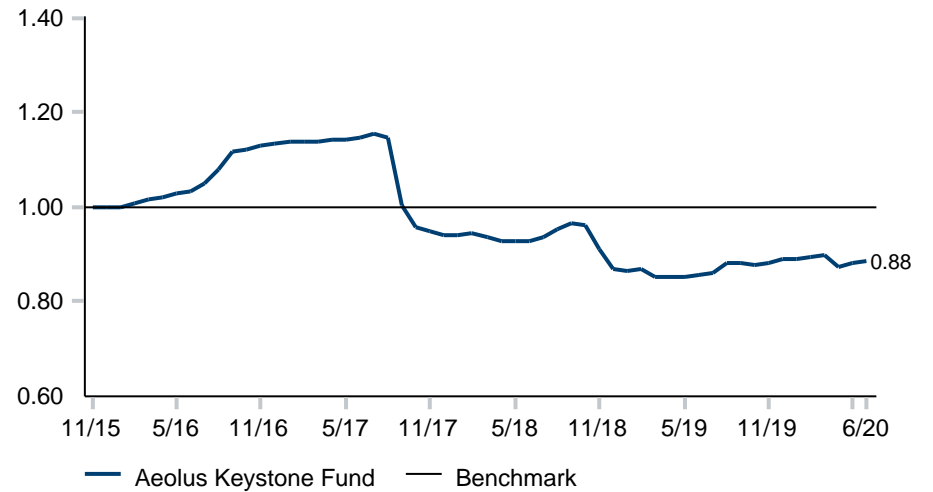
Return Summary



Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

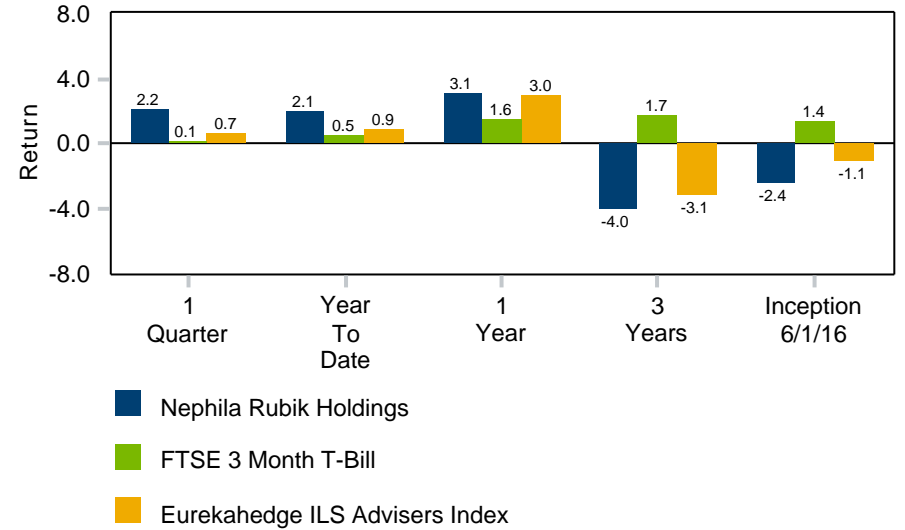


Nephila Rubik Holdings Performance Summary

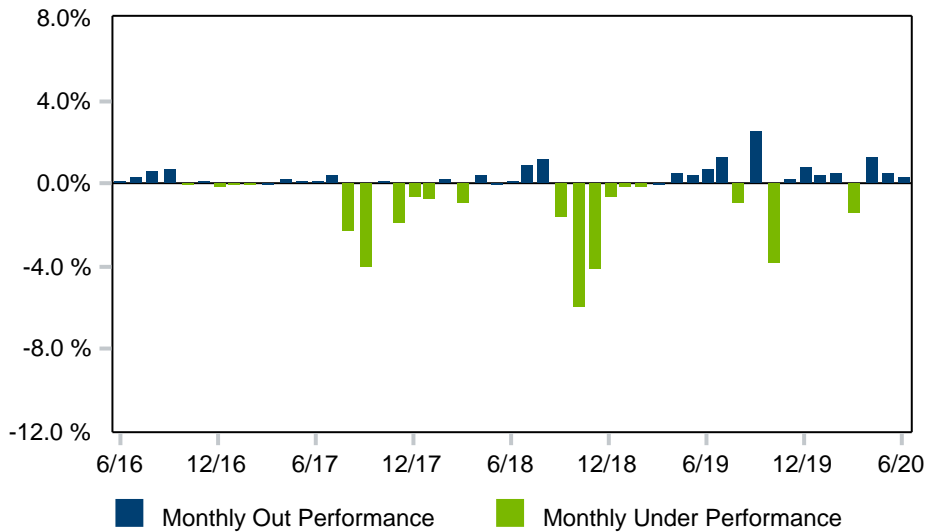
Account Information

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

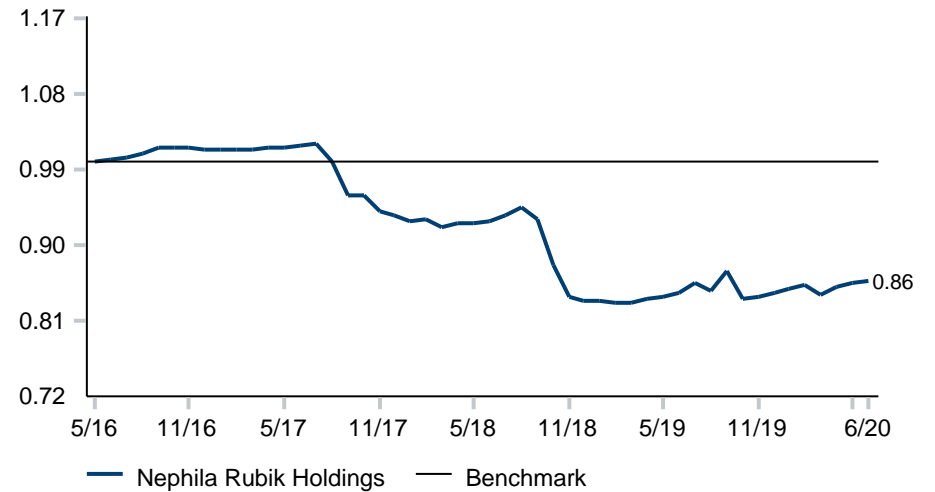
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

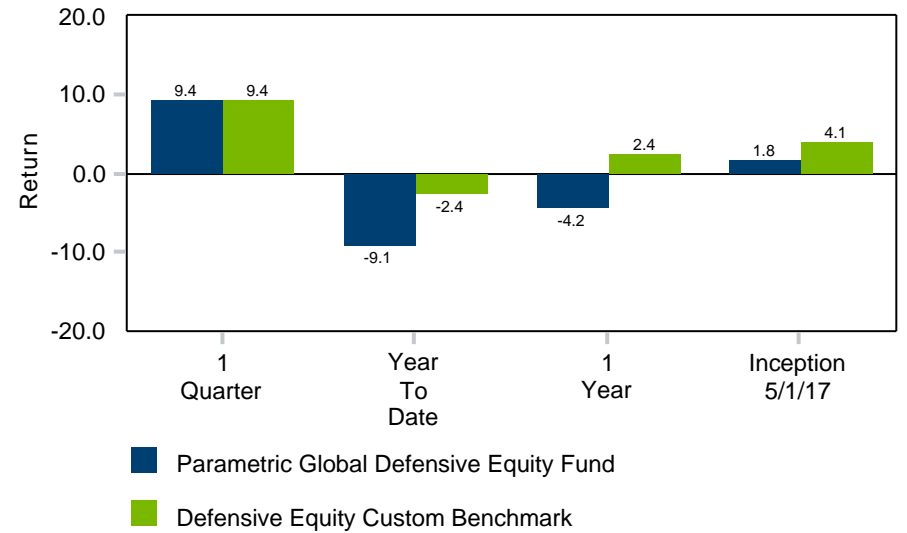


Parametric Global Defensive Equity Fund Performance Summary

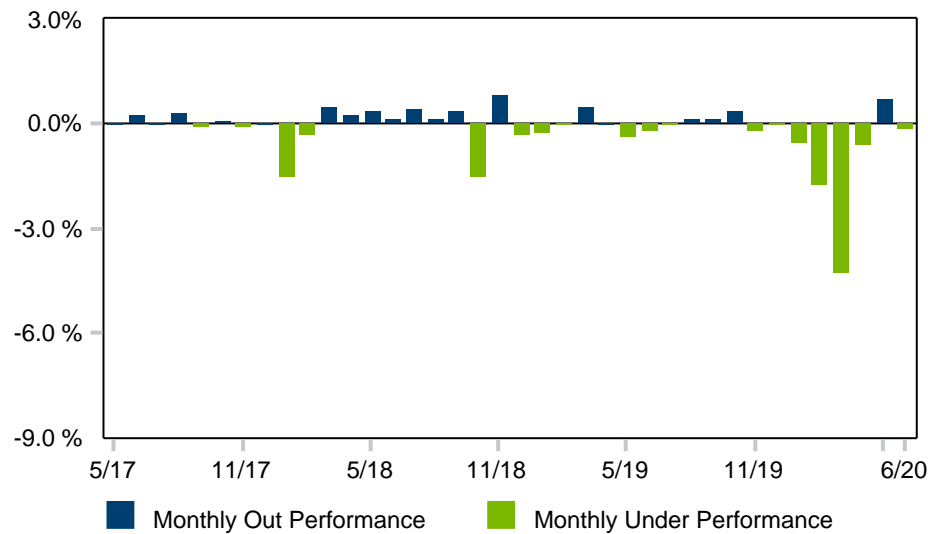
Account Information

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:

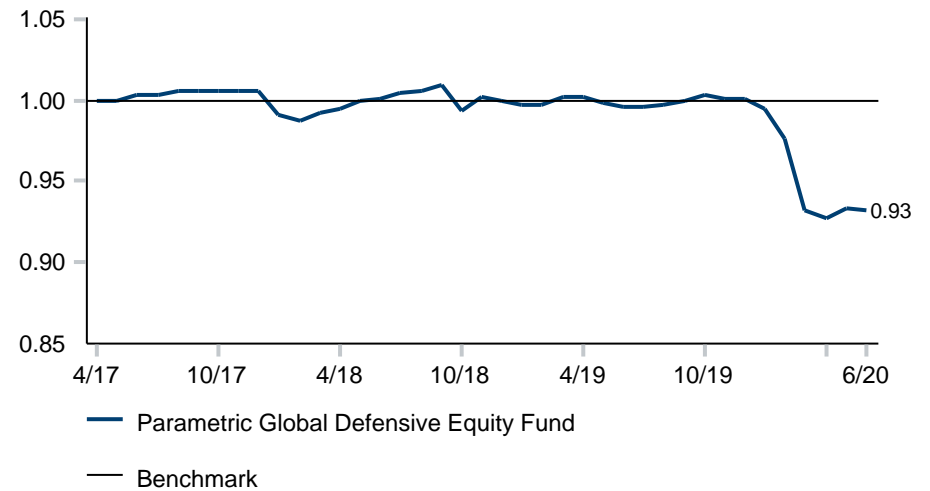
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

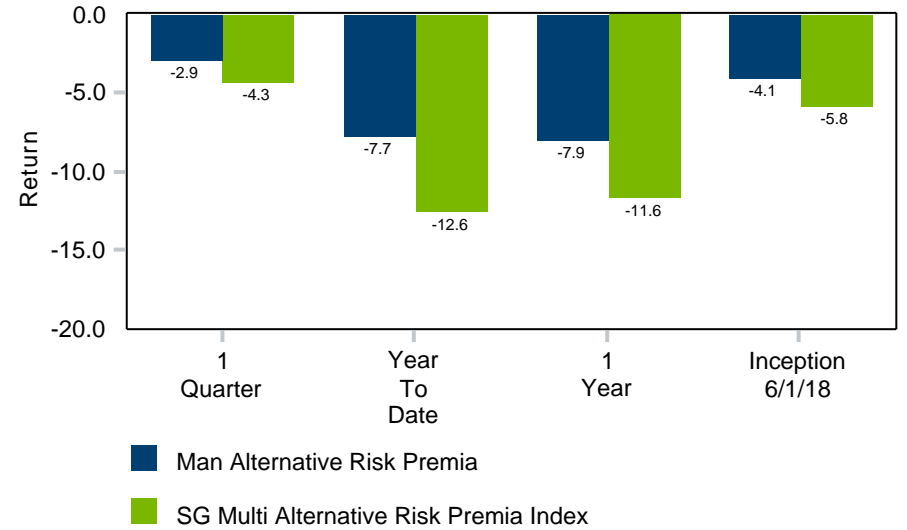


Man Alternative Risk Premia Performance Summary

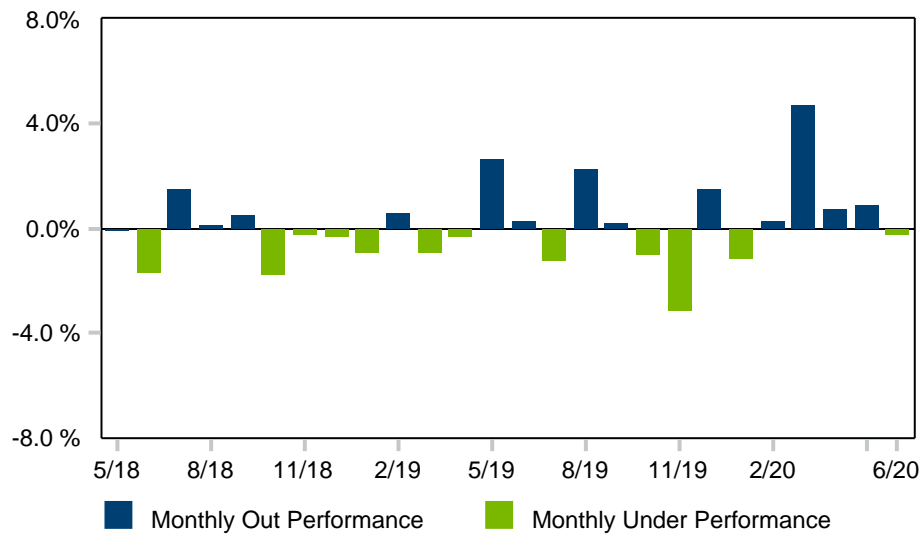
Account Information

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:

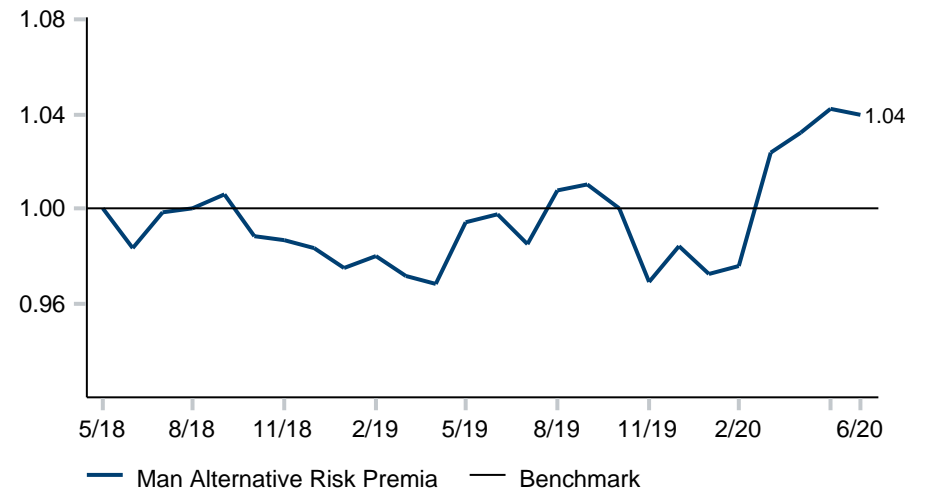
Return Summary



Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception

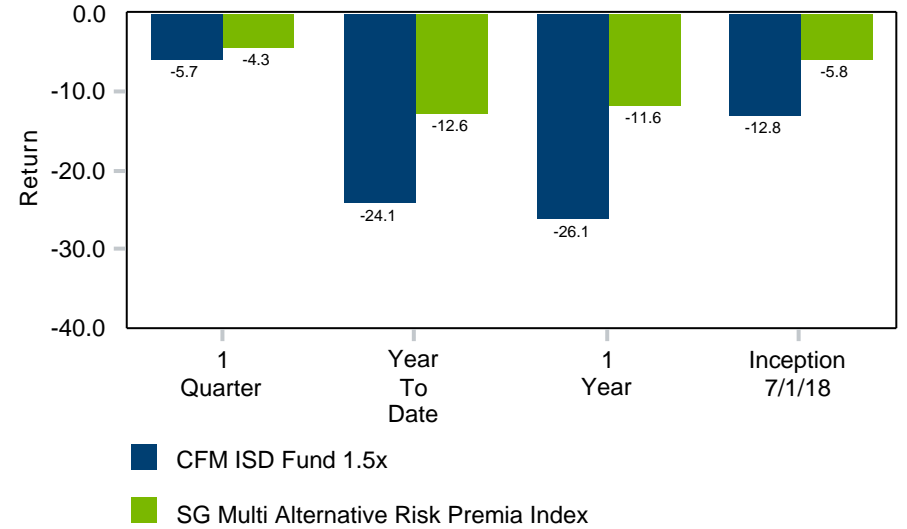


CFM ISD Fund 1.5x Performance Summary

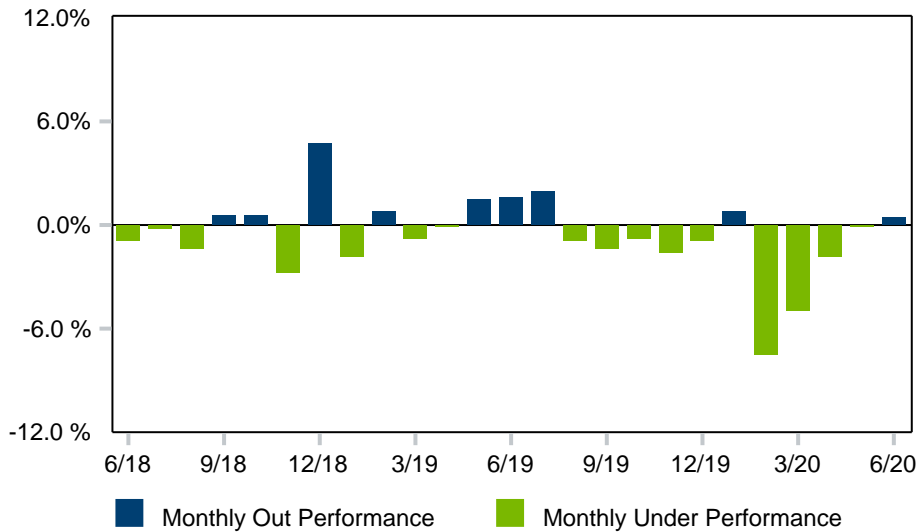
Account Information

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:

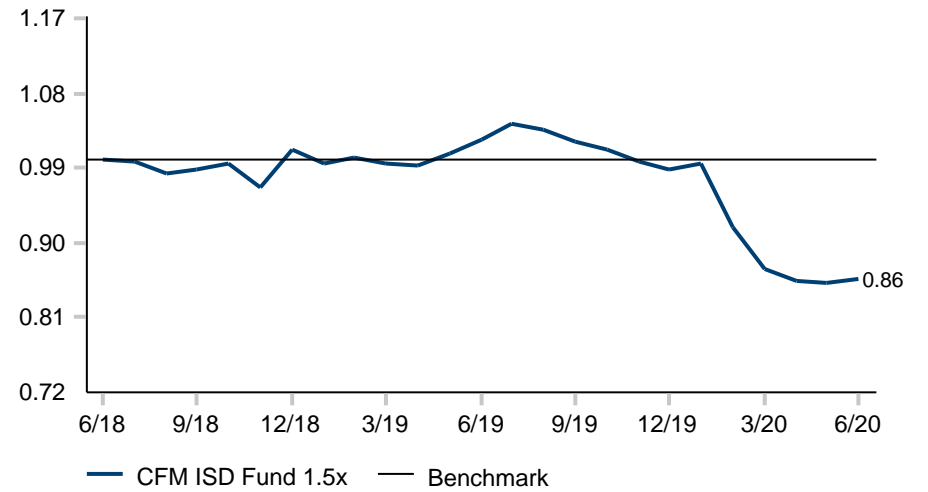
Return Summary

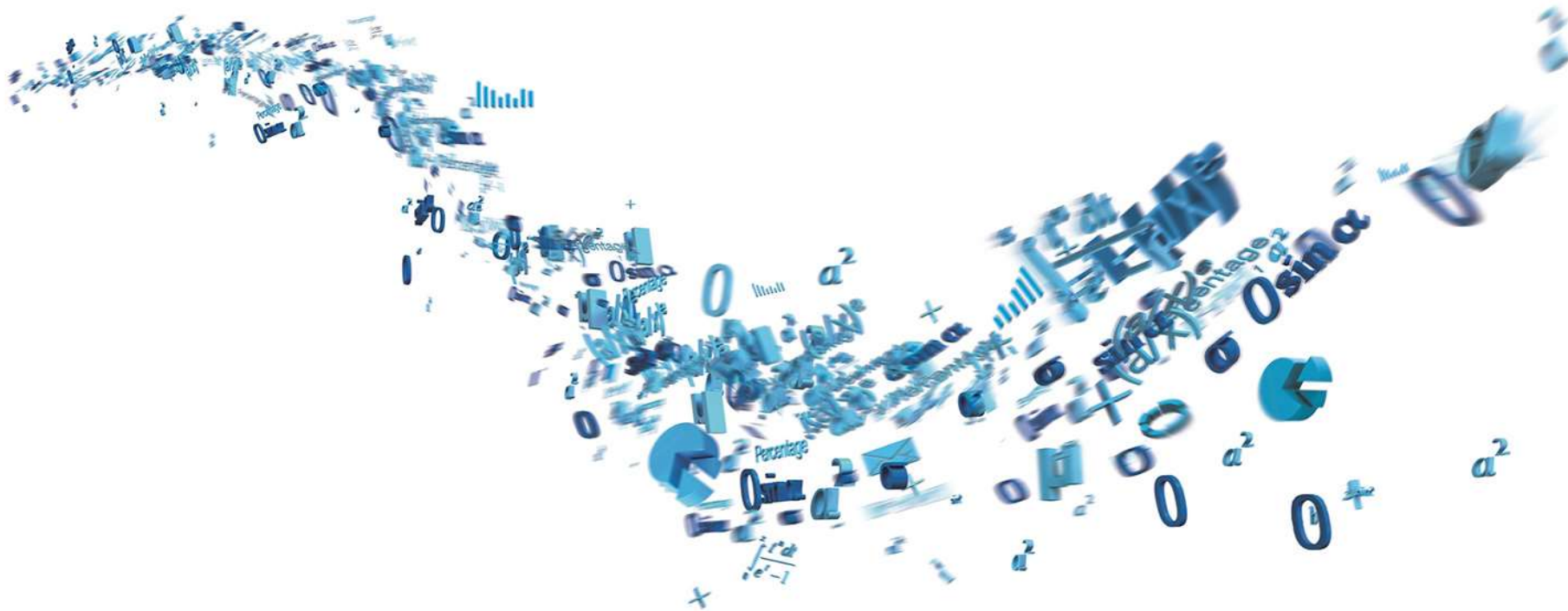


Monthly Excess Performance



Ratio of Cumulative Wealth - Since Inception



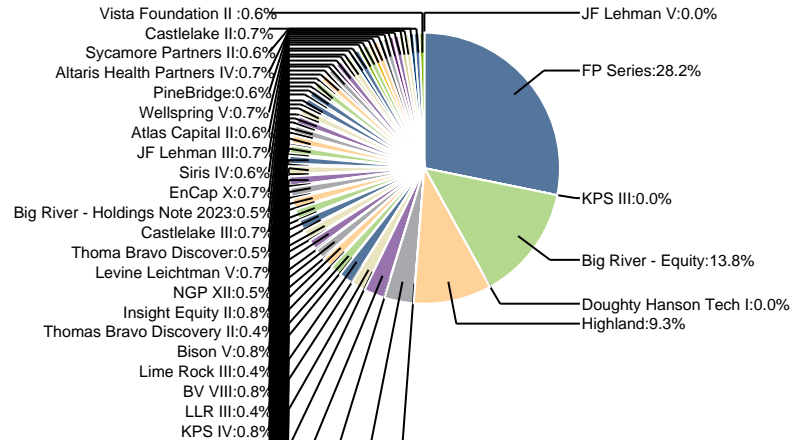


Private Equity

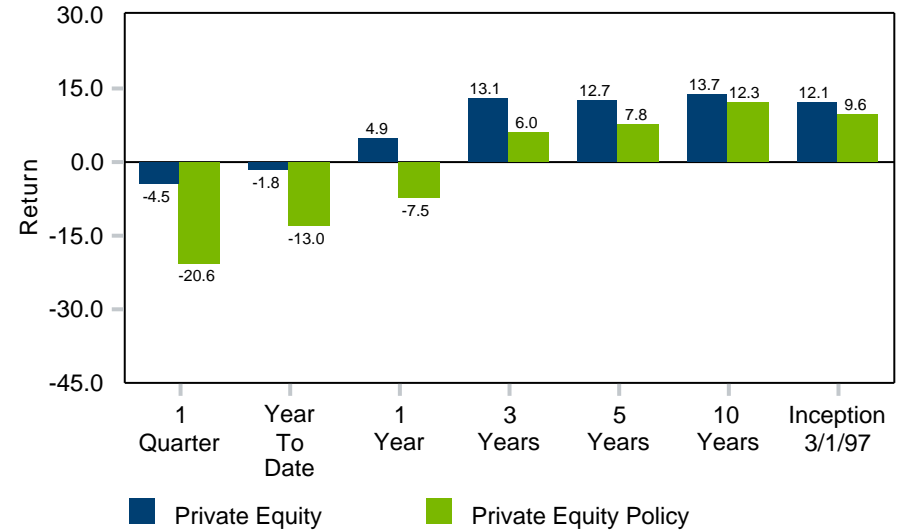
Private Equity Portfolio Overview

Current Allocation

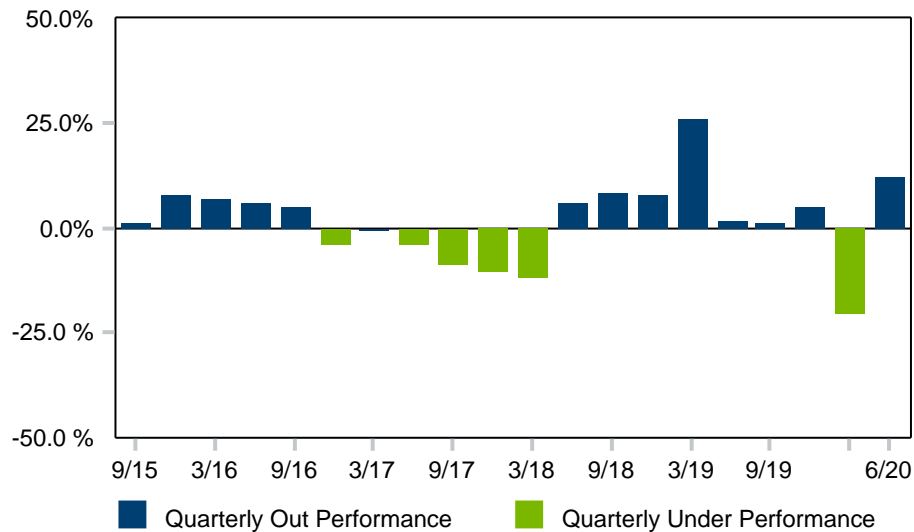
June 30, 2020 : \$2,377M



Return Summary

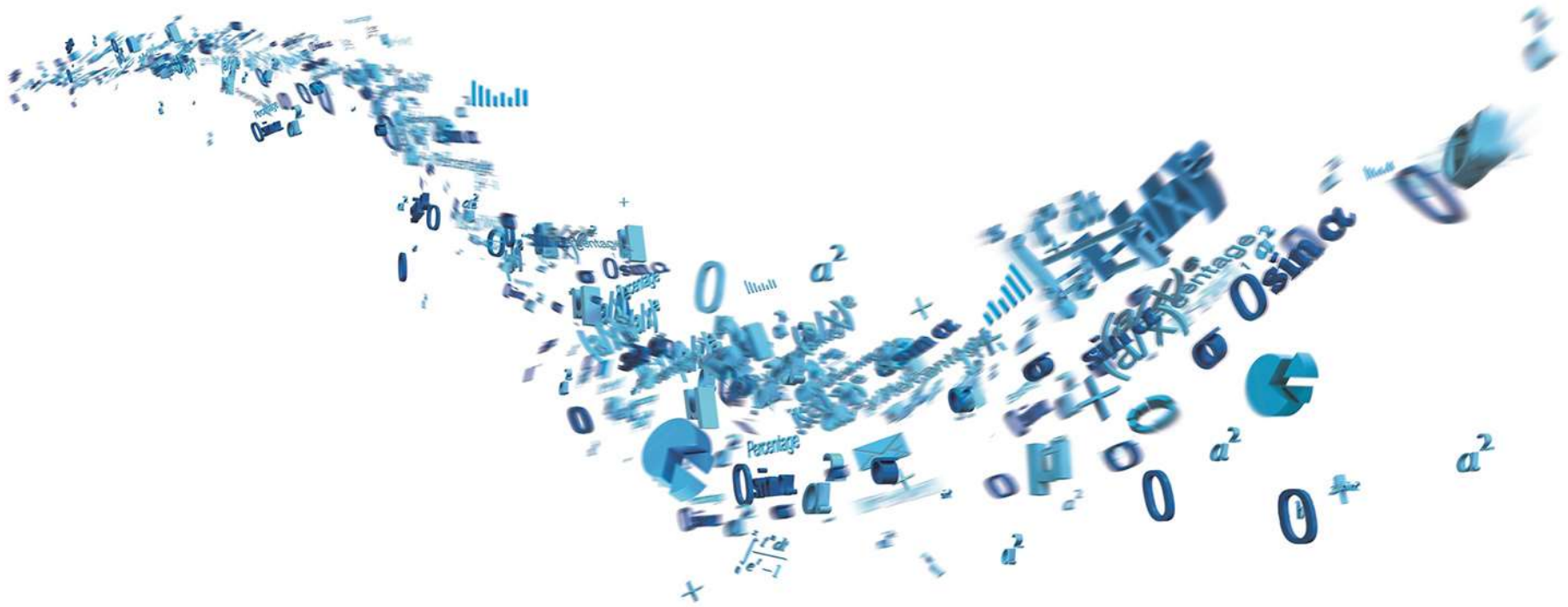


Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception



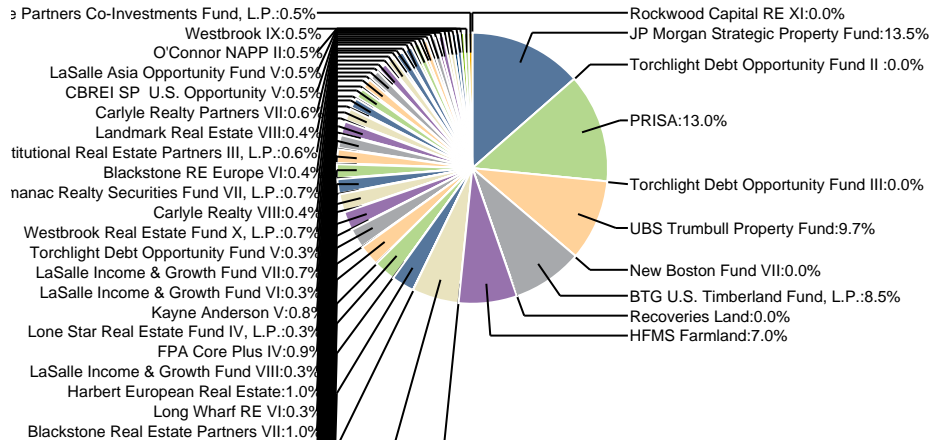


Real Assets

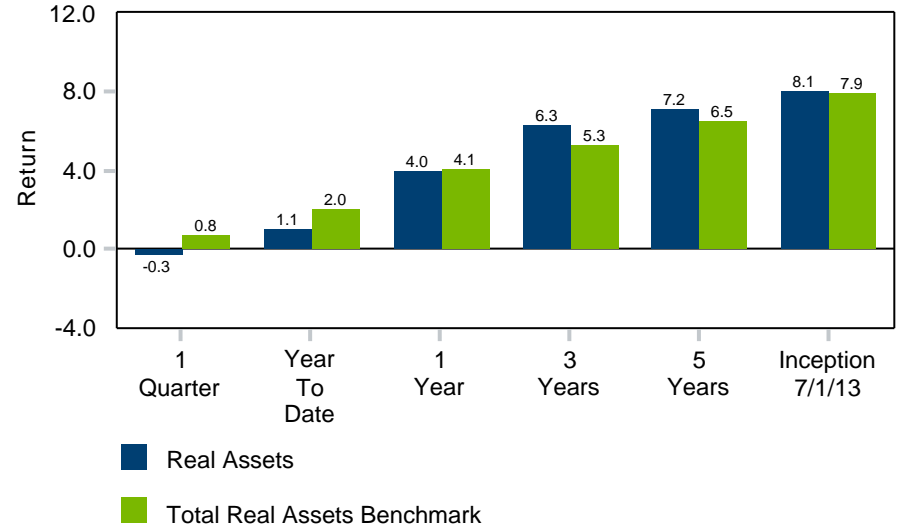
Real Assets Portfolio Overview

Current Allocation

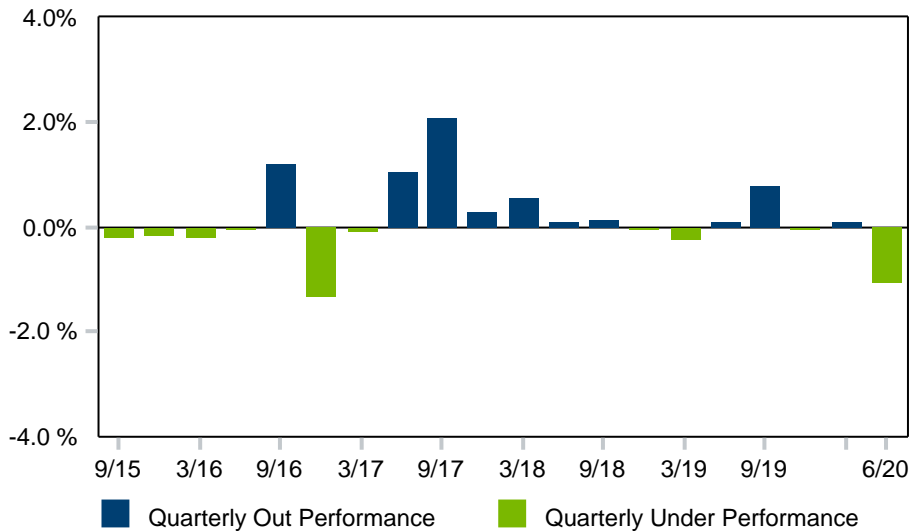
June 30, 2020 : \$2,120M



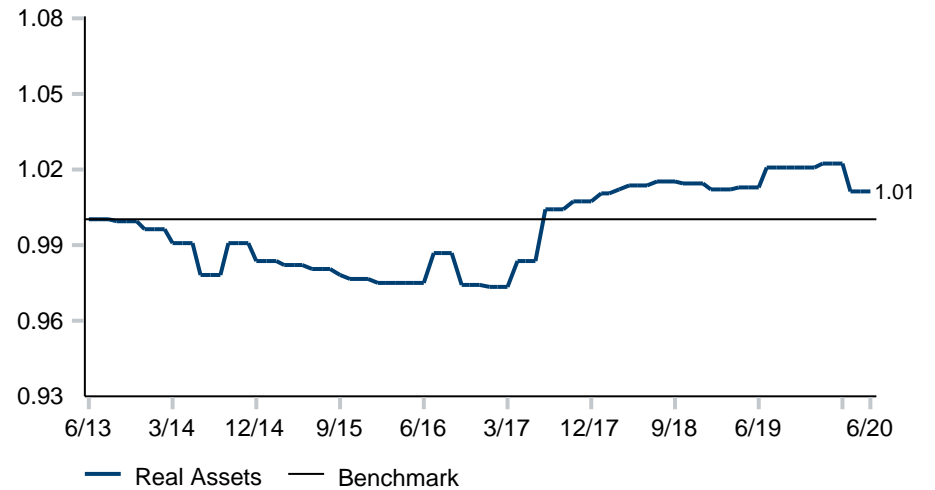
Return Summary

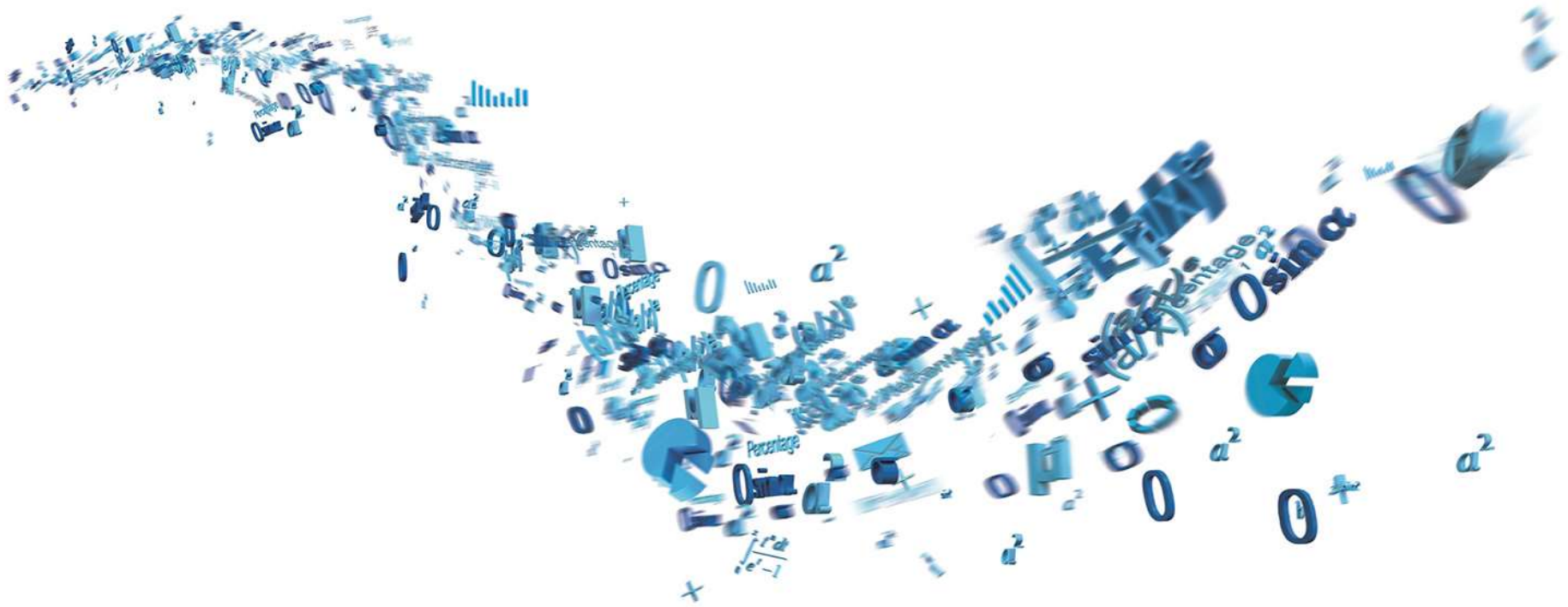


Quarterly Excess Performance



Ratio of Cumulative Wealth - Since Inception

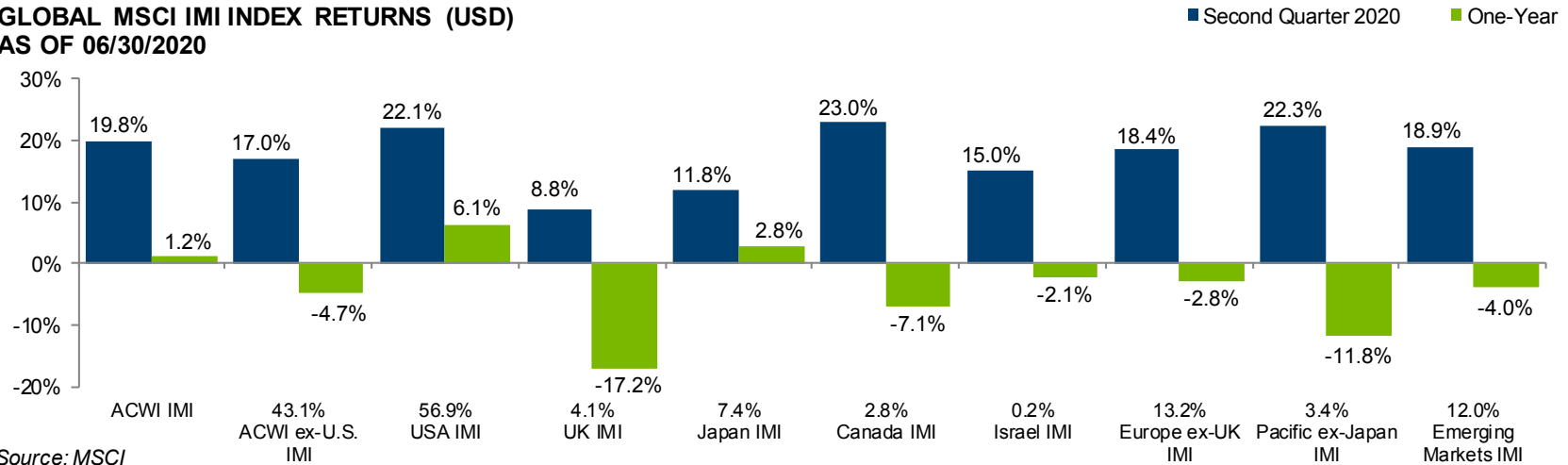




Market Environment

Global Equity Markets

GLOBAL MSCI IMI INDEX RETURNS (USD) AS OF 06/30/2020



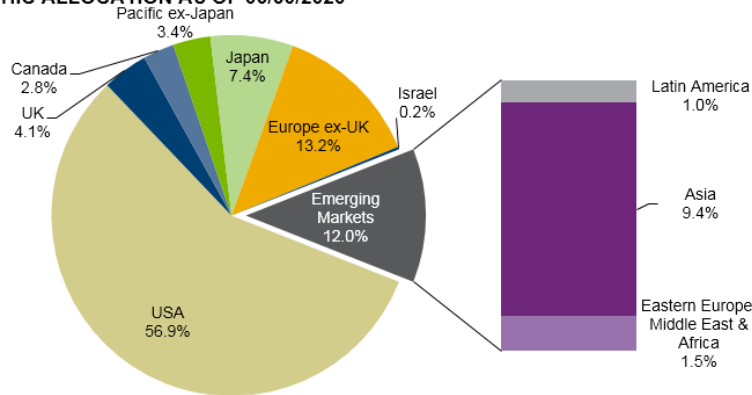
Source: MSCI

- Global equities rebounded sharply over the second quarter, recovering the bulk of losses sustained during the previous quarter's selloff. Investors appear to be willing to overlook economic data suggesting the worst recession in generations. Data on infections indicated that the "first wave" of the pandemic may have passed in many developed economies and a relatively quick re-opening of economies has boosted investor optimism. This coupled with expanding fiscal and monetary stimulus measures from governments has provided further support for markets. In local currency terms, the MSCI AC World Investable Market Index rose by 18.8% in Q2 2020. Depreciation of the U.S. dollar further pushed up the returns to 19.8% in USD terms.
- Canadian equities were the best performers with a return of 23.0% over the quarter, supported by strong returns from the Information Technology and Materials sectors.
- UK equities were the worst performer returning 8.8% over the quarter. The UK suffered the fastest monthly contraction on record as GDP plunged by 20.4% in April, the first full month of the UK's coronavirus lockdown. Meanwhile, the UK formally rejected the option to extend its post-Brexit transition period beyond the end of 2020 but did announce plans for "intensified" trade negotiations over July in a bid to break the deadlock.

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

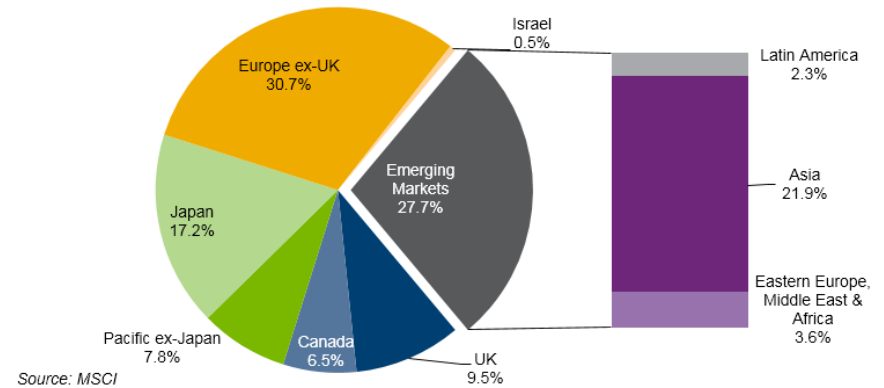
Global Equity Markets

**MSCI ALL COUNTRY WORLD IMI INDEX
GEOGRAPHIC ALLOCATION AS OF 06/30/2020**



Source: MSCI

**MSCI ALL COUNTRY WORLD EX-U.S. IMI INDEX
GEOGRAPHIC ALLOCATION AS OF 06/30/2020**

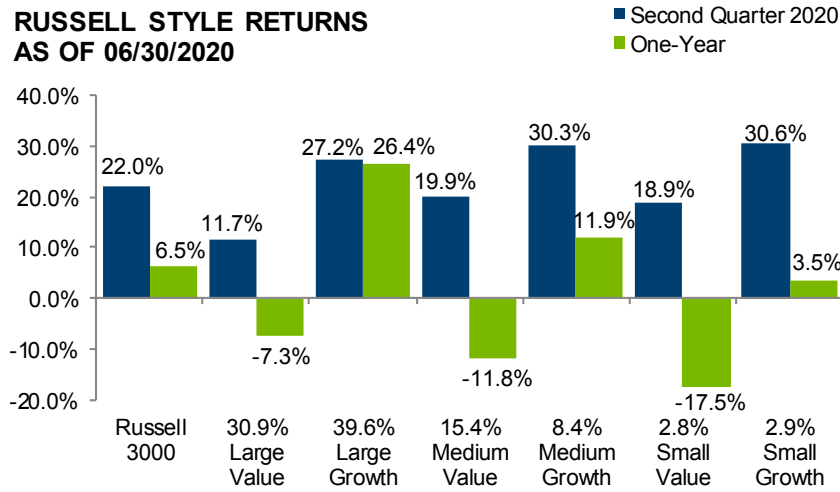


Source: MSCI

- 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.

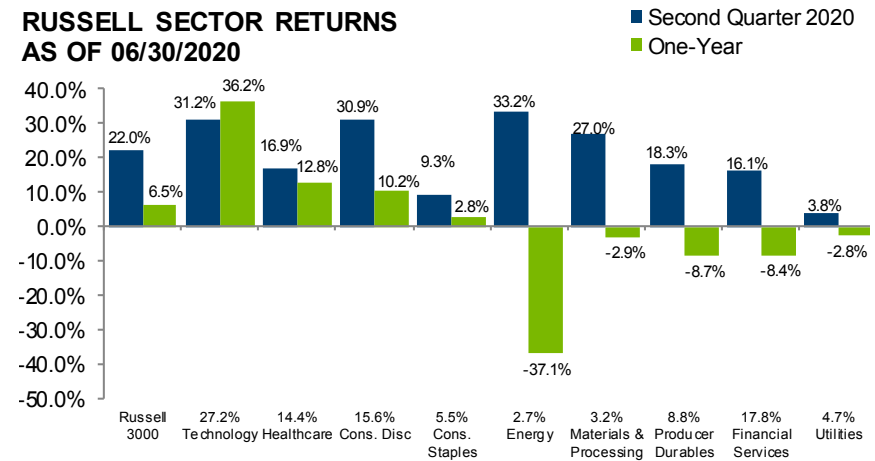
U.S. Equity Markets

RUSSELL STYLE RETURNS AS OF 06/30/2020



Source: Russell Indexes

RUSSELL SECTOR RETURNS AS OF 06/30/2020

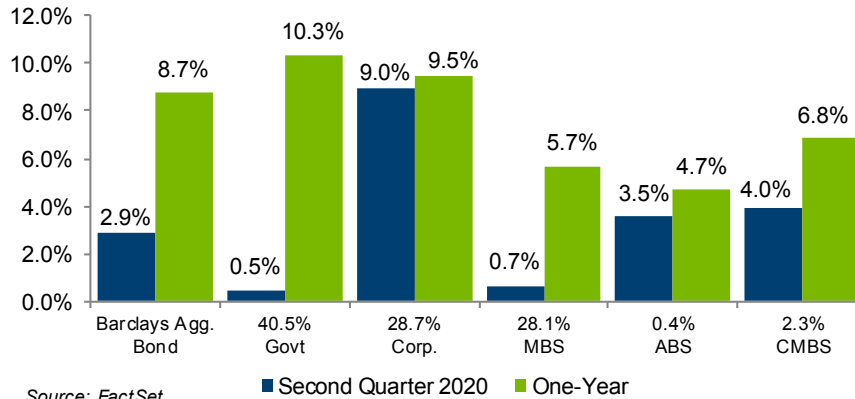


Source: Russell Indexes

- U.S. equity markets achieved significant gains over the quarter, boosted by rebounding economic data. The U.S. unemployment rate fell from April's all-time high of 14.7% to 11.1% in June, defying analysts who have been expecting the unemployment rate to peak at close to 20%. The technology and consumer discretionary sectors provided the bulk of the gains, benefiting from increased demand for technology and e-commerce services amidst social distancing measures. The Russell 3000 Index rose 22.0% during the second quarter and 6.5% over the one-year period.
- The CBOE Volatility Index (VIX), Wall Street's "fear gauge", steadily declined over the quarter from the record highs seen in Q1. It fell from 53.5 to 30.4 over the quarter, having averaged 23.8 over the previous 12 months.
- All sectors generated positive returns over the quarter. In particular, the energy sector achieved a 33.2% return on the back of rebounding oil prices, but the sector is still 37.1% down over the past 12 months.
- Large cap stocks underperformed both medium and small cap stocks over the quarter, whilst Value stocks continued to underperform their Growth counterparts in Q2 2020.

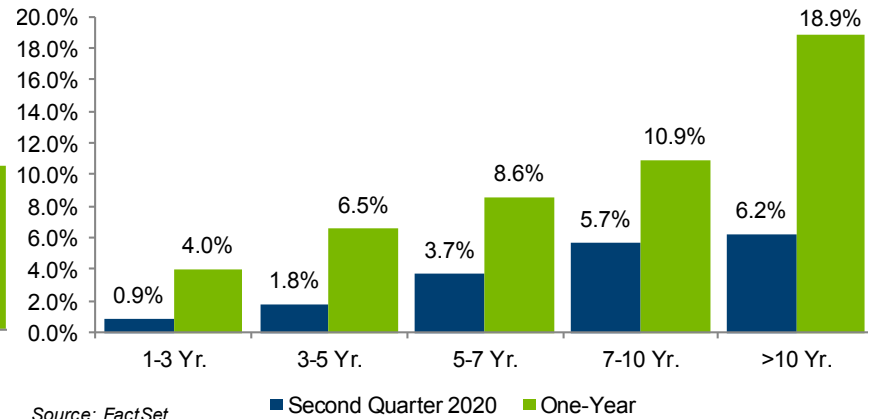
U.S. Fixed Income Markets

BLOOMBERG BARCLAYS AGGREGATE RETURNS BY SECTOR AS OF 06/30/2020



Source: FactSet

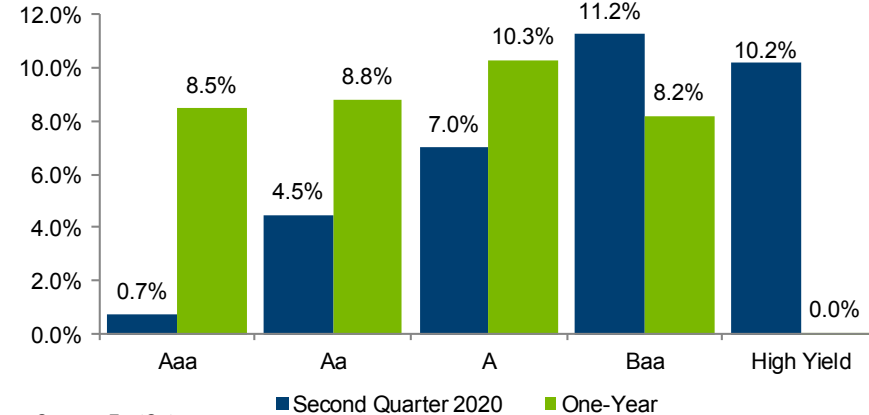
BLOOMBERG BARCLAYS AGGREGATE RETURNS BY MATURITY AS OF 06/30/2020



Source: FactSet

- The Bloomberg Barclays U.S. Aggregate Bond Index rose by 2.9%.
- The increase in investors' risk appetite were evident in the corporate bonds space as corporate bonds rose by 9.0%.
- Corporate bonds were also boosted by the Fed's decision to start buying individual corporate bonds on the secondary market for the first time in history through its \$750 billion corporate lending facility.
- High yield bonds rose by 10.2%. Within investment grade bonds, Baa bonds outperformed with a return of 11.2%.

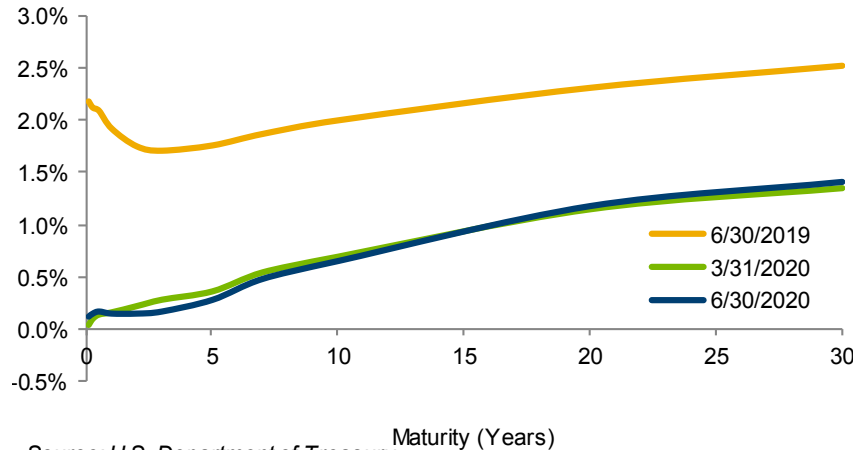
BLOOMBERG BARCLAYS AGGREGATE RETURNS BY QUALITY AND HIGH YIELD RETURNS AS OF 06/30/2020



Source: FactSet

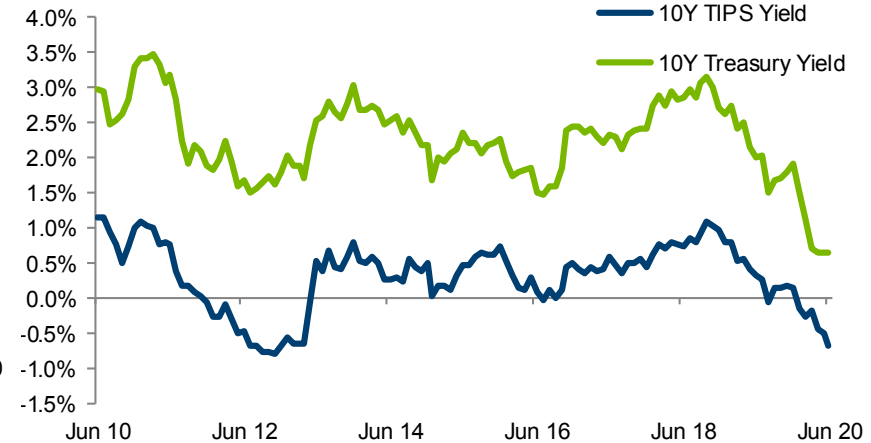
U.S. Fixed Income Markets

U.S. TREASURY YIELD CURVE



Source: U.S. Department of Treasury

U.S. 10-YEAR TREASURY AND TIPS YIELDS

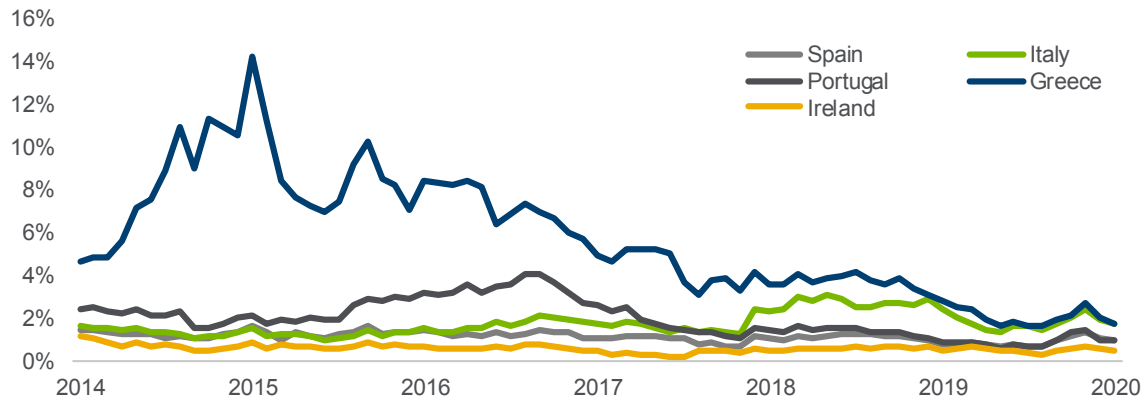


Source: U.S. Department of Treasury

- The U.S. nominal yield curve ended the quarter broadly unchanged. The Federal Reserve forecasted that the U.S. economy will contract by 6.5% this year before rebounding by 5.0% in 2021, as Fed officials signaled that interest rates will likely remain near zero until the end of 2022.
- The 10-year US treasury yield ended the quarter 4bps lower at 0.66% whilst the 30-year yield increased by 6bps to 1.41%.
- The 10-year TIPS yield fell by 51bps over the quarter to -0.68%, whilst the 10-year breakeven inflation increased from 0.87% to 1.34%. Breakeven inflation rebounded as markets appeared to be anticipating some longer-term inflationary effects from recent monetary and fiscal stimulus measures. Meanwhile, rising oil prices and the relaxation of lockdown measures also raised near-term inflationary expectations.

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 narrowed across the Euro Area. The European Commission proposed a €750 billion recovery fund to be funded partly by issuing mutualized EU debt. The move towards fiscal burden sharing stabilised the spread between peripheral and core Eurozone government bonds, reducing a source of friction within the Eurozone. Meanwhile, the European Central Bank (ECB) increased the size of its asset purchases under the Pandemic Emergency Purchase Program by an additional €600 billion to €1.35 trillion and extended the program until June 2021.
- German government bund yields rose by 1bp to -0.48% over the quarter. The Eurozone recorded a quarter-on-quarter growth rate of -3.8%, the worst economic contraction since the Eurozone was formed. France, which was amongst the first European countries to be locked down, recorded a quarter-on-quarter contraction of 5.8% in Q1, its worst GDP figure since 1945, whilst the German economy contracted by 2.2%.
- Greek and Portuguese government bond yields fell by 41bps and 39bps to 1.20% and 0.47% respectively.

Credit Spreads

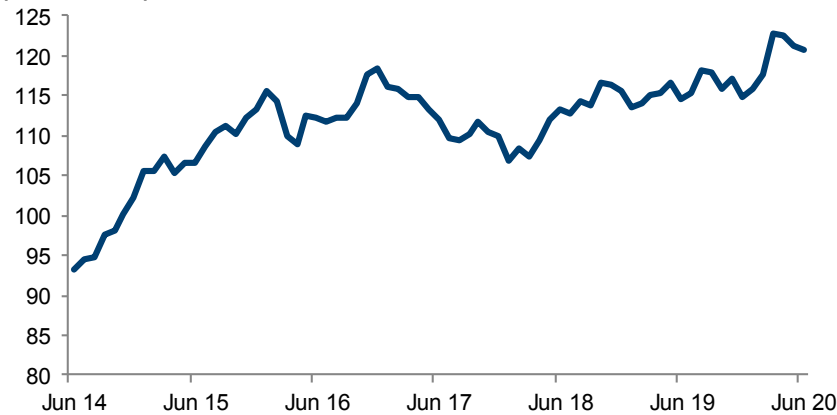
Spread (bps)	06/30/2020	03/31/2020	06/30/2019	Quarterly Change (bps)	One-Year Change (bps)
U.S. Aggregate	68	95	46	-27	22
Long Govt	1	4	1	-3	0
Long Credit	202	279	161	-77	41
Long Govt/Credit	120	151	92	-31	28
MBS	70	60	46	10	24
CMBS	132	188	69	-56	63
ABS	68	213	41	-145	27
Corporate	150	272	115	-122	35
High Yield	626	880	377	-254	249
Global Emerging Markets	393	619	282	-226	111

Source: FactSet, Bloomberg Barclays

- Credit assets rebounded strongly, benefiting from a broad risk asset recovery due to improving investor sentiment and reduced coronavirus fears. Credit spreads reversed much of last quarter's spike, boosted by huge fiscal and monetary stimulus measures.
- Credit spreads over U.S. Treasuries narrowed over the quarter (except MBS).
- Riskier areas of credit, such as US high yield bonds and emerging market debt also performed well. Boosted by the Federal Reserve's decision to expand its quantitative easing programmes to include some non-investment grade credit, High Yield credit spreads narrowed significantly in Q2 2020, decreasing by 254bps.

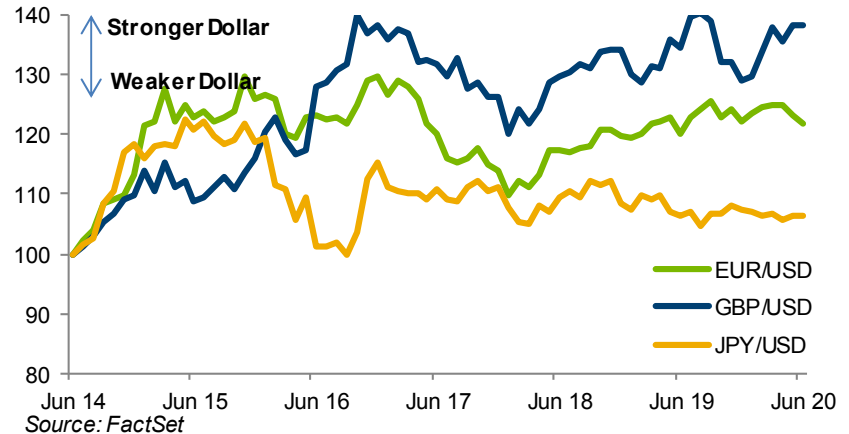
Currency

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



Source: Federal Reserve

**U.S. DOLLAR RELATIVE TO EUR, GBP AND JPY
REBASED TO 100 AT 06/30/2014**

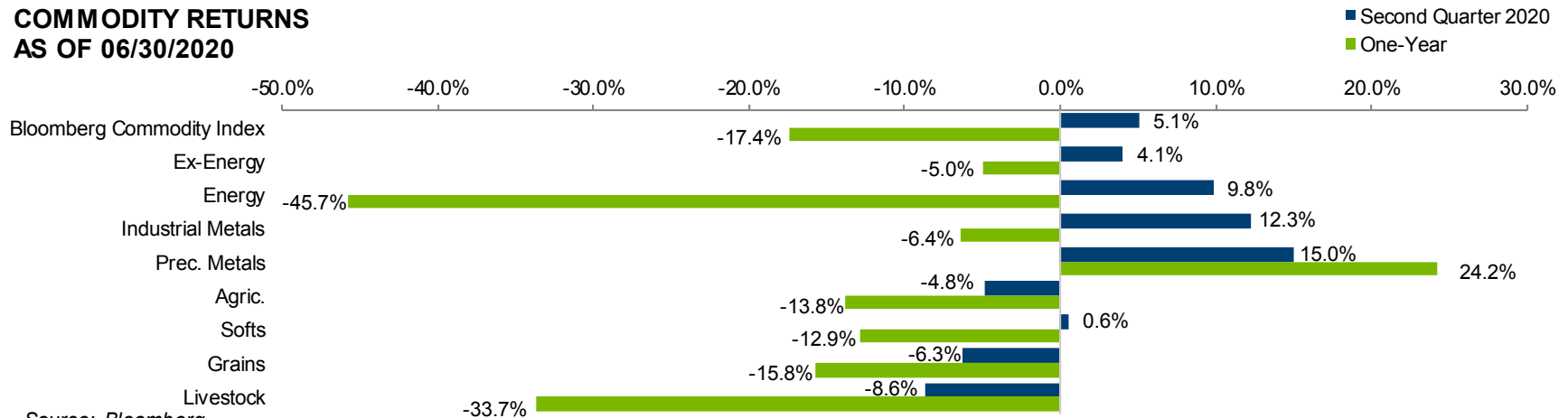


Source: FactSet

- The U.S. dollar generally weakened against major currencies over the quarter as it fell 1.6% on a trade-weighted basis. The safe haven fund flows which supported the dollar over the first quarter was partially reversed in Q2 on the back of easing coronavirus concerns. U.S. dollar depreciated against euro and yen but marginally appreciated against sterling.
- Sterling fell by 2.2% on a trade-weighted basis over the quarter. The increasing prospects of negative rates in the UK made holding sterling assets less attractive, whilst a weak economic outlook and ongoing Brexit uncertainty also weighed on sterling. Sterling depreciated by 0.4% against the U.S. dollar.
- The U.S. dollar depreciated by 2.3% and 0.1% against the euro and yen respectively.

Commodities

COMMODITY RETURNS AS OF 06/30/2020



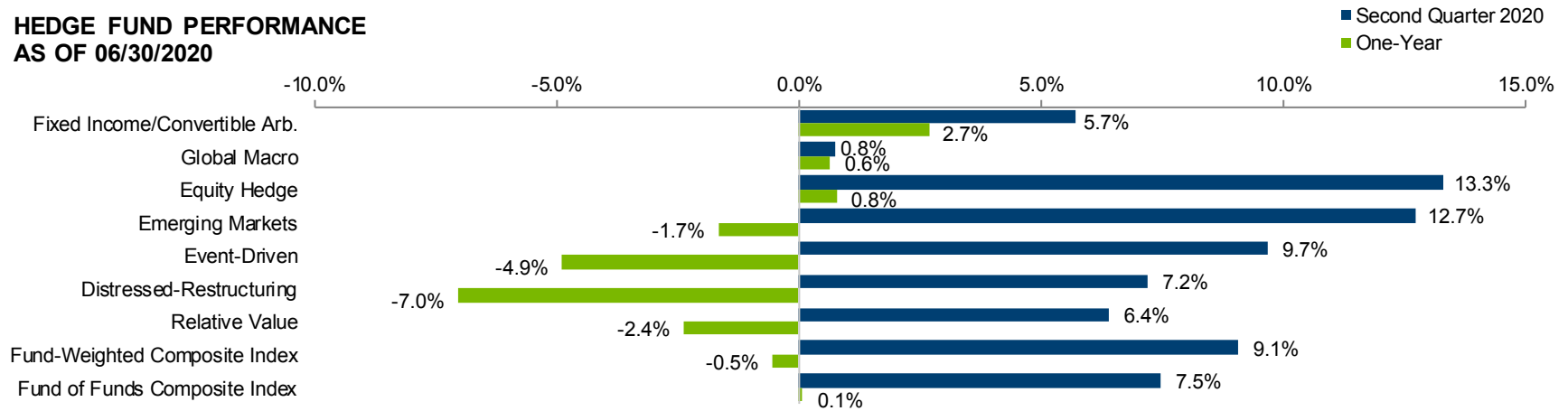
Source: Bloomberg

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

- Commodities rose over the quarter which saw the Bloomberg Commodity Index return 5.1%.
- The Energy sector rose by 9.8% over the quarter. Oil had an especially turbulent quarter as U.S oil futures prices fell into negative territory for the first time ever when the price of West Texas Intermediate (WTI) futures expiring in May closed at -\$37.63 on April 20th. Investors faced storage facility shortages and a decreasing demand, leaving them with no choice but to pay in order to not receive physical barrels. To combat the growing imbalance between supply and demand OPEC+, led by Saudi Arabia and Russia, implemented record setting production cuts in May. An increase in global travel along with the supply cuts created major tailwinds for oil later in the quarter.
- The price of Brent crude oil recovered and sharply rose by 81.0% to \$41/bbl. and WTI crude oil spot prices rose by 91.7% to \$39/bbl. On a one-year basis, the Energy sector is down by 46%.
- Livestock was the worst performing sector, falling by 8.6% in Q2 2020.

Hedge Fund Markets Overview

HEDGE FUND PERFORMANCE AS OF 06/30/2020



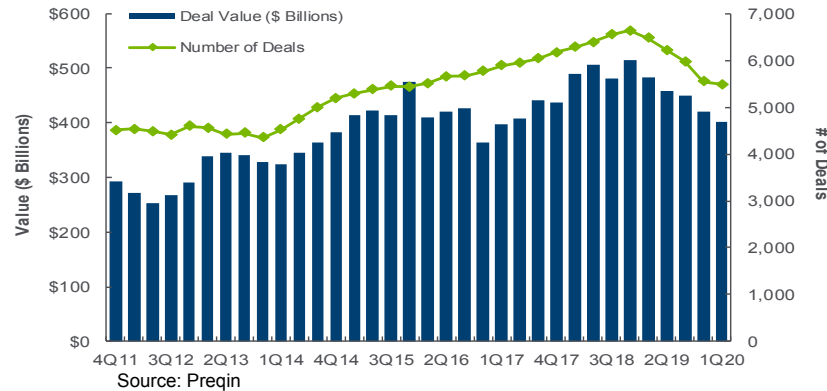
Note: Latest 5 months of HFR data are estimated by HFR and may change in the future.

Source: HFR

- Hedge fund performance was positive across all strategies in the second quarter.
- The HFRI Fund-Weighted Composite Index and the HFRI Fund of Funds Composite Index produced returns of 9.1% and 7.5% respectively.
- Equities-oriented strategies performed well amidst a broad risk assets rally. Equity Hedge and Emerging Markets strategies were the best performers over the quarter, returning 13.3% and 12.7% respectively.

Private Equity Market Overview – Q1 2020 Slide 1 of 2

LTM Global Private Equity-Backed Buyout Deal Volume



- Fundraising:** In 1Q 2020, \$190.7 billion was raised by 373 funds, which was a decrease of 29.8% on a capital basis and 32.2% 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 \$95.0 billion in 1Q 2020, which was down 0.5% on a capital basis and up 7.5% by number of deals from 4Q 2019.¹ Through the end of 1Q 2020, the average purchase price multiple for all U.S. LBOs was 11.2x EBITDA, a decrease of 0.3x over year-end 2019 but higher than the five-year average (10.6x).² Large cap purchase price multiples stood at 10.9x, down compared to the full-year 2019 level of 11.4x.² The weighted average purchase price multiple across all European transaction sizes averaged 12.2x EBITDA for 1Q 2020, up significantly from the 10.9x multiple seen at the end of 4Q 2019. Purchase prices for transactions of greater than €1.0 billion increased to 12.1x at the end of 1Q 2020, a jump from the 11.2x seen at year-end 2019. Globally, exit value totaled \$76.0 billion from 496 deals during the first quarter, down from the \$84.2 billion in exits from 458 deals during 4Q 2019.¹
- Venture:** During the first quarter, 1,271 venture-backed transactions totaling \$26.4 billion were completed in the U.S., which was an increase on a capital basis over the prior quarter's total of \$23.3 billion across 1,399 deals. This was 17.5% higher than the five-year quarterly average of \$22.5 billion.³ Total U.S. venture-backed exit activity totaled approximately \$19.3 billion across 183 completed transactions in 1Q 2020, down on a capital basis from the \$24.2 billion across 215 exits in 4Q 2019. 1Q 2020's U.S. exit activity represented only 7.3% of 2019's total.⁴
- Mezzanine:** Six funds closed on \$2.3 billion during the first quarter. This was down from the prior quarter's total of \$3.2 billion raised by eight funds and represented 47.4% of the five-year quarterly average of \$4.9 billion. Estimated dry powder was \$48.5 billion at the end of 1Q 2020, up from the \$44.6 billion seen at the end of 2019.¹

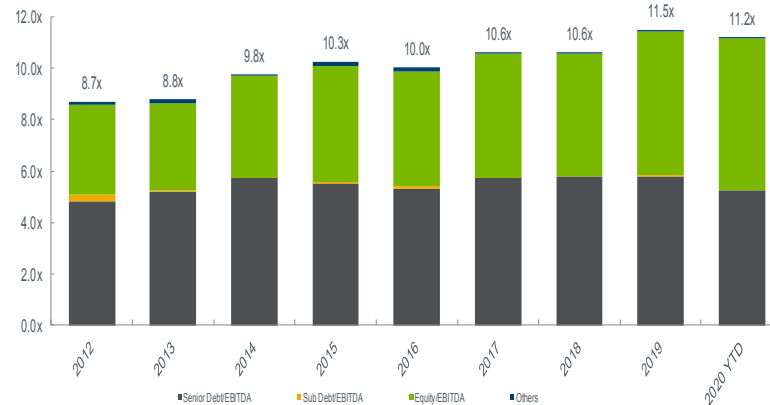
Sources: ¹ Preqin ² Standard & Poor's ³ PwC/CB Insights MoneyTree Report ⁴ PitchBook/NVCA Venture Monitor ⁵ Fitch Ratings ⁶ Thomson Reuters ⁷ UBS

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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Private Equity Market Overview – Q1 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 2.9% as of March 2020, and was expected to increase substantially during the following quarter.⁵ During the quarter, \$4.5 billion was raised by nine funds, lower than both the \$22.3 billion raised by 24 funds in 4Q 2019 and the five-year quarterly average of \$11.4 billion.¹ Dry powder was estimated at \$117.0 billion at the end of 1Q 2020, which was down slightly from the \$117.2 billion seen at the end of 4Q 2019. This remained above the five-year annual average level of \$109.4 billion.¹
- Secondaries:** 12 funds raised \$20.8 billion during the quarter, up significantly from the \$5.1 billion raised by 10 funds in 4Q 2019. This was the largest amount raised since 1Q 2017 when 14 funds raised \$20.1 billion.¹ At the end of 1Q 2020, there were an estimated 79 secondary and direct secondary funds in market targeting roughly \$73.6 billion.¹ The average discount rate for all private equity sectors finished the quarter at 18.1%, significantly lower than the 9.4% discount at the end of 4Q 2019.⁶
- Infrastructure:** \$39.6 billion of capital was raised by 24 funds in 1Q 2020 compared to \$47.8 billion of capital raised by 38 partnerships in 4Q 2019. At the end of the quarter, dry powder stood at an estimated \$220.7 billion, up from 4Q 2019's total of \$212.1 billion. Infrastructure managers completed 603 deals with an estimated aggregate deal value of \$79.4 billion in 1Q 2020 compared to 730 deals totaling \$149.1 billion a quarter ago.¹
- Natural Resources:** During 1Q 2020, six funds closed on \$4.6 billion compared to eleven funds totaling \$2.6 billion in 4Q 2019. Energy and utilities industry managers completed approximately 39 deals totaling an estimated \$5.3 billion through 1Q 2020, which represented 31.2% of energy and utilities deal value during 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.

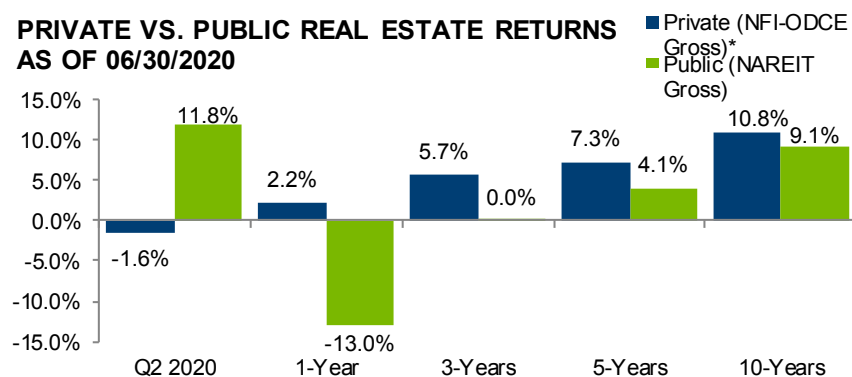
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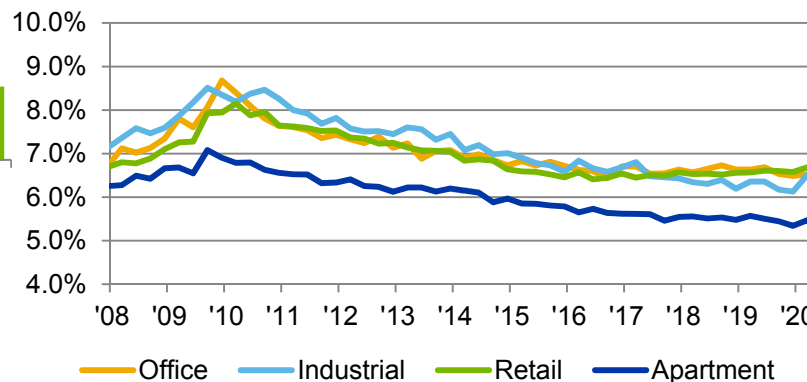
U.S. Commercial Real Estate Markets

PRIVATE VS. PUBLIC REAL ESTATE RETURNS AS OF 06/30/2020



*Second quarter returns are preliminary
Sources: NCREIF, FactSet

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



- U.S. Core Real Estate returned -1.55%* over the second quarter, equating to a 2.2% total gross return year-over-year, including a 3.7% income return. Shelter in place orders and social distancing practices have most severely impacted 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 substantially, and price discovery continues to be limited.
- Global property markets, as measured by the FTSE EPRA/NAREIT Developed Real Estate Index, returned 10.3% (USD) in aggregate during the second quarter and experienced a cumulative decline of -20.9% YTD. REIT market performance was driven by Asia Pacific (10.8% USD), North America (11.7% USD) and Europe (4.2% USD). The U.S. REIT markets (FTSE NAREIT Equity REITs Index) returned 11.8% in the second quarter. The U.S. 10-year treasury bond yields remained flat during the quarter (0.66%).
- The coronavirus fueled market volatility and decline 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 June 30, 2020

Fee Schedule

	Fee Schedule	Market Value As of 06/30/2020 \$000	Estimated Annual Fee \$000	Estimated Annual Fee (%)
Total Equity		8,806,734	40,524	0.46
Jacobs Levy 130/30	0.60 % of First \$200 M 0.35 % of Next \$300 M 0.30 % Thereafter	620,765	2,612	0.42
Kennedy Capital Management	0.60 % of First \$100 M 0.50 % Thereafter	447,475	2,337	0.52
Stephens	0.75 % of First \$150 M 0.70 % of Next \$50 M 0.65 % Thereafter	466,625	3,208	0.69
Voya Absolute Return	0.60 % of First \$250 M 0.40 % Thereafter	545,934	2,684	0.49
Allianz (Nicholas Applegate)	0.40 % of First \$100 M 0.30 % of Next \$100 M 0.25 % of Next \$100 M 0.20 % Thereafter	717,818	1,786	0.25
Pershing Square International	1.50 % of Assets	77,460	1,162	1.50
Pershing Square Holdings	1.50 % of Assets	167,816	2,517	1.50
Triam Partners	1.50 % of Assets	65,325	980	1.50
Triam Co-Investments	0.50 % of Assets	59,174	296	0.50
SSgA Global Index	0.04 % of First \$1000 M 0.03 % Thereafter	901,559	361	0.04
BlackRock MSCI ACWI IMI Fund	0.05 % of First \$250 M 0.04 % Thereafter	1,082,961	458	0.04
Wellington Global Perspectives	0.80 % of Assets	471,875	3,775	0.80
T. Rowe Price Global Equity	0.43 % of First \$500 M 0.40 % Thereafter	1,104,684	4,544	0.41
Lazard	0.68 % of First \$300 M 0.65 % Thereafter	570,785	3,800	0.67
D.E. Shaw	0.84 % of First \$100 M 0.80 % of Next \$100 M 0.76 % Thereafter	691,109	5,372	0.78
GMO Global All Country Equity	0.64 % of Assets	401,769	2,571	0.64
Harris Global Equity	0.60 % of First \$100 M 0.50 % of Next \$100 M 0.45 % Thereafter	413,526	2,061	0.50

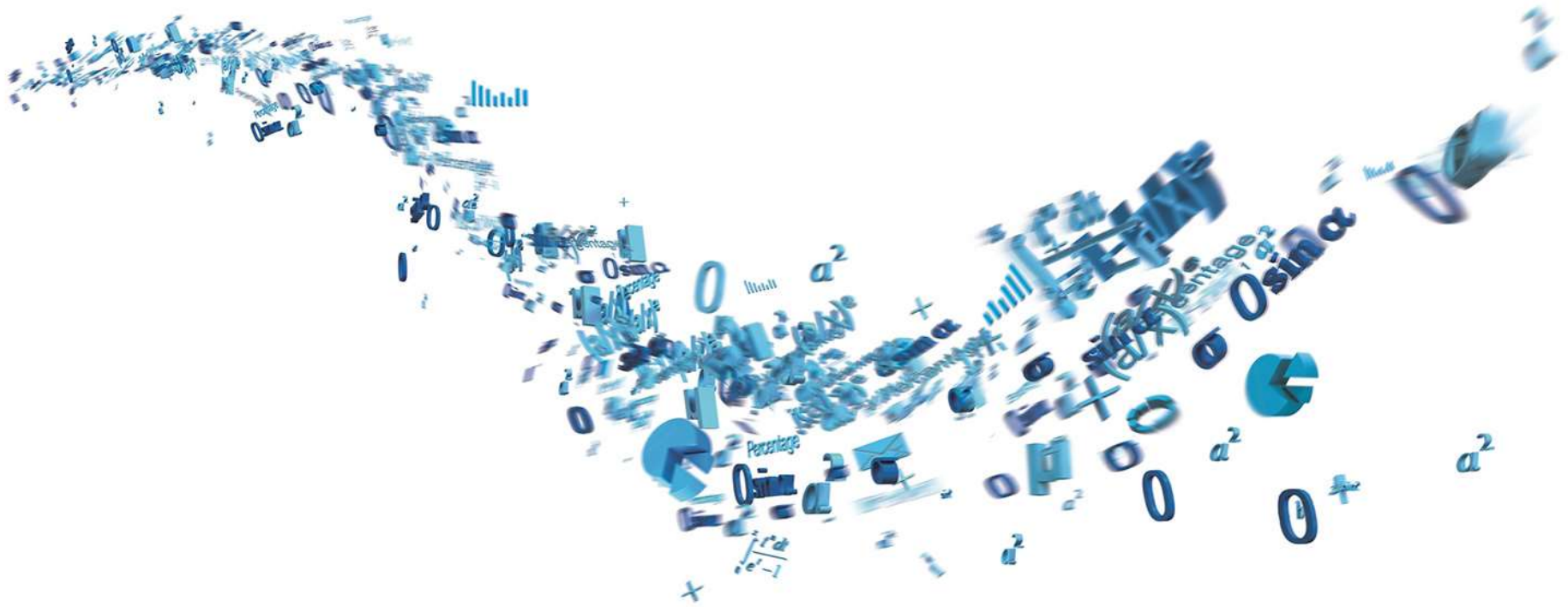
609 Above fees reflect only the current base management fee and excludes any performance fee arrangement.

Fee Schedule

	Fee Schedule	Market Value As of 06/30/2020 \$000	Estimated Annual Fee \$000	Estimated Annual Fee (%)
Fixed Income		2,287,510	5,114	0.22
BlackRock	0.20 % of First \$200 M 0.15 % of Next \$200 M 0.10 % of Next \$400 M 0.08 % Thereafter	278,114	517	0.19
Loomis Sayles	0.50 % of First \$20 M 0.40 % of Next \$30 M 0.30 % Thereafter	457,246	1,442	0.32
Putnam	0.40 % of First \$100 M 0.35 % of Next \$150 M 0.30 % of Next \$250 M 0.25 % Thereafter	369,050	1,282	0.35
SSgA Aggregate Bond Index	0.04 % of First \$100 M 0.02 % Thereafter	194,539	54	0.03
Wellington Global Total Return	0.30 % of Assets	347,512	1,043	0.30
Reams Core Plus Bond Fund	0.20 % of Assets	388,018	776	0.20
BRS Recycling Tax Credit		176,000	-	-
BRS Recycling Tax Credit Phase 2		77,032	-	-
Opportunistic/Alternatives		878,032	12,269	1.40
Anchorage	2.00 % of Assets	73,238	1,465	2.00
York	1.50 % of Assets	30,500	458	1.50
Capula	2.00 % of Assets	88,994	1,780	2.00
Graham	2.00 % of Assets	57,060	1,141	2.00
Circumference Group Core Value	1.50 % of Assets	29,768	447	1.50
Aeolus Keystone Fund	2.00 % of Assets	220,253	4,405	2.00
Nephila Rubik Holdings	1.50 % of Assets	45,312	680	1.50
Parametric Global Defensive Equity Fund	0.40 % of First \$150 M 0.35 % Thereafter	158,805	631	0.40
Man Alternative Risk Premia	0.85 % of Assets	91,052	774	0.85
CFM ISD Fund 1.5x	0.60 % of Assets	74,851	449	0.60
AB TALF Opportunity 2020 Fund	0.50 % of Assets	4,200	21	0.50
TCW TALF Opportunities Fund	0.50 % of Assets	4,000	20	0.50

140 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 June 1, 2020, the Total Equity Performance Benchmark was comprised of 29.9% DJ U.S. Total Stock Market Index and 70.1% 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

Governance	OCIO Graduates from Education Phase	Link
Governance	Why OCIO in Turbulent Times?	On Request
Governance	Why Outsourcing Investments Pays in Times of Crisis	Link
Legal & Compliance	Q3 Legal Consulting and Compliance Update	Link
Market View	Credit Market Turmoil – A focus on investment grade	Link
Market View	How Worried Should We be About Dividend Cuts?	On Request
Market View	Is Higher Inflation on its Way?	Link
Market View	Oil Flows into the Void	On Request
Market View	Weak US Dollar Outlook Once Virus Worries Subside	Link
Market View	Will Value Ever Make a Comeback?	On Request
Plan Design	Retirement Readiness During Times of Instability	Link
Strategy Review	Broadening the Credit Lens to Take Advantage of Attractive Opportunities	Link
Strategy Review	7/15 Webinar: Investment Market Update Q3 2020: Examining Opportunities to Take Advantage of Dislocation	Link to Replay
Strategy Review	An Emerging Equity Opportunity: China A-Shares	On Request
Strategy Review	Strategy Information Summary for Opportunistic Credit	On Request
Strategy Review	When Opportunity Knocks Again	Link
Talent Management	Guide on Furloughs and Workforce Reductions	On Request
Talent Management	HR Communication Tips for Uncertain Times	Link

Opinions, estimates, forecasts, and statements on financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. The views and strategies described may not be suitable for all investors. References to specific securities, asset classes, and financial markets are for illustrative purposes only and are not intended to be, and should not be interpreted as, recommendations.

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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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Aon Investments USA Inc.
200 East Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer



Arkansas Teacher Retirement System | August 31, 2020

Monthly Investment Review

All information presented in this report should be considered preliminary.

Finalized data will be available on the next Quarterly Investment Report after the close of the quarter.

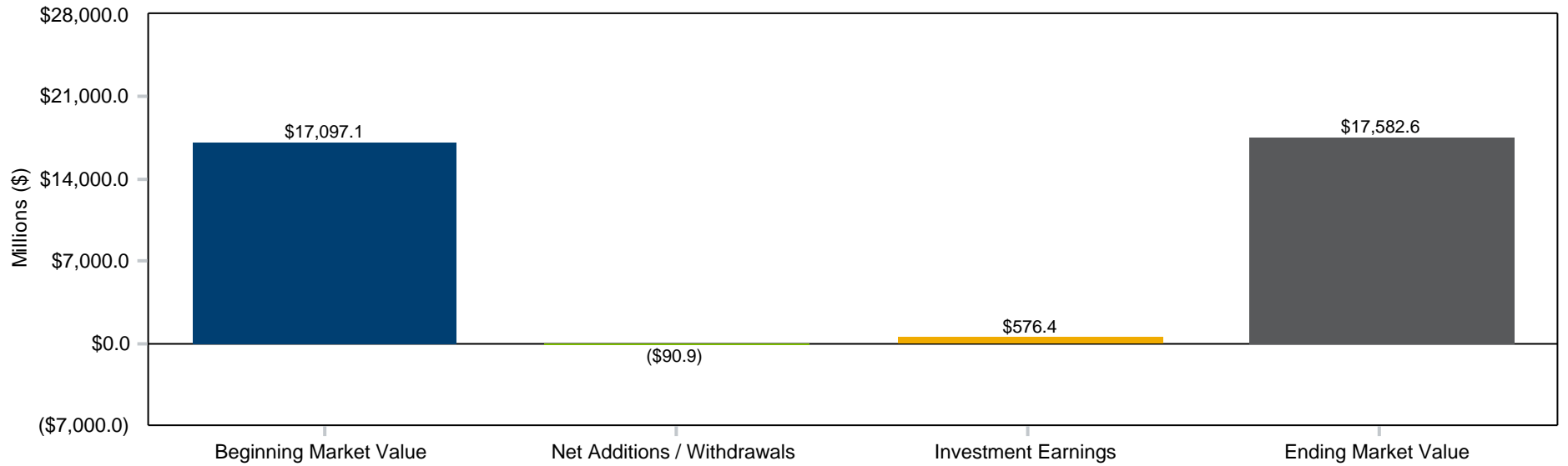
As of August 31, 2020

Market Environment

	Performance(%)						
	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	10 Years
Dow Jones U.S. Total Stock Market Index	7.2	13.2	9.3	21.2	13.8	13.8	14.9
S&P 500 Index	7.2	13.2	9.7	21.9	14.5	14.5	15.2
Russell 1000 Index	7.3	13.6	10.4	22.5	14.6	14.3	15.2
Russell 1000 Value Index	4.1	8.3	-9.3	0.8	4.5	7.5	11.0
Russell 1000 Growth Index	10.3	18.8	30.5	44.3	24.2	20.7	19.0
Russell 2000 Index	5.6	8.6	-5.5	6.0	5.0	7.7	11.5
Russell 2000 Value Index	5.4	7.6	-17.7	-6.1	-1.4	4.4	8.7
Russell 2000 Growth Index	5.9	9.5	6.2	17.3	10.9	10.5	14.1
MSCI AC World IMI (Net)	6.1	11.6	3.7	15.4	8.4	9.8	9.8
MSCI AC World ex USA IMI (Net)	4.6	9.3	-3.0	8.7	2.6	5.8	5.4
MSCI EAFE Index (Net)	5.1	7.6	-4.6	6.1	2.3	4.7	5.9
MSCI Emerging Markets Index (Net)	2.2	11.3	0.4	14.5	2.8	8.7	3.8
Blmbg. Barc. U.S. Universal Index	-0.6	1.2	6.4	6.4	5.1	4.6	4.0
Blmbg. Barc. U.S. Aggregate	-0.8	0.7	6.9	6.5	5.1	4.3	3.7
Blmbg. Barc. U.S. Government	-1.1	0.0	8.7	6.9	5.1	3.9	3.1
Blmbg. Barc. Credit Bond Index	-1.3	1.8	6.7	7.1	6.2	5.9	5.0
Blmbg. Barc. U.S. Mortgage Backed Securities	0.0	0.2	3.7	4.5	3.6	3.1	3.0
Blmbg. Barc. U.S. Corp: High Yield	1.0	5.7	1.7	4.7	4.9	6.5	6.9
Citigroup 90-Day T-Bill	0.0	0.0	0.5	1.2	1.7	1.2	0.6

Total Plan Asset Summary

**Change in Market Value
From August 1, 2020 to August 31, 2020**



Summary of Cash Flow

	1 Month	Year To Date	1 Year
Beginning Market Value	17,097,058,235	18,317,233,920	17,408,602,082
+ Additions / Withdrawals	-90,879,182	-499,773,585	-715,414,192
+ Investment Earnings	576,380,051	-234,901,231	889,371,214
= Ending Market Value	17,582,559,104	17,582,559,104	17,582,559,104

As of August 31, 2020

Asset Allocation & Performance

	Allocation			Performance(%)								
	Market Value (\$)	%	Policy(%)	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Total Fund	17,582,559,104	100.0	100.0	3.4	6.7	-1.3	5.1	6.5	8.2	9.3	8.3	04/01/1986
Performance Benchmark				3.4	6.8	2.5	10.1	7.7	8.7	9.7	8.5	
Total Equity	9,807,499,651	55.8	54.7	6.2	12.1	-3.9	7.0	6.4	8.8	10.5	7.3	07/01/2015
Total Equity Performance Benchmark				6.4	12.1	5.4	17.2	10.0	11.1	11.8	9.6	
Fixed Income	2,318,262,647	13.2	15.0	-0.1	1.3	5.5	5.9	4.8	4.8	4.4	5.5	07/01/1992
Performance Benchmark				-0.6	1.2	6.4	6.4	5.1	4.6	4.0	5.7	
Opportunistic/Alternatives	878,525,389	5.0	5.3	0.3	2.0	-4.7	-4.4	-1.4	0.5		2.8	05/01/2011
Custom Alternatives Benchmark				0.7	2.0	-2.4	-1.0	1.3	1.1		1.5	
Real Assets	2,133,664,760	12.1	12.9									
Real Estate	1,360,463,864	7.7										
Timber	297,707,177	1.7										
Agriculture	201,714,928	1.1										
Infrastructure	273,778,791	1.6										
Private Equity	2,357,280,032	13.4	12.0									
Cash	87,326,626	0.5	0.0									

***Preliminary Results**

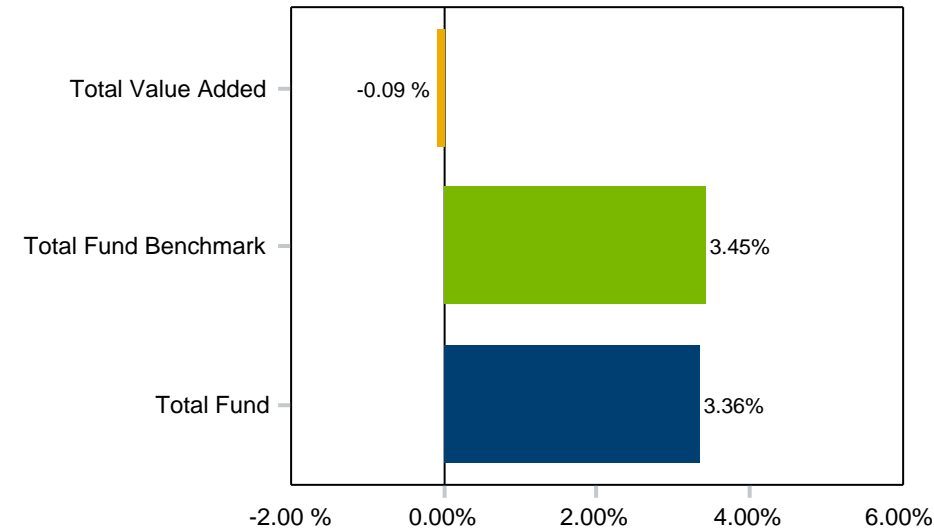
*Policy % is the interim target used for benchmarking purposes. See page 17 for long-term targets. Beginning July 1, 2013, an updated Investment Policy was adopted which includes the new Real Assets category, which includes Real Estate, Timber, Agriculture and Infrastructure.

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

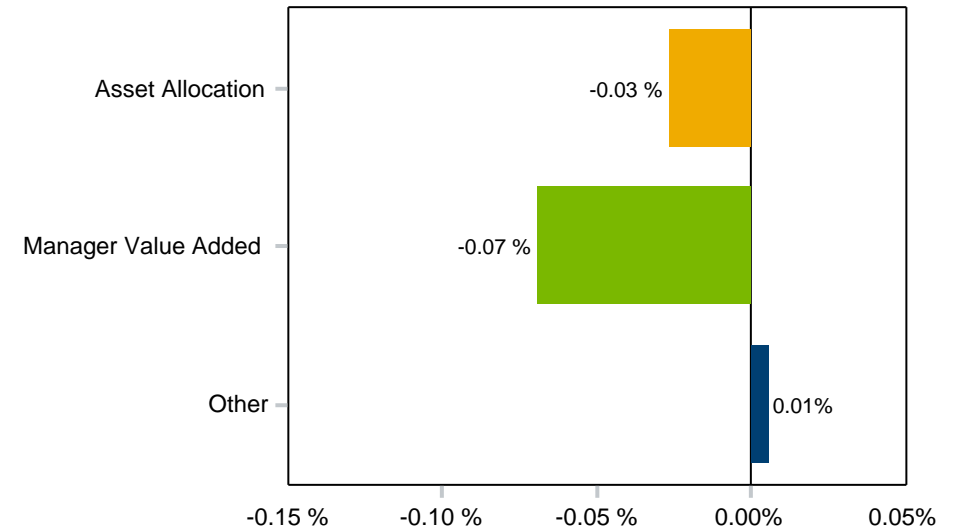
*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 21 of this report.

Total Fund Attribution

Total Fund Performance

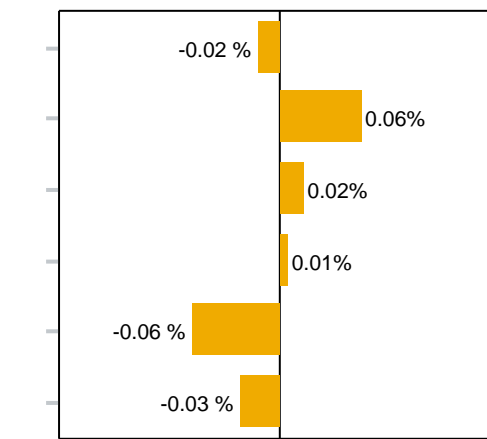
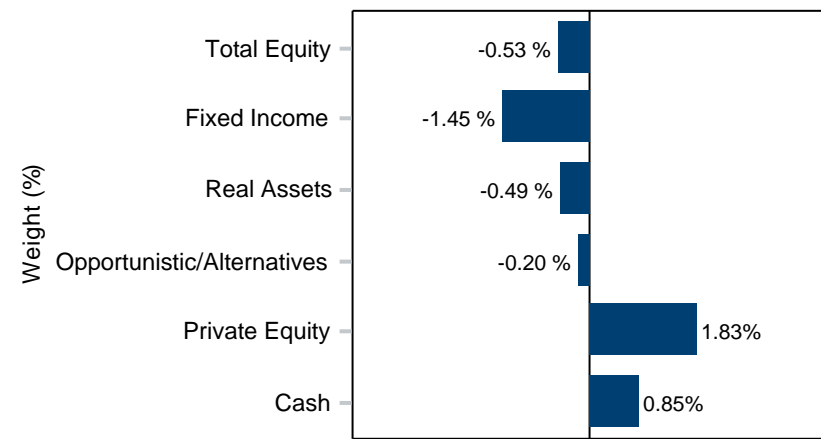


Total Value Added: -0.09 %



Total Asset Allocation: -0.03 %

Total Manager Value Added: -0.07 %



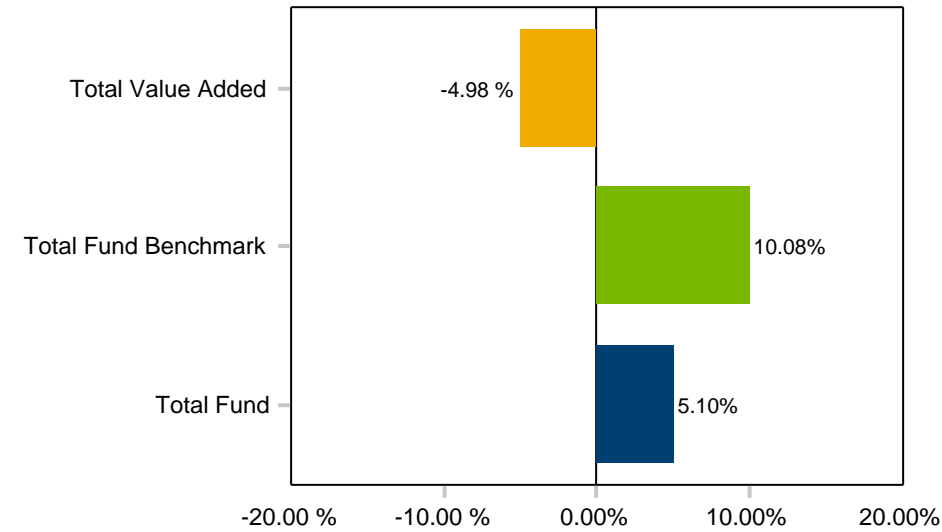
Average Active Weight

Asset Allocation Value Added

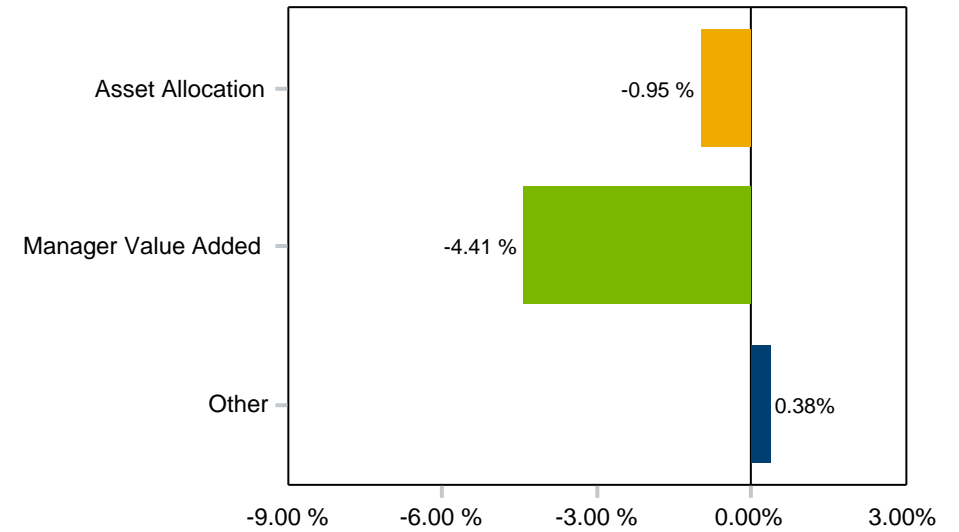
Manager Value Added

Total Fund Attribution

Total Fund Performance

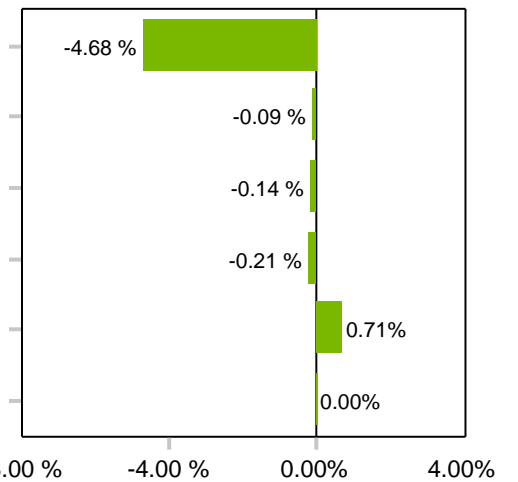
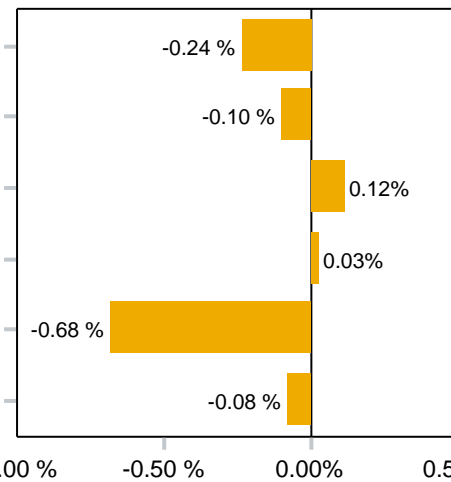
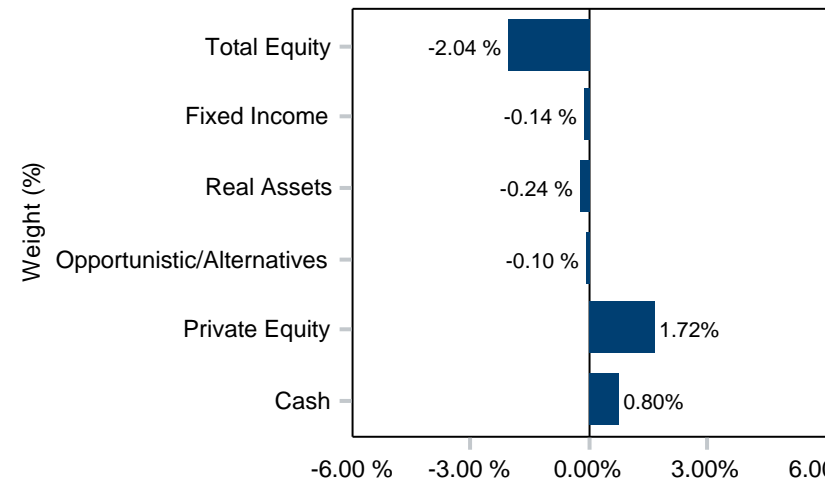


Total Value Added: -4.98 %



Total Asset Allocation: -0.95 %

Total Manager Value Added: -4.41 %



Average Active Weight

Asset Allocation Value Added

Manager Value Added

As of August 31, 2020

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Total Equity	9,807,499,651	100.0	6.2	12.1	-3.9	7.0	6.4	8.8	7.3	07/01/2015
Total Equity Performance Benchmark			6.4	12.1	5.4	17.2	10.0	11.1	9.6	
Jacobs Levy 130/30	666,662,802	6.8	4.8	7.4	-2.2	8.2	10.1	13.6	9.7	01/01/2008
Russell 3000 Index			7.2	13.3	9.4	21.4	13.9	13.9	9.3	
Kennedy Capital Management	484,658,172	4.9	4.8	8.2	-16.2	-4.6	-1.9	3.3	11.1	01/01/1994
Russell 2000 Value Index			5.4	7.6	-17.7	-6.1	-1.4	4.4	8.6	
Stephens	506,787,376	5.2	2.5	8.5	16.9	20.7	17.6	14.1	10.6	08/01/2006
Russell 2000 Growth Index			5.9	9.5	6.2	17.3	10.9	10.5	9.5	
Voya Absolute Return	615,040,372	6.3	6.6	12.6	3.3	15.4	7.7	10.4	10.4	10/01/2008
Performance Benchmark Voya Absolute Return			6.1	11.7	4.7	16.5	9.0	10.8	10.5	
Allianz (Nicholas Applegate)	834,091,843	8.5	7.3	16.2	29.5	37.8	21.1	15.8	11.1	12/01/1998
Performance Benchmark			8.6	16.4	24.9	33.7	16.6	13.5	8.7	
Pershing Square International	64,011,696	0.7	6.8	9.9	33.0	35.2	25.8	7.0	11.4	07/01/2008
Dow Jones U.S. Total Stock Market Index			7.2	13.2	9.3	21.2	13.8	13.8	10.8	
Pershing Square Holdings	199,593,549	2.0	13.2	18.9	47.3	52.2	28.9	2.5	7.1	01/01/2013
Dow Jones U.S. Total Stock Market Index			7.2	13.2	9.3	21.2	13.8	13.8	14.3	
SSgA Global Index	1,006,236,537	10.3	6.1	11.6	4.0	15.9	8.7	10.2	6.5	04/01/2008
MSCI AC World IMI (Net)			6.1	11.6	3.7	15.4	8.4	9.8	6.2	
BlackRock MSCI ACWI IMI Fund	1,142,880,109	11.7	6.1	11.6	3.9	15.8	8.6	10.1	8.4	07/01/2011
MSCI AC World IMI (Net)			6.1	11.6	3.7	15.4	8.4	9.8	8.1	

2020
Preliminary Results

The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 21 of this report.

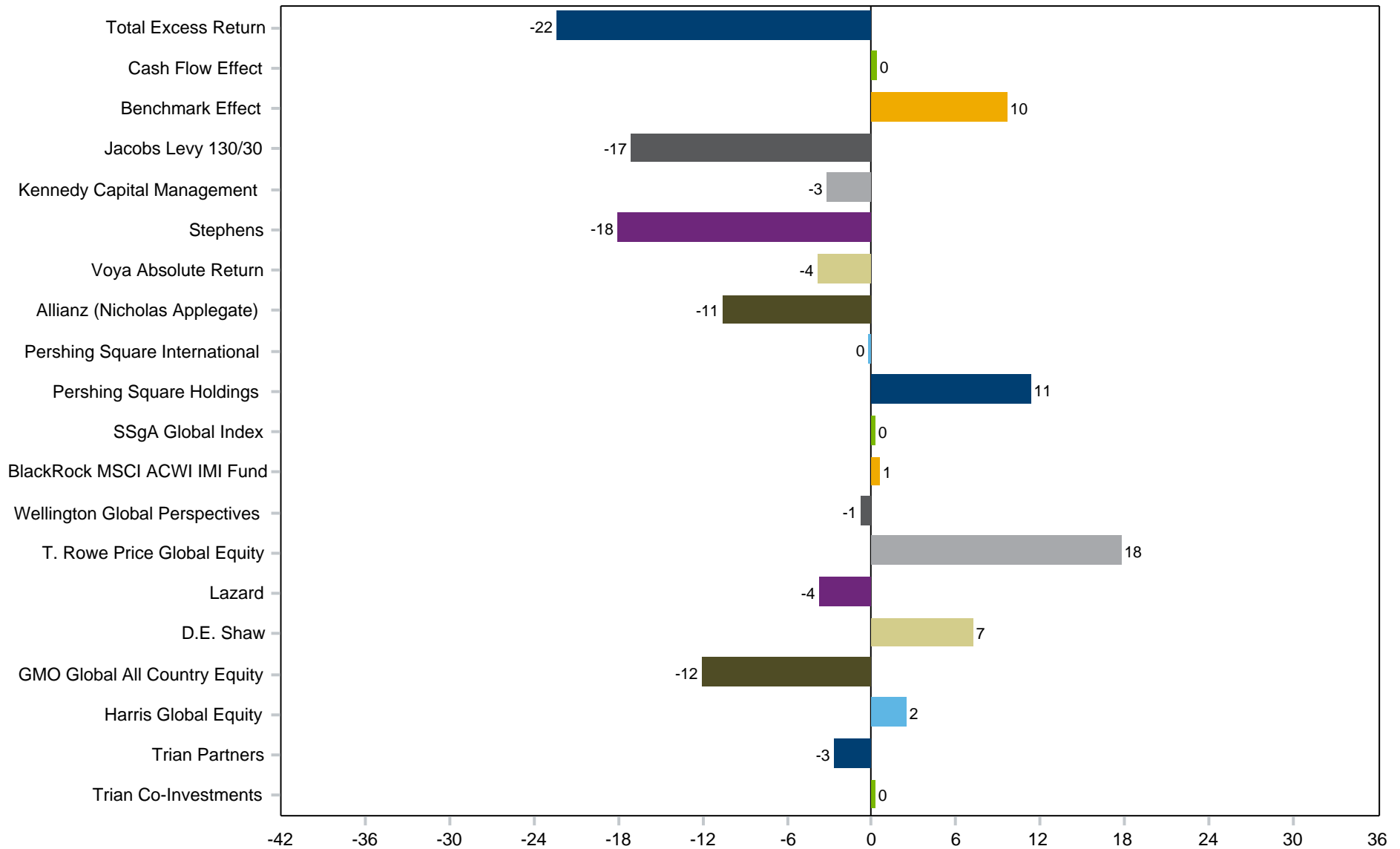
As of August 31, 2020

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Wellington Global Perspectives	518,339,478	5.3	5.4	9.7	-9.4	0.4	1.3	6.2	11.9	07/01/2009
Performance Benchmark			5.5	10.2	-3.9	7.6	3.9	7.2	10.4	
T. Rowe Price Global Equity	1,289,132,858	13.1	7.5	16.6	28.9	45.2	22.4	20.2	15.2	08/01/2009
MSCI AC World Index (Net)			6.1	11.7	4.7	16.5	9.0	10.2	9.6	
MSCI AC World Index Growth (Net)			7.9	15.9	22.2	35.5	17.2	15.4	12.6	
Lazard	645,549,471	6.6	5.6	13.0	6.4	18.7	7.2	10.0	9.3	08/01/2009
MSCI AC World Index (Net)			6.1	11.7	4.7	16.5	9.0	10.2	9.6	
D.E. Shaw	777,297,363	7.9	7.6	12.5	3.7	15.0	8.3	10.6	11.0	09/01/2009
MSCI World Index (Net)			6.7	11.8	5.3	16.8	9.8	10.4	9.9	
GMO Global All Country Equity	434,398,669	4.4	3.5	8.1	-4.0	10.1	4.0	7.2	3.7	07/01/2014
MSCI AC World Index (Net)			6.1	11.7	4.7	16.5	9.0	10.2	7.2	
MSCI AC World Index Value (Net)			4.1	7.3	-11.8	-1.5	0.6	4.8	2.1	
Harris Global Equity	462,719,083	4.7	7.2	11.8	-5.7	8.1	0.9	7.0	4.5	06/01/2014
MSCI World Index (Net)			6.7	11.8	5.3	16.8	9.8	10.4	7.9	
MSCI World Value (Net)			4.6	7.3	-11.8	-1.6	1.1	4.9	2.7	
Triam Partners	70,934,879	0.7	3.5	8.6	-2.7	3.9	7.2		7.5	11/01/2015
S&P 500 Index			7.2	13.2	9.7	21.9	14.5		13.7	
Triam Co-Investments	89,090,010	0.9	7.6	12.2	-7.2	4.3	5.0		4.3	01/01/2017
S&P 500 Index			7.2	13.2	9.7	21.9	14.5		15.2	

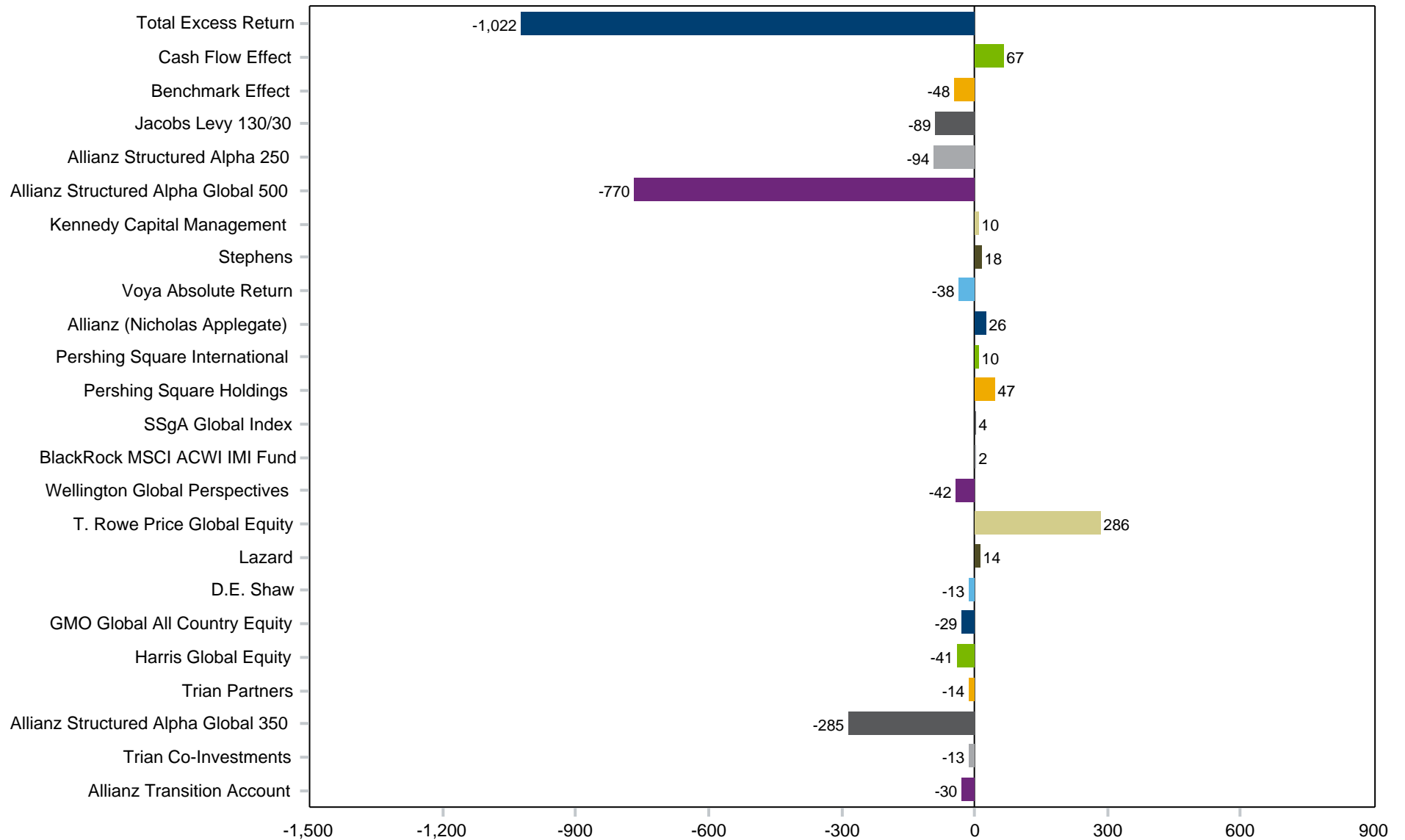
Asset Class Attribution

1 Month



Asset Class Attribution

1 Year



As of August 31, 2020

Asset Allocation & Performance

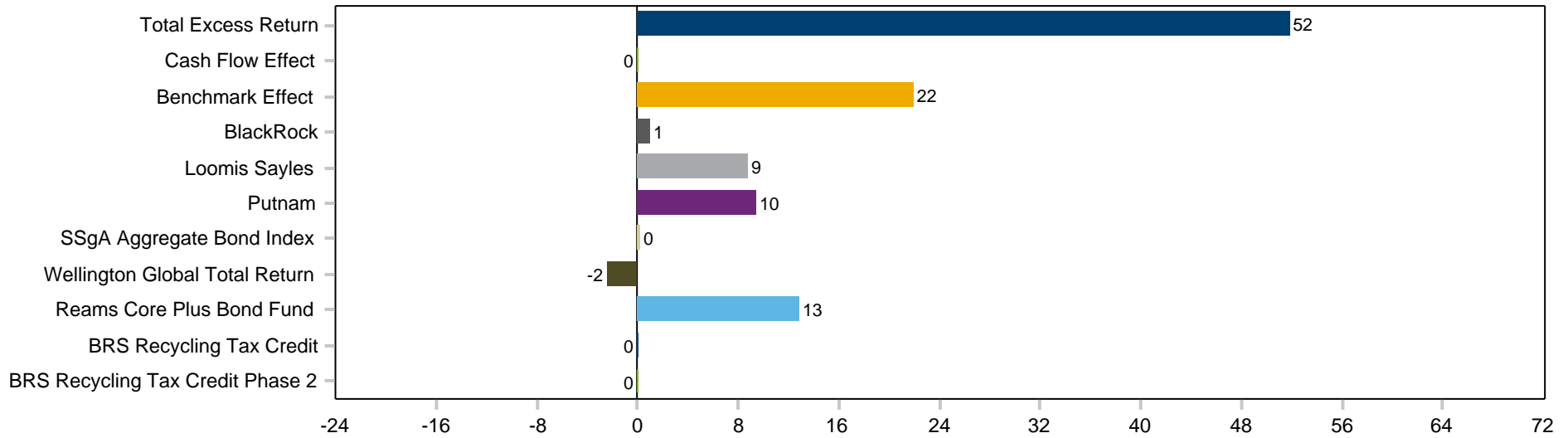
	Allocation		Performance(%)							
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Fixed Income	2,318,262,647	100.0	-0.1	1.3	5.5	5.9	4.8	4.8	5.5	07/01/1992
Performance Benchmark			-0.6	1.2	6.4	6.4	5.1	4.6	5.7	
BlackRock	281,776,850	12.2	-0.5	1.3	7.7	7.6	5.4	4.7	4.9	10/01/2003
Performance Benchmark			-0.6	1.2	6.4	6.4	5.1	4.6	4.6	
Loomis Sayles	472,973,606	20.4	0.0	3.4	8.3	9.9	6.2	6.4	8.4	09/01/2008
Performance Benchmark			-0.4	2.5	6.0	6.6	5.5	5.5	6.0	
Putnam	373,100,000	16.1	0.6	1.0	-2.4	-0.2	2.9	2.8	2.9	08/01/2008
LIBOR			0.0	0.1	1.0	1.7	2.0	1.5	1.0	
SSgA Aggregate Bond Index	195,893,126	8.4	-0.8	0.7	6.9	6.4	5.1	4.3	4.0	06/01/2010
Blmbg. Barc. U.S. Aggregate			-0.8	0.7	6.9	6.5	5.1	4.3	4.0	
Wellington Global Total Return	345,312,368	14.9	-0.2	-0.7	0.4	0.6	3.9	2.3	2.0	06/01/2014
ICE BofAML 3 Month U.S. T-Bill			0.0	0.0	0.6	1.3	1.7	1.2	1.0	
Reams Core Plus Bond Fund	396,175,089	17.1	-0.1	2.1	15.1	14.7	8.0	6.2	5.3	06/01/2014
Blmbg. Barc. U.S. Aggregate			-0.8	0.7	6.9	6.5	5.1	4.3	3.9	
BRS Recycling Tax Credit	176,000,000	7.6								
BRS Recycling Tax Credit Phase 2	77,031,608	3.3								

*Preliminary Results

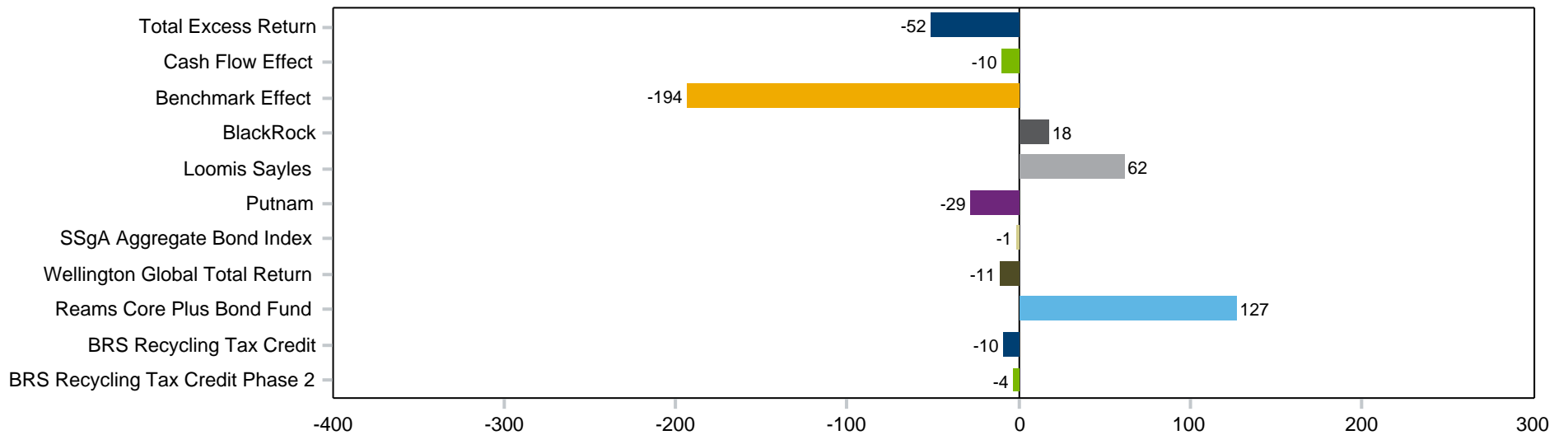
*The BRS Recycling Tax Credit represents an annual income stream of \$16 million dollars over the next 14 years, which ATRS purchased for approximately \$162 million. The value shown above represents the year-end market value in accordance with GASB Statement 72, representing the 14 years of annual income,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

Asset Class Attribution

1 Month



1 Year



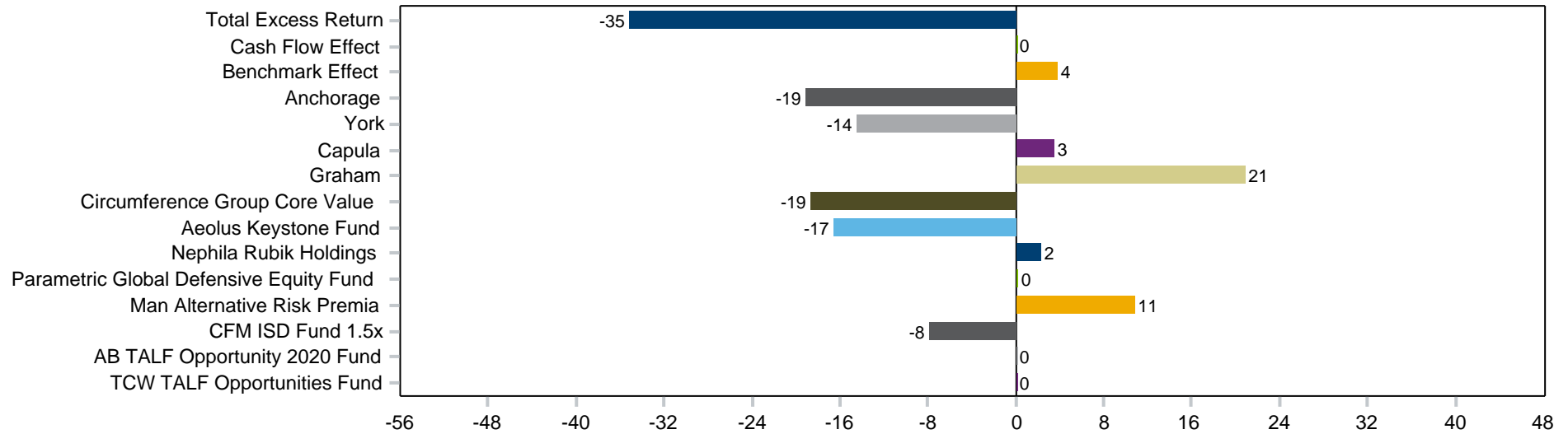
As of August 31, 2020

Asset Allocation & Performance

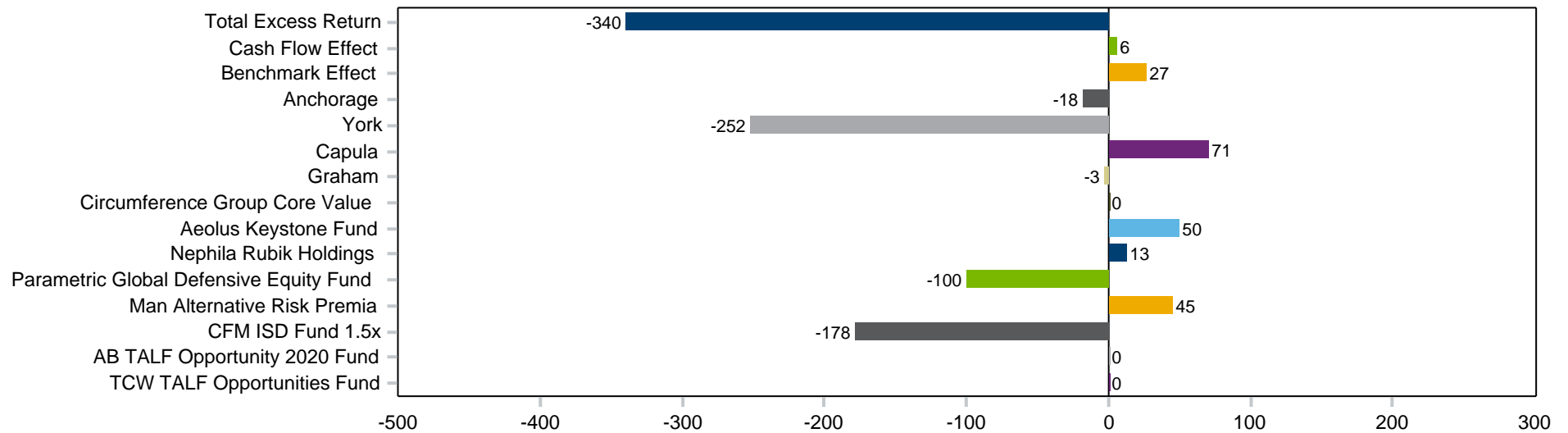
	Allocation		Performance(%)							
	Market Value (\$)	%	1 Month	Fiscal YTD	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Opportunistic/Alternatives	878,525,389	100.0	0.3	2.0	-4.7	-4.4	-1.4	0.5	2.8	05/01/2011
Custom Alternatives Benchmark			0.7	2.0	-2.4	-1.0	1.3	1.1	1.5	
Anchorage	71,514,236	8.1	-1.1	-2.4	-4.0	-4.5	-0.1	0.2	4.0	05/01/2011
Credit Suisse Event Driven			1.2	3.0	-4.8	-2.7	0.3	0.4	1.5	
HFRI ED: Distressed/Restructuring Index			1.0	1.6	-1.6	-1.7	0.6	2.9	2.8	
York	27,199,609	3.1	-3.3	-7.2	-40.1	-46.1	-19.7	-11.4	-3.8	05/01/2011
Credit Suisse Event Driven			1.2	3.0	-4.8	-2.7	0.3	0.4	1.5	
HFRI ED: Distressed/Restructuring Index			1.0	1.6	-1.6	-1.7	0.6	2.9	2.8	
Capula	89,489,662	10.2	0.5	0.6	5.8	9.5	6.5	6.6	6.3	05/01/2011
HFRI Macro (Total) Index			0.1	3.0	2.3	0.2	2.0	1.5	0.6	
Graham	62,711,423	7.1	3.1	9.9	-0.4	-1.0	3.3	1.9	2.3	05/01/2011
HFRI Macro (Total) Index			0.1	3.0	2.3	0.2	2.0	1.5	0.6	
Circumference Group Core Value	31,413,841	3.6	0.4	5.5	9.4	11.3	9.9	10.2	9.1	08/01/2015
Russell 2000 Index			5.6	8.6	-5.5	6.0	5.0	7.7	6.2	
Aeolus Keystone Fund	207,976,475	23.7	-0.7	1.7	1.5	3.4	-6.2		-1.0	12/01/2015
FTSE 3 Month T-Bill			0.0	0.0	0.5	1.2	1.7		1.2	
Eurekahedge ILS Advisers Index			0.8	1.4	2.3	3.9	-2.8		-0.3	
Nephila Rubik Holdings	46,009,604	5.2	0.4	1.5	3.6	4.0	-2.9		-1.9	06/01/2016
FTSE 3 Month T-Bill			0.0	0.0	0.5	1.2	1.7		1.3	
Eurekahedge ILS Advisers Index			0.8	1.4	2.3	3.9	-2.8		-0.7	
Parametric Global Defensive Equity Fund	168,834,191	19.2	3.1	6.3	-3.4	2.6	3.1		3.7	06/01/2017
Performance Benchmark			3.1	5.8	3.2	9.3	5.6		5.8	
MSCI AC World Index			6.2	11.8	5.1	17.1	9.6		10.0	
Man Alternative Risk Premia	91,531,735	10.4	0.0	0.5	-7.2	-9.6			-3.6	06/01/2018
SG Multi Alternative Risk Premia Index			-1.1	-0.9	-13.4	-13.6			-5.8	
CFM ISD Fund 1.5x	73,644,613	8.4	-2.0	-1.6	-25.4	-29.0			-12.6	07/01/2018
SG Multi Alternative Risk Premia Index			-1.1	-0.9	-13.4	-13.6			-5.8	
AB TALF Opportunity 2020 Fund	4,200,000	0.5								
TCW TALF Opportunities Fund	4,000,000	0.5								

Asset Class Attribution

1 Month



1 Year



Asset Allocation as of 8/312020	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	\$666,662.8	--	--	--	--	\$666,662.8	3.79%		
Kennedy Capital Management	\$484,658.2	--	--	--	--	\$484,658.2	2.76%		
Stephens	\$506,787.4	--	--	--	--	\$506,787.4	2.88%		
Voya Absolute Return	\$615,040.4	--	--	--	--	\$615,040.4	3.50%		
Allianz (Nicholas Applegate)	\$834,091.8	--	--	--	--	\$834,091.8	4.74%		
Pershing Square International	\$64,011.7	--	--	--	--	\$64,011.7	0.36%		
Pershing Square Holdings	\$199,593.5	--	--	--	--	\$199,593.5	1.14%		
SSgA Global Index	\$1,006,236.5	--	--	--	--	\$1,006,236.5	5.72%		
BlackRock MSCI ACWI IMI Fund	\$1,142,880.1	--	--	--	--	\$1,142,880.1	6.50%		
Wellington Global Perspectives	\$518,339.5	--	--	--	--	\$518,339.5	2.95%		
T. Rowe Price Global Equity	\$1,289,132.9	--	--	--	--	\$1,289,132.9	7.33%		
Lazard	\$645,549.5	--	--	--	--	\$645,549.5	3.67%		
D.E. Shaw	\$777,297.4	--	--	--	--	\$777,297.4	4.42%		
GMO Global All Country Equity	\$434,398.7	--	--	--	--	\$434,398.7	2.47%		
Harris Global Equity	\$462,719.1	--	--	--	--	\$462,719.1	2.63%		
Triam Partners	\$70,934.9	--	--	--	--	\$70,934.9	0.40%		
Triam Partners Co-Investments	\$89,090.0	--	--	--	--	\$89,090.0	0.51%		
Capital Guardian & Knight Vinke	\$75.4	--	--	--	--	\$75.4	0.00%		
Total Equity						\$9,807,499.7	55.78%	54.73%	53.00%
BlackRock	--	\$281,776.8	--	--	--	\$281,776.8	1.60%		
Loomis Sayles	--	\$472,973.6	--	--	--	\$472,973.6	2.69%		
Putnam	--	\$373,100.0	--	--	--	\$373,100.0	2.12%		
SSgA Aggregate Bond Index	--	\$195,893.1	--	--	--	\$195,893.1	1.11%		
Wellington Global Total Return	--	\$345,312.4	--	--	--	\$345,312.4	1.96%		
Reams Core Plus Bond Fund	--	\$396,175.1	--	--	--	\$396,175.1	2.25%		
BRS Recycling Tax Credit	--	\$176,000.0	--	--	--	\$176,000.0	1.00%		
BRS Recycling Tax Credit Phase 2	--	\$77,031.6	--	--	--	\$77,031.6	0.44%		
Total Fixed Income						\$2,318,262.6	13.19%	15.00%	15.00%
Anchorage	--	--	--	\$71,514.2	--	\$71,514.2	0.41%		
Capula	--	--	--	\$89,489.7	--	\$89,489.7	0.51%		
Graham	--	--	--	\$62,711.4	--	\$62,711.4	0.36%		
York	--	--	--	\$27,199.6	--	\$27,199.6	0.15%		
Circumference Group Core Value	--	--	--	\$31,413.8	--	\$31,413.8	0.18%		
Aeolus Keystone Fund	--	--	--	\$207,976.5	--	\$207,976.5	1.18%		
Nephila Rubik Holdings	--	--	--	\$46,009.6	--	\$46,009.6	0.26%		
Parametric Global Defensive Equity	--	--	--	\$168,834.2	--	\$168,834.2	0.96%		
Man Alternative Risk Premia	--	--	--	\$91,531.7	--	\$91,531.7	0.52%		
CFM ISD Fund 1.5x	--	--	--	\$73,644.6	--	\$73,644.6	0.42%		
AB TALF Opportunity 2020 Fund	--	--	--	\$4,200.0	--	\$4,200.0	0.02%		
TCW TALF Opportunities Fund	--	--	--	\$4,000.0	--	\$4,000.0	0.02%		
Total Opportunistic/Alternatives						\$878,525.4	5.00%	5.34%	5.00%
Real Estate			\$1,360,463.9			\$1,360,463.9	7.74%		
Timber			\$297,707.2			\$297,707.2	1.69%		
Agriculture			\$201,714.9			\$201,714.9	1.15%		
Infrastructure			\$273,778.8			\$273,778.8	1.56%		
Total Real Assets						\$2,133,664.8	12.14%	12.94%	15.00%
Total Private Equity				\$2,357,280.0		\$2,357,280.0	13.41%	12.00%	12.00%
Total Cash					\$87,326.6	\$87,326.6	0.50%	0.00%	0.00%
Total Fund	\$9,807,499.7	\$2,318,262.6	\$2,133,664.8	\$3,235,805.4	\$87,326.6	\$17,582,559.1	100.00%	100.00%	100.00%

*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the sum total due to rounding.

Asset Allocation as of 8/31/2020				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	\$143.9	0.01%	0.00%	LaSalle Income & Growth Fund VI	\$6,755.1	0.50%	0.04%
Almanac Realty Securities Fund VI	\$3,779.1	0.28%	0.02%	LaSalle Income & Growth Fund VII	\$14,213.1	1.04%	0.08%
Almanac Realty Securities Fund VII	\$13,627.4	1.00%	0.08%	LaSalle Income & Growth Fund VIII	\$6,663.4	0.49%	0.04%
Almanac Realty Securities Fund VIII	\$4,133.9	0.30%	0.02%	Lone Star Real Estate Fund IV	\$6,201.3	0.46%	0.04%
American Center	\$44,358.8	3.26%	0.25%	Long Wharf Real Estate Partners V	\$24,846.2	1.83%	0.14%
AR Insurance	\$2,258.7	0.17%	0.01%	Long Wharf Real Estate Partners VI	\$6,093.7	0.45%	0.03%
AR Teachers Retirement Building	\$5,201.9	0.38%	0.03%	Metropolitan RE Co-Investments	\$10,630.5	0.78%	0.06%
Blackstone Real Estate Partners VII	\$20,523.6	1.51%	0.12%	Met Life Commercial Mtg Inc Fund	\$48,441.5	3.56%	0.28%
Blackstone Real Estate Partners VIII	\$595.4	0.04%	0.00%	New Boston Fund VII	\$51.3	0.00%	0.00%
Blackstone RE Europe VI	\$9,458.9	0.70%	0.05%	O'Connor NAPP II	\$10,001.4	0.74%	0.06%
Carlyle Realty Partners VII	\$11,755.9	0.86%	0.07%	Olympus	\$355.4	0.03%	0.00%
Carlyle Realty VIII	\$8,008.8	0.59%	0.05%	PRISA	\$276,099.4	20.29%	1.57%
Carlyle Realty III	\$796.5	0.06%	0.00%	Recoveries Land	\$70.0	0.01%	0.00%
CBREI SP U.S. Opportunity V	\$9,762.0	0.72%	0.06%	Rockwood Capital RE Partners IX	\$5,531.7	0.41%	0.03%
CBREI SP VIII	\$24,278.0	1.78%	0.14%	Rockwood Capital RE XI	-\$223.2	-0.02%	0.00%
CBREI SP IX	\$11,234.1	0.83%	0.06%	Rose Law Firm	\$4,331.1	0.32%	0.02%
Cerberus Institutional RE Partners III	\$12,851.4	0.94%	0.07%	Texarkana DHS	\$1,640.8	0.12%	0.01%
Chenal Retirement Village	\$119.5	0.01%	0.00%	Torchlight Debt Opportunity Fund IV	\$4,743.5	0.35%	0.03%
Calmwater	\$23,297.9	1.71%	0.13%	Torchlight Debt Opportunity Fund V	\$6,897.2	0.51%	0.04%
Fletcher Properties	\$1,167.9	0.09%	0.01%	Torchlight Debt Opportunity Fund VI	\$24,789.1	1.82%	0.14%
FPA Core Plus IV	\$18,868.0	1.39%	0.11%	Torchlight Debt Opportunity Fund VII	\$5,000.0	0.37%	0.03%
Harbert European Real Estate	\$20,741.1	1.52%	0.12%	UBS Trumbull Property Fund	\$203,947.6	14.99%	1.16%
Heitman European Property IV	\$3,047.7	0.22%	0.02%	UBS Trumbull Property Income Fund	\$52,572.2	3.86%	0.30%
JP Morgan Strategic Property Fund	\$284,482.3	20.91%	1.62%	Victory	\$32,990.8	2.42%	0.19%
Kayne Anderson V	\$17,624.6	1.30%	0.10%	Walton Street Real Estate Debt II	\$3,843.6	0.28%	0.02%
Landmark Fund VI	\$2,295.9	0.17%	0.01%	West Mphs. DHS	\$2,326.8	0.17%	0.01%
Landmark Real Estate VIII	\$8,073.4	0.59%	0.05%	Westbrook IX	\$11,020.2	0.81%	0.06%
LaSalle Asia Opportunity Fund IV	\$2,094.0	0.15%	0.01%	Westbrook Real Estate Fund X	\$14,782.8	1.09%	0.08%
LaSalle Asia Opportunity Fund V	\$11,266.8	0.83%	0.06%				
Total Real Estate					\$1,360,463.9	100.00%	7.74%

*Note: The market values for the real estate investments shown above are lagged one quarter and adjusted for the current quarter's cash flows. Market values and allocation percentages may not add to the sum total due to rounding.

Asset Allocation as of 8/31/2020				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	\$28,157.5	1.19%	0.16%	Insight Mezzanine I	\$1,624.3	0.07%	0.01%
Arlington Capital V	\$3,209.5	0.14%	0.02%	JF Lehman III	\$16,669.4	0.71%	0.09%
Advent GPE VI	\$4,740.4	0.20%	0.03%	JF Lehman IV	\$29,188.1	1.24%	0.17%
Altus Capital II	\$6,463.6	0.27%	0.04%	JF Lehman V	\$5,783.8	0.25%	0.03%
American Industrial Partners VI	\$20,966.6	0.89%	0.12%	KPS III	\$351.2	0.01%	0.00%
American Industrial Partners VII	\$1,059.8	0.04%	0.01%	KPS IV	\$19,170.8	0.81%	0.11%
Altaris Constellation Partners	\$21,551.2	0.91%	0.12%	KPS X	\$3,190.4	0.14%	0.02%
Altaris Health Partners IV	\$17,391.1	0.74%	0.10%	KPS Mid-Cap	\$3,486.6	0.15%	0.02%
Atlas Capital II	\$13,519.2	0.57%	0.08%	Levine Leichtman V	\$17,494.2	0.74%	0.10%
Audax Mezzanine III	\$4,022.9	0.17%	0.02%	Lime Rock III	\$10,238.8	0.43%	0.06%
Big River - Equity	\$327,000.0	13.87%	1.86%	LLR III	\$9,364.9	0.40%	0.05%
Big River - Equity (Phase 2)	\$58,295.6	2.47%	0.33%	Mason Wells III	\$6,692.0	0.28%	0.04%
Big River - Holdings Note 2023	\$12,871.4	0.55%	0.07%	NGP IX	\$883.0	0.04%	0.01%
Big River - Holdings Note 3/16/23	\$5,397.4	0.23%	0.03%	NGP X	\$5,896.7	0.25%	0.03%
Bison V	\$22,197.8	0.94%	0.13%	NGP XI	\$19,494.6	0.83%	0.11%
Boston Ventures VII	\$6,694.5	0.28%	0.04%	NGP XII	\$12,559.8	0.53%	0.07%
Boston Ventures IX	\$23,298.4	0.99%	0.13%	One Rock Capital Partners II	\$27,738.7	1.18%	0.16%
Boston Ventures X	\$544.2	0.02%	0.00%	PineBridge	\$13,726.5	0.58%	0.08%
BV VIII	\$18,960.9	0.80%	0.11%	Riverside IV	\$702.7	0.03%	0.00%
Castlelake II	\$15,654.1	0.66%	0.09%	Riverside V	\$21,308.2	0.90%	0.12%
Castlelake III	\$17,383.9	0.74%	0.10%	Riverside VI	\$8,158.1	0.35%	0.05%
Clearlake V	\$28,847.7	1.22%	0.16%	Siris III	\$20,502.6	0.87%	0.12%
Clearlake VI	\$4,084.3	0.17%	0.02%	Siris IV	\$13,584.3	0.58%	0.08%
Court Square III	\$39,735.4	1.69%	0.23%	SK Capital V	\$7,543.7	0.32%	0.04%
CSFB-ATRS 2005-1 Series	\$27,028.2	1.15%	0.15%	Sycamore Partners II	\$14,054.7	0.60%	0.08%
CSFB-ATRS 2006-1 Series	\$76,887.1	3.26%	0.44%	Sycamore Partners III	\$2,133.4	0.09%	0.01%
Diamond State Ventures II	\$4,730.3	0.20%	0.03%	TA XI	\$20,721.3	0.88%	0.12%
Doughty Hanson Tech I	\$395.2	0.02%	0.00%	Tennenbaum VI	\$7,410.6	0.31%	0.04%
DW Healthcare III	\$20,112.2	0.85%	0.11%	Thoma Bravo Discover	\$12,321.0	0.52%	0.07%
DW Healthcare IV	\$29,903.5	1.27%	0.17%	Thoma Bravo Discover II	\$10,266.1	0.44%	0.06%
DW Healthcare V	\$6,676.0	0.28%	0.04%	Thoma Bravo XI	\$22,128.7	0.94%	0.13%
EnCap IX	\$6,222.9	0.26%	0.04%	Thoma Bravo XII	\$38,894.0	1.65%	0.22%
EnCap VIII	\$8,131.4	0.34%	0.05%	Thoma Bravo XIII	\$22,730.3	0.96%	0.13%
EnCap X	\$17,543.4	0.74%	0.10%	Vista Equity III	\$4,019.7	0.17%	0.02%
EnCap XI	\$6,884.2	0.29%	0.04%	Vista Foundation II	\$14,386.6	0.61%	0.08%
Franklin Park Series	\$652,541.9	27.68%	3.71%	Vista Foundation III	\$24,936.0	1.06%	0.14%
GCG	\$22,991.4	0.98%	0.13%	Wellspring V	\$15,960.5	0.68%	0.09%
GTLA Holdings	\$20,000.0	0.85%	0.11%	Wicks IV	\$22,913.1	0.97%	0.13%
Highland	\$221,295.3	9.39%	1.26%	WNG II	\$7,463.9	0.32%	0.04%
Insight Equity II	\$18,196.5	0.77%	0.10%				
Total Private Equity					\$2,357,280.0	100.00%	13.41%

*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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Appendix

Description of Benchmarks

Total Fund - The Performance Benchmark for the Total Fund reflects a weighted average of the underlying asset class benchmarks, weighted as follows: Opportunistic/Alternatives and Real Assets at the weight of the previous month's ending market values, Fixed Income and Private Equity at their long-term Policy Targets of 15% and 12%, respectively, and Total Equity at its long-term Policy Target of 50% plus the balance of the unfunded or uncommitted assets of the Opportunistic/Alternatives and Real Assets categories. These targets can be found on page 14 of the this report. From October 2007 to July 2013, the Performance Benchmark was the performance of the asset class benchmarks as a weighted average of the previous month's ending market values. The historical components of the benchmark are shown in the table below. Returns prior to September 30, 1996, consist of the actual allocations to the seven different asset classes included in the Arkansas Teacher Retirement System over time. The historical benchmarks used for each asset class are noted below.

Date	DJ Total Stock Market Index	Russell 3000 Index	MSCI ACW ex-U.S. Index	MSCI All Country World Index	BC Universal Bond Index	BC Aggregate Bond Index	Alternative Policy*
03/2004-9/2007	40.0 %	—	17.5 %	—	25.0 %	—	17.5 %
06/2003-02/2004	40.0	—	17.5	—	—	25.0 %	17.5
10/2001-07/2003	—	40.0 %	17.5	—	—	25.0	17.5
08/1998-09/2001	—	40.0	17.0	—	—	28.0	15.0
10/1996-07/1998	—	40.0	20.0	—	—	28.0	12.0

*Historically, the Alternative Policy was comprised of the weighted averages of the Private Equity, Real Estate, and Alternatives policy benchmarks. Prior to July 31, 2003 the alternative benchmark consisted of 57.0% of the Russell 3000 + a 2% Premium per year, 8.5% of the NCREIF Southeast Timberland Index, 28.5% of the Real Estate Index, 6% of the EnnisKnupp STIF Index.

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Total Equity -A weighted average of the Dow Jones U.S. Total Stock Market Index and the MSCI All Country World IMI Index based on weights of the underlying investment manager allocations. As of August 1, 2020, the Total Equity Performance Benchmark was comprised of 29.5% DJ U.S. Total Stock Market Index and 70.5% MSCI ACWI IMI.

Fixed Income - The Barclays Capital Universal Bond Index as of March 1, 2004.

Opportunistic/Alternatives - A custom benchmark consisting of 25% DJ/CS Event-Driven Index, 25% HFR Macro Index, and 50% South Timberland NCREIF Index until June 30,2013; 60% HFRI Macro Index and 40% DJ/CS Event-Driven Index until July 31, 2015; 56% HFRI Macro Index, 38% DJ/CS Event-Driven Index, and 6% Russell 2000 Index until March 31, 2016; 45% HFRI Macro Index, 30% DJ/CS Event-Driven Index, 5% Russell 2000 Index, and 20% FTSE 3 Month T-bill until May 31, 2016; 37% HFRI Macro Index, 25% DJ/CS Event-Driven Index, 5% Russell 2000 Index, and 33% FTSE 3 Month T-bill until May 31, 2017; 28% HFRI Macro Index, 20% DJ/CS Event-Driven Index, 4% Russell 2000 Index, 25% FTSE 3 Month T-bill, and 23% Parametric Performance Benchmark Until May 31, 2018. 22% HFRI Macro Index, 18% DJ/CS Event-Driven Index, 3% Russell 2000 Index, 27% FTSE 3 Month T-bill, 18.50% Parametric Performance Benchmark, and 11.5% SG Multi-Alternative Risk Premia Until June 30, 2018. 20% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 25% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia Until August 31, 2018. 17% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 28% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia Until November 30, 2018. 15% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 30% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia thereafter.

Real Assets - A custom benchmark consisting of a weighted average of the net asset values at previous month's end of the sub-categories' benchmarks, defined as Real Estate Benchmark, Timber Benchmark, Agriculture Benchmark and Infrastructure Benchmark.

Real Estate-The NCREIF Index.

Timberland Property Benchmark - NCREIF Timberland Property Index (NTPI) weighted according to ATRS' regional exposure based on net asset value.

Agriculture Benchmark - NCREIF Farmland Index (NFI) weighted according to ATRS' regional and crop type exposure based on net asset value.

Infrastructure Benchmark - Consumer Price Index (CPI) plus 500 basis points annually.

Private Equity - The Dow Jones U.S. Total Stock Market Index + a 2% premium per year.

Cash Equivalentents - The Citigroup 90 day T-bill.

Arkansas Teacher Retirement System

Appendix

Description of Benchmarks

FTSE 90 day T-bill Index - Treasury bill rates of return, as reported by Citigroup (Salomon Smith Barney), for bills with a maximum time remaining to maturity of 90 days.

Bloomberg Barclays Aggregate Bond Index - A market-value weighted index consisting of the Barclays Capital Corporate, Government and Mortgage-Backed Securities Indices. The Index also includes credit card-, auto- and home equity loan-backed securities, and is the broadest available measure of the aggregate U.S. fixed income market.

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

Bloomberg Barclays Mortgage Index - A market value-weighted index consisting of the mortgage pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA) and Freddie Mac (FHLMC).

MSCI All Country World ex-U.S. Index - A capitalization-weighted index consisting of 22 developed and 23 emerging countries, but excluding the U.S. Covers approximately 85% of global equity opportunity set outside of the U.S.

MSCI All Country World Index - A capitalization-weighted index of stocks representing 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

MSCI All Country World IMI Index - A capitalization-weighted index representing large and small cap stock from 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

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

MSCI Europe, Australasia, Far East (EAFE) Non-U.S. Stock Index - A capitalization-weighted index of stocks representing 21 developed and emerging country markets in Europe, Australia, Asia and the Far East.

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

Nicholas Applegate Performance Benchmark - On January 1, 2005, the benchmark for the portfolio was changed to the Merrill Lynch Convertible Bond (All Quality) Index. Prior to January 1, 2005, the performance benchmark for the Nicholas Applegate portfolio was the CSFB Convertible Securities Index. Prior to May 1, 2004, the performance benchmark consisted of 90% CSFB Convertible Securities Index and 10% Salomon High Yield Index.

Wellington Global Performance Benchmark- As of July 1, 2012 the benchmark was changed to MSCI All Country World Small Cap Index. Prior to July 1, 2012, the benchmark was MSCI All Country World Small/Mid Cap Index.

As of August 31, 2020

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

Voya Absolute Return Performance Benchmark - As of December 1, 2015 the benchmark was changed to MSCI All Country World Index. Prior to December 1, 2015, the benchmark was the S&P 500 Stock Index.

LIBOR Index - London Interbank Offered Rate. A filtered average of the world's most creditworthy banks' interbank deposit rates with maturities between overnight and one full year.

Russell 3000 Index - An index that measures the performance of the 3000 stocks that make up the Russell 1000 and Russell 2000 Indices.

Russell 1000 Index - An index that measures the performance of the largest 1,000 stocks contained in the Russell 3000 Index.

Russell 1000 Value Index - An index that measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower I/B/E/S growth forecasts.

Russell 2000 Index - An index that measures the performance of the smallest 2000 companies contained in the Russell 3000 Index.

Russell 2000 Growth Index - An index that measures the performance of those Russell 2000 companies with greater price-to-book ratios and greater I/B/E/S growth forecasts.

Russell 2000 Value Index - An index that measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower I/B/E/S growth forecasts.

Russell Mid Cap Value Index - An index that 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.

HFR Macro Index - Macro: Investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Primary investment thesis is predicated on predicted or future movements in the underlying instruments.

HFR Distressed/Restructuring Index - Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings. Distressed Strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

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

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

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Appendix

Historical U.S. Equity and Global Equity composite returns

As of June 30, 2015	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
U.S. Equity	6.7	18.1	16.4	9.4	10.5	04/01/1986
Dow Jones U.S. Total Stock Market Index	7.2	17.6	17.5	8.3	-	
Global Equity	1.8	14.6	12.1	-	2.5	11/01/2007
MSCI AC World Index (Net)	0.7	13.0	11.9	6.4	2.1	

In June 2015, the ATRS Board approved the combination of the U.S. and Global equity asset classes to a single Total Equity asset class. Total Equity performance reporting began in July 2015. In the table above, we show the historical returns for the U.S. Equity and Global Equity asset classes since inception through June 2015. Performance for the Total Equity asset class prior to July 2015 represents a weighted average of the U.S. Equity and Global Equity historical performance.

Notes

- The rates of return contained in this report are shown on an after-fees basis unless otherwise noted. They are geometric and time-weighted. Returns for periods longer than one year are annualized.
- Universe percentiles are based upon an ordering system in which 1 is the best ranking and 100 is the worst ranking.
- Due to rounding throughout the report, percentage totals displayed may not sum to 100%. Additionally, individual fund totals in dollar terms may not sum to the plan total.
- All information presented in this report should be considered preliminary. Finalized data will be available on next Quarterly Investment Report after the close of the quarter.

Disclaimer

Past performance is not necessarily indicative of future results.

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

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Aon Investments USA Inc.
200 East Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

Emerging Manager Report

Arkansas Teacher Retirement System (ATRS)

August 21, 2020

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

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Introduction

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

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

In accordance with the ATRS Emerging Managers Goal and Acknowledgment Act 304, this report contains information regarding our firm-wide manager research process, including coverage of emerging managers and our ongoing efforts in the space, and provides an update on ATRS's due diligence activity on emerging managers during the 2020 fiscal year.

Aon Manager Research Overview

Global Investment Management Research Team

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

Investment Manager Database: InView

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

Across all asset classes, our database contains statistical and product information on over 10,000 investment managers and approximately 24,000 products. The table below details the number of managers and products by asset class.

As of 3/31/2020

	InView Database	
	Products	Managers
Equities	6,637	1,388
Fixed Income	2,730	657
Hedge Funds	1,450	762
Private Equity	6,998	2,550
Infrastructure	275	149
Real Estate	4,310	1,330
Multi Asset/DGF*/TTAA*	789	320
Cash	158	68
Currency	82	58
Commodities	51	30
Other	431	210
Unclassified	262	4,838
Total	24,173	10,081**

* DGF: Diversified Growth Fund

* TTAA: Tactical Asset Allocation

Includes Buy & Buy (Closed) Ratings

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

Investment Manager Rating Process

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

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

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

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

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

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

Investment Manager Search Process

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

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

The Townsend Group

The Townsend Group is Aon's real estate investment management and consulting arm. It's global real estate platform has approximately \$18 billion in assets under management, \$139 billion in advised assets, and approximately 85 investment professionals. In the appendix of this report, we provide details of Townsend's manager due diligence process and procedures.

Aon Emerging Manager Efforts

Alongside ATRS, Aon is also committed to supporting emerging managers and being proactive in identifying and maintaining knowledge of the emerging manager universe. Aon has dedicated resources to ensure we expand our existing platform to more broadly reflect the diverse landscape of asset managers. In 2015, Aon added dedicated resources to ensure inclusion of emerging, diverse (MWBE) and responsible investing (RI) managers. Meredith Jones, Aon's Head of Emerging Manager Research, leads these efforts and works closely with Aon's Global Manager Research Team to ensure comprehensive coverage and knowledge sharing across these efforts.

Recent Emerging, Diverse and Inclusion Activity

Meredith not only leads the development of Aon's emerging and diverse manager program, she is one of the leading researchers globally in the field of emerging and diverse manager research and her work has been featured in the international financial media, including The New York Times, The Wall Street Journal, The Economist, The Journal of Investing, and more. Recently, Meredith's book, "Women of The Street: Why Female Money Managers Generate Higher Returns (and How You Can Too)" recently made the U.S. News and World Report's list of 15 Best Finance Books for Financial Professionals. Meredith also testified¹ in front of a Congressional Committee in 2019 on the topic of "Diverse Asset Managers: Challenges, Solutions and Opportunities for Inclusion."

Most recently, Aon has been re-examining the common approach towards supporting inclusion and diversity across the investment landscape. Our evaluation has led us to advocate a more holistic view of diversity and inclusion in investor portfolios, with a focus on each inflection point within the diverse manager lifecycle. We have found that the past approach to diverse managers has not yielded significant change in industry demographics over the past 10-15 years. And while we continue to support the current efforts, we anticipate that a more holistic approach will increase the availability and accessibility of diverse investor talent for institutional allocation, which will positively impact return profiles. We include in the Appendix a graphic depicting the various inflection points of focus across the asset manager lifecycle.

Additionally, Aon partnered with the National Association of Investment Companies (NAIC) on a research piece at the end of calendar year 2019. NAIC is a professional association of diverse-owned private equity and venture capital firms as well as hedge funds. The research piece, entitled "Examining the Returns 2019: The Financial Returns of Diverse Private Equity Firms," discusses the level of assets managed by diverse- and women-owned firms and the performance they have delivered.

¹ Click here for the [written testimony](#).

Aon's Emerging and Diverse Manager Program Highlights

Client Experience

Aon engages with clients to fulfill emerging and diverse investor searches. Recent examples include:

- Provided \$119.9B² public plan with diverse candidates for two fixed income searches.
- Worked with \$25B³ plan to invest \$50m in diverse, female-run fund.
- Working with large DC plan to add diverse managers to line-up⁴.
- Working with large foundation to provide MWBE investment policy enhancements³.
- Working with large DC plan to add 'Rooney Rule' to investment policy³.

We include in the appendix of this report emerging manager-related projects our firm has completed over recent years.

MWBE Outreach and Research

Aon worked with the National Association of Investment Companies (NAIC) to produce "*Examining the Results: The Financial Returns of Diverse Private Equity Companies.*"

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

Since 2015, we have dramatically increased our presence in the emerging and diverse manager communities, attending and/or spoke at 10+ emerging/diverse conferences per year, including for large MWBE programs as well as industry groups NAIC, NASP and 100 Women in Finance. Below we provide a sample of the large conferences attended. The bullets in italics indicate conferences in which Aon had a speaking role.

- *Consortium West*
- *Consortium East*
- 100 Women in Finance Meet the Female Managers West
- *UAW Emerging Manager conference*
- *NAIC*
- *Opal Women's Investment Conference*
- *eVestment*
- Markets Group PE
- *NYSTRS*
- Grosvenor
- Texas TRS
- New York Common
- Morgan Stanley Prime Brokerage Women's Investment Leadership Conference
- European Investor Female Manager Conference

² As of June 2018

³ As of December 2018

⁴ Ongoing work

We also include in the appendix of this report historical emerging manager-related participation and/or speaking engagements.

Industry Outreach

Aon has been quoted or featured in 20+ articles on emerging/diverse managers, including a feature in Emerging Manager Monthly.

Relationships

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

Open Door Policy

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

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

Currently, 414 minority and woman-owned business enterprise (MWBE) managers are included in our database. Emerging managers are included in the database and evaluated in the same manner that non-emerging managers are evaluated. Of this group, we rate 293 products either fundamentally or quantitatively through our InForm process. In the last 4 years we have met with 83 of the products.

The table below details Aon's emerging manager historical activity*.

	Public Equity	Fixed Income	Private Equity	Hedge Funds	Total
# of MWBE Managers Recommended	9	4	15	10	38
# of MWBE Managers on Buy List	20	2	0	3	25

*Real Estate numbers are shown under the Townsend coverage which can be found on subsequent pages

The Townsend Group

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

As illustrated below, the group has screened over 1,000 emerging manager funds which ultimately led to approving 107 emerging manager funds over the past 10 years ending March 31, 2020.

Townsend Emerging Manager Execution Due Diligence Selectivity



Since 2004, the Townsend Group invested or committed:

- \$10.1 billion to emerging managers
- \$3.7 billion to minority and/or women owned managers
- \$7 billion to first or second time funds

Over the past 5 years, The Townsend Group approved:

- 14 MWBE funds, committing \$849 million in total
- 31 emerging managers, committing \$2.8 billion in total

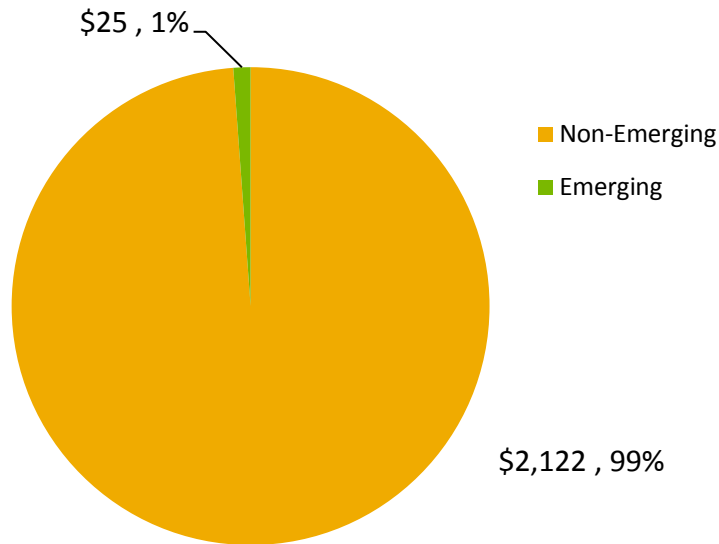
ATRS Emerging Manager Utilization

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

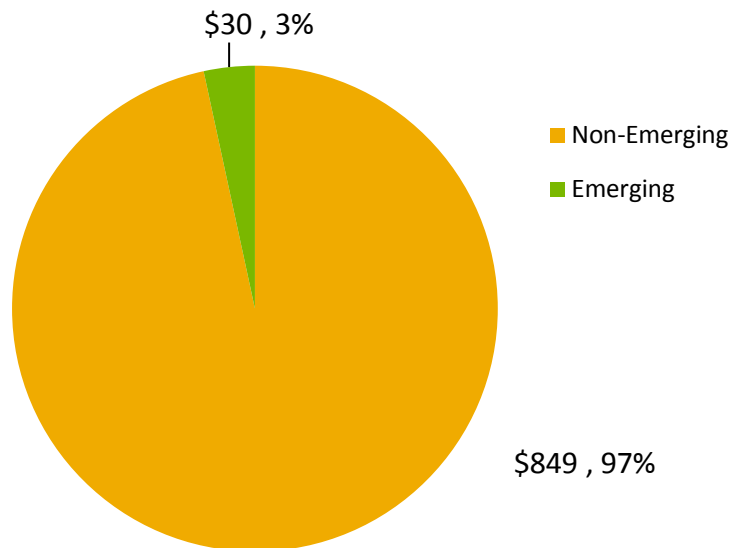
We note that Circumference Group does not fit within ATRS’s specific definition of an emerging manager firm; however, we list Circumference Group below as we believe the hiring of Circumference Group is consistent with the spirit of ATRS’s emerging manager goal. ATRS fulfilled an initiative in 2015 to hire an Arkansas-based investment management firm with the hiring of Circumference Group. Circumference Group is located in Little Rock, AR, was founded in 2009, and at the time of hire had less than \$100 million in AUM. Under alternative definitions, Circumference Group is considered an emerging manager. As of June 30, 2020, the firm’s AUM has grown to approximately \$120 million.

Manager	Strategy	Emerging Status	Portfolio Size	Tenure with ATRS
Long Wharf Investors	Value Added Real Estate (Fund V)	Majority Hispanic owned	\$25 M	12 years
<i>Circumference Group</i>	<i>Core Value & Concentrated Positions</i>	<i>Small Manager</i>	<i>\$30 M</i>	<i>6 years</i>

Emerging Utilization of Real Assets (millions)



Emerging Utilization of Opportunity/Alternatives (millions)



*Represents assets allocated to Circumference Group which does not fall under the Arkansas emerging manager definition but is considered an emerging manager under alternative definitions.

ATRS 2020 Fiscal Year Search Activity

During the 2020 fiscal year there was limited manager search activity for the ATRS portfolio. The activity included 6 new strategies in the real assets asset class. During the year, one of the six commitments was made to an emerging manager. ATRS approved a \$50M commitment to the Long Wharf Real Estate Partners VI Fund, which is a firm that is majority Hispanic owned.

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

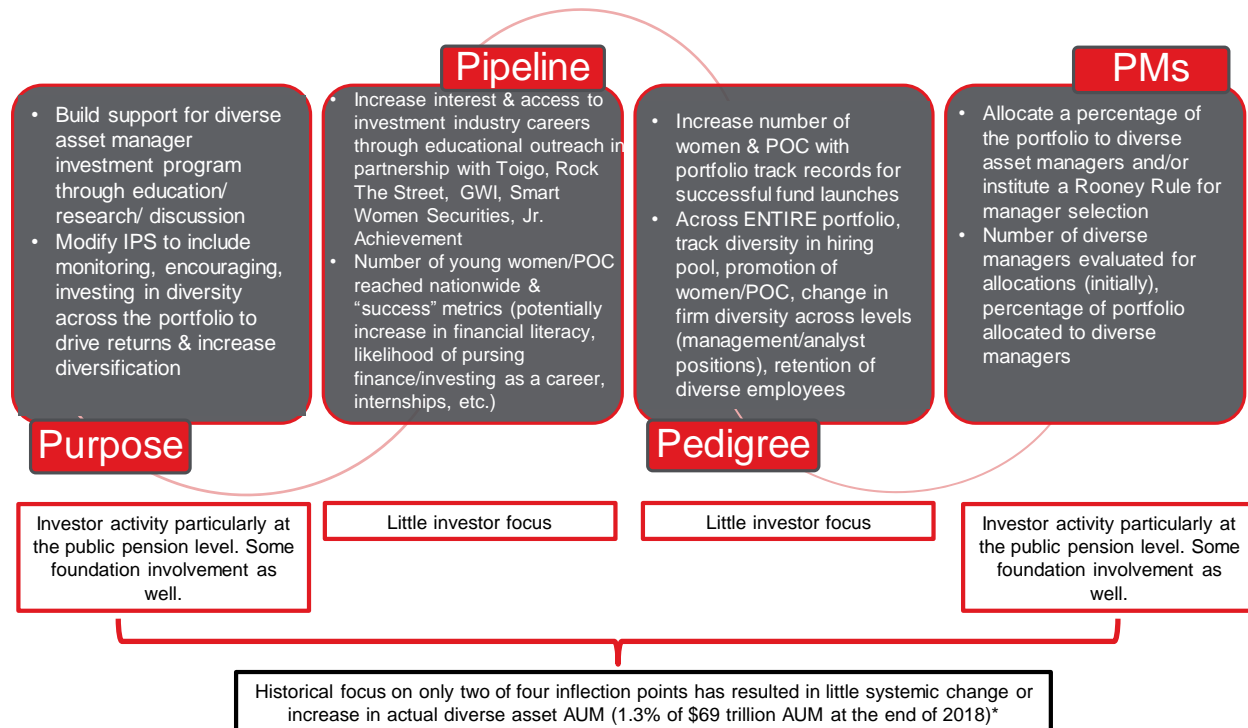
New Account	Type	Minority/Emerging Managers Considered?
BTG Pactual Open End Core Timberland Fund	Real Assets (Timberland)	N/A – the new account is with an existing manager within the ATRS portfolio
Long Wharf Real Estate Partners VI	Real Assets (Real Estate)	Yes. Long Wharf is an existing manager and is majority Hispanic owned
CBRE Strategic Partners U.S. Value 9	Real Assets (Real Estate)	N/A – the new account is with an existing manager within the ATRS portfolio
Torchlight Debt Fund VII	Real Assets (Real Estate)	N/A – the new account is with an existing manager within the ATRS portfolio
Macquarie Infrastructure Partners V	Real Assets (Infrastructure)	N/A – the new account is with an existing manager within the ATRS portfolio
AxInfra NA II*	Real Assets (Infrastructure)	No - A strategy offered by an emerging firm with the desired characteristics and open to investors was not available

*Temporarily on hold at the time of this report due to COVID-19 interference

We note that the investment structure, i.e., the number and types of investment managers employed by ATRS, is driven by the asset allocation decision which is reviewed and approved regularly by the ATRS Board. Efficient implementation of the manager structure is critical to the success of the ATRS Trust Fund. Aon's investment strategy recommendations focus on the ability to provide long-term value add and we do not promote nor advise frequent hiring and firing of investment managers.

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

Appendix – Investor Engagement in the Diverse Asset Manager Life Cycle



*Source: 2019 Knight Foundation - 2018 Diverse Asset Management Firm Assessment Final Report - January 2019

Appendix – Aon Historical Projects and Participation/Speaking Engagements

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

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

Historical participation and/or speaking engagements include:

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

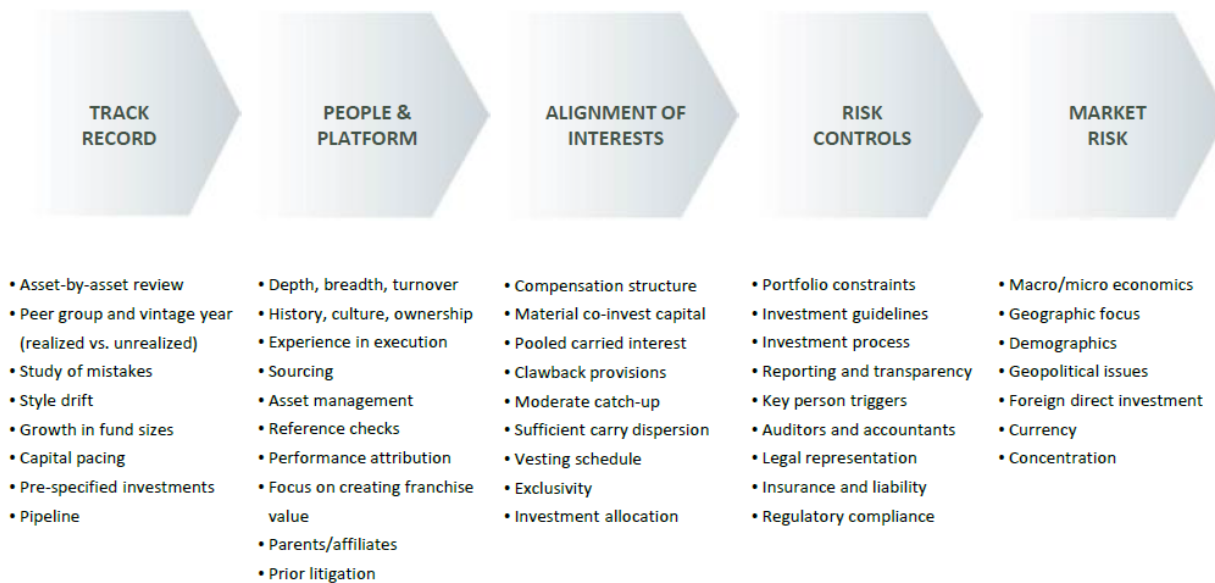
Appendix – The Townsend Group Emerging and MWBE Due Diligence Coverage



*Above data reflects the 10-year period from 1Q 2010 to 1Q 2020

Appendix – The Townsend Group Due Diligence Methodology

RIGOROUS, SYSTEMATIC ANALYSIS YIELDS BETTER CLIENT OUTCOMES



Appendix – The Townsend Group Investment Process Overview

A STRUCTURED, MULTI-STAGE PROCESS INTEGRATED WITH INVESTMENT COMMITTEE



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TOWNSEND[®]
GROUP

an Aon company

Arkansas Teachers Retirement System First Quarter 2020 Real Assets Performance Review

PROPRIETARY & CONFIDENTIAL

September 2020

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Agenda

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Real Assets Markets Performance and Overview

MARKET RETURN SUMMARY

As of 3/31/2020	Quarter	1 year	3 years	5 years	10 years
NFI-ODCE (Net)	0.8%	3.9%	5.9%	7.5%	10.4%
NPI	0.7%	5.3%	6.4%	7.6%	10.1%
NCREIF Timberland Index	0.1%	1.3%	2.5%	2.8%	4.5%
NCREIF Farmland Index	-0.1%	4.0%	5.7%	6.6%	10.9%

Note: Please see Glossary for Index Definitions

- In the first quarter of 2020, the NFI-ODCE (net) returned 0.8%, down 50 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 1.3% and driven primarily by an income return of 2.64% while appreciation returned -1.32%. Regionally, the South was the NTI’s top performer while the Northwest and Northeast regions lagged for the quarter
- The NCREIF Farmland Index returned -0.1%, down 244 basis points from the prior quarter. Permanent crops drove negative performance with a return of -1.35%. For the trailing one-year, permanent crops returned 4.51% compared to row crops’ 3.69%

Portfolio Funding Status and Composition

As of March 31, 2020	ATRS' Portfolio \$ in Millions
Number of Investments	66
Total Commitments	\$3,763.4
Unfunded Commitments	\$534.4
Total Paid-In Capital	\$3,523.6
Total Distributions	\$2,992.1
Net Asset Value	\$2,144.6
Gross Asset Value	\$2,519.4
DPI*	0.9x
TVPI*	1.5x
Since Inception IRR*	7.1%
<i>*Active and Liquidated</i>	

PORTFOLIO COMPOSITION TO TARGETS (As of 3/31/2020)		
	Target	Actual Funded
Target Real Asset Allocation	15%	14.1%
<u>Portfolio Style Composition</u>		
Real Estate	10%	8.8%
Core*	50%-70%	72.6%
Non-Core	30%-50%	27.4%
<i>Value-Added**</i>	N/A	14.8%
<i>Opportunistic**</i>	N/A	12.6%
Agriculture	1%	1.3%
Timber	2%	2.0%
Infrastructure	2%	2.0%
Leverage	50%	14.9%

* 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 3/31/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Real Assets Portfolio	-0.4%	3.9%	6.2%	7.1%	8.5%
Real Assets Benchmark*	0.8%	4.1%	5.3%	6.5%	8.7%

- The table shows the returns for ATRS' Total Real Assets Portfolio and the Real Assets Benchmark. ATRS underperformed the real assets benchmark for the first quarter, but has outperformed over the 3- and 5- year periods

ATRS' Real Estate Performance

ATRS TOTAL REAL ESTATE RETURN SUMMARY

As of 3/31/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Real Estate	-0.4%	2.0%	6.1%	7.5%	10.1%
NFI-ODCE (Net)	0.8%	3.9%	5.9%	7.5%	10.4%

- 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 120 basis points and 190 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 driver of the real estate return with a 2.0% total return, while UBS TPF has dragged with a 0.0% total return

ATRS' Timberland and Agriculture Performance

As of 3/31/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Timberland	0.6%	12.1%	4.2%	4.2%	3.5%
Timberland Property Benchmark*	0.4%	3.1%	1.9%	2.4%	3.3%
Total Agriculture	-0.7%	1.9%	2.9%	4.5%	N/A
Agriculture Benchmark*	0.7%	4.0%	4.3%	4.6%	N/A
CPI + 500 BPS	1.7%	6.6%	7.0%	6.9%	6.8%

- The timber portfolio outperformed the benchmark over the quarter, returning 0.6%
- The agriculture portfolio underperformed the benchmark over the quarter, returning -0.7%. The portfolio underperforms over the trailing one and three-year time periods
- Both the 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 3/31/2020

Asset Class	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
Infrastructure	345,413,930	48,266,449	310,089,823	102,970,731	296,132,296	399,103,027	0.33x	1.29x	11.59%

- 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 25.12% Net IRR

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
 - 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 quarter, a novel coronavirus (COVID-19) spread throughout the world's countries and their respective economies. The implications of this virus are expected to impact real estate valuations with Retail and Leisure hit hardest. As a result, the Townsend Group has recommended its clients defer new capital investments in funds with pre-specified assets. Blind pool funds, such as closed-end funds higher on the risk/return spectrum, offer a potential to have capital available when a new opportunity set presents itself.
- Subsequent to quarter end, SEI Global Services/SEI Investments Company, a multinational financial services firm which provides fund administration services to Investment Managers, has reported a ransomware attack in which confidential data was improperly exposed. Manager's potentially exposed to the SEI breach within the real estate/real assets portfolio include: Blackstone Real Estate Advisors and Macquarie Group

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United States Real Estate Market Update (1Q20)

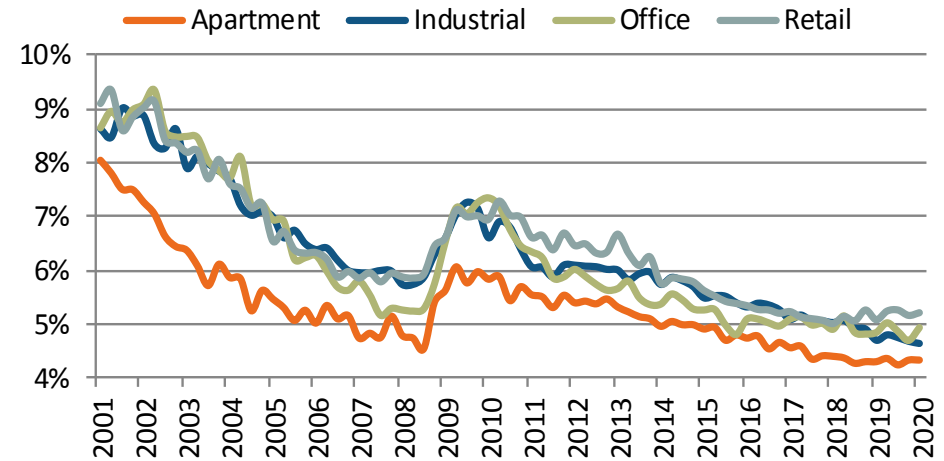
General

- December 31, 2019, China reported an abnormal cluster of pneumonia cases to the World Health Organization. The cause of the pneumonia cluster, COVID-19, rapidly spread and produced a global pandemic, which led to a stark halt of economic growth. The pandemic resulted in quarantines and extended shelter in place orders. Equity markets reacted quickly, and the S&P 500 produced a gross total return of -19.6% during the quarter. The MSCI US REIT index produced a return of -27.0%. Globally, consumption, supply chains, and daily routines were disrupted.
- The U.S. entered a recession in February; GDP grew at an annualized rate of -4.8%. Initial jobless claims reached 10 million in March alone, while the unemployment rate peaked in April at 14.7%. The Federal Reserve has acted aggressively via quantitative easing and rate cuts, thus far financial markets have stabilized. In addition, the CARES Act provided \$1.5 trillion of stimulus to the economy.

Commercial Real Estate

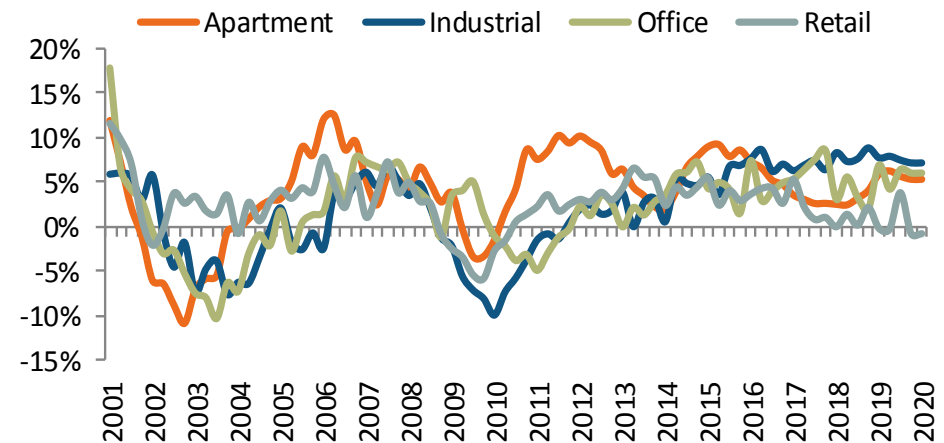
- Shelter in place orders and social distancing have restricted the ability to complete due diligence and acquire assets. Price discovery has been limited.
- Private real estate market carrying values remained flat over the quarter. Transaction cap rates (5.4%) expanded 4 bps during the quarter, while current valuation cap rates reacted differently across property sectors, industrial (-4 bps), apartments (0 bps) office (+24 bps), and retail (+5 bps).
- NOI growth continued to be positive across property sectors during the quarter. Retail NOI growth continues to struggle (-230 bps) in the face of e-commerce headwinds. NOI is expected to contract in the 2nd quarter. Subsequent to quarter-end, rent collections have remained strong in the Apartment, Industrial, and Office sectors. The Retail sector has seen rent collections of 30-50% vs. more than 85% in the other major sectors.
- In the first quarter of 2020, \$26 bn of aggregate capital was raised by real estate funds. There continues to be substantial dry powder, ~\$335 billion, seeking exposure to private real estate.
- 10-year treasury bond yields declined 122 bps to 0.70% during the quarter, as investors sought safety.

Current Value Cap Rates by Property Type



Source: NCREIF

4 Qtr Rolling NOI Growth



Source: NCREIF

United States Property Matrix (1Q20)



INDUSTRIAL

- In 1Q20, industrial properties were the highest returning sector at 2.6% and outperformed the NPI by 190 bps.
- Transaction volumes reached \$33.6 billion in the first quarter of the year, a 90.0% year-over-year increase. Individual asset sales were up 4.2% year-over-year, while portfolio purchases turned in a year-over-year volume increase of 26.8%. Yet again, portfolio transaction volume was driven by multiple megadeals. The portfolio transaction volume regressed to the mean growth rate in 1Q20 following the past two quarters of astronomical growth.
- The industrial sector continued to experience steady NOI growth of 8.3% over the past year, significantly increasing from the prior periods TTM growth of 7.1% in 4Q19. Market rent growth is expected to decelerate compared to the recent phenomenal pace, but still remains very strong.
- Vacancy decreased by 2 bps to 3.5%, 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 4.64%. Industrial fundamentals still top all property sectors.

MULTIFAMILY

- The apartment sector delivered a 1.0% return during the quarter, outperforming the NPI by 25 bps.
- Transaction volume in the first quarter of 2020 reached \$39.8 billion, an increase of 2.9% year-over-year. This volume continues to make multifamily the most actively traded sector for the eleventh straight quarter.
- Cap rates stayed steady at 4.33%, inflating 3 bps year-over-year. Robust job growth and improving wages have supported healthy operating fundamentals.
- Steady demand for the sector continues to keep occupancy floating around 94.0%, vacancy has decreased 35 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 1.3% in 1Q20, 60 bps above the NPI return over the period.
- Transaction volumes increased by 5.7% year-over-year in Q1. Annual sales volumes equaled \$30.0 billion for the quarter. Single asset transactions accounted for 80% of volume.
- Occupancy growth within the office sector has improved, increasing 0.3% year-over-year. Office continues to be the highest vacancy property type at close to 10.1%.
- NOI growth of 5.8% in the last year is a positive as the sector continued to benefit from positive job growth in the beginning of the quarter. Sun Belt and tech-oriented West Coast office fundamentals continue to prove healthiest. Due to a number of work from home orders put in place at the end of the first quarter, NOI growth is expected to trend downward.
- Office cap rates expanded from a year ago to approximately 4.91% in the first quarter. Office-using job growth is shifting negatively as expected. Many work from home policies were put in place at the end of the quarter, slowing overall office growth.

RETAIL

- As of 1Q20, the retail sector delivered a quarterly return of -2.1%, performing 280 bps below the NPI.
- Transaction volumes totaled \$13.0 billion in the first quarter, increasing 4.7% year-over-year.
- Cap rates have expanded approximately 13 bps within the sector over the last year, to 5.22%.
- NOI growth remains negative for the first quarter of 2020. NOI has decreased 153 bps over the past year. Retail is expected to continue to suffer from the shift towards e-commerce and the recent shelter in place orders.
- Retail vacancy rates increased 6 bps over the past year to 7.6%. Many big box stores have closed as the need for retail space shrinks, translating to a negative outlook for rent growth.

Global Real Estate Market Update (1Q20)

- Global investment activity during the first quarter of 2020 was down relative to the same period in 2019. In 2020, the New York, Los Angeles, San Francisco metro markets have witnessed the greatest transaction volume.

- Broad geopolitical risk factors, such as Brexit and the Trade War, continue to have negatively influenced sentiment. A global slowdown was triggered by the COVID-19 pandemic (with full impact beginning in March), further dampening transaction volumes. Loose monetary policy continued supporting low yields and pushing capital inflows towards real estate which offers a premium to other asset classes.

- Investment volumes in the Americas increased by 17% year-over-year, including Canada and the U.S. posting investment volume growth, and Brazil showing substantial declines. The COVID-19 pandemic did not escalate in the Americas until the second half of March.

- The Asia Pacific region declined as a whole due largely to activity levels falling as a result of the pandemic. Specifically in Hong Kong, volume hit its lowest level since the Global Financial Crisis as a product of continued sociopolitical uncertainty within the metro. While South Korea experienced some growth, China, Australia, and Japan declined.

- In EMEA, Brexit continued to press UK investment volumes lower, a 1% decline from first quarter 2019. Growth for the rest of EMEA countries led to the highest Q1 investment volumes on record. The COVID-19 crisis did not escalate in EMEA until the second half of March.

- In the office sector, global leasing activity begun to see a decline as deals were cancelled or delayed. The U.S. office market saw net absorption decline, as well as an 8% YoY decline in leasing activity. Europe experienced an uptick in demand and no office markets saw a fall in rents. Economic, geopolitical, and sectoral headwinds subdued leasing activity in the APAC region.

- The retail sector continued to face headwinds globally as e-commerce disrupts traditional consumer spending habits and the lockdowns to slow the spread of COVID-19 all but halted foot traffic. Within the U.S., net absorption continued to trend downward. Retail sales saw the largest monthly decline in March on record. Across both Europe and APAC, rents saw declines as sentiment begins to turn negative.

- The multifamily market in the U.S. has continued to see solid growth, with vacancy rates remaining low. Construction remains near peak levels, possibly presenting future supply headwinds. Rent control and low supply constrained activity in many European markets, but investment volume remains positive. APAC markets were mixed, a result of macroeconomic uncertainty and holiday season effects.

- Industrial properties demand continued to grow but at a slower pace. Uptake was robust globally driven by logistics and omnichannel distribution demand. New supply has been increasing rapidly, and there are signs of slowing demand in Asia while Europe recovered from a slow start earlier in the year.

Global Total Commercial Real Estate Volume - 2019 - 2020

\$ US Billions	Q1 2020	Q1 2019	% Change Q1 20 - Q1 19	Full Year Ending 1Q20	Full Year Ending 1Q19	% Change Full Year
Americas	116	99	17%	549	522	5%
EMEA	70	67	4%	377	349	8%
Asia Pacific	111	185	-40%	769	836	-8%
Total	296	351	-16%	1694	1707	-1%

Source: Real Capital Analytics, Inc., Q1' 20

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

	2020	2021	2022
Global	-3.1	4.9	3.4
Asia Pacific	0.0	5.1	4.6
Australia	-4.5	4.0	3.4
China	1.7	8.0	5.5
India	-2.0	7.1	
Japan	-5.0	2.2	1.1
North America	-5.9	3.9	2.9
US	-5.7	4.0	3.0
MENA*	-1.0	2.9	
European Union	-7.2	5.0	2.2
France	-9.0	6	1.8
Germany	-6.2	4.9	2.0
UK	-7.8	5.5	2.7

*Middle East North Africa

Source: Bloomberg

Market Update: Real Estate Four Quadrants Summary

August 10 – September 11









Real Estate Private Equity	Real Estate Public Equity
<ul style="list-style-type: none"> NFI-ODCE recorded a total gross return of -1.56% for the second quarter 2020. This is the first negative total return since fourth quarter 2009. The income return for the quarter was down slightly to 0.91%, appreciation decreased to -2.46% from -0.04% the previous quarter. Most open-end fund managers continue to limit redemptions to preserve cash and protect assets. Redemption queues continue to elevate, now standing at roughly \$17.7 billion for NFI-ODCE Funds (8% of the total index value). Open-end funds reported better than expected rent collections for the second quarter. Multifamily, Industrial, and Office collection rates ranging from 90-93%. Retail has been the laggard as forecasted, coming in at around 65%. With nearly half of closed-end funds having reported results for 2Q20, early indications point to an average decrease in value of 2.6%. There is a wide disparity in reported results, with just under 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"> In recent weeks, REIT share prices have relatively stabilized. After the initial decline of the shutdown in March through a June 8 peak, the FTSE NAREIT All Equity REITs index provided a total return of 51.7%. Between the June peak and the end of August, REIT returns remained in a narrow range and are approximately 5.7% below the June peak. Nevertheless, many REIT sectors still remain down for the year, such as retail, health care, and office which are down 38.6%, 21.8%, and 25.9% YTD, respectively. These poor results demonstrate market uncertainty regarding the longer-term impact on demand in different real estate sectors. Based upon year-to-date returns, property sectors with exposure to e-commerce have outperformed all others, with data centers, cellphone towers, and industrial showing returns of 33.73%, 17.98%, and 15.02% respectively. Between 2010 and today, these three sectors have grown from less than 10% of the REIT equity market capitalization to over 40% today.
Real Estate Private Debt	Real Estate Public Debt
<ul style="list-style-type: none"> Prior to the onset of COVID-19, Townsend believed that interest rates were going to stay low for the foreseeable future. The current house view is that rates will continue to be low for even longer. Debt, primarily for stabilized and core assets will be cheap and accretive based upon current yields (cap rates). Financing demand is reduced due to limited sales transactions, but the refinancing market is active. New loans created generally have more restrictive credit standards than those created before COVID-19, including smaller loan-to-value ratios and an increased emphasis on future revenue. Private credit real estate funds are actively filling some capital gaps in the market with whole, mezzanine and bridge loans on transitional properties. This may mitigate some distress. Townsend is tracking more than 100 private credit real estate funds currently seeking to raise investor capital. 	<ul style="list-style-type: none"> Buyers of Single Asset Single Borrower (SASB) CMBS have seen spreads return to pre-COVID levels. While a “value” opportunity may have evaporated, buyers are still in the market as SASB CMBS offers a clearer risk profile considering the investment is collateralized by a single, typically large, property. Similarly, high quality (A-Piece and Mezz) Agency CMB spreads have greatly retrenched; however, an opportunity set in new issue B-Piece exists. B-Piece Agency CMBS issued by Freddie Mac allow the buyers of the securitized loan pool to kick out unwanted loans. This allows the buyer an opportunity to customize the risk profile of the loan pool, a unique characteristic compared to conduit CMBS. In the conduit space, high quality CBMS spreads continue to trade near their pre-COVID level. Lower quality paper may offer a more attractive opportunity; however, investors remain wary regarding loan pools with retail and lodging exposure.

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Market Update: Property Type Summary

August 10 – September 11

Property Type	Market Sentiment	Commentary
Multifamily		Multifamily operating fundamentals through 2Q20 and the beginning of 3Q20 were vastly different by US geography, with Sun Belt assets exceeding expectations and coastal trends underperforming expectations. Occupancy for coastal heavy REIT multifamily assets declined approximately 200 bps, and effective rents on those leases were down almost 10% year over year as of July. From the peak in 3Q19 through the expected trough in 4Q20, the average rental rate could drop by 8.8% and the vacancy rate could increase by upwards of 3%. We observed a recent sale of a 16-story tower in Alexandria, VA, for \$505 million, which is in the range of what market participant expected the property to go for pre-COVID.
Office		Office sector rent collection has remained strong through 2Q20 (at approximately 93%), while the future of the sector still remains uncertain. Some managers have reported that flexible office tenants have agreed to a percentage rent arrangement, fundamentally changing the nature of some office leases. New leasing activity declined significantly post-Covid, down approximately 50% nationwide.
Industrial		E-commerce and the pandemic economy have boosted industrial economic fundamentals and have contributed toward an increased surge in demand for the sector. Specifically, Amazon has been a primary demand driver this year, nearly doubling its total industrial leases. Property values are up approximately 2% compared to the pre-Covid market.
Retail		Retail has continued to suffer, particularly formats that cater to discretionary spending such as apparel oriented malls. Same property NOI in the mall sector was down approximately 60% in 2Q20, with some industry researchers predicting that mall asset values will decrease approximately 25% this year. Of note, exposure to tenants in bankruptcy from Covid-19 has yet to be included in results. The sector is likely to see sharp declines throughout 2020 and into 2021.
Hotel		For the week ended August 29, total US RevPAR fell -44.5% y/y, a slight improvement on the prior week's -46.1%. Hotels, along with retail, continue to absorb the brunt of the stress brought on by COVID-19. This is made evident by a lack of transaction activity. A few hotels are investigating temporary solutions, such as robots to deliver room service and toiletries; however, anecdotes from industry professionals point to a cautious approach until a vaccine has been effectively developed.
Other		<u>Life Sciences</u> : Life sciences properties (such as medical office, health care and lab-oriented space) continue to perform well into the pandemic. We have observed some office buildings (under stress due to COVID-19) begin to list their properties as life science centers rather than a traditional office. Those properties that have been able to jump zoning hurdles required for the shift have been able to lease some previously vacant space. <u>Student Housing</u> : Colleges and Universities across the nation are grappling with the decision to migrate from on-campus classes to web-based classes given recent outbreaks on campus. For example, Harvard did not open its campus for the fall semester, the first time in 384 years.

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Farmland - First Quarter 2020 Market Update

FARMLAND MARKETS

- The onset of COVID-19 has shifted expectations for agricultural commodities in 2020, with most suffering declines during the quarter as expanded production and subdued demand has pressured prices across major crops. A shift in end-uses and substitution across a broad range of crops has resulted, while ongoing financial pressures on consumers and economies has reduced demand for crops.
- Decreased demand for transportation fuel has pressured corn, soybeans and sugar, while the sharp decrease in restaurant demand has led to some unforeseen shifts in other crop markets and supply chains, such as the impact on wine grape demand due to most restaurants temporarily closing. (FIGURE 1)
- Brazilian soybean markets continue to outperform with domestic prices reaching their highest level on record despite record breaking production this year (up 4%). Brazil continues to benefit from its weaker Real and increase in export volume due to ongoing U.S. trade dispute .
- Tree nut markets remained mixed, with almond shipments up 6% over the quarter with increases in both domestic and export demand, however the estimated record 2020 almond crop, ongoing tariffs and COVID-19 concerns has kept forecasted prices flat. Pistachio markets remained strong with last year's decline in production, although new acreage coming online and strong production estimates for the year have kept pressure on price forecasts. (FIGURE 2)

FIGURE 1: Key Commodity Prices 1Q20

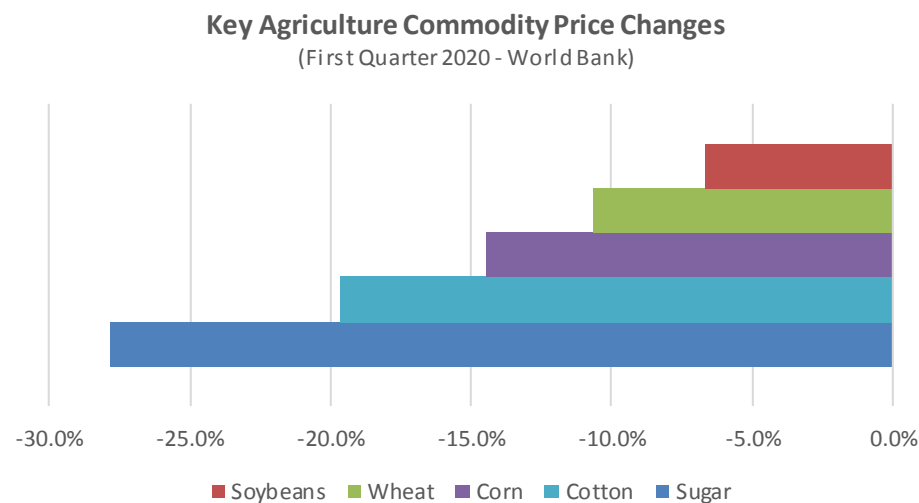
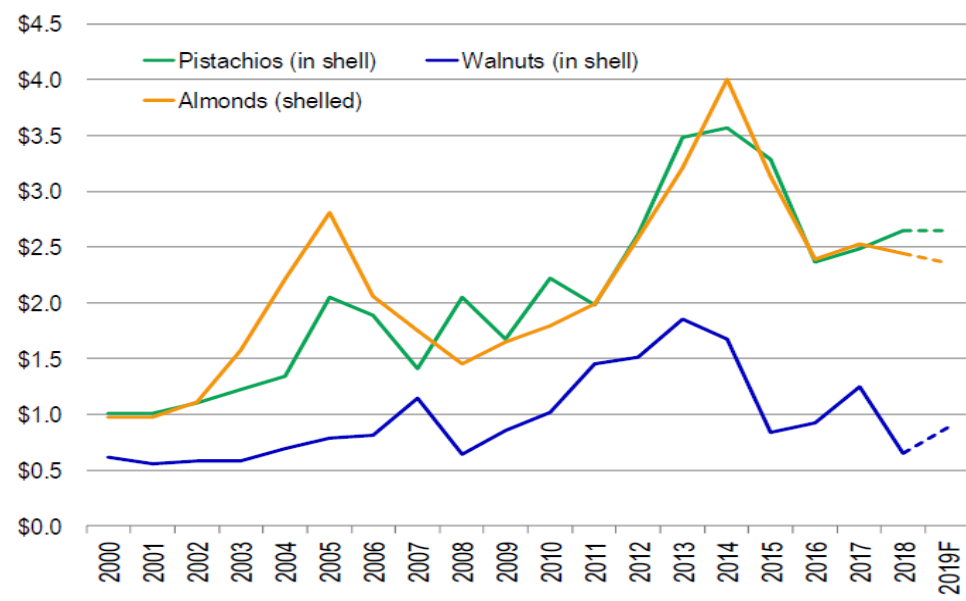


FIGURE 2: Annual U.S. Average Grower Tree Nut Prices (USD per lb.)



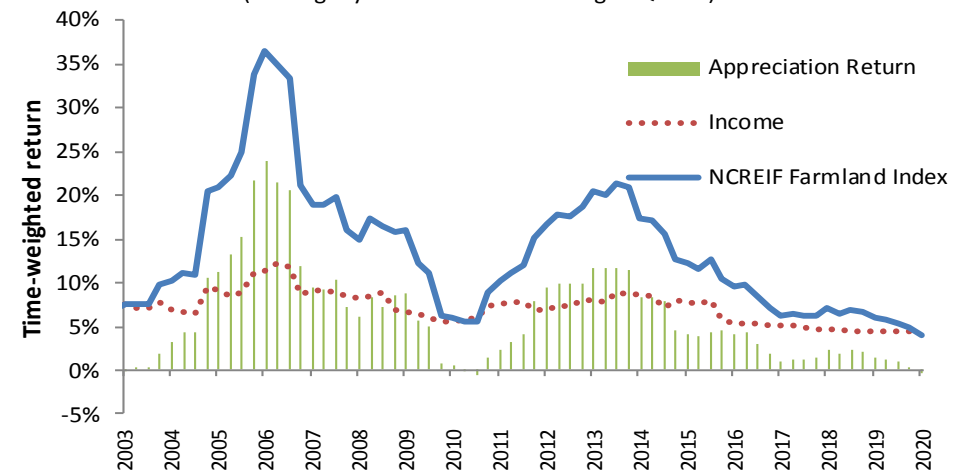
Farmland - First Quarter 2020 Market Update

FARMLAND PERFORMANCE

- The NCREIF Farmland Index (“NFI”) returned -0.10% for the quarter comprised of a 0.4% income return and a -0.5% appreciation return. This first negative quarterly return since 2001.
- Farmland values declined during the quarter, driven by permanent crop’s -1.4% return that was comprised of -0.8% appreciation and -0.5% income. Row crops returned 0.7% for the quarter, driven entirely by a 0.9% income return, as row cropland value declined -0.3% for the quarter.
- Permanent crop returns remained pressured as values declined for three straight quarters, while income returns were negative for the first time since 1Q 2016. Wine grapes, almonds, and apples drove the weaker performance for the quarter returning -2.5%, -2.1%, and -1.0% respectively.
- The NFI’s trailing-twelve month return was 3.98%, down from 4.81% from last quarter’s period and 6.1% for the same period in 2019. This was primarily driven by the overall softening in farmland values over the period as the TTM appreciation moved from slightly positive last quarter (0.4%) to slightly negative for this period (-0.3%).
- The TTM income return was relatively stable over the same period last year (4.3% vs. 4.5%), but maintained its slow downward trajectory that has been ongoing since the recent 2012-2013 market peak.

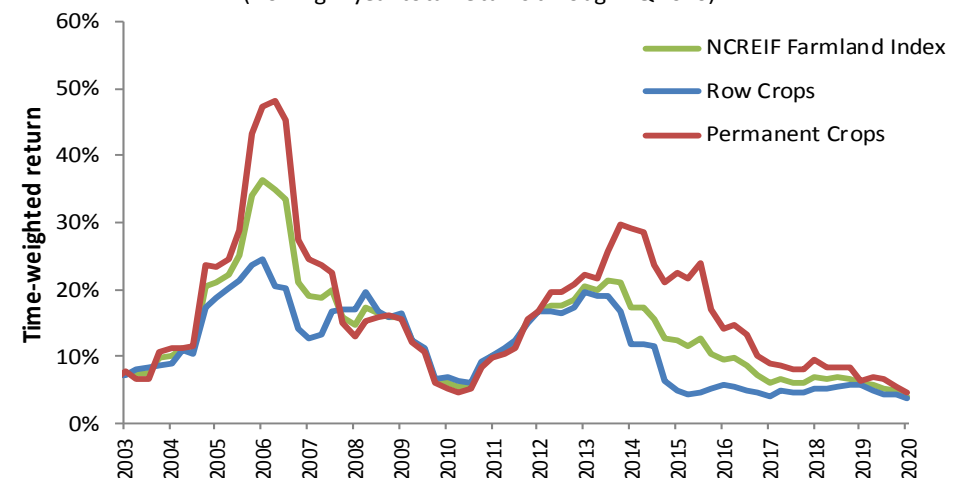
NCREIF Farmland Index Performance

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



NCREIF Farm Type Performance

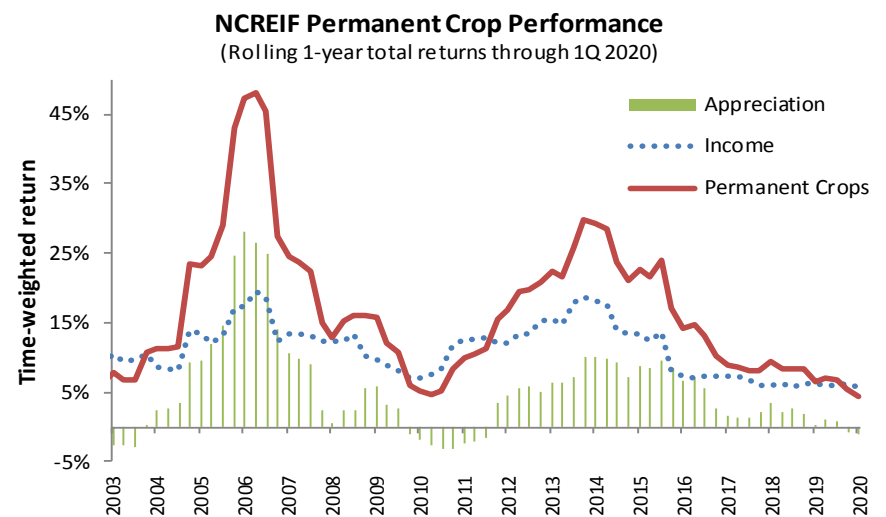
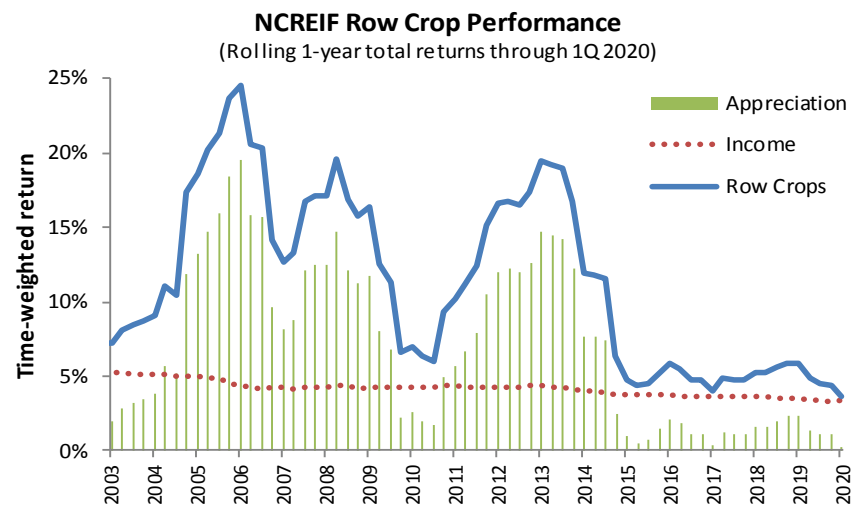
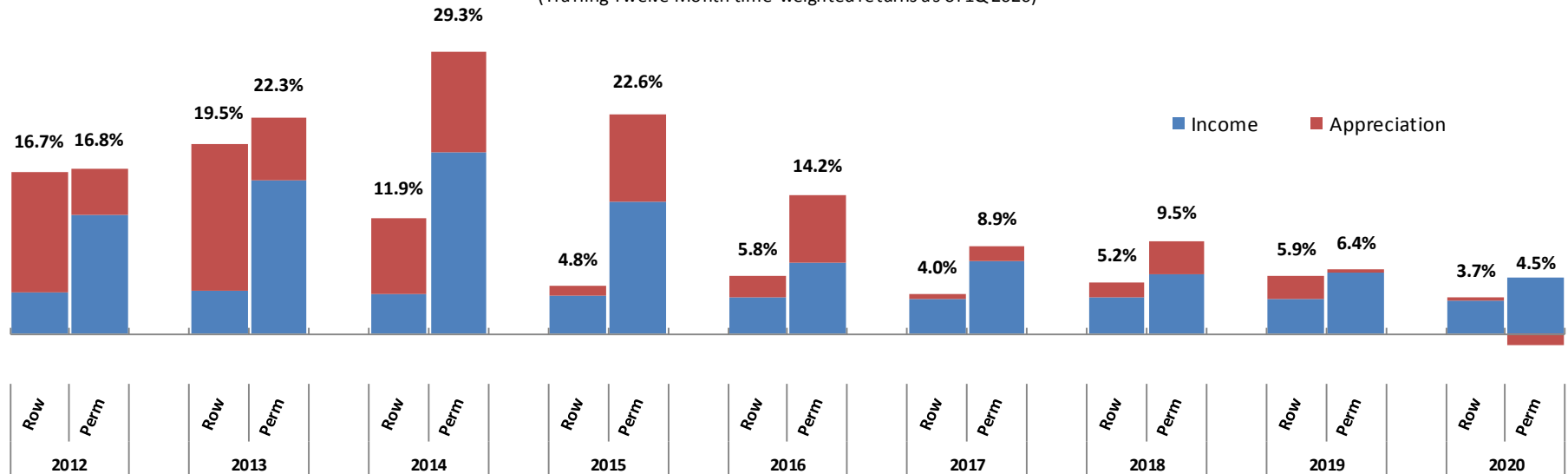
(Rolling 1-year total returns through 1Q 2020)



Farmland - First Quarter 2020 Market Update

FARMLAND PERFORMANCE

NCREIF Farm Type Performance Attribution
(Trailing Twelve Month time-weighted returns as of 1Q 2020)



Infrastructure – First Quarter 2020 Market Update

General

- Seventeen funds reached a final dose in Q1 2020, securing US\$38.4bn in aggregate capital. For the 12 months ending Q1 2020, this represents a 5% fall in the number of funds holding a final dose however the aggregate capital raised increased by US\$16.1bn in comparison to the last year.
- Deal value for the quarter fell by 46% in comparison to last quarter (est. aggregate value of US\$286.5bn) and there was a 17% decrease in the number of deals. Average deal size decreased by 34% quarter-on-quarter.

Europe

- Notable transactions that closed in the quarter included the US\$4.4bn tender of Ireland's implementation of the National Broadband plan as a PPP. Other notable transactions included the sale of Iliad for US\$3.3bn, a planned fibre to the home business in France, part owned by IntraVia. Renewable energy capacity investment for the first quarter was dominated by the privatization of the Dutch utility Eneco by the Netherlands Government for US\$4.4bn. Eneco owns a 1.7GB portfolio of wind power, 142MW of bioenergy and 100MW of solar generation.

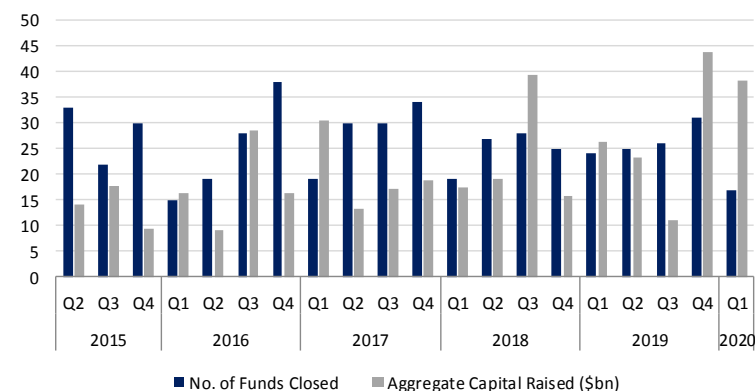
North America

- Deal flow was dominated by a number of transactions, notably the US\$14.3bn acquisition of Zayo Group, a communications services provider and the US\$4.3bn acquisition of Peoples Gas, a US water and gas firm. Over the quarter, notable sales in the renewables sector included the sale of Pattern Energy for US\$3.3bn, who own 26 wind and solar energy projects.

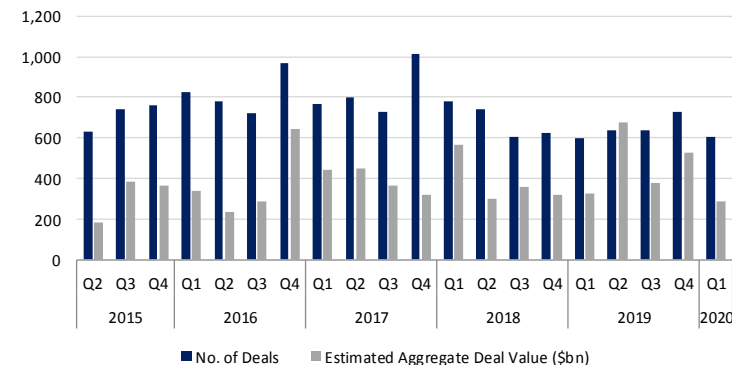
Asia Pacific

- Deal flow was dominated a number of transactions including the financial close of the Thar Block II Coal Mine in Pakistan, the deal involves the development of the coal fired power plant for US\$1.9bn. Another notable transaction was the sale of a 74% stake in THDC India, a government owned power company for US\$1.5bn. On the renewables side, a 600MW offshore wind farm Changfang & Xidao to be developed in Taiwan reached financial close for US\$2.9bn owned by Copenhagen Infrastructure Partners.

Unlisted Infrastructure Fundraising



Infrastructure Deals Completed



Source: Preqin

Timberland – First Quarter 2020 Market Update

TIMBERLAND MARKETS

- The impact of COVID-19 on global timberland markets was relatively muted during the quarter as timber markets tend to lag the broader economy. Expectations through the remainder of 2020 are less optimistic as the magnitude of the current economic shut-down along with the vulnerability and weakness in the construction sector are expected to create headwinds through the year and potentially beyond.
- U.S. housing starts began 2020 with strong momentum having reached a cyclical high by the end of 2019, which carried over through February, only to hit a wall and drop significantly by the end of 1Q20 as the onset of COVID-19 crushed consumer sentiment and effectively halted the global economy. (FIGURE 1)
- Global sawtimber prices were mixed with New Zealand facing significant pressure and declining 20% driven by China's severe lockdown that severely curtailed demand. In the U.S., prices out of the Pacific Northwest benefited from a strong U.S. housing market during the first half of the quarter, while southern timber prices remained flat for the quarter but are still about 10% off levels from last year. (FIGURE 2)
- Brazilian markets were generally positive with increases in timber demand for pig iron production, and relatively stable demand for pulpwood increased end-use demand for packaging and paper has provided support. Australian markets were relatively stable but are expected to face pressure as housing activity continues to decline.

FIGURE 1: US Housing Starts (Mil Units) SAAR¹

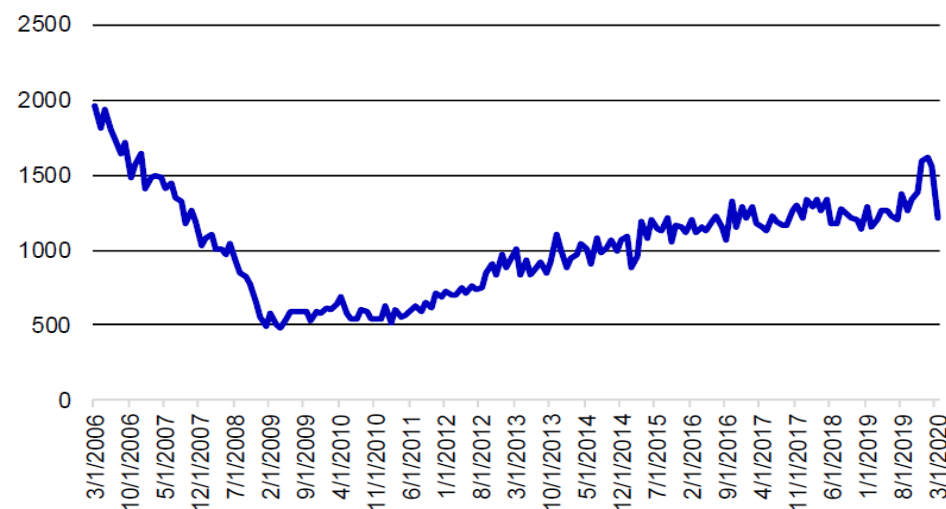
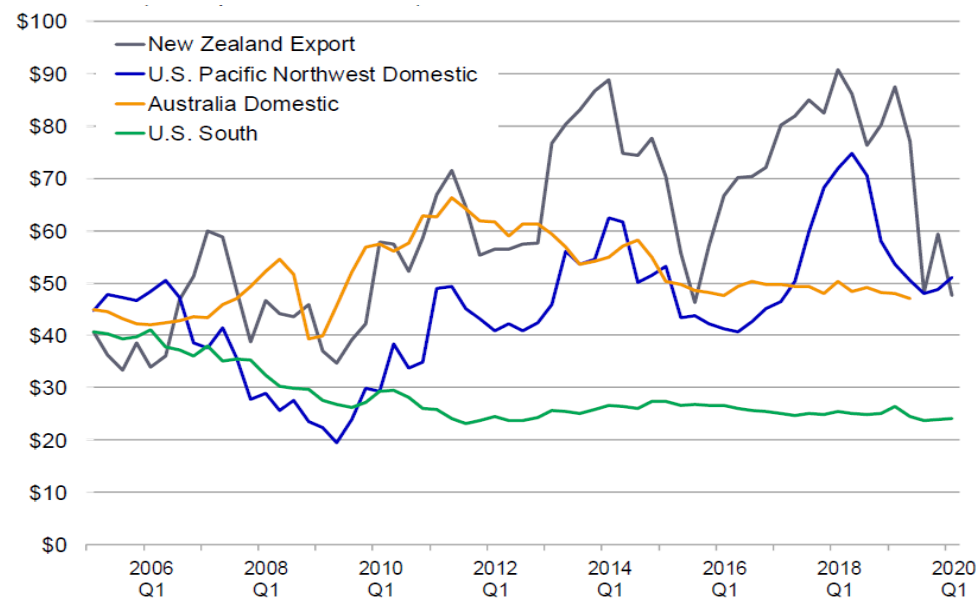


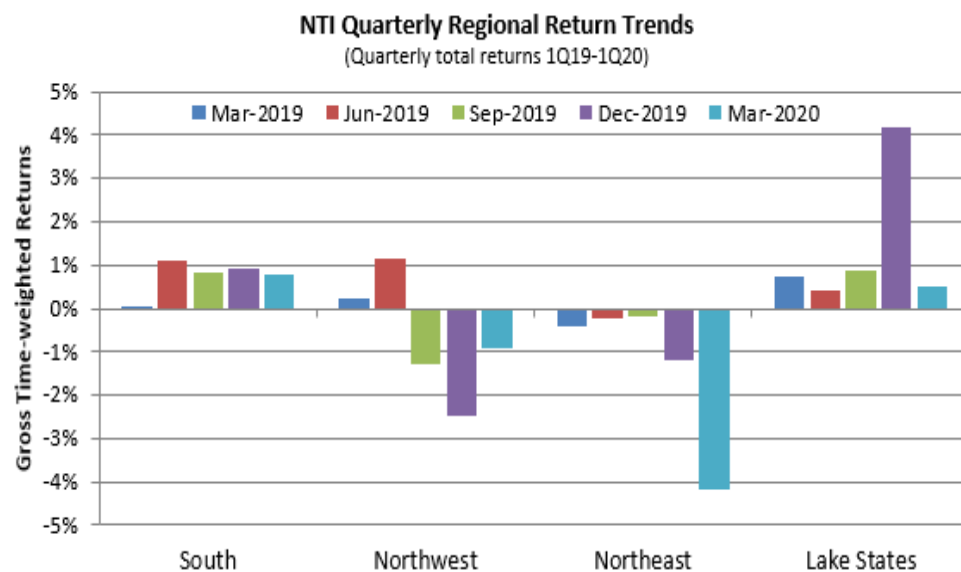
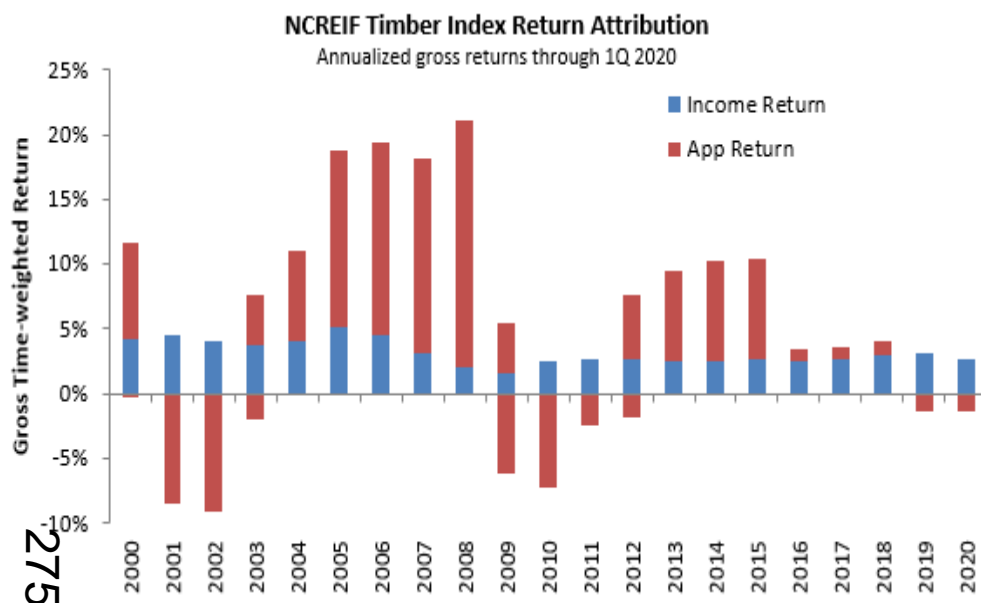
FIGURE 2: Softwood Sawtimber Stumpage Prices (USD)



Timberland – First Quarter 2020 Market Update

TIMBERLAND PERFORMANCE

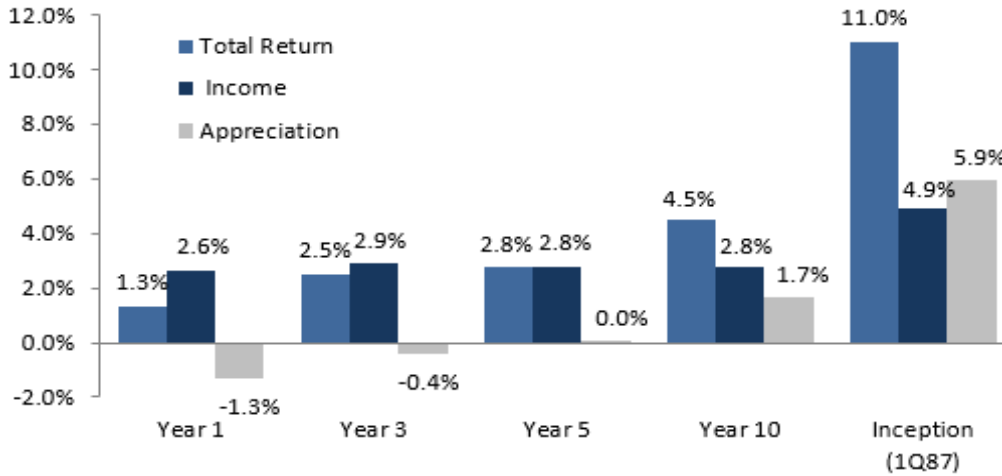
- The NCREIF Timberland Index (“NTI”) returned 0.11% for the quarter, up from last quarter’s -0.04% return and the same as 1Q19’s return; the return was driven by a 0.7% income return as values continued to decline with a -0.6% appreciation return.
- The Northwest continued its retreat returning -0.9% consisting of a -1.6% appreciation return and a 0.7% income return; this marks the third consecutive quarter for a negative return out of the Northwest all driven by depreciating values. Over the one-year period the Northwest depreciated by -5.8%.
- The South, the NFI's largest region continued its slow and stable return trajectory followed over the past decade and returned 0.8% for the quarter, with a 0.7% income return and 0.1% appreciation return. Despite falling below broader expectations for a swifter recovery in the U.S. Southern timberland markets since the GFC, the South has only generated one negative quarterly return since 2011.
- Timberland values declined slightly dropping 50 basis points (\$1,865 per acre), but remain above levels from the same period last year. All but the South region suffered declines in timberland values.



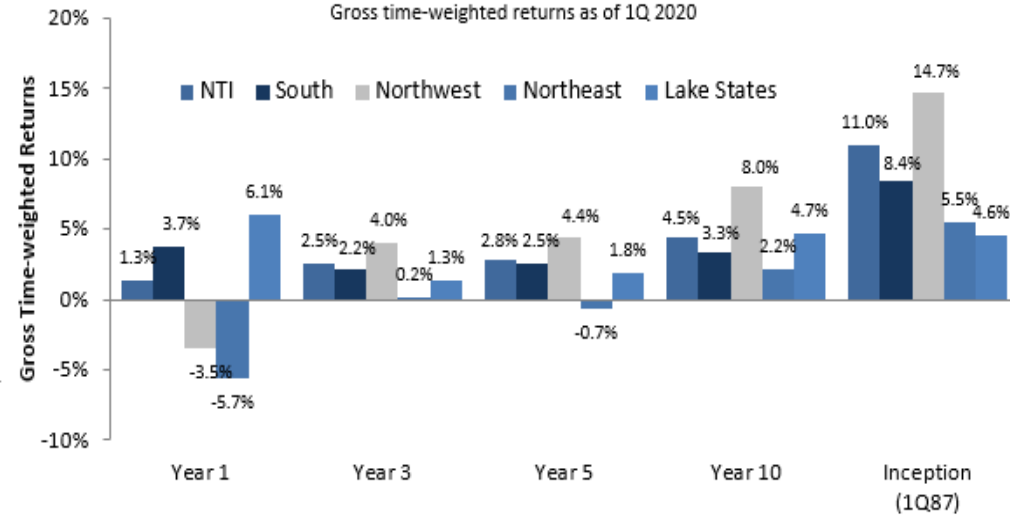
Timberland – First Quarter 2020 Market Update

TIMBERLAND PERFORMANCE

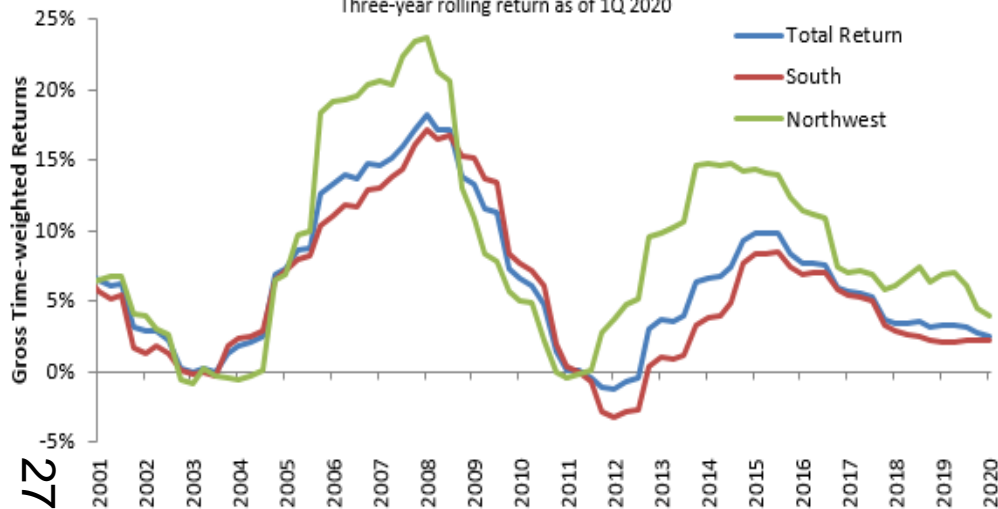
NCREIF Timber Index Returns
Gross time-weighted returns as of 1Q 2020



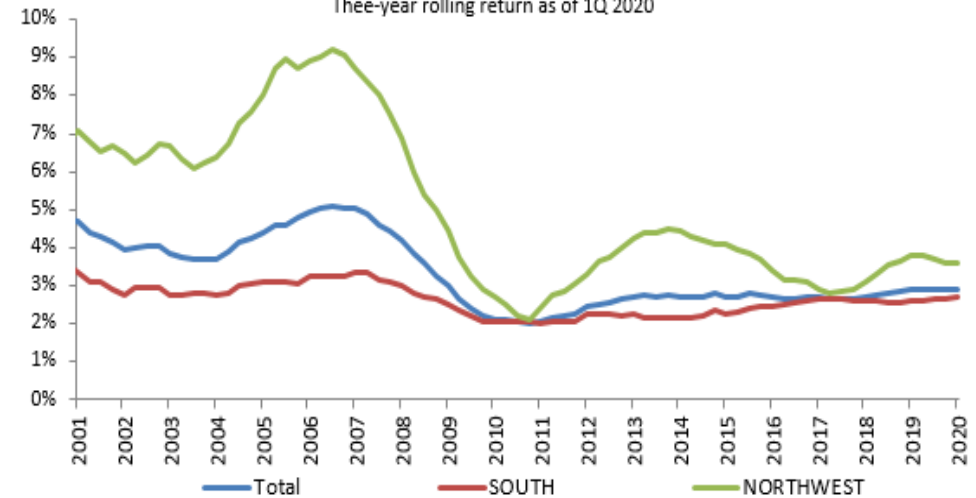
NCREIF Timber Index Regional Returns
Gross time-weighted returns as of 1Q 2020



Total Returns by Region
Three-year rolling return as of 1Q 2020



EBITDA Returns by Region
Three-year rolling return as of 1Q 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 3/31/2020	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Total Real Estate	-0.4%	2.0%	6.1%	7.5%	10.1%
NFI-ODCE (Net)	0.8%	3.9%	5.9%	7.5%	10.4%

As of March 31, 2020	ATRS' Portfolio \$ in Millions
Number of Investments	66
Total Commitments	\$3,763.4
Unfunded Commitments	\$534.4
Total Paid-In Capital	\$3,523.6
Total Distributions	\$2,992.1
Net Asset Value	\$2,144.6
Gross Asset Value	\$2,519.4
DPI*	0.9x
TVPI*	1.5x
Since Inception IRR*	7.1%
<i>*Active and Liquidated</i>	

As of March 31, 2020	Market Value (\$ millions)	Current Allocation (%)	Target (%)
ATRS Total Assets	\$15,157.5		
Real Assets Portfolio:	2,144.6	14.1%	15%
Real Estate	1,341.2	8.8%	10%
Core*	973.8	72.6%	50-70%
Non-Core	367.5	27.4%	30-50%
Value-Added**	198.7	14.8%	N/A **
Opportunistic**	168.7	12.6%	N/A **
Agriculture	203.9	1.3%	1%
Timber	303.3	2.0%	2%
Infrastructure	296.1	2.0%	2%
Unfunded Commitments	534.4	3.5%	
Market Value + Unfunded	2,679.0	17.7%	

* Includes Arkansas Investments

** No stated targets

ATRS' Real Estate Performance: Core Portfolio

As of 3/31/2020

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	188,360,925	97,110,917	285,471,842	1.30x	1.97x	8.91%
JPMorgan Strategic Property Fund	2006	170,000,000	0	170,000,000	66,517,146	288,690,942	355,208,089	0.39x	2.09x	6.67%
MetLife Commercial Mortgage Income Fund, LP	2018	50,000,000	0	50,000,000	1,866,713	49,416,563	51,283,276	0.04x	1.03x	2.61%
Prudential Property Investment Separate Account	2005	170,000,000	0	212,936,320	132,506,776	278,148,027	410,654,803	0.62x	1.93x	6.50%
UBS Trumbull Property Fund	2005	170,000,000	0	199,152,820	145,937,833	206,951,724	352,889,556	0.73x	1.77x	5.61%
UBS Trumbull Property Income Fund	2016	50,000,000	0	50,000,000	3,981,512	53,441,028	57,422,541	0.08x	1.15x	5.68%
Total Core		752,694,200	0	826,713,686	539,170,905	973,759,201	1,512,930,107	0.65x	1.83x	6.67%

Time Weighted Returns:

As of 3/31/2020 Partnership Name	Quarter	1 Year Ending	3 Year Ending	5 Year Ending	10 Year Ending
Arkansas Investments	2.0%	-0.2%	13.1%	12.4%	9.6%
JPMorgan Strategic Property Fund	1.4%	4.7%	5.5%	7.2%	10.4%
MetLife Commercial Mortgage Income Fund, LP	1.5%	N/A	N/A	N/A	N/A
Prudential Property Investment Separate Account	0.3%	2.8%	5.8%	7.6%	11.2%
UBS Trumbull Property Fund	0.0%	-1.9%	3.0%	5.0%	8.3%
UBS Trumbull Property Income Fund	0.5%	4.5%	N/A	N/A	N/A
Total Core & Open-End Portfolio	1.1%	2.3%	6.0%	7.4%	9.6%

Note: Arkansas Investments are included in Core portfolio

ATRS' Real Estate Performance: Value-Add Portfolio

As of 3/31/2020

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 Fund V, L.P.	2008	50,000,000	0	54,264,528	80,650,238	143,864	80,794,102	1.49x	1.49x	11.76%
Almanac Realty Securities Fund VI, L.P.	2012	30,000,000	0	18,829,376	20,657,864	3,779,060	24,436,924	1.10x	1.30x	9.67%
Almanac Realty Securities Fund VII, L.P.	2015	30,000,000	9,731,833	24,877,241	20,570,613	12,282,460	32,853,073	0.83x	1.32x	13.14%
Almanac Realty Securities Fund VIII, L.P.	2018	30,000,000	26,475,188	3,524,812	51,680	2,682,221	2,733,901	0.01x	0.78x	-39.92%
Calmwater Fund III	2017	30,000,000	7,427,676	32,658,362	11,664,884	23,592,510	35,257,393	0.36x	1.08x	7.22%
CBRE Strategic Partners U.S. Value 8, L.P.	2016	25,000,000	2,800,014	22,199,986	3,408,228	23,932,014	27,340,242	0.15x	1.23x	10.96%
Fidelity Real Estate Growth Fund III	2008	30,000,000	0	26,910,386	35,676,792	0	35,676,792	1.33x	1.33x	7.36%
FPA Core Plus Fund IV, L.P.	2018	30,000,000	10,500,000	19,500,000	831,847	19,107,832	19,939,679	0.04x	1.02x	2.02%
Harbert European Real Estate Fund IV	2016	25,009,965	1,678,564	23,985,080	9,528,351	20,741,074	30,269,426	0.40x	1.26x	8.25%
JPMorgan Special Situations Property Fund	2006	50,000,000	0	50,000,000	64,229,336	0	64,229,336	1.28x	1.28x	2.96%
LaSalle Income & Growth Fund VI	2013	20,000,000	952,381	19,047,619	21,551,268	6,755,139	28,306,407	1.13x	1.49x	11.74%
LaSalle Income & Growth Fund VII	2017	20,000,000	4,162,741	19,141,350	8,537,892	14,213,088	22,750,981	0.45x	1.19x	10.42%
LaSalle Income & Growth Fund VIII	2018	50,000,000	42,484,500	7,515,500	0	6,663,408	6,663,408	0.00x	0.89x	-11.65%
Long Wharf Real Estate Partners V	2015	30,000,000	-0	31,494,655	13,524,292	24,846,155	38,370,447	0.43x	1.22x	9.59%
New Boston Real Estate Investment Fund VII	2008	10,000,000	0	9,668,685	7,995,420	51,349	8,046,769	0.83x	0.83x	-2.71%
Rockwood Capital Real Estate Partners Fund IX, L.P.	2012	30,000,000	4,081,464	27,422,960	31,112,586	5,531,720	36,644,305	1.13x	1.34x	10.90%
Rockwood Capital Real Estate Partners Fund XI, L.P.	2019	40,000,000	39,735,362	264,638	0	-222,648	-222,648	0.00x	-0.84x	N/A
Walton Street Real Estate Debt Fund II, LP	2019	40,000,000	36,201,297	5,073,056	1,285,566	3,980,472	5,266,038	0.25x	1.04x	7.79%
Westbrook Real Estate Fund IX, L.P.	2012	40,000,000	3,603,488	46,097,363	45,979,349	10,985,751	56,965,100	1.00x	1.24x	8.77%
Westbrook Real Estate Fund X, L.P.	2015	25,000,000	8,971,857	21,555,874	10,891,007	13,934,092	24,825,099	0.51x	1.15x	11.07%
Total Value Added		735,009,965	292,413,898	470,423,939	388,188,561	198,716,670	586,905,232	0.83x	1.25x	6.79%

ATRS' Real Estate Performance: Opportunistic Portfolio



As of 3/31/2020

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 VII, L.P.	2011	50,000,000	6,882,936	63,200,821	80,586,806	20,921,550	101,508,356	1.28x	1.61x	15.48%
Blackstone Real Estate Partners Europe VI	2019	49,095,200	45,266,124	3,135,260	0	2,962,550	2,962,550	0.00x	0.94x	-9.66%
Carlyle Realty Partners VII, L.P.	2014	30,000,000	20,107,482	28,184,912	24,602,083	12,338,898	36,940,981	0.87x	1.31x	11.19%
Carlyle Realty Partners VIII, L.P.	2018	25,000,000	18,066,080	7,523,818	571,214	7,000,176	7,571,390	0.08x	1.01x	0.84%
CB Richard Ellis Strategic Partners U.S. Opportunity Fund V, L.P.	2008	50,000,000	1,643,033	48,619,340	57,378,777	9,761,999	67,140,776	1.18x	1.38x	5.27%
Cerberus Institutional Real Estate Partners III, L.P.	2012	30,000,000	7,307,395	39,123,764	38,368,449	14,999,980	53,368,429	0.98x	1.36x	10.58%
DLJ Real Estate Capital Partners II, L.P.	1999	112,725,609	0	115,482,666	179,444,842	0	179,444,842	1.55x	1.55x	19.11%
Doughty Hanson & Co European Real Estate Limited Partnership Number One	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	2009	50,000,000	2,230,297	34,448,111	24,292,222	3,047,667	27,339,889	0.71x	0.79x	-3.76%
Kayne Anderson Real Estate Partners V, L.P.	2018	25,000,000	8,750,000	16,457,799	489,595	17,624,617	18,114,212	0.03x	1.10x	8.01%
Landmark Real Estate Partners VI, L.P.	2010	40,000,000	4,909,392	35,090,608	52,329,205	2,295,875	54,625,080	1.49x	1.56x	18.99%
Landmark Real Estate Partners VIII, L.P.	2017	25,000,000	18,319,287	10,430,713	3,934,116	8,290,417	12,224,533	0.38x	1.17x	16.98%
LaSalle Asia Opportunity Fund IV	2014	30,000,000	2,013,173	26,115,903	35,748,490	2,093,997	37,842,487	1.37x	1.45x	29.68%
LaSalle Asia Opportunity Fund V	2016	30,000,000	17,384,777	15,217,792	3,438,776	14,394,599	17,833,375	0.23x	1.17x	11.50%
Lone Star Real Estate Fund IV, L.P.	2015	24,260,817	5,102,992	20,914,154	20,164,195	6,847,110	27,011,305	0.96x	1.29x	12.61%
Metropolitan Real Estate Partners Co-Investments Fund, L.P.	2015	20,000,000	867,124	19,093,359	15,045,535	10,630,486	25,676,021	0.79x	1.34x	12.15%
O'Connor North American Property Partners II	2008	50,000,000	5,000,000	58,194,810	40,094,759	10,001,415	50,096,174	0.69x	0.86x	-2.74%
Olympus Real Estate Fund III, L.P.	2000	100,000,000	0	112,839,568	98,504,479	355,396	98,859,875	0.87x	0.88x	-3.66%
Torchlight Debt Opportunity Fund II	2007	55,000,000	0	55,000,000	47,668,921	0	47,668,921	0.87x	0.87x	-1.86%
Torchlight Debt Opportunity Fund III	2008	30,000,000	0	33,493,596	49,863,151	0	49,863,151	1.49x	1.49x	13.72%
Torchlight Debt Opportunity Fund IV	2013	30,000,000	0	32,937,974	40,896,085	4,743,485	45,639,570	1.24x	1.39x	9.95%
Torchlight Debt Opportunity Fund V	2015	25,000,000	5,000,000	20,001,134	18,313,930	6,897,160	25,211,090	0.92x	1.26x	10.82%
Torchlight Debt Opportunity Fund VI, LP	2017	25,000,000	11,250,000	15,887,564	2,137,564	13,539,130	15,676,694	0.13x	0.99x	-2.30%
Westbrook Real Estate Fund II, L.P.	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, L.P.	1998	100,000,000	0	112,862,649	147,939,777	0	147,939,777	1.31x	1.31x	8.79%
Westbrook Real Estate Fund IV, L.P.	2000	109,242,960	0	115,556,652	190,913,983	0	190,913,983	1.65x	1.65x	20.65%
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		1,256,393,378	180,100,092	1,194,910,355	1,430,129,990	168,746,507	1,598,876,497	1.20x	1.34x	10.14%

ATRS' Timberland, Agriculture, and Infrastructure Performance

As of 3/31/2020

Fund Name	Vintage Year	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
BTG Timber Separate Account	1998	316,000,000	0	349,502,872	498,003,538	118,118,638	616,122,176	1.42x	1.76x	5.24%
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	2019	182,930,629	0	182,930,629	0	185,211,540	185,211,540	0.00x	1.01x	1.26%
Total Timber		498,930,629	0	532,433,501	498,003,538	303,330,178	801,333,716	0.94x	1.51x	5.24%
HFMS Farmland Separate Account	2011	125,000,000	13,636,000	139,022,887	27,686,779	149,207,279	176,894,058	0.20x	1.27x	4.96%
UBS Agrivest Core Farmland Fund	2013	50,000,000	0	50,000,000	5,952,053	54,690,771	60,642,824	0.12x	1.21x	4.49%
Total Agriculture		175,000,000	13,636,000	189,022,887	33,638,832	203,898,050	237,536,882	0.18x	1.26x	4.85%

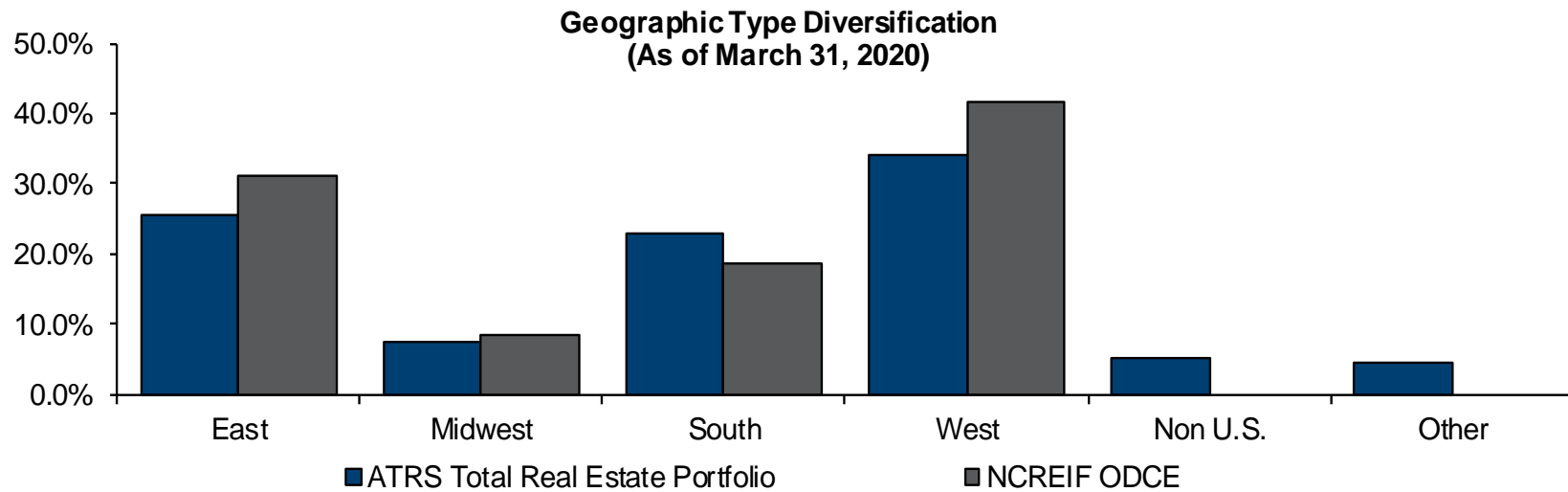
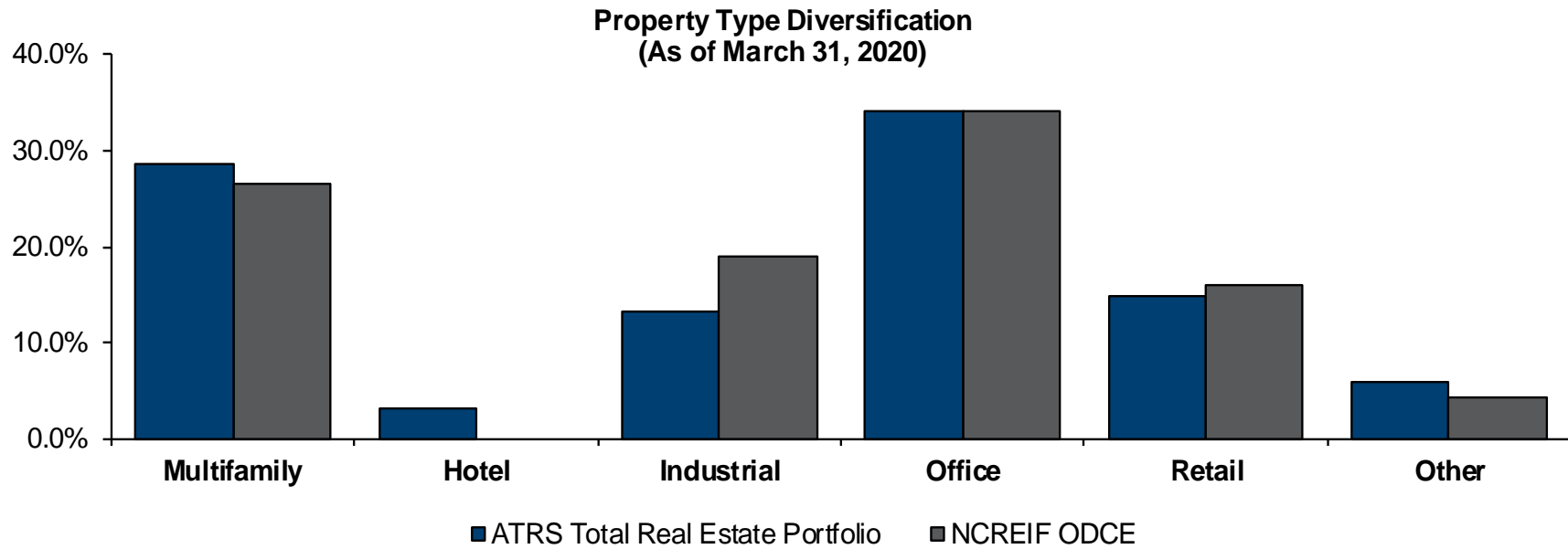
Fund Name	Vintage Year	Total Commitment (\$)	Unfunded Commitment (\$)	Total Paid-In (\$)	Total Distributions (\$)	Net Asset Value (\$)	Total Value (\$)	DPI	TVPI	Net IRR
DIF Infrastructure Fund V	2018	47,766,330	16,475,623	31,335,813	2,693,216	29,210,539	31,903,756	0.09x	1.02x	1.70%
IFM Global Infrastructure (US), L.P.	2017	50,000,000	0	50,000,000	751,307	55,825,186	56,576,494	0.02x	1.13x	8.65%
KKR Global Infrastructure Investors II, L.P.	2015	50,000,000	2,597,073	53,944,013	14,751,843	63,331,602	78,083,445	0.27x	1.45x	15.58%
Macquarie Infrastructure Partners III, L.P.	2013	50,000,000	7,304,366	46,838,124	20,999,499	45,407,651	66,407,151	0.45x	1.42x	12.52%
Total Core		197,766,330	26,377,062	182,117,950	39,195,866	193,774,979	232,970,845	0.22x	1.28x	12.24%
Antin Infrastructure Partners II, L.P.	2014	47,647,600	5,250,756	35,754,093	19,709,609	35,152,353	54,861,962	0.55x	1.53x	9.88%
First Reserve Energy Infrastructure Fund II, L.P.	2014	50,000,000	3,938,357	50,959,567	38,522,882	31,450,112	69,972,994	0.76x	1.37x	25.12%
Global Infrastructure Partners III, L.P.	2016	50,000,000	12,700,274	41,258,213	5,542,374	35,754,852	41,297,226	0.13x	1.00x	0.05%
Total Non-Core		147,647,600	21,889,387	127,971,873	63,774,865	102,357,317	166,132,182	0.50x	1.30x	10.87%
Total Infrastructure		345,413,930	48,266,449	310,089,823	102,970,731	296,132,296	399,103,027	0.33x	1.29x	11.59%

Portfolio Performance Detail: By Vintage Year

As of 3/31/2020

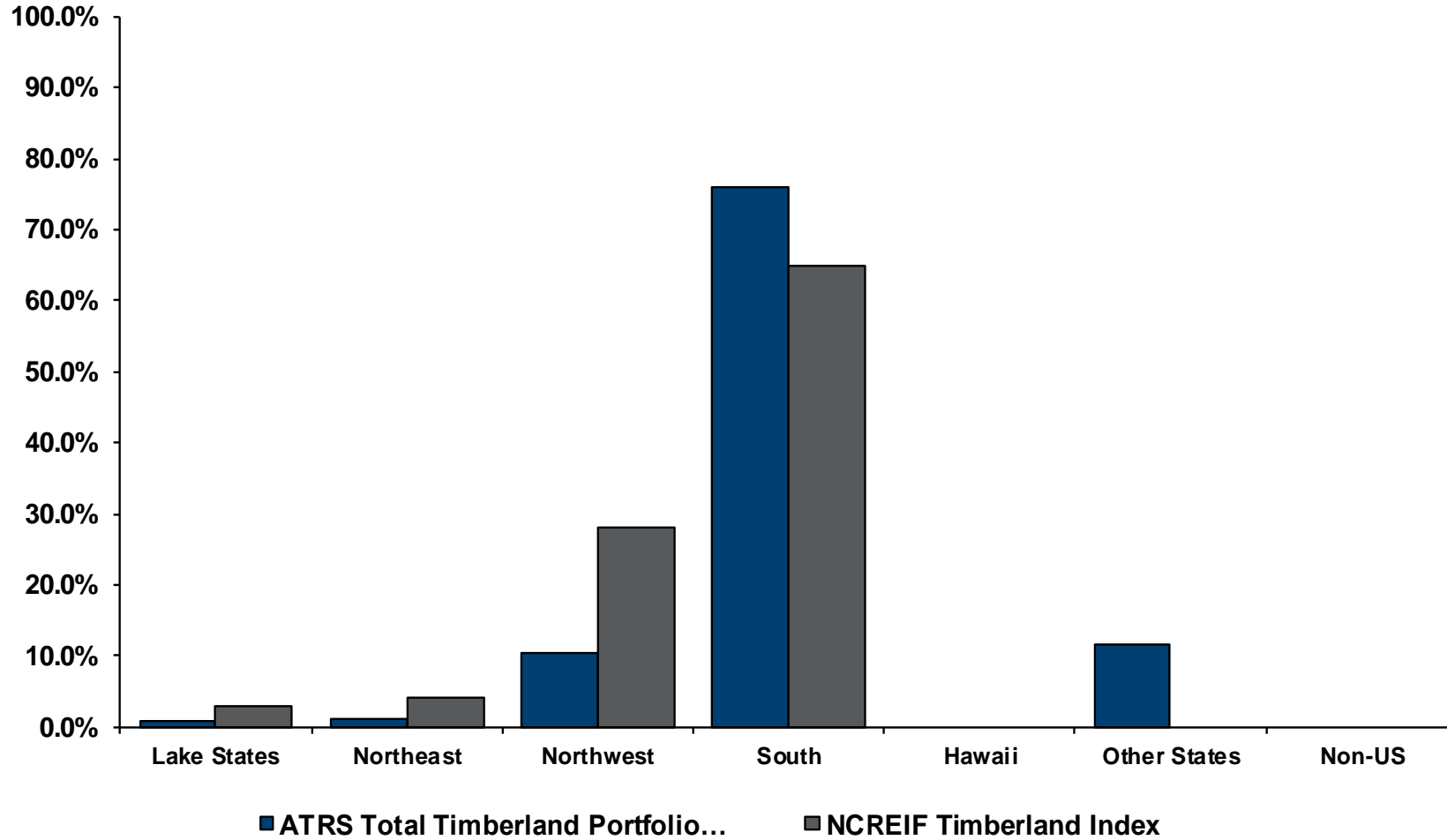
Vintage Year (ATRS)	Total Commitment	Unfunded Commitment	Total Paid-In	Total Distributions	Net Asset Value as of 3/31/2020	Total Value	DPI	TVPI	Net IRR
1997	75,000,000	0	80,737,536	120,795,230	0	120,795,230	1.50x	1.50x	13.42%
1998	416,000,000	0	462,365,521	645,943,315	118,118,638	764,061,953	1.40x	1.65x	5.61%
1999	178,794,401	0	189,842,518	316,052,650	0	316,052,650	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	412,089,139	278,444,608	485,099,751	763,544,359	0.68x	1.85x	6.08%
2006	220,000,000	0	220,000,000	130,746,482	288,690,942	419,437,424	0.59x	1.91x	6.04%
2007	197,694,200	0	199,624,547	236,029,845	97,110,917	333,140,763	1.18x	1.67x	6.63%
2008	220,000,000	6,643,033	231,151,345	271,659,136	19,958,627	291,617,763	1.18x	1.26x	5.15%
2009	50,000,000	2,230,297	34,448,111	24,292,222	3,047,667	27,339,889	0.71x	0.79x	-3.76%
2010	40,000,000	4,909,392	35,090,608	52,329,205	2,295,875	54,625,080	1.49x	1.56x	18.99%
2011	175,000,000	20,518,936	202,223,708	108,273,585	170,128,829	278,402,414	0.54x	1.38x	7.61%
2012	130,000,000	14,992,348	131,473,464	136,118,248	35,296,511	171,414,758	1.04x	1.30x	9.96%
2013	150,000,000	8,256,747	148,823,717	89,398,905	111,597,046	200,995,952	0.60x	1.35x	8.76%
2014	157,647,600	31,309,768	141,014,475	118,583,064	81,035,360	199,618,424	0.84x	1.42x	15.08%
2015	204,260,817	32,270,879	191,880,431	113,261,415	138,769,065	252,030,480	0.59x	1.31x	12.86%
2016	180,009,965	34,563,629	152,661,071	25,899,242	148,263,567	174,162,809	0.17x	1.14x	5.97%
2017	150,000,000	41,159,705	128,117,989	27,025,764	115,460,331	142,486,095	0.21x	1.11x	8.67%
2018	257,766,330	122,751,390	135,857,743	6,504,266	131,705,356	138,209,622	0.05x	1.02x	1.95%
2019	362,025,829	171,202,784	191,403,582	1,285,566	191,931,914	193,217,481	0.01x	1.01x	2.86%
2020	50,000,000	43,607,532	6,392,468	41,348	5,717,110	5,758,458	0.01x	0.90x	-11.33%
Grand Total(s):	3,763,442,102	534,416,440	3,523,594,191	2,992,102,558	2,144,582,903	5,136,685,461	0.85x	1.46x	7.14%

Portfolio Diversification – Real Estate



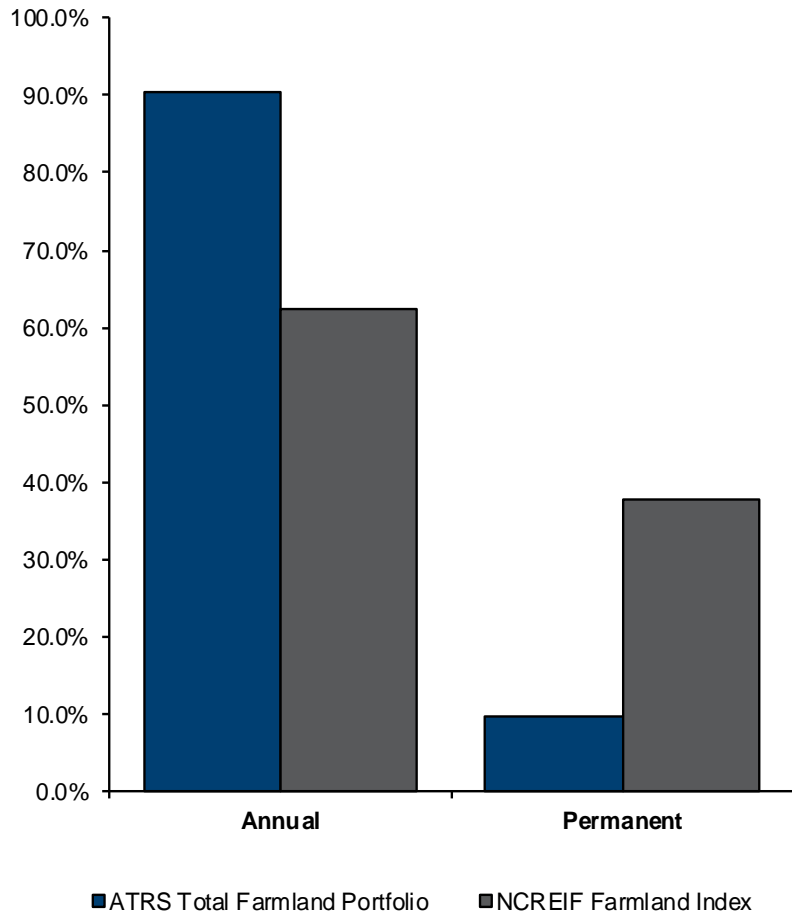
Portfolio Diversification – Timberland

**Geographic Type Diversification
(As of March 31, 2020)**

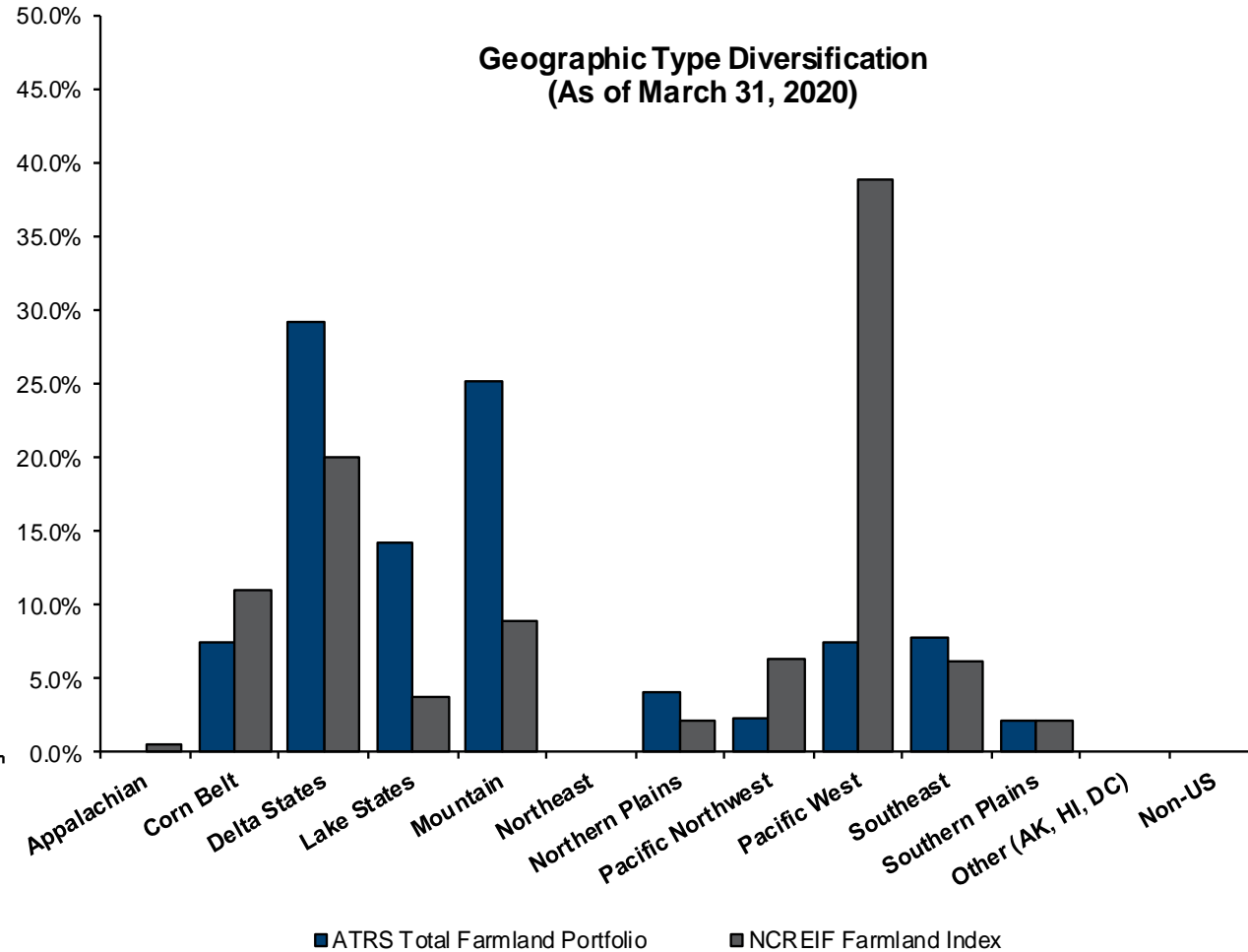


Portfolio Diversification – Agriculture

Crop Type Diversification as of 3/31/2020



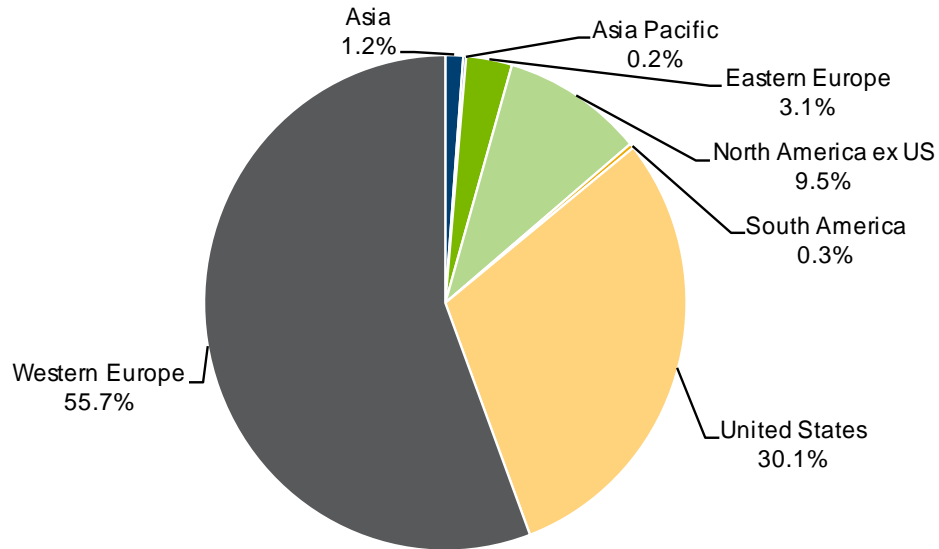
**Geographic Type Diversification
(As of March 31, 2020)**



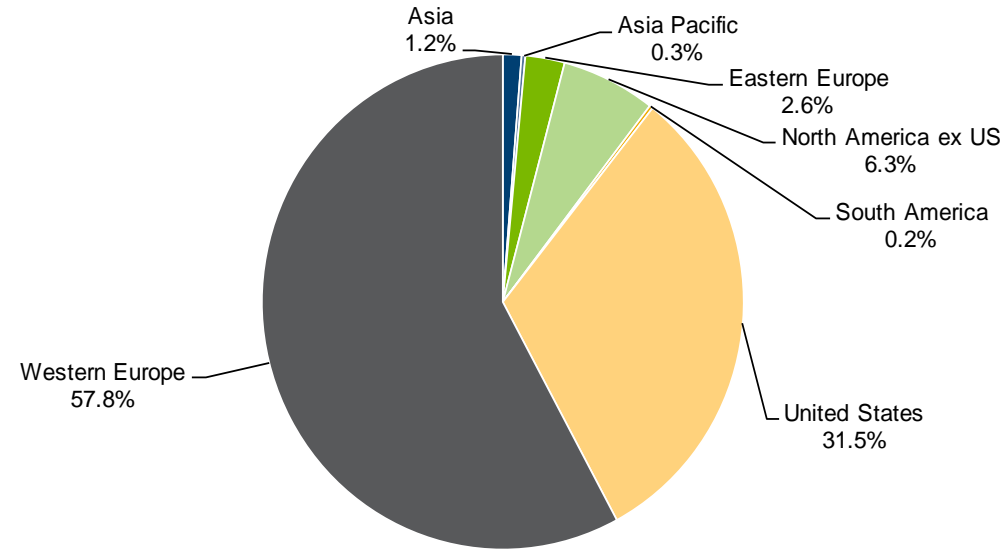


Portfolio Diversification – Infrastructure

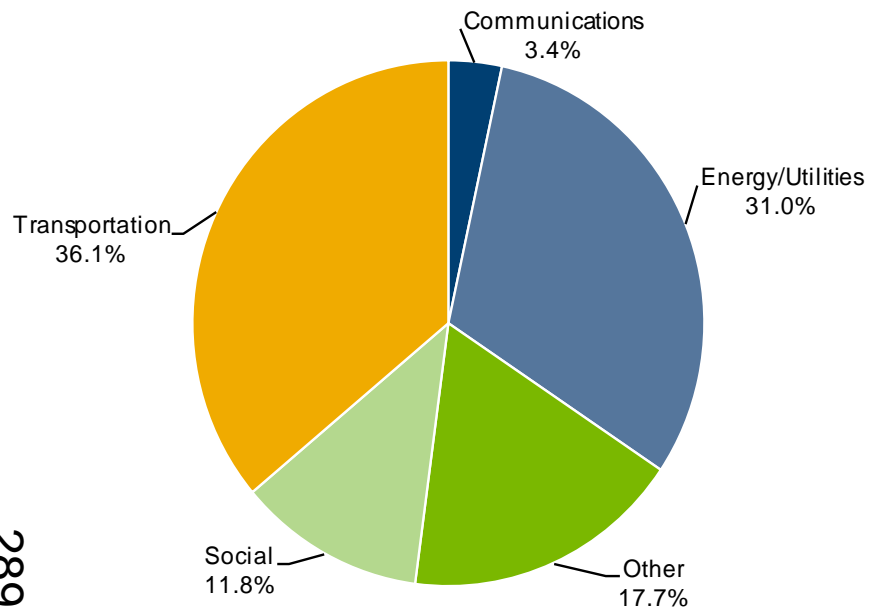
Geographic Diversification as % of Portfolio Company Cost



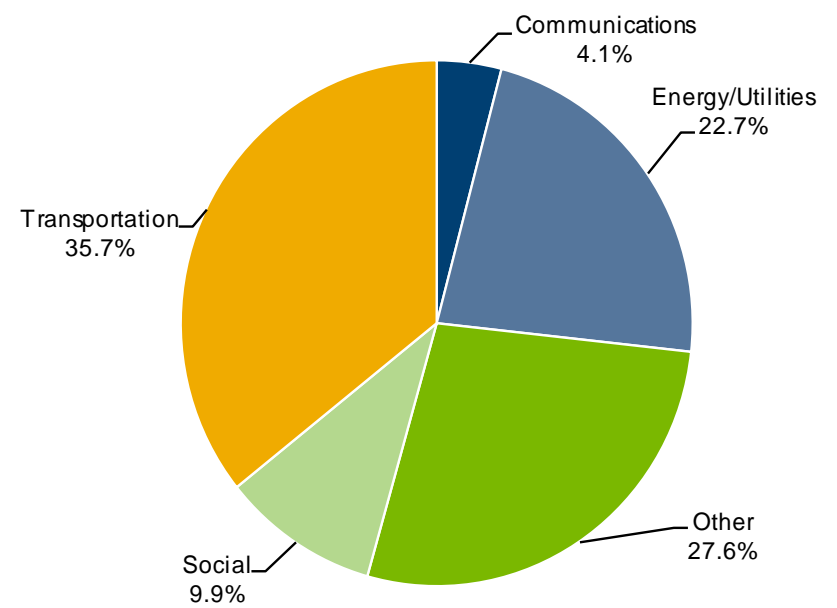
Geographic Diversification as % of Portfolio Company Value



Industry Diversification as % of Portfolio Company Cost

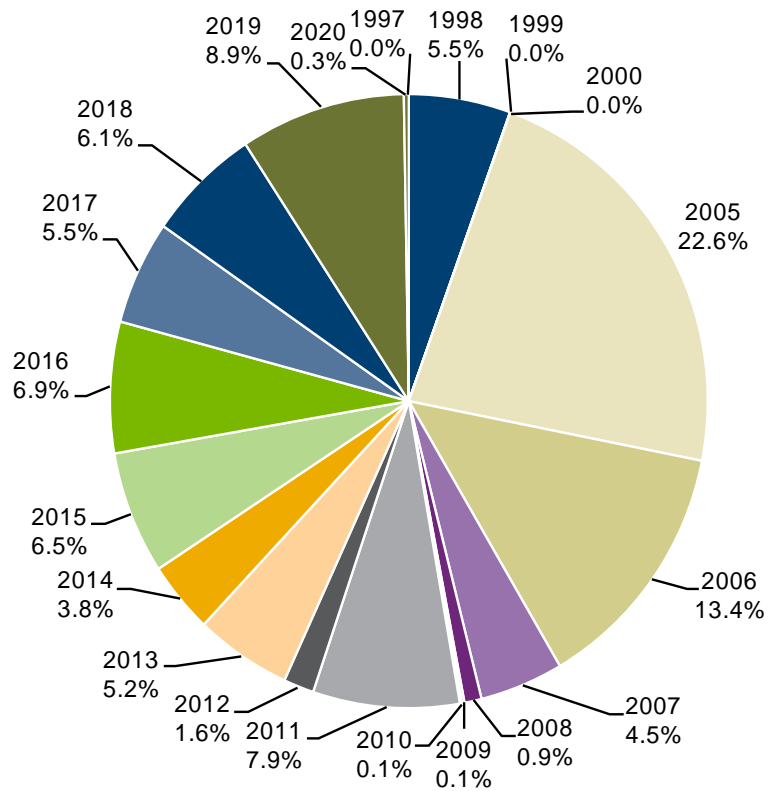


Industry Diversification as % of Portfolio Company Value

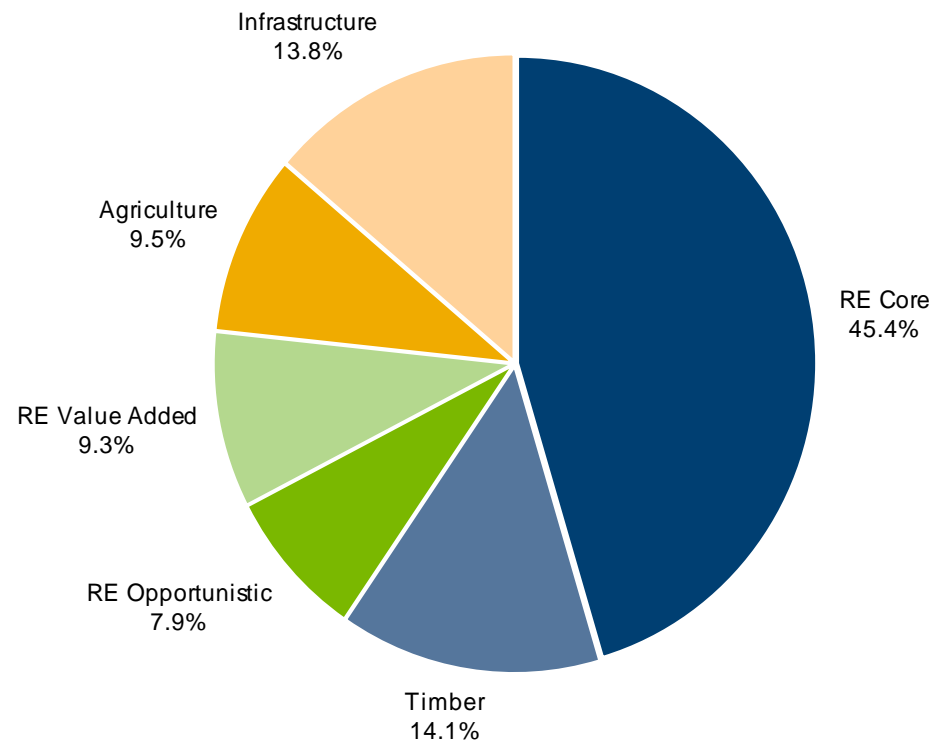


Portfolio Diversification (cont'd)

**Vintage Year Diversification by Net Asset Value
(As of 3/31/2020)**



**Style Diversification by Net Asset Value
(As of 3/31/2020)**



Note: Arkansas Investments are included in Core portfolio

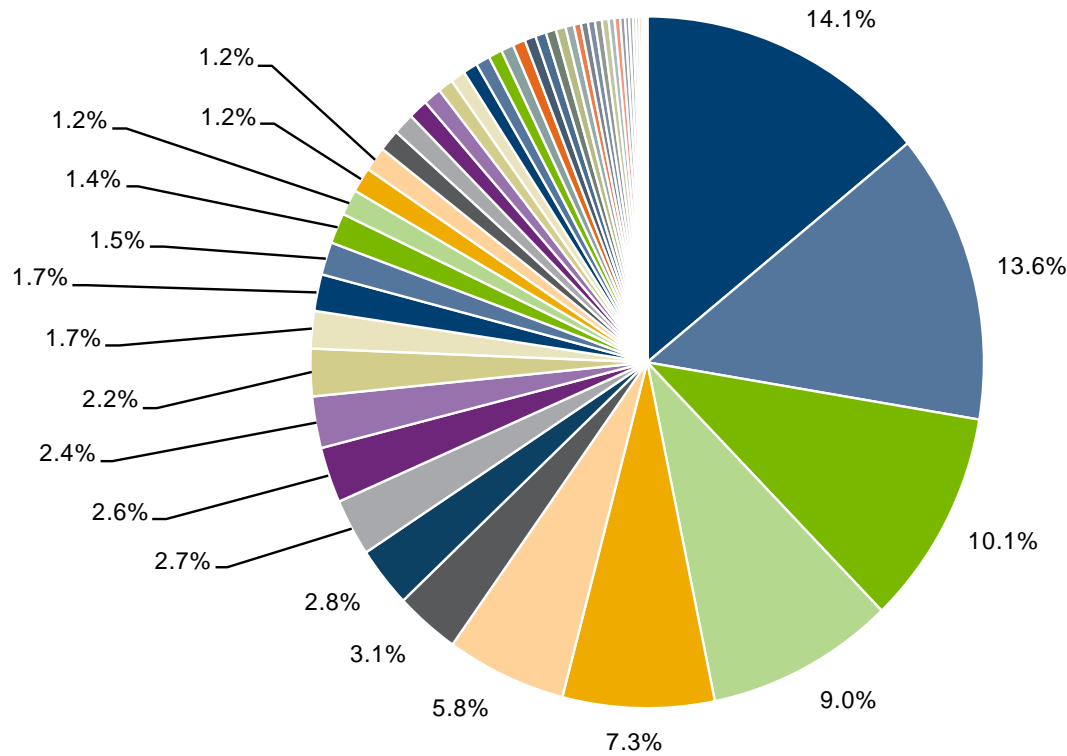
Portfolio Funding Summary

Partnership Name	Funded Commitment as of 3/31/2020	Unfunded Commitment as of 3/31/2020	Total Commitment
Almanac Realty Securities Fund V, L.P.	50,000,000	0	50,000,000
Almanac Realty Securities Fund VI, L.P.	30,000,000	0	30,000,000
Almanac Realty Securities Fund VII, L.P.	20,268,167	9,731,833	30,000,000
Almanac Realty Securities Fund VIII, L.P.	3,524,812	26,475,188	30,000,000
Antin Infrastructure Partners II, L.P.	42,396,844	5,250,756	47,647,600
Blackstone Real Estate Partners Europe VI	3,829,076	45,266,124	49,095,200
Blackstone Real Estate Partners VII, L.P.	43,117,064	6,882,936	50,000,000
BTG Pactual Open Ended Core U.S. Timberland Fund, LP	182,930,629	0	182,930,629
BTG Timber Separate Account	316,000,000	0	316,000,000
Calmwater Fund III	22,572,324	7,427,676	30,000,000
Carlyle Realty Partners VII, L.P.	9,892,518	20,107,482	30,000,000
Carlyle Realty Partners VIII, L.P.	6,933,920	18,066,080	25,000,000
CB Richard Ellis Strategic Partners U.S. Opportunity Fund V, L.P.	48,356,967	1,643,033	50,000,000
CBRE Strategic Partners U.S. Value 8, L.P.	22,199,986	2,800,014	25,000,000
CBRE Strategic Partners U.S. Value 9, L.P.	0	50,000,000	50,000,000
Cerberus Institutional Real Estate Partners III, L.P.	22,692,605	7,307,395	30,000,000
DIF Infrastructure Fund V	31,290,707	16,475,623	47,766,330
First Reserve Energy Infrastructure Fund II, L.P.	46,061,643	3,938,357	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.	37,299,726	12,700,274	50,000,000
Harbert European Real Estate Fund IV	23,331,401	1,678,564	25,009,965
Heitman European Property Partners IV	47,769,703	2,230,297	50,000,000
HFMS Farmland Separate Account	111,364,000	13,636,000	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.	47,402,927	2,597,073	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.	6,680,713	18,319,287	25,000,000

Portfolio Funding Summary (cont'd)

Partnership Name	Funded Commitment as of 3/31/2020	Unfunded Commitment as of 3/31/2020	Total Commitment
LaSalle Asia Opportunity Fund IV	27,986,827	2,013,173	30,000,000
LaSalle Asia Opportunity Fund V	12,615,223	17,384,777	30,000,000
LaSalle Income & Growth Fund VI	19,047,619	952,381	20,000,000
LaSalle Income & Growth Fund VII	15,837,259	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	30,000,000	0	30,000,000
Long Wharf Real Estate Partners VI, L.P.	6,392,468	43,607,532	50,000,000
Macquarie Infrastructure Partners III, L.P.	42,695,634	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.	19,132,876	867,124	20,000,000
New Boston Real Estate Investment Fund VII	10,000,000	0	10,000,000
O'Connor North American Property Partners II	45,000,000	5,000,000	50,000,000
Olympus Real Estate Fund III, L.P.	100,000,000	0	100,000,000
Prudential Property Investment Separate Account	170,000,000	0	170,000,000
Rockwood Capital Real Estate Partners Fund IX, L.P.	25,918,536	4,081,464	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	30,000,000	0	30,000,000
Torchlight Debt Opportunity Fund V	20,000,000	5,000,000	25,000,000
Torchlight Debt Opportunity Fund VI, LP	13,750,000	11,250,000	25,000,000
UBS Agrivest Core Farmland Fund	50,000,000	0	50,000,000
UBS Trumbull Property Fund	170,000,000	0	170,000,000
UBS Trumbull Property Income Fund	50,000,000	0	50,000,000
Walton Street Real Estate Debt Fund II, LP	3,798,703	36,201,297	40,000,000
Westbrook Real Estate Fund IX, L.P.	36,396,512	3,603,488	40,000,000
Westbrook Real Estate Fund X, L.P.	16,028,143	8,971,857	25,000,000
	2,473,236,133	534,416,438	3,022,710,541

Manager Diversification



*each manager represents less than 1% of NAV

- JPMorgan Strategic Property Fund
- Prudential Property Investment Separate Account
- UBS Trumbull Property Fund
- BTG Pactual Open Ended Core U.S. Timberland Fund, LP
- HFMS Farmland Separate Account
- BTG Timber Separate Account
- KKR Global Infrastructure Investors II, L.P.
- IFM Global Infrastructure (US), L.P.
- UBS Agrivest Core Farmland Fund
- UBS Trumbull Property Income Fund
- MetLife Commercial Mortgage Income Fund, LP
- Macquarie Infrastructure Partners III, L.P.
- Global Infrastructure Partners III, L.P.
- Antin Infrastructure Partners II, L.P.
- First Reserve Energy Infrastructure Fund II, L.P.
- DIF Infrastructure Fund V
- Long Wharf Real Estate Partners V
- CBRE Strategic Partners U.S. Value 8, L.P.
- Calmwater Fund III
- Blackstone Real Estate Partners VII, L.P.
- Harbert European Real Estate Fund IV
- FPA Core Plus Fund IV, L.P.
- Kayne Anderson Real Estate Partners V, L.P.
- Cerberus Institutional Real Estate Partners III, L.P.
- LaSalle Asia Opportunity Fund V
- LaSalle Income & Growth Fund VII
- Westbrook Real Estate Fund X, L.P.
- Torchlight Debt Opportunity Fund VI, LP
- Carlyle Realty Partners VII, L.P.
- Almanac Realty Securities Fund VII, L.P.
- Westbrook Real Estate Fund IX, L.P.
- Metropolitan Real Estate Partners Co-Investments Fund, L.P.
- O'Connor North American Property Partners II
- CB Richard Ellis Strategic Partners U.S. Opportunity Fund V, L.P.
- Landmark Real Estate Partners VIII, L.P.
- Carlyle Realty Partners VIII, L.P.
- Torchlight Debt Opportunity Fund V
- Lone Star Real Estate Fund IV, L.P.
- LaSalle Income & Growth Fund VI
- LaSalle Income & Growth Fund VIII
- Long Wharf Real Estate Partners VI, L.P.
- Rockwood Capital Real Estate Partners Fund IX, L.P.
- Torchlight Debt Opportunity Fund IV
- Walton Street Real Estate Debt Fund II, LP
- Almanac Realty Securities Fund VI, L.P.
- Heitman European Property Partners IV
- Blackstone Real Estate Partners Europe VI
- Almanac Realty Securities Fund VIII, L.P.
- Landmark Real Estate Partners VI, L.P.
- LaSalle Asia Opportunity Fund IV
- Olympus Real Estate Fund III, L.P.
- Almanac Realty Securities Fund V, L.P.
- New Boston Real Estate Investment Fund VII
- Torchlight Debt Opportunity Fund III
- CBRE Strategic Partners U.S. Value 9, L.P.
- Rockwood Capital Real Estate Partners Fund XI, L.P.

Management Fees

ATRS Sub-Asset Class	ATRS Style	Partnership Name	Current Quarter Management Fees as of 3/31/2020	YTD Management Fees
Agriculture		HFMS Farmland Separate Account	(430,092.69)	(430,092.69)
Agriculture		UBS Agrivest Core Farmland Fund	(134,870.15)	(134,870.15)
Subtotal:			(564,962.84)	(564,962.84)
Subtotal: Agriculture			(564,962.84)	(564,962.84)
Infrastructure		Antin Infrastructure Partners II, L.P.	(76,794.95)	(76,794.95)
Infrastructure		DIF Infrastructure Fund V	11,158.69	11,158.69
Infrastructure		First Reserve Energy Infrastructure Fund II, L.P.	(141,613.00)	(141,613.00)
Infrastructure		Global Infrastructure Partners III, L.P.	(219,960.00)	(219,960.00)
Infrastructure		IFM Global Infrastructure (US), L.P.	(37,871.20)	(37,871.20)
Infrastructure		KKR Global Infrastructure Investors II, L.P.	(123,635.00)	(123,635.00)
Infrastructure		Macquarie Infrastructure Partners III, L.P.	(113,690.62)	(113,690.62)
Subtotal:			(702,406.08)	(702,406.08)
Subtotal: Infrastructure			(702,406.08)	(702,406.08)
Real Estate	Core	JPMorgan Strategic Property Fund	(614,873.02)	(614,873.02)
Real Estate	Core	MetLife Commercial Mortgage Income Fund, LP	(50,000.00)	(50,000.00)
Real Estate	Core	Prudential Property Investment Separate Account	(231,275.31)	(231,275.31)
Real Estate	Core	UBS Trumbull Property Fund	(388,763.68)	(388,763.68)
Real Estate	Core	UBS Trumbull Property Income Fund	(106,791.53)	(106,791.53)
Subtotal: Core			(1,391,703.54)	(1,391,703.54)

Management Fees (cont'd)

ATRS Sub-Asset Class	ATRS Style	Partnership Name	Current Quarter Management Fees as of 3/31/2020	YTD Management Fees
Real Estate	Opportunistic	Blackstone Real Estate Partners Europe VI	0.00	0.00
Real Estate	Opportunistic	Blackstone Real Estate Partners VII, L.P.	(63,534.61)	(63,534.61)
Real Estate	Opportunistic	Carlyle Realty Partners VII, L.P.	(44,666.00)	(44,666.00)
Real Estate	Opportunistic	Carlyle Realty Partners VIII, L.P.	(87,022.00)	(87,022.00)
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.	(20,290.00)	(20,290.00)
Real Estate	Opportunistic	Heitman European Property Partners IV	(15,995.05)	(15,995.05)
Real Estate	Opportunistic	Kayne Anderson Real Estate Partners V, L.P.	(109,375.00)	(109,375.00)
Real Estate	Opportunistic	Landmark Real Estate Partners VI, L.P.	(7,656.00)	(7,656.00)
Real Estate	Opportunistic	Landmark Real Estate Partners VIII, L.P.	(62,500.00)	(62,500.00)
Real Estate	Opportunistic	LaSalle Asia Opportunity Fund IV	(3,851.00)	(3,851.00)
Real Estate	Opportunistic	LaSalle Asia Opportunity Fund V	(89,472.00)	(89,472.00)
Real Estate	Opportunistic	Lone Star Real Estate Fund IV, L.P.	(5,893.14)	(5,893.14)
Real Estate	Opportunistic	Metropolitan Real Estate Partners Co-Investments Fund, L.P.	(22,281.20)	(22,281.20)
Real Estate	Opportunistic	O'Connor North American Property Partners II	(17,666.00)	(17,666.00)
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	(14,423.00)	(14,423.00)
Real Estate	Opportunistic	Torchlight Debt Opportunity Fund V	(25,010.00)	(25,010.00)
Real Estate	Opportunistic	Torchlight Debt Opportunity Fund VI, LP	(79,688.00)	(79,688.00)
Subtotal: Opportunistic			(669,323.00)	(669,323.00)

Management Fees (cont'd)

ATRS Sub-Asset Class	ATRS Style	Partnership Name	Current Quarter Management Fees as of 3/31/2020	YTD Management Fees
Real Estate	Value Added	Almanac Realty Securities Fund V, L.P.	(236.00)	(236.00)
Real Estate	Value Added	Almanac Realty Securities Fund VI, L.P.	(11,110.00)	(11,110.00)
Real Estate	Value Added	Almanac Realty Securities Fund VII, L.P.	(36,409.00)	(36,409.00)
Real Estate	Value Added	Almanac Realty Securities Fund VIII, L.P.	(93,238.00)	(93,238.00)
Real Estate	Value Added	Calmwater Fund III	(92,555.16)	(92,555.16)
Real Estate	Value Added	CBRE Strategic Partners U.S. Value 8, L.P.	(52,176.00)	(52,176.00)
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.	(33,010.00)	(33,010.00)
Real Estate	Value Added	Harbert European Real Estate Fund IV	(71,379.28)	(71,379.28)
Real Estate	Value Added	LaSalle Income & Growth Fund VI	(15,004.18)	(15,004.18)
Real Estate	Value Added	LaSalle Income & Growth Fund VII	(31,199.43)	(31,199.43)
Real Estate	Value Added	LaSalle Income & Growth Fund VIII	(111,885.24)	(111,885.24)
Real Estate	Value Added	Long Wharf Real Estate Partners V	(77,648.00)	(77,648.00)
Real Estate	Value Added	Long Wharf Real Estate Partners VI, L.P.	(804,969.00)	(804,969.00)
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.	(60,901.33)	(60,901.33)
Real Estate	Value Added	Rockwood Capital Real Estate Partners Fund XI, L.P.	(119,289.77)	(119,289.77)
Real Estate	Value Added	Walton Street Real Estate Debt Fund II, LP	(10,909.00)	(10,909.00)
Real Estate	Value Added	Westbrook Real Estate Fund IX, L.P.	(35,572.00)	(35,572.00)
Real Estate	Value Added	Westbrook Real Estate Fund X, L.P.	(49,372.00)	(49,372.00)
Subtotal: Value Added			(1,706,863.39)	(1,706,863.39)
Subtotal: Real Estate			(3,767,889.93)	(3,767,889.93)
Timber		BTG Pactual Open Ended Core U.S. Timberland Fund, LP	(416,725.96)	(416,725.96)
Timber		BTG Timber Separate Account	(191,840.48)	(191,840.48)
Subtotal:			(608,566.44)	(608,566.44)
Subtotal: Timber			(608,566.44)	(608,566.44)
Grand Total(s):			(5,643,825.29)	(5,643,825.29)

Compliance Matrix

RISK MANAGEMENT						
Property Type - Real Estate						
	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Office	34.2%	NFI-ODCE +/- 50%	17.1%	50.0%	34.2%	Yes
Retail	16.0%	NFI-ODCE +/- 50%	8.0%	24.0%	14.8%	Yes
Industrial	18.9%	NFI-ODCE +/- 50%	9.5%	28.4%	13.3%	Yes
Multifamily	26.5%	NFI-ODCE +/- 50%	13.3%	39.8%	28.6%	Yes
Lodging/Hotel	0.0%	NFI-ODCE +/- 50%	0.0%	0.0%	3.1%	No
Other ¹	4.4%	NFI-ODCE +/- 50%	2.2%	6.6%	6.0%	Yes
Geography - Real Estate						
	NFI-ODCE	Target/Constraint	Minimum	Maximum	Actual	Compliant?
West	41.5%	NFI-ODCE +/- 50%	20.8%	62.3%	34.0%	Yes
East	31.3%	NFI-ODCE +/- 50%	15.7%	47.0%	25.7%	Yes
Midwest	8.4%	NFI-ODCE +/- 50%	4.2%	12.6%	7.6%	Yes
South	18.8%	NFI-ODCE +/- 50%	9.4%	28.2%	22.9%	Yes
Other ^{2,3}	0.0%	n/a	n/a	n/a	4.6%	Yes
Non-U.S.	0.0%	n/a	0.0%	40.0%	5.3%	Yes
Geography - Timber						
	NCREIF Timberland	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Lake States	3.0%	NCREIF Timberland +/- 50%	1.5%	4.5%	0.8%	No
Northeast	4.0%	NCREIF Timberland +/- 50%	2.0%	6.0%	1.2%	No
Northwest	28.0%	NCREIF Timberland +/- 50%	14.0%	42.0%	10.4%	No
South	65.0%	NCREIF Timberland +/- 50%	32.5%	97.5%	76.0%	Yes
Other	0.0%	NCREIF Timberland +/- 50%	0.0%	0.0%	11.6%	No

Compliance Matrix (cont'd)

RISK MANAGEMENT						
Geography - Agriculture	NCREIF Farmland	Target/Constraint	Minimum	Maximum	Actual	Compliant?
Appalachian	0.6%		0.0%	50.0%	0.0%	Yes
Corn Belt	11.0%		0.0%	50.0%	7.5%	Yes
Delta States	20.1%		0.0%	50.0%	29.2%	Yes
Lake States	3.8%		0.0%	50.0%	14.3%	Yes
Mountain	8.9%		0.0%	50.0%	25.2%	Yes
Northeast	0.0%		0.0%	50.0%	0.0%	Yes
Northern Plains	2.1%		0.0%	50.0%	4.1%	Yes
Pacific Northwest	6.3%		0.0%	50.0%	2.3%	Yes
Pacific West	38.8%		0.0%	50.0%	7.5%	Yes
Southeast	6.3%		0.0%	50.0%	7.8%	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	31.5%	No
Non-U.S.			0.0%	50.0%	68.5%	No
Asset Type - Infrastructure	Target/Constraint		Minimum	Maximum	Actual	Compliant?
Energy/Utilities			0.0%	70.0%	22.7%	Yes
Transportation			0.0%	70.0%	35.7%	Yes
Social			0.0%	70.0%	9.9%	Yes
Communications			0.0%	70.0%	4.1%	Yes
Other			0.0%	70.0%	27.6%	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%	72.6%	No
Non-Core			30.0%	50.0%	27.4%	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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REAL ESTATE **IN**DETAIL

KAYNE ANDERSON REAL ESTATE PARTNERS VI, L.P.

An Opportunistic Senior Housing, Student Housing, and Medical Office Fund

March 2020

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EXECUTIVE SUMMARY

OVERVIEW

Review Date	Rating	Predecessor Fund Rating
March 2020	Buy	Buy

Kayne Anderson Real Estate (the “Manager” or “KA Real Estate”) is forming Kayne Anderson Real Estate Partners VI, L.P. (“KAREP VI” or the “Fund”), the next vehicle in its series of funds opportunistically investing in alternative property types across the US. The \$2.0 billion Fund will target an 18%-20% gross IRR (15% net) using approximately 65% leverage over an 8-year fund life.

Strategy: Consistent with the prior fund in the series, the Fund will primarily acquire and secondarily develop a portfolio of specialized property types; with the primary focus on healthcare related real estate (medical office and senior housing) and student housing. Acquisition targets are typically undermanaged and undercapitalized properties where operational improvements and renovations enable lease-up and NOI growth. Given current conditions unique to this vintage, acquisitions will also selectively target stalled development projects and over-levered sellers facing problematic refinancings of otherwise historically well-performing well-located properties.

Sponsor:

HQ Location	Los Angeles (parent)/Boca Raton (real estate)	Parent	Kayne Anderson Capital Advisors, L.P.
Ownership	Privately-owned	Founded	1984 (parent)/2007 (real estate)
Employees	389 total; 60 in real estate; 32 on fund team	Equity AUM	\$31 billion / \$7.3 in real estate
Organization	Parent is an alternative investment management firm with a real estate team amongst other teams investing in energy & infrastructure, private market credit, and growth private equity. All the teams including Kayne Anderson Real Estate are supported by shared resources in finance, accounting, legal, and compliance.		

Performance (as of 9/30/2019)

Vehicle	Vintage	Equity (M)	Assets	Fair Market Value			% of Transactions Realized
				Net IRR	Net EM	IRR Quartile*	
KAREP I	2007	\$136	15	8.2%	1.3x	2Q	100%
KAREP II	2011	\$575	32	15.1%	1.3x	2Q	100%
KAREP III	2013	\$750	54	18.4%	1.6x	1Q	78%
KAREP IV	2015	\$1,030	42	10.9%	1.3x	3Q	38%
KAREP V	2017	\$1,850	70	0.8%	1.0x	3Q	1%

*Compared to 46 (2007), 33 (2011), 30 (2013), 25 (2015), 22 (2017) similar vintage U.S. High Return/Opportunistic closed-end real estate funds. Source is Townsend plus Prequin data.

Portfolio Characteristics:

Fund Structure	Closed-End Commingled Fund	Return Profile	High Return/Opportunistic
Expected Fund Size	\$2.0 billion (\$2.5 billion cap)	Sponsor Co-Invest	\$50 million minimum
Target Return	18%-20% gross; 15% net IRR	Leverage	Up to 75%
Base Term	5 years from end of Commitment Period	Commitment Period	3 years from Final Closing
Average Equity Size	\$34M equity (Range: \$10M - \$200M)	Typical Business Plan	Three to Five Years

Fees:

Asset Management Fee	Depending in size, 1.75% to 1.25% on Committed during the Commitment Period; on Invested thereafter.	Incentive Fee Waterfall	8% preferred return; followed by a catch-up (terms determined by size); 80% LP / 20% GP thereafter.
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Fundraise Status/Timing: Targeting a First Close of \$600 million to \$700 million on/around April 30, 2020.

COMPARATIVE ADVANTAGES

1. Platform

The Manager has the following platform advantages:

- The parent company (“KACALP” or the “Sponsor”) is well-resourced with ~400 employees including 160 investment professionals, and manages \$31 billion in equity across a range of asset classes. KA Real Estate benefits from the shared resources that the parent provides to support the entirety of its business.
- KA Real Estate employs 60 professionals and manages roughly \$7.3 billion in equity across various products that include this opportunistic fund series, the Kayne Anderson Core Real Estate fund (“KACORE”), and the Kayne Anderson Real Estate Debt fund (“KARED”) series. Managing products across the risk spectrum and capital stack provides KA Real Estate with enhanced sourcing, deal flow, and market intel.
- The real estate group is well staffed with specialized expertise, comprised of 32 investment professionals with functional experience/expertise in acquisitions, asset management, portfolio management, construction and design, and capital markets. Teams are further organized to allow focus and specialization within each of the targeted property types, student housing, medical office, and senior housing.
- Since inception in 2007, KA Real Estate has specialized in niche property types, helping to establish the firm as a name brand with industry presence in its targeted property types. This is an asset with respect to forming and maintaining joint venture partner and lending relationships and enhancing sourcing.
- Long time relationships with JV partners extend the firm’s operational expertise. KA Real Estate’s exclusive joint venture with MB Real Estate in the medical office sector brings an additional 115 people to this strategy, including leasing, property management, operational and other professionals in various disciplines. In senior housing, the Manager’s well-established relationships with Discovery Senior Living, Liberty Healthcare, Arrow Senior Living, and the Freshwater Group bring proven best-in class operations.

2. Experience

KA Real Estate’s senior leadership of Al Rabil, Co-Founder and CEO, David Selznick, CIO, and John Wain, CFO, average 27 years of industry experience. Since inception of the firm in 2007, KA Real Estate has raised five closed-end commingled opportunistic funds in this series, totaling \$4.3 billion in total commitments. This has equated to the ownership and management of 310 medical office properties, 117 senior housing properties, and 64 student housing properties across the fund series. The Manager is not planning any expansion out of its core competencies with this Fund. The Fund is expected to be an extension of predecessor fund KAREP V; executing a strategy focused on the niche property types that have comprised this fund series since its inception.

3. Property Attributes

Medical office, senior housing, and student housing exhibit favorable secular demand drivers that are less correlated to the macro cycle, making them accretive to a portfolio of traditional property types. For example, the percentage of the U.S. population turning 65 years of age and older will continue to remain elevated for the coming years, providing an attractive demand tailwind for senior housing and medical office. Further, these property types exhibit fragmented ownership and require an intense operational focus that limits competition in the space.

POTENTIAL ISSUES AND CONCERNS

1. Higher Risk/Return Profile

The Fund is targeting 20%+ gross property level returns after paying promotes to JV partners. In addition, the lack

of the following fund investment guidelines also creates the possibility of a higher risk profile:

- No limit on development,
- The leverage limitation allows for borrowings up to a 75% max and is based on *the greater of* (i) the aggregate projected stabilized value of all investments or (ii) the aggregate fair market value of all the Fund assets at the time of borrowing. Basing leverage on future assumed value upon stabilization allows for a LTC at the time of borrowing that is even higher than 75%, which is already high.
- No limitations/prohibitions regarding cross collateralization, and recourse, and completion/repayment guaranties.

Discussion: The lack of guidelines is perhaps more common in the parent's hedge funds, but it doesn't translate to the PERE asset class where it is unnecessarily loose and atypical. An investor must trust in the Manager's past practice, its obvious alignment with respect to its \$50 million co-investment, and its founding leadership which established a fiduciary business. For this vintage, given the abrupt end to an 11-year growth trend and all the associated dislocation of an unexpected halt to much of the global economy, opportunistic cost basis is now reasonably expected to be a primary component of return alleviating the need to rely upon the high risk drivers such as high leverage and development.

As far as past practice, regarding development, the Manager expects that the allocation will be in line with the historical average of the past three funds, which has ranged between 15%-20% of fund equity, or less given the new market conditions that have developed from the recent global turmoil. Selection of development/operating partners is borne out of 10+ years of experience, with a preference to proven repeat partners and well capitalized partners that provide the majority of lender-required guaranties.

Regarding leverage, the Manager typically underwrites using a 60%-65% average hold period LTV assumption. It is currently reporting 60% in Fund V and 54% in Fund IV. Cross collateralization is only expected when the Manager can enhance borrowing terms on small assets, and exposure is at least partially limited by separate and distinct pooling of any crossed assets.

2. Current Global Turmoil

The Fund result depends on on-going strong renter demand for the specific property types and the ability to drive NOI recovery and growth through capital and operational initiatives. Currently, corporate and consumer reactions and initial impacts from coronavirus have created uncertainties as far as duration of the disruption and magnitude of the consequences. Student housing properties may potentially miss summer school revenues and the typical leasing activity in advance of the upcoming full school-year is interrupted; Senior housing businesses may potentially operate with compressed margins or even below break-even for an unknown period of time¹, especially given high media attention on the negative events occurring at certain properties; and Medical Office tenants have mixed impacts on their business and budget uncertainties that potentially

Discussion: This Fund strategy is aimed at particular segments within three property types with positive long-term demand trends and supporting demographics, which are particularly disrupted in the short term. The cycle-ending disruption this time uniquely impacts these property types, and is exacerbated by the operating leverage of senior housing businesses and operational intensiveness required by annual student housing leasing cycles. For

¹ Several senior housing operators have reported to Townsend preliminary NIC (National Investment Center for Seniors Housing & Care) statistics that are consistent with stay-at-home orders, showing no increase in the national move-out rate for this season, yet, and a small drop in actual versus planned move-ins. The unknown in discussion is whether the prior level of leasing activity indicated by tours, waiting lists, and feedback from community outreach programs fully resumes after stay-at-home orders are lifted, or if negativity could extend the duration of vacancies.

opportunistic capital aiming for an advantageous cost basis, today's conditions create the entry point and enable excess return potential. And, this fundraise by a specialist Manager investing within its core competencies with established operator relationships in-place is serendipitously well timed as a blind pool opportunity fund. **Exhibit A** is a note from Townsend that expands on that view.

3. AUM Ramp Up

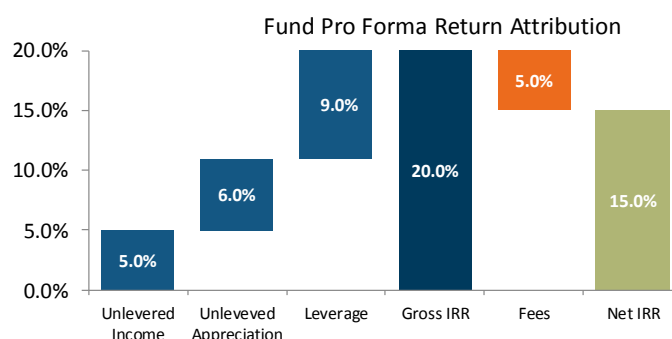
In the last five years, dating back to 2015, the Manager has raised a new vehicle within their platform almost annually, effectively quadrupling AUM over that time. In 2015, the Manager raised \$1.0 billion in equity for KAREP IV; followed by the raise of their first debt fund, KARED I, a \$585 million fundraise in 2016. In 2017 the Manager raised three vehicles: KAREP V at \$1.8 billion (nearly doubling the size of prior fund KAREP IV), KARED II at \$1.2 billion (doubling in size from KARED I), and an open-end core fund, KACORE at \$480 million initially. In 2018 the Manager raised \$1.035 billion for KARED III. Today, the Manager is raising KAREP VI, plus a new unplanned opportunistic debt fund called KAROD, and with plans to raise KARED IV, and another \$1 billion in equity for KACORE. Now, a massive economic dislocation whether short-term or not demands unforeseen time/attention to asset management of all those investments.

Discussion: Until this dislocation the platform was viewed as properly resourced considering investment professionals were properly supported by shared infrastructure, the firm is profitable and hires whenever it needs to, and the business model of allocating to JV operating partners provides some scalability. Also, in 2020, KA Real Estate entered into a strategic partnership with AIMS Petershill² to facilitate the growth of KA Real Estate with more capital to invest in the business.

STRATEGY OVERVIEW

U.S. high return/opportunistic alternative property type strategy that will primarily invest in medical office, senior housing, and student housing.

- Acquisition business plans generally range from three to five years. Typically in JV partnership with the business/property operator. See *Joint Venture Partners* section below for additional details. Acquires assets both individually and in portfolios and aggregates to a diversified stabilized high-income portfolio.
- Development has no limits but is expected to range between 15% to 20% of fund commitments. The Manager typically targets a 150-200 basis point spread between untrended yield on cost and market cap rates.



Senior Housing (40%-45% of Fund commitments):

- Focus on higher quality assets; generally private-pay independent living and assisted living communities in strong markets near hospitals and other amenities.

² A private equity fund managed by Goldman Sachs Asset Management that makes minority investments in businesses, usually 10%-20% and with no changes to management, funds, or control of the business. Townsend confirmed with AON's Private Equity group that the intent of the AIMS Petershill fund is in fact to passively hold noncontrolling interests typically with no board seats, targeting a long-term hold with current income. The term of the closed-end fund is oddly not set but typically LPs may require liquidation through majority vote starting in year 12, and exit options for the GP stakes are case-by-case including re-sale to another investor and sale back to the Manager.

- Target markets are near population centers and include the Top 75 MSAs; historically the Manager has invested in the Southeast and Southwest regions, and along the East and West coasts.
- Business plans include repositioning to higher rent product via capital improvements/renovation; improving operations by replacing existing management with joint venture operating partners; and lease up to increase occupancy.

Medical Office (40%-45% of Fund commitments):

- Focused on outpatient facilities on and off hospital campuses.
- Acquire undermanaged and undercapitalized properties with in place occupancy near 80%-90% at acquisition. Generally targeting properties where the in-place tenant is associated with a credit-worthy hospital system whose presence is critical within that submarket.
- Target markets focus on primary markets (80%-85%) and secondary markets (15%-20%).
- Drive value by improving operations and increasing NOI; renewing existing tenants at higher rental rates and longer term; and leasing up existing vacancy.
- Will target pre-leased, build-to-suit opportunities for credit-worthy tenants.

Student Housing (10%-20% of Fund commitments):

- Focusing on top public university markets in the U.S. Schools are affordable compared to private colleges, are growing and broadly diversified in their offerings to a broad undergraduate and graduate student base without dependence on non-US enrollment.
- Increasing online course capabilities is typically part of growth efforts enabling scale as opposed to a replacement for on-campus experience.
- Fund V has properties at University of Texas, University of Florida, University of Alabama, and Virginia Tech.

JOINT VENTURE PARTNERS

The Manager plans to utilize joint venture operating partners on all medical office and senior housing deals; and joint venture development partners on student housing assets. Historically, since KAREP III³, JV partners have been utilized on roughly 90% of all investments.

Senior Housing: JV Partner relationships are not exclusive and have included operating partners like Discovery Senior Living, The Freshwater Group, Liberty Healthcare, Senior Living Residences, Arrow Senior Living, Watermark Retirement, and MorningStar Senior Living. Generally, JV partners contributes between 5%-20% of equity per deal and receives a promote over an IRR hurdle. Day to day operating decisions are governed by annual budgets and business plans, which KA Real Estate maintains control.

Medical Office: The Manager maintains an exclusive relationship with MB Real Estate, which contributes 1%-2% of equity per deal and receives a promote after an IRR hurdle. KA Real Estate retains all major decision rights including approval of all new leases and renewals; all major capital expenditures; all acquisitions/dispositions; and all annual budgets.

Student Housing: The Manager utilizes development partners and third-party management (typically Asset Campus Housing) for marketing and leasing. Development partners contribute 5%-10% of equity and receive a promote after an IRR hurdle. KA Real Estate retains all major decision rights.

³ Prior to KAREP III, the Manager's strategy focused primarily on student housing assets only given the high cap rates at the time, and the use of operating partners was around 50% while half of transactions were not operationally intensive and were acquired directly and asset-managed in-house using third-party property management.

LEVERAGE

- The Manager typically underwrites up to 75% LTV at the time of deal closing, with target leverage ranging between 60% to 65% LTV during the Fund's hold period.
 - Formal Limitation: Fund debt cannot exceed 75% of the greater of (i) the aggregate projected stabilized value of all the Partnership's Investments or (ii) the aggregate fair market value of all the Fund assets at the time of borrowing.
 - The Fund will utilize a subscription facility for cash management, which is excluded from the leverage limitation. For reference, the Fund V subscription line totaled \$250 million on \$1.85 billion in commitments.
- Financing is expected to be a blend of fixed and floating rate non-recourse debt (with customary lender-required carve outs) from government sponsored entities and banks. Lenders in predecessor Fund V are mostly banks (Capital One, Ally Bank, PNC, and Wells Fargo).
 - If recourse is required, the Manager generally tries to pass it on to joint venture partners.
- Repayment guaranties and completion guarantees are generally provided by joint venture partners. However, the Fund may provide a completion guarantee when it is related to construction loans.
- Given the nature of the strategy acquiring pools of smaller sized properties, cross-collateralization will be utilized when favorable financing can be obtained. The Manager's cross-collateralization strategy effectively cross-collateralizes assets into separate non-crossed pools.

PIPELINE

Predecessor fund KAREP V is currently 65% called and 85% committed. The Manager expects that full balance of the capital will be committed by mid-year, after which all pipeline deals will be considered for KAREP VI; which is expected to start capitalizing deals during 3Q 2020. Attached as **Exhibit B** is the pipeline of assets in due diligence as of February 2020, all slated for Fund V at the time.

INVESTMENT GUIDELINES

The few investment guidelines are similar with the prior fund. Based on capital commitments:

- No more than 20% in any investment; unless the investment is comprised of 10 or more properties, in which case the limit is 30%.
- Investments that are not student occupied and healthcare-related properties (such as traditional multifamily) may not exceed 25%.
- No investment outside the U.S. (includes Puerto Rico) and Canada.

SPONSOR

OVERVIEW

The roots of Kayne Anderson Capital Advisors, L.P. trace back to 1984 when the firm was founded by Richard Kayne (with the support of John Anderson) to manage the capital of its principals and select clients. The firm focuses on alternative investment management; currently investing across a variety of strategies, which include energy & infrastructure and related marketable securities, and private market growth capital, real estate, and middle market corporate credit.

Kayne Anderson Real Estate was established in 2007 by Ric Kayne and Albert Rabil, who currently serves as the Managing Partner and Chief Executive Officer of KA Real Estate. The first Kayne Anderson real estate fund in the series was launched that same year to focus on the off-campus student housing sector. Since 2007, KA Real Estate

has raised five commingled closed-end opportunistic funds in this series, totaling \$4.3 billion. While the early funds in the series focused primarily on off-campus student housing, the strategy expanded to include healthcare related real estate in addition to student housing.

Parent: Kayne Anderson Capital Partners, L.P.

- Ownership: Privately held by management with Ric Kayne as the controlling owner.
- Staffing: 389 Employees, comprised of 47 senior management, 160 investment professionals, 17 legal, compliance and HR, 93 accounting and finance, 28 marketing and investor relations, 20 information technology, and 24 admins across the firm;
- Headquarters in Los Angeles with six other offices across the U.S. listed in the chart at the right.
- AUM: \$31 billion equity (including unfunded commitments)
 - Energy infrastructure (23%): Midstream equities and credit;
 - Upstream Energy (25%): Private equity;
 - Credit (25%): Private direct lending, CLOs, diversified liquid credit funds, opportunistic credit;
 - Real Estate (23%): High return/opportunity funds; open-end alternative core fund; debt funds;
 - Other (3%): PE funds focused on middle market/high growth technology-enabled services.

Location	# of Professionals
Los Angeles, CA (HQ)	232
Boca Raton, FL	60
Houston, TX	55
Chicago, IL	22
New York, NY	15
Dallas, TX	4
Atlanta, GA	1

Manager: Kayne Anderson Real Estate

- Ownership: Privately held by parent (40%), Al Rabil and David Selznick (40%), and Goldman Sachs Asset Management (20%).
 - In January 2020, Goldman Sachs Asset Management through its Petershill Program purchased a passive 20% minority interest in the KA Real Estate platform. It does not require any board seats and KA Real Estate continues to operate under the direction of Al Rabil and David Selznick.
- Staffing: 60 employees, which include 32 investment professionals, 7 legal professionals, 10 in finance and operations, 8 admins, and 3 in investor relations.
- Organization: An organizational chart is included as **Exhibit C**.
- AUM: \$7.3 billion equity (including unfunded commitments)
 - By fund type: High return/opportunity funds (42%); open-end alternative core fund (25%); real estate debt funds (33%).
 - By risk: 58% core; 42% non-core
 - Non-core: senior housing (44%), medical office (40%), student housing (9%), and multifamily (7%).

TURNOVER/COMPENSATION/RETENTION

- Turnover: On average 3 to 4 people a year over the last 5 years for a total of 15 employees, of which 5 were investment professionals. This type of turnover is consistent with industry standard for firms of its size and structure. Over that same period the firm experienced net growth with the addition of 19 employees.
- Compensation: Industry standard base salary and bonus. Approximately 15 professionals, generally Director level and above and excluding Al Rabil and David Selznick, participate in 20% of the carried interest with the balance split between the owners of KA Real Estate.
- Retention: Allocations of carried interest to professionals vests ratably over a 5-year period.

CLIENT BASE

Based on capital commitments, the client base in the predecessor fund consisted of corporate pensions (31%), HNW (29%), union plans (14%), public pensions (10%), E&Fs (8%), insurance companies (5%), and other (3%).

ESG POLICY AND PRACTICES

The parent company recently joined as a signatory to the UN PRI in September 2019 and is planning to start reporting in 2021. Further, it hired a full time Director of ESG in 2018 to work with the various investment teams to institutionalize ESG across the firm. As an employer, the company encourages employees to participate in charitable activities through an active matching gift program and paid leave for volunteerism. Specific to KA Real Estate, environmental risks are integrated into the investment process as a matter of course through building environmental reviews. Environmental risk management is incorporated as a part of due diligence into deal documents and post investment actions plans. Although not currently reporting to GRESB for this fund series, the KACORE fund began participating in the GRESB Real Estate assessment in 2019 and is currently working with an external third party and operating partners to monitor and report utility usage data on waste, water, and energy.

COMPLIANCE/LITIGATION DISCLOSURES

The Sponsor has disclosed the following:

- In September 2016, the SEC conducted a review of the KACALP's policies and procedures related to the allocation of expenses / broken-deal expenses and co-investment opportunities. The results in January 2017 noted deviations from the firm's policies and procedures. KACALP represents that it has since made several enhancements to its policies and procedures in order to adequately address the SEC's comments and received a formal notice that no further action was required, closing the matter.
- Outside of customary claims that are commonly associated with owning and operating real estate assets, there has been no history of significant litigation against the firm or its principals.

OPERATIONAL DUE DILIGENCE

SUMMARY

An Aon Operational Risk Solutions and Analytics team ("AON ORSA") reviewed the Sponsor's policies, procedures, and capabilities across a range of operations, middle and back office, and control functions to determine if operations align with a well-controlled operating environment. The AON ORSA review covered (i) corporate governance and organizational structure, (ii) transaction execution, (iii) middle/back office, valuation, and cash controls, (iv) compliance, regulatory, legal, (v) investment and counterparty risk oversight, (vi) business continuity/disaster recovery, (vii) cyber security and IT, (ix) service provider selection and monitoring, and (x) fund governance, structure, and administration.

- 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.
 - Aon ORSA's identified deviations from best practice were: The Fund will be internally administered, while AON ORSA prefers third party admin for risk mitigation, and checks below \$25k require only 1 authorized signature while best practice is to require at least 2 regardless of amount.

INVESTMENT PROCESS

OVERVIEW

Kayne Anderson's investment activities are organized by property type and all investments in a given sector are overseen from acquisition to asset management to disposition by the respective product team. Sourcing is through the Manager's and broader Sponsor's relationships and includes publicly traded REITs, developers, operating partners, property managers, health and hospital systems, brokers, and other fund managers. In-house staff focuses on acquisitions, asset management, portfolio management, design and construction, legal, and finance.

Due diligence of a potential acquisition is performed by both the in-house staff and external third-parties that are hired to perform standard diligence services like engineering and environmental reports. Once an asset is acquired, product teams are responsible for implementing business plans; monitoring market conditions; and engaging and overseeing JV partners responsible for property management and the day to day operations. Product teams evaluate hold/sell analyses and take assets through the process of receiving IC approval for sale.

INVESTMENT COMMITTEE

Comprised of 6 senior people averaging 28 years of investment experience and 10 years with Kayne Anderson.

- Acquisitions and dispositions require unanimous approval by IC, no quorums.
- IC members and product teams are involved in all other major decisions regarding (i) annual capital and operating budgets, (ii) leasing, (iii) financing transactions, and (iv) hold/sell analysis. IC is not required to formally vote on such decisions.

Member	Title	Years of Experience	Years with Firm
Albert Rabil	Managing Partner & CEO, KA Real Estate	30	12
David Selznick	Chief Investment Officer, KA Real Estate	17	8
John Wain	Chief Financial Officer, KA Real Estate	34	2
Michael Levitt	Chief Executive Officer, KACALP	32	3
Terry Quinn	Co-Chairman, KACALP	35	12
Paul Blank	Chief Operating Officer, KACALP	21	20

Bios are provided in **Exhibit D**.

LIMITED PARTNER ADVISORY BOARD

The GP will establish an Advisory Board comprised of at least three voting members. The prior fund advisory board is made up of five members⁴. LP duties are typical, advising on any extensions and certain other modifications, potential conflicts of interest, and miscellaneous items as they arise. Voting matters will require a majority vote.

VALUATIONS

Assets are marked to fair value in-house on a quarterly basis utilizing industry standard valuation methods.

- External third-party appraisals are not performed as a normal course of business but are considered whenever performed by lenders during financings or refinancings.
- All valuations are reviewed and approved by the valuation committee which includes the CEO, CIO, and CFO from Kayne Anderson Real Estate and the COO, CFO, CCO and General Counsel from KACALP.

The valuation policy is looser than many peers that formally engage and utilize third party appraisals at least periodically, but the Fund auditor will be PWC and valuations and the valuation process will be reviewed in conjunction with annual financial statement audit procedures.

USE OF PLACEMENT AGENT

The Sponsor engaged country-specific agents for non-US investors at the expense of the Sponsor, not the Fund.

FUND STRUCTURE

The Fund entity itself is being formed as a Delaware Limited Partnership. The expected collective structure will be comprised of feeder(s), parallel vehicle(s), and underlying REITs to facilitate a variety of investor types. The Onshore structure is illustrated in **Exhibit E**.

⁴ Texas Christian University, Texas Permanent School Fund, UBS, Crescent Grove, and The Terry Foundation.

- General Partner and Investment Manager: Kayne Anderson Real Estate Advisors VI, LLC
 - KACALP has been a Registered Investment Adviser with the SEC since 1994 and lists Kayne Anderson Real Estate Advisors VI, LLC as a relying adviser.

KEY TERMS

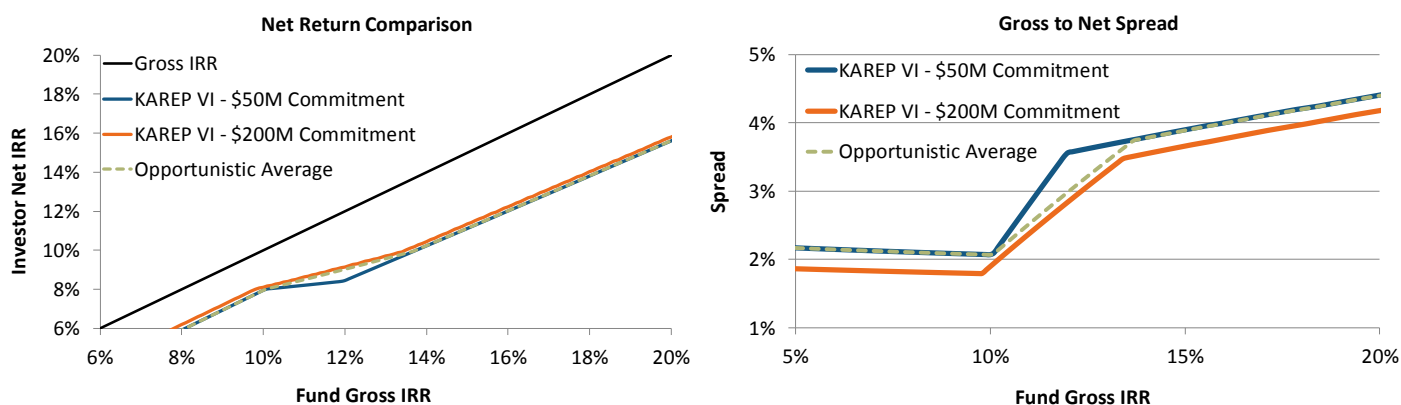
Key Terms		Townsend Comment	
Target Return:	18%-20% gross IRR	Neutral	15% net IRR without Fee breaks
Fund Size:	\$2.0 billion (\$2.5 billion hard cap)	Neutral	
Sponsor Commitment:	Minimum of \$50 million	Positive	Expected to be contributed by KACALP, Petershill, Al Rabil, David Selznick and other senior employees. Nine people contributed to the sponsor commitment in the prior fund.
Commitment Period:	3 years from Final Closing	Neutral	
Term:	5 years from the end of the Commitment Period; plus, two one-year extensions at GP discretion; plus, another extension with LPAC approval.	Neutral	Standard base term length. Extensions should require LPAC consent.
Key Person Provision:	Triggered in the event that both Al Rabil and David Selznick cease to be actively involved in the investment activities of the Fund.	Neutral	Triggers a suspension of the Commitment Period and stops new investing. LPs may elect to reinstate with a majority in interest vote, or to dissolve the Partnership or terminate the Commitment Period.
No-Fault Provisions:	None, initially. In discussion.	TBD	Lack of any No-Fault Provisions is atypical. The Sponsor is considering any one of the standard provisions in PERE non-core funds which includes GP removal rights and/or ability to terminate the Commitment Period and/or a call for an orderly liquidation.
Exclusivity:	The Fund series is the exclusive vehicle for the strategy.	Positive	Clear delineation between this strategy and other funds (debt funds and Core).

FEES AND DISTRIBUTIONS

Fees and Distribution Waterfall									
Organizational Expenses:	Fund pays up to \$1.5 million								
Management Fee:	<i>Breaks for size per chart.</i>	Capital Commitments	Management Fee						
			During Commitment Period On Committed	Post Commitment Period On Invested					
			< \$50 M	1.75%	1.75%				
			≥\$50 M < \$100 M	1.50%	1.50%				
		≥\$100 M < \$200 M	1.375%	1.375%					
		≥ \$200 M	1.25%	1.25%					
Incentive Fee/Waterfall Distribution:	20% of distributions subject to an 8% pref and a catch-up determined by size. For all TTG/AON clients, determined by aggregated size. Calculated and distributed on a fully pooled basis.		<table border="1"> <thead> <tr> <th><\$60M</th> <th>\$60M+</th> <th>\$200M+</th> </tr> </thead> <tbody> <tr> <td>80% GP / 20% LP</td> <td>60% GP / 40% LP</td> <td>50% GP / 50% LP</td> </tr> </tbody> </table>	<\$60M	\$60M+	\$200M+	80% GP / 20% LP	60% GP / 40% LP	50% GP / 50% LP
<\$60M	\$60M+	\$200M+							
80% GP / 20% LP	60% GP / 40% LP	50% GP / 50% LP							
Clawback:	Post-Tax Clawback provision in the event GP carried interest distributions exceed 20% of profit.								

FEE ANALYSIS

Townsend compared the structure to a sample of 61 high return/opportunity funds across a range of gross return outcomes, the results of which are depicted in the charts below.



Assuming a \$200 million aggregated commitment, an asset management fee of 1.25% on committed then on invested is attractive relative to the average opportunity fund. A 20% incentive subject to an 8% preferred return and a 50/50 catch-up is standard for the high risk/return sector.

PERFORMANCE (AS OF SEPTEMBER 30, 2019)

SUMMARY

Since inception of the real estate platform in 2007, KA Real Estate has raised five commingled funds in the high return/opportunistic series. The following table summarizes the performance of those five commingled funds:

Vehicle	Vintage	Equity (M)	Assets	Fair Market Value			Realizations	DPI (Distributions to Paid-In-Capital)	Projected Life-of-Fund Net IRR
				Net IRR	Net EM	Quartile Ranking* by Net IRR/EM	% of Transactions		
KAREP I	2007	\$136	15	8.2%	1.3x	2Q/3Q	100%	1.3	8.2%
KAREP II	2011	\$575	32	15.1%	1.3x	2Q/4Q	100%	1.3	15.1%
KAREP III	2013	\$750	54	18.4%	1.6x	1Q/1Q	78%	1.4	18.4%
KAREP IV	2015	\$1,030	42	10.9%	1.3x	3Q/2Q	38%	0.5	15%-18%
KAREP V	2017	\$1,850	70	0.8%	1.0x	3Q/3Q	1%	0.0	15%-18%

*Compared to 46 (2007), 33 (2011), 30 (2013), 25 (2015), 22 (2017) similar vintage U.S. High Return/Opportunistic closed-end real estate funds. Source is Townsend plus Preqin data.

Early on in the fund series (KAREP I and KAREP II), the Manager focused primarily on off-campus student housing, expanding the focus to the healthcare related property types of medical office and senior housing while student housing cap rates were dramatically compressing with the post-GFC influx of foreign and US institutional capital. KAREP II and KAREP III have met or are currently meeting original fund target returns⁵. KAREP IV and V are still stabilizing assets undergoing value-add business plans and mid-stream in development projects such that current FMVs are less than the Manager's projected values that still assume successfully executing the plans as initially underwritten. Given the halt in leasing activity and foot traffic in general and compromised construction site staffing brought on by coronavirus and stay-at-home orders, it is fair to expect some downward revisions to those projections simply as execution timeframes are presumably extended.

⁵ Original target return for KAREP I was 20%-25% gross, and all subsequent funds in the series have targeted 18%-20% gross returns.

KAREP I: Launched in 2007, with total commitments of \$136 million at the time of closing in March 2009. Between December 2007 and April 2009, the Manager invested roughly \$40 million of equity, or ~30% of fund commitments; before pausing investment activity and resuming a year later to invest the remaining capital commitments of \$94 million. The fund was fully realized in 2015.

- Overweight to student housing (64%), targeting favorable cost basis plus operational improvements.
- Although earlier investments made in 2007-2009 struggled (average gross asset level: 0.8x EM/-7.7% IRR), the Manager's determination to pause investment activity led to more favorable results on the back half of the investment period (average gross asset level: 1.9x EM/21.0% IRR). This resulted in an overall fund result that was positive on an absolute basis and relative to same vintage peers.

KAREP II: Raised in 2011 with total commitments of \$575 million and fully realized in 2019.

- Overweight to student housing (85%), of which 60% of the business plans focused on acquisition cost basis and operational improvements, while the other 40% was new development. Target markets were broadly diversified across the U.S.

KAREP III: The fund is near the end of its harvest phase, expected to end in May 2021; currently 78% realized and generating a 18.4% net IRR on a FMV basis.

- 54 investments, comprised of 95 medical office properties, 19 seniors housing properties, and 7 student housing properties; by equity, overweight to medical office (47%) and senior housing (29%).
- Property level value-add achieved through lease-up, lease renewal, operational improvements, repositioning, and renovation; exposure to development transactions was ~15% of fund equity.
- In addition to the property level value-add creation, the fund was also a benefactor of the following portfolio sales.
 - The following senior housing portfolio was sold to a Welltower (NYSE: WELL) and Canada Pension Plan Investment Board (CPPIB) partnership:

Portfolio Details			At Acquisition				At Exit/Stabilization				Realized Gross	
Transaction	Location	Number of Properties	Purchase Price	NOI	Implied Going In Cap Rate	Occupancy	Sale Price	NOI	Implied Exit Cap	Occupancy	EM	IRR
Aston Gardens	Various, FL	6	\$404,300,000	\$27,000,000	6.7%	96%	\$ 570,000,000	\$32,000,000	5.6%	98%	1.9x	37.3%

- 8 student housing and 4 multifamily properties were included as a larger portfolio sale (across KAREP II and KAREP III) to Mapletree (gross portfolio level: 1.75x EM / 23% IRR).
- 80 medical office properties (across KAREP III and KAREP IV) were aggregated and sold as a larger portfolio sale to CBRE Global Investors (gross portfolio level: 1.96x EM / 34% IRR).

KAREP IV: The fund is one year into its five-year harvest period, which ends April 2023; currently generating a 10.9% net IRR on a FMV basis.

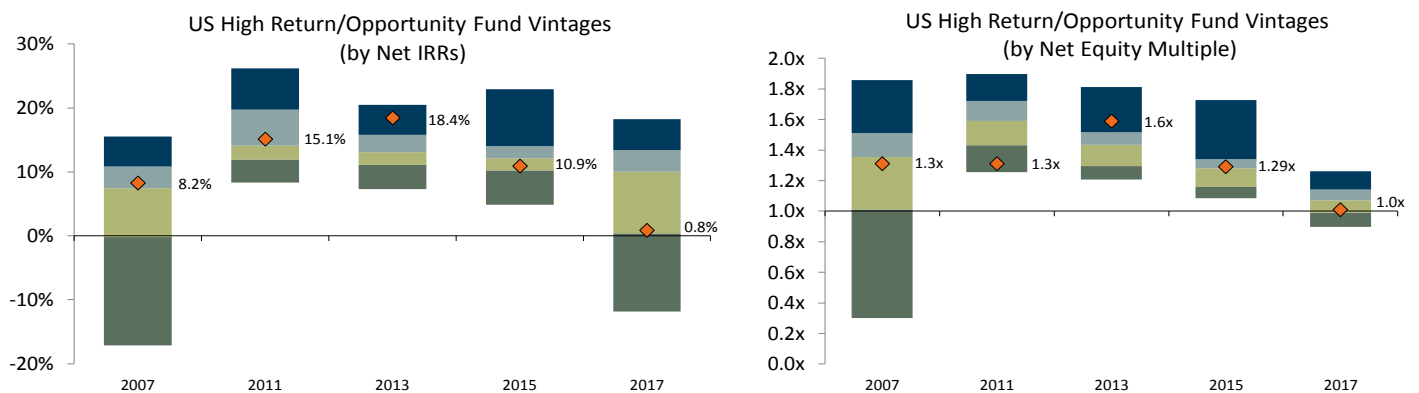
- 42 investments, comprised of 190 properties (131 medical office, 53 senior housing, 4 student housing, and 2 multifamily); diversification, based on equity, is ~41% senior housing, ~49% medical office, ~7% student housing, and ~3% multifamily. The fund has realized 38% of assets.
- Property level value-add primarily focuses on lease up, lease renewal, operational improvements, renovation/redevelopment; with exposure to development transactions ranging between 15%-20% of fund equity (student housing and senior housing).
- Medical office properties are broadly diversified across the U.S., while senior housing assets generally fall on the west coast (San Ramon, CA, Los Angeles, CA) or the SE/SW (Naples, FL, Palm Beach Gardens, FL, Tuscon, AZ, Garland, TX, Mount Pleasant, SC).

KAREP V: The fund is near the end of its investment period, currently 65% called and 85% committed. The Manager expects that full balance of the capital will be committed by mid-year. Current returns are not overly meaningful.

- 70 investments, comprised of 186 properties (123 medical office, 51 senior housing, 6 student housing, and 6 multifamily); diversification based on equity is 52% senior housing, 33% medical office, 8% student housing, and 7% multifamily).
- Business plans for senior housing assets are in various stages of development, redevelopment, and stabilization. Medical office properties are occupied at 90%, with leasing renewals and operational improvements underway. Student housing assets are in various stages of development.

VINTAGE PEER COMPARISON

The following chart illustrates the fund series relative to similar vintage U.S. high return/opportunistic fund peers:

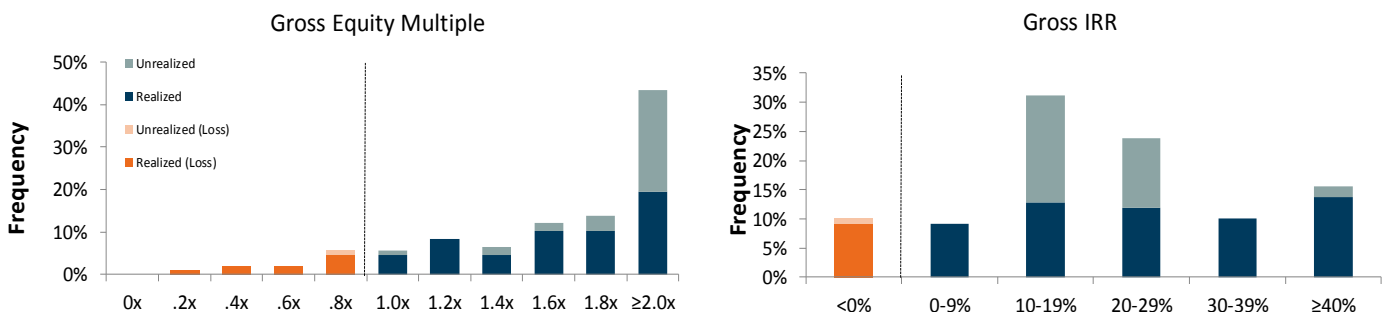


Source: Townsend and Preqin databases.

- Funds are consistently positive on an absolute basis across the fund series. Of realized funds and funds that are within their harvest period, 3 out of 4 place 2Q or above relative to same vintage peers. KAREP V is still currently in its investment period and so fund results are not yet overly meaningful.

DISPERSION OF RETURNS

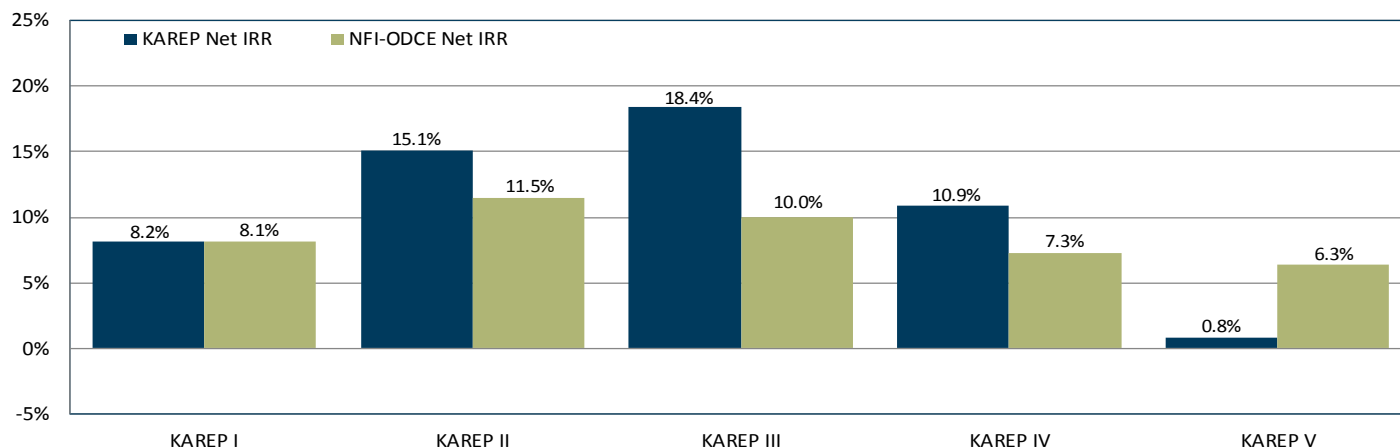
Dispersion of returns is notably positive. The following demonstrates the dispersion of returns for individual investments across the Manager’s fund series. Individual returns in Funds I-IV are presented on a gross investment level, mark-to-market basis; while Fund V investments are presented on a projected basis given that they are still early in their business plans and held near cost on a mark-to-market basis.



Asset level performance details for Funds I-IV are included in **Exhibit F**.

BENCHMARK COMPARISON

The chart assumes prior Kayne Anderson Real Estate Partner fund series cash flows were instead invested into and out of the NFI-ODCE index to create a net IRR comparison to the index.



OTHER PERFORMANCE

In addition to the high return/opportunistic fund series, KA Real Estate also manages an open-end alternative core fund, KACORE, and the KARED fund series, which focuses on real estate debt.

The Manager's open-end core-plus fund series:

Vehicle	Vintage	GAV	NAV	Properties	Sector Diversification	Fund Target	Gross Total Return	Net Total Return
KACORE	2017	\$1,500	\$ 916	56	61% Medical Office 39% Senior Housing	9%-10% Gross Total Time-Weighted Return	7.7%	7.1%

The Manager's closed-end real estate debt fund series:

Vehicle	Vintage	Equity (M)	Investments	Fund Target Net IRR	Fair Market Value		Realizations
					Net IRR	Net EM	% of Transactions
KARED I	2016	\$735	9	10%+	11.2%	1.3x	61%
KARED II	2017	\$1,200	19	10%+	11.0%	1.2x	30%
KARED III	2018	\$1,035	18	10%+	3.8%	1.0x	7%

EXHIBIT A: Townsend Strategy Note



Townsend's real estate investment response to Coronavirus situation

The coronavirus fueled market volatility and decline 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. New information and the current assessments change literally daily and often in a material amount. 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 not suspending all investment. 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.

Nevertheless, volatility creates opportunity. Public markets have been quick to react, and several investment opportunities appear attractive/viable today. Similarly, blind pool commingled funds that line up with the readjusted long-term real estate trends of the post-coronavirus world will be particularly compelling investment opportunities. Instead of looking for growth-driven opportunities, we seek opportunistic real estate investments.

We are proactively evolving our strategy to seek such investments. 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.

While on one hand investors need to be cautious, on the other hand they need to be proactive in identifying opportunities created by the dislocation in the market.

Townsend's views are as of this date of this publication and may be changed or modified at any time without further notice. This article has been prepared solely for informational purposes and is not to be construed as investment advice or an offer or a solicitation for the purchase or sale of any financial instrument, property, or investment. It is not intended to provide, and should not be relied upon for, tax, legal, or accounting advice. The opinions, estimates, forecasts, and statements of financial market trends are subject to change without notice due to changes in the market or economic conditions. We believe the information provided here is reliable, but do not warrant its accuracy or completeness.

EXHIBIT B: Pipeline

KAREP V Investments Under Agreement

Kayne Anderson
Real Estate

Property Type	Total Number of Properties	State	Total Capital Contributions	Acquisition Amount	Anticipated Closing
Medical Office	1	NY	\$12,038,063	\$44,500,000	2/3/2020
Medical Office	1	TX	\$1,741,350	\$6,650,000	2/7/2020
Senior Housing	1	FL	\$8,527,000	\$32,000,000	2/15/2020
Student Housing	1	SC	\$11,159,505	\$35,499,450	2/20/2020
Senior Housing	1	SC	\$12,714,483	\$45,627,203	2/27/2020
Medical Office	1	IL	\$9,315,000	\$34,500,000	2/28/2020
Medical Office	1	NJ	\$3,457,139	\$13,537,500	2/28/2020
Medical Office	2	Various	\$21,852,848	\$98,623,775	2/28/2020
Medical Office	1	OH	\$3,612,600	\$14,400,000	2/28/2020
Medical Office	1	SC	\$2,796,356	\$10,950,000	2/28/2020
Multifamily	1	SC	\$14,563,026	\$46,181,140	3/2/2020
Senior Housing	1	NY	\$45,882,506	\$137,992,501	4/30/2020
Medical Office	1	TN	\$1,946,166	\$7,240,000	5/1/2020
Medical Office	1	KY	\$7,396,589	\$35,904,800	6/30/2020
Medical Office	1	TN	\$3,510,000	\$13,000,000	8/15/2020
Medical Office	1	AZ	\$2,916,000	\$12,000,000	9/30/2020
Total	17		\$ 163,428,631	\$ 588,606,369	

As of January 29, 2020

Exhibit C: Organizational Chart

Kayne Anderson Real Estate

Boca Raton, FL

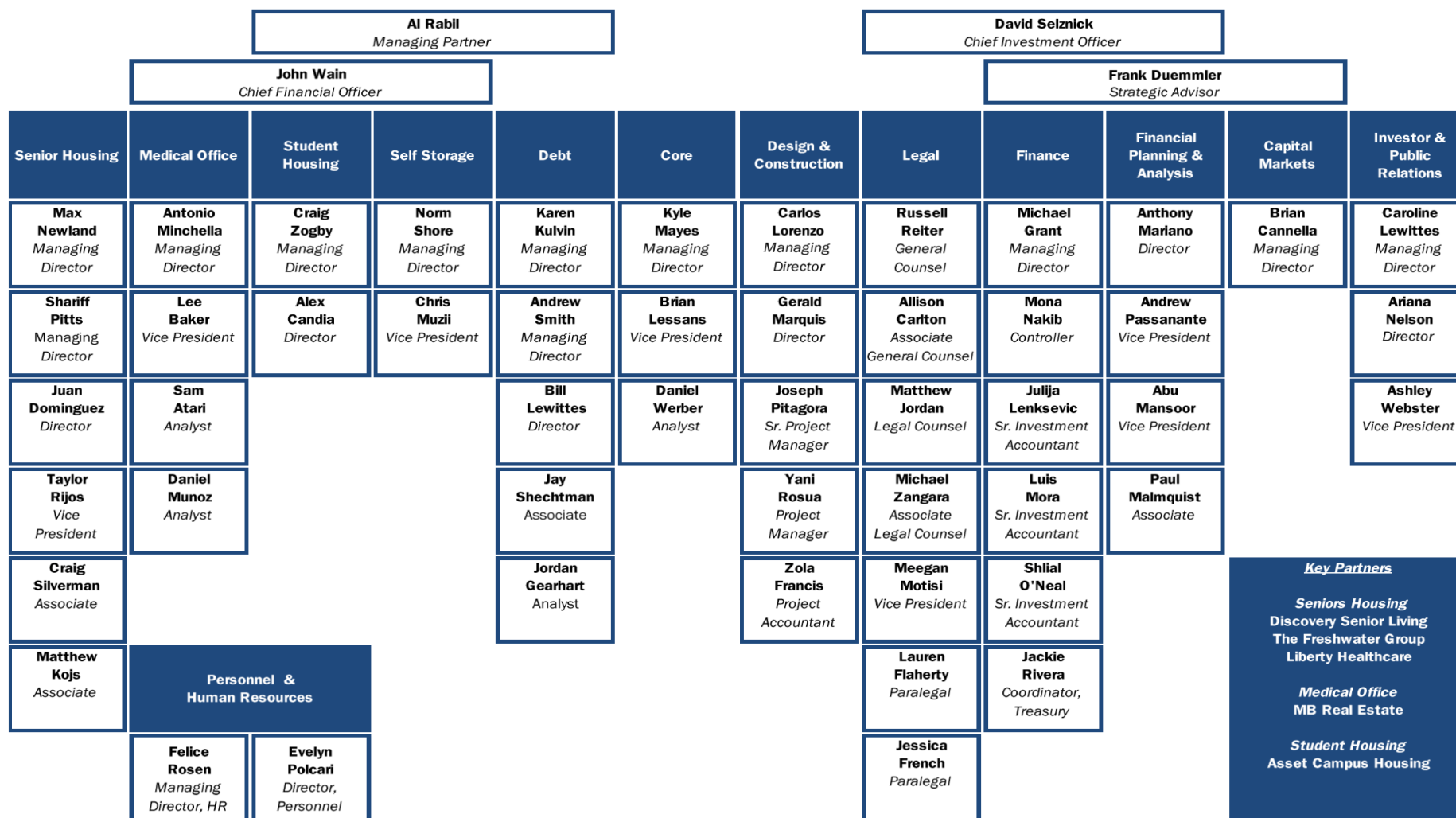


EXHIBIT D: Management Biographies

Albert Rabil III | Managing Partner & CEO, KA Real Estate

Al Rabil co-founded Kayne Anderson's real estate private equity platform in 2007 and serves as Kayne Anderson Real Estate's Managing Partner and Chief Executive Officer. In these roles he sets the strategic direction for the real estate platform, oversees the overall investment activities, and leads fundraising for all investments, Rabil is also a member of the Investment Committee.

Immediately before founding Kayne Anderson Real Estate, Rabil founded and was a principal of two real estate investment firms, RAMZ, LLC and Rabil Properties, LLC, where he developed and acquired a portfolio of more than \$250 million of off-campus student housing properties. Prior to that, he served at UBS as Managing Director and Head of the Real Estate Banking Group for the Americas and Europe. During his tenure there he played a key role in making UBS a market leader in both syndicated debt and large loan CMBS, consummating more than \$25 billion in transactions. Rabil began his career in the Real Estate Finance Group of the Bankers Trust Company.

Rabil earned a B.A. cum laude from Yale University in 1985 and an M.B.A. in Finance from Columbia University in 1988.

David Selznick | Chief Investment Officer, KA Real Estate

David Selznick joined Kayne Anderson Real Estate (KA Real Estate) in 2012 and is currently the CIO and a Partner, as well as a member of the Investment Committee.

Selznick has played a leading role in all acquisitions, dispositions, and financings undertaken by KA Real Estate's equity funds and co-founded KA Real Estate's recently launched real estate debt and core businesses. His relationships and investment acumen are primary factors in having established KA Real Estate as a major player and one of the largest owners of seniors housing and medical office properties in the country. Prior to joining KA Real Estate, Selznick was the Managing Principal of Burnham Capital Group, LLC, a family real estate investment firm located in Chicago, IL, where he acquired commercial office and retail space as well as multi-family units in various partnerships. Before launching Burnham, Selznick worked in real estate finance with Deutsche Bank, Bridger Commercial Funding, Capmark and Nat City Investments, where he originated, underwrote, and/or securitized more than \$1 billion of commercial real estate transactions through CMBS, GSEs, and commercial banks.

Selznick earned his B.A. in Business Administration and joint J.D./M.S. in Real Estate Finance from the University of Florida.

John Wain | Chief Financial Officer, KA Real Estate

John Wain oversees the financial operations of Kayne Anderson Real Estate as CFO.

Wain has worked in the commercial real estate industry for more than 30 years, and has been directly involved in more than \$14 billion of real estate transactions. Prior to joining Kayne Anderson, Wain was CFO for Rouse Properties, Inc. ("Rouse"), one of the largest publicly traded regional mall owners in the US, which was taken private by Brookfield Property Partners in July 2016 with a transaction value of \$2.8 billion. Previously, he served as Managing Director and the Head of Real Estate Americas at Credit Agricole Corporate and Investment Bank (CA-CIB)). In this capacity, Wain was responsible for overseeing CA-CIBs US real estate lending business. Over the course of his career, Wain has focused extensively on structuring and negotiating secured and unsecured corporate real estate facilities and property level loans for public REITs, owners and developers, as well as corporate bonds, interest rate derivatives and equity transactions.

Wain earned his Bachelor of Science in Business Administration, Real Estate and Urban Economic Studies, Magna cum laude, from the University of Connecticut.

Michael Levitt | Chief Executive Officer, KACALP

Michael Levitt is the chief executive officer of Kayne Anderson Capital Advisors, L.P. Prior to joining Kayne, Mr. Levitt served as a vice chairman with Apollo Global Management, LLC. At Apollo, he was a partner in the private equity and credit businesses. In 2001, Mr. Levitt founded Stone Tower Capital LLC where he served as chairman, CEO and CIO and grew Stone Tower to \$17 billion in credit-focused alternative investments. Stone Tower was acquired by Apollo in 2012. Before founding Stone Tower, Mr. Levitt worked as a partner at the private equity firm Hicks, Muse, Tate & Furst Incorporated, where he was involved in media and consumer investments.

Earlier in his career, Mr. Levitt served as the co-head of the investment banking division of Smith Barney Inc. Mr. Levitt began his investment banking career at Morgan Stanley & Co., Inc., where he oversaw corporate finance and advisory businesses related to private equity firms and non-investment grade companies.

Mr. Levitt earned a B.B.A. and J.D. from the University of Michigan, and serves on the University's Investment Advisory Board. He is also a member of the Visiting Committee of the Ross School of Business and the Trustee of the Law School's Cook Trust. Over the years, Mr. Levitt has worked with numerous philanthropic organizations, including Make-A-Wish Foundations of America and New York, and the New York Police and Fire Widows' and Children's Benefit Fund.

Terry Quinn | Co-Chairman, KACALP

Terry Quinn is the vice chairman for Kayne Anderson Capital Advisors and is responsible for managing new business opportunities and client relations. He is a member of the Firm's Executive Committee, oversees the Direct Lending group and serves on the Firm's Credit, Real Estate and PE Investment Committees.

Prior to joining Kayne Anderson, Mr. Quinn was a founding partner of a merchant banking firm specializing in private equity and advisory services. He was president and CEO of five operating companies and member of the executive committee of a leading regional bank. Mr. Quinn was manager of pensions and investments for the 3M Company and founding CEO of a leading mezzanine fund group. Mr. Quinn has served on the boards of several public and private firms. He is a member of the Los Angeles WPO.

Mr. Quinn earned a B.A. in Economics in 1973 and an M.B.A. from the University of Minnesota in 1974.

Paul Blank | Chief Operating Officer, KACALP

Paul Blank is a partner, Chief Operating Officer and head of strategic planning and external affairs at Kayne Anderson Capital Advisors. In his role, Mr. Blank is a senior member of the Firm's executive team and serves on each of the firm's investment committees.

Mr. Blank is the co-portfolio manager of Kayne Anderson Non-Traditional Investments (KANTI), the firm's fund which invests across the Kayne platform. Additionally, he serves as liaison between senior management, investment teams and sales and marketing group providing strategic positioning and guidance on development opportunities for the firm. Mr. Blank is also responsible for external and internal communications and public affairs.

Prior to re-joining Kayne Anderson, Mr. Blank was a partner at the multi-media firm Joe Trippi & Associates where he provided senior strategic counsel, media relations and campaign management to corporations, non-profits, unions and political leaders worldwide. He helped pioneer the use of cutting-edge technologies in communications campaigns and served in leadership positions on two Presidential campaigns and as a senior adviser to Gov. Jerry Brown's successful 2010 gubernatorial election. Early in his career, Mr. Blank worked at Kayne Anderson as a junior analyst, mainly focused on energy infrastructure.

Mr. Blank graduated magna cum laude with a B.A. in political science from Duke University and is a cum laude graduate of Phillips Exeter Academy.

Antonio Minchella | Managing Director, Medical Office

Antonio Minchella leads the medical office team of Kayne Anderson Real Estate. He is responsible for the origination, analysis, underwriting and execution of investment strategies for acquisitions and development, as well as overseeing the performance of all assets within the portfolio.

Prior to joining Kayne Anderson in 2013, Mr. Minchella had more than 15 years of experience in real estate and construction, most recently as an analyst for a private equity real estate firm, where he analyzed and underwrote multi-family, office and mixed-use properties located throughout the continental United States. He started his real estate career in construction management with Vertex Construction Services, a leading construction consulting firm.

Mr. Minchella earned a B.S.E. in Civil Engineering from Duke University, an M.S. in Civil Engineering from the Massachusetts Institute of Technology and an M.S. in Real Estate Finance and Investment from New York University.

Max Newland | Managing Director, Seniors Housing

Max Newland leads the seniors housing real estate team of Kayne Anderson Real Estate in acquiring, developing and managing seniors housing communities. He is responsible for origination, analysis, underwriting and execution of acquisitions and works with joint venture partners to oversee day-to-day management of the properties. In addition, Mr. Newland participates in the due diligence and underwriting for Kayne Anderson Real Estate's real estate debt platform.

Prior to joining Kayne Anderson in 2013, he worked at Fremont Realty Capital, most recently serving as Principal and a member of the private equity fund's Investment Committee. During his tenure at Fremont, Mr. Newland completed investments in the seniors housing, self-storage, office, retail, residential, and hotel sectors. Prior to Fremont, he worked as an associate at Hampshire Equity Partners, where he evaluated and managed private equity investments. Mr. Newland started his real estate career as an analyst in the Mergers and Acquisitions Group at Donaldson, Lufkin & Jenrette, Inc.

Mr. Newland earned an M.B.A. at Columbia University, where he graduated Beta Gamma Sigma, and a B.A. in Economics from the University of North Carolina, where he was Phi Beta Kappa.

Shariff Pitts | Managing Director, Seniors Housing

Shariff Pitts is responsible for origination, analysis, underwriting and execution of acquisitions and works with joint venture partners to oversee day-to-day management of Kayne Anderson Real Estate's seniors housing properties.

Prior to joining Kayne Anderson in 2010, Mr. Pitts had over eight years of real estate experience, most recently as an Asset Manager in the private equity real estate group for BlackRock where he managed a commercial real estate portfolio for commingled and separate account funds. He previously was a research analyst at Trammell Crow Company.

Mr. Pitts earned a B.S. in Justice Studies and a minor in Business Administration from Arizona State University and an M.S. in Real Estate Finance from New York University.

Norman Shore | Managing Director, Self Storage

Norm Shore is responsible for the review, analysis and evaluation of new and existing self-storage investment opportunities and oversight over operating performance of such investments for Kayne Anderson Real Estate.

Prior to joining Kayne Anderson in 2011, Mr. Shore had over 20 years of real estate operational experience, particularly in the self-storage sector, in which he was most recently the Eastern Region Business Development Manager for Centershift Software, a key software provider to the self-storage industry. Prior to Centershift, he held several operational management roles at self-storage companies, both public and private, including Vice President of Operations for OB Companies, Regional Manager for U-Store-It, and Regional Manager for Public Storage.

Mr. Shore earned a B.S. and an M.S. in Education from Temple University.

Craig Zogby, Managing Director | Student/Multifamily Housing

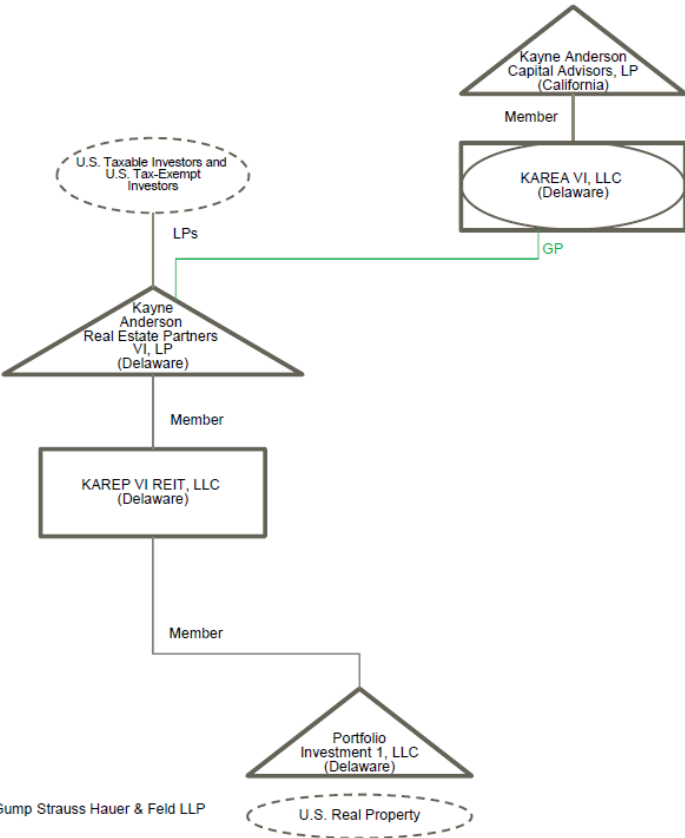
Craig Zogby leads the student housing and multifamily teams of Kayne Anderson Real Estate. He is responsible for origination, analysis, underwriting, negotiation, deal structuring and execution of investment strategies for acquisitions and development, and works closely with property management to oversee performance of all assets within the portfolio. In addition, Mr. Zogby participates in the due diligence and underwriting for Kayne Anderson's real estate debt platform.

Prior to joining Kayne Anderson in 2010, Mr. Zogby worked for five years as a Senior Development Executive for the United Group of Companies, where he facilitated and managed both private off-campus student housing developments as well as for-fee development programs for institutionally-owned housing. Mr. Zogby started his real estate career in construction management with Turner Construction. He worked in several capacities including pre-construction, site project management and executive level financial analysis with an emphasis on risk management and cost control.

Mr. Zogby earned a B.S. in Business Management and Finance from Northeastern University.

EXHIBIT E: Entity Diagram

KAREP VI – Structure – Draft



Akin Gump
STRAUSS HAUER & FELD LLP

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EXHIBIT F: Performance Detail

Investment	Fund	Deal Descriptor / Business Plan	Partner	Property Type	Location	Acquisition Date	Sale Date or Modeled Sale Date	Total Transaction Size	Total Equity	Fund Equity	Realized Proceeds to Fund Equity	Realized Proceeds & Projected Proceeds to Fund Equity	Projected		MTM		Realized?
													Gross Equity Multiple	Gross IRR	Gross Equity Multiple	Gross IRR	
GrandMarc	KAREP I	Acquisition Rehab	None	Student Housing	Riverside, CA	05/08	03/14	47,649,530	7,055,469	7,055,469	6,003,624	6,003,624	0.9x	-7.7%	0.9x	-7.7%	Yes
Aberdeen North & South	KAREP I	Operating Property	None	Student Housing	Lawrence, KS	09/08	12/15	24,750,000	9,076,755	9,076,755	5,294,453	5,294,453	0.6x	-8.8%	0.6x	-8.8%	Yes
Alvadora	KAREP I	Operating Property	None	Student Housing	Lawrence, KS	09/08	12/15	9,350,000	4,091,613	4,091,613	2,384,470	2,384,470	0.6x	-8.0%	0.6x	-8.0%	Yes
Forest Village & Woodlake Apartments	KAREP I	Operating Property	None	Student Housing	Columbia, MO	09/08	11/12	21,728,208	5,148,019	5,148,019	3,140,334	3,140,334	0.6x	-19.7%	0.6x	-19.7%	Yes
Lofts at Capital Garage	KAREP I	Operating Property	None	Student Housing	Richmond, VA	02/09	11/12	6,000,000	2,123,855	2,123,855	476,559	476,559	0.2x	-38.5%	0.2x	-38.5%	Yes
RAMZ Apartments on Broad	KAREP I	Operating Property	None	Student Housing	Richmond, VA	02/09	11/12	13,303,000	2,873,705	2,873,705	2,874,215	2,874,215	1.0x	0.0%	1.0x	0.0%	Yes
La Privada	KAREP I	Operating Property	ConAm	Multifamily	Scottsdale, AZ	02/09	05/12	32,000,000	13,015,509	9,110,856	18,330,203	18,330,203	2.0x	28.9%	2.0x	28.9%	Yes
25 Twenty	KAREP I	New Development	Asset Campus Housing	Student Housing	Lubbock, TX	04/10	11/12	28,500,000	7,478,106	6,730,295	8,455,941	8,455,941	1.3x	10.0%	1.3x	10.0%	Yes
Province at Louisville	KAREP I	Operating Property	Edwards Companies	Student Housing	Louisville, KY	05/10	11/12	54,500,000	15,782,575	12,626,060	29,542,522	29,542,522	2.3x	46.0%	2.3x	46.0%	Yes
Piazza D'Oro	KAREP I	New Development	ConAm	Multifamily	Oceanside, CA	05/10	10/13	66,100,000	19,525,741	4,100,406	8,096,656	8,096,656	2.0x	24.4%	2.0x	24.4%	Yes
Province at Greensboro	KAREP I	New Development	Edwards Companies	Student Housing	Greensboro, NC	06/10	11/12	31,300,000	6,485,430	5,836,887	24,579,920	24,579,920	4.2x	83.0%	4.2x	83.0%	Yes
Flagship Self Storage Storkwick - FL	KAREP I	Operating Property	Extra Space	Self-Storage	Various, FL	09/10	06/15	21,275,000	18,960,347	17,064,312	53,108,461	53,108,461	3.1x	34.9%	3.1x	34.9%	Yes
Storkwick California	KAREP I	Operating Property	Extra Space	Self-Storage	Various, CA	10/10	06/15	17,978,000	20,402,641	18,362,377	11,879,367	11,879,367	0.7x	-27.5%	0.7x	-27.5%	Yes
EDR Portfolio	KAREP I	Operating Property	None	Student Housing	Various, Various	12/10	12/15	85,930,000	28,851,937	28,851,937	25,235,727	25,235,727	0.9x	-4.8%	0.9x	-4.8%	Yes
Campus Manor/Campus Pointe	KAREP I	Operating Property	Corridor Ventures et al	Student Housing	Macomb, IL	12/10	03/13	21,875,000	6,215,078	1,541,339	1,632,413	1,632,413	1.1x	2.4%	1.1x	2.4%	Yes
5 Twenty Four Angliana	KAREP II	Operating Property	None	Student Housing	Lexington, KY	01/11	11/12	42,200,000	14,560,677	14,560,677	15,873,260	15,873,260	1.1x	4.7%	1.1x	4.7%	Yes
The Cottages of College Station	KAREP II	New Development	Capstone	Student Housing	College Station, TX	04/11	09/14	57,240,973	16,813,434	14,123,284	26,856,309	26,856,309	1.9x	25.2%	1.9x	25.2%	Yes
Lofts of Kennesaw	KAREP II	New Development	Capstone	Student Housing	Marietta, GA	05/11	11/12	43,200,785	10,985,382	9,117,867	19,639,623	19,639,623	2.2x	64.4%	2.2x	64.4%	Yes
The Province - Tampa	KAREP II	Operating Property	None	Student Housing	Tampa, FL	06/11	11/12	44,100,000	11,376,848	18,033,791	18,033,791	18,033,791	1.6x	39.0%	1.6x	39.0%	Yes
Cottages of Durham	KAREP II	Operating Property & Expansion	Capstone	Student Housing	Durham, NH	07/11	11/12	25,859,067	8,495,851	7,136,515	12,396,887	12,396,887	1.7x	62.7%	1.7x	62.7%	Yes
Cottages of Baton Rouge	KAREP II	New Development	None	Student Housing	Baton Rouge, LA	09/11	11/12	89,500,000	32,610,567	32,610,567	52,446,249	52,446,249	1.6x	60.1%	1.6x	60.1%	Yes
The Lodges of East Lansing I	KAREP II	Operating Property	None	Student Housing	East Lansing, MI	09/11	11/12	42,637,441	11,644,593	11,644,593	27,982,012	27,982,012	2.4x	116.1%	2.4x	116.1%	Yes
W27th Place	KAREP II	Operating Property	None	Student Housing	Los Angeles, CA	09/11	11/12	64,000,000	27,814,499	27,814,499	48,381,047	48,381,047	1.7x	66.2%	1.7x	66.2%	Yes
Flagship Self Storage - IV/OH	KAREP II	Operating Property	Extra Space	Self-Storage	Various, Various	10/11	06/15	43,500,000	21,423,692	19,281,323	23,226,904	23,226,904	1.2x	5.8%	1.2x	5.8%	Yes
The Province Apartments - Rochester	KAREP II	Operating Property	None	Student Housing	Rochester, NY	11/11	11/12	51,500,000	15,858,315	15,858,315	32,032,342	32,032,342	2.0x	97.5%	2.0x	97.5%	Yes
The Province Apartments - Dayton	KAREP II	Operating Property	None	Student Housing	Fairborn, OH	12/11	11/12	33,000,000	11,741,597	11,741,597	15,469,527	15,469,498	1.3x	41.1%	1.3x	41.1%	Yes
Grindstone Canyon	KAREP II	Operating Property	None	Student Housing	Columbia, MO	03/12	11/12	20,000,000	9,317,912	9,317,912	11,361,863	11,361,863	1.2x	50.7%	1.2x	50.7%	Yes
Park on Morton	KAREP II	New Development	None	Student Housing	Bloomington, IN	04/12	11/15	7,285,714	12,949,820	12,949,820	17,318,082	17,318,082	1.3x	10.5%	1.3x	10.5%	Yes
Luxe on West Call	KAREP II	New Development	Trinity	Student Housing	Tallahassee, FL	04/12	01/17	26,155,163	9,609,832	9,129,341	15,203,180	15,203,180	1.8x	13.0%	1.8x	13.0%	Yes
Cottages of Columbia	KAREP II	Operating Property	None	Student Housing	Columbia, MO	05/12	11/12	25,250,000	5,860,000	5,860,000	7,359,557	7,359,557	1.3x	48.3%	1.3x	48.3%	Yes
Cottages of Boone	KAREP II	New Development	Capstone	Student Housing	Boone, NC	05/12	05/17	50,750,000	13,968,733	13,898,889	27,080,759	27,080,312	2.0x	23.5%	2.0x	23.5%	Yes
Aspen Heights Portfolio	KAREP II	Operating Property	None	Student Housing	Various, Various	05/12	01/17	90,023,006	24,004,265	24,004,265	41,803,232	41,803,232	1.7x	18.5%	1.7x	18.5%	Yes
13th & Olive	KAREP II	New Development	Capstone	Student Housing	Eugene, OR	06/12	11/16	61,827,000	24,980,690	21,233,586	31,768,720	31,768,720	1.5x	17.7%	1.5x	17.7%	Yes
Campus Court at Knollwood	KAREP II	Operating Property	None	Student Housing	Kalamazoo, MI	06/12	05/17	44,500,000	11,890,020	11,890,020	25,499,139	25,499,139	2.1x	18.5%	2.1x	18.5%	Yes
5 Twenty Five Angliana	KAREP II	New Development	None	Student Housing	Lexington, KY	08/12	11/12	16,690,000	16,789,491	16,789,491	17,910,741	17,910,741	1.1x	36.0%	1.1x	36.0%	Yes
The Lodges of East Lansing II	KAREP II	Operating Property & Expansion	None	Student Housing	East Lansing, MI	10/12	11/12	20,322,436	5,368,889	5,368,889	14,013,226	14,013,226	2.6x	4197.3%	2.6x	4197.3%	Yes
The Cadence	KAREP II	New Development	Capstone	Student Housing	Tucson, AZ	10/12	11/15	29,955,604	8,906,163	7,570,239	14,921,001	14,921,001	2.0x	33.4%	2.0x	33.4%	Yes
Lofts at City Center	KAREP II	New Development	Capstone	Student Housing	Tuscaloosa, AL	11/12	11/16	67,007,136	20,207,862	20,106,823	36,154,661	36,154,661	1.8x	30.2%	1.8x	30.2%	Yes
One12Courtland	KAREP II	New Development	RISE	Student Housing	Atlanta, GA	11/12	11/16	56,669,618	20,369,871	19,351,378	34,153,800	34,153,800	1.8x	24.7%	1.8x	24.7%	Yes
The Catalyst	KAREP II	New Development	Marquette	Multifamily	Chicago, IL	04/13	10/15	74,404,687	31,149,530	29,592,053	55,240,602	55,240,602	1.9x	38.9%	1.9x	38.9%	Yes
The View	KAREP II	New Development	Michaels	Student Housing	Waco, TX	04/13	11/16	36,648,441	12,097,881	10,888,093	19,920,081	19,920,081	1.8x	36.7%	1.8x	36.7%	Yes
The Flats at West Village	KAREP II	New Development	RISE	Student Housing	Charlottesville, VA	05/13	11/16	58,803,833	21,953,914	16,421,528	27,044,317	27,044,317	1.7x	18.6%	1.7x	18.6%	Yes
Coronado Place & Towers	KAREP II	Operating Property	None	Student Housing	St. Louis, MO	05/13	05/17	68,500,000	17,328,047	17,328,047	12,634,781	12,625,046	0.8x	-4.8%	0.8x	-4.8%	Yes
Piedmont	KAREP II	Operating Property	MB Real Estate	Medical Office	Atlanta, GA	06/13	08/17	109,750,000	31,049,090	29,496,636	64,992,403	64,992,403	2.2x	23.9%	2.2x	23.9%	Yes
Arabella	KAREP II	New Development	Asset Campus Housing	Multifamily	Houston, TX	06/13	05/19	44,017,599	15,512,643	13,961,379	19,816,497	19,816,497	1.4x	6.3%	1.4x	6.3%	Yes
The Capstone Cottages of San Marcos	KAREP II	New Development	Capstone	Student Housing	San Marcos, TX	08/13	11/16	45,093,374	13,885,500	12,774,660	21,429,926	21,429,926	1.7x	29.5%	1.7x	29.5%	Yes
CA Portfolio	KAREP II	Operating Property	None	Student Housing	Various, Various	09/14	06/17	325,263,000	150,530,195	150,530,195	140,492,448	140,437,725	0.9x	-4.6%	0.9x	-4.6%	Yes

EXHIBIT F: Performance Detail (cont.)

Investment	Fund	Deal Descriptor / Business Plan	Partner	Property Type	Location	Acquisition Date	Sale Date or Modeled Sale Date	Total Transaction Size	Total Equity	Fund Equity	Realized Proceeds to Fund Equity	Realized Proceeds & Projected Proceeds to Fund Equity	Projected		MTM		
													Gross Equity Multiple	Gross IRR	Gross Equity Multiple	Gross IRR	Realized?
Minneapolis Student Housing Portfolio	KAREP III	New Development	Michaels	Student Housing	Minneapolis, MN	07/13	05/17	117,068,775	29,718,709	26,746,838	44,506,799	44,506,799	1.7x	19.1%	1.7x	19.1%	Yes
Terrace Park	KAREP III	Operating Property	MB Real Estate	Medical Office	Lawrenceville, GA	08/13	08/17	19,400,000	5,396,359	4,317,432	12,613,845	12,613,845	3.0x	33.9%	3.0x	33.9%	Yes
Carter GE Build to Suit	KAREP III	Debt	Carter	Medical Office	Cincinnati, OH	11/14	10/16	N/A	12,171,247	8,142,564	10,683,310	10,683,310	1.3x	15.7%	1.3x	15.7%	Yes
Decatur Court	KAREP III	New Development	Carter	Multifamily	Decatur, GA	08/13	05/17	20,300,000	11,890,770	10,701,693	25,630,577	25,630,577	2.4x	28.1%	2.4x	28.1%	Yes
Latitude 45	KAREP III	New Development	Alatus	Multifamily	Minneapolis, MN	02/14	05/17	72,232,000	21,788,339	19,609,505	42,635,254	42,635,254	2.2x	29.5%	2.2x	29.5%	Yes
Denizen	KAREP III	Acquisition Rehab	Cardinal	Multifamily	Denver, CO	04/14	05/17	45,971,264	14,871,542	12,596,196	28,408,591	28,408,591	2.3x	39.6%	2.3x	39.6%	Yes
Sky Vue Development	KAREP III	New Development	RISE	Multifamily	Pittsburgh, PA	01/15	05/17	86,947,716	28,273,115	25,445,803	41,271,292	41,271,292	1.6x	25.4%	1.6x	25.4%	Yes
Mint Urban Infinity	KAREP III	Acquisition Rehab	Cardinal	Multifamily	Denver, CO	02/15	05/17	74,568,157	23,221,471	20,899,324	29,289,053	29,289,053	1.4x	21.0%	1.4x	21.0%	Yes
KAAG REIT (KA Aston Gardens)	KAREP III	Operating Property	Discovery	Senior Housing	Various, FL	09/13	11/15	404,300,001	175,233,645	37,500,000	69,692,189	69,692,189	1.9x	37.3%	1.9x	37.3%	Yes
Conservatory Senior Living	KAREP III	Operating Property	Discovery	Senior Housing	Various, TX	02/14	08/17	299,999,998	106,169,552	93,429,206	163,026,748	163,026,748	1.8x	19.6%	1.8x	19.6%	Yes
Discovery Village at Twin Creeks	KAREP III	Operating Property	Discovery	Senior Housing	Allen, TX	12/14	08/17	29,300,000	8,282,325	7,868,209	14,165,762	14,165,762	1.8x	30.5%	1.8x	30.5%	Yes
Discovery Village at Castle Hills	KAREP III	Operating Property & Expansion	Discovery	Senior Housing	Lewisville, TX	07/14	04/19	18,000,000	16,002,309	14,402,078	27,488,462	27,488,462	2.0x	19.4%	2.0x	19.4%	Yes
Discovery - Noble Village	KAREP III	Operating Property	Discovery	Senior Housing	Suwanee, GA	10/14	04/19	32,250,000	15,824,631	15,033,400	24,288,272	24,288,272	1.6x	13.1%	1.6x	13.1%	Yes
Discovery Village at the Forum I & II	KAREP III	Operating Property & Expansion	Discovery	Senior Housing	Fort Myers, FL	03/15	04/19	42,771,668	29,174,480	26,257,032	47,769,141	47,769,141	1.8x	19.4%	1.8x	19.4%	Yes
Discovery - Tampa	KAREP III	New Development	Discovery	Senior Housing	Tampa, FL	06/15	04/19	27,750,000	11,776,090	9,420,872	10,718,661	10,718,661	1.1x	4.2%	1.1x	4.2%	Yes
Discovery Village at Melbourne	KAREP III	Operating Property & Expansion	Discovery	Senior Housing	Melbourne, FL	05/16	04/19	45,500,000	19,966,088	18,568,462	36,285,397	36,285,397	2.0x	29.6%	2.0x	29.6%	Yes
Discovery Village Sarasota Bay	KAREP III	Operating Property	Discovery	Senior Housing	Bradenton, FL	07/16	04/19	35,000,000	12,321,450	11,089,305	13,229,322	13,229,322	1.2x	6.9%	1.2x	6.9%	Yes
Todd (Conley and 5th)	KAREP III	New Development	Collegiate Housing Partners	Student Housing	Columbia, MO	10/13	05/17	26,700,000	9,391,400	8,452,260	18,776,929	18,776,929	2.2x	41.6%	2.2x	41.6%	Yes
Parc Cite	KAREP III	Acquisition Rehab	Morton	Student Housing	Montreal, Quebec	12/13	05/17	18,200,000	30,000,826	27,900,768	23,442,698	23,442,698	0.8x	-8.4%	0.8x	-8.4%	Yes
930 NoMo	KAREP III	New Development	CampusWorks	Student Housing	Charleston, SC	03/14	05/17	32,052,243	11,203,574	10,083,217	17,191,087	17,191,087	1.7x	22.2%	1.7x	22.2%	Yes
4th Street Commons	KAREP III	New Development	RRAC University Apartments	Student Housing	Miami, FL	04/14	05/17	47,225,000	12,174,594	10,957,134	26,120,059	26,120,059	2.4x	52.5%	2.4x	52.5%	Yes
The District at Campus West	KAREP III	Operating Property	None	Student Housing	Fort Collins, CO	01/15	05/17	63,000,000	17,403,215	17,403,215	43,044,778	43,044,778	2.5x	50.6%	2.5x	50.6%	Yes
Medical Properties I JV*	KAREP III	Various	MB Real Estate	Medical Office	Various, Various	10/13	12/20	997,658,118	304,426,616	357,273,776	469,363,794	639,378,958	2.0x	27.6%	2.0x	27.6%	No
DV at Naples	KAREP IV	Operating Property & Expansion	Discovery	Senior Housing	Naples, FL	01/16	04/19	35,000,000	25,315,338	22,783,805	33,462,378	33,462,378	2.2x	17.8%	2.2x	17.8%	Yes
Discovery Village Palm Beach Gardens	KAREP IV	Operating Property	Discovery	Senior Housing	Palm Beach Gardens, FL	09/16	04/19	38,906,415	13,682,373	12,314,136	19,058,033	19,058,033	1.6x	19.3%	1.6x	19.3%	Yes
Sherman Avenue Mezzanine Loan	KAREP IV	Debt	RISE	Medical Office	Washington, DC	08/16	08/18	100,341,624	32,377,398	32,377,398	44,111,452	44,111,452	1.4x	0.0%	1.4x	0.0%	Yes
Medical Properties IV JV**	KAREP IV	Various	MB Real Estate	Medical Office	Various, Various	04/15	04/22	1,212,914,166	431,099,670	541,675,844	513,351,129	808,079,605	2.0x	27.6%	1.7x	23.9%	No
The Brix	KAREP IV	New Development	RISE	Multifamily	Grand Rapids, MI	04/16	04/21	55,385,039	17,043,414	15,339,073	11,580	23,213,796	2.1x	20.3%	1.5x	13.9%	No
Sandy Springs City Center	KAREP IV	New Development	Carter	Multifamily	Sandy Springs, GA	06/16	12/19	68,250,000	24,006,537	21,605,883	7,869	43,216,173	2.0x	24.5%	2.0x	24.5%	No
Hacienda Portfolio	KAREP IV	New Development	The Freshwater Group	Senior Housing	Tucson, AZ	09/15	09/20	119,868,209	53,898,473	48,508,626	10,909,863	63,249,528	2.5x	21.9%	N/A	N/A	No
Windsor Portfolio*	KAREP IV	Acquisition Rehab	Discovery	Senior Housing	Various, Various	11/15	12/20	296,500,000	112,345,993	111,222,533	110,185,233	195,654,166	1.8x	20.5%	1.8x	20.5%	No
Winters Park	KAREP IV	Operating Property	Discovery	Senior Housing	Garland, TX	06/16	06/21	8,105,000	10,139,305	9,125,374	144,366	7,746,040	2.2x	19.0%	0.8x	-5.8%	No
Liberty Mt. Pleasant	KAREP IV	New Development	Liberty Senior Living	Senior Housing	Mount Pleasant, SC	09/16	09/21	100,699,440	36,657,815	29,326,252	228,505	21,552,868	2.2x	20.6%	N/A	N/A	No
Watermark at Westwood	KAREP IV	Acquisition Rehab	The Freshwater Group	Senior Housing	Los Angeles, CA	09/16	09/21	161,000,000	83,761,790	79,573,700	109,186	71,732,564	2.4x	19.3%	N/A	N/A	No
San Ramon	KAREP IV	New Development	The Freshwater Group	Senior Housing	San Ramon, CA	05/17	05/22	36,200,000	14,505,577	13,055,019	246,952	13,930,215	2.4x	20.6%	N/A	N/A	No
CCC - Fort Collins & Lubbock	KAREP IV	New Development	Capstone	Student Housing	Various, Various	07/16	10/19	139,359,744	48,287,547	45,148,856	28,585,163	72,015,313	1.6x	19.3%	1.6x	19.3%	No
Helix Oxford	KAREP IV	New Development	omestead Development Partne	Student Housing	Oxford, MS	11/16	10/19	55,453,191	18,802,082	16,921,874	7,103,014	24,238,904	1.1x	15.9%	1.1x	15.9%	No
The Nine at Gainesville	KAREP IV	New Development	908 Group	Student Housing	Gainesville, FL	04/17	10/19	54,332,136	16,578,281	14,091,539	12,199,727	30,464,558	2.7x	57.4%	2.7x	57.4%	No

Appendix

Rating Rationale

<i>ESG Policy & Practices</i>	Positives highlighted in the ESG section of this report.
<i>Fund Structure</i>	Closed-end structure is appropriate for the non-core nature of the targeted business plans. Legal structuring will accommodate tax and regulatory needs of various investor types.
<i>Investment Process</i>	Typical/optimal for the sponsor type. Dedicated sector specialist teams are responsible from acquisition to asset management to disposition; providing oversight of, and working closely with, long time joint venture partners.
<i>Operational Due Diligence</i>	Rated an A2-Pass by Aon ORSA. Details provided in the Operational Due Diligence section of this report.
<i>Performance</i>	Positive on an absolute return basis across the fund series.
<i>Sponsor</i>	The sponsor/manager has notable experience, a well-resourced staff, and an industry presence in their targeted niches.
<i>Strategy</i>	Aimed at less efficient alternative property types expected to benefit from long term trends that are additionally accretive to a portfolio of traditional property types. Additional non-underwritten return potential for additional value creation through portfolio construction/aggregation. And, right time for blind pool opportunity fund aimed at several of the potentially more impacted property types over the near term though they have sound long term fundamental demand drivers.
<i>Terms & Conditions</i>	AON/Townsend clients are offered discounts for an aggregated commitment of \$200M+. It is too early to have certainty of aggregated interest, but this is a reasonable level that may be achievable based on preliminary indications. Improvement of certain governance terms are being discussed and under consideration.
<i>Overall</i>	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 and targeted returns.

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.

Operational 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 & 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 a well-controlled operating environment, with limited exceptions due to resource limitations or where isolated areas do not align with best practice.

Conditional Pass - Aon noted specific operational concerns that the firm has agreed to address in a reasonable timeframe.

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.

Disclaimer

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Memorandum

To: Arkansas Teacher Retirement System (“ATRS”)
From: Chae Hong
CC: PJ Kelly; Jack Dowd; Richard Ferguson
Date: September 28, 2020
Re: Kayne Anderson Real Estate Partners VI – \$50 million Commitment Recommendation

Background and Recommendation

Kayne Anderson Real Estate (the “Manager”) is forming Kayne Anderson Real Estate Partners VI, L.P. (“KAREP VI” or the “Fund”), the next vehicle in its series of funds opportunistically investing in alternative property types across the US. The \$2.0 billion Fund will target an 18%-20% gross IRR (15% net) using approximately 65% leverage over an 8-year fund life. Consistent with the prior fund in the series, the Fund will primarily acquire and secondarily develop a portfolio of specialized property types; with the primary focus on healthcare related real estate (medical office and senior housing) and student housing.

AHIC 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 Kayne Anderson Real Estate Partners VI In Detail is attached for reference. We recommend that ATRS invest \$50 million in the Fund to fulfill ATRS’ 2020 Opportunistic real estate allocation, in accordance with the previously approved 2020 ATRS Real Asset Pacing Schedule.

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

**RESOLUTION
No. 2020-24**

**Approving Investment in Kayne Anderson Real Estate Partners
VI, 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 **Kayne Anderson Real Estate Partners VI, LP**, a closed-end, opportunistic real estate fund focused on medical office, senior housing and student housing within the United States.

THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **\$50 million dollars (\$50,000,000.00)** in **Kayne Anderson Real Estate Partners VI, 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 28th day of September, 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System



Real Estate InDetail

PGIM Real Estate Capital VII SCSp, ("PRECap VII")

A Pan-European Value-Add Real Estate Fund

July 2019

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EXECUTIVE SUMMARY

OVERVIEW

Review Date	Rating	Previous Rating
July 2019	Buy	N/A

PGIM (the “Sponsor”) is the trading name of the global investment management business of Prudential Financial, Inc (“PFI”). PGIM Real Estate is a business unit of PGIM, Inc., an indirect subsidiary of PFI. PFI is a publicly traded (NYSE: PRU) company owned by its shareholders. PGIM is sponsoring PGIM Real Estate Capital VII (“PRECap VII” or the “Fund”) as a continuation of its junior debt and preferred capital fund series. PRECap VII is the Sponsor’s fourth discretionary fund, following an investment strategy similar to PRECap I, PRECap IV and PRECap VI (other “funds” in the series were actually separate accounts). The Sponsor is targeting a fund raise of c.£1.5 billion, with no hard cap set. The Fund is targeting a gross IRR of 14% (net IRR of 12%) and a gross equity multiple of 1.5-1.6x (net equity multiple of 1.4-1.5x).

Strategy:

PRECap VII seeks to build up a diverse junior debt and preferred capital portfolio primarily secured against office, retail, industrial and residential real estate assets located in major Western European markets, with a specific focus on the UK and Germany. The typical holding period for Fund investments is expected to range from three to five years.

Sponsor:

European HQ Location	London	Parent	Prudential Financial, Inc
Ownership	Public (NYSE: PRU)	Professionals	Globally: 1,007 Europe: 141
Founded	2010	AUM	Global: \$73bn Europe: €7.6bn

Prior Fund Performance:

Vehicle	Structure	Invested Capital (M)	Vintage	Number of Transactions	Projected Life-of-Fund Net IRR	Fair Market Value			% Realizations		Gross DPI (Distributions to Paid-in)
						Net IRR	Net EM	Quartile Rank ¹	# of Transactions	of Total Value	
PRECap I	Fund	£492	2010	13	10.9%	10.9%	1.28x	Q3	88%	90%	1.19
PRECap II	Separate Account	€105	2012	3	9.5%	9.8%	1.27x	N/A	67%	50%	0.64
PRECap III	Separate Account	£226	2012	5	6.3%	6.3%	1.13x	N/A	100%	100%	1.13
PRECap IV	Fund	£699	2013	23	11.0%	10.9%	1.29x	Q2	61%	61%	0.96
PRECap V	Separate Account	€265	2013	4	7.9%	7.9%	1.19x	N/A	75%	87%	1.10
PRECap VI	Fund	£1,017	2015	33	12.0%	14.8%	1.19x	Q1	24%	25%	0.44
Total				81							

Relative Performance date as of 3Q18, relative to global debt fund database.

Portfolio Characteristics, Terms and Timing:

Fund Structure	Closed-ended	Risk Segment	Value-Added
Size	£1.5bn target No hard cap	Sponsor Commitment	At least 5% of total commitments, up to a maximum equal to the GBP equivalent of \$50m
Target net return	12% net IRR	Leverage	85% LTV cap per investment 60% weighted average senior debt LTV at Fund level
Term	5 years + 1 + 1 (from final close)	Investment Period	3 years + 1 (from final close)
Average Asset Size	€30m average equity per investment	Average Business Plan	3-5 years
Standard Management Fee	Management fees paid on invested capital range between 0.90% and 1.75% p.a. depending on commitment size.	Incentive fee Waterfall	20% carry subject to 8% preferred return. No catch-up. Fully-pooled waterfall structure
Timing / Capital Raise Update	First close is currently targeted for October 2019 with final closing to occur within 12 months, subject to a six-month extension. PRECap VI is currently c.82% invested/committed with £87m left to invest.		

COMPARATIVE ADVANTAGES

1. Compelling Strategy

The PRECap VII strategy provides a degree of both downside risk mitigation while retaining an element of upside participation which Townsend regards as attractive when compared to traditional all-equity or all-debt investment strategies respectively. PGIM also has tools to manage various risks in addition to those posed by fluctuations in asset valuations. Pre-payment risk is mitigated with yield management and minimum multiple requirements. PGIM also enters inter-creditor agreements, giving them the right to cure breaches with the senior lender. PGIM often has the right to step in and take control of an asset in the case of default, which can be triggered by something as minor as not performing according to an asset's business plan in the UK.

The Fund is targeting value add equity-like returns of 12% net IRR, yet the Fund is less exposed to asset valuation declines or delays to business plan execution than a traditional value add, all-equity investment strategy. Conversely, through the selective use of profit share arrangements the Fund is also able to capture a degree of upside participation in the event that events unfold favorably which is rarely a feature of other European high yielding, debt-oriented fund strategies. Although the Fund can lend up to 85% LTV on an individual investment, because targeted current pay returns are generally in the 6-8% range, three years of income generally leads to roughly 20% of capital recovery, further buffering any potential impairment at the asset level translating to reduced Fund level performance.

The Fund also minimizes the J-curve effect through to avoidance of direct real estate transaction costs and a target income component of 6% net p.a. The strategy also has some advantage from a tax structuring standpoint, as value-add equity investments may face capital gains tax in some jurisdictions which otherwise dilute an investment's net return. Finally, PGIM takes a relatively conservative slice of the capital stack even in those cases where it holds only a junior loan position and on more transitional assets may opt for a whole loan position and only syndicating the senior tranche (or utilizing loan-on-loan leverage) after a business plan is materially de-risked. This is done while lending to high quality sponsors / borrowers and minimizing execution risk.

2. Established Platform

As one of the largest financial institutions in the world, the Prudential and PGIM brand names bring credibility and an institutional investment mindset to the PRECap team, along with a significant back office infrastructure and overall platform resources. Furthermore, the PRECap team will have access to acquisitions professionals with market visibility and relationships in equity investments, as well as an asset management team with the ability to fully take over an asset in the case of a default or foreclosure.

As a long time market participant, PGIM enjoys a reputation as a top tier equity and debt provider in Europe. PGIM does not pursue distressed, "loan-to-own" style strategy (compared to some larger, global competitors) and thus is often a preferred lender in the market, creating a robust transaction pipeline. In many cases borrowers are also motivated to build a trusted, commercial relationship with PGIM to facilitate future borrowing needs over the longer term which is evident by the number of repeat borrowers across the PRECap series.

3. Experienced Team

Three of the four members of the PRECap portfolio management team (Andrew Radkiewicz, Andrew Macland and Mathew Crowther) have worked together investing in real estate debt since 2005, working as the debt investment principals at Rothschild prior to joining PGIM in 2009. The fourth member and most recent addition to the PRECap portfolio management team, Mary Hamilton, still has considerable tenure with PGIM of seven years.

Since November 2010, the European team of PGIM Real Estate has executed 84 debt investments totaling \$3.1 billion secured on over \$16 billion of European real estate. Within the PRECap series, PGIM is currently achieving an investment pace of £500 million (c.\$620 million) per annum. Furthermore, PGIM's significant resources allow the team to underwrite value-add and equity participation packages from both debt and equity perspectives. The team's consistent market and strategic focus has also led to a competitive advantage in sourcing deals through the platform's reputation as a value-add partner in the debt arena.

4. Track Record

One of the strongest and most straight forward advantages of the PRECap investment platform is its track record and history investing in the European marketplace. As seen in the performance section, PGIM's discretionary funds in the PRECap series have been consistently delivering returns in the 11-15% net IRR range in line with the target returns. Although there is a very limited peer group of comparable funds in Europe, the PRECap track record holds up well against a global peer group of value add and opportunistic debt funds. When compared to European value add equity funds, absolute returns appear weaker but very consistent and with considerably lower risk profile and lower gross-to-net fee leakage.

POTENTIAL ISSUES AND CONCERNS

1. Large Fund Size Relative to Previous Funds

At a target fundraise of £1.5 billion and no hard cap currently formalized, PRECap VII will be the PGIM's largest fund in the series to date by far. PRECap VI had a target size of £750 million but ultimately raised £1.02 billion. Earlier discretionary fund sizes have grown from under £500 million in PRECap I (2010) and roughly £700 million in PRECap IV (2013). The increasing size of successive funds creates questions around the ability of the Sponsor to deploy capital effectively without compromising on borrow quality, underlying asset quality or underwriting standards. As PGIM is wholly owned by the PFI which is a public company, there is also the potential for some misalignment between hitting shorter term growth targets to drive share price growth while maintaining longer term, sustainable investment performance for LPs.

Discussion:

While successive fund sizes have grown, the speed of capital deployment has remained fairly constant through the recent life of the platform. PRECap VI had only a two year investment period whereas PRECap VII has a three year investment period so in reality the required investment deployment rate is steady at c.£500 million per annum. On balance Townsend does not regard the £1.5 billion target size for the Fund to be excessive, however, it would be desirable to have a hard cap formalized at or close to that figure to ensure this series does not grow unsustainably fast.

2. Team Focus and Product Proliferation

As a large, global firm, PGIM may not be as sharply focused on this Fund's performance as other managers with a single product in the market. This is also an issue as the Fund will be sharing resources (including a significant portion of senior management's time) with other funds and business issues. In recent years PGIM Real Estate in Europe has launched a number of other new products and funds in relatively short order including a closed-end value add equity fund series (two funds), a closed-end core plus fund series (two funds), an open-end core equity fund and a closed-end core plus debt fund. As a general observation both the number of and increasing size of funds being launched by PGIM in Europe appears to reflect a steep growth ambitions at a time when European real estate market conditions are looking increasingly late cycle.

Discussion:

While not PGIM's only product line in Europe, PRECap is by far the largest presence and business unit for the European entity. The PRECap portfolio management team are very experienced and all four members have been working together for over seven years with three members having worked together for much longer. Additionally, the Sponsor is committing at least 5% of total commitments up to a maximum of £50 million of its

balance sheet. Andrew Radkiewicz, Andrew Macland and Mathew Crowther between them will in aggregate invest a total of £500,000 into PRECap VII (this was the same as for PRECap VI). PGIM also expects other global senior management to invest another c.£500,000 in aggregate so that total co-investment of PGIM Real Estate staff is c.£1m. Prudential affiliates have invested £45-£50m in prior PRECap funds and PGIM hopes that they will again invest at a similar level. The Prudential Retirement Plan (which is an ERISA Plan for Prudential employees) has invested between £60m-£100m in prior PRECap funds and again PGIM hope for a similar level of investment again.

3. Certain Terms

A number of Fund terms are potentially undesirable:

- For smaller commitment sizes of less than £25 million, the management fees of 1.75% on invested capital are high compared to European value add equity peers and European high yield debt peers.
- The increase in the length of the investment period from two to three years will result in slower deployment for LPs compared to PRECap VI.
- The alteration of the Fund's leverage limitations to facilitate the use of loan-on-loan leverage may create additional risks that were previously not present.
- The Fund's Key Person provisions are quite weak and provide little protection for LPs against the departure of any two of the four senior PRECap portfolio management team members.
- The change from using CBRE Loan Servicing to using a PGIM affiliate, introduces a potential conflict of interest that was not present in the prior funds.

Discussion:

- Regarding management fees, discounts are available to larger investors, decreasing to 1.50% on investment of ≥£25 million, 1.20% on investment of ≥£50 million, 1.10% on investment of ≥£100m, 1.00% on investment of ≥£150m and 0.90% on investment of ≥£200 million. Furthermore, all Aon and Townsend clients will be able to aggregate capital commitments and benefit from a fee rate of 1.10% subject to minimum aggregate Aon and Townsend client capital commitments of £250 million.
- Regarding the investment period, the increase from two to three years means that at a £1.5 billion fund size there will be no additional pressure to deploy capital faster than has been the case in the last two years.
- PGIM has indicated that it will only utilize loan-on-loan leverage where it can achieve a better risk adjusted outcome for the Fund than would be the case were the Fund to syndicate the senior loan tranche. This additional flexibility is regarded as desirable by PGIM in an environment where previously such finance was largely unavailable or prohibitively expensive.
- Despite the weak Key Person provisions, the senior portfolio management team is very stable and the members are well aligned and directly participate in the carried interest which is subject to vesting over five years, further assisting retention over the longer term.
- PGIM argues that using its affiliate will provide a superior service at similar cost to the Fund. There are controls in place to ensure disclosure and that fees are arm's length and commercially based.

4. Vintage/Macro Risk

In the event of a significant market downturn, junior and whole loans are not immune to potential value destruction despite the presence of a minimum 15% equity cushion per investment. Junior loans can experience accelerated losses compared to equity if the equity cushion is exceeded. The value of the underlying assets may be more exposed to market risks and idiosyncratic risk as compared to stabilized, core assets in cases where they are of a transitional nature and asset level business plans call for substantial repositioning, asset management, re-letting or re-development. Equity participations and profit share components (where employed) may drag fund level returns below the target returns in the event that business plans are not executed in line with underwritten business plans.

Discussion: Although multiple sources indicate that pricing is expensive and we appear to be late in the current cycle, it does not exhibit the same degree of over exuberance and excessive leverage observed in the lead-up

to the GFC. The UK in particular faces heightened uncertainty vis-à-vis Brexit which could have material negative consequences for the UK including, inter-alia, general economic conditions, movement of people and goods, tourism. Brexit related fall-out may also impact other EU economies, the extent of which is unclear at present. It is possible that if there is a significant market correction or downturn during the Fund's investment period, this may also present an opportunity for the Fund to originate loans on attractive risk adjusted terms when other bank or non-bank lenders are pulling back. Furthermore, the Fund expects 50% of the Fund's total returns (6% net IRR p.a.) to be derived from income which may further de-risk the investment strategy.

IN CONCLUSION

PGIM is a well-established commercial real estate lending platform in the UK and Europe with a strong track record over prior funds in the series. Further, PGIM has a high quality and stable team to execute the strategy which is reflected in the assessed Buy rating.

STRATEGY

OVERVIEW

PRECap VII is the Sponsor's fourth discretionary fund in the PRECap series, following on from an investment strategy similar to PRECap I, PRECap IV and PRECap VI (other "funds" - PRECap II, III and V - in the series were separate accounts). The Fund is targeting a gross IRR of 14% (net IRR of 12%) and a gross equity multiple of 1.5-1.6x (net equity multiple of 1.4-1.5x). This includes a target income component of 6% net per annum across a fund term of five years (from the end of the three year investment period) with a one-year extension.

The Fund is a GBP denominated fund and will seek to build up a portfolio of junior debt and preferred capital investments secured against real estate assets located across major Western Europe markets, with at least 70% of total commitments funding investments secured by UK and German real estate. Investments will only finance office, retail, industrial (including data centers) and residential (including student accommodation) assets, with up to 15% financing alternatives assets such as hotel and healthcare assets. The Sponsor has no pre-defined allocations to property sub-sectors, although intends to maintain a diversified portfolio, taking an opportunity led approach focused on transactions with attractive risk/reward.

Fund investments are made to primarily finance acquisitions, refinance existing debt or to target single loan acquisitions. Fund investments will generally be structured specifically for it or relate to targeted single loan acquisitions. PRECap VII will use a "bottom up" approach focused on the quality and liquidity of the underlying real estate, and the borrower's track record in both asset management and executing the given investment strategy. Investments will typically include upfront fees, a fixed quarterly coupon and exit fees which smooths each investment's returns and avoids the "J curve" effect in some direct real estate investment returns. PRECap VII may also take upside fees or profit sharing arrangements to attempt to take advantage of the underlying real estate performance.

PGIM believes that the continued opportunity for non-bank lenders (such as the Fund) in today's market is supported by a number of factors as outlined below:

- Europe's commercial real estate debt maturity profile is weighted to the short term, with an estimate of over £100 billion of real estate loans due to expire annually over the next three years;
- A positive yield gap between property yields and senior debt costs provides a material surplus cash flow;
- Occupier markets are holding up, due to the backdrop of low supply growth, ageing stock and a shortfall of capital expenditure; and
- Real estate value volatility, especially in the UK, due to Brexit.

It is expected that:

- Approximately 50% of gross returns will be derived from current income (comprising quarterly coupon payments and upfront arrangement fees);

- Another 25% of returns derived from rolled up/accrued interest (also known as “payment in kind” or “PIK”); and
- A further 25% of returns derived from exit fees/profit shares (which may be structured as a fixed percentage of the principal amount of the investment, a fixed amount that is designed to provide for a minimum IRR on the investment and/or a fixed percentage of any profit made by the borrower on the sale or refinancing of the underlying real estate.)

The 25% bucket for “exit fees” noted above is a combination of fixed contractual exits fees (e.g. a minimum multiple top up to a minimum 1.3x or 1.4x return) as well as profit sharing linked to sale proceeds. The 25% bucket would be split broadly one-third to fixed exit fees and two-thirds to profit sharing – thus in total about 8% of the overall return relates to fixed exit fees and 17% relates to profit sharing.

This matches PGIM’s philosophy that capital back plus a 10% IRR is what the PRECap strategy looks to achieve from contractual returns, with the 2% top up to the 12% net IRR coming from profit shares.

PRECap VII is anticipated to make 12-15 investments per year, requiring from £10 million to £70 million equity each with an average investment size of c.£30 million. The typical loan term will range from three to five years, with most investments expected to be paid back within a three to four-year period. The Sponsor expects repayments through maturity in accordance to their terms or early repayments resulting from the sale or refinancing of the underlying asset.

The Sponsor has not provided geographical and sector allocations, but instead has provided an approach to financing assets by targeting investments located in sufficiently liquid markets where senior debt availability is more likely to remain for good quality underlying real estate assets. PRECap VII will focus financing towards major core markets of the UK, Germany, and Northern Europe, rather than in less liquid secondary markets and locations. Some key slides on the Fund’s key investment themes are provided in **Exhibit A**.

INVESTMENT GUIDELINES

The investment guidelines set on the Fund are indicated below:

- No single investment shall exceed 10% of Benchmark Commitments¹, and the Fund may invest up to 20% of Benchmark Commitments into a single investment when the Fund expects the amount to reduce to 10% within 364 calendar days after the acquisition;
- The total loan amount will be equal to or less than 85% LTV for Secured Loans
- Once 50% of total commitments have been invested, the weighted-average of the Senior LTV for all secured loans will be equal to or less than 60%;
- No more than 30% of total commitments will finance assets less than 50% let (or pre-let), although this does not apply to investments that finance residential development;
- No more than 20% of total commitments may finance residential development;
- Fund investments will only finance real estate assets in the UK and Germany, except (i) up to 30% of total commitments in other Western European countries², and (ii) up to 15% of total commitments in any single Western European country (other than UK, Germany, France, Ireland, and the Netherlands). No more than 50% of total commitments may finance assets located outside of the UK;
- Fund investments will only finance office, retail, industrial (including data centers) and residential (including student accommodation), assets, and have set a maximum of 15% of total commitments into financing other types of real estate assets (such as hotels and healthcare);
- A minimum of 80% of total commitments may finance secured loans, with a maximum of 20% comprising co-investment equity;

¹ Benchmark Commitments: (i) at any time prior to the Final Closing Date, the greater of total Commitments and £500 million; and (ii) at any time on or after the Final Closing Date, total Commitments.

² Western European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

- The Fund is prohibited to make investments in CMBS or purchase portfolios of loans but may acquire single targeted loans;
- The Fund will not acquire or dispose of investments to any of the Sponsor's affiliates or any fund managed by the Sponsor (other than, a parallel fund or a side car vehicle); and
- The Fund will not co-invest with the Sponsor or its affiliates, or any fund managed by the Sponsor (other than, a parallel fund or a side car vehicle).

LEVERAGE

The use of leverage at a portfolio/fund level is limited to two sources:

- Short term borrowing for cash management in the form of a subscription line. PGIM expects to arrange the subscription line with Wells Fargo with an associated interest cost of floating rate LIBOR/EUROBOR plus a margin of 150-160 basis points. Short-term indebtedness is limited to 25% of total commitments, reducing to 10% from the first anniversary of the expiry of the investment period.
- Senior loan term finance to finance a senior debt portion of a Fund investment ('loan-on-loan leverage'). This will be obtained as either third party senior debt to repay an investment's senior debt portion or by arranging the senior loan term finance to match the term of the underlying investment. Borrowings must only be for financing a senior portion of an investment benefiting from first ranking security, and must not exceed 30% of total commitments, and any recourse must not exceed 10%. The cost will typically be floating rate LIBOR/EURIBOR plus a margin of 160-200bps.

The use of leverage at each investment's underlying real estate level specifies:

- A maximum loan to value per investment of 85%; and
- A maximum weighted average senior debt loan to value across the portfolio of 60%

PRECap VII will provide junior debt and preferred capital finance to third party owners of real estate. These borrowers will never have recourse to the Fund. Furthermore, the Fund may benefit from cross-collateralizing multiple loans to the same borrower. Therefore, if the underlying borrower was to default in the payment of a Fund loan investment, the Fund could have recourse to a pool of cross-collateralized real estate assets.

HEDGING

- Currency: The Fund is GBP denominated. The Fund may engage in currency hedging, up to 100% of capital investment and up to 100% of projected income related to non-GBP denominated investments.
- Interest Rates: Interest rate hedging is not expected to be put in place at the Fund investment level. However, third party senior debt is typically on a floating rate, and leverage placed on senior debt will be hedged to create efficient portfolio management.

PRE-SPECIFIED ASSETS / PIPELINE

- There are currently no pre-specified assets and the Fund is yet to hold a first close.
- There is no PRECap VII pipeline as such, given that PRECap VI is still being invested.
- The current PRECap VI pipeline is provided in **Exhibit B** and provides some indication of the types of investments currently being pursued.

SPONSOR

OVERVIEW

PGIM is the global investment management business of Prudential Financial, Inc. ("PFI"). PFI was established in 1875 in Newark, New Jersey and offered financial products and services including life insurance, annuities, mutual funds, investment management and retirement related services. PFI set up one of the industry's first open-ended commingled real estate funds, PRISA, which is open today with a Gross Asset Value of \$25.2 billion (\$20.2 billion net).

PGIM have four business/operating units; (i) Fixed Income, (ii) Equity, (iii) PGIM Real Estate, and (iv) Alternatives. PGIM Real Estate is a business unit of PGIM, Inc., an indirect subsidiary of PFI, a publicly listed entity (NYSE:PRU). PFI is a company owned by its shareholders, and there is no direct employee ownership of PGIM Real Estate. PGIM Real Estate was established as a global platform in the mid-1990s, and in 2001 established PGIM Real Estate Loan Services Inc. (“RELS”) to expand its commercial mortgage loan services of its own and third party senior debt portfolios. RELS is a separate mortgage asset management and servicer for all senior loans originated by PGIM and approved. The ownership structure has not changed since PFI became publicly listed in 2001.

Ten largest shareholders in PRU	% Total Shares Held
Vanguard Group Inc	7.96%
BlackRock, Inc.	7.28%
Wellington Management Company	5.08%
State Street Corp	4.66%
JP Morgan Chase & Co	1.92%
Norges Bank Investment Management	1.91%
Geode Capital Management, LLC	1.36%
Northern Trust Corp	1.27%
Ameriprise Financial, Inc.	1.22%
Lsc Asset Management	0.88%

Updated 03/30/19, Source: Yahoo Finance

PGIM Real Estate have numerous strategies across private real estate debt (US \$98.6bn), private real estate equity (US \$67.2bn) and public real estate equity (US \$3.1bn). A breakdown (in \$bn) both across the risk-return profile and geographically as at December 31, 2018 is shown in the table below:

	Core	Core Plus	Debt	Global RE Securities	Opport- unistic	Value- Added	Grand Total
Europe	4,513	1,459	5,245	-	8	1,212	12,436
Asia	5,217	1,226	1,661	-	24	1,145	9,273
Global RE Securities	-	-	-	3,141	-	-	3,141
Latin America	2,589	4	-	-	602	-	3,194
United States	27,081	15,927	91,660	-	41	6,151	140,859
Grand Total	\$39,401	\$18,614	\$98,566	\$3,141	\$674	\$8,509	\$168,905

PGIM Real Estate (but excluding PGIM Real Estate Finance) consists of 1,007 real estate professionals located across 18 cities in Americas, Europe and Asia Pacific, with gross assets under management of \$72.7 billion (\$50.8 billion net) as of December 31, 2018. Eric Adler is the Chairman of PGIM Real Estate & PGIM Real Estate Finance, and PGIM Real Estate CEO and PGIM Real Estate has 141 employees in Europe, located in London (73), Munich (25), Frankfurt (19), Luxembourg (14), and Paris (10), working across core, core plus, value-add, debt, securities, and specialized investment strategies. These employees support the Sponsor and are not shared with other operating units.

The below table provides a summary of the key personnel for PRECap VII, and the European Real Estate Debt team professional members. Organizational charts are attached in **Exhibit C**, and the European team biographies and European Investment Committee (“EIC”) biographies are attached in **Exhibit D**:

Name	Role	Real Estate Experience	Years at PGIM	Allocated Time (%)
Andrew Radkiewicz*	Managing Director, Global Head of Private Debt Strategy	29	10	50

Andrew Macland*	Managing Director, Head of European Debt	28	10	75
Mathew Crowther*	Managing Director, Portfolio Management	19	10	90
Mary Hamilton*	Managing Director, Portfolio Management	19	7	90
Emma Jack	Executive Director, Originations	13	2	20
David Gingell	Executive Director, Originations	12	7	20
Kasimir zu Eltz	Vice President, Originations	17	5	20
Matthew Borelli	Assistant Vice President, Originations	8	6	20
Duncan Pearson	Executive Director, Originations	22	8	100
Aaron Knight	Executive Director, Originations	15	6	20
Nicholas Kilbey	Executive Director, Originations	13	7	100
Peter Flynn	Executive Director, Originations	20	8	100
Jesse Bostwick	Vice President, Originations	11	5	50
Oliver Smith	Senior Asset Manager	10	6	20
Bob Gayford	Senior Consultant, Structuring & Execution	32	6	100
James Day	Investment Professional	4	1	20
Christopher Rollinson	Investment Professional	4	1	20
Andrew Hooker	Investment Professional	4	4	20
Sarah Bowler	Investment Professional	6	2	80
Ge Xu	Investment Professional	7	5	80
Jack Franklin	Investment Professional	5	1	80
Duncan Holmes	Vice President, Asset Manager (Equity)	18	3	10
James Mathias	Executive Director, Global Debt Strategy	15	11	35
Greg Kane	Executive Director, Research	13	11	15
Florian Richter	Assistant Vice President, Research	5	5	15
Mathew Huen	Analyst, Research	1	1	15
Leroy Mattis	Executive Director, Fund Operations	17	4	80
Karen Aylen	Manager, Fund Controller	24	24	100
Maria Reidy	Associate, Loan Servicing	15	5	100
Ewa Chojnacka	Associate, Investor Services	13	13	100

*Named in Fund Key Persons provisions

TURNOVER, COMPENSATION, AND RETENTION

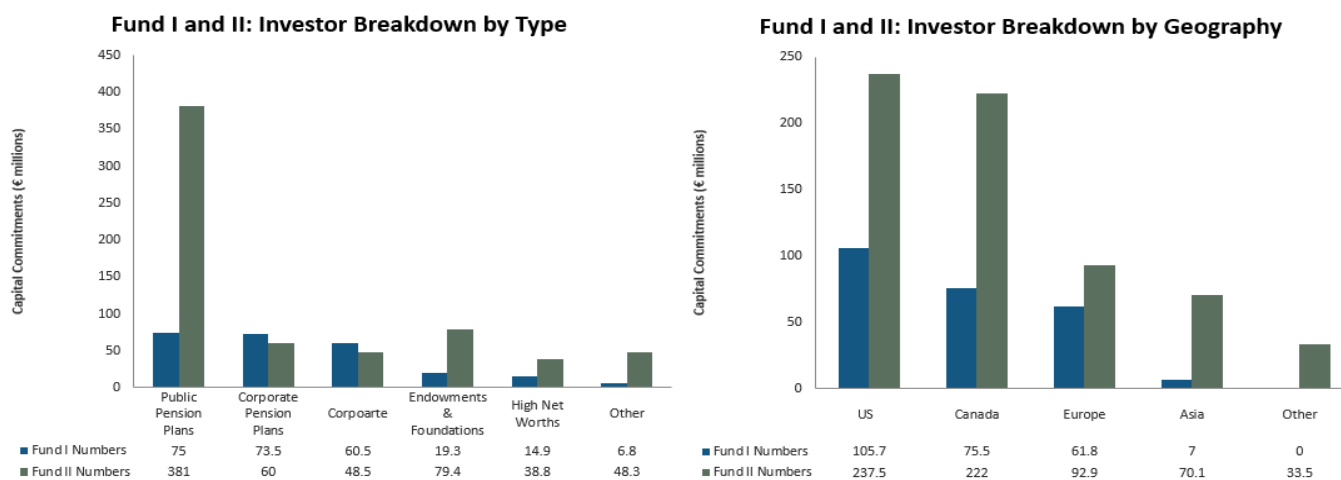
- PGIM European real estate debt was established in 2009. None of the senior leadership team associated with the origination or portfolio management for the PRECap fund series have left the firm in the past five years.
- PGIM has indicated that due to European GDPR regulations, PGIM Real Estate is unable to divulge individual names of staff leavers within the European business over the course of the past five years, however PGIM has provided the relevant anonymized details for that period.
- Departures:
 - Over the past five years, 62 employees departed PGIM Real Estate in Europe of which 7 were directly relevant to the PRECap series. None of the departures are regarded as senior.
- Additions:
 - Over the past five years, the Sponsor has added 69 employees to the PGIM Real Estate European investment team of which 12 (10 net as 2 have since left) were directly relevant to the PRECap series. The most senior of these additions was Emma Jack, Executive Director – Originations with the majority of other additions occurring at analyst, associate or vice president level.
- Hiring Plans:

- PGIM Real Estate has indicated that its PRECap and European debt investment platforms are well staffed after a decade of growth since its inception in 2009. Furthermore, PGIM anticipates new hires typically at the junior to mid-level. Succession reviews are conducted semi-annually for each Portfolio Management team, and relevant senior investment professionals.
- Performance fee participation:
 - 50% of any promote earned at the end of the life of PRECap VII is allocated across the European Debt Team, European senior executives, and global senior executives, with final say on proposed allocation arrangements made by the Global CEO, Eric Adler. The proposed allocation of Fund promote is shown in the table below:
 - 50% of carried interest vests 30 months after the Fund’s first closing date, and 50% vests on a straight line, monthly basis over the following 30 months. The carried interest is not paid until the end of the Fund’s life once all capital and preferred return has been returned to limited partners.

Staff/Entity Participating in GP Carried Interest	% Share of Carried Interest
European Debt Team	23%
European Debt Team Reserve	5%
European Senior Executives	12%
Global Senior Executives	10%
Firm Owners/Parent Company	50%

CLIENT BASE

The charts below illustrate the breakdown of Fund I and Fund II’s investors by client type and geography as at March 2019:



COMPLIANCE / LITIGATION DISCLOSURES

PGIM has indicated that, except as noted below, in the last five years there has been no litigation or other legal proceedings involving PGIM, Inc. (of which PGIM Real Estate is its real estate investment advisory business unit), as defendant relating to PGIM Real Estate's investment advisory business that would have a material impact on the business or operations of PGIM Real Estate:

- On August 14, 2015, an investor in the real estate fund TMW Immobilien Weltfonds (“TMW”) made a claim against Pramerica Property Investment GmbH, the manager of the TMW, a direct wholly owned subsidiary of PGIM Real Estate Germany AG, and an indirect wholly owned subsidiary of PGIM, Inc. and PFI. The claim alleges that Pramerica GmbH, as manager, at the end of 2009, provided misleading information about the

value of the properties then held by the Fund and claims losses of approximately EUR11.3 million, plus interest at 4% from December 2009. In September 2017 the German court issued a judgment dismissing the investor's claim. The investor has since filed an appeal against the judgment that Pramerica GmbH will contest. As the claim is not public, PGIM Real Estate has requested that Townsend and its clients respect the confidentiality of this matter.

The above is limited to PGIM Real Estate only and makes no representation as to any affiliates, including without limitation, PFI, PGIM Real Estate's ultimate parent company, or any other subsidiary thereof.

- The Prudential Insurance Company of America and PGIM, as well as the many subsidiaries formed for the purpose of holding those assets, are occasionally sued in connection with routine disputes that arise from real estate including, among other things, landlord-tenant disputes, slip and fall cases, and disputes with joint venture partners. There have been no such cases that PGIM believes would be material to the PGIM Real Estate investment advisory business or to the PGIM RE-managed funds.

OPERATIONAL DUE DILIGENCE

SUMMARY

An Aon specialist team reviewed the Sponsor's policies, procedures, and capabilities across a range of operations, middle and back office, and control functions including: (i) corporate governance, (ii) trade/transaction execution, (iii) Valuation, and cash controls, (iv) compliance, regulatory, legal, and controls testing, (v) counterparty risk oversight, (vi) business continuity/disaster recovery, cyber security and IT, (vii) key service provider selection and monitoring, and (viii) fund governance, structure, and administration.

PGIM Real Estate has institutional levels of infrastructure, controls, and oversight across its operating environment. The firm is subject to independent oversight by a Board of Directors at the parent level and has a robust supporting committee structure. PGIM Real Estate's policies and procedures are comprehensive, well-documented and subject to assurance reviews by both internal audit and annual reviews by an external audit firm. As such, an A1 Pass rating is appropriate.

INVESTMENT PROCESS

OVERVIEW

Set out below is a list of the key phases of the investment process for the Fund which are described in more detail in the PPM

- Initial Review
- In-depth Analysis
- Investment Committee Approval
- Investment Execution
- Post Funding Management
- Repayment/Exit
- Enforcement Procedures

Sourcing: Deals for PRECap VII investments are sourced by the European Debt Team's relationships with property companies, real estate managers, market professionals (valuers, investment agents and lawyers), and directly from commercial and investment banks. A team of origination professionals located in London and Frankfurt are dedicated exclusively to sourcing new investments for the Fund. PGIM anticipate approximately 90% of transactions will be unbrokered, with at least half to two-thirds of PRECap VII transactions to be sourced from repeat business partners.

Research: Global Head of Investment Research, Dr. Peter Hayes, is based in London and leads the global investment research team of 13 full-time professions based in Asia Pacific, Europe and the US. Peter provides

advice and support to investment management divisions of PGIM and the Research team provides analysis for the portfolio, transactions, asset management, and new product development teams, informing the Sponsors investment professionals on opportunities and risks during quarterly Investment Strategy meetings, and providing pricing models and city-level space market forecasts.

Typical functions outsourced for the Fund include tax services and advisory, legal service, audit, fund administration and accounting, depositary, central administration agent, registrar and transfer agent, property management / valuation, and loan servicing. PGIM Real Estate Compliance and Legal are involved in the outsourcing of a first-time vendor, and the outsourced service is monitored in line with PGIM Real Estate's risk management policy. For PRECap VII, loan servicing is expected to be given to RELS.

INVESTMENT COMMITTEE

The European Investment Committee ("EIC") is comprised of eight members, with combined tenure at PGIM of 98 years. The EIC is the most relevant governance body to the Fund, and is responsible to:

- Review and approve the PGIM Real Estate investment strategy and philosophy;
- Review the state of the real estate markets and PGIM Real Estate's investment strategies in respect to those markets;
- Review and approve the portfolio strategy and investment criteria for all real estate managed accounts;
- Hold bi-weekly meetings to review and approve (or reject) all investment transactions (acquisitions, sales, financing, major leases and redevelopment initiatives) across all PGIM European funds and vehicles;
- Hold bi-annual meetings to review portfolio performance and outlook reports; and
- Review and approve (or rejecting) any asset management initiatives that involve a material change to the underwritten business plan.

Any matter put to a vote of the EIC requires approval by majority of all EIC members. A quorum for an EIC meeting requires a minimum of four EIC members. The EIC has authority to delegate portions of their authority (including leasing activity, asset management initiatives etc.) to a sub-committee which requires unanimous approval by all members. Disposals of investments, are delegated to a sub-committee of the EIC.

The EIC members are shown in the table below:

EIC Members	Role	Years of Experience	Years at PGIM
Len Kaplan (Chair)	Global Chief Investment Risk Officer	25	29
Raimondo Amabile	Head of Europe	22	7
Philip Barrett	Global Head of Business and Investment Operations	28	20
Jocelyn De Verdelon	Head of France, Spain & Portugal	12	5
Sebastiano Ferrante	Head of Germany & Italy	20	6
Greg Kane	Head of European Investment Research	13	11
Andrew Macland*	Head of European Debt	28	10
Andrew Radkiewicz*	Global Head of Private Debt Strategy	29	10

ASSET MANAGEMENT

The Fund's asset management is comprised of PGIM Real Estate employees, and a PGIM affiliate, PGIM Real Estate Loans Services ("RELS") which provides loan servicing for the Fund. The Debt Asset Management team is based in London, closely integrated with the Portfolio Management team, although also based in Frankfurt, Munich, Luxembourg and Paris when required depending on the location of the investment.

Mary Hamilton leads a team of four senior investment professionals focused on asset management to monitor

and manage the portfolio. Seven investment analysts and associates support the asset management and origination of loans, as well as support from the portfolio management team and origination professionals. The team follows a “cradle to grave” policy, from underwriting to the disposition of an investment to ensure key transaction individuals retain ownership and management throughout the lifetime of each investment.

These individuals responsibilities include:

- Borrower relationship management
- Ongoing review of borrower business plans, operating performance, leasing and investment strategies
- Borrower credit requests and lender consents
- Collateral reviews and market analysis
- Property inspections and construction monitoring
- Covenants compliance

During the underwriting and due diligence process of all new investments, the local asset management representatives are consulted, contributing and ensuring the investment assumptions are achievable. The local asset management will also provide a specialist review, and commentary on the due diligence findings such as:

- physical characteristics, building size, age, construction, condition, capacity, etc.
- location at macro and micro levels, area transport dynamics, competitive landscape, barriers to entry and business demand drivers
- deal structure, partnership terms, debt terms, lease terms, tenant terms, tenant credit, easements, ownership associations, ground leases, and any rights of first offer/refusal to third parties.

During the underwriting and due diligence process, each potential asset is visited by a transactions team member (typically a senior member and analyst) accompanied by an asset manager. More complicated assets (e.g. requiring heavy asset management or development) require quarterly or bi-annual visits by the Debt Asset Management Team. For developments, a quantity surveyor will be appointed to visit the asset on a monthly basis and provide the team a monthly progress reports.

Day to day real estate asset management and the execution of the business plan will typically be on the partner, with PGIM focused on picking borrowers/partners carefully through due diligence on their capability and track record, as well as to ensure the borrowers/partners are actively engaged in enhancing the underlying asset and growing rental income.

JOINT VENTURE PARTNERS / OPERATING PARTNERS

Since November 2010, the European Debt Team have executed 85 debt investments totaling \$3.1bn secured on over \$16bn of European real estate, with over 35 separate partners. The European Debt team expects to target at least half to two-thirds of the PRECap VII transactions from these existing partners.

Fees are not typically paid for deal sourcing, rather, in many cases, a PRECap borrower will pay an upfront arrangement fee to the Fund. Note that as has been the case with all PRECap Vehicles, all fees and coupon associated with an investment will be paid in full to the Fund.

EXCLUSIVITY & ALLOCATIONS

The Fund will be the only dedicated high-yielding debt strategy in Europe, yet there is potential overlap with other European value-add funds. Any such investments are required to go through a formal allocation queue. PRECap VII will be the only vehicle managed by the Sponsor making investments within the Fund’s general strategy until the expiration of its investment period.

USE OF AFFILIATES

It is expected that a PGIM affiliate, PGIM Real Estate Loan Services (“RELS”) will provide loan servicing for the Fund including, preparing interest invoices, monitoring collection of interest payments and other loan data.

Pursuant to the proposed Fund documents and regulatory requirements, the appointment of RELS as loan servicer must be on commercial arm's length terms and notified to the Advisory Council.

RELS will be remunerated by the Fund on a market-based fee and will receive no borrower-paid fees. It is expected the fee rate of RELS as loan servicer would be equal to or less than the current market rate of other third party loan servicers (including that of CBRE Loan Servicing who are acting as loan servicer of PRECap VI). PGIM expects that the quality of service associated with RELS appointment will offer significant relative value.

VALUATIONS

The underlying real estate for each Fund investment will be valued at least annually by an external independent valuer with professional qualifications. Additionally, on an annual basis, the junior debt/preferred capital investments of the Fund will be reported at fair value as determined by an external independent valuer. The debt valuation methodology will seek to comply with both IFRS and US GAAP requirements, and involves a discounted cash flow analysis of expected future interest, principal and fee receipts.

The valuation policy differs from PRECap VI. The European Debt Team and PGIM Real Estate's Chief Appraiser have worked with CBRE to develop a loan valuation methodology for the PRECap debt investments. Prior to 2015, the loan valuations were prepared by the European Debt Team internally, but now CBRE prepares such valuations externally. Accordingly, both the underlying real estate as well as the loan investments themselves, are now valued externally on an annual basis.

LIMITED PARTNER ADVISORY COMMITTEE ("LPAC")

The Proposed Fund will include an Advisory Council comprised of representatives of investors that commit £50 million or more to the Fund.

The prior fund (PRECap VI) comprised the following investors (having committed £50m or more to it):

- New York State Common Retirement Fund
- New York City Retirement Systems
- Prudential Retirement Plan
- Pennsylvania PSERS
- New Mexico SIC
- STRS Ohio
- Bouwinvest
- MARS
- Exelon
- PFI Affiliates

The Advisory Council shall meet to:

- review conflicts of interest;
- review investments proposed by the Manager that do not satisfy the Investment Criteria;
- review and approve any proposed changes to the accounting policy or to the valuation policy of the Fund and any change to the Fund's auditors or valuers; and
- review and approve any matter that with respect to the Investment Advisers Act would require the approval of the Partnership or the Investors.

The Advisory Council will also be required to approve, by a simple majority vote, any proposal to:

- extend the Term of the Fund;
- extend the Investment Period of the Fund;
- make follow-on investments after the end of the Investment Period which are not set out in a pre-approved budget;

- approve investments proposed by the Manager that do not satisfy the Investment Criteria.

PLACEMENT AGENT

PGIM Real Estate does not propose to make use of a placement agent in connection with the Fund therefore no third parties have or will be compensated directly or indirectly for the placement of interests in the Fund.

FUND STRUCTURE

OVERVIEW

PRECap VII is structured as a Luxembourg domiciled entity. All prior comingled PRECap Funds (I, IV, and VI) are structured as English Limited Partnerships. PRECap VII is GBP denominated. The Fund structure is illustrated in Exhibit E.

- General Partner: PGIM Real Estate Capital VII GP S.à.r.l.
- Investment Adviser: PGIM Real Estate Luxembourg S.A.
 - PGIM Real Estate Luxembourg is authorized and regulated by the Luxembourg Commission de Surveillance du Secteur Financier (“CSSF”) as an Alternative Investment Fund Manager pursuant and is registered with the SEC as an investment adviser.

REVIEW OF TERMS & CONDITIONS

Key Terms		Townsend Comment	
Target Return:	14% Gross IRR 12% Net IRR	Positive	Using Townsend’s fee model and the given fee structure and terms, the gross-to-net IRR spread is consistent with PGIM’s stated gross and net return targets.
Fund Size:	£1.5 billion target No hard cap	Negative	The Fund target size is double the target size for PRECap VI, (£750m).
Sponsor Commitment:	At least 5% of aggregate Capital Commitments, up to a maximum of \$50 million. Andrew Radkiewicz, Andrew Macland and Mathew Crowther will, together with an associated co-investment by PGIM commit £500,000.	Positive	The peer average is typically close to 1%.
Investment Period:	3 years from the date of final closing, subject to a one year extension with the approval of the Advisory Council	Neutral	Typical investment period in comparison to the Fund’s peers. The Investment period for the Fund is a year longer than PRECap VI which had a 2 year investment period.
Term:	5 years from the end of investment period with the possibility of one 1-year extension (from final close).	Neutral	Total fund term (excluding extensions) is regarded as typical.
Key Person Provision:	Andrew Radkiewicz, Andrew Macland, Mathew Crowther and Mary Hamilton are named as “Key Persons”. If at any time prior to the termination of the Investment Period: (i) fewer than two of the Key Persons continue to be involved in the management of the Fund or to devote a majority of their business time to the affairs of the "PGIM Real Estate Capital" and "Pramerica Real Estate Capital" investment vehicles; or (ii) fewer than 10 people in aggregate continue to devote a majority of their business time to the affairs of PGIM Real Estate debt business in Europe, then the power of PGIM to make additional capital	Negative	Under part (i) of the clause three of four Key Persons would have to depart in order to trigger the provisions which is considered weak. Part (ii) is also considered quite weak as the “fewer than 10” reference is unlikely to occur and PGIM will have the ability to replace departures ad hoc to prevent a trigger.

	calls or to cause the Fund to borrow will be automatically suspended.		
No-Fault Remedies:	GP / Sponsor removal requires a 51% vote of LPs. Termination of Investment Period requires a 51% vote of LPs	Positive	No fault termination provisions often have a higher threshold of 66-75% vote of LP interests.

Fees and Distribution Waterfall

- Organizational Expenses: Up to £1.5 million paid by the Fund. (0.1% of the Funds target fund size)
- Management Fees:

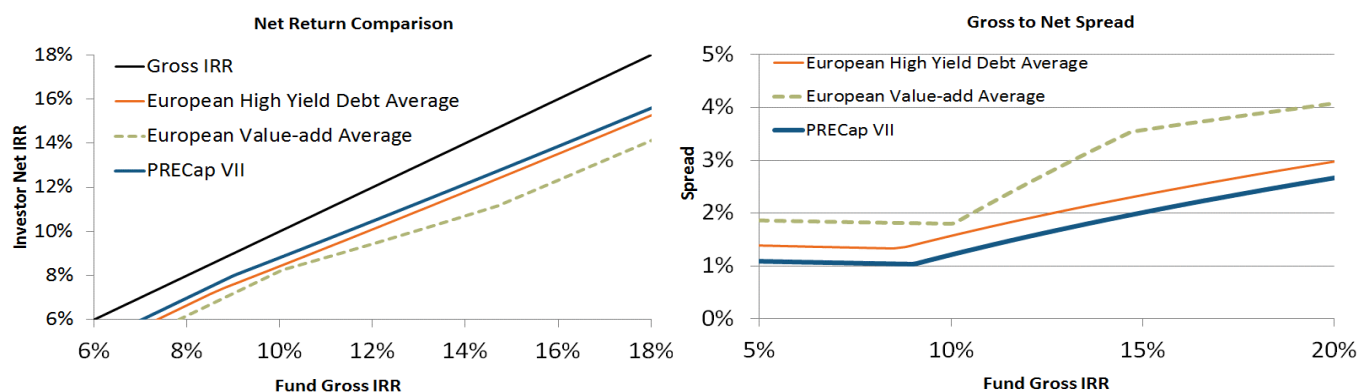
Size of Commitment	Management Fees During and Post Investment Period
Less than £25 million	1.75% on Invested Capital
£25 million, less than £50 million	1.50% on Invested Capital
£50 million, less than £100 million	1.20% on Invested Capital
£100 million, less than £150 million	1.10% on Invested Capital
£150 million, less than £200 million	1.00% on Invested Capital
£200 million or more	0.90% on Invested Capital

- The management fee covers PGIM affiliate company's resources, for example PGIM affiliate RELS which provides loan servicing for PRECap VII.
- The addition of a fee tier at >£200m and rate of 0.90% is new compared to PRECap VI. The threshold for the 1.00% fee rate was also adjusted from £140m to £150m.
- All Townsend and Aon clients will have their capital aggregated for the purposes of a management fee discount such that all clients will receive the 1.10% fee rate provided total aggregate Townsend and Aon client commitments meet or exceed £250m.
- Individual clients committing £150m or more remain eligible to qualify for the ≥£150m fee tier (1.00%) and the ≥£200m fee tier (0.90%).
- Incentive Fee/Waterfall Distribution:
 - The Fund's preferred return rate is 8%
 - The GP will receive 20% of incremental distributions
 - There is no GP catch up
 - Fully-pooled waterfall

FEE & EXPENSES ANALYSIS

- The chart below shows the Fund fees compared to an average of recent European value-add equity peer offerings as well as European high yield debt offerings in the Townsend database. (Note: the sample size for the European high yield debt offerings is limited and spans a range of strategies that are both lower and higher risk/return than the Fund.)
- The management fees have been modelled based on the agreed Aon and Townsend fee aggregation rate of 1.10% subject to minimum aggregate Aon and Townsend capital commitments of £250m.
- These fees are favorable against the European value-add equity median due to the fact that they are charged only on invested capital during the investment period compared to the more typical (for value add equity funds) committed capital basis during the investment period. The rate itself is also lower than a more typical 1.50% p.a.
- On balance, the incentive is favorable compared to European value-add equity peers in the market.
 - The preferred return of 8% is in line with peers.
 - The absence of a catch-up is favorable to peers.

- The Fund has a fully pooled waterfall distribution; with the GP only receiving carried interest after capital contributions and the Fund's preferred return (8% IRR) have been distributed to investors.
- The gross to net spread is lower than typical and favorable compared with the European value-add equity range.



PERFORMANCE

SUMMARY (4Q18)

The Townsend Group has completed performance analysis on PGIM's PRECap European high yield debt strategy series by way of funds PRECap I, IV, and VI's track record.

PRECap I, IV and VI have transacted on 69 invested predominately across the UK, and Germany with the exception of one investment in Spain, and another in The Netherlands since the first investment made in November 2010. Of the 69 investments, fund equity totals over £2bn, with 36 realized investments totaling £1.5bn as at June 2019. The investment strategy has remained considerably consistent across the series of PRECap funds focused on mezzanine investments secured against real estate assets with capacity for co-investment of equity.

PRECap I, IV and VI have been ranked on a fair market value net IRR compared to global set of same vintage value-add and opportunistic debt peers, with PRECap I ranked as a third quartile fund, PRECap IV ranked as a second quartile fund, and PRECap VI ranked as a first quartile fund. PRECap I and IV has generated returns slightly below its net IRR target return of 12-15%, whilst PRECap VI is in line with its 12% net IRR target return. More details on the deal-by-deal track record across the PRECap series are provided in **Exhibit F**.

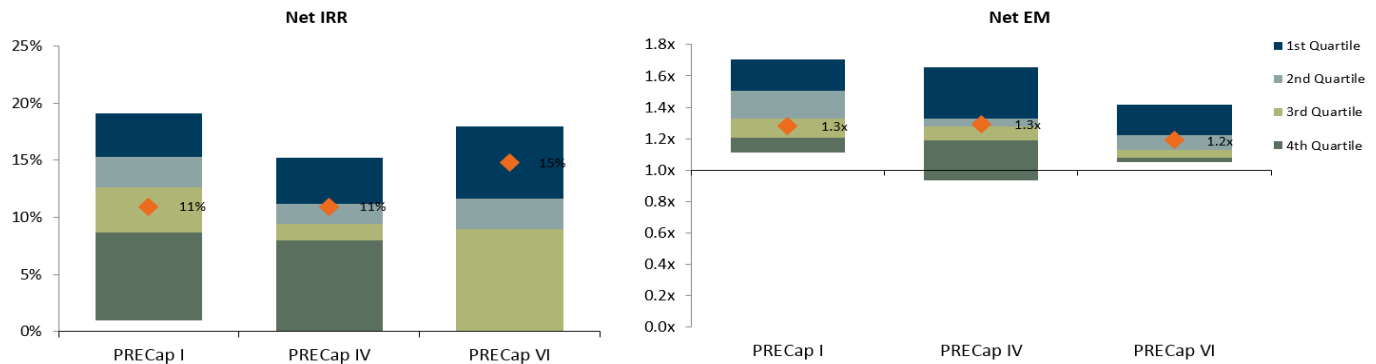
Vehicle	Structure	Invested Capital (M)	Vintage	Number of Transactions	Projected Life-of-Fund Net IRR	Fair Market Value			% Realizations		Gross DPI (Distributions to Paid-in-
						Net IRR	Net EM	Quartile Rank ¹	# of Transactions	of Total Value	
PRECap I	Fund	£492	2010	13	10.9%	10.9%	1.28x	Q3	88%	90%	1.19
PRECap II	Separate Account	€105	2012	3	9.5%	9.8%	1.27x	N/A	67%	50%	0.64
PRECap III	Separate Account	€226	2012	5	6.3%	6.3%	1.13x	N/A	100%	100%	1.13
PRECap IV	Fund	€699	2013	23	11.0%	10.9%	1.29x	Q2	61%	61%	0.96
PRECap V	Separate Account	€265	2013	4	7.9%	7.9%	1.19x	N/A	75%	87%	1.10
PRECap VI	Fund	£1,017	2015	33	12.0%	14.8%	1.19x	Q1	24%	25%	0.44
Total				81							

Relative Performance date as of 3Q18, relative to global debt fund database.

Performance Relative to Global Value Add and Opportunistic Debt Peers

The following charts provide some relative context for the performance among a global set of similar vintage value-add and opportunistic debt peers, on a net IRR and equity multiple basis. We have elected not to assess

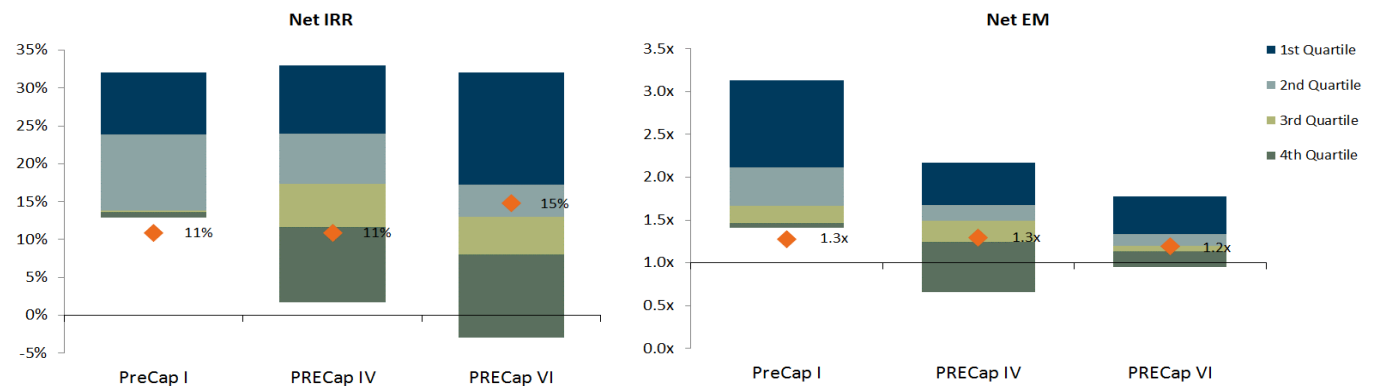
performance relative to European high-yield debt peers due to the very limited sample size of funds in the Townsend database pursuing a substantially similar strategy and net return target.



Source: Townsend global debt fund database as of Q3 2018. Range shown is 95th to 5th percentile.

Performance Relative to European Value Add Equity Peers

Because the Fund is targeting a net IRR of 12% which is largely consistent with target EM returns for European value add equity funds, PRECap VII may be regarded as a potential substitute for a more traditional value add equity fund investment. Accordingly, in addition to the above analysis, we also compared PRECap performance against similar vintage European value add peers which is shown below. Our observations from this analysis are that the PRECap funds appear to be producing quite consistent returns both in IRR and equity multiple terms over time. While appearing to generally underperform compared to equity, it should be noted that is before taking account of the lower risk profile and downside protection characteristic of the PRECap funds. PRECap VI also appears to illustrate the ability to capture some upside if things go to plan or better than planned. The lower equity multiple indicated across funds is not surprising given most loans pay back in 3 or 4 years and that both investment periods and fund terms have been shorter for the PRECap funds compared to value add equity funds more broadly.



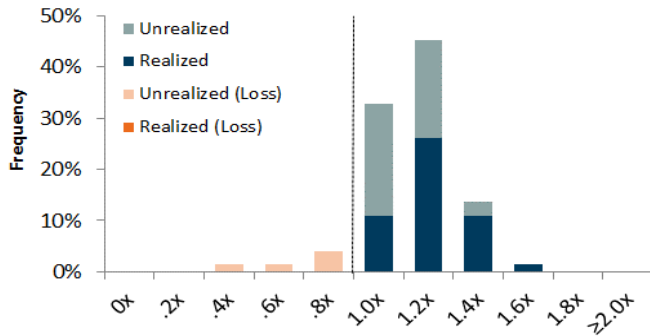
Source: Townsend Opportunistic fund database as of December 30, 2014. Range shown is 95th to 5th percentile.

Dispersion of Returns

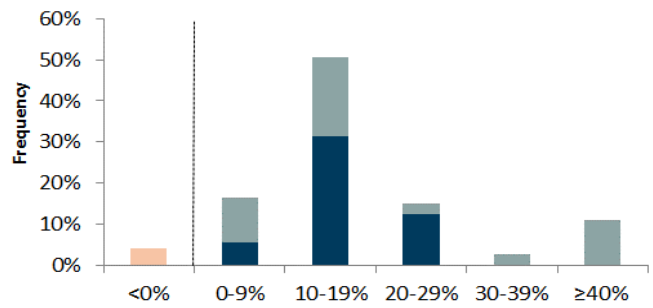
- The following charts display the dispersion of individual investment returns across PRECap I, IV and VI. Returns are presented in both gross projected figures and mark-to-market figures.
- Within that context, there are no realized losses.
- On a mark-to-market basis, there are four investments marked at a loss (all within PRECap IV), although one of the four is projected to ultimately produce a positive return.
- The highest frequency of deals fall into the 1.2-1.4x gross equity multiple and 10-19% gross IRR ranges, respectively, on both a mark-to-market and projected basis.

Mark-to-Market Dispersion

Gross Equity Multiple

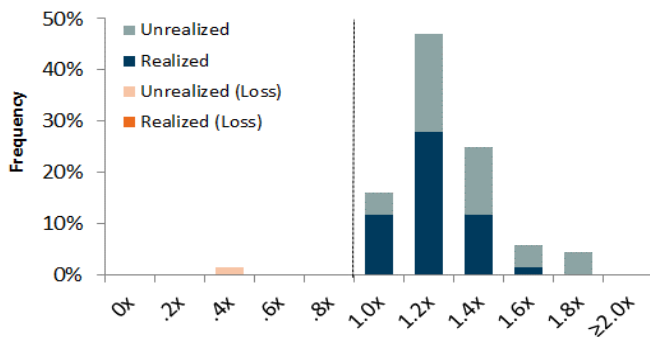


Gross IRR



Projected Dispersion

Gross Equity Multiple



Gross IRR

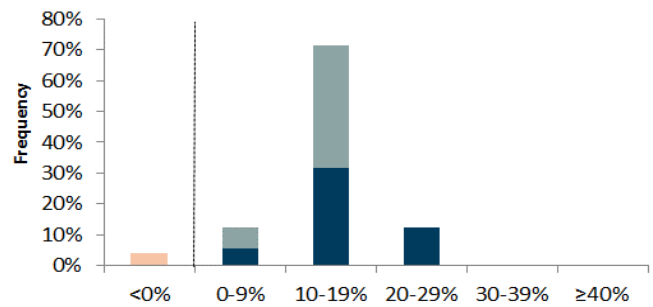


EXHIBIT A: Key Investment Themes



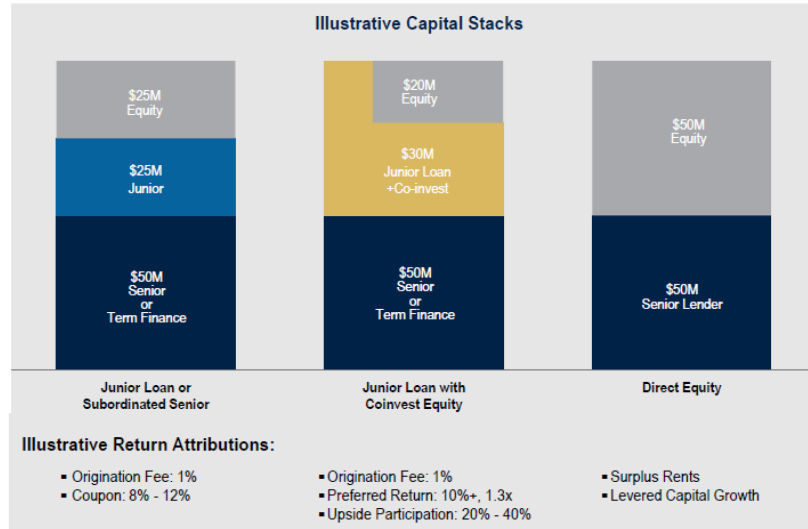
Value Add Strategies: Illustrative Investment Profiles

Comparison of investment structures for junior debt and preferred equity with traditional direct equity.

50% identical senior debt assumed throughout.

Based on the structures, an investment horizon of three years is assumed.

Underlying real estate with 6.00% cap rate.



Illustrative investment profiles.

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Value Add Strategies: Risk Adjusted Returns Analysis

Illustrative risk return analysis

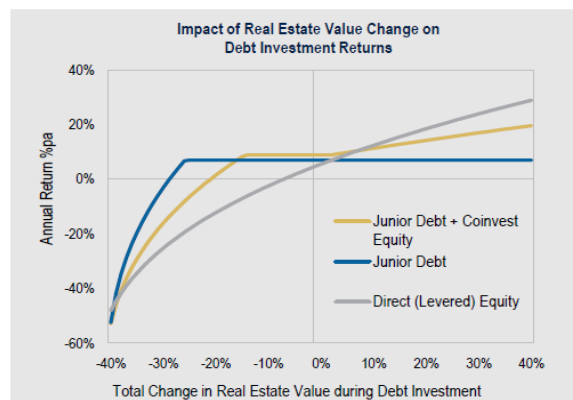
Graph shows the hypothetical forecast IRR of each of the three investment structures after 3 years.

Investment performance is recorded based on a range of exit values of the underlying real estate – in this case +/- 40%.

Junior debt delivers a fixed return with protection against a 30% drop in real estate value.

Combining junior debt with preferred equity provides upside return potential, whilst still benefitting from downside cover.

A direct equity strategy will outperform junior debt and preferred equity on the upside, (value growth >15%), but this is outweighed by the scale of downside protection provided by the other investment structures.

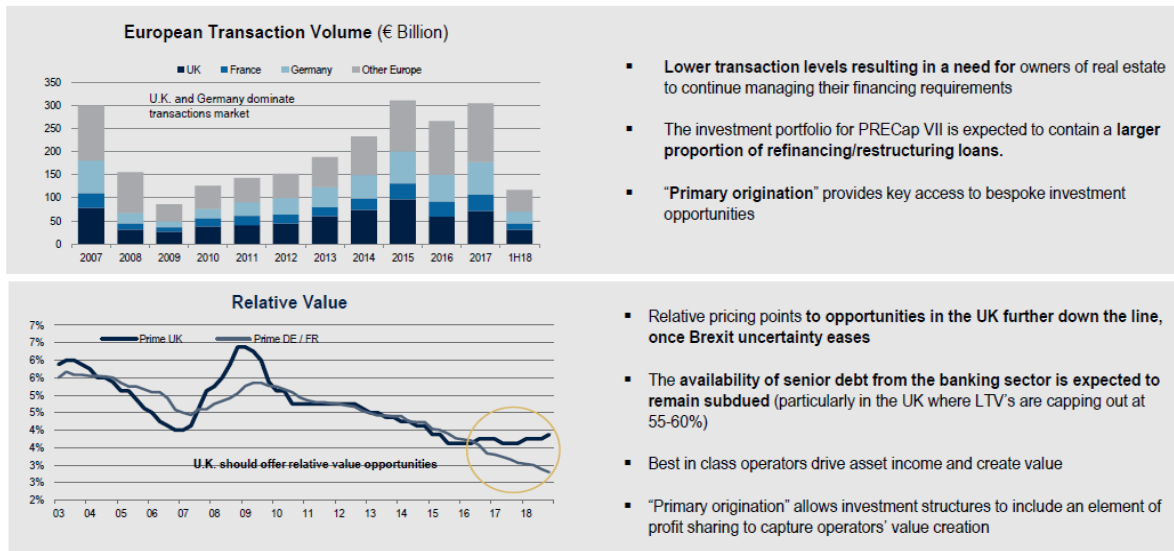


Illustrative returns based on assumptions listed above. Past performance is not a guarantee or a reliable indicator of future results and there is no guarantee that any target returns referred to in this presentation will be achieved.

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European Market Opportunity – Real Estate Outlook

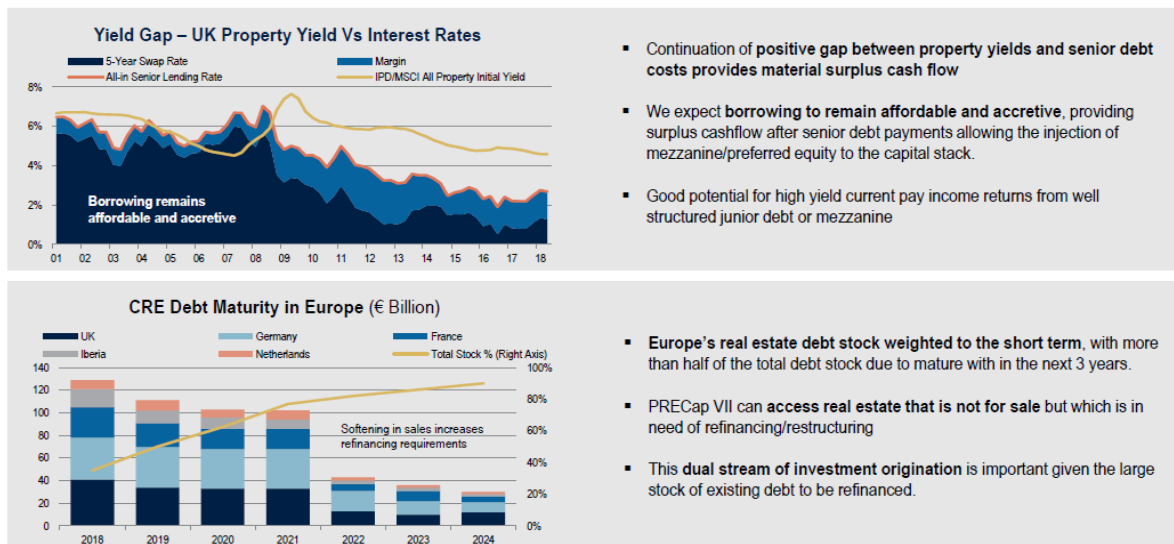


Sources: Bloomberg, CBRE, Cushman & Wakefield, De Montfort University, MSCI, Real Capital Analytics, PGIM Real Estate, As of March 31, 2019.

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European Market Opportunity – Lending Outlook



Sources: Bloomberg, CBRE, Cushman & Wakefield, De Montfort University, MSCI, Real Capital Analytics, PGIM Real Estate, As of March 31, 2019.

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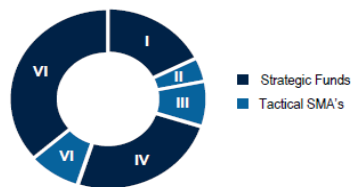
25

PRECap - European Track Record

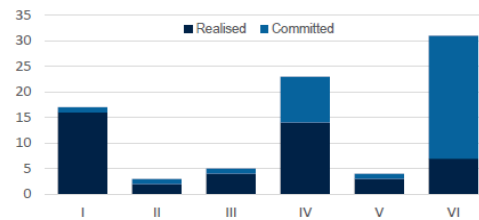
Strong investment performance across all funds and managed accounts

Fund	Vintage	Geography	Size	Investments Realized / Made	% Equity Returned To-Date	Gross IRR Since Inception	Net IRR Since Inception
Funds							
PRECap I	2011	UK & Germany	£492.0m	16 / 17	119%	13.0%	10.9%
PRECap IV	2013	UK & Germany	£698.6m	14 / 23	98%	12.8%	10.6%
PRECap VI	2015	UK & Europe	£1,017.0m	7 / 31	48%	17.7%	14.5%
Managed Accounts							
PRECap II	2012	Spain	€130.0m	2 / 3	65%	10.9%	9.7%
PRECap III	2012	UK & Ireland	£225.5m	4 / 5	113%	7.8%	6.3%
PRECap V	2013	Benelux	€265.0m	3 / 4	110%	9.3%	7.9%

PRECap Series £ Committed



PRECap Series # Investments Committed/Realized



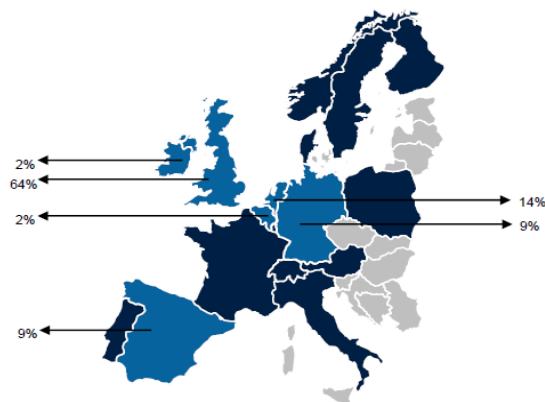
Past performance is not a guarantee or a reliable indicator of future results. Target Returns are not guaranteed. Returns are as at Q1, 2019

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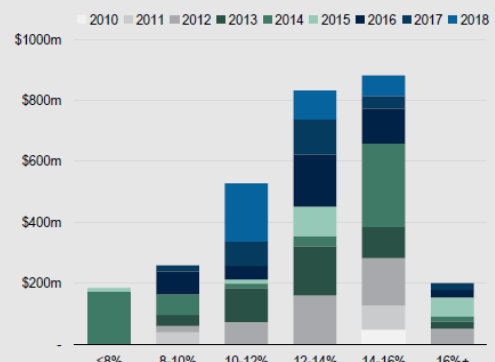
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PRECap Investments by Jurisdiction & Return Profile

Sum of Underlying Real Estate Value



Returns Dispersion by \$ Investments Closed



As at March 31, 2019 (PRECap I – VI)

PGIM Real Estate | PRECap VII Investor Presentation | June 2019 | REF: 19AODIS-BDAKKA

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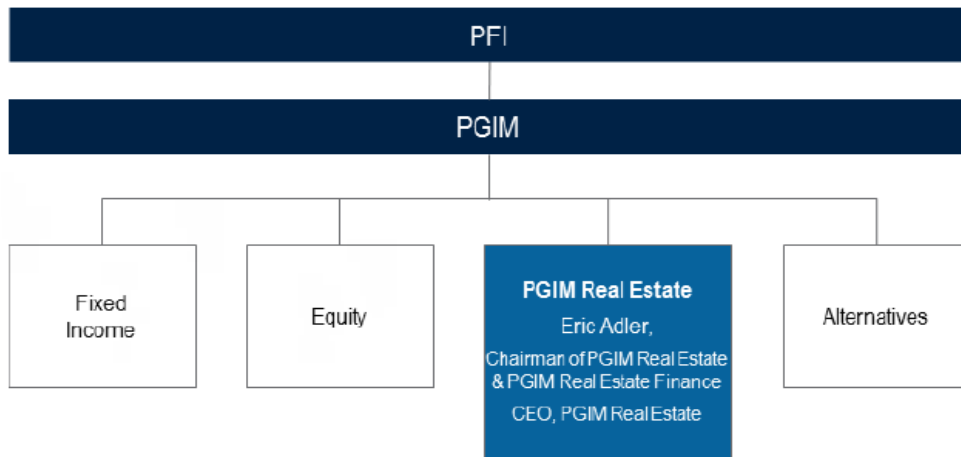
EXHIBIT B: Pipeline (as at July 2019)



PRECap VI Portfolio -2019 Pipeline

Investment	Sponsor	Investment Type	PRECap Investment	Real Estate Value	Lower LTV	Upper LTV	U/W IRR	Estimated Closing Date
Germaniastrasse, Berlin	Signature Capital	Office Investment	£12,000,000	£25,000,000	45%	80%	12%	Q1, 2019 – closed
Berlin Office (confidential)	Cording Capital	Office Investment	£70,000,000	£215,000,000	50%	85%	12%	Q2, 2019 – closed
Bochum Office, Germany	Signature Capital	Office Investment	£26,000,000	£56,000,000	50%	85%	12%	Q2, 2019 – closed
Student Portfolio, UK	CA	Student Accommodation	£50,000,000	£110,000,000	40%	80%	12%	Q3, 2019 – IC approved
Creil, France	Marcol	Industrial Investment	£36,000,000	£40,000,000	0%	85%	12%	Q3, 2019 – IC approved
Industrial Portfolio, Dublin	CORE	Industrial Investment	£40,000,000	£90,000,000	40%	85%	12%	Q3, 2019 – IC approved
Arrow Portfolio, Berlin	Signature Capital	Office Investment	£100,000,000	£255,000,000	50%	85%	12%	Q3, 2019 – IC pending
			£334,000,000	£791,000,000				
Vita Barcelona, Spain	Select Property	Student Accommodation	£40,000,000	£65,000,000	0%	60%	15%	Q3, 2019 – terms agreed
Southbank, UK	Allied London	Office Investment	£160,000,000	£250,000,000	0%	85%	14%	Q3, 2019 – in negotiation
UK Logistics Park	Confidential	Industrial Development	£28,000,000	£56,000,000	0%	50%	10%	Q2, 2019– in negotiation
Thames Enterprise Park, UK	Marcol	Industrial Development	£27,000,000	£50,000,000	0%	55%	12%	Q2, 2019– in negotiation
Multifamily, UK	Select Property	Residential Development	£30,000,000	£45,000,000	0%	70%	14%	Q3, 2019– in negotiation
Gateshead Logistics, UK	Highgrove Group	Industrial Development	£12,000,000	£20,000,000	0%	60%	13%	Q3, 2019– in negotiation
Mixed Use UK Portfolio	EPIC Investments	Office/Industrial	£26,000,000	£135,000,000	65%	85%	11%	Q3, 2019 – terms agreed
ExtraCare UK	Ashbourne Property	Senior Living	£60,000,000	£100,000,000	0%	60%	13%	Q3, 2019– in negotiation
			£717,000,000	£1,512,000,000				

EXHIBIT C: Organizational Charts



Prudential Financial, Inc. (“PFI”)

- 140+ years of managing assets
- \$1.4 trillion+ of AUM
- ‘A’ rated (long term)¹ by Standard & Poor’s



PGIM, Inc. (“PGIM”)

- Global Asset Manager with \$1.2 trillion of AUM
- Top 10 Worldwide Institutional Money Manager¹
- \$169 billion real estate debt, equity and securities under management and administration

<p>PGIM FIXED INCOME</p> <p>A leading provider of global fixed income solutions</p> <p>ASSETS \$716 Billion</p>	<p>PGIM REAL ESTATE</p> <p>A global manager of real estate equity, debt and securities</p> <p>ASSETS \$73 Billion</p>	<p>PGIM REAL ESTATE FINANCE</p> <p>Commercial, multifamily & agricultural mortgage finance</p> <p>ASSETS² \$96 Billion</p>	<p>PRICOA CAPITAL GROUP</p> <p>A leading manager of private fixed income portfolios</p> <p>ASSETS \$81 Billion</p>
<p>PGIM GLOBAL PARTNERS</p> <p>An operator of asset management companies outside the U.S.</p> <p>ASSETS \$102 Billion</p>	<p>JENNISON ASSOCIATES</p> <p>A leading fundamental active equity and fixed income manager</p> <p>ASSETS \$176 Billion</p>	<p>QMA a PFI company</p> <p>A pioneer of quantitative investing-equity & global multi-asset</p> <p>ASSETS \$126 Billion</p>	<p>PGIM INVESTMENTS</p> <p>Offers a broad range of funds to meet long term needs of investors</p> <p>ASSETS \$106 Billion</p>

As of March 31, 2019. ¹Pensions & Investments' Top Money Managers list, May 2018; based on PFI total worldwide institutional assets under management as of 31st December 2017. PGIM is the trading name for the global investment management businesses of Prudential Financial, Inc. (PFI) of the United States. PFI of the United States is not affiliated in any manner with Prudential plc, a company incorporated in the United Kingdom. ²Assets are reported Gross. PGIM Real Estate Finance Assets include Assets Under Administration



PRECap – Multi-Disciplinary Investment Team

Portfolio Management



Andrew Radkiewicz
Managing Director
 RE Experience: 28
 Years with firm: 10



Andrew Macland
Managing Director
 RE Experience: 26
 Years with firm: 10



Mathew Crowther
Managing Director
 RE Experience: 19
 Years with firm: 10



Mary Hamilton
Managing Director
 RE Experience: 18
 Years with Firm: 7

Originations



Bryan McDonnell
Managing Director
Originations
 RE Experience: 17
 Years with firm: 12



Duncan Pearson
Executive Director
Originations
 RE Experience: 22
 Years with firm: 7



Emma Jack
Executive Director
Originations
 RE Experience: 13
 Years with firm: 1



Aaron Knight
Executive Director
Originations
 RE Experience: 15
 Years with firm: 6



David Gingell
Executive Director
Originations
 RE Experience: 12
 Years with firm: 7



Nicholas Kilbey
Executive Director
Originations
 RE Experience: 12
 Years with firm: 7



Kasimir zu Eltz
Vice President
Originations
 RE Experience: 16
 Years with Firm: 5



Peter Flynn
Executive Director
Originations
 RE Experience: 20
 Years with firm: 8



Matthew Borelli
Assistant Vice President
Originations
 RE Experience: 8
 Years with Firm: 5



Jesse Bostwick
Vice President
Originations
 RE Experience: 11
 Years with firm: 5

Transactions & Asset Management



Oliver Smith
Senior Asset Manager
 RE Experience: 10
 Years with firm: 6



Bob Gayford
Senior Consultant
Transactions
 RE Experience: 32
 Years with firm: 6



James Day
Investment Professional
Equity AM
 RE Experience: 3
 Years with Firm: 1



Christopher Rollinson
Investment Professional
Professional
 RE Experience: 4
 Years with Firm: 1



Andrew Hooker
Investment Professional
 RE Experience: 3
 Years with Firm: 3



Ge Xu
Investment Professional
 RE Experience: 7
 Years with Firm: 5



Sarah Bowler
Investment Professional
 RE Experience: 5
 Years with Firm: 2



Phil Jacobs
Executive Director
Equity AM
 RE Experience: 22
 Years with firm: 6



Duncan Holmes
Vice President
Equity AM
 RE Experience: 18
 Years with firm: 3



Helen Beaton
Vice President
Equity Asset Mgmt.
 RE Experience: 20+
 Years with firm: 3

Strategy, Research & Operations



James Mathias
Executive Director
Global Debt Strategy
 RE Experience: 15
 Years with firm: 11



Greg Kane
Executive Director
Investment Research
 RE Experience: 13
 Years with firm: 11



Florian Richter
Assistant Vice President
Investment Research
 RE Experience: 5
 Years with firm: 5



Matthew Huen
Analyst
Investment Research
 RE Experience: 1
 Years with firm: 1



Nicky James
Administration
 RE Experience: 20
 Years with firm: 4



Leroy Mattis
Executive Director
Fund Operations
 RE Experience: 17
 Years with firm: 4



Karen Ayles
Manager
Operations
 RE Experience: 24
 Years with firm: 24



Maria Reidy
Associate
Operations
 RE Experience: 15
 Years with firm: 5



Ewa Chojnacka
Investor Services
 RE Experience: 13
 Years with firm: 13



Sophie Lee
Administration
 RE Experience: 3
 Years with firm: 3

EXHIBIT D: Biographies

PRECap Portfolio Management Team

Andrew Radkiewicz, Managing Director - Global Head of Debt Strategies (also member of EIC)

Andrew Radkiewicz is a managing director at PGIM Real Estate and global head of Private Debt Strategy and Investor Solutions. Based in London, Andrew is responsible for developing and implementing real estate debt fund product architecture and strategic solutions for global investors. He also has oversight for PGIM Real Estate's global banking relationships. Andrew is a member of the Global Management Council and Investment Committee, and the Global Operating Risk Committee. Previously, Andrew was co-head of Europe where he was responsible for PGIM Real Estate's European businesses. In 2007, Andrew co-founded the boutique fund manager Paramount Private Equity, which was subsequently absorbed by PGIM Real Estate in 2009 to form the Pramerica Real Estate Capital (PRECap) platform. Prior to founding Paramount Private Equity, Andrew spent 13 years at N M Rothschild in London, most recently as managing director of Real Estate Finance and Debt Capital Markets. Earlier, he worked for Credit Lyonnais and Lloyds. Andrew has a bachelor's degree in economics from Warwick University.

Andrew Macland, Managing Director - Head of European Debt (also member of EIC)

Andrew Macland is a managing director at PGIM Real Estate and head of the European Debt business. Based in London, Andrew serves on PGIM Real Estate's European Executive Council and European Investment Committee and is senior portfolio manager for the PRECap series of funds, with responsibility for investments and capital raising, property recoveries and restructuring. Previously, Andrew co-founded the boutique fund manager Paramount Private Equity, which was subsequently absorbed by PGIM Real Estate in 2009. Prior to this, Andrew held senior investment banking positions at Rothschild, AIBC and CCF Charterhouse. Andrew started his career as a surveyor, specialising in development and construction prior to joining HSBC Specialist Investments where he was responsible for the sourcing and execution of residential and commercial projects in central London. Andrew has a degree in real estate investment and land management and is a qualified Member of the Royal Institution of Chartered Surveyors (MRICS).

Mathew Crowther, Managing Director

Mathew Crowther is a managing director at PGIM Real Estate. Based in London in the European Real Estate group, Mathew is senior portfolio manager for real estate debt strategies including the PRECap series of debt funds. Mathew joined PGIM Real Estate in 2009 to establish one of the first non-bank real estate debt platforms in Europe. The PRECap platform has funded residential and commercial schemes (including development) in the UK (both London and the regions) in addition to Germany, Spain, Ireland, Netherlands and Belgium. Prior to joining PGIM Real Estate, Mathew was an assistant director in the Real Estate Finance group at investment bank NM Rothschild. Before Rothschild, Mathew was a senior lawyer with Clifford Chance's Structured Finance Group, structuring and documenting pan-European real estate financing for Deutsche Bank, Merrill Lynch and Rothschild. Mathew's real estate experience began in Australia where he worked for Australia's then largest law firm (Mallesons) specializing in the acquisition and sale of commercial office buildings and shopping centers for GE, Westfield and AMP.

Mary Hamilton, Managing Director

Mary Hamilton is a managing director at PGIM Real Estate. Based in London in the European Real Estate group, Mary is a portfolio manager for the PRECap series of debt funds responsible for investors and investments in the funds. Prior to joining PGIM Real Estate in August 2012, Mary has spent the last 16 years in real estate roles, which have included roles of head of Transactions at Kenmore Property Group and recently head of Transaction Management at Deutsche Hypothekbank. Within these roles, Mary was responsible for the structuring, execution and ongoing management of investment and development transactions both domestically and throughout Europe. Responsibilities have comprised all aspects of portfolio management together with lending senior and mezzanine debt, including origination, deal structuring, credit analysis with the management of cross-border debt and JV relationships within a property company.

Members of the European Investment Committee (EIC)***Len Kaplan (Chair), Managing Director – Global Chief Investment Risk Officer***

Len Kaplan, previously Head of Customized Investment Strategies (CIS), is the firm's Chief Investment Risk Officer (CIRO). Len has been with PFI for 27 years, with 22 years of real estate experience. He manages the Investment Risk Group and together with a team of regional chief underwriters administers and runs the Global and Regional Investment Committee processes as well as the regional allocation processes.

Raimondo Amabile, Managing Director - Head of Europe / Interim Head of UK & Ireland

Raimondo Amabile is a managing director at PGIM Real Estate and head of Europe / Interim head of UK & Ireland. Ray is responsible for the development and implementation of the strategy and oversight of PGIM Real Estate's businesses in Europe. He is a member of the Global Management Council, the Global Investment Committee, the European Executive Council, the Europe Investment Committee, and the Global Operating Risk Committee. Previously, Ray was co-head of Europe, and earlier was head of European Transactions for PGIM Real Estate. Before joining PGIM Real Estate, Ray was managing director and head of European business development for Tishman Speyer. Earlier, he led operations for Southern and Eastern Europe. Prior to Tishman, Ray was a founding partner at Realty Partners, an independent fund management firm in Italy. He also was a vice president at Morgan Stanley Real Estate and was a senior associate with GE Capital Real Estate's European acquisitions team. Ray has a bachelor's degree in civil engineering from the University of Naples and a Ph.D in real estate investment and finance from University of Padova.

Philip Barrett, , Managing Director - Global Head of Business and Investment Operations

Philip Barrett is a managing director at PGIM Real Estate and global head of business and investment operations. Based in London, Philip is responsible for the day-to-day management of fund operations, systems, finance, tax, operational and investment risk, valuations and compliance globally. Philip is a member of the Global, Europe and Asia Pacific Investment Committees as well as the Global Operating Council and Global Operating Risk Committee. Prior to his role as global head of business and investment operations, Philip was for four years the global chief investment risk officer, responsible for coordinating and leading the development of investment strategies and the management of the investment committees across PGIM Real Estate globally. He also had oversight of PGIM Real Estate's strategic capital held within all real estate funds. Prior to his role as global chief investment risk officer, Philip was for one year responsible for overseeing investment risk across Asia, the Middle East, and Europe. During this 5 year period PGIM Real Estate brought to Investment Committee around 550 transactions totally nearly \$40bn in 17 different countries in the globe. Previously, for over 13 years he was a member of and ultimately led PGIM Real Estate's European value-add and opportunity funds group. This group originated, arranged and invested over €1.8 billion in equity in value-added transactions across all sectors and 10 countries in Europe into €6 billion of assets. Philip joined PGIM Real Estate in May 1999. Prior to joining PGIM Real Estate, Philip spent nine years at Arthur Andersen. Philip received a bachelor's degree in economics with statistics from Bristol University. He is a Qualified Chartered Accountant and holds the Investment Management Certificate from the UK Society of Investment Professionals.

Jocelyn De Verdalon, Managing Director - Head of France, Spain and Portugal

Jocelyn de Verdalon is a managing director at PGIM Real Estate and head of France, Spain and Portugal. Based in Paris, Jocelyn is responsible for the strategic growth of the businesses in these countries. Jocelyn is a member of the European Investment Committee and serves on the European Executive Committee. Prior to joining PGIM Real Estate in 2013, Jocelyn was office investments director at Altarea-Cogedim Group in Paris, responsible for the sourcing and execution of all acquisitions, focusing on value-add and opportunistic deals, as well as playing a key role in the fundraising, development and asset management activities at the company. He was also a member of the Altarea-Cogedim Executive Management Committee. Earlier, Jocelyn spent three years at Entreprise Minière et Chimique, as special advisor to the chief executive officer, working on the company's privatisation and asset disposal programme. Jocelyn holds a graduate business degree from HEC Business School in France. He also holds a graduate degree from the Institut d'Etudes Politiques in Paris. He speaks French, English, and Spanish fluently.

Sebastiano Ferrante, , Managing Director - Head of Germany and Italy

Sebastiano Ferrante is managing director at PGIM Real Estate and head of Germany and Italy. Based in Frankfurt, Sebastiano is responsible for a global platform of specialized products for German investors and the strategic growth of the business in Italy. He is also a senior portfolio manager of PGIM Real Estate's European Value Partners Fund. Sebastiano is a member of the European Investment Committee and serves on the European Executive committee. Prior to joining PGIM Real Estate in 2013, Sebastiano was co-head of Germany at Tishman Speyer, responsible for leading the properties operational platform, which comprised property management, asset management, leasing and construction management services for the fund entities. Earlier, he was a co-founder of Lang & Cie. Real Estate AG, a Frankfurt based Commercial Real Estate Developer and Investment Management Boutique. Between 2002 and 2006, Sebastiano was associate director at Deka Immobilien Investment where he was team leader of the Investment Department, Europe. Sebastiano holds a diploma in psychology from Goethe Universität in Frankfurt / Main and is a graduate in Real Estate Economics ("Immobilienökonom") at EBS Oestrich- Winkel.

Greg Kane, Executive Director - Head of European Investment Research

Greg Kane is an executive director at PGIM Real Estate and head of European Investment Research. Based in London, Greg is responsible for leading the European Investment Research team in providing strategic guidance and support to transactions, portfolio and asset management functions of the regional and global businesses. Greg is a member of the European Investment Committee. Greg joined the European Investment Research team in 2008. Prior to joining PGIM Real Estate, Greg was a research analyst at DTZ Research (now Cushman & Wakefield). Greg has a bachelor's degree, with honours, in economics from the University of Bath and a master's degree in economics from the University of Warwick.

EXHIBIT E: Fund Structure Chart

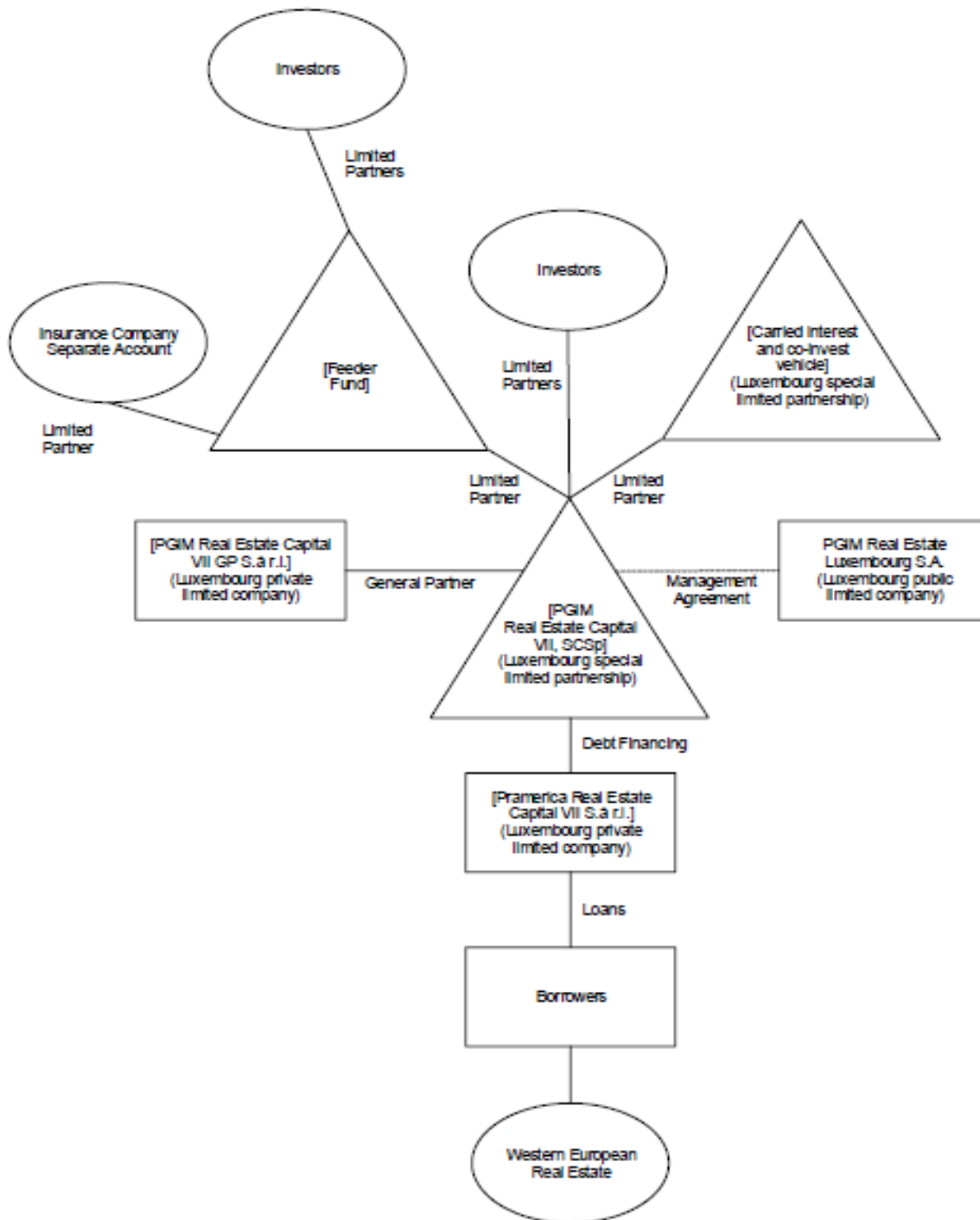


EXHIBIT F: Deal-by-Deal Track Record (as at December 31, 2018)

Deal Level Information												Projected Returns		Fair Market Value Returns		Sourcing Professional	
Investment	Fund	Deal Descriptor / Business Plan	Partner	Property Type	Location	Acquisition Date	Sale Date or Modeled Sale Date	Total Transaction Size	Total Equity	Fund Equity	Realized Proceeds to Fund Equity	Realized Proceeds & Projected Proceeds to Fund Equity	Gross Equity Multiple	Gross IRR	Gross Equity Multiple		Gross IRR
REALIZED INVESTMENTS																	
Drapers Gardens	PRECap1	Mezzanine / High Yield	London	Office	UK	03/11/2010	24/05/2012	242,500,000	36,375,000	36,375,000	45,877,249	45,877,249			1.26x	17.4%	Andrew Macland
Hotspur Portfolio	PRECap1	Mezzanine / High Yield	Various	Diversified	UK	22/06/2011	01/04/2015	13,395,000	4,251,800	4,251,800	6,191,117	6,191,117			1.46x	14.7%	Andrew Macland
Neumarkt Galerie	PRECap1	Mezzanine / High Yield	Cologne	Retail	Germany	31/08/2011	23/09/2014	148,392,857	55,522,292	55,522,292	78,731,034	78,731,034			1.42x	14.5%	Andrew Macland
The Mailbox	PRECap1	Mezzanine / High Yield	Birmingham	Diversified	UK	27/09/2011	24/03/2017	127,100,000	30,000,000	30,000,000	41,927,464	41,927,464			1.40x	9.2%	Mathew Crowther
Solihull	PRECap1	Whole Loan	Solihull	Leisure	UK	17/01/2012	01/03/2014	4,200,000	2,000,000	2,000,000	2,534,378	2,534,378			1.27x	19.2%	Andrew Macland
123 Buckingham Palace Road	PRECap1	Mezzanine / High Yield	London	Office	UK	27/01/2012	17/11/2014	173,000,000	28,600,000	28,600,000	36,409,462	36,409,462			1.27x	10.3%	Andrew Macland
Braintree	PRECap1	Mezzanine / High Yield	Essex	Retail	UK	08/02/2012	01/11/2013	95,760,000	38,742,744	38,742,744	40,876,738	40,876,738			1.06x	3.3%	Andrew Macland
Brompton Cross	PRECap1	Mezzanine / High Yield	London	Retail	UK	27/04/2012	14/11/2014	30,445,000	12,041,550	12,041,550	16,433,297	16,433,297			1.36x	19.5%	Andrew Macland
Trionon Tower	PRECap1	Mezzanine / High Yield	Frankfurt	Office	Germany	03/05/2012	15/07/2015	410,714,286	28,411,397	28,411,397	40,739,519	40,739,519			1.43x	12.2%	Andrew Macland
Hammersmith Grove	PRECap1	Mezzanine / High Yield	London	Office	UK	18/05/2012	01/05/2015	70,000,000	20,811,000	20,811,000	33,861,801	33,861,801			1.63x	21.4%	Andrew Macland
Ingobstadt Village	PRECap1	Mezzanine / High Yield	Ingobstadt	Retail	Germany	19/06/2012	14/07/2016	153,303,571	24,201,355	24,201,355	34,465,873	34,465,873			1.42x	10.4%	Mathew Crowther
Virtus Enfield	PRECap1	Mezzanine / High Yield	London	Industrial	UK	11/07/2012	13/08/2014	43,300,000	12,238,563	12,238,563	15,894,241	15,894,241			1.30x	19.2%	Andrew Macland
Galahad Portfolio	PRECap1	Mezzanine / High Yield	Various	Industrial	UK	31/07/2012	29/08/2014	88,725,000	15,575,000	15,575,000	18,586,451	18,586,451			1.19x	10.1%	Andrew Macland
Dolphin Square	PRECap1	Mezzanine / High Yield	London	Residential	UK	14/12/2012	31/03/2015	386,000,000	75,000,000	75,000,000	104,344,334	104,344,334			1.39x	17.0%	Andrew Macland
Spinningfields	PRECap1	Whole Loan	Manchester	Mixed Use	UK	10/12/2012	01/03/2016	47,320,000	36,318,183	36,318,183	48,280,909	48,280,909			1.33x	27.1%	Mathew Crowther
La Rozas Village	PRECap2	Mezzanine / High Yield	Madrid	Retail	Spain	31/03/2014	01/02/2017	240,000,000	25,000,000	25,000,000	30,755,554	30,755,554			1.23x	8.7%	Mathew Crowther
La Roca Village	PRECap2	Mezzanine / High Yield	Barcelona	Retail	Spain	28/02/2012	12/02/2015	226,500,000	40,000,000	40,000,000	54,847,432	54,847,432			1.37x	13.1%	Mathew Crowther
Dollar Portfolio	PRECap3	Mezzanine / High Yield	Various	Retail	UK	07/03/2013	Unrealised	250,000,000	50,500,000	50,500,000	56,183,272	56,183,272			1.11x	4.9%	Duncan Pearson
Sainsbury's Distribution Centre	PRECap3	Mezzanine / High Yield	Haydock	Industrial	UK	18/06/2013	03/01/2018	51,300,000	11,475,000	11,475,000	15,634,294	15,634,294			1.36x	7.8%	Duncan Pearson
UK Retail Warehouse Portfolio	PRECap3	Mezzanine / High Yield	Various	Retail	UK	27/08/2013	15/07/2014	119,060,000	16,000,000	16,000,000	17,811,068	17,811,068			1.11x	11.8%	Mathew Crowther
New Oxford Street	PRECap3	Mezzanine / High Yield	London	Office	UK	19/12/2014	01/12/2015	133,000,000	30,000,000	30,000,000	33,600,026	33,600,026			1.12x	12.1%	Mathew Crowther
Kildare Village	PRECap3	Mezzanine / High Yield	Kildare	Retail	Ireland	15/10/2014	01/08/2017	129,464,286	17,742,601	17,742,601	21,425,238	21,425,238			1.21x	8.3%	Mathew Crowther
Soho Square	PRECap4	Development Lending	London	Residential	UK	21/06/2013	20/12/2016	14,650,000	11,696,664	11,696,664	14,306,804	14,306,804			1.22x	11.0%	Mary Hamilton
Oxford Street	PRECap4	Mezzanine / High Yield	London	Retail	UK	27/09/2013	01/06/2016	146,000,000	137,354,540	137,354,540	185,520,788	185,520,788			1.35x	26.2%	Andrew Macland
Royal Exchange Portfolio	PRECap4	Mezzanine / High Yield	London	Office	UK	04/10/2013	01/08/2016	255,000,000	92,646,465	92,646,465	132,131,956	132,131,956			1.43x	22.2%	Andrew Macland
91 Cavendish Street	PRECap4	Development Lending	London	Residential	UK	29/11/2013	01/07/2017	27,940,000	22,817,326	22,817,326	26,465,935	26,465,935			1.16x	6.6%	Mary Hamilton
Hill Street	PRECap4	Mezzanine / High Yield	London	Residential	UK	22/11/2013	30/10/2015	87,635,403	57,546,569	57,546,569	73,489,680	74,471,026			1.29x	23.9%	Mary Hamilton
UK Industrial Portfolio (First Alliance)	PRECap4	Mezzanine / High Yield	Various	Industrial	UK	19/12/2013	01/10/2015	50,110,000	42,700,000	42,700,000	52,399,926	52,399,926			1.23x	19.4%	Andrew Macland
Crownhill & Peterborough Industrial Parks	PRECap4	Whole Loan	Various	Industrial	UK	20/03/2014	01/03/2017	13,740,000	11,704,773	11,704,773	15,035,021	15,035,021			1.28x	10.7%	Mary Hamilton
Old Spitalfields Market (OSM)	PRECap4	Mezzanine / High Yield	London	Retail	UK	01/07/2014	09/03/2016	115,000,000	20,000,000	20,000,000	23,451,685	23,451,685			1.17x	16.7%	Andrew Macland
John Lewis, Chelmsford	PRECap4	Development Lending	Chelmsford	Retail	UK	19/11/2014	01/10/2017	119,000,000	31,267,467	31,267,467	42,809,978	42,809,978			1.37x	13.3%	Peter Flynn
Hydro, Logistics Portfolio	PRECap4	Mezzanine / High Yield	Various	Industrial	UK	18/02/2015	17/02/2017	69,965,000	10,650,000	10,650,000	12,963,347	12,963,347			1.22x	11.5%	Duncan Pearson
Sloane Avenue	PRECap4	Mezzanine / High Yield	London	Retail	UK	25/02/2015	01/05/2018	94,380,000	48,842,918	48,842,918	66,065,346	66,065,346			1.35x	12.6%	Andrew Macland
No.1 Spinningfields	PRECap4	Development Lending	Manchester	Office	UK	23/03/2015	26/10/2017	123,450,000	55,363,769	55,363,769	68,484,807	69,425,546			1.25x	17.7%	Mathew Crowther
Hamburg, Billstedt Center	PRECap4	Mezzanine / High Yield	Hamburg	Retail	Germany	28/02/2014	20/12/2018	33,035,714	21,459,220	21,459,220	32,009,252	32,009,252			1.49x	19.3%	Andrew Macland
B1 Berlin	PRECap4	Mezzanine / High Yield	Berlin	Retail	Germany	11/03/2016	20/12/2018	25,803,571	4,050,702	4,050,702	5,637,788	5,637,788			1.39x	15.5%	Peter Flynn
IEF Capital Berlage	PRECap5	Mezzanine / High Yield	Various	Retail	Netherlands	06/08/2014	01/11/2017	1,519,790,000	100,075,833	100,075,833	124,752,924	124,752,924			1.25x	8.9%	Andrew Radkiewicz
The Docks Brussel	PRECap5	Development Lending	Brussels	Retail	Belgium	27/04/2015	20/10/2016	259,290,000	40,000,000	40,000,000	46,461,137	46,461,137			1.16x	14.3%	Nick Kilbey
IEF Oost	PRECap5	Mezzanine / High Yield	Various	Retail	Netherlands	01/04/2015	01/10/2017	111,080,000	10,000,000	10,000,000	11,564,910	11,564,910			1.16x	8.9%	Nick Kilbey
Old Spitalfields Market	PRECap6	Mezzanine / High Yield	London	Retail	UK	09/03/2016	15/11/2017	171,000,000	40,000,000	40,000,000	50,400,000	50,400,000			1.26x	15.0%	Nick Kilbey
Studio 16	PRECap6	Mezzanine / High Yield	Berlin	Office	Germany	23/03/2016	01/03/2018	40,446,429	7,920,165	7,920,165	12,020,428	12,020,428			1.52x	23.2%	Peter Flynn
Vita Student	PRECap6	Development Lending	Various	Student Housing	UK	09/06/2016	09/03/2018	224,820,000	49,000,000	49,000,000	72,932,533	72,932,533			1.49x	26.7%	Duncan Pearson
Royal Exchange	PRECap6	Mezzanine / High Yield	London	Office	UK	16/08/2016	01/10/2018	131,245,000	51,935,248	51,935,248	59,174,431	59,174,431			1.14x	9.5%	Andrew Macland
Vita Southampton	PRECap6	Development Lending	Southampton	Student Housing	UK	28/10/2016	01/10/2017	14,750,000	10,304,965	10,304,965	12,005,862	12,005,862			1.17x	22.7%	Duncan Pearson
Montreal	PRECap6	Development Lending	Various	Student Housing	UK	25/08/2017	01/12/2018	164,555,000	23,549,001	23,549,001	26,899,670	26,899,670			1.14x	27.6%	Nick Kilbey
Vita Rocket VWL	PRECap6	Development Lending	Various	Student Housing	UK	25/04/2018	01/10/2018	231,190,000	7,000,000	7,000,000	7,419,178	7,419,178			1.06x	12.4%	Duncan Pearson
Subtotal								7,227,356,117	1,518,692,109	1,518,692,109	1,969,814,137	1,971,736,222					

Deal Level Information													Projected Returns		Fair Market Value Returns		Sourcing Professional
Investment	Fund	Deal Descriptor / Business Plan	Partner	Property Type	Location	Acquisition Date	Sale Date or Modeled Sale Date	Total Transaction Size	Total Equity	Fund Equity	Realized Proceeds to Fund Equity	Realized Proceeds & Projected Proceeds to Fund Equity	Gross Equity Multiple	Gross IRR	Gross Equity Multiple	Gross IRR	
PARTIALLY REALIZED / UNREALIZED INVESTMENTS																	
Clarence Dock	PRECap1	Mezzanine / High Yield	Leeds	Diversified	UK	25/01/2012	Unrealised	26,480,000	16,250,455	16,250,455	13,226,907	19,926,907	1.23x	7.0%	1.23x	7.3%	Mathew Crowther
ITV	PRECap1	Whole Loan	Manchester	Mixed Use	UK	15/07/2013	Unrealised	63,600,000	49,455,688	49,455,688	14,576,979	60,676,979	1.25x	7.0%	1.23x	7.7%	Mathew Crowther
La Roca Village (2016)	PRECap2	Mezzanine / High Yield	Barcelona	Retail	Spain	09/12/2016	Unrealised	489,900,000	65,000,000	65,000,000	10,867,778	75,867,778	1.40x	8.4%	1.17x	9.5%	Mathew Crowther
Shepherds Bush Market	PRECap4	Whole Loan	London	Residential	UK	24/02/2014	Unrealised	54,500,000	33,724,393	33,724,393	6,001,647	28,501,647	0.85x	-3.8%	0.85x	-3.8%	Mary Hamilton
Brompton Cross Estate	PRECap4	Mezzanine / High Yield	London	Retail	UK	24/03/2014	Unrealised	119,000,000	82,980,598	82,980,598	71,300,310	113,144,199	1.30x	12.0%	1.36x	12.4%	Andrew MacLaud
Beverley (Wykeland Group)	PRECap4	Development Lending	Beverley	Retail	UK	25/07/2014	Unrealised	64,000,000	47,092,972	47,092,972	5,730,934	35,185,604	0.60x	-11.3%	0.75x	-11.3%	Mary Hamilton
Harrow, Bradstowe House	PRECap4	Mezzanine / High Yield	London	Residential	UK	26/11/2014	Unrealised	80,426,750	54,776,424	54,776,424	16,912,772	54,731,440	1.30x	10.0%	1.00x	0.0%	Mary Hamilton
Thor	PRECap4	Mezzanine / High Yield	London	Retail	UK	08/04/2015	Unrealised	42,500,000	10,625,000	10,625,000	909,886	16,394,130	1.80x	13.0%	1.54x	13.9%	Peter Flynn
Pompey	PRECap4	Mezzanine / High Yield	Portsmouth	Retail	UK	19/06/2015	Unrealised	70,600,000	14,720,000	14,720,000	4,362,062	21,049,300	1.00x	0.0%	1.43x	12.3%	Duncan Pearson
Heliport House	PRECap4	Whole Loan	London	Residential	UK	14/10/2015	Unrealised	15,000,000	12,662,422	12,662,422	233,750	5,983,750	0.50x	-13.5%	0.47x	-13.5%	Andrew MacLaud
Lea Valley	PRECap4	Mezzanine / High Yield	Lea Valley	Industrial	UK	15/01/2016	Unrealised	90,875,000	29,000,000	29,000,000	10,469,892	40,484,204	1.60x	13.0%	1.40x	15.1%	Nick Kilbey
Langney	PRECap4	Mezzanine / High Yield	Eastbourne	Retail	UK	11/03/2016	Unrealised	28,800,000	18,560,433	18,560,433	12,683,349	16,455,900	1.20x	10.0%	0.89x	0.0%	Mary Hamilton
Blackstone Dutch Grocery	PRECap5	Mezzanine / High Yield	Various	Retail	Netherlands	12/12/2014	Unrealised	214,920,000	22,200,000	22,200,000	10,542,996	27,583,662	1.30x	7.0%	1.24x	7.4%	Mathew Crowther
50 Berkeley Square	PRECap6	Whole Loan	London	Residential	UK	15/03/2016	Unrealised	28,000,000	16,014,352	16,014,352	385,970	21,530,994	1.30x	10.0%	1.34x	11.6%	Nick Kilbey
Fire Station	PRECap6	Mezzanine / High Yield	Manchester	Diversified	UK	04/03/2016	Unrealised	54,000,000	20,459,916	20,459,916	3,147,907	26,054,822	1.30x	10.0%	1.27x	11.6%	Mathew Crowther
Castlefield	PRECap6	Mezzanine / High Yield	Manchester	Office	UK	22/04/2016	Unrealised	6,200,000	5,200,000	5,200,000	-	6,505,420	1.30x	10.0%	1.25x	9.4%	Mathew Crowther
Accrue Forum	PRECap6	Mezzanine / High Yield	Various	Diversified	UK	17/06/2016	Unrealised	18,805,000	17,925,000	17,925,000	12,099,562	18,002,938	1.30x	10.0%	1.00x	0.3%	Peter Flynn
Passau	PRECap6	Mezzanine / High Yield	Passau	Retail	Germany	22/07/2016	Unrealised	22,678,571	16,132,052	16,132,052	9,819,073	20,540,397	1.30x	10.5%	1.27x	12.3%	Peter Flynn
Clabon	PRECap6	Mezzanine / High Yield	London	Retail	UK	05/10/2016	Unrealised	81,850,000	19,000,000	19,000,000	2,857,268	24,751,607	1.30x	13.0%	1.30x	15.2%	Nick Kilbey
Vita First Street	PRECap6	Mezzanine / High Yield	Manchester	Student Housing	UK	19/05/2017	Unrealised	41,250,000	17,500,000	17,500,000	3,454,452	22,055,041	1.40x	12.0%	1.26x	18.2%	Duncan Pearson
Aten	PRECap6	Whole Loan	Madrid	Diversified	Spain	26/07/2017	Unrealised	6,199,875	4,008,828	4,008,828	3,597,083	4,783,301	1.15x	15.0%	1.19x	16.9%	Mathew Crowther
Astley Byrom House	PRECap6	Mezzanine / High Yield	Manchester	Office	UK	07/06/2017	Unrealised	47,000,000	23,679,977	23,679,977	7,171,800	26,608,080	1.30x	16.0%	1.12x	16.7%	Mathew Crowther
Accrue Swan	PRECap6	Mezzanine / High Yield	Various	Industrial	UK	12/07/2017	Unrealised	48,565,000	42,970,000	42,970,000	32,356,892	45,061,618	1.40x	14.0%	1.05x	5.7%	Peter Flynn
Chelmsford	PRECap6	Mezzanine / High Yield	Chelmsford	Retail	UK	20/10/2017	Unrealised	236,100,000	16,000,000	16,000,000	2,753,514	18,167,999	1.40x	11.0%	1.14x	14.6%	Peter Flynn
Hyatt Regency	PRECap6	Mezzanine / High Yield	Amsterdam	Hotels	Netherlands	05/10/2017	Unrealised	89,285,714	14,978,013	14,978,013	187,594	17,116,893	1.40x	9.0%	1.14x	14.4%	Nick Kilbey
Hilton Stratford	PRECap6	Development Lending	London	Hotels	UK	09/11/2017	Unrealised	192,600,000	56,758,057	56,758,057	501,757	70,523,443	1.90x	13.0%	1.24x	28.3%	Andrew MacLaud
Dolphin Square	PRECap6	Mezzanine / High Yield	London	Residential	UK	07/12/2017	Unrealised	850,000,000	20,000,000	20,000,000	2,019,863	22,312,713	1.60x	11.0%	1.12x	12.1%	Mary Hamilton
Vita Leeds	PRECap6	Development Lending	Leeds	Student Housing	UK	21/12/2017	Unrealised	53,480,000	12,163,191	12,163,191	166,332	15,188,851	1.60x	15.0%	1.25x	31.5%	Duncan Pearson
Vita Student Refi	PRECap6	Mezzanine / High Yield	Various	Student Housing	UK	12/03/2018	Unrealised	231,190,000	35,400,000	35,400,000	2,763,140	37,737,241	1.45x	9.0%	1.07x	9.1%	Duncan Pearson
Suffolk Park	PRECap6	Development Lending	Suffolk	Industrial	UK	28/03/2018	Unrealised	32,825,000	19,545,106	19,545,106	215,000	22,484,001	1.30x	14.5%	1.15x	42.4%	Mary Hamilton
Panattoni Basildon	PRECap6	Development Lending	Basildon	Industrial	UK	08/05/2018	Unrealised	20,760,000	10,350,225	10,350,225	-	11,351,980	1.20x	11.0%	1.10x	22.6%	Mathew Crowther
Vita Atlas	PRECap6	Development Lending	Various	Student Housing	UK	08/06/2018	Unrealised	115,040,000	25,022,303	25,022,303	333,819	31,006,560	1.40x	15.5%	1.24x	58.7%	Duncan Pearson
Atotech	PRECap6	Mezzanine / High Yield	Berlin	Office	Germany	26/06/2018	Unrealised	48,392,857	13,210,104	13,210,104	108,274	16,335,568	1.40x	12.0%	1.24x	54.5%	Peter Flynn
Panattoni Luton	PRECap6	Development Lending	Luton	Industrial	UK	20/07/2018	Unrealised	81,890,000	47,703,526	47,703,526	-	51,033,253	1.20x	11.0%	1.07x	30.7%	Mathew Crowther
Berlin Vodafone	PRECap6	Mezzanine / High Yield	Berlin	Office	Germany	18/09/2018	Unrealised	39,196,429	18,075,511	18,075,511	109,659	18,185,692	1.30x	12.0%	1.01x	52.6%	Peter Flynn
Grace Portfolio	PRECap6	Mezzanine / High Yield	Various	Diversified	UK	26/10/2018	Unrealised	102,605,000	5,000,000	5,000,000	100,000	5,440,783	1.50x	12.5%	1.09x	1735.4%	Andrew MacLaud
Vita VVL 2	PRECap6	Mezzanine / High Yield	Various	Student Housing	UK	21/11/2018	Unrealised	485,960,000	30,000,000	30,000,000	300,000	30,692,585	1.40x	12.0%	1.02x	1820.2%	Duncan Pearson
Dortmund	PRECap6	Mezzanine / High Yield	Dortmund	Office	Germany	27/11/2018	Unrealised	19,375,000	5,679,369	5,679,369	27,093	5,707,041	1.80x	13.5%	1.00x	1291.8%	Peter Flynn
Vita Edinburgh	PRECap6	Whole Loan	Edinburgh	Student Housing	UK	20/12/2018	Unrealised	44,770,000	33,577,500	33,577,500	206,400	33,841,124	1.10x	13.0%	1.01x	1643.5%	Duncan Pearson
Subtotal								4,358,620,196	1,003,401,413	1,003,401,413	262,501,714	1,139,005,445					
TOTAL								11,585,976,314	2,522,093,522	2,522,093,522	2,232,315,851	3,110,741,667					

Professional Investors Only. All investments involve risk, including the possible loss of capital

Confidential Information. Not for further distribution.

(1) The information contained herein is provided at the request of Townsend

(2) Past performance is not a guarantee or a reliable indicator of future results.

Appendix

Rating Rationale

<i>Strategy</i>	PRECap VII is a continuation of PGIM’s UK and European junior debt and preferred capital fund series. PRECap VII seeks to build up a diverse junior debt and preferred capital portfolio primarily secured against office, retail, industrial and residential real estate assets located in major Western European markets, with a specific focus on the UK and Germany. The typical holding period for Fund investments is expected to range from three to five years. The Sponsor is targeting a fund raise of c.£1.5 billion, with no hard cap set. The Fund is targeting a gross IRR of 14% (net IRR of 12%) and a gross equity multiple of 1.5-1.6x (net equity multiple of 1.4-1.5x).
<i>Sponsor</i>	PGIM (the “Sponsor”) is the trading name of the global investment management business of Prudential Financial, Inc (“PFI”). PGIM Real Estate is a business unit of PGIM, Inc., an indirect subsidiary of PFI. PFI is a publicly traded (NYSE: PRU) company owned by its shareholders.
<i>Investment Process</i>	The investment process is regarded as robust and well established for originating, monitoring and reporting on the Fund’s investments. PGIM has a strong investment pipeline and has rigorous due diligence procedures for the approval of transactions.
<i>ESG Policy & Practices</i>	PGIM Real Estate believes that ESG factors can impact its clients’ portfolios over the long-term, within the context of the overall investment strategy. As such, PGIM Real Estate is committed to both following its current practices which reflect certain ESG criteria and considering how to best incorporate other evolving ESG issues into both its investment decision making process and its asset management practices. PGIM Real Estate will incorporate ESG initiatives in the investment strategy for this Fund. PGIM Real Estate participates in GRESB and is a signatory for the UN PRI.
<i>Fund Structure</i>	PRECap VII is structured as a Luxembourg domiciled entity. The structure is considered typical for a fund of this nature.
<i>Performance</i>	As seen in the performance section, PGIM’s discretionary funds in the PRECap series have been consistently delivering returns in the 11-15% net IRR range in line with the target returns. Although there is a very limited peer group of comparable funds in Europe, the PRECap track record holds up well against a global peer group of value add and opportunistic debt funds. When compared to European value add equity funds, absolute returns appear weaker but very consistent and with considerably lower risk profile and lower gross-to-net fee leakage.
<i>Operational Due Diligence</i>	A1 Pass
<i>Terms & Conditions</i>	PRECap VII terms and conditions are generally typical compared to peers except where notes in the body of this report. Fees at smaller commitment sizes are considered high but Aon and Townsend clients are not expected to be impacted due to the fee aggregation agreement with PGIM.
<i>Overall</i>	PGIM is a well-established commercial real estate lending platform in the UK and Europe with a strong track record over prior funds in the series. Further, PGIM has a high quality and stable team to execute the strategy which is reflected in the assessed Buy rating.

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 and targeted returns.

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.

Operational Due Diligence Rating Explanation

A1 Pass – No material operational concerns; firm’s operations largely align with a well-controlled environment.

A2 Pass – The firm’s operations largely align with a well-controlled environment, with limited exceptions.

Conditional Pass – AON identified specific operation concerns that the firm agreed to address in a reasonable time frame.

Fail – AON noted material operational concerns that introduce potential economic or reputational 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.

Disclaimer

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Memorandum

To: Arkansas Teacher Retirement System (“ATRS”)
From: Chae Hong
CC: PJ Kelly; Jack Dowd; Richard Ferguson
Date: September 28, 2020
Re: PGIM Real Estate Capital VII – \$40 million Commitment Recommendation

Background and Recommendation

PGIM is sponsoring PGIM Real Estate Capital VII (“PRECap VII” or the “Fund”) as a continuation of its junior debt and preferred capital fund series. The Sponsor is targeting a fund raise of £1.5 billion, with no hard cap set. The Fund is targeting a gross IRR of 14% (net IRR of 12%) and a gross equity multiple of 1.5-1.6x (net equity multiple of 1.4-1.5x). PRECap VII seeks to build up a diverse junior debt and preferred capital portfolio primarily secured against office, retail, industrial and residential real estate assets located in major Western European markets, with a specific focus on the UK and Germany.

AHIC 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 PGIM Real Estate Capital VII InDetail is attached for reference. We recommend that ATRS invest \$40 million in the USD denominated sleeve of the Fund to fulfill ATRS’ 2020 Value-Add real estate allocation, in accordance with the previously approved 2020 ATRS Real Asset Pacing Schedule.

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

**RESOLUTION
No. 2020-25**

**Approving Investment in PGIM Real Estate Capital
VII, SCSp**

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 **PGIM Real Estate Capital VII, SCSp**, a closed-end value add real estate fund specializing in junior and senior debt in the European real estate market.

THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **\$40 million dollars (\$40,000,000.00)** in **PGIM Real Estate Capital VII, SCSp**; 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 28th day of September, 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

Arkansas Teacher Retirement System Private Equity Portfolio Review

June 30, 2020

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Executive Summary

Portfolio Summary

Since establishing the private equity program in 1996, Arkansas Teacher Retirement System (“ATRS”) has committed approximately \$5.3 billion to 86 primary funds, 26 fund-of-funds, 1 co-investment fund, and 12 direct investments through June 30, 2020. Of the \$5.3 billion committed, 85% has been contributed, 101% of contributed capital has been returned, and a total value of 1.6 times contributed capital has been generated. ATRS’ portfolio has outperformed the Dow Jones U.S. Total Stock Market Index equivalent (“PME”) by 400 basis points since inception.

Investment Activity

For the six months ended June 30, 2020, ATRS made capital contributions of approximately \$261.8 million and received distributions of \$142.4 million, for net contributions of \$119.4 million.

Commitment Activity

Since January 1, 2020, ATRS closed on commitments totaling \$185.0 million to the following seven funds:

- Thoma Bravo Explore I (\$20.0 million)
- FP VC XIII (\$30.0 million)
- BV X (\$30.0 million)
- FP Intl X (\$30.0 million)
- Greyrock V (\$35.0 million)
- Thoma Bravo XIV (\$20.0 million)
- Thoma Bravo Discover III (\$20.0 million)

Further, ATRS has approved a \$30.0 million commitment to LLR VI and an additional \$30 million commitment to FP VC XIII, bringing total commitments to \$60 million. Both commitments remain pending.

Market Commentary

The COVID-19 pandemic continues to affect private capital markets, including fund manager operations, economic conditions, capital market activity, portfolio management, and fundraising. Predictably, measures put in place to contain the pandemic have slowed capital deployment and fundraising across private markets. As a result, purchase prices and leverage levels are showing signs of decline during 2020 after more than a decade of steady growth.

Franklin Park

September 21, 2020

Portfolio Overview

Portfolio Summary



Group	Num.	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	Remaining Value (%)	Exposure (\$)	DPI	TVPI	Net IRR
By Vehicle											
1996-2000: Legacy Portfolio	13	1,106,390,461	1,070,676,238	0	1,639,768,422	404,712	0.0%	404,712	1.5 x	1.5 x	9.2%
2005-2006: CSFB Portfolio	2	654,300,000	686,333,474	66,279,860	967,135,428	101,559,799	4.0%	167,839,659	1.4 x	1.6 x	8.6%
Post 2006 Fund Portfolio	98	3,043,323,718	2,242,441,743	1,124,618,061	1,806,290,063	1,770,896,473	68.9%	2,895,514,534	0.8 x	1.6 x	15.1%
Big River Steel	8	257,880,449	257,940,356	0	132,006,068	396,068,813	15.4%	396,068,813	0.5 x	2.0 x	21.7%
Blue Oak Arkansas	1	18,000,000	19,740,000	0	4,717,993	0	0.0%	0	0.2 x	0.2 x	-50.5%
Highland LLC	2	218,244,727	234,114,727	0	31,674,525	279,828,392	10.9%	279,828,392	0.1 x	1.3 x	28.6%
GTLA Holdings	1	20,000,000	20,000,000	0	0	20,000,000	0.8%	20,000,000	0.0 x	1.0 x	0.0%
Total	125	5,318,139,355	4,531,246,539	1,190,897,921	4,581,592,498	2,568,758,188	100.0%	3,759,656,110	1.0 x	1.6 x	10.9%
By Fund Type											
Co-Investment Fund	1	263,823,718	242,520,212	151,069,701	152,462,153	222,544,172	8.7%	373,613,873	0.6 x	1.5 x	16.0%
Fund-of-Funds	26	1,274,300,000	1,036,633,745	331,165,042	1,173,634,965	604,498,737	23.5%	935,663,779	1.1 x	1.7 x	10.9%
Operating Company	12	514,125,176	531,795,084	0	168,398,585	695,897,205	27.1%	695,897,205	0.3 x	1.6 x	20.2%
Primary Fund	86	3,265,890,461	2,720,297,499	708,663,178	3,087,096,795	1,045,818,075	40.7%	1,754,481,253	1.1 x	1.5 x	10.4%
Total	125	5,318,139,355	4,531,246,539	1,190,897,921	4,581,592,498	2,568,758,188	100.0%	3,759,656,110	1.0 x	1.6 x	10.9%

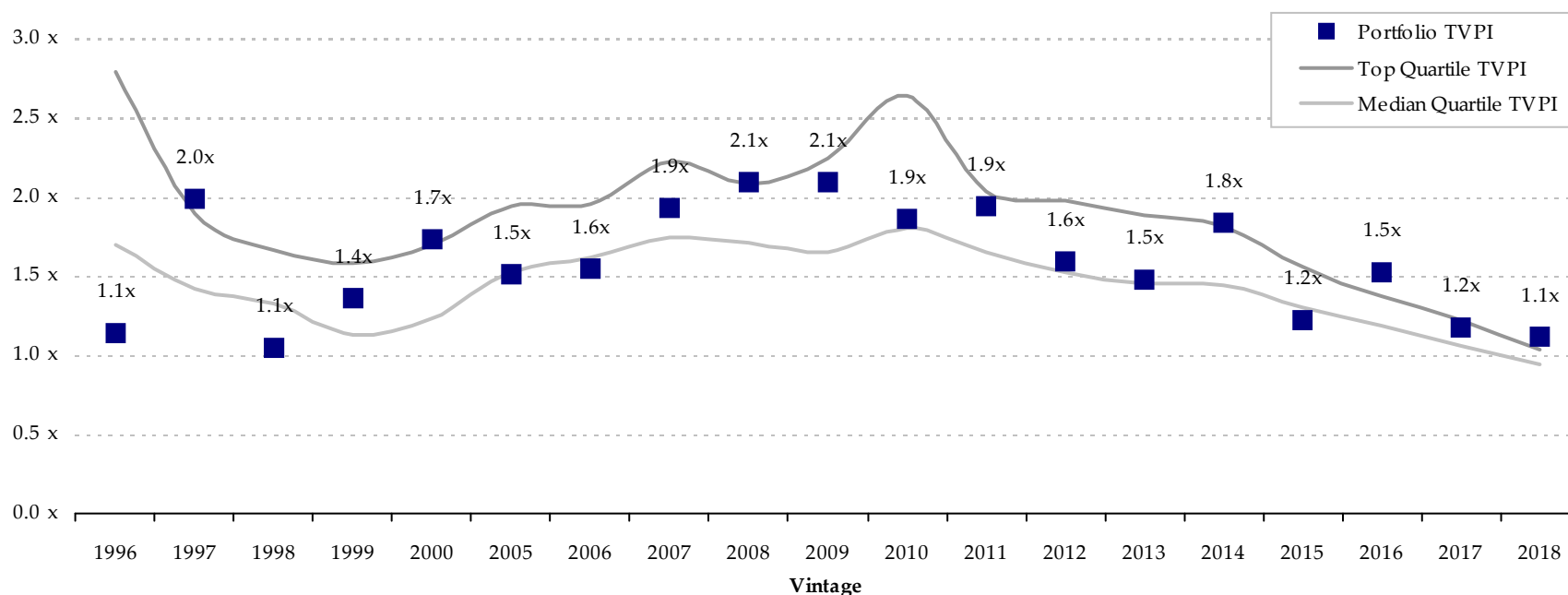
Portfolio Summary



Group	Num.	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	Remaining Value (%)	Exposure (\$)	DPI	TVPI	Net IRR
By Strategy											
Buyout	62	2,392,390,461	1,922,622,506	590,980,701	2,304,827,331	810,574,609	31.6%	1,401,555,310	1.2 x	1.6 x	11.1%
Distressed Debt	3	100,000,000	93,881,464	25,486,571	81,685,543	43,208,699	1.7%	68,695,270	0.9 x	1.3 x	6.2%
Growth Equity	2	90,000,000	87,804,590	5,057,033	162,074,621	57,137,937	2.2%	62,194,970	1.8 x	2.5 x	19.7%
Hard Assets	12	545,744,727	533,765,420	49,751,996	209,173,193	387,651,078	15.1%	437,403,075	0.4 x	1.1 x	5.4%
Infrastructure	8	270,880,449	272,676,670	0	128,498,770	396,068,813	15.4%	396,068,813	0.5 x	1.9 x	19.3%
Mezzanine	7	285,000,000	182,829,849	46,568,219	208,681,338	32,144,562	1.3%	78,712,781	1.1 x	1.3 x	10.1%
Multi-Strategy	6	974,123,718	995,841,720	217,832,561	1,146,409,888	329,066,661	12.8%	546,899,222	1.2 x	1.5 x	7.8%
Special Assets	1	30,000,000	8,497,598	21,502,402	3,195	6,739,189	0.3%	28,241,591	0.0 x	0.8 x	NMF
Structured Capital	3	85,000,000	72,267,214	30,967,741	29,177,789	51,908,392	2.0%	82,876,133	0.4 x	1.1 x	5.5%
Turnaround	8	210,000,000	137,817,557	97,127,829	139,470,889	72,006,902	2.8%	169,134,731	1.0 x	1.5 x	14.9%
Venture Capital	13	335,000,000	223,241,951	105,622,868	171,589,941	382,251,346	14.9%	487,874,214	0.8 x	2.5 x	21.9%
Total	125	5,318,139,355	4,531,246,539	1,190,897,921	4,581,592,498	2,568,758,188	100.0%	3,759,656,110	1.0 x	1.6 x	10.9%
By Sub-Asset Class											
Corporate Finance	100	4,469,014,179	3,776,209,504	1,085,275,053	4,241,603,972	1,490,609,638	58.0%	2,575,884,691	1.1 x	1.5 x	10.1%
Direct Investments	12	514,125,176	531,795,084	0	168,398,585	695,897,205	27.1%	695,897,205	0.3 x	1.6 x	20.2%
Venture Capital	13	335,000,000	223,241,951	105,622,868	171,589,941	382,251,346	14.9%	487,874,214	0.8 x	2.5 x	21.9%
Total	125	5,318,139,355	4,531,246,539	1,190,897,921	4,581,592,498	2,568,758,188	100.0%	3,759,656,110	1.0 x	1.6 x	10.9%

- Remaining Value is defined as the investor's value as reported by the fund's manager.
- Exposure is defined as the sum of the investor's Remaining Value plus Unfunded Commitment.
- DPI is the ratio of Distributed Capital to Contributed Capital.
- TVPI is the ratio of Distributed Capital plus Remaining Value to Contributed Capital.
- Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Remaining Value as of the Report Date, net of fees and expenses, including late closing interest.
- Results include fully liquidated investments (if applicable).
- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date.

TVPI by Vintage

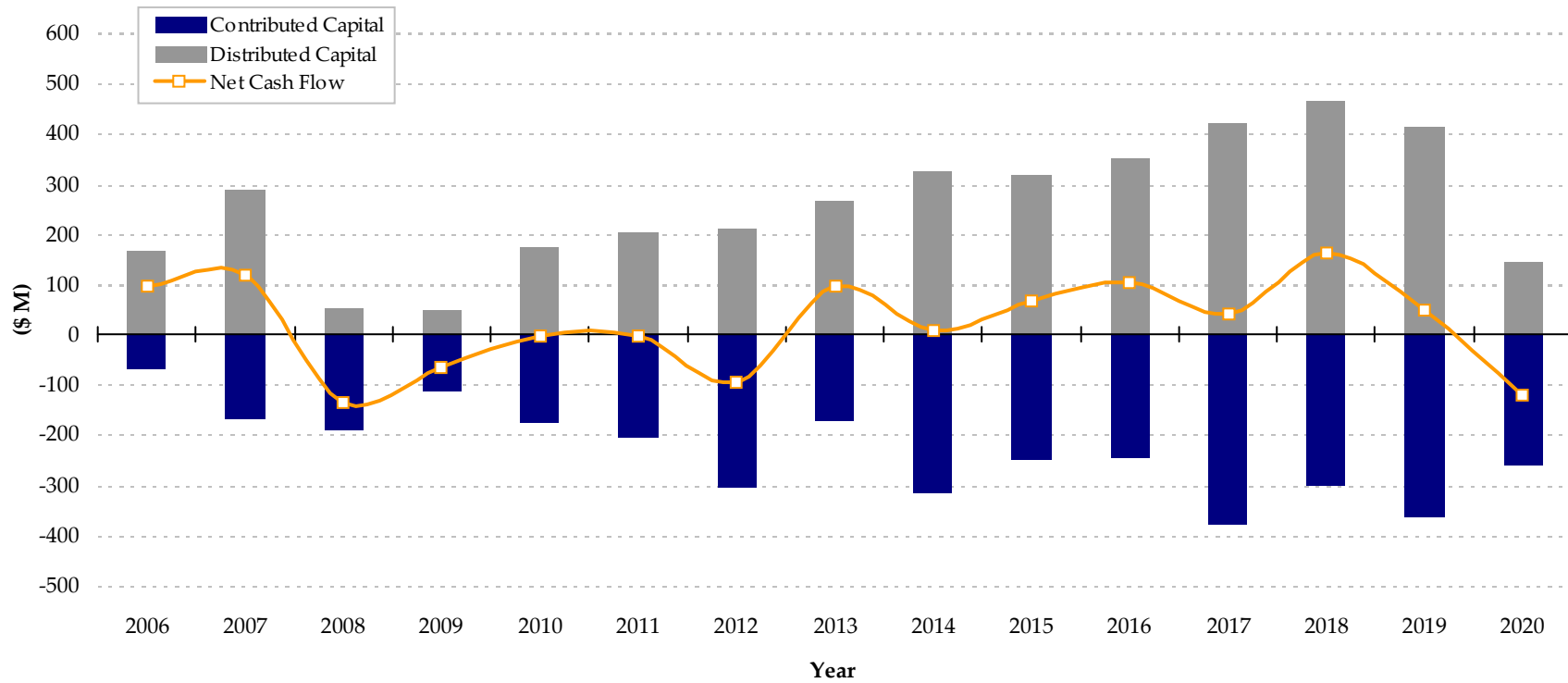


Net IRR vs. PME vs. Cambridge Associates: U.S. All Private Equity

Calculation Set	1-Year	3-Year	5-Year	10-Year	Inception
Aggregate Portfolio	10.9%	16.5%	14.7%	15.2%	10.9%
DJ US TSM TR Index* Public Market Equivalent (Aggregate Portfolio)	5.2%	9.9%	9.7%	14.0%	6.9%
Cambridge Associates: U.S. All Private Equity	3.4%	11.4%	10.4%	13.7%	N/A
Post 2006 Fund Portfolio	12.6%	16.2%	14.1%	15.6%	15.1%
DJ US TSM TR Index* Public Market Equivalent (Post 2006 Fund Portfolio)	6.0%	10.1%	9.9%	12.9%	12.0%

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

-
- Benchmark TVPI represents vintage year first quartile per Cambridge Associates, as of March 31, 2020. The portfolio is compared to data compiled across multiple strategies including U.S. Buyout, Growth Equity, Venture Capital, Mezzanine, Distressed, Fund-of-funds, and Secondary funds.
 - Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Remaining Value as of the Report Date, net of fees and expenses, including late closing interest.
 - The public market equivalent (PME) represents the performance of a public market index expressed in terms of an IRR, using the same cash flows and timing as the investor's investment activity in private equity. The PME serves as a proxy for the return the investor could have achieved by investing in the public market. The PME return assumes cash flows are invested at the end of each day.
 - Cambridge Associates: U.S. All Private Equity reflects the pooled net IRR based on data compiled from Cambridge Associates as of March 31, 2020.
 - Benchmark data is not available (N/A).

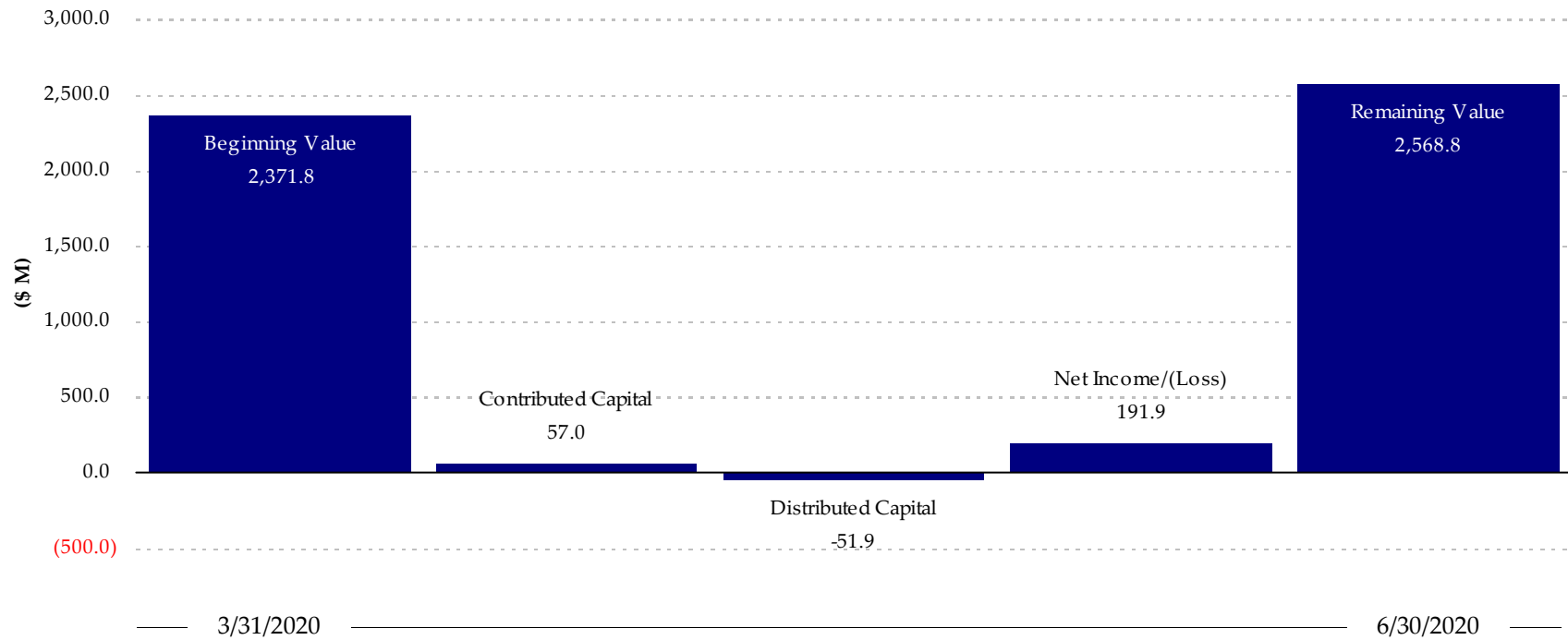


2020 (\$)		
Distributed	Contributed	Net Cash Flow
142,428,909	-261,815,517	-119,386,608

▫ Cash flow data was compiled through the Report Date.

Capital Account Change Since Prior Quarter

Quarterly Portfolio Activity



Percent Change in Value	8.1%
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- Beginning Value represents the aggregate Remaining Value of the portfolio as of the prior quarter-end.
- Percent Change in Value is calculated by dividing Net Income / (Loss) by Beginning Value.

Recent Commitments



Commitments for Year Ended December 31, 2019

Fund	Strategy	Date	Commitment (\$)
FP Intl 2019	Buyout	Mar 2019	30,000,000
American Industrial VII	Buyout	Mar 2019	30,000,000
Arlington V	Buyout	May 2019	25,000,000
FP Venture 2019	Venture Capital	Jun 2019	30,000,000
JF Lehman V	Buyout	Jun 2019	30,000,000
DW Healthcare V	Buyout	Jul 2019	30,000,000
FP CF Access	Buyout	Jul 2019	30,000,000
KPS Mid-Market I	Turnaround	Oct 2019	20,000,000
KPS V	Turnaround	Oct 2019	30,000,000
Clearlake VI	Buyout	Dec 2019	30,000,000
Total			285,000,000

Year to Date Commitments as of September 21, 2020

Fund	Strategy	Date	Commitment (\$)
Thoma Bravo Explore I	Buyout	Jan 2020	20,000,000
FP VC XIII	Venture Capital	Feb 2020	30,000,000
BV X	Buyout	Feb 2020	30,000,000
FP Intl X	Buyout	Mar 2020	30,000,000
Greyrock V	Mezzanine	Apr 2020	35,000,000
Thoma Bravo XIV	Buyout	May 2020	20,000,000
Thoma Bravo Discover III	Buyout	May 2020	20,000,000
Total			185,000,000

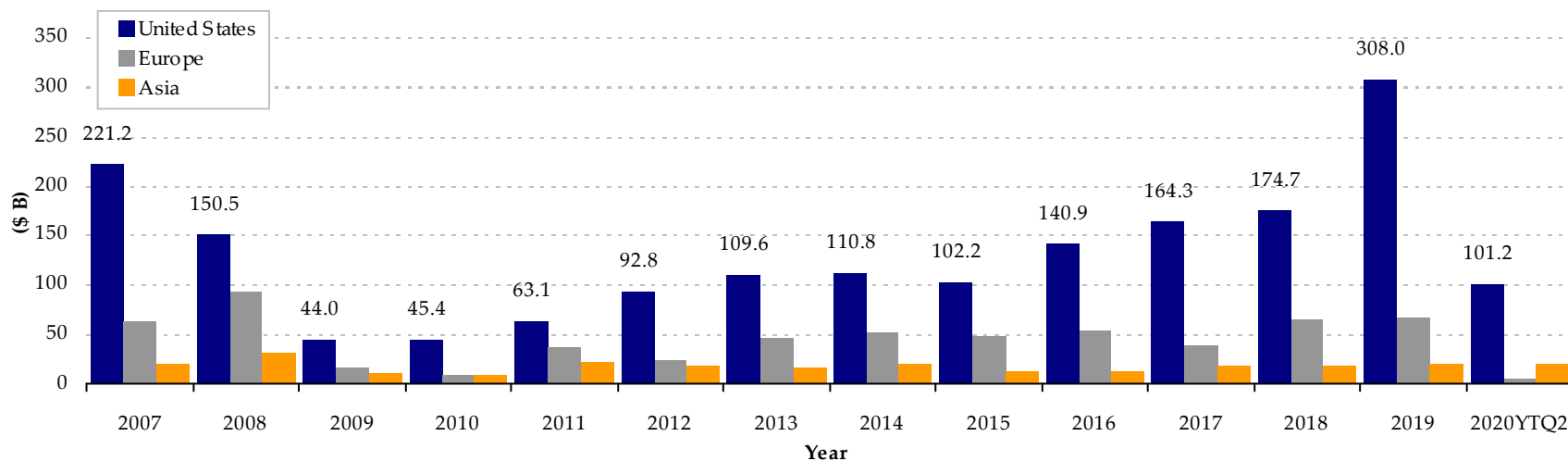
Approved and Pending Commitments as of September 21, 2020

Fund	Strategy	Date	Commitment (\$)	Target
LLR VI	Growth Equity	N/A	30,000,000	

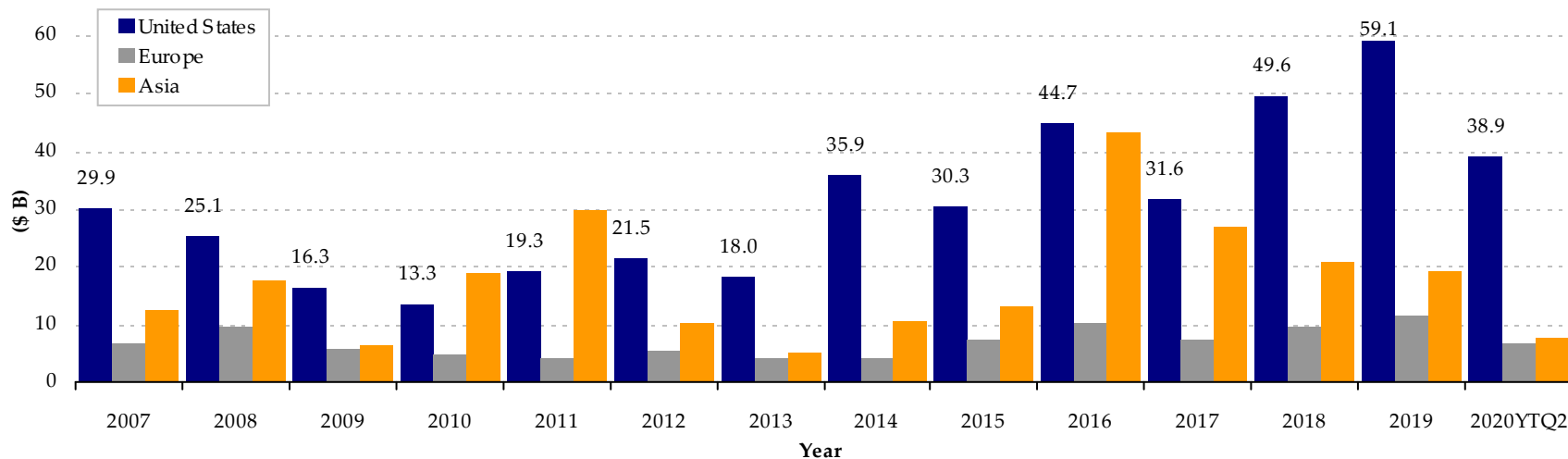
- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.
- ATRS committed an additional \$30.0 million to FP VC XIII, which is approved and pending, bringing total commitments to the Fund to \$60.0 million.

Market Update

Buyout Funds

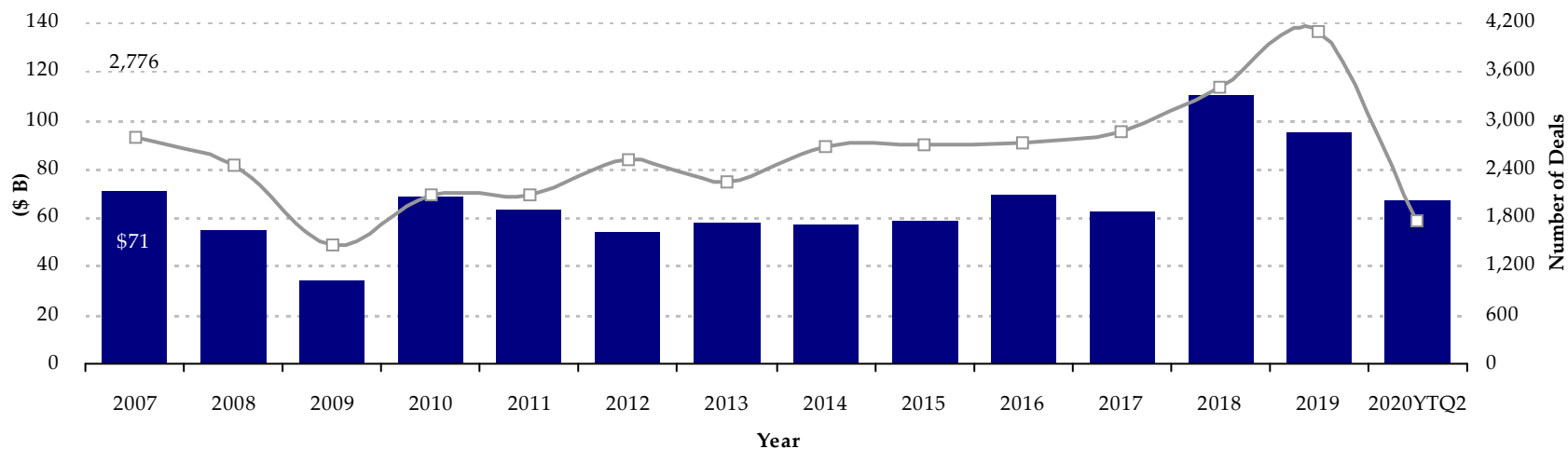


Venture Funds

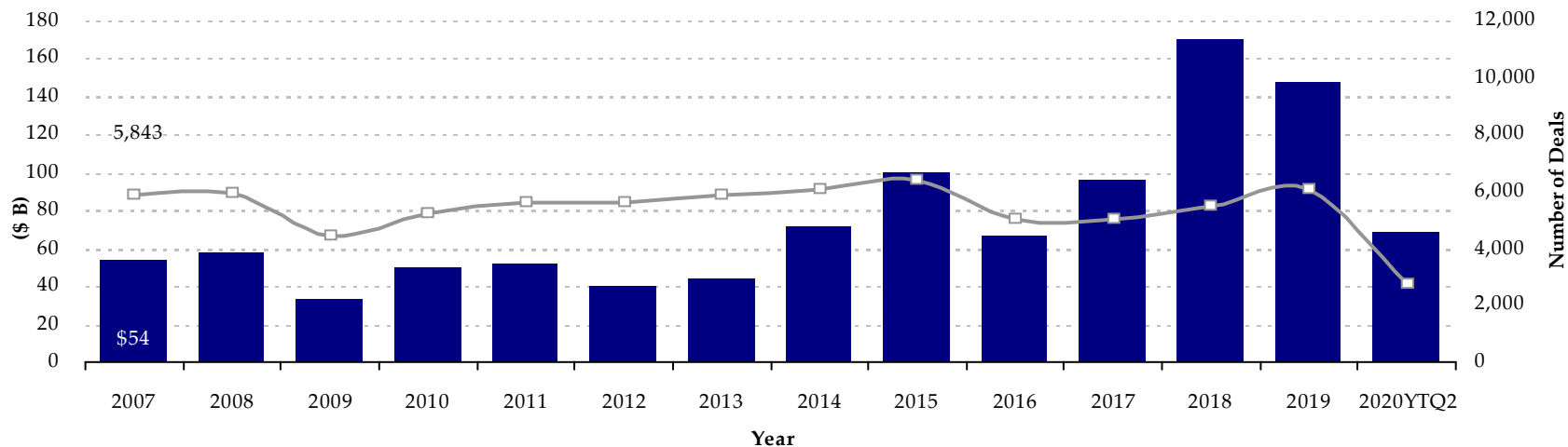


Source: Thomson One Private Equity.
Data compiled through 1Q 2020.

U.S. Buyout

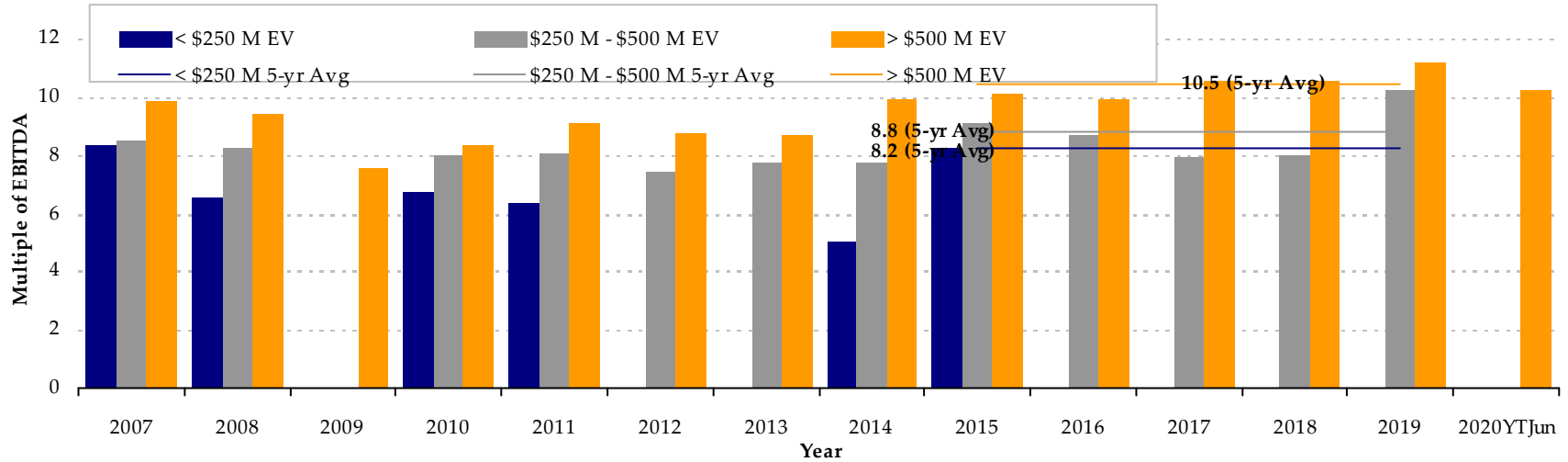


U.S. Venture

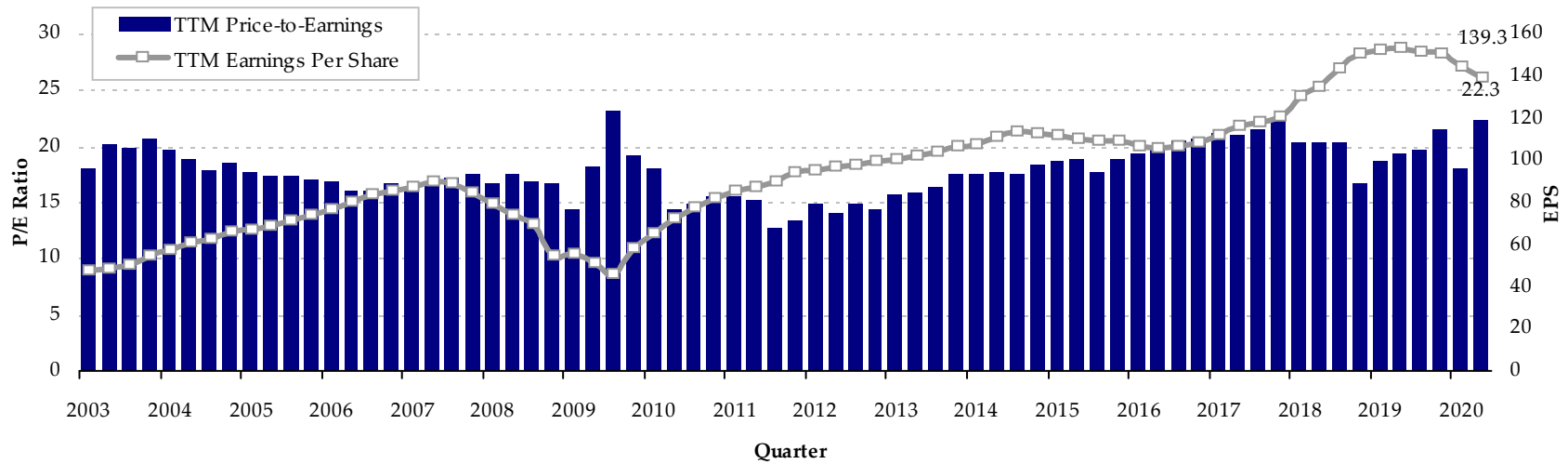


- Source: Thomson One Private Equity.
- Data compiled through 1Q 2020.

U.S. LBO Pricing Multiples

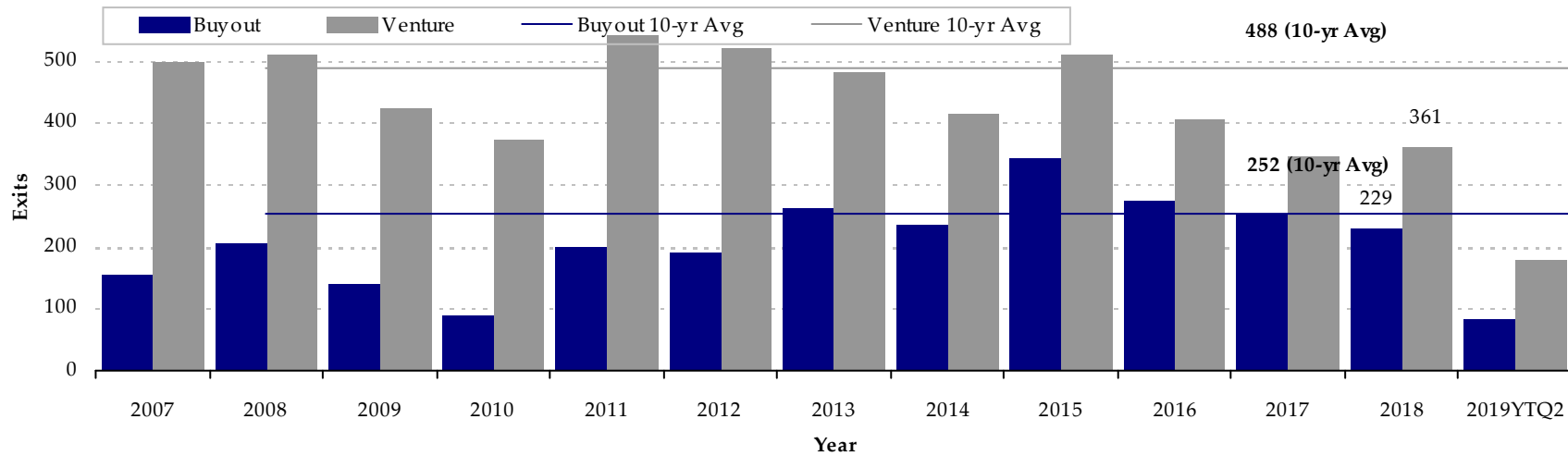


S&P 500 Valuation and Earnings

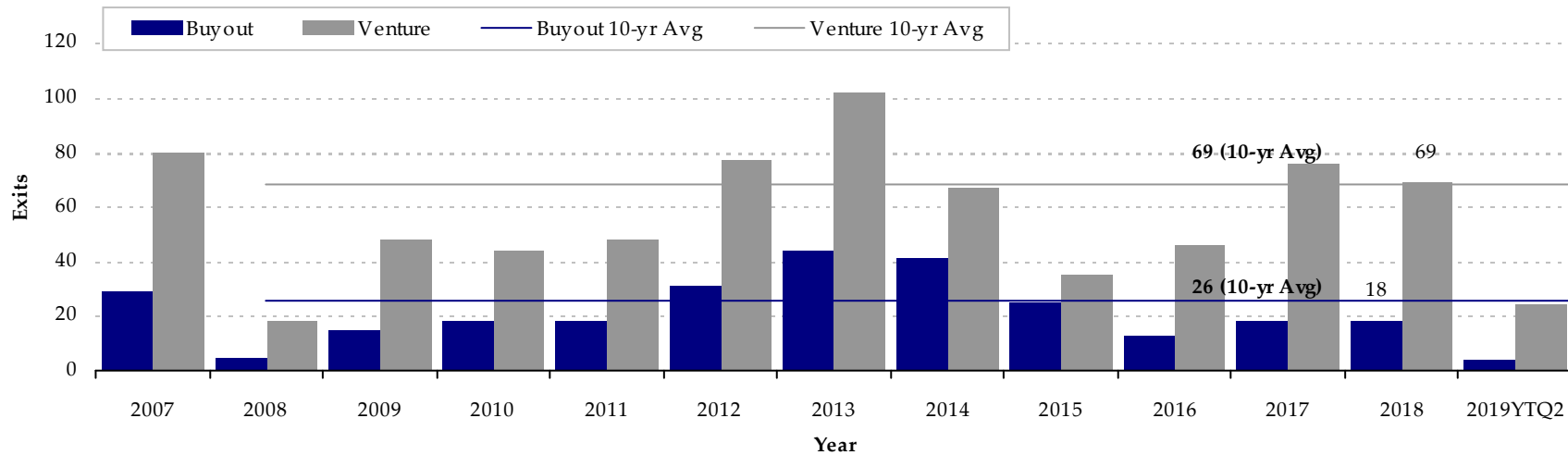


Source: Standard & Poor's Leveraged Commentary.

U.S. Mergers and Acquisitions



U.S. Initial Public Offerings



- Source: Thomson One Private Equity.
- Data compiled through 1Q 2020.

Vintage Returns

Group	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
U.S. All PE Median	12.6%	14.8%	13.4%	12.7%	12.3%	12.6%	12.3%	10.2%	4.8%	-6.8%
U.S. All PE Top Quartile	21.1%	21.7%	19.2%	17.4%	18.9%	20.1%	20.7%	20.2%	15.4%	4.6%
U.S. Buyout Median	20.3%	19.8%	14.8%	15.2%	11.9%	12.8%	9.8%	10.3%	-1.4%	-11.2%
U.S. Buyout Top Quartile	24.2%	23.8%	19.7%	21.6%	18.2%	20.5%	20.6%	19.1%	6.7%	2.6%
U.S. Energy Median		4.5%	-1.1%	2.4%	9.9%	0.8%	1.7%	-4.5%	-7.8%	-8.5%
U.S. Energy Top Quartile			8.0%	8.1%	15.5%	5.1%	11.4%	8.9%	-0.4%	4.4%
U.S. Real Estate Median	16.3%	15.6%	15.1%	10.6%	12.1%	10.8%	9.4%	8.7%	3.1%	-10.9%
U.S. Real Estate Top Quartile	19.5%	20.3%	20.5%	13.5%	15.9%	13.4%	12.8%	12.2%	9.0%	0.1%
U.S. Venture Median	10.1%	15.5%	15.2%	13.0%	15.8%	13.6%	15.1%	13.4%	7.5%	-5.9%
U.S. Venture Top Quartile	19.6%	27.5%	22.2%	19.3%	21.7%	23.5%	23.1%	25.6%	22.5%	4.4%

▫ Source: Cambridge Associates.

▫ Data compiled through March 31, 2020.

Performance Analysis

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Buyout									
21st Century Group I *	2000	\$80,365,451	25,000,000	27,141,173	0	22,841,928	0	0.8 x	-3.8%
Advent GPE VI-A	2008	\$9,000,000,000	40,000,000	40,167,228	0	78,231,051	5,609,612	2.1 x	16.6%
Altaris Constellation	2017	\$165,000,000	20,000,000	16,258,801	5,112,804	1,371,187	26,158,042	1.7 x	22.1%
Altaris IV	2018	\$1,085,000,000	24,000,000	14,447,282	9,552,718	0	16,323,759	1.1 x	10.3%
Altus Capital II	2010	\$200,000,000	20,000,000	18,555,037	4,381,151	21,881,638	6,488,341	1.5 x	11.6%
American Industrial VI	2016	\$1,845,000,000	20,000,000	22,294,979	2,885,868	5,180,848	21,472,254	1.2 x	8.3%
American Industrial VII	2019	\$3,075,000,000	30,000,000	1,589,765	28,410,569	334	1,337,894	0.8 x	NMF
Arlington IV	2016	\$700,000,000	23,000,000	21,752,658	1,247,342	0	31,870,675	1.5 x	20.7%
Arlington V	2019	\$1,692,000,000	25,000,000	3,272,557	21,727,443	0	3,318,358	1.0 x	NMF
Boston Ventures VII	2006	\$434,507,010	50,000,000	43,016,769	8,258,947	44,748,285	5,312,331	1.2 x	2.8%
BV IX	2017	\$750,000,000	30,000,000	20,083,883	12,033,828	2,117,709	24,911,414	1.3 x	28.6%
BV VIII	2012	\$486,800,000	30,000,000	26,817,228	3,463,958	37,904,689	19,419,183	2.1 x	53.5%
BV X	2020	\$1,122,000,000	30,000,000	0	30,000,000	0	-152,952	N/A	NMF
Clearlake V	2018	\$3,623,125,000	30,000,000	27,627,305	6,573,707	8,435,222	33,330,403	1.5 x	42.7%
Clearlake VI	2020	\$7,068,000,000	30,000,000	2,926,326	27,073,674	1,059	2,830,242	1.0 x	NMF
Court Square III	2012	\$3,173,449,997	40,000,000	43,091,312	2,683,915	27,818,000	40,043,457	1.6 x	17.7%
Cypress MBP II *	1999	\$2,376,060,606	50,000,000	52,304,562	0	50,840,220	0	1.0 x	-0.5%
DLJ MBP III *	2000	\$5,304,941,647	200,000,000	215,345,711	0	458,746,671	0	2.1 x	19.4%
Doughty Hanson III *	1997	\$2,660,000,000	100,000,000	99,374,207	0	197,482,184	0	2.0 x	13.5%
DW Healthcare III	2012	\$268,147,500	40,000,000	37,138,408	2,861,592	40,738,290	27,006,658	1.8 x	18.2%
DW Healthcare IV	2016	\$294,274,000	30,000,000	27,223,862	4,305,104	11,273,132	30,190,705	1.5 x	27.0%
DW Healthcare V	2019	\$611,000,000	30,000,000	7,135,151	22,864,849	0	6,541,423	0.9 x	NMF
FP CF Access	2020	\$100,000,000	30,000,000	2,573,782	27,426,218	0	2,311,122	0.9 x	NMF
FP Intl 2011	2011	\$45,000,000	25,000,000	23,001,840	2,312,843	15,420,647	15,992,283	1.4 x	7.0%
FP Intl 2012	2012	\$70,000,000	25,000,000	16,747,990	8,443,369	9,080,134	12,325,795	1.3 x	7.2%
FP Intl 2013	2013	\$97,000,000	20,000,000	13,609,200	6,525,510	2,093,845	16,018,384	1.3 x	7.8%
FP Intl 2014	2014	\$97,000,000	25,000,000	15,850,395	9,267,166	6,226,001	14,109,067	1.3 x	9.9%
FP Intl 2015	2015	\$113,000,000	25,000,000	15,708,040	9,384,861	976,174	17,381,056	1.2 x	7.0%
FP Intl 2016	2016	\$97,000,000	25,000,000	14,948,454	10,158,840	1,095,238	15,606,240	1.1 x	5.3%
FP Intl 2017	2017	\$98,000,000	25,000,000	12,244,898	12,865,914	17,557	14,405,314	1.2 x	12.1%
FP Intl 2018	2018	\$65,500,000	25,000,000	8,969,466	16,176,580	0	9,098,552	1.0 x	1.7%
FP Intl 2019	2019	\$70,500,000	30,000,000	3,404,255	26,701,013	0	3,439,779	1.0 x	NMF
FP Intl X	2020	\$90,500,000	30,000,000	0	30,000,000	0	0	N/A	NMF
HMTF III *	1996	\$2,458,754,795	76,743,018	76,799,039	0	87,834,289	0	1.1 x	1.8%
HMTF IV *	1998	\$4,023,532,721	100,000,000	98,010,015	0	67,130,479	0	0.7 x	-6.1%
HMTF V *	2000	\$1,552,965,194	207,366,433	205,198,451	0	378,102,491	0	1.8 x	17.6%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
JF Lehman III	2011	\$575,500,000	39,000,000	43,585,502	5,740,310	49,324,686	13,039,396	1.4 x	9.7%
JF Lehman IV	2016	\$833,000,000	30,000,000	25,650,797	4,349,203	14,756,362	34,430,122	1.9 x	31.3%
JF Lehman V	2020	\$1,312,320,000	30,000,000	0	30,000,000	0	-150,311	N/A	NMF
Mason Wells III	2010	\$525,000,000	30,000,000	28,553,580	1,446,420	68,546,055	8,105,914	2.7 x	19.3%
Oak Hill I *	1999	\$1,600,000,000	50,000,000	50,786,497	0	91,264,962	0	1.8 x	10.6%
One Rock II	2017	\$964,000,000	30,000,000	26,082,245	3,917,755	0	29,226,233	1.1 x	8.5%
Riverside IV	2009	\$406,091,370	40,000,000	31,433,665	10,099,013	72,962,455	696,491	2.3 x	21.1%
Riverside V	2013	\$561,224,490	35,000,000	34,497,271	2,297,146	24,247,705	23,411,127	1.4 x	9.0%
Riverside VI	2019	\$327,916,667	30,000,000	10,035,951	19,964,049	0	8,256,210	0.8 x	NMF
Second Cinven *	1998	£904,547,000	65,281,010	65,281,010	0	104,700,661	0	1.6 x	9.3%
Siris III	2015	\$1,810,000,000	25,000,000	30,496,926	4,007,421	16,321,781	21,546,845	1.2 x	12.0%
Siris IV	2019	\$3,452,454,000	30,000,000	16,150,636	13,849,364	0	14,273,577	0.9 x	NMF
SK Capital V	2018	\$2,013,000,000	30,000,000	8,461,380	21,538,620	10,490	6,833,811	0.8 x	-16.7%
Thoma Bravo Discover	2016	\$1,074,000,000	10,000,000	11,350,409	1,767,370	9,155,280	14,448,398	2.1 x	33.9%
Thoma Bravo Discover II	2018	\$2,402,685,000	17,000,000	10,350,016	6,649,984	0	12,232,959	1.2 x	19.4%
Thoma Bravo Discover III	2020	\$4,000,000,000	20,000,000	0	20,000,000	0	0	N/A	NMF
Thoma Bravo Explore I	2020	\$1,000,000,000	20,000,000	0	20,000,000	0	0	N/A	NMF
Thoma Bravo XI	2014	\$3,662,000,000	20,000,000	20,785,558	2,135,646	32,030,997	35,871,303	3.3 x	32.0%
Thoma Bravo XII	2016	\$7,603,860,000	30,000,000	30,355,735	1,691,246	2,049,135	42,112,150	1.5 x	15.3%
Thoma Bravo XIII	2019	\$12,575,745,000	30,000,000	21,702,212	8,297,788	121	32,735,210	1.5 x	NMF
Thoma Bravo XIV	2020	\$15,000,000,000	20,000,000	0	20,000,000	0	0	N/A	NMF
Vista Equity III	2007	\$1,287,129,725	50,000,000	54,255,174	3,975,508	127,483,122	4,267,610	2.4 x	28.6%
Vista Foundation II	2013	\$1,145,000,000	15,000,000	15,468,495	7,666,141	10,905,347	15,381,404	1.7 x	14.4%
Vista Foundation III	2016	\$2,950,561,226	30,000,000	24,794,694	9,729,827	4,491,545	31,898,468	1.5 x	19.8%
Wellspring V	2011	\$1,194,387,756	40,000,000	45,743,660	14,521,493	52,489,186	16,607,093	1.5 x	15.0%
Wicks IV	2011	\$414,000,000	40,000,000	42,171,063	4,636,613	46,498,139	22,651,207	1.6 x	16.6%
Total Buyout			2,392,390,461	1,922,622,506	590,980,701	2,304,827,331	810,574,609	1.6 x	11.1%
Distressed Debt									
Castlelake II	2011	\$996,762,000	35,000,000	32,656,036	2,625,461	27,537,421	15,862,784	1.3 x	5.7%
Castlelake III	2014	\$1,421,000,000	25,000,000	23,149,741	1,864,884	14,428,076	17,334,408	1.4 x	7.1%
Tennenbaum VI	2010	\$530,000,000	40,000,000	38,075,687	20,996,226	39,720,046	10,011,507	1.3 x	6.2%
Total Distressed Debt			100,000,000	93,881,464	25,486,571	81,685,543	43,208,699	1.3 x	6.2%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Growth Equity									
LLR III	2008	\$803,000,000	50,000,000	48,504,590	4,357,033	85,370,014	9,426,708	2.0 x	15.0%
TA XI	2010	\$4,000,100,000	40,000,000	39,300,000	700,000	76,704,607	47,711,229	3.2 x	26.1%
Total Growth Equity			90,000,000	87,804,590	5,057,033	162,074,621	57,137,937	2.5 x	19.7%
Hard Assets									
EnCap IX	2013	\$5,154,639,175	25,000,000	28,348,872	1,406,573	21,673,743	6,836,057	1.0 x	0.3%
EnCap VIII	2010	\$3,608,247,422	47,500,000	52,420,611	1,920,388	31,031,849	7,415,329	0.7 x	-10.5%
EnCap X	2015	\$6,701,030,928	30,000,000	27,530,507	4,454,446	5,922,338	18,974,083	0.9 x	-4.1%
EnCap XI	2017	\$6,961,190,722	35,000,000	10,552,169	24,447,831	0	6,273,322	0.6 x	-34.3%
GTLA Holdings	2018	\$20,000,000	20,000,000	20,000,000	0	0	20,000,000	1.0 x	0.0%
Highland Contingent Note	2018	\$152,244,727	152,244,727	152,244,727	0	15,000,000	152,244,727	1.1 x	N/A
Highland Equity	2016	\$66,000,000	66,000,000	81,870,000	0	16,674,525	127,583,665	1.8 x	26.3%
Lime Rock Resources III	2014	\$762,000,000	25,000,000	25,532,623	363,997	4,687,078	8,978,983	0.5 x	-12.9%
NGP IX	2007	\$4,000,000,000	50,000,000	54,215,131	201,825	76,326,171	939,940	1.4 x	10.8%
NGP X	2012	\$3,586,000,000	35,000,000	35,960,212	733,518	28,855,568	5,658,436	1.0 x	-1.3%
NGP XI	2014	\$5,325,000,000	30,000,000	29,646,784	1,667,202	8,902,789	19,939,317	1.0 x	-1.1%
NGP XII	2017	\$4,304,081,633	30,000,000	15,443,783	14,556,217	99,132	12,807,221	0.8 x	-11.7%
Total Hard Assets			545,744,727	533,765,420	49,751,996	209,173,193	387,651,078	1.1 x	5.4%
Infrastructure									
Big River - Equity	2014	\$151,090,000	151,090,000	151,090,000	0	19,160,000	377,800,000	2.6 x	23.6%
Big River - Funding *	2017	\$3,750,000	3,750,000	3,750,000	0	3,812,795	0	1.0 x	4.3%
Big River - Holdings Note *	2017	\$12,000,000	12,000,000	12,000,000	0	13,343,726	0	1.1 x	11.0%
Big River - Holdings Note 2023	2018	\$12,000,000	12,000,000	12,000,000	0	0	12,871,433	1.1 x	3.1%
Big River - Holdings Note 2023-2	2018	\$5,150,000	5,150,000	5,150,000	0	62,323	5,397,380	1.1 x	3.3%
Big River - Preferred Equity *	2017	\$41,980,449	41,980,449	41,980,449	0	51,702,368	0	1.2 x	12.5%
Big River - Sr Secured Debt *	2015	\$26,910,000	26,910,000	26,966,221	0	35,699,565	0	1.3 x	14.7%
Blue Oak Arkansas *	2014	\$18,000,000	18,000,000	19,740,000	0	4,717,993	0	0.2 x	-50.5%
Total Infrastructure			270,880,449	272,676,670	0	128,498,770	396,068,813	1.9 x	19.3%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Mezzanine									
Audax Mezzanine III	2011	\$1,002,250,000	25,000,000	24,167,881	6,675,000	27,627,809	4,063,110	1.3 x	9.5%
Big River - Mezzanine *	2014	\$5,000,000	5,000,000	5,003,686	0	8,225,290	0	1.6 x	17.3%
Blackstone Mezzanine I *	1999	\$1,141,000,000	100,000,000	73,353,517	0	96,729,026	0	1.3 x	10.2%
DLJ Investment II *	1999	\$1,600,000,000	80,000,000	43,611,022	0	60,455,204	0	1.4 x	10.3%
Greyrock IV	2017	\$275,000,000	30,000,000	26,722,273	4,413,712	3,783,831	26,448,733	1.1 x	8.1%
Greyrock V	2020	\$200,000,000	35,000,000	0	35,000,000	0	0	N/A	NMF
Insight Mezzanine I	2009	\$94,678,011	10,000,000	9,971,470	479,507	11,860,178	1,632,719	1.4 x	6.6%
Total Mezzanine			285,000,000	182,829,849	46,568,219	208,681,338	32,144,562	1.3 x	10.1%
Multi-Strategy									
ATRS-FP PE	2012	\$265,516,382	263,823,718	242,520,212	151,069,701	152,462,153	222,544,172	1.5 x	16.0%
CSFB-ATRS 2005-1 Series	2005	\$252,525,253	250,000,000	277,253,644	11,221,211	392,441,952	25,507,859	1.5 x	7.3%
CSFB-ATRS 2006-1 Series	2006	\$406,331,658	404,300,000	409,079,830	55,058,649	574,693,477	76,051,940	1.6 x	9.7%
DH Tech I	2000	\$236,700,000	50,000,000	61,471,034	0	20,543,107	404,712	0.3 x	-22.1%
Diamond State *	1999	\$46,000,000	2,000,000	2,000,000	0	3,097,200	0	1.5 x	5.5%
Diamond State II	2007	\$25,361,350	4,000,000	3,517,000	483,000	3,172,000	4,557,978	2.2 x	9.4%
Total Multi-Strategy			974,123,718	995,841,720	217,832,561	1,146,409,888	329,066,661	1.5 x	7.8%
Special Assets									
WNG II	2019	\$438,350,000	30,000,000	8,497,598	21,502,402	3,195	6,739,189	0.8 x	NMF
Total Special Assets			30,000,000	8,497,598	21,502,402	3,195	6,739,189	0.8 x	NMF
Structured Capital									
Bison V	2017	\$384,132,653	35,000,000	23,688,450	16,262,557	7,498,868	19,473,121	1.1 x	9.2%
Levine Leichtman V	2013	\$1,644,081,633	20,000,000	24,686,434	3,720,763	16,713,244	18,134,450	1.4 x	11.6%
PineBridge Structured III	2016	\$600,000,000	30,000,000	23,892,330	10,984,421	4,965,677	14,300,821	0.8 x	-10.7%
Total Structured Capital			85,000,000	72,267,214	30,967,741	29,177,789	51,908,392	1.1 x	5.5%

Investment Performance by Strategy



Investment	Vintage	Fund Size	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
Turnaround									
Atlas Capital II	2014	\$900,000,000	15,000,000	18,839,091	4,853,461	12,158,708	13,929,670	1.4 x	18.0%
Insight Equity II	2009	\$429,735,291	30,000,000	30,472,752	1,439,903	32,590,351	18,382,899	1.7 x	10.0%
KPS III Supplemental	2009	\$816,326,531	40,000,000	37,763,491	16,118,021	80,019,827	344,931	2.1 x	22.8%
KPS IV	2014	\$3,571,428,571	25,000,000	21,613,164	2,718,761	5,493,658	20,055,286	1.2 x	12.0%
KPS Mid-Market I	2019	\$1,020,408,163	20,000,000	3,546,378	16,453,622	0	3,367,277	0.9 x	NMF
KPS V	2020	\$6,000,000,000	30,000,000	0	30,000,000	0	0	N/A	NMF
Sycamore Partners II	2014	\$2,700,000,000	25,000,000	21,923,582	4,203,160	9,208,345	13,624,142	1.0 x	1.7%
Sycamore Partners III	2018	\$4,870,000,000	25,000,000	3,659,099	21,340,901	0	2,302,697	0.6 x	-26.6%
Total Turnaround			210,000,000	137,817,557	97,127,829	139,470,889	72,006,902	1.5 x	14.9%
Venture Capital									
FP VC XIII	2020	\$115,500,000	30,000,000	0	30,000,000	0	0	N/A	NMF
FP Venture 2008	2008	\$102,000,000	30,000,000	29,851,150	309,593	41,261,474	28,787,302	2.3 x	16.0%
FP Venture 2009	2009	\$58,000,000	25,000,000	24,426,925	766,295	42,071,223	20,173,902	2.5 x	18.0%
FP Venture 2010	2010	\$80,000,000	25,000,000	15,890,625	1,732,849	11,988,722	28,059,326	2.5 x	16.5%
FP Venture 2011	2011	\$70,000,000	25,000,000	24,107,625	1,073,610	36,847,352	113,585,803	6.2 x	39.1%
FP Venture 2012	2012	\$80,000,000	25,000,000	21,968,750	3,164,139	17,479,159	36,413,520	2.5 x	20.4%
FP Venture 2013	2013	\$87,000,000	20,000,000	17,931,420	2,153,755	10,206,083	32,681,475	2.4 x	24.3%
FP Venture 2014	2014	\$93,000,000	25,000,000	23,521,750	1,569,712	7,995,517	39,350,545	2.0 x	19.4%
FP Venture 2015	2015	\$113,000,000	25,000,000	22,677,100	2,411,901	1,195,328	31,995,469	1.5 x	14.9%
FP Venture 2016	2016	\$82,000,000	25,000,000	17,530,488	7,569,677	863,616	23,736,670	1.4 x	18.4%
FP Venture 2017	2017	\$113,000,000	25,000,000	10,398,230	14,664,754	1,657,650	12,673,874	1.4 x	29.9%
FP Venture 2018	2018	\$80,500,000	25,000,000	9,161,491	15,922,484	217	9,285,339	1.0 x	1.5%
FP Venture 2019	2019	\$80,500,000	30,000,000	5,776,397	24,284,099	23,600	5,508,121	1.0 x	NMF
Total Venture Capital			335,000,000	223,241,951	105,622,868	171,589,941	382,251,346	2.5 x	21.9%
Total Portfolio			5,318,139,355	4,531,246,539	1,190,897,921	4,581,592,498	2,568,758,188	1.6 x	10.9%

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- Remaining Value is defined as the investor's value as reported by the fund's manager.
 - TVPI is the ratio of Distributed Capital plus Remaining Value to Contributed Capital.
 - Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Remaining Value as of the Report Date, net of fees and expenses, including late closing interest.
 - An asterisk indicates an investment that is fully liquidated, if applicable.
 - Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.
 - Returns calculated for funds in the early years of their lives are particularly not meaningful given the J-curve effect. During these early years, due to illiquidity, stagnant valuations, fees and expenses, fund performance tends to be negative (the bottom of the "J").

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
1996								
HMTF III *	Buyout	76,743,018	76,799,039	0	87,834,289	0	1.1 x	1.8%
Total 1996		76,743,018	76,799,039	0	87,834,289	0	1.1 x	1.8%
1997								
Doughty Hanson III *	Buyout	100,000,000	99,374,207	0	197,482,184	0	2.0 x	13.5%
Total 1997		100,000,000	99,374,207	0	197,482,184	0	2.0 x	13.5%
1998								
HMTF IV *	Buyout	100,000,000	98,010,015	0	67,130,479	0	0.7 x	-6.1%
Second Cinven *	Buyout	65,281,010	65,281,010	0	104,700,661	0	1.6 x	9.3%
Total 1998		165,281,010	163,291,025	0	171,831,140	0	1.1 x	0.9%
1999								
Blackstone Mezzanine I *	Mezzanine	100,000,000	73,353,517	0	96,729,026	0	1.3 x	10.2%
Cypress MBP II *	Buyout	50,000,000	52,304,562	0	50,840,220	0	1.0 x	-0.5%
Diamond State *	Multi-Strategy	2,000,000	2,000,000	0	3,097,200	0	1.5 x	5.5%
DLJ Investment II *	Mezzanine	80,000,000	43,611,022	0	60,455,204	0	1.4 x	10.3%
Oak Hill I *	Buyout	50,000,000	50,786,497	0	91,264,962	0	1.8 x	10.6%
Total 1999		282,000,000	222,055,598	0	302,386,613	0	1.4 x	7.7%
2000								
21st Century Group I *	Buyout	25,000,000	27,141,173	0	22,841,928	0	0.8 x	-3.8%
DH Tech I	Multi-Strategy	50,000,000	61,471,034	0	20,543,107	404,712	0.3 x	-22.1%
DLJ MBP III *	Buyout	200,000,000	215,345,711	0	458,746,671	0	2.1 x	19.4%
HMTF V *	Buyout	207,366,433	205,198,451	0	378,102,491	0	1.8 x	17.6%
Total 2000		482,366,433	509,156,369	0	880,234,197	404,712	1.7 x	14.8%
2005								
CSFB-ATRS 2005-1 Series	Multi-Strategy	250,000,000	277,253,644	11,221,211	392,441,952	25,507,859	1.5 x	7.3%
Total 2005		250,000,000	277,253,644	11,221,211	392,441,952	25,507,859	1.5 x	7.3%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2006								
Boston Ventures VII	Buyout	50,000,000	43,016,769	8,258,947	44,748,285	5,312,331	1.2 x	2.8%
CSFB-ATRS 2006-1 Series	Multi-Strategy	404,300,000	409,079,830	55,058,649	574,693,477	76,051,940	1.6 x	9.7%
Total 2006		454,300,000	452,096,599	63,317,596	619,441,762	81,364,271	1.6 x	9.1%
2007								
Diamond State II	Multi-Strategy	4,000,000	3,517,000	483,000	3,172,000	4,557,978	2.2 x	9.4%
NGP IX	Hard Assets	50,000,000	54,215,131	201,825	76,326,171	939,940	1.4 x	10.8%
Vista Equity III	Buyout	50,000,000	54,255,174	3,975,508	127,483,122	4,267,610	2.4 x	28.6%
Total 2007		104,000,000	111,987,305	4,660,333	206,981,293	9,765,528	1.9 x	20.4%
2008								
Advent GPE VI-A	Buyout	40,000,000	40,167,228	0	78,231,051	5,609,612	2.1 x	16.6%
FP Venture 2008	Venture Capital	30,000,000	29,851,150	309,593	41,261,474	28,787,302	2.3 x	16.0%
LLR III	Growth Equity	50,000,000	48,504,590	4,357,033	85,370,014	9,426,708	2.0 x	15.0%
Total 2008		120,000,000	118,522,968	4,666,626	204,862,539	43,823,622	2.1 x	15.8%
2009								
FP Venture 2009	Venture Capital	25,000,000	24,426,925	766,295	42,071,223	20,173,902	2.5 x	18.0%
Insight Equity II	Turnaround	30,000,000	30,472,752	1,439,903	32,590,351	18,382,899	1.7 x	10.0%
Insight Mezzanine I	Mezzanine	10,000,000	9,971,470	479,507	11,860,178	1,632,719	1.4 x	6.6%
KPS III Supplemental	Turnaround	40,000,000	37,763,491	16,118,021	80,019,827	344,931	2.1 x	22.8%
Riverside IV	Buyout	40,000,000	31,433,665	10,099,013	72,962,455	696,491	2.3 x	21.1%
Total 2009		145,000,000	134,068,303	28,902,739	239,504,034	41,230,942	2.1 x	17.4%
2010								
Altus Capital II	Buyout	20,000,000	18,555,037	4,381,151	21,881,638	6,488,341	1.5 x	11.6%
EnCap VIII	Hard Assets	47,500,000	52,420,611	1,920,388	31,031,849	7,415,329	0.7 x	-10.5%
FP Venture 2010	Venture Capital	25,000,000	15,890,625	1,732,849	11,988,722	28,059,326	2.5 x	16.5%
Mason Wells III	Buyout	30,000,000	28,553,580	1,446,420	68,546,055	8,105,914	2.7 x	19.3%
TA XI	Growth Equity	40,000,000	39,300,000	700,000	76,704,607	47,711,229	3.2 x	26.1%
Tennenbaum VI	Distressed Debt	40,000,000	38,075,687	20,996,226	39,720,046	10,011,507	1.3 x	6.2%
Total 2010		202,500,000	192,795,540	31,177,034	249,872,917	107,791,646	1.9 x	14.2%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2011								
Audax Mezzanine III	Mezzanine	25,000,000	24,167,881	6,675,000	27,627,809	4,063,110	1.3 x	9.5%
Castlelake II	Distressed Debt	35,000,000	32,656,036	2,625,461	27,537,421	15,862,784	1.3 x	5.7%
FP Intl 2011	Buyout	25,000,000	23,001,840	2,312,843	15,420,647	15,992,283	1.4 x	7.0%
FP Venture 2011	Venture Capital	25,000,000	24,107,625	1,073,610	36,847,352	113,585,803	6.2 x	39.1%
JF Lehman III	Buyout	39,000,000	43,585,502	5,740,310	49,324,686	13,039,396	1.4 x	9.7%
Wellspring V	Buyout	40,000,000	45,743,660	14,521,493	52,489,186	16,607,093	1.5 x	15.0%
Wicks IV	Buyout	40,000,000	42,171,063	4,636,613	46,498,139	22,651,207	1.6 x	16.6%
Total 2011		229,000,000	235,433,607	37,585,330	255,745,240	201,801,676	1.9 x	16.9%
2012								
ATRS-FP PE	Multi-Strategy	263,823,718	242,520,212	151,069,701	152,462,153	222,544,172	1.5 x	16.0%
BV VIII	Buyout	30,000,000	26,817,228	3,463,958	37,904,689	19,419,183	2.1 x	53.5%
Court Square III	Buyout	40,000,000	43,091,312	2,683,915	27,818,000	40,043,457	1.6 x	17.7%
DW Healthcare III	Buyout	40,000,000	37,138,408	2,861,592	40,738,290	27,006,658	1.8 x	18.2%
FP Intl 2012	Buyout	25,000,000	16,747,990	8,443,369	9,080,134	12,325,795	1.3 x	7.2%
FP Venture 2012	Venture Capital	25,000,000	21,968,750	3,164,139	17,479,159	36,413,520	2.5 x	20.4%
NGP X	Hard Assets	35,000,000	35,960,212	733,518	28,855,568	5,658,436	1.0 x	-1.3%
Total 2012		458,823,718	424,244,112	172,420,192	314,337,993	363,411,221	1.6 x	16.2%
2013								
EnCap IX	Hard Assets	25,000,000	28,348,872	1,406,573	21,673,743	6,836,057	1.0 x	0.3%
FP Intl 2013	Buyout	20,000,000	13,609,200	6,525,510	2,093,845	16,018,384	1.3 x	7.8%
FP Venture 2013	Venture Capital	20,000,000	17,931,420	2,153,755	10,206,083	32,681,475	2.4 x	24.3%
Levine Leichtman V	Structured Capital	20,000,000	24,686,434	3,720,763	16,713,244	18,134,450	1.4 x	11.6%
Riverside V	Buyout	35,000,000	34,497,271	2,297,146	24,247,705	23,411,127	1.4 x	9.0%
Vista Foundation II	Buyout	15,000,000	15,468,495	7,666,141	10,905,347	15,381,404	1.7 x	14.4%
Total 2013		135,000,000	134,541,692	23,769,888	85,839,967	112,462,897	1.5 x	11.7%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2014								
Atlas Capital II	Turnaround	15,000,000	18,839,091	4,853,461	12,158,708	13,929,670	1.4 x	18.0%
Big River - Equity	Infrastructure	151,090,000	151,090,000	0	19,160,000	377,800,000	2.6 x	23.6%
Big River - Mezzanine *	Mezzanine	5,000,000	5,003,686	0	8,225,290	0	1.6 x	17.3%
Blue Oak Arkansas *	Infrastructure	18,000,000	19,740,000	0	4,717,993	0	0.2 x	-50.5%
Castlelake III	Distressed Debt	25,000,000	23,149,741	1,864,884	14,428,076	17,334,408	1.4 x	7.1%
FP Intl 2014	Buyout	25,000,000	15,850,395	9,267,166	6,226,001	14,109,067	1.3 x	9.9%
FP Venture 2014	Venture Capital	25,000,000	23,521,750	1,569,712	7,995,517	39,350,545	2.0 x	19.4%
KPS IV	Turnaround	25,000,000	21,613,164	2,718,761	5,493,658	20,055,286	1.2 x	12.0%
Lime Rock Resources III	Hard Assets	25,000,000	25,532,623	363,997	4,687,078	8,978,983	0.5 x	-12.9%
NGP XI	Hard Assets	30,000,000	29,646,784	1,667,202	8,902,789	19,939,317	1.0 x	-1.1%
Sycamore Partners II	Turnaround	25,000,000	21,923,582	4,203,160	9,208,345	13,624,142	1.0 x	1.7%
Thoma Bravo XI	Buyout	20,000,000	20,785,558	2,135,646	32,030,997	35,871,303	3.3 x	32.0%
Total 2014		389,090,000	376,696,374	28,643,989	133,234,452	560,992,721	1.8 x	16.8%
2015								
Big River - Sr Secured Debt *	Infrastructure	26,910,000	26,966,221	0	35,699,565	0	1.3 x	14.7%
EnCap X	Hard Assets	30,000,000	27,530,507	4,454,446	5,922,338	18,974,083	0.9 x	-4.1%
FP Intl 2015	Buyout	25,000,000	15,708,040	9,384,861	976,174	17,381,056	1.2 x	7.0%
FP Venture 2015	Venture Capital	25,000,000	22,677,100	2,411,901	1,195,328	31,995,469	1.5 x	14.9%
Siris III	Buyout	25,000,000	30,496,926	4,007,421	16,321,781	21,546,845	1.2 x	12.0%
Total 2015		131,910,000	123,378,795	20,258,629	60,115,186	89,897,453	1.2 x	9.3%
2016								
American Industrial VI	Buyout	20,000,000	22,294,979	2,885,868	5,180,848	21,472,254	1.2 x	8.3%
Arlington IV	Buyout	23,000,000	21,752,658	1,247,342	0	31,870,675	1.5 x	20.7%
DW Healthcare IV	Buyout	30,000,000	27,223,862	4,305,104	11,273,132	30,190,705	1.5 x	27.0%
FP Intl 2016	Buyout	25,000,000	14,948,454	10,158,840	1,095,238	15,606,240	1.1 x	5.3%
FP Venture 2016	Venture Capital	25,000,000	17,530,488	7,569,677	863,616	23,736,670	1.4 x	18.4%
Highland Equity	Hard Assets	66,000,000	81,870,000	0	16,674,525	127,583,665	1.8 x	26.3%
JF Lehman IV	Buyout	30,000,000	25,650,797	4,349,203	14,756,362	34,430,122	1.9 x	31.3%
PineBridge Structured III	Structured Capital	30,000,000	23,892,330	10,984,421	4,965,677	14,300,821	0.8 x	-10.7%
Thoma Bravo Discover	Buyout	10,000,000	11,350,409	1,767,370	9,155,280	14,448,398	2.1 x	33.9%
Thoma Bravo XII	Buyout	30,000,000	30,355,735	1,691,246	2,049,135	42,112,150	1.5 x	15.3%
Vista Foundation III	Buyout	30,000,000	24,794,694	9,729,827	4,491,545	31,898,468	1.5 x	19.8%
Total 2016		319,000,000	301,664,406	54,688,898	70,505,357	387,650,168	1.5 x	20.5%

Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2017								
Altaris Constellation	Buyout	20,000,000	16,258,801	5,112,804	1,371,187	26,158,042	1.7 x	22.1%
Big River - Funding *	Infrastructure	3,750,000	3,750,000	0	3,812,795	0	1.0 x	4.3%
Big River - Holdings Note *	Infrastructure	12,000,000	12,000,000	0	13,343,726	0	1.1 x	11.0%
Big River - Preferred Equity *	Infrastructure	41,980,449	41,980,449	0	51,702,368	0	1.2 x	12.5%
Bison V	Structured Capital	35,000,000	23,688,450	16,262,557	7,498,868	19,473,121	1.1 x	9.2%
BV IX	Buyout	30,000,000	20,083,883	12,033,828	2,117,709	24,911,414	1.3 x	28.6%
EnCap XI	Hard Assets	35,000,000	10,552,169	24,447,831	0	6,273,322	0.6 x	-34.3%
FP Intl 2017	Buyout	25,000,000	12,244,898	12,865,914	17,557	14,405,314	1.2 x	12.1%
FP Venture 2017	Venture Capital	25,000,000	10,398,230	14,664,754	1,657,650	12,673,874	1.4 x	29.9%
Greyrock IV	Mezzanine	30,000,000	26,722,273	4,413,712	3,783,831	26,448,733	1.1 x	8.1%
NGP XII	Hard Assets	30,000,000	15,443,783	14,556,217	99,132	12,807,221	0.8 x	-11.7%
One Rock II	Buyout	30,000,000	26,082,245	3,917,755	0	29,226,233	1.1 x	8.5%
Total 2017		317,730,449	219,205,182	108,275,372	85,404,824	172,377,274	1.2 x	11.1%
2018								
Altaris IV	Buyout	24,000,000	14,447,282	9,552,718	0	16,323,759	1.1 x	10.3%
Big River - Holdings Note 2023	Infrastructure	12,000,000	12,000,000	0	0	12,871,433	1.1 x	3.1%
Big River - Holdings Note 2023-2	Infrastructure	5,150,000	5,150,000	0	62,323	5,397,380	1.1 x	3.3%
Clearlake V	Buyout	30,000,000	27,627,305	6,573,707	8,435,222	33,330,403	1.5 x	42.7%
FP Intl 2018	Buyout	25,000,000	8,969,466	16,176,580	0	9,098,552	1.0 x	1.7%
FP Venture 2018	Venture Capital	25,000,000	9,161,491	15,922,484	217	9,285,339	1.0 x	1.5%
GTLA Holdings	Hard Assets	20,000,000	20,000,000	0	0	20,000,000	1.0 x	0.0%
Highland Contingent Note	Hard Assets	152,244,727	152,244,727	0	15,000,000	152,244,727	1.1 x	N/A
SK Capital V	Buyout	30,000,000	8,461,380	21,538,620	10,490	6,833,811	0.8 x	-16.7%
Sycamore Partners III	Turnaround	25,000,000	3,659,099	21,340,901	0	2,302,697	0.6 x	-26.6%
Thoma Bravo Discover II	Buyout	17,000,000	10,350,016	6,649,984	0	12,232,959	1.2 x	19.4%
Total 2018		365,394,727	272,070,766	97,754,994	23,508,252	279,921,060	1.1 x	15.5%

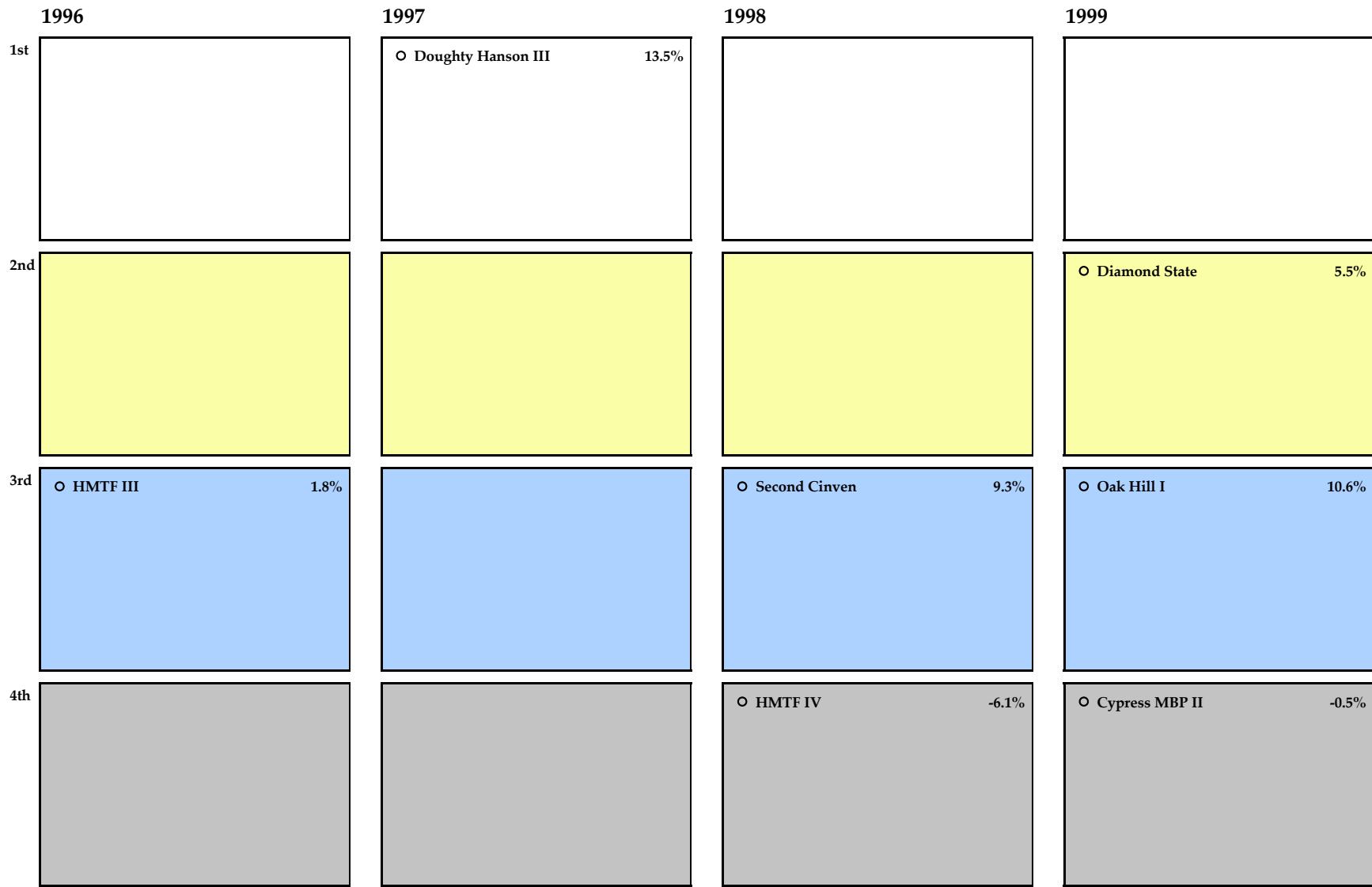
Investment Performance by Vintage Year



Investment	Strategy	Committed Capital (\$)	Contributed Capital (\$)	Unfunded Commitment (\$)	Distributed Capital (\$)	Remaining Value (\$)	TVPI	Net IRR
2019								
American Industrial VII	Buyout	30,000,000	1,589,765	28,410,569	334	1,337,894	0.8 x	NMF
Arlington V	Buyout	25,000,000	3,272,557	21,727,443	0	3,318,358	1.0 x	NMF
DW Healthcare V	Buyout	30,000,000	7,135,151	22,864,849	0	6,541,423	0.9 x	NMF
FP Intl 2019	Buyout	30,000,000	3,404,255	26,701,013	0	3,439,779	1.0 x	NMF
FP Venture 2019	Venture Capital	30,000,000	5,776,397	24,284,099	23,600	5,508,121	1.0 x	NMF
KPS Mid-Market I	Turnaround	20,000,000	3,546,378	16,453,622	0	3,367,277	0.9 x	NMF
Riverside VI	Buyout	30,000,000	10,035,951	19,964,049	0	8,256,210	0.8 x	NMF
Siris IV	Buyout	30,000,000	16,150,636	13,849,364	0	14,273,577	0.9 x	NMF
Thoma Bravo XIII	Buyout	30,000,000	21,702,212	8,297,788	121	32,735,210	1.5 x	NMF
WNG II	Special Assets	30,000,000	8,497,598	21,502,402	3,195	6,739,189	0.8 x	NMF
Total 2019		285,000,000	81,110,900	204,055,198	27,250	85,517,038	1.1 x	NMF
2020								
BV X	Buyout	30,000,000	0	30,000,000	0	-152,952	N/A	NMF
Clearlake VI	Buyout	30,000,000	2,926,326	27,073,674	1,059	2,830,242	1.0 x	NMF
FP CF Access	Buyout	30,000,000	2,573,782	27,426,218	0	2,311,122	0.9 x	NMF
FP Intl X	Buyout	30,000,000	0	30,000,000	0	0	N/A	NMF
FP VC XIII	Venture Capital	30,000,000	0	30,000,000	0	0	N/A	NMF
Greyrock V	Mezzanine	35,000,000	0	35,000,000	0	0	N/A	NMF
JF Lehman V	Buyout	30,000,000	0	30,000,000	0	-150,311	N/A	NMF
KPS V	Turnaround	30,000,000	0	30,000,000	0	0	N/A	NMF
Thoma Bravo Discover III	Buyout	20,000,000	0	20,000,000	0	0	N/A	NMF
Thoma Bravo Explore I	Buyout	20,000,000	0	20,000,000	0	0	N/A	NMF
Thoma Bravo XIV	Buyout	20,000,000	0	20,000,000	0	0	N/A	NMF
Total 2020		305,000,000	5,500,108	299,499,892	1,059	4,838,101	0.9 x	NMF
Total Portfolio		5,318,139,355	4,531,246,539	1,190,897,921	4,581,592,498	2,568,758,188	1.6 x	10.9%

- Remaining Value is defined as the investor's value as reported by the fund's manager.
- TVPI is the ratio of Distributed Capital plus Remaining Value to Contributed Capital.
- Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Remaining Value as of the Report Date, net of fees and expenses, including late closing interest.
- An asterisk indicates an investment that is fully liquidated, if applicable.
- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.
- Returns calculated for funds in the early years of their lives are particularly not meaningful given the J-curve effect. During these early years, due to illiquidity, stagnant valuations, fees and expenses, fund performance tends to be negative (the bottom of the "J").

Performance by Vintage Year and Quartile Group



● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group

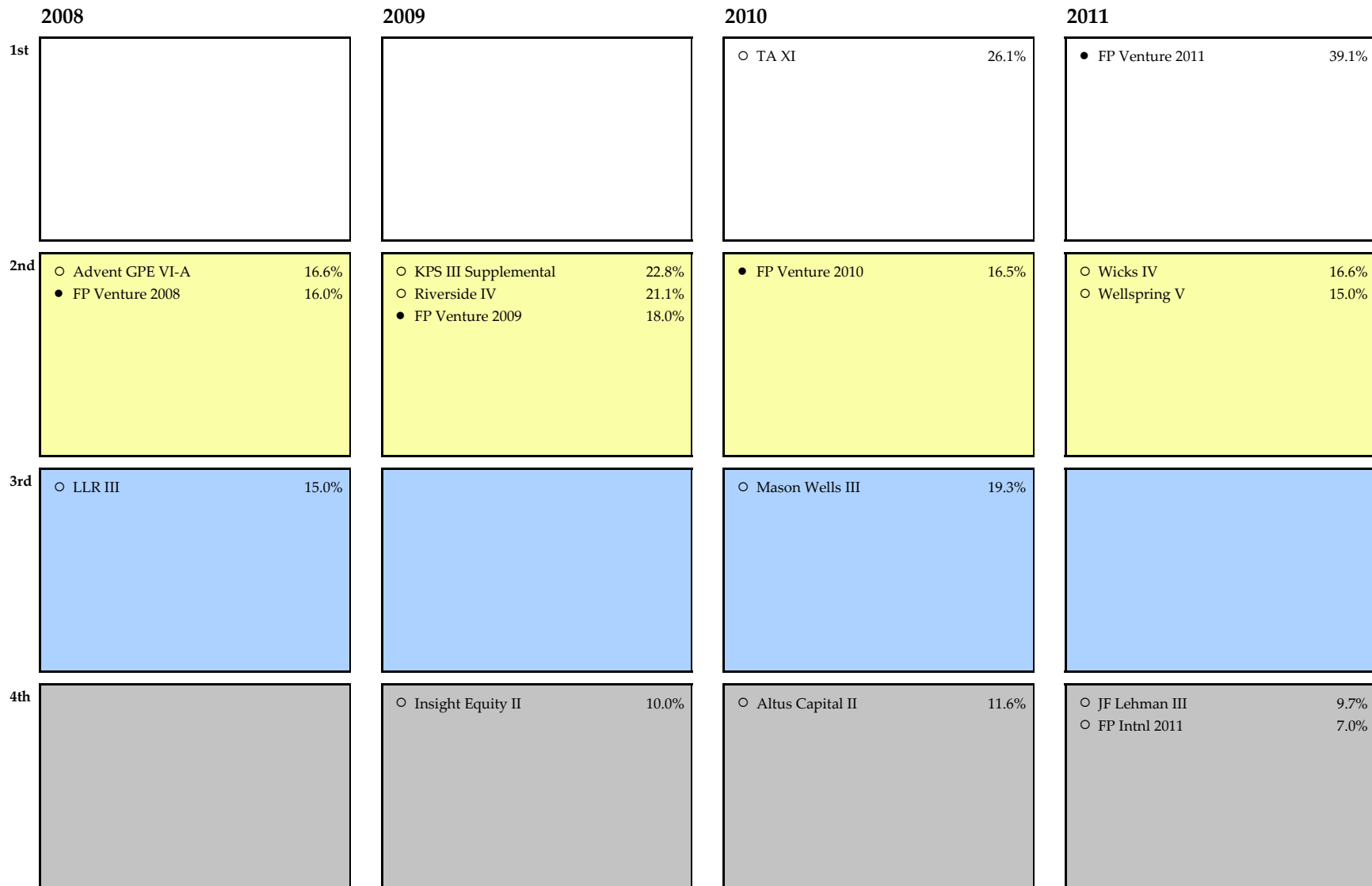


	2000	2005	2006	2007
1st				○ Vista Equity III 28.6%
2nd	○ DLJ MBP III 19.4% ○ HMTF V 17.6%		○ CSFB-ATRS 2006-1 Series 9.7%	○ NGP IX 10.8%
3rd		○ CSFB-ATRS 2005-1 Series 7.3%		○ Diamond State II 9.4%
4th	○ 21st Century Group I -3.8% ○ DH Tech I -22.1%		○ Boston Ventures VII 2.8%	

● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group



● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group

	2012	2013	2014	2015
1st	<ul style="list-style-type: none"> ○ BV VIII 53.5% ● FP Venture 2012 20.4% 	<ul style="list-style-type: none"> ● FP Venture 2013 24.3% 	<ul style="list-style-type: none"> ○ Thoma Bravo XI 32.0% 	
2nd	<ul style="list-style-type: none"> ○ DW Healthcare III 18.2% ○ Court Square III 17.7% ○ ATRS-FP PE 16.0% 	<ul style="list-style-type: none"> ○ Vista Foundation II 14.4% 	<ul style="list-style-type: none"> ● FP Venture 2014 19.4% ○ Atlas Capital II 18.0% 	<ul style="list-style-type: none"> ○ Siris III 12.0%
3rd	<ul style="list-style-type: none"> ○ NGP X -1.3% 		<ul style="list-style-type: none"> ○ KPS IV 12.0% ○ FP Intl 2014 9.9% ○ NGP XI -1.1% 	<ul style="list-style-type: none"> ● FP Venture 2015 14.9% ○ FP Intl 2015 7.0% ○ EnCap X -4.1%
4th	<ul style="list-style-type: none"> ○ FP Intl 2012 7.2% 	<ul style="list-style-type: none"> ○ Riverside V 9.0% ○ FP Intl 2013 7.8% ○ EnCap IX 0.3% 	<ul style="list-style-type: none"> ○ Sycamore Partners II 1.7% ○ Lime Rock Resources III -12.9% 	

● Venture ○ Non-venture

BOLD = Realized

Performance by Vintage Year and Quartile Group

	2016	2017	2018
1st	<ul style="list-style-type: none"> ○ Thoma Bravo Discover 33.9% ○ JF Lehman IV 31.3% ○ DW Healthcare IV 27.0% ○ Arlington IV 20.7% ○ Vista Foundation III 19.8% 	<ul style="list-style-type: none"> ● FP Venture 2017 29.9% ○ BV IX 28.6% ○ Altaris Constellation 22.1% ○ FP Intl 2017 12.1% ○ One Rock II 8.5% 	<ul style="list-style-type: none"> ○ Clearlake V 42.7% ○ Thoma Bravo Discover II 19.4% ○ Altaris IV 10.3%
2nd	<ul style="list-style-type: none"> ● FP Venture 2016 18.4% ○ Thoma Bravo XII 15.3% 		<ul style="list-style-type: none"> ○ FP Intl 2018 1.7% ● FP Venture 2018 1.5%
3rd	<ul style="list-style-type: none"> ○ American Industrial VI 8.3% ○ FP Intl 2016 5.3% 	<ul style="list-style-type: none"> ○ NGP XII -11.7% 	<ul style="list-style-type: none"> ○ SK Capital V -16.7% ○ Sycamore Partners III -26.6%
4th		<ul style="list-style-type: none"> ○ EnCap XI -34.3% 	

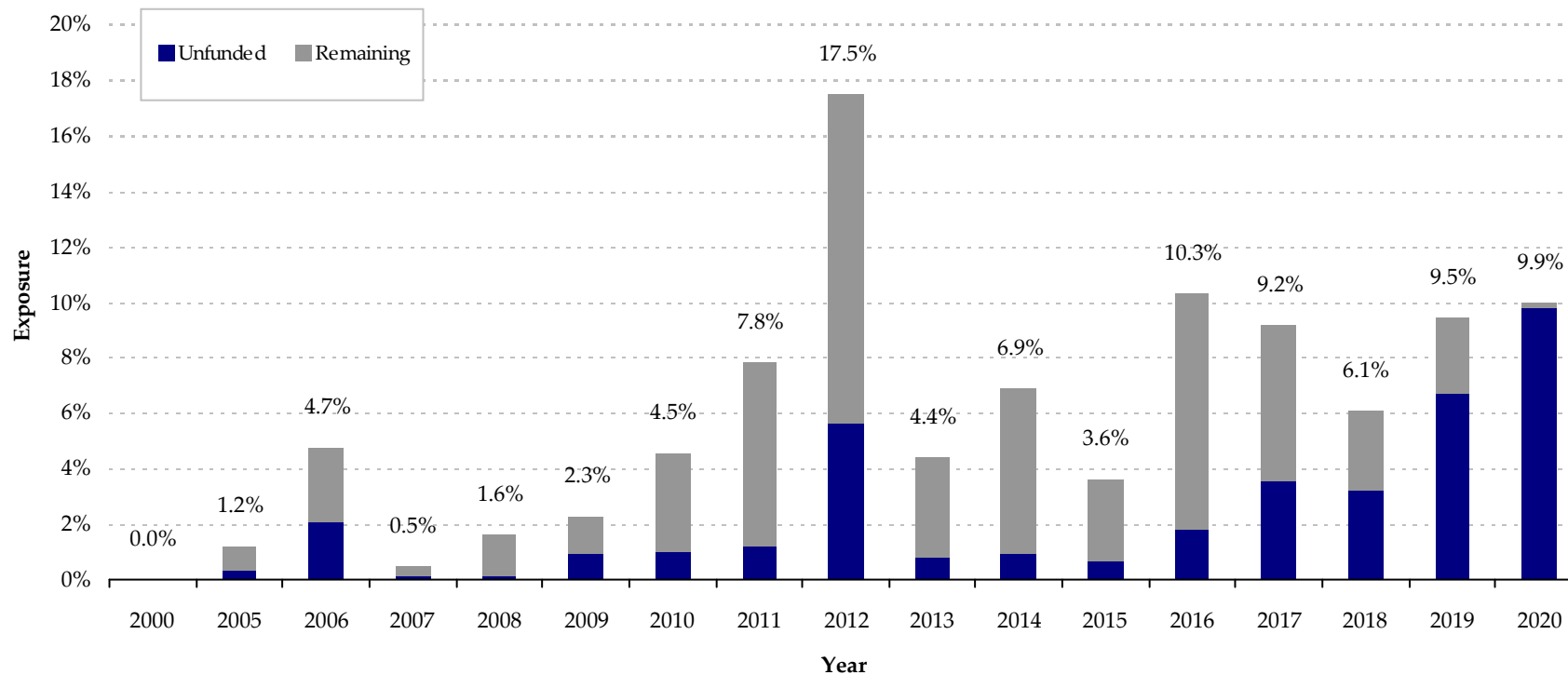
● Venture ○ Non-venture

BOLD = Realized

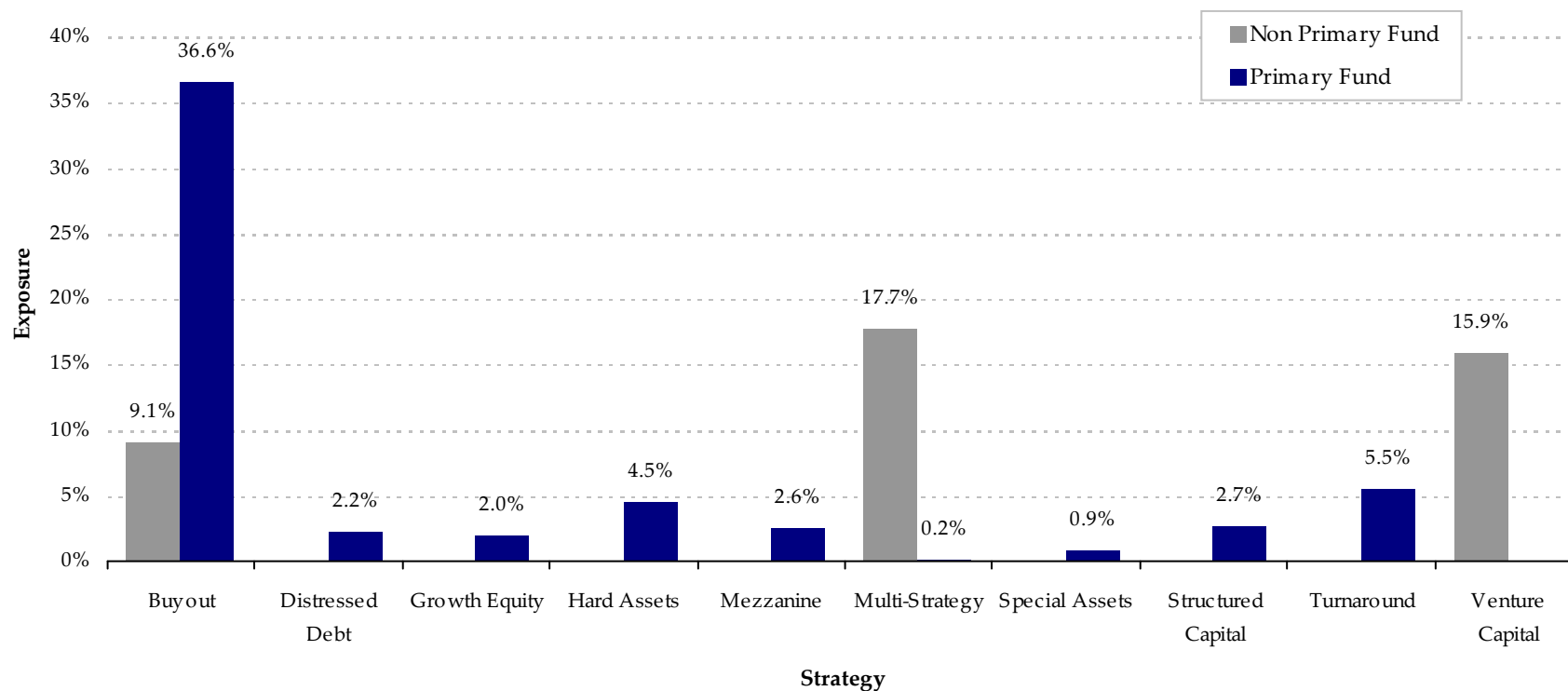
-
- The analysis compares each fund's Net IRR versus its respective peer group by vintage year and strategy. Funds with a corporate finance strategy, excluding private debt, are compared to Cambridge Associates, U.S. Buyout. Funds with a venture capital strategy are compared to Cambridge Associates, U.S. Venture Capital. Multi-strategy funds are compared to data compiled by Cambridge Associates for funds across multiple strategies including U.S. Buyout, Growth Equity, Venture Capital, Mezzanine, Distressed, Fund-of-Funds, and Secondary Funds. Funds with a hard assets strategy are compared to Cambridge Associates, U.S. Private Equity Energy. Funds with a real estate strategy are compared to Cambridge Associates, U.S. Real Estate. Benchmark data is not available for funds with a private debt strategy.
 - The analysis excludes the two most recent vintage years, as fund performance is deemed not yet meaningful (NMF).
 - Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Remaining Value as of the Report Date, net of fees and expenses, including late closing interest.
 - Benchmark data was compiled from Cambridge Associates as of March 31, 2020. Hard Assets benchmark data for Vintage Years prior to 2005, and for Vintage Years 2009 and 2010, is not available.

Diversification Analysis

Exposure By Vintage Year



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

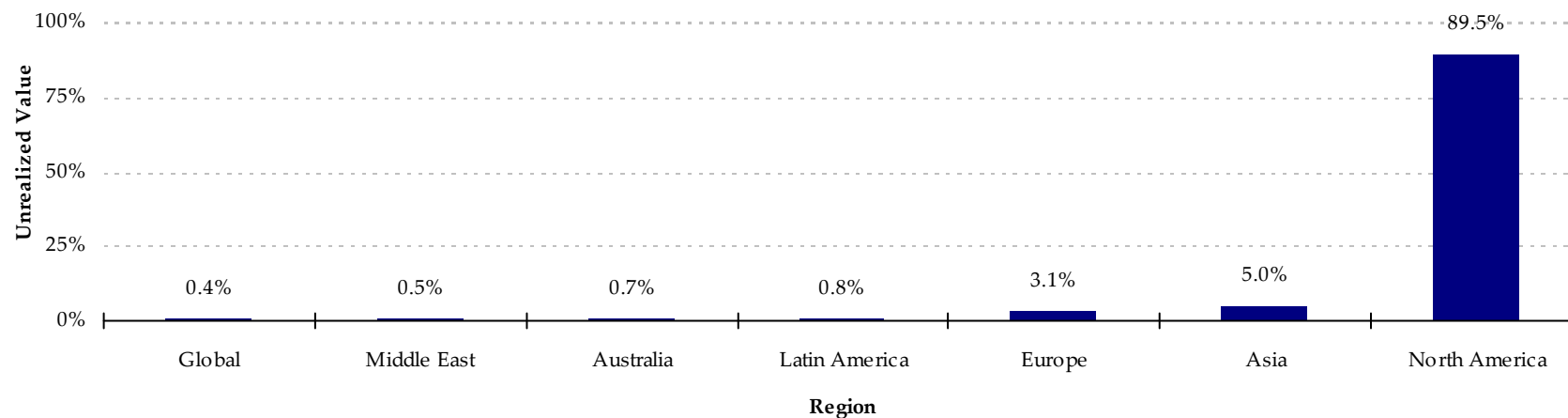


- Exposure is defined as the sum of the investor's Remaining Value plus Unfunded Commitment.
- Primary Fund represents interests in private equity funds acquired directly from the seller (i.e. fund manager). Non Primary Fund represents interests in private equity funds acquired through a commitment to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

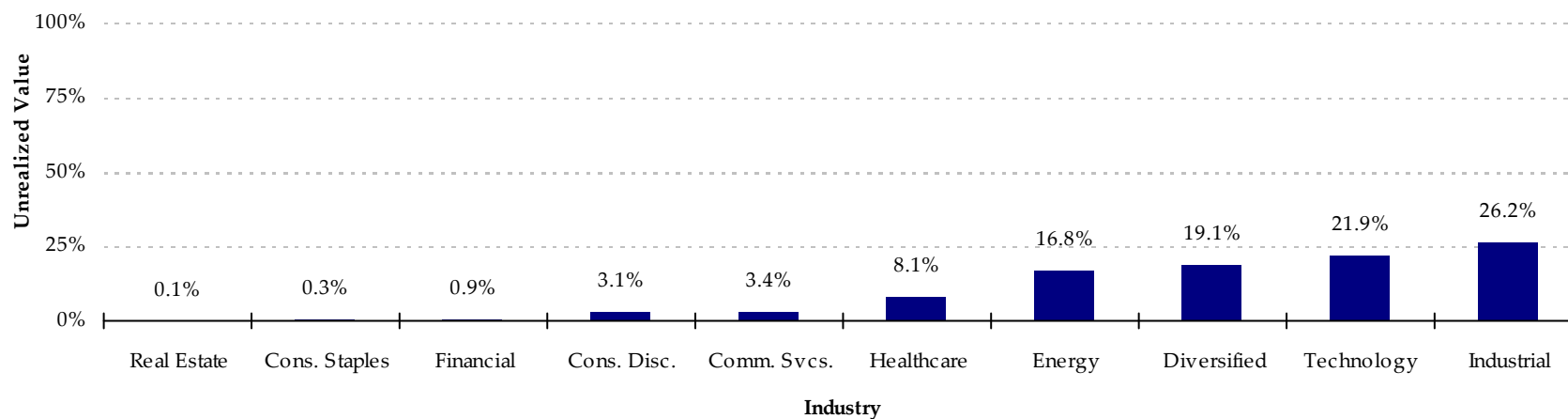
Holdings by Region and Industry



Region

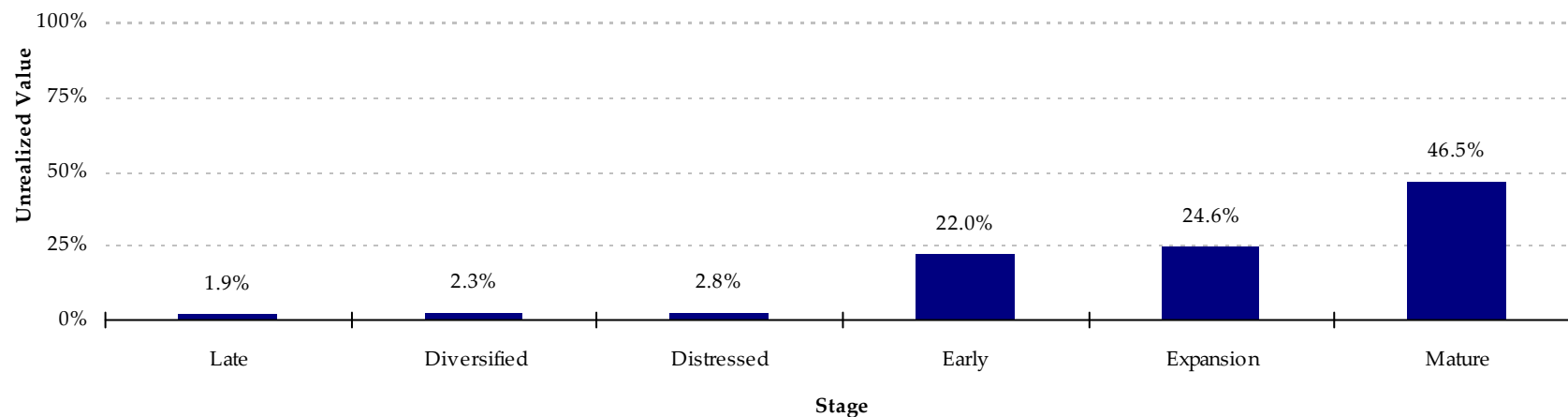


Industry

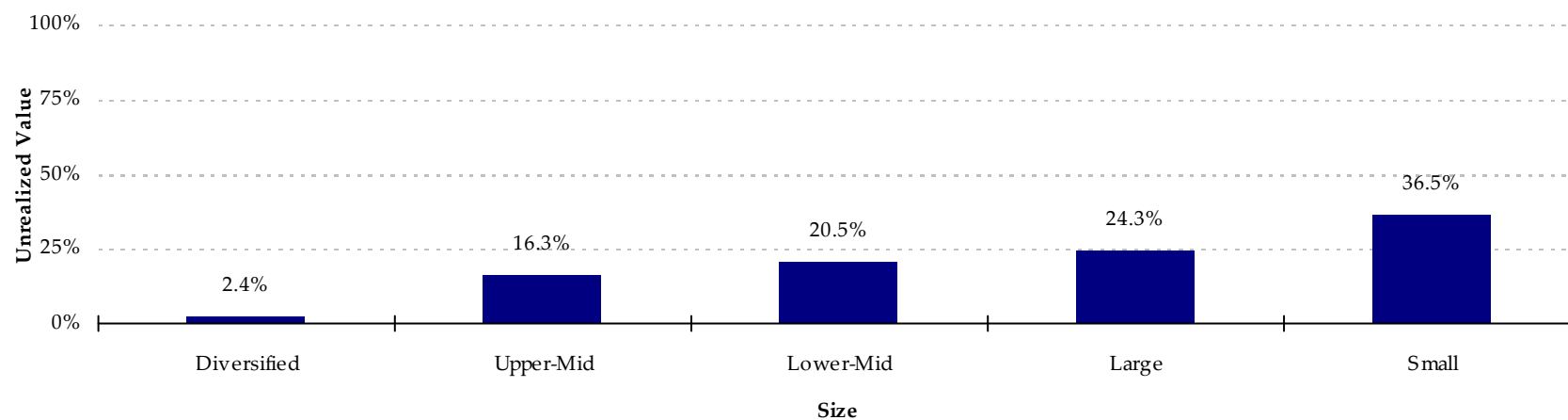


- Unrealized Value represents the value of portfolio holdings as reported by fund managers.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values are converted to the investor's currency, when applicable, as of the Report Date.

Stage



Size

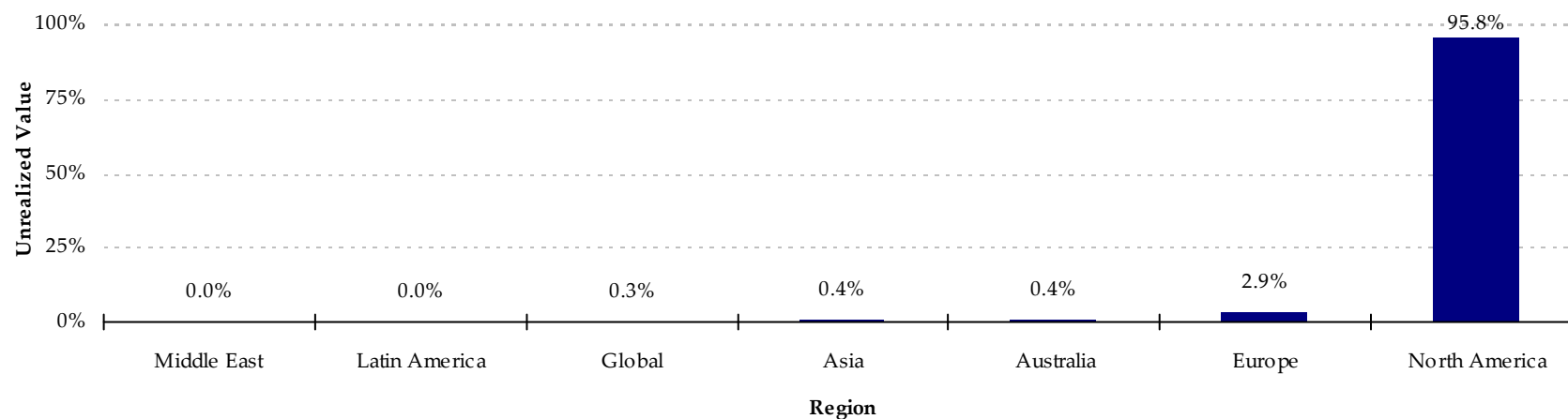


- Unrealized Value is the value of portfolio holdings as reported by the fund manager.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values converted to the investor's currency, when applicable, as of the Report Date.

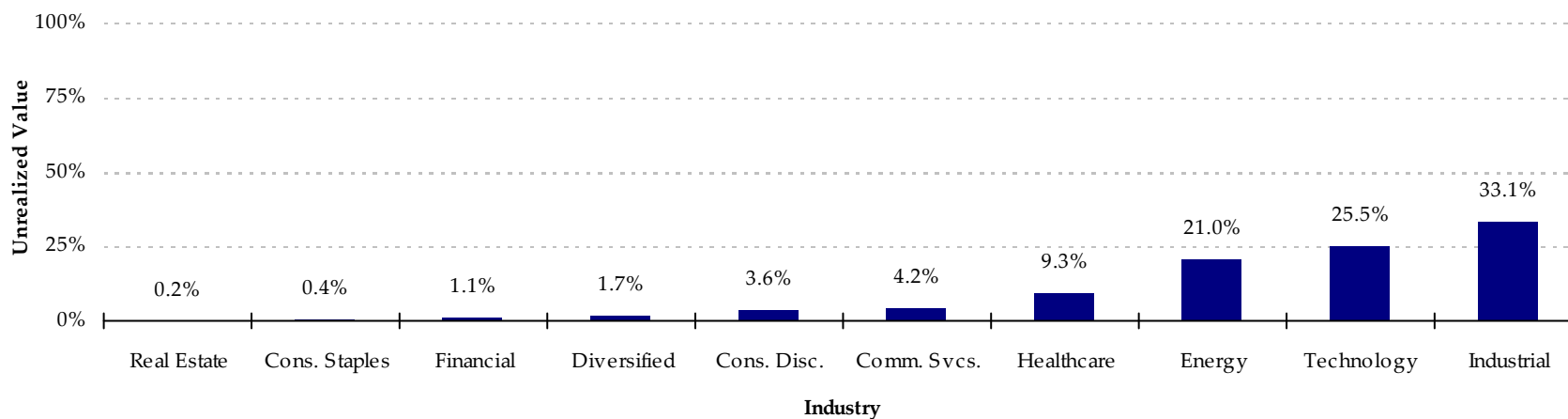
Holdings by Region and Industry (ex Fund Holdings)



Region



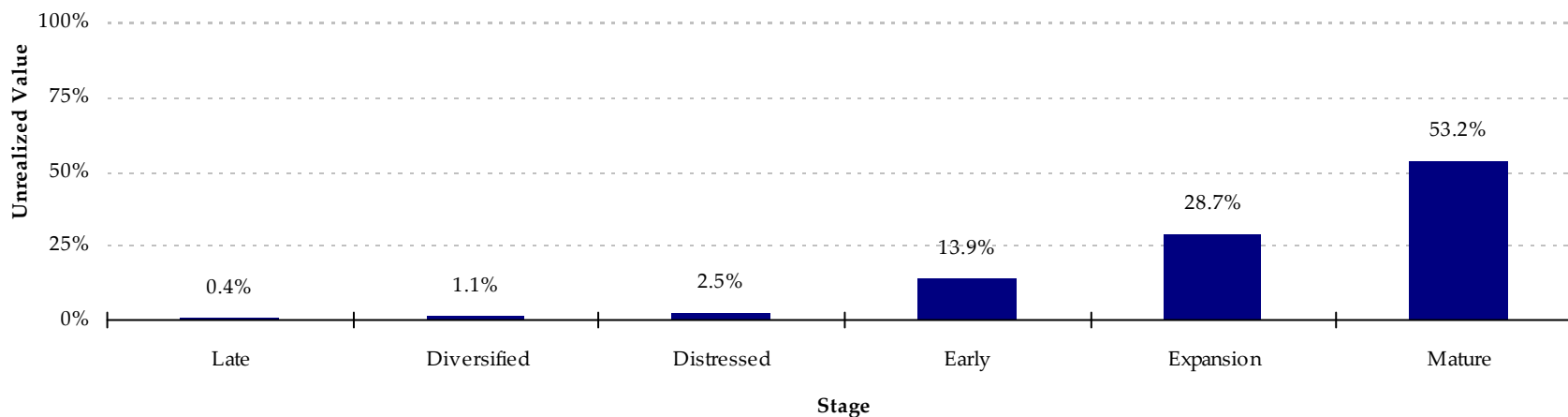
Industry



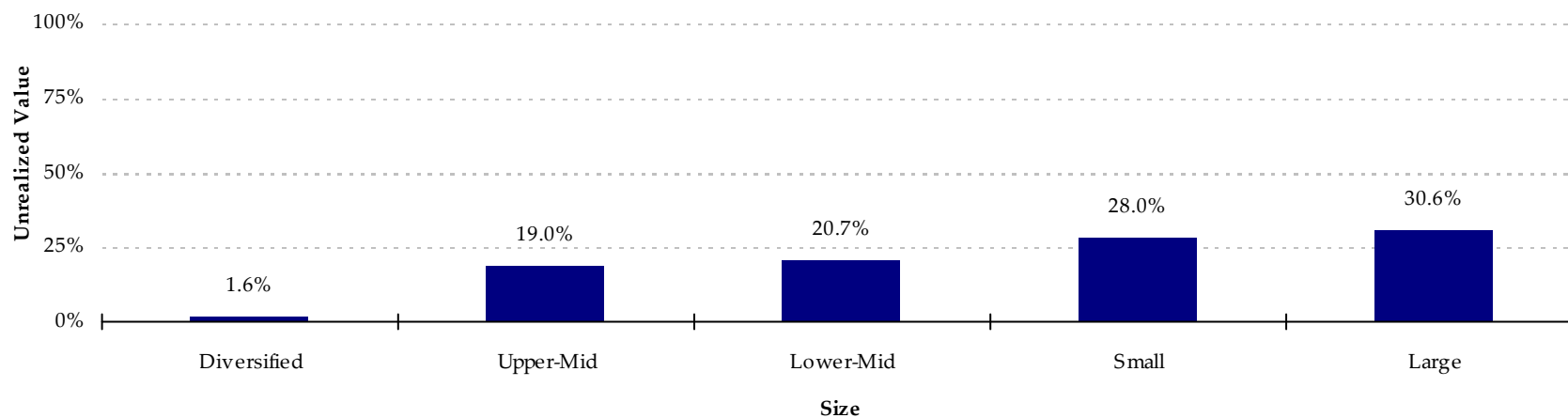
- Fund investments in other funds were excluded from this analysis.
- Unrealized Value represents the value of portfolio holdings as reported by fund managers.
- Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
- Values are converted to the investor's currency,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

Holdings by Stage and Size (ex Fund Holdings)

Stage

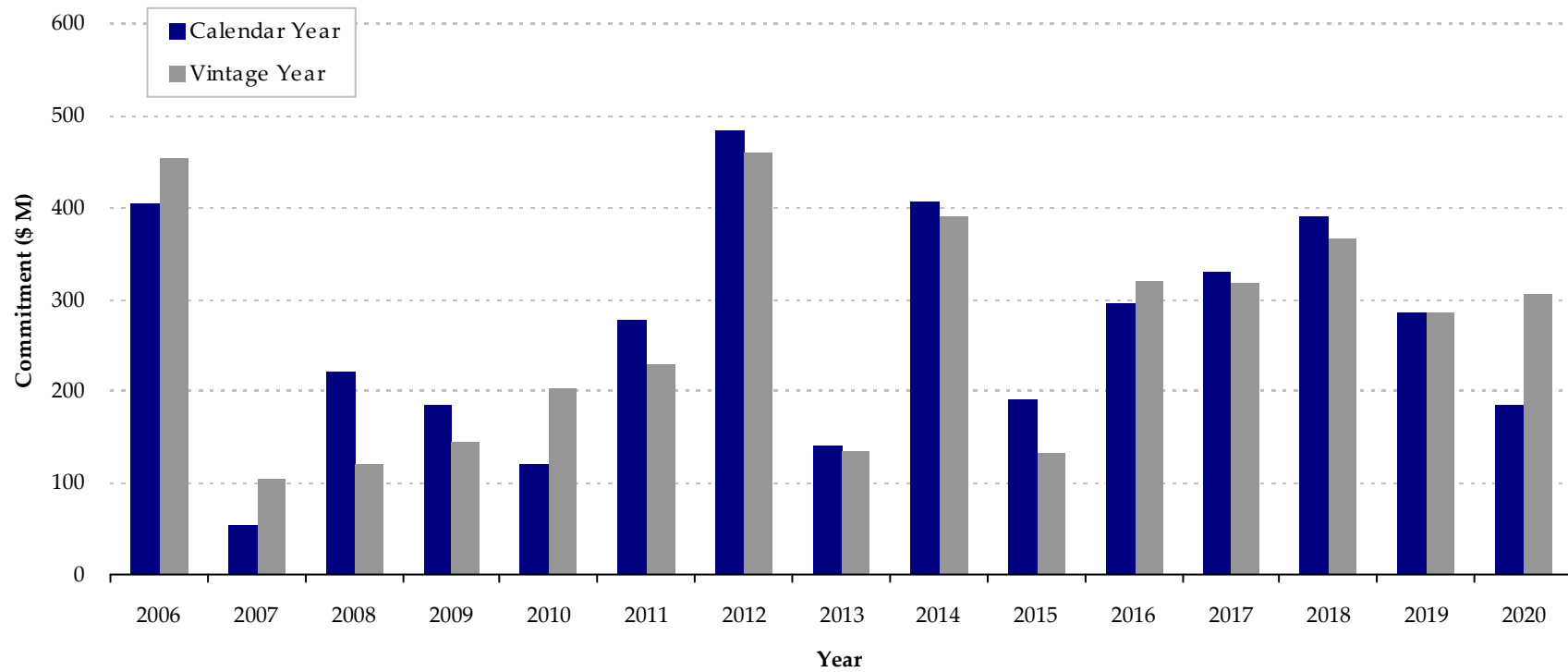


Size



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

Recent Activity



- Vintage Year represents the year in which investors first contribute capital to a fund.
- Calendar Year represents the year in which a commitment to a fund formally closed.
- Commitments made in a foreign currency have been converted into U.S. dollars using an exchange rate as of the Report Date, if applicable.
- Commitments were compiled through the Report Date.

Glossary

Term	Definition	Term	Definition
Barclays US Corporate High Yield Index	The Barclays US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Barclays EM country definition, are excluded.	Dow Jones US Total Stock Market Total Return Index	The Dow Jones US Total Stock Market Total Return Index measures all U.S. equity securities with readily available prices. It is a free float-adjusted market capitalization weighted index and is calculated with dividend reinvestment.
Bridge Financing	Temporary funding that will eventually be replaced by permanent capital from equity investors or debt lenders	DPI	Ratio of Distributed Capital to Contributed Capital
Buyout	Fund whose strategy is to acquire controlling interests in companies	Early Stage	A company's first Stage of development. Company is generally generating modest or no revenues
Co/Direct Investment	Investment made directly into a company, rather than indirectly through a fund	Equity	Security type that signifies ownership of a company (e.g. common stock, preferred stock, warrants, etc.)
Committed Capital	Total dollar amount of capital pledged to a fund	Expansion Stage	A company's third Stage of development. Company is generally experiencing high growth and nearing profitability
Contributed Capital	Total capital contributed to a fund for investments, fees and expenses, including late closing interest paid, less returns of excess capital called	Exposure	Sum of Remaining Value plus Unfunded Commitment
Cost Basis	Remaining amount of invested capital	Fund-of-Funds	Fund whose strategy is to make investments in other funds
Debt	Security type that signifies a repayment obligation by a company (e.g. senior debt, subordinated debt, bridge loan etc.)	Geographic Region	Market location of a company: North America, Western Europe, Africa/Middle East, Latin America, Asia/Pacific Rim
Distressed	A company's final Stage of development. Company is generally experiencing operational or financial distress	Growth Equity	Fund whose strategy is to invest in companies to expand or restructure operations, enter new markets or finance an acquisition without a change of control of the business
Distressed Debt	<ul style="list-style-type: none"> • Distressed Trading – Fund whose strategy is to invest and trade debt of financially stressed companies • Distressed Restructuring – Fund whose strategy is to acquire and restructure debt of financially stressed companies • Opportunistic Credit – Fund whose strategy is to flexibly invest in debt securities and income-producing assets of any kind, where the issuer or holder is financially stressed • Structured Capital – Fund whose strategy is to issue hybrid debt and equity securities to mature companies 	Hard Assets	Fund whose strategy is to invest in natural resources or infrastructure
Distributed Capital	Capital distributed to the limited partners, including late closing interest earned	Infrastructure	Fund whose strategy is to acquire interests in physical structures and networks that provide the essential services for society's economic and social needs, e.g. roads, tunnels, communication networks, etc.
		Internal Rate of Return (IRR)	The discount rate that results in a net present value of zero of a series of cash flows. The IRR considers both cash flow timing and amount and is the preferred performance measure for private market funds
		Invested Capital	Capital invested by a fund in portfolio holdings
		Investment Type	Classification of an investment vehicle: Primary Fund, Secondary Fund, Fund-of-Funds

Term	Definition	Term	Definition
J-Curve	Refers to the shape of the curve illustrating a fund's performance over time. During the initial years of a fund's life, as a result of illiquidity, stagnant valuations, fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio companies are realized or increase in value and fees become a smaller percentage of overall contributions, performance improves and investors' returns move up the "J" shaped curve	Net IRR	Annualized effective compound rate of return using daily contributions, distributions and Remaining Value as of the Report Date, net of all fees and expenses, including late closing interest
Large	Company with a Size greater than \$1 billion	Percent Interest	Represents an investor's economic interest in a fund based upon the investor's commitment divided by total fund commitments
Late Stage	A company's second Stage of development. Company is generally generating high revenue growth and high losses	Primary Investment	An interest in a private equity fund acquired directly from the fund manager during the fundraising period
Lower-Mid	Company with a Size greater than \$100 million, but less than \$250 million	Public Market Equivalent (PME)	A private equity benchmark that represents the performance of a public market index expressed in terms of an IRR, using the same cash flows and timing as the investor's investment activity in private equity. The PME serves as a proxy for the return the investor could have achieved by investing in the public market. The PME benchmark return assumes cash flows are invested at the end of each day
Mature	A company's fourth Stage of development. Company is generally generating modest to no growth and operating profitably	Publication Date	Refers to the date this report was created as reflected in the Executive Summary
Mezzanine	<ul style="list-style-type: none"> • Sponsored Mezzanine – Fund whose strategy is to issue subordinated loans to companies owned by private equity fund sponsors • Non-Sponsored Mezzanine – Fund whose strategy is to issue subordinated loans to companies not owned by private equity fund sponsors 	Real Assets	Fund whose strategy is to invest in assets that are tangible or physical in nature such as land, machinery, and livestock
MSCI ACWI Index - Total Return	The MSCI ACWI Total Return is a reflection of the performance of the MSCI ACWI Index, including dividend reinvestment, as calculated by Bloomberg. The MSCI ACWI Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 45 country indices comprising 24 developed and 21 emerging market country indices.	Real Estate	Fund whose strategy is to acquire interests in real estate property
Natural Resources	Fund whose strategy is to acquire interests in naturally-occurring, economically valuable raw materials and all physical facilities and capabilities required for the extraction, refinement, and delivery to end users, e.g. oil and gas properties, timberland, etc.	Realized Capital	Capital distributed to a fund from portfolio holdings
NCREIF Property Index	The NCREIF Property Index is a quarterly, unleveraged composite total return for private commercial real estate properties held for investment purposes only.	Recallable / Recyclable Capital	Capital that has been previously distributed by a fund to investors but may be called again for investment purposes. It is generally associated with realizations that have occurred in the early years of a fund or refers to uninvested capital that has been temporarily returned (i.e. returns of excess capital)
		Recapitalization	The reorganization of a company's capital structure
		Remaining Value	Capital account balance as reported by the General Partner, generally on a fair value basis
		Report Date	Refers to the end date of the reporting period as reflected on the cover page
		Return on Investment (ROI)	Ratio of Realized Capital plus Unrealized Value to Invested Capital

Term	Definition	Term	Definition
Russell 1000® Total Return Index	The Russell 1000® Total Return Index measures the performance, including dividend reinvestment, of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market.	Size	Capitalization size of a company: Large, Upper-Mid, Lower-Mid, Small
Russell 3000® Total Return Index	The Russell 3000® Total Return Index measures the performance, including dividend reinvestment, of the largest 3000 U.S. companies representing approximately 98% of the investable U.S. equity market.	Small	Company with a Size of less than \$100 million
S&P 500 Price Index	The S&P 500 Price Index is a capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.	Small Business Investment Company (SBIC)	Lending and investment firms that are licensed and regulated by the Small Business Administration (SBA). The licensing enables them to borrow from the federal government to supplement the private funds of their investors
S&P 500 Total Return Index	The S&P 500 Total Return Index is a reflection of the performance of the S&P 500 Index, including dividend reinvestment. All regular cash dividends are assumed to be reinvested in the S&P 500 Index on the ex-date. Special cash dividends trigger a price adjustment in the price return index.	Small Buyout	Fund whose strategy is to acquire or recapitalize Small businesses
Secondary Investment	Investments that involve the purchase of private equity fund interests or portfolios of direct investments in privately held companies from existing institutional investors	Special Assets	<ul style="list-style-type: none"> • Healthcare Royalties – Fund whose strategy is to acquire royalty or revenue interests, or issue loans, backed by approved life science products • Music Royalties – Fund whose strategy is to acquire royalty or revenue interests, or issue loans, backed by music copyright assets • Aircraft Leasing – Fund whose strategy is to acquire and lease commercial aircraft • Life Settlement - Fund whose strategy is to acquire life insurance policies • Shipping – Fund whose strategy is to acquire and charter commercial shipping vessels • Asset Backed Securities – Fund whose strategy is to acquire or structure securities that are backed by income-producing assets
Sector	Industry in which the company operates: technology, telecommunications, healthcare, financial services, diversified, industrial, consumer, energy, etc.	Stage	The course of development through which a company passes from its inception to its termination: Early, Late, Expansion, Mature, Distressed
Senior Debt	<ul style="list-style-type: none"> • Direct Lending – Fund whose strategy is to issue senior loans to mature companies • Unitranche – Fund whose strategy is to issue hybrid senior and subordinated loans to mature companies • Venture Debt – Fund whose strategy is to issue loans to venture stage companies • Asset Based Lending – Fund whose strategy is to issue loans to companies where the amount of allowable borrowing outstanding is based on asset collateral value • Rescue Financing – Fund whose strategy is to issue loans to financially stressed companies 	Sub-Asset Class	Private equity investments are generally classified as Buyout, Venture Capital, Mezzanine, Distressed/Turnaround, and Fund-of-Funds
		TVPI	Ratio of Distributed Capital plus Remaining Value to Contributed Capital
		Unfunded Commitment	Amount of capital that remains to be contributed to a fund as defined in a fund's limited partnership agreement
		Unrealized Value	Holding value of a portfolio company assigned by the General Partner, which generally represents fair value
		Upper-Mid	Company with a Size greater than \$250 million but less than \$1 billion
		Venture Capital	Fund whose strategy is to make investments in Early Stage and/or Late Stage companies

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

End Notes

The information contained in this report is confidential and may contain proprietary information. The information contained herein is strictly for the use of Arkansas Teacher Retirement System and, subject to applicable law, may not be reproduced, transmitted or used in whole or in part for any other purpose without the expressed written consent of Franklin Park.

Information regarding the Arkansas Teacher Retirement System portfolio, trends and performance returns are based on or derived from information and data provided by third-party sources, including Arkansas Teacher Retirement System's historical records. Franklin Park assumes that such information is accurate and that the sources from which it has been obtained are reliable. For example, the performance figures contained within this report are calculated by Franklin Park based on information provided by the managers of Arkansas Teacher Retirement System's private equity fund investments (General Partners). The General Partners have not verified the performance figures presented by Franklin Park and such figures may differ from those calculated by General Partners or other investors.

Franklin Park presents Net IRR performance as recommended by the CFA Institute. The IRR calculation is a dollar-weighted return measurement, which considers both cash flow timing and amount, and is net of fees, expenses and carried interest. The total portfolio Net IRR presented herein is net of fees, expenses and carried interest paid by underlying private equity fund investments, but is gross of fees and expenses paid to Franklin Park. The IRR is most commonly used for measuring the performance of private equity funds. Until a fund is liquidated, typically over 10 to 12 years, the IRR is only an interim estimated return. An IRR is particularly not meaningful in the first two years of a fund's life given the J-curve effect (see footnote). The actual IRR of any private equity fund investment is not known until final liquidation.

▫ The J-curve refers to the shape of the curve that illustrates a private equity fund's performance over time. During the initial years of a fund's life, due to fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio company investments increase in value, fund performance improves and returns move up the "J" shaped curve.



Arkansas Teacher Retirement System Emerging Manager Update

July 2020

Franklin Park's Manager Coverage

Broad coverage of the private equity and private debt manager universe

Emerging Manager Coverage

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

Emerging Manager Database

- Franklin Park's database includes information on 241 funds¹ raised by minority-owned/led private equity and private debt managers
 - Since inception, Franklin Park has reviewed 188 private equity and private debt funds¹ raised by minority-owned/led managers
-

Manager Reviews

Due diligence activity from July 1, 2019 to June 30, 2020

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

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

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

- Accelerator Life Sciences
- Authentic Ventures
- Banneker Partners
- Clearlake Partners
- Diverse Communities Impact Fund
- Invictus Growth
- K1 Investment Management
- LeVert Ventures
- MaC Ventures
- One Rock Capital
- Original Capital
- P4G Capital
- Stellex Capital
- Tygon Peak Capital
- Valor Equity Partners
- VamosVentures
- Vista Foundation

Manager Meetings

Due diligence activity from July 1, 2019 to June 30, 2020

Meetings/calls were held with 9 of the 17 minority-owned/ led managers reviewed during the period

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

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

- Accelerator Life Sciences
- Banneker Partners
- Diverse Communities Impact Fund
- Invictus Growth
- K1 Investment Management
- MaC Ventures
- One Rock Capital
- Stellex Capital
- Vista Foundation

Manager Analysis

Due diligence activity from July 1, 2019 to June 30, 2020

Detailed analysis was conducted on 6 of the 17 minority-owned/led managers reviewed during the period

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

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

- Banneker Partners
- Clearlake Partners
- K1 Investment Management
- One Rock Capital
- Stellex Capital
- Vista Foundation

Manager Commitments

Due diligence activity from July 1, 2019 to June 30, 2020

ATRS made one commitment to a minority-owned/led fund during the period

- During the period, ATRS made 9 commitments, one of which was minority-owned/led
- Franklin Park continues to seek to review minority-owned/led managers for consideration for the ATRS portfolio

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

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

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For more information, please contact us at info@franklinparkllc.com

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





Franklin Park Corporate Finance Access Fund, L.P.

September 2020

Disclaimer

This Presentation (this “Presentation”) has been prepared by Franklin Park Associates, LLC (“Franklin Park”) solely for informational purposes for the exclusive use of the party to whom Franklin Park delivers this Presentation (the “Recipient”). This Presentation is not to be construed as a solicitation, invitation or an offer by Franklin Park or any of its members, officers, employees or agents to buy or sell any securities or related financial instruments. This Presentation is furnished on a confidential and limited basis for the sole and exclusive purpose of providing general and background information concerning Franklin Park Corporate Finance Access Fund, L.P. (the “Fund”) as well as Franklin Park and its activities. This Presentation is not an offer or sale of, or a solicitation to any person to buy, any security or investment product or investment advice. Any such offer, sale or solicitation of interests in the Fund will be made only pursuant to the Fund’s definitive documents, and will be subject to the terms and conditions contained in such documents. This Presentation is qualified in its entirety by reference to the Fund’s definitive documents.

The information in this Presentation has been obtained from Franklin Park’s proprietary research and other publicly available sources and has not been independently verified by Franklin Park or any of its members, officers, employees, agents, representatives or advisers or any other person. Any valuations, projections, estimates, forecasts, targets, prospects, returns and/or opinions contained herein involve elements of subjective judgment and analysis. Any opinions expressed in this material are subject to change without notice. This Presentation may contain forward-looking statements. Any estimates or projections as to events that may occur in the future are based upon the reasonable expectation of Franklin Park. No obligation is undertaken by Franklin Park or any other person to provide the Recipient with additional information or to update, revise or reaffirm the information contained in this Presentation or to correct any inaccuracies therein which may become apparent.

Past or projected performance information contained in this Presentation is not necessarily indicative of future results. There can be no assurance that the Fund will ultimately achieve comparable performance results.

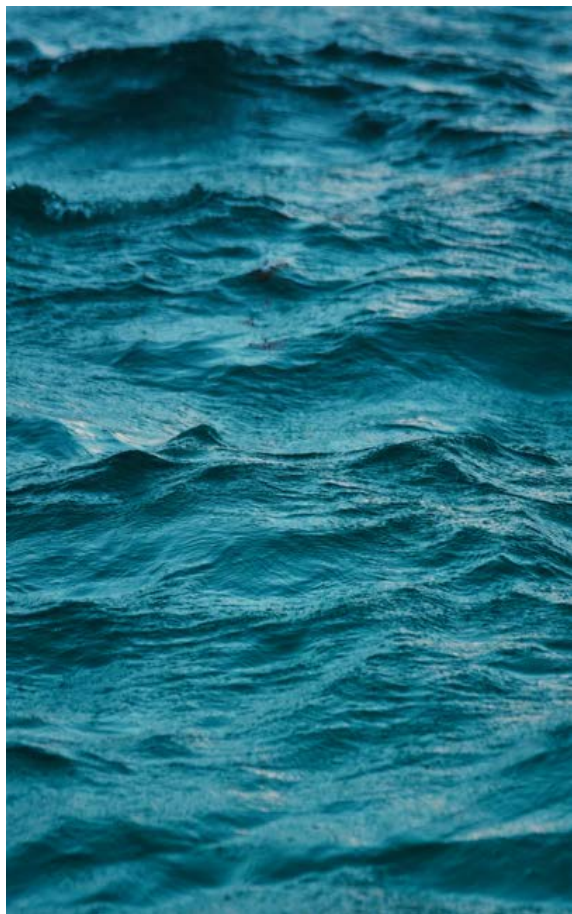
This Presentation is not intended to be relied upon as legal, tax, accounting or investment advice or a recommendation and is not, and should not be assumed to be, complete. The Recipient agrees that Franklin Park and its affiliates, members, partners, stockholders, managers, directors, officers, employees and agents shall have no liability for any misstatement or omission of fact or any opinion expressed herein. The contents herein are not to be construed as legal, business or tax advice, and the Recipient should consult its own attorney, business advisor and tax advisor as to legal, business and tax advice. Recipient is expected to rely on its own due diligence if it wishes to proceed further.

The Recipient further agrees that it will (i) not copy, reproduce or distribute the Presentation, in whole or in part, to any person or party without the prior written consent of Franklin Park, (ii) keep permanently confidential all information contained herein not already public and (iii) use the Presentation solely for the purpose set forth in the first paragraph above.

By accepting this Presentation the Recipient agrees to be bound by the foregoing obligations and limitations.

Franklin Park Corporate Finance Access Fund, L.P. (“FP CF Access”)

Target size of \$150 million; \$58 million in commitments raised to date



Executive Summary

Strong Performance

- Since 2010, Franklin Park has committed \$1.0 billion through discretionary accounts to funds consistent with the vehicle’s strategy
- Net IRR of 18.1%, as of December 31, 2019

Highly Experienced & Cohesive Team

- Firm has been active in the target market for 17 years
- Deep relationships with established managers and proactive sourcing of newer teams

Compelling Strategy & Market Opportunity

- Focus on less efficient segments of the market with high return potential
- Target experienced investment teams that are strongly aligned with LPs
- Focus on managers with competitive advantages

Strategy Overview

Focus on inefficient strategies, experienced & aligned teams, and clear competitive advantages

Less Efficient Market

- Small and lower mid market funds (\leq \$1B) pursuing growth capital, buyouts or turnarounds where incentives are aligned
- Smaller companies (typically $<$ \$250M in value) where a financial partner can drive performance
- Conservative entry multiples and use of leverage

Experience & Aligned Teams

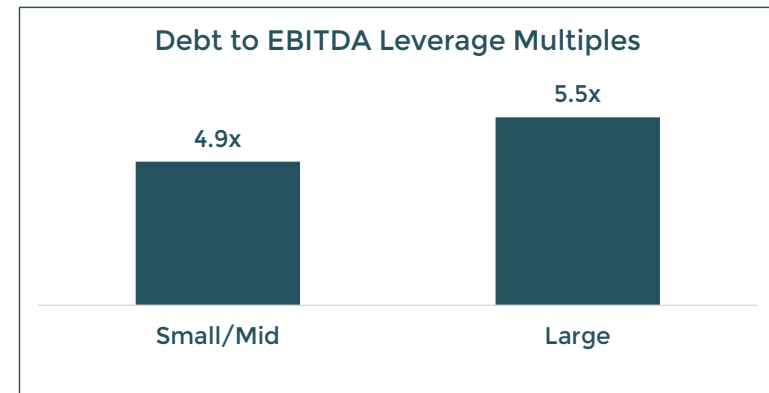
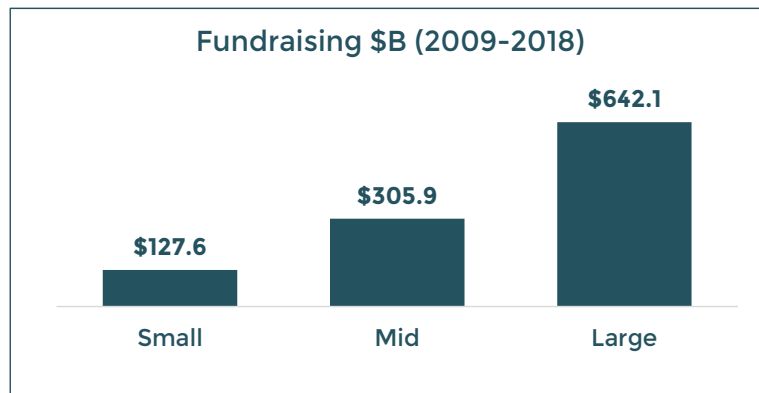
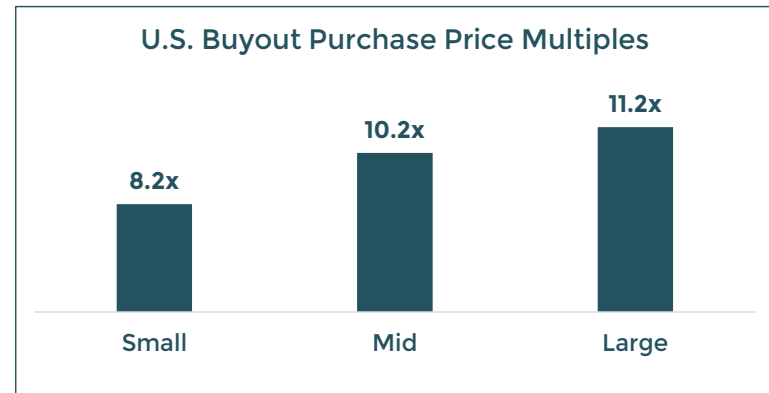
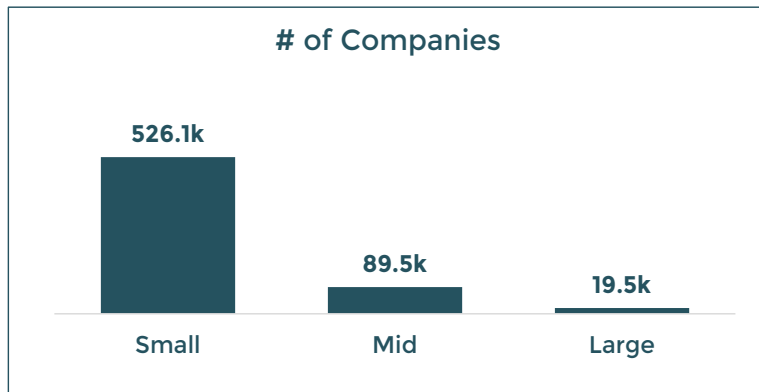
- Experienced private equity investors, including spin-outs, first institutional capital, re-starts
- In the “sweet spot” of their investing careers

Competitive Advantages

- Sector-focused with competitively advantaged domain knowledge and relationships
 - Deep value with operationally intensive value add approach
 - Small buyout with differentiated deal sourcing and growth strategy
-

Competitive Dynamics

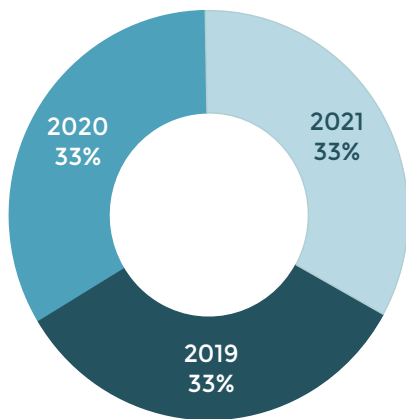
There is less capital and more opportunity in the smaller markets, leading to lower entry prices and leverage multiples



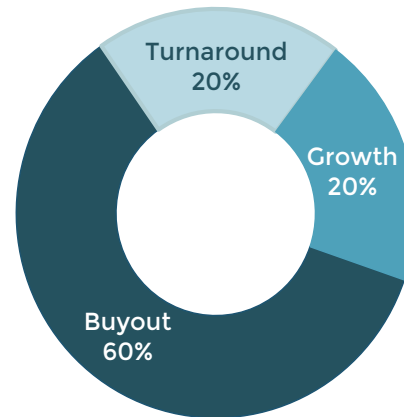
Portfolio Diversification

The vehicle is expected to commit \$8-12 million in 14-16 underlying funds

Diversification By Vintage



Diversification By Stage



Initial Commitments

The Fund has closed on 6 commitments to date



MiddleGround Partners Fund I, LP, a \$459.5 million fund

- \$10 million commitment closed in August 2019
- Control investments in lower middle market businesses in the business-to-business industrial and specialty distribution sectors
- Spin out from Monomoy Capital



Sunstone II, LP, a \$475 million fund

- \$5 million commitment closed in August 2019
- Control and significant minority investments in growth stage, technology-enabled services companies
- Spin out of growth team from Trident Capital



Crest Rock Partners Fund I, L.P., a \$400 million fund

- \$10 million commitment closed in October 2019
- Control investments in software and technology companies undergoing operational or situational distress
- Spin out of Marlin Equity Partners



Graycliff Private Equity Partners IV, L.P., a \$350 million fund

- \$10 million commitment closed in November 2019
- Control buyout investments in small/lower middle market companies in the niche manufacturing, business services, and value-added distribution sectors
- Former HSBC North American private equity team



BVIP Fund X, L.P., a \$1 billion fund

- \$8 million commitment closed in February 2020
- Control buyout investments in small/lower middle market companies in the tech-enabled business services and IT services sectors
- Long established firm formed in 1983 with current leadership in place since 2011



Princeton Equity Fund I, L.P., a \$250 million fund (target)

- \$10 million commitment closed in June 2020
- Control buyout investments in small franchisor and multi-unit businesses in the consumer, healthcare, and business services sectors
- Firm formed by two experienced professionals in 2019

Track Record

Franklin Park's discretionary record for U.S. focused corporate finance funds \$1.0 billion and below

VINTAGE YEAR	COMMITTED	DPI	TVPI	NET IRR
2010	\$49.0	1.7x	2.1x	16.9%
2011	168.0	1.0x	1.7x	15.8%
2012	49.0	1.3x	2.0x	27.8%
2013	68.0	0.9x	1.6x	17.9%
2014	118.0	0.4x	1.7x	18.7%
2015	5.0	0.1x	1.4x	15.5%
2016	199.0	0.3x	1.5x	26.5%
2017	101.0	0.1x	1.2x	13.5%
2018	102.0	0.0x	1.0x	NMF
2019	100.0	0.0x	0.8x	NMF
2020	83.0	n/a	n/a	n/a
Total	\$1,042.0	0.6x	1.5x	18.1%

Proposal

ATRS initially made a \$30 million commitment to FP CF Access in July 2019

Consider committing an additional \$30 million to FP CF Access

As an anchor investor, ATRS pays no management fees or carried interest in FP CF Access

Footnotes

Executive Summary:

Net IRR represents the performance results for a portfolio of predominantly U.S. domestic private equity fund commitments made on behalf of Franklin Park's discretionary client accounts, with fund sizes of \$1.0 billion or less across various corporate finance strategies (including private debt) with vintage years 2010-2019. See Track Record notes below for further details.

Track Record:

Based in Bala Cynwyd, Pennsylvania, Franklin Park was formed in April 2003. Franklin Park is an independent, registered investment adviser with the U.S. Securities and Exchange Commission. Franklin Park assists its clients in building and managing customized investment portfolios of private market investments.

The track record includes performance results for a portfolio of predominantly U.S. domestic private equity fund commitments made on behalf of Franklin Park's discretionary client accounts, with fund sizes of \$1.0 billion or less across various corporate finance strategies (including private debt) with vintage years 2010-2019.

The returns represent performance for Franklin Park's discretionary client accounts based upon client cash flows and capital account balances as reported by the underlying private fund managers.

The returns presented are net of underlying private fund manager fees, transaction expenses and carried interest charges, but exclusive of Franklin Park's investment advisory fees and fund-of-one vehicle expenses. The returns will be reduced by Franklin Park's investment advisory fees. As described in Part II of Form ADV, Franklin Park's fees are negotiable and are based on either a fixed fee arrangement or as a percentage of assets under management. As a representative example, a fixed fee of \$800,000 annually, compounded over 10 years, may reduce a portfolio IRR of 17.3% by 20 basis points. Franklin Park may charge performance fees to specific funds it manages if specified performance conditions, as detailed in the fund documents, are met. Fees, including performance fees, and expenses charged may result in a greater reduction to performance depending on the terms and conditions specific to the fee arrangement or fund terms.

The performance results are measured in U.S. dollars on a since-inception basis for each vintage year composite through December 31, 2019. Where more than one client account is invested in a fund, to mitigate the effect of clients' commitment size on performance results, returns are calculated on an equal-weighted basis whereby each underlying private equity fund is modeled to have received the same U.S. dollar commitment.

Certain client accounts may have differing cash flow timing, incur additional fund expenses or have other variances for a commitment to the same private fund or fund complex as other client accounts, which may impact the aggregated returns.

Vintage year is defined as year in which each underlying fund first called capital.

Performance for private funds with vintage years 2018-2019 is deemed not yet meaningful ("NMF") due to the young age of the underlying investment portfolios, and is therefore not presented. However, performance for private funds with vintage years 2018-2019 is included in the calculation of Total DPI, TVPI and Net IRR.

Committed represents the aggregate client account commitments to underlying funds in each vintage year composite, and are not equal weighted where more than one client account is invested in a fund.

DPI equals the ratio of distributed capital to contributed capital.

TVPI represents the ratio of distributed capital plus remaining value (the capital account balance) to contributed capital.

Net IRR is the discount rate that results in a net present value of zero of a series of cash flows, and considers both cash flow timing and amount.

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.

Franklin Park Associates, LLC

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For more information, please contact us at info@franklinparkllc.com

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

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

**RESOLUTION
No. 2020-26**

**Approving Additional Investment in Franklin Park Corporate
Finance Access Fund, L.P.**

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

WHEREAS, the ATRS Board has reviewed the recommendation of its private equity consultant, Franklin Park Associates, LLC, along with the recommendation of the Investment Committee and ATRS staff regarding a potential additional investment in **Franklin Park Corporate Finance Access Fund, L.P.**, a fund of funds formed to build a diversified portfolio of top-tier buyout, growth equity, and turnaround funds.

THEREFORE, BE IT RESOLVED, that the ATRS Board approves an additional investment of up to **\$30 million dollars (\$30,000,000.00)** in **Franklin Park Corporate Finance Access Fund, L.P.** The total investment amount is to be determined by the private equity consultant and ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the ATRS Board; and

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

Adopted this 28th day of September 2020.

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System

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
September 1, 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.

SECTION 1. Arkansas Code § 24-7-202, concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(2) “Active member” means:

(A) any member eligible for service credit rendering service to an employer that is covered by the Arkansas Teacher Retirement System;

(B) a member that acquires at least one-quarter (1/4) of a year of service credit in any fiscal year is active for the complete fiscal year or until the effective date of retirement, T-DROP participation, or termination refund;

(17) “Employer”, ~~or~~ “covered employer”, or “system-covered employer” means any public school, 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;

(18) (D)(i) Employment in a position with an educationally 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 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;

(26) “Nonteacher” means a member who is not a teacher or administrator;

SECTION 2. Arkansas Code § 24-7-406(b)(4)(A), concerning 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 3. Arkansas Code § 24-7-502(b)(1), concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(b)(1) When a member is no longer employed by an employer in a position covered by the system and has not accrued one-quarter (1/4) of a year of service credit in the fiscal year in which they are no longer employed, the person shall cease to be an active member of the system.

SECTION 4. Arkansas Code § 24-7-701(c), concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(c) The annuity shall begin the first day of the calendar month next following the latest of:

- (1) One (1) month after the date the written application is filed with the Board of Trustees of the Arkansas Teacher Retirement System;
- (2) The member's termination of ~~active membership~~ covered employment;
- (3) The member's attainment of the minimum age; or
- (4) The member's completion of the minimum years of credited service.

SECTION 5. Arkansas Code § 24-7-702(c), concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(c) For an active member, the annuity shall begin the first day of the calendar month next following the latest of:

- (1) One (1) month after the date the written application is filed with the board;
- (2) The member's termination of ~~active membership~~ covered employment; or
- (3) The member's completion of the required credited service.

SECTION 6. Arkansas Code § 24-7-708, concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(a) Effective July 1, 2009, after terminating employment under SS 24-7-502 or reaching the normal retirement age ~~of normal retirement~~, 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 ~~retirant~~ retiree is subject to the rules adopted by the board.

SECTION 7. Arkansas Code § 24-7-1604(b), concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(b) The nonmandatory employer shall remit employer contributions under SS 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 their employees participating in the system.

SECTION 8. Arkansas Code § 24-7-1605(e), concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(e)(1) The PSHE employer shall remit employer contributions under SS 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 their employees participating in the system.

SECTION 9. Arkansas Code § 24-7-702(b), concerning final average salary of 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 (5/12%) and fifteen-twelfths percent (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.

(B) The board may set by board resolution the early annuity reduction under subdivision (b)(1) of this section at a percentage rate between five percent (5%) per year and fifteen percent (15%) per year, to be prorated monthly, if the:

(i) System's actuary certifies to the board that the amortization period to pay the unfunded liabilities of the system exceeds eighteen (18) years; and

(ii) Board determines that a reduction in the cost of early voluntary retirement is prudent to maintain actuarial soundness.

SECTION 10. Arkansas Code § 24-7-736(c)(1), concerning final average salary of 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.

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ATRS DRAFT BILL: FIVE YEAR LOOK-BACK
September 1, 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.

SECTION 1. Arkansas Code § 24-7-406(c), concerning the Arkansas Teacher Retirement System, is amended to read as follows:

(c)(1)(A) Each employer shall deduct the member contributions provided for in this section from the salary of each member on every payroll, for every payroll period, from the date of his or her entrance into the system until the member retires or terminates, and the employer shall remit the contributions to the system.

(B)(i) Before July 1, 2011, if the employer fails to report the required contributory service of a member and remit the contributions to the system, the system shall have the right to collect from the 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 SS 24-7-205.

(ii) If the unreported contributory service is not within the look-back period, the unreported required contributory 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) A member shall not be given credit for service rendered until all member contributions on the service is paid in full.

(2) The member's contributions provided for in this section shall be made notwithstanding that the minimum salary provided by law for any member shall be thereby changed.

(3)(A) Each member shall be deemed to consent and agree to the deductions made and provided for in this section.

(B) Payment of his or her salary less the deductions shall be a full and complete discharge and acquittance of all claims and demands whatsoever for the services rendered by the member during the period covered by the payment, except as to benefits provided by the system.

(4) The members' contributions, so deducted from their salaries, shall be remitted to the system in such manner and form and into such frequency and shall be accompanied by such supporting data as the board shall prescribe from time to time.

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ATRS DRAFT BILL: TERMINATION REFUND
September 1, 2020

Summary: A requirement that a member does not plan to be rehired when requesting a termination refund is added to this section of the law. When a member requests a refund of member contributions, they should not devise plans to be rehired by an ATRS employer in the near future.

Justification: This was an issue raised by the Division of Legislative Audit, regarding termination refunds when a member went back to work for the same employer immediately after termination was certified by the employer. This new language matches ATRS Form 101a.

SECTION 1. Arkansas Code § 24-7-711(a), concerning final average salary of 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.

(2) Any contributions remaining on deposit shall accrue regular interest at the end of each fiscal year as provided by law

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ATRS DRAFT BILL: UNUSED SICK LEAVE
September 1, 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.

SECTION 1. Arkansas Code § 21-4-503, concerning compensation for accumulated unused sick leave, is amended to read as follows:

(a) The provisions of §§ 21-4-501 and 21-4-504 apply to:

- (1) Employees of the Arkansas State Game and Fish Commission;
- (2) Employees of the Arkansas Department of Transportation;
- (3) Classified employees of state-supported institutions of higher education; and
- (4) Employees of all agencies of this state whether in the executive, legislative, or judicial branch of government.

(b) The provisions of this section or any amendments to this section shall not change any employee benefits or agreements established under SS 6-57-103, SS 6-58-105, or SS 6-59-105.

~~(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 SS 24-7-202.~~

SECTION 2. Arkansas Code § 21-4-505, concerning compensation for accumulated unused sick leave, is amended to read as follows:

(a) At its discretion, a state-supported institution of higher education may compensate a nonclassified employee of the state-supported institution of higher education for accumulated unused sick leave by providing to the nonclassified employee the same compensation for accumulated unused sick leave provided to a classified employee of the state-supported institution of higher education under SS 21-4-501.

(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 SS 24-7-202;~~
~~or~~

~~(2)(1) Arkansas Public Employees' Retirement System in the calculation of final average compensation under SS 24-4-101.~~

(c) Unused sick leave for nonclassified employees of state supported institutions of higher education shall accrue at the same rate as unused sick leave accrues for classified employees for calculations made under this section.

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ATRS DRAFT BILL: RECIPROCITY FINAL AVERAGE SALARY
September 1, 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.

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.

SECTION 1. Arkansas Code § 24-7-601(e), concerning final average salary of the Arkansas Teacher Retirement System, is amended to read as follows:

(4) The final average salary used shall be that of the reciprocal system, in which the member has at least three (3) years of service credit, that 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 final average salary of 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 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~~ system.

~~(B) The member's employer-accrued contributions and employee-accrued contributions in the system remain with the system.~~

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ATRS DRAFT BILL: EMPLOYER REPORTING
September 1, 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.

SECTION 1. Arkansas Code § 24-7-411, concerning the Arkansas Teacher Retirement System, is amended to read as follows:

24-7-411. Compelling payment upon delinquency of employer.

~~(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 regulation by the date and at the frequency established by the board, the system shall impose a 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 on 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 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 SS 19-5-106(a)(5).

~~(5)(4)~~ This 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 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 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 SS 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.
- (c) The board or its designee may waive penalties and interest for an employer delinquency under this section if the board or its designee finds that:
- (1) The delinquency was not the result of the employer's nondisclosure, fraud, or misrepresentation; and
- (2) Under the circumstances, requiring payment of the delinquency by the employer would be unduly penal, burdensome, or result in a manifest injustice.
- (d)(1) If an employer fails to remit system contributions and reports required under subsections (a) and (b) of this section, the amount of delinquent funds including contributions, penalties, and interest owed to the system may be deducted from the operating funds designated to the employer through the department and remitted directly by the department to the system's appropriate account for the use and benefits of the members.
- (2) The operating funds from which delinquent funds may be deducted for a public school district or open-enrollment public charter school are limited to:
- (A) State funding distributed under SS 6-20-2305, including without limitation state foundation funding and state categorical funding;
- (B) Federal funding to the extent allowed under federal law; and
- (C) The net assets of an open-enrollment public charter school deemed property of the state upon revocation or nonrenewal of the charter.
- (e) (1) On or after July 1, 2021, the member and employer contributions made by an employer provided for in § 24-7-202 shall be:
- (A) Reported electronically by the employer through the Arkansas Teacher Retirement System portal;
and
(B) Paid by electronic transfer by the employer.
- (2) The employer's contribution shall be paid to the Arkansas Teacher Retirement System at the time and with the frequency established by the Board of Trustees of the Arkansas Teacher Retirement System and shall be paid concurrently with the contributions made by its employees to the Arkansas Teacher Retirement System.
- (f) (1) An employer shall submit a written request for a temporary waiver to the Board of Trustees of the Arkansas Teacher Retirement System on or before July 1, 2021, when the participating public employer is unable to:
- (A) Report contributions electronically through the Arkansas Teacher Retirement System; or
(B) Pay contributions by electronic transfer.
- (2) A request for a temporary waiver shall include a timeline for when the participating public employer will be able to comply with payment and reporting requirements under this section.

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ATRS DRAFT BILL: 160 DAYS
September 1, 2020

Summary: Most members accrue a full year of service credit by March of each school year. Once a member accrues a full year of service credit in the fiscal year in which they wish to retire, the first payment will not be made until July 1st. This makes sure ATRS does not create an incentive for teachers to leave a classroom in the middle of the Spring semester. However, it may be necessary for the Board to create exceptions to this law using the A.P.A in the future.

Justification: It is hard to foresee all the scenarios that can arise out of this law just passed in 2019. The rulemaking process should be used to handle unforeseen circumstances in the future without requiring legislation.

SECTION 1. Arkansas Code § 24-7-701(d), concerning 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 in accordance with the rules and resolutions of the Arkansas Teacher Retirement System.

SECTION 2. Arkansas Code § 24-7-702(e), concerning 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 in accordance with the rules and resolutions of the Arkansas Teacher Retirement System.

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ATRS DRAFT BILL: SEPARATION PERIOD
September 1, 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.

SECTION 1. Arkansas Code § 24-7-202, concerning definitions of the Arkansas Teacher Retirement System, is amended to read as follows:

(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;

SECTION 2. Arkansas Code § 24-7-502(a)(2), concerning terminating from a system-covered employer of the Arkansas Teacher Retirement System, is amended to read as follows:

(2)(A) Effective July 1, ~~2021~~ 2011, 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) Becomes employed with a covered employer ~~covered by the system;~~ and

(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), concerning terminating from a system-covered employer of the Arkansas Teacher Retirement System, is amended to read as follows:

(d) As used in this section:

~~(1) “System-covered employer” means all employers as defined in SS 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)(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 the member was employed prior to retirement;

(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.

(B) “Terminate” does not mean:

(i) Taking a leave of absence; or

(ii) Performing any job duties or services without remuneration, except for the functions related to the transfer of duties or the transfer of the position itself.

(C) Providing volunteer activities at a system-covered employer that does not have the effect of holding a position open for the member during a termination separation period does not mean that the member is not terminated; and

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ATRS DRAFT BILL: SETTING T-DROP INTEREST
September 1, 2020

Summary: ATRS sets some T-DROP variable interest rates and incentive rates based on economic performance. This change allows the Board to delay that decision until the actual investment rate of return is known for a fiscal year.

Justification: Setting variable interest rates and incentive rates based on early estimates can lead to the possibility of the system paying higher than justified rates when public markets are in highly volatile periods.

SECTION 1. Arkansas Code § 24-7-1307(c)(1), concerning the Arkansas Teacher Retirement System, 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 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 of the fiscal year.~~

~~(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.~~

(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 which 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 2. Arkansas Code § 24-7-1307(e), concerning the Arkansas Teacher Retirement System, 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 which applies to subsequent fiscal years unless modified by the board.

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ATRS DRAFT BILL: DISABILITY QUALIFICATION
September 1, 2020

Summary: The requirement for members to acquire a Social Security Administration (SSA) determination letter to remain on ATRS disability was added back in 2015. If member has already been determined to be disabled by the SSA there is no need for a redundant evaluation by the ATRS medical committee.

Justification: The Social Security Administration (SSA) process for determining disability is more strict than the ATRS guidelines. Under the SSA a person has to be unable to perform ANY job function. Under ATRS guidelines the member only has to be unable to perform their current ATRS job. So if the SSA determines a member to be disabled, then ATRS should accept that the member is disabled.

SECTION 1. Arkansas Code § 24-7-704(a)(1)(D), concerning 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 by majority opinion the medical committee reports to the board in writing that its 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.

SUMMARY OF DISABILITY APPLICATIONS SUBMITTED
FOR CONSIDERATION BY THE MEDICAL COMMITTEE

The Medical Committee met in executive session in the first floor conference room at 9:30 a.m. on June 3, 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 seven disability applications were considered. Of the seven applicants, two were approved. One was denied. Four had more information requested.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,



Anne Marie Lehman Berardi
Retirement Benefits Counselor

SUMMARY OF DISABILITY APPLICATIONS SUBMITTED
FOR CONSIDERATION BY THE MEDICAL COMMITTEE

The Medical Committee met in executive session in the first floor conference room at 9:30 a.m. on July 1, 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 fourteen disability applications were considered. Of the fourteen applicants, nine were approved. Two were denied. Three had more information requested.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,



Anne Marie Lehman Berardi
Retirement Benefits Counselor

SUMMARY OF DISABILITY APPLICATIONS SUBMITTED
FOR CONSIDERATION BY THE MEDICAL COMMITTEE

The Medical Committee met in executive session in the first floor conference room at 9:30 a.m. on August 5, 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 sixteen disability applications were considered. Of the sixteen applicants, six were approved. Three were denied. Seven had more information requested.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,

Anne Marie Lehman Berardi
Retirement Benefits Counselor

SUMMARY OF DISABILITY APPLICATIONS SUBMITTED
FOR CONSIDERATION BY THE MEDICAL COMMITTEE

The Medical Committee met in executive session in the first floor conference room at 9:30 a.m. on September 9, 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 eighteen disability applications were considered. Of the eighteen applicants, ten were approved. Seven were denied. One had more information requested.

Respectfully Submitted,



Eddie Phillips, CMO
Medical Committee Chairman

Respectfully Submitted,



Anne Marie Lehman Berardi
Retirement Benefits Counselor

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

**RESOLUTION
No. 2020-34**

**Recognize Vacancy for
Position #2 - Member Trustee, 2nd Congressional District**

WHEREAS, A.C.A. §§ 24-7-302 (a)(2) states that an active member trustee shall be ineligible to serve after retiring; and

WHEREAS, A.C.A. §§ 24-7-301 (2)(B) states that one (1) active member trustee employed in a position that requires state licensure, but not an administrator's license will be elected from each of the four (4) congressional districts; and

WHEREAS, Ms. Janet Watson served on the ATRS Board of Trustees as a member trustee in position #2 for the 2nd Congressional District; and

WHEREAS, Ms. Watson retired effective June 30, 2020.

NOW, THEREFORE, BE IT RESOLVED, that effective July 1, 2020 a vacancy on the Board of Trustees of the Arkansas Teacher Retirement System exists for position #2 for the 2nd Congressional District.

Adopted this 28th day of September 2020

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System Board

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

**RESOLUTION
No. 2020-35**

**Recognize Vacancy for
Position #5 - Administrator**

WHEREAS, A.C.A. §§ 24-7-302 (a)(2) states that an active member trustee shall be ineligible to serve after retiring; and

WHEREAS, A.C.A. §§ 24-7-301 (2)(C) states that of the two (2) active member trustees that shall be employed in a position that requires an administrator's license, one (1) must be a superintendent or educational cooperative director; and

WHEREAS, Dr. Richard Abernathy served on the ATRS Board of Trustees as an active member trustee in position #5 as an administrator; and

WHEREAS, Mr. Abernathy plans to retire as the Executive Director of the Arkansas Association of Educational Administrators effective December 2020; and

WHEREAS, Mr. Abernathy resigned from the ATRS Board of Trustees effective close of business September 28, 2020.

NOW, THEREFORE, BE IT RESOLVED, that effective close of business September 28, 2020 a vacancy on the Board of Trustees of the Arkansas Teacher Retirement System exists for the administrator trustee position that **DOES NOT** require the member to be employed as a superintendent or educational cooperative director.

Adopted this 28th day of September 2020

Mr. Danny Knight, Chair
Arkansas Teacher Retirement System Board