



Board of Administration Agenda

REGULAR MEETING

TUESDAY, MAY 28, 2019

TIME: 10:00 A.M.

MEETING LOCATION:

LACERS Ken Spiker Boardroom
202 West First Street, Suite 500
Los Angeles, California 90012-4401

Live Board Meetings can be heard at: (213) 621-CITY (Metro), (818) 904-9450 (Valley), (310) 471-CITY (Westside), and (310) 547-CITY (San Pedro Area).

Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the meeting you wish to attend. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: Board of Administration Office at (213) 473-7169.

President:	Cynthia M. Ruiz
Vice President:	Elizabeth L. Greenwood
Commissioners:	Elizabeth Lee Sandra Lee Nilza R. Serrano Sung Won Sohn Michael R. Wilkinson
Manager-Secretary:	Neil M. Guglielmo
Executive Assistant:	Ani Ghoukassian
Legal Counsel:	City Attorney's Office Retirement Benefits Division

- I. PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION
- II. [APPROVAL OF MINUTES FOR REGULAR BOARD MEETING OF MAY 14, 2019 AND POSSIBLE BOARD ACTION](#)
- III. BOARD PRESIDENT VERBAL REPORT
- IV. GENERAL MANAGER VERBAL REPORT
 - A. REPORT ON DEPARTMENT OPERATIONS
 - B. UPCOMING AGENDA ITEMS
- V. RECEIVE AND FILE ITEMS
 - A. [MONTHLY REPORT ON SEMINARS AND CONFERENCES \(APRIL 2019\)](#)

- VI. COMMITTEE REPORT(S)
 - A. INVESTMENT COMMITTEE VERBAL REPORT ON THE MEETING OF MAY 14, 2019
- VII. CONSENT AGENDA
 - A. [FY 2019-20 TRAINING PROGRAM AND PRE-APPROVED LIST OF EDUCATIONAL SEMINARS AND POSSIBLE BOARD ACTION](#)
- VIII. BENEFITS ADMINISTRATION
 - A. FAMILY DEATH BENEFIT PLAN - CONSIDERATION OF BENEFIT CONTINUATION FOR MAURICE D. AUSTIN II AND POSSIBLE BOARD ACTION
- IX. INVESTMENTS
 - A. CHIEF INVESTMENT OFFICER VERBAL REPORT
 - B. [PRESENTATION BY NEPC, LLC OF THE PORTFOLIO PERFORMANCE REVIEW REPORT FOR THE QUARTER ENDING MARCH 31, 2019](#)
 - C. [PRIVATE CREDIT MANDATE UPDATE AND IMPLEMENTATION AND POSSIBLE BOARD ACTION](#)
 - D. [PRESENTATION BY TORREYCOVE, LLC OF THE PRIVATE EQUITY PROGRAM PORTFOLIO PERFORMANCE REVIEW FOR THE PERIOD ENDING DECEMBER 31, 2018](#)
 - E. [NOTIFICATION OF COMMITMENT OF UP TO €34.9 MILLION \(APPROXIMATELY \\$40 MILLION\) IN GLIDE BUY-OUT FUND VI C.V.](#)
 - F. [NOTIFICATION OF COMMITMENT OF UP TO \\$13.25 MILLION IN SPARK CAPITAL VI, L.P.](#)
 - G. [NOTIFICATION OF COMMITMENT OF UP TO \\$26.75 MILLION IN SPARK CAPITAL GROWTH FUND III, L.P.](#)
 - H. [NOTIFICATION OF COMMITMENT OF UP TO \\$50 MILLION IN HARVEST PARTNERS VIII, L.P.](#)
 - I. [NOTIFICATION OF COMMITMENT OF UP TO \\$50 MILLION IN GENSTAR CAPITAL PARTNERS IX, L.P.](#)
 - J. [NOTIFICATION OF COMMITMENT OF UP TO \\$20 MILLION IN DEFY PARTNERS II, L.P.](#)
 - K. [TACTICAL ASSET ALLOCATION PLAN AND POSSIBLE BOARD ACTION](#)

- L. **CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54956.81 TO CONSIDER A COMMITMENT TO BROADVIEW REAL ESTATE PARTNERS, L.P. AND POSSIBLE BOARD ACTION**

- X. **DISABILITY RETIREMENT APPLICATION(S)**
 - A. **CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54957(b) TO CONSIDER THE DISABILITY RETIREMENT APPLICATION OF KATHERINE FARRINGTON AND POSSIBLE BOARD ACTION**

 - B. **CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54957(b) TO CONSIDER THE DISABILITY RETIREMENT APPLICATION OF EDITH ROQUE AND POSSIBLE BOARD ACTION**

- XI. **LEGAL/LITIGATION**
 - A. **EXTENSION OF INVESTMENT AND REAL ESTATE COUNSEL CONTRACT WITH NOSSAMAN LLP AND APPROVAL OF REQUEST FOR PROPOSAL FOR INVESTMENT AND REAL ESTATE COUNSEL AND POSSIBLE BOARD ACTION**

- XII. **OTHER BUSINESS**

- XIII. **NEXT MEETING:** The next Regular meeting of the Board is scheduled for Tuesday, June 11, 2019 at 10:00 a.m. in the LACERS Ken Spiker Boardroom, 202 West First Street, Suite 500, Los Angeles, CA 90012-4401.

- XIV. **ADJOURNMENT**

MINUTES OF THE REGULAR MEETING
BOARD OF ADMINISTRATION
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

LACERS Ken Spiker Boardroom
202 West First Street, Fifth Floor
Los Angeles, California

May 14, 2019

10:00 a.m.

Agenda of: May 28, 2019

Item No: II

PRESENT:	President:	Cynthia M. Ruiz
	Vice President:	(arrived at 10:06 a.m.) Elizabeth L. Greenwood
	Commissioners:	Elizabeth Lee Sandra Lee Nilza R. Serrano Michael R. Wilkinson
	Manager-Secretary:	Neil M. Guglielmo
	Executive Assistant:	Ani Ghoukassian
	Legal Counsel:	Anya Freedman
ABSENT:	Commissioner:	Sung Won Sohn

The Items in the Minutes are numbered to correspond with the Agenda.

I

PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION – President Ruiz asked if there were any persons who wished to speak on matters within the Board's jurisdiction, to which there were four public comment cards received from the following persons who addressed the Board: Ana Ramos an UBER driver, translated by Michael Ring, Michael Ring with SEIU, Carrie Sloan with Action Center on Race and the Economy (ACRE), and Quinn Williams with Action Center on Race and the Economy (ACRE).

II

APPROVAL OF MINUTES FOR REGULAR BOARD MEETING OF APRIL 23, 2019 AND POSSIBLE BOARD ACTION – A motion to approve the Regular Board Meeting minutes of April 23, 2019 was moved by Commissioner Wilkinson, seconded by Commissioner Serrano, and adopted by the following vote: Ayes, Commissioners Elizabeth Lee, Sandra Lee, Serrano, Wilkinson, Vice President Greenwood, and President Ruiz -6; Nays, None.

III

BOARD PRESIDENT VERBAL REPORT – There was no report.

IV

GENERAL MANAGER VERBAL REPORT

- A. REPORT ON DEPARTMENT OPERATIONS – Neil M. Guglielmo, General Manager, discussed the following items:
- LACERS FY 19/20 budget presented to the Budget & Finance Committee on May 6, 2019.
 - Actuarial and Actuarial Audit Service RFP closed on May 8, 2019.
 - LACERS Newsletter for Active and Retired members sent out.
 - LACERS has published 15 years of key financial data within City's Online Data Repository.
 - LACERS *Well* on-line Feel Like a Million game launched on April 28, 2019, Champion-led bike event held on April 25, 2019, Champion-led Descanso Gardens visit scheduled for May 21, 2019.
 - Parking update for LA Times building/2nd Street Corporate Parking Garage.
 - Guiding Principles revised definitions.
- B. UPCOMING AGENDA ITEMS – Neil M. Guglielmo, General Manager, stated the following future agenda items:
- May 28, 2019 - Annual report on Board Training/Travel Plan

V

RECEIVE AND FILE ITEMS

- A. BENEFITS PAYMENTS APPROVED BY GENERAL MANAGER – The report was received by the Board and filed.
- B. MARKETING CESSATION NOTIFICATION – The report was received by the Board and filed.

VI

COMMITTEE REPORT(S)

- A. AUDIT COMMITTEE VERBAL REPORT ON THE MEETING OF MAY 14, 2019 – Commissioner Elizabeth Lee stated that the Audit Committee approved the contractor disclosure policy and received and filed the excess benefits program-independent accountant's report on applying agreed-upon procedures.

VII

CONSENT AGENDA

- A. TRAVEL AUTHORITY – COMMISSIONER ELIZABETH LEE; INTERNATIONAL FOUNDATION OF EMPLOYEE BENEFIT PLANS CERTIFICATE OF ACHIEVEMENT IN PUBLIC PLAN

POLICY PENSIONS PART I AND II; JUNE 18-21, 2019 AND POSSIBLE BOARD ACTION – Vice President Greenwood moved approval of the following Resolution:

**TRAVEL AUTHORITY
INTERNATIONAL FOUNDATION OF EMPLOYEE BENEFIT PLANS
CERTIFICATE OF ACHIEVEMENT IN PUBLIC PLAN POLICY
PENSIONS PART I AND II
JUNE 18-21, 2019
BOSTON, MASSACHUSETTS**

RESOLUTION 190514-A

WHEREAS, Board approval is required for all international travel requests and travel not included in the Approved List of Educational Seminars;

WHEREAS, International Foundation of Employee Benefit Plans (IFEBP) Certificate of Achievement in Public Plan Policy (CAPPP) Pensions Part I and II in Boston, Massachusetts is not included in the Approved List of Educational Seminars authorized by the Board Education and Travel Policy for Fiscal Year 2018-19, and therefore requires individual approval;

WHEREAS, the sound management of the assets and liabilities of a trust fund imposes a continuing need for all Board Members to attend professional and educational conferences, seminars, and other educational events that will better prepare them to perform their fiduciary duties;

THEREFORE, BE IT RESOLVED, that Commissioner Elizabeth Lee is hereby authorized to attend the IFEBP CAPPP on June 18-21, 2019, in Boston, Massachusetts;

BE IT FURTHER RESOLVED, that the reimbursement of up to \$6,500.00 for Commissioner Elizabeth Lee is hereby authorized for reasonable expenses in connection with participation.

Which motion was seconded by Commissioner Serrano, and adopted by the following vote: Ayes, Commissioners Elizabeth Lee, Sandra Lee, Serrano, Wilkinson, Vice President Greenwood, and President Ruiz -6; Nays, None.

VIII

BENEFITS ADMINISTRATION

- A. **BOARD EDUCATION: ANTHEM OVERVIEW** – Alex Rabrenovich, Chief Benefits Analyst with Health Benefits Administration & Communications Division and the following Anthem representatives presented this education to the Board: Michele Guilford, Account Management Executive, David Pryor, MD, Regional Vice President, Michael Kaplan, Pharmacist Program Manager, Ron Harrison, Vice President IngenioRx, Sylvia Loftis, RN, Senior Clinical Account Director, and Maggie Foster, Service Account Representative.

IX

BOARD/DEPARTMENT ADMINISTRATION

- A. NOTIFICATION OF CERTIFIED RESULTS OF THE EMPLOYEE MEMBER OF THE BOARD OF ADMINISTRATION ELECTION FOR THE FIVE-YEAR TERM ENDING JUNE 30, 2024 – The report was received by the Board and filed.
- B. CONSIDERATION OF GOVERNMENTAL SIDE-A FIDUCIARY LIABILITY INSURANCE AND POSSIBLE BOARD ACTION – Edeliza Fang, Senior Management Analyst II with Administrative Services presented this item to the Board. Commissioner Elizabeth Lee moved approval, seconded by Commissioner Wilkinson, and adopted by the following vote: Ayes, Commissioners Elizabeth Lee, Sandra Lee, Serrano, Wilkinson, Vice President Greenwood, and President Ruiz -6; Nays, None.
- C. LACERS’ TECHNOLOGY STRATEGY ALIGNMENT – The report was received by the Board and filed.
- D. PROPOSED BUDGET, PERSONNEL, AND ANNUAL RESOLUTIONS FOR FISCAL YEAR 2019-20 AND POSSIBLE BOARD ACTION – Dale Wong-Nguyen, Chief Benefits Analyst with Administrative Services presented this item to the Board. After discussion, Vice President Greenwood moved approval, seconded by Commissioner Serrano, and adopted by the following vote: Ayes, Commissioners Elizabeth Lee, Sandra Lee, Serrano, Wilkinson, Vice President Greenwood, and President Ruiz -6; Nays, None.
- E. APPROVAL OF A CONTRACT AMENDMENT WITH THE SEGAL COMPANY FOR ACTUARIAL CONSULTING SERVICES AND POSSIBLE BOARD ACTION –Dale Wong-Nguyen, Chief Benefits Analyst with Administrative Services Division presented this item to the Board. Commissioner Serrano moved approval of the following Resolution:

**CONTRACT EXTENSION WITH THE SEGAL COMPANY
FOR ACTUARIAL CONSULTING SERVICES**

RESOLUTION 190514-C

WHEREAS, In June 2012, the Board awarded a three-year contract, Contract No. 4093, to The Segal Company (Segal) following a competitive bidding process to provide actuarial consulting services. In October 2014, the contract was amended by Amendment No. 1 to reflect Segal’s name change; and in July 2015, the contract was further amended by Amendment No. 2 to extend the contract term for an additional three years from August 1, 2015 to July 31, 2018. In January 2018, Amendment No. 3 extended the contract term for an additional year from August 1, 2018 to July 31, 2019;

WHEREAS, the contract ceiling under Amendment No. 3 has been reached, and it is LACERS’ desire to retain Segal to continue to completion several projects currently in-process;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby approves the proposed Contract Amendment No. 4 with Segal, and authorizes the General Manager to execute the necessary documents, within the following terms, and subject to City Attorney review:

CONSULTANT The Segal Company, aka The Segal Group

TERM August 1, 2018 to July 31, 2019

AMOUNT \$80,000 added to the contract for a total of \$380,000 for the current term

Which motion was seconded by Commissioner Wilkinson, and adopted by the following vote: Ayes, Commissioners Elizabeth Lee, Sandra Lee, Serrano, Wilkinson, Vice President Greenwood, and President Ruiz -6; Nays, None.

X

INVESTMENTS

- A. CHIEF INVESTMENT OFFICER VERBAL REPORT - Rod June, Chief Investment Officer, reported on the portfolio value, \$17.18 Billion as of May 13, 2019. Mr. June discussed the following items:
- Mr. June will check on LACERS exposure in the UBER IPO.
 - Mr. June reported that LACERS is a limited partner with Platinum Equity and does not recommend exiting at this time.
 - 111 responses received for the Small Cap Equity Search.
 - 38 responses received for the Bank Loan/High Yield Search.
 - Managers on watch as of May 13: Barrow Hanley, Axiom, and AQR.
 - Managers already on watch: AJO, Aegon, Panagora, and LM Capital.
 - Future agenda items: NEPC Total Fund Performance, Torrey Cove Performance on Private Equity, six Private Equity Notifications, and real estate opportunity.

Mr. June announced that the new intern from Girls Who Invest is Citlalli Vivar. Her internship is from July 1 – August 9, 2019.

Alejandra Zuniga, intern with LACERS Investments Division, shared her appreciation for the opportunity to work in Investments and announced that she will next be interning with LACERS Retirement Services Division.

XI

DIVISION SPOTLIGHT

- A. SURVIVOR BENEFITS UNIT – Karen Freire, Chief Benefits Analyst, Ferralyn Sneed, Senior Management Analyst II, and James Kawashima, Management Analyst with Retirement Services Division presented this spotlight to the Board.

President Ruiz recessed the Regular Meeting at 12:09 p.m. for a break. President Ruiz reconvened the Regular Meeting at 12:19 p.m. and convened in Closed Session at 12:20 p.m.

XII

LEGAL/LITIGATION

- A. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTIONS 54956.9 (a) and (d)(1) IN ORDER TO CONFER WITH LEGAL COUNSEL REGARDING PENDING LITIGATION IN THE FOLLOWING CASES: IN RE CORTLANDT STREET RECOVERY CORP. V. CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM, et al., 2:11-cv-10571-RGK (SHx) AND CORTLANDT STREET RECOVERY CORP. V. LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM, et al., 2:22-cv-10573-RVK (SHx) (In the United States District Court for the Central District of California) AND POSSIBLE BOARD ACTION**

XIII

DISABILITY RETIREMENT APPLICATION(S)

- A. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54957(b) TO CONSIDER THE DISABILITY RETIREMENT APPLICATION OF JIM GRIMES AND POSSIBLE BOARD ACTION**
- B. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54957(b) TO CONSIDER THE DISABILITY RETIREMENT APPLICATION OF CLAUDIA PEREZ AND POSSIBLE BOARD ACTION**

President Ruiz reconvened the Regular Meeting at 12:25 p.m. and announced that the Board approved the City Attorney's recommendation and unanimously approved the Disability Retirement Applications of Jim Grimes and Claudia Perez.

XIV

OTHER BUSINESS – Vice President Greenwood discussed the processing of Worker's Compensation cases. President Ruiz stated this issue would be introduced on a future Board Meeting Agenda.

XV

NEXT MEETING – The next Regular meeting of the Board is scheduled for Tuesday, May 28, 2019 at 10:00 a.m. in the LACERS Ken Spiker Boardroom, 202 West First Street, Suite 500, Los Angeles, CA 90012-4401.

XVI

ADJOURNMENT – There being no further discussion before the Board, President Ruiz adjourned the meeting at 12:35 p.m.

Cynthia M. Ruiz
President

Neil M. Guglielmo
Manager-Secretary

Agenda of: MAY 28, 2019

Item No: V-A

**MONTHLY REPORT ON SEMINARS AND CONFERENCES
ATTENDED BY BOARD MEMBERS ON BEHALF OF LACERS
(FOR THE MONTH OF APRIL 2019)**

In accordance with Section V.H.2 of the approved Board Education and Travel Policy, Board Members are required to report to the Board, on a monthly basis at the last Board meeting of each month, seminars and conferences they attended as a LACERS representative or in the capacity of a LACERS Board Member which are either complimentary (no cost involved) or with expenses fully covered by the Board Member. This monthly report shall include all seminars and conferences attended during the 4-week period preceding the Board meeting wherein the report is to be presented.

BOARD MEMBER:

President Cynthia M. Ruiz
Vice President Elizabeth L. Greenwood

Commissioner Elizabeth Lee
Commissioner Sandra Lee
Commissioner Nilza R. Serrano
Commissioner Sung Won Sohn
Commissioner Michael R. Wilkinson

DATE(S) OF EVENT	SEMINAR / CONFERENCE TITLE	EVENT SPONSOR (ORGANIZATION)	LOCATION (CITY, STATE)
	NOTHING TO REPORT		



Report to Board of Administration

Neil M. Guglielmo
From: Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **VII-A**

SUBJECT: FY 2019-20 TRAINING PROGRAM AND PRE-APPROVED LIST OF EDUCATIONAL SEMINARS AND POSSIBLE BOARD ACTION

Recommendation

That the Board approve use of the six Core Competency Areas for the development and further refinement of annual training programs; review information regarding offsite conference training events and educational programs for Fiscal Year (FY) 2019-20; provide staff with confirmation of their training interests; and approve the proposed Pre-Approved List of Educational Seminars for FY 2019-20.

Discussion

At the November 13, 2018 meeting, the Board directed staff to establish an Executive Training Committee for the purpose of developing training plans for each Commissioner beginning with FY 2019-20. Further instructions include mid-year reporting on the training plan and coordination of said training with scheduled Board meetings so as not to interfere with Commissioners' Board duties.

The adopted Board training and travel budget provides up to \$10,000 annually for each Commissioner to attend external training events. Historically, these funds have not been fully expended each fiscal year, providing greater flexibility for Commissioners to take advantage of additional training and development opportunities as funds permit.

To provide for a more comprehensive and effective training curriculum, the Executive Training Committee has identified six Core Competency Areas that will be used to assess training needs, identify opportunities, and to make recommendations for Commissioners. These Core Competencies (identified below) were shared with the Commissioners both through one-on-one discussions with the General Manager and through the use of an electronic survey tool.

Core Competency Areas	
Leadership	Retiree Health and Other Benefits
Fiduciary Responsibilities	Disability Pensions
Investments	Governance

The proposed FY 2019-20 Training Program includes offsite conferences, training events and educational programs for the periods of July through December 2019 and January through June 2020, as listed below and further detailed in Attachments A and B, respectively.

FY 2019-20 Training Program: July - December 2019		
Conference/Training	Location	Dates
Western Economic Association International (WEAI) 94th Annual Conference	San Francisco, CA	June 28-July 2, 2019
State Association of County Retirement Systems (SACRS) UC Berkley Program	(UC) Berkley, CA	July 22-24, 2019
CA Association of Public Retirement Systems (CALAPRS) Principles of Pension Governance for Trustees	Malibu, CA	August 26-29, 2019
International Foundation of Employee Benefit Plans (IFEBP) Annual Conference	San Diego, CA	October 20-23, 2019
Nossaman Annual Public Pensions and Investments' Fiduciaries' Forum	San Francisco, CA	Expected September 2019
SACRS Fall Conference	Monterey, CA	November 12-15, 2019
PRI Academy Courses - Foundations in Responsible Investing (RI) for Trustees	Online	TBD

FY 2019-20 Training Program: January - June 2020		
Conference/Training	Location	Dates
Council of Institutional Investors (CII) Spring Conference	TBD	March 9-11, 2020
CALAPRS Adv. Principles of Pension Management	TBD	Expected March 2020 (actual dates pending)
Falk Marquest Group - Women's Private Equity Summit	TBD	Expected March 2020 (actual dates pending)
Wharton School - Portfolio Concepts & Management	Philadelphia, PA	Expected April 2020 (actual dates pending)
Pension Bridge Annual Conference	TBD	Expected April 2020 (actual dates pending)
National Conference on Public Employee Retirement Systems (NCPERS) Annual Conference	Las Vegas, NV	May 10-13, 2020
SACRS Spring Conference	San Diego, CA	May 12-15, 2020
IFEBP Health Care Management	TBD	Expected May 2020 (actual dates pending)

Board members are invited to submit confirmation of their offsite training interests for the FY 2019-20 Training Program by indicating their selections on Attachments A and B. Board members may change their preferences at any time but are encouraged to submit them no later than 60 days prior to a scheduled event in order to provide sufficient time for staff to process travel request materials,

obtain Board approval (when necessary), secure travel authority numbers, and allow the attendee to make travel arrangements.

The adopted training programs do not preclude consideration of other training programs that may arise over the course of the year. Board members interested in events not on this list, whether now or later in the fiscal year, should contact staff for further assistance. Board members should not expend any personal funds for registration or travel until confirmation of final approval has been provided and before travel authorities are issued by the City Controller.

Prior to the beginning of each fiscal year, the Board pre-approves, for administrative efficiency, the travel authority for a list of designated conferences/educational seminars. The proposed list of Pre-Approved Educational Seminars for Fiscal Year 2019-20 (Attachment C) includes the previous year's pre-approved list of conferences.

As per the Board Policy, Article II, Section 1.0, Board Members shall attend conferences or seminars that have a solid reputation for quality program content; i.e., agendas with a minimum of five hours of substantive educational content. Content shall not be geared toward marketing or the promotion of investment management and related sponsors. Topics covered during the conference or seminar must be related to the pension fund industry. Conferences not adopted in the Pre-Approved List of Educational Seminars for Fiscal Year 2019-20 will require discrete Board approval.

Strategic Plan Impact Statement

The proposed six Core Competency Areas, FY 2019-20 Training Program and list of Pre-Approved Board Educational Seminars conforms to LACERS Strategic Plan Board Governance Goal of upholding good governance practices which affirm transparency, accountability and fiduciary duty.

This report was prepared by Neil M. Guglielmo, General Manager.

NG:ag

- Attachments: A) FY 2019-20 Training Program – July through December 2019
B) FY 2019-20 Training Program – January – June 2020
C) List of Pre-Approved Board Educational Seminars – FY19/20

LACERS BOARD SEMIANNUAL EDUCATION PLAN
 TRAINING INTEREST FOR JULY - DECEMBER 2019

Name: _____

FY 2019-20 Training Program: July - December 2019

Conference/Training	Location	Dates	1st Choice	2nd Choice
Western Economic Association International (WEAI) 94th Annual Conference	San Francisco, CA	June 28-July 2, 2019	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
State Association of County Retirement Systems (SACRS) UC Berkley Program	(UC) Berkley, CA	July 22-24, 2019	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CA Association of Public Retirement Systems (CALAPRS) Principles of Pension Management for Trustees	Malibu, CA	August 26-29, 2019	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
International Foundation of Employee Benefit Plans (IFEBP) Annual Conference	San Diego, CA	October 20-23, 2019	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Nossaman Annual Update	TBD	Expected October 2019 (actual dates pending)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SACRS Fall Conference	Monterey, CA	November 12-15, 2019	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PRI Academy Courses - Foundations in Responsible Investing (RI) for Trustees	Online	TBD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WRITE-IN CHOICE(S)

Conference/Training	Location	Dates	1st Choice	2nd Choice
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Please submit forms indicating your interest to LACERS staff:

via email: ani.ghoukassian@lacers.org

via email: erin.knight@lacers.org

LACERS BOARD SEMIANNUAL EDUCATION PLAN
 TRAINING INTEREST FOR JANUARY - JUNE 2020

Name: _____

FY 2019-20 Training Program: January - June 2020				
Conference/Training	Location	Dates	1st Choice	2nd Choice
Council of Institutional Investors (CII) Spring Conference	TBD	March 9-11, 2020	<input type="checkbox"/>	<input type="checkbox"/>
CALAPRS Adv. Principles of Pensions Management	UCLA, Westwood, CA	March 27-29, 2020	<input type="checkbox"/>	<input type="checkbox"/>
Falk Marquest Group - Women's Private Equity Summit	TBD	Expected March 2020 (actual dates pending)	<input type="checkbox"/>	<input type="checkbox"/>
Wharton School - Portfolio Concepts & Management	Philadelphia, Pennsylvania	Expected April 2020 (actual dates pending)	<input type="checkbox"/>	<input type="checkbox"/>
Pension Bridge Annual Conference	TBD	Expected April 2020 (actual dates pending)	<input type="checkbox"/>	<input type="checkbox"/>
National Conference on Public Employee Retirement Systems (NCPERS) Annual Conference	Las Vegas, NV	May 10-13, 2020	<input type="checkbox"/>	<input type="checkbox"/>
SACRS Spring Conference	San Diego, CA	May 12-15, 2020	<input type="checkbox"/>	<input type="checkbox"/>
IFEBP Health Care Management	TBD	Expected May 2020 (actual dates pending)	<input type="checkbox"/>	<input type="checkbox"/>

WRITE-IN CHOICE(S)

Conference/Training	Location	Dates	1st Choice	2nd Choice
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

Please submit forms indicating your interest to LACERS staff:

via email: ani.ghoukassian@lacers.org

via email: erin.knight@lacers.org

ATTACHMENT C

**LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM
LIST OF EDUCATIONAL SEMINARS – FISCAL YEAR 2019-20**

*Local Conference

CONFERENCE / SEMINAR / MEETING	SUBJECT MATTER	TRUSTEE EVALUATION		
		TRUSTEE RATING		LEVEL
		Rate seminar with:		
		A	Excellent	<ul style="list-style-type: none"> ▪ Introductory ▪ Intermediate ▪ Advanced
		B	Very Good	
C	Good			
D	Not Beneficial			
California Association of Public Retirement Systems (CALAPRS) – General Assembly <ul style="list-style-type: none"> ▪ March 7-10, 2020 (Rancho Mirage, CA) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning 	A	(Sohn, 2016) (Wilkinson, 2018)	Intermediate
CALAPRS – Principles of Pension Governance For Trustees <ul style="list-style-type: none"> ▪ August 26-29, 2019 (Malibu, CA) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning 	A	(Serrano, Wilkinson 2015)	Intermediate
CALAPRS – Advanced Principles of Pension Management For Trustees <ul style="list-style-type: none"> ▪ 2020 Date(s) and Location TBD 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning 			
CALAPRS – Trustees' Roundtable <ul style="list-style-type: none"> ▪ October 25, 2019 (Oakland, CA) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning 	B	(Chao, 2016)	Intermediate
Council of Institutional Investors (CII) – Conferences <ul style="list-style-type: none"> ▪ Fall Conference: Sept. 16-19, 2019 (Minneapolis, MN) ▪ Spring Conference: March 9-11, 2020 (Washington, DC) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance ▪ Audit & Strategic Planning 	A B	(Chao, 2017) (Wilkinson 2015)	Intermediate Advanced

<p>International Foundation of Employee Benefit Plans (IFEBP) – Annual Conference</p> <ul style="list-style-type: none"> ▪ October 20-23, 2019 (San Diego, CA) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Plan Admin 			
<p>International Foundation of Employee Benefit Plans (IFEBP) – Trustees And Administrators Institute</p> <ul style="list-style-type: none"> ▪ 2019-20 Date(s) and Location TBD 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Plan Admin 			
<p>International Foundation of Employee Benefit Plans (IFEBP) – Health Care Management Conference</p> <ul style="list-style-type: none"> ▪ 2019-20 Date(s) and Location TBD 	<ul style="list-style-type: none"> ▪ Benefits Admin 			
<p>International Foundation of Employee Benefit Plans (IFEBP) – New Trustees Institute</p> <ul style="list-style-type: none"> ▪ Level I: Core Concepts: October 19-21, 2019 (San Diego, CA) ▪ Level II: Concepts in Practice: October 19-20, 2019 (San Diego, CA) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Plan Admin 			
<p>International Foundation of Employee Benefit Plans (IFEBP) – The Wharton School Advanced Investments Management</p> <ul style="list-style-type: none"> ▪ 2019-20 Date(s) and Location TBD 	<ul style="list-style-type: none"> ▪ Investments ▪ Corporate Governance 			
<p>International Foundation of Employee Benefits Plan (IFEBP) – The Wharton School Portfolio Concepts and Management Course</p> <ul style="list-style-type: none"> ▪ 2019-20 Dates and Location TBD 	<ul style="list-style-type: none"> ▪ Investments 			
<p>National Conference on Public Employee Retirement Systems (NCPERS) – Annual Conference & Exhibition</p> <ul style="list-style-type: none"> ▪ May 10-13, 2020 (Las Vegas, NV) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance 	<p>A</p> <p>B</p> <p>A</p>	<p>(Wilkinson, 2017)</p> <p>(Ruiz, 2016)</p> <p>(Sohn, 2018)</p>	<p>Intermediate</p>

<p>National Conference on Public Employee Retirement Systems (NCPERS) – Trustee Educational Seminar (TEDS)</p> <ul style="list-style-type: none"> ▪ May 9-10, 2020 (Las Vegas, NV) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance 	<p>A</p>	<p>(Sohn, 2018)</p>	<p>Intermediate</p>
<p>National Conference on Public Employee Retirement Systems (NCPERS) – Legislative Conference</p> <ul style="list-style-type: none"> ▪ January 26-28, 2020 (Washington, DC) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance 			
<p>Nossaman Annual Public Pensions and Investments' Fiduciaries' Forum Annual Update</p> <ul style="list-style-type: none"> ▪ September 5, 2019 (San Francisco, CA) 	<ul style="list-style-type: none"> ▪ Legislative Governance 			
<p>Pension Real Estate Association (PREA) Spring Conference</p> <ul style="list-style-type: none"> ▪ March 4-5, 2020 (Beverly Hills, CA) * 	<ul style="list-style-type: none"> ▪ Investments 	<p>A</p>	<p>(Chao, 2017)</p>	<p>Intermediate</p>
<p>Pension Real Estate Association (PREA) Annual Institutional Investor Conference</p> <ul style="list-style-type: none"> ▪ Sept. 30-Oct. 2, 2020 (Boston, MA) 	<ul style="list-style-type: none"> ▪ Investments 	<p>A</p>	<p>(Chao, 2017)</p>	<p>Intermediate</p>
<p>State Association of County Retirement Systems (SACRS) Conference</p> <ul style="list-style-type: none"> ▪ Fall Conference: November 12-15, 2019 Monterey, CA) ▪ Spring Conference: May 12-15, 2020 (San Diego, CA) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance 	<p>A B</p>	<p>(Wilkinson, 2015 and 2017, 2018) (Chao, 2017)</p>	<p>Intermediate</p>
<p>State Association of County Retirement Systems (SACRS) / UC Berkeley Program – Public Pension Investment Management Program</p> <ul style="list-style-type: none"> ▪ July 22-24, 2019 (Berkeley, CA) 	<ul style="list-style-type: none"> ▪ Investments 	<p>A</p>	<p>(Wilkinson, 2015)</p>	
<p>Western Economic Association International – Annual Conference</p> <ul style="list-style-type: none"> ▪ June 26-30, 2020 (Denver, CO) ▪ June 27-July 1, 2021 (Honolulu, HI) 	<ul style="list-style-type: none"> ▪ Investments 			

Women's Alternative Investment Summit ▪ November 13-14, 2019 (New York, NY)	▪ Investments			
Women's Private Equity Summit ▪ March 11-13, 2020 (Dana Point, CA)	▪ Investments			

**LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM
 ADDITIONAL EDUCATIONAL SEMINARS APPROVED BY THE BOARD FY 2018-19**

CONFERENCE TITLE	DATE(S)	LOCATION	COMMISSIONER
Value Edge Advisors 2018 Public Funds Forum	Sept. 4-6, 2018	Laguna Beach, CA	Greenwood
Principles for Responsible Investment In Person 2018	Sept. 12-14, 2018	San Francisco, CA	Ruiz
Fiduciary Investors Symposium	Sept. 30 – Oct. 2, 2018	Stanford, CA	Elizabeth Lee
Public Pension Trustees Fiduciary Conference	Oct. 2-3, 2018	New York, NY	Greenwood
Hispanic Heritage Foundation Investors Forum	June 6, 2019	Oakland, CA	Ruiz
Massachusetts Institute of Technology Professional Certificate Program in Real Estate Finance and Development	June 17-21, 2019	Cambridge, MA	Sohn

PORTFOLIO PERFORMANCE REVIEW

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Quarter Ending March 31, 2019

May 28, 2019



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

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EXECUTIVE SUMMARY

NEPC, LLC

EXECUTIVE SUMMARY

Q1 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
1.2%	-11.7	-27 bps	13.6%	10.0%	9.9%	2.9%	7.3%	7.0%	33.3%	0.8%	16.7%

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	15 Yrs	Rank	Inception	Inception Date
LACERS Master Trust	\$17,316,281,457	7.76%	67	2.55%	50	3.33%	72	8.80%	58	6.37%	58	10.65%	42	7.07%	31	8.16%	Oct-94
Policy Index		9.27%	11	3.38%	20	4.30%	39	9.19%	19	6.42%	49	10.93%	13	6.96%	44	8.10%	Oct-94
InvestorForce Public DB \$5-50B Gross Median		8.33%		2.55%		3.83%		8.86%		6.41%		10.41%		6.84%		7.86%	Oct-94

Note: Performance is gross of fees

Global equities rallied during the quarter as sentiment improved from easing US-China trade tensions and a dovish pivot by the Fed

- US Equity composite returned 13.98% (gross of fees) led by small cap growth while the Non-US Equity composite returned 10.63% (gross of fees) led by developed markets growth stocks

The spread between the 10-year Treasury Note and 3-month Treasury Bill temporarily inverted after the Fed held interest rates constant and announced adjustments to their balance sheet normalization process

- Core Fixed Income composite returned 3.17% (gross of fees) and the Credit Opportunities composite returned 6.50% (gross of fees) led by high yield bonds

Spot crude oil prices rose significantly due to geopolitical concerns in major oil-producing regions



Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Develop Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM EMBI Global Diversified Index), Crude (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index).

MARKET OUTLOOK

NEPC, LLC

MACRO PERFORMANCE OVERVIEW

Q1 Macro Market Summary

The global growth outlook was revised downward – reflecting slowing growth in most major developed economies

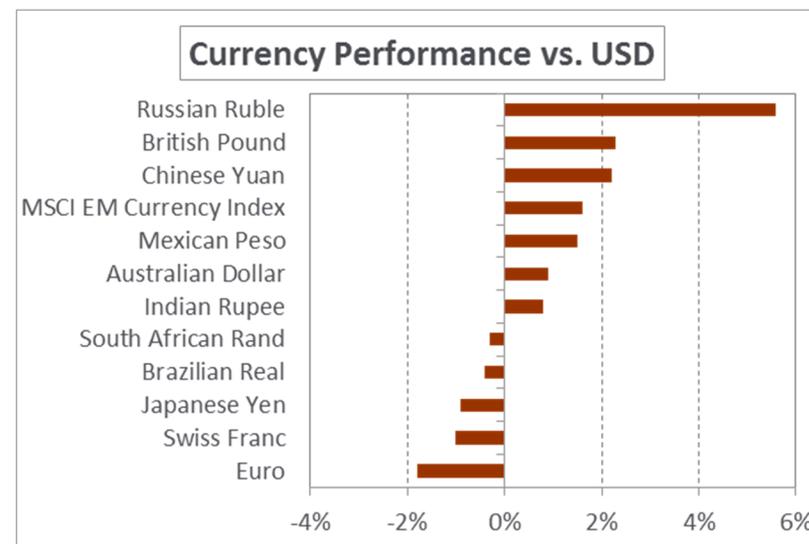
The Fed pivoted toward a more dovish policy stance signaling no additional rate hikes this year

Global bond yields declined with the 10-year German and Japanese yields ending in negative territory

	Yield 12/31/18	Yield 3/31/19	Δ
US 10-Yr	2.68%	2.42%	-0.27%
US 30-Yr	3.01%	2.82%	-0.19%
US Real 10-Yr	0.97%	0.53%	-0.44%
German 10-Yr	0.24%	-0.07%	-0.31%
Japan 10-Yr	-0.01%	-0.09%	-0.09%
China 10-Yr	3.31%	3.07%	-0.24%
EM Local Debt	6.46%	6.16%	-0.30%

Source: Bloomberg

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	2.25% - 2.50%	2.2%	The Fed held its benchmark interest rate at 2.25% - 2.50% in March and signaled no additional rate hikes are likely in 2019
European Central Bank	0.0%	1.4%	The ECB maintained its current benchmark interest rate and announced plans to boost commercial lending
Bank of Japan	-0.1%	0.8%	The BoJ will continue its ultra-easy QE program with inflation remaining well below target



Source: Bloomberg



EQUITY PERFORMANCE OVERVIEW

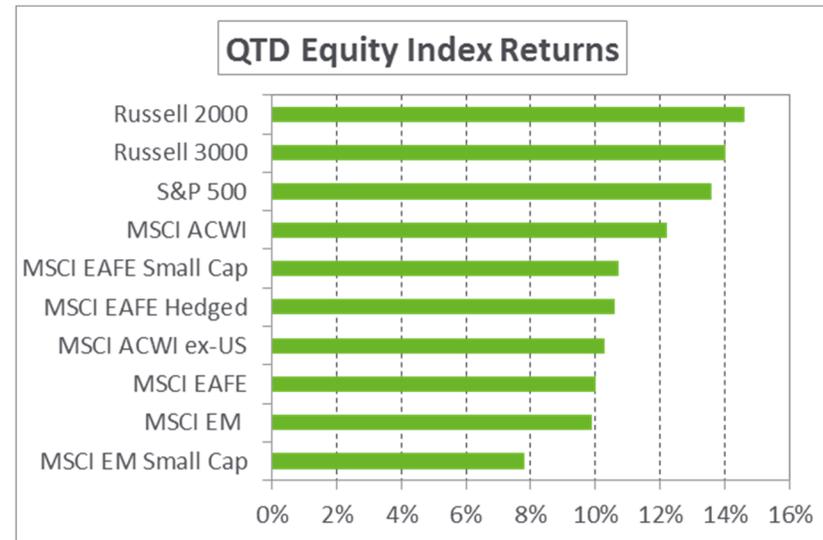
Q1 Equity Market Summary

Global equities made a strong comeback this quarter following a dovish pivot from the Fed

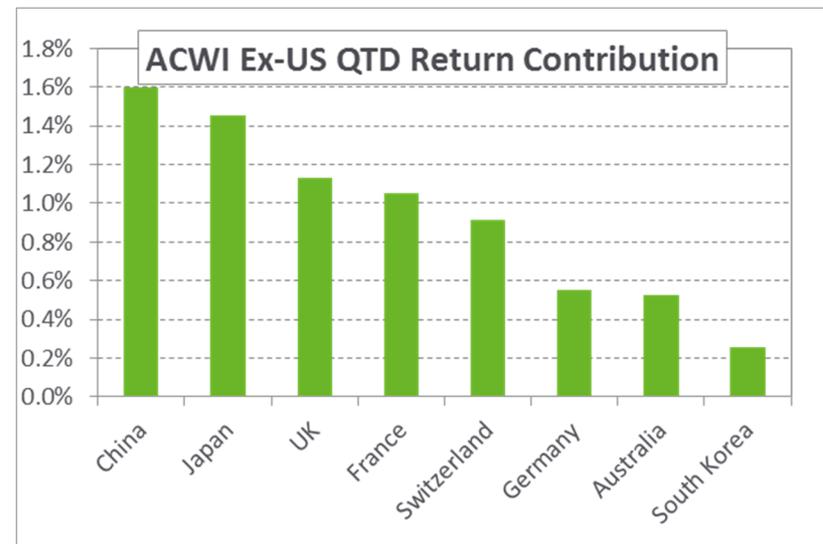
US and Chinese equities led the way as hopes for a trade deal provided a tailwind for local equity markets

Russell 3000 QTD Sector Return Contribution	
Information Technology	3.6%
Consumer Discretionary	2.6%
Financials	1.6%
Industrials	0.8%
Consumer Staples	1.1%
Energy	0.7%
Materials	0.4%
Health Care	1.3%
Real Estate	0.6%
Communication Services	1.9%
Utilities	0.3%

Source: Russell, Bloomberg



Source: MSCI, Russell, S&P, Bloomberg



Source: MSCI, Bloomberg. QTD top country contributors to index return



CREDIT PERFORMANCE OVERVIEW

Q1 Credit Market Summary

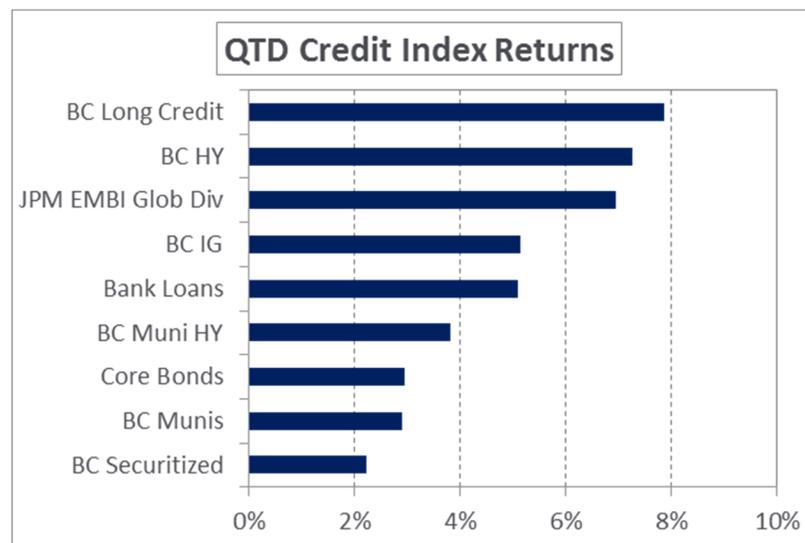
Global yields declined significantly – reflecting concerns over the global growth outlook

Credit spreads broadly declined off of highs at the end of 2018

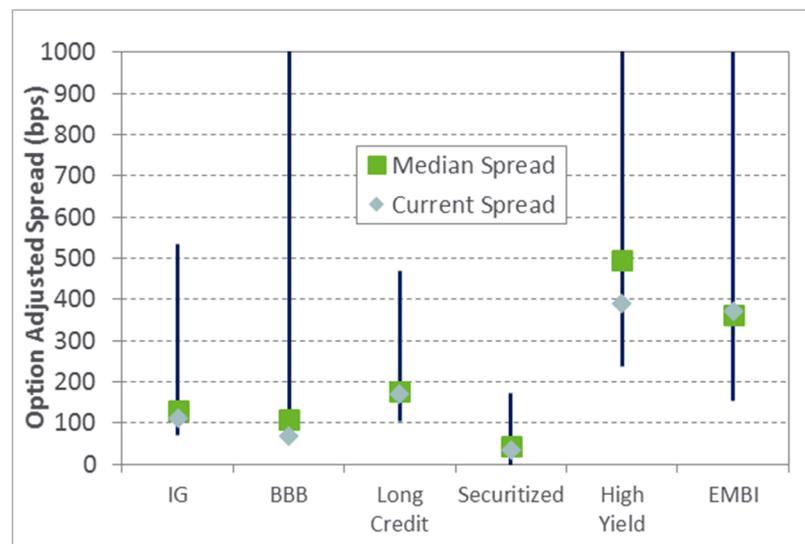
US high yield spreads experienced one of the largest movements – falling 135 basis points, supporting a return of 7.3%

Credit Spread (Basis Points)	12/31/18	3/31/19	\Delta
BC IG Credit	153	119	-34
BC Long Credit	200	172	-28
BC Securitized	35	35	0
BC High Yield	526	391	-135
Muni HY	236	230	-6
JPM EMBI	435	373	-62
Bank Loans - Libor	414	354	-60

Source: Barclays, Merrill Lynch, JPM, Bloomberg, NEPC



Source: Barclays, JPM, S&P, Bloomberg



Source: Barclays, JPM, S&P, Bloomberg; Calculated since 01/31/2000



REAL ASSETS PERFORMANCE OVERVIEW

Q1 Real Assets Market Summary

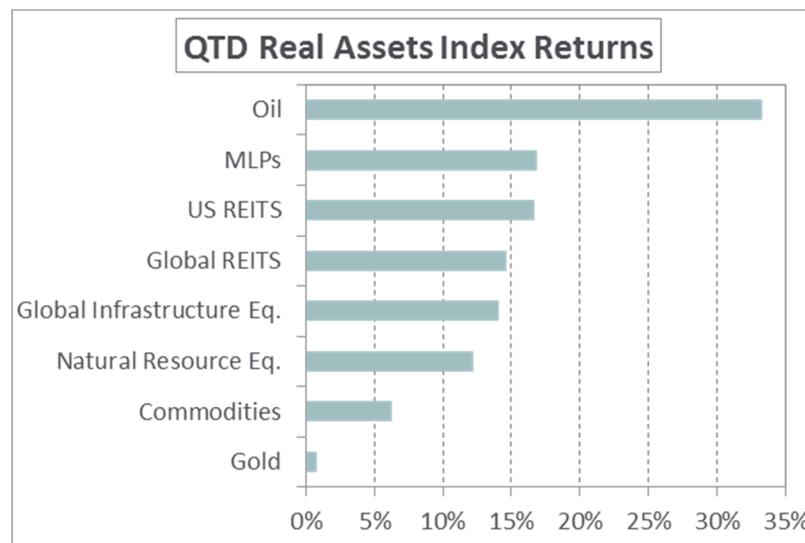
WTI crude oil increased 33.3% as a result of OPEC production cuts and concerns surrounding Venezuela

Midstream energy increased 22.2% following strong earnings and a tailwind from higher oil prices

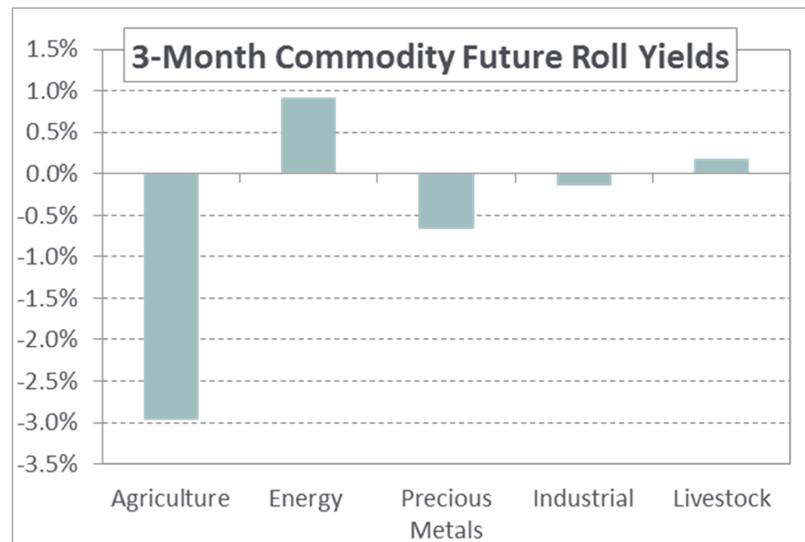
US REITs increased 16.3% during the quarter with the Fed signaling a pause to monetary policy

Real Asset Yields	12/31/18	3/31/19
MLPs	8.9%	8.0%
Core Real Estate	4.5%	4.5%
US REITs	4.6%	4.1%
Global REITs	3.9%	3.4%
Global Infrastructure Equities	4.6%	4.4%
Natural Resource Equities	4.5%	4.2%
US 10-Yr Breakeven Inflation	1.7%	1.9%
Commodity Index Roll Yield	-2.7%	-2.7%

Source: NCREIF, Alerian, NAREIT, S&P, Bloomberg



Source: S&P, NAREIT, Alerian, Bloomberg



Source: Bloomberg, NEPC Calculated as of 09/28/2018

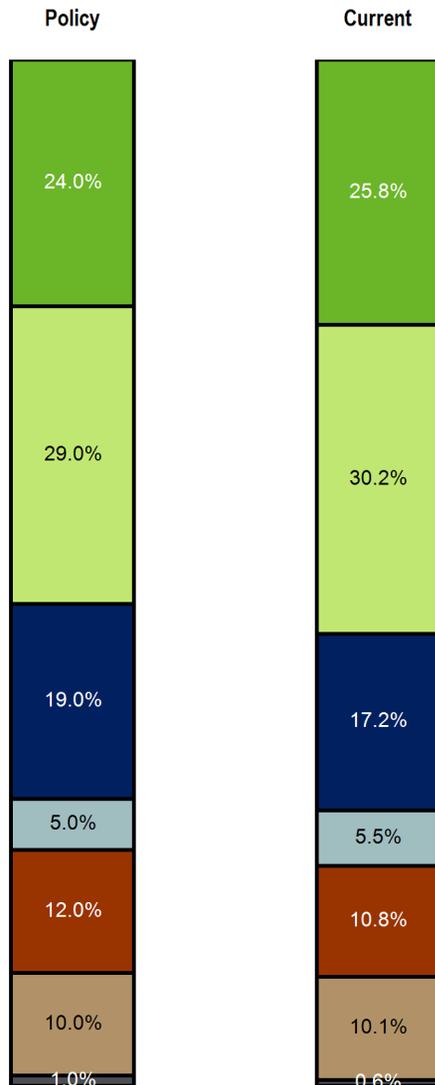


ASSET CLASS POLICY OVERVIEW

NEPC, LLC

Los Angeles City Employees' Retirement System

TOTAL FUND ASSET ALLOCATION VS. POLICY



Asset Allocation vs. Target						
	Current	Policy	Current Difference*	Policy Range	Within Range	
U.S. Equity	\$4,461,289,894	24.00%	25.76%	1.76%	19.00% - 29.00%	Yes
Non-US Equity Core	\$5,222,447,298	29.00%	30.16%	1.16%	24.00% - 34.00%	Yes
Fixed Income	\$2,974,037,243	19.00%	17.17%	-1.83%	15.00% - 22.00%	Yes
Credit Opportunities	\$946,202,687	5.00%	5.46%	0.46%	0.00% - 10.00%	Yes
Private Equity	\$1,863,771,883	12.00%	10.76%	-1.24%		Yes
Real Assets	\$1,743,217,858	10.00%	10.07%	0.07%	7.00% - 13.00%	Yes
Cash	\$105,314,594	1.00%	0.61%	-0.39%	0.00% - 2.00%	Yes
Total	\$17,316,281,457	100.00%	100.00%			

*Difference between Policy and Current Allocation

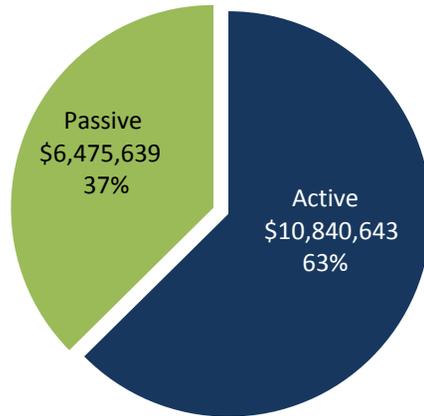
Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



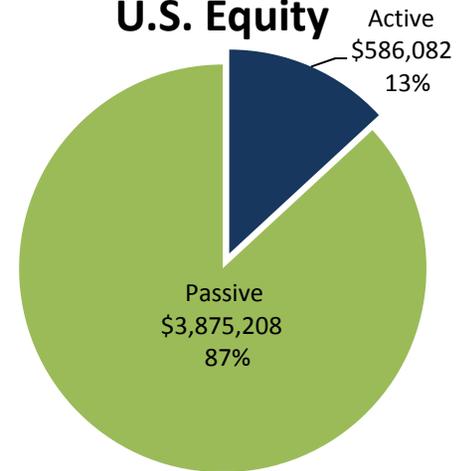
ACTIVE VS. PASSIVE MANAGER BREAKDOWN

Note: Market values shown in millions \$(000).

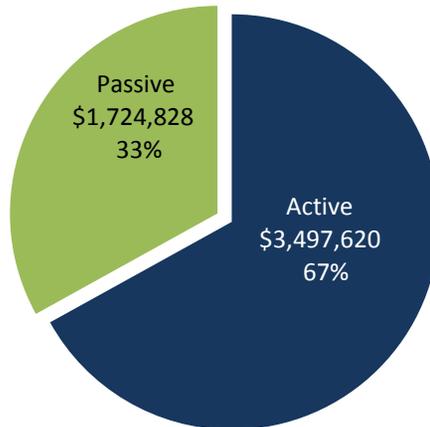
Total Fund



U.S. Equity



Non-U.S. Equity



Core Fixed Income



- Of the Total Fund, LACERS allocated 63% to active managers and 37% to passive managers.

- Credit Opportunities, Private Equity, and Real Assets programs are active and therefore are not shown.



PERFORMANCE OVERVIEW

NEPC, LLC

TOTAL FUND PERFORMANCE SUMMARY (GROSS OF FEES)

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	15 Yrs	Rank	Inception	Inception Date
LACERS Master Trust	\$17,316,281,457	7.76%	67	2.55%	50	3.33%	72	8.80%	58	6.37%	58	10.65%	42	7.07%	31	8.16%	Oct-94
Policy Index		9.27%	11	3.38%	20	4.30%	39	9.19%	19	6.42%	49	10.93%	13	6.96%	44	8.10%	Oct-94
InvestorForce Public DB \$5-50B Gross Median		8.33%		2.55%		3.83%		8.86%		6.41%		10.41%		6.84%		7.86%	Oct-94

Over the past five years, the Fund returned 6.37% per year, underperforming the policy index by 0.05% and ranked in the 58th percentile in the InvestorForce Public Funds \$5 Billion- \$50 Billion universe. The Fund's volatility was 6.61% ranking in the 53rd percentile over this period. The Fund's risk-adjusted performance, as measured by the Sharpe Ratio, ranks in the 58th percentile in its peer group.

Over the past three years, the Fund returned 8.80% per year, underperforming the policy index by 0.39% and ranked in the 58th percentile in its peer group. The Fund's volatility ranks in the 48th percentile resulting in a three-year Sharpe Ratio of 1.26, ranking in the 65th percentile.

In the one-year ended March 31, 2019, the Fund experienced a net investment gain of \$526.6 million, which includes a net investment gain of \$1.25 billion during the first calendar quarter. Assets increased from \$17.02 billion twelve months ago to \$17.32 billion on March 31, 2019. The Fund returned 7.76%, underperforming the policy index by 1.51% and ranked in the 67th percentile in its peer group.

All asset classes were within policy range as of March 31, 2019.

The InvestorForce Public Funds \$5 Billion- \$50 Billion Universe contains 16 observations for the period ending March 31, 2019.



5 Years Ending March 31, 2019								
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	6.37%	58	6.61%	53	0.85	58	1.17	29
Policy Index	6.42%	49	7.46%	97	0.76	72	1.02	57
InvestorForce Public DB \$5-50B Gross Median	6.41%	--	6.55%	--	0.86	--	1.15	--

3 Years Ending March 31, 2019								
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	8.80%	58	6.02%	48	1.26	65	1.20	50
Policy Index	9.19%	19	6.77%	94	1.18	79	1.15	62
InvestorForce Public DB \$5-50B Gross Median	8.86%	--	6.05%	--	1.29	--	1.20	--



Los Angeles City Employees' Retirement System

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
LACERS Master Trust	17,316,281,457	100.00	7.76	2.55	3.33	8.80	6.37	10.65	8.16	Oct-94
Policy Index			9.27	3.38	4.30	9.19	6.42	10.93	8.10	Oct-94
Over/Under			-1.51	-0.83	-0.97	-0.39	-0.05	-0.28	0.06	
U.S. Equity	4,461,289,894	25.76	13.98	3.84	8.32	13.42	10.14	15.99	10.41	Oct-94
U.S. Equity Blend			14.04	4.69	8.77	13.48	10.35	16.00	9.34	Oct-94
Over/Under			-0.06	-0.85	-0.45	-0.06	-0.21	-0.01	1.07	
Non-U.S. Equity	5,222,447,298	30.16	10.63	-2.67	-4.96	8.58	3.64	10.03	5.15	Nov-94
MSCI ACWI ex USA			10.31	-1.64	-4.22	8.09	2.57	8.85	5.17	Nov-94
Over/Under			0.32	-1.03	-0.74	0.49	1.07	1.18	-0.02	
Core Fixed Income	2,974,037,243	17.17	3.17	4.74	4.38	2.48	2.96		3.03	Jul-12
Core Fixed Income Blend			2.94	4.65	4.48	2.03	2.74		2.40	Jul-12
Over/Under			0.23	0.09	-0.10	0.45	0.22		0.63	
Credit Opportunities	946,202,687	5.46	6.50	5.55	4.65	7.48	4.38		5.48	Jun-13
Credit Opportunities Blend			7.15	5.99	5.36	7.61	4.80		5.75	Jun-13
Over/Under			-0.65	-0.44	-0.71	-0.13	-0.42		-0.27	
Real Assets	1,743,217,858	10.07	3.98	3.81	5.81	5.63	6.76	2.26	6.31	Nov-94
CPI + 5% (Unadjusted)			2.42	4.63	6.95	7.30	6.54	6.88	7.30	Nov-94
Over/Under			1.56	-0.82	-1.14	-1.67	0.22	-4.62	-0.99	
Public Real Assets	935,544,125	5.40	5.94	2.24	3.76	2.97			1.40	Jun-14
Public Real Assets Blend			6.55	1.55	4.15	3.03			-0.83	Jun-14
Over/Under			-0.61	0.69	-0.39	-0.06			2.23	
Private Real Estate	787,660,871	4.55	1.85	5.67	8.20	8.24	9.89	3.75	6.94	Oct-94
Real Estate Blend			1.62	5.99	8.38	8.83	11.02	9.62	9.92	Oct-94
Over/Under			0.23	-0.32	-0.18	-0.59	-1.13	-5.87	-2.98	
Private Equity	1,863,771,883	10.76	-1.08	8.17	11.29	12.18	10.72	12.58	10.43	Nov-95
Private Equity Blend			14.85	7.03	12.01	16.85	13.64	19.81	12.94	Nov-95
Over/Under			-15.93	1.14	-0.72	-4.67	-2.92	-7.23	-2.51	
Cash	105,314,594	0.61								



Note - See appendix for blended benchmark definitions.

Los Angeles City Employees' Retirement System

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
LACERS Master Trust	17,316,281,457	100.00	7.72	2.41	3.15	8.60	6.18	10.45		Oct-94
Policy Index			9.27	3.38	4.30	9.19	6.42	10.93		Oct-94
Over/Under			-1.55	-0.97	-1.15	-0.59	-0.24	-0.48		
U.S. Equity	4,461,289,894	25.76	13.96	3.78	8.25	13.34	10.04	15.82		Oct-94
U.S. Equity Blend			14.04	4.69	8.77	13.48	10.35	16.00		Oct-94
Over/Under			-0.08	-0.91	-0.52	-0.14	-0.31	-0.18		
Non-U.S. Equity	5,222,447,298	30.16	10.54	-2.95	-5.32	8.18	3.27	9.66		Nov-94
MSCI ACWI ex USA			10.31	-1.64	-4.22	8.09	2.57	8.85		Nov-94
Over/Under			0.23	-1.31	-1.10	0.09	0.70	0.81		
Core Fixed Income	2,974,037,243	17.17	3.14	4.66	4.27	2.38	2.85		2.91	Jul-12
Core Fixed Income Blend			2.94	4.65	4.48	2.03	2.74		2.40	Jul-12
Over/Under			0.20	0.01	-0.21	0.35	0.11		0.51	
Credit Opportunities	946,202,687	5.46	6.42	5.32	4.33	7.12	4.01		5.14	Jun-13
Credit Opportunities Blend			7.15	5.99	5.36	7.61	4.80		5.75	Jun-13
Over/Under			-0.73	-0.67	-1.03	-0.49	-0.79		-0.61	
Real Assets	1,743,217,858	10.07	3.94	3.69	5.65	5.46	6.60	2.12		Nov-94
CPI + 5% (Unadjusted)			2.42	4.63	6.95	7.30	6.54	6.88		Nov-94
Over/Under			1.52	-0.94	-1.30	-1.84	0.06	-4.76		
Public Real Assets	935,544,125	5.40	5.89	2.08	3.51	2.71			1.20	Jun-14
Public Real Assets Blend			6.55	1.55	4.15	3.03			-0.83	Jun-14
Over/Under			-0.66	0.53	-0.64	-0.32			2.03	
Private Real Estate	787,660,871	4.55	1.83	5.61	8.13	8.16	9.79	3.64		Oct-94
Real Estate Blend			1.62	5.99	8.38	8.83	11.02	9.62		Oct-94
Over/Under			0.21	-0.38	-0.25	-0.67	-1.23	-5.98		
Private Equity	1,863,771,883	10.76	-1.08	8.17	11.29	12.20	10.74	12.58		Nov-95
Private Equity Blend			14.85	7.03	12.01	16.85	13.64	19.81		Nov-95
Over/Under			-15.93	1.14	-0.72	-4.65	-2.90	-7.23		
Cash	105,314,594	0.61								



Note - See appendix for blended benchmark definitions.

Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS (NET)

3 Years Ending March 31, 2019

	% of Total MV (%)	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Annualized Alpha Jensen (%)	Rank	Information Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
LACERS Master Trust	100.00%	8.60%	77	6.03%	49	0.32%	60	-0.58	--	1.17	59	1.03%	57
U.S. Equity	25.76%	13.34%	34	11.35%	47	-0.41%	33	-0.22	--	0.93	44	0.65%	11
Non-U.S. Equity	30.16%	8.18%	36	10.72%	61	0.03%	39	0.08	31	0.89	29	1.13%	10
Developed ex-U.S.	22.60%	7.43%	--	10.68%	--	0.09%	--	0.10	--	0.76	--	1.49%	--
Emerging Markets	7.56%	10.36%	--	13.21%	--	-0.42%	--	-0.27	--	1.12	--	1.17%	--
Core Fixed Income	17.17%	2.38%	65	2.82%	63	0.40%	65	0.87	44	0.57	70	0.40%	11
Credit Opportunities	5.46%	7.12%	--	4.30%	--	-0.10%	--	-0.47	--	2.65	--	1.03%	--
Real Assets	10.07%	5.46%	--	2.30%	--	-0.77%	--	-0.84	--	3.53	--	2.20%	--
Public Real Assets	5.40%	2.71%	--	4.45%	--	0.00%	--	-0.19	--	0.69	--	1.72%	--
Private Real Estate	4.55%	8.16%	31	1.50%	42	8.83%	7	-0.16	--	24.39	28	4.24%	91
Private Equity	10.76%	12.20%	64	4.12%	16	11.42%	34	-0.38	--	9.18	48	12.13%	87

5 Years Ending March 31, 2019

	% of Total MV (%)	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Annualized Alpha Jensen (%)	Rank	Information Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
LACERS Master Trust	100.00%	6.18%	79	6.61%	53	0.42%	34	-0.23	--	1.11	52	1.08%	57
U.S. Equity	25.76%	10.04%	30	11.67%	39	-0.44%	29	-0.49	--	0.97	30	0.65%	8
Non-U.S. Equity	30.16%	3.27%	43	11.83%	69	0.74%	41	0.55	21	0.34	36	1.28%	6
Developed ex-U.S.	22.60%	3.09%	--	11.55%	--	0.81%	--	0.50	--	0.31	--	1.54%	--
Emerging Markets	7.56%	3.05%	--	15.56%	--	-0.68%	--	-0.41	--	0.26	--	1.52%	--
Core Fixed Income	17.17%	2.85%	52	2.74%	60	0.23%	72	0.22	41	1.22	44	0.50%	17
Real Assets	10.07%	6.60%	--	2.39%	--	3.58%	--	0.03	--	6.07	--	2.43%	--
Private Real Estate	4.55%	9.79%	48	1.85%	26	11.25%	6	-0.23	--	31.74	28	5.44%	91
Private Equity	10.76%	10.74%	73	3.92%	6	10.09%	40	-0.24	--	8.71	62	12.25%	81

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



PRIVATE MARKETS PERFORMANCE AS OF DECEMBER 31, 2018

Private Equity	10 Year IRR	Since Inception IRR	Since Inception Multiple
Aggregate Portfolio	12.7%	11.1%	1.54x
Core Portfolio	13.5%	11.7%	1.57x
Specialized Portfolio	4.2%	2.0%	1.12x
Russell 3000 + 300 bps	16.2%	11.4%	N/A

Real Estate*	10 Year Return (Net)	Since Inception Return (Net)
Total Portfolio (TWR) ¹	3.93%	5.99%
NFI-ODCE + 80 basis points (TWR)	6.81%	7.16%

Note: The Total Value to Paid-In Ratio (TVPI) is a multiple that relates the current value of the private equity portfolio plus all distributions received to date with the total amount of capital contributed.

1 - IRR is not available for the Real Estate portfolio and therefore only time weighted returns (TWR) are reported.

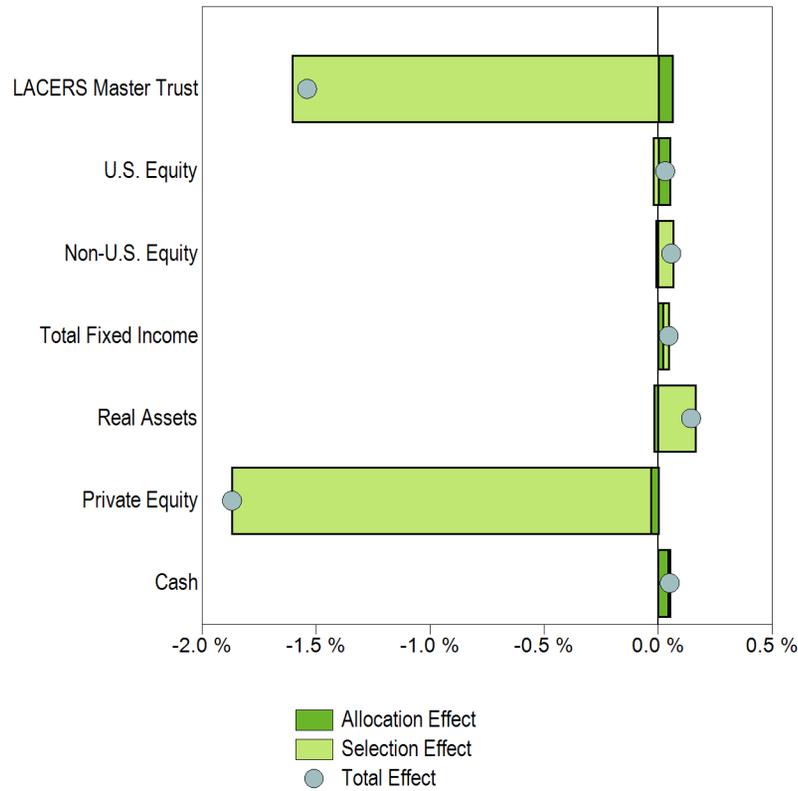
*Data is considered preliminary.



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects 3 Months Ending March 31, 2019



Attribution Summary 3 Months Ending March 31, 2019							
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	13.96%	14.04%	-0.08%	-0.02%	0.05%	0.03%
Non-U.S. Equity	29.00%	10.54%	10.31%	0.22%	0.06%	-0.01%	0.06%
Total Fixed Income	24.00%	3.91%	3.82%	0.09%	0.02%	0.02%	0.05%
Real Assets	10.00%	3.94%	2.42%	1.52%	0.16%	-0.02%	0.14%
Private Equity	12.00%	-1.08%	14.85%	-15.94%	-1.84%	-0.03%	-1.87%
Cash	1.00%	1.86%	0.59%	1.27%	0.01%	0.04%	0.05%
Total	100.00%	7.73%	9.27%	-1.54%	-1.60%	0.06%	-1.54%

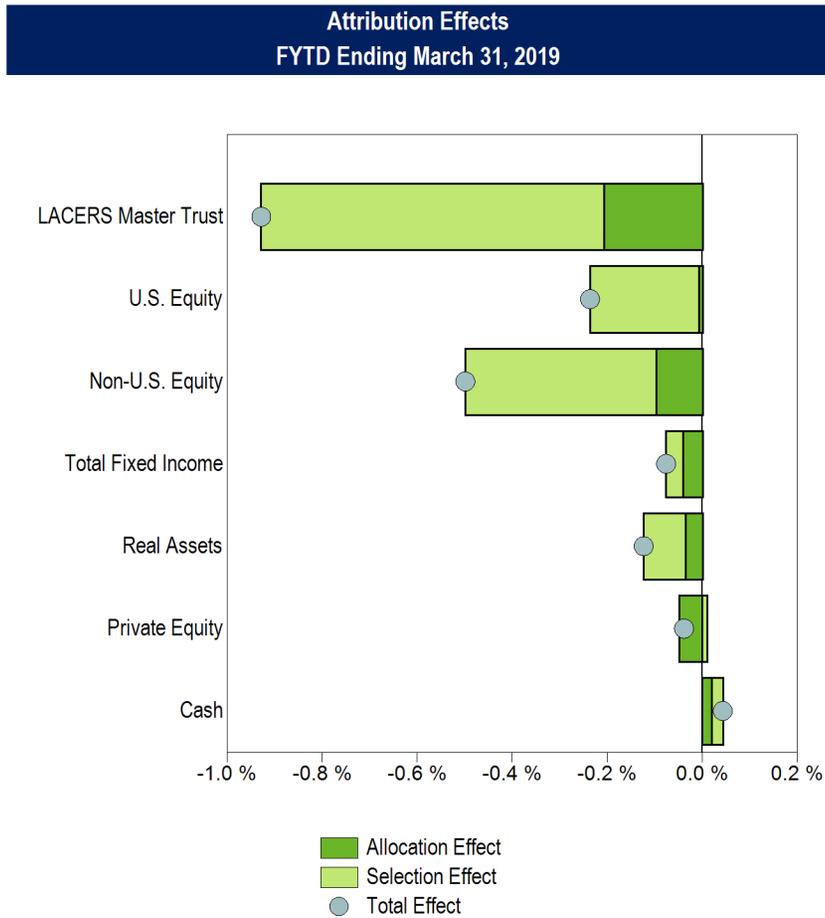
Wtd. = Weighted

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)



Attribution Summary
FYTD Ending March 31, 2019

	Policy Wtd. Weight	Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	3.78%	4.69%	-0.91%	-0.23%	-0.01%	-0.24%
Non-U.S. Equity	29.00%	-2.95%	-1.64%	-1.31%	-0.40%	-0.10%	-0.50%
Total Fixed Income	24.00%	4.81%	4.95%	-0.14%	-0.04%	-0.04%	-0.08%
Real Assets	10.00%	3.69%	4.63%	-0.95%	-0.09%	-0.04%	-0.12%
Private Equity	12.00%	8.17%	7.03%	1.13%	0.01%	-0.05%	-0.04%
Cash	1.00%	5.99%	1.68%	4.31%	0.02%	0.02%	0.04%
Total	100.00%	2.45%	3.38%	-0.93%	-0.72%	-0.21%	-0.93%

Wtd. = Weighted

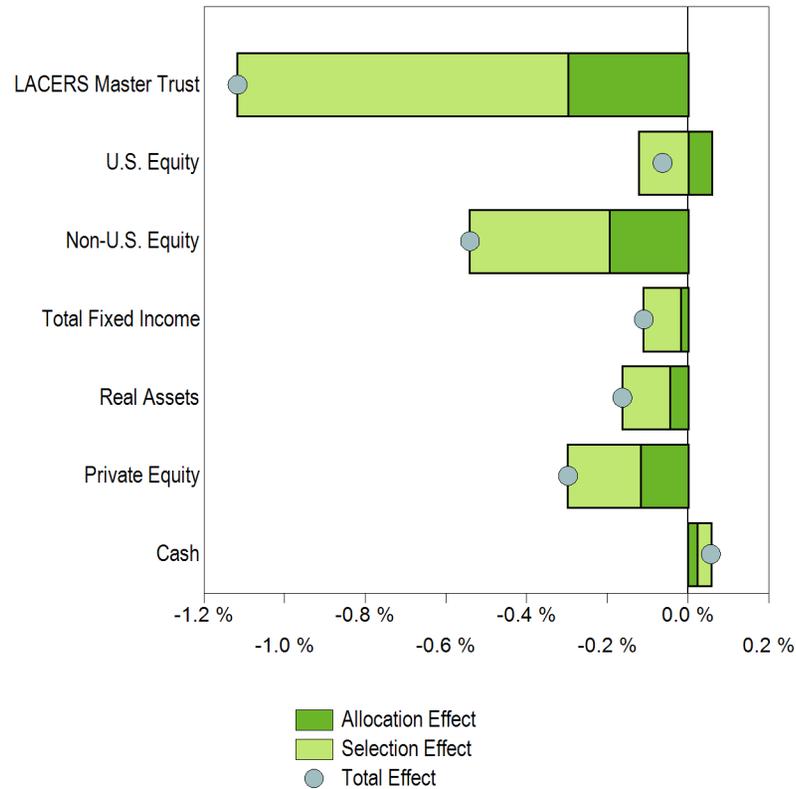
Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects
1 Year Ending March 31, 2019



Attribution Summary							
1 Year Ending March 31, 2019							
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	8.25%	8.77%	-0.52%	-0.12%	0.06%	-0.06%
Non-U.S. Equity	29.00%	-5.32%	-4.22%	-1.11%	-0.34%	-0.20%	-0.54%
Total Fixed Income	24.00%	4.30%	4.69%	-0.39%	-0.09%	-0.02%	-0.11%
Real Assets	10.00%	5.65%	6.95%	-1.30%	-0.12%	-0.05%	-0.16%
Private Equity	12.00%	11.29%	12.01%	-0.72%	-0.18%	-0.12%	-0.30%
Cash	1.00%	8.37%	2.15%	6.22%	0.03%	0.02%	0.06%
Total	100.00%	3.19%	4.30%	-1.12%	-0.82%	-0.30%	-1.12%

Wtd. = Weighted

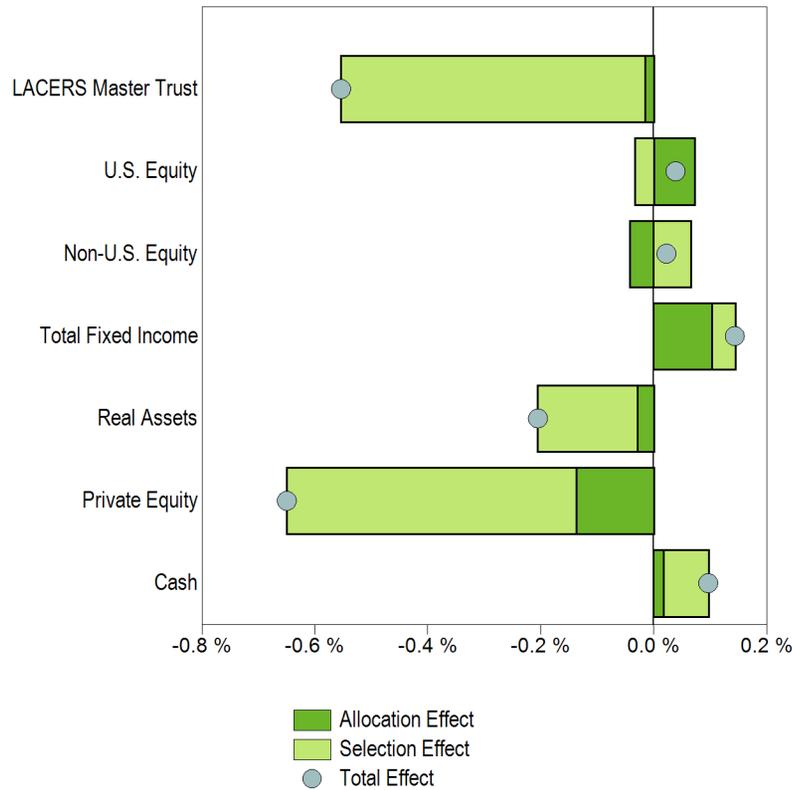
Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects
3 Years Ending March 31, 2019



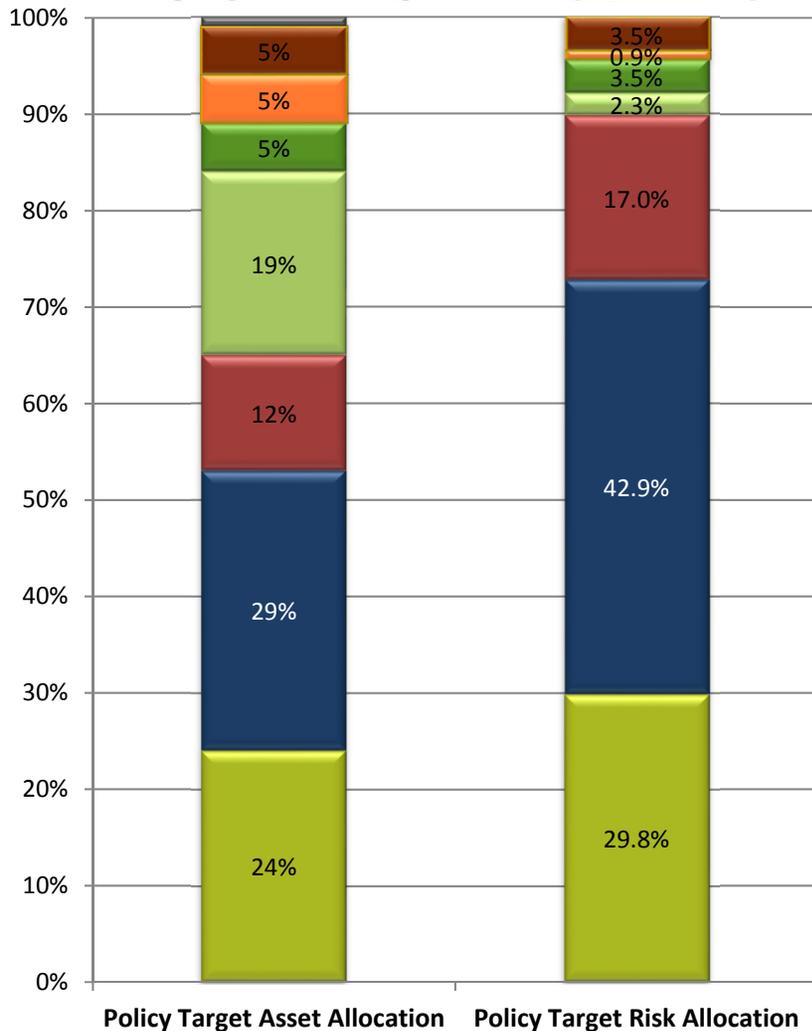
Attribution Summary							
3 Years Ending March 31, 2019							
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	13.34%	13.48%	-0.14%	-0.03%	0.07%	0.04%
Non-U.S. Equity	29.00%	8.18%	8.09%	0.09%	0.06%	-0.04%	0.02%
Total Fixed Income	24.00%	3.36%	3.18%	0.18%	0.04%	0.10%	0.14%
Real Assets	10.00%	5.46%	7.30%	-1.84%	-0.18%	-0.03%	-0.20%
Private Equity	12.00%	12.20%	16.85%	-4.66%	-0.51%	-0.14%	-0.65%
Cash	1.00%	7.60%	1.23%	6.37%	0.08%	0.02%	0.10%
Total	100.00%	8.64%	9.20%	-0.55%	-0.54%	-0.02%	-0.55%

Wtd. = Weighted

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



TOTAL FUND RISK ALLOCATION – ASSET ALLOCATION VS. RISK ALLOCATION



- Cash
- Private Real Estate
- Public Real Assets
- Credit Opportunities
- Core Fixed Income
- Private Equity
- Non-U.S. Equity
- U.S. Equity

- Public and Private Equity policy target asset allocation is 65%; accounts for 89.7% of the policy target portfolio risk.
- Core Fixed Income and Credit Opportunities policy allocation is 24%, accounting for 5.8% of the policy target portfolio risk.
- Real Assets (Private Real Estate and Public Real Assets) policy allocation is 10%, accounting for 4.4% of policy target portfolio risk.

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.



PUBLIC MARKETS RISK BUDGET COMPARISON AS OF MARCH 31, 2019

Public Markets Asset Class	Target Risk Budget	Actual 3 Yr Tracking Error
U.S. Equity	0.50%	0.65%
Non-U.S. Equity	1.20%	1.13%
Core Fixed Income	1.00%	0.40%
Credit Opportunities	1.50%	1.03%
Public Real Assets*	3.00%	1.72%

- Current LACERS public market asset class composite tracking error statistics are compared to asset class target risk budgets to ensure active risks are within expectations.
- Risk budgets are to be evaluated over three-year periods, at minimum, to reflect a full market cycle.
- All equity public markets asset classes are within an appropriately narrow range of their respective risk budgets.
- Both Core Fixed Income and Credit Opportunities have exhibited lower than expected active risk.
- The LACERS Public Real Assets composite is not at its target strategy allocation.
- Note: A new Target Risk Budget was approved by the Board on August 14, 2018, and is not reflected in the table above. Implementation of the new asset allocation is in progress.

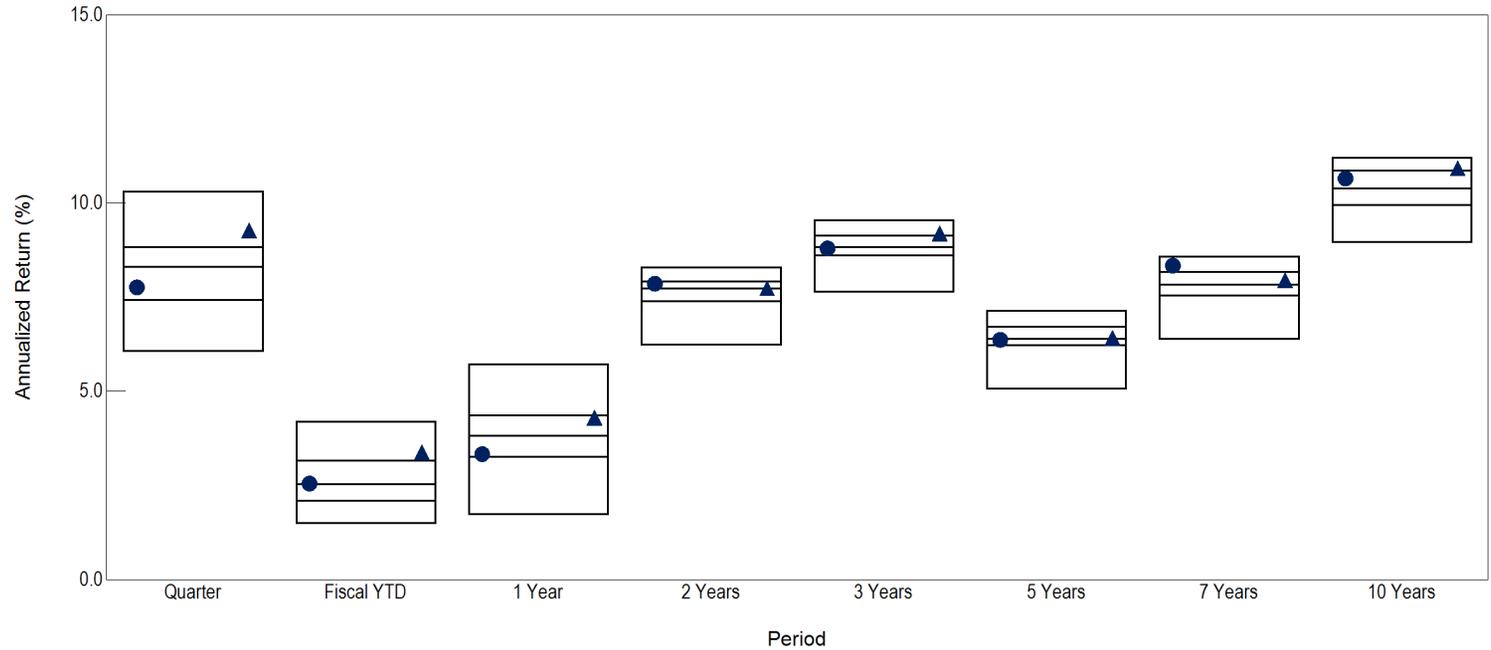
* The benchmark for the Public Real Assets composite is a custom policy benchmark that is comprised of the target weights of the public real asset components. The public real asset benchmark weights are 60% TIPS, 20% Commodities, 10% REITs, and 10% MLPs.



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross



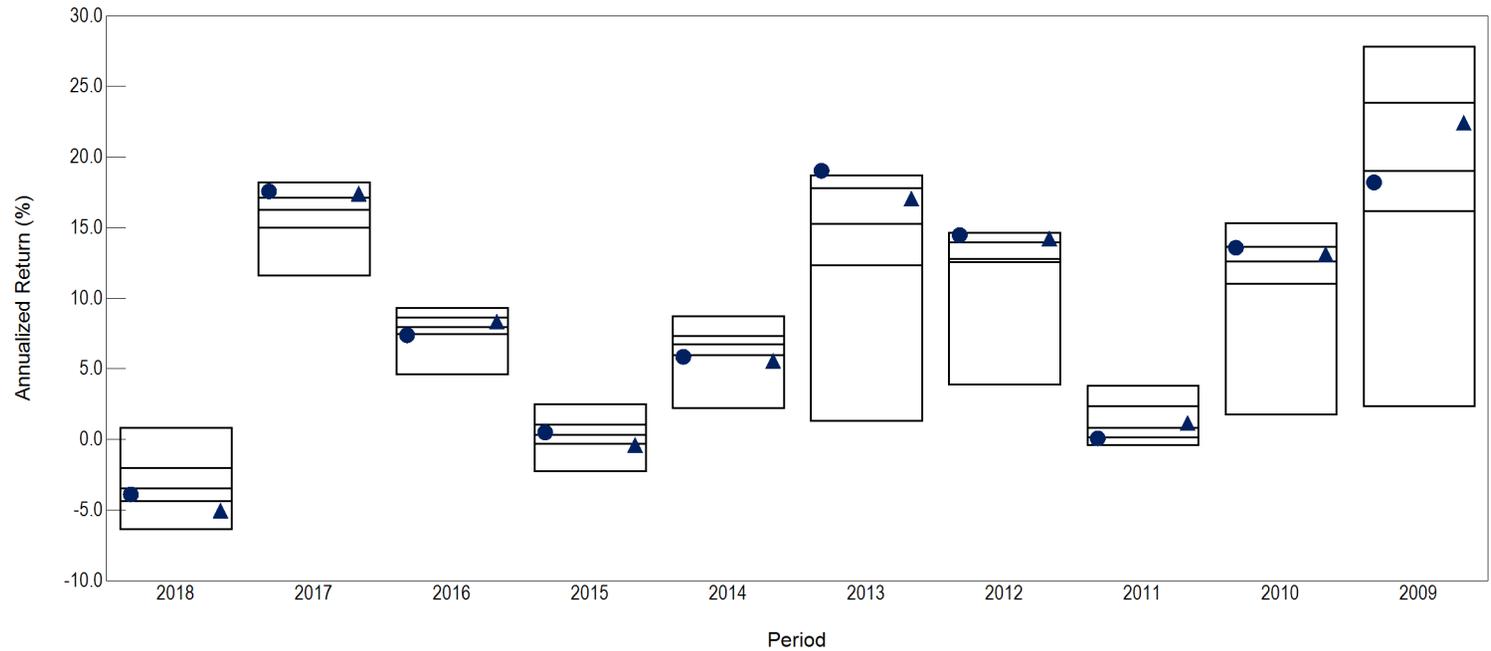
	Return (Rank)															
5th Percentile	10.31	4.19	5.71	8.29	9.55	7.13	8.58	11.21								
25th Percentile	8.86	3.18	4.37	7.93	9.16	6.74	8.19	10.89								
Median	8.33	2.55	3.83	7.76	8.86	6.41	7.86	10.41								
75th Percentile	7.45	2.11	3.28	7.41	8.63	6.24	7.57	9.97								
95th Percentile	6.09	1.51	1.76	6.26	7.66	5.09	6.41	8.99								
# of Portfolios	16	15	15	15	15	15	14	13								
● LACERS Master Trust	7.76	(67)	2.55	(50)	3.33	(72)	7.86	(29)	8.80	(58)	6.37	(58)	8.34	(16)	10.65	(42)
▲ Policy Index	9.27	(11)	3.38	(20)	4.30	(39)	7.74	(56)	9.19	(19)	6.42	(49)	7.96	(43)	10.93	(13)



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross



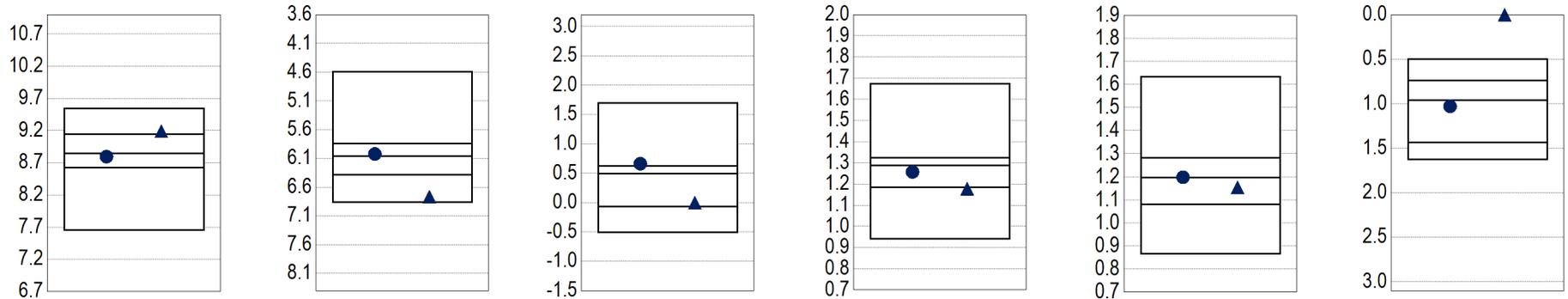
	Return (Rank)																			
5th Percentile	0.81	18.21	9.30	2.50	8.72	18.69	14.65	3.83	15.32	27.83										
25th Percentile	-1.99	17.15	8.68	1.12	7.38	17.86	14.01	2.41	13.67	23.91										
Median	-3.40	16.29	7.99	0.35	6.79	15.31	12.83	0.86	12.66	19.07										
75th Percentile	-4.32	15.05	7.51	-0.24	6.04	12.36	12.58	0.21	11.06	16.24										
95th Percentile	-6.33	11.68	4.65	-2.20	2.25	1.36	3.92	-0.37	1.83	2.42										
# of Portfolios	25	46	30	24	24	23	16	16	15	15										
● LACERS Master Trust	-3.89	(67)	17.57	(12)	7.38	(78)	0.49	(41)	5.85	(81)	19.03	(4)	14.47	(7)	0.08	(89)	13.58	(29)	18.21	(67)
▲ Policy Index	-5.04	(84)	17.41	(14)	8.35	(41)	-0.39	(77)	5.58	(87)	17.06	(31)	14.23	(21)	1.17	(44)	13.11	(34)	22.44	(38)



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 3 Years

Annualized Return (%)	Annualized Standard Deviation	Annualized Alpha (%)	Sharpe Ratio	Sortino Ratio Risk Free	Tracking Error
-----------------------	-------------------------------	----------------------	--------------	-------------------------	----------------



Metric	LACERS Master Trust Value	LACERS Master Trust Rank	Policy Index Value	Policy Index Rank	Universe 5th %tile	Universe 25th %tile	Universe Median	Universe 75th %tile	Universe 95th %tile
Annualized Return (%)	8.80	58	9.19	19	9.55	9.16	8.86	8.63	7.66
Annualized Standard Deviation	6.02	48	6.77	94	4.59	5.83	6.05	6.38	6.85
Annualized Alpha (%)	0.66	15	0.00	74	1.69	0.63	0.50	-0.05	-0.50
Sharpe Ratio	1.26	65	1.18	79	1.67	1.33	1.29	1.19	0.94
Sortino Ratio Risk Free	1.20	50	1.15	62	1.63	1.28	1.20	1.08	0.87
Tracking Error	1.03	58	0.00	1	0.50	0.73	0.95	1.43	1.62

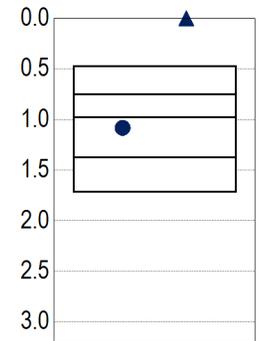
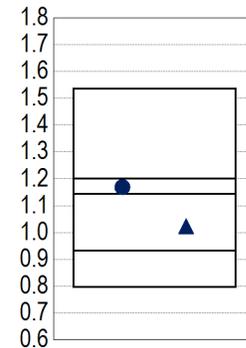
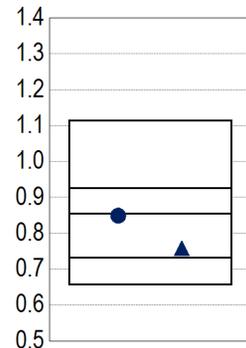
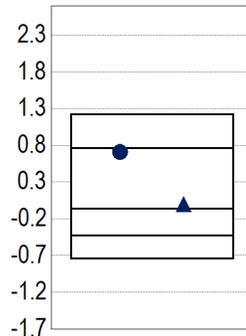
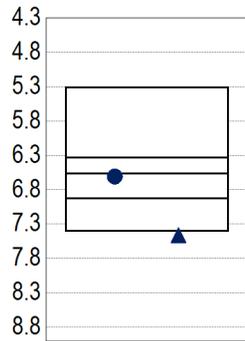
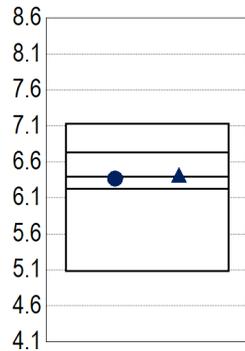
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 5 Years

- Annualized Return (%)
- Annualized Standard Deviation
- Annualized Alpha (%)
- Sharpe Ratio
- Sortino Ratio Risk Free
- Tracking Error



● LACERS Master Trust
Value 6.37
Rank 58
▲ Policy Index
Value 6.42
Rank 49

● LACERS Master Trust
Value 6.61
Rank 53
▲ Policy Index
Value 7.46
Rank 97

● LACERS Master Trust
Value 0.71
Rank 29
▲ Policy Index
Value 0.00
Rank 47

● LACERS Master Trust
Value 0.85
Rank 58
▲ Policy Index
Value 0.76
Rank 72

● LACERS Master Trust
Value 1.17
Rank 29
▲ Policy Index
Value 1.02
Rank 57

● LACERS Master Trust
Value 1.08
Rank 58
▲ Policy Index
Value 0.00
Rank 1

Universe
5th %tile 7.13
25th %tile 6.74
Median 6.41
75th %tile 6.24
95th %tile 5.09

Universe
5th %tile 5.31
25th %tile 6.32
Median 6.55
75th %tile 6.92
95th %tile 7.39

Universe
5th %tile 1.22
25th %tile 0.77
Median -0.05
75th %tile -0.42
95th %tile -0.73

Universe
5th %tile 1.11
25th %tile 0.93
Median 0.86
75th %tile 0.73
95th %tile 0.66

Universe
5th %tile 1.54
25th %tile 1.20
Median 1.15
75th %tile 0.94
95th %tile 0.80

Universe
5th %tile 0.47
25th %tile 0.75
Median 0.97
75th %tile 1.36
95th %tile 1.71

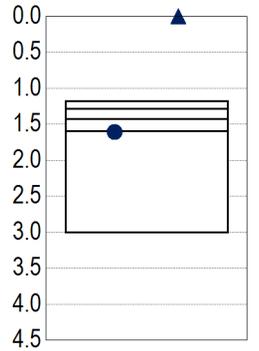
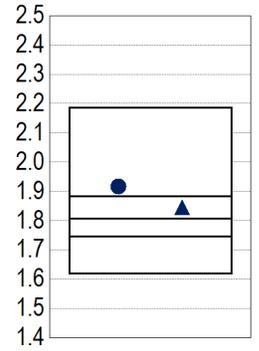
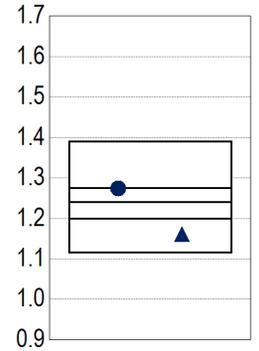
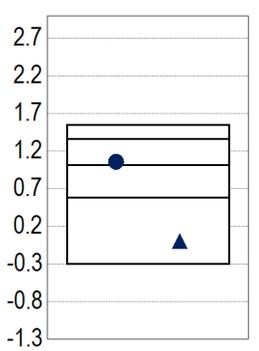
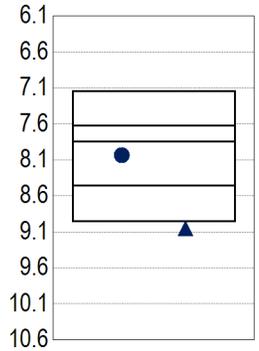
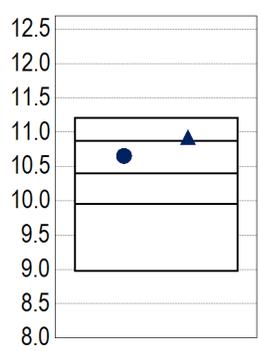
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

LACERS Master Trust vs. InvestorForce Public DB \$5-50B Gross 10 Years

Annualized Return (%)	Annualized Standard Deviation	Annualized Alpha (%)	Sharpe Ratio	Sortino Ratio Risk Free	Tracking Error
-----------------------	-------------------------------	----------------------	--------------	-------------------------	----------------



● LACERS Master Trust
Value 10.65
Rank 42

▲ Policy Index
Value 10.93
Rank 13

● LACERS Master Trust
Value 8.03
Rank 68

▲ Policy Index
Value 9.05
Rank 97

● LACERS Master Trust
Value 1.06
Rank 41

▲ Policy Index
Value 0.00
Rank 90

● LACERS Master Trust
Value 1.27
Rank 26

▲ Policy Index
Value 1.16
Rank 87

● LACERS Master Trust
Value 1.92
Rank 17

▲ Policy Index
Value 1.85
Rank 44

● LACERS Master Trust
Value 1.61
Rank 80

▲ Policy Index
Value 0.00
Rank 1

Universe

5th %tile	11.21
25th %tile	10.89
Median	10.41
75th %tile	9.97
95th %tile	8.99

Universe

5th %tile	7.15
25th %tile	7.61
Median	7.83
75th %tile	8.45
95th %tile	8.95

Universe

5th %tile	1.54
25th %tile	1.37
Median	1.02
75th %tile	0.59
95th %tile	-0.29

Universe

5th %tile	1.39
25th %tile	1.28
Median	1.24
75th %tile	1.20
95th %tile	1.12

Universe

5th %tile	2.19
25th %tile	1.89
Median	1.81
75th %tile	1.75
95th %tile	1.62

Universe

5th %tile	1.18
25th %tile	1.28
Median	1.42
75th %tile	1.58
95th %tile	3.00

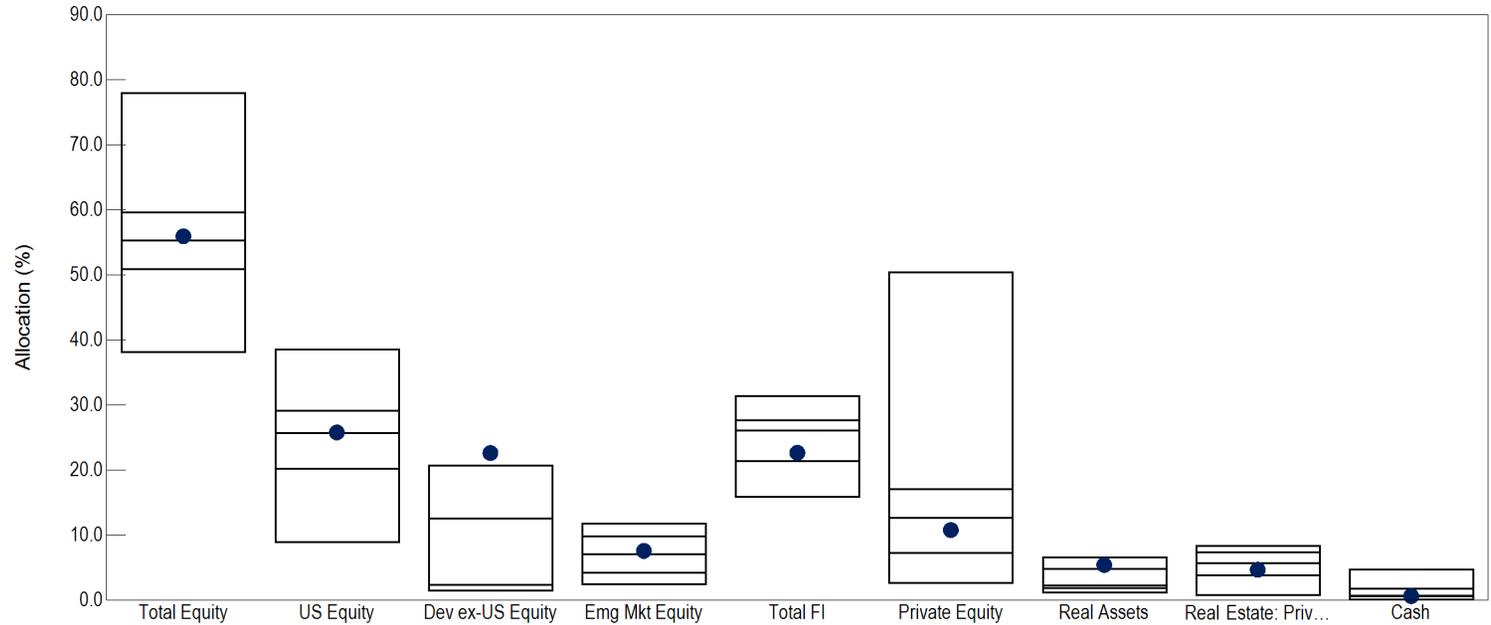
Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.



Los Angeles City Employees' Retirement System

TOTAL FUND ALLOCATION VS. PEER UNIVERSE

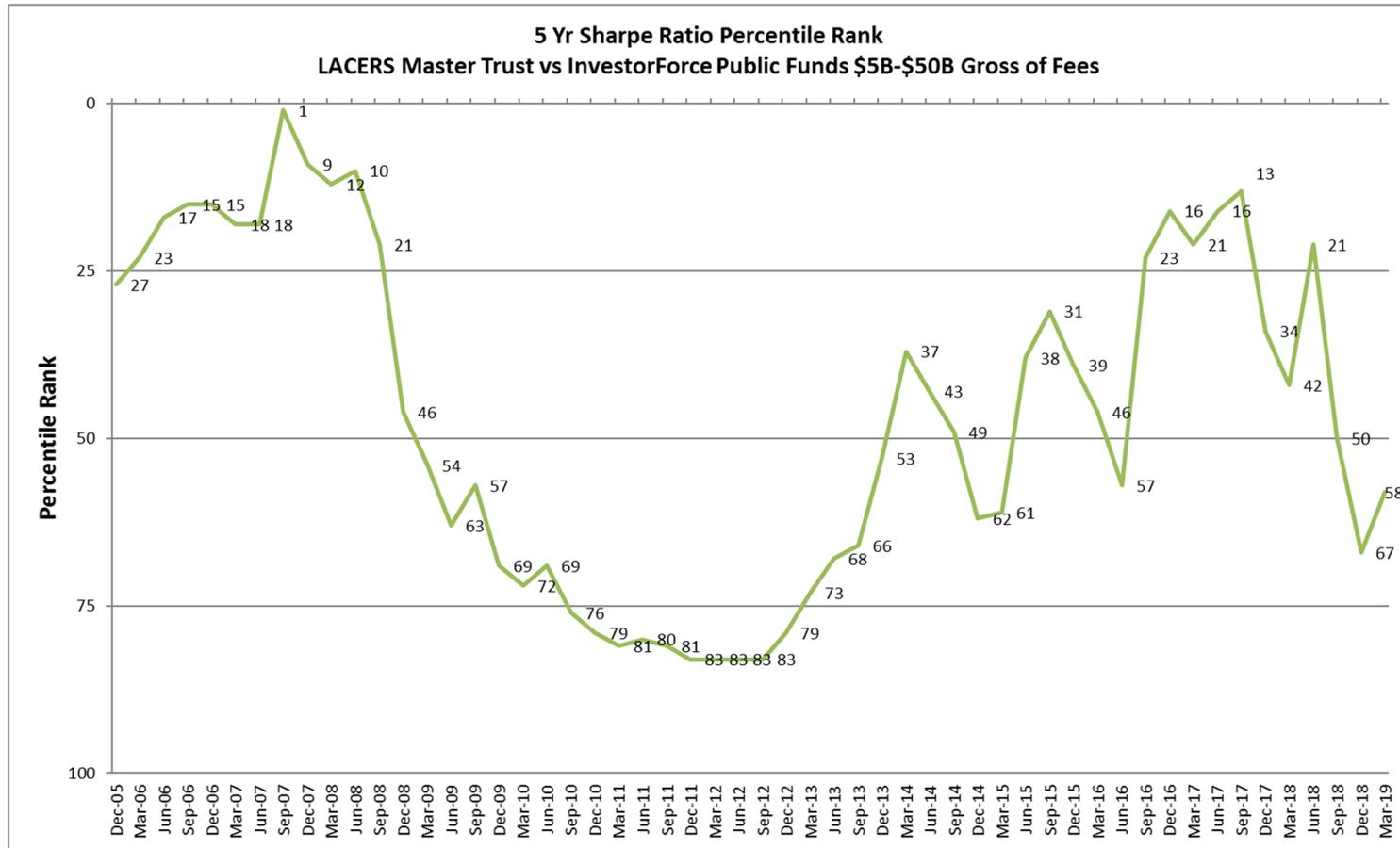
Total Plan Allocation vs. InvestorForce Public DB \$5-50B Gross



	Allocation (Rank)									
5th Percentile	77.89	38.52	20.71	11.73	31.39	50.40	6.60	8.31	4.67	
25th Percentile	59.66	29.21	12.67	9.86	27.72	17.12	4.92	7.42	1.82	
Median	55.40	25.76	2.45	7.11	26.15	12.69	2.32	5.75	0.76	
75th Percentile	51.01	20.24	2.45	4.26	21.46	7.31	2.00	3.94	0.67	
95th Percentile	38.24	8.97	1.54	2.56	15.98	2.69	1.28	0.82	0.20	
# of Portfolios	15	15	5	8	15	8	8	8	15	
● LACERS Master Trust	55.92 (43)	25.76 (50)	22.60 (1)	7.56 (43)	22.64 (72)	10.76 (58)	5.40 (19)	4.66 (69)	0.61 (86)	



HISTORICAL RISK ADJUSTED RETURN UNIVERSE COMPARISON



- Total Plan ranks in the 58th percentile versus other large public plans on a Sharpe Ratio basis.
 - Overweight to non-U.S. equities with contributed positively to Sharpe Ratio rank.
 - Use of passive investment strategies within U.S. Equity has contributed to the overall Sharpe Ratio rank (higher than median).
 - Core Fixed Income contributed negatively to Sharpe Ratio rank.



U.S. EQUITY

NEPC, LLC

Los Angeles City Employees' Retirement System

U.S. EQUITY (GROSS)

	Market Value (\$)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
U.S. Equity	4,461,289,894	13.98	3.84	8.32	13.42	10.14	15.99	10.41	Oct-94
U.S. Equity Blend		<u>14.04</u>	<u>4.69</u>	<u>8.77</u>	<u>13.48</u>	<u>10.35</u>	<u>16.00</u>	<u>9.34</u>	Oct-94
Over/Under		-0.06	-0.85	-0.45	-0.06	-0.21	-0.01	1.07	
Aronson, Johnson & Ortiz	177,765,143	10.38	-1.48	0.11	8.92	6.05	13.80	8.28	Oct-01
Russell 1000 Value		<u>11.93</u>	<u>4.45</u>	<u>5.67</u>	<u>10.45</u>	<u>7.72</u>	<u>14.52</u>	<u>7.79</u>	Oct-01
Over/Under		-1.55	-5.93	-5.56	-1.53	-1.67	-0.72	0.49	
Rhumblin Advisors Russell 2000	259,740,899	14.54	-5.21	2.12	12.89			6.66	Apr-15
Russell 2000		<u>14.58</u>	<u>-5.29</u>	<u>2.05</u>	<u>12.92</u>			<u>6.77</u>	Apr-15
Over/Under		-0.04	0.08	0.07	-0.03			-0.11	
Rhumblin Advisors Russell 2000 Growth ¹	137,136,770	17.09	-3.10	3.89	14.82			8.61	Jan-15
Russell 2000 Growth		<u>17.14</u>	<u>-3.15</u>	<u>3.85</u>	<u>14.87</u>			<u>8.69</u>	Jan-15
Over/Under		-0.05	0.05	0.04	-0.05			-0.08	
Rhumblin Advisors Russell 2000 Value ¹	102,580,634	11.91	-7.40	0.27	10.83			13.42	Mar-16
Russell 2000 Value		<u>11.93</u>	<u>-7.51</u>	<u>0.17</u>	<u>10.86</u>			<u>13.44</u>	Mar-16
Over/Under		-0.02	0.11	0.10	-0.03			-0.02	
EAM Investors	128,204,734	19.00	1.82	15.82	20.22			13.69	Sep-15
Russell 2000 Growth		<u>17.14</u>	<u>-3.15</u>	<u>3.85</u>	<u>14.87</u>			<u>12.44</u>	Sep-15
Over/Under		1.86	4.97	11.97	5.35			1.25	
PanAgora	113,401,249	11.39	-9.60	-2.83	7.66	5.57	16.76	6.54	Feb-06
Russell 2000 Value		<u>11.93</u>	<u>-7.51</u>	<u>0.17</u>	<u>10.86</u>	<u>5.59</u>	<u>14.12</u>	<u>6.22</u>	Feb-06
Over/Under		-0.54	-2.09	-3.00	-3.20	-0.02	2.64	0.32	
Principal Global Investors	166,705,762	19.86	9.51	13.62	16.33			13.18	Aug-14
Russell MidCap		<u>16.54</u>	<u>3.55</u>	<u>6.47</u>	<u>11.81</u>			<u>9.03</u>	Aug-14
Over/Under		3.32	5.96	7.15	4.52			4.15	
Rhumblin Advisors S&P 500	3,167,658,535	13.58	5.83	9.46	13.45	10.87	15.94	9.69	Feb-93
S&P 500		<u>13.65</u>	<u>5.86</u>	<u>9.50</u>	<u>13.51</u>	<u>10.91</u>	<u>15.92</u>	<u>9.53</u>	Feb-93
Over/Under		-0.07	-0.03	-0.04	-0.06	-0.04	0.02	0.16	
Rhumblin Advisors Russell 1000 Growth ¹	208,090,873	16.06	6.61	12.74	16.50	13.44		15.30	Jun-13
Russell 1000 Growth		<u>16.10</u>	<u>6.61</u>	<u>12.75</u>	<u>16.53</u>	<u>13.50</u>		<u>15.36</u>	Jun-13
Over/Under		-0.04	0.00	-0.01	-0.03	-0.06		-0.06	
Escrow Account	5,295								

1- Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

- U.S. Equity Blend = Russell 3000 from 1/1/2000 to present; 33.75% S&P 500/ 35% Russell 1000 Value/ 12.50% Russell 1000 Growth/ 12.50% Russell 2000 Value/ 6.25% Russell 2000 Growth prior to

eA = eVestment Alliance



Los Angeles City Employees' Retirement System

U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
U.S. Equity	4,461,289,894	100.00	13.96	61	3.78	37	8.25	30	13.34	34	10.04	30	15.82	20		Oct-94
U.S. Equity Blend			14.04	53	4.69	23	8.77	25	13.48	28	10.35	9	16.00	12		Oct-94
Over/Under			-0.08		-0.91		-0.52		-0.14		-0.31		-0.18			
InvestorForce Public DB > \$1 Billion US Equity Net Median			14.07		3.06		6.91		13.05		9.31		15.30			Oct-94
Aronson, Johnson & Ortiz	177,765,143	3.98	10.31	80	-1.69	85	-0.17	83	8.61	83	5.72	83	13.48	66	7.99	Oct-01
Russell 1000 Value			11.93	41	4.45	27	5.67	30	10.45	46	7.72	42	14.52	37	7.79	Oct-01
Over/Under			-1.62		-6.14		-5.84		-1.84		-2.00		-1.04		0.20	
eV US Large Cap Value Equity Net Median			11.53		2.12		3.65		10.32		7.39		13.95		8.18	Oct-01
Rhumblin Advisors Russell 2000 ¹	259,740,899	5.82	14.54	43	-5.22	52	2.11	45	12.88	38					6.66	Apr-15
Russell 2000			14.58	42	-5.29	52	2.05	45	12.92	38					6.77	Apr-15
Over/Under			-0.04		0.07		0.06		-0.04						-0.11	
eV US Small Cap Equity Net Median			13.85		-5.04		1.04		11.41						6.46	Apr-15
Rhumblin Advisors Russell 2000 ¹ Growth	137,136,770	3.07	17.09	52	-3.11	73	3.88	77	14.82	67					8.61	Jan-15
Russell 2000 Growth			17.14	52	-3.15	73	3.85	77	14.87	67					8.69	Jan-15
Over/Under			-0.05		0.04		0.03		-0.05						-0.08	
eV US Small Cap Growth Equity Net Median			17.26		0.55		8.90		16.89						10.40	Jan-15
Rhumblin Advisors Russell 2000 ¹ Value	102,580,634	2.30	11.90	67	-7.40	47	0.27	28	10.83	25					13.41	Mar-16
Russell 2000 Value			11.93	67	-7.51	48	0.17	29	10.86	25					13.44	Mar-16
Over/Under			-0.03		0.11		0.10		-0.03						-0.03	
eV US Small Cap Value Equity Net Median			12.59		-7.74		-2.27		8.94						11.49	Mar-16

1- Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

- U.S. Equity Blend = Russell 3000 from 1/1/2000 to present; 33.75% S&P 500/ 35% Russell 1000 Value/ 12.50% Russell 1000 Growth/ 12.50% Russell 2000 Value/ 6.25% Russell 2000 Growth prior to

eA = eVestment Alliance



Los Angeles City Employees' Retirement System

U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
EAM Investors	128,204,734	2.87	18.82	16	1.27	18	15.01	7	19.32	12					12.89	Sep-15
<i>Russell 2000 Growth</i>			<u>17.14</u>	22	<u>-3.15</u>	38	<u>3.85</u>	39	<u>14.87</u>	27					<u>12.44</u>	Sep-15
Over/Under			1.68		4.42		11.16		4.45						0.45	
<i>eV US Small Cap Equity Net Median</i>			13.85		-5.04		1.04		11.41						10.85	Sep-15
PanAgora	113,401,249	2.54	11.22	77	-10.06	75	-3.48	60	6.95	81	4.84	64	15.97	33	5.82	Feb-06
<i>Russell 2000 Value</i>			<u>11.93</u>	67	<u>-7.51</u>	48	<u>0.17</u>	29	<u>10.86</u>	25	<u>5.59</u>	43	<u>14.12</u>	68	<u>6.22</u>	Feb-06
Over/Under			-0.71		-2.55		-3.65		-3.91		-0.75		1.85		-0.40	
<i>eV US Small Cap Value Equity Net Median</i>			12.59		-7.74		-2.27		8.94		5.16		14.96		7.06	Feb-06
Principal Global Investors ¹	166,705,762	3.74	19.76	19	9.21	7	13.20	15	15.89	16					12.77	Aug-14
<i>Russell MidCap</i>			<u>16.54</u>	41	<u>3.55</u>	42	<u>6.47</u>	42	<u>11.81</u>	46					<u>9.03</u>	Aug-14
Over/Under			3.22		5.66		6.73		4.08						3.74	
<i>eV US Mid Cap Equity Net Median</i>			15.69		2.18		4.40		11.17						8.61	Aug-14
Rhumblin Advisors S&P 500	3,167,658,535	71.00	13.58	42	5.83	33	9.46	33	13.45	33	10.86	29	15.93	28		Feb-93
<i>S&P 500</i>			<u>13.65</u>	41	<u>5.86</u>	33	<u>9.50</u>	33	<u>13.51</u>	31	<u>10.91</u>	28	<u>15.92</u>	28		Feb-93
Over/Under			-0.07		-0.03		-0.04		-0.06		-0.05		0.01			
<i>eV US Large Cap Equity Net Median</i>			13.03		4.04		7.03		11.91		9.28		14.89			Feb-93
Rhumblin Advisors Russell 1000 Growth	208,090,873	4.66	16.06	50	6.61	45	12.74	40	16.50	38	13.44	19			15.30	Jun-13
<i>Russell 1000 Growth</i>			<u>16.10</u>	49	<u>6.61</u>	45	<u>12.75</u>	40	<u>16.53</u>	38	<u>13.50</u>	19			<u>15.36</u>	Jun-13
Over/Under			-0.04		0.00		-0.01		-0.03		-0.06				-0.06	
<i>eV US Large Cap Growth Equity Net Median</i>			15.99		6.25		11.81		15.98		12.13				14.29	Jun-13
Escrow Account	5,295	0.00														

1- Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

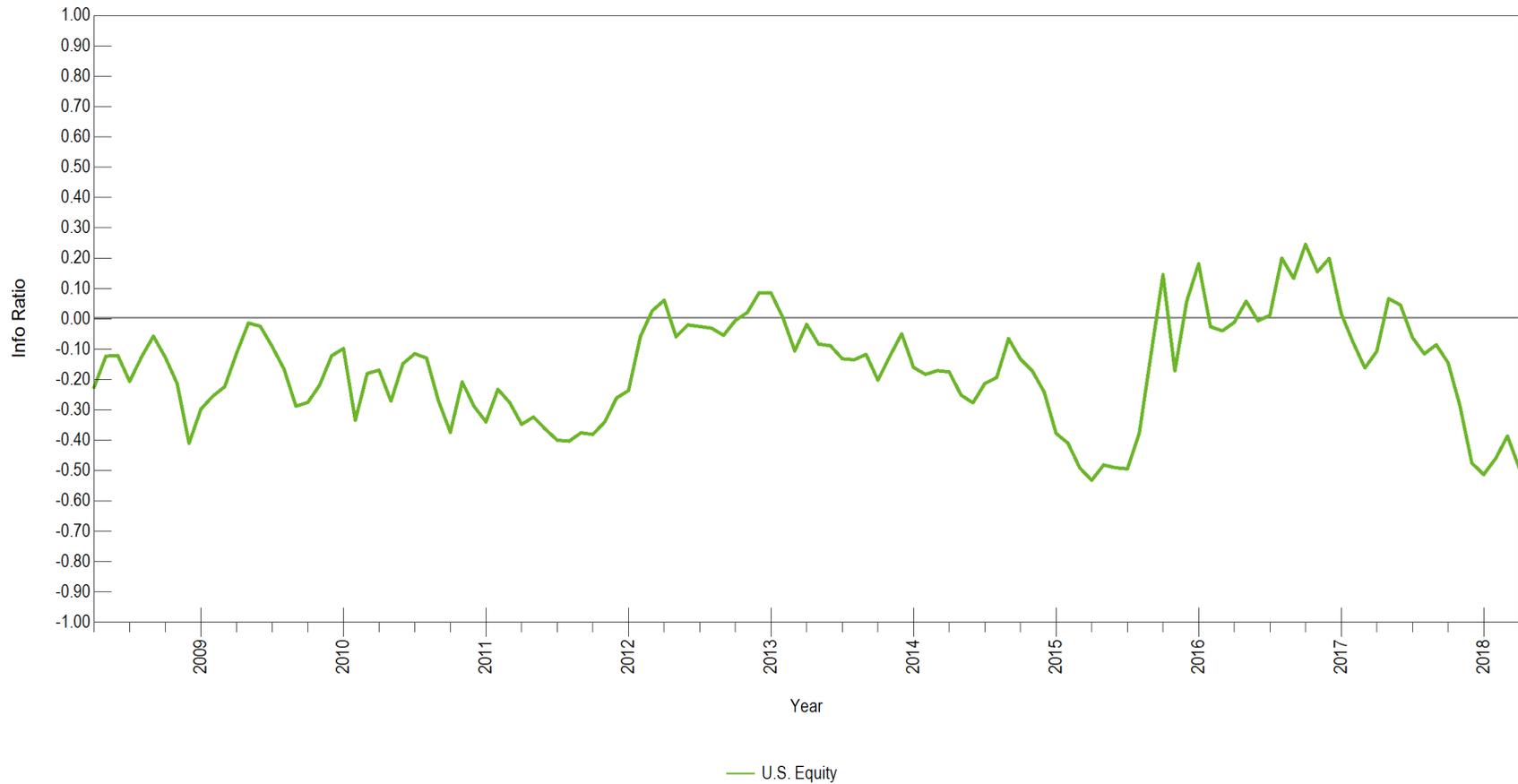
eA = eVestment Alliance



Los Angeles City Employees' Retirement System

U.S. EQUITY ROLLING 5 YEAR INFORMATION RATIO

Rolling 5 Year Information Ratio



*Returns are net of fees.



MANAGER REPORT CARD

U.S. Equity Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
AJO	Oct-01	Large Cap Value	*	*	*	*	*	*	*	*	✓	449.7	On Watch since July 2016 due to performance.
Principal Global Investors	Jul-14	Mid Cap	✓	✓	✓	✓	✓	✓	N/A	N/A	✓	563.0	Performance compliant with LACERS' Manager Monitoring Policy
EAM Investors	Sep-15	Small Cap Growth	✓	✓	✓	✓	✓	✓	N/A	N/A	✓	501.2	Performance compliant with LACERS' Manager Monitoring Policy
PanAgora	Feb-06	Small Cap Value	*	*	*	*	*	*	*	*	*	647.8	On Watch since November 2018 due to performance
Rhumblin (Passive)	Feb-93	S&P 500	*	✓	*	✓	*	✓	*	✓	✓✓	100.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-13	R1000 Growth	*	=	*	✓	*	✓	*	✓	*	8.8	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-15	R2000	*	*	*	*	*	*	N/A	N/A	*	11.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Jun-15	R2000 Growth	*	*	✓	*	*	*	N/A	N/A	*	5.9	Performance compliant with LACERS' Manager Monitoring Policy
Rhumblin (Passive)	Feb-16	R2000 Value	*	*	✓	✓	*	✓	N/A	N/A	*	2.2	Performance compliant with LACERS' Manager Monitoring Policy

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2018.
- * Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
*	Underperformed
=	Equal to
✓✓	Gross Return



NON-U.S. EQUITY

NEPC, LLC

Los Angeles City Employees' Retirement System

NON-U.S. EQUITY (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-U.S. Equity	5,222,447,298	100.00	10.63	-2.67	-4.96	8.58	3.64	10.03	5.15	Nov-94
MSCI ACWI ex USA			<u>10.31</u>	<u>-1.64</u>	<u>-4.22</u>	<u>8.09</u>	<u>2.57</u>	<u>8.85</u>	<u>5.17</u>	Nov-94
Over/Under			0.32	-1.03	-0.74	0.49	1.07	1.18	-0.02	
Developed ex-U.S.	3,914,157,482	74.95	11.11	-3.45	-3.99	7.77	3.41		8.03	Jun-12
MSCI EAFE			<u>9.98</u>	<u>-2.51</u>	<u>-3.71</u>	<u>7.27</u>	<u>2.33</u>		<u>7.01</u>	Jun-12
Over/Under			1.13	-0.94	-0.28	0.50	1.08		1.02	
AQR Capital	339,855,365	6.51	8.99	-9.88	-12.10	6.00	4.62		4.31	Feb-14
MSCI EAFE Small Cap			<u>10.65</u>	<u>-7.92</u>	<u>-9.36</u>	<u>7.50</u>	<u>4.47</u>		<u>4.29</u>	Feb-14
Over/Under			-1.66	-1.96	-2.74	-1.50	0.15		0.02	
Barrow Hanley ¹	506,842,175	9.71	10.78	-6.78	-8.08	5.53	0.98		1.91	Nov-13
MSCI EAFE Value			<u>7.92</u>	<u>-3.59</u>	<u>-6.13</u>	<u>6.90</u>	<u>0.67</u>		<u>1.11</u>	Nov-13
Over/Under			2.86	-3.19	-1.95	-1.37	0.31		0.80	
Lazard Asset Management ¹	587,280,012	11.25	11.41	-0.58	-2.23	7.15	4.12		4.54	Nov-13
MSCI EAFE			<u>9.98</u>	<u>-2.51</u>	<u>-3.71</u>	<u>7.27</u>	<u>2.33</u>		<u>2.59</u>	Nov-13
Over/Under			1.43	1.93	1.48	-0.12	1.79		1.95	
MFS Institutional Advisors	593,784,984	11.37	12.44	1.92	4.78	11.43	6.78		6.44	Oct-13
MSCI World ex USA Growth NR USD			<u>12.41</u>	<u>-1.33</u>	<u>-0.82</u>	<u>7.42</u>	<u>3.67</u>		<u>3.91</u>	Oct-13
Over/Under			0.03	3.25	5.60	4.01	3.11		2.53	
Oberweis Asset Mgmt ¹	161,567,405	3.09	16.33	-11.54	-12.65	7.48	6.28		6.82	Jan-14
MSCI EAFE Small Cap			<u>10.65</u>	<u>-7.92</u>	<u>-9.36</u>	<u>7.50</u>	<u>4.47</u>		<u>5.31</u>	Jan-14
Over/Under			5.68	-3.62	-3.29	-0.02	1.81		1.51	
SSgA World ex US IMI	1,724,827,541	33.03	10.62	-2.96	-3.47	7.75	2.83	9.62	5.62	Aug-93
MSCI World ex USA IMI NR USD ²			<u>10.52</u>	<u>-3.22</u>	<u>-3.97</u>	<u>7.29</u>	<u>2.40</u>	<u>9.23</u>	<u>5.35</u>	Aug-93
Over/Under			0.10	0.26	0.50	0.46	0.43	0.39	0.27	

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

2 Since inception index return sourced from SSgA.

eA = eVestment



Los Angeles City Employees' Retirement System

NON-U.S. EQUITY (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets	1,308,289,816	25.05	9.22	-0.52	-8.63	10.93	3.63		4.06	Jun-12
<i>MSCI Emerging Markets</i>			<u>9.93</u>	<u>0.60</u>	<u>-7.41</u>	<u>10.68</u>	<u>3.68</u>		<u>4.22</u>	<i>Jun-12</i>
Over/Under			-0.71	-1.12	-1.22	0.25	-0.05		-0.16	
Axiom Emerging Markets	426,130,657	8.16	11.00	-1.69	-9.88	11.18	4.27		4.27	Mar-14
<i>MSCI Emerging Markets Growth NR USD</i>			<u>12.04</u>	<u>-2.69</u>	<u>-9.52</u>	<u>11.75</u>	<u>5.04</u>		<u>5.04</u>	<i>Mar-14</i>
Over/Under			-1.04	1.00	-0.36	-0.57	-0.77		-0.77	
DFA Emerging Markets ¹	445,528,181	8.53	7.56	1.98	-6.93	11.32			1.21	Aug-14
<i>MSCI Emerging Markets Value NR USD</i>			<u>7.85</u>	<u>4.03</u>	<u>-5.27</u>	<u>9.54</u>			<u>0.30</u>	<i>Aug-14</i>
Over/Under			-0.29	-2.05	-1.66	1.78			0.91	
QMA Emerging Markets ¹	436,630,978	8.36	9.22	-1.82	-9.17	10.49			3.94	May-14
<i>MSCI Emerging Markets</i>			<u>9.93</u>	<u>0.60</u>	<u>-7.41</u>	<u>10.68</u>			<u>3.67</u>	<i>May-14</i>
Over/Under			-0.71	-2.42	-1.76	-0.19			0.27	

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.
eA = eVestment



Los Angeles City Employees' Retirement System

NON-U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Non-U.S. Equity	5,222,447,298	100.00	10.54	42	-2.95	60	-5.32	39	8.18	36	3.27	43	9.66	35		Nov-94
MSCI ACWI ex USA			<u>10.31</u>	47	<u>-1.64</u>	38	<u>-4.22</u>	34	<u>8.09</u>	37	<u>2.57</u>	87	<u>8.85</u>	75		Nov-94
Over/Under			0.23		-1.31		-1.10		0.09		0.70		0.81			
Developed ex-U.S.	3,914,157,482	74.95	11.03		-3.69		-4.31		7.43		3.09				7.74	Jun-12
MSCI EAFE			<u>9.98</u>		<u>-2.51</u>		<u>-3.71</u>		<u>7.27</u>		<u>2.33</u>				<u>7.01</u>	Jun-12
Over/Under			1.05		-1.18		-0.60		0.16		0.76				0.73	
InvestorForce Public DB > \$1 Billion Dev Mkt ex-US Eq Net Median																Jun-12
AQR Capital ¹	339,855,365	6.51	8.79	79	-10.41	59	-12.79	62	5.19	85	3.90	61			3.60	Feb-14
MSCI EAFE Small Cap			<u>10.65</u>	43	<u>-7.92</u>	27	<u>-9.36</u>	27	<u>7.50</u>	52	<u>4.47</u>	53			<u>4.29</u>	Feb-14
Over/Under			-1.86		-2.49		-3.43		-2.31		-0.57				-0.69	
eV EAFE Small Cap Equity Net Median			10.06		-9.40		-11.89		7.59		4.69				4.36	Feb-14
Barrow Hanley ¹	506,842,175	9.71	10.65	11	-7.13	61	-8.55	59	5.00	70	0.45	82			1.41	Nov-13
MSCI EAFE Value			<u>7.92</u>	75	<u>-3.59</u>	34	<u>-6.13</u>	45	<u>6.90</u>	47	<u>0.67</u>	80			<u>1.11</u>	Nov-13
Over/Under			2.73		-3.54		-2.42		-1.90		-0.22				0.30	
eV EAFE Value Equity Net Median			8.69		-4.78		-7.45		6.71		1.77				2.13	Nov-13
Lazard Asset Management ¹	587,280,012	11.25	11.28	29	-0.97	16	-2.73	26	6.60	61	3.54	36			4.00	Nov-13
MSCI EAFE			<u>9.98</u>	54	<u>-2.51</u>	33	<u>-3.71</u>	35	<u>7.27</u>	44	<u>2.33</u>	68			<u>2.59</u>	Nov-13
Over/Under			1.30		1.54		0.98		-0.67		1.21				1.41	
eV All EAFE Equity Net Median			10.08		-4.35		-5.48		6.99		2.97				3.37	Nov-13
MFS Institutional Advisors	593,784,984	11.37	12.31	72	1.54	1	4.27	1	10.88	25	6.23	5			5.92	Oct-13
MSCI World ex USA Growth NR USD			<u>12.41</u>	71	<u>-1.33</u>	10	<u>-0.82</u>	11	<u>7.42</u>	66	<u>3.67</u>	56			<u>3.91</u>	Oct-13
Over/Under			-0.10		2.87		5.09		3.46		2.56				2.01	
eV EAFE All Cap Growth Net Median			13.67		-3.85		-3.97		8.68		3.83				4.41	Oct-13

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.
eA = eVestment



Los Angeles City Employees' Retirement System

NON-U.S. EQUITY (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Oberweis Asset Mgmt ¹	161,567,405	3.09	16.10	2	-12.12	78	-13.42	69	6.58	66	5.36	39			5.92	Jan-14
MSCI EAFE Small Cap			<u>10.65</u>	43	<u>-7.92</u>	27	<u>-9.36</u>	27	<u>7.50</u>	52	<u>4.47</u>	53			<u>5.31</u>	Jan-14
Over/Under			5.45		-4.20		-4.06		-0.92		0.89				0.61	
eV EAFE Small Cap Equity Net Median			10.06		-9.40		-11.89		7.59		4.69				5.46	Jan-14
SSgA World ex US IMI	1,724,827,541	33.03	10.62	40	-2.97	33	-3.49	31	7.72	30	2.81	55	9.59	61		Aug-93
MSCI World ex USA IMI NR USD ²			<u>10.52</u>	41	<u>-3.22</u>	35	<u>-3.97</u>	36	<u>7.29</u>	41	<u>2.40</u>	72	<u>9.23</u>	67		Aug-93
Over/Under			0.10		0.25		0.48		0.43		0.41		0.36			
eV EAFE Core Equity Net Median			10.13		-4.49		-5.80		6.87		2.97		9.88			Aug-93
Emerging Markets	1,308,289,816	25.05	9.08		-0.89		-9.11		10.36		3.05				3.43	Jun-12
MSCI Emerging Markets			<u>9.93</u>		<u>0.60</u>		<u>-7.41</u>		<u>10.68</u>		<u>3.68</u>				<u>4.22</u>	Jun-12
Over/Under			-0.85		-1.49		-1.70		-0.32		-0.63				-0.79	
InvestorForce Public DB > \$1 Billion Emg Mkt Eq Net Median																Jun-12
Axiom Emerging Markets	426,130,657	8.16	10.82	42	-2.17	67	-10.49	69	10.41	44	3.59	53			3.59	Mar-14
MSCI Emerging Markets Growth NR USD			<u>12.04</u>	30	<u>-2.69</u>	71	<u>-9.52</u>	59	<u>11.75</u>	26	<u>5.04</u>	20			<u>5.04</u>	Mar-14
Over/Under			-1.22		0.52		-0.97		-1.34		-1.45				-1.45	
eV Emg Mkts Equity Net Median			10.27		-0.33		-8.62		9.88		3.77				3.77	Mar-14
DFA Emerging Markets ¹	445,528,181	8.53	7.43	86	1.62	25	-7.39	35	10.78	39					0.72	Aug-14
MSCI Emerging Markets Value NR USD			<u>7.85</u>	83	<u>4.03</u>	8	<u>-5.27</u>	18	<u>9.54</u>	55					<u>0.30</u>	Aug-14
Over/Under			-0.42		-2.41		-2.12		1.24						0.42	
eV Emg Mkts Equity Net Median			10.27		-0.33		-8.62		9.88						2.32	Aug-14
QMA Emerging Markets ¹	436,630,978	8.36	9.12	66	-2.10	67	-9.55	59	10.07	48					3.50	May-14
MSCI Emerging Markets			<u>9.93</u>	57	<u>0.60</u>	38	<u>-7.41</u>	36	<u>10.68</u>	40					<u>3.67</u>	May-14
Over/Under			-0.81		-2.70		-2.14		-0.61						-0.17	
eV Emg Mkts Equity Net Median			10.27		-0.33		-8.62		9.88						3.74	May-14

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

2 Since inception index return sourced from SSgA.

eA = eVestment



Los Angeles City Employees' Retirement System

NON-U.S. EQUITY COUNTRY ALLOCATION

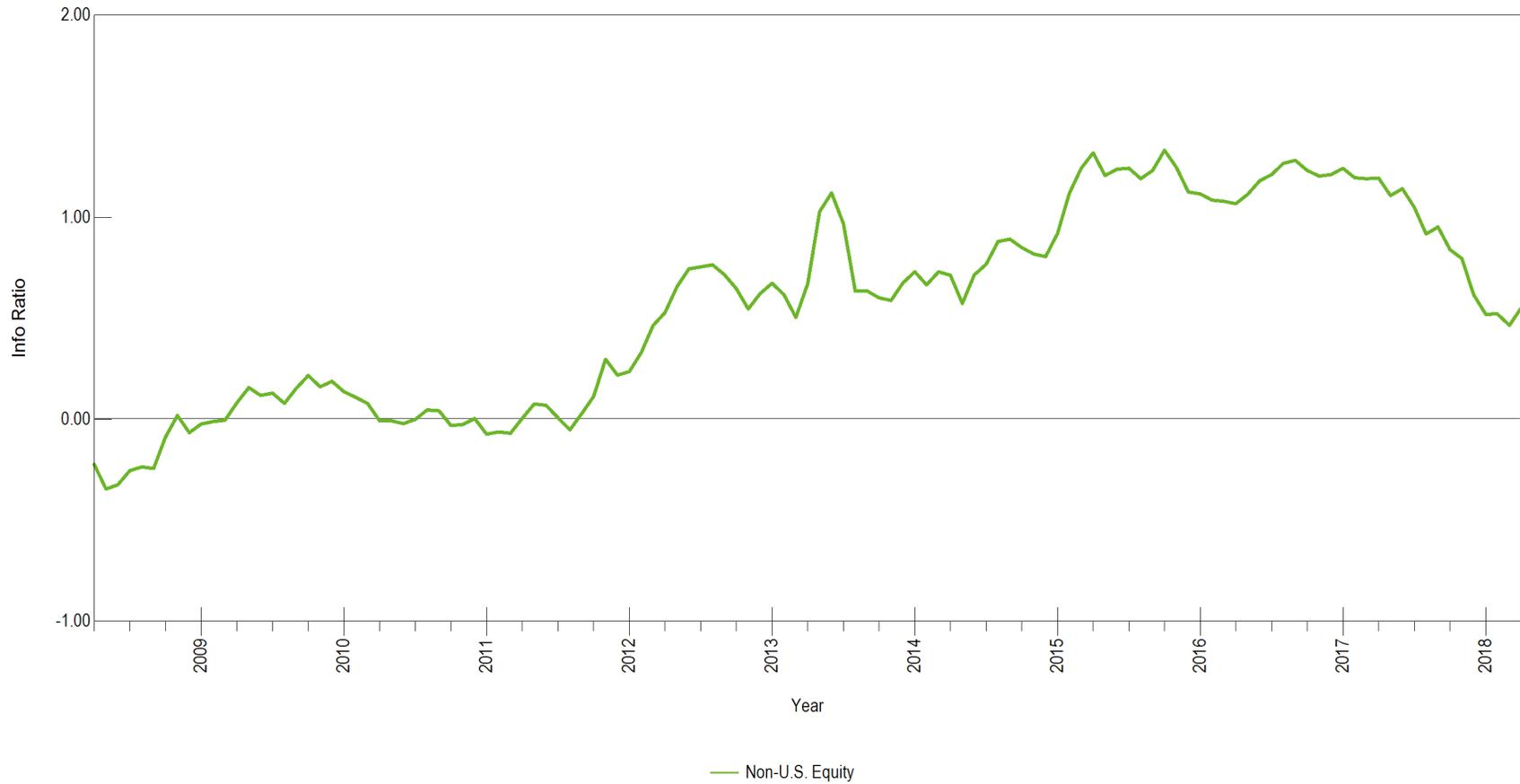
Versus MSCI ACWI ex USA - Quarter Ending March 31, 2019		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Europe		
Austria	0.2%	0.2%
Belgium	0.5%	0.7%
Bulgaria**	0.0%	0.0%
Croatia**	0.0%	0.0%
Czech Republic*	0.1%	0.0%
Denmark	1.3%	1.2%
Estonia**	0.0%	0.0%
Finland	1.0%	0.7%
France	8.5%	7.5%
Germany	5.5%	5.7%
Greece*	0.0%	0.1%
Hungary*	0.1%	0.1%
Ireland	0.5%	0.4%
Italy	1.9%	1.6%
Lithuania**	0.0%	0.0%
Luxembourg	0.1%	0.0%
Netherlands	2.8%	2.4%
Norway	0.8%	0.5%
Poland*	0.2%	0.3%
Portugal	0.1%	0.1%
Romania**	0.0%	0.0%
Russia*	0.8%	1.0%
Serbia**	0.0%	0.0%
Slovenia**	0.0%	0.0%
Spain	1.4%	2.0%
Sweden	1.8%	1.8%
Switzerland	5.4%	6.0%
United Kingdom	11.4%	11.5%
Total-Europe	44.3%	43.7%

Versus MSCI ACWI ex USA - Quarter Ending March 31, 2019		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Americas		
Argentina**	0.0%	0.0%
Brazil*	2.1%	1.8%
Canada	4.4%	6.8%
Chile*	0.2%	0.3%
Colombia*	0.4%	0.1%
Mexico*	0.8%	0.7%
Peru*	0.1%	0.1%
United States	2.4%	0.0%
Total-Americas	10.4%	9.9%
AsiaPacific		
Australia	3.2%	4.7%
China*	5.0%	8.5%
Hong Kong	6.4%	2.8%
India*	2.6%	2.4%
Indonesia*	0.7%	0.6%
Japan	14.3%	16.1%
Korea*	3.1%	3.4%
Malaysia*	0.5%	0.6%
New Zealand	0.2%	0.2%
Philippines*	0.2%	0.3%
Singapore	1.5%	0.9%
Taiwan*	3.3%	2.9%
Thailand*	0.6%	0.6%
Total-AsiaPacific	41.5%	44.0%
Other		
Egypt*	0.1%	0.0%
Israel	0.5%	0.4%
Mauritius**	0.0%	0.0%
Other Countries	0.2%	0.0%
Qatar*	0.1%	0.2%
South Africa*	1.3%	1.5%
Turkey*	0.2%	0.1%
United Arab Emirates*	0.0%	0.2%
Total-Other	2.5%	2.5%
Totals		
Developed	75.9%	74.1%
Emerging*	22.5%	25.9%
Frontier**	0.0%	0.0%
Other	0.2%	
Cash	1.3%	



NON-U.S. EQUITY ROLLING 5 YEAR INFORMATION

Rolling 5 Year Information Ratio



*Returns are net of fees



MANAGER REPORT CARD

Non-U.S. Equity Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
Axiom International	Mar-14	Emerging Markets	x	✓	x	x	x	✓	x	x	x	1,866.9	On Watch since March 2019 due to performance.
Q.M.A.	Apr-14	Emerging Markets	x	x	x	x	x	✓	N/A	N/A	x	1,219.4	Performance compliant with LACERS' Manager Monitoring Policy
DFA Emerging Markets	Jul-14	Emerging Markets	x	x	x	✓	x	✓	N/A	N/A	✓	1,188.2	Performance compliant with LACERS' Manager Monitoring Policy
AQR	Feb-14	Non-U.S. Developed	x	x	x	x	x	x	x	x	x	2,314.2	Performance compliant with LACERS' Manager Monitoring Policy
Oberweis Asset Mgt.	Jan-14	Non-U.S. Developed	✓	✓	x	x	x	x	✓	✓	✓	568.5	Performance compliant with LACERS' Manager Monitoring Policy
Barrow, Hanley, Mewhinney & Strauss	Nov-13	Non-U.S. Developed	✓	✓	x	x	x	x	x	x	✓	2,097.9	On Watch since March 2019 due to performance.
Lazard Asset Mgt.	Nov-13	Non-U.S. Developed	✓	✓	✓	✓	x	x	✓	✓	✓	2,467.4	Performance compliant with LACERS' Manager Monitoring Policy
MFS Institutional Advisors	Oct-13	Non-U.S. Developed	x	x	✓	✓	✓	✓	✓	✓	✓	2,313.6	Performance compliant with LACERS' Manager Monitoring Policy
SsgA (Passive)	Aug-93	Non-U.S. Developed	✓	✓	✓	✓	✓	✓	✓	x	✓✓	368.9	Performance compliant with LACERS' Manager Monitoring Policy

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2018.
- * Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
x	Underperformed
=	Equal to
✓✓	Gross Return



CORE FIXED INCOME

NEPC, LLC

Los Angeles City Employees' Retirement System

CORE FIXED INCOME (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Fixed Income	2,974,037,243	100.00	3.17	4.74	4.38	2.48	2.96		3.03	Jul-12
<i>Core Fixed Income Blend</i>			<u>2.94</u>	<u>4.65</u>	<u>4.48</u>	<u>2.03</u>	<u>2.74</u>		<u>2.40</u>	<i>Jul-12</i>
Over/Under			0.23	0.09	-0.10	0.45	0.22		0.63	
Baird Advisors	263,673,870	8.87	2.62	4.45	4.46	2.30	2.68	4.43	4.25	Mar-05
<i>BBgBarc US Govt/Credit Int TR</i>			<u>2.32</u>	<u>4.24</u>	<u>4.24</u>	<u>1.66</u>	<u>2.12</u>	<u>3.14</u>	<u>3.59</u>	<i>Mar-05</i>
Over/Under			0.30	0.21	0.22	0.64	0.56	1.29	0.66	
LM Capital	310,693,960	10.45	3.50	4.22	3.81	2.15	2.96	4.81	4.49	Mar-05
<i>Core Fixed Income Blend</i>			<u>2.94</u>	<u>4.65</u>	<u>4.48</u>	<u>2.03</u>	<u>2.74</u>	<u>4.16</u>	<u>4.22</u>	<i>Mar-05</i>
Over/Under			0.56	-0.43	-0.67	0.12	0.22	0.65	0.27	
Loomis Sayles	765,380,239	25.74	3.35	4.91	4.70	3.40	3.44	6.30	9.05	Jul-80
<i>BC US Agg LACERS custom</i>			<u>2.94</u>	<u>4.65</u>	<u>4.48</u>	<u>2.03</u>	<u>2.74</u>	<u>3.77</u>	<u>7.55</u>	<i>Jul-80</i>
Over/Under			0.41	0.26	0.22	1.37	0.70	2.53	1.50	
Neuberger Berman	758,685,634	25.51	3.35	4.95	4.08	2.30	2.88	6.13	5.64	Sep-01
<i>Core Fixed Income Blend</i>			<u>2.94</u>	<u>4.65</u>	<u>4.48</u>	<u>2.03</u>	<u>2.74</u>	<u>4.16</u>	<u>4.52</u>	<i>Sep-01</i>
Over/Under			0.41	0.30	-0.40	0.27	0.14	1.97	1.12	
SSgA U.S. Aggregate Bond ¹	875,603,541	29.44	2.91	4.66	4.49	2.04			2.57	Jul-14
<i>BBgBarc US Aggregate TR</i>			<u>2.94</u>	<u>4.65</u>	<u>4.48</u>	<u>2.03</u>			<u>2.55</u>	<i>Jul-14</i>
Over/Under			-0.03	0.01	0.01	0.01			0.02	

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

BBgBarc = Bloomberg Barclays



Los Angeles City Employees' Retirement System

CORE FIXED INCOME (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Core Fixed Income	2,974,037,243	100.00	3.14	53	4.66	8	4.27	15	2.38	65	2.85	52			2.91	Jul-12
Core Fixed Income Blend			<u>2.94</u>	75	<u>4.65</u>	9	<u>4.48</u>	9	<u>2.03</u>	94	<u>2.74</u>	68			<u>2.40</u>	Jul-12
Over/Under			0.20		0.01		-0.21		0.35		0.11				0.51	
InvestorForce Public DB > \$1 Billion US Fixed Income Net Median			3.16		4.13		3.93		2.95		2.88				2.71	Jul-12
Baird Advisors	263,673,870	8.87	2.59	27	4.36	22	4.34	24	2.17	18	2.55	15	4.30	21	4.12	Mar-05
BBgBarc US Govt/Credit Int TR			<u>2.32</u>	68	<u>4.24</u>	35	<u>4.24</u>	34	<u>1.66</u>	61	<u>2.12</u>	52	<u>3.14</u>	73	<u>3.59</u>	Mar-05
Over/Under			0.27		0.12		0.10		0.51		0.43		1.16		0.53	
eV US Interm Duration Fixed Inc Net Median			2.41		4.11		4.10		1.75		2.12		3.42		3.78	Mar-05
LM Capital	310,693,960	10.45	3.47	18	4.14	90	3.70	94	2.04	63	2.84	45	4.67	31	4.34	Mar-05
Core Fixed Income Blend			<u>2.94</u>	73	<u>4.65</u>	45	<u>4.48</u>	41	<u>2.03</u>	64	<u>2.74</u>	58	<u>4.16</u>	55	<u>4.22</u>	Mar-05
Over/Under			0.53		-0.51		-0.78		0.01		0.10		0.51		0.12	
eV US Core Fixed Inc Net Median			3.18		4.58		4.38		2.18		2.78		4.32		4.25	Mar-05
Loomis Sayles	765,380,239	25.74	3.31	31	4.81	27	4.57	31	3.27	7	3.31	11	6.17	6		Jul-80
BC US Agg LACERS custom			<u>2.94</u>	73	<u>4.65</u>	45	<u>4.48</u>	41	<u>2.03</u>	64	<u>2.74</u>	58	<u>3.77</u>	80		Jul-80
Over/Under			0.37		0.16		0.09		1.24		0.57		2.40			
eV US Core Fixed Inc Net Median			3.18		4.58		4.38		2.18		2.78		4.32			Jul-80
Neuberger Berman	758,685,634	25.51	3.32	31	4.84	25	3.93	88	2.15	52	2.73	61	5.95	7	5.48	Sep-01
Core Fixed Income Blend			<u>2.94</u>	73	<u>4.65</u>	45	<u>4.48</u>	41	<u>2.03</u>	64	<u>2.74</u>	58	<u>4.16</u>	55	<u>4.52</u>	Sep-01
Over/Under			0.38		0.19		-0.55		0.12		-0.01		1.79		0.96	
eV US Core Fixed Inc Net Median			3.18		4.58		4.38		2.18		2.78		4.32		4.46	Sep-01
SSgA U.S. Aggregate Bond ¹	875,603,541	29.44	2.90	76	4.62	47	4.44	43	2.00	66					2.53	Jul-14
BBgBarc US Aggregate TR			<u>2.94</u>	73	<u>4.65</u>	45	<u>4.48</u>	41	<u>2.03</u>	64					<u>2.55</u>	Jul-14
Over/Under			-0.04		-0.03		-0.04		-0.03						-0.02	
eV US Core Fixed Inc Net Median			3.18		4.58		4.38		2.18						2.59	Jul-14

1 Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

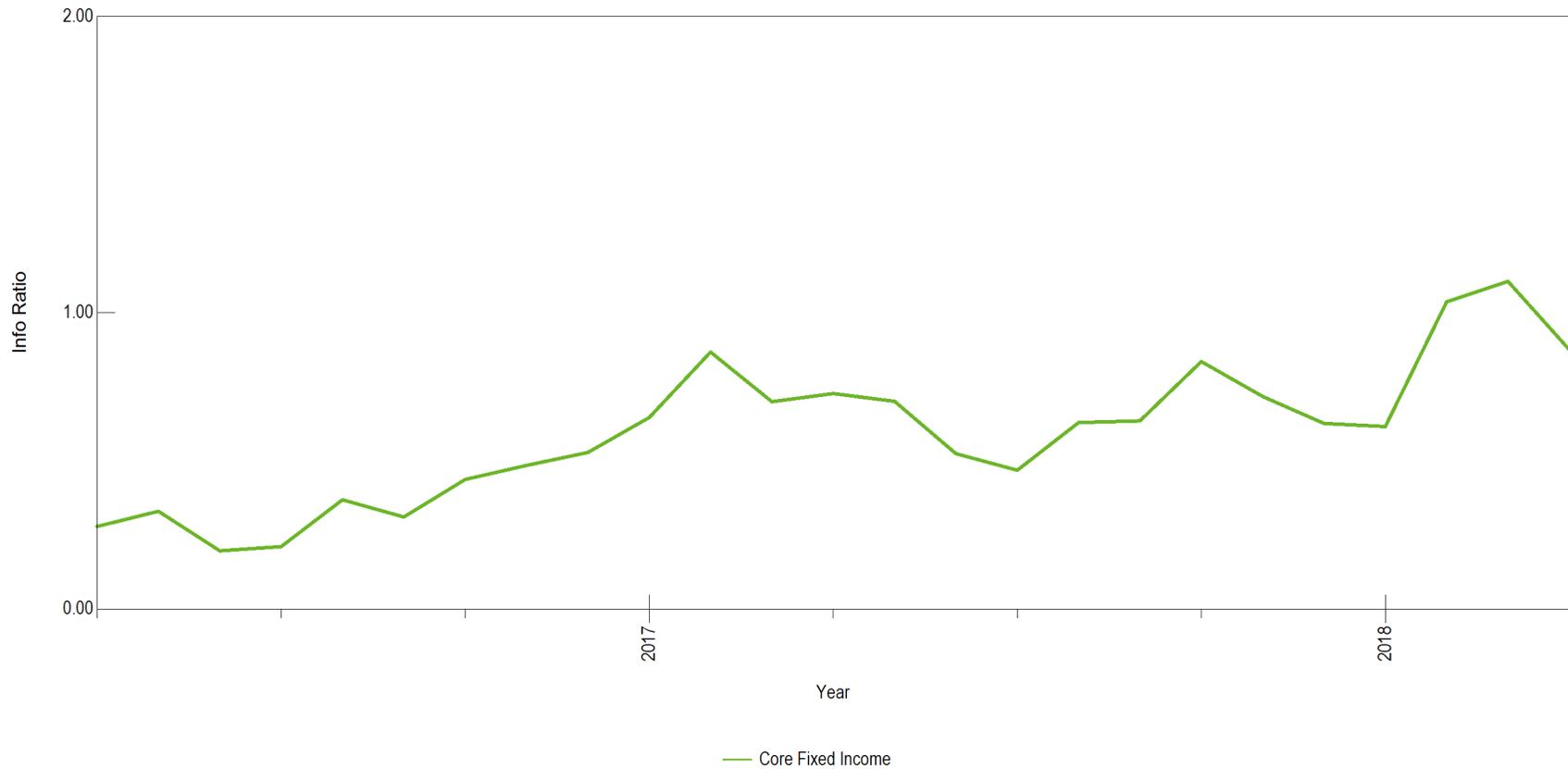
BBgBarc = Bloomberg Barclays

eV = eVestment



CORE FIXED INCOME 3 YEAR INFORMATION RATIO

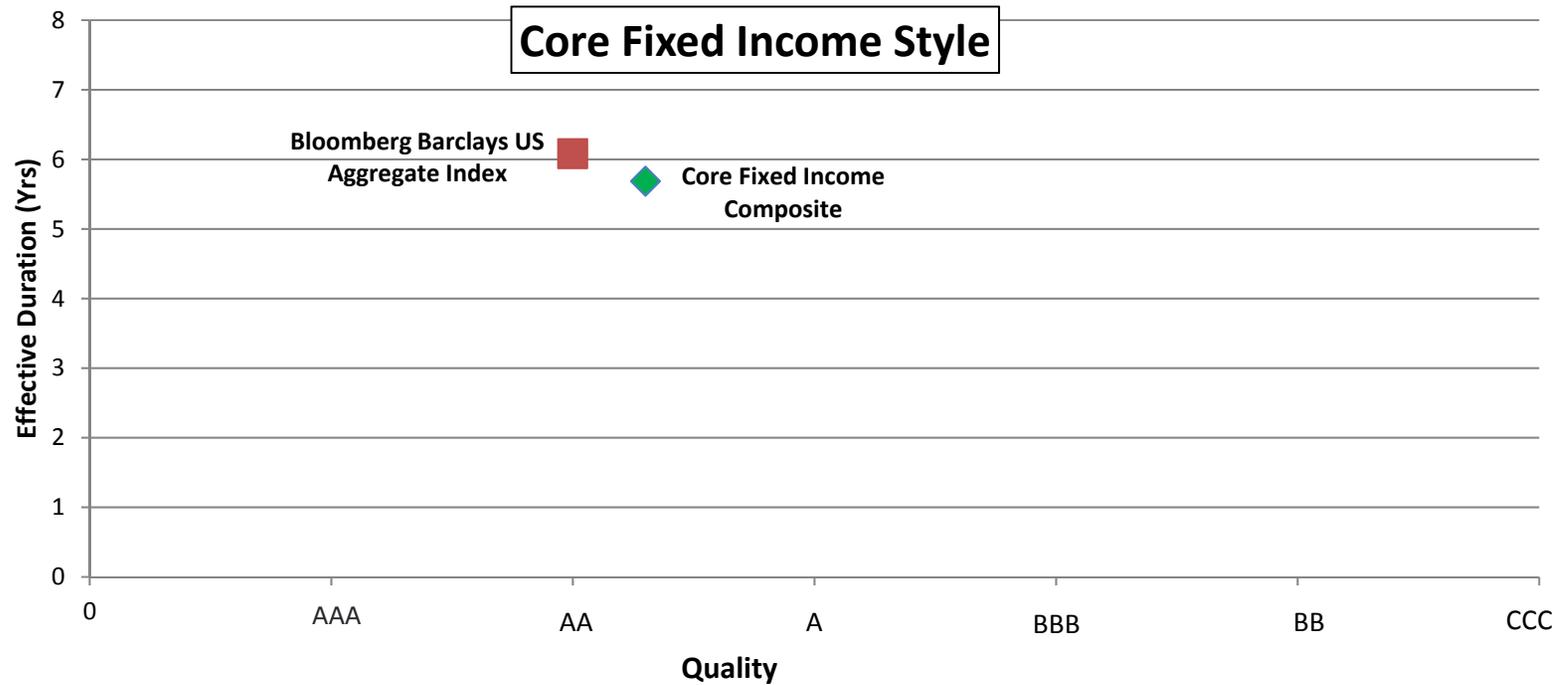
Rolling 3 Year Information Ratio



*Returns are net of fees



CORE FIXED INCOME STYLE ANALYSIS



- LACERS has a slightly lower duration (interest rate risk) than its benchmark.
- The Core Fixed Income Composite has slightly lower average quality rating than its benchmark.



MANAGER REPORT CARD

Core Fixed Income Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
			Neuberger Berman	Sep-01	Core	✓	✓	* * *	✓	* *	* *		
Loomis Sayles	Jul-80	Core	✓	✓	✓	✓	✓	✓	✓	✓✓	863.0	Performance compliant with LACERS' Manager Monitoring Policy	
Baird Advisors	Mar-05	Intermediate	✓	✓	✓	✓	✓	✓	✓	✓	291.7	Performance compliant with LACERS' Manager Monitoring Policy	
LM Capital Group	Mar-05	Core	✓	✓	* * *	✓	* *	✓	✓	✓	240.1	On Watch since 3/21/19 due to performance	
SSgA (Passive)	Jul-14	Core	* *	* *	* * *	* *	* *	N/A	N/A	* *	369.3	Performance compliant with LACERS' Manager Monitoring Policy	

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2018.
- * Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
* *	Underperformed
=	Equal to
✓✓	Gross Return



CREDIT OPPORTUNITIES

NEPC, LLC

Los Angeles City Employees' Retirement System

CREDIT OPPORTUNITIES (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Credit Opportunities	946,202,687	100.00	6.50	5.55	4.65	7.48	4.38		5.48	Jun-13
<i>Credit Opportunities Blend</i>			<u>7.15</u>	<u>5.99</u>	<u>5.36</u>	<u>7.61</u>	<u>4.80</u>		<u>5.75</u>	<i>Jun-13</i>
Over/Under			-0.65	-0.44	-0.71	-0.13	-0.42		-0.27	
AEGON USA	385,910,485	40.79	7.16	4.73	5.71	8.52	5.18		6.00	Jun-13
<i>BBgBarc US High Yield 2% Issuer Cap TR</i>			<u>7.26</u>	<u>4.85</u>	<u>5.93</u>	<u>8.56</u>	<u>4.69</u>		<u>5.65</u>	<i>Jun-13</i>
Over/Under			-0.10	-0.12	-0.22	-0.04	0.49		0.35	
Prudential Emerging Markets	374,424,279	39.57	7.06	7.91	3.98	6.79			5.28	May-14
<i>JP Morgan EMBI Global Diversified</i>			<u>6.95</u>	<u>8.04</u>	<u>4.21</u>	<u>5.79</u>			<u>4.70</u>	<i>May-14</i>
Over/Under			0.11	-0.13	-0.23	1.00			0.58	
Bain Capital Senior Loan Fund, LP*	185,852,035	19.64	4.05	2.64	3.57	5.83			3.92	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<u>3.78</u>	<u>2.53</u>	<u>3.33</u>	<u>5.87</u>			<u>4.14</u>	<i>Jun-15</i>
Over/Under			0.27	0.11	0.24	-0.04			-0.22	

- Credit Opportunities Blend = 65% BBgBarc US High Yield 2% Issuer Cap TR / 35% JP Morgan EMBI Global Diversified 7/01/2014 to present; BBgBarc US High Yield 2% Issuer Cap TR prior to

eA = eVestment Alliance

BBgBarc = Bloomberg Barclays

*Net of fee return since vehicle is commingled.



Los Angeles City Employees' Retirement System

CREDIT OPPORTUNITIES (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Credit Opportunities	946,202,687	100.00	6.42		5.32		4.33		7.12		4.01				5.14	Jun-13
<i>Credit Opportunities Blend</i>			<u>7.15</u>		<u>5.99</u>		<u>5.36</u>		<u>7.61</u>		<u>4.80</u>				<u>5.75</u>	<i>Jun-13</i>
Over/Under			-0.73		-0.67		-1.03		-0.49		-0.79				-0.61	
AEGON USA	385,910,485	40.79	7.07	43	4.43	45	5.31	45	8.14	27	4.77	17			5.63	Jun-13
<i>BBgBarc US High Yield 2% Issuer Cap TR</i>			<u>7.26</u>	37	<u>4.85</u>	36	<u>5.93</u>	22	<u>8.56</u>	18	<u>4.69</u>	24			<u>5.65</u>	<i>Jun-13</i>
Over/Under			-0.19		-0.42		-0.62		-0.42		0.08				-0.02	
<i>eV US High Yield Fixed Inc Net Median</i>			6.91		4.26		5.08		7.45		4.08				5.04	<i>Jun-13</i>
Prudential Emerging Markets	374,424,279	39.57	6.96	25	7.61	10	3.59	21	6.39	33					4.89	May-14
<i>JP Morgan EMBI Global Diversified</i>			<u>6.95</u>	25	<u>8.04</u>	6	<u>4.21</u>	14	<u>5.79</u>	56					<u>4.70</u>	<i>May-14</i>
Over/Under			0.01		-0.43		-0.62		0.60						0.19	
<i>eV Emg Mkt Fixed Inc Hedged Net Median</i>			5.55		6.34		0.45		5.85						3.22	<i>May-14</i>
Bain Capital Senior Loan Fund, LP	185,852,035	19.64	4.05	21	2.64	11	3.57	3	5.83	16					3.92	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<u>3.78</u>	45	<u>2.53</u>	15	<u>3.33</u>	6	<u>5.87</u>	15					<u>4.14</u>	<i>Jun-15</i>
Over/Under			0.27		0.11		0.24		-0.04						-0.22	
<i>eV US Float-Rate Bank Loan Fixed Inc Net Median</i>			3.74		2.03		2.58		4.89						3.69	<i>Jun-15</i>

- Credit Opportunities Blend = 65% BBgBarc US High Yield 2% Issuer Cap TR / 35% JP Morgan EMBI Global Diversified 7/01/2014 to present; BBgBarc US High Yield 2% Issuer Cap TR prior to

eA = eVestment Alliance

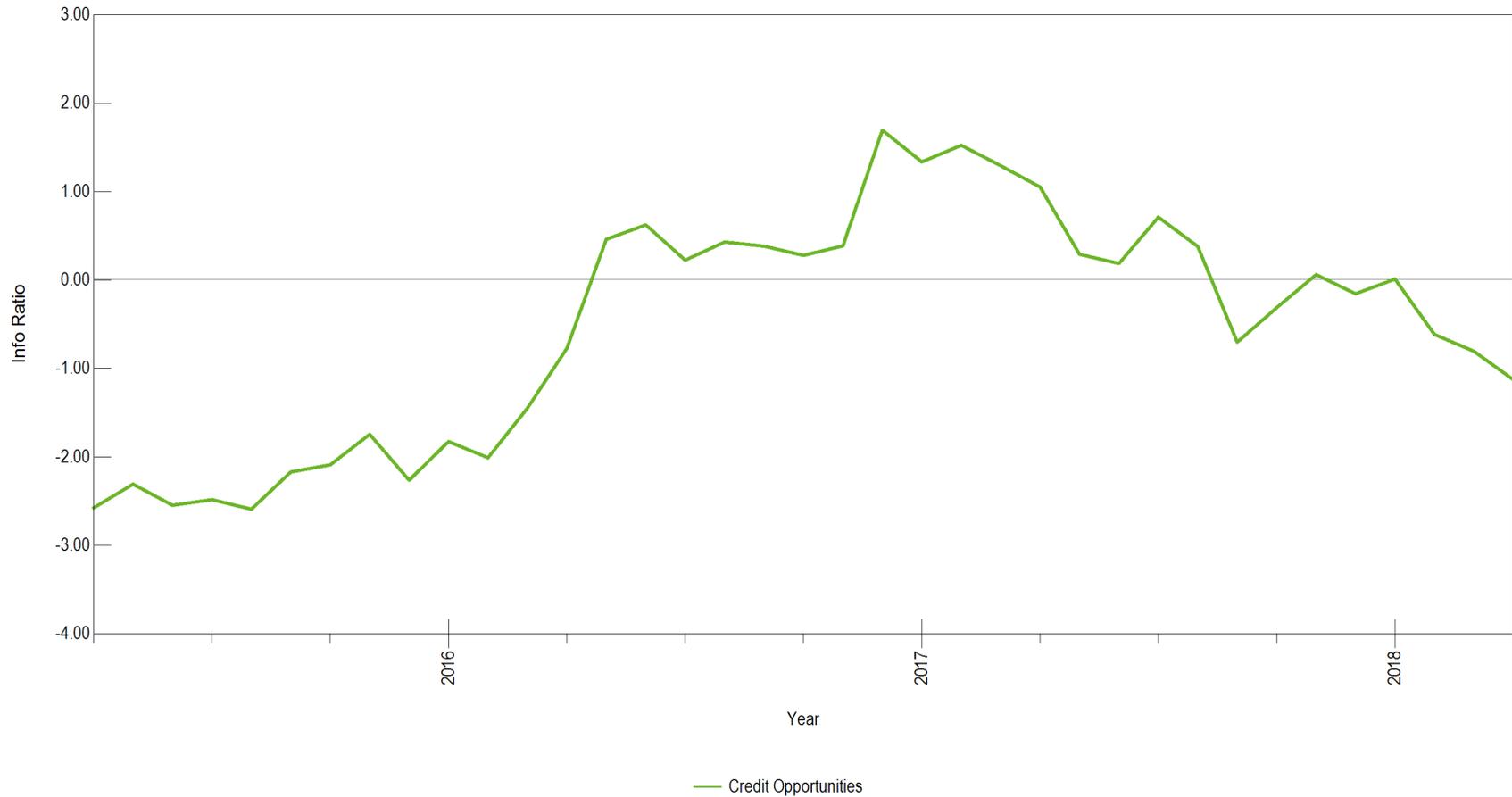
BBgBarc = Bloomberg Barclays



Los Angeles City Employees' Retirement System

CREDIT OPPORTUNITIES ROLLING 1 YEAR

Rolling 1 Year Information Ratio



*Returns are net of fees



MANAGER REPORT CARD

Credit Opportunities Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
AEGON USA	Jun-13	High Yield Bonds	*	✓	*	✓	*	✓	✓	✓	✓	781.6	On Watch since 10/5/17 due to organizational reasons
Prudential	May-14	Emerging Market Debt	✓	✓	*	✓	✓	✓	N/A	N/A	✓	1230.2	Performance compliant with LACERS' Manager Monitoring Policy
Bain	Jun-15	Bank Loans	✓	✓	✓	✓	*	✓	N/A	N/A	*	330.0	Performance compliant with LACERS' Manager Monitoring Policy

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2018.
- * Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
*	Underperformed
=	Equal to
✓✓	Gross Return



REAL ASSETS

NEPC, LLC

Los Angeles City Employees' Retirement System

REAL ASSETS (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Assets	1,743,217,858	100.00	3.98	3.81	5.81	5.63	6.76	2.26	6.31	Nov-94
<i>CPI + 5% (Unadjusted)</i>			<u>2.42</u>	<u>4.63</u>	<u>6.95</u>	<u>7.30</u>	<u>6.54</u>	<u>6.88</u>	<u>7.30</u>	<i>Nov-94</i>
Over/Under			1.56	-0.82	-1.14	-1.67	0.22	-4.62	-0.99	
Public Real Assets	935,544,125	53.67	5.94	2.24	3.76	2.97			1.40	Jun-14
<i>Public Real Assets Blend</i>			<u>6.55</u>	<u>1.55</u>	<u>4.15</u>	<u>3.03</u>			<u>-0.83</u>	<i>Jun-14</i>
Over/Under			-0.61	0.69	-0.39	-0.06			2.23	
TIPS	631,404,955	36.22	3.61	2.64	3.41	1.84			1.32	Jul-14
<i>BBgBarc US TIPS TR</i>			<u>3.19</u>	<u>1.92</u>	<u>2.70</u>	<u>1.70</u>			<u>1.26</u>	<i>Jul-14</i>
Over/Under			0.42	0.72	0.71	0.14			0.06	
<i>DFA US TIPS¹</i>	<i>631,404,955</i>	<i>36.22</i>	<i>3.61</i>	<i>2.64</i>	<i>3.41</i>	<i>1.84</i>			<i>1.47</i>	<i>Aug-14</i>
<i>BBgBarc US TIPS TR</i>			<u>3.19</u>	<u>1.92</u>	<u>2.70</u>	<u>1.70</u>			<u>1.26</u>	<i>Aug-14</i>
Over/Under			0.42	0.72	0.71	0.14			0.21	
REITS	138,641,438	7.95	17.50	10.94	19.95	8.15			8.41	Mar-15
<i>FTSE NAREIT All Equity REIT</i>			<u>17.17</u>	<u>10.62</u>	<u>20.02</u>	<u>7.71</u>			<u>6.94</u>	<i>Mar-15</i>
Over/Under			0.33	0.32	-0.07	0.44			1.47	
<i>CenterSquare US Real Estate¹</i>	<i>138,641,438</i>	<i>7.95</i>	<i>17.50</i>	<i>10.94</i>	<i>19.95</i>	<i>8.15</i>			<i>9.45</i>	<i>May-15</i>
<i>FTSE NAREIT All Equity REIT</i>			<u>17.17</u>	<u>10.62</u>	<u>20.02</u>	<u>7.71</u>			<u>8.49</u>	<i>May-15</i>
Over/Under			0.33	0.32	-0.07	0.44			0.96	
Commodities	165,497,731	9.49	6.31	-5.00	-4.83	3.31			-4.41	Jun-15
<i>Bloomberg Commodity Index TR USD</i>			<u>6.32</u>	<u>-5.63</u>	<u>-5.25</u>	<u>2.22</u>			<u>-5.12</u>	<i>Jun-15</i>
Over/Under			-0.01	0.63	0.42	1.09			0.71	
<i>CoreCommodity Mgmt¹</i>	<i>165,497,731</i>	<i>9.49</i>	<i>6.31</i>	<i>-5.00</i>	<i>-4.83</i>	<i>3.31</i>			<i>-4.41</i>	<i>Jul-15</i>
<i>Bloomberg Commodity Index TR USD</i>			<u>6.32</u>	<u>-5.63</u>	<u>-5.25</u>	<u>2.22</u>			<u>-5.12</u>	<i>Jul-15</i>
Over/Under			-0.01	0.63	0.42	1.09			0.71	
Private Real Estate	787,660,871	45.18	1.85	5.67	8.20	8.24	9.89	3.75	6.94	Oct-94
<i>Real Estate Blend</i>			<u>1.62</u>	<u>5.99</u>	<u>8.38</u>	<u>8.83</u>	<u>11.02</u>	<u>9.62</u>	<u>9.92</u>	<i>Oct-94</i>
Over/Under			0.23	-0.32	-0.18	-0.59	-1.13	-5.87	-2.98	
Timber	20,012,863	1.15	0.00	-0.14	1.49	2.71	4.22	4.20	9.36	Sep-99

¹ Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance.

- Public Real Assets Custom Benchmark = 60% BBgBarc US TIPS TR / 20% Bloomberg Commodity Index TR USD / 10% Alerian MLP TR USD / 10% FTSE NAREIT All REIT

- Real Estate Blend = NCREIF-ODCE + 80bps 7/1/2014 to present; NCREIF Property Index 1 Qtr Lag plus 100bps 7/1/2012 - 6/30/2014; NCREIF Property Index prior to

eA = eVestment Alliance



Los Angeles City Employees' Retirement System

REAL ASSETS (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Real Assets	1,743,217,858	100.00	3.94		3.69		5.65		5.46		6.60		2.12			Nov-94
<i>CPI + 5% (Unadjusted)</i>			<u>2.42</u>		<u>4.63</u>		<u>6.95</u>		<u>7.30</u>		<u>6.54</u>		<u>6.88</u>			<i>Nov-94</i>
Over/Under			1.52		-0.94		-1.30		-1.84		0.06		-4.76			
Public Real Assets	935,544,125	53.67	5.89		2.08		3.51		2.71						1.20	Jun-14
<i>Public Real Assets Blend</i>			<u>6.55</u>		<u>1.55</u>		<u>4.15</u>		<u>3.03</u>						<u>-0.83</u>	<i>Jun-14</i>
Over/Under			-0.66		0.53		-0.64		-0.32						2.03	
TIPS	631,404,955	36.22	3.59		2.60		3.36		1.78						1.26	Jul-14
<i>BBgBarc US TIPS TR</i>			<u>3.19</u>		<u>1.92</u>		<u>2.70</u>		<u>1.70</u>						<u>1.26</u>	<i>Jul-14</i>
Over/Under			0.40		0.68		0.66		0.08						0.00	
DFA US TIPS¹	631,404,955	36.22	3.59	22	2.60	1	3.36	1	1.78	36					1.42	Aug-14
<i>BBgBarc US TIPS TR</i>			<u>3.19</u>	61	<u>1.92</u>	36	<u>2.70</u>	22	<u>1.70</u>	43					<u>1.26</u>	<i>Aug-14</i>
Over/Under			0.40		0.68		0.66		0.08						0.16	
<i>eV US TIPS / Inflation Fixed Inc Net Median</i>			<u>3.29</u>		<u>1.79</u>		<u>2.45</u>		<u>1.62</u>						<u>1.01</u>	<i>Aug-14</i>
REITS	138,641,438	7.95	17.37		10.60		19.29		7.65						7.95	Mar-15
<i>FTSE NAREIT All Equity REIT</i>			<u>17.17</u>		<u>10.62</u>		<u>20.02</u>		<u>7.71</u>						<u>6.94</u>	<i>Mar-15</i>
Over/Under			0.20		-0.02		-0.73		-0.06						1.01	
CenterSquare US Real Estate¹	138,641,438	7.95	17.37	22	10.60	20	19.29	33	7.65	15					8.98	May-15
<i>FTSE NAREIT All Equity REIT</i>			<u>17.17</u>	27	<u>10.62</u>	19	<u>20.02</u>	17	<u>7.71</u>	14					<u>8.49</u>	<i>May-15</i>
Over/Under			0.20		-0.02		-0.73		-0.06						0.49	
<i>eV US REIT Net Median</i>			<u>16.24</u>		<u>9.33</u>		<u>18.44</u>		<u>5.78</u>						<u>6.96</u>	<i>May-15</i>
Commodities	165,497,731	9.49	6.16		-5.48		-5.49		2.51						-5.11	Jun-15
<i>Bloomberg Commodity Index TR USD</i>			<u>6.32</u>		<u>-5.63</u>		<u>-5.25</u>		<u>2.22</u>						<u>-5.12</u>	<i>Jun-15</i>
Over/Under			-0.16		0.15		-0.24		0.29						0.01	
CoreCommodity Mgmt¹	165,497,731	9.49	6.16		-5.48		-5.49		2.51						-5.11	Jul-15
<i>Bloomberg Commodity Index TR USD</i>			<u>6.32</u>		<u>-5.63</u>		<u>-5.25</u>		<u>2.22</u>						<u>-5.12</u>	<i>Jul-15</i>
Over/Under			-0.16		0.15		-0.24		0.29						0.01	

¹ Portfolio has a mid-month inception date. Since inception return is calculated from the first full month of performance. No universe is available.

- Public Real Assets Custom Benchmark = 60% BBgBarc US TIPS TR / 20% Bloomberg Commodity Index TR USD / 10% Alerian MLP TR USD / 10% FTSE NAREIT All REIT

eA = eVestment Alliance



Los Angeles City Employees' Retirement System

REAL ASSETS (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Private Real Estate	787,660,871	45.18	1.83	13	5.61	9	8.13	14	8.16	31	9.79	48	3.64	98		Oct-94
<i>Real Estate Blend</i>			<u>1.62</u>	31	<u>5.99</u>	8	<u>8.38</u>	12	<u>8.83</u>	7	<u>11.02</u>	13	<u>9.62</u>	17		Oct-94
Over/Under			0.21		-0.38		-0.25		-0.67		-1.23		-5.98			
<i>InvestorForce Public DB Real Estate Priv Net Median</i>			1.61		5.18		7.19		8.02		9.65		7.75			Oct-94
Timber	20,012,863	1.15	0.00		-0.14		1.49		2.71		4.21		4.22			Sep-99

- Real Estate Blend = NCREIF-ODCE + 80bps 7/1/2014 to present; NCREIF Property Index 1 Qtr Lag plus 100bps 7/1/2012 - 6/30/2014; NCREIF Property Index prior to eA = eVestment Alliance



MANAGER REPORT CARD

Real Assets Managers	Inception Date	Mandate	Current Quarter (Net)		One Year (Net)		Three Years (Net)		Five Years (Net)		Since Inception (Net)	Annual Mgt Fee Paid \$ (000)	Comments
			Index	Universe	Index	Universe	Index	Universe	Index	Universe	Index		
DFA	Jul-14	U.S. TIPS	✓	✓	✓	✓	✓	✓	N/A	N/A	✓	194.6	Performance compliant with LACERS' Manager Monitoring Policy
CenterSquare	Apr-15	REITS	✗	✗	✗	✓	✗	✓	N/A	N/A	✓	399.8	Performance compliant with LACERS' Manager Monitoring Policy
CoreCommodity Mgt.	Jul-15	Commodities	✓	N/A	✓	N/A	✓	N/A	N/A	N/A	✓	860.4	Performance compliant with LACERS' Manager Monitoring Policy

Note: Managers are placed on Watch List for concerns with organization, process and performance. Managers are normally on the Watch List for 12 months though may be longer if manager issues remain but not severe enough to warrant termination recommendation.

- Annual Management Fee Paid as of fiscal year ending June 30, 2018.
- * Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
✗	Underperformed
=	Equal to
✓✓	Gross Return



APPENDIX

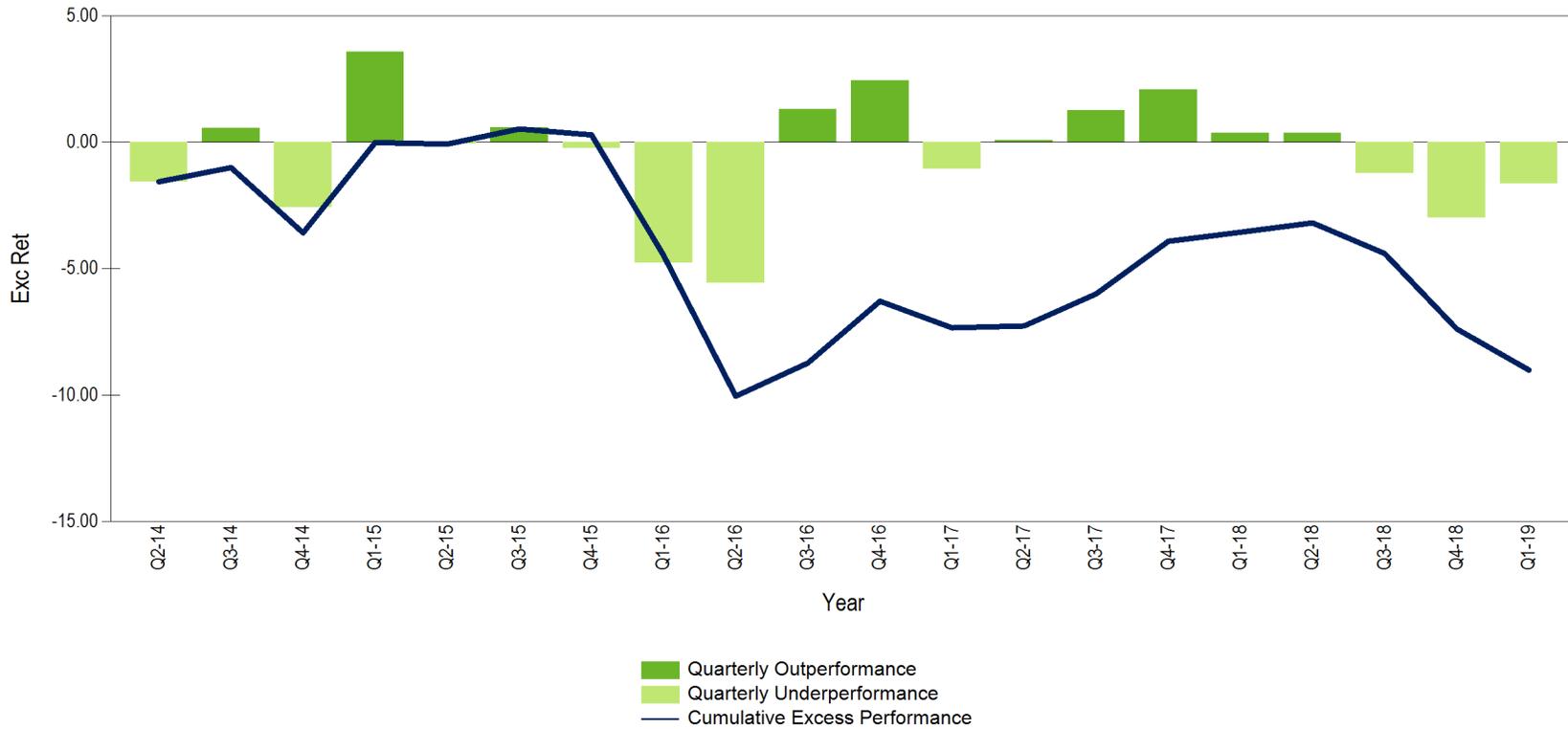
NEPC, LLC

U.S. EQUITY MANAGER PERFORMANCE

NEPC, LLC

ARONSON, JOHNSON & ORTIZ

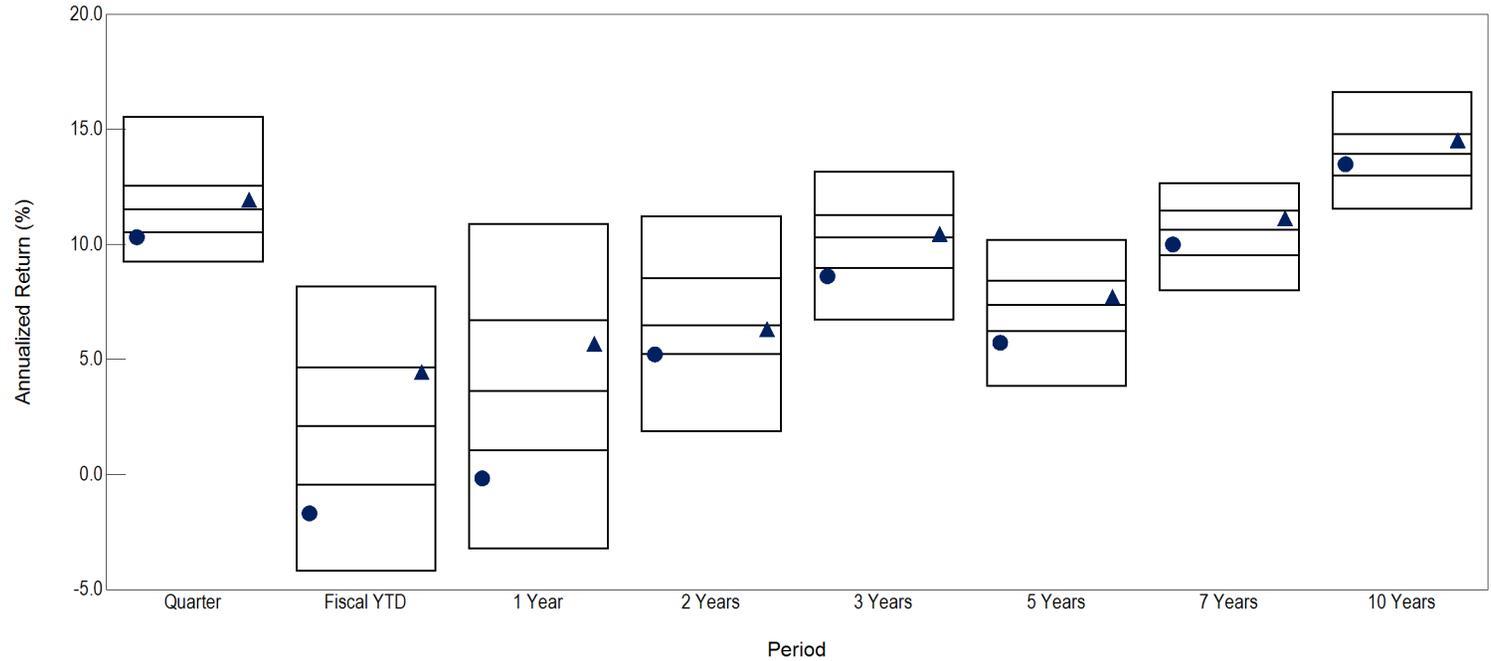
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

ARONSON, JOHNSON & ORTIZ

Aronson, Johnson & Ortiz vs. eV US Large Cap Value Equity Net

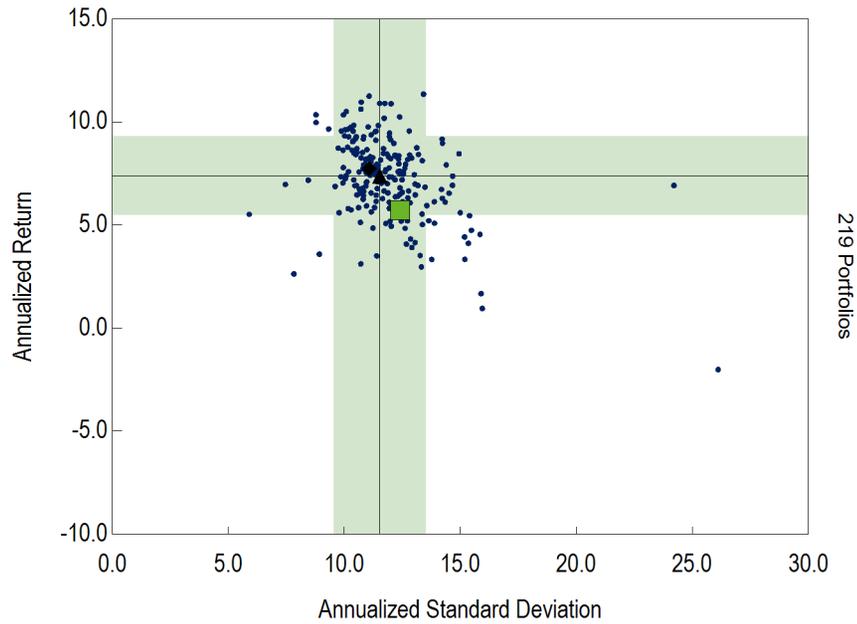


	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)			
5th Percentile	15.53	8.17	10.88	11.22	13.16	10.19	12.66	16.62								
25th Percentile	12.56	4.68	6.73	8.56	11.30	8.43	11.50	14.82								
Median	11.53	2.12	3.65	6.50	10.32	7.39	10.65	13.95								
75th Percentile	10.54	-0.41	1.07	5.25	9.01	6.27	9.55	13.00								
95th Percentile	9.28	-4.16	-3.20	1.92	6.77	3.87	8.04	11.58								
# of Portfolios	238	233	233	230	228	219	197	178								
● Aronson, Johnson & Ortiz	10.31	(80)	-1.69	(85)	-0.17	(83)	5.21	(76)	8.61	(83)	5.72	(83)	9.99	(65)	13.48	(66)
▲ Russell 1000 Value	11.93	(41)	4.45	(27)	5.67	(30)	6.31	(55)	10.45	(46)	7.72	(42)	11.14	(38)	14.52	(37)

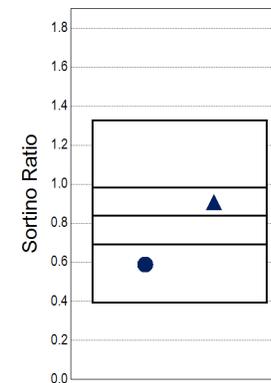
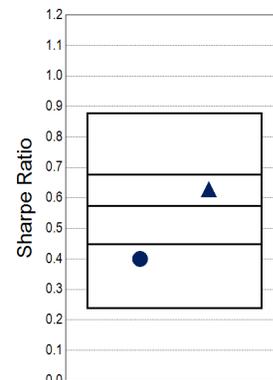
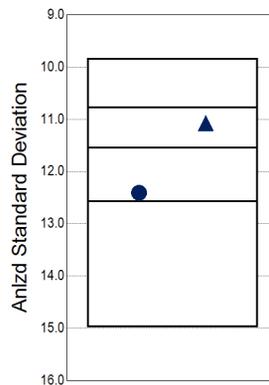
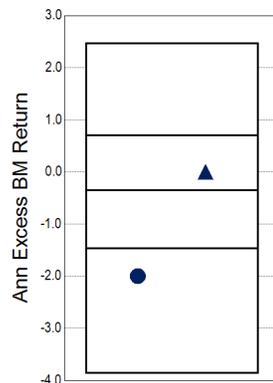
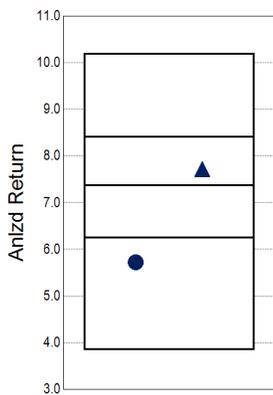
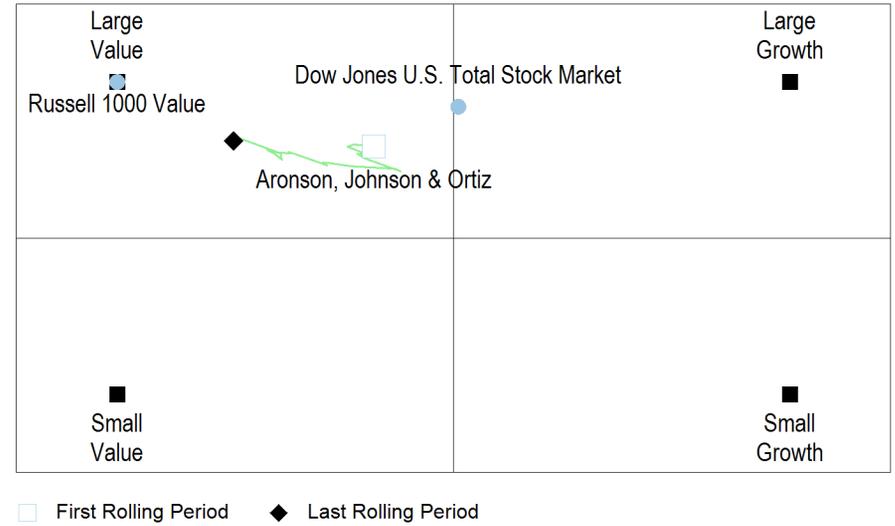


ARONSON, JOHNSON & ORTIZ

5 Year Risk Return



5 Year Style Map



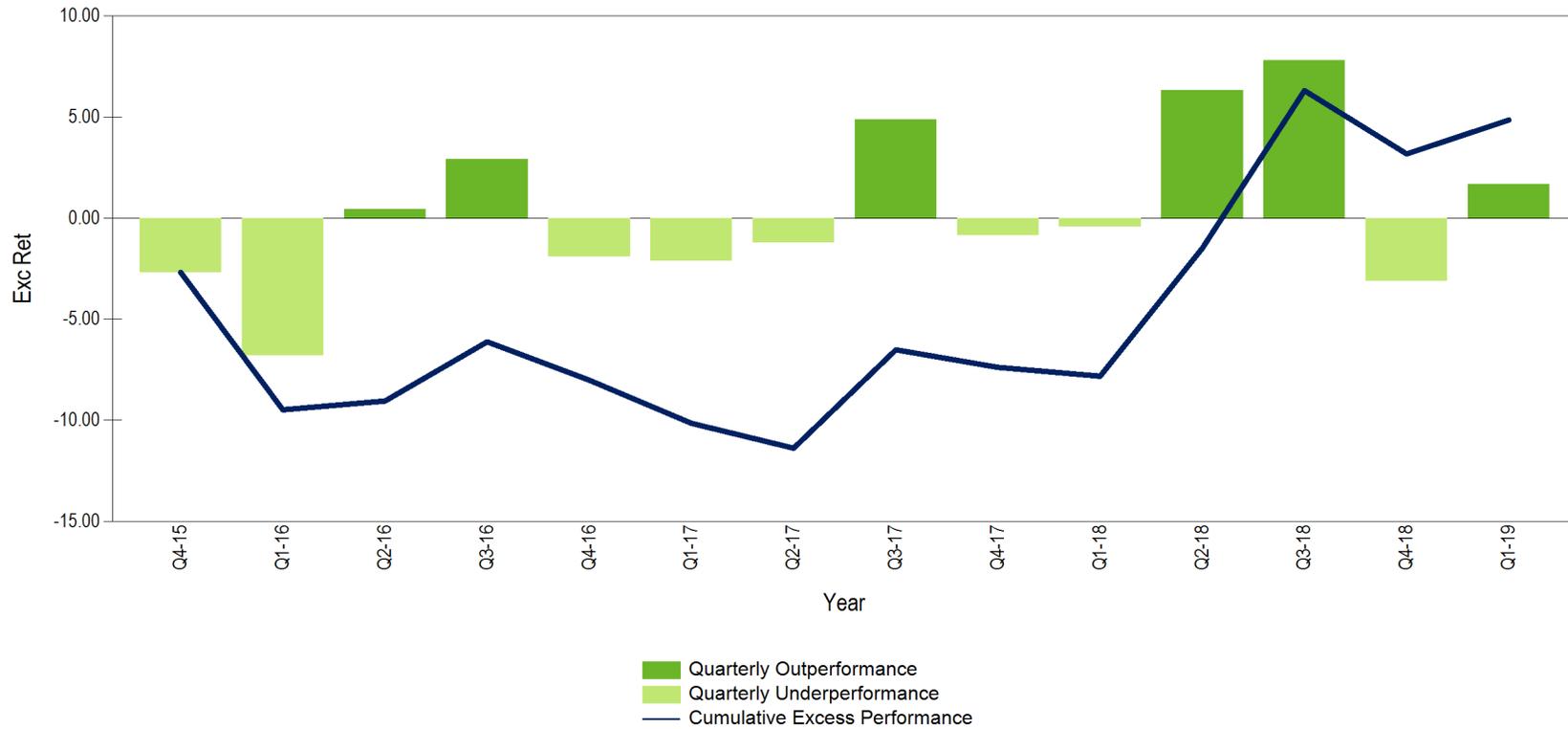
- Aronson, Johnson & Ortiz
- ▲ Russell 1000 Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

EAM INVESTORS

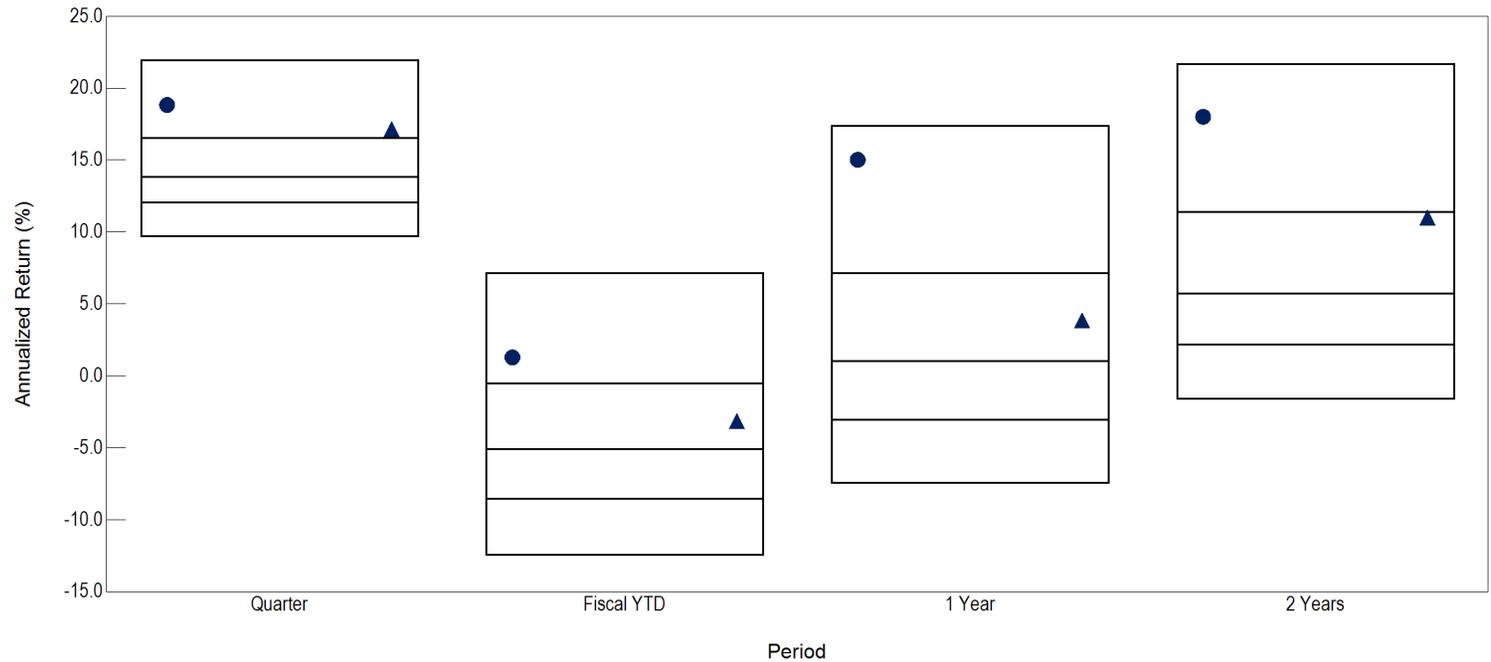
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

EAM INVESTORS

EAM Investors vs. eV US Small Cap Equity Net



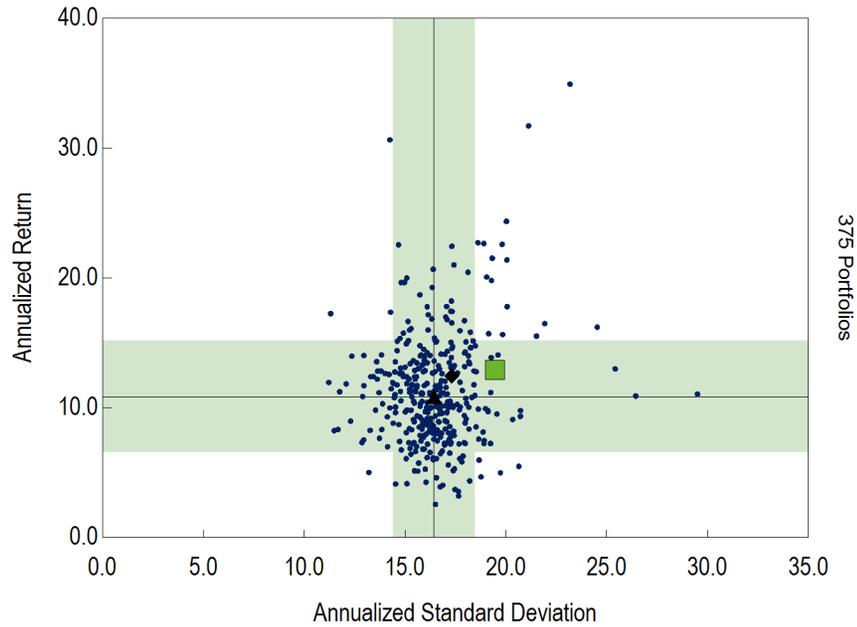
	Return (Rank)							
5th Percentile	21.94		7.12		17.38		21.64	
25th Percentile	16.58		-0.51		7.17		11.44	
Median	13.85		-5.04		1.04		5.75	
75th Percentile	12.11		-8.51		-3.02		2.22	
95th Percentile	9.74		-12.41		-7.41		-1.53	
# of Portfolios	403		397		397		391	
● EAM Investors	18.82	(16)	1.27	(18)	15.01	(7)	18.00	(11)
▲ Russell 2000 Growth	17.14	(22)	-3.15	(38)	3.85	(39)	11.00	(26)



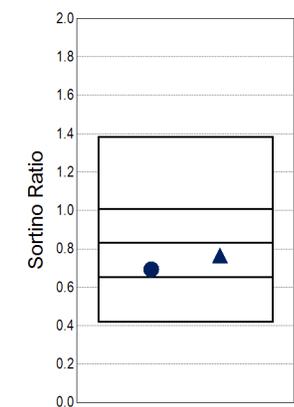
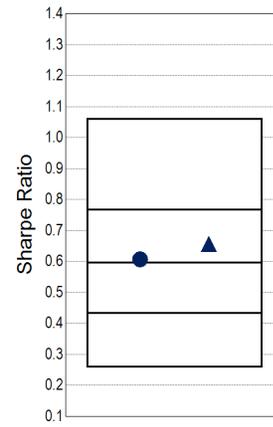
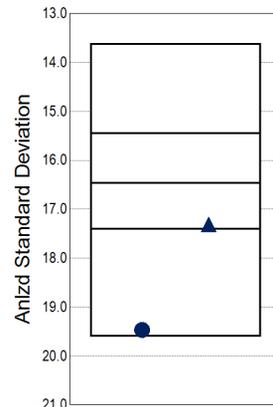
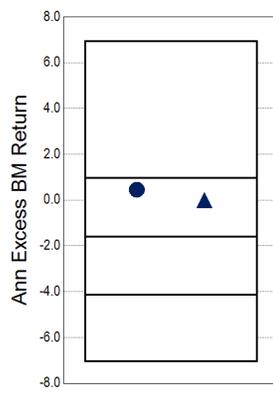
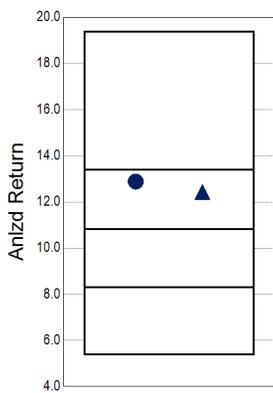
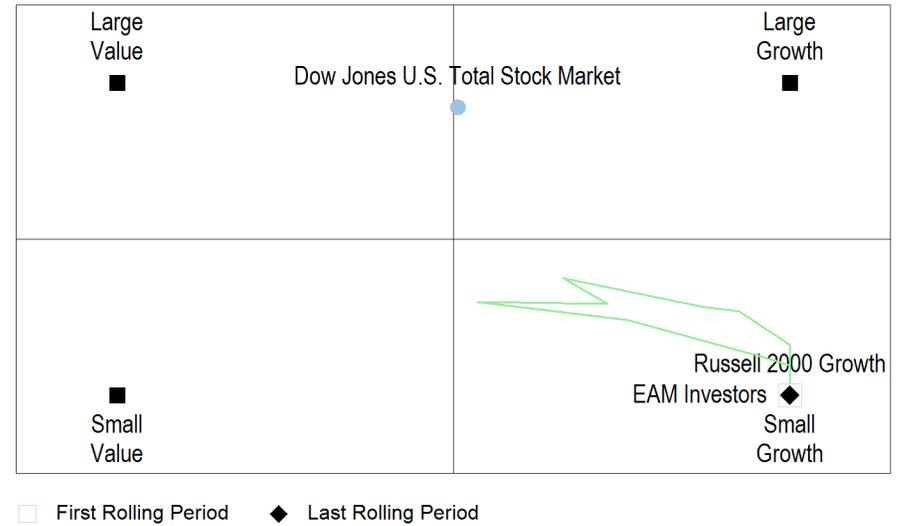
Los Angeles City Employees' Retirement System

EAM INVESTORS

Since Inception Risk Return



Since Inception Style Map



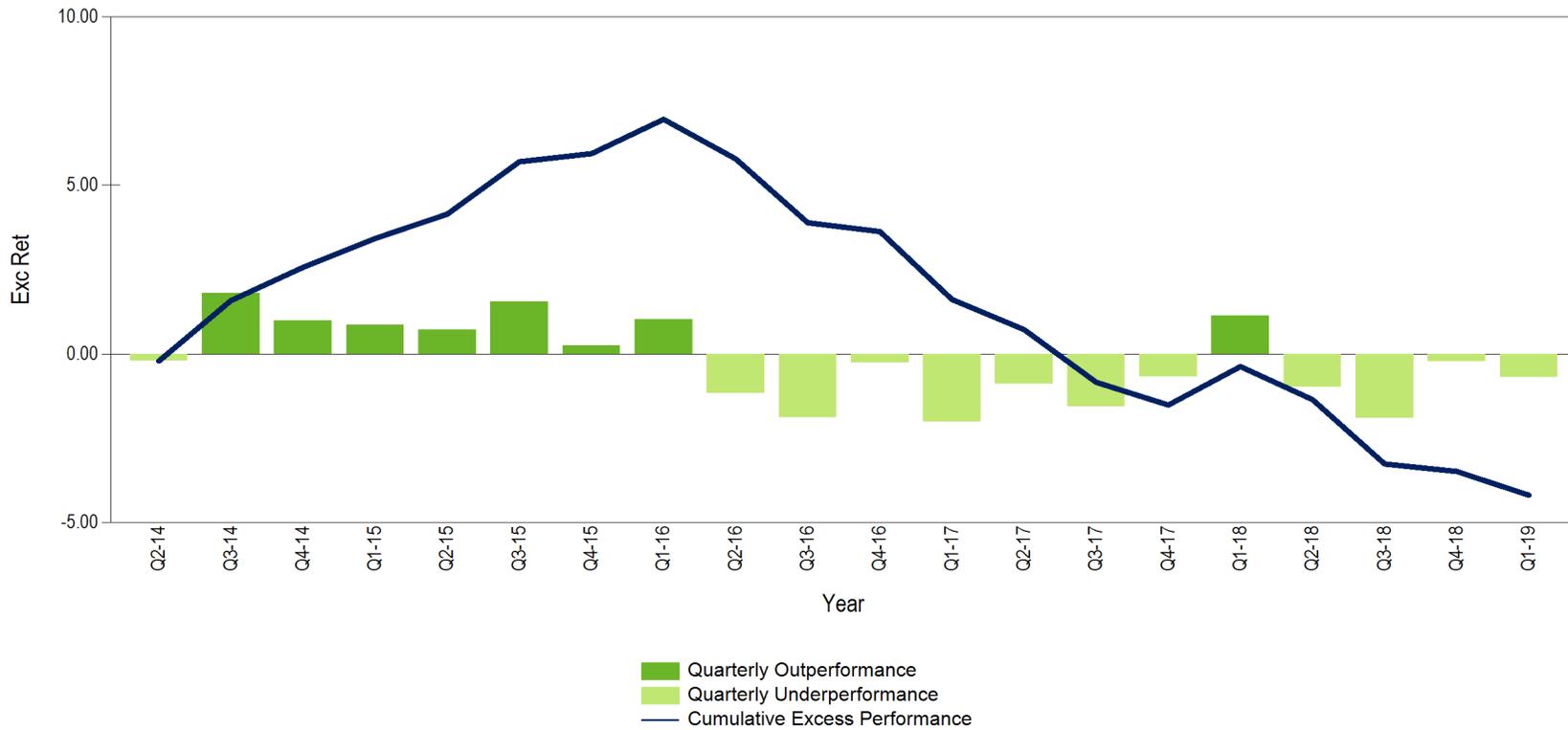
- EAM Investors
- ▲ Russell 2000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

PANAGORA

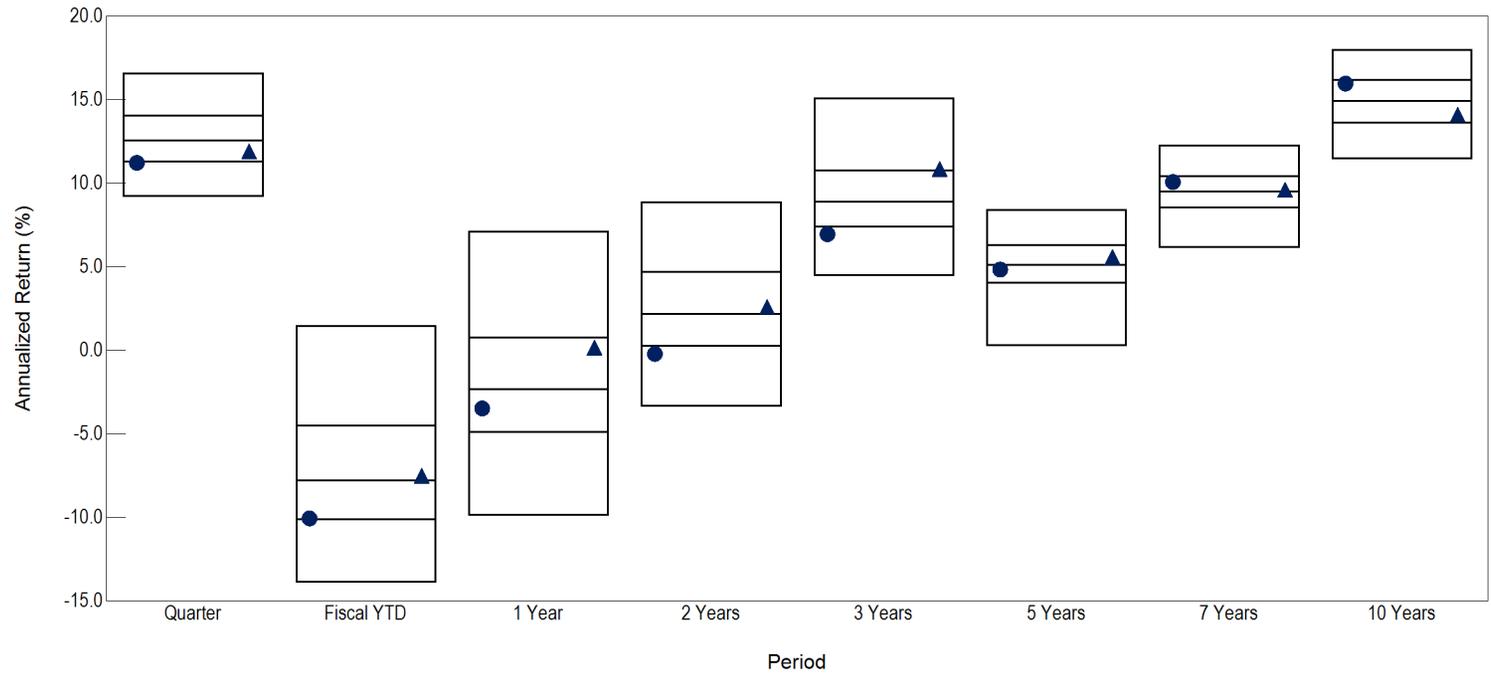
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

PANAGORA

PanAgora vs. eV US Small Cap Value Equity Net



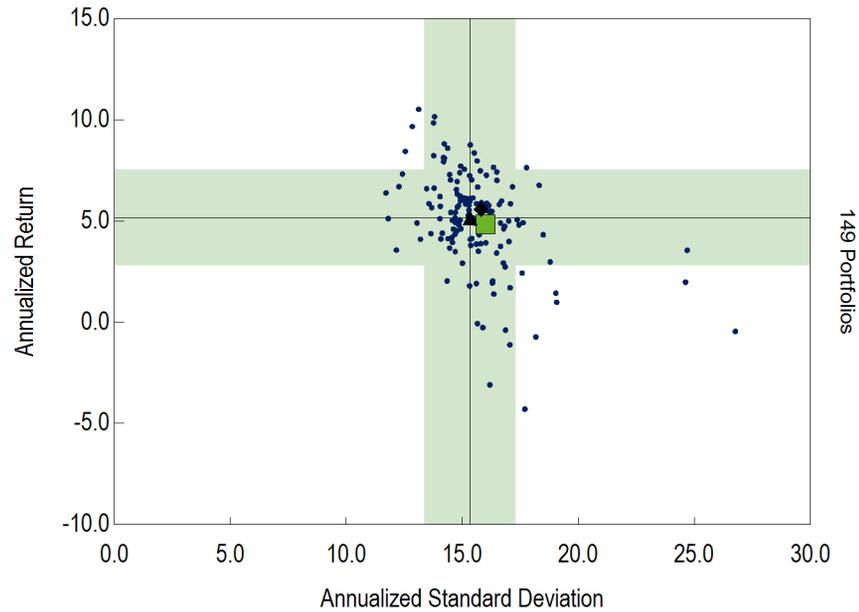
	Return (Rank)															
5th Percentile	16.59	1.47	7.11	8.87	15.08	8.42	12.25	17.98								
25th Percentile	14.07	-4.46	0.80	4.73	10.82	6.34	10.48	16.24								
Median	12.59	-7.74	-2.27	2.20	8.94	5.16	9.56	14.96								
75th Percentile	11.35	-10.06	-4.85	0.32	7.43	4.10	8.60	13.68								
95th Percentile	9.27	-13.81	-9.83	-3.29	4.54	0.36	6.23	11.54								
# of Portfolios	166	163	163	162	159	149	137	123								
● PanAgora	11.22	(77)	-10.06	(75)	-3.48	(60)	-0.21	(81)	6.95	(81)	4.84	(64)	10.07	(33)	15.97	(33)
▲ Russell 2000 Value	11.93	(67)	-7.51	(48)	0.17	(29)	2.62	(45)	10.86	(25)	5.59	(43)	9.61	(46)	14.12	(68)



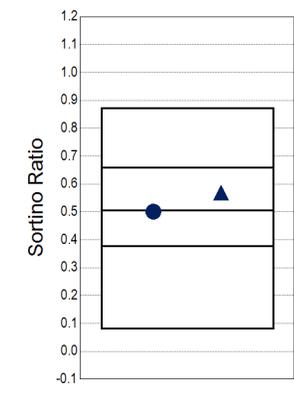
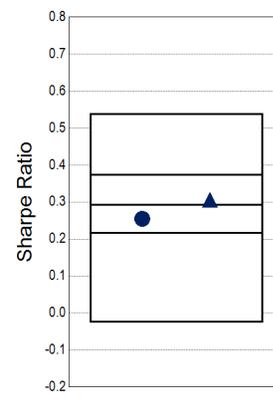
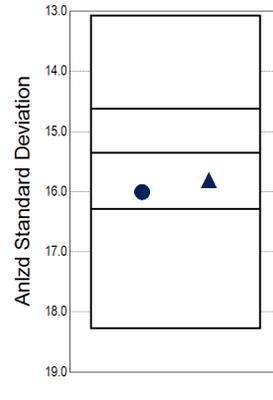
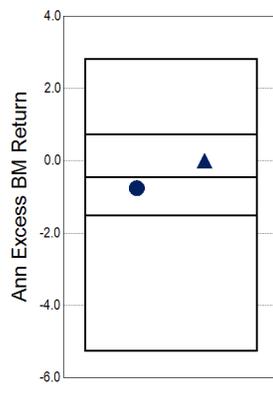
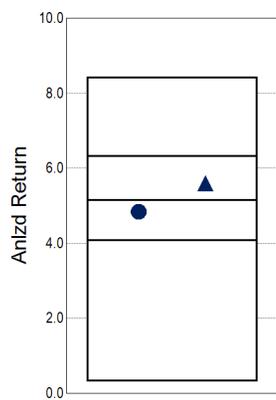
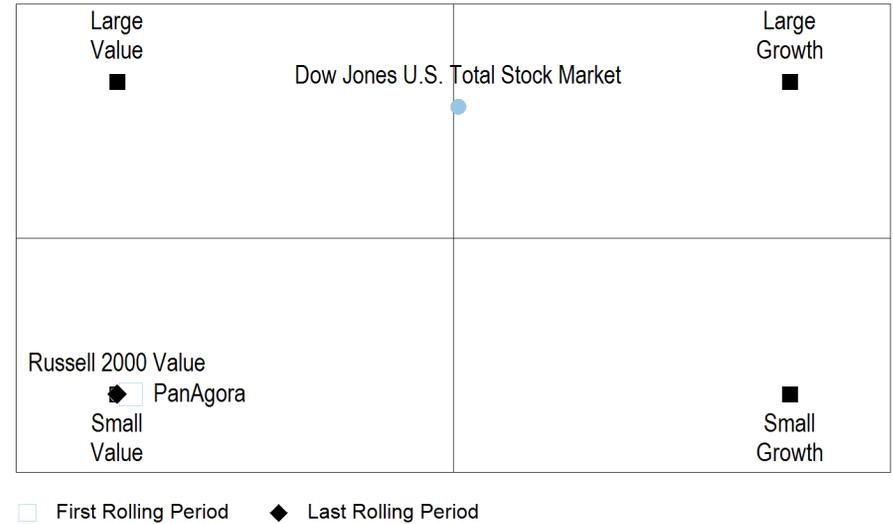
Los Angeles City Employees' Retirement System

PANAGORA

5 Year Risk Return



5 Year Style Map



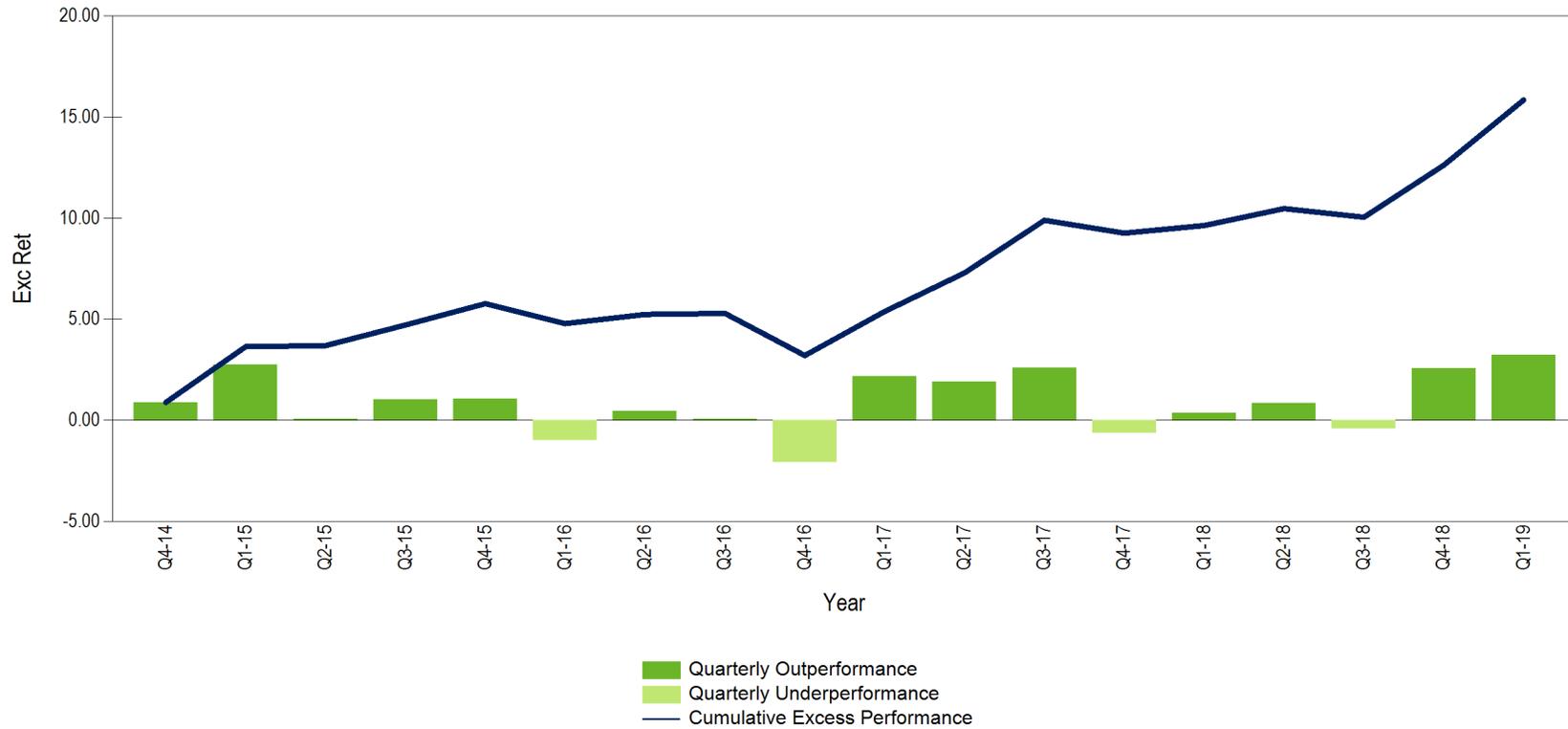
- PanAgora
- ▲ Russell 2000 Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

PRINCIPAL GLOBAL INVESTORS

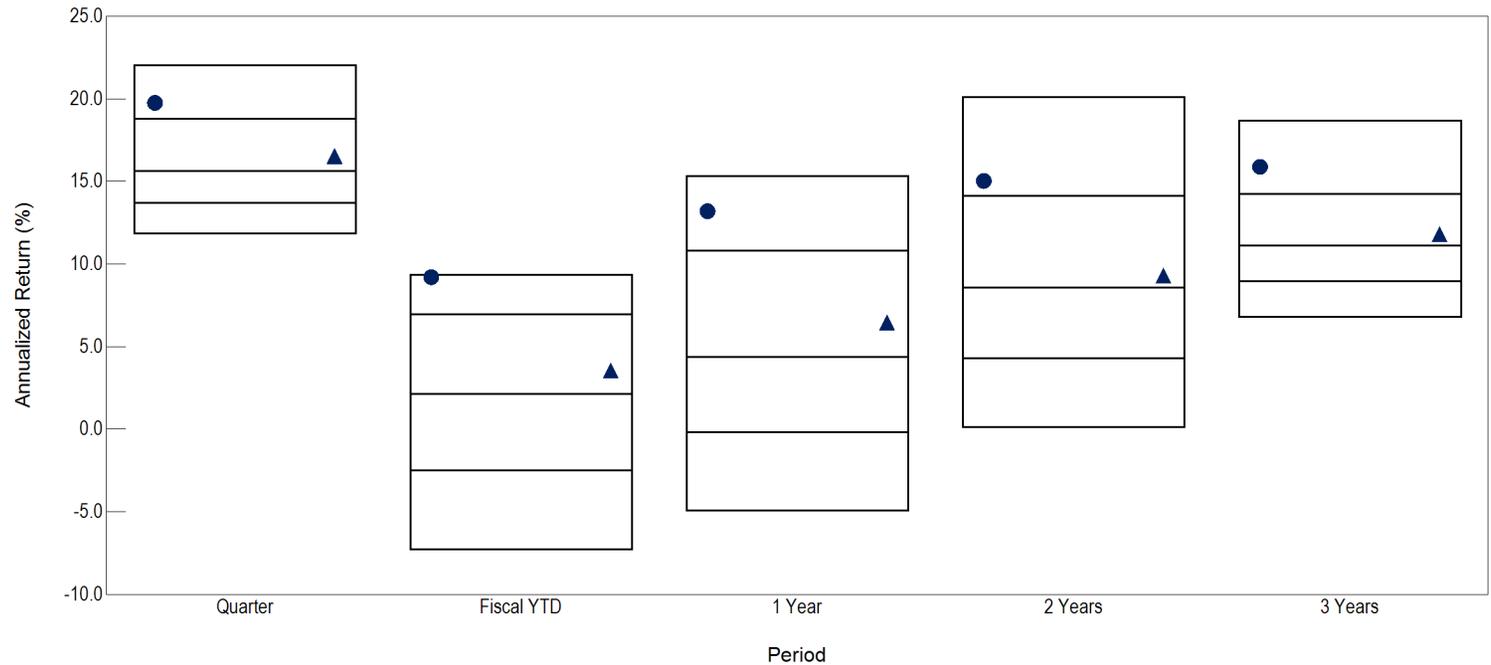
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

PRINCIPAL GLOBAL INVESTORS

Principal Global Investors vs. eV US Mid Cap Equity Net



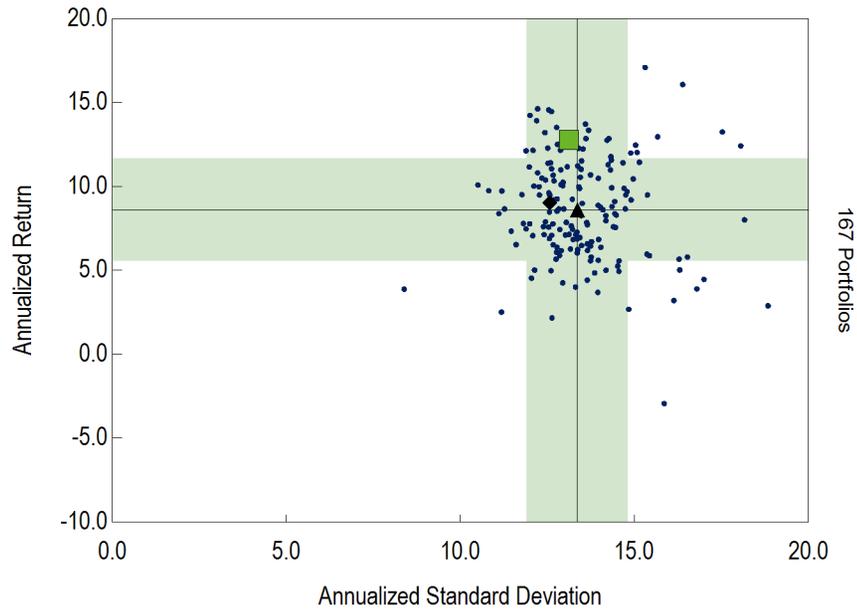
	Return (Rank)									
5th Percentile	22.02		9.35		15.32		20.10		18.69	
25th Percentile	18.82		7.00		10.85		14.18		14.27	
Median	15.69		2.18		4.40		8.63		11.17	
75th Percentile	13.73		-2.45		-0.15		4.32		9.01	
95th Percentile	11.90		-7.25		-4.87		0.15		6.83	
# of Portfolios	178		176		176		174		172	
● Principal Global Investors	19.76	(19)	9.21	(7)	13.20	(15)	15.03	(20)	15.89	(16)
▲ Russell MidCap	16.54	(41)	3.55	(42)	6.47	(42)	9.30	(48)	11.81	(46)



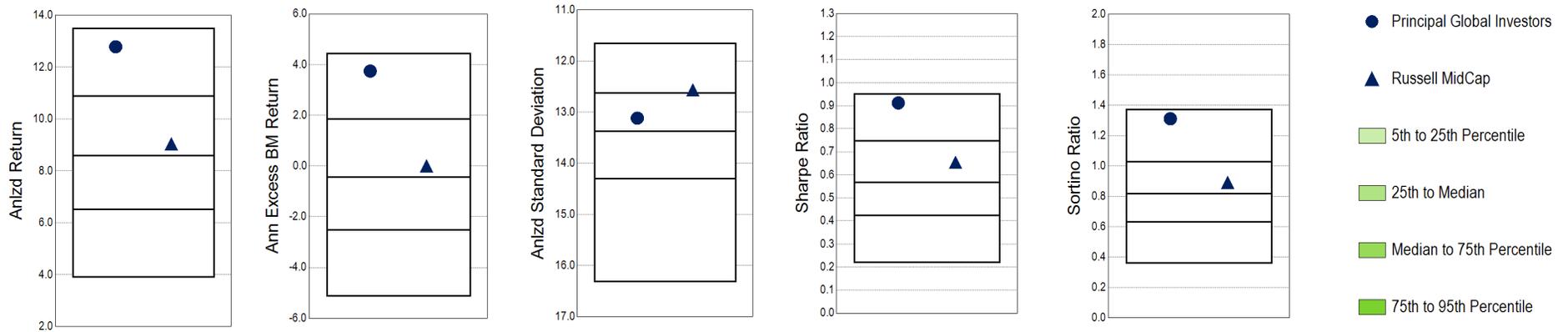
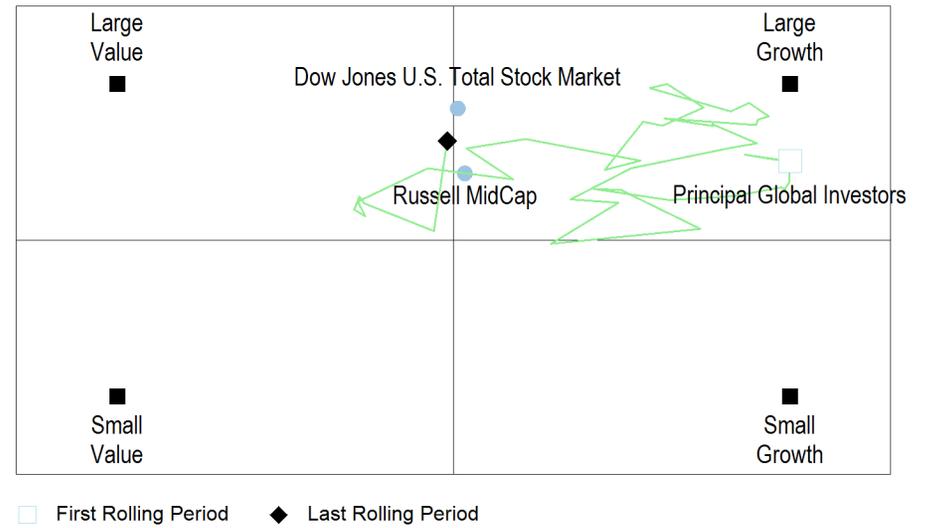
Los Angeles City Employees' Retirement System

PRINCIPAL GLOBAL INVESTORS

Since Inception Risk Return

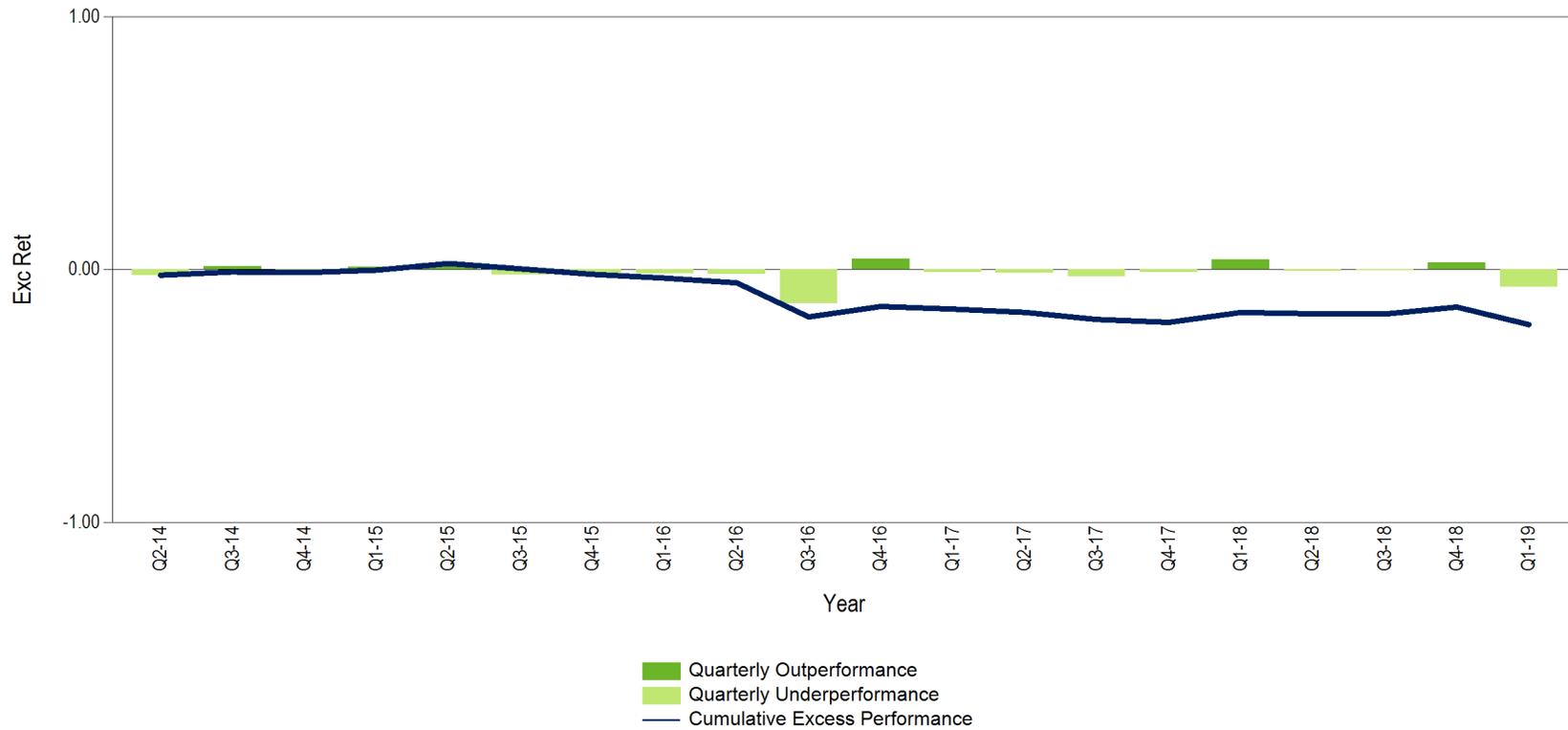


Since Inception Style Map



RHUMBLINE ADVISORS S&P 500

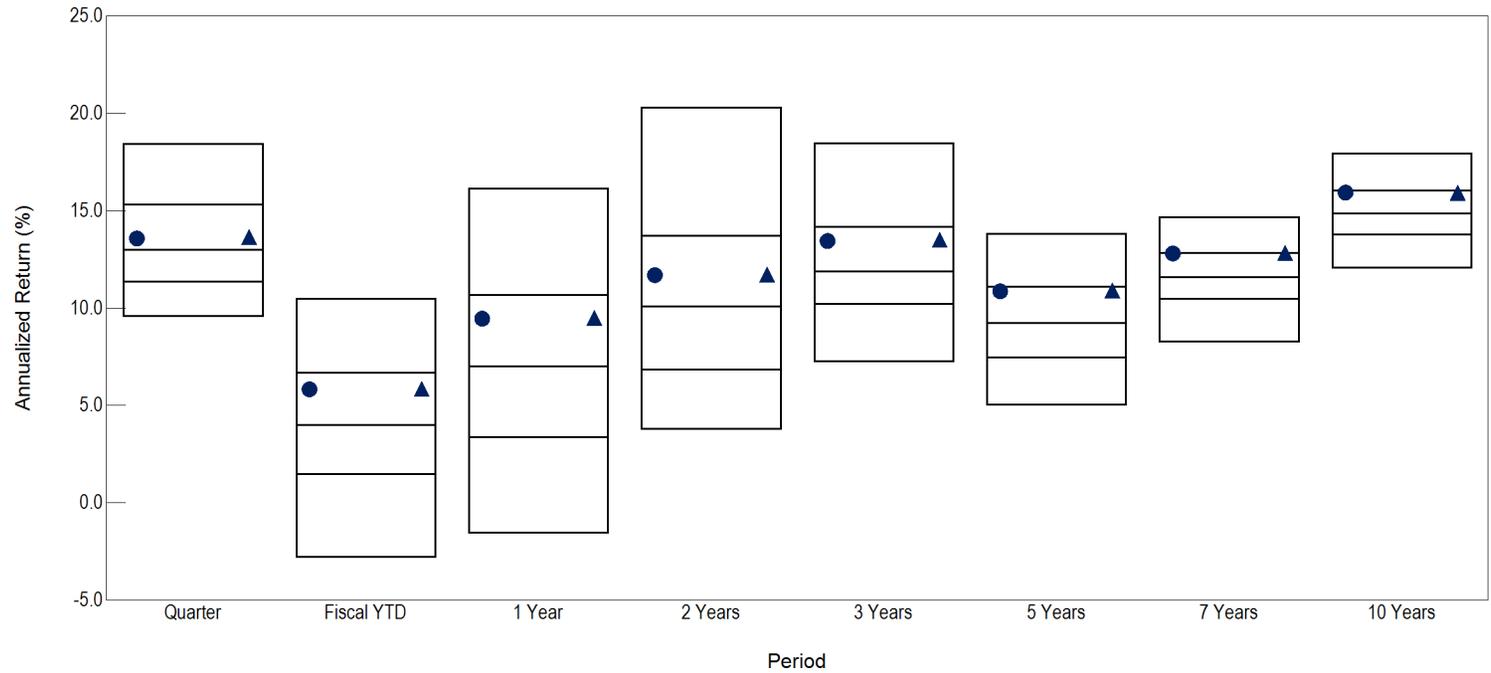
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS S&P 500

Rhumbline Advisors S&P 500 vs. eV US Large Cap Equity Net

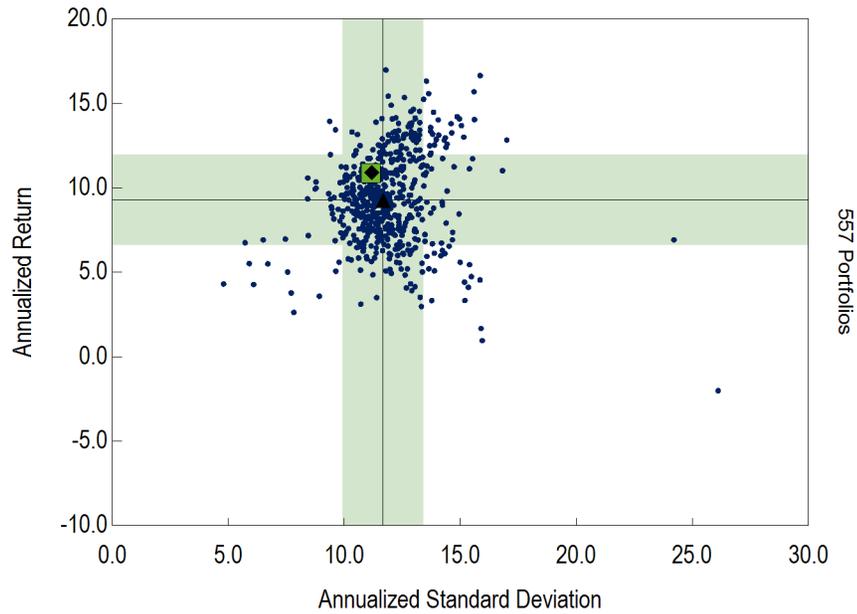


	Return (Rank)															
5th Percentile	18.42	10.49	16.13	20.30	18.46	13.81	14.67	17.94								
25th Percentile	15.35	6.71	10.71	13.75	14.20	11.13	12.86	16.06								
Median	13.03	4.04	7.03	10.11	11.91	9.28	11.64	14.89								
75th Percentile	11.40	1.50	3.41	6.88	10.26	7.50	10.53	13.81								
95th Percentile	9.61	-2.75	-1.51	3.85	7.31	5.07	8.30	12.13								
# of Portfolios	617	604	604	591	582	557	498	451								
● Rhumbline Advisors S&P 500	13.58	(42)	5.83	(33)	9.46	(33)	11.70	(36)	13.45	(33)	10.86	(29)	12.81	(26)	15.93	(28)
▲ S&P 500	13.65	(41)	5.86	(33)	9.50	(33)	11.72	(36)	13.51	(31)	10.91	(28)	12.85	(26)	15.92	(28)

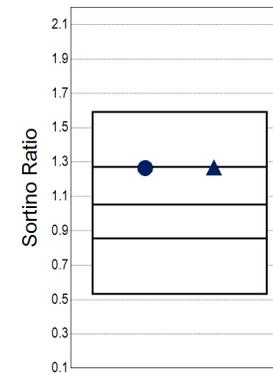
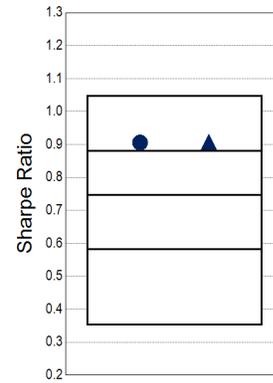
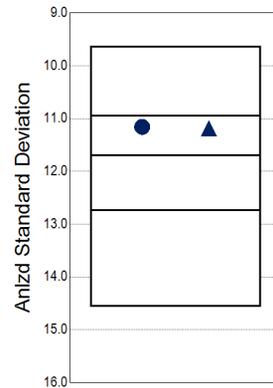
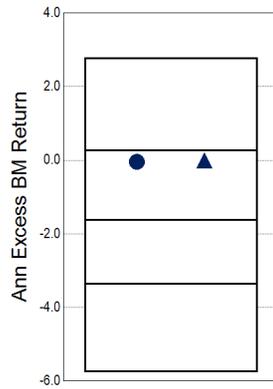
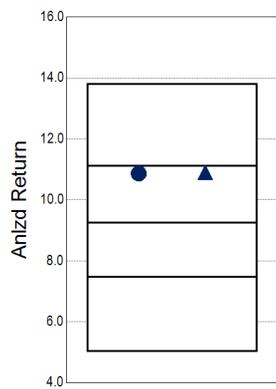
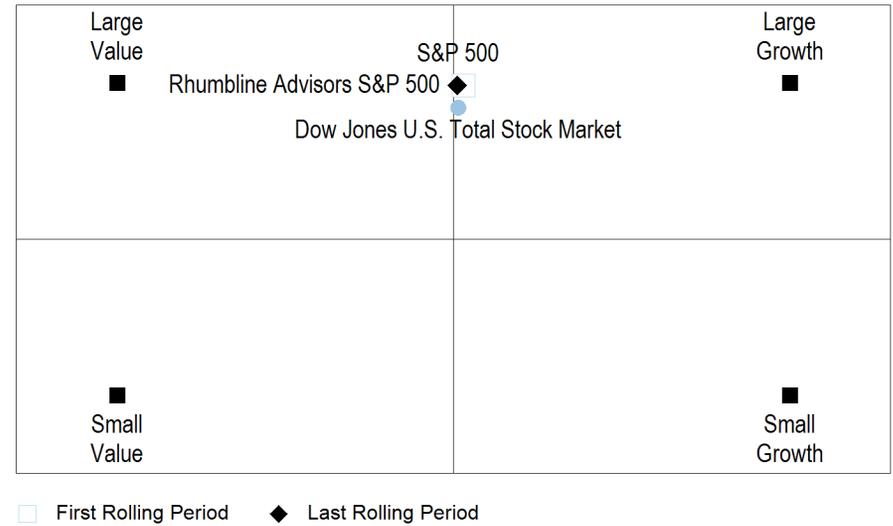


RHUMBLINE ADVISORS S&P 500

5 Year Risk Return



5 Year Style Map

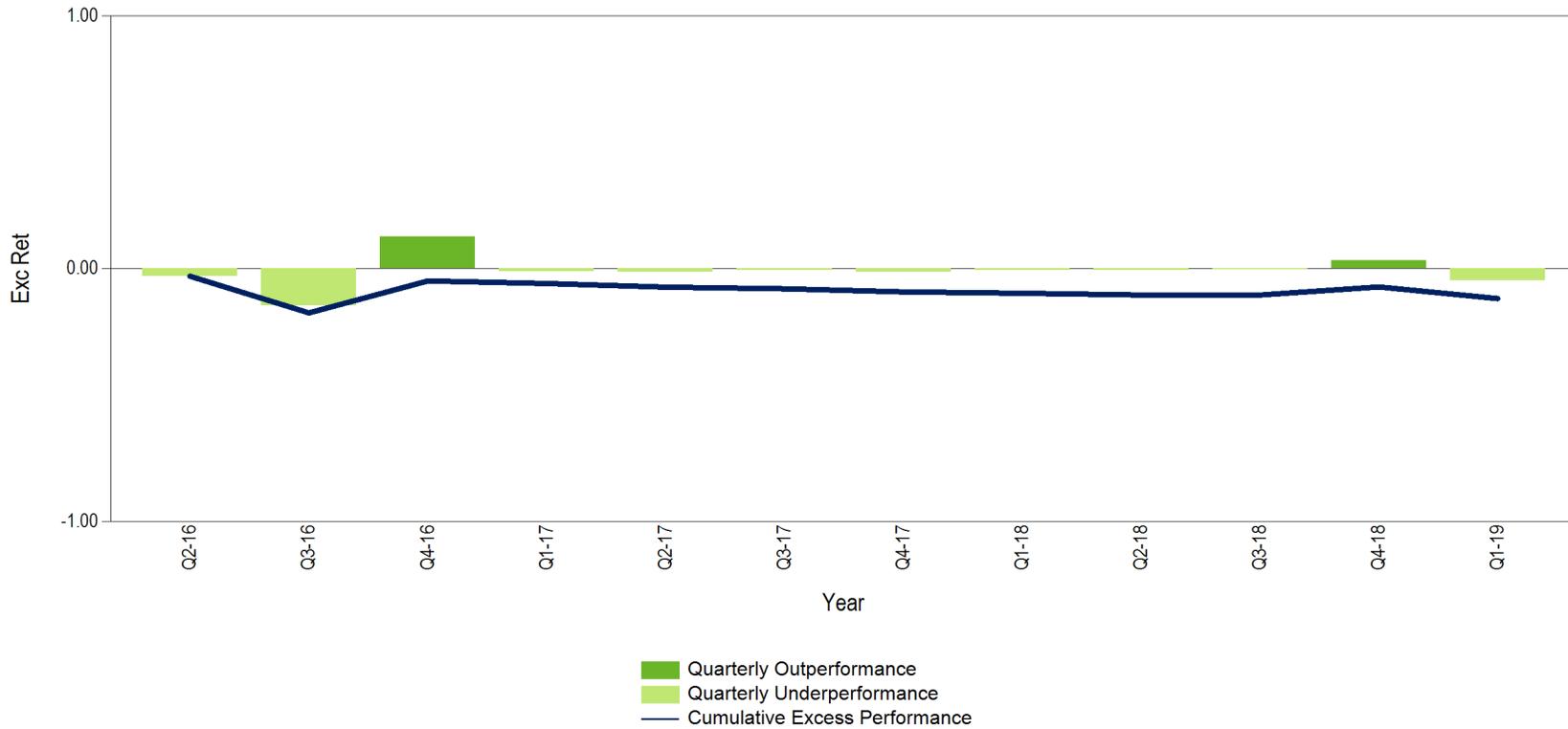


- Rhumbline Advisors S&P 500
- ▲ S&P 500
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



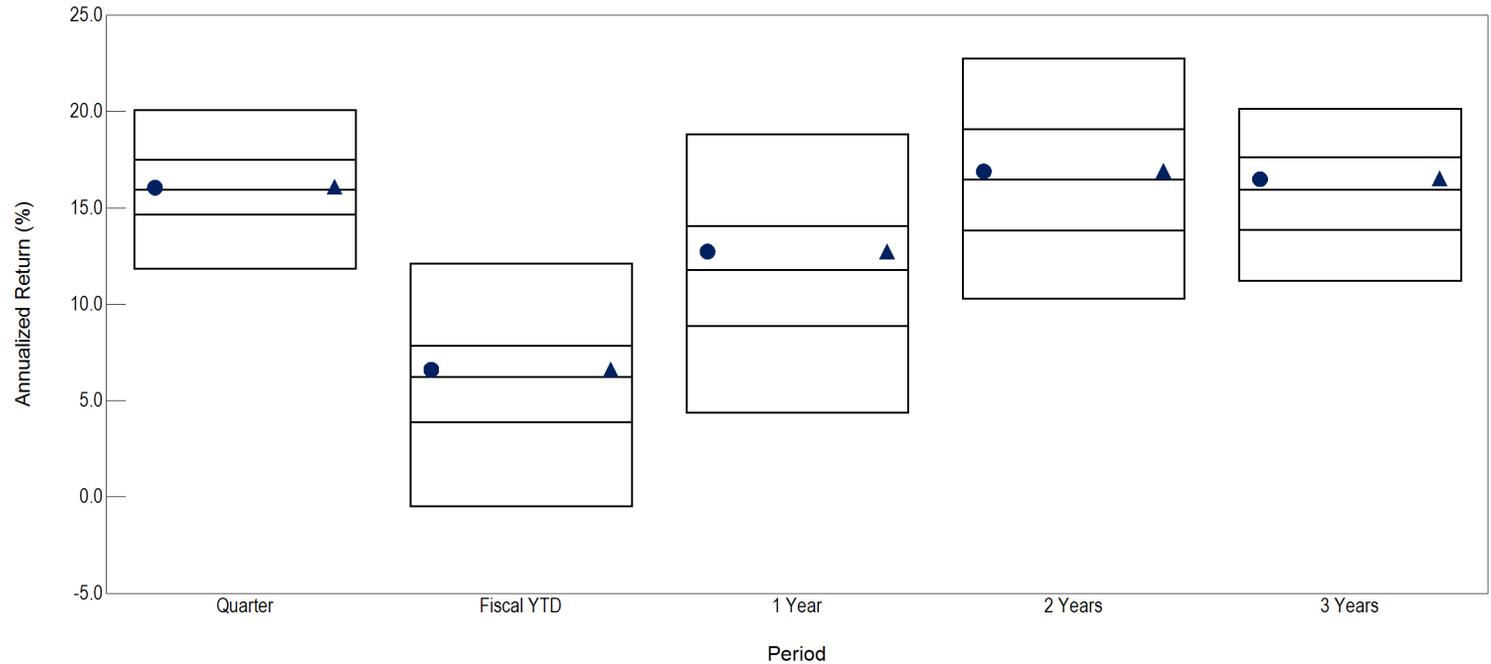
RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

Quarterly and Cumulative Excess Performance



RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

Rhumbline Advisors Russell 1000 Growth vs. eV US Large Cap Growth Equity Net

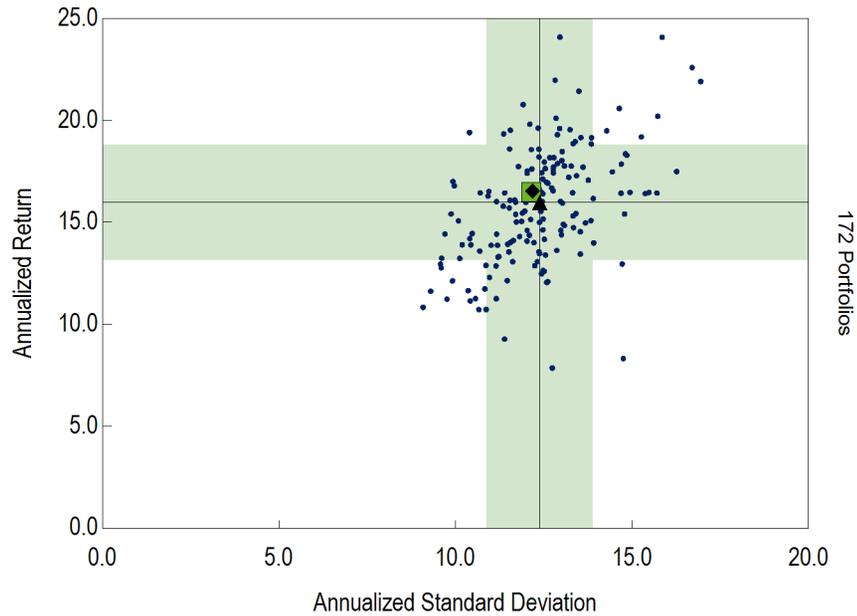


	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	20.09		12.11		18.84		22.75		20.15	
25th Percentile	17.54		7.87		14.10		19.12		17.65	
Median	15.99		6.25		11.81		16.50		15.98	
75th Percentile	14.69		3.93		8.92		13.88		13.89	
95th Percentile	11.89		-0.46		4.41		10.34		11.25	
# of Portfolios	183		180		180		176		172	
● Rhumbline Advisors Russell 1000 Growth	16.06	(50)	6.61	(45)	12.74	(40)	16.90	(45)	16.50	(38)
▲ Russell 1000 Growth	16.10	(49)	6.61	(45)	12.75	(40)	16.92	(44)	16.53	(38)

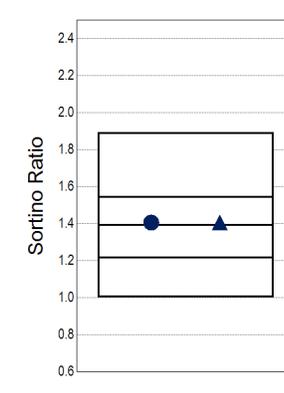
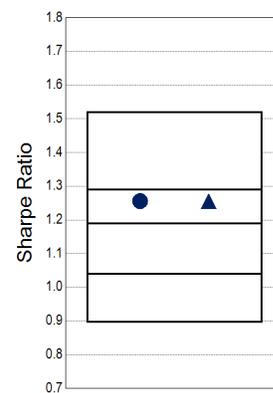
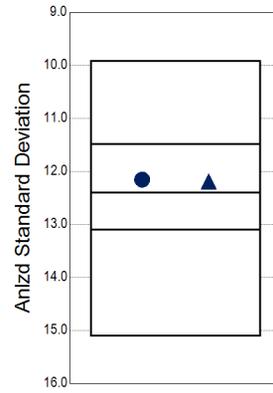
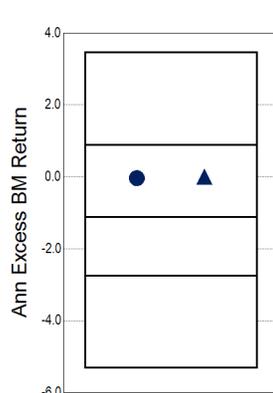
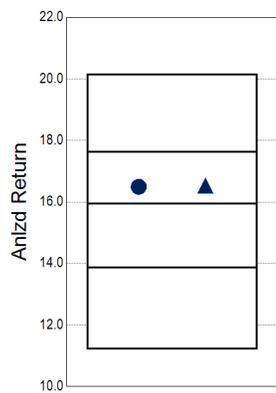
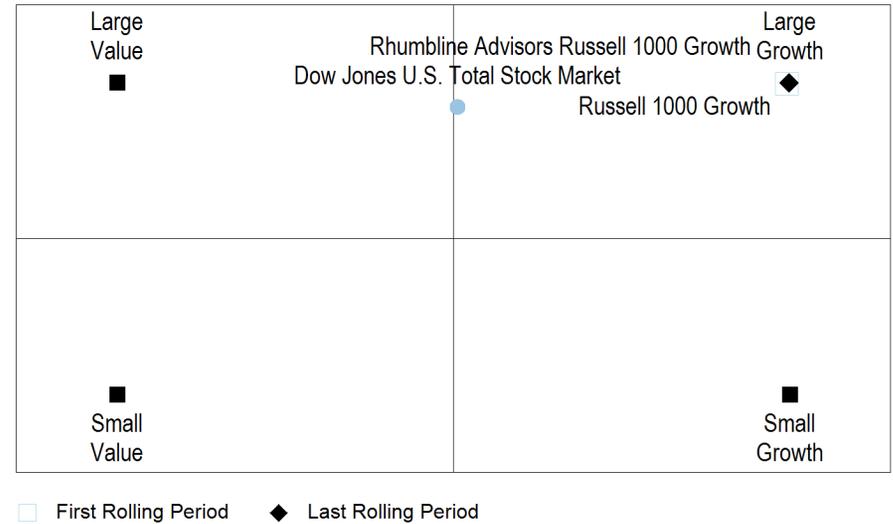


RHUMBLINE ADVISORS RUSSELL 1000 GROWTH

3 Year Risk Return



3 Year Style Map

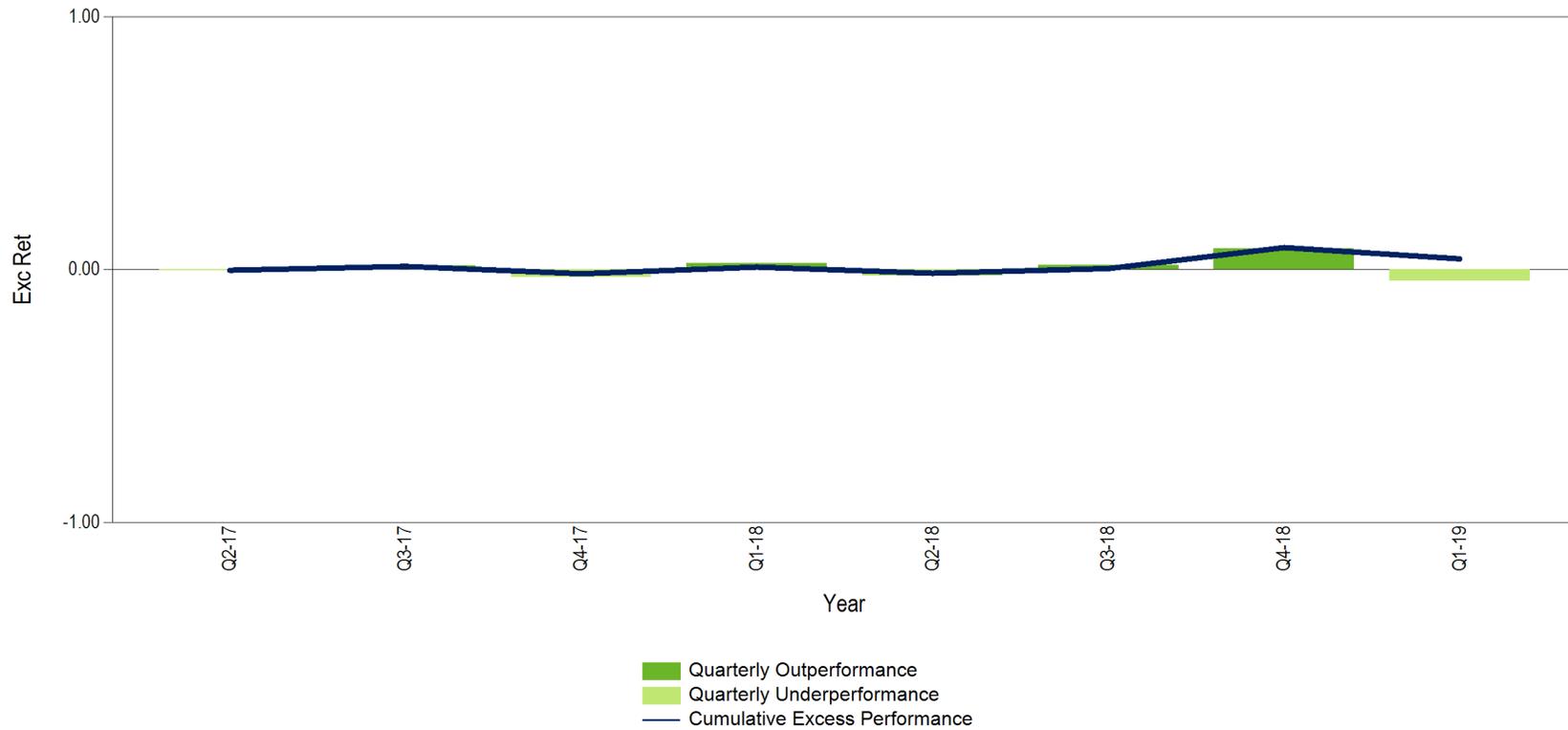


- Rhumbline Advisors Russell 1000 Growth
- ▲ Russell 1000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



RHUMBLINE ADVISORS RUSSELL 2000

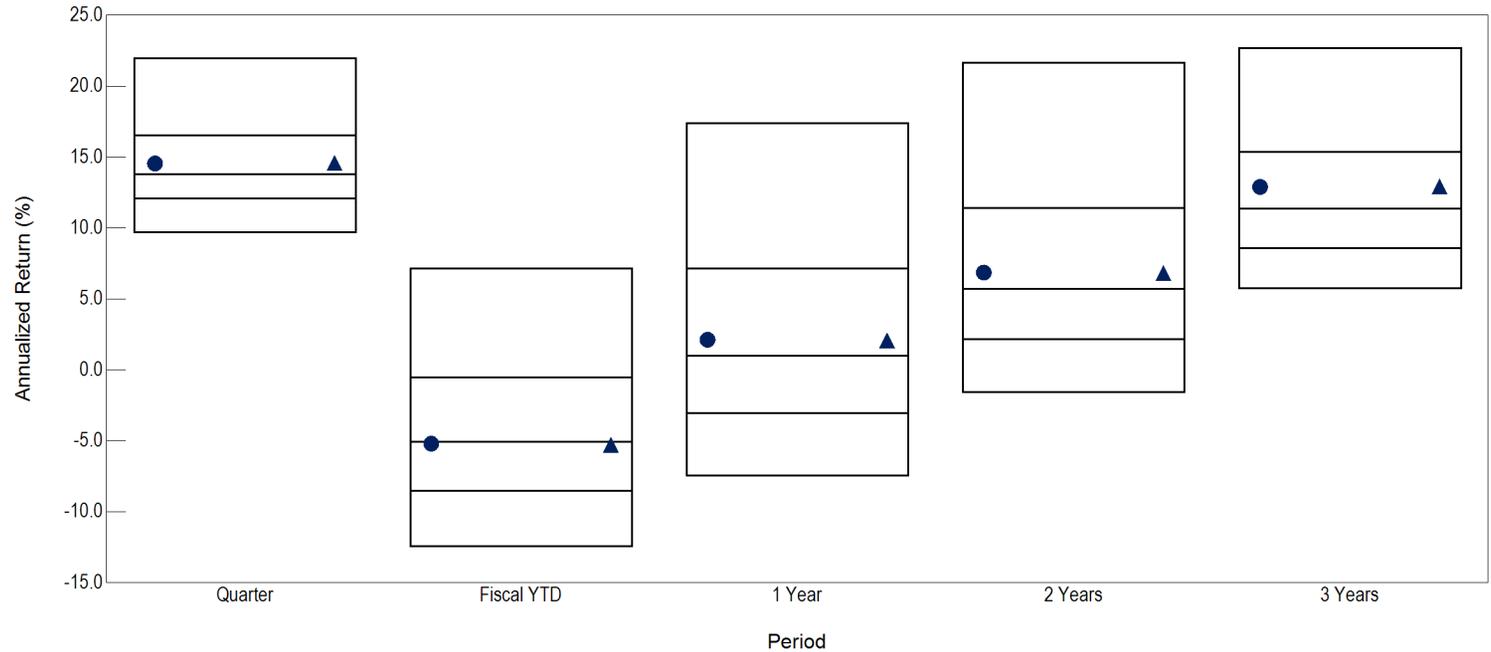
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS RUSSELL 2000

Rhumbline Advisors Russell 2000 vs. eV US Small Cap Equity Net

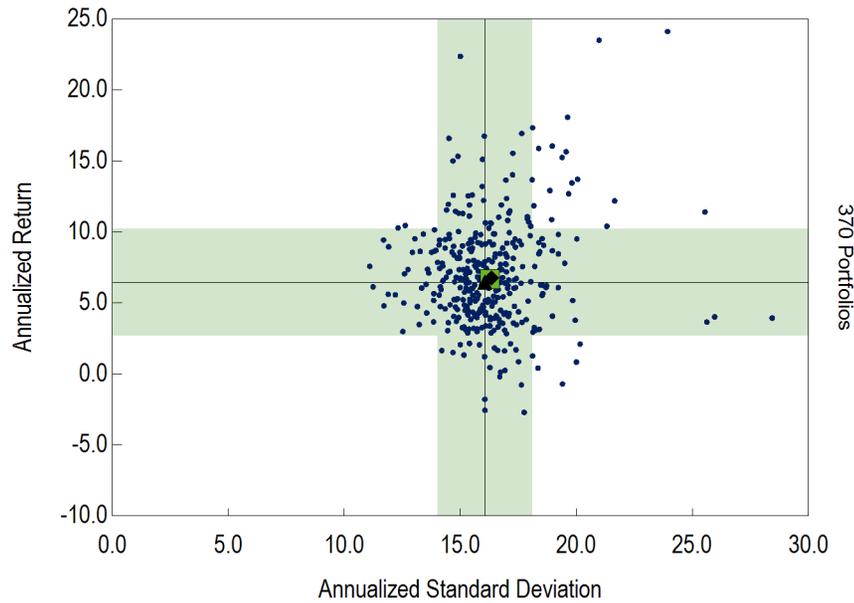


	Return (Rank)									
5th Percentile	21.94		7.12		17.38		21.64		22.68	
25th Percentile	16.58		-0.51		7.17		11.44		15.39	
Median	13.85		-5.04		1.04		5.75		11.41	
75th Percentile	12.11		-8.51		-3.02		2.22		8.64	
95th Percentile	9.74		-12.41		-7.41		-1.53		5.77	
# of Portfolios	403		397		397		391		381	
● Rhumbline Advisors Russell 2000	14.54	(43)	-5.22	(52)	2.11	(45)	6.85	(43)	12.88	(38)
▲ Russell 2000	14.58	(42)	-5.29	(52)	2.05	(45)	6.81	(43)	12.92	(38)

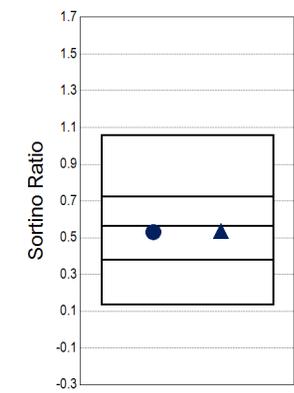
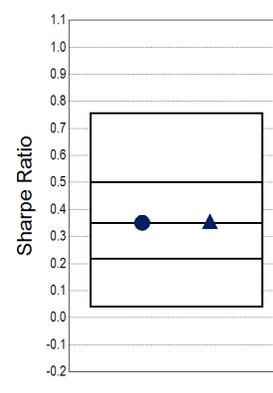
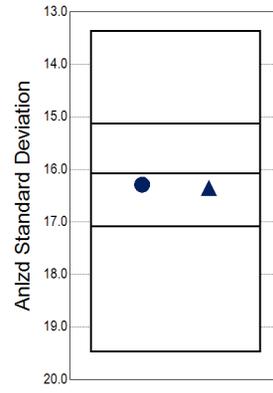
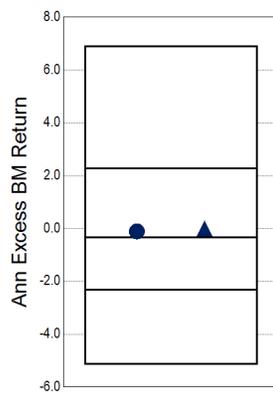
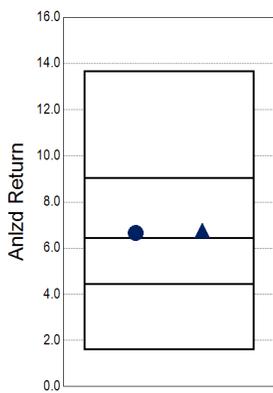
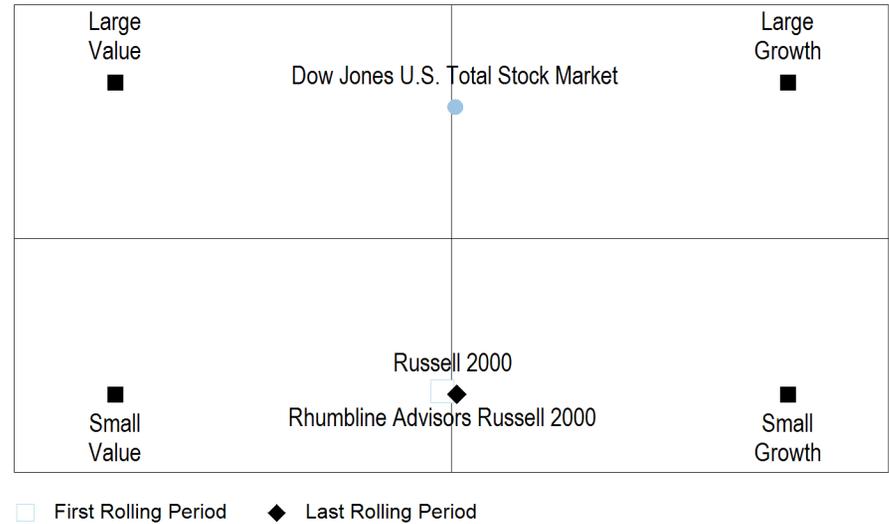


RHUMBLINE ADVISORS RUSSELL 2000

Since Inception Risk Return



Since Inception Style Map



- Rhumbline Advisors Russell 2000
- ▲ Russell 2000
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



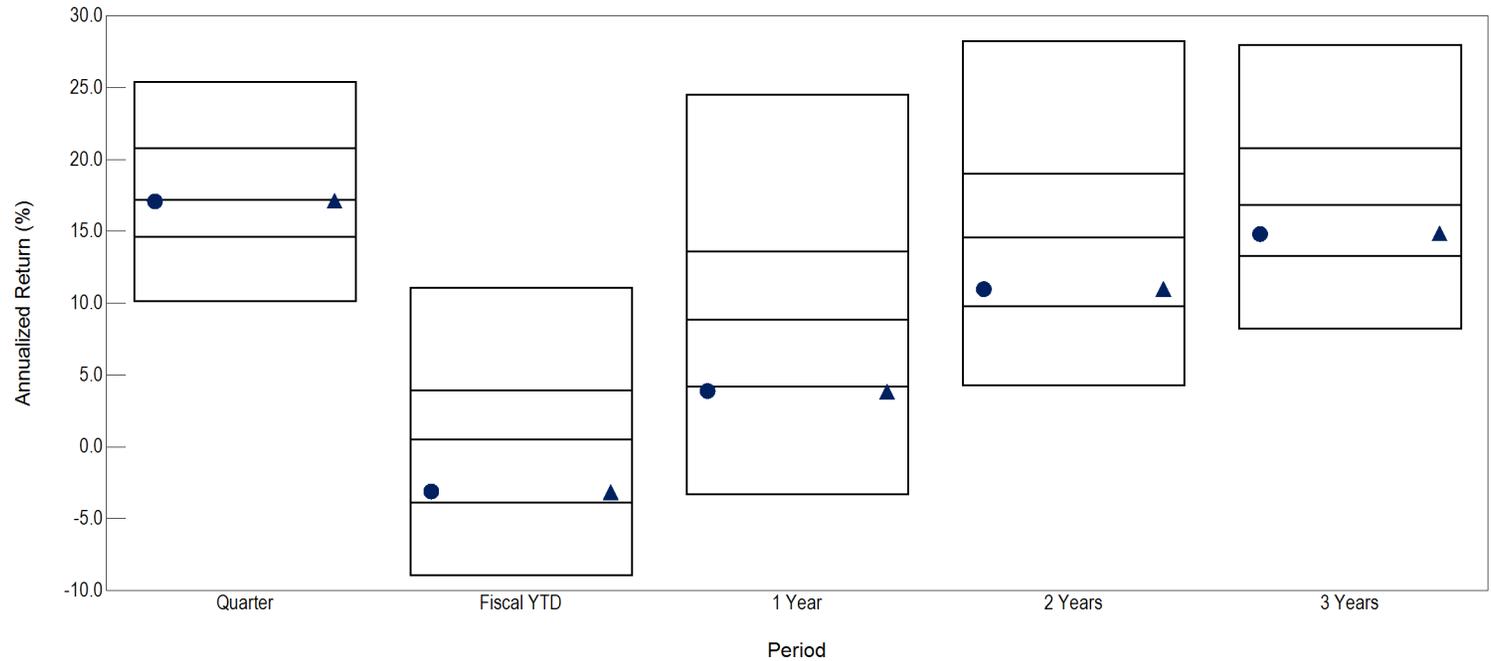
RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Quarterly and Cumulative Excess Performance



RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Rhumbline Advisors Russell 2000 Growth vs. eV US Small Cap Growth Equity Net

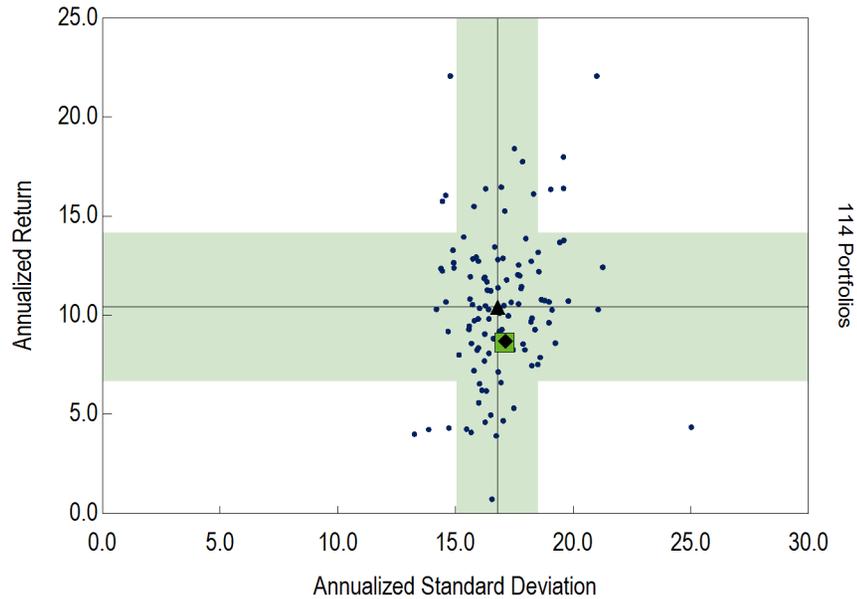


	Return (Rank)									
5th Percentile	25.40		11.06		24.53		28.26		27.98	
25th Percentile	20.84		3.97		13.63		19.07		20.82	
Median	17.26		0.55		8.90		14.63		16.89	
75th Percentile	14.65		-3.82		4.25		9.81		13.34	
95th Percentile	10.20		-8.88		-3.26		4.34		8.29	
# of Portfolios	126		124		124		124		121	
● Rhumbline Advisors Russell 2000 Growth	17.09	(52)	-3.11	(73)	3.88	(77)	10.98	(69)	14.82	(67)
▲ Russell 2000 Growth	17.14	(52)	-3.15	(73)	3.85	(77)	11.00	(69)	14.87	(67)

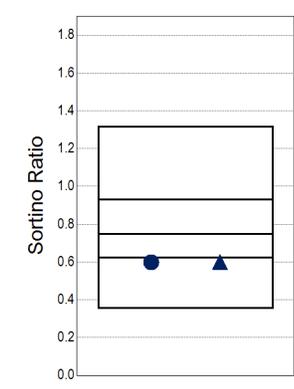
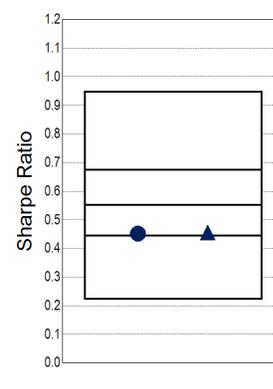
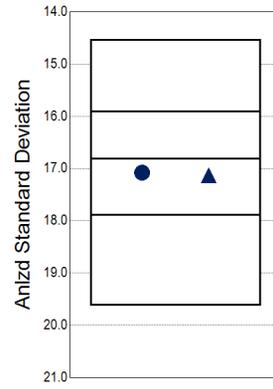
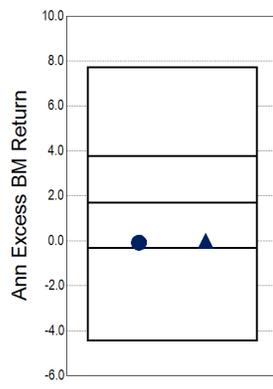
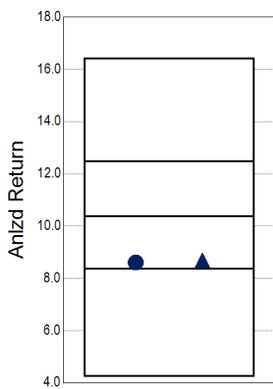
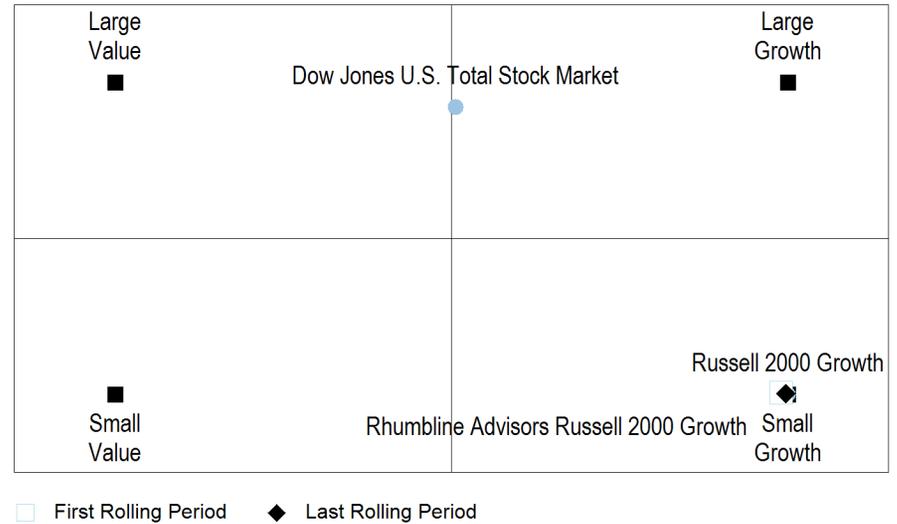


RHUMBLINE ADVISORS RUSSELL 2000 GROWTH

Since Inception Risk Return



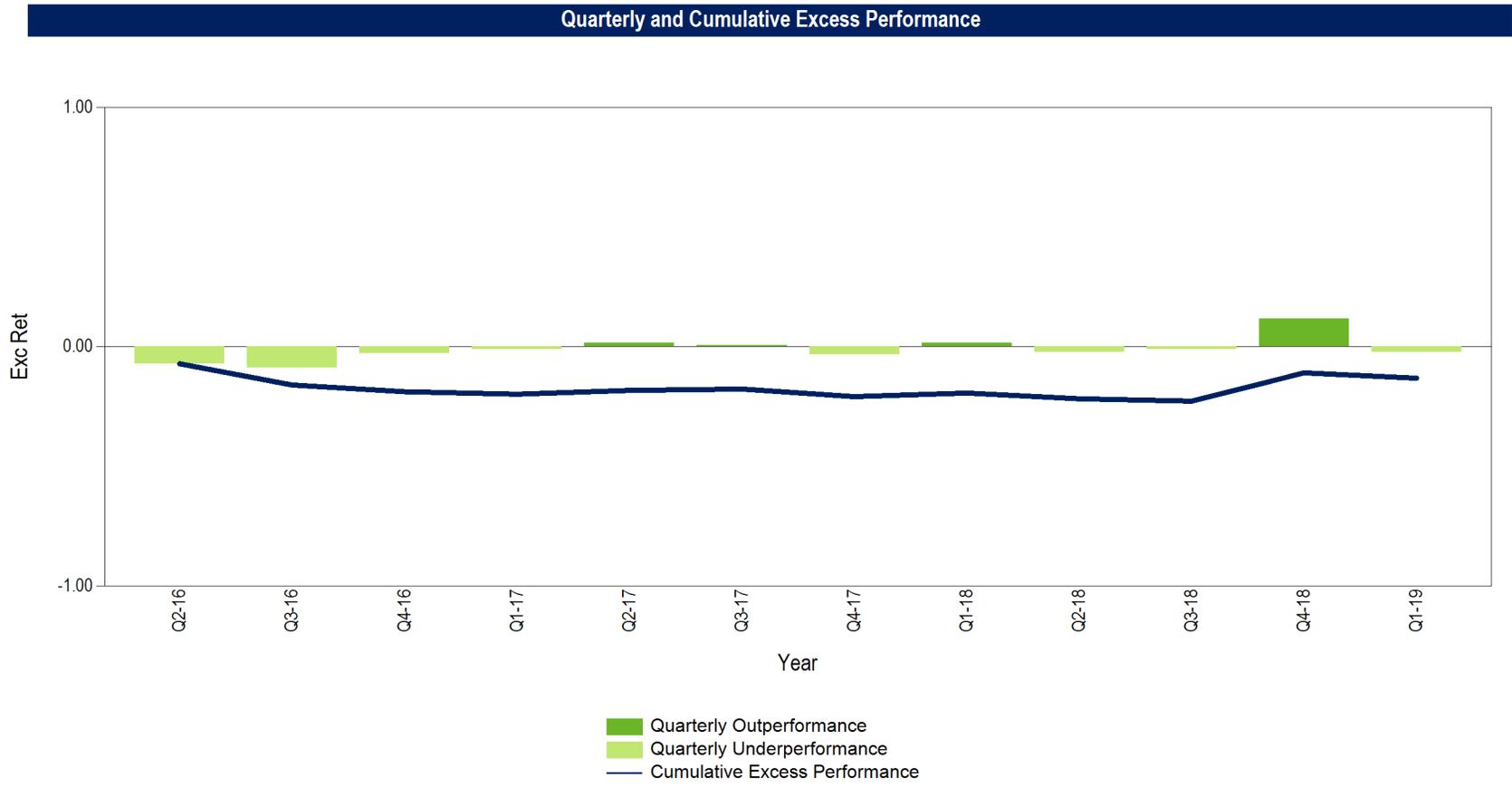
Since Inception Style Map



- Rhumbline Advisors Russell 2000 Growth
- ▲ Russell 2000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

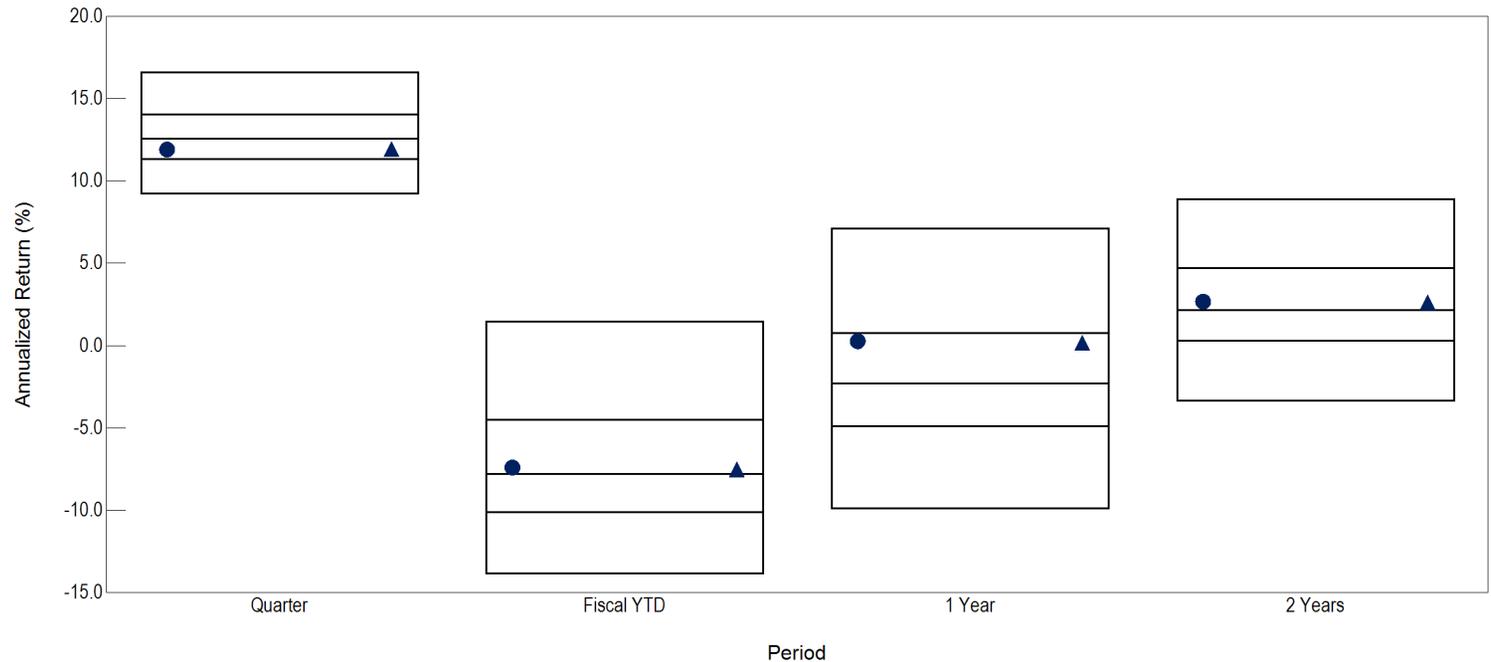


RHUMBLINE ADVISORS RUSSELL 2000 VALUE



RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Rhumbline Advisors Russell 2000 Value vs. eV US Small Cap Value Equity Net

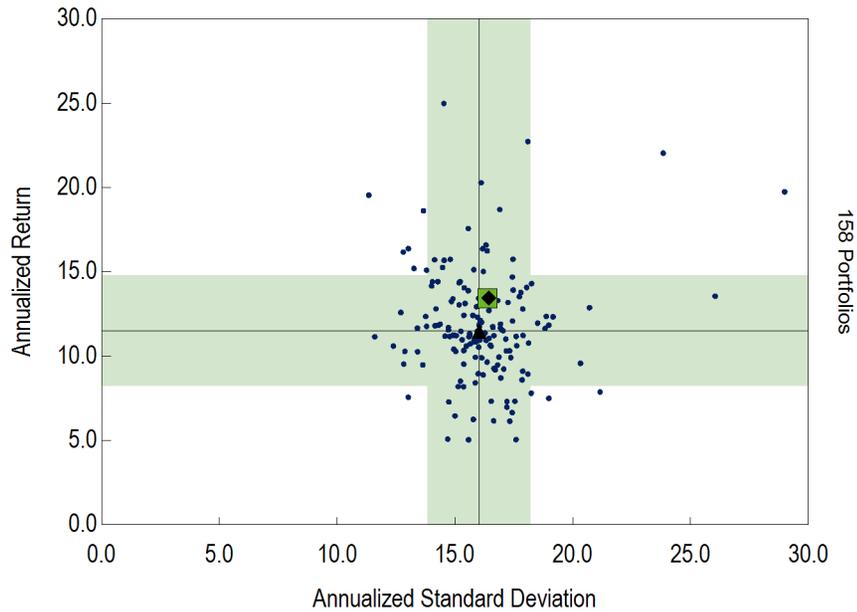


	Return (Rank)							
5th Percentile	16.59		1.47		7.11		8.87	
25th Percentile	14.07		-4.46		0.80		4.73	
Median	12.59		-7.74		-2.27		2.20	
75th Percentile	11.35		-10.06		-4.85		0.32	
95th Percentile	9.27		-13.81		-9.83		-3.29	
# of Portfolios	166		163		163		162	
● Rhumbline Advisors Russell 2000 Value	11.90	(67)	-7.40	(47)	0.27	(28)	2.67	(43)
▲ Russell 2000 Value	11.93	(67)	-7.51	(48)	0.17	(29)	2.62	(45)

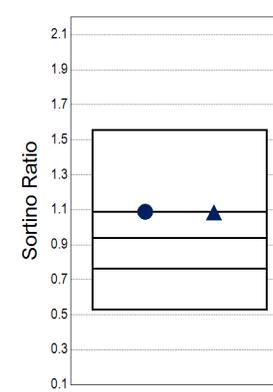
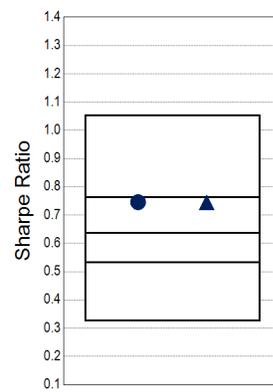
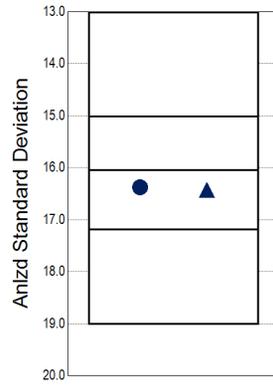
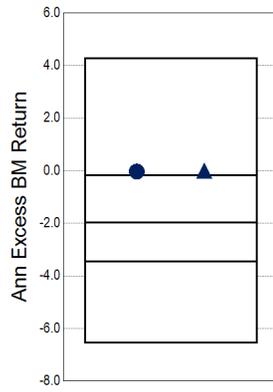
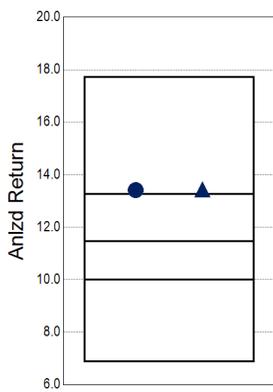
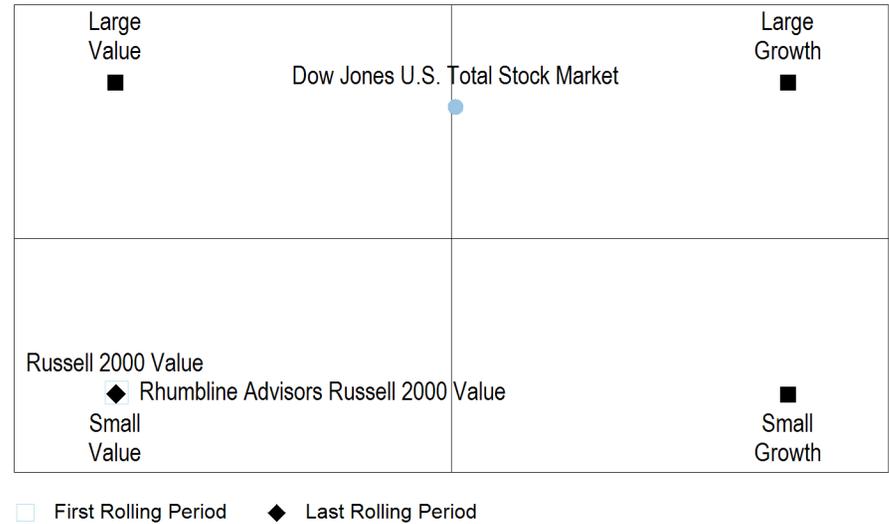


RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Since Inception Risk Return



Since Inception Style Map



- Rhumbline Advisors Russell 2000 Value
- ▲ Russell 2000 Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

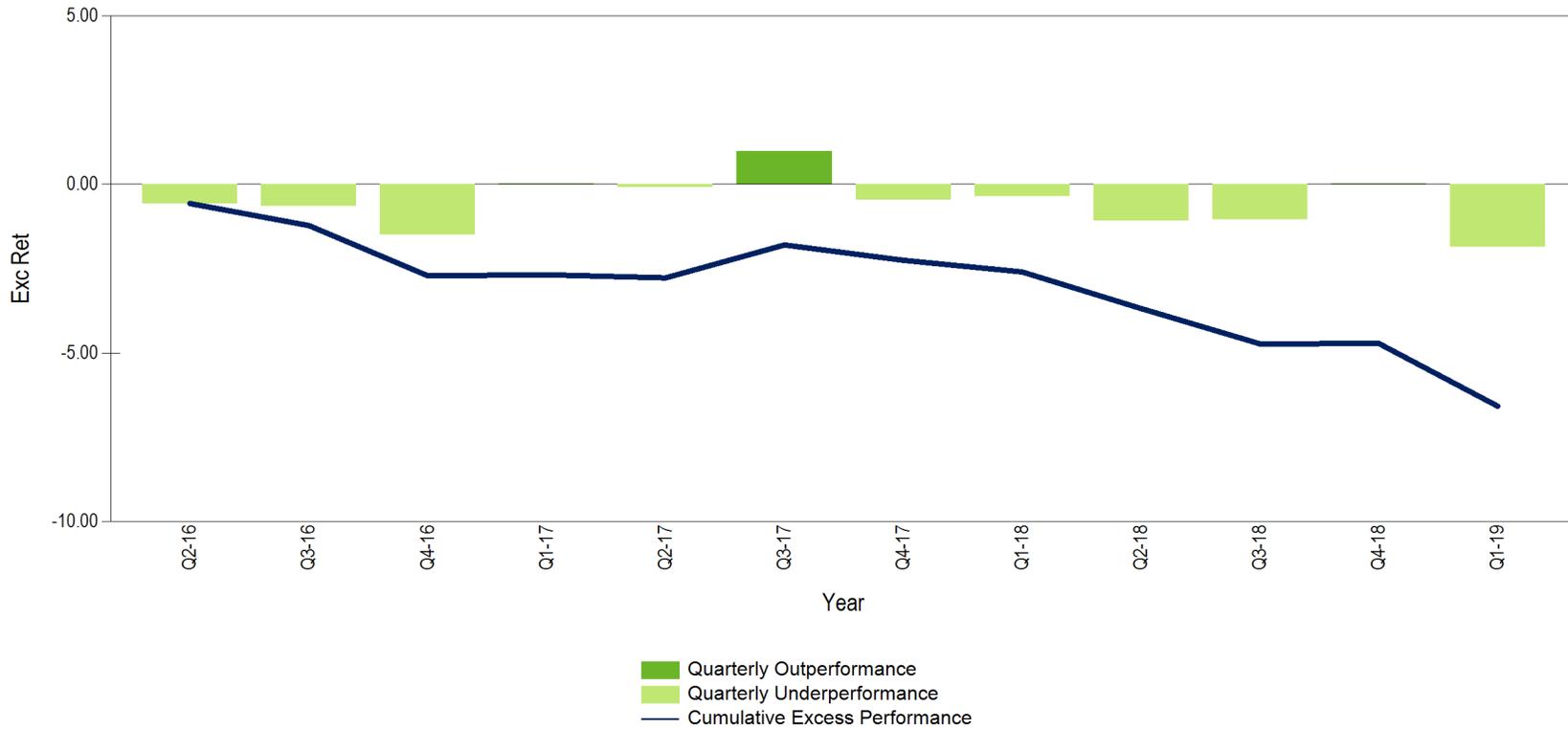


NON-U.S. EQUITY MANAGER PERFORMANCE

NEPC, LLC

AQR CAPITAL

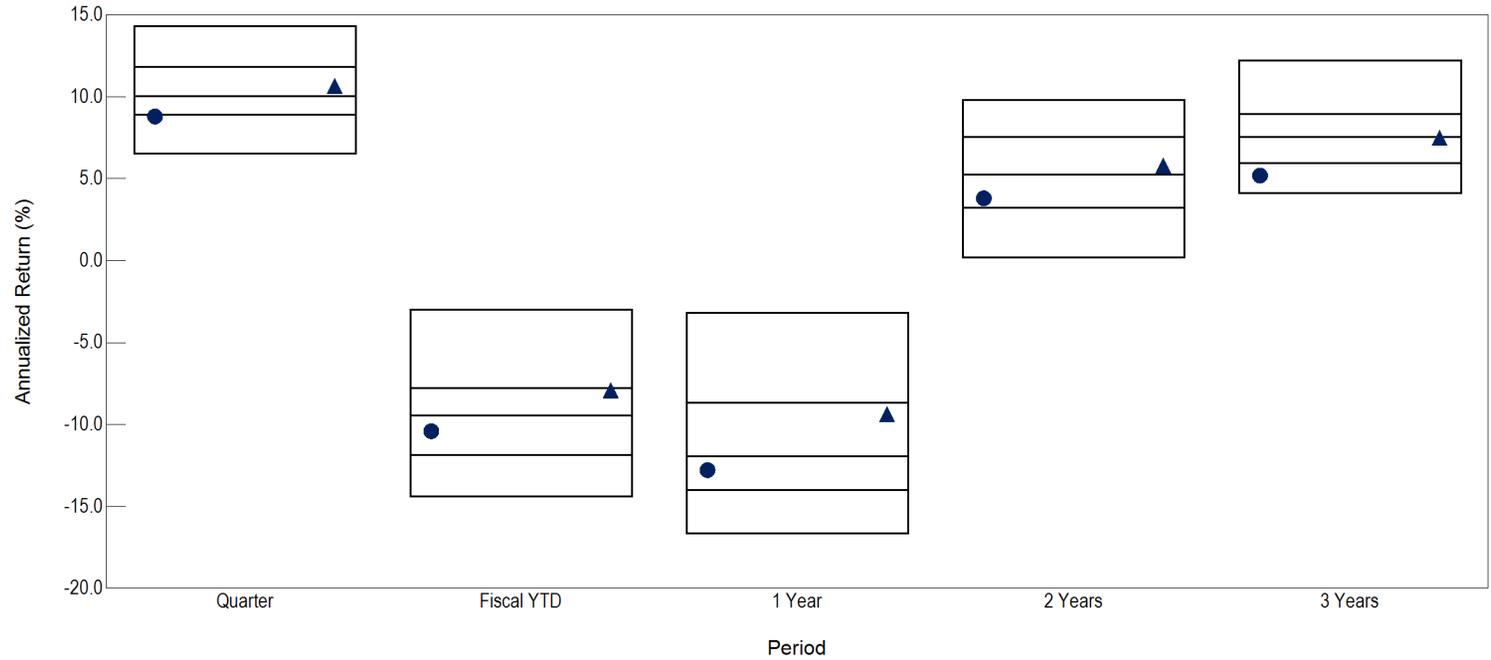
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

AQR CAPITAL

AQR Capital vs. eV EAFE Small Cap Equity Net



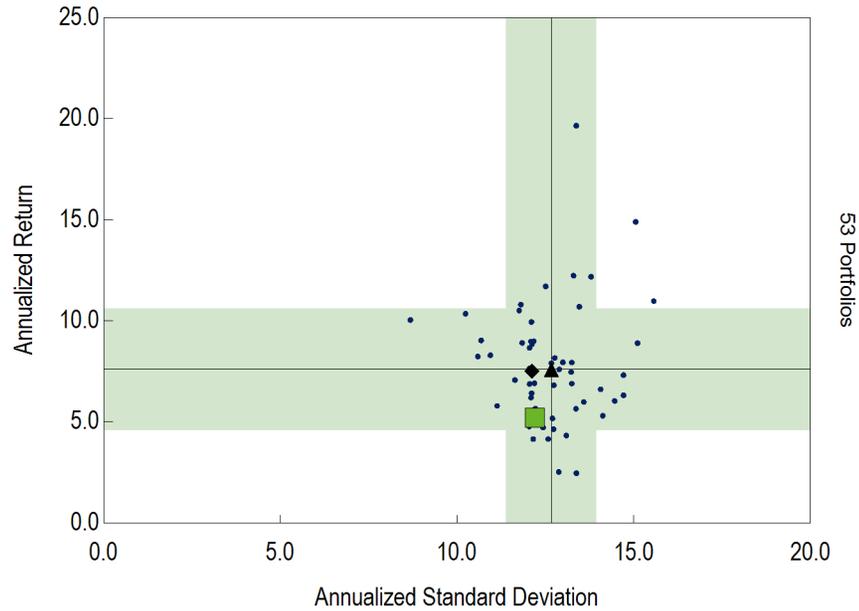
	Return (Rank)									
5th Percentile	14.30		-3.00		-3.17		9.82		12.20	
25th Percentile	11.87		-7.75		-8.62		7.57		8.98	
Median	10.06		-9.40		-11.89		5.30		7.59	
75th Percentile	8.93		-11.84		-13.97		3.25		5.98	
95th Percentile	6.59		-14.37		-16.60		0.24		4.14	
# of Portfolios	55		55		55		54		53	
● AQR Capital	8.79	(79)	-10.41	(59)	-12.79	(62)	3.80	(65)	5.19	(85)
▲ MSCI EAFE Small Cap	10.65	(43)	-7.92	(27)	-9.36	(27)	5.80	(45)	7.50	(52)



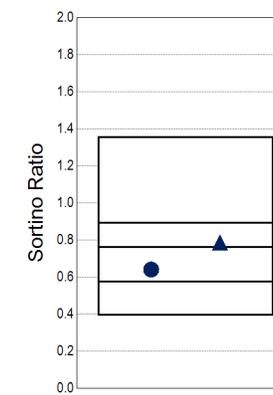
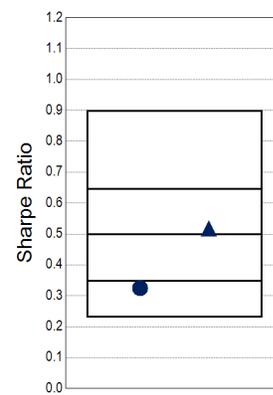
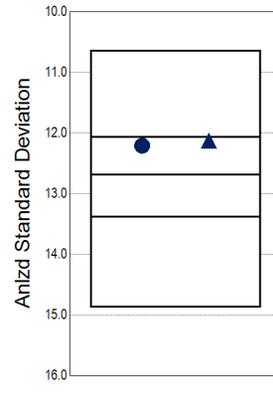
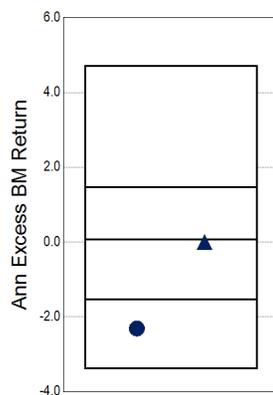
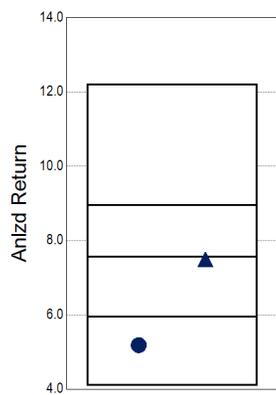
Los Angeles City Employees' Retirement System

AQR CAPITAL

3 Year Risk Return



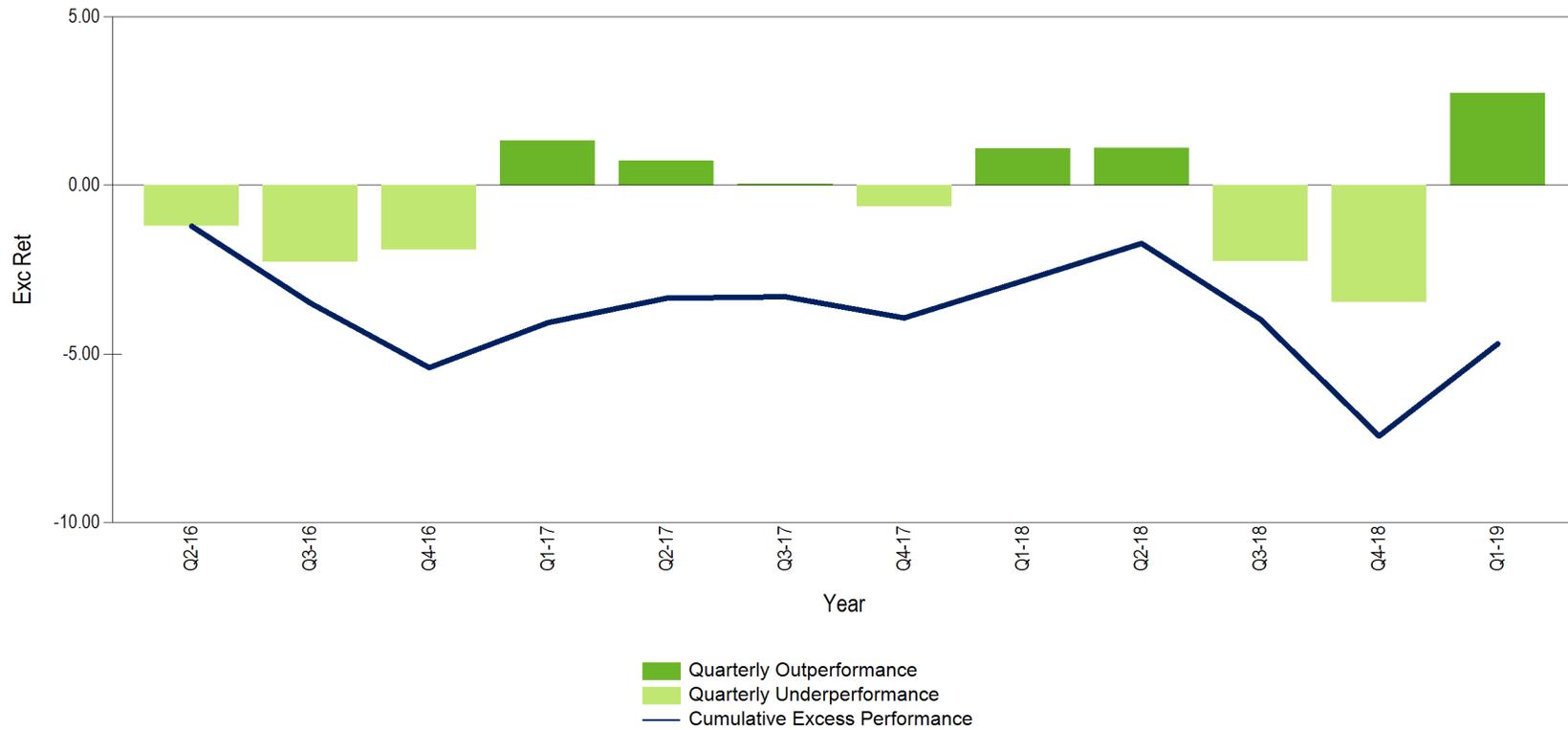
3 Year Style Map



- AQR Capital
- ▲ MSCI EAFE Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



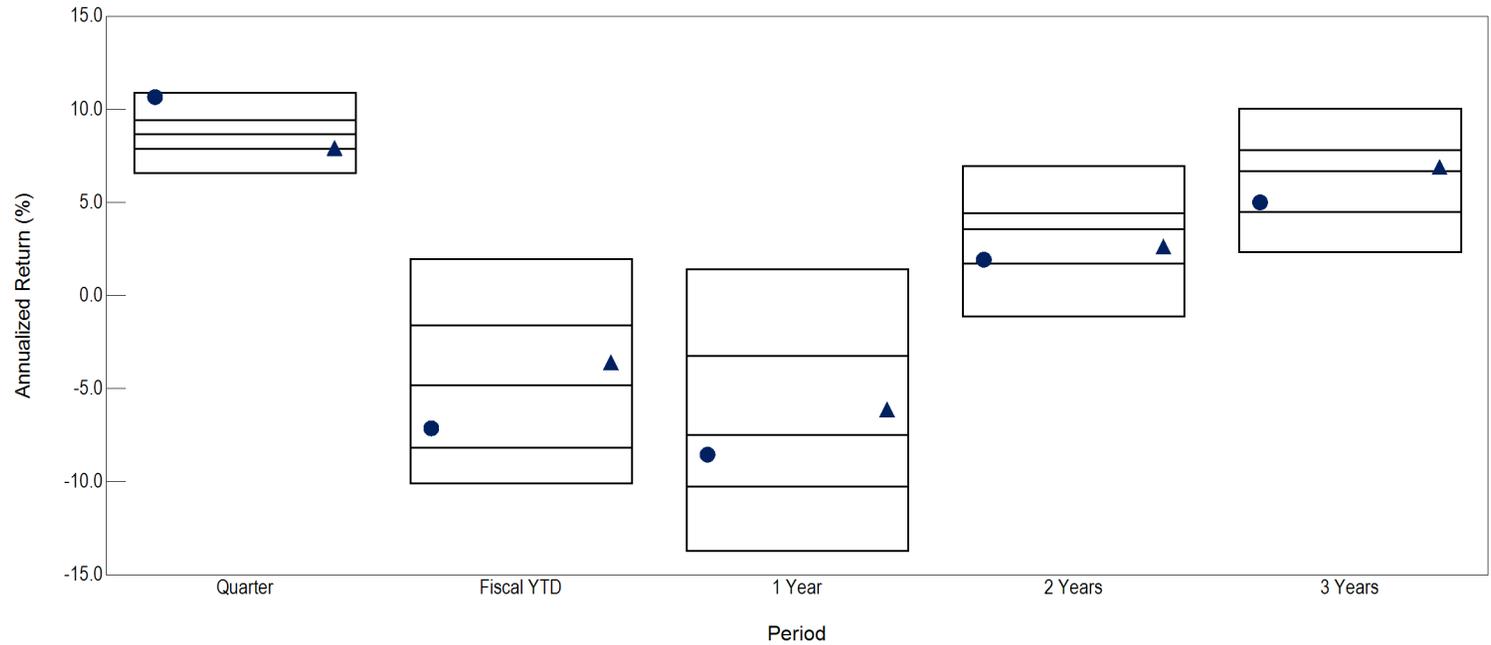
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

BARROW HANLEY

Barrow Hanley vs. eV EAFE Value Equity Net



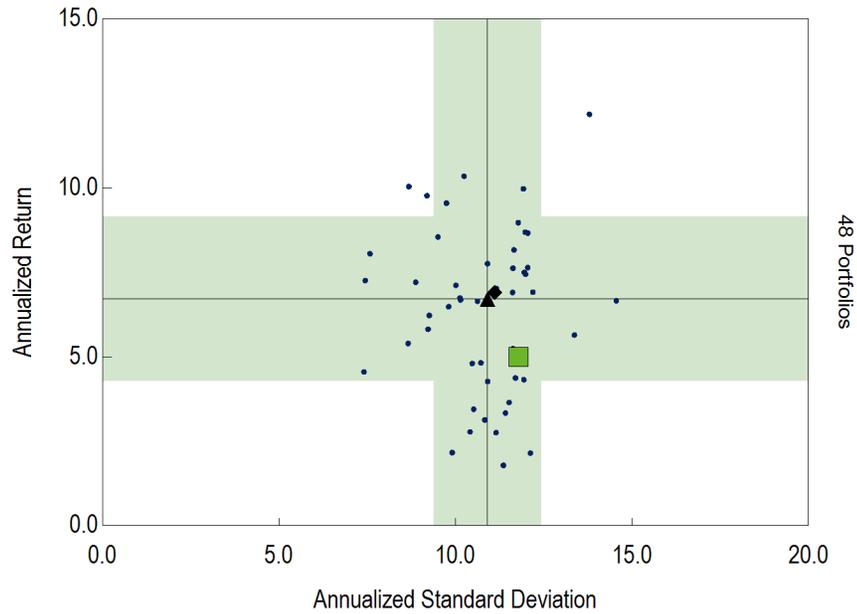
	Return (Rank)									
5th Percentile	10.88		1.95		1.41		6.96		10.02	
25th Percentile	9.46		-1.56		-3.22		4.45		7.83	
Median	8.69		-4.78		-7.45		3.60		6.71	
75th Percentile	7.91		-8.14		-10.23		1.73		4.50	
95th Percentile	6.60		-10.06		-13.69		-1.09		2.37	
# of Portfolios	52		50		50		49		48	
● Barrow Hanley	10.65	(11)	-7.13	(61)	-8.55	(59)	1.92	(70)	5.00	(70)
▲ MSCI EAFE Value	7.92	(75)	-3.59	(34)	-6.13	(45)	2.62	(57)	6.90	(47)



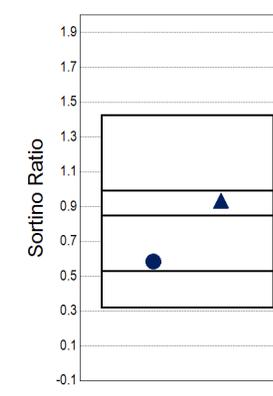
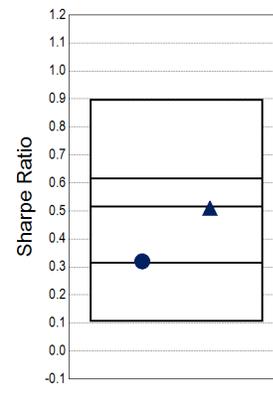
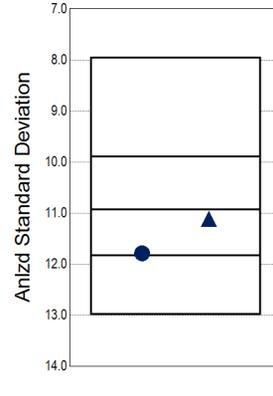
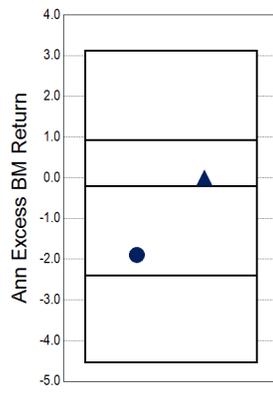
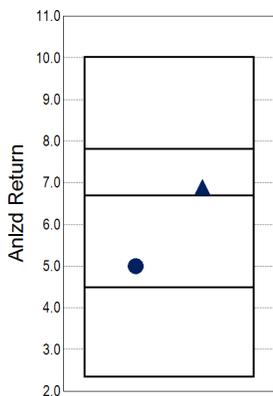
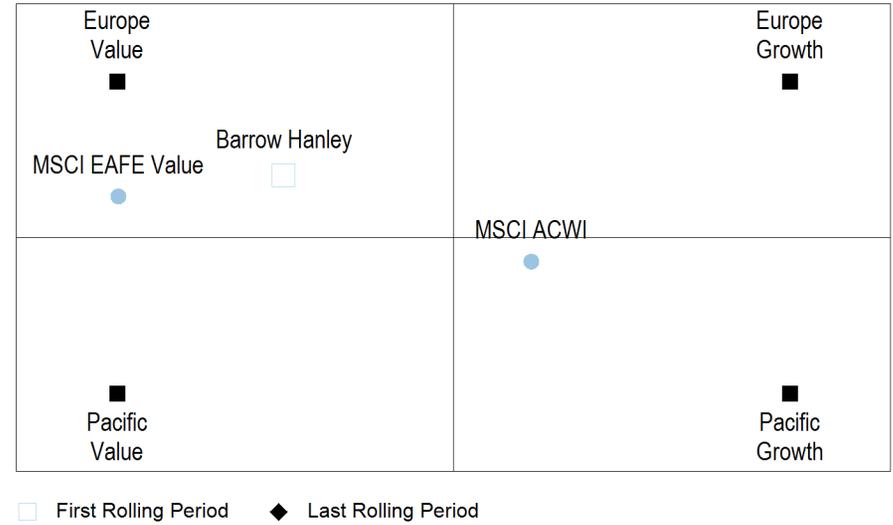
Los Angeles City Employees' Retirement System

BARROW HANLEY

3 Year Risk Return



3 Year Style Map



- Barrow Hanley
- ▲ MSCI EAFE Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



LAZARD ASSET MANAGEMENT

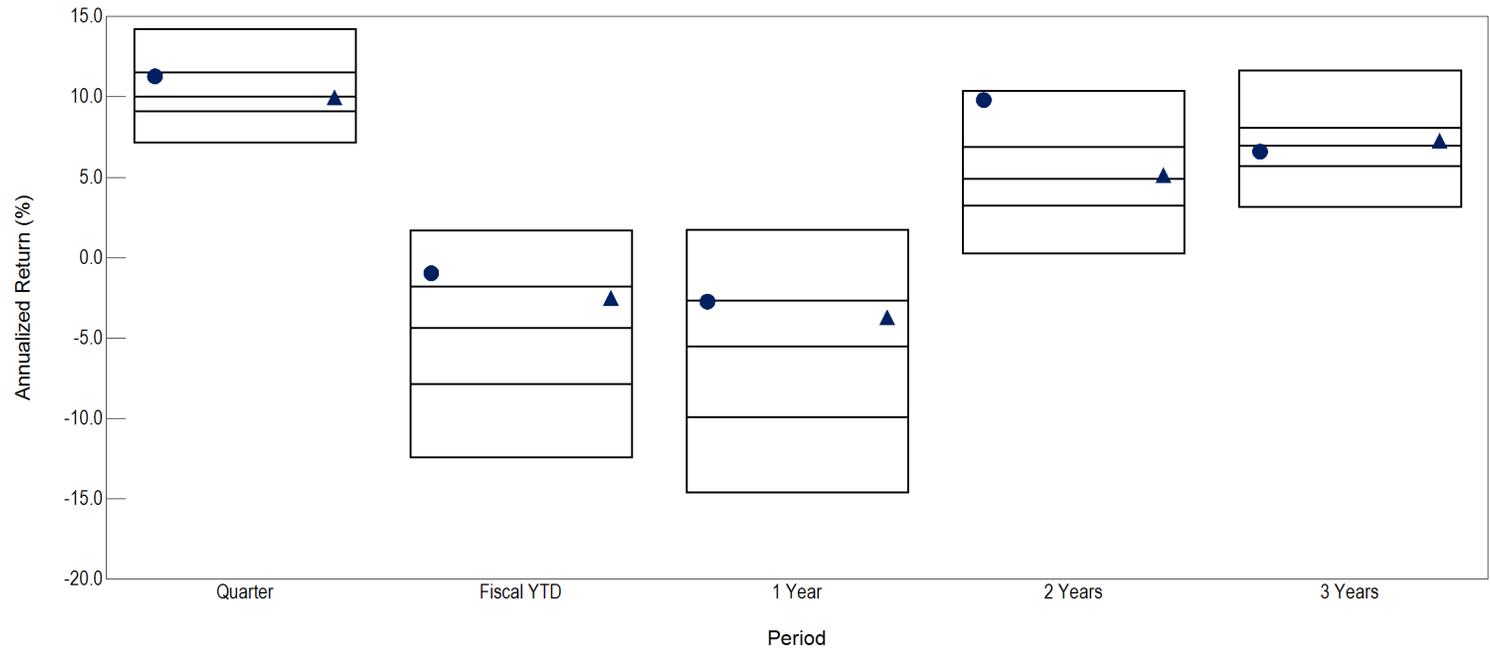
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LAZARD ASSET MANAGEMENT

Lazard Asset Management vs. eV All EAFE Equity Net

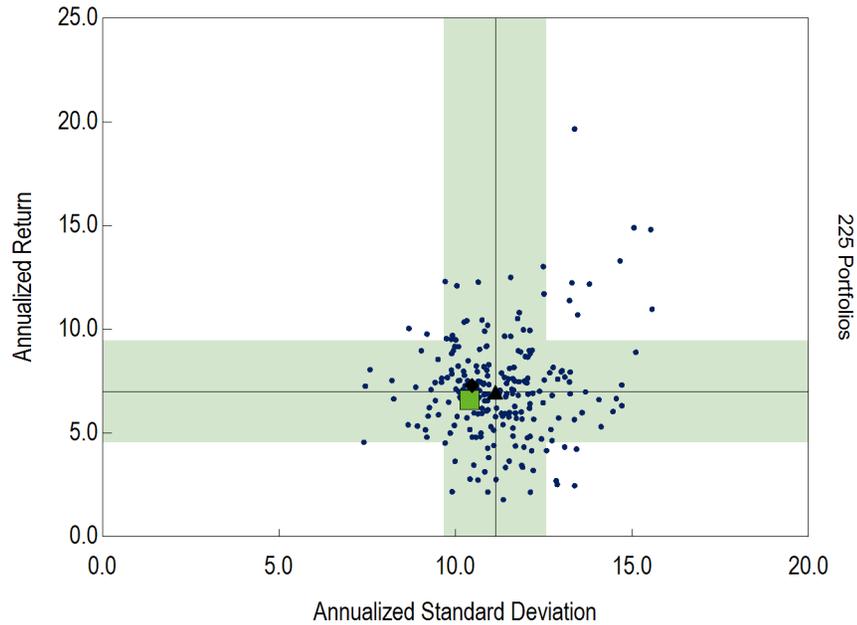


	Return (Rank)									
5th Percentile	14.20		1.69		1.75		10.36		11.64	
25th Percentile	11.57		-1.75		-2.61		6.91		8.11	
Median	10.08		-4.35		-5.48		4.95		6.99	
75th Percentile	9.14		-7.81		-9.86		3.29		5.73	
95th Percentile	7.19		-12.39		-14.56		0.29		3.22	
# of Portfolios	241		234		234		231		225	
● Lazard Asset Management	11.28	(29)	-0.97	(16)	-2.73	(26)	9.81	(8)	6.60	(61)
▲ MSCI EAFE	9.98	(54)	-2.51	(33)	-3.71	(35)	5.14	(49)	7.27	(44)

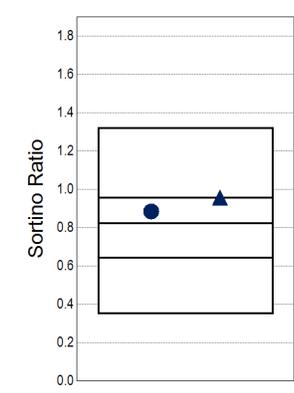
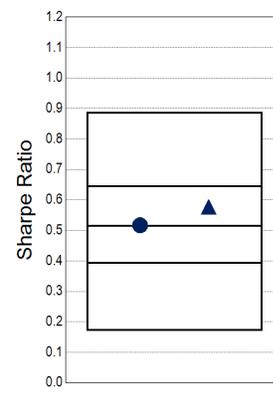
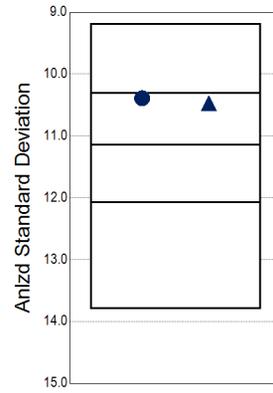
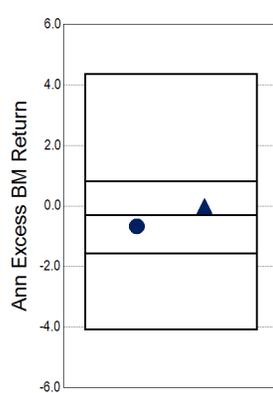
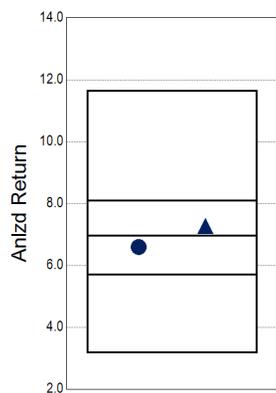
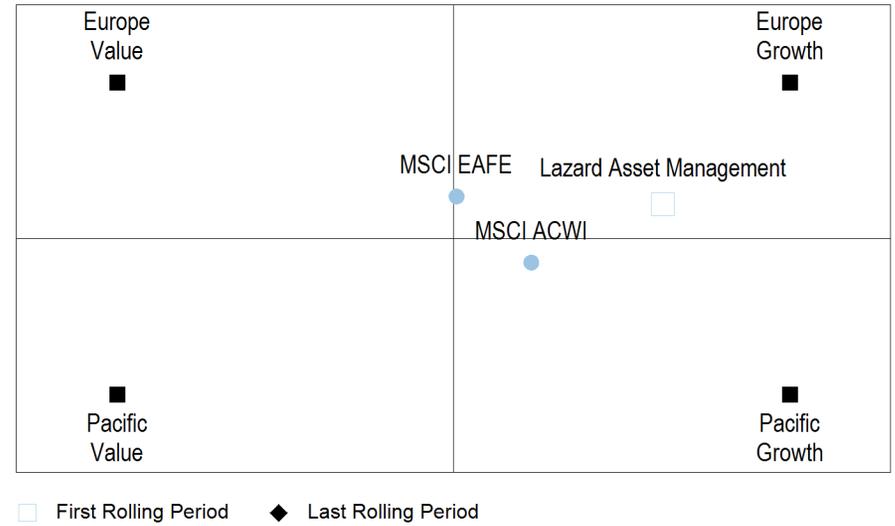


LAZARD ASSET MANAGEMENT

3 Year Risk Return



3 Year Style Map

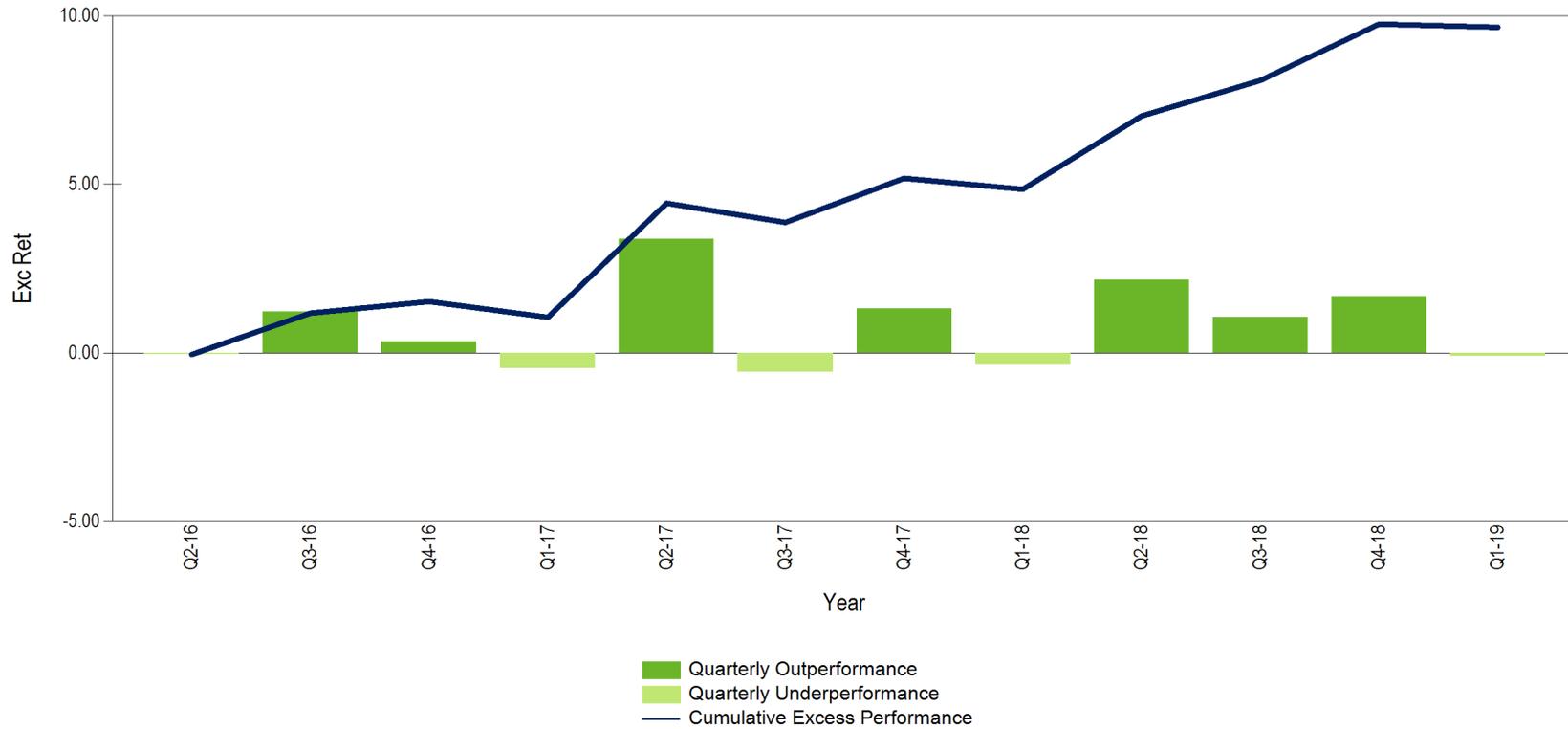


- Lazard Asset Management
- ▲ MSCI EAFE
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



MFS INSTITUTIONAL ADVISORS

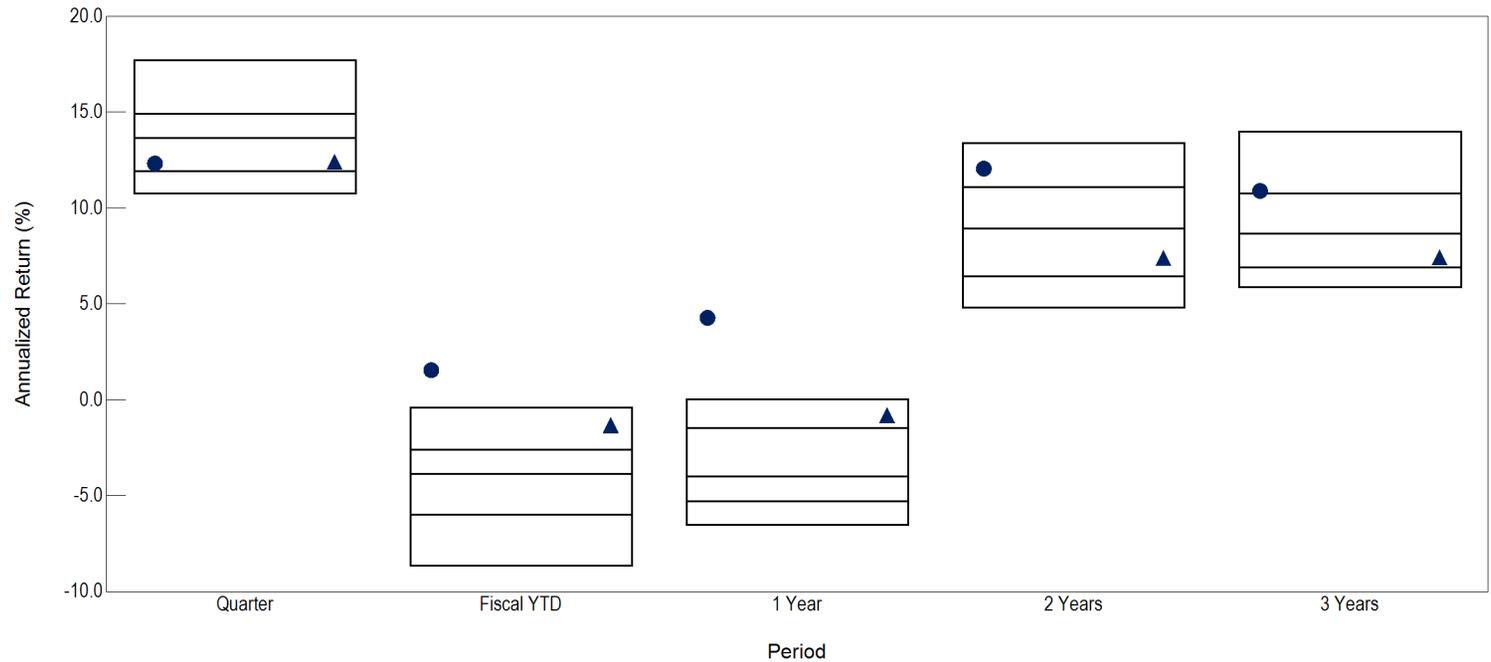
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

MFS INSTITUTIONAL ADVISORS

MFS Institutional Advisors vs. eV EAFE All Cap Growth Net

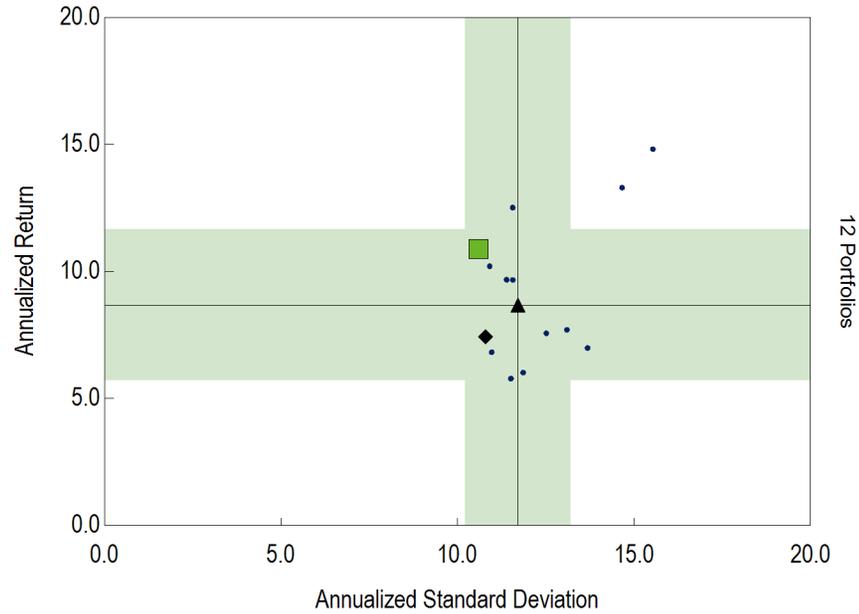


	Return (Rank)		Fiscal YTD		1 Year		2 Years		3 Years	
5th Percentile	17.71		-0.41		0.02		13.38		13.97	
25th Percentile	14.94		-2.59		-1.44		11.11		10.77	
Median	13.67		-3.85		-3.97		8.97		8.68	
75th Percentile	11.95		-5.94		-5.25		6.46		6.94	
95th Percentile	10.78		-8.61		-6.48		4.83		5.90	
# of Portfolios	14		13		13		13		12	
● MFS Institutional Advisors	12.31	(72)	1.54	(1)	4.27	(1)	12.04	(14)	10.88	(25)
▲ MSCI World ex USA Growth NR USD	12.41	(71)	-1.33	(10)	-0.82	(11)	7.39	(69)	7.42	(66)

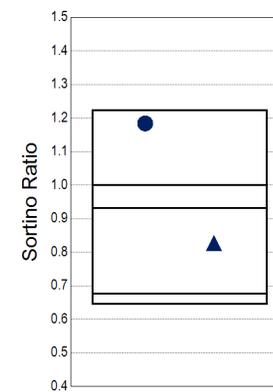
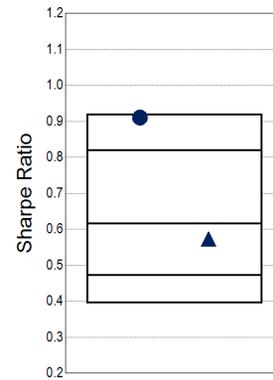
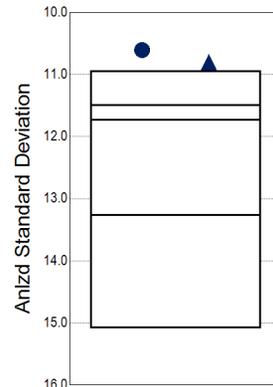
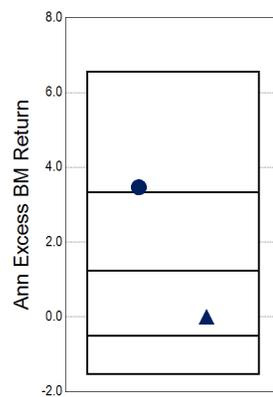
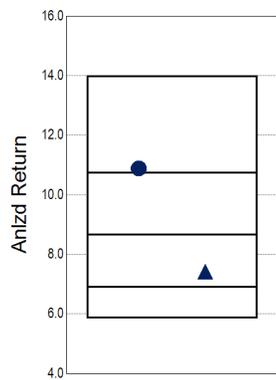
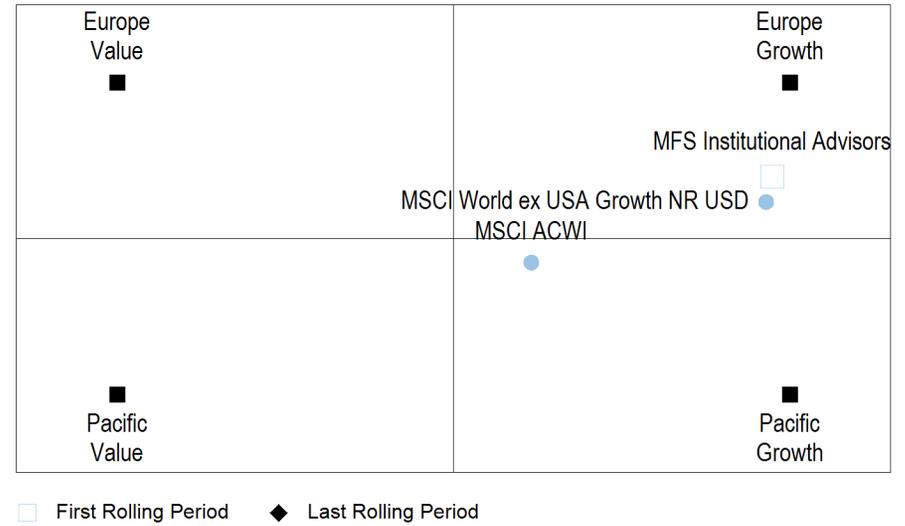


MFS INSTITUTIONAL ADVISORS

3 Year Risk Return



3 Year Style Map



- MFS Institutional Advisors
- ▲ MSCI World ex USA Growth NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

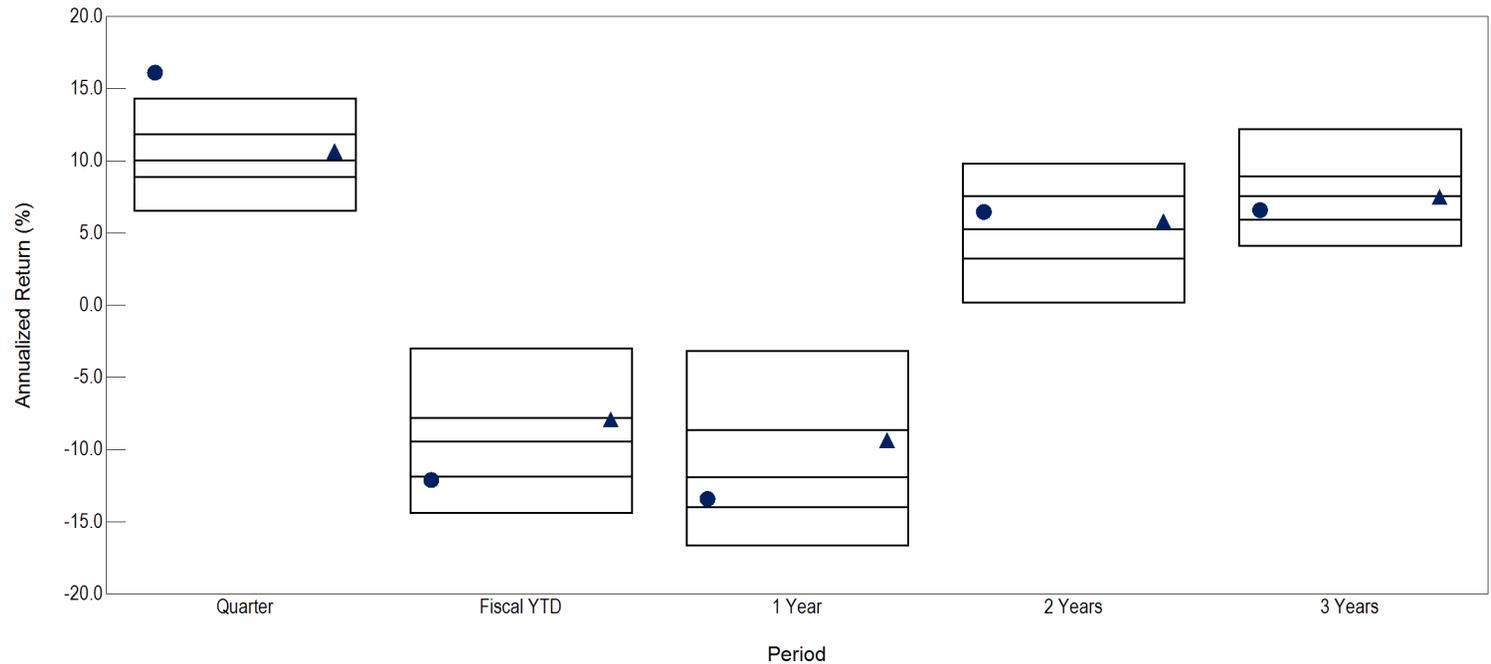
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

Oberweis Asset Mgmt vs. eV EAFE Small Cap Equity Net



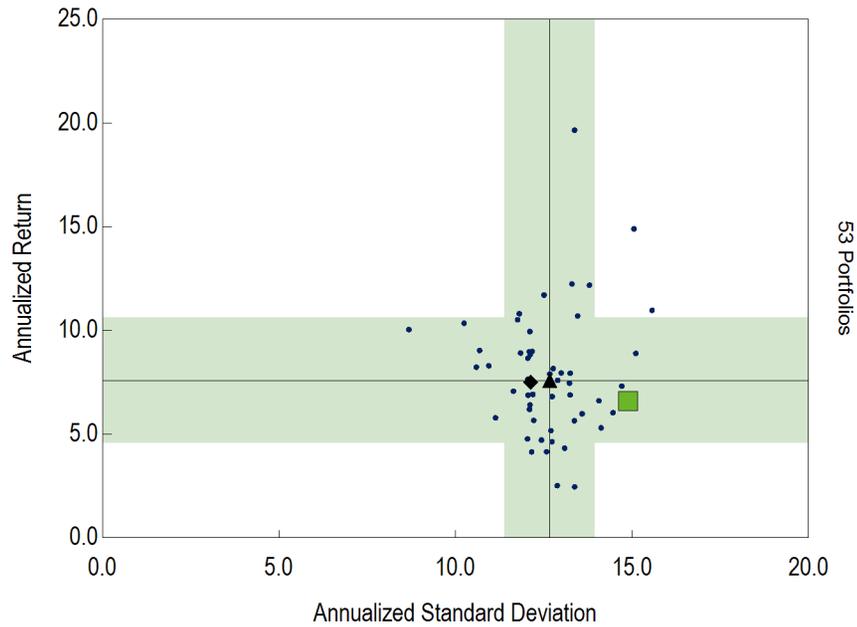
	Return (Rank)									
5th Percentile	14.30		-3.00		-3.17		9.82		12.20	
25th Percentile	11.87		-7.75		-8.62		7.57		8.98	
Median	10.06		-9.40		-11.89		5.30		7.59	
75th Percentile	8.93		-11.84		-13.97		3.25		5.98	
95th Percentile	6.59		-14.37		-16.60		0.24		4.14	
# of Portfolios	55		55		55		54		53	
● Oberweis Asset Mgmt	16.10	(2)	-12.12	(78)	-13.42	(69)	6.45	(41)	6.58	(66)
▲ MSCI EAFE Small Cap	10.65	(43)	-7.92	(27)	-9.36	(27)	5.80	(45)	7.50	(52)



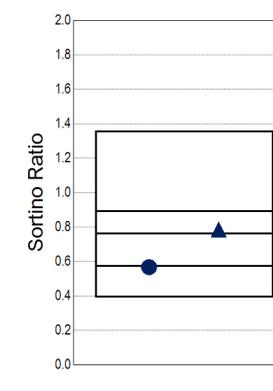
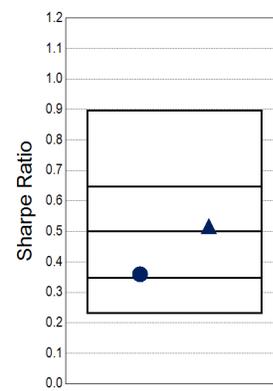
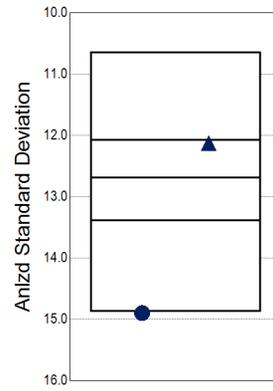
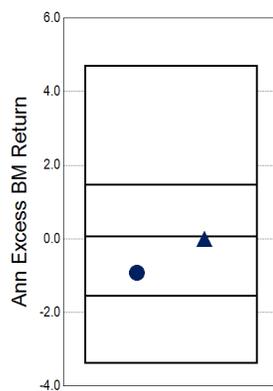
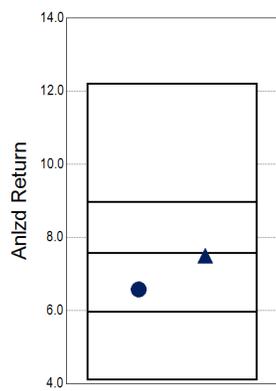
Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

3 Year Risk Return



3 Year Style Map



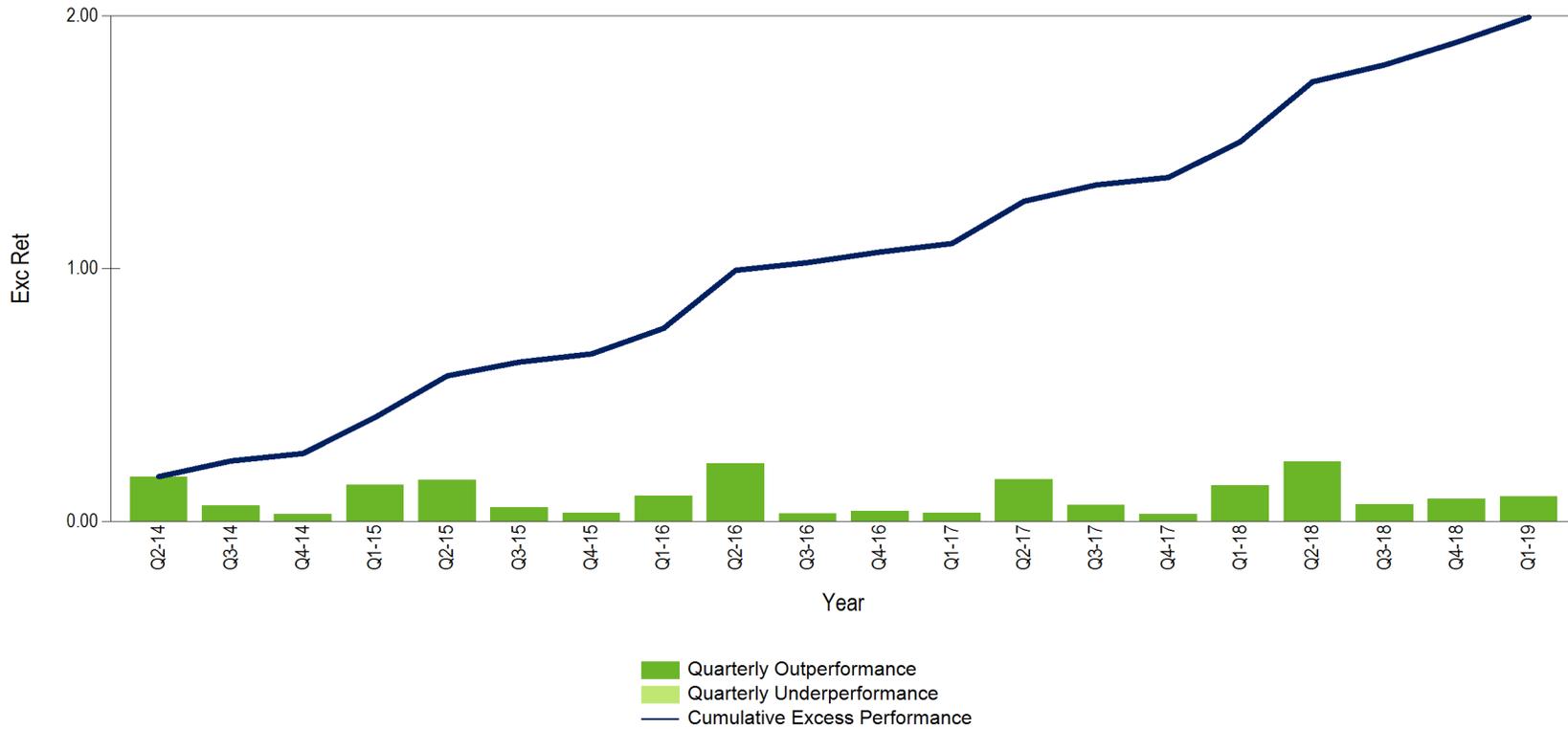
- Oberweis Asset Mgmt
- ▲ MSCI EAFE Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

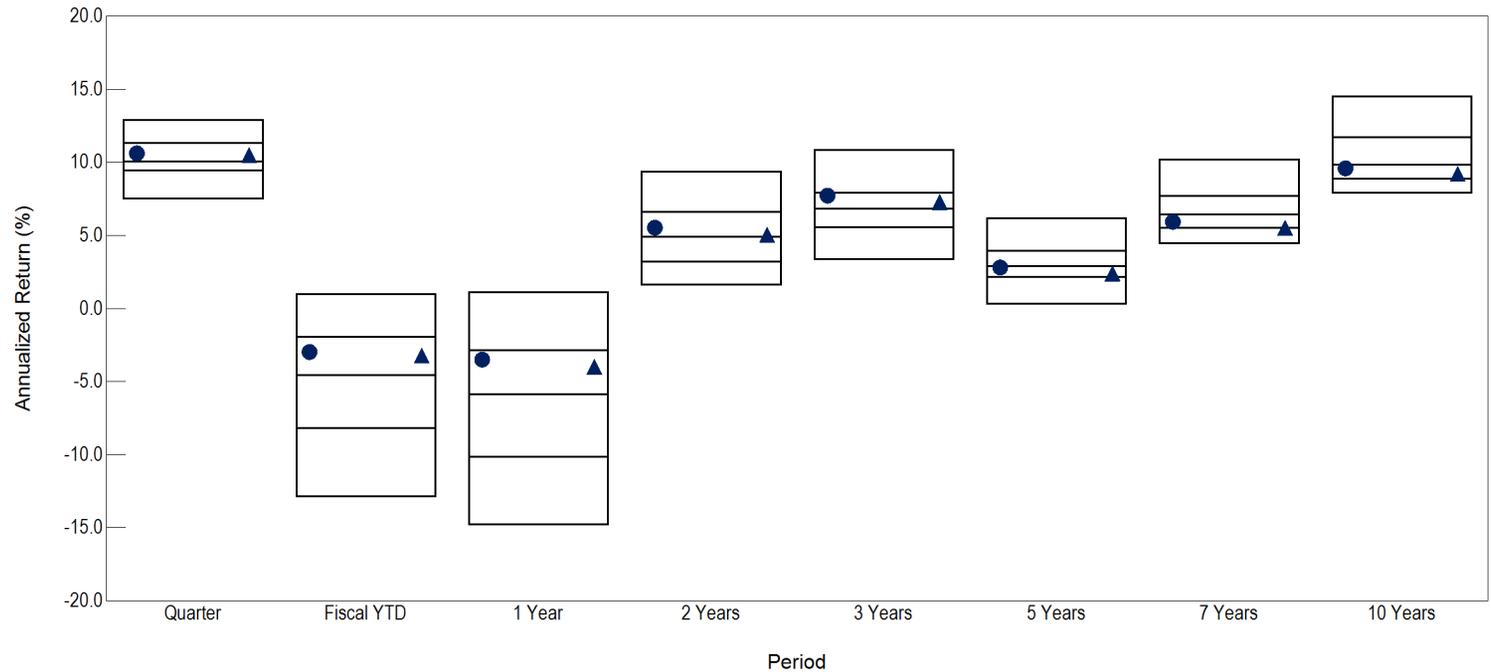
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

SSgA World ex US IMI vs. eV EAFE Core Equity Net



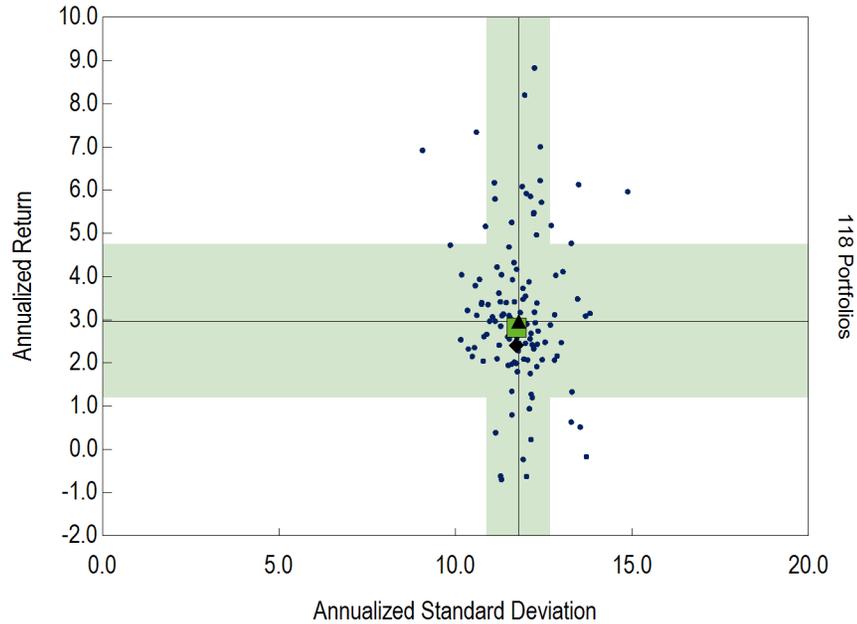
	Return (Rank)															
5th Percentile	12.89	0.97	1.11	9.35	10.84	6.18	10.19	14.51								
25th Percentile	11.39	-1.90	-2.83	6.68	7.98	4.00	7.76	11.74								
Median	10.13	-4.49	-5.80	4.95	6.87	2.97	6.49	9.88								
75th Percentile	9.50	-8.14	-10.12	3.25	5.59	2.19	5.56	8.93								
95th Percentile	7.56	-12.79	-14.73	1.69	3.41	0.36	4.52	7.98								
# of Portfolios	141	139	139	138	136	118	97	82								
● SSGA World ex US IMI	10.62	(40)	-2.97	(33)	-3.49	(31)	5.53	(41)	7.72	(30)	2.81	(55)	5.93	(65)	9.59	(61)
▲ MSCI World ex USA IMI NR USD	10.52	(41)	-3.22	(35)	-3.97	(36)	5.06	(48)	7.29	(41)	2.40	(72)	5.51	(77)	9.23	(67)



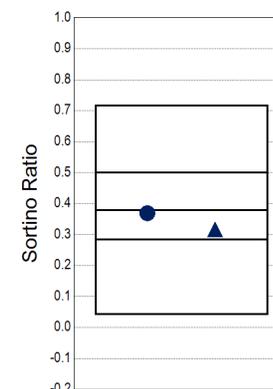
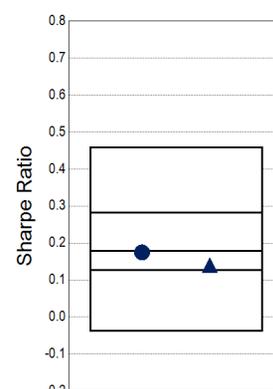
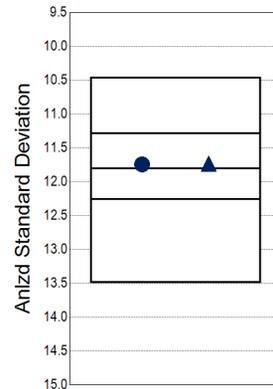
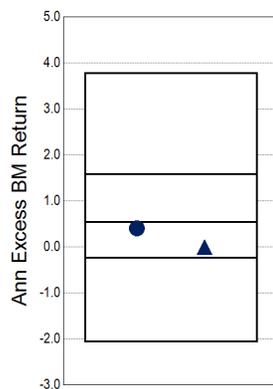
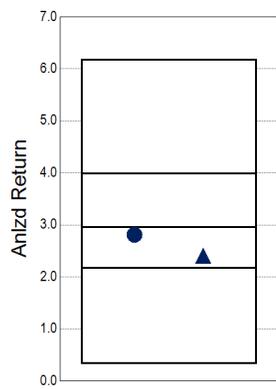
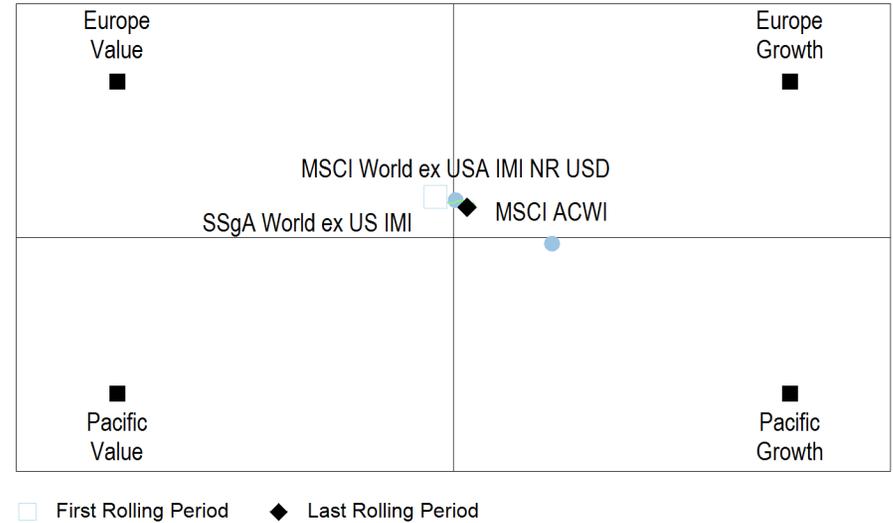
Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

5 Year Risk Return



5 Year Style Map

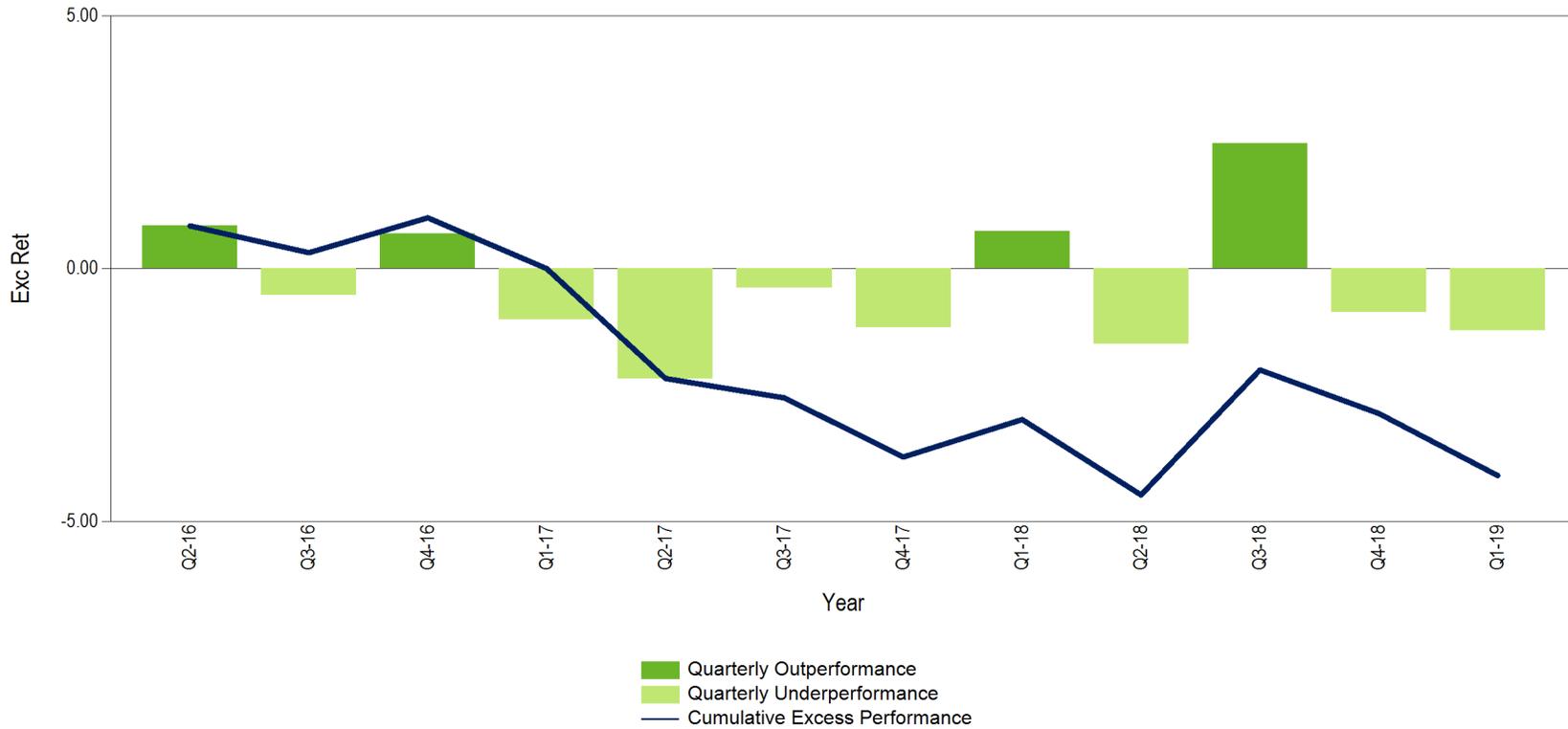


- SSGA World ex US IMI
- ▲ MSCI World ex USA IMI NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



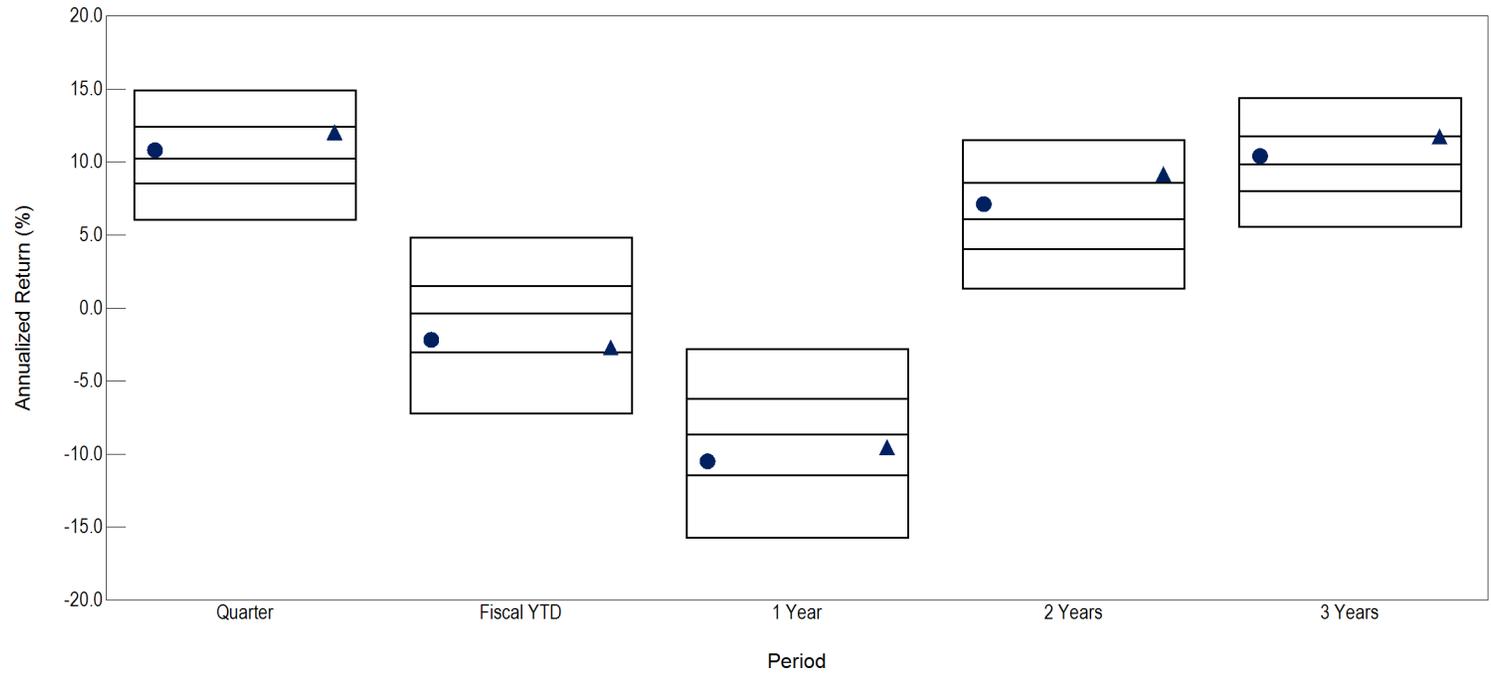
AXIOM EMERGING MARKETS

Quarterly and Cumulative Excess Performance



AXIOM EMERGING MARKETS

Axiom Emerging Markets vs. eV Emg Mkts Equity Net

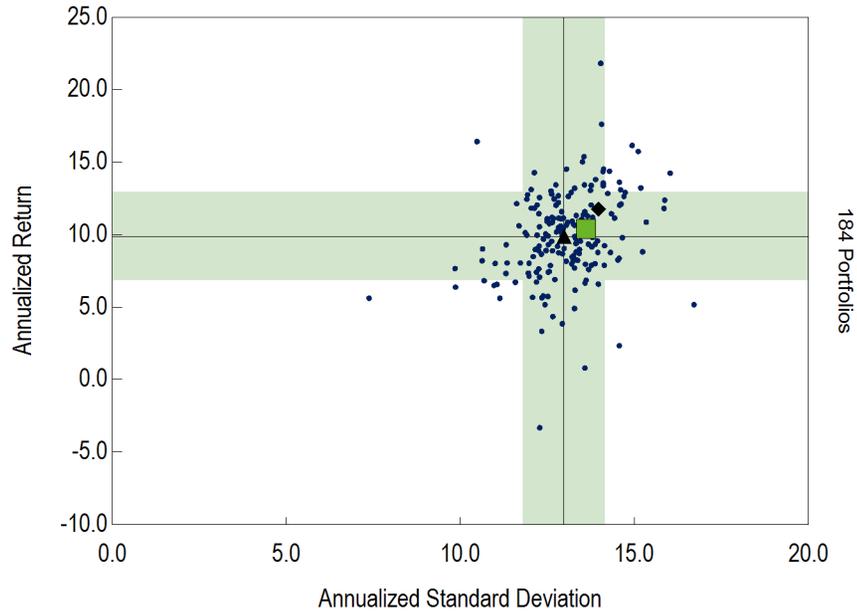


	Return (Rank)									
5th Percentile	14.90		4.81		-2.79		11.52		14.36	
25th Percentile	12.45		1.54		-6.18		8.62		11.82	
Median	10.27		-0.33		-8.62		6.12		9.88	
75th Percentile	8.58		-2.99		-11.41		4.10		8.04	
95th Percentile	6.07		-7.19		-15.69		1.38		5.61	
# of Portfolios	210		202		200		195		184	
● Axiom Emerging Markets	10.82	(42)	-2.17	(67)	-10.49	(69)	7.12	(40)	10.41	(44)
▲ MSCI Emerging Markets Growth NR USD	12.04	(30)	-2.69	(71)	-9.52	(59)	9.18	(19)	11.75	(26)

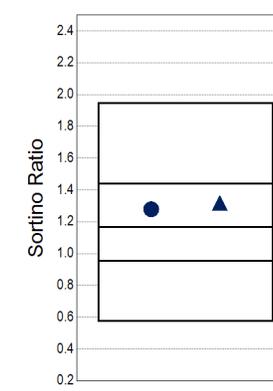
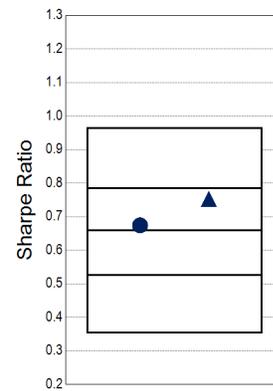
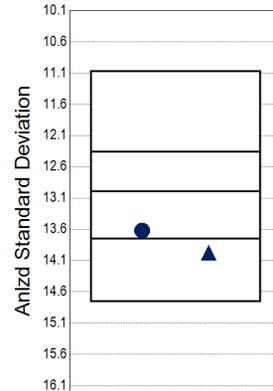
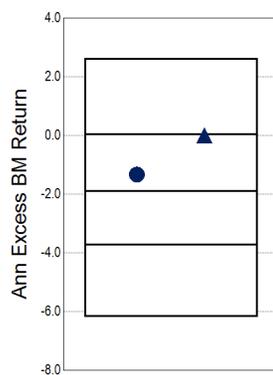
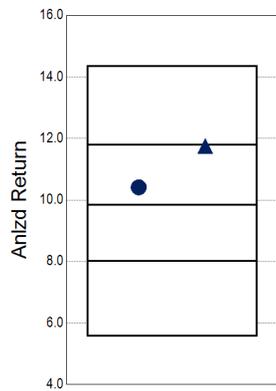


AXIOM EMERGING MARKETS

3 Year Risk Return



3 Year Style Map



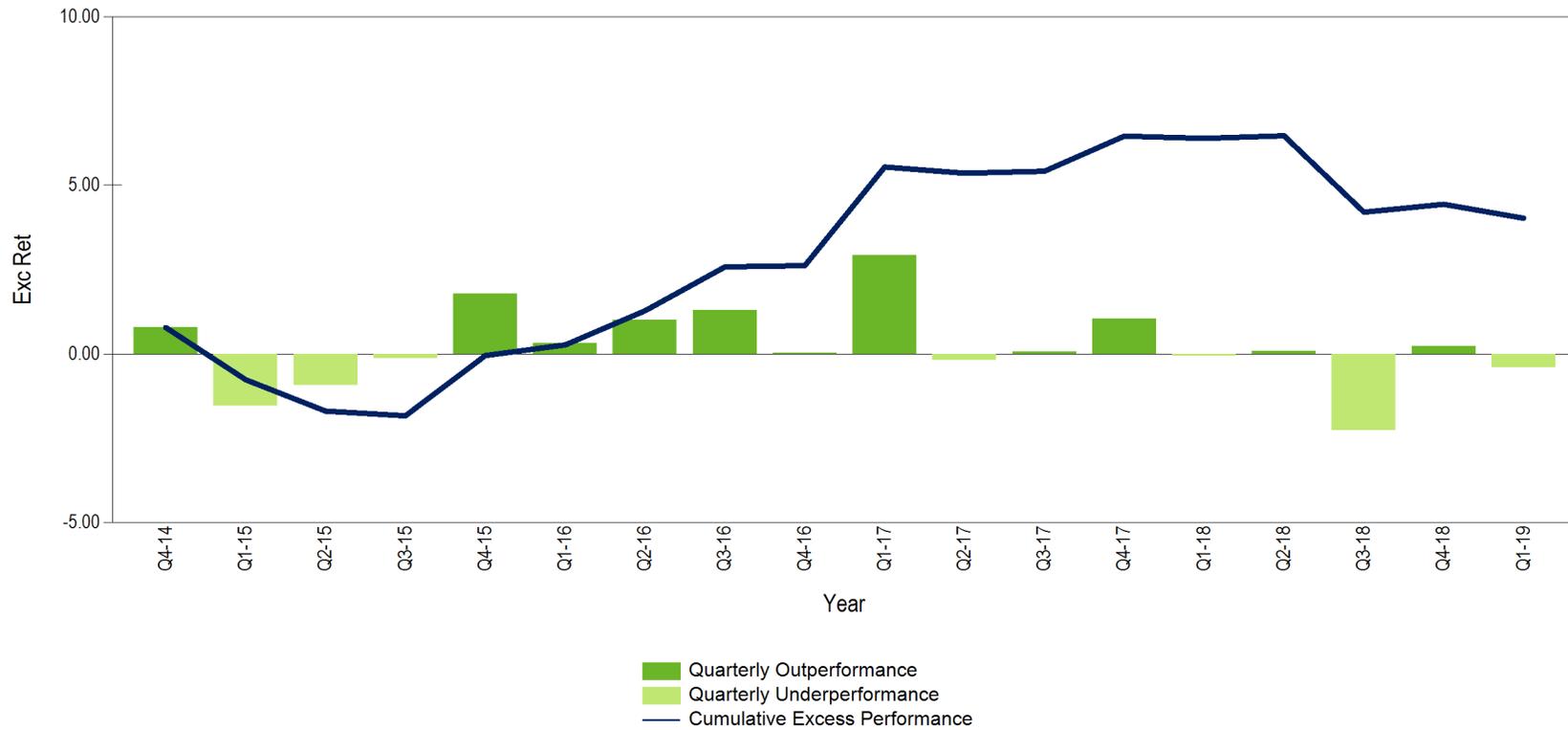
- Axiom Emerging Markets
- ▲ MSCI Emerging Markets Growth...
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

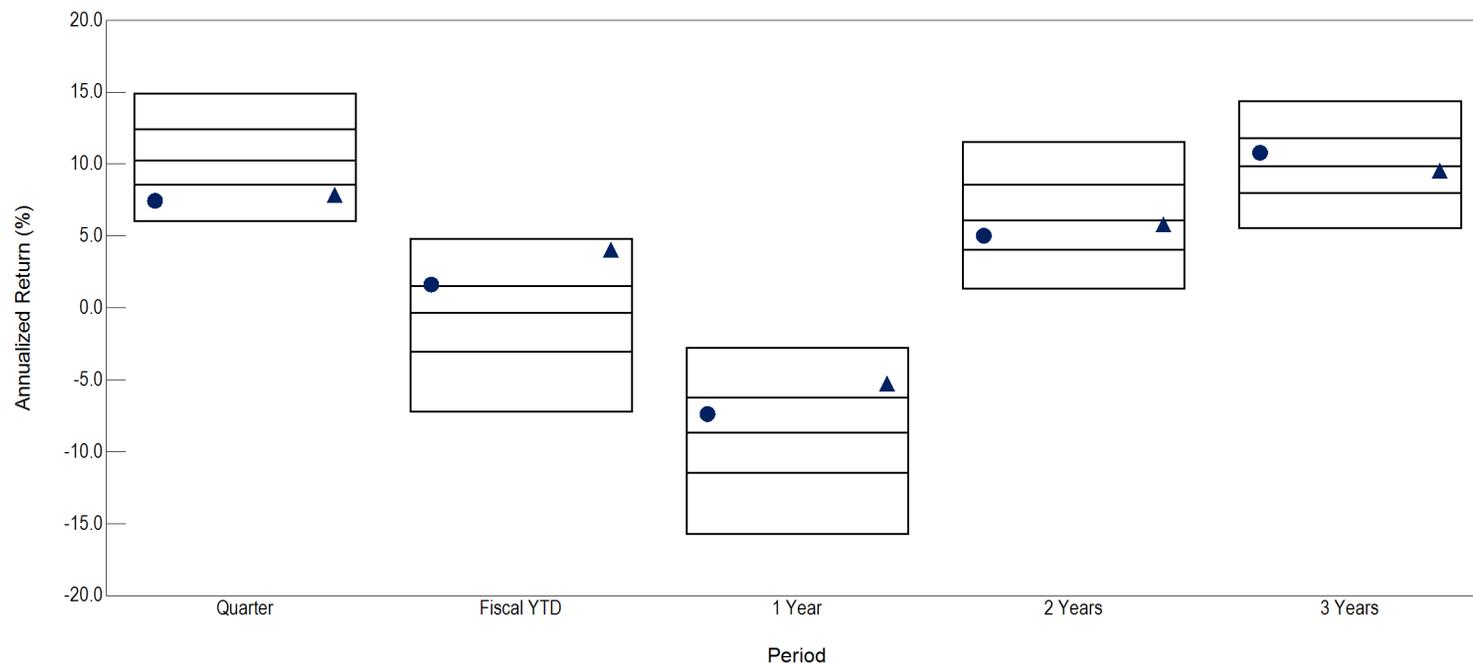
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

DFA Emerging Markets vs. eV Emg Mkts Equity Net



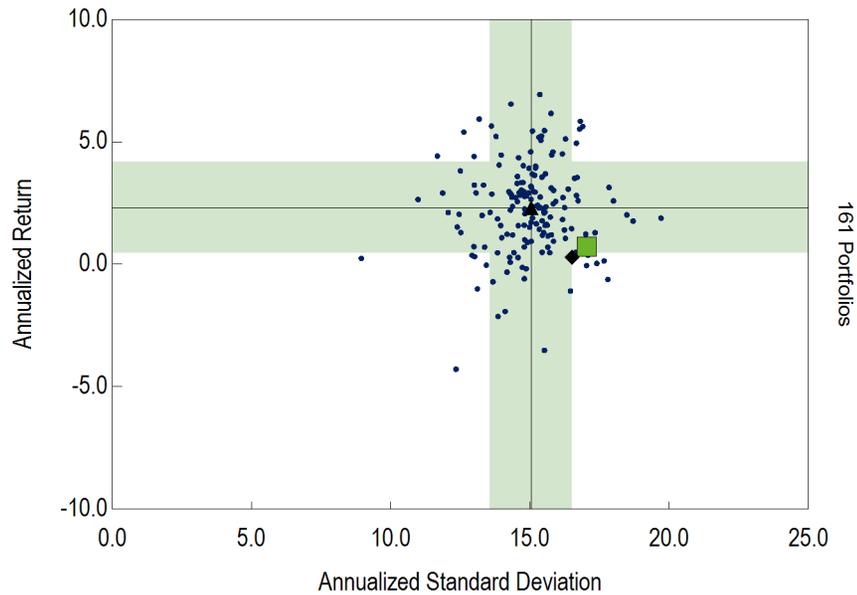
	Return (Rank)									
5th Percentile	14.90		4.81		-2.79		11.52		14.36	
25th Percentile	12.45		1.54		-6.18		8.62		11.82	
Median	10.27		-0.33		-8.62		6.12		9.88	
75th Percentile	8.58		-2.99		-11.41		4.10		8.04	
95th Percentile	6.07		-7.19		-15.69		1.38		5.61	
# of Portfolios	210		202		200		195		184	
● DFA Emerging Markets	7.43	(86)	1.62	(25)	-7.39	(35)	5.01	(67)	10.78	(39)
▲ MSCI Emerging Markets Value NR USD	7.85	(83)	4.03	(8)	-5.27	(18)	5.79	(53)	9.54	(55)



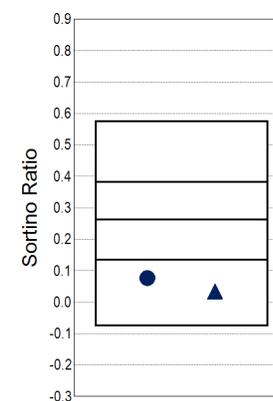
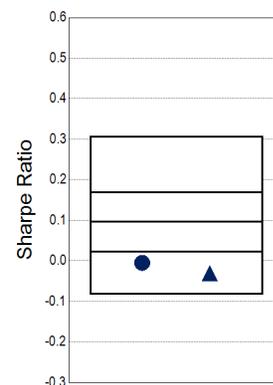
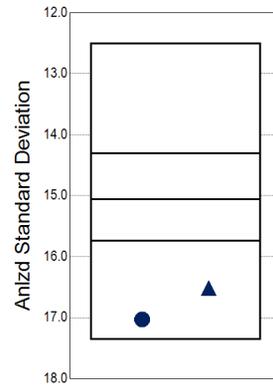
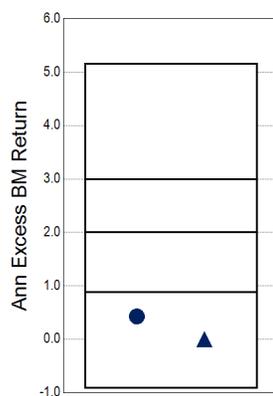
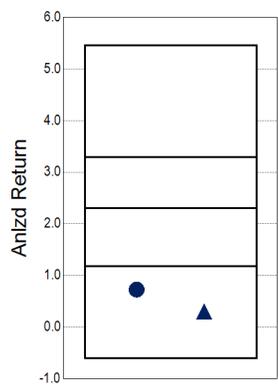
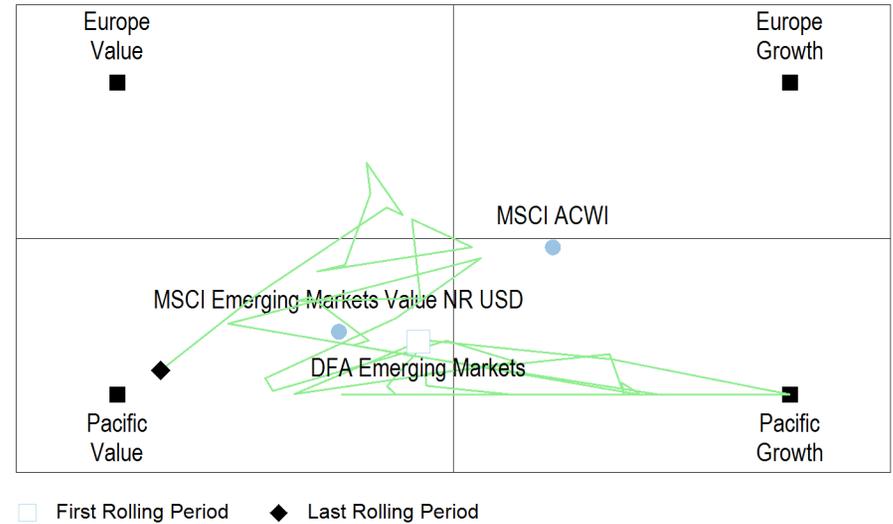
Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

Since Inception Risk Return



Since Inception Style Map



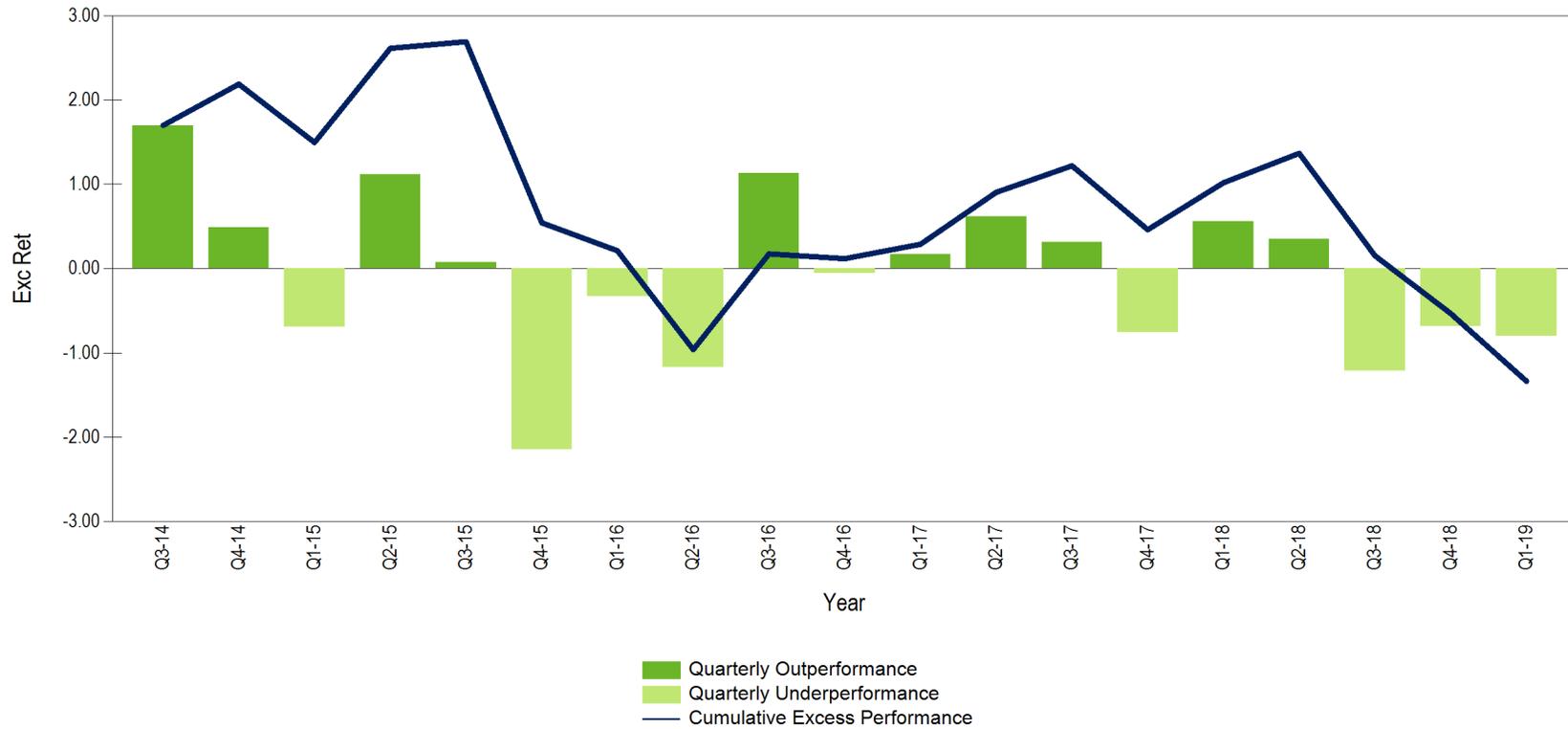
- DFA Emerging Markets
- ▲ MSCI Emerging Markets Value NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

QMA EMERGING MARKETS

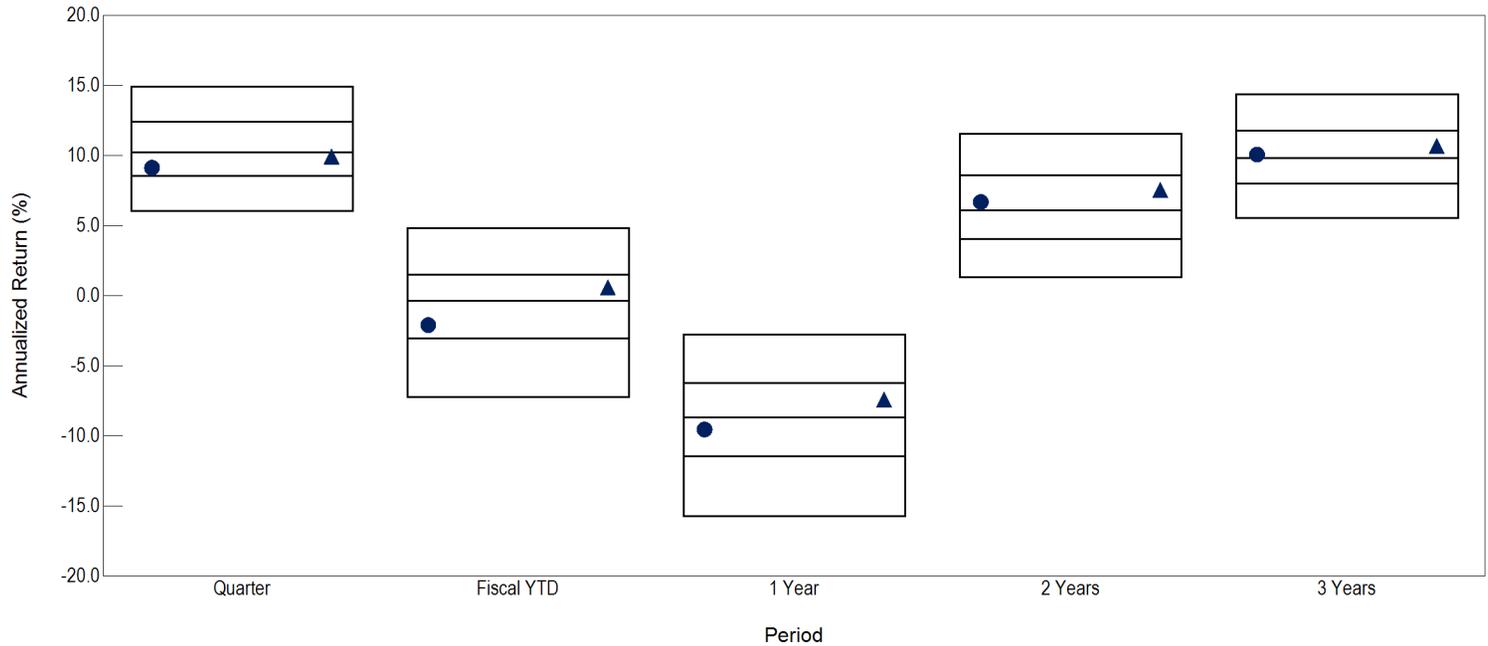
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

QMA EMERGING MARKETS

QMA Emerging Markets vs. eV Emg Mkts Equity Net



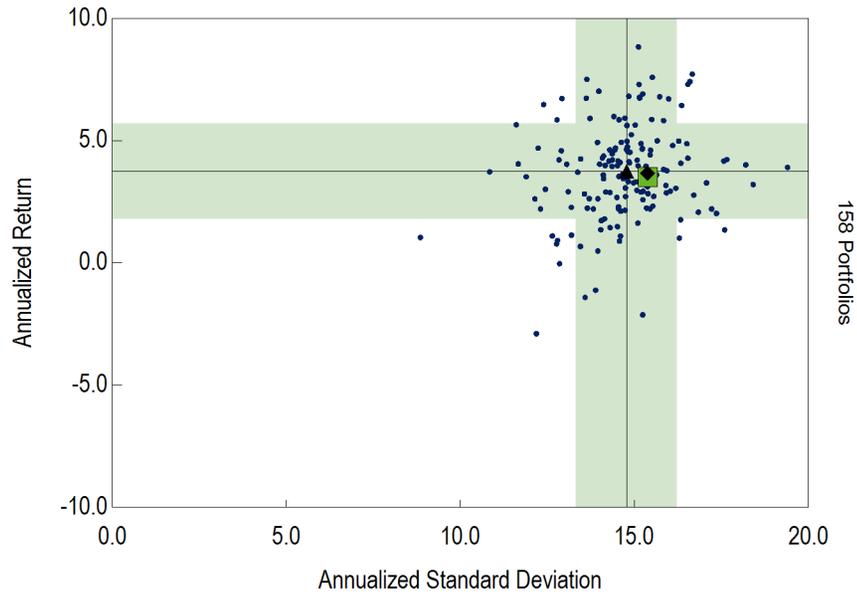
	Return (Rank)									
5th Percentile	14.90		4.81		-2.79		11.52		14.36	
25th Percentile	12.45		1.54		-6.18		8.62		11.82	
Median	10.27		-0.33		-8.62		6.12		9.88	
75th Percentile	8.58		-2.99		-11.41		4.10		8.04	
95th Percentile	6.07		-7.19		-15.69		1.38		5.61	
# of Portfolios	210		202		200		195		184	
● QMA Emerging Markets	9.12	(66)	-2.10	(67)	-9.55	(59)	6.68	(44)	10.07	(48)
▲ MSCI Emerging Markets	9.93	(57)	0.60	(38)	-7.41	(36)	7.55	(35)	10.68	(40)



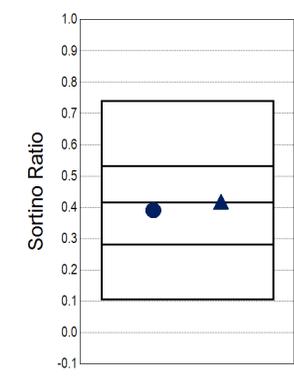
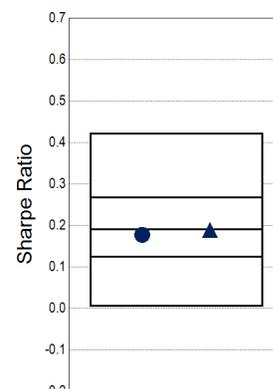
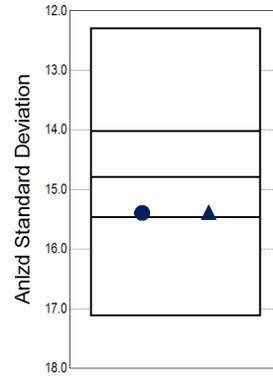
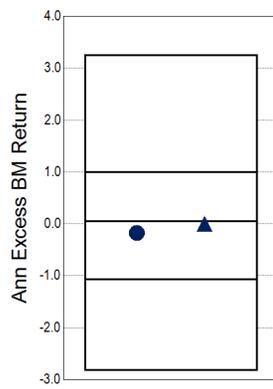
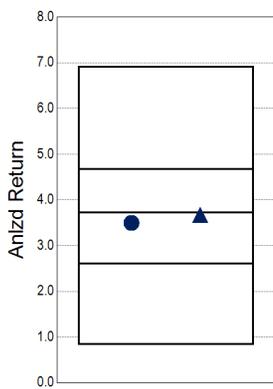
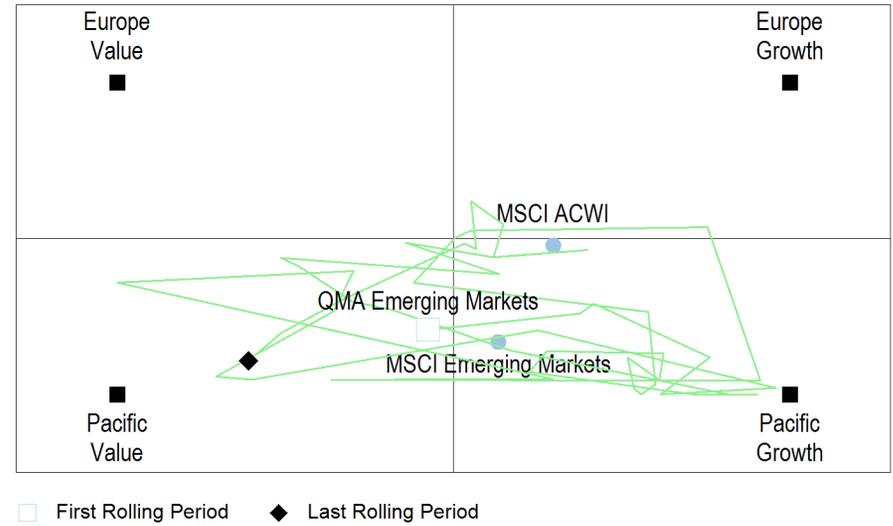
Los Angeles City Employees' Retirement System

QMA EMERGING MARKETS

Since Inception Risk Return



Since Inception Style Map



- QMA Emerging Markets
- ▲ MSCI Emerging Markets
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



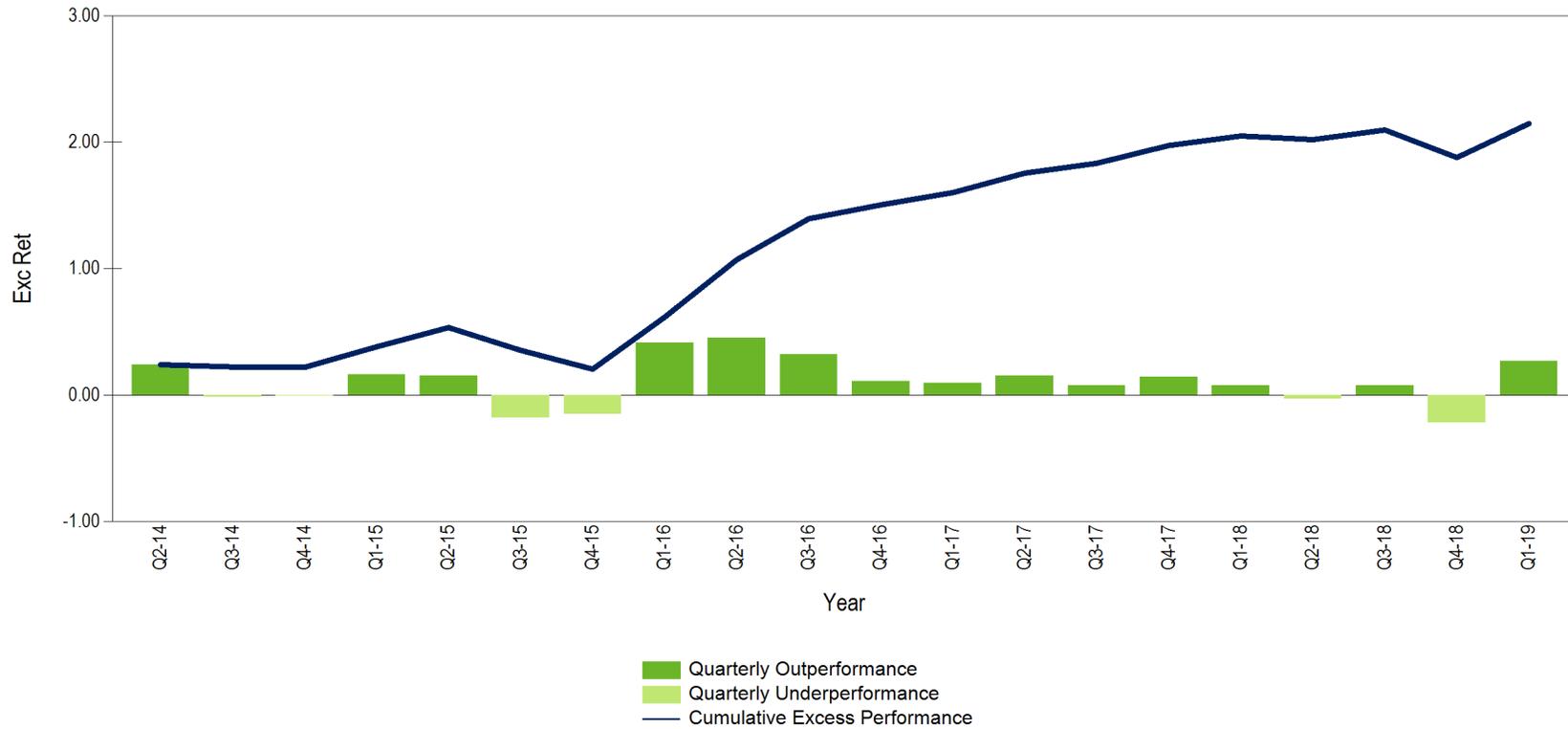
CORE FIXED INCOME MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

BAIRD ADVISORS

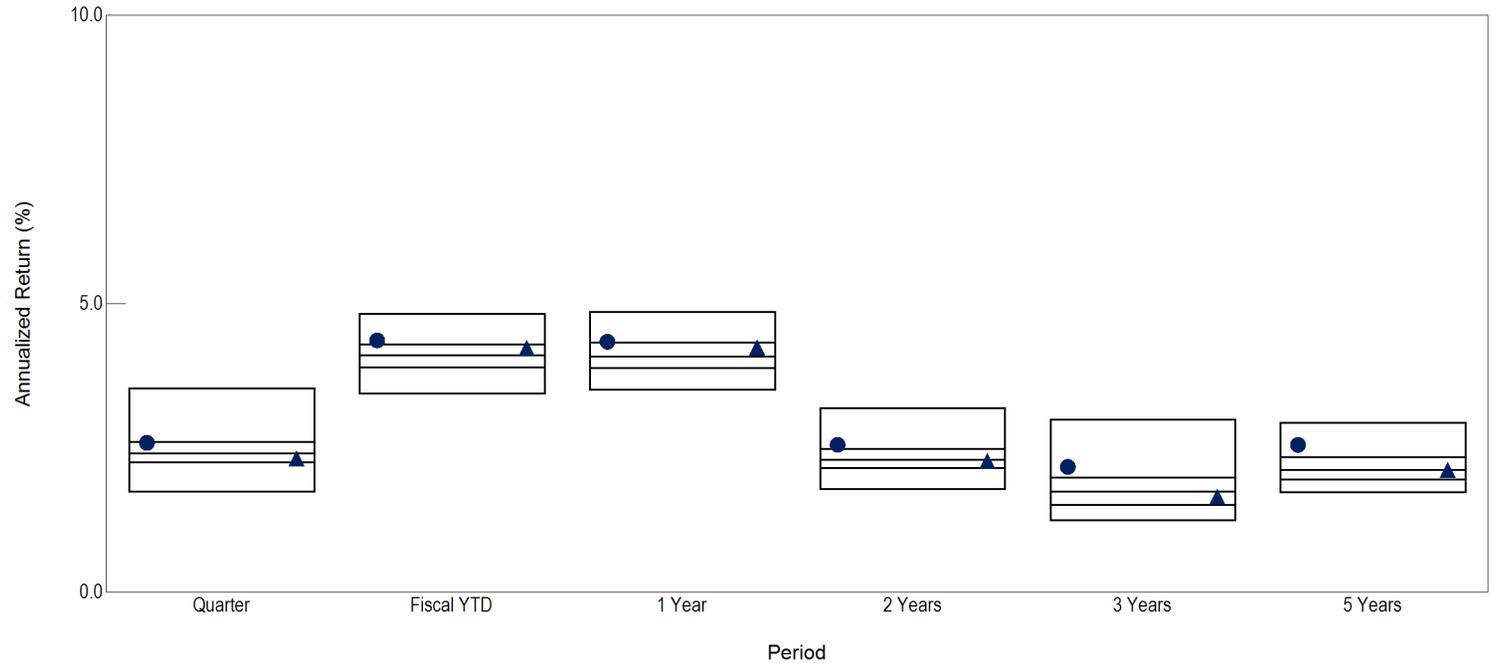
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

BAIRD ADVISORS

Baird Advisors vs. eV US Interm Duration Fixed Inc Net



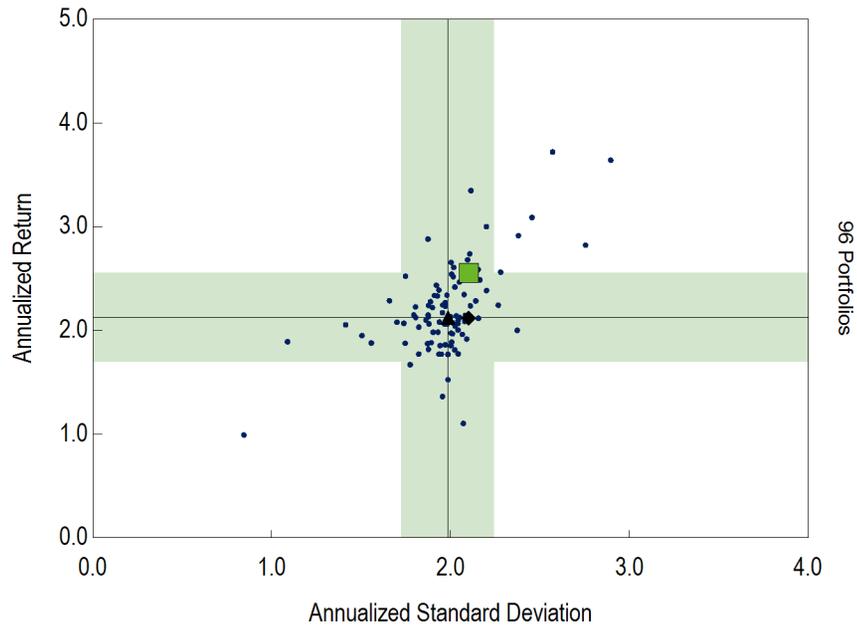
	Return (Rank)		Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years	
5th Percentile	3.54		4.82		4.86		3.19		2.99		2.94			
25th Percentile	2.61		4.30		4.33		2.49		2.00		2.36			
Median	2.41		4.11		4.10		2.31		1.75		2.12			
75th Percentile	2.26		3.91		3.89		2.16		1.53		1.97			
95th Percentile	1.75		3.45		3.52		1.80		1.26		1.74			
# of Portfolios	102		102		102		101		100		96			
● Baird Advisors	2.59	(27)	4.36	(22)	4.34	(24)	2.56	(21)	2.17	(18)	2.55	(15)		
▲ BBgBarc US Govt/Credit Int TR	2.32	(68)	4.24	(35)	4.24	(34)	2.28	(54)	1.66	(61)	2.12	(52)		



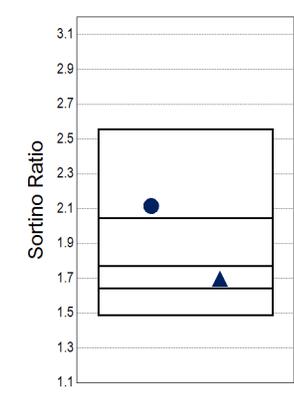
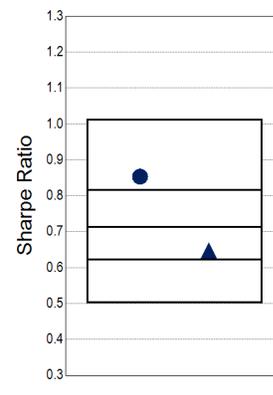
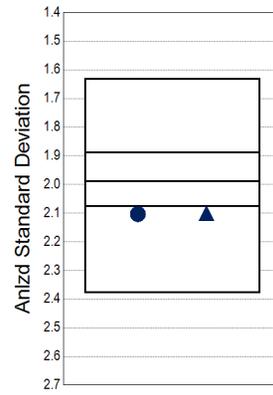
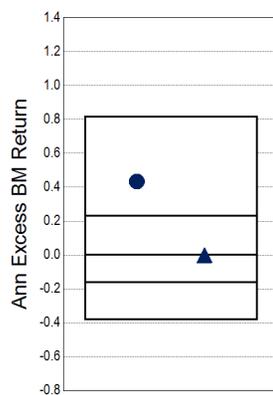
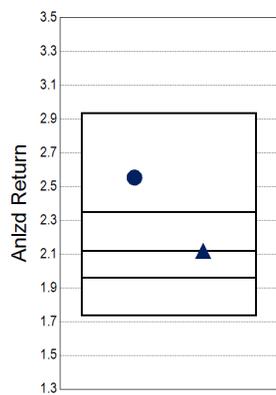
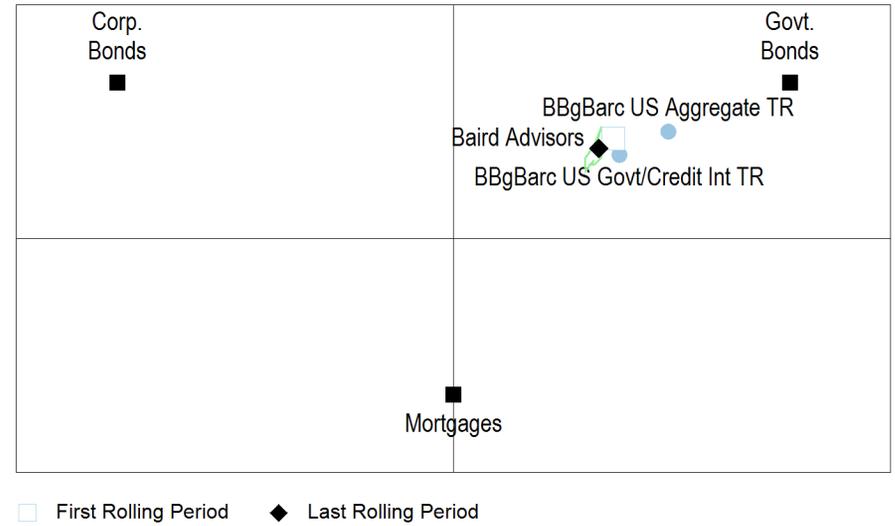
Los Angeles City Employees' Retirement System

BAIRD ADVISORS

5 Year Risk Return



5 Year Style Map



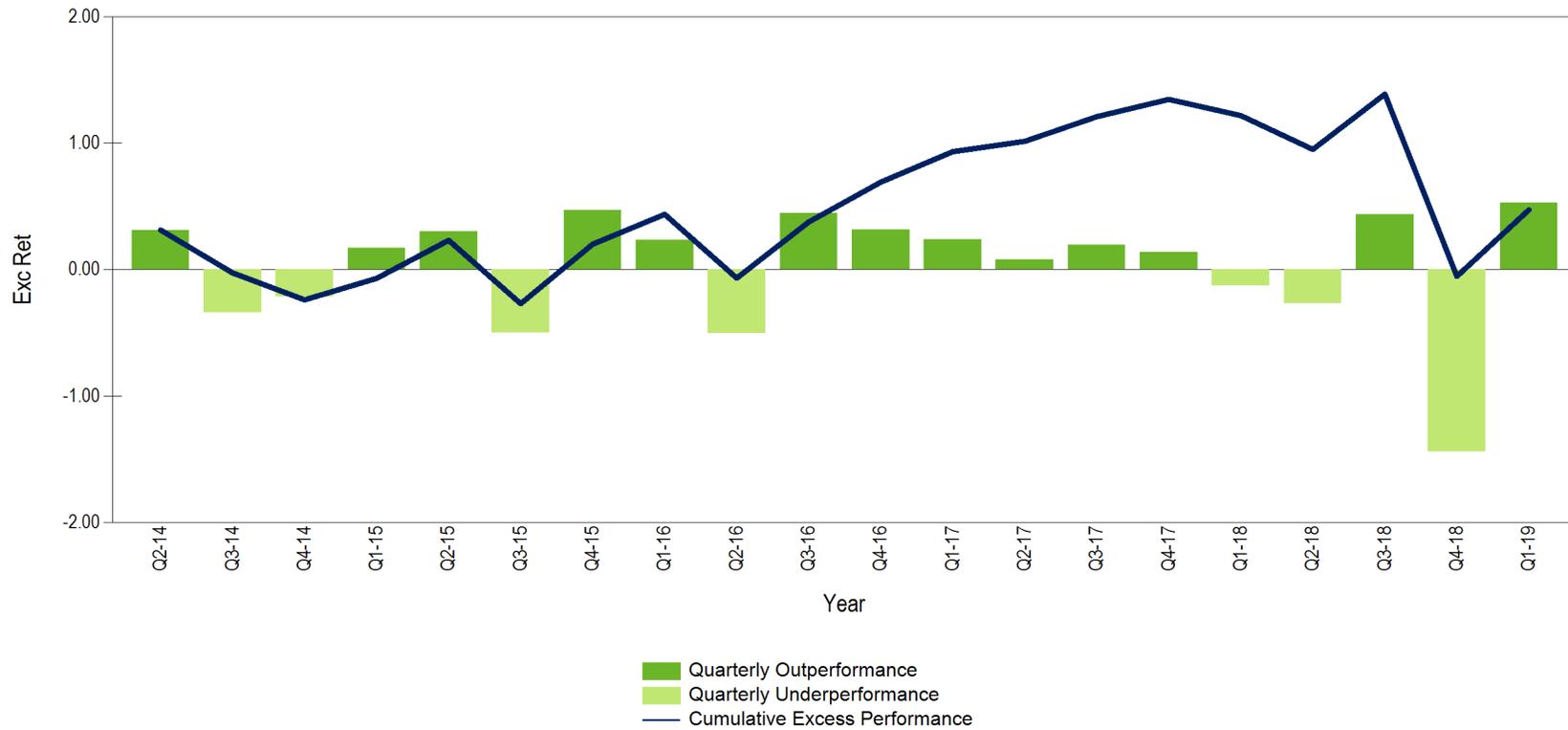
- Baird Advisors
- ▲ BBgBarc US Govt/Credit Int TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

LM CAPITAL

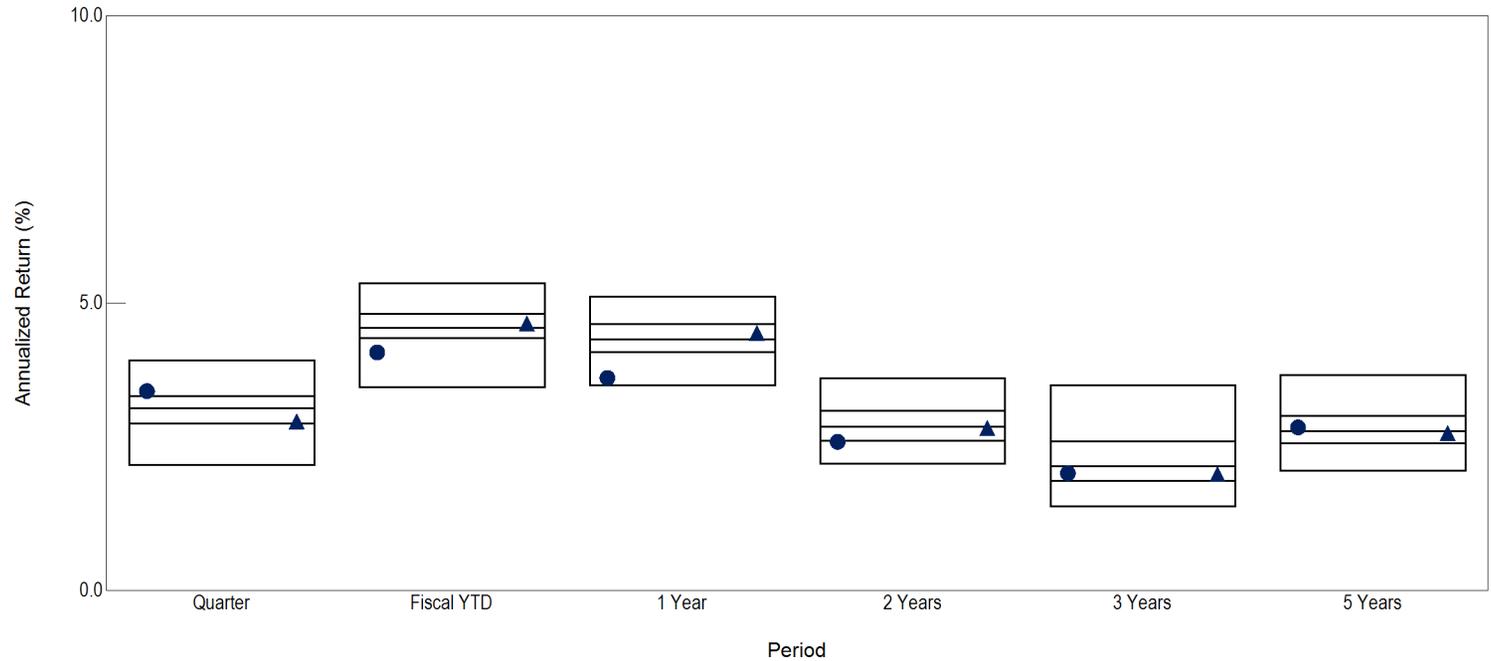
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LM CAPITAL

Core Fixed Income Managers vs. eV US Core Fixed Inc Net



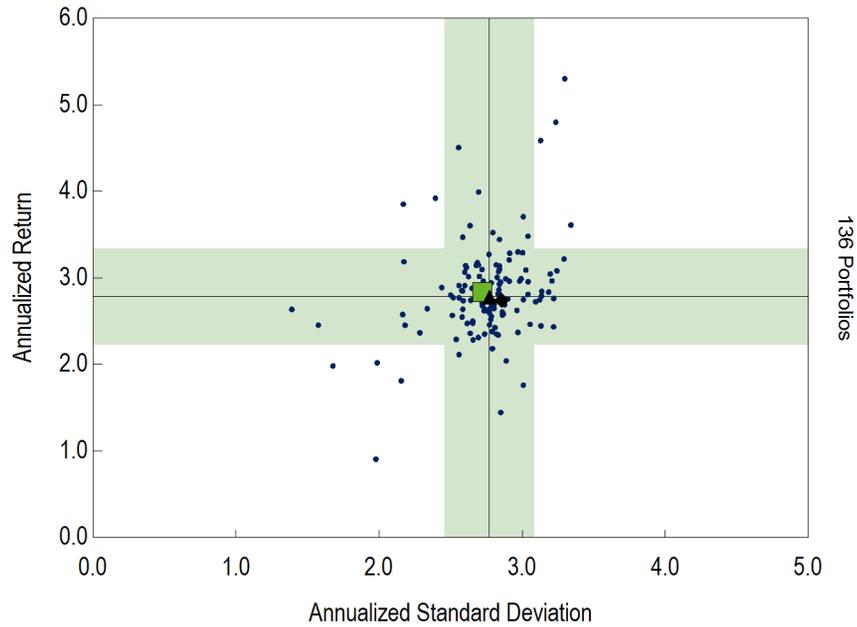
	Return (Rank)											
5th Percentile	4.01		5.34		5.11		3.69		3.57		3.74	
25th Percentile	3.39		4.82		4.65		3.14		2.61		3.05	
Median	3.18		4.58		4.38		2.86		2.18		2.78	
75th Percentile	2.91		4.41		4.16		2.62		1.92		2.58	
95th Percentile	2.20		3.55		3.58		2.22		1.48		2.10	
# of Portfolios	147		146		145		143		139		136	
● LM Capital	3.47	(18)	4.14	(90)	3.70	(94)	2.59	(78)	2.04	(63)	2.84	(45)
▲ Core Fixed Income Blend	2.94	(73)	4.65	(45)	4.48	(41)	2.83	(54)	2.03	(64)	2.74	(58)



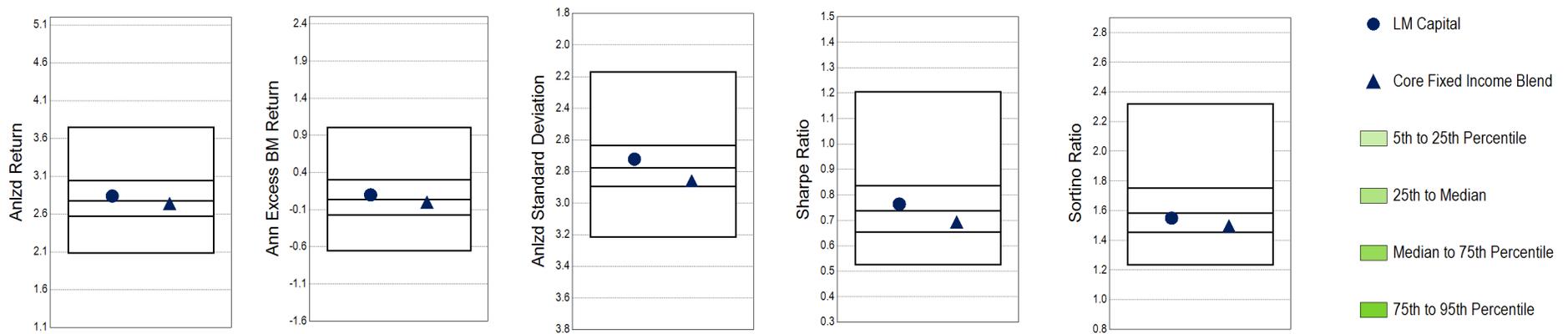
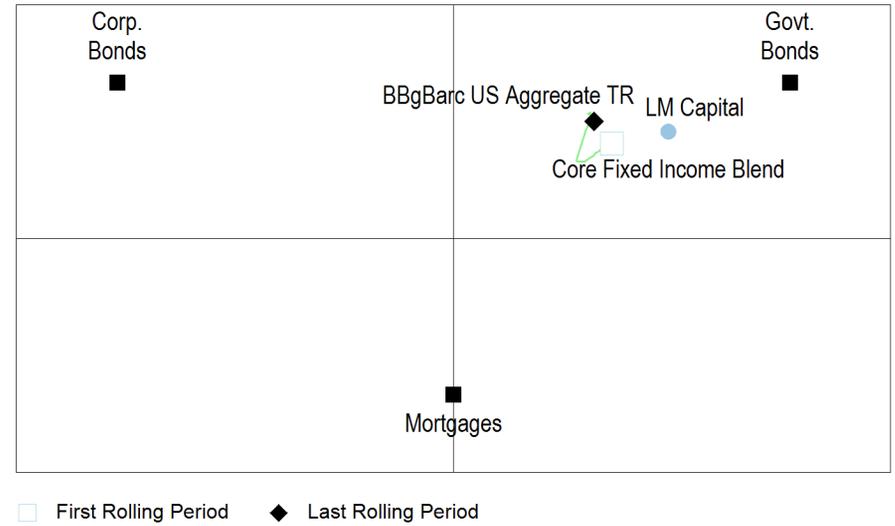
Los Angeles City Employees' Retirement System

LM CAPITAL

5 Year Risk Return



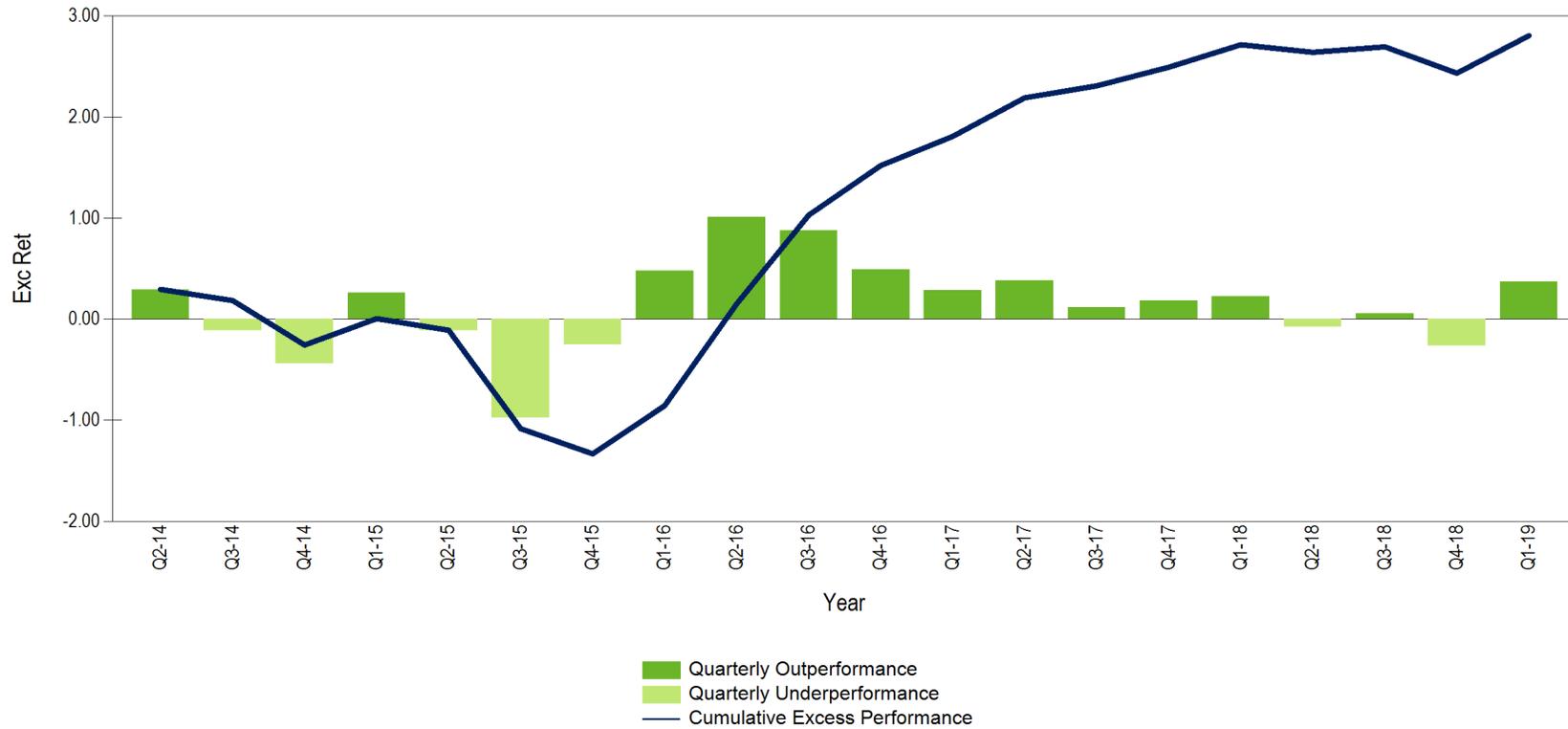
5 Year Style Map



Los Angeles City Employees' Retirement System

LOOMIS SAYLES

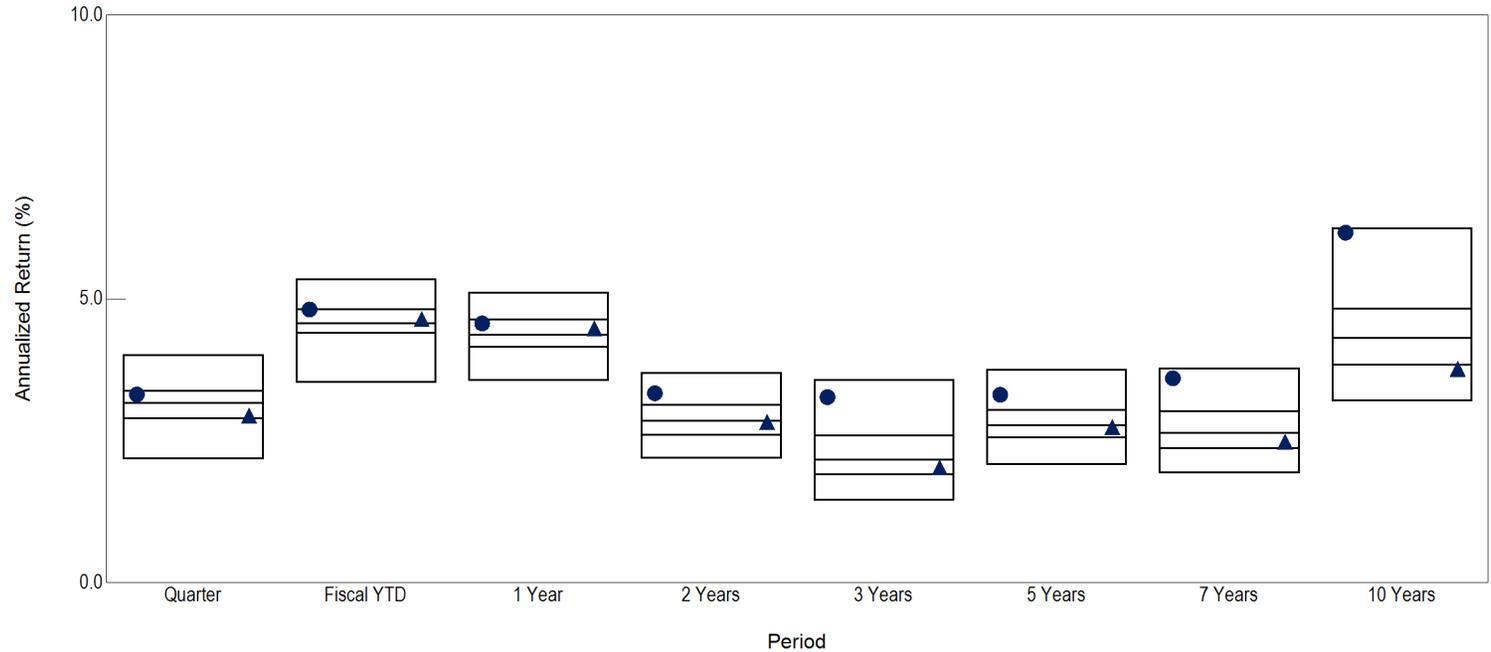
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LOOMIS SAYLES

Loomis Sayles vs. eV US Core Fixed Inc Net



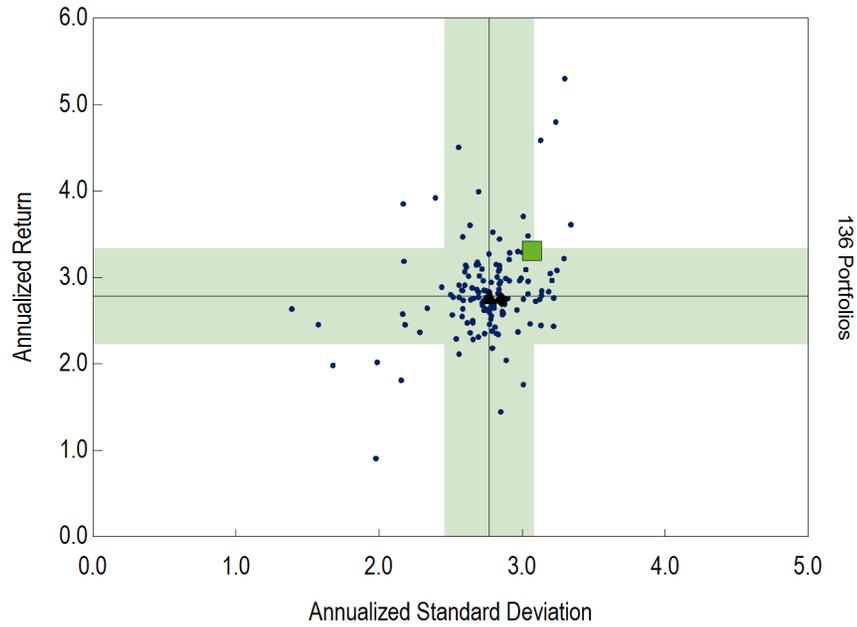
	Return (Rank)															
5th Percentile	4.01	5.34	5.11	3.69	3.57	3.74	3.77	6.24								
25th Percentile	3.39	4.82	4.65	3.14	2.61	3.05	3.03	4.84								
Median	3.18	4.58	4.38	2.86	2.18	2.78	2.65	4.32								
75th Percentile	2.91	4.41	4.16	2.62	1.92	2.58	2.38	3.85								
95th Percentile	2.20	3.55	3.58	2.22	1.48	2.10	1.95	3.22								
# of Portfolios	147	146	145	143	139	136	133	122								
● Loomis Sayles	3.31	(31)	4.81	(27)	4.57	(31)	3.34	(10)	3.27	(7)	3.31	(11)	3.60	(8)	6.17	(6)
▲ BC US Agg LACERS custom	2.94	(73)	4.65	(45)	4.48	(41)	2.83	(54)	2.03	(64)	2.74	(58)	2.48	(66)	3.77	(80)



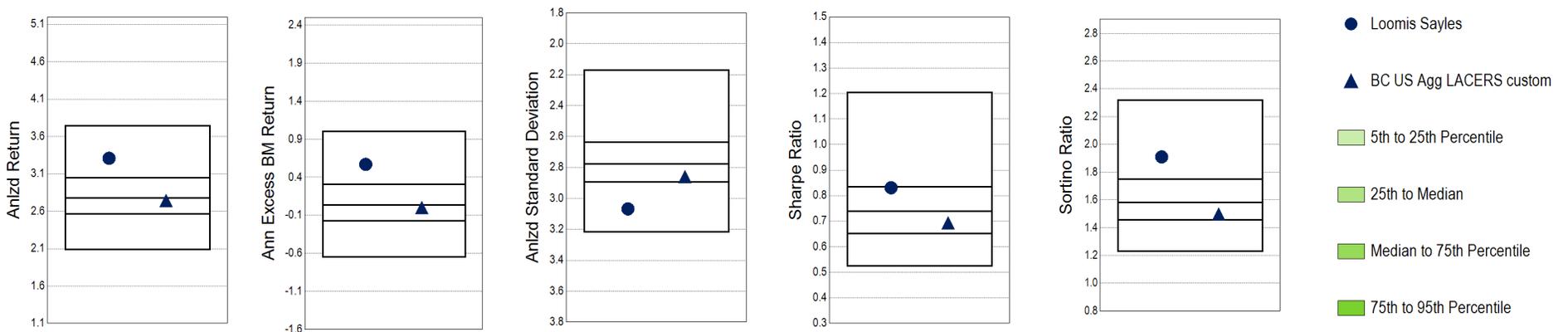
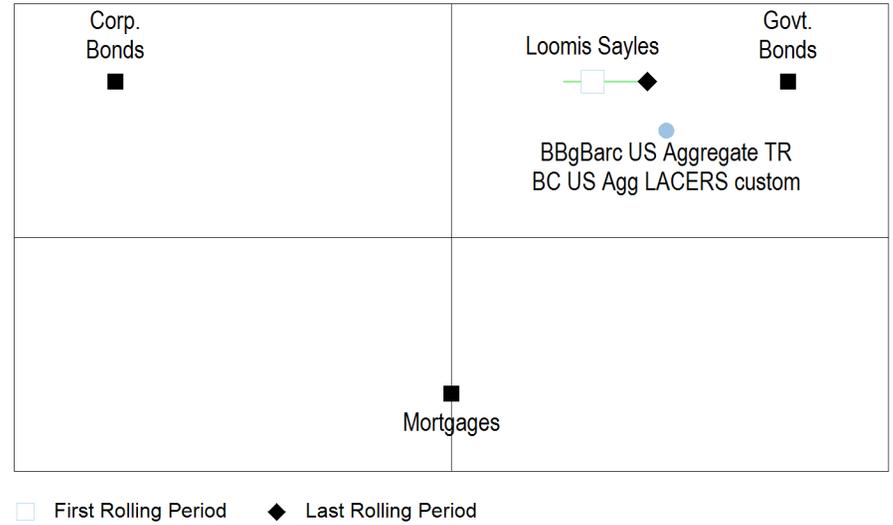
Los Angeles City Employees' Retirement System

LOOMIS SAYLES

5 Year Risk Return



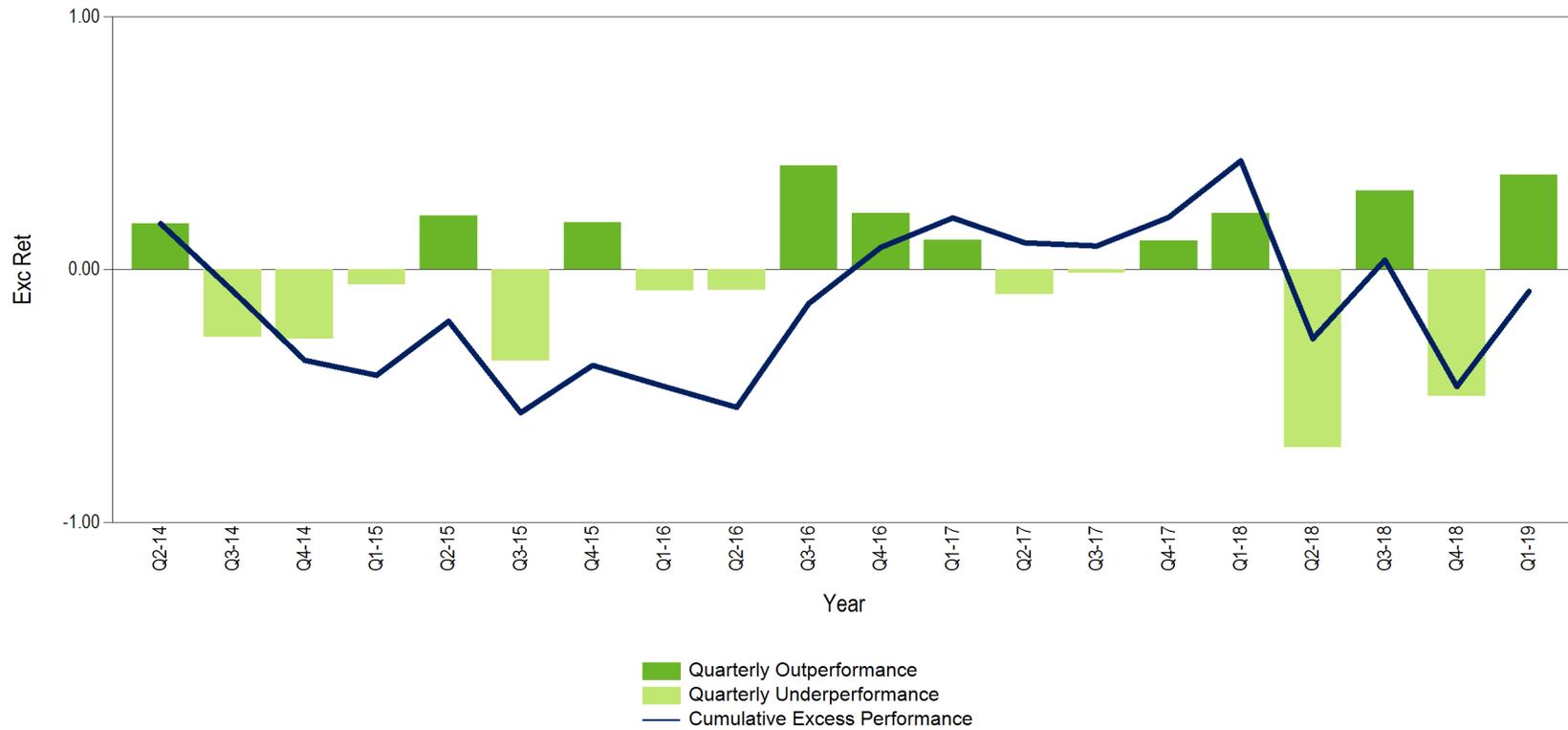
5 Year Style Map



Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

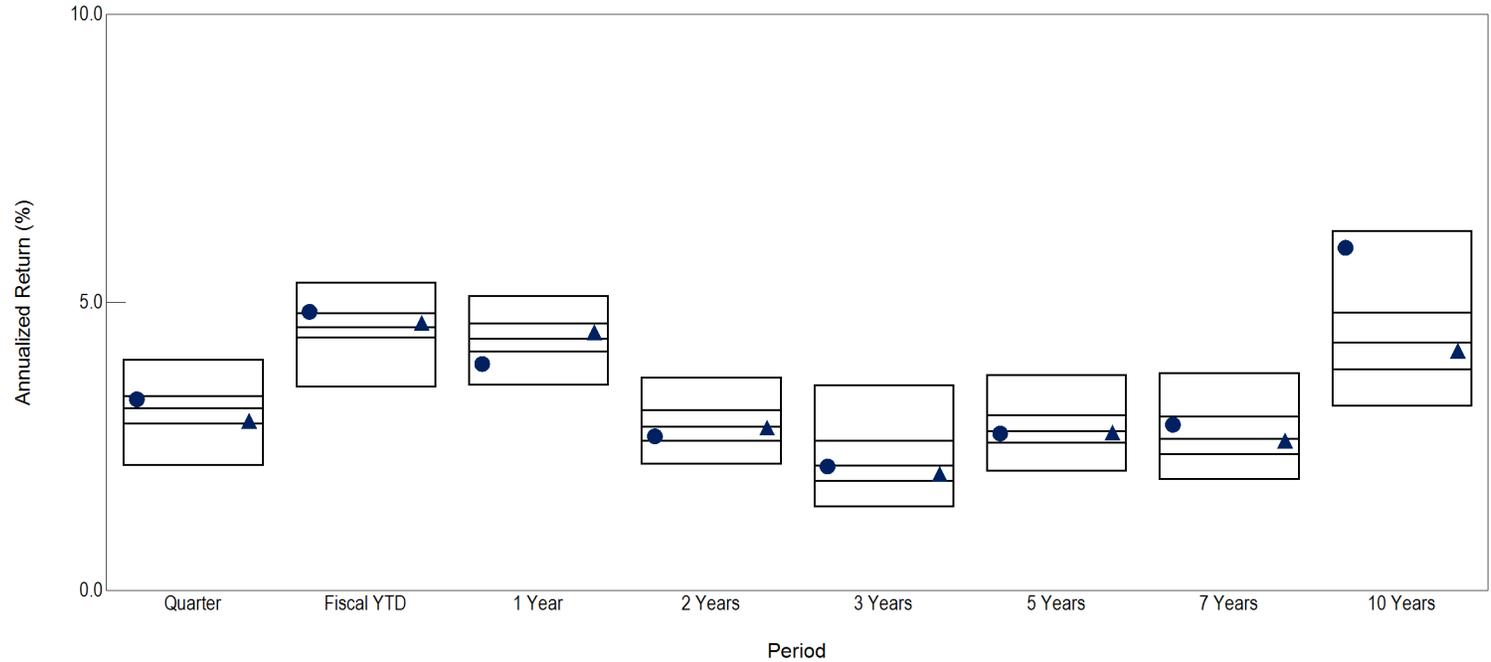
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

Neuberger Berman vs. eV US Core Fixed Inc Net



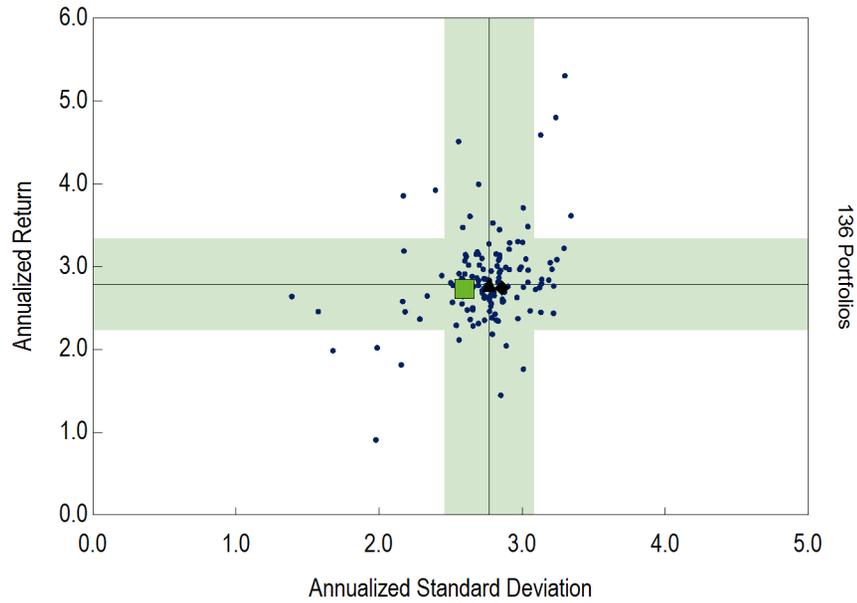
	Return (Rank)															
5th Percentile	4.01	5.34	5.11	3.69	3.57	3.74	3.77	6.24								
25th Percentile	3.39	4.82	4.65	3.14	2.61	3.05	3.03	4.84								
Median	3.18	4.58	4.38	2.86	2.18	2.78	2.65	4.32								
75th Percentile	2.91	4.41	4.16	2.62	1.92	2.58	2.38	3.85								
95th Percentile	2.20	3.55	3.58	2.22	1.48	2.10	1.95	3.22								
# of Portfolios	147	146	145	143	139	136	133	122								
● Neuberger Berman	3.32	(31)	4.84	(25)	3.93	(88)	2.68	(72)	2.15	(52)	2.73	(61)	2.88	(36)	5.95	(7)
▲ Core Fixed Income Blend	2.94	(73)	4.65	(45)	4.48	(41)	2.83	(54)	2.03	(64)	2.74	(58)	2.60	(55)	4.16	(55)



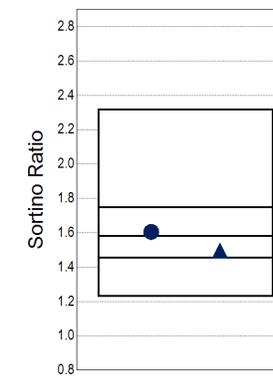
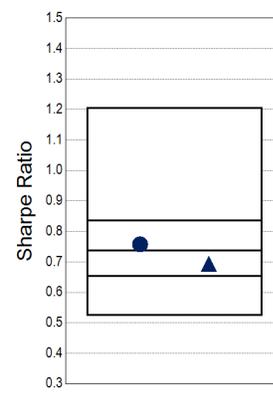
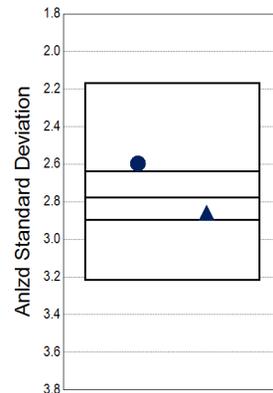
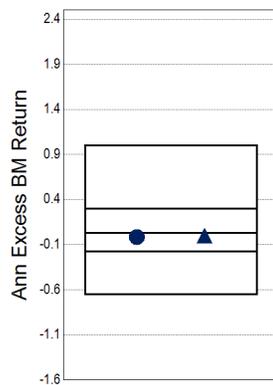
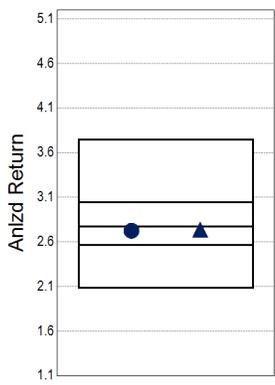
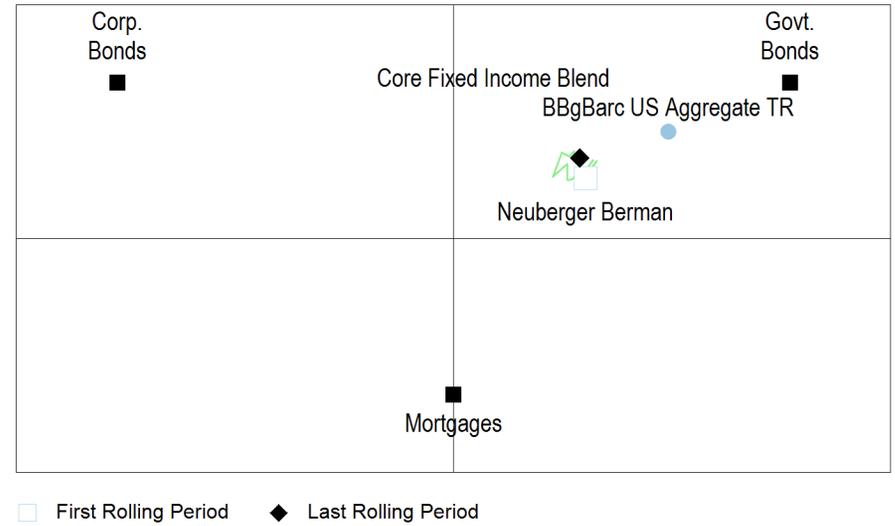
Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

5 Year Risk Return



5 Year Style Map



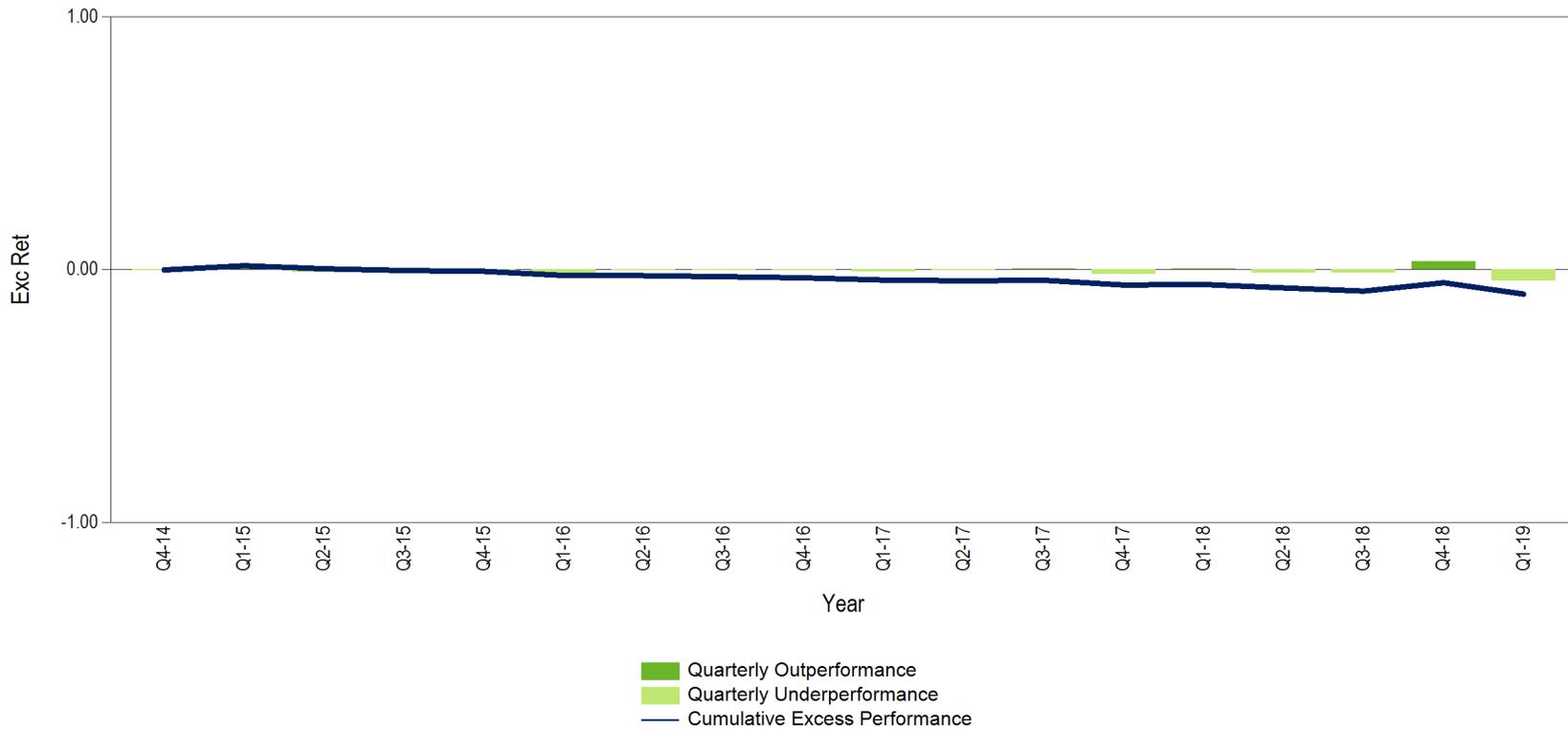
- Neuberger Berman
- ▲ Core Fixed Income Blend
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SSGA U.S. AGGREGATE BOND

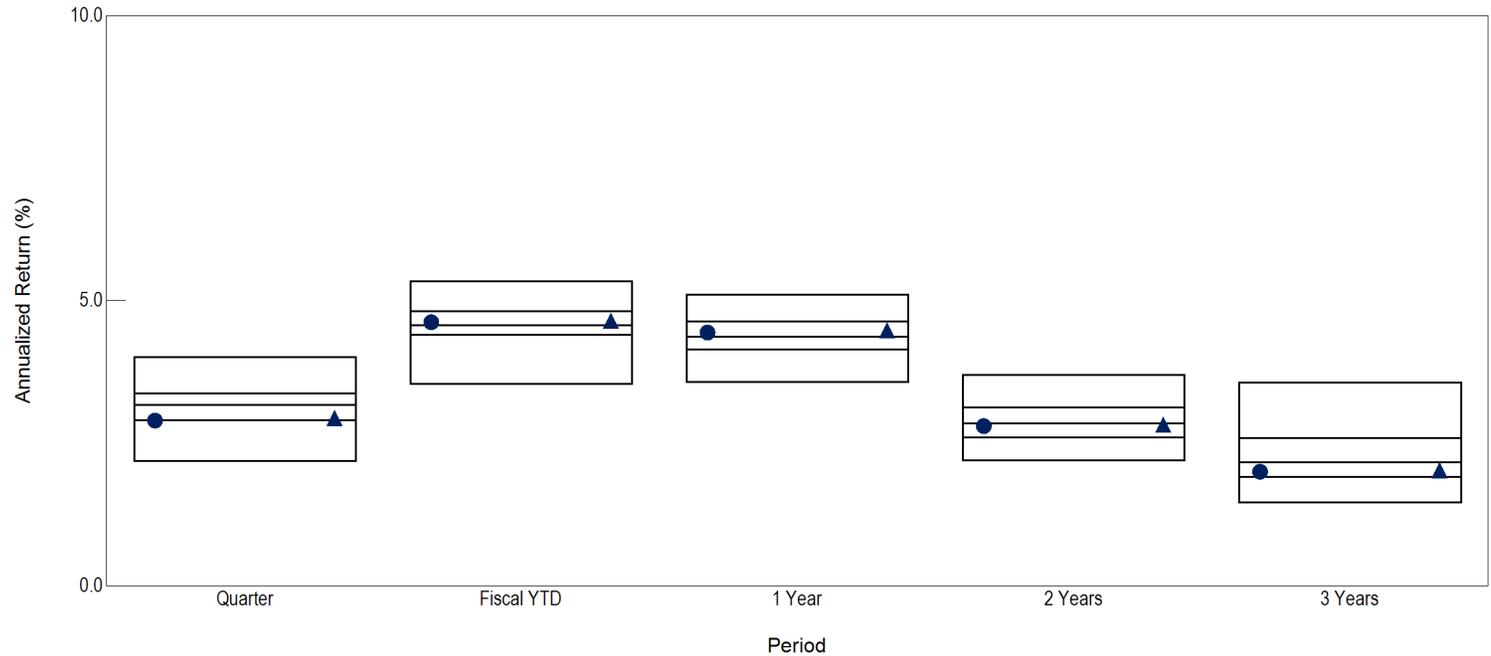
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA U.S. AGGREGATE BOND

SSgA U.S. Aggregate Bond vs. eV US Core Fixed Inc Net



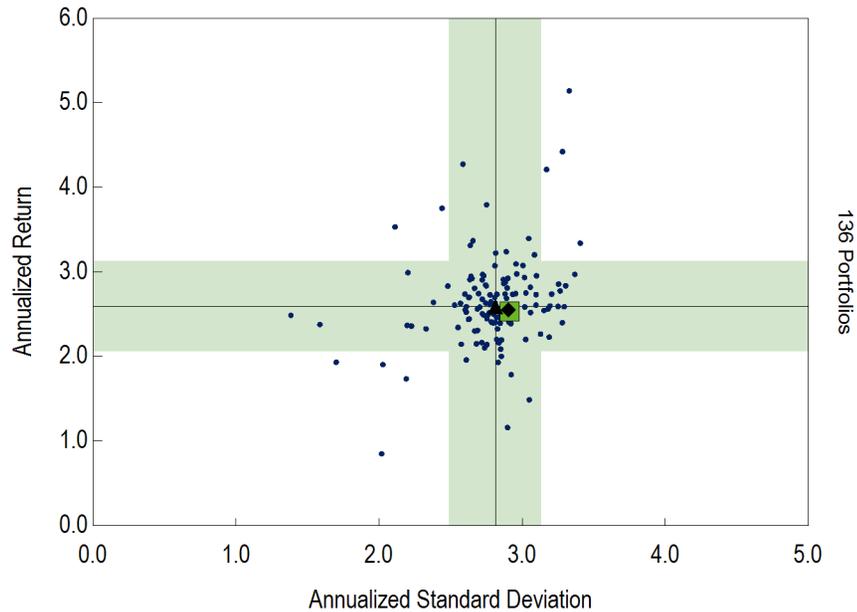
	Return (Rank)									
5th Percentile	4.01		5.34		5.11		3.69		3.57	
25th Percentile	3.39		4.82		4.65		3.14		2.61	
Median	3.18		4.58		4.38		2.86		2.18	
75th Percentile	2.91		4.41		4.16		2.62		1.92	
95th Percentile	2.20		3.55		3.58		2.22		1.48	
# of Portfolios	147		146		145		143		139	
● SSGA U.S. Aggregate Bond	2.90	(76)	4.62	(47)	4.44	(43)	2.80	(59)	2.00	(66)
▲ BbgBarc US Aggregate TR	2.94	(73)	4.65	(45)	4.48	(41)	2.83	(54)	2.03	(64)



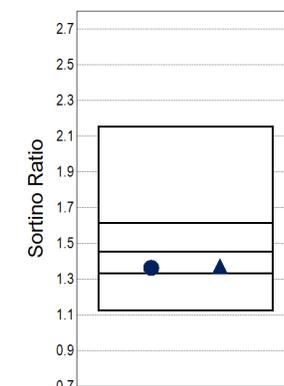
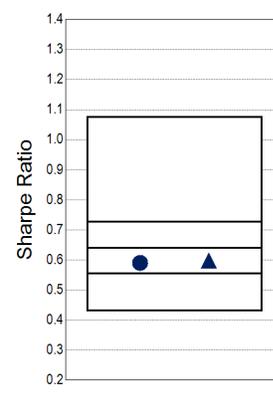
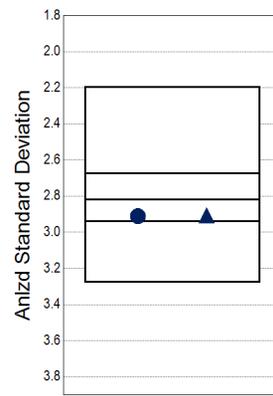
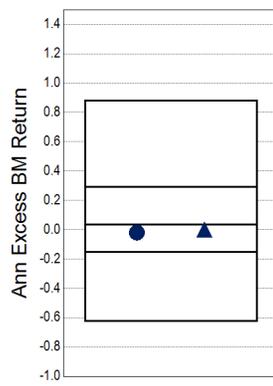
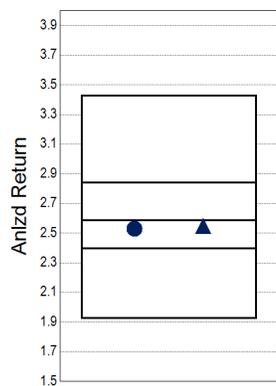
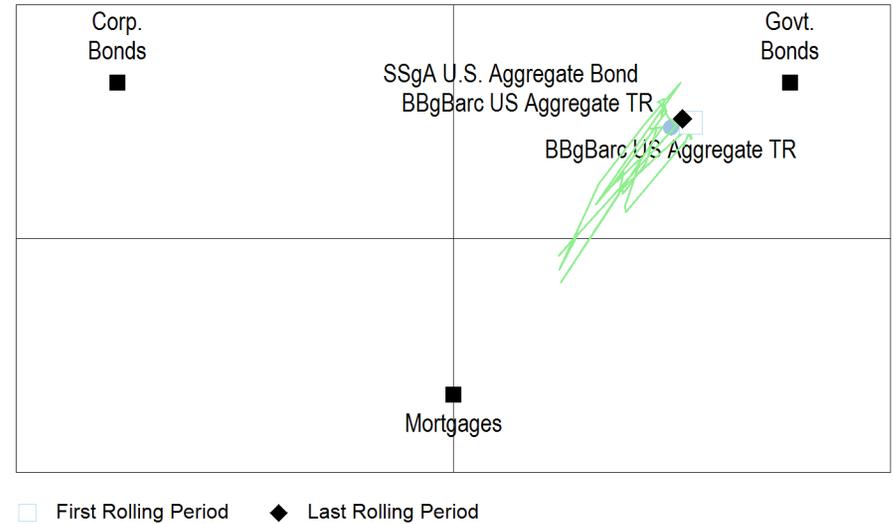
Los Angeles City Employees' Retirement System

SSGA U.S. AGGREGATE BOND

Since Inception Risk Return



Since Inception Style Map



- SSGA U.S. Aggregate Bond
- ▲ BBgBarc US Aggregate TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

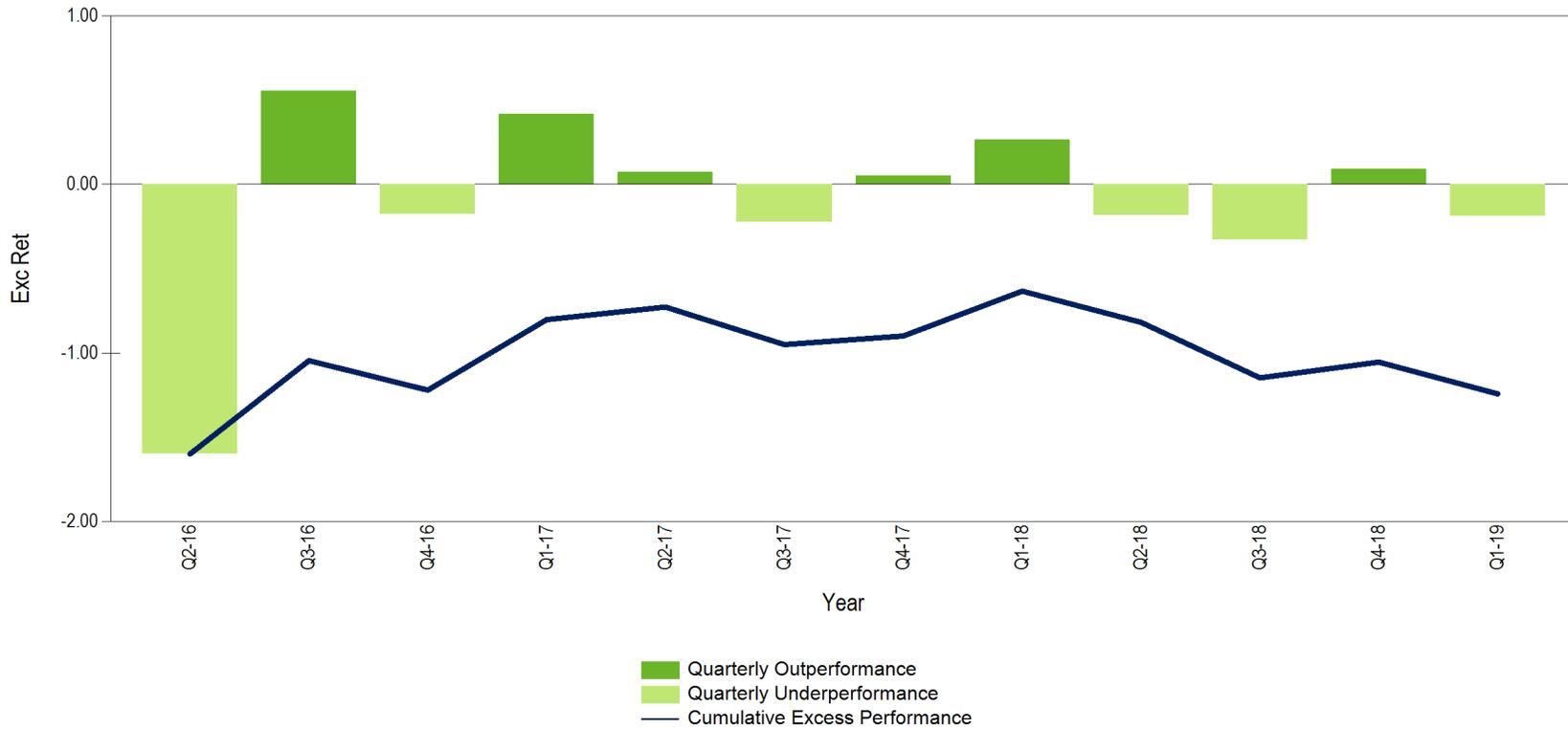


CREDIT OPPORTUNITIES MANAGER PERFORMANCE

NEPC, LLC

AEGON USA

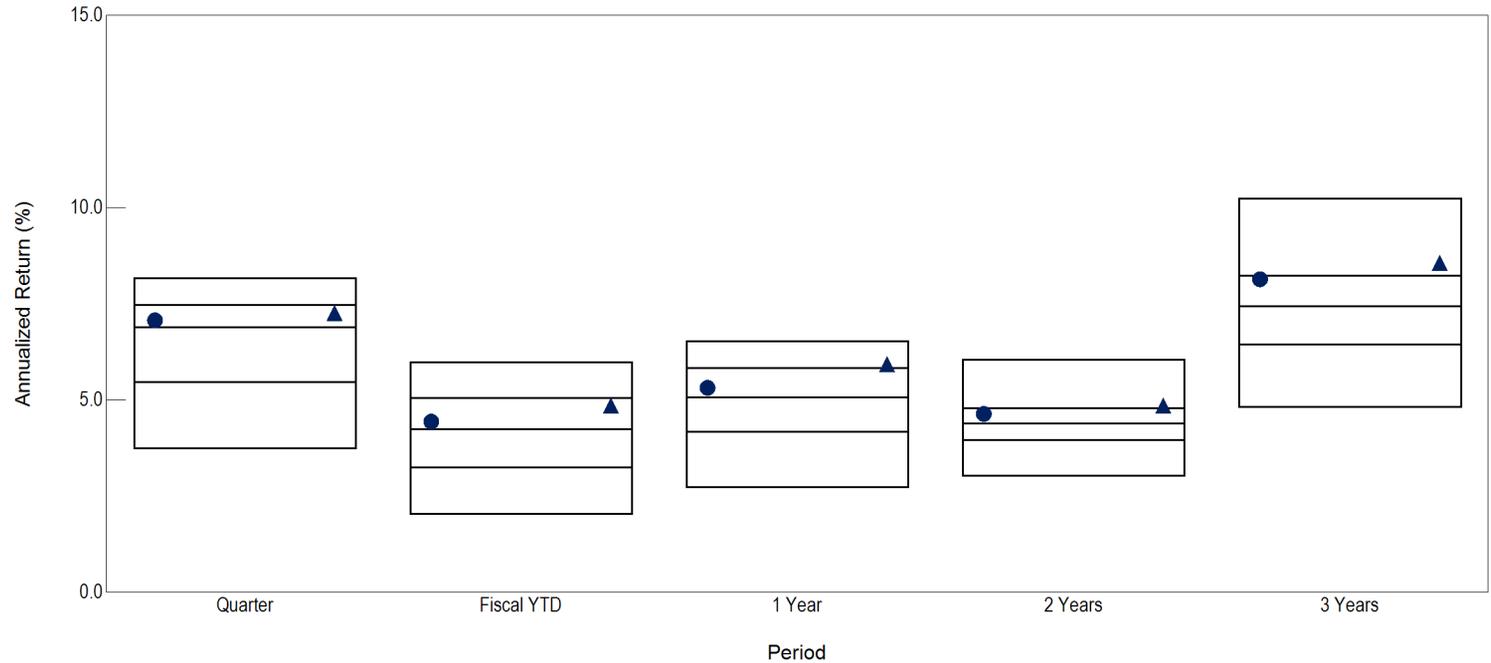
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

AEGON USA

AEGON USA vs. eV US High Yield Fixed Inc Net



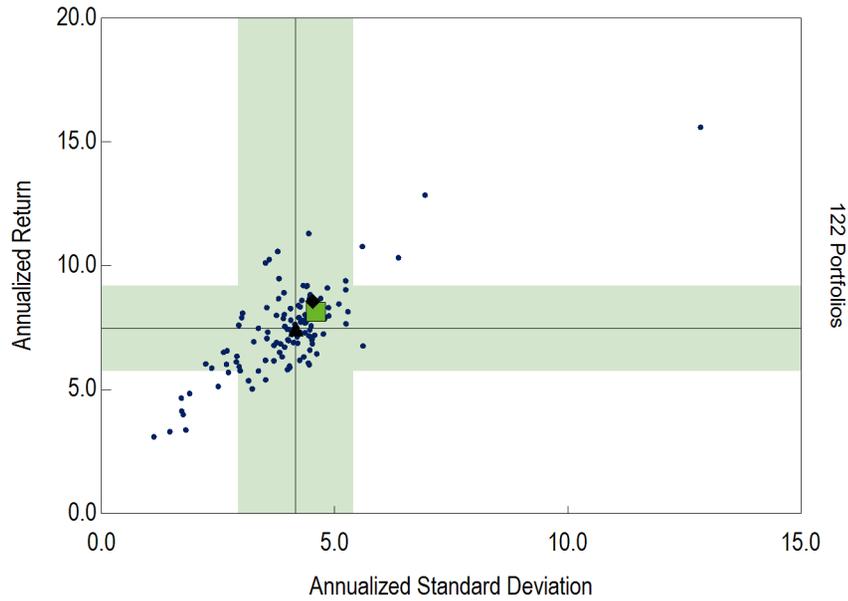
	Return (Rank)									
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	Quarter	Fiscal YTD	1 Year	2 Years	3 Years
5th Percentile	8.17	5.98	6.53	6.05	10.23					
25th Percentile	7.49	5.06	5.84	4.81	8.25					
Median	6.91	4.26	5.08	4.40	7.45					
75th Percentile	5.48	3.27	4.19	3.98	6.45					
95th Percentile	3.76	2.05	2.74	3.05	4.84					
# of Portfolios	133	132	132	128	122					
● AEGON USA	7.07	4.43	5.31	4.64	8.14	(43)	(45)	(45)	(34)	(27)
▲ BBgBarc US High Yield 2% Issuer Cap TR	7.26	4.85	5.93	4.85	8.56	(37)	(36)	(22)	(23)	(18)



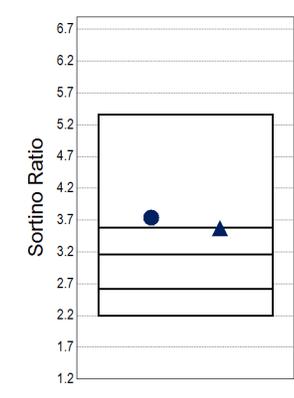
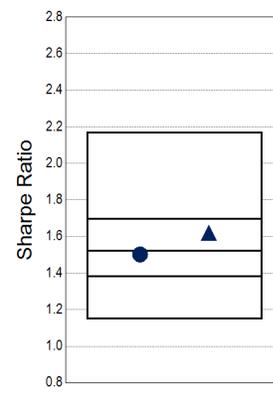
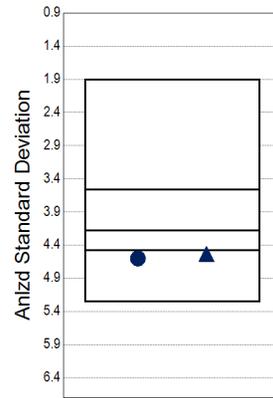
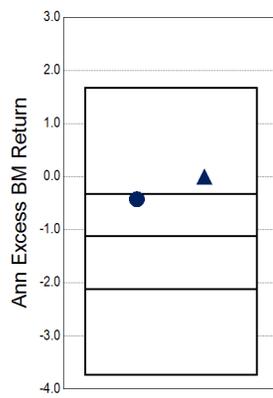
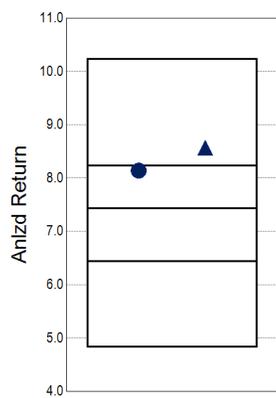
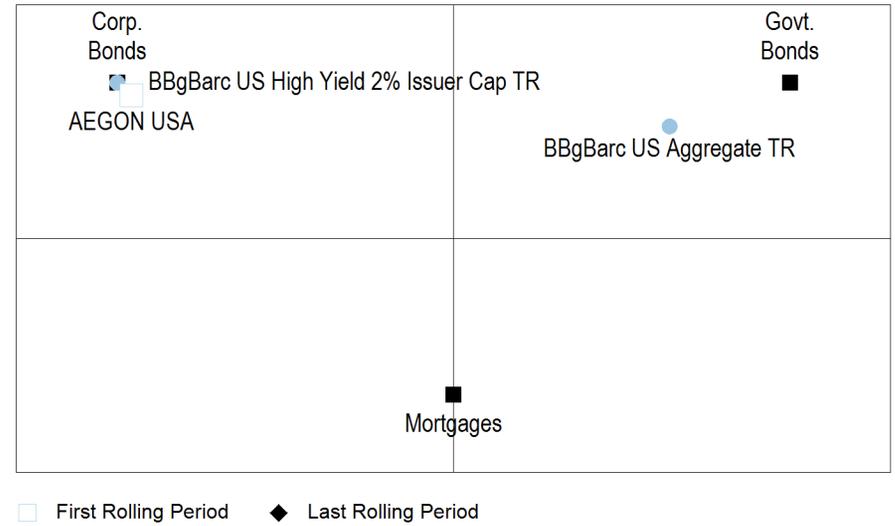
Los Angeles City Employees' Retirement System

AEGON USA

3 Year Risk Return



3 Year Style Map

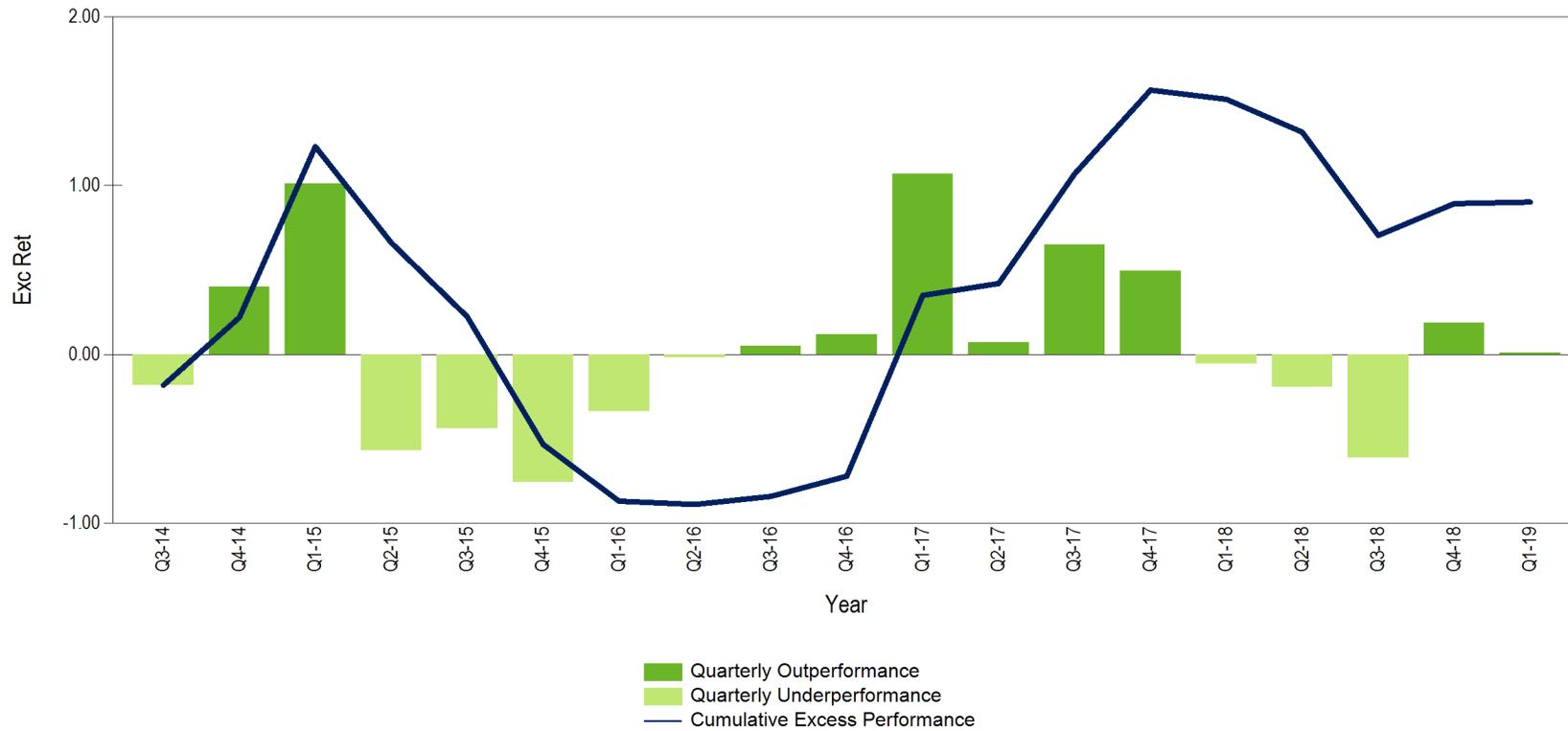


- AEGON USA
- ▲ BBgBarc US High Yield 2% Issuer Cap TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



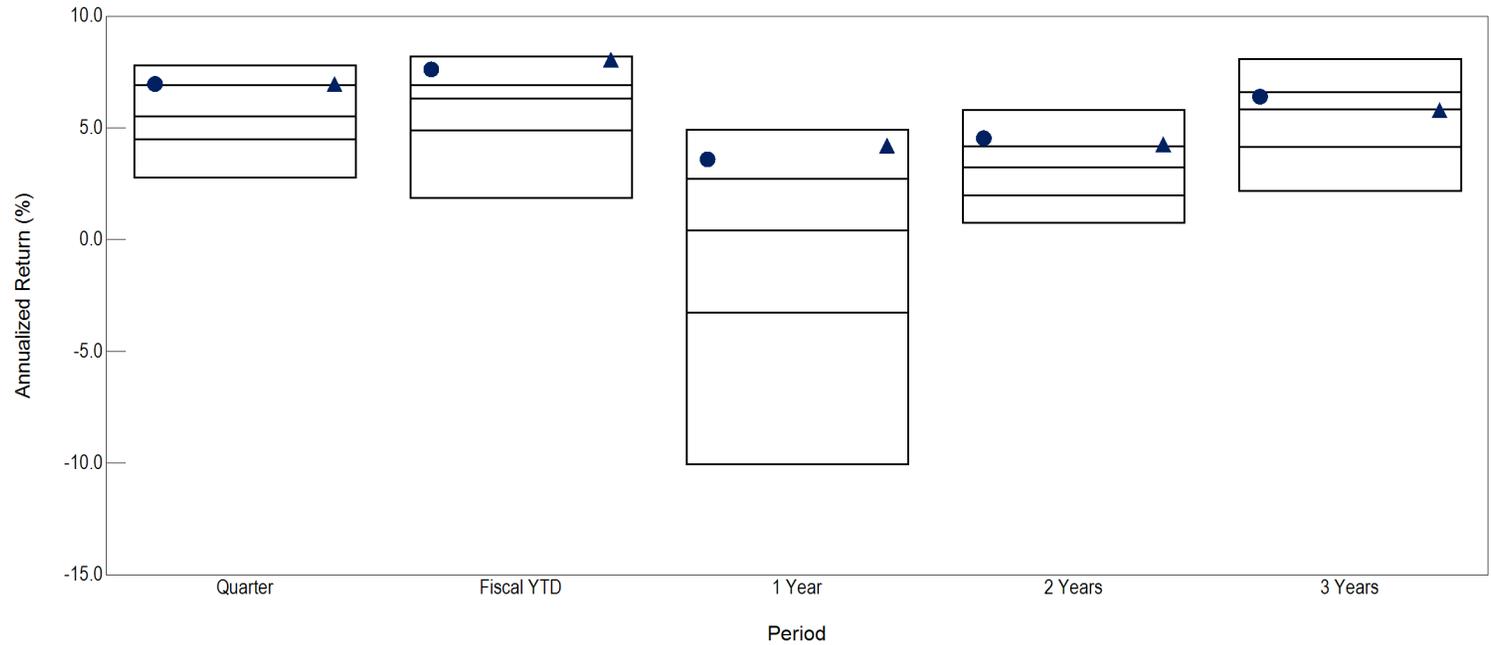
PRUDENTIAL EMERGING MARKETS

Quarterly and Cumulative Excess Performance



PRUDENTIAL EMERGING MARKETS

Prudential Emerging Markets vs. eV Emg Mkt Fixed Inc Hedged Net

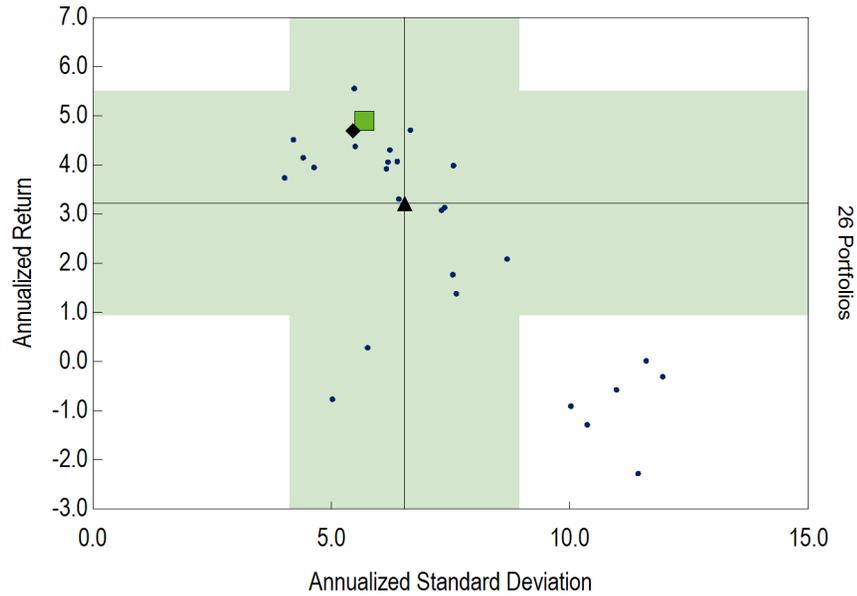


	Quarter		Fiscal YTD		1 Year		2 Years		3 Years	
Return (Rank)										
5th Percentile	7.80		8.18		4.92		5.81		8.08	
25th Percentile	6.95		6.94		2.74		4.20		6.63	
Median	5.55		6.34		0.45		3.25		5.85	
75th Percentile	4.52		4.91		-3.24		2.01		4.16	
95th Percentile	2.80		1.88		-10.03		0.79		2.21	
# of Portfolios	37		33		33		33		33	
● Prudential Emerging Markets	6.96	(25)	7.61	(10)	3.59	(21)	4.53	(17)	6.39	(33)
▲ JP Morgan EMBI Global Diversified	6.95	(25)	8.04	(6)	4.21	(14)	4.26	(24)	5.79	(56)

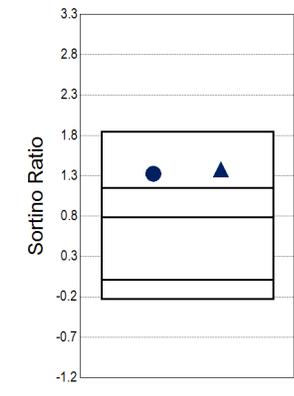
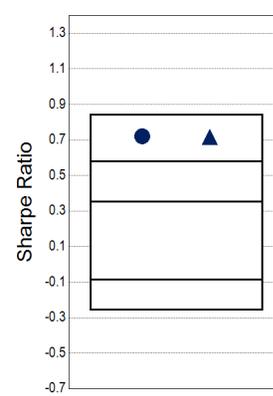
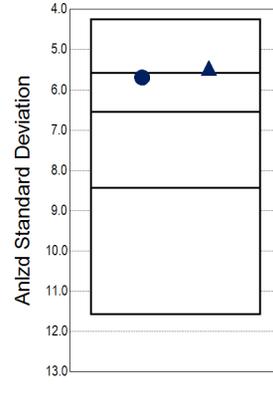
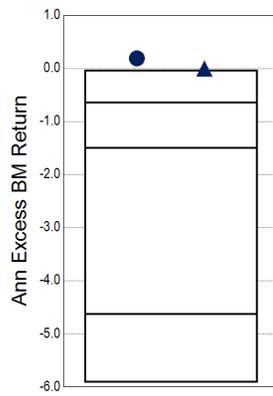
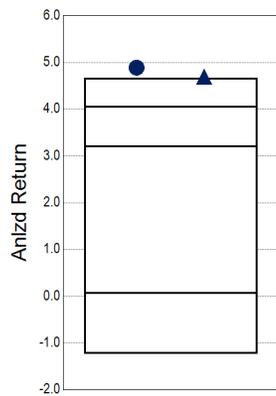
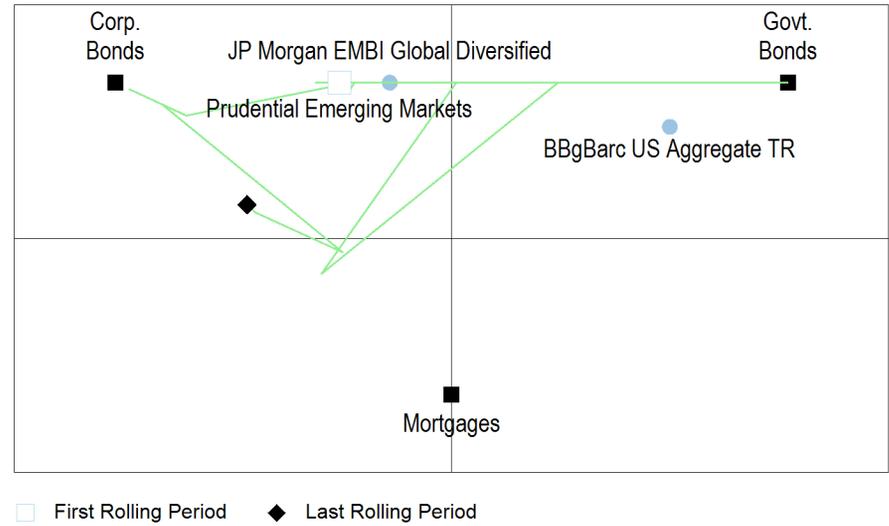


PRUDENTIAL EMERGING MARKETS

Since Inception Risk Return



Since Inception Style Map



- Prudential Emerging Markets
- ▲ JP Morgan EMBI Global Div...
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



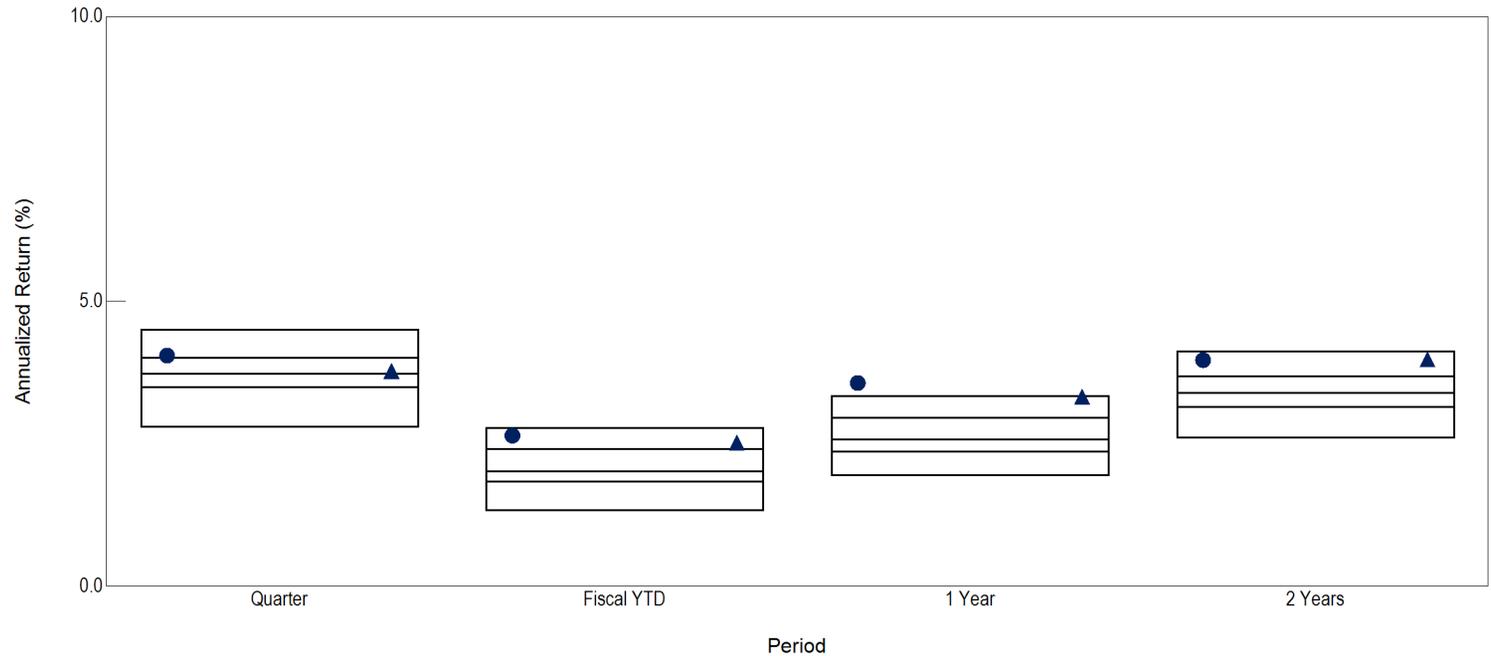
BAIN CAPITAL SENIOR LOAN FUND, LP

Quarterly and Cumulative Excess Performance



BAIN CAPITAL SENIOR LOAN FUND, LP

Bain Capital Senior Loan Fund, LP vs. eV US Float-Rate Bank Loan Fixed Inc Net

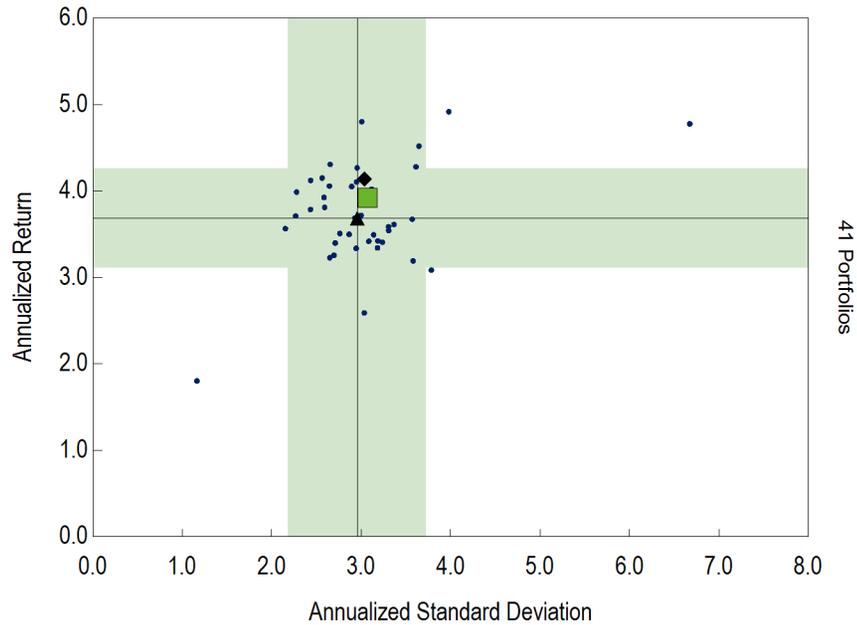


	Return (Rank)			
	Quarter	Fiscal YTD	1 Year	2 Years
5th Percentile	4.51	2.78	3.33	4.12
25th Percentile	4.02	2.42	2.97	3.70
Median	3.74	2.03	2.58	3.40
75th Percentile	3.51	1.85	2.37	3.16
95th Percentile	2.82	1.35	1.96	2.62
# of Portfolios	44	44	43	43
● Bain Capital Senior Loan Fund, LP	4.05 (21)	2.64 (11)	3.57 (3)	3.97 (9)
▲ Credit Suisse Leveraged Loans	3.78 (45)	2.53 (15)	3.33 (6)	3.98 (9)

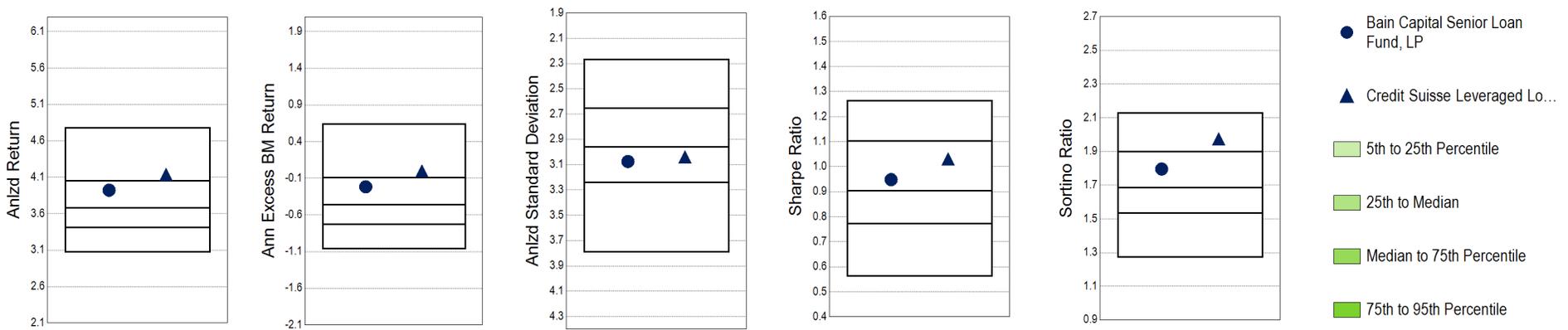
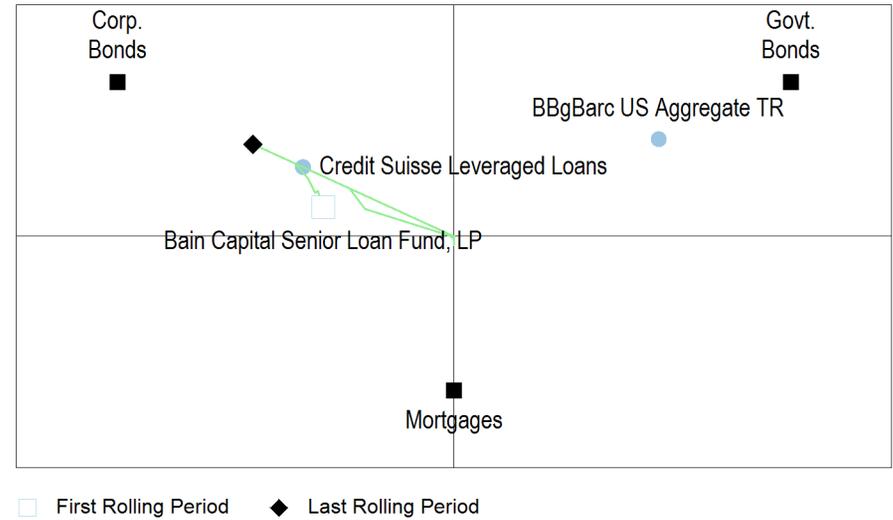


BAIN CAPITAL SENIOR LOAN FUND, LP

Since Inception Risk Return



Since Inception Style Map



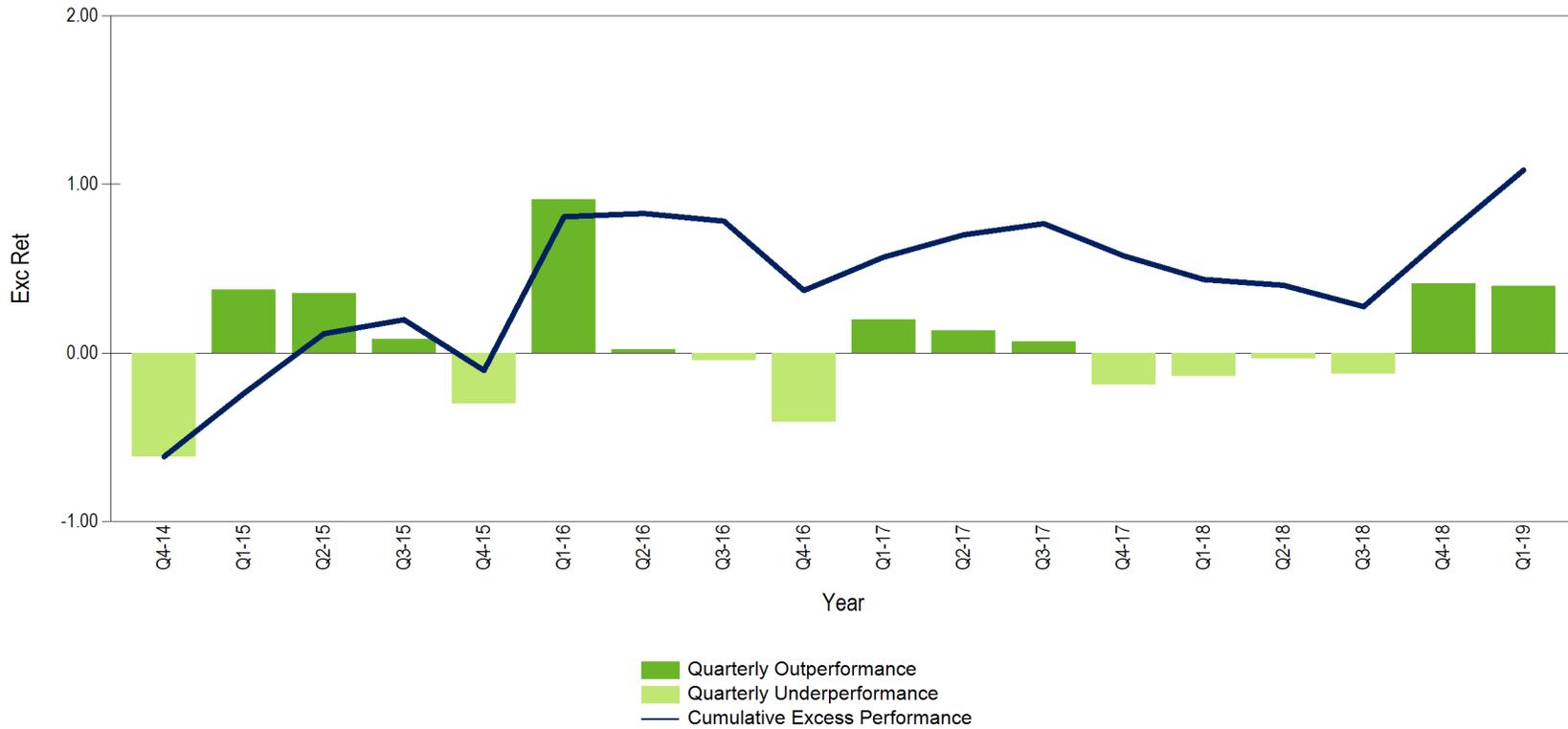
REAL ASSETS MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

DFA US TIPS

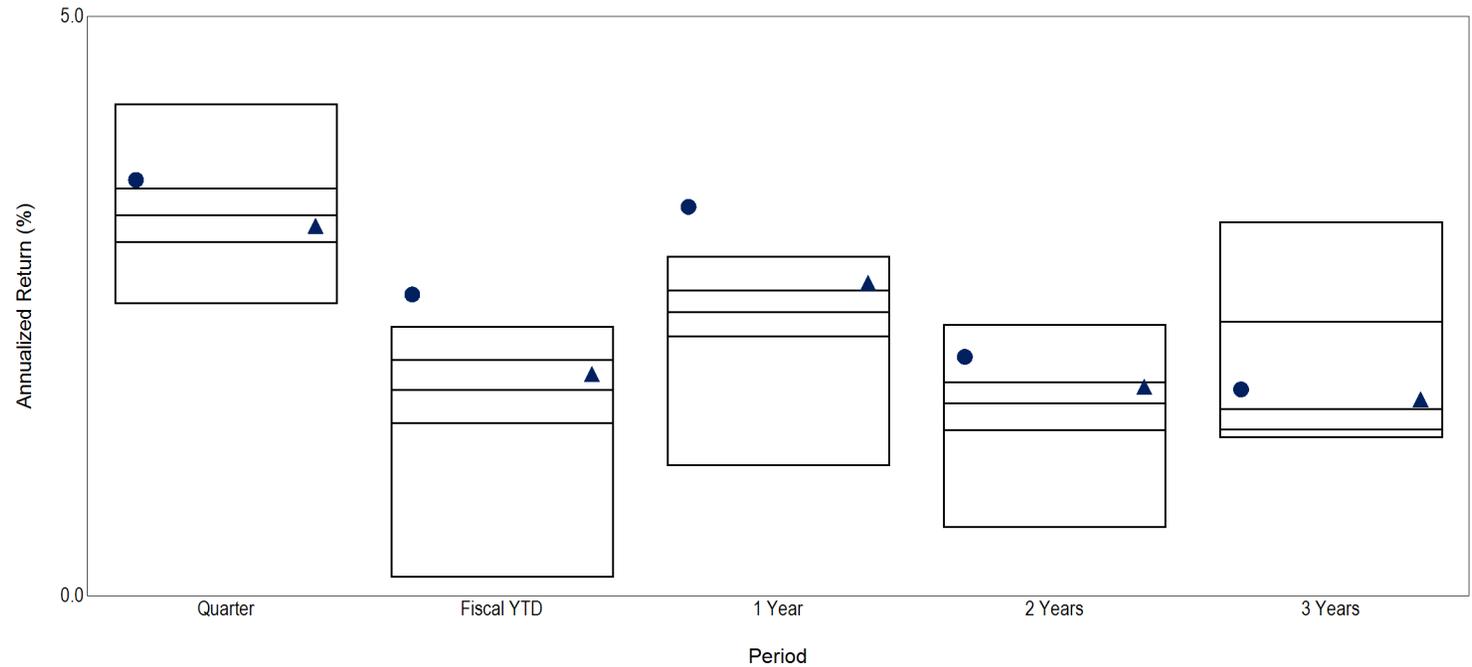
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

DFA US TIPS

DFA US TIPS vs. eV US TIPS / Inflation Fixed Inc Net



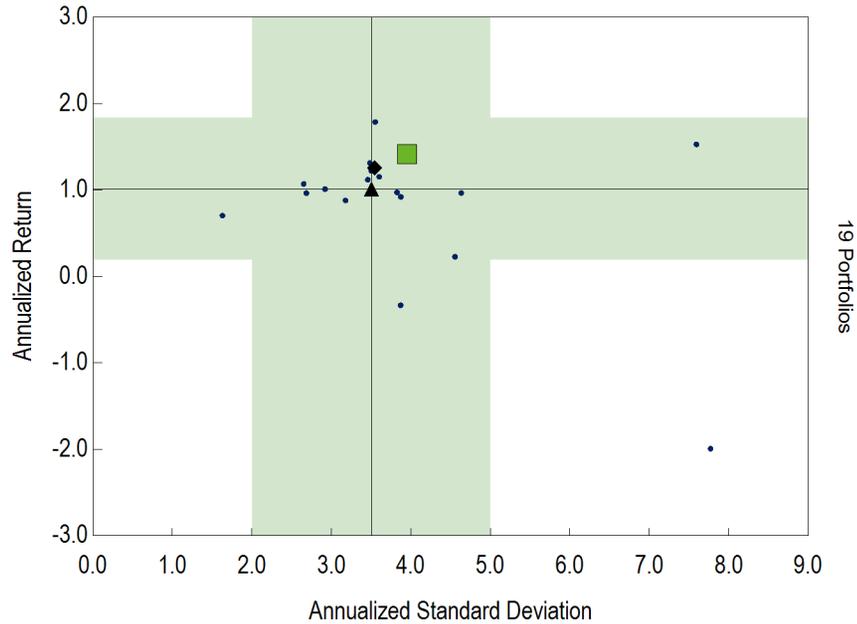
	Return (Rank)									
5th Percentile	4.24		2.33		2.93		2.34		3.23	
25th Percentile	3.52		2.05		2.64		1.85		2.38	
Median	3.29		1.79		2.45		1.67		1.62	
75th Percentile	3.06		1.50		2.25		1.44		1.44	
95th Percentile	2.53		0.17		1.14		0.60		1.38	
# of Portfolios	23		22		22		21		21	
● DFA US TIPS	3.59	(22)	2.60	(1)	3.36	(1)	2.06	(10)	1.78	(36)
▲ BbGBarc US TIPS TR	3.19	(61)	1.92	(36)	2.70	(22)	1.81	(32)	1.70	(43)



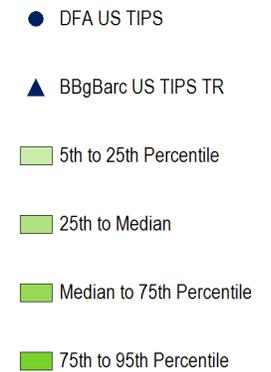
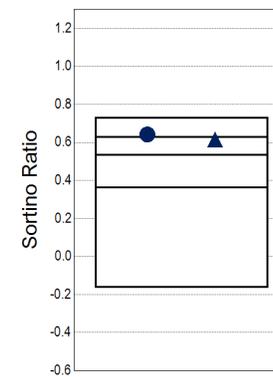
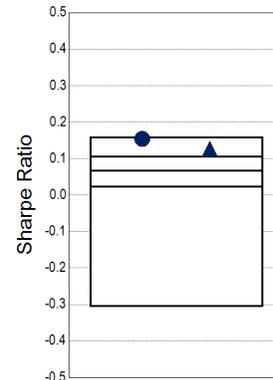
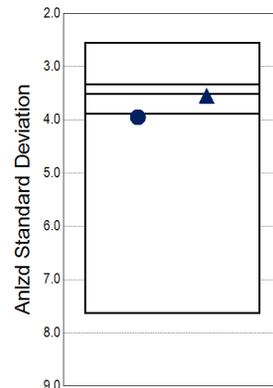
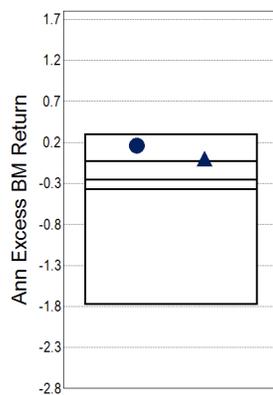
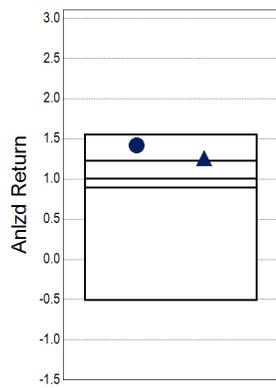
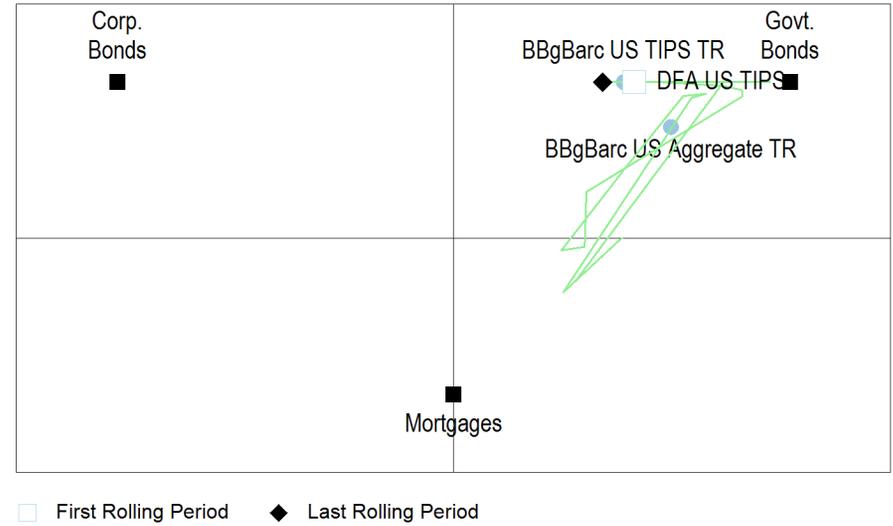
Los Angeles City Employees' Retirement System

DFA US TIPS

Since Inception Risk Return

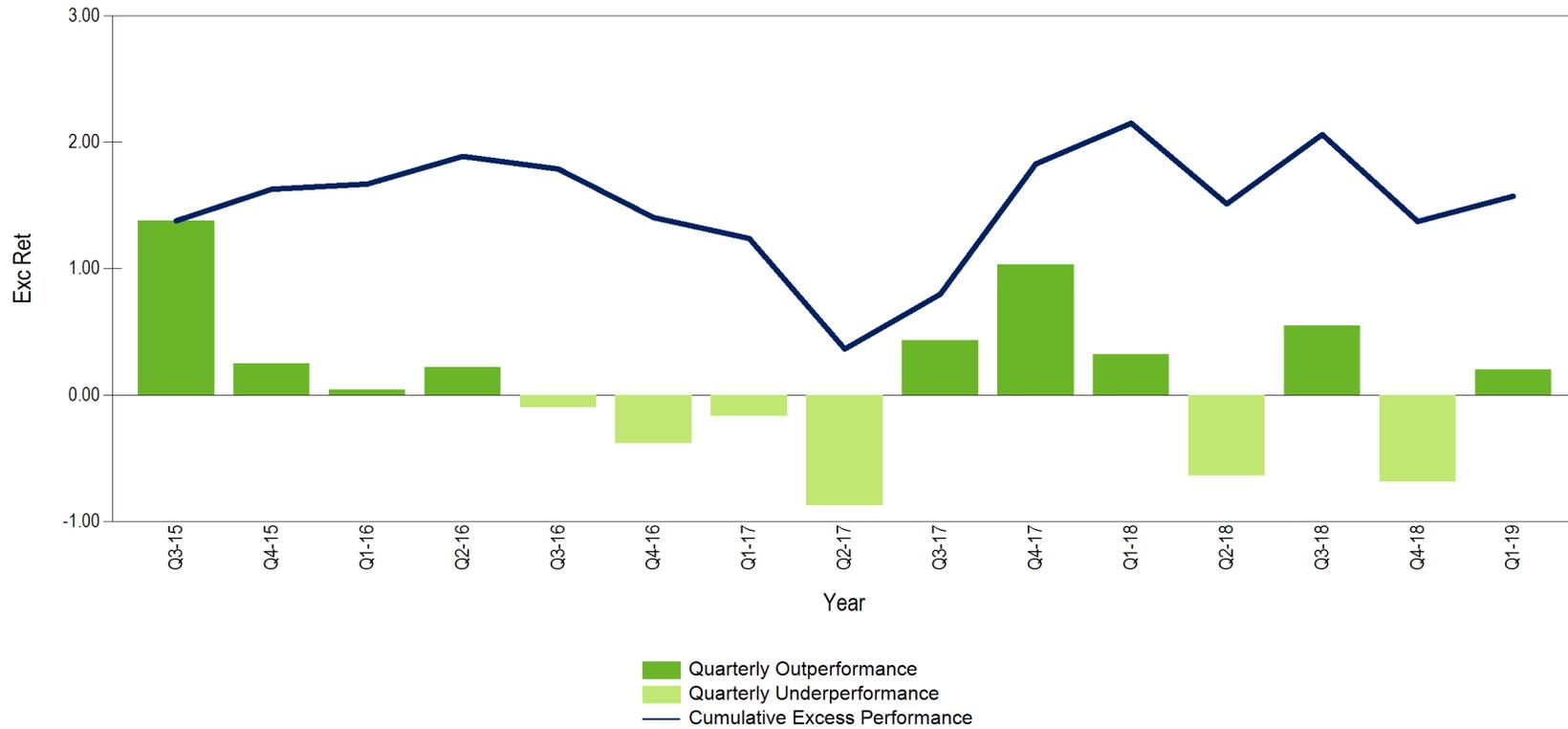


Since Inception Style Map



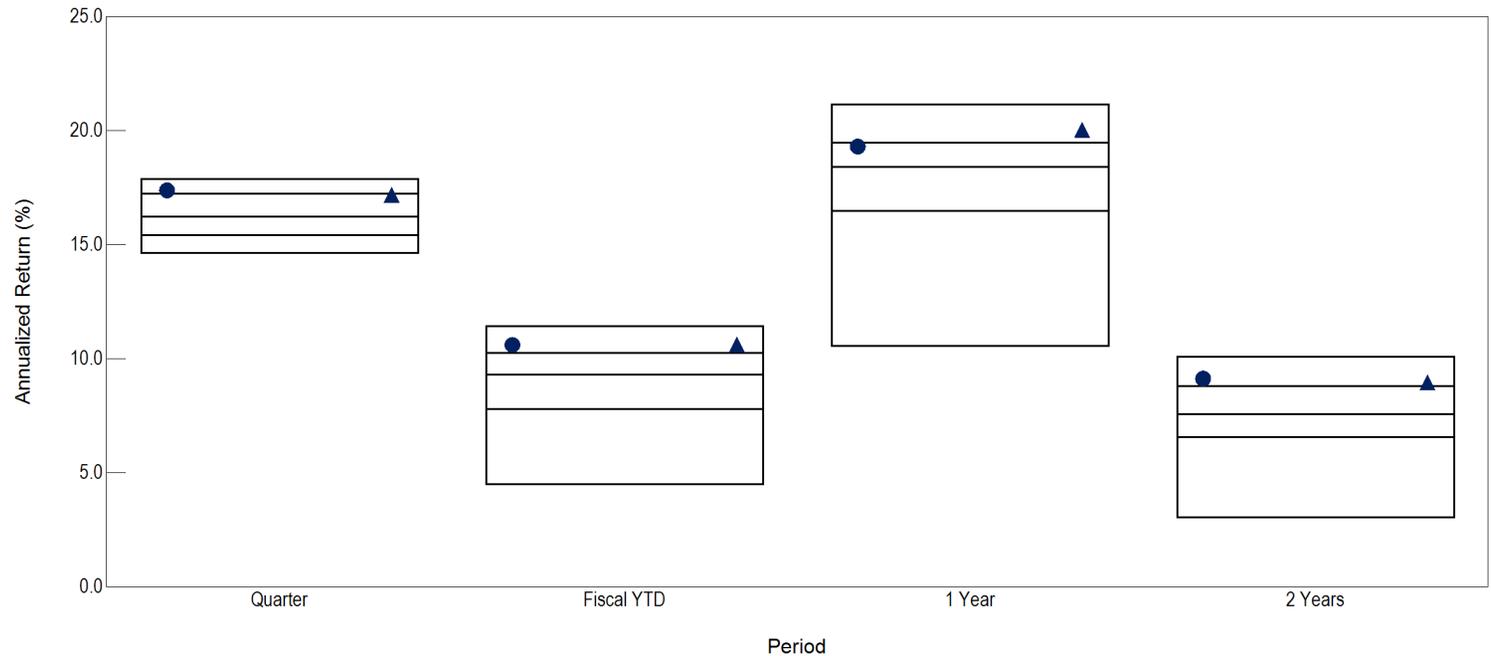
CENTERSQUARE US REAL ESTATE

Quarterly and Cumulative Excess Performance



CENTERSQUARE US REAL ESTATE

CenterSquare US Real Estate vs. eV US REIT Net

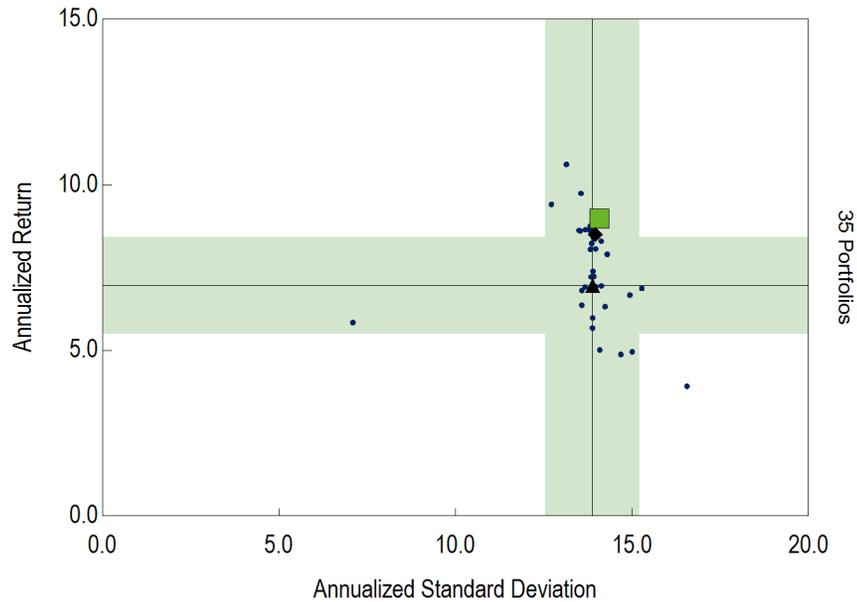


	Return (Rank)							
5th Percentile	17.88		11.42		21.14		10.09	
25th Percentile	17.26		10.28		19.49		8.83	
Median	16.24		9.33		18.44		7.58	
75th Percentile	15.46		7.83		16.49		6.60	
95th Percentile	14.66		4.53		10.60		3.07	
# of Portfolios	38		37		37		36	
● CenterSquare US Real Estate	17.37	(22)	10.60	(20)	19.29	(33)	9.12	(20)
▲ FTSE NAREIT All Equity REIT	17.17	(27)	10.62	(19)	20.02	(17)	8.96	(23)

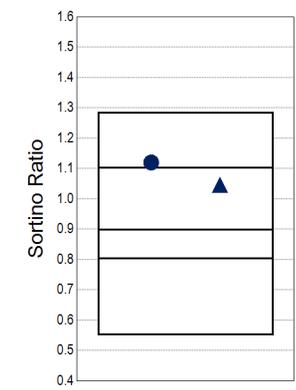
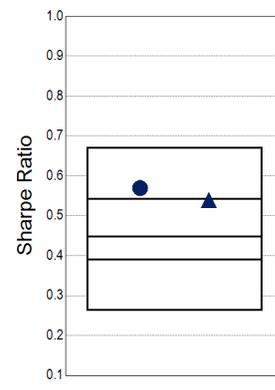
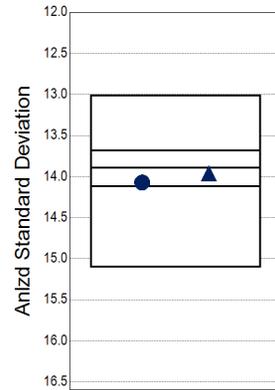
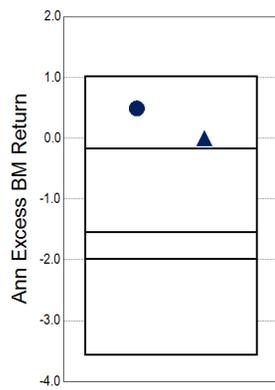
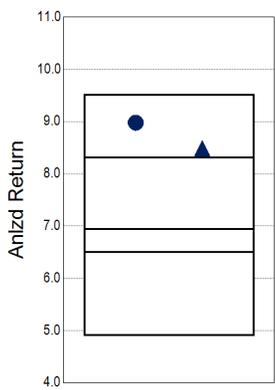
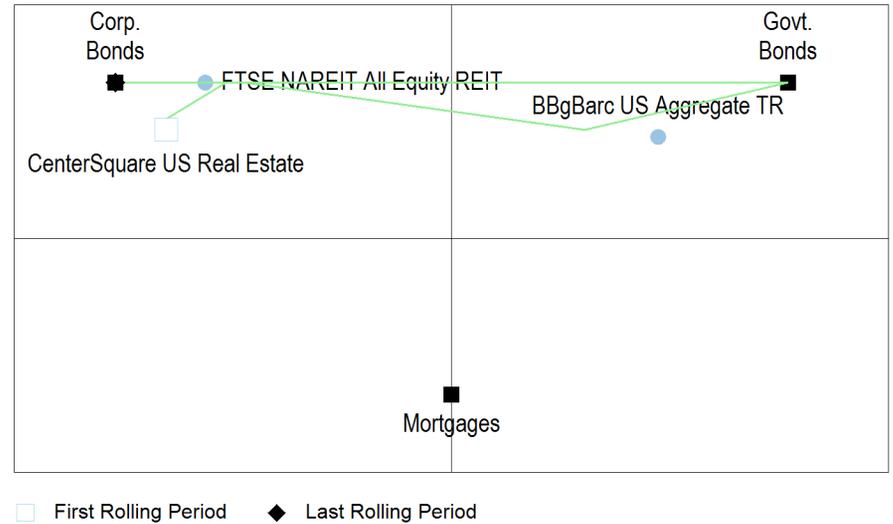


CENTERSQUARE US REAL ESTATE

Since Inception Risk Return



Since Inception Style Map



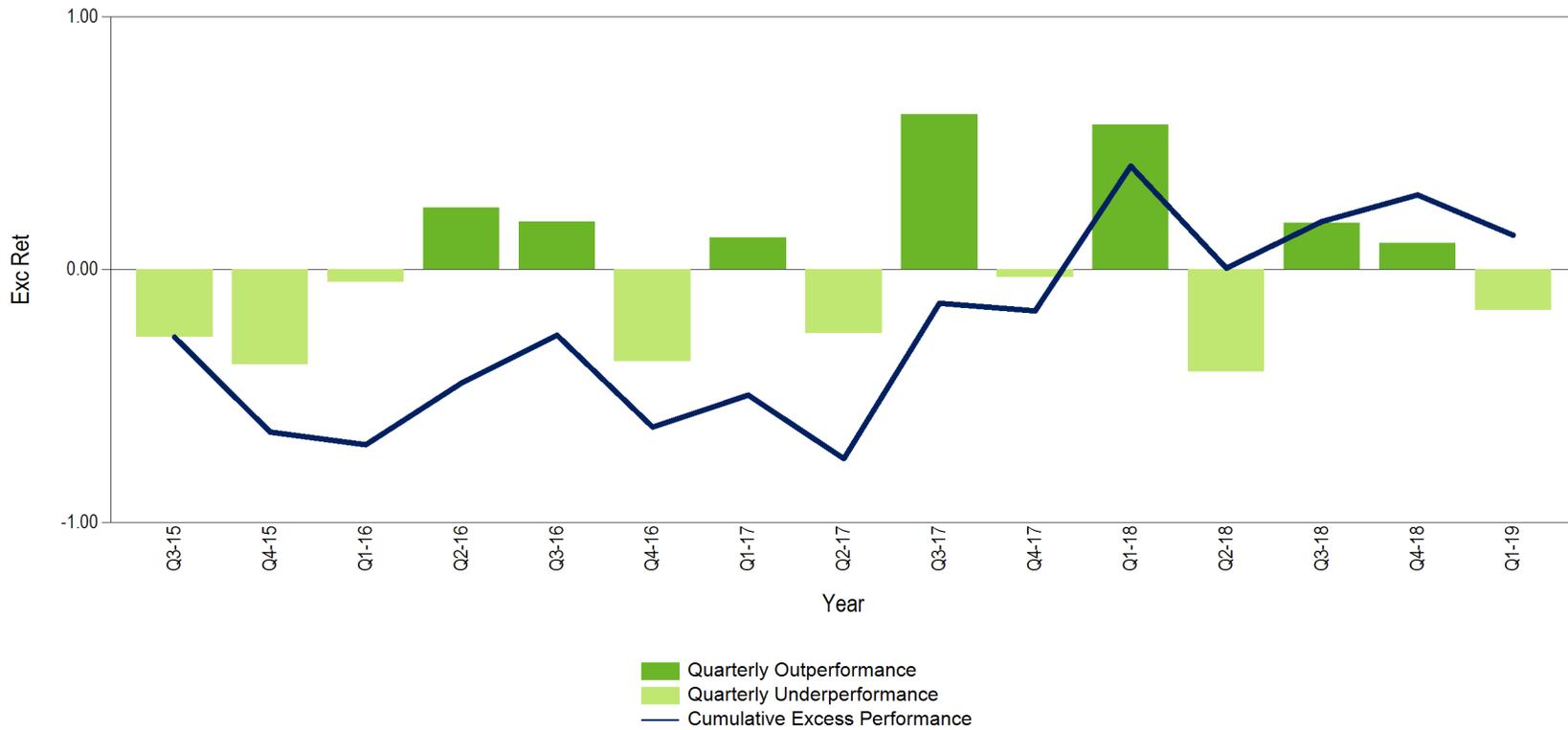
- CenterSquare US Real Estate
- ▲ FTSE NAREIT All Equity REIT
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

CORE COMMODITY MGMT

Quarterly and Cumulative Excess Performance



DEFINITIONS

NEPC, LLC

POLICY INDEX DEFINITIONS

Policy Index: Current (adopted January 10, 2012) 24% Russell 3000 Index, 29% MSCI ACWI ex USA Net Index, 19% Bbg Barclays U.S. Aggregate Bond Index, 5% Credit Opportunities Blend, 10% Real Assets Blend, 12% Private Equity Blend, 1% Citi 3 Month T-Bill Index

U.S. Equity Blend: July 1, 2011 - Current: Russell 3000 Index; September 30, 1994 - December 31, 1999 S&P 500 Index 33.75, Russell 1000 Value Index 35%, Russell 1000 Growth 12.5%, Russell 2000 Value 12.5%, Russell 2000 Growth 6.25%

Core Fixed Income Blend: July 1, 2013 – Current: Bbg Barclays U.S. Aggregate Bond Index

Credit Opportunities Blend: 65% Bbg Barclays U.S. HY 2% Cap Index, 35% JPM EMBIGD Index

Public Real Assets Blend: 60% Bbg Barclays U.S. TIPS Index, 20% Bbg Commodity Index, 10% FTSE NAREIT All Equity Index, 10% Alerian MLP Index

Real Estate Blend: July 1, 2014 - Current NCREIF ODCE + 0.80%; July 1, 2012 - June 30, 2014 NCREIF Property Index Lagged +1%; October 1, 1994 - June 30, 2012 NCREIF Property Index Lagged

Private Equity Blend: February 1, 2012 – current: Russell 3000 + 3%; Inception – January 31, 2012: Russell 3000 + 4%

Note: Policy index definitions do not reflect the updated target asset allocation adopted on April 10, 2018.

Note: See Investment Policy for a full description of the indices listed.



GLOSSARY OF INVESTMENT TERMINOLOGY

Of Portfolios/Observations¹ - The total number of data points that make up a specified universe

Allocation Index³ - The allocation index measures the value added (or subtracted) to each portfolio by active management. It is calculated monthly: The portfolio asset allocation to each category from the prior month-end is multiplied by a specified market index.

Asset Allocation Effect² - Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.

Agency Bonds (Agencies)³ - The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.

Asset Backed Securities (ABS)³ - Bonds which are similar to mortgage-backed securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

Attribution³ - Attribution is an analytical technique that allows us to evaluate the performance of the portfolio relative to the benchmark. A proper attribution tells us where value was added or subtracted as a result of the manager's decisions.

Average Effective Maturity⁴ - For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.

For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.

Batting Average¹ - A measurement representing an investment manager's ability to meet or beat an index.

Formula: Divide the number of days (or months, quarters, etc.) in which the manager beats or matches the index by the total number of days (or months, quarters, etc.) in the period of question and multiply that factor by 100.

Brinson Fachler (BF) Attribution¹ - The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

Brinson Hood Beebower (BHB) Attribution¹ - The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.

Corporate Bond (Corp)⁴ - A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.

Correlation¹ - A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Coupon⁴ – The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the "coupon rate" or "coupon percent rate."

Currency Effect¹ – Is the effect that changes in currency exchange rates over time affect excess performance.

Derivative Instrument² – A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.

Downside Deviation¹ – Equals the standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns.

Formula:

Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.

Duration³ – Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond's duration is inversely related to interest rates and directly related to time to maturity.

Equity/Debt/Cash Ratio¹ – The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. A 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).

Foreign Bond³ – A bond that is issued in a domestic market by a foreign entity, in the domestic market's currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm's debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.

Hard Hurdle⁵ – is a hurdle rate that once beaten allows a fund manager to charge a performance fee on only the funds above the specified hurdle rate.

High-Water Mark⁴ – The highest peak in value that an investment fund/account has reached. This term is often used in the context of fund manager compensation, which is performance based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

Hurdle Rate⁴ – The minimum rate of return on an investment required, in order for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.

Interaction Effects² – The interaction effect measures the combined impact of an investment manager's selection and allocation decisions within a sector. For example, if an investment manager had superior selection and over weighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with the either effect.

Median³ – The value (rate of return, market sensitivity, etc.) that exceeds one-half of the values in the population and that is exceeded by one-half of the values. The median has a percentile rank of 50.

Modified Duration³ – The percentage change in the price of a fixed income security that results from a change in yield.

Mortgage Backed Securities (MBS)³ – Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.

Municipal Bond (Muni)⁴ – A debt security issued by a state, municipality or county to finance its capital expenditures.

Net Investment Change¹ – Is the change in an investment after accounting for all Net Cash Flows.

Performance Fee⁴ – A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Policy Index³ - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in this investment policy statement.

Price to Book (P/B)⁴ - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".

Price to Earnings (P/E)³ - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

Price to Sales (P/S)⁴ - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.

Return on Equity (ROE)⁴ - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

Selection (or Manager) Effect² - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect—the larger the sector, the larger the effect is, positive or negative.

Soft Hurdle rate⁵ - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

Tiered Fee¹ - A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).

Total Effects² - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.

Total Return¹ - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over a defined time period.

Universe³ - The list of all assets eligible for inclusion in a portfolio.

Upside Deviation¹ - Standard Deviation of Positive Returns

Weighted Avg. Market Cap.⁴ - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.

Yield (%)³ - The current yield of a security is the current indicated annual dividend rate divided by current price.

Yield to Maturity³ - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



DISCLOSURES

NEPC, LLC

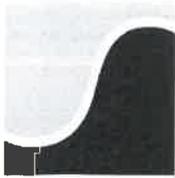
Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.





Report to Board of Administration

Neil M. Guglielmo

From: Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **IX-C**

SUBJECT: PRIVATE CREDIT MANDATE UPDATE AND IMPLEMENTATION AND POSSIBLE BOARD ACTION

Recommendation

That the Board approve the Private Credit Mandate Update and Implementation Plan.

Discussion

On October 9, 2018, the Board approved a Request for Proposal (RFP) process to evaluate the marketplace for private credit investment managers with expertise in originating first lien senior secured loans (i.e., direct lending). Based upon the asset allocation policy targets approved by the Board on April 10, 2018, and the asset allocation implementation plan approved on August 12, 2018, up to approximately \$670 million (3.75% of total fund assets) will be allocated to this mandate.

The Private Credit manager search opened on December 10, 2018, and closed on January 18, 2019. On March 12, 2019, the Investment Committee reviewed and concurred with the six semi-finalist candidates proposed by staff and NEPC, LLC (NEPC), LACERS' General Fund Consultant. However, the Committee expressed concern about fully funding this mandate in the current late stage of the market cycle. The Committee subsequently directed staff and NEPC to develop a plan to implement this mandate over time to manage investment risk. The attached plan (Attachment A) aims to inform the Board of NEPC's current views of the private credit market as well as provide a proposed implementation plan to deploy capital to this sub-asset class.

Strategic Plan Impact Statement

Implementation of the Private Credit Mandate will assist in building a diversified fixed income portfolio to optimize LACERS' long-term risk-adjusted return profile (Goal IV).

This report was prepared by Jimmy Wang, Investment Officer I, Investment Division.

RJ:BF:JW:sg

Attachment: A) NEPC Private Credit Mandate Update and Implementation

PRIVATE CREDIT MANDATE UPDATE AND IMPLEMENTATION

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

May 28, 2019



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

PRIVATE MARKETS OVERVIEW

NEPC, LLC

PRIVATE MARKETS THOUGHTS & ACTIONS

Private Markets Thoughts

- **Fundraising has continued to be robust and efficient—and early**
- **Valuations are still at cyclical highs, but capital put to work in 2019 vintage funds may see attractive buying opportunities**
- **Rising rates, deteriorating credit quality and overall credit levels portend a riskier future for performing credit**

Private Markets Actions

- **Actively manage portfolios: continue to deploy capital thoughtfully, with an eye toward preserving liquidity**
- **Prepare for distressed cycles with commitments to control-/influence-oriented managers with flexible mandates**
- **Continue to seek special situations and credit opportunity strategies predicated on flexibility and value**



STRATEGY IMPLEMENTATION: PRIVATE CREDIT

Strategy		Commentary
Direct Lending	Niche Lending	<ul style="list-style-type: none"> •Look for managers with specialization in particular sectors, industries and market segments which require additional expertise and which are often overlooked by traditional lenders
	US Lending	<ul style="list-style-type: none"> •Relative attractiveness in the lower-to middle market (companies less than \$50m EBITDA); seek managers with historical discipline and transparency •Focus on fees and more liquid vehicle structures
	Europe Lending	<ul style="list-style-type: none"> •Look for managers with an established platform and strong historical market share (“Tier 1” managers) that can navigate multiple markets



LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

NEPC, LLC

IMPLEMENTATION CONSIDERATIONS

- **LACERS should consider a \$200 million allocation to senior secured direct lending strategies; \$100 million each to a U.S. and non-U.S. evergreen fund in 2019**
- **Capital commitment pace is dependent on capital market conditions and is subject to change according to opportunities identified by the investment manager.**
- **LACERS should maintain an active commitment pace in each vintage year going forward, being mindful of the plan's liquidity needs**
 - Annual commitments need to be assessed carefully so as to not over-allocate to illiquid investments
 - Strategies that provide a combination of capital appreciation as well as near-term income or distribution can provide a balanced approach for maintaining private credit exposure while also providing some liquidity
- **Investment Thesis**
 - The private credit program will invest in various strategies with the expectation that the program will achieve returns in excess of the public market returns
 - **Short-term Objective**
 - Utilize strategies that have a short time horizon to liquidity and mitigate the impact of the “J-curve.”
 - **Long-term Objective**
 - Utilize strategies that have a longer time horizon to liquidity and the potential to generate returns in excess of public debt returns
 - **Opportunistic Objective**
 - Distressed strategies are cyclical and will be utilized on an opportunistic basis



ASSUMPTIONS

- **This pacing plan was based on the following assumptions:**
 - LACERS will commit to two evergreen funds over the next ten years
 - \$200 million in 2019
 - \$200 million in 2021
 - \$200 million in 2023
 - \$200 million in 2025
 - \$200 million in 2027
 - For each commitment, the following drawdown schedule is used:
 - Year 1: \$80 million
 - Year 2: \$80 million
 - Year 3: \$40 million
 - Annual return on the private credit portfolio is 7%
 - Distributions on income, not principal, typically begin in year four for each fund
 - Both principal and income generated prior to year four are re-invested in perpetuity
 - The funding source for private credit is passive and active public fixed income
 - As the Private Credit asset class will take several years to build out to the targeted policy allocation as approved by the Board on April 10, 2018, holding uncalled capital commitments in public markets fixed income will result in a marginal decrease in expected returns based on NEPC's forward-looking capital market assumptions.
 - For every 1% unfunded in Private Credit, forward-looking Total Fund returns are decreased by an estimated 0.04% over the five-to-seven year time horizon assuming unfunded capital resides in core fixed income.



PACING PLAN

NEPC, LLC

PLAN OVERVIEW AND ASSUMPTIONS

(\$ in millions)

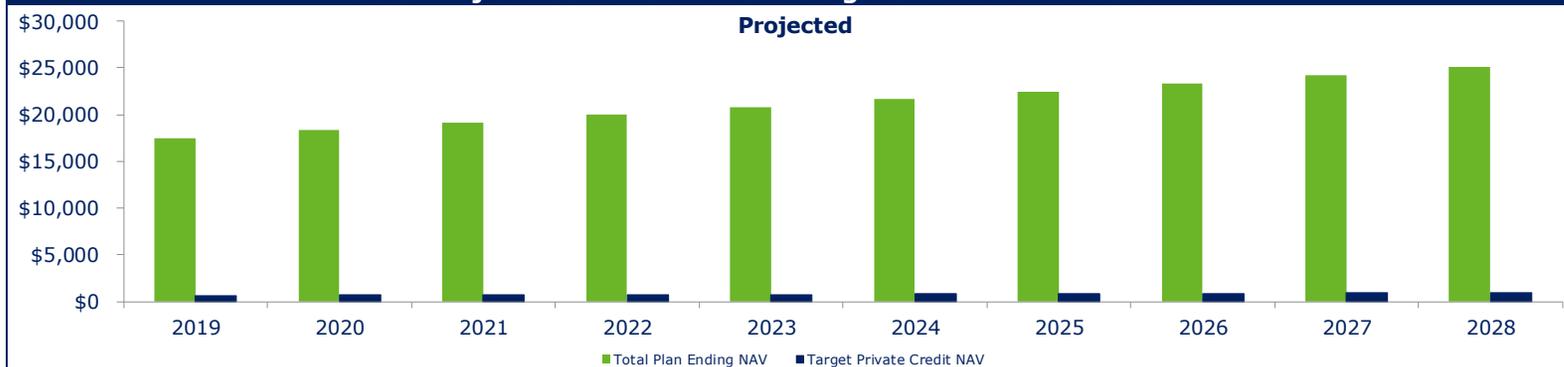
General Plan Assumptions

Total Plan Assets	\$17,206.4	Plan Return Assumptions			
Total Private Credit Assets	\$0.0	2019	2020	2021	
Private Credit Capital to be Funded	\$0.0	Target Investment Return %	2.1%	6.4%	6.4%
Total Private Credit Exposure	\$0.0	Contributions %	1.6%	4.6%	4.5%
Total Private Credit Assets / Total Plan Assets	0.0%	Payouts %	-2.0%	-6.2%	-6.3%
Total Private Credit Exposure / Total Plan Assets	0.0%	Expenses %	-0.1%	-0.2%	-0.2%
Target Private Credit Allocation % (Current Target)	3.75%	Reserve for Expenses %	0.0%	0.0%	0.0%
		Net Growth Rate %	1.6%	4.7%	4.5%
		Plan Data as of:			2/28/2019
		Private Credit Data as of:			2/28/2019

Total Projected Plan Assets

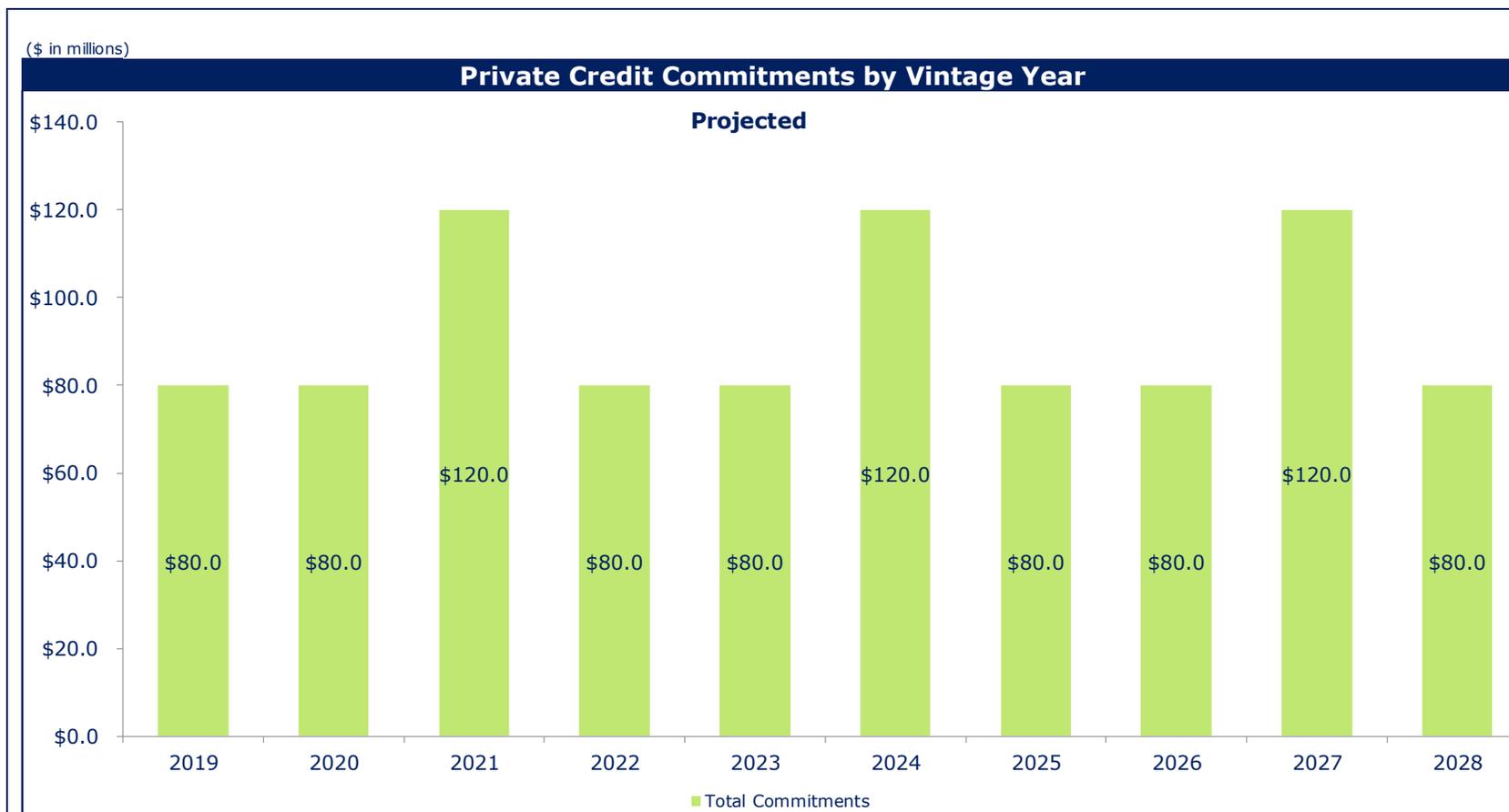
	Projected									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Plan Net Growth Rate	1.6%	4.7%	4.5%	4.4%	4.2%	4.1%	3.8%	3.8%	3.7%	3.8%
Total Plan Beginning NAV	\$17,206	\$17,490	\$18,311	\$19,131	\$19,965	\$20,811	\$21,658	\$22,477	\$23,321	\$24,196
Yearly Net Growth	\$283	\$821	\$820	\$835	\$846	\$846	\$819	\$844	\$874	\$908
Total Plan Ending NAV	\$17,490	\$18,311	\$19,131	\$19,965	\$20,811	\$21,658	\$22,477	\$23,321	\$24,196	\$25,103
Target Private Credit Allocation	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
Target Private Credit NAV	\$656	\$687	\$717	\$749	\$780	\$812	\$843	\$875	\$907	\$941

Total Projected Plan Assets and Target Private Credit Allocation



Note: Growth rates are based on fiscal years

COMMITMENT PACE GOING FORWARD



Private Credit Commitments by Vintage Year

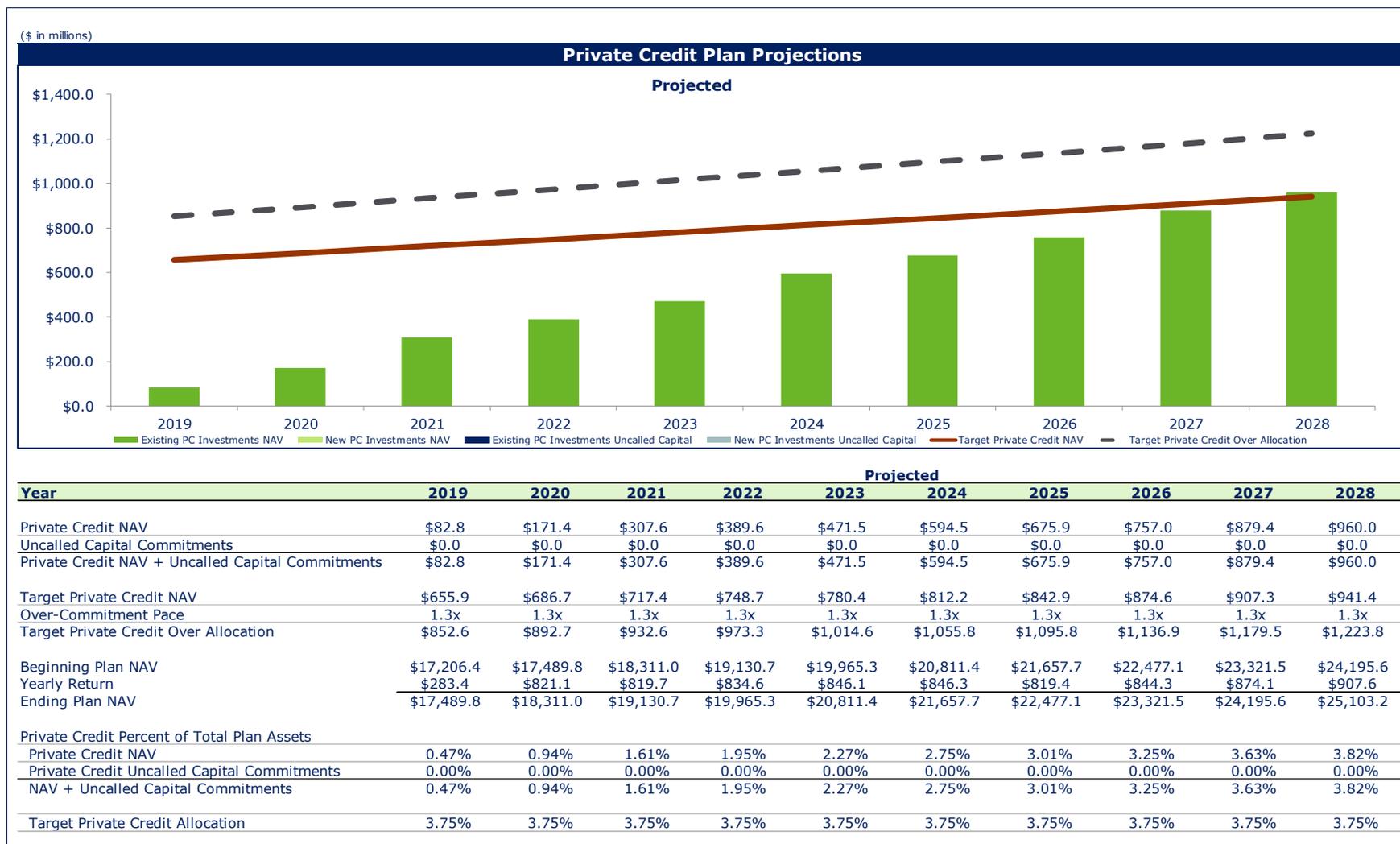
Year	More Certain			Less Certain						
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Commitments	\$80.0	\$80.0	\$120.0	\$80.0	\$80.0	\$120.0	\$80.0	\$80.0	\$120.0	\$80.0

Note: commitment schedule is subject to change and may be impacted by the market conditions and manager commitment pace.

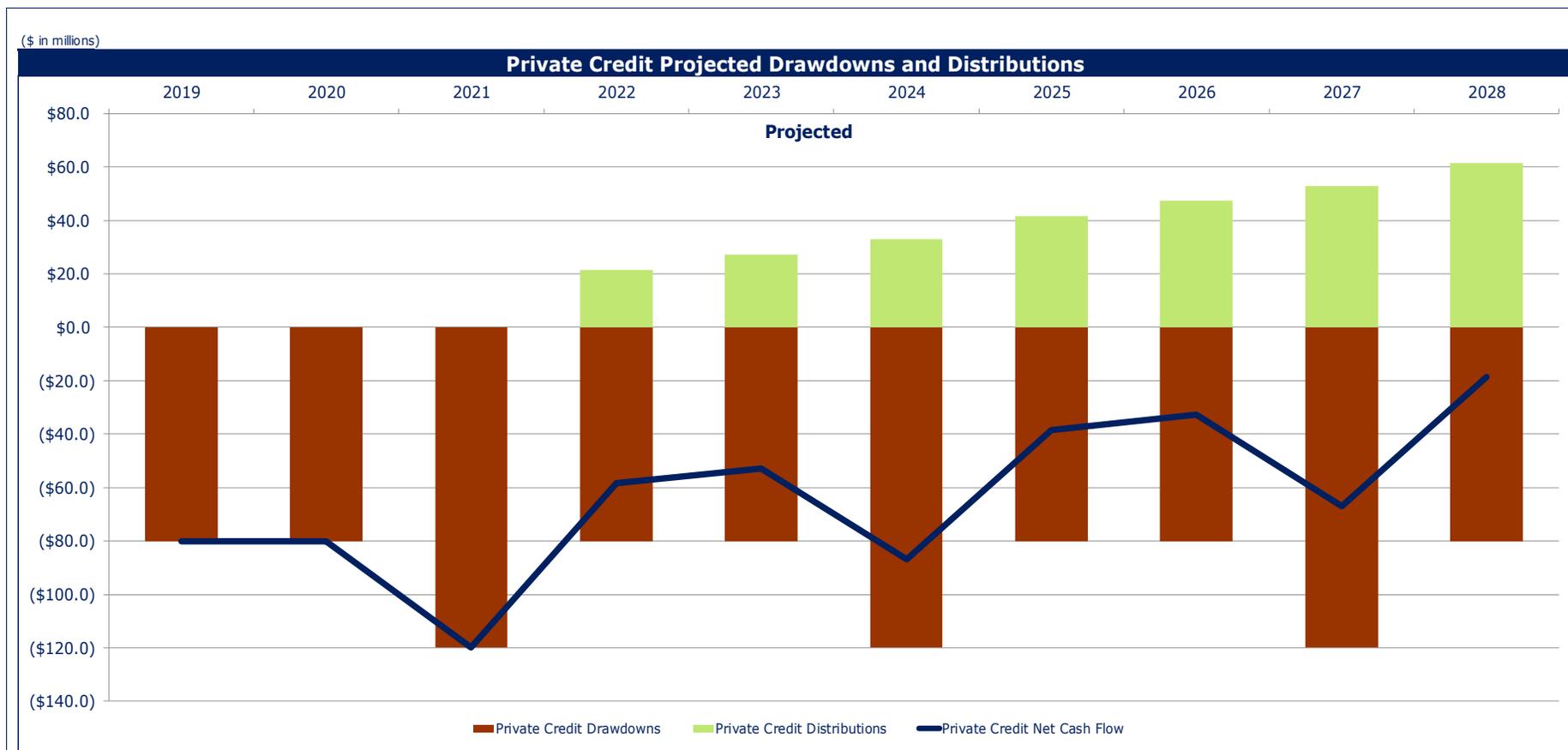


FUND PROJECTIONS

- **Red line** is the 3.75% target Private Markets allocation based on projected plan total NAV; **Black dashed line** is the 1.3x over-commitment.
- Goal is to keep private markets NAV (**green bar**).



PRIVATE CREDIT CASH FLOWS



	Projected										
Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Private Credit Drawdowns	(\$80.0)	(\$80.0)	(\$120.0)	(\$80.0)	(\$80.0)	(\$120.0)	(\$80.0)	(\$80.0)	(\$120.0)	(\$80.0)	
Private Credit Distributions	\$0.0	\$0.0	\$0.0	\$21.5	\$27.3	\$33.0	\$41.6	\$47.3	\$53.0	\$61.6	
Private Credit Net Cash Flow	(\$80.0)	(\$80.0)	(\$120.0)	(\$58.5)	(\$52.7)	(\$87.0)	(\$38.4)	(\$32.7)	(\$67.0)	(\$18.4)	

Note: Distributions are from income after year three of each fund; no principal is being distributed



PRIVATE CREDIT APPENDIX

NEPC, LLC

DIRECT LENDING

NEPC, LLC

DIRECT LENDING

General Market Thoughts

- **Direct Lending: The overall market is saturated and overcrowded**
 - New funds, deregulation around banks and BDCs has made the US overly competitive and commoditized; the middle market remains the most attractive segment based on price premium, leverage characteristics and default and recovery statistics
 - European middle market remains less efficient relative to the US but competition is on the rise; spreads and upfront fees are still higher in Europe; rise in LIBOR benefits investors in USD-denominated vehicles
- **Niche Lending: Sector/industry-focused and specialization strategies can provide interesting opportunities with less correlated risk/return profiles**

Implementation Views	
Strategy	Commentary
Direct Lending	<ul style="list-style-type: none">• US: Relative attractiveness in the lower-to middle market (companies less than \$50m EBITDA); seek managers with historical discipline and transparency• Europe: Tier 1 managers that can navigate multiple markets• Focus on fees and more liquid vehicle structures
Niche Lending	<ul style="list-style-type: none">• Look for managers with specialization in particular sectors, industries and market segments which require additional expertise and are often overlooked by traditional lenders

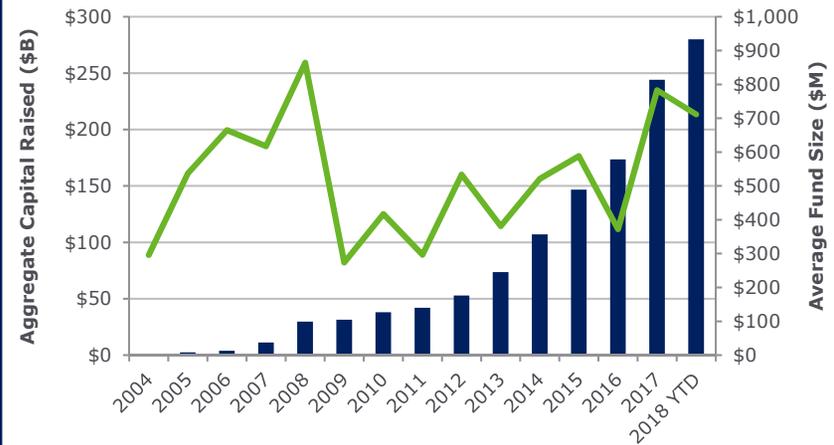


DIRECT LENDING: MARKET ACTIVITY

Comments

- Fundraising for direct lending funds reached an all-time high in 2018 driven primarily by a couple of mega funds in the US and Europe
- Direct lending funds continue to be the majority of funds raising in the market
- Dry powder in the US and Europe has reached an all-time high for each respective geography

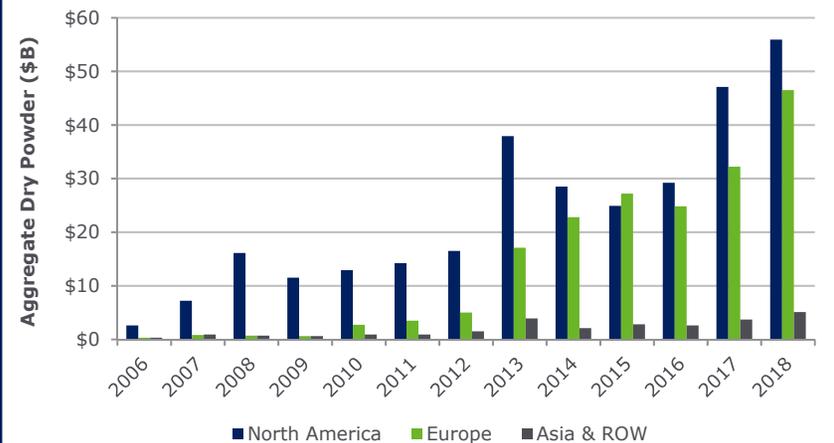
Global Direct Lending Fundraising



Private Credit Fundraising



US and Europe Dry Powder



Source: S&P Capital IQ as of 06/30/2018, Preqin as of 09/30/2018.

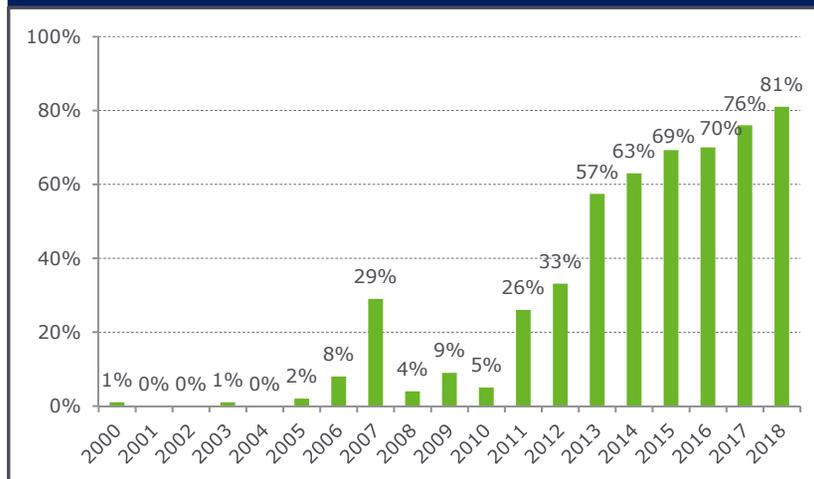


DIRECT LENDING: OVERALL CONCERNS

Comments

- **Covenant-lite loans continue to dominate the market**
 - Even deals with covenants tend to have looser definitions and are less tight than in the past
- **US middle market total debt multiples for sponsored transactions continue to increase; reaching or exceeding pre-crisis levels**
- **First lien spreads per unit of leverage is lower in 2018 versus other years**

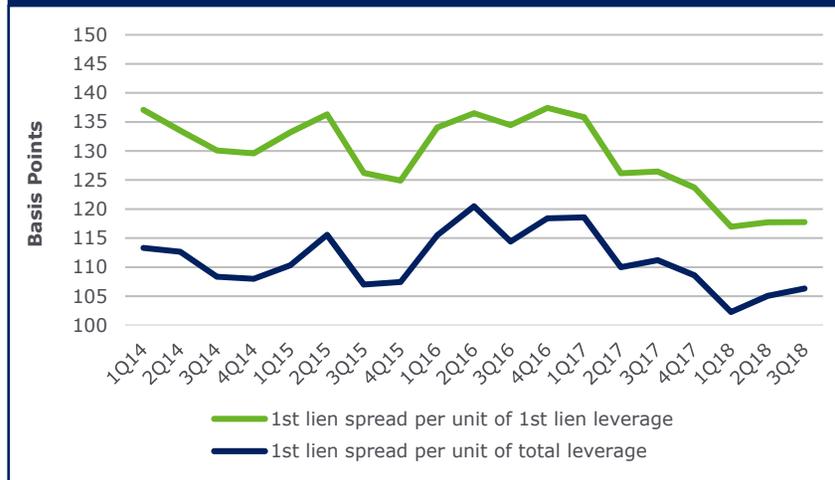
Cov-Lite is King



Middle Market Debt Multiples



Spread Per Unit of Leverage



Source: S&P Capital IQ as of 06/30/2018, Prequin as of 09/30/2018.

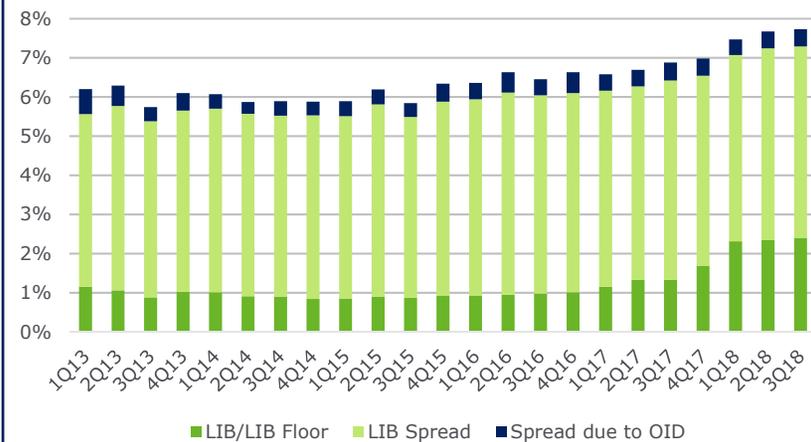


DIRECT LENDING: OVERALL CONCERNS (CONT.)

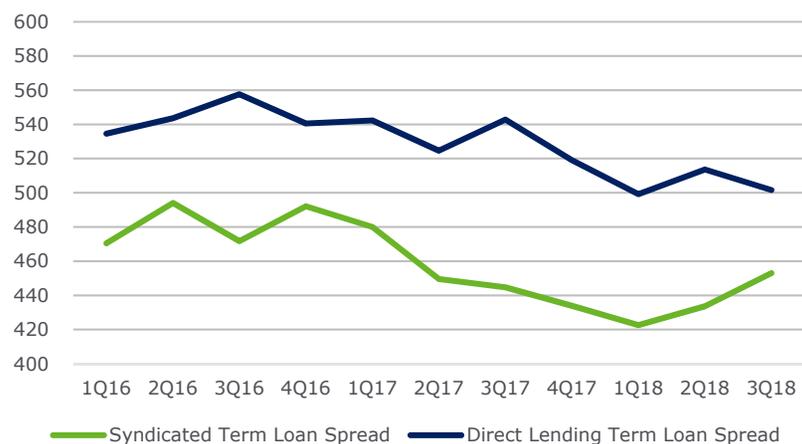
Comments

- The rise in LIBOR and a benign default environment has masked some of the effects of increased competition
- Direct lending still provides a premium over the broadly syndicated market but overall spreads continue to gradually decline
- Banks are pushing leverage following less regulatory scrutiny but has not translated into the middle market yet

All-in Yields



1st Lien Term Loan Spreads



Bank vs. Direct Lending Leverage



Source: Thomson Reuters LPC Middle Market Sponsored Private/Club Deal Analysis as of 09/30/2018.

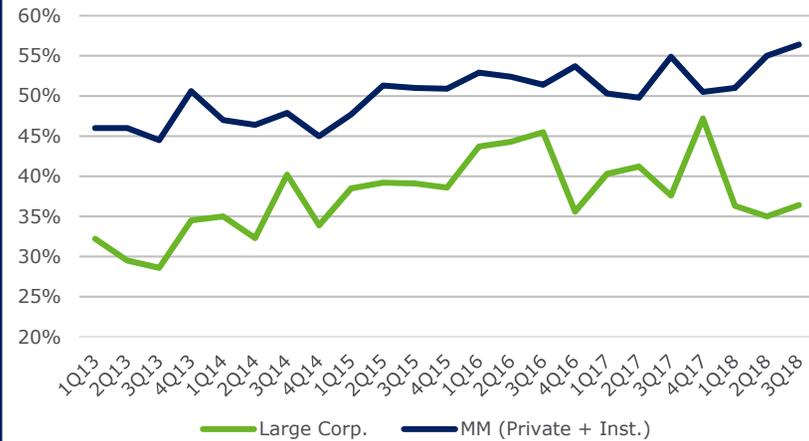


DIRECT LENDING: DEFAULT AND RECOVERY RATES

Comments

- **Even as purchase price multiples increase, middle market companies are better equity capitalized relative to larger deals**
- **Historical default rates have significantly been lower in smaller overall loan sizes; smaller loans sizes equate to loans to smaller companies**
- **Similarly, recovery rates have been slightly higher at this end of the market, in smaller loans sizes, versus the broadly syndicated and bond markets**

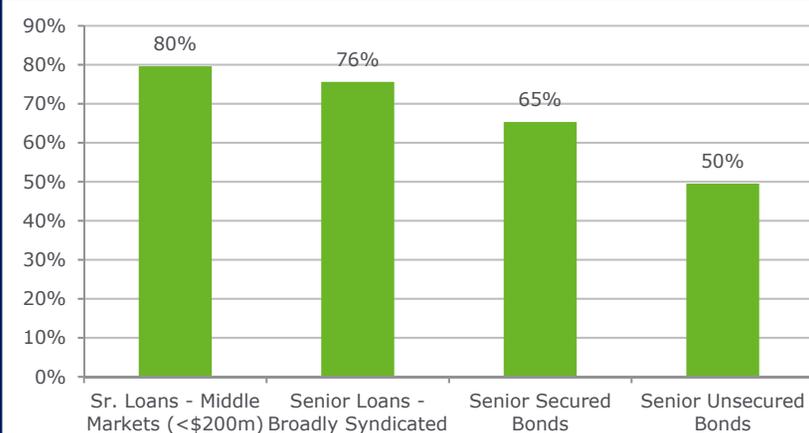
LBO Equity Contribution



Default Rates



Recovery Rates



Source: Thomson Reuters LPC Middle Market Sponsored Private/Club Deal Analysis as of 09/30/2018.

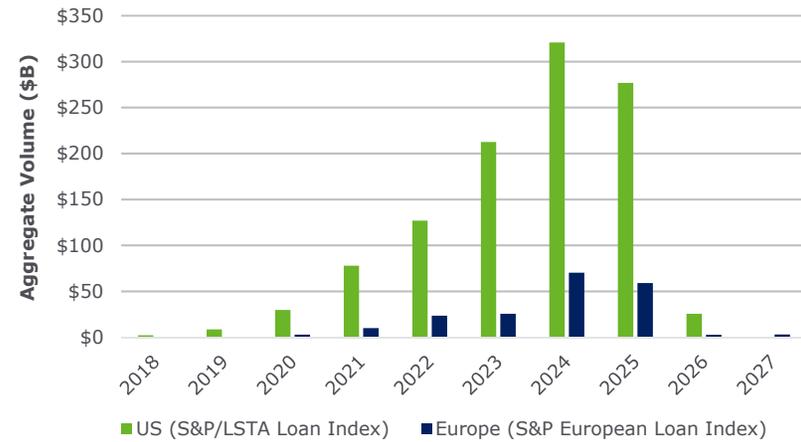


DIRECT LENDING: US VS. EUROPE

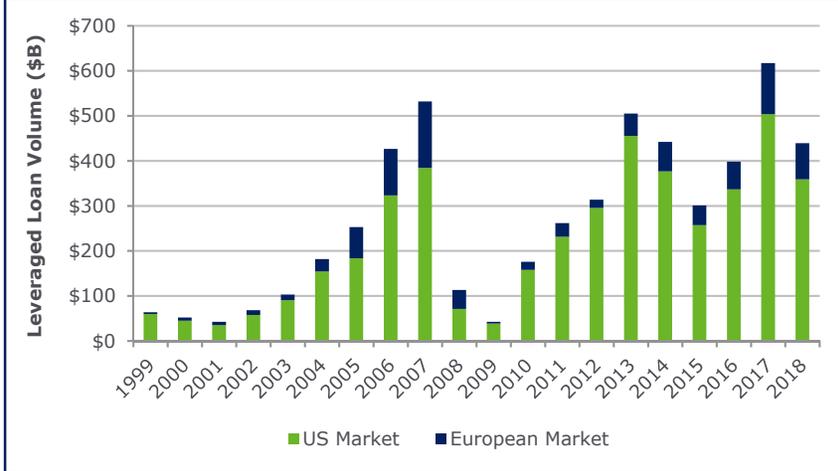
Comments

- **On an absolute and relative basis, the European leveraged loan market is much smaller than the US**
- **In the US broadly syndicated loan market, investment banks are regaining the share they lost to direct lenders on bigger deals following the OCC's looser stance on Leveraged Lending Guidance**
 - Trend is not translating into the middle market

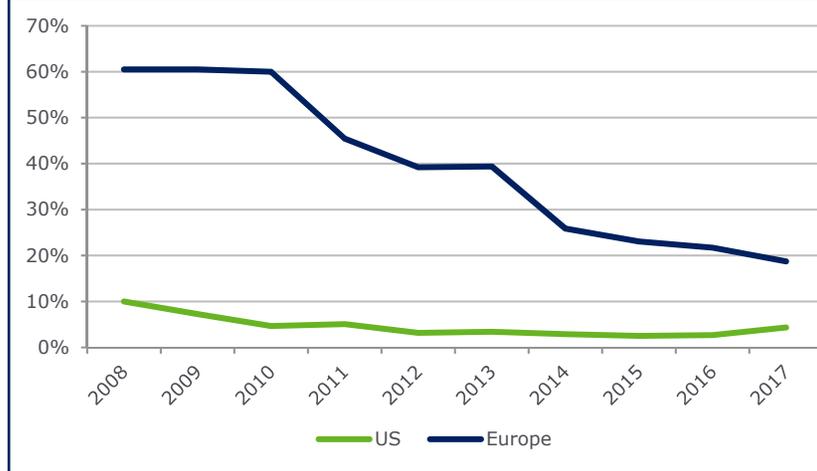
Leveraged Loan Maturity Wall



European Share of Global Leveraged Loan Volume



Banks' Share of Leveraged Loan Market



Source: S&P Capital IQ as of 06/30/2018, Prequin as of 09/30/2018.

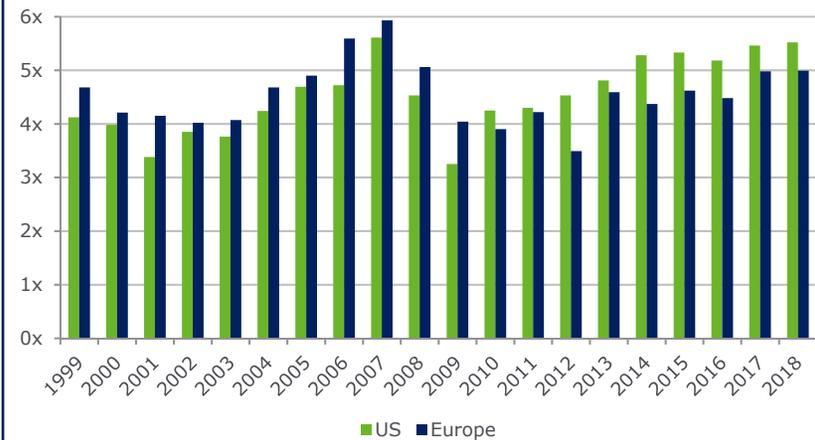


DIRECT LENDING: US VS. EUROPE (CONT.)

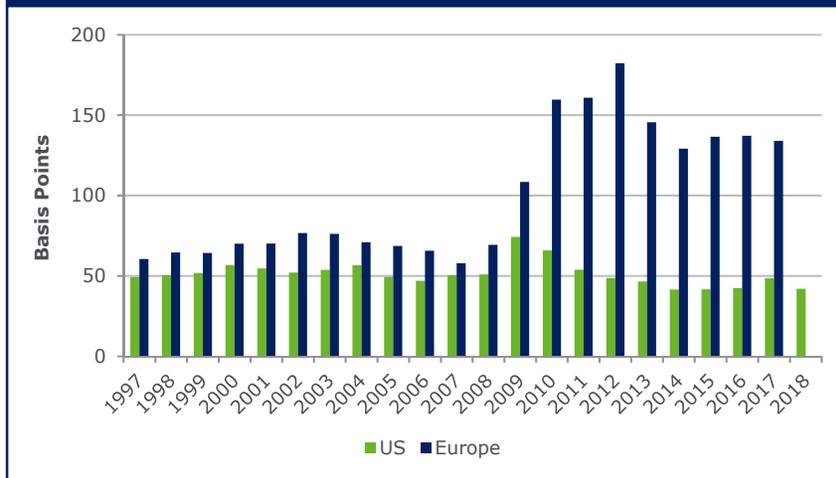
Comments

- Debt multiples for European LBOs still remain approx. 0.5x less levered than its US counterparts
- Upfront and commitment fees average 2-3x higher on European loans
- Default rates in Europe have decreased and become lower than the US in the past couple of years

Middle Market LBO Total Debt/EBITDA*



Upfront/Commitment Fees



Default Rates



Source: S&P Capital IQ LCD European Leveraged Lending Review as of 09/30/2018.

*Middle market defined as companies with less than €/\$50 million of EBITDA.



PACING PLAN DISCLAIMERS

- **NEPC's private markets pacing analysis projects a potential level of future assets and cash flows for a single scenario based on a series of assumptions. This analysis is intended to help estimate future exposure levels. It is not a guarantee of future cash flows, appreciation or returns.**
- **The timing and amounts of projected future cash flows and market values of investments could vary significantly from the amounts projected in this pacing analysis due to manager-specific and industry-wide macroeconomic factors.**
- **Estimates of projected cash flows and market values for existing private markets commitments were made at the Fund level and do not incorporate any underlying portfolio company projections or analysis.**
- **The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
- **Data used to prepare this report was obtained directly from the investment managers and other third parties. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.**
- **This report may contain confidential or proprietary information and is intended only for the designated recipient(s). If you are not a designated recipient, you may not copy or distribute this document.**



ALTERNATIVE INVESTMENT DISCLOSURES

It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds and private equity:

- 1. Performance can be volatile and investors could lose all or a substantial portion of their investment**
- 2. Leverage and other speculative practices may increase the risk of loss**
- 3. Past performance may be revised due to the revaluation of investments**
- 4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms**
- 5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value**
- 6. These funds are not subject to the same regulatory requirements as registered investment vehicles**
- 7. Managers may not be required to provide periodic pricing or valuation information to investors**
- 8. These funds may have complex tax structures and delays in distributing important tax information**
- 9. These funds often charge high fees**
- 10. Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy**





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Private Equity Portfolio Performance Report As of December 31, 2018





- Summary of Activity - 2015 to 2017
- Summary of Activity - 2018
- Overall Comments & Key Statistics



- From 2015 to 2017, LACERS committed approximately \$959.2 million to 51 different private equity funds
- Commitments have largely been focused on the Buyouts sub-sector, followed by Growth Equity and Venture Capital

❖ 2015 - Summary of Activity

- LACERS committed a total of \$310.0 million to 16 different funds
 - Approximately 40% dedicated to Buyouts
 - Approximately 20% dedicated to Growth Equity
 - Approximately 15% dedicated to Venture Capital
 - Approximately 15% dedicated to Distressed
 - Approximately 10% dedicated to Natural Resources

❖ 2016 - Summary of Activity

- LACERS committed a total of \$327.4 million to 19 different funds
 - Approximately 70% dedicated to Buyouts
 - Approximately 10% dedicated to Growth Equity
 - Approximately 10% dedicated to Venture Capital
 - Approximately 5% dedicated to Credit/Distressed
 - Approximately 5% dedicated to Other

❖ 2017 - Summary of Activity

- LACERS committed a total of \$321.8 million to 16 different funds
 - Approximately 60% dedicated to Buyouts
 - Approximately 10% dedicated to Growth Equity
 - Approximately 20% dedicated to Venture Capital
 - Approximately 10% dedicated to Natural Resources

❖ 2018 - Summary of Activity

- As of December 31, 2018 LACERS committed a total of \$418.5 million to 17 different funds
 - Buyout – \$308.5 million committed across 12 funds
 - Growth Equity – \$35.0 million committed across 2 funds
 - Credit/Distressed - \$65.0 million committed across 2 funds
 - Venture Capital- \$10.0 million committed to 1 fund

Closing Date	Fund	Fund Size (\$ M)	New or Existing Relationship	Investment Strategy	Commitment Amount (\$'s M)
2/6/2018	1315 Capital Fund II	\$306	Existing	VC – Late Stage	\$10.0
2/7/2018	Mill Point Capital Partners	\$467	New	Buyout - Small	\$10.0
2/13/2018	American Securities Partners VIII	\$7,000	Existing	Buyout - Large	\$40.0
2/16/2018	Thoma Bravo Discover Fund II	\$2,438	Existing	Buyout - Medium	\$10.0
5/15/2018	Ascribe Opportunities Fund IV	\$1,250 ¹	Existing	Credit / Distressed	\$25.0
5/31/2018	Platinum Equity Small Cap Fund	\$1,500	Existing	Buyout - Medium	\$22.5
6/21/2018	Thoma Bravo Fund XIII	\$12,576	Existing	Buyout - Large	\$30.0
7/10/2018	Baring Asia Private Equity Fund VII	\$5,500 ¹	Existing	Buyout - Large	\$25.0
7/30/2018	ABRY Advanced Securities Fund IV	\$1,624	Existing	Credit / Distressed	\$40.0
8/1/2018	Polaris Growth Fund	\$175	Existing	Growth Equity	\$10.0
8/31/2018	TCV X	\$2,500 ¹	Existing	Growth Equity	\$25.0
8/31/2018	Vista Equity Partners Fund VII	\$12,000 ¹	Existing	Buyout - Large	\$40.0
9/28/2018	Hellman & Friedman Capital Partners IX	\$16,500	Existing	Buyout - Large	\$30.0
10/18/2018	Roark Capital Partners II Side Car	\$1,307	New	Buyout - Medium	\$10.0
10/18/2018	Roark Capital Partners V	\$5,000	New	Buyout - Large	\$15.0
12/4/2018	ABRY Partners IX	\$2,100 ¹	Existing	Buyout - Medium	\$40.0
12/12/2018	Astorg VII	€4,243	Existing	Buyout - Medium	€31.9 ²
Total:					\$418.5

1. Based on target fund size.

2. ~\$36.0 million based on Fx rate of 1.1261 EUR/USD (as of 2/13/19)



- LACERS private equity program is underweight compared to its 14.0% target and has largely been cash flow positive over the past few years
- Overall, LACERS has a relatively well diversified private equity portfolio that is diversified by geography, industry, and vintage year

❖ Exposure

- Since inception, LACERS has committed a total of \$4.5 billion to 257 different funds
- As of December 31, 2018, the Private Equity program had a fair market value of \$1.9 billion
- Total plan assets as of December 31, 2018 were \$16.3 billion
 - Private Equity exposure was 11.6% as of December 31, 2018
 - The Private Equity exposure target is currently 14.0%

❖ Cash Flow Profile

- The Private Equity Portfolio has been cash flow positive overall from 2015 to 2018
 - Cash flow positive in 2015, 2017, and 2018
 - Cash flow negative in 2016

❖ Diversification

- Geographic Diversification: Diversified across geographies with a bias towards North America
- Sector Diversification: Diversified across sectors, with Information Technology representing the largest exposure
- Vintage Year Diversification: Well diversified across vintage years

❖ Performance Since Inception

- The Aggregate Portfolio has generated a Net IRR of 11.1% and a TVPI¹ of 1.54x
 - The Core Portfolio has generated a Net IRR of 11.7% and a TVPI¹ of 1.57x
 - The Specialized Portfolio has generated a Net IRR of 2.0% and a TVPI¹ of 1.12x



Private Equity Portfolio Performance
Review As of December 31, 2018



❖ Aggregate Portfolio Summary as of December 31, 2018¹

- In 2018, LACERS increased its private equity exposure target from 12.0% to 14.0%
- As of December 31, 2018 the aggregate portfolio's fair market value of \$1.9 billion represents 11.6% of Total Plan Assets

Aggregate Portfolio Private Equity Exposure Summary

Total Plan Market Value	\$16,270,764,175
Private Equity Exposure Target (%)	14.0%
Private Equity Exposure Target (\$)	\$2,277,906,985
Current Private Equity Exposure (%)	11.6%
Fair Market Value	\$1,879,311,052

1. December 31, 2018 fund-level data was not made available for three funds as of the date of this report. In such instances, the prior period valuation is used.

❖ Aggregate Portfolio Summary

- LACERS has committed \$4.5 billion to 257 partnerships managed by 122 sponsors since the inception of its private equity program in 1995
- Contributions to and distributions from the aggregate portfolio since inception totaled \$3.5 billion and \$3.4 billion, respectively
- The aggregate portfolio has generated a total value multiple of 1.54x and a Net IRR since inception of 11.1%

Aggregate Portfolio Snapshot			
\$'s in millions			
Portfolio Since Inception	12/31/2018	12/31/2017	Net Change
Partnerships	257	239	18
Active	214	204	10
Inactive	43	35	8
Sponsors	122	119	3
Commitment	\$4,536	\$4,114	\$422
ITD Contributions	\$3,466	\$3,146	\$319
Unfunded Commitment	\$1,169	\$1,027	\$142
ITD Distributions	\$3,422	\$3,083	\$339
Fair Market Value	\$1,879	\$1,719	\$165
Fair Market Value + Distributions	\$5,301	\$4,802	\$503
TVPI	1.54x	1.53x	0.01x
Net IRR	11.1%	11.1%	0.0%

❖ Core & Specialized Portfolio Summaries

- The Core Portfolio accounts for 95.8% of Commitments and 97.0% of the Fair Market Value of the aggregate portfolio
- Both the Core Portfolio and Specialized Portfolio saw performance improvement year over year
- Core Portfolio Net IRR increased by 21 bps while the Specialized Portfolio Net IRR increased by 29 bps
- Distributions outpaced contributions in both the Core and Specialized Portfolios

Core Portfolio Snapshot \$'s in millions				Specialized Portfolio Snapshot \$'s in millions			
Portfolio Since Inception	12/31/2018	12/31/2017	Net Change	Portfolio Since Inception	12/31/2018	12/31/2017	Net Change
Partnerships	234	216	18	Partnerships	23	23	0
Active	198	185	13	Active	16	19	(3)
Inactive	36	31	5	Inactive	7	4	3
Sponsors	107	104	3	Sponsors	21	21	0
Commitment	\$4,345	\$3,923	\$422	Commitment	\$191	\$191	\$0
ITD Contributions	\$3,278	\$2,960	\$318	ITD Contributions	\$188	\$186	\$1
Unfunded Commitment	\$1,166	\$1,021	\$145	Unfunded Commitment	\$4	\$6	(\$2)
ITD Distributions	\$3,267	\$2,948	\$319	ITD Distributions	\$155	\$135	\$20
Fair Market Value	\$1,824	\$1,650	\$174	Fair Market Value	\$56	\$69	(\$14)
Fair Market Value + Distributions	\$5,091	\$4,598	\$493	Fair Market Value + Distributions	\$210	\$204	\$6
TVPI	1.57x	1.56x	0.01x	TVPI	1.12x	1.10x	0.02x
Net IRR	11.9%	11.7%	0.2%	Net IRR	2.0%	1.7%	0.3%

❖ Performance by Strategy

- The Buyout sub-sector represents the aggregate portfolio's largest exposure by fair market value at 51.5%
 - The Buyout sub-sector has outperformed other sub-sectors with a Net IRR & TVPI since inception of 12.2% and 1.64x, respectively
- The Venture Capital sub-sector represents the aggregate portfolio's second largest exposure by fair market value at 16.2%
 - The Venture Capital sub-sector has generated a Net IRR & TVPI since inception of 7.9% and 1.47x, respectively
- The Natural Resources sub-sector, with a fair market value representing 9.1% of the aggregate portfolio, has underperformed relative to other sub-sectors, with a Net IRR & TVPI since inception of 6.4% and 1.20x, respectively

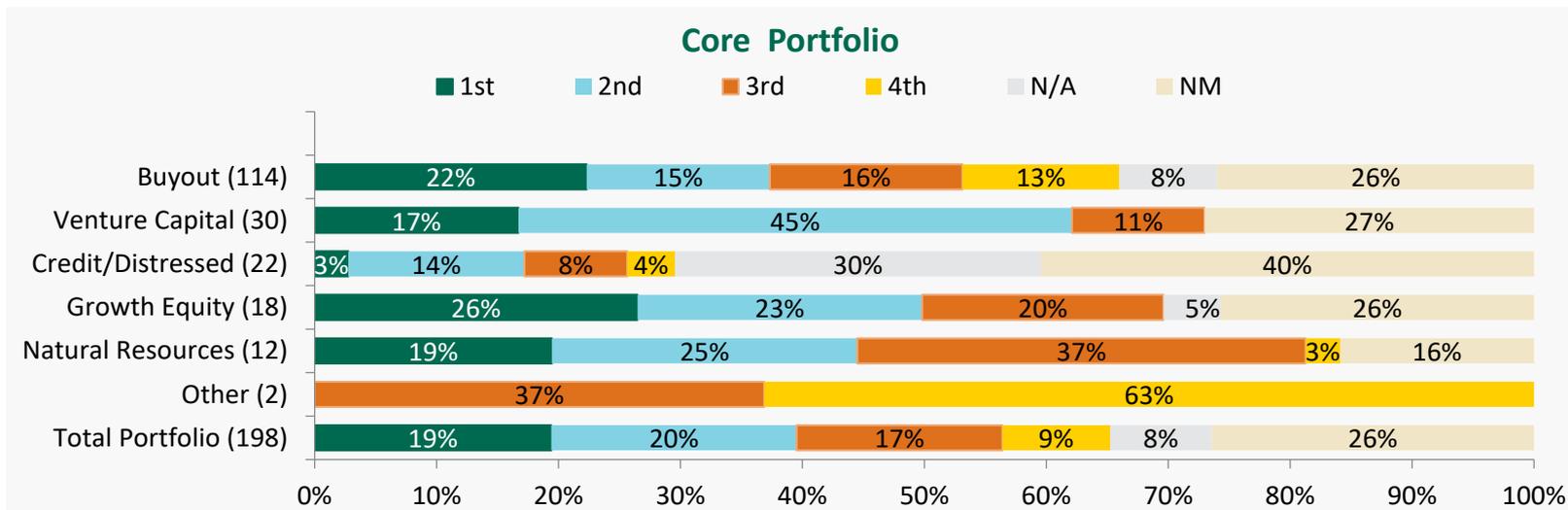
Strategy	Commitment	% of Total	Fair Market Value	% of Total	TVPI	IRR
Buyout	\$2,717,498,975	59.9%	\$965,720,317	51.5%	1.64x	12.2%
Venture Capital	\$532,300,702	11.7%	\$304,917,623	16.2%	1.47x	7.9%
Growth Equity	\$326,540,488	7.2%	\$265,046,877	14.1%	1.59x	11.9%
Natural Resources	\$330,000,000	7.3%	\$171,034,312	9.1%	1.20x	6.4%
Credit/Distressed	\$559,531,007	12.3%	\$139,455,925	7.4%	1.32x	9.5%
Other	\$70,000,000	1.5%	\$33,135,999	1.8%	1.54x	10.1%
Total	\$4,535,871,172	100.0%	\$1,879,311,052	100.0%	1.54x	11.1%

❖ Performance by Strategy and Sub-Strategy

Strategy	Sub-Strategy	Commitment	Contributions	Percent Called	Distributions	Percent Distributed	Fair Market Value	TVPI	IRR
Buyout	Large	\$1,194,606,604	\$914,889,597	76.6%	\$1,128,304,483	94.4%	\$416,440,890	1.70x	14.7%
	Medium	\$1,322,291,810	\$1,005,767,576	76.1%	\$1,145,497,674	86.6%	\$487,111,975	1.64x	11.4%
	Small	\$200,600,561	\$124,021,017	61.8%	\$91,333,204	45.5%	\$62,167,452	1.24x	4.8%
Buyout	Total	\$2,717,498,975	\$2,044,678,189	75.2%	\$2,365,135,361	87.0%	\$965,720,317	1.64x	12.2%
Growth Equity	Growth Equity	\$326,540,488	\$247,651,350	75.8%	\$126,981,796	38.9%	\$265,046,877	1.59x	11.9%
Growth Equity	Total	\$326,540,488	\$247,651,350	75.8%	\$126,981,796	38.9%	\$265,046,877	1.59x	11.9%
Venture Capital	Early Stage	\$113,750,000	\$89,329,274	78.5%	\$97,741,435	85.9%	\$93,367,867	2.14x	43.2%
	Late Stage	\$135,000,000	\$104,908,137	77.7%	\$55,231,707	40.9%	\$68,519,767	1.18x	3.5%
	Multi-Stage	\$283,550,702	\$252,559,116	89.1%	\$196,103,144	69.2%	\$143,029,989	1.35x	5.6%
Venture Capital	Total	\$532,300,702	\$446,796,527	83.9%	\$349,076,286	65.6%	\$304,917,623	1.47x	7.9%
Credit/Distressed	Credit	\$80,000,000	\$28,180,102	35.2%	\$6,398,716	8.0%	\$26,692,449	1.18x	7.5%
	Distressed	\$444,531,007	\$352,300,704	79.3%	\$349,318,757	78.6%	\$110,234,339	1.34x	10.1%
	Mezzanine	\$35,000,000	\$25,205,367	72.0%	\$26,881,204	76.8%	\$2,529,137	1.17x	4.1%
Credit/Distressed	Total	\$559,531,007	\$405,686,173	72.5%	\$382,598,677	68.4%	\$139,455,925	1.32x	9.5%
Natural Resources	Energy	\$330,000,000	\$265,255,325	80.4%	\$147,864,829	44.8%	\$171,034,312	1.20x	6.4%
Natural Resources	Total	\$330,000,000	\$265,255,325	80.4%	\$147,864,829	44.8%	\$171,034,312	1.20x	6.4%
Other	Fund of Funds	\$20,000,000	\$19,178,148	95.9%	\$25,856,969	129.3%	\$6,633,729	1.70x	7.9%
	Secondaries	\$50,000,000	\$36,363,612	72.7%	\$24,468,484	48.9%	\$26,502,270	1.45x	16.1%
Other	Total	\$70,000,000	\$55,541,760	79.3%	\$50,325,453	71.9%	\$33,135,999	1.54x	10.1%
Total	Total	\$4,535,871,172	\$3,465,609,324	76.4%	\$3,421,982,403	75.4%	\$1,879,311,052	1.54x	11.1%

❖ Benchmarking by Strategy – Active Funds

Relative to Total Exposure as of September 30, 2018



Note: All quartiles are based on Cambridge Associates data as of September 30, 2018. The strategy quartile distributions exclude: (a) funds where corresponding benchmark data is not available from Cambridge Associates, (b) funds where LACERS' first capital call date is younger than two years and (c) funds where total exposure is equal to zero. Cambridge Associates data is continually updated and subject to change.

❖ Vintage Year Performance

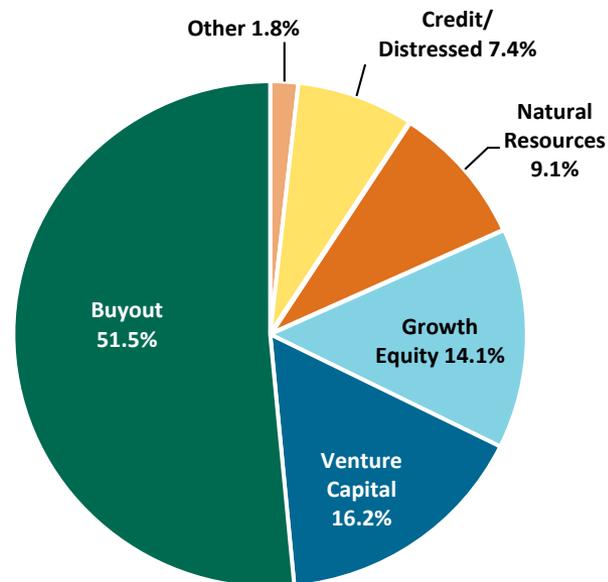
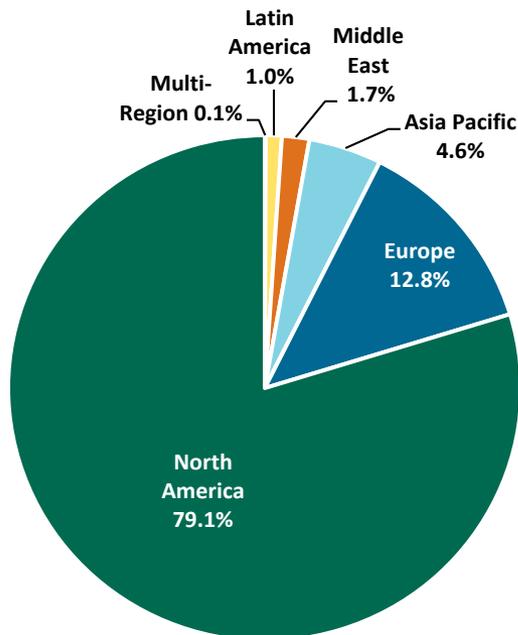
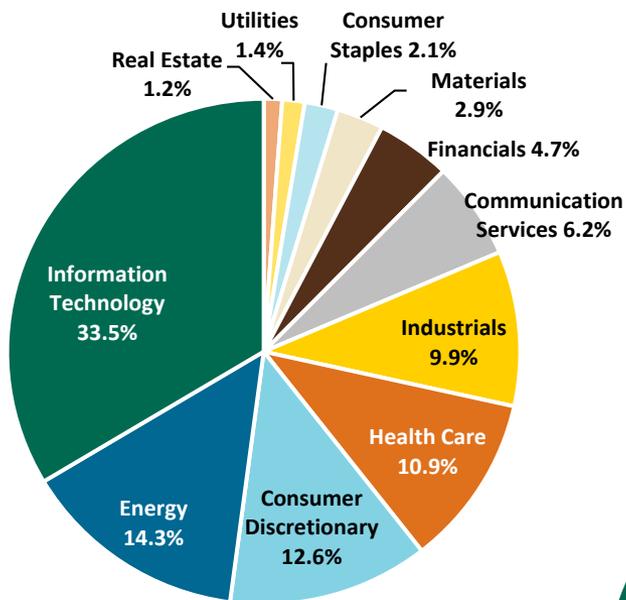
- Aggregate portfolio performance exceeded the Cambridge Associates Benchmark median returns for 15 of the 22 reported vintage years

Vintage Year	Commitment	% of Total	Fair Market Value	% of Total	TVPI	Net IRR	Median Benchmark	Top Quartile Benchmark
1995	\$26,000,000	0.6%	-	0.0%	1.95x	14.5%	15.6%	39.2%
1996	\$23,680,144	0.5%	-	0.0%	2.31x	21.3%	10.1%	27.8%
1997	\$51,000,000	1.1%	-	0.0%	2.02x	19.2%	11.9%	27.0%
1998	\$59,527,473	1.3%	\$779,782	0.0%	1.38x	5.7%	7.8%	15.9%
1999	\$200,642,708	4.4%	\$413,042	0.0%	1.24x	4.2%	2.0%	11.2%
2000	\$162,367,525	3.6%	\$5,879,919	0.3%	1.74x	13.1%	3.9%	12.7%
2001	\$53,300,000	1.2%	\$2,235,118	0.1%	1.77x	16.1%	10.6%	20.5%
2002	\$37,920,417	0.8%	\$3,797,287	0.2%	1.66x	8.9%	11.8%	22.4%
2003	\$146,249,620	3.2%	\$5,790,090	0.3%	2.03x	19.5%	10.4%	18.2%
2004	\$97,063,972	2.1%	\$17,422,618	0.9%	1.77x	12.7%	7.6%	14.0%
2005	\$192,258,913	4.2%	\$13,878,876	0.7%	1.53x	7.7%	7.0%	11.2%
2006	\$331,468,520	7.3%	\$59,480,585	3.2%	1.34x	5.2%	7.6%	11.7%
2007	\$225,490,548	5.0%	\$73,707,172	3.9%	1.72x	11.9%	9.2%	13.7%
2008	\$264,170,447	5.8%	\$92,673,521	4.9%	1.77x	13.6%	10.1%	15.8%
2009	\$45,000,000	1.0%	\$23,827,768	1.3%	1.48x	9.4%	13.2%	19.0%
2010	\$175,000,000	3.9%	\$75,867,645	4.0%	1.52x	11.6%	12.9%	18.3%
2011	\$276,470,874	6.1%	\$249,230,307	13.2%	1.83x	16.3%	13.7%	19.2%
2012	\$180,914,286	4.0%	\$152,579,654	8.3%	1.52x	13.7%	13.0%	19.6%
2013	\$225,000,000	5.0%	\$227,685,067	12.1%	1.49x	13.3%	13.5%	18.7%
2014	\$315,000,000	6.9%	\$283,916,491	15.1%	1.47x	14.7%	14.6%	21.5%
2015	\$285,625,875	6.3%	\$251,403,967	13.3%	1.34x	16.5%	14.1%	23.2%
2016	\$342,121,713	7.5%	\$227,137,427	12.1%	1.16x	12.1%	9.5%	23.4%
2017	\$360,218,377	7.9%	\$95,462,798	5.1%	1.00x	0.3%	NM	NM
2018	\$218,255,896	4.8%	\$16,175,128	0.9%	1.04x	17.4%	NM	NM
2019	\$241,123,864	5.3%	-\$33,210	0.0%	NM	NM	NM	NM
Total	\$4,535,871,172	100%	\$1,879,311,052	100%	1.54x	11.1%	9.6%	17.4%

Note: Performance of investments held less than two years is generally not meaningful and therefore Net IRRs and TVPIs have been excluded, however, they are included in the totals.

❖ Portfolio Diversification

Based on Fair Market Value as of December 31, 2018¹



Note: Strategy chart is based on fund-level data while Industry and Geography charts are based on underlying portfolio company data.
1. In some instances, December 31, 2018 data was not made available by the general partner.

❖ Portfolio Performance

Aggregate Portfolio (Core & Specialized Managers) of \$4.5 billion of closed commitments has been grouped into vintage year buckets

- “Mature” bucket (\$109.7 million of fair market value with vintage years ranging from 1995-2006)
 - There was minimal change year over year with respect to TVPI and Net IRR and there is little potential for growth or decline to occur in these investments given the small Fair Market Value relative to other buckets
- “Maturing” bucket (\$667.9 million of fair market value with vintage years ranging from 2007-2012)
 - There was change year over year with respect to TVPI and Net IRR and there is still potential for growth or decline to occur in these investments
 - The bulk of the near term distributions are expected to come from the “Maturing” bucket
- “Developing” bucket (\$1,101.7 million of fair market value with vintage years ranging from 2013-2019)
 - There was significant change year over year with respect to TVPI and there is still potential for growth or decline to occur in these investments
 - The bulk of the near term contributions are expected to come from the “Developing” bucket

\$'s in millions									
Vintage Years	LTM Contributions	ITD Contributions	LTM Distributions	ITD Distributions	Fair Market Value	12/31/2017 TVPI	12/31/2018 TVPI	12/31/2017 Net IRR	12/31/2018 Net IRR
Mature (1995-2006)	\$0.6	\$1,365.2	\$52.4	\$2,053.7	\$109.7	1.58x	1.58x	10.1%	10.1%
Maturing (2007-2012)	\$19.4	\$1,089.2	\$158.8	\$1,155.5	\$667.9	1.64x	1.69x	13.6%	13.2%
Developing (2013-2019)	\$299.5	\$1,011.3	\$127.6	\$212.8	\$1,101.7	1.26x	1.32x	14.0%	14.0%
Total Portfolio	\$319.5	\$3,465.6	\$338.8	\$3,422.0	\$1,879.3	1.53x	1.54x	11.1%	11.1%

❖ Five Largest Sponsors by Exposure

- The top five sponsors by exposure account for 20.9% of aggregate portfolio exposure and 14.0% of aggregate portfolio commitments

Firm	Number of Funds	Commitment	% Total Comm	Exposure (FMV + Unfunded)	% Exposure	TVPI	Net IRR
Vista Equity Partners	7	\$185,000,000	4.1%	\$196,913,950	6.5%	2.12x	23.1%
ABRY Partners	6	\$135,000,000	3.0%	\$137,372,609	4.5%	1.24x	8.4%
EnCap Investments	4	\$120,000,000	2.6%	\$105,436,736	3.5%	1.19x	7.6%
Thoma Bravo	5	\$90,000,000	2.0%	\$103,072,154	3.4%	1.51x	18.6%
Technology Crossover Ventures	5	\$104,500,000	2.3%	\$94,872,433	3.1%	1.86x	14.5%
Total	27	\$634,500,000	14.0%	\$637,667,882	20.9%	1.68x	16.8%

❖ Annual Net Cash Flow Summary

- Over the 24 year period that LACERS has contributed to private equity investments, LACERS portfolio saw 16 years of contributions outpacing distributions, representing 66.7% of the time
- With the exception of 2016, annual portfolio distributions have outpaced contributions since 2011, representing a cash flow positive profile

Year	Contributions	Distributions	Cumulative Net Cash Flow
\$'s in millions			
1995	\$1.5	\$0.0	(\$1.5)
1996	\$15.8	\$0.1	(\$15.8)
1997	\$28.3	\$0.9	(\$27.3)
1998	\$33.6	\$3.3	(\$30.3)
1999	\$55.9	\$22.7	(\$33.2)
2000	\$111.8	\$47.3	(\$64.5)
2001	\$52.8	\$34.2	(\$18.6)
2002	\$61.2	\$28.0	(\$33.2)
2003	\$57.7	\$58.4	\$0.8
2004	\$101.7	\$101.2	(\$0.5)
2005	\$147.2	\$112.7	(\$34.6)
2006	\$193.3	\$157.9	(\$35.4)
2007	\$236.1	\$210.5	(\$25.6)
2008	\$208.2	\$79.2	(\$129.1)
2009	\$100.6	\$63.1	(\$37.5)
2010	\$180.2	\$144.0	(\$36.2)
2011	\$174.2	\$212.1	\$37.9
2012	\$205.1	\$301.9	\$96.8
2013	\$139.2	\$318.4	\$179.2
2014	\$258.4	\$316.6	\$58.2
2015	\$272.5	\$293.8	\$21.3
2016	\$272.4	\$242.4	(\$30.0)
2017	\$238.6	\$334.6	\$96.0
2018	\$319.5	\$338.8	\$19.3
Total	\$3,465.6	\$3,422.0	(\$43.6)

❖ Aggregate Portfolio Cash Flow Summary

- Cumulative contributions and distributions totaled \$3,465.6 million and \$3,422.0 million, respectively





Appendix

- **Core Portfolio Summary as of 12/31/2018 - Active**
- **Core Portfolio Summary as of 12/31/2018 - Inactive**

- **Specialized Portfolio Summary as of 12/31/2018 - Active**
- **Specialized Portfolio Summary as of 12/31/2018 - Inactive**

CORE PORTFOLIO SUMMARY

AS OF 12/31/2018 - ACTIVE



Fund	Strategy	Sub-Strategy	Vintage Year	USD Commitment	USD ITD Contributions	USD ITD Distributions	USD Fair Market Value	Net IRR	Recommended by
1315 Capital Fund	Venture Capital	Late Stage	2015	10,000,000	6,551,060	1,910,892	5,645,049	8.1%	Portfolio Advisors
1315 Capital Fund II	Venture Capital	Late Stage	2018	10,000,000	0	0	-18,450	0.0%	Portfolio Advisors
ABRY Advanced Securities Fund III	Credit/Distressed	Credit	2014	20,000,000	12,236,246	1,628,803	12,818,300	6.8%	Portfolio Advisors
ABRY Advanced Securities Fund IV	Credit/Distressed	Credit	2018	40,000,000	0	0	0	0.0%	Portfolio Advisors
ABRY Heritage Partners	Buyout	Small	2016	10,000,000	3,150,164	672,110	2,931,243	10.1%	Portfolio Advisors
ABRY Partners IX	Buyout	Medium	2019	30,000,000	0	0	0	0.0%	TorreyCove
ABRY Partners VIII	Buyout	Medium	2014	25,000,000	25,499,345	10,392,871	20,549,003	9.0%	Portfolio Advisors
ABRY Senior Equity V	Credit/Distressed	Mezzanine	2016	10,000,000	2,216,873	969,309	1,569,140	14.5%	Portfolio Advisors
ACON Equity Partners III	Buyout	Medium	2012	20,000,000	15,885,066	4,578,984	14,177,871	4.0%	Hamilton Lane
ACON-Bastion Partners II	Buyout	Medium	2006	5,000,000	4,721,150	8,004,396	536,703	12.8%	Hamilton Lane
Advent International GPE VI A	Buyout	Medium	2008	20,000,000	20,000,000	37,849,837	4,481,764	17.1%	Hamilton Lane
Advent International GPE VII B	Buyout	Large	2012	30,000,000	28,200,000	21,360,693	27,397,358	16.3%	Hamilton Lane
Advent International GPE VIII B-2	Buyout	Large	2016	35,000,000	22,715,000	0	25,277,808	9.1%	Portfolio Advisors
AION Capital Partners	Credit/Distressed	Credit	2012	20,000,000	15,943,855	4,769,913	13,874,149	8.2%	Hamilton Lane
Alchemy Plan (City of Angels)	Buyout	Medium	1999	38,194,245	40,196,637	49,835,035	101,084	5.5%	Pathway
American Securities Partners VII	Buyout	Medium	2016	25,000,000	15,681,641	2,688,530	10,932,776	-9.4%	Portfolio Advisors
American Securities Partners VIII	Buyout	Large	2019	40,000,000	0	0	0	0.0%	Portfolio Advisors
Angeles Equity Partners I	Credit/Distressed	Distressed	2015	10,000,000	2,359,323	304,741	1,404,883	-19.0%	Portfolio Advisors
Apollo Investment Fund IV	Buyout	Large	1998	5,000,000	4,989,241	8,320,973	5,797	8.5%	Pathway
Apollo Investment Fund VI	Buyout	Large	2006	15,000,000	14,372,999	22,298,920	1,766,357	8.6%	Hamilton Lane
Apollo Investment Fund VII	Buyout	Large	2008	20,000,000	17,278,770	31,054,115	3,566,410	22.9%	Hamilton Lane
Apollo Investment Fund VIII	Buyout	Large	2013	40,000,000	32,545,452	7,047,196	33,992,709	10.2%	Hamilton Lane
Ascribe Opportunities Fund II	Credit/Distressed	Distressed	2010	20,000,000	30,300,736	28,715,301	8,232,821	7.2%	Hamilton Lane
Ascribe Opportunities Fund III	Credit/Distressed	Distressed	2014	30,000,000	38,333,407	33,775,733	9,264,122	12.1%	Hamilton Lane
Ascribe Opportunities Fund IV	Credit/Distressed	Distressed	2018	25,000,000	0	0	0	0.0%	Portfolio Advisors
Astorg VI	Buyout	Medium	2015	25,625,875	16,061,601	0	16,524,632	2.5%	Portfolio Advisors
Astorg VII	Buyout	Medium	2019	36,123,864	0	0	0	0.0%	TorreyCove
Astra Partners I	Buyout	Small	2017	10,000,000	0	0	1,431,749	0.0%	Portfolio Advisors
Austin Ventures VII	Venture Capital	Multi-Stage	1999	17,000,000	17,000,000	13,696,505	14,490	-2.8%	Pathway
Austin Ventures VIII	Venture Capital	Multi-Stage	2001	8,300,000	8,300,000	13,367,650	360,409	6.9%	Pathway

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Avenue Europe Special Situations Fund II	Credit/Distressed	Distressed	2011	28,323,908	28,305,005	26,939,833	5,299,975	3.5%	Hamilton Lane
Bain Capital Asia Fund III	Buyout	Large	2016	15,000,000	7,568,222	2,863,820	6,914,297	28.4%	Portfolio Advisors
Bain Capital Double Impact Fund	Buyout	Small	2016	10,000,000	2,264,499	0	1,810,435	-19.7%	Portfolio Advisors
Baring Asia Private Equity Fund VI (LP 1)	Buyout	Medium	2015	25,000,000	20,874,709	2,794,248	23,314,214	13.6%	Portfolio Advisors
Baring Asia Private Equity Fund VII	Buyout	Growth Equity	2018	25,000,000	0	0	0	0.0%	Portfolio Advisors
BC European Capital IX	Buyout	Large	2011	18,146,966	18,179,738	11,527,046	14,336,929	10.3%	Hamilton Lane
BC European Capital X	Buyout	Large	2017	31,651,237	15,053,038	0	14,214,404	-10.0%	Portfolio Advisors
BDCM Opportunity Fund IV	Credit/Distressed	Distressed	2015	25,000,000	23,201,721	4,412,488	22,549,631	10.1%	Portfolio Advisors
Blackstone Capital Partners V & V-S	Buyout	Large	2005	20,000,000	19,262,290	30,603,737	1,674,240	7.9%	Hamilton Lane
Blackstone Capital Partners VI	Buyout	Large	2011	20,000,000	18,384,183	11,908,604	18,199,274	13.3%	Hamilton Lane
Blackstone Energy Partners	Natural Resources	Energy	2011	25,000,000	23,521,475	16,036,009	22,459,409	13.0%	Hamilton Lane
Blue Sea Capital Fund I	Buyout	Small	2013	10,000,000	7,619,819	313,495	8,856,778	8.1%	Portfolio Advisors
Brentwood Associates Private Equity VI	Buyout	Medium	2017	25,000,000	2,173,995	0	1,667,673	-87.0%	Portfolio Advisors
Carlyle Partners IV	Buyout	Large	2005	20,000,000	19,631,268	39,330,180	420,981	13.0%	Pathway
Carlyle Partners V	Buyout	Large	2007	30,000,000	26,610,702	45,515,876	5,036,075	13.8%	Hamilton Lane
CenterGate Capital Partners I	Buyout	Small	2015	10,000,000	2,290,270	62,277	1,688,273	-15.4%	Portfolio Advisors
Charterhouse Capital Partners IX	Buyout	Large	2008	18,105,408	16,830,650	18,772,797	4,241,726	10.7%	Hamilton Lane
Charterhouse Capital Partners VIII	Buyout	Large	2006	19,706,859	19,639,870	18,827,486	38,789	-0.6%	Hamilton Lane
CHP III	Venture Capital	Early Stage	2006	15,000,000	15,000,000	10,297,313	13,767,229	6.8%	Hamilton Lane
CHS Private Equity V	Buyout	Medium	2005	20,000,000	20,145,530	35,206,573	43,021	9.8%	Pathway
Coller International Partners VI	Other	Secondaries	2011	25,000,000	18,187,620	20,579,533	9,018,339	16.0%	Hamilton Lane
CVC Capital Partners VII	Buyout	Large	2017	28,567,140	4,291,821	0	4,594,111	151.0%	Portfolio Advisors
CVC European Equity Partners III	Buyout	Large	2001	15,000,000	14,776,341	41,619,578	1,026,577	41.0%	Pathway
CVC European Equity Partners IV	Buyout	Large	2005	26,008,211	23,210,339	46,514,557	23,168	16.8%	Hamilton Lane
CVC European Equity Partners V	Buyout	Large	2008	18,815,039	18,345,439	30,732,039	6,274,022	16.6%	Hamilton Lane
DEFY Partners I	Venture Capital	Early Stage	2017	10,000,000	3,900,000	0	4,187,172	12.5%	Portfolio Advisors
DFJ Growth 2013	Growth Equity	Growth Equity	2013	25,000,000	24,701,311	1,250,000	45,311,307	19.6%	Portfolio Advisors
DFJ Growth III	Growth Equity	Growth Equity	2017	15,000,000	6,270,000	0	6,498,518	4.1%	Portfolio Advisors
DFJ Venture XII	Venture Capital	Early Stage	2016	10,000,000	6,275,000	0	7,138,731	11.8%	Portfolio Advisors
EIG Energy Fund XVI	Natural Resources	Energy	2013	25,000,000	22,009,905	8,903,274	17,246,230	8.0%	Hamilton Lane

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EnCap Energy Capital Fund IX	Natural Resources	Energy	2012	30,000,000	27,933,212	17,908,242	20,776,978	13.2%	Hamilton Lane
EnCap Energy Capital Fund VIII	Natural Resources	Energy	2010	15,000,000	14,283,277	7,410,488	4,893,754	-4.4%	Hamilton Lane
Encap Energy Capital Fund X	Natural Resources	Energy	2015	35,000,000	26,366,704	3,331,287	29,335,128	13.6%	Portfolio Advisors
Encap Energy Capital Fund XI	Natural Resources	Energy	2017	40,000,000	4,288,538	0	3,299,054	-29.7%	Portfolio Advisors
Energy Capital Partners II	Natural Resources	Energy	2009	20,000,000	14,866,479	19,954,946	3,082,654	10.9%	Hamilton Lane
Energy Capital Partners III	Natural Resources	Energy	2014	40,000,000	34,079,347	2,802,066	38,572,689	9.3%	Hamilton Lane
Essex Woodlands Health Ventures Fund IV	Venture Capital	Late Stage	1998	4,000,000	4,000,000	5,120,696	773,985	7.7%	Pathway
Essex Woodlands Health Ventures Fund V	Venture Capital	Late Stage	2000	10,000,000	10,000,000	10,591,086	2,677,375	5.2%	Pathway
Essex Woodlands Health Ventures Fund VI	Venture Capital	Multi-Stage	2004	15,000,000	14,587,500	15,250,922	6,100,660	4.4%	Pathway
FIMI Opportunity V	Buyout	Medium	2012	20,000,000	18,194,334	4,390,643	28,910,000	18.4%	Hamilton Lane
First Reserve Fund X	Natural Resources	Energy	2004	20,000,000	20,000,000	36,485,800	61,299	31.1%	Pathway
First Reserve Fund XI	Natural Resources	Energy	2006	30,000,000	30,000,000	19,873,029	1,678,936	-7.4%	Hamilton Lane
First Reserve Fund XII	Natural Resources	Energy	2008	25,000,000	25,990,474	11,917,872	5,243,317	-8.8%	Hamilton Lane
Gilde Buy-Out Fund V	Buyout	Medium	2016	27,121,713	18,549,502	1,071,333	20,118,197	13.6%	Portfolio Advisors
Glendon Opportunities Fund	Credit/Distressed	Distressed	2014	20,000,000	15,990,996	0	18,589,575	4.7%	Portfolio Advisors
Glendon Opportunities Fund II	Credit/Distressed	Distressed	2019	40,000,000	0	0	0	0.0%	Portfolio Advisors
Green Equity Investors V	Buyout	Large	2007	20,000,000	18,268,906	32,700,120	12,857,422	20.1%	Hamilton Lane
Green Equity Investors VI	Buyout	Large	2012	20,000,000	17,949,279	9,314,246	21,594,035	16.0%	Hamilton Lane
Green Equity Investors VII	Buyout	Large	2017	25,000,000	11,491,899	98,997	12,338,614	8.0%	Portfolio Advisors
GTCR Fund IX-A	Buyout	Medium	2006	15,000,000	14,288,203	25,758,367	25,422	13.8%	Hamilton Lane
GTCR Fund VIII	Buyout	Medium	2003	20,000,000	18,520,960	32,142,142	186,274	22.3%	Pathway
GTCR Fund XII-AB	Buyout	Medium	2017	40,000,000	6,064,000	352,669	3,071,972	-87.5%	Portfolio Advisors
H&F Spock 1	Buyout	Large	2018	3,255,896	3,257,917	0	4,030,744	34.1%	Hamilton Lane
Halifax Capital Partners II	Buyout	Small	2005	10,000,000	8,098,600	10,662,197	43,112	7.3%	Hamilton Lane
Harvest Partners VII	Buyout	Medium	2016	20,000,000	10,813,583	0	11,566,619	5.3%	Portfolio Advisors
Hellman & Friedman Capital Partners IX	Buyout	Large	2019	30,000,000	0	0	0	0.0%	Portfolio Advisors
Hellman & Friedman Capital Partners VI	Buyout	Large	2006	20,000,000	19,344,481	34,996,123	1,294,774	13.0%	Hamilton Lane
Hellman & Friedman Capital Partners VII	Buyout	Large	2011	20,000,000	19,034,412	20,807,766	27,921,801	24.8%	Hamilton Lane
Hellman & Friedman Capital Partners VIII	Buyout	Large	2016	20,000,000	15,356,175	807,604	16,780,524	15.2%	Portfolio Advisors
High Road Capital Partners II	Buyout	Small	2013	25,000,000	14,933,200	4,215,237	21,659,278	19.9%	Hamilton Lane

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Hony Capital Fund V	Buyout	Large	2011	25,000,000	24,640,350	85,774	28,578,965	3.5%	Hamilton Lane
Incline Equity Partners IV	Buyout	Small	2017	10,000,000	2,799,633	11,705	2,974,400	18.0%	Portfolio Advisors
Insight Venture Partners IX	Growth Equity	Growth Equity	2015	25,000,000	23,932,588	2,670,645	38,412,012	26.0%	Portfolio Advisors
Insight Venture Partners VIII	Growth Equity	Growth Equity	2013	20,000,000	19,585,777	7,801,783	29,081,133	15.7%	Hamilton Lane
Institutional Venture Partners XV	Venture Capital	Late Stage	2015	20,000,000	17,600,000	3,280,068	20,676,689	17.2%	Portfolio Advisors
J.H. Whitney VI	Buyout	Medium	2005	15,000,000	14,847,374	12,970,398	1,666,704	-0.3%	Hamilton Lane
J.H. Whitney VII	Buyout	Medium	2010	25,000,000	23,526,143	18,640,073	20,830,271	13.2%	Hamilton Lane
Kelso Investment Associates VII	Buyout	Medium	2003	18,000,000	17,120,087	29,063,629	401,537	12.6%	Pathway
Kelso Investment Associates VIII	Buyout	Medium	2007	20,000,000	18,932,766	16,929,742	8,492,033	6.4%	Hamilton Lane
Khosla Ventures IV	Venture Capital	Early Stage	2011	20,000,000	19,620,000	11,510,534	36,616,465	21.0%	Hamilton Lane
KKR 2006 Fund	Buyout	Large	2006	30,000,000	30,270,661	44,314,211	7,198,057	8.7%	Hamilton Lane
KKR European Fund II	Buyout	Large	2005	15,000,000	15,497,844	20,902,207	156,238	4.7%	Hamilton Lane
KPS Special Situations Fund IV	Buyout	Medium	2014	25,000,000	11,934,353	4,812,155	10,257,839	20.6%	Hamilton Lane
Levine Leichtman Capital Partners III	Buyout	Medium	2003	20,000,000	21,392,254	33,239,814	142,215	10.0%	Hamilton Lane
Levine Leichtman Capital Partners IV	Buyout	Medium	2008	20,000,000	16,448,126	28,893,633	2,441,026	18.3%	Hamilton Lane
Levine Leichtman Capital Partners V	Buyout	Medium	2013	30,000,000	25,757,701	7,909,096	28,468,592	11.4%	Hamilton Lane
Lindsay Goldberg & Bessemer II	Buyout	Large	2006	20,000,000	18,911,489	26,838,884	234,975	7.1%	Hamilton Lane
Lindsay Goldberg III	Buyout	Large	2008	20,000,000	19,156,273	25,021,707	1,106,388	8.2%	Hamilton Lane
Longitude Venture Partners III	Venture Capital	Late Stage	2016	10,000,000	4,548,603	0	4,347,751	-6.4%	Portfolio Advisors
Madison Dearborn Capital Partners IV	Buyout	Medium	2000	25,000,000	25,174,337	47,037,524	845,614	14.2%	Pathway
Menlo Ventures IX	Venture Capital	Multi-Stage	2001	20,000,000	20,000,000	20,095,204	848,132	0.7%	Pathway
Mill Point Capital Partners	Buyout	Small	2017	10,000,000	3,536,282	3,719	3,809,198	15.6%	Portfolio Advisors
Nautic Partners V	Buyout	Medium	2000	15,000,000	14,426,866	29,568,149	886,558	17.0%	Pathway
New Enterprise Associates 13	Venture Capital	Multi-Stage	2009	15,000,000	14,775,000	13,884,687	13,669,758	13.8%	Hamilton Lane
New Enterprise Associates 15	Venture Capital	Multi-Stage	2015	20,000,000	16,800,000	2,282,253	24,335,606	21.8%	Portfolio Advisors
New Enterprise Associates 16	Venture Capital	Multi-Stage	2017	25,000,000	8,812,500	0	9,911,928	15.5%	Portfolio Advisors
New Mountain Partners III	Buyout	Large	2007	20,000,000	18,661,525	25,412,053	13,186,142	13.3%	Hamilton Lane
New Water Capital	Buyout	Small	2015	10,000,000	6,101,438	0	6,129,574	0.4%	Portfolio Advisors
NewBridge Asia IV	Buyout	Medium	2005	10,000,000	9,846,880	21,717,152	240,986	16.8%	Hamilton Lane
NGP Natural Resources XI	Natural Resources	Energy	2014	25,000,000	21,915,914	3,241,816	24,384,864	13.7%	Portfolio Advisors

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NMS Fund III	Buyout	Small	2017	10,000,000	1,265,486	308,621	888,414	-5.5%	Portfolio Advisors
Nordic Capital V	Buyout	Medium	2003	14,043,460	14,304,054	42,229,277	360,889	20.8%	Pathway
Oak HC-FT Partners	Venture Capital	Late Stage	2014	10,000,000	8,964,660	4,549,787	9,914,394	22.6%	Portfolio Advisors
Oak HC-FT Partners II	Venture Capital	Late Stage	2017	10,000,000	3,010,974	0	3,779,007	59.0%	Portfolio Advisors
Oak Investment Partners XII	Venture Capital	Multi-Stage	2006	15,000,000	14,999,762	11,424,357	3,399,054	-0.2%	Hamilton Lane
Oaktree Opportunities Fund X	Credit/Distressed	Distressed	2015	7,500,000	6,225,000	92,949	7,749,664	16.6%	Portfolio Advisors
Oaktree Opportunities Fund Xb	Credit/Distressed	Distressed	2018	17,500,000	2,187,500	0	2,057,599	-22.6%	Portfolio Advisors
OCM Opportunities Fund V	Credit/Distressed	Distressed	2004	7,100,000	7,100,000	11,611,878	84,093	14.1%	Pathway
OCM Opportunities Fund VII	Credit/Distressed	Distressed	2007	10,000,000	10,000,000	13,378,024	485,548	7.4%	Hamilton Lane
OCM Opportunities Fund VIIb	Credit/Distressed	Distressed	2008	10,000,000	9,000,000	15,301,660	285,616	16.6%	Hamilton Lane
Onex Partners	Buyout	Large	2003	20,000,000	18,998,955	54,594,401	3,840,708	38.4%	Pathway
Palladium Equity Partners IV	Buyout	Medium	2012	25,000,000	20,948,094	11,319,508	18,714,510	14.7%	Portfolio Advisors
Palladium Equity Partners V	Buyout	Medium	2017	25,000,000	5,024,157	0	4,042,930	-72.3%	Portfolio Advisors
Permira Europe III	Buyout	Large	2003	21,506,160	21,515,354	36,794,711	95,998	26.1%	Pathway
Permira Europe IV	Buyout	Large	2006	14,935,115	14,796,264	22,196,515	1,844,622	8.7%	Hamilton Lane
Pharos Capital Partners II-A	Buyout	Medium	2004	5,000,000	5,000,000	3,192,707	2,817,406	2.7%	Hamilton Lane
Platinum Equity Capital Partners III	Buyout	Large	2011	25,000,000	19,006,490	27,230,591	9,205,171	30.7%	Hamilton Lane
Platinum Equity Capital Partners IV	Buyout	Large	2016	15,000,000	9,332,535	2,222,081	10,093,976	36.2%	Portfolio Advisors
Platinum Equity Small Cap Fund	Buyout	Medium	2018	22,500,000	1,183,820	86,400	788,027	-51.0%	Portfolio Advisors
Polaris Growth Fund	Growth Equity	Growth Equity	2018	10,000,000	0	0	-134,778	0.0%	Portfolio Advisors
Polaris Partners VII	Venture Capital	Multi-Stage	2014	25,000,000	21,000,000	2,557,033	28,194,880	16.1%	Portfolio Advisors
Polaris Venture Partners V	Venture Capital	Multi-Stage	2006	15,000,000	14,700,000	14,558,298	8,857,071	7.6%	Hamilton Lane
Polaris Venture Partners VI	Venture Capital	Multi-Stage	2010	15,000,000	13,125,000	8,569,894	25,731,766	24.9%	Hamilton Lane
Polaris Venture Partners VIII	Venture Capital	Multi-Stage	2016	10,000,000	4,700,000	0	4,663,398	-0.8%	Portfolio Advisors
Providence Debt Fund III	Credit/Distressed	Distressed	2013	30,000,000	28,765,436	11,463,023	24,342,004	7.1%	Hamilton Lane
Providence Equity Partners V	Buyout	Large	2005	18,000,000	16,415,524	20,190,547	337,496	3.2%	Pathway
Providence Equity Partners VI	Buyout	Large	2007	30,000,000	28,515,095	29,975,194	9,260,195	5.3%	Hamilton Lane
Providence TMT Debt Opportunity Fund II	Credit/Distressed	Distressed	2010	20,000,000	16,319,772	25,047,595	859,551	10.5%	Hamilton Lane
Roark Capital Partners II Side Car	Buyout	Medium	2018	10,000,000	5,135,222	0	5,611,362	261.8%	TorreyCove
Roark Capital Partners V	Buyout	Large	2018	15,000,000	2,180,644	0	2,381,392	275.0%	TorreyCove

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Searchlight Capital II	Buyout	Medium	2015	25,000,000	14,144,140	2,566,138	17,120,032	22.3%	Portfolio Advisors
SG Growth Partners III	Growth Equity	Growth Equity	2015	10,000,000	10,041,159	623,285	13,773,401	16.7%	Portfolio Advisors
SG Growth Partners IV	Growth Equity	Growth Equity	2017	10,000,000	4,652,231	0	4,860,317	11.0%	Portfolio Advisors
Spark Capital	Venture Capital	Early Stage	2005	9,000,000	8,820,000	11,937,038	469,897	8.3%	Hamilton Lane
Spark Capital Growth Fund	Growth Equity	Growth Equity	2014	10,000,000	10,000,000	0	14,367,755	13.0%	Portfolio Advisors
Spark Capital Growth Fund II	Growth Equity	Growth Equity	2017	15,000,000	7,500,000	0	8,067,737	11.4%	Portfolio Advisors
Spark Capital II	Venture Capital	Early Stage	2008	9,750,000	9,750,000	34,636,671	6,826,759	51.8%	Hamilton Lane
Spark Capital III	Venture Capital	Early Stage	2011	10,000,000	10,000,000	12,884,850	14,966,317	31.9%	Hamilton Lane
Spire Capital Partners III	Buyout	Small	2013	10,000,000	8,143,926	809,010	9,944,998	11.6%	Portfolio Advisors
SSG Capital Partners II	Credit/Distressed	Distressed	2012	15,914,286	15,048,980	13,003,941	7,134,753	8.1%	Hamilton Lane
StepStone Secondary Opportunities III	Other	Secondaries	2016	25,000,000	18,175,992	3,888,951	17,483,931	16.4%	Portfolio Advisors
Sunstone Partners I	Growth Equity	Growth Equity	2015	7,500,000	3,434,868	90,445	4,480,422	25.1%	Portfolio Advisors
TA X	Growth Equity	Growth Equity	2006	6,000,000	6,186,689	7,956,689	55,095	5.2%	Hamilton Lane
TA XI	Growth Equity	Growth Equity	2010	20,000,000	19,650,000	30,741,928	15,319,482	22.8%	Hamilton Lane
TA XII-A	Growth Equity	Growth Equity	2016	25,000,000	18,442,559	3,567,559	21,253,404	28.6%	Portfolio Advisors
TCV IX	Growth Equity	Growth Equity	2016	10,000,000	6,948,000	549,489	6,964,481	12.0%	Portfolio Advisors
TCV X	Growth Equity	Growth Equity	2019	25,000,000	0	0	0	0.0%	Portfolio Advisors
TCW Crescent Mezzanine Partners IV	Credit/Distressed	Mezzanine	2006	10,000,000	8,712,805	9,974,965	25,043	2.9%	Hamilton Lane
TCW Crescent Mezzanine Partners V	Credit/Distressed	Mezzanine	2007	10,000,000	9,286,605	12,015,578	537,434	9.6%	Hamilton Lane
Technology Crossover Ventures V	Venture Capital	Multi-Stage	2004	19,500,000	19,334,250	28,758,136	7,627,128	10.9%	Pathway
Technology Crossover Ventures VII	Growth Equity	Growth Equity	2008	20,000,000	19,680,000	39,650,343	14,552,754	23.1%	Hamilton Lane
Technology Crossover Ventures VIII	Growth Equity	Growth Equity	2014	30,000,000	25,443,410	2,320,481	32,633,730	10.5%	Hamilton Lane
Thoma Bravo Discover Fund II	Buyout	Medium	2018	10,000,000	1,646,838	0	1,488,866	-82.7%	Portfolio Advisors
Thoma Bravo Fund XI	Buyout	Medium	2014	15,000,000	13,287,170	8,263,010	20,367,723	24.0%	Portfolio Advisors
Thoma Bravo Fund XII	Buyout	Large	2016	25,000,000	22,136,149	1,795	24,450,833	7.6%	Portfolio Advisors
Thoma Bravo Fund XIII	Buyout	Large	2018	30,000,000	0	0	-29,634	0.0%	Portfolio Advisors
Thoma Bravo Special Opportunities Fund II	Buyout	Medium	2015	10,000,000	9,040,274	2,362,959	12,900,334	17.5%	Portfolio Advisors
TPG Growth II	Buyout	Medium	2011	30,000,000	28,024,612	22,197,333	36,950,286	19.3%	Hamilton Lane
TPG Partners III	Buyout	Large	1999	25,000,000	22,442,286	56,548,095	48,652	24.4%	Pathway
TPG Partners IV	Buyout	Large	2003	25,000,000	27,436,973	52,452,451	762,469	15.3%	Pathway

CORE PORTFOLIO SUMMARY

AS OF 12/31/2018 - ACTIVE



Fund	Strategy	Sub-Strategy	Vintage Year	USD Commitment	USD ITD Contributions	USD ITD Distributions	USD Fair Market Value	Net IRR	Recommended by
TPG Partners V	Buyout	Large	2006	28,726,546	31,415,182	39,614,946	3,060,291	4.8%	Hamilton Lane
TPG Partners VI	Buyout	Large	2008	22,500,000	24,339,134	29,630,034	7,152,594	10.3%	Hamilton Lane
TPG Star	Buyout	Medium	2006	20,000,000	21,635,099	24,896,346	6,889,363	9.0%	Hamilton Lane
Trident Capital Fund-V	Buyout	Medium	2000	10,587,999	10,627,045	17,473,111	269,428	7.8%	Pathway
Trident Capital Fund-V	Buyout	Medium	2000	3,781,680	3,374,683	6,383,918	96,233	12.1%	Pathway
Trident Capital Fund-VI	Buyout	Medium	2005	8,500,000	8,500,000	7,529,896	4,626,963	4.1%	Pathway
Upfront VI	Venture Capital	Early Stage	2017	20,000,000	5,961,491	0	5,825,600	-4.8%	Portfolio Advisors
VantagePoint Venture Partners IV	Venture Capital	Multi-Stage	2000	15,000,000	15,000,000	13,092,215	1,004,592	-0.9%	Pathway
Vestar Capital Partners IV	Buyout	Medium	1999	17,000,000	16,585,106	29,285,920	248,816	13.5%	Pathway
Vista Equity Partners Fund III	Buyout	Medium	2007	25,000,000	23,176,630	57,925,893	6,230,302	27.0%	Hamilton Lane
Vista Equity Partners Fund IV	Buyout	Medium	2011	30,000,000	25,012,720	28,523,474	25,677,376	18.0%	Hamilton Lane
Vista Equity Partners Fund V	Buyout	Medium	2014	40,000,000	36,916,490	26,986,534	44,001,618	22.6%	Portfolio Advisors
Vista Equity Partners Fund VI	Buyout	Large	2016	30,000,000	27,608,169	7,336,213	27,689,626	16.8%	Portfolio Advisors
Vista Equity Partners Fund VII	Buyout	Large	2019	40,000,000	0	0	-33,210	0.0%	Portfolio Advisors
Vista Foundation Fund II	Buyout	Medium	2013	10,000,000	8,249,827	5,809,970	8,782,038	16.4%	Hamilton Lane
Vista Foundation Fund III	Buyout	Medium	2016	10,000,000	4,970,261	0	5,150,257	2.8%	Portfolio Advisors
Weston Presidio Capital IV	Growth Equity	Growth Equity	2000	15,000,000	14,764,721	17,281,319	83,245	3.0%	Pathway
Weston Presidio Capital IV	Growth Equity	Growth Equity	2000	3,040,488	2,772,810	3,504,194	16,874	5.2%	Pathway
Wynnchurch Capital Partners IV	Buyout	Medium	2015	10,000,000	5,211,861	1,631,421	5,364,424	22.3%	Portfolio Advisors
Yucaipa American Alliance Fund II	Buyout	Medium	2008	20,000,000	20,000,936	13,863,884	23,203,205	9.4%	Hamilton Lane
Total - Active				3,886,832,095	2,833,439,947	2,571,821,243	1,823,801,542	12.0%	
Total - Inactive				457,777,410	444,604,177	649,342,205		11.1%	
Total - Core Portfolio				4,344,609,505	3,278,044,124	3,267,163,448	1,823,801,542	11.7%	

CORE PORTFOLIO SUMMARY AS OF 12/31/2018 - INACTIVE



Fund	Strategy	Sub-Strategy	Vintage Year	USD Commitment	USD ITD Contributions	USD ITD Distributions	Net IRR	Recommended by
Avenue Special Situations Fund IV	Credit/Distressed	Distressed	2006	10,000,000	10,000,000	13,828,999	8.3%	Hamilton Lane
Avenue Special Situations Fund V	Credit/Distressed	Distressed	2007	10,000,000	9,950,262	13,312,819	11.5%	Hamilton Lane
CGW Southeast Partners III	Buyout	Small	1996	8,680,144	8,680,144	14,736,448	9.2%	Pathway
CGW Southeast Partners IV	Buyout	Medium	1999	10,000,000	8,707,914	13,398,877	8.3%	Pathway
Chisholm Partners IV	Buyout	Small	1999	9,000,000	8,841,055	9,376,669	0.7%	Pathway
CVC European Equity Partners	Buyout	Large	1996	10,000,000	9,686,071	24,345,254	23.2%	Pathway
CVC European Equity Partners II	Buyout	Large	1998	9,218,055	9,212,371	22,076,376	18.9%	Pathway
Enhanced Equity Fund	Buyout	Small	2006	10,000,000	10,000,000	10,776,209	1.1%	Hamilton Lane
Enhanced Equity Fund II	Buyout	Small	2010	10,000,000	9,570,165	5,253,831	-21.7%	Hamilton Lane
Golder, Thoma, Cressey, Rauner Fund V	Buyout	Medium	1997	10,000,000	10,000,000	18,226,074	11.0%	Pathway
GTCR Fund VI	Buyout	Medium	1998	10,000,000	10,000,000	8,890,791	-3.8%	Pathway
GTCR Fund VII	Buyout	Medium	2000	18,750,000	18,609,375	43,841,047	21.8%	Pathway
GTCR Fund VII-A	Buyout	Medium	2000	6,250,000	4,140,625	11,565,815	83.1%	Pathway
Hellman & Friedman Capital Partners V	Buyout	Large	2004	10,463,972	9,931,388	26,659,657	27.8%	Pathway
Highbridge Principal Strategies Senior Loan II	Credit/Distressed	Distressed	2010	50,000,000	40,883,273	47,651,965	7.9%	Pathway
InterWest VI	Venture Capital	Early Stage	1996	5,000,000	5,000,000	14,858,749	49.0%	Pathway
J.H. Whitney IV	Buyout	Medium	1999	22,448,463	22,448,463	9,422,111	-10.9%	Pathway
J.H. Whitney V	Buyout	Medium	2000	9,957,358	11,558,159	22,375,756	23.3%	Pathway
Kelso Investment Associates VI	Buyout	Medium	1998	4,309,418	4,309,418	5,982,794	9.3%	Pathway
KKR 1996 Fund	Buyout	Large	1997	25,000,000	26,194,438	46,838,314	13.2%	Pathway
Madison Dearborn Capital Partners III	Buyout	Medium	1999	16,000,000	16,000,000	24,398,778	8.6%	Pathway
Menlo Ventures VII	Venture Capital	Multi-Stage	1997	5,000,000	5,000,000	23,552,033	135.8%	Pathway
Menlo Ventures VIII	Venture Capital	Multi-Stage	1999	18,000,000	18,000,000	8,980,234	-8.9%	Pathway
OCM Opportunities Fund	Credit/Distressed	Distressed	1995	11,000,000	10,972,896	18,030,431	10.3%	Pathway
OCM Opportunities Fund II	Credit/Distressed	Distressed	1997	11,000,000	11,000,000	16,628,641	8.5%	Pathway
OCM Opportunities Fund III	Credit/Distressed	Distressed	1999	10,000,000	10,000,000	15,071,474	11.9%	Pathway
OCM Opportunities Fund IV	Credit/Distressed	Distressed	2001	10,000,000	10,000,000	16,503,319	28.4%	Pathway
Olympus Growth Fund IV	Buyout	Medium	2003	7,700,000	7,660,045	11,831,606	8.5%	Pathway
Richland Ventures III	Venture Capital	Late Stage	1999	18,000,000	18,000,000	15,261,276	-3.0%	Pathway
The Resolute Fund	Buyout	Medium	2002	20,000,000	18,978,049	48,217,383	17.0%	Pathway

CORE PORTFOLIO SUMMARY AS OF 12/31/2018 - INACTIVE



Fund	Strategy	Sub-Strategy	Vintage Year	USD Commitment	USD ITD Contributions	USD ITD Distributions	Net IRR	Recommended by
Thoma Cressey Fund VI	Buyout	Medium	1998	5,000,000	4,845,000	4,995,064	0.4%	Pathway
Thomas H. Lee Equity Fund V	Buyout	Medium	2000	15,000,000	15,260,867	26,333,190	14.2%	Pathway
Tibbar Holdings, LLC (FKA TH Lee IV)	Buyout	Medium	1998	7,000,000	6,314,197	5,484,109	-2.6%	Pathway
Welsh, Carson, Anderson & Stowe IX	Buyout	Medium	2000	15,000,000	14,850,000	24,680,230	11.2%	Pathway
Welsh, Carson, Anderson & Stowe VII	Buyout	Medium	1995	15,000,000	15,000,000	32,633,357	17.7%	Pathway
Welsh, Carson, Anderson & Stowe VIII	Buyout	Medium	1998	15,000,000	15,000,000	19,322,526	3.1%	Pathway
Total - Inactive				457,777,410	444,604,177	695,342,205	11.1%	
Total – Active				3,886,832,095	2,833,439,947	2,571,821,243	12.0%	
Total – Core Portfolio				4,344,609,505	3,278,044,124	3,267,163,448	11.7%	

SPECIALIZED PORTFOLIO SUMMARY

AS OF 12/31/2018 - ACTIVE



Fund	Strategy	Sub-Strategy	Vintage Year	USD Commitment	USD ITD Contributions	USD ITD Distributions	USD Fair Market Value	Net IRR	Recommended by
Angeleno Investors III	Venture Capital	Late Stage	2009	10,000,000	9,899,271	917,370	7,075,356	-4.8%	PCA
Craton Equity Investors I	Growth Equity	Growth Equity	2006	10,000,000	9,973,980	1,067,621	30,346	-32.6%	PCA
DFJ Element	Venture Capital	Multi-Stage	2006	8,000,000	7,846,106	3,032,976	2,145,060	-5.0%	PCA
DFJ Frontier Fund II	Venture Capital	Early Stage	2007	5,000,000	5,002,783	1,616,279	3,569,697	0.6%	PCA
Element Partners Fund II	Venture Capital	Late Stage	2008	10,000,000	9,361,465	5,609,339	7,131,883	5.0%	PCA
NGEN Partners III	Venture Capital	Multi-Stage	2008	10,000,000	10,828,296	2,485,621	6,166,057	-3.9%	PCA
Palladium Equity Partners III	Buyout	Medium	2004	10,000,000	9,903,401	17,258,524	731,701	11.4%	PCA
Rustic Canyon/Fontis Partners	Growth Equity	Growth Equity	2005	5,000,000	3,671,248	1,927,182	807,598	-4.4%	PCA
Saybrook Corporate Opportunity Fund	Credit/Distressed	Distressed	2007	6,192,813	6,190,231	6,746,700	1,894,504	9.3%	PCA
St. Cloud Capital Partners II	Credit/Distressed	Mezzanine	2007	5,000,000	4,989,085	3,921,352	397,520	-3.3%	PCA
StarVest Partners II	Venture Capital	Late Stage	2007	5,000,000	4,965,849	992,133	3,148,256	-2.8%	PCA
Stepstone Pioneer Capital I	Other	Fund of Funds	2004	10,000,000	9,751,911	13,033,244	331	5.1%	PCA
StepStone Pioneer Capital II	Other	Fund of Funds	2006	10,000,000	9,426,237	12,823,725	6,633,398	10.1%	PCA
Sterling Venture Partners II	Venture Capital	Late Stage	2005	8,000,000	8,006,256	6,999,059	3,368,472	3.9%	PCA
Vicente Capital Partners Growth Equity Fund	Growth Equity	Growth Equity	2007	10,000,000	10,000,000	5,978,834	8,612,044	6.9%	PCA
Yucaipa American Alliance Fund I	Buyout	Medium	2002	10,000,000	10,000,000	9,399,811	3,797,287	4.6%	PCA
Angeleno Investors III	Venture Capital	Late Stage	2009	10,000,000	9,899,271	917,370	7,075,356	-4.8%	PCA
Total - Active				132,192,813	129,816,118	93,809,770	55,509,510	2.4%	
Total - Inactive				59,068,854	57,749,082	61,009,185		1.0%	
Total - Specialized Portfolio				191,261,667	187,565,200	154,818,955	55,509,510	2.0%	

SPECIALIZED PORTFOLIO SUMMARY

AS OF 12/31/2018 - INACTIVE



Fund	Strategy	Sub-Strategy	Vintage Year	USD Commitment	USD ITD Contributions	USD ITD Distributions	Net IRR	Recommended by
Ares Special Situations Fund	Credit/Distressed	Distressed	2008	10,000,000	10,166,166	17,497,244	13.1%	PCA
Carpenter Community BancFund-A	Buyout	Small	2008	10,000,000	9,692,231	16,376,097	8.2%	PCA
NGEN Partners II	Venture Capital	Multi-Stage	2005	7,750,702	7,750,702	515,126	-49.0%	PCA
Nogales Investors Fund II	Buyout	Medium	2006	4,100,000	3,603,436	398,586	-24.1%	PCA
Reliant Equity Partners	Buyout	Small	2002	7,920,417	8,008,449	55,772	-100.0%	PCA
Sector Performance Fund	Buyout	Medium	2007	9,297,735	9,502,443	8,466,553	-2.9%	PCA
Spire Capital Partners II	Buyout	Small	2007	10,000,000	9,025,654	17,699,807	15.6%	PCA
Total - Inactive				59,068,854	57,749,082	61,009,185	1.0%	
Total - Active				132,192,813	129,816,118	93,809,770	2.4%	
Total – Specialized Portfolio				191,261,667	187,565,200	154,818,955	2.0%	

A Message Regarding the Performance Information Presented Herein

This report is provided for information purposes only. It does not constitute legal, securities, tax, or investment advice. These materials are not intended as an offer to sell, or the solicitation of an offer to purchase, any security. This presentation may not be copied or distributed, in whole or in part, without the prior written consent of TorreyCove. PAST PERFORMANCE MAY NOT BE INDICATIVE OF FUTURE RESULTS.

This analysis covers the significant events that have occurred with respect to the limited partnership investments, co-investments, and direct investments, as they apply, in the portfolio (collectively referred to as “investment(s)”). TorreyCove monitors the portfolio’s investments in various partnerships. To complete this independent analysis, TorreyCove requested and then collected information from representatives of the portfolio and the individual partnerships as well as the portfolio’s custodian where applicable. Further, this review relies upon information received during its preparation, as well as the facts, assumptions and valuation approach contained herein, which have been reviewed with the portfolio administrator staff. TorreyCove has not independently verified this information. TorreyCove has accurately relayed the information received in its independent analysis of the portfolio’s performance and current portfolio valuation. The portfolio’s performance is summarized using all or a selection of the following portfolio performance calculation methods: distribution to paid-in multiple, internal rate of return, total value to paid-in multiple, and time-weighted rate of return. Subsequent analysis will reflect future developments, as well as refine the analysis of past activities as TorreyCove receives new or revised information.

VALUATION AND J-CURVE EFFECT

For individual investment return purposes, investments are typically marked-to-market using comparable public market valuations or third-party transactions. Publicly traded partnership investments are typically marked-to-market. In general, the valuation policies of the portfolio’s general partners appear to be in line with FASB ASC 820-10, Fair Value Measurements. Generally, the first few years of an investment’s life demonstrate low or negative returns. These returns are not very meaningful due to the fact that management fees have not been offset by capital gains typically generated by more mature portfolio companies (termed the J-curve effect). Reports are available that are customized based on the portfolio administrator’s definition of meaningful data.

IRRs for realized investments with remaining interest, public investments and unrealized investments have been calculated assuming that the remaining interest has been sold as of the date indicated at the public or unrealized value. There can be no assurance that these investments will ultimately be realized for such value. Investment returns set forth herein may be significantly affected by the values of unrealized investments, particularly in light of current market conditions.



A Message Regarding the Performance Information Presented Herein

The investment results for any particular client of TorreyCove may differ significantly from the investment results presented herein due to different holding periods, different weighting of the portfolio, different acquisition dates, different fees and incentive amounts, and a more limited history of investments, among other factors. Accordingly, IRRs presented herein are not necessarily representative of the IRRs achieved by TorreyCove for all of its clients as a whole or all of its clients individually.

Report to Board of Administration


From: Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **IX-E**

SUBJECT: NOTIFICATION OF COMMITMENT OF UP TO €34.9 MILLION (APPROXIMATELY \$40 MILLION) IN GILDE BUY-OUT FUND VI, C.V.

Recommendation

That the Board receive and file this notice.

Discussion

Consultant Recommendation

TorreyCove Capital Partners LLC (TorreyCove), LACERS' Private Equity Consultant, recommended a commitment of up to €34.9 million (approximately \$40 million at the time of staff concurrence) in Gilde Buy-Out Fund VI, C.V. (the Fund), a European buyout strategy managed by Gilde Buy-Out Partners, B.V. (the GP or Gilde). Fund management and incentive fees are comparable to similar strategies and the GP will invest alongside limited partners, providing alignment of interests. This recommendation is consistent with the Private Equity Investments 2019 Strategic Plan adopted by the Board on October 23, 2018.

Background

In 1982, Boudewijn Molenaar founded Gilde in Utrecht, Netherlands. In 2013, leadership was passed to Ralph Wyss, who joined Gilde in 1996. Prior to joining Gilde, Mr. Wyss worked for Citibank in London as a senior transactor and originator for leveraged buyouts and structured finance. Gilde focuses on middle-market buyout transactions in the Netherlands, Belgium, Luxembourg, Germany, Austria, and Switzerland. The GP has offices in Utrecht, Netherlands (headquarters), Zurich, Switzerland, Brussels, Belgium, and Frankfurt, Germany. Gilde currently has over €3 billion of assets under management and employs 29 investment professionals.

LACERS has an existing general partner relationship with Gilde. LACERS previously committed €23 million (approximately \$24.5 million) to Gilde Buy-Out Fund V (2016 vintage), which has earned a net internal rate of return (IRR) of 13.6%.^{1,2}

Investment Thesis

Gilde focuses on making control-oriented buyout investments in European middle-market companies. Target firms will have strong market positions with growth potential, predictable and stable cash flows, and strong management teams. Since inception, the GP has invested in over 250 companies by conducting public-to-private transactions, carve-outs, spin-offs, and global buy-and-build programs.

The GP adds value by helping portfolio companies improve strategic positioning, enhancing management incentives to create better alignment, supporting management teams to consummate add-on acquisitions and disposal of non-core assets, and continuously assessing management's ability to execute on value creation strategies.

Placement Agent

The GP hired MVision Private Equity Advisers Limited, together with its wholly owned subsidiary MVision Private Equity Advisers USA LLC, as placement agent.

Staff Recommendation

Staff concurred with TorreyCove's recommendation. The commitment has been consummated pursuant to the Discretion in a Box (Roles and Responsibilities) section of the Private Equity Investment Policy; no Board action is required.

Strategic Plan Impact Statement

Investment in Gilde Buy-Out Fund VI, C.V. will allow LACERS to maintain exposure to private equity, which is expected to help LACERS optimize long-term risk adjusted investment returns (Goal IV).

This report was prepared by Wilkin Ly, Investment Officer III, Investment Division.

RJ:BF:WL:sg

Attachments: A) TorreyCove Investment Notification
B) Workforce Composition
C) Discretion in a Box

¹Performance as of December 31, 2018

²Performance data (1) does not necessarily accurately reflect the current or expected future performance of the Fund(s) or the fair value of LACERS' interest in the Fund(s), (2) should not be used to compare returns among multiple private equity funds and (3) has not been calculated, reviewed, verified or in any way sanctioned or approved by the general partner(s) or manager(s).



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Gilde Buy-Out VI Fund C.V. Investment Notification





Fund Information

- **General Partner:** Gilde Buy-Out Partners B.V. (the “Firm”)
- **Fund:** Gilde Buy-Out Fund VI C.V. (the “Fund”)
- **Firm Founded:** 1982
- **Strategy:** Buyouts
- **Sub-Strategy:** Medium Buyouts
- **Geography:** Europe – Primarily the Benelux and DACH regions¹
- **Team:** 29 investment professionals
- **Senior Partners:** Ralph Wyss (Chairman), supported by a senior team of seven Managing Directors
- **Office Locations:** Utrecht, Netherlands (HQ); Brussels, Belgium; Zurich, Switzerland; Frankfurt, Germany
- **Industries:** Diversified
- **Recommendation:** Up to \$40.0 million

Investment Highlights

- The eight senior professionals at Gilde represent an experienced and cohesive team
- Strong, consistent returns over time
- Significant experience investing across the Benelux and DACH regions



Gilde Buy-Out Fund VI C.V.

■ Firm and Background

- Gilde Buy-Out Partners was originally founded in 1982 as Gilde Investment Management (“GIM”). In 2005, Gilde spun out from GIM and became fully independent entity owned by its management team.
- Ralph Wyss joined Gilde in 1996 as one of the first investment professionals. In 2011, Mr. Wyss was elevated to Chairman of Gilde and was tasked with managing the Firm as part of a succession plan.
- Today, the Firm is led Ralph Wyss who is supported by seven Managing Directors. Collectively, these eight senior professionals average more than 16 years working together at Gilde.

■ Investment Strategy

- The Fund will pursue controlling stakes in middle-market companies primarily domiciled in the Benelux and DACH regions.
- The enterprise value for targeted companies will typically range from €90.0 million to €500.0 million, with the majority expected to be between €100.0 million and €250.0 million.
- The Fund is expected to make between 17 and 20 investments averaging ~€75.0 million per investment.
- The Firm is a generalist investor and does not have any pre-determined sector allocation targets. However, the Firm has significant experience in the consumer and industrials sectors, which is expected to continue going forward.
- Targeted companies are expected to have leading market positions, stable cash flows, strong management teams, and low sensitivity to technological disruption.

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE PERFORMANCE.

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INTERESTS IN THE FUND HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER ANY STATE OR OTHER SECURITIES LAWS OR THE LAWS OF ANY NON-U.S. JURISDICTION. THE INTERESTS WILL BE OFFERED AND SOLD FOR INVESTMENT ONLY TO QUALIFYING INVESTORS PURSUANT TO THE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN COMPLIANCE WITH THE APPLICABLE SECURITIES LAWS OF THE STATES AND OTHER JURISDICTIONS (INCLUDING NON-U.S. JURISDICTIONS) WHERE THE OFFERING WILL BE MADE. THERE WILL BE NO PUBLIC MARKET FOR INTERESTS IN THE FUND, AND THERE IS NO OBLIGATION ON THE PART OF ANY PERSON TO REGISTER THE INTERESTS UNDER THE SECURITIES ACT. INTERESTS IN THE FUND MAY NOT BE TRANSFERRED OR RESOLD EXCEPT AS PERMITTED UNDER THE SECURITIES ACT AND ANY APPLICABLE NON-U.S. SECURITIES LAWS, PURSUANT TO REGISTRATION OR AN EXEMPTION THEREFROM. THE TRANSFERABILITY OF THE INTERESTS WILL BE FURTHER RESTRICTED BY THE TERMS OF THE FUND'S GOVERNING DOCUMENTS. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF AN INVESTMENT IN THE FUND FOR AN INDEFINITE PERIOD OF TIME.

NONE OF THE INFORMATION CONTAINED HEREIN WAS PREPARED BY THE FUND OR ANY UNDERLYING PORTFOLIO FUNDS IDENTIFIED HEREIN, IF ANY, THE GENERAL PARTNERS THEREOF OR ANY OF THEIR RESPECTIVE AFFILIATES. BY ACCEPTING THESE MATERIALS, YOU HEREBY ACKNOWLEDGE AND AGREE TO ALL OF THE TERMS AND CONDITIONS IN THESE DISCLOSURES.

Vendor **Gilde Buy-Out Partners B.V.**
 Address **Herculesplein 104**
 3584 AA Utrecht
 The Netherlands
 Category **Private Equity**

Date Completed: **April 23, 2019**

TOTAL COMPOSITION OF WORK FORCE									
Occupation	African American	Hispanic	Asian or Pacific Islander	American Indian/ Alaskan Native	Caucasian (Non Hispanic)	Total Employees	Percent (%) Minority	Gender	
	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Male	Female
Officials & Managers	0	0	0	0	0	0	0.00%	0	0
Professionals	0	0	0	0	29	29	0.00%	25	4
Technicians	0	0	0	0	0	0	0.00%	0	0
Sales Workers	0	0	0	0	0	0	0.00%	0	0
Office/Clerical	0	0	0	0	9	9	0.00%	3	6
Semi-Skilled	0	0	0	0	0	0	0.00%	0	0
Unskilled	0	0	0	0	0	0	0.00%	0	0
Service Workers	0	0	0	0	0	0	0.00%	0	0
Other	0	0	0	0	0	0	0.00%	0	0
Total	0	0	0	0	38	38	0.00%	28	10
Professionals include investment staff, CFO and Head of IR. Other staff qualified as Office/clerical									

PRIVATE EQUITY INVESTMENT POLICY

Discretion in a Box (Roles and Responsibilities)

	Role of the Board	Role of Staff	Role of the Private Equity Consultant
Strategy/Policy	<ul style="list-style-type: none"> Select Private Equity Consultant. Approve asset class funding level. Review and approve the Private Equity Annual Strategic Plan which includes allocation targets and ranges. 	<ul style="list-style-type: none"> With Private Equity Consultant and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board. 	<ul style="list-style-type: none"> With staff and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board.
Investment Selection	<ul style="list-style-type: none"> Review investment analysis reports. Review and approve investments in new management groups of amounts greater than \$50 million prior to investment. Review and approve investments in follow-on partnerships of amounts greater than \$100 million prior to investment. 	<ul style="list-style-type: none"> Refer investments and forward to Private Equity Consultant for preliminary screening. Conduct meetings with potential new investments prior to recommending to the Board, if practical. In conjunction with Private Equity Consultant, invest up to \$50 million for new partnerships, and up to \$100 million for follow-on funds without Board approval. If staff opposes, refer to Board for decision. In conjunction with Private Equity Consultant, make recommendations to Board for approval for investments over \$50 million in new partnerships, or over \$100 million in follow-on funds. Execute agreements. 	<ul style="list-style-type: none"> Conduct extensive analysis and due diligence on investments. Recommend for Board approval investments over \$50 million for new managers, or over \$100 million in follow-on funds. With staff concurrence, approve investment of up to \$50 million for new partnerships, and up to \$100 million in follow-on funds. Provide investment analysis report for each new investment and sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s). Communicate with staff regarding potential opportunities undergoing extensive analysis and due diligence. Coordinate meetings between staff, Board, and general partner upon request. Negotiate legal documents.
Investment Monitoring	<ul style="list-style-type: none"> Review quarterly, annual, and other periodic monitoring reports. Approve sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s) 	<ul style="list-style-type: none"> Review quarterly, annual and other periodic monitoring reports prepared by the Private Equity Consultant. Conduct meetings with existing managers periodically. Attend annual partnership meetings when appropriate. Fund capital calls and distributions. Review Private Equity Consultant's recommendations on amendments and consents. Execute amendments to agreements and consents. Manage and approve the wind-down and/or dissolve private equity fund investment(s) with private equity consultant's concurrence. Manage and execute the sale of partnership interest on the secondary market or to other limited partner(s) or potential buyer(s). 	<ul style="list-style-type: none"> Maintain regular contact with existing managers in the portfolio to ascertain significant events within the portfolio. Recommend amendments and consents to staff for approval. Provide quarterly, annual, and other periodic monitoring reports.



LACERS

LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM



Report to Board of Administration

From: Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **IX-F**

SUBJECT: NOTIFICATION OF COMMITMENT OF UP TO \$13.25 MILLION IN SPARK CAPITAL VI, L.P.

Recommendation

That the Board receive and file this notice.

Discussion

Consultant Recommendation

TorreyCove Capital Partners LLC (TorreyCove), LACERS' Private Equity Consultant, recommended a commitment of up to \$13.25 million in Spark Capital VI, L.P. (the Fund), a venture capital strategy managed by Spark Capital Partners, LLC (Spark or the GP). Fund management and incentive fees are comparable to similar strategies and the GP will invest alongside limited partners, providing alignment of interests. This recommendation is consistent with the Private Equity Investments 2019 Strategic Plan adopted by the Board on October 23, 2018.

Background

Spark was founded in 2005 as a media and technology-focused venture capital firm. Today, the firm is led by senior partners, Santo Politi and Bijan Sabet. The firm has \$3 billion in assets under management, consists of 27 employees, and has offices in Boston (headquarters), New York City, and San Francisco.

LACERS has an existing general partner relationship with Spark and previously committed a total of \$53.75 million to the following Spark-sponsored funds:

Fund	Vintage Year	Commitment Amount	Net IRR ^{1,2}
Spark Capital I, L.P.	2005	\$9 million	8.3%
Spark Capital II, L.P.	2008	\$9.75 million	51.8%
Spark Capital III, L.P.	2011	\$10 million	31.9%
Spark Capital Growth Fund I, L.P.	2014	\$10 million	13.0%
Spark Capital Growth Fund II, L.P.	2017	\$15 million	11.4%

The Spark Capital funds focus on early stage venture capital investments with smaller deal sizes, while the Spark Capital Growth funds focus on late/growth stage venture capital investments with larger deal sizes.

Investment Thesis

Spark seeks to invest in early stage companies within the digital media and technology market. The Fund will focus on companies providing social and content services, ads and monetization systems, online commerce, and mobile applications. Target firms typically have growing revenues, established business models, skilled management teams, and strong partner and customer networks. The Fund will provide capital that management teams need to execute growth initiatives. The GP further adds value to portfolio companies by providing board-level representation and advising on proper corporate governance practices. Exit strategies include initial public offerings and sales to financial institutions or strategic partners, such as other private equity firms or large enterprise firms.

Placement Agent

The GP does not outsource its fundraising and does not use placement agents.

Staff Recommendation

Staff concurred with TorreyCove's recommendation. The commitment has been consummated pursuant to the Discretion in a Box (Roles and Responsibilities) section of the Private Equity Investment Policy; no Board action is required.

Strategic Plan Impact Statement

Investment in Spark Capital VI, L.P. will allow LACERS to maintain exposure to private equity, which is expected to help LACERS optimize long-term risk adjusted investment returns (Goal IV).

This report was prepared by Wilkin Ly, Investment Officer III, Investment Division.

RJ:BF:WL:sg

Attachments: A) TorreyCove Investment Notification
B) Workforce Composition
C) Discretion in a Box

¹Performance as of December 31, 2018

²Performance data (1) does not necessarily accurately reflect the current or expected future performance of the Fund(s) or the fair value of LACERS' interest in the Fund(s), (2) should not be used to compare returns among multiple private equity funds and (3) has not been calculated, reviewed, verified or in any way sanctioned or approved by the general partner(s) or manager(s).



TORREYCOVE
CAPITAL PARTNERS

CALIFORNIA

10180 Barnes Canyon Road
Suite 200
San Diego, CA 92121

MASSACHUSETTS

222 Rosewood Drive
3rd Floor
Danvers, MA 01923

Spark Capital VI, L.P. Investment Notification





Fund Information

- **General Partner:** Spark Management Partners VI, LLC (the “Firm”)
- **Fund:** Spark Capital VI, L.P. (the “Fund”)
- **Firm Founded:** 2005
- **Strategy:** Venture Capital
- **Sub-Strategy:** Early-Stage
- **Geography:** North America
- **Team:** Five-Person Partner Group
- **Senior Partners:** Santo Politi and Bijan Sabet
- **Office Locations:** Boston, Massachusetts; San Francisco, California; New York, New York
- **Industries:** Digital Media and Technology
- **Recommendation:** Up to \$13.25 million

Investment Highlights

- Experienced, cohesive investment team
- Strong realized performance
- Ability to consistently identify large winners



Spark Capital VI, L.P.

■ Firm and Background

- Founded in 2005 by Todd Dages and Santo Politi, Spark Capital maintains an investment team consisting of 14 senior professionals across its two investment platforms.
- Headquartered in Boston, Spark Capital is highly regarded as one of the premier east coast-based venture capital firms, especially in the early-stage consumer technology space. The Firm is currently working on building out its presence on the west coast with the recent opening of its San Francisco office.
- Founding Partner Todd Dages is expected to become a retired partner during the life of the Fund.

■ Investment Strategy

- Focus on executing between 30 to 40 early-stage technology investments, including 10 to 15 seed deals.
- Focus on initial check sizes ranging between \$250.0 thousand and \$5.0 million, although the Fund will also invest in follow-on rounds which will likely bring average investment sizes to between \$10.0 million to \$15.0 million per investment.
- Focus on digital media and technology companies in the e-commerce, education, financial services, and social media sectors, among others.
- Focus on bolstering management teams, refining and developing go-to-market strategies, and advising on operational and strategic initiatives.

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE PERFORMANCE.

THESE MATERIALS ARE NOT INTENDED AS AN OFFER TO SELL, OR THE SOLICITATION OF AN OFFER TO PURCHASE, ANY SECURITY. THIS PRESENTATION HAS BEEN PREPARED SOLELY FOR INFORMATIONAL AND DISCUSSION PURPOSES ONLY. THE INFORMATION HEREIN IS NOT INTENDED TO BE COMPLETE AND THE DESCRIPTION OF THE FUND IN THESE MATERIALS IS QUALIFIED IN ITS ENTIRETY BY THE TERMS AND INFORMATION CONTAINED IN THE FUND'S OFFERING DOCUMENTS, INCLUDING, WITHOUT LIMITATION, THE FUND'S PRIVATE PLACEMENT MEMORANDUM, PARTNERSHIP AGREEMENT AND SUBSCRIPTION AGREEMENT ("GOVERNING DOCUMENTS"). NOTHING HEREIN CONSTITUTES OR SHOULD NOT BE CONSTRUED AS INVESTMENT ADVICE.

THE INFORMATION HEREIN IS NOT INTENDED TO PROVIDE, AND SHOULD NOT BE RELIED UPON FOR, ACCOUNTING, TAX OR LEGAL ADVICE. YOU SHOULD CONSULT YOUR TAX, LEGAL AND/OR ACCOUNTING ADVISERS ABOUT ANY MATTERS DISCUSSED HEREIN.

INTERESTS IN THE FUND HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER ANY STATE OR OTHER SECURITIES LAWS OR THE LAWS OF ANY NON-U.S. JURISDICTION. THE INTERESTS WILL BE OFFERED AND SOLD FOR INVESTMENT ONLY TO QUALIFYING INVESTORS PURSUANT TO THE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN COMPLIANCE WITH THE APPLICABLE SECURITIES LAWS OF THE STATES AND OTHER JURISDICTIONS (INCLUDING NON-U.S. JURISDICTIONS) WHERE THE OFFERING WILL BE MADE. THERE WILL BE NO PUBLIC MARKET FOR INTERESTS IN THE FUND, AND THERE IS NO OBLIGATION ON THE PART OF ANY PERSON TO REGISTER THE INTERESTS UNDER THE SECURITIES ACT. INTERESTS IN THE FUND MAY NOT BE TRANSFERRED OR RESOLD EXCEPT AS PERMITTED UNDER THE SECURITIES ACT AND ANY APPLICABLE NON-U.S. SECURITIES LAWS, PURSUANT TO REGISTRATION OR AN EXEMPTION THEREFROM. THE TRANSFERABILITY OF THE INTERESTS WILL BE FURTHER RESTRICTED BY THE TERMS OF THE FUND'S GOVERNING DOCUMENTS. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF AN INVESTMENT IN THE FUND FOR AN INDEFINITE PERIOD OF TIME.

NONE OF THE INFORMATION CONTAINED HEREIN WAS PREPARED BY THE FUND OR ANY UNDERLYING PORTFOLIO FUNDS IDENTIFIED HEREIN, IF ANY, THE GENERAL PARTNERS THEREOF OR ANY OF THEIR RESPECTIVE AFFILIATES. BY ACCEPTING THESE MATERIALS, YOU HEREBY ACKNOWLEDGE AND AGREE TO ALL OF THE TERMS AND CONDITIONS IN THESE DISCLOSURES.

Vendor
Address

Spark Capital Partners, LLC
137 Newbury St, 8th Floor
Boston, MA 02116

Date Completed: **January 7, 2019**

Category

Venture Capital

TOTAL COMPOSITION OF WORK FORCE									
Occupation	African American	Hispanic	Asian or Pacific Islander	American Indian/ Alaskan Native	Caucasian (Non Hispanic)	Total Employees	Percent (%) Minority	Gender	
	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Male	Female
Officials & Managers	0	0	1	0	16	17	5.88%	13	4
Professionals	0	0	0	0	3	3	0.00%	0	3
Technicians	0	0	0	0	0	0	0.00%	0	0
Sales Workers	0	0	0	0	0	0	0.00%	0	0
Office/Clerical	1	0	1	0	5	7	28.57%	0	7
Semi-Skilled	0	0	0	0	0	0	0.00%	0	0
Unskilled	0	0	0	0	0	0	0.00%	0	0
Service Workers	0	0	0	0	0	0	0.00%	0	0
Other	0	0	0	0	0	0	0.00%	0	0
Total	1	0	2	0	24	27	11.11%	13	14

PRIVATE EQUITY INVESTMENT POLICY

Discretion in a Box (Roles and Responsibilities)

	Role of the Board	Role of Staff	Role of the Private Equity Consultant
Strategy/Policy	<ul style="list-style-type: none"> Select Private Equity Consultant. Approve asset class funding level. Review and approve the Private Equity Annual Strategic Plan which includes allocation targets and ranges. 	<ul style="list-style-type: none"> With Private Equity Consultant and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board. 	<ul style="list-style-type: none"> With staff and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board.
Investment Selection	<ul style="list-style-type: none"> Review investment analysis reports. Review and approve investments in new management groups of amounts greater than \$50 million prior to investment. Review and approve investments in follow-on partnerships of amounts greater than \$100 million prior to investment. 	<ul style="list-style-type: none"> Refer investments and forward to Private Equity Consultant for preliminary screening. Conduct meetings with potential new investments prior to recommending to the Board, if practical. In conjunction with Private Equity Consultant, invest up to \$50 million for new partnerships, and up to \$100 million for follow-on funds without Board approval. If staff opposes, refer to Board for decision. In conjunction with Private Equity Consultant, make recommendations to Board for approval for investments over \$50 million in new partnerships, or over \$100 million in follow-on funds. Execute agreements. 	<ul style="list-style-type: none"> Conduct extensive analysis and due diligence on investments. Recommend for Board approval investments over \$50 million for new managers, or over \$100 million in follow-on funds. With staff concurrence, approve investment of up to \$50 million for new partnerships, and up to \$100 million in follow-on funds. Provide investment analysis report for each new investment and sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s). Communicate with staff regarding potential opportunities undergoing extensive analysis and due diligence. Coordinate meetings between staff, Board, and general partner upon request. Negotiate legal documents.
Investment Monitoring	<ul style="list-style-type: none"> Review quarterly, annual, and other periodic monitoring reports. Approve sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s) 	<ul style="list-style-type: none"> Review quarterly, annual and other periodic monitoring reports prepared by the Private Equity Consultant. Conduct meetings with existing managers periodically. Attend annual partnership meetings when appropriate. Fund capital calls and distributions. Review Private Equity Consultant's recommendations on amendments and consents. Execute amendments to agreements and consents. Manage and approve the wind-down and/or dissolve private equity fund investment(s) with private equity consultant's concurrence. Manage and execute the sale of partnership interest on the secondary market or to other limited partner(s) or potential buyer(s). 	<ul style="list-style-type: none"> Maintain regular contact with existing managers in the portfolio to ascertain significant events within the portfolio. Recommend amendments and consents to staff for approval. Provide quarterly, annual, and other periodic monitoring reports.



Report to Board of Administration

Neil M. Guglielmo

From: Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **IX-G**

SUBJECT: NOTIFICATION OF COMMITMENT OF UP TO \$26.75 MILLION IN SPARK CAPITAL GROWTH FUND III, L.P.

Recommendation

That the Board receive and file this notice.

Discussion

Consultant Recommendation

TorreyCove Capital Partners LLC (TorreyCove), LACERS' Private Equity Consultant, recommended a commitment of up to \$26.75 million in Spark Capital Growth Fund III, L.P. (the Fund), a venture capital strategy managed by Spark Capital Partners, LLC (Spark or the GP). Fund management and incentive fees are comparable to similar strategies and the GP will invest alongside limited partners, providing alignment of interests. This recommendation is consistent with the Private Equity Investments 2019 Strategic Plan adopted by the Board on October 23, 2018.

Background

Spark was founded in 2005 as a media and technology-focused venture capital firm. Today, the firm is led by senior partners, Santo Politi and Bijan Sabet. The firm has \$3 billion in assets under management, consists of 27 employees, and has offices in Boston (headquarters), New York City, and San Francisco.

LACERS has an existing general partner relationship with Spark and previously committed a total of \$53.75 million to the following Spark-sponsored funds:

Fund	Vintage Year	Commitment Amount	Net IRR^{1,2}
Spark Capital I, L.P.	2005	\$9 million	8.3%
Spark Capital II, L.P.	2008	\$9.75 million	51.8%
Spark Capital III, L.P.	2011	\$10 million	31.9%
Spark Capital Growth Fund I, L.P.	2014	\$10 million	13.0%
Spark Capital Growth Fund II, L.P.	2017	\$15 million	11.4%

The Spark Capital funds focus on early stage venture capital investments with smaller deal sizes, while the Spark Capital Growth funds focus on late/growth stage venture capital investments with larger deal sizes.

Investment Thesis

Spark seeks to invest in growth stage companies within the digital media and technology market. The Fund will focus on companies providing social and content services, ads and monetization systems, online commerce, and mobile applications. Target firms typically have growing revenues, established business models, skilled management teams, and strong partner and customer networks. The Fund will provide capital that management teams need to execute growth initiatives. The GP further adds value to portfolio companies by providing board-level representation and advising on proper corporate governance practices. Exit strategies include initial public offerings and sales to financial institutions or strategic partners, such as other private equity firms or large enterprise firms.

Placement Agent

The GP does not outsource its fundraising and does not use placement agents.

Staff Recommendation

Staff concurred with TorreyCove's recommendation. The commitment has been consummated pursuant to the Discretion in a Box (Roles and Responsibilities) section of the Private Equity Investment Policy; no Board action is required.

Strategic Plan Impact Statement

Investment in Spark Capital Growth Fund III, L.P. will allow LACERS to maintain exposure to private equity, which is expected to help LACERS optimize long-term risk adjusted investment returns (Goal IV).

This report was prepared by Wilkin Ly, Investment Officer III, Investment Division.

RJ:BF:WL:sg

Attachments: A) TorreyCove Investment Notification
B) Workforce Composition
C) Discretion in a Box

¹Performance as of December 31, 2018

²Performance data (1) does not necessarily accurately reflect the current or expected future performance of the Fund(s) or the fair value of LACERS' interest in the Fund(s), (2) should not be used to compare returns among multiple private equity funds and (3) has not been calculated, reviewed, verified or in any way sanctioned or approved by the general partner(s) or manager(s).



TORREYCOVE
CAPITAL PARTNERS

CALIFORNIA

10180 Barnes Canyon Road
Suite 200
San Diego, CA 92121

MASSACHUSETTS

222 Rosewood Drive
3rd Floor
Danvers, MA 01923

Spark Capital Growth Fund III, L.P. Investment Notification





Fund Information

- **General Partner:** Spark Growth Management Partners III, LLC (the “Firm”)
- **Fund:** Spark Capital Growth Fund III, L.P. (the “Fund”)
- **Firm Founded:** 2005
- **Strategy:** Venture Capital
- **Sub-Strategy:** Late-Stage
- **Geography:** North America
- **Team:** Four-Person Partner Group
- **Senior Partners:** Santo Politi and Bijan Sabet
- **Office Locations:** Boston, Massachusetts; San Francisco, California; New York, New York
- **Industries:** Digital Media and Technology
- **Recommendation:** Up to \$26.75 million

Investment Highlights

- More recently established late-stage venture capital product at the Firm led by experienced investors
- Informational advantages that support cross-fund investments
- Access to late-stage financings of category leading enterprises



Spark Capital Growth Fund III, L.P.

■ Firm and Background

- Founded in 2005 by Todd Dagues and Santo Politi, Spark Capital maintains an investment team consisting of 14 senior professionals across its two investment platforms.
- Headquartered in Boston, Spark Capital is highly regarded as one of the premier east coast-based venture capital firms, especially in the early-stage consumer technology space. The Firm is currently working on building out its presence on the west coast with the recent opening of its San Francisco office.
- In 2014, the Firm hired former News Corp executive Jeremy Phillips to lead the formation of its late-stage strategy. Later in 2015, Spark hired Megan Quinn, former Partner at Kleiner Perkins, to join Mr. Phillips in managing the platform.
- Santo Politi and Bijan Sabet remain active across both of the Firm's investment platforms.
- The team is further supported by four mid-level investment professionals.

■ Investment Strategy

- Focus on late-stage or expansion-stage companies which have achieved certain growth milestones.
- Focus on industry sectors consistent with the Firm's early stage strategy.
- Focus on targeting opportunities in which the Firm has informational advantages that allow it to obtain meaningful allocations at reasonable valuations.
- Focus on deals with initial check sizes of \$15.0 million to \$50.0 million.

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE PERFORMANCE.

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NONE OF THE INFORMATION CONTAINED HEREIN WAS PREPARED BY THE FUND OR ANY UNDERLYING PORTFOLIO FUNDS IDENTIFIED HEREIN, IF ANY, THE GENERAL PARTNERS THEREOF OR ANY OF THEIR RESPECTIVE AFFILIATES. BY ACCEPTING THESE MATERIALS, YOU HEREBY ACKNOWLEDGE AND AGREE TO ALL OF THE TERMS AND CONDITIONS IN THESE DISCLOSURES.

Vendor
Address

Spark Capital Partners, LLC
137 Newbury St, 8th Floor
Boston, MA 02116

Date Completed: **January 7, 2019**

Category

Venture Capital

TOTAL COMPOSITION OF WORK FORCE									
Occupation	African American	Hispanic	Asian or Pacific Islander	American Indian/ Alaskan Native	Caucasian (Non Hispanic)	Total Employees	Percent (%) Minority	Gender	
	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Male	Female
Officials & Managers	0	0	1	0	16	17	5.88%	13	4
Professionals	0	0	0	0	3	3	0.00%	0	3
Technicians	0	0	0	0	0	0	0.00%	0	0
Sales Workers	0	0	0	0	0	0	0.00%	0	0
Office/Clerical	1	0	1	0	5	7	28.57%	0	7
Semi-Skilled	0	0	0	0	0	0	0.00%	0	0
Unskilled	0	0	0	0	0	0	0.00%	0	0
Service Workers	0	0	0	0	0	0	0.00%	0	0
Other	0	0	0	0	0	0	0.00%	0	0
Total	1	0	2	0	24	27	11.11%	13	14

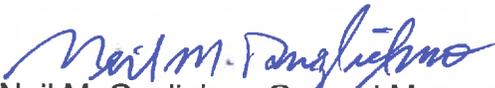
PRIVATE EQUITY INVESTMENT POLICY

Discretion in a Box (Roles and Responsibilities)

	Role of the Board	Role of Staff	Role of the Private Equity Consultant
Strategy/Policy	<ul style="list-style-type: none"> Select Private Equity Consultant. Approve asset class funding level. Review and approve the Private Equity Annual Strategic Plan which includes allocation targets and ranges. 	<ul style="list-style-type: none"> With Private Equity Consultant and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board. 	<ul style="list-style-type: none"> With staff and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board.
Investment Selection	<ul style="list-style-type: none"> Review investment analysis reports. Review and approve investments in new management groups of amounts greater than \$50 million prior to investment. Review and approve investments in follow-on partnerships of amounts greater than \$100 million prior to investment. 	<ul style="list-style-type: none"> Refer investments and forward to Private Equity Consultant for preliminary screening. Conduct meetings with potential new investments prior to recommending to the Board, if practical. In conjunction with Private Equity Consultant, invest up to \$50 million for new partnerships, and up to \$100 million for follow-on funds without Board approval. If staff opposes, refer to Board for decision. In conjunction with Private Equity Consultant, make recommendations to Board for approval for investments over \$50 million in new partnerships, or over \$100 million in follow-on funds. Execute agreements. 	<ul style="list-style-type: none"> Conduct extensive analysis and due diligence on investments. Recommend for Board approval investments over \$50 million for new managers, or over \$100 million in follow-on funds. With staff concurrence, approve investment of up to \$50 million for new partnerships, and up to \$100 million in follow-on funds. Provide investment analysis report for each new investment and sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s). Communicate with staff regarding potential opportunities undergoing extensive analysis and due diligence. Coordinate meetings between staff, Board, and general partner upon request. Negotiate legal documents.
Investment Monitoring	<ul style="list-style-type: none"> Review quarterly, annual, and other periodic monitoring reports. Approve sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s) 	<ul style="list-style-type: none"> Review quarterly, annual and other periodic monitoring reports prepared by the Private Equity Consultant. Conduct meetings with existing managers periodically. Attend annual partnership meetings when appropriate. Fund capital calls and distributions. Review Private Equity Consultant's recommendations on amendments and consents. Execute amendments to agreements and consents. Manage and approve the wind-down and/or dissolve private equity fund investment(s) with private equity consultant's concurrence. Manage and execute the sale of partnership interest on the secondary market or to other limited partner(s) or potential buyer(s). 	<ul style="list-style-type: none"> Maintain regular contact with existing managers in the portfolio to ascertain significant events within the portfolio. Recommend amendments and consents to staff for approval. Provide quarterly, annual, and other periodic monitoring reports.



Report to Board of Administration

From: 
Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **IX-H**

SUBJECT: NOTIFICATION OF COMMITMENT OF UP TO \$50 MILLION IN HARVEST PARTNERS VIII, L.P.

Recommendation

That the Board receive and file this notice.

Discussion

Consultant Recommendation

TorreyCove Capital Partners LLC (TorreyCove), LACERS' Private Equity Consultant, recommended a commitment of up to \$50 million in Harvest Partners VIII, L.P. (the Fund), a buyout strategy managed by Harvest Partners, L.P. (the GP or Harvest). Fund management and incentive fees are comparable to similar strategies and the GP will invest alongside limited partners, providing alignment of interests. This recommendation is consistent with the Private Equity Investments 2019 Strategic Plan adopted by the Board on October 23, 2018.

Background

Harvest was founded in 1981 and is an established middle-market private equity firm. Currently, the GP is led by five partners: Thomas Arenz, Michael DeFlorio, Stephen Eisenstein, Ira Kleinman, and Jay Wilkins. The management team has worked and invested together at the firm through multiple economic and private equity industry cycles. Harvest has aggregate capital commitments of over \$5 billion across their prior seven funds and the firm has invested in over 50 companies. The GP has 45 employees and offices in New York City (headquarters) and Palo Alto.

LACERS has an existing general partner relationship with Harvest. LACERS previously committed \$20 million to Harvest Partners VII, L.P. (2016 vintage), which has earned a net internal rate of return (IRR) of 5.3%.^{1,2}

Investment Thesis

Harvest focuses on investing in North American middle-market companies within four areas: business services & consumer, healthcare services, industrial services, and manufacturing & distribution. Harvest seeks to identify niche businesses that have talented management, market-leading positions, growth opportunities, and downside protection. Target companies generally lack certain resources or capabilities required to become larger businesses. Once an investment is selected, Harvest develops and implements a business plan that establishes the portfolio company's earnings growth objective,

which is the key driver of value creation, and the infrastructure and human resources required to support such growth. Exit strategies include initial public offerings and sales to financial institutions or strategic partners, such as other private equity firms or large enterprise firms.

Placement Agent

The GP hired Credit Suisse Securities (USA) LLC as placement agent.

Staff Recommendation

Staff concurred with TorreyCove's recommendation. The commitment has been consummated pursuant to the Discretion in a Box (Roles and Responsibilities) section of the Private Equity Investment Policy; no Board action is required.

Strategic Plan Impact Statement

Investment in Harvest Partners VIII, L.P. will allow LACERS to maintain exposure to private equity, which is expected to help LACERS optimize long-term risk adjusted investment returns (Goal IV).

This report was prepared by Wilkin Ly, Investment Officer III, Investment Division.

RJ:BF:WL:sg

Attachments: A) TorreyCove Investment Notification
B) Workforce Composition
C) Discretion in a Box

¹Performance as of December 31, 2018

²Performance data (1) does not necessarily accurately reflect the current or expected future performance of the Fund(s) or the fair value of LACERS' interest in the Fund(s), (2) should not be used to compare returns among multiple private equity funds and (3) has not been calculated, reviewed, verified or in any way sanctioned or approved by the general partner(s) or manager(s).



CALIFORNIA

10180 Barnes Canyon Road
Suite 200
San Diego, CA 92121

MASSACHUSETTS

222 Rosewood Drive
3rd Floor
Danvers, MA 01923



Harvest Partners VIII, L.P.
Investment Notification



Fund Information

- **General Partner:** Harvest Partners L.P. (the “Firm”)
- **Fund:** Harvest Partners VIII, L.P. (the “Fund”)
- **Firm Founded:** 1981
- **Strategy:** Buyouts
- **Sub-Strategy:** Medium Buyouts
- **Geography:** North America
- **Team:** ~30 investment professionals
- **Senior Partners:** Thomas Arenz, Michael DeFlorio, Stephen Eisenstein, Ira Kleinman, and Jay Wilkins
- **Office Locations:** New York, NY & Palo Alto, CA
- **Industries:** Diversified
- **Recommendation:** Up to \$50.0 million

Investment Highlights

- Experienced and cohesive management team
- Capital preservation marked by a low loss ratio and strong realized performance
- Consistent investment strategy that has been successfully implemented in prior funds



Harvest Partners VIII, L.P.

■ Firm and Background

- Harvest was founded in 1981 by Harvey Wertheim and Harvey Mallement (together, the “Founders”).
- The Founders were responsible for investing the Firm’s first three funds from 1985 through 2000. In 2000, the next generation of leaders, consisting of Partners Thomas Arenz, Stephen Eisenstein, and Ira Kleinman, began to assume the day-to-day responsibilities from the Firm’s Founders.
- Today the Firm is led by Michael DeFlorio, Jay Wilkins, Thomas Arenz, Stephen Eisenstein, and Ira Kleinman. As part of this transition, the Managing Partners sold a minority interest (15.0%) in the management company to Goldman Sachs Asset Management through Petershill Private Equity in October 2018.

■ Investment Strategy

- The Fund will seek to make control-oriented investments into middle market companies located primarily in North America.
- Targeted companies will typically generate between \$20.0 million and \$100.0 million of EBITDA and will have enterprise values between \$250.0 million and \$1.5 billion at entry.
- The Fund will seek to make 10 to 11 investments with an average investment size between \$250.0 million and \$350.0 million.
- Targeted portfolio companies will generally operate within four broad industry verticals including business services and consumer, healthcare services, industrial services, manufacturing and distribution.



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INTERESTS IN THE FUND HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER ANY STATE OR OTHER SECURITIES LAWS OR THE LAWS OF ANY NON-U.S. JURISDICTION. THE INTERESTS WILL BE OFFERED AND SOLD FOR INVESTMENT ONLY TO QUALIFYING INVESTORS PURSUANT TO THE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN COMPLIANCE WITH THE APPLICABLE SECURITIES LAWS OF THE STATES AND OTHER JURISDICTIONS (INCLUDING NON-U.S. JURISDICTIONS) WHERE THE OFFERING WILL BE MADE. THERE WILL BE NO PUBLIC MARKET FOR INTERESTS IN THE FUND, AND THERE IS NO OBLIGATION ON THE PART OF ANY PERSON TO REGISTER THE INTERESTS UNDER THE SECURITIES ACT. INTERESTS IN THE FUND MAY NOT BE TRANSFERRED OR RESOLD EXCEPT AS PERMITTED UNDER THE SECURITIES ACT AND ANY APPLICABLE NON-U.S. SECURITIES LAWS, PURSUANT TO REGISTRATION OR AN EXEMPTION THEREFROM. THE TRANSFERABILITY OF THE INTERESTS WILL BE FURTHER RESTRICTED BY THE TERMS OF THE FUND'S GOVERNING DOCUMENTS. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF AN INVESTMENT IN THE FUND FOR AN INDEFINITE PERIOD OF TIME.

NONE OF THE INFORMATION CONTAINED HEREIN WAS PREPARED BY THE FUND OR ANY UNDERLYING PORTFOLIO FUNDS IDENTIFIED HEREIN, IF ANY, THE GENERAL PARTNERS THEREOF OR ANY OF THEIR RESPECTIVE AFFILIATES. BY ACCEPTING THESE MATERIALS, YOU HEREBY ACKNOWLEDGE AND AGREE TO ALL OF THE TERMS AND CONDITIONS IN THESE DISCLOSURES.

ATTACHMENT B

Harvest's response to LACERS Diversity Questionnaire:

Harvest has decided to not fill out a workforce composition file.

PRIVATE EQUITY INVESTMENT POLICY

Discretion in a Box (Roles and Responsibilities)

	Role of the Board	Role of Staff	Role of the Private Equity Consultant
Strategy/Policy	<ul style="list-style-type: none"> Select Private Equity Consultant. Approve asset class funding level. Review and approve the Private Equity Annual Strategic Plan which includes allocation targets and ranges. 	<ul style="list-style-type: none"> With Private Equity Consultant and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board. 	<ul style="list-style-type: none"> With staff and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board.
Investment Selection	<ul style="list-style-type: none"> Review investment analysis reports. Review and approve investments in new management groups of amounts greater than \$50 million prior to investment. Review and approve investments in follow-on partnerships of amounts greater than \$100 million prior to investment. 	<ul style="list-style-type: none"> Refer investments and forward to Private Equity Consultant for preliminary screening. Conduct meetings with potential new investments prior to recommending to the Board, if practical. In conjunction with Private Equity Consultant, invest up to \$50 million for new partnerships, and up to \$100 million for follow-on funds without Board approval. If staff opposes, refer to Board for decision. In conjunction with Private Equity Consultant, make recommendations to Board for approval for investments over \$50 million in new partnerships, or over \$100 million in follow-on funds. Execute agreements. 	<ul style="list-style-type: none"> Conduct extensive analysis and due diligence on investments. Recommend for Board approval investments over \$50 million for new managers, or over \$100 million in follow-on funds. With staff concurrence, approve investment of up to \$50 million for new partnerships, and up to \$100 million in follow-on funds. Provide investment analysis report for each new investment and sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s). Communicate with staff regarding potential opportunities undergoing extensive analysis and due diligence. Coordinate meetings between staff, Board, and general partner upon request. Negotiate legal documents.
Investment Monitoring	<ul style="list-style-type: none"> Review quarterly, annual, and other periodic monitoring reports. Approve sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s) 	<ul style="list-style-type: none"> Review quarterly, annual and other periodic monitoring reports prepared by the Private Equity Consultant. Conduct meetings with existing managers periodically. Attend annual partnership meetings when appropriate. Fund capital calls and distributions. Review Private Equity Consultant's recommendations on amendments and consents. Execute amendments to agreements and consents. Manage and approve the wind-down and/or dissolve private equity fund investment(s) with private equity consultant's concurrence. Manage and execute the sale of partnership interest on the secondary market or to other limited partner(s) or potential buyer(s). 	<ul style="list-style-type: none"> Maintain regular contact with existing managers in the portfolio to ascertain significant events within the portfolio. Recommend amendments and consents to staff for approval. Provide quarterly, annual, and other periodic monitoring reports.



Report to Board of Administration

Neil M. Guglielmo

From: Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **IX-I**

SUBJECT: NOTIFICATION OF COMMITMENT OF UP TO \$50 MILLION IN GENSTAR CAPITAL PARTNERS IX, L.P.

Recommendation

That the Board receive and file this notice.

Discussion

Consultant Recommendation

TorreyCove Capital Partners LLC (TorreyCove), LACERS' Private Equity Consultant, recommended a commitment of up to \$50 million in Genstar Capital Partners IX, L.P. (the Fund), a buyout strategy managed by Genstar Capital Partners LLC (Genstar or the GP). Fund management and incentive fees are comparable to similar strategies and the GP will invest alongside limited partners, providing alignment of interests. This recommendation is consistent with the Private Equity Investments 2019 Strategic Plan adopted by the Board on October 23, 2018.

Background

Genstar was founded in 1988 as a Canadian building-materials and financial services company. Today, the firm is led by Jean-Pierre Conte, Ryan Clark, Rob Rutledge, Tony Salewski, and Eli Weiss. The GP has \$17 billion in assets under management, has 35 employees, and is based in San Francisco. Genstar is a new general partner relationship for LACERS.

Investment Thesis

Genstar focuses on investing in global middle-market companies headquartered in North America within four sectors: financial services, healthcare, industrial technology, and software. Within these sectors, the GP seeks companies that typically have attributes such as predictable recurring revenue, pricing power, high levels of free cash flow, attractive returns on capital, and steady growth profiles. Genstar adds value to these companies by assisting management with major strategic, operational, and financial initiatives. The GP intends to build a concentrated portfolio of investment opportunities in founder owned companies, public company orphans, corporate carve-outs, and traditional buyouts. Exit strategies include initial public offerings and sales to financial institutions or strategic partners, such as other private equity firms or large enterprise firms.

Placement Agent

The GP does not outsource its fundraising and does not use placement agents.

Staff Recommendation

Staff concurred with TorreyCove's recommendation. The commitment has been consummated pursuant to the Discretion in a Box (Roles and Responsibilities) section of the Private Equity Investment Policy; no Board action is required.

Strategic Plan Impact Statement

Investment in Genstar Capital Partners IX, L.P. will allow LACERS to maintain exposure to private equity, which is expected to help LACERS optimize long-term risk adjusted investment returns (Goal IV).

This report was prepared by Wilkin Ly, Investment Officer III, Investment Division.

RJ:BF:WL:sg

Attachments: A) TorreyCove Investment Notification
B) Workforce Composition
C) Discretion in a Box



TORREYCOVE
CAPITAL PARTNERS

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MASSACHUSETTS

222 Rosewood Drive
3rd Floor
Danvers, MA 01923

Genstar Capital Partners IX, L.P. Investment Notification





Fund Information

- **General Partner:** Genstar Capital Partners LLC (the “Firm”)
- **Fund:** Genstar Capital Partners IX, L.P. (the “Fund”)
- **Firm Founded:** 1988
- **Strategy:** Buyouts
- **Sub-Strategy:** Large Buyouts
- **Geography:** North America
- **Team:** 20+ Investment Professionals
- **Senior Partners:** J.P. Conte (Chairman) and Ryan Clark (President)
- **Office Locations:** San Francisco, CA
- **Industries:** Financial services, healthcare, industrial technology, and software
- **Recommendation:** Up to \$50.0 million

Investment Highlights

- Experienced and cohesive management team
- Consistently strong returns over time with relatively low loss ratios
- Consistent investment strategy that has been successfully implemented in prior funds



Genstar Capital Partners IX, L.P.

■ Firm and Background

- Genstar was formed in 1988 by senior executives of a Canadian building-materials and financial services business. In 1995, Jean-Pierre (“JP”) Conte was hired to run the business and he remains involved as Chairman and Managing Director.
- The Firm is currently led by five Managing Directors: (i) JP Conte; (ii) Ryan Clark; (iii) Rob Rutledge; (iv) Anthony Salewski; and (v) Eli Weiss.
- The five Managing Directors have an average tenure of 15 years with the Firm. They are supported by a team of 17 additional investment professionals.
- While the organization has scaled over time, Genstar remains dedicated to its flagship funds and has refrained from developing other fund products.

■ Investment Strategy

- The Fund will pursue control investments medium and large sized businesses in North America.
- The enterprise value of targeted companies will typically range from \$250.0 million to \$1.25 billion.
- The Fund is expected to make between 12 and 14 investments that require \$150.0 million to \$600.0 million per investment.
- The Fund will primarily focus on financial services, healthcare, industrial technology, and software.
- The Firm will focus on acquiring companies with positive cash flow, growth potential, revenue predictability, barriers to entry, good competitive positioning, solid margins, and downside protection.

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Vendor **Genstar Capital Partners**
 Address **Four Embarcadero Center, Suite 1900**
San Francisco, CA 94111-4191

Date Completed: **February 11, 2019**

Category **Private Equity**

TOTAL COMPOSITION OF WORK FORCE									
Occupation	African American	Hispanic	Asian or Pacific Islander	American Indian/ Alaskan Native	Caucasian (Non Hispanic)	Total Employees	Percent (%) Minority	Gender	
	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Full Time	Male	Female
Officials & Managers	0	0	1	0	4	5	20.00%	5	0
Professionals	0	1	8	0	21	30	30.00%	16	14
Technicians	0	0	0	0	0	0	0.00%	0	0
Sales Workers	0	0	0	0	0	0	0.00%	0	0
Office/Clerical	0	0	0	0	0	0	0.00%	0	0
Semi-Skilled	0	0	0	0	0	0	0.00%	0	0
Unskilled	0	0	0	0	0	0	0.00%	0	0
Service Workers	0	0	0	0	0	0	0.00%	0	0
Other	0	0	0	0	0	0	0.00%	0	0
Total	0	1	9	0	25	35	28.57%	21	14

PRIVATE EQUITY INVESTMENT POLICY

Discretion in a Box (Roles and Responsibilities)

	Role of the Board	Role of Staff	Role of the Private Equity Consultant
Strategy/Policy	<ul style="list-style-type: none"> Select Private Equity Consultant. Approve asset class funding level. Review and approve the Private Equity Annual Strategic Plan which includes allocation targets and ranges. 	<ul style="list-style-type: none"> With Private Equity Consultant and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board. 	<ul style="list-style-type: none"> With staff and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board.
Investment Selection	<ul style="list-style-type: none"> Review investment analysis reports. Review and approve investments in new management groups of amounts greater than \$50 million prior to investment. Review and approve investments in follow-on partnerships of amounts greater than \$100 million prior to investment. 	<ul style="list-style-type: none"> Refer investments and forward to Private Equity Consultant for preliminary screening. Conduct meetings with potential new investments prior to recommending to the Board, if practical. In conjunction with Private Equity Consultant, invest up to \$50 million for new partnerships, and up to \$100 million for follow-on funds without Board approval. If staff opposes, refer to Board for decision. In conjunction with Private Equity Consultant, make recommendations to Board for approval for investments over \$50 million in new partnerships, or over \$100 million in follow-on funds. Execute agreements. 	<ul style="list-style-type: none"> Conduct extensive analysis and due diligence on investments. Recommend for Board approval investments over \$50 million for new managers, or over \$100 million in follow-on funds. With staff concurrence, approve investment of up to \$50 million for new partnerships, and up to \$100 million in follow-on funds. Provide investment analysis report for each new investment and sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s). Communicate with staff regarding potential opportunities undergoing extensive analysis and due diligence. Coordinate meetings between staff, Board, and general partner upon request. Negotiate legal documents.
Investment Monitoring	<ul style="list-style-type: none"> Review quarterly, annual, and other periodic monitoring reports. Approve sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s) 	<ul style="list-style-type: none"> Review quarterly, annual and other periodic monitoring reports prepared by the Private Equity Consultant. Conduct meetings with existing managers periodically. Attend annual partnership meetings when appropriate. Fund capital calls and distributions. Review Private Equity Consultant's recommendations on amendments and consents. Execute amendments to agreements and consents. Manage and approve the wind-down and/or dissolve private equity fund investment(s) with private equity consultant's concurrence. Manage and execute the sale of partnership interest on the secondary market or to other limited partner(s) or potential buyer(s). 	<ul style="list-style-type: none"> Maintain regular contact with existing managers in the portfolio to ascertain significant events within the portfolio. Recommend amendments and consents to staff for approval. Provide quarterly, annual, and other periodic monitoring reports.



Report to Board of Administration

Neil M. Guglielmo

From: Neil M. Guglielmo, General Manager

Agenda of: **MAY 28, 2019**

ITEM: **IX-J**

SUBJECT: NOTIFICATION OF COMMITMENT OF UP TO \$20 MILLION IN DEFY PARTNERS II, L.P.

Recommendation

That the Board receive and file this notice.

Discussion

Consultant Recommendation

TorreyCove Capital Partners LLC (TorreyCove), LACERS' Private Equity Consultant, recommended a commitment of up to \$20 million in Defy Partners II, L.P. (the Fund), a venture capital strategy managed by Defy Partners (Defy or the GP). Fund management and incentive fees are comparable to similar strategies and the GP will invest alongside limited partners, providing alignment of interests. This recommendation is consistent with the Private Equity Investments 2019 Strategic Plan adopted by the Board on October 23, 2018.

Background

Defy was founded in 2016 by Neil Sequeira and Trae Vassallo to make early-stage venture capital investments in connected software companies. Neil Sequeira was previously a General Partner and Managing Director at General Catalyst. Trae Vassallo was previously a General Partner at Kleiner Perkins Caufield & Byers. The GP employs four professionals and is based in Woodside, California.

Defy is an existing general partner relationship for LACERS and meets the criteria as an Emerging Investment Manager pursuant to the LACERS Emerging Investment Manager Policy. LACERS previously committed \$10 million to Defy Partners I, L.P. (2017 vintage), which has earned a net internal rate of return (IRR) of 12.5%.^{1,2}

Investment Thesis

The Fund will invest primarily in early-stage technology companies that are developing connected software applications that enhance productivity and enjoyment for enterprises and consumers. The GP will target trends within connected software such as mobile media, creative commerce, and smart devices. Defy intends to leverage its network of entrepreneurs, operators, and non-competing investors to generate proprietary deal flow, conduct due diligence, and assist portfolio companies in order to add value.

Placement Agent

The GP does not outsource its fundraising and does not use placement agents.

Staff Recommendation

Staff concurred with TorreyCove's recommendation. The commitment has been consummated pursuant to the Discretion in a Box (Roles and Responsibilities) section of the Private Equity Investment Policy; no Board action is required.

Strategic Plan Impact Statement

Investment in Defy Partners II, L.P. will allow LACERS to maintain exposure to private equity, which is expected to help LACERS optimize long-term risk adjusted investment returns (Goal IV).

This report was prepared by Wilkin Ly, Investment Officer III, Investment Division.

RJ:BF:WL:sg

Attachments: A) TorreyCove Investment Notification
B) Workforce Composition
C) Discretion in a Box

¹Performance as of December 31, 2018

²Performance data (1) does not necessarily accurately reflect the current or expected future performance of the Fund(s) or the fair value of LACERS' interest in the Fund(s), (2) should not be used to compare returns among multiple private equity funds and (3) has not been calculated, reviewed, verified or in any way sanctioned or approved by the general partner(s) or manager(s).



TORREYCOVE
CAPITAL PARTNERS

CALIFORNIA

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Suite 200
San Diego, CA 92121

MASSACHUSETTS

222 Rosewood Drive
3rd Floor
Danvers, MA 01923

Defy Partners II, L.P. Investment Notification





Fund Information

- **General Partner:** Defy Partners (the “Firm”)
- **Fund:** Defy Partners II, L.P. (the “Fund”)
- **Firm Founded:** 2016
- **Strategy:** Venture Capital
- **Sub-Strategy:** Early-Stage
- **Geography:** North America
- **Team:** Two investment professionals
- **Senior Partners:** Neil Sequeira and Trae Vassallo
- **Office Locations:** Woodside, California
- **Industries:** Diversified
- **Recommendation:** Up to \$20.0 million

Investment Highlights

- The Founders have considerable venture investing and technology product development experience
- The investment professionals have strong individual track records
- Ability to proprietarily source deals
- DEFY qualifies as an Emerging Manager pursuant to LACERS Emerging Investment Manager Policy



Defy Partners II, L.P.

■ Firm and Background

- Defy Partners was founded in 2016 by Neil Sequeira and Trae Vassallo (together, the “Founders”).
- Mr. Sequeira and Mrs. Vassallo sought to establish an early stage venture firm that goes back to basics as many established firms began raising larger funds, writing larger checks, and shifting toward later stage deals.
- Today, the Firm consists of four employees and operates out of its sole office in Woodside, California.

■ Investment Strategy

- The Fund will invest in early stage venture companies that are located in North America.
- The Fund plans to write initial equity checks between \$4.0 million and \$10.0 million during Series A financing rounds to acquire, approximately, an 11.0% to 19.0% ownership stake in a company. Following the initial equity investment, Defy seeks to deploy follow-on investments in promising outperformers.
- The Fund aims to make 20 to 25 full investments and will selectively invest seed capital to position the Fund for larger Series A investments. The seed investments are not expected to exceed 5.0% of the aggregate capital subscriptions of the Fund.
- The Fund will seek to partner with entrepreneurs, who are committed to disrupting the status quo in products or services through connected software.

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NONE OF THE INFORMATION CONTAINED HEREIN WAS PREPARED BY THE FUND OR ANY UNDERLYING PORTFOLIO FUNDS IDENTIFIED HEREIN, IF ANY, THE GENERAL PARTNERS THEREOF OR ANY OF THEIR RESPECTIVE AFFILIATES. BY ACCEPTING THESE MATERIALS, YOU HEREBY ACKNOWLEDGE AND AGREE TO ALL OF THE TERMS AND CONDITIONS IN THESE DISCLOSURES.

ATTACHMENT B

Defy's response to LACERS Diversity Questionnaire:

Defy has decided to not fill out a workforce composition file.

PRIVATE EQUITY INVESTMENT POLICY

Discretion in a Box (Roles and Responsibilities)

	Role of the Board	Role of Staff	Role of the Private Equity Consultant
Strategy/Policy	<ul style="list-style-type: none"> Select Private Equity Consultant. Approve asset class funding level. Review and approve the Private Equity Annual Strategic Plan which includes allocation targets and ranges. 	<ul style="list-style-type: none"> With Private Equity Consultant and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board. 	<ul style="list-style-type: none"> With staff and General Fund Consultant, develop policies, procedures, guidelines, allocation targets, ranges, assumptions for recommendation to the Board.
Investment Selection	<ul style="list-style-type: none"> Review investment analysis reports. Review and approve investments in new management groups of amounts greater than \$50 million prior to investment. Review and approve investments in follow-on partnerships of amounts greater than \$100 million prior to investment. 	<ul style="list-style-type: none"> Refer investments and forward to Private Equity Consultant for preliminary screening. Conduct meetings with potential new investments prior to recommending to the Board, if practical. In conjunction with Private Equity Consultant, invest up to \$50 million for new partnerships, and up to \$100 million for follow-on funds without Board approval. If staff opposes, refer to Board for decision. In conjunction with Private Equity Consultant, make recommendations to Board for approval for investments over \$50 million in new partnerships, or over \$100 million in follow-on funds. Execute agreements. 	<ul style="list-style-type: none"> Conduct extensive analysis and due diligence on investments. Recommend for Board approval investments over \$50 million for new managers, or over \$100 million in follow-on funds. With staff concurrence, approve investment of up to \$50 million for new partnerships, and up to \$100 million in follow-on funds. Provide investment analysis report for each new investment and sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s). Communicate with staff regarding potential opportunities undergoing extensive analysis and due diligence. Coordinate meetings between staff, Board, and general partner upon request. Negotiate legal documents.
Investment Monitoring	<ul style="list-style-type: none"> Review quarterly, annual, and other periodic monitoring reports. Approve sale of partnership fund interest on the secondary market or to other limited partner(s) or potential buyer(s) 	<ul style="list-style-type: none"> Review quarterly, annual and other periodic monitoring reports prepared by the Private Equity Consultant. Conduct meetings with existing managers periodically. Attend annual partnership meetings when appropriate. Fund capital calls and distributions. Review Private Equity Consultant's recommendations on amendments and consents. Execute amendments to agreements and consents. Manage and approve the wind-down and/or dissolve private equity fund investment(s) with private equity consultant's concurrence. Manage and execute the sale of partnership interest on the secondary market or to other limited partner(s) or potential buyer(s). 	<ul style="list-style-type: none"> Maintain regular contact with existing managers in the portfolio to ascertain significant events within the portfolio. Recommend amendments and consents to staff for approval. Provide quarterly, annual, and other periodic monitoring reports.



Report to Board of Administration

From: Investment Committee
Sung Won Sohn, Chairperson
Elizabeth Lee
Nilza R. Serrano

Agenda of: **MAY 28, 2019**

ITEM: **IX-K**

SUBJECT: TACTICAL ASSET ALLOCATION PLAN AND POSSIBLE BOARD ACTION

Recommendation

That the Board approve the proposed Tactical Asset Allocation Plan.

Discussion

On February 12, 2019, the Board approved revisions to the Investment Policy (Policy) to include Tactical Asset Allocation within the rebalancing section of the Policy (Section I.V.G). Pursuant to the Policy, the Board must approve a Tactical Asset Allocation Plan (TAAP) annually to authorize staff to conduct tactical rebalancing. The TAAP addresses the goals and objectives of tactical asset allocation, roles and responsibilities of parties involved, decision-making and implementation framework, and reporting requirements.

On April 9, 2019, the Investment Committee reviewed an initial draft of the proposed TAAP, which was developed by staff in conjunction with NEPC, LLC, LACERS' General Fund Consultant. The Committee directed staff to reduce the number of implementation guidelines to allow greater flexibility for conducting tactical rebalances. On May 14, 2019, the Committee reviewed the proposed revised TAAP (Attachment A) and had no further comments. The Committee recommends that the Board approve the proposed TAAP.

Strategic Plan Impact Statement

The Tactical Asset Allocation Plan assists the Board in building a diversified portfolio to optimize LACERS' long-term risk-adjusted return profile (Goal IV). Development and adoption of such a plan also promotes good governance practices (Goal V).

This report was prepared by Jimmy Wang, Investment Officer I, Investment Division.

RJ:BF:WL:JW:sg

Attachment: A) Revised Proposed Tactical Asset Allocation Plan (Redline Version)
B) Revised Proposed Tactical Asset Allocation Plan (Clean Version)

TACTICAL ASSET ALLOCATION PLAN

TABLE OF CONTENTS

- I. Purpose and Scope
- II. Roles and Responsibilities
- III. Terminology
- IV. Tactical Asset Allocation Considerations
- V. Implementation
- VI. Risk Management Guidelines
- VII. Annual Review of the TAAP
- VIII. Appendix

I. Purpose and Scope

The Tactical Asset Allocation Plan (TAAP) is an addendum to Section I.V.G of the Investment Policy.

On February 12, 2019, the Board of Administration (“Board”) of the Los Angeles City Employees’ Retirement System (LACERS) approved revisions to the Investment Policy, which included a revision to the Rebalancing Policy (Section I.V.G). Specifically, a provision was ~~added~~[provided](#) for Tactical Asset Allocation (TAA). Under the TAA section, staff is authorized to initiate tactical rebalancing pursuant to the Tactical Asset Allocation Plan (TAAP).

The Board believes that LACERS Total Fund (Total Fund) is best managed when additional tools are available for staff to address a dynamic and rapidly changing investment market. Tactical Asset Allocation, pursuant to the Rebalancing Policy and procedures found in the TAAP, is designed to supplement and complement the Rebalancing Policy by adding flexibility to rebalancing decisions within a prudent, decision-making framework based on market and/or internal operational conditions. Rebalancing decisions – strategic and tactical – will be based on the principles of prudence, care, and risk mitigation.

More specifically, the TAAP provides additional approaches to the rebalancing of asset classes within established asset class policy target ranges. Rebalancing under the TAAP must achieve at least one of the following objectives: 1) Enhance Total Fund value; 2) Protect Total Fund value; or 3) Enhance the risk/return profile of the Total Fund pursuant to the Asset Allocation Policy and Risk Budget.

II. Roles and Responsibilities

The Board of Administration

The Board authorizes, provides oversight, and approves amendments to the TAAP. The Board delegates to staff the implementation of TAA within the adopted Rebalancing Policy, Asset Allocation Policy, and Risk Budget. The Board will review and approve the TAAP on or before July 1 of each year.

Investment Committee

The Investment Committee ~~is responsible for~~ reviews TAAP status reports if applicable, and conducts an annual performance evaluation of the TAAP, and recommends amendments to the Board.

Chief Investment Officer

The Chief Investment Officer (CIO) is responsible for the implementation of a Tactical Asset Allocation rebalancing pursuant to the TAAP. The CIO will review recommendations from staff and the General Fund Consultant to determine if a Tactical Rebalance is appropriate. The CIO is also responsible for unwinding any previously-initiated Tactical Actions as may be necessary. The CIO along with staff is responsible for observing economic and market indicators, assessing internal operational conditions, and working with the General Fund Consultant (and seeking advisement of other Investment Consultants under contract may be as necessary) to seek concurrence with a Tactical Action Proposal. The CIO will apprise the Board within 30 days of initiating a Tactical Rebalance.

General Fund Consultant

The General Fund Consultant reviews the CIO's proposed Tactical Action, and either concurs, amends, or disagrees with the proposed decision within seven business days of presentation of the Tactical Rebalance Proposal.

Internal Auditor

~~LACERSThe Internal Auditor shall review the CIO's annual annual TAAP report, to the Investment Committee as provided in Section VII of this plan, each year prior to the presentation of the report to the Investment Committee.~~

III. Terminology

Tactical Factors – External landscape observations that include economic, market, and valuation factors plus internal operational factors, all of which are to be considered when developing a Tactical Rebalance Proposal (see Appendix A).

Tactical Objectives – The driving force that underpins justification for a Tactical Rebalance. ~~It Objectives~~ may include: 1) Enhance Total Fund value; 2) Protect Total Fund value; ~~or~~and 3) Enhance the Risk/Return Profile of the Total Fund.

Tactical Rebalance Proposal – A written Tactical Rebalance plan to address one specific Tactical Asset Allocation (TAA) Rebalance project. The Tactical Rebalance Proposal shall consider the provisions found in TAAP Sections IV, V, VI, and VII.

Tactical Rebalance – One or more individual tactical movements of capital between or among asset classes to achieve one or more Tactical Objectives. A Tactical Rebalance may take one to 12 months to implement; ~~and~~ up to an additional 12 months ~~are~~ may be provided if a Tactical Reversal is included in a Tactical Rebalance Proposal.

Tactical Action – One specific, individual movement of capital that ~~impacts~~ adjusts asset holdings due to movements of cash, in-kind asset transfers, or use of derivatives. Derivatives may be used as an alternative to cash or in-kind asset transfers to obtain the equivalent changes in exposure(s), if derivatives are expected to produce more favorable economic and/or risk enhancements. Derivatives may not be used as a form of leverage.

Tactical Reversal – An optional component of a Tactical Rebalance Proposal, a Tactical Reversal is a specific and time-bound plan to partially or fully unwind a Tactical Rebalance once economic or market conditions, or internal operations, stabilize. A Tactical Reversal ~~is~~ can be an integral component of a Tactical Rebalance Proposal and may take up to 12 additional months to achieve full implementation.

IV. Tactical Asset Allocation Considerations

LACERS is a long-term strategic investor and implements the Asset Allocation Policy. TAA allows LACERS flexibility to adjust exposures to established asset classes to achieve one of several aforementioned TAA Objectives. TAA Factors that are considered when contemplating a Tactical Rebalance include (but are not restricted to): stage of the economic cycle; abrupt or trending market or capital dislocations; ~~or~~ excessive or deep under valuations of specific or broad asset types within the Total Fund or in the market; and internal operational factors.

V. Implementation

Implementation of a Tactical Action will comply with the following procedures, as they may apply:

1. External Landscape Evaluation – Economic market outlook, including economic indicators, monetary and fiscal policies, geo-political events, Federal Reserve Bank actions, interest rates, inflation, etc.
- 4.
2. Internal Operational Evaluation – Actual asset allocation of the Total Fund compared to policy targets, asset class movements and trends, portfolio valuations, operational cash, future, pending, or existing RFP manager searches and hiring of investment managers, pending investment manager terminations, market and economic landscape commentary or information from investment managers, and compliance with existing Investment Policy
3. General Fund Consultant Discussion and Concurrence (and discussion with other contracted Investment Consultants as it may apply warranted)
- 3.
4. Written Tactical Rebalance Proposal to-should include the following decision considerations (as they may apply as appropriate):
 - o External Landscape and Internal Operational Evaluations;
 - o Projected Impact on Asset Allocation and Asset Classes;
 - o Projected Impact on Total Fund addressing Tactical Objectives:
 - Enhancement to Total Fund Value; and/or
 - Protection of Total Fund Value; and/or
 - Enhanced Risk/Return Profile and Compliance to Risk Budget
 - o Projected Quantitative Outcomes including measurable Performance and Risk Metric improvements and Capital Preservation amounts;
 - o Financial Considerations - Dollars-Funds directly impacted by a Tactical Rebalance; Proposed Implementation Timing and Transactional Costs; Benchmark to evaluate performance; Monitoring Schedule
 - o Tactical Reversal (Partial or Full) as needed
- ⊖
5. Implementation of Tactical Action pursuant to the written Tactical Rebalance Proposal and TAAP Risk Management Guidelines.
- 5.
6. Report to the Board within 30 days of initiating a Tactical Rebalance
- 6.
7. Quarterly Status Reporting of Tactical Rebalancing implementation
- 7.
8. Internal Monthly Rebalancing and Compliance Staff Reviews per the Rebalancing Policy (Section I.V.G of the LACERS Investment Policy)
, attached as Appendix B
- 8.
9. Annual Investment Committee Review of TAAP based on Staff CIO Report as provided in Section VII of this plan
- 9.
10. Annual Board Renewal, Modification, or Repeal of TAAP based on Investment Committee Report as provided in Section VII of this plan

VI. Risk Management Guidelines

The following guidelines are designed to help the CIO manage the implementation of the TAA Policy within a prudent risk-management framework.

1. A Tactical Rebalance may be initiated when the actual weighting of an asset class exceeds 70% of the range from its target weighting to its established bands.
2. A Tactical Rebalance Proposal shall not exceed 50% of the excess valuation that is over_ or under_weight to its policy target at the time the decision to rebalance is made.
3. A Tactical Rebalance ~~shall is expected to should~~ be completed within 12-24 months of initiation; except in the case of a partial or full reversal of the original Tactical Rebalance, which may extend the Tactical Rebalance up to an additional 12 months.
- ~~4. A Tactical Action shall not exceed 50% of the value between an asset class upper or lower actual value (at the time of initiating a Tactical Rebalance) and its current policy target; subsequent Tactical Actions within a specific Tactical Rebalance shall be based on the original policy target valuations and actual valuations at the time the first Tactical Action is deployed.~~
- ~~5. Each Tactical Action within a Tactical Rebalance shall be separated by no less than 30 calendar days but not more than calendar days.~~
4. A Tactical Rebalance may be suspended after the first Tactical Action is completed if such single Tactical Action or subsequent ~~prescribed~~ Tactical Actions achieves the Tactical Objective(s) within the Tactical Rebalance Proposal; thus requiring no further Tactical Action(s) pursuant to a Tactical Rebalancing Proposal.
- ~~6.~~
- ~~7. No more than one Tactical Rebalance be actively deployed and in progress within the Total LACERS Fund without prior Board approval.~~
5. A Tactical Rebalance Proposal may be modified or(including suspen~~ded~~sion) by the CIO with-upon the concurrence of the General Fund Consultant if market conditions or other external landscape factors change or strategic asset class rebalances are necessary that disrupts the orderly implementation of the Tactical Rebalance Proposal, or when internal operations such as liquidity needs ~~creates~~would have a material impact on the Tactical Rebalance Proposal such that the Tactical Objectives are no longer achievable within the established Tactical Rebalance Proposal timeframe due to material changes in the original market assumptions, operational factors, or risk levels.
- ~~8.~~
- 9.6. The General Fund Consultant ~~must shall~~must concur with the Tactical Rebalance Proposal prior to initiation.

VII. Annual Review of the TAAP

Annual TAAP Review by the Investment Committee

~~Staff~~ The CIO shall will prepare an annual report of all Tactical Rebalance Proposals that were initiated in the current fiscal year, the current status of Tactical Rebalances and Tactical Actions, and the projected and actual impact of the Tactical Rebalance(s) including (but not restricted to) performance, capital preservation, and/or risk factors. Staff may also include recommendations to modify, continue or cease the TAAP. The Annual TAAP Review will be presented to the Investment Committee not later than the month of April of each year.

The Investment Committee will determine if the ~~TAAP meets the goals of the Rebalancing Policy and if the~~ TAAP requires any modifications including repeal. The Investment Committee recommendations will be then sent to the Board of Administration for approval.

Annual TAAP Approval or Repeal by the Board of Administration

The Board of Administration shall review and approve, modify, or repeal the TAAP prior to the beginning of each Fiscal Year.

If the TAAP is repealed, staff may not enter any new Tactical Rebalances; except Tactical Reversals that were contemplated in the Tactical Rebalance Proposal may be implemented according to the implementation sequence of the Tactical Actions.

VIII. APPENDIX

APPENDIX A

External Landscape and Internal Operational Considerations

- I. *Economic Cycle Consideration* - A Tactical Action may be appropriate based on the economic cycle, as illustrated below:

Early Stage Phase - The early stage of the economic cycle is characterized by recovering growth in the gross domestic product (GDP), profit margins, and consumer confidence. Credit and inflation in the economy are typically flat while interest rates start to rise. Stocks tend to be trading at more attractive levels compared to longer term historical averages.

Early to Mid-Cycle Stage Phase - During the early and mid-cycle phases, equities have the potential to outperform. TAA may attempt to take advantage of expansion stages by shifting exposure to public equities and reducing exposures to core fixed income assets.

Later and Recession Stage Phases - During late and recession stages, equities have potential to underperform risk-off assets. TAA may attempt to protect the Total Fund by reducing public equities and increasing fixed income assets.

- II. *Market Stages Consideration*

The economy oscillates between stages of expansion (early and middle stages) and contraction (late and recession stages). The early stage of the economic cycle is characterized by recovering growth in the gross domestic product (GDP), profit margins, and consumer confidence. Credit and inflation in the economy are typically flat while interest rates start to rise. Stocks tend to be trading at more attractive levels compared to longer term historical averages.

During the mid-cycle period of the economic cycle, the economy generally experiences expansion in GDP, credit growth, profit margins, and consumer confidence. Interest rates and inflation are typically stable during this period. Stocks tend to recover to levels in-line with long term average valuations.

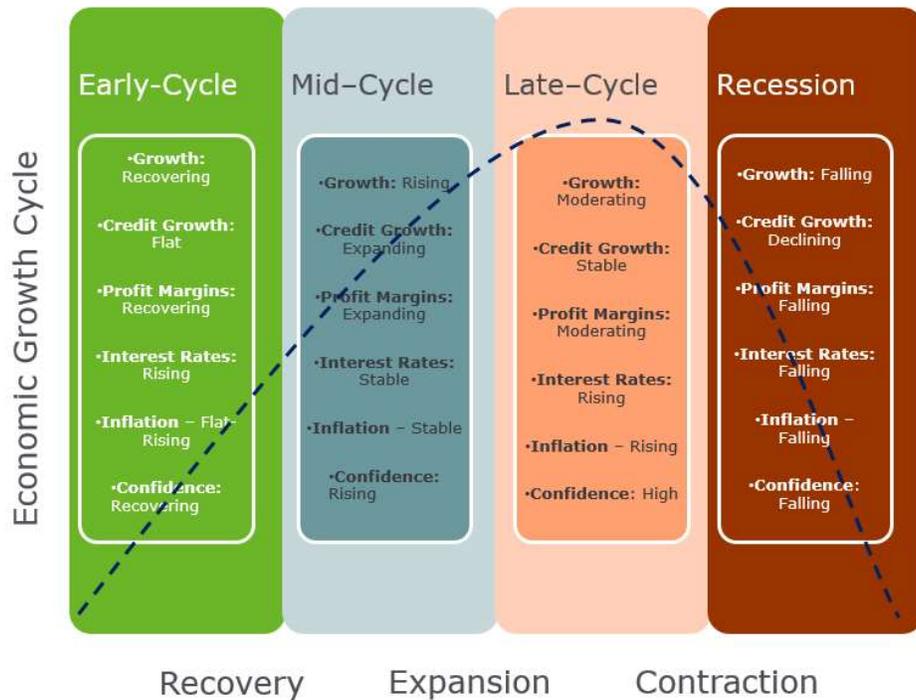
In the late-cycle period of the economic cycle, the economy typically experiences moderation in GDP growth, profit margins, and credit expansion. Consumer confidence is high and both interest rates and inflation are on the rise. Stocks trade at the higher band of long term averages while volatility tends to be higher than the earlier parts of the cycle.

Finally, during the recession stage of the economic cycle, excesses are purged from the system. GDP, credit, profit margins, interest rates, inflation and consumer confidence are all falling. During this phase of the market, volatility in the stock market increases dramatically while prices tend to fall to below average valuations.

III. *Assessment of Market Conditions*

Staff will evaluate and assess if the market is Early-Cycle, Mid-Cycle, Late-Cycle or in a Recession [on a quarterly basis](#).

This assessment will be based on the factors listed in the chart below.



*chart provided by NEPC, LLC

IV. *Economic and Market Risk Assessment*

Staff will address one or more of the economic, financial, and market indicators.

- Growth: Year-over-year growth in GDP
- Credit Growth: Year-over-year growth in total credit
- Profit Margins: Corporate profit margins
- Interest Rates: Short, Long, Yield Curve
- Inflation: Consumer Price Index
- Confidence Levels: Consumer Sentiment Index
- Additional factors such as commodity and currency trends, unemployment statistics, building permits, sales, and manufacturing statistics.

V. *Asset Valuations*

Staff will address the relevant market valuation indicators to include (but not restricted to):

- Current to Long-Term Historical Valuations reflected in Price to Earnings, Price to Book, and Dividend Yields
- Interest rate spreads, duration
- Growth versus Value

VI. *Internal Operational Considerations*

Staff will evaluate factors to include (but not restricted to):

- Benefits and Consequences of initiating a Tactical Action versus strategic rebalancing against asset allocation upper and lower policy target thresholds
- Liquidity Impact

APPENDIX B

Investment Policy, Section I.V.G. Rebalancing

The investment portfolio shall, on an ongoing basis in accordance with market fluctuations, be rebalanced to remain within the range of targeted allocations and distributions among investment advisors. The Board has a long-term investment horizon and utilizes an asset allocation that encompasses a strategic, long-run perspective of capital markets. It is recognized that a strategic long-run asset allocation plan implemented in a consistent and disciplined manner will be the major determinant of the System's investment performance.

Rebalancing is not primarily intended to be used for tactical asset allocation. The Board will not attempt to time the rise or fall of the investment markets by moving away from long-term targets because (1) market timing may result in lower returns than buy-and-hold strategies; (2) there is little or no evidence that one can consistently and accurately predict market timing opportunities; and (3) rebalancing too often may result in excessive transaction costs. However, the Board may authorize staff to rebalance assets within or among asset classes without breaching Board-established asset allocation policy threshold bands. Such rebalancing would be subject to an annually approved Tactical Asset Allocation Plan (TAAP) in order to enhance incremental performance during periods of market dislocations. The Board will consider the approval of a new TAAP or renewal of an existing TAAP within three months prior to the start of each fiscal year. The approved TAAP will be effective on July 1 of each year. Should the Board choose not to renew a TAAP, the existing TAAP may continue to be implemented; however, new TAA positions may not be introduced until a new TAAP is approved by the Board.

The Board delegates the responsibility of rebalancing to the Chief Investment Officer, who will seek the concurrence of the General Fund Consultant. Rebalancing generally will occur when the market values of asset classes (e.g., equities, fixed income, etc.) or sub-asset classes (e.g., large cap value, emerging markets, etc.) exceed their respective thresholds as established by the Board's approved asset allocation and asset class risk budgets.

The portfolio will be monitored daily, but reviewed by senior investment staff (i.e., Chief Investment Officer or Chief Operating Officer) at the beginning of each month to determine the need to rebalance asset classes or sub-asset classes within approved policy bands. Rebalancing will be conducted in a timely manner, taking into consideration associated costs and operational circumstances and market conditions. Rebalancing will be accomplished by using routine cash flows, such as contributions and benefit payments, by reallocating assets across asset classes, investment mandates, and investment managers.

Asset classes temporarily may remain outside of their ranges due to operational and implementation circumstances to include, but not limited to, illiquidity that prevents immediate

~~rebalancing of certain asset classes such as private equity and private real estate; potential asset shifts pending in the portfolio over the next 12 months such as hiring/termination of a manager(s); an asset allocation review of the entire portfolio; or a structural review of a given asset class.~~

- ~~_____ The Chief Investment Officer shall inform the Board in a timely manner of all rebalancing activity.~~

TACTICAL ASSET ALLOCATION PLAN

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More specifically, the TAAP provides additional approaches to the rebalancing of asset classes within established asset class policy target ranges. Rebalancing under the TAAP must achieve at least one of the following objectives: 1) Enhance Total Fund value; 2) Protect Total Fund value; or 3) Enhance the risk/return profile of the Total Fund pursuant to the Asset Allocation Policy and Risk Budget.

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The Board of Administration

The Board authorizes, provides oversight, and approves amendments to the TAAP. The Board delegates to staff the implementation of TAA within the adopted Rebalancing Policy, Asset Allocation Policy, and Risk Budget. The Board will review and approve the TAAP on or before July 1 of each year.

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The Investment Committee reviews TAAP status reports if applicable, conducts an annual performance evaluation of the TAAP, and recommends amendments to the Board.

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The General Fund Consultant reviews the CIO's proposed Tactical Action, and either concurs, amends, or disagrees with the proposed decision within seven business days of presentation of the Tactical Rebalance Proposal.

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The Internal Auditor shall review the CIO's annual TAAP report, as provided in Section VII of this plan, prior presenting the report to the Investment Committee.

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Tactical Factors – External landscape observations that include economic, market, and valuation factors plus internal operational factors, all of which are to be considered when developing a Tactical Rebalance Proposal (see Appendix A).

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Implementation of a Tactical Action will comply with the following procedures, as they may apply:

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2. Internal Operational Evaluation – Actual asset allocation of the Total Fund compared to policy targets, asset class movements and trends, portfolio valuations, operational cash, future, pending, or existing RFP manager searches and hiring of investment managers, pending investment manager terminations, market and economic landscape commentary or information from investment managers, and compliance with existing Investment Policy

3. General Fund Consultant Discussion and Concurrence (and discussion with other contracted Investment Consultants as warranted)
4. Written Tactical Rebalance Proposal should include the following decision considerations (as appropriate):
 - External Landscape and Internal Operational Evaluations;
 - Projected Impact on Asset Allocation and Asset Classes;
 - Projected Impact on Total Fund addressing Tactical Objectives:
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 - Protection of Total Fund Value; and/or
 - Enhanced Risk/Return Profile and Compliance to Risk Budget
 - Projected Quantitative Outcomes including measurable Performance and Risk Metric improvements and Capital Preservation amounts;
 - Financial Considerations - Funds directly impacted by a Tactical Rebalance; Proposed Implementation Timing and Transactional Costs; Benchmark to evaluate performance; Monitoring Schedule
 - Tactical Reversal (Partial or Full) as needed
5. Implementation of Tactical Action pursuant to the written Tactical Rebalance Proposal and TAAP Risk Management Guidelines.
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7. Quarterly Status Reporting of Tactical Rebalancing implementation
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9. Annual Investment Committee Review of TAAP based on CIO Report as provided in Section VII of this plan
10. Annual Board Renewal, Modification, or Repeal of TAAP based on Investment Committee Report as provided in Section VII of this plan

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The following guidelines are designed to help the CIO manage the implementation of the TAA Policy within a prudent risk-management framework.

1. A Tactical Rebalance may be initiated when the actual weighting of an asset class exceeds 70% of the range from its target weighting to its established bands.
2. A Tactical Rebalance Proposal shall not exceed 50% of the excess valuation that is over- or under-weight to its policy target at the time the decision to rebalance is made.

3. A Tactical Rebalance should be completed within 12-24 months of initiation, except in the case of a partial or full reversal of the original Tactical Rebalance, which may extend the Tactical Rebalance up to an additional 12 months.
4. A Tactical Rebalance may be suspended after the first Tactical Action is completed if such single Tactical Action or subsequent Tactical Actions achieves the Tactical Objective(s) within the Tactical Rebalance Proposal pursuant to a Tactical Rebalancing Proposal.
5. A Tactical Rebalance Proposal may be modified or suspended by the CIO upon the concurrence of the General Fund Consultant if market conditions or other external landscape factors change or strategic asset class rebalances are necessary that disrupt the orderly implementation of the Tactical Rebalance Proposal, or when internal operations such as liquidity needs would have a material impact on the Tactical Rebalance Proposal such that the Tactical Objectives are no longer achievable within the established Tactical Rebalance Proposal timeframe due to material changes in the original market assumptions, operational factors, or risk levels.
6. The General Fund Consultant must concur with the Tactical Rebalance Proposal prior to initiation.

VII. Annual Review of the TAAP

Annual TAAP Review by the Investment Committee

The CIO will prepare an annual report of all Tactical Rebalance Proposals that were initiated in the current fiscal year, the current status of Tactical Rebalances and Tactical Actions, and the projected and actual impact of the Tactical Rebalance(s) including (but not restricted to) performance, capital preservation, and/or risk factors. Staff may also include recommendations to modify, continue or cease the TAAP. The Annual TAAP Review will be presented to the Investment Committee no later than the month of April of each year.

The Investment Committee will determine if the TAAP requires any modifications including repeal. The Investment Committee recommendations will be then sent to the Board of Administration for approval.

Annual TAAP Approval or Repeal by the Board of Administration

The Board of Administration shall review and approve, modify, or repeal the TAAP prior to the beginning of each Fiscal Year.

If the TAAP is repealed, staff may not enter any new Tactical Rebalances; except Tactical Reversals that were contemplated in the Tactical Rebalance Proposal may be implemented according to the implementation sequence of the Tactical Actions.

VIII. APPENDIX

External Landscape and Internal Operational Considerations

- I. *Economic Cycle Consideration* - A Tactical Action may be appropriate based on the economic cycle, as illustrated below:

Early Stage Phase - The early stage of the economic cycle is characterized by recovering growth in the gross domestic product (GDP), profit margins, and consumer confidence. Credit and inflation in the economy are typically flat while interest rates start to rise. Stocks tend to be trading at more attractive levels compared to longer term historical averages.

Early to Mid-Cycle Stage Phase - During the early and mid-cycle phases, equities have the potential to outperform. TAA may attempt to take advantage of expansion stages by shifting exposure to public equities and reducing exposures to core fixed income assets.

Later and Recession Stage Phases - During late and recession stages, equities have potential to underperform risk-off assets. TAA may attempt to protect the Total Fund by reducing public equities and increasing fixed income assets.

- II. *Market Stages Consideration*

The economy oscillates between stages of expansion (early and middle stages) and contraction (late and recession stages). The early stage of the economic cycle is characterized by recovering growth in the gross domestic product (GDP), profit margins, and consumer confidence. Credit and inflation in the economy are typically flat while interest rates start to rise. Stocks tend to be trading at more attractive levels compared to longer term historical averages.

During the mid-cycle period of the economic cycle, the economy generally experiences expansion in GDP, credit growth, profit margins, and consumer confidence. Interest rates and inflation are typically stable during this period. Stocks tend to recover to levels in-line with long term average valuations.

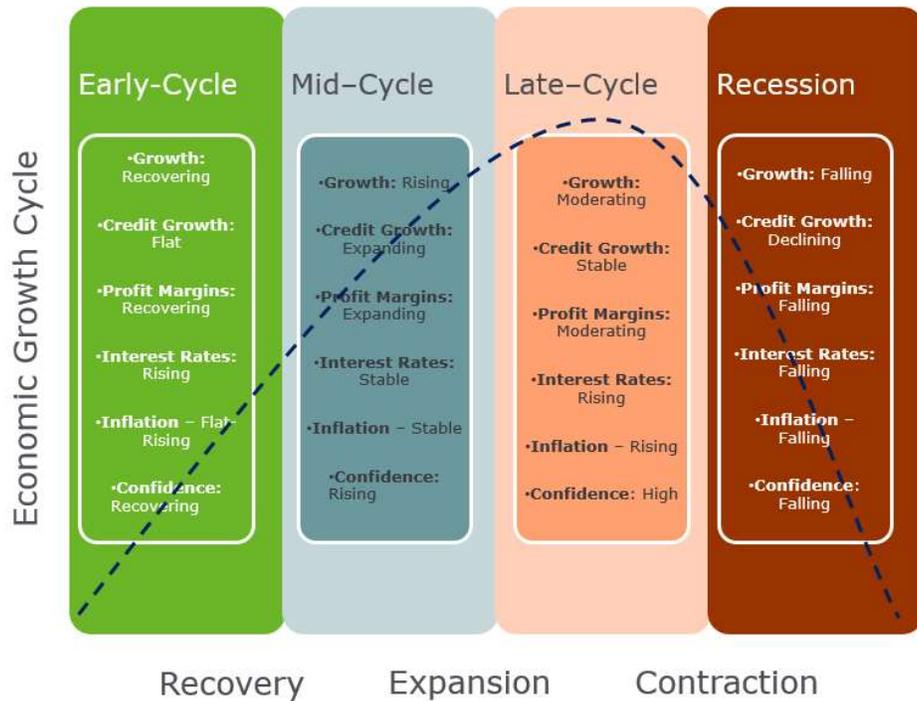
In the late-cycle period of the economic cycle, the economy typically experiences moderation in GDP growth, profit margins, and credit expansion. Consumer confidence is high and both interest rates and inflation are on the rise. Stocks trade at the higher band of long term averages while volatility tends to be higher than the earlier parts of the cycle.

Finally, during the recession stage of the economic cycle, excesses are purged from the system. GDP, credit, profit margins, interest rates, inflation and consumer confidence are all falling. During this phase of the market, volatility in the stock market increases dramatically while prices tend to fall to below average valuations.

III. *Assessment of Market Conditions*

Staff will evaluate and assess if the market is Early-Cycle, Mid-Cycle, Late-Cycle or in a Recession on a quarterly basis.

This assessment will be based on the factors listed in the chart below.



*chart provided by NEPC, LLC

IV. *Economic and Market Risk Assessment*

Staff will address one or more of the economic, financial, and market indicators.

- Growth: Year-over-year growth in GDP
- Credit Growth: Year-over-year growth in total credit
- Profit Margins: Corporate profit margins
- Interest Rates: Short, Long, Yield Curve
- Inflation: Consumer Price Index
- Confidence Levels: Consumer Sentiment Index
- Additional factors such as commodity and currency trends, unemployment statistics, building permits, sales, and manufacturing statistics.

V. *Asset Valuations*

Staff will address the relevant market valuation indicators to include (but not restricted to):

- Current to Long-Term Historical Valuations reflected in Price to Earnings, Price to Book, and Dividend Yields
- Interest rate spreads, duration
- Growth versus Value

VI. *Internal Operational Considerations*

Staff will evaluate factors to include (but not restricted to):

- Benefits and Consequences of initiating a Tactical Action versus strategic rebalancing against asset allocation upper and lower policy target thresholds
- Liquidity Impact