



LACERS
LA CITY EMPLOYEES'
RETIREMENT SYSTEM



Board of Administration Agenda

REGULAR MEETING

TUESDAY, JUNE 22, 2021

TIME: 10:00 A.M.

MEETING LOCATION:

In conformity with the Governor's Executive Order N-08-21 (June 11, 2021) and due to the concerns over COVID-19, the LACERS Board of Administration's June 22, 2021, meeting will be conducted via telephone and/or videoconferencing.

Important Message to the Public

Information to call-in to listen and or participate:

Dial: (669) 900-6833 or (253) 215-8782

Meeting ID# 857 3610 1920

Instructions for call-in participants:

- 1- Dial in and enter Meeting ID
- 2- Automatically enter virtual "Waiting Room"
- 3- Automatically enter Meeting
- 4- During Public Comment, **press *9** to raise hand
- 5- Staff will call out the last 3-digits of your phone number to make your comment

Information to listen only: 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).

Disclaimer to Participants

Please be advised that all LACERS Board and Committee Meeting proceedings are audio recorded.

President: Cynthia M. Ruiz

Vice President: Sung Won Sohn

Commissioners: Annie Chao
Elizabeth Lee
Sandra Lee
Nilza R. Serrano
Michael R. Wilkinson

Manager-Secretary: Neil M. Guglielmo

Executive Assistant: Ani Ghokassian

Legal Counsel: City Attorney's Office
Public Pensions General
Counsel Division

Notice to Paid Representatives

If you are compensated to monitor, attend, or speak at this meeting, City law may require you to register as a lobbyist and report your activity. See Los Angeles Municipal Code §§ 48.01 *et seq.* More information is available at ethics.lacity.org/lobbying. For assistance, please contact the Ethics Commission at (213) 978-1960 or ethics.commission@lacity.org.

Request for Services

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, Telecommunication Relay Services (TRS), 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) 855-9348** and/or email at ani.ghokassian@lacers.org.

[CLICK HERE TO ACCESS BOARD REPORTS](#)

- I. PUBLIC COMMENTS AND GENERAL PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION AND COMMENTS ON ANY SPECIFIC MATTERS ON THE

AGENDA – THIS WILL BE THE ONLY OPPORTUNITY FOR PUBLIC COMMENT - **PRESS
*9 TO RAISE HAND DURING PUBLIC COMMENT PERIOD**

- II. [APPROVAL OF MINUTES FOR THE REGULAR MEETING OF MAY 25, 2021 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 FOR MAY 2021](#)
- VI. COMMITTEE REPORT(S)
 - A. INVESTMENT COMMITTEE VERBAL REPORT FOR THE MEETING ON JUNE 8, 2021
 - B. GOVERNANCE COMMITTEE VERBAL REPORT FOR THE MEETING ON JUNE 22, 2021
- VII. BOARD/DEPARTMENT ADMINISTRATION
 - A. [PROPOSED LIST OF PRE-APPROVED BOARD EDUCATIONAL SEMINARS FOR FISCAL YEAR 2021-22 AND POSSIBLE BOARD ACTION](#)
- VIII. INVESTMENTS
 - A. CHIEF INVESTMENT OFFICER VERBAL REPORT
 - B. [PRESENTATION BY NEPC, LLC REGARDING RISK BUDGETING AND ASSET CLASS REVIEWS AND POSSIBLE BOARD ACTION](#)
 - C. [PRESENTATION BY NEPC, LLC OF THE PORTFOLIO PERFORMANCE REVIEW FOR THE QUARTER ENDING MARCH 31, 2021](#)
 - D. [REAL ESTATE FISCAL YEAR 2021-22 STRATEGIC PLAN AND POSSIBLE BOARD ACTION](#)
 - E. [CONTINUED DISCUSSION OF SECURITIES LENDING PROGRAM MODIFICATIONS AND POSSIBLE BOARD ACTION](#)
 - F. [NOTIFICATION OF COMMITMENT OF UP TO \\$35 MILLION IN WOLFF CREDIT PARTNERS III, L.P.](#)
- IX. DISABILITY RETIREMENT APPLICATION(S)

**A. CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION 54957(b) TO
CONSIDER THE DISABILITY RETIREMENT APPLICATION OF MARIA E.
GUTIERREZ AND POSSIBLE BOARD ACTION**

X. OTHER BUSINESS

XI. NEXT MEETING: The next Regular meeting of the Board is scheduled for Tuesday, July 13, 2021 at 10:00 a.m. at LACERS, 977 N. Broadway, Suite 260, Los Angeles, CA 90012, and/or via telephone and/or videoconferencing. Please continue to view the LACERS website for updated information on public access to Board meetings while response to public health concerns relating to the novel coronavirus continue.

XII. ADJOURNMENT

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

In conformity with the Governor's Executive Order N-29-20 (March 17, 2020)
and due to the concerns over COVID-19, the
LACERS Board of Administration's
May 25, 2021, meeting was conducted
via telephone and/or videoconferencing.

Agenda of: June 22, 2021

Item No: II

May 25, 2021

10:01 a.m.

PRESENT via Videoconferencing: Vice President:	Sung Won Sohn
Commissioners:	Annie Chao Sandra Lee Nilza R. Serrano Michael R. Wilkinson
Manager-Secretary:	Neil M. Guglielmo
Legal Counselor:	Joshua Geller
ABSENT: President:	Cynthia M. Ruiz
Commissioner:	Elizabeth Lee
PRESENT at LACERS offices: Executive Assistant:	Erin Knight (Acting)

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

I

PUBLIC COMMENTS AND GENERAL PUBLIC COMMENTS ON MATTERS WITHIN THE BOARD'S JURISDICTION AND COMMENTS ON ANY SPECIFIC MATTERS ON THE AGENDA – *THIS WILL BE THE ONLY OPPORTUNITY FOR PUBLIC COMMENT* – **PRESS *9 TO RAISE HAND DURING PUBLIC COMMENT PERIOD** – Vice President Sohn asked if any persons wanted to make a general public comment to which there were two responses. The first speaker was "Zella", member of the public and works at Sonic. This speaker stated things are getting marginally better but still being taken advantage of by the Sonic card use system. The second speaker as Adrienne Valdez, member of the public and employee of PetSmart. This speaker stated a petition was presented to management on the unsafe working conditions for employees during the pandemic and lack of PPE, management has not yet responded. The caller asked LACERS to support the struggle against BC Partners.

II

APPROVAL OF MINUTES FOR THE REGULAR MEETING OF APRIL 27, 2021 AND POSSIBLE BOARD ACTION – Commissioner Serrano moved approval, seconded by Commissioner Chao, and adopted by the following vote: Ayes, Commissioners Chao, Sandra Lee, Serrano, Wilkinson and Vice President Sohn -5; 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, advised the Board of the following items:

- CSIP: Service Purchases
- HQ Items (General Contractor, Security, and LA Times move)
- MSC Stats
- Retirement Application Portal
- YouTube Page Update
- Member Seminars
- SIP Update
- Health Plan Administration
- LACERS *Well* Events

B. UPCOMING AGENDA ITEMS – Neil M. Guglielmo, General Manager, advised the Board of the following items:

- June 8th – Proposed Benefits Administration Committee Meeting – 2022 Health Plan Renewal Status Report
- June 8th – Board Meeting – 977 Broadway Budget, Cyber Liability Insurance
- June 22nd – Board Meeting – Windfall Elimination Provision Report

V

RECEIVE AND FILE ITEMS

A. MONTHLY REPORT ON SEMINARS AND CONFERENCES FOR MARCH 2021 – This report was received by the Board and filed.

B. MONTHLY REPORT ON SEMINARS AND CONFERENCES FOR APRIL 2021 – This report was received by the Board and filed.

VI

BOARD/DEPARTMENT ADMINISTRATION

- A. PROPOSED BUDGET, PERSONNEL, AND ANNUAL RESOLUTIONS FOR FISCAL YEAR 2021-22 AND POSSIBLE BOARD ACTION – Todd Bouey, Assistant General Manager and Dale Wong-Nguyen, Chief Benefits Analyst, presented and discussed this item with the Board for 10 minutes. Commissioner Chao moved approval, seconded by Commissioner Serrano, and adopted by the following vote: Ayes, Commissioners Chao, Sandra Lee, Serrano, Wilkinson, and Vice President Sohn -5; Nays, None.

VII

MEMBER SERVICES

- A. REQUEST FOR PROPOSAL (RFP) FOR PRINTING, MAILING, AND GRAPHIC DESIGN AND POSSIBLE BOARD ACTION – Commissioner Wilkinson moved approval of the following Resolution:

**AUTHORIZATION TO CONTRACT WITH
CALIFORNIA MARKETING, KES MAIL, INC., TRAFFIK, AND SAPPHIRE BUSINESS SOLUTIONS
FOR PRINTING, MAILING, WEBSITE, AND GRAPHIC DESIGN SERVICES**

RESOLUTION 210525-B

WHEREAS, on March 9, 2021, the Board authorized the issuance of a Request for Proposal to identify qualified outside Printing, Mailing, Website, and Graphic Design services providers;

WHEREAS, on April 13, 2021, sixteen firms responded to the Printing, Mailing, Website, and Graphic Design Request for Proposal;

WHEREAS, on May 26, 2021, based on staff's recommendation after evaluating and scoring the submitted written proposals, the Board approved contracting with California Marketing, KES Mail, Inc., Traffik, and Sapphire Business Solutions, to provide Printing, Mailing, Website, and Graphic Design services with annual fees not to exceed \$90,000;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby authorizes the General Manager to negotiate and execute three-year contracts with California Marketing, KES Mail, Inc., Traffik, and Sapphire Business Solutions for Printing, Mailing, Website, and Graphic Design services with an option to renew the contracts for up to three additional years.

Which motion was seconded by Commissioner Chao, and adopted by the following vote: Ayes, Commissioners Chao, Sandra Lee, Serrano, Wilkinson, and Vice President Sohn -5; Nays, None.

VIII

INVESTMENTS

- A. CHIEF INVESTMENT OFFICER VERBAL REPORT – Rod June, Chief Investment Officer, reported on the portfolio value of \$22.4 billion as of May 24, 2021. Mr. June discussed the following items:
- CIO will participate on a panel with the Hispanic Heritage Foundation
 - Upcoming agenda items: Private Equity and Private Real Estate Performance Review for the Period ending December 31, 2020, Continued Discussion of the Temporary Asset Allocation and Cash Holdings Policies, and Request for Proposal for U.S., Non-U.S., and Global Index Strategies.
- B. PRINCIPLES FOR RESPONSIBLE INVESTMENT (PRI) LETTER TO THE SECURITIES AND EXCHANGE COMMISSION REGARDING REQUEST FOR PUBLIC COMMENT ON CLIMATE CHANGE DISCLOSURE AND POSSIBLE BOARD ACTION – Rod June, Chief Investment Officer, and Ellen Chen, Investment Officer I, presented this item to the Board for 10 minutes. Commissioner Serrano moved approval, seconded by Commissioner Sandra Lee, and adopted by the following vote: Ayes, Commissioners Chao, Sandra Lee, Serrano, Wilkinson, and Vice President Sohn -5; Nays, None.
- C. PROPOSED AMENDMENT OF EMERGING INVESTMENT MANAGER POLICY AND POSSIBLE BOARD ACTION – Rod June, Chief Investment Officer, Wilkin Ly, Investment Officer III, Clark Hoover, Investment Officer I, and Jeremiah Paras, Investment Officer I, presented this item. After a 20 minute discussion, Commissioner Serrano moved approval, seconded by Commissioner Wilkinson, and adopted by the following vote: Ayes, Commissioners Chao, Sandra Lee, Serrano, Wilkinson, and Vice President Sohn -5; Nays, None.
- D. NOTIFICATION OF COMMITMENT OF UP TO \$10 MILLION IN ULU VENTURES FUND III, L.P. – This report was received by the Board and filed.
- E. NOTIFICATION OF COMMITMENT OF UP TO \$11 MILLION IN MILL POINT CAPITAL PARTNERS II, L.P. – This report was received by the Board and filed.
- F. NOTIFICATION OF COMMITMENT OF UP TO €40,831,350 (APPROXIMATELY \$50 MILLION) IN H.I.G. EUROPE MIDDLE MARKET LBO FUND, L.P. – This report was received by the Board and filed.
- G. NOTIFICATION OF COMMITMENT OF UP TO \$40 MILLION IN OAK HC/FT PARTNERS IV, L.P. – This report was received by the Board and filed.
- H. NOTIFICATION OF COMMITMENT OF UP TO \$40 MILLION IN NMS FUND IV, LP – This report was received by the Board and filed.
- I. NOTIFICATION OF COMMITMENT OF UP TO \$40 MILLION IN ROARK CAPITAL PARTNERS VI (T) LP – Commissioner Serrano proposed questions/requests to Rod June, Chief Investment Officer, and David Fann, Vice Chairman of Aksia TorreyCove Partners LLC, regarding the public comments. This report was received by the Board and filed.
- J. NOTIFICATION OF COMMITMENT OF UP TO \$57.5 MILLION IN GENSTAR CAPITAL PARTNERS X, L.P. – This report was received by the Board and filed.

IX

LEGAL/LITIGATION

- A. APPROVAL OF CONTRACTS WITH K&L GATES LLP, KUTAK ROCK LLP, AND NOSSAMAN LLP FOR OUTSIDE INVESTMENT AND REAL ESTATE COUNSEL SERVICES, AND POSSIBLE BOARD ACTION – Representatives from K&L Gates LLP, Kutak Rock LLP, and Nossaman LLP gave a brief introduction of the firms. Commissioner Chao moved approval, seconded by Commissioner Serrano, and adopted by the following vote: Ayes, Commissioners Chao, Sandra Lee, Serrano, Wilkinson, and Vice President Sohn -5; Nays, None.

Vice President Sohn recessed the Regular Meeting at 11:26 a.m. to convene in Closed Session discussion.

X

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

Vice President Sohn reconvened the Regular Meeting at 11:31 a.m. and announced that the Board unanimously approved the Disability Retirement Application of Karla Scott.

XI

OTHER BUSINESS – There was no other business.

XII

NEXT MEETING: The next Regular meeting of the Board is scheduled for Tuesday, June 8, 2021, at 10:00 a.m. at LACERS, 977 N. Broadway, Suite 260, Los Angeles, CA 90012, and/or via telephone and/or videoconferencing. Please continue to view the LACERS website for updated information on public access to Board meetings while response to public health concerns relating to the novel coronavirus continue.

XIII

ADJOURNMENT – There being no further business before the Board, Vice President Sohn adjourned the Meeting at 11:32 a.m.

Sung Won Sohn
Vice-President

Neil M. Guglielmo
Manager-Secretary

Agenda of: JUNE 22, 2021

Item No: V-A

**MONTHLY REPORT ON SEMINARS AND CONFERENCES
ATTENDED BY BOARD MEMBERS ON BEHALF OF LACERS
(FOR THE MONTH OF MAY 2021)**

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:

Commissioner Elizabeth Lee
Commissioner Nilza R. Serrano

DATE(S) OF EVENT	SEMINAR / CONFERENCE TITLE	EVENT SPONSOR (ORGANIZATION)	LOCATION (CITY, STATE)
May 17-20, 2021	P&I – ESG Investing Virtual Series	Pensions & Investments	Virtual



LACERS
LA CITY EMPLOYEES'
RETIREMENT SYSTEM



REPORT TO BOARD OF ADMINISTRATION

From: Neil M. Guglielmo, General Manager

MEETING: JUNE 22, 2021

ITEM: VII – A

Neil M. Guglielmo

SUBJECT: PROPOSED LIST OF PRE-APPROVED BOARD EDUCATIONAL SEMINARS FOR FISCAL YEAR 2021-22 AND POSSIBLE BOARD ACTION

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board approve the Proposed List of Pre-Approved Board Educational Seminars for FY 2021-22.

Executive Summary

Pursuant to the LACERS Board Administrative Policy, the Pre-Approved List of Educational Seminars recommended for the Board.

Discussion

The LACERS' Board Education Travel Policy is intended to affirm education as an essential component of a trustee's fiduciary responsibility. The aim of the policy is to ensure that each Trustee fulfills the "Prudent Person Standard" requisite by developing and maintaining their knowledge of public pension administration through exposure to current benefit, financial, and policy information to develop a sound understanding of issues and topics that may directly impact LACERS. This fiduciary responsibility imposes a continuing need for Board Members to attend professional and educational conferences, seminars, and other educational events. Pursuant to the Policy, the maximum annual allocation for Trustee is \$10,000 for conference and other travel expenses.

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. This list will include all conferences deemed by the Board to meet the standard of having a solid reputation for quality program content.

Also attached to this report are conferences that were brought to the Board for consideration and approved on a case-by-case basis. These conferences may be included, in part or whole, in the designated list of pre-approved educational seminars for the coming fiscal year, at the discretion of the Board based on the standards indicated above.

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 2021-22 will require direct Board approval.

In addition, the Commission Executive Assistant will periodically share with the Commissioners any educational opportunities that become known to LACERS staff that may or may not be included in the Pre-Approved List of Education Seminars.

Prepared By: Ani Ghoukassian, Commission Executive Assistant II

NMG:ag

Attachments: 1. Proposed list of Educational Seminars for Fiscal Year 2021-22
2. Additional Educational Seminars Approved by the Board during Fiscal Year 2020-21

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM
LIST OF EDUCATIONAL SEMINARS – FISCAL YEAR 2021-22

*Local Conference

CONFERENCE / SEMINAR / MEETING	SUBJECT MATTER	TRUSTEE EVALUATION		
		TRUSTEE RATING Rate seminar with:		LEVEL
		A	Excellent	
		B	Very Good	
		C	Good	
		D	Not Beneficial	
California Association of Public Retirement Systems (CALAPRS) – General Assembly <ul style="list-style-type: none">Date and Location TBD	<ul style="list-style-type: none">Benefits AdminInvestmentsCorporate GovernanceAudit & Strategic Planning	A	(Sohn, 2016) (Wilkinson 2018, 2021) (Chao, Sohn 2020)	Intermediate
CALAPRS – Principles of Pension Management For Trustees <ul style="list-style-type: none">Date and Location TBD	<ul style="list-style-type: none">Benefits AdminInvestmentsCorporate GovernanceAudit & Strategic Planning	A	(Serrano, Wilkinson 2015)	Intermediate
CALAPRS – Advanced Principles of Pension Management For Trustees <ul style="list-style-type: none">March 30 - April 1, 2022 (Los Angeles, CA)*	<ul style="list-style-type: none">Benefits AdminInvestmentsCorporate GovernanceAudit & Strategic Planning			Advanced
CALAPRS – Trustees’ Roundtable <ul style="list-style-type: none">October 29, 2021 (Virtual)	<ul style="list-style-type: none">Benefits AdminInvestmentsCorporate GovernanceAudit & Strategic Planning	B	(Chao, 2016)	Intermediate
Council of Institutional Investors (CII) – Conferences <ul style="list-style-type: none">Fall Conference: September 22 – 24, 2021 (Chicago, IL)Spring Conference: March 7 – 9, 2022 (Washington, DC)	<ul style="list-style-type: none">Benefits AdminInvestmentsCorporate GovernanceAudit & Strategic Planning	A B	(Chao, 2017) (Wilkinson 2015)	Intermediate Advanced

Harvard Kennedy School – Leadership Decision Making: Optimizing Organizational Performance • Only Online options until further notice from conference website; In-person dates TBD	• Public Leadership and Public Policy			
International Foundation of Employee Benefit Plans (IFEBP) – Annual Employee Benefits Conference • October 17 – 20, 2021 (Denver, CO)	• Benefits Admin • Investments • Plan Admin			
International Foundation of Employee Benefit Plans (IFEBP) – Trustees and Administrators Institute • Date and Location TBD	• Benefits Admin • Investments • Plan Admin			
International Foundation of Employee Benefit Plans (IFEBP) – Health Benefit Plan Basics – Certificate Series • September 29 – 30, 2021 (Orlando, FL)	• Benefits Admin			
International Foundation of Employee Benefit Plans (IFEBP) – New Trustees Institute • Level I: Core Concepts: October 16 – 18, 2021 (Denver, CO) • Level II: Concepts in Practice: October 16 – 17, 2021 (Denver, CO)	• Benefits Admin • Investments • Plan Admin			
International Foundation of Employee Benefit Plans (IFEBP) – The Wharton School Advanced Investments Management • Date and Location TBD	• Investments • Corporate Governance			
International Foundation of Employee Benefits Plan (IFEBP) – The Wharton School Portfolio Concepts and Management Course • Date and Location TBD	• Investments			
National Conference on Public Employee Retirement Systems (NCPERS) – Annual Conference & Exhibition • Date and Location TBD	• Benefits Admin • Investments • Corporate Governance	A B	(Wilkinson, 2017, Sohn 2018) (Ruiz, 2016)	

<p>National Conference on Public Employee Retirement Systems (NCPERS) – Trustee Educational Seminar (TEDS)</p> <ul style="list-style-type: none"> ▪ Date and Location TBD 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance 	A	(Sohn, 2016)	Intermediate
<p>National Conference on Public Employee Retirement Systems (NCPERS) – Legislative Conference</p> <ul style="list-style-type: none"> ▪ Date and Location TBD 	<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"> ▪ Date and Location TBD 	<ul style="list-style-type: none"> ▪ Legislative Governance 			
<p>Pension Real Estate Association (PREA) Spring Conference</p> <ul style="list-style-type: none"> ▪ Date and Location TBD 	<ul style="list-style-type: none"> ▪ Investments 	A	(Chao, 2017)	Intermediate
<p>Pension Real Estate Association (PREA) Annual Institutional Investor Conference</p> <ul style="list-style-type: none"> ▪ October 25 -27, 2021 (Chicago, IL) 	<ul style="list-style-type: none"> ▪ Investments 	A	(Chao, 2017)	Intermediate
<p>Pacific Pension & Investments Institute (PPI)</p> <ul style="list-style-type: none"> ▪ Summer Roundtable: Date and Location TBD ▪ Winter Roundtable: Date and Location TBD 	<ul style="list-style-type: none"> ▪ Investments ▪ Corporate Governance 			
<p>Robert F. Kennedy (RFK) Human Rights Compass Conference</p> <ul style="list-style-type: none"> ▪ Date and Location TBD 	<ul style="list-style-type: none"> ▪ Investments ▪ Corporate Governance 			
<p>State Association of County Retirement Systems (SACRS) Conference</p> <ul style="list-style-type: none"> ▪ Fall Conference: November 9 – 12, 2021 (Hollywood, CA)* ▪ Spring Conference: May 10 – 13, 2022 (Rancho Mirage, CA) 	<ul style="list-style-type: none"> ▪ Benefits Admin ▪ Investments ▪ Corporate Governance 	<p>A</p> <p>B</p>	<p>(Wilkinson, 2015, 2017, 2018)</p> <p>(Chao, 2017)</p>	Intermediate

<p>State Association of County Retirement Systems (SACRS) / UC Berkeley Program – Public Pension Investment Management Program</p> <ul style="list-style-type: none"> July 13 – 22, 2021 (Berkeley, CA) 	<ul style="list-style-type: none"> Investments 	A	(Wilkinson, 2015)	Intermediate
<p>United Nations Principles in Responsible Investing (PRI) in Person</p> <ul style="list-style-type: none"> September 14 – 16, 2021 (Tokyo, Japan) 	<ul style="list-style-type: none"> Investments Corporate Governance 			
<p>Western Economic Association International – Annual Conference</p> <ul style="list-style-type: none"> June 29 – July 3, 2022 (Portland, OR) 	<ul style="list-style-type: none"> Investments 			
<p>Women’s Alternative Investment Summit</p> <ul style="list-style-type: none"> November 11 – 12, 2021 (New York, NY) 	<ul style="list-style-type: none"> Investments 			
<p>Women’s Private Equity Summit</p> <ul style="list-style-type: none"> September 27 – 29, 2021 (Dana Point, CA) 	<ul style="list-style-type: none"> Investments 			

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM
ADDITIONAL EDUCATIONAL SEMINARS APPROVED BY THE BOARD FY 2020-21

CONFERENCE TITLE	DATE(S)	LOCATION	COMMISSIONER
NONE			



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REPORT TO BOARD OF ADMINISTRATION
From: Neil M. Guglielmo, General Manager

MEETING: JUNE 22, 2021
ITEM: VIII – B

Neil M. Guglielmo

SUBJECT: PRESENTATION BY NEPC, LLC REGARDING RISK BUDGETING AND ASSET CLASS REVIEWS AND POSSIBLE BOARD ACTION

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board adopt:

1. The proposed risk budgets for the public markets asset classes.
2. The proposed investment manager allocations for the public markets asset classes.
3. The proposed benchmark changes for the Credit Opportunities and Real Assets asset classes.

Executive Summary

In light of the new target asset allocation recently adopted by the Board, NEPC, LLC (NEPC), LACERS' General Fund Consultant, has conducted the attached risk budgeting analysis to optimize the expected active risk-return profile of each asset class and the total fund portfolio. Staff concurs with NEPC's recommendations.

Discussion

At its meeting of May 11, 2021, the Board adopted a new target asset allocation policy based on an asset-liability study conducted by NEPC. As a follow-on to this study and pursuant to the LACERS Risk Management Policy, NEPC has conducted the attached risk budgeting analysis to evaluate the investment structure of LACERS' public markets asset classes and optimize the active risk-return profile of each asset class relative to the asset class benchmarks.

In order to better control total fund portfolio and asset class-level risk, NEPC and staff propose revisions to the risk budgets as found on Page 4 of Attachment 1. The increased risk budgets (except Core Fixed Income, which remains the same) are a result of increased overall public equities market risk, active U.S. and non-U.S. equity manager risks, increased allocation to Private Credit, and reconfiguration of strategy allocations within Real Assets. The individual asset class risk budget optimizations are found on Pages 17, 26, 34, 42, and 48 of Attachment 1.

Also found within the asset class risk budget optimizations are the recommended investment manager/strategy exposure weightings for each asset class. These revised weightings are designed to optimize the expected active risk-return profile of each asset class and the total fund portfolio.

Further, due to investment manager/strategy weighting changes, NEPC recommends changing the underlying benchmark weightings that comprise the Credit Opportunities asset class benchmark, which is driven primarily by the increased allocation to Private Credit. NEPC also recommends maintaining primary and secondary benchmarks for the Real Assets asset class but switching the current primary and the secondary benchmarks, CPI+5% and the weighted benchmark, respectively, with one another. Thus, the new primary benchmark would be the weighted benchmark and the secondary benchmark would be CPI+5%. Finally, NEPC recommends benchmark weighting changes to the Public Real Assets sub-asset class to reflect the underlying strategy exposures to TIPS (Treasury Inflation Protected Securities) and REITs (Real Estate Investment Trusts) and remove strategies that LACERS has no exposure to. Staff has reviewed NEPC's analysis of these benchmark revisions as found on Pages 5 to 7 of Attachment 1, and concurs with the recommendations. Staff will return to the Board at a future meeting to formalize these benchmark changes in the LACERS Investment Policy Manual.

Strategic Alignment

Conducting the risk budgeting analysis and asset class reviews aligns with the Strategic Plan Goals to optimize long-term risk adjusted investment returns (Goal IV) and to uphold good governance practices which affirm transparency, accountability, and fiduciary duty (Goal V).

Prepared By: Bryan Fujita, Chief Operating Officer, Investment Division

NMG/RJ/BF:jp

Attachment: 1. Asset Class Risk Budget Review by NEPC, LLC



ASSET CLASS RISK BUDGET REVIEW

LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM

JUNE 22, 2021



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- Public Equity Risk Budget Optimization
- Core Fixed Income Risk Budget Optimization
- Credit Opportunities Risk Budget Optimization
- Public Real Assets Risk Budget Optimization

ACTIVE RISK BUDGETING PROCESS

- **Evaluate newly approved asset class betas versus current structure and evaluate new active risk profiles, manager allocations and benchmarks**

- **“Down-stream” from the strategic asset allocation process, the active risk budgeting framework is one tool used to understand current asset class structure against current asset class benchmarks**
 - Asset class betas are set in the asset allocation process and a review of current investment structure is warranted to understand forward-looking active risk

- **Evaluating active risk efficiency:**
 - Use NEPC 10-year forward-looking excess return expectations for betas and active investment manager excess return
 - Use alpha correlations of strategies to understand active risk diversification benefits
 - Efficient frontier of portfolio mixes are based on optimal information ratios at a given level of active risk; incorporate appropriate constraints and/or no constraints

Note: the active risk budgeting process takes into account forward looking expectations based wholly or in part on historical outcomes and should only be used as a broad guardrail for setting investment program structures



SUMMARY AND RECOMMENDATIONS

- **Seeking Board approval for:**
 - New risk budget
 - Manager structure and allocations
 - New benchmarks to reflect asset allocation changes

- **Risk budget changes due to new asset allocation, recognition of increased market volatility, and/or reconfiguration at asset class level**

Asset Class	Risk Budget	Proposed Risk Budget	Difference	Comment
Domestic Equities	0.75%	1.25%	0.50%	Increased market risk, addition of small cap managers
Non-US Equities	1.20%	1.75%	0.55%	Increased market risk and active managers placed
Core Fixed Income	1.75%	1.75%	0.00%	No change
Credit Opportunities	1.00%	3.50%	2.50%	Increase to private credit
Real Assets	0.75%	1.25%	0.50%	Reconfiguration of asset class

CREDIT OPPORTUNITIES BENCHMARK

- As a result of the newly approved strategic asset allocation policy (Mix B), the Credit Opportunities asset class has been expanded versus current allocation
- Restructuring the Credit Opportunities benchmark is necessary given the increase to Private Credit
- Mix B benchmark composition includes the 'one quarter lagged' Credit Suisse Leverage Loan Index to align with the Private Credit allocation's valuation frequency

Index	Current Benchmark	Mix B Benchmark
Bloomberg Barclays US High Yield 2% Issuer Cap	15%	11.8%
Credit Suisse Leveraged Loan Index	45%	11.8%
½ JP Morgan Emerging Markets Bond Index-Global Diversified + ½ JP Morgan Government Bond Index – Emerging Markets Global Diversified	40%	31.4%
Credit Suisse Leveraged Loan Index (One Quarter Lagged)	0%	45%

REAL ASSETS BENCHMARK

▪ Current Policy language:

- *“The primary return objective for the LACERS’ Real Assets program is to outperform the U.S. Consumer Price Index (“CPI”) plus 5% over multiple market cycles and to outperform a secondary custom benchmark comprised of the weighted average of the underlying strategy benchmarks over a full market cycle, with appropriate consideration of risk.”*

▪ Change the Real Assets primary benchmark from CPI +5% to a custom benchmark for inclusion in Total Plan benchmark

- CPI + 5% is not a benchmark that one is able to replicate, however, it is an important measure of inflation and should remain as a secondary measure for the over all asset class

Index	Current Benchmark	Mix B Benchmark
Consumer Price Index + 5%	100%	0%
Bloomberg Barclays US TIPS Index	0%	30%
FTSE National Association of Real Estate Investments Trusts All REIT Index	0%	11.7%
Real Estate Blended Benchmark	0%	58.3%

Real Estate Blended Benchmark: 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



PUBLIC REAL ASSETS BENCHMARK

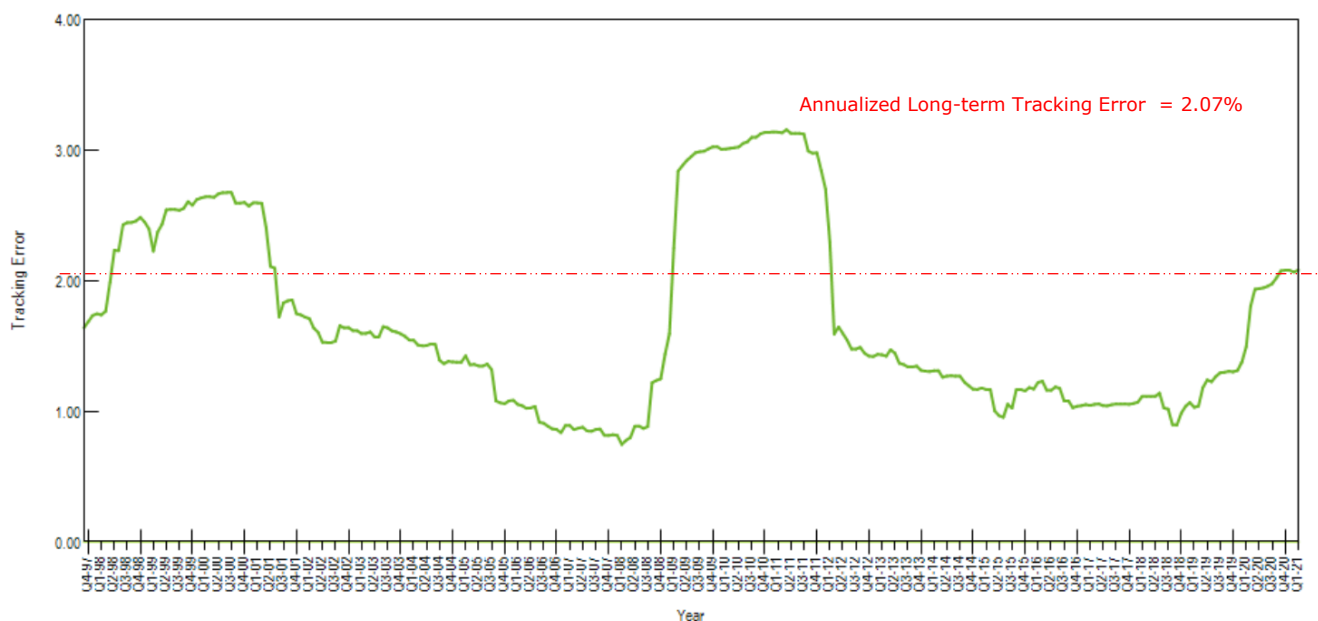
- **Given approved strategic policy allocation (Mix B), we recommend a change to the Public Real Assets benchmark to align with the underlying strategies**
 - Remove the Alerian MLP and Bloomberg Barclays Commodities Index from the asset class beta

Index	Current Benchmark	Mix B Benchmark
Bloomberg Barclays US TIPS Index	60%	72%
Bloomberg Commodity Index	20%	0%
FTSE National Association of Real Estate Investments Trusts All REIT Index	10%	28%
Alerian Master Limited Partnerships Index	10%	0%

TOTAL FUND TRACKING ERROR

	5 Yr Tracking Error	10 Yr Tracking Error	20 Yr Tracking Error	Since Nov 1994 Tracking Error
Total Fund	1.69%	1.49%	1.75%	2.07%

Rolling 3 Year Tracking Error





PUBLIC EQUITY

ACTIVE MANAGEMENT PHILOSOPHY

- **NEPC takes a long-term approach to evaluating active vs. index management in public markets**
- **NEPC evaluates the active management decision both qualitatively and quantitatively, using two tests*:**
 - High Dispersion of Manager Returns
 - Median Manager Beats the Benchmark
- **In some asset classes where indexed implementation is costly, NEPC may favor active management for exposure rather than purely alpha generation**



*Combination of 10-year annualized returns and rolling 3-year annualized returns

PUBLIC EQUITIES

Larger cap markets tend to be more efficient and provide fewer opportunities for alpha generation through active management

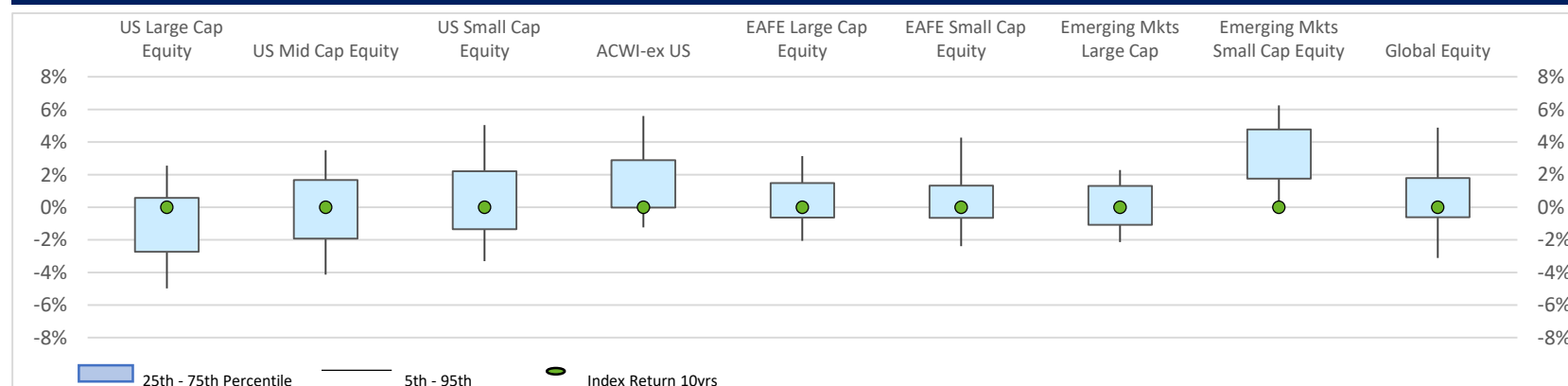
Active management is more attractive outside the US and in smaller cap stocks

NEPC Active Management Tests

Asset Class	Test 1 Dispersion	Test 2 Median Outperf
US Large Cap		
US Mid Cap		
US Small Cap		
ACWI ex-US		
EAFE Large Cap		
EAFE Small Cap		
EM Large Cap		
EM Small Cap		
Global Equity		

Note: Red box = favors passive | Green box = favors active

10 Year Excess Returns – Net of Fees



Benchmarks: US Large Cap (S&P 500), US Small Cap (Russell 2000), ACWI ex-US (MSCI ACWI ex-US), EAFE Large Cap (MSCI EAFE), EAFE SC (MSCI EAFE SC), EM Large Cap (MSCI Emerging Markets), EM Small Cap SC (MSCI EM SC), Global Equity (MSCI ACWI)
Source: eVestment



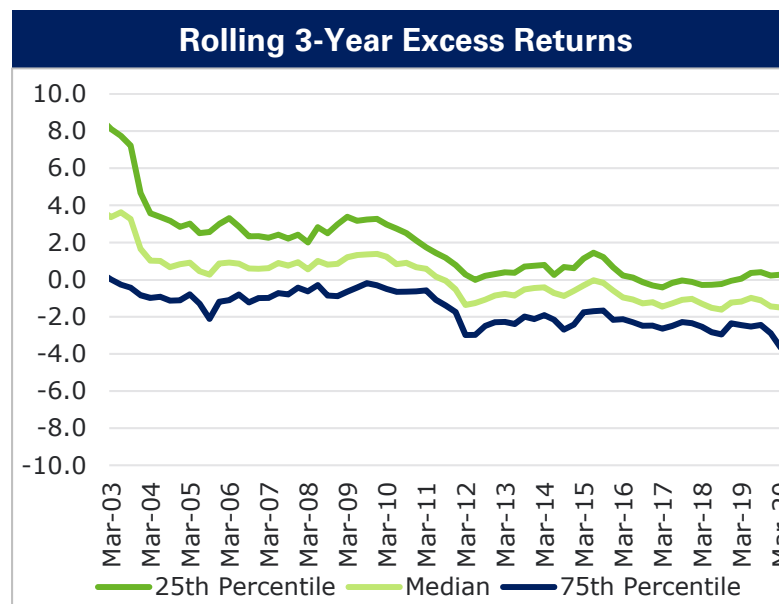
PUBLIC EQUITY: US LARGE CAP

NEPC Active Management Tests	
<i>Test 1: Dispersion</i>	<i>Test 2: Median Outperformance</i>

Note: Red box = favors passive

Preferred implementation is passive or high tracking error

- Active management has struggled to generate excess returns
 - Median active manager has underperformed gross of fees
- Increasing index concentration has made it harder to take active risk without sacrificing performance
- Well-covered, efficient market
- Low-cost investment options available



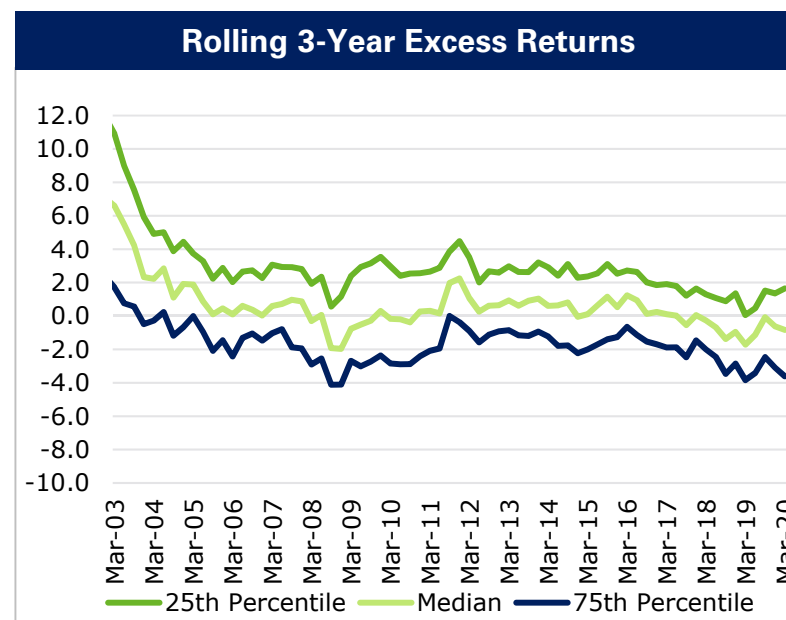
PUBLIC EQUITY: US SMALL CAP

NEPC Active Management Tests	
<i>Test 1: Dispersion</i>	<i>Test 2: Median Outperformance</i>

Note: Green box = favors active

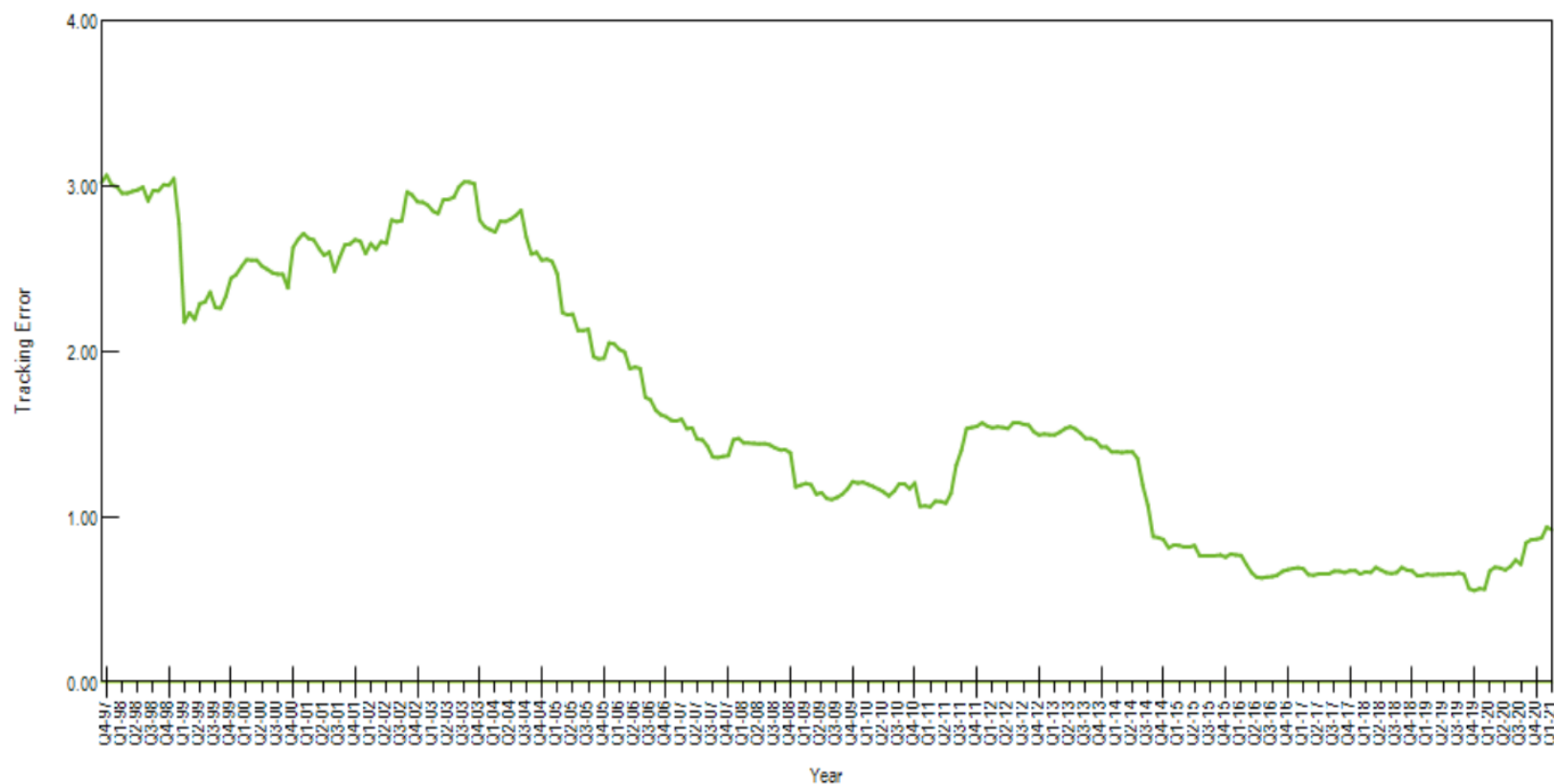
Preferred implementation is active or high tracking error

- Small/SMID remains an attractive area for active management given a higher alpha opportunity in a less efficient market
- Valuations relative to US large cap near historical average, but “quality” may be higher in large/mega caps; high number of non-earners in small cap index
- Small caps have historically performed well in recovery phase of market cycle
- Mid Cap active management test not as strong

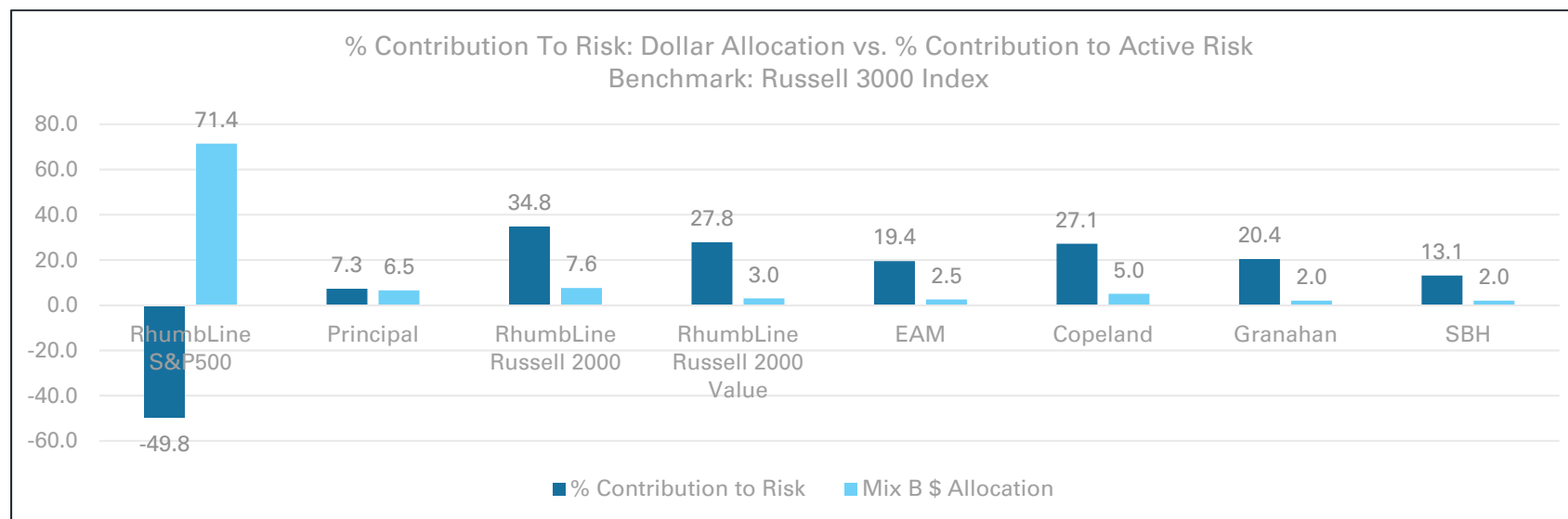


DOMESTIC EQUITY 3 YR ROLLING TRACKING ERROR

Rolling 3 Year Tracking Error



DOMESTIC EQUITY RISK BUDGETING



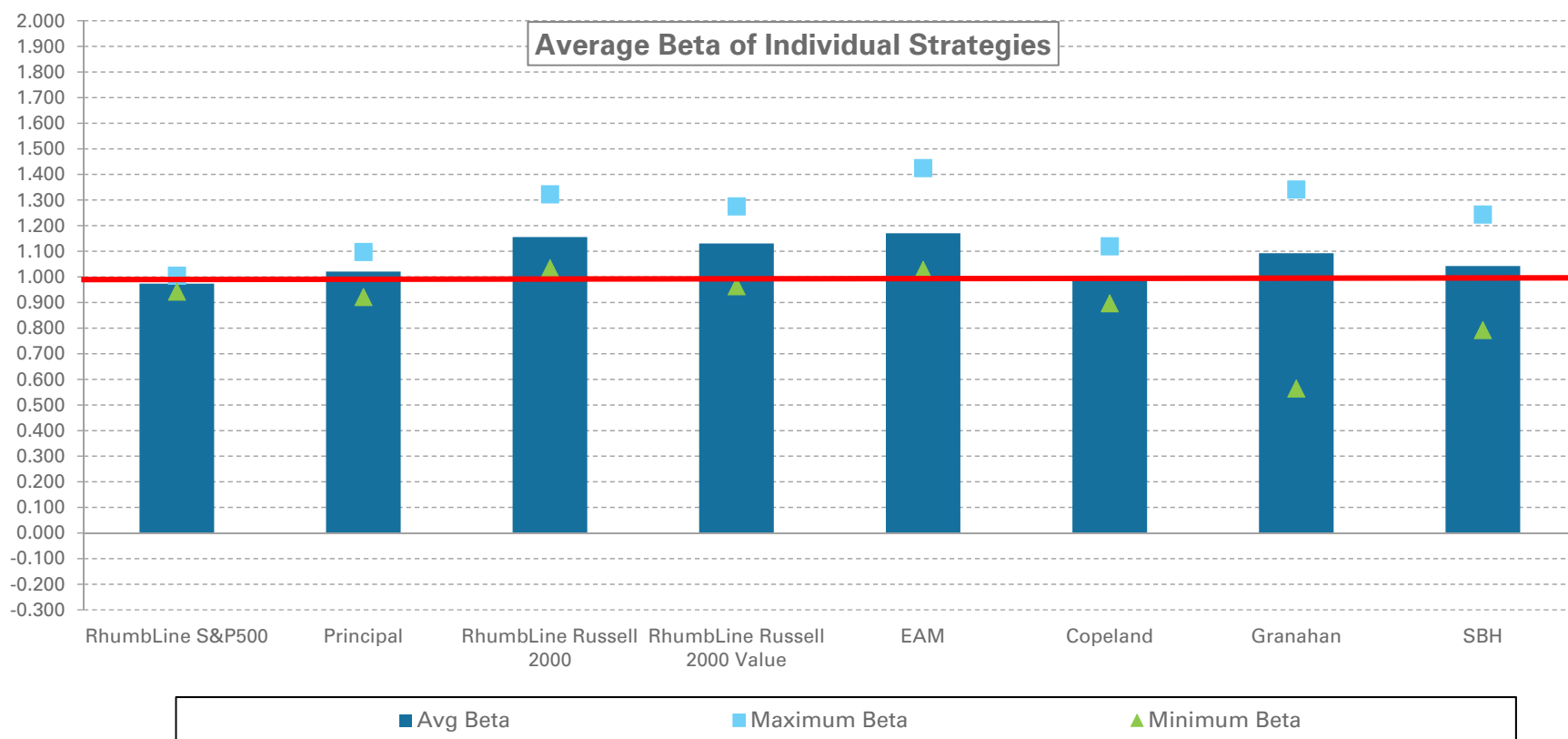
Alpha Correlations	RhumbLine S&P500	Principal	RhumbLine Russell 2000	RhumbLine Russell 2000 Value	EAM	Copeland	Granahan	SBH
RhumbLine S&P500	1.00							
Principal	-0.25	1.00						
RhumbLine Russell 2000	-0.88	0.01	1.00					
RhumbLine Russell 2000 Value	-0.70	0.00	0.91	1.00				
EAM	-0.75	0.23	0.65	0.36	1.00			
Copeland	-0.52	0.20	0.70	0.75	0.37	1.00		
Granahan	-0.63	0.26	0.54	0.25	0.72	0.24	1.00	
SBH	-0.61	0.00	0.77	0.82	0.33	0.61	0.25	1.00



Benchmark for Domestic Equities is the Russell 3000 index.

Strongly Uncorrelated	Uncorrelated	Modestly Correlated	Strongly Correlated
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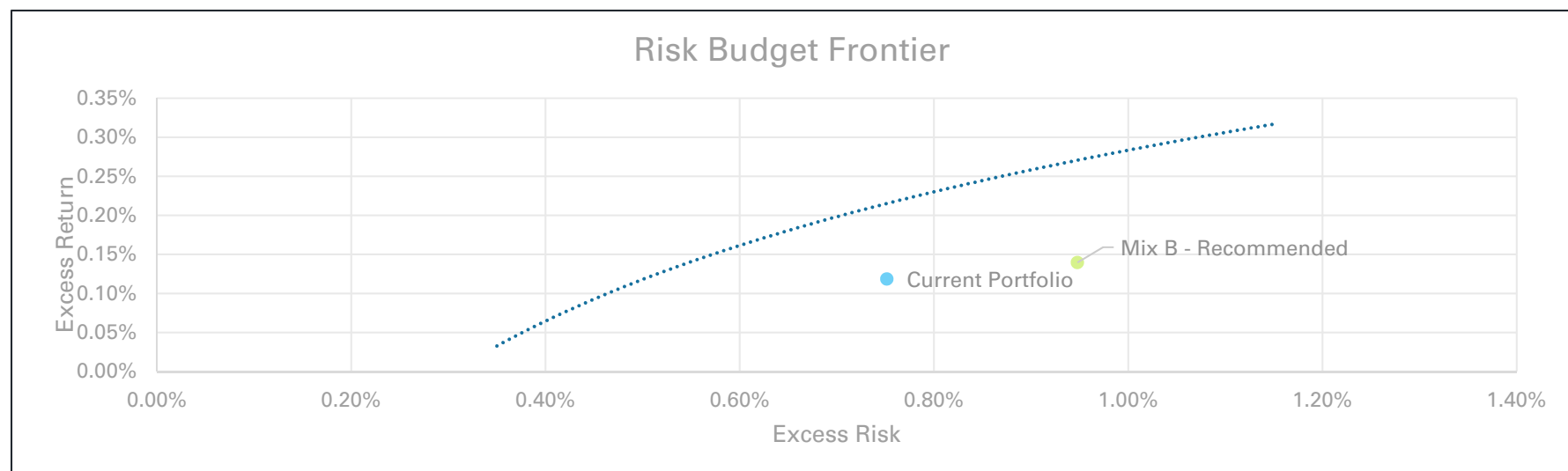
DOMESTIC EQUITY BETA PROFILES



Benchmark for Domestic Equities is the Russell 3000 index.

DOMESTIC EQUITY RISK BUDGETING

Portfolio	Current Allocation (%)	Expected Excess Return (%)	Tracking Error (%)	Strategy Benchmark	Current Excess Risk Contribution (%)	Mix B Recommended	Recommended Excess Risk Contribution (%)
RhumbLine S&P500	75.9%	-0.07%	1.13%	S&P 500	-54.8%	71.4%	-49.8%
Principal	4.6%	0.75%	4.84%	Russell MidCap	8.1%	6.5%	7.3%
RhumbLine Russell 2000	5.0%	0.03%	7.27%	Russell 2000	34.5%	7.6%	34.8%
RhumbLine Russell 2000 Value	3.4%	0.05%	8.67%	Russell 2000 Value	28.1%	3.0%	27.8%
EAM	2.7%	1.50%	10.76%	Russell 2000 Growth	20.6%	2.5%	19.4%
Copeland	4.6%	0.75%	6.15%	Russell 2000	31.3%	5.0%	27.1%
Granahan	1.9%	2.00%	14.80%	Russell 2000 Growth	19.4%	2.0%	20.4%
SBH	1.9%	1.10%	7.88%	Russell 2000 Value	12.9%	2.0%	13.1%
Expected Excess Return	0.12%					0.14%	
Expected Excess Risk	0.75%					0.95%	
Information Ratio	0.16					0.15	



Benchmark for Domestic Equities is the Russell 3000 index.

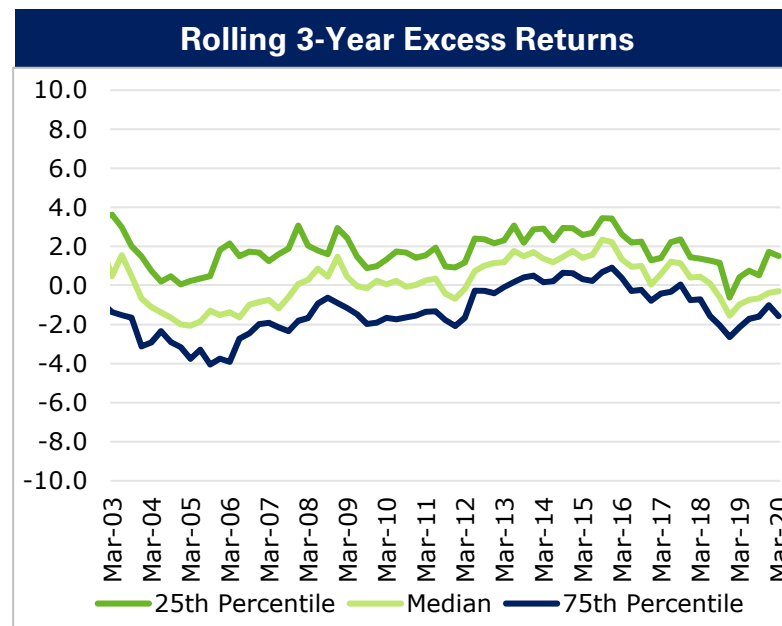
PUBLIC EQUITY: NON-US DEVELOPED ACWI EX US

NEPC Active Management Tests	
<i>Test 1: Dispersion</i>	<i>Test 2: Median Outperformance</i>

Note: Green box = favors active

Preferred implementation is active

- ACWI ex-US passes both the dispersion and median manager outperformance tests
- Broader mandate, inclusive of emerging markets



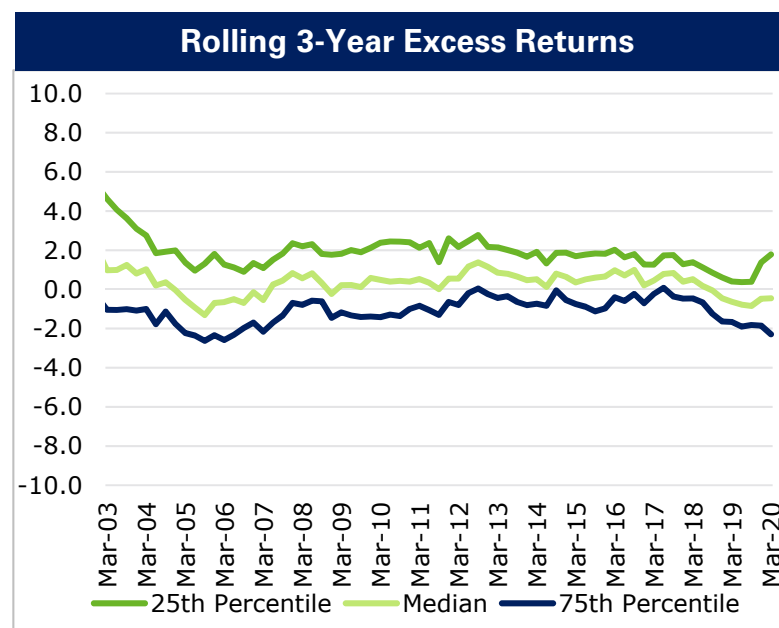
PUBLIC EQUITY: EAFE LARGE CAP

NEPC Active Management Tests	
Test 1: Dispersion	Test 2: Median Outperformance

Note: Red box = favors Passive | Green box = favors active

Preferred implementation is passive

- Median manager has marginally been able to generate excess return
 - Focus on high conviction managers or higher tracking error
- ACWI ex-US passes both tests; the ability for a manager to invest in emerging markets increases the probability of outperforming MSCI EAFE



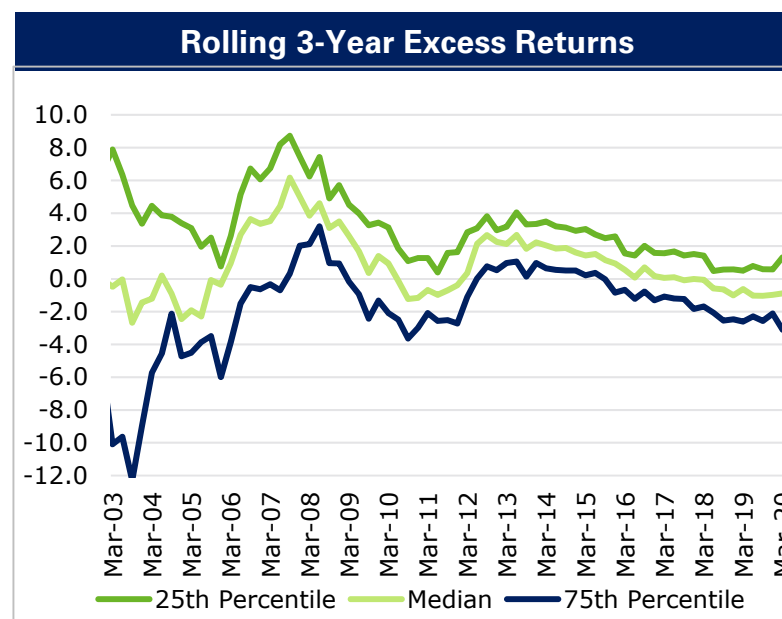
PUBLIC EQUITY: EAFE SMALL CAP

NEPC Active Management Tests	
Test 1: Dispersion	Test 2: Median Outperformance

Note: Green box = favors active

Preferred implementation is active

- Higher alpha opportunity for active managers given lower index concentration, ability to take active risk
- Broader geographic diversification with significant index weight in Japan
- Higher volatility allocation



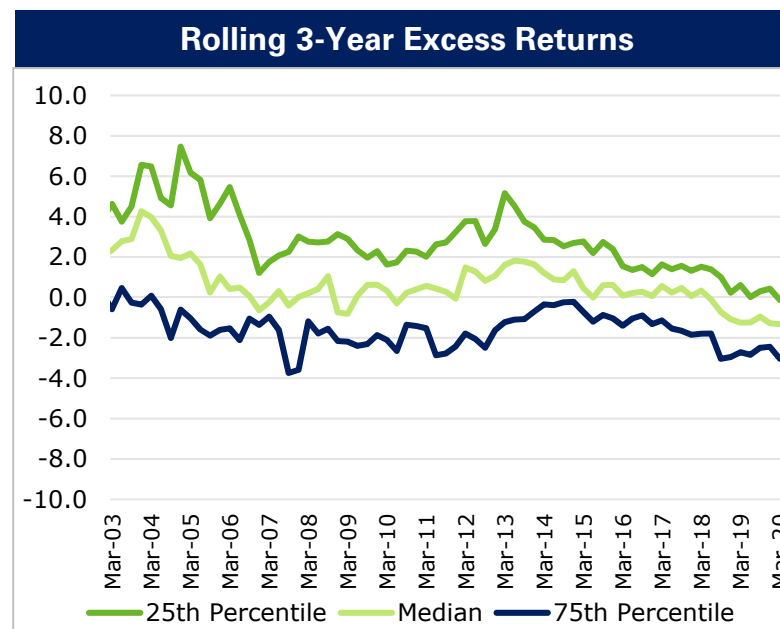
PUBLIC EQUITY: EMERGING MARKETS LARGE CAP

NEPC Active Management Tests	
<i>Test 1: Dispersion</i>	<i>Test 2: Median Outperformance</i>

Note: Red box = favors Passive | Green box = favors active

Preferred implementation is active

- Median performance has generated excess returns until recent periods
- Dominant index weight to China and increasing index concentration in mega-caps have influenced active management



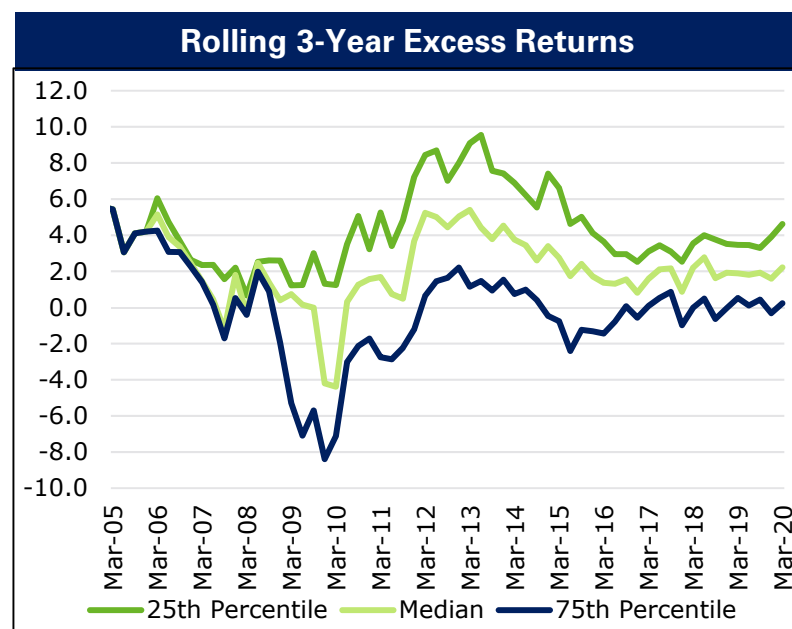
PUBLIC EQUITY: EMERGING MARKETS SMALL CAP

NEPC Active Management Tests	
Test 1: Dispersion	Test 2: Median Outperformance

Note: Green box = favors active

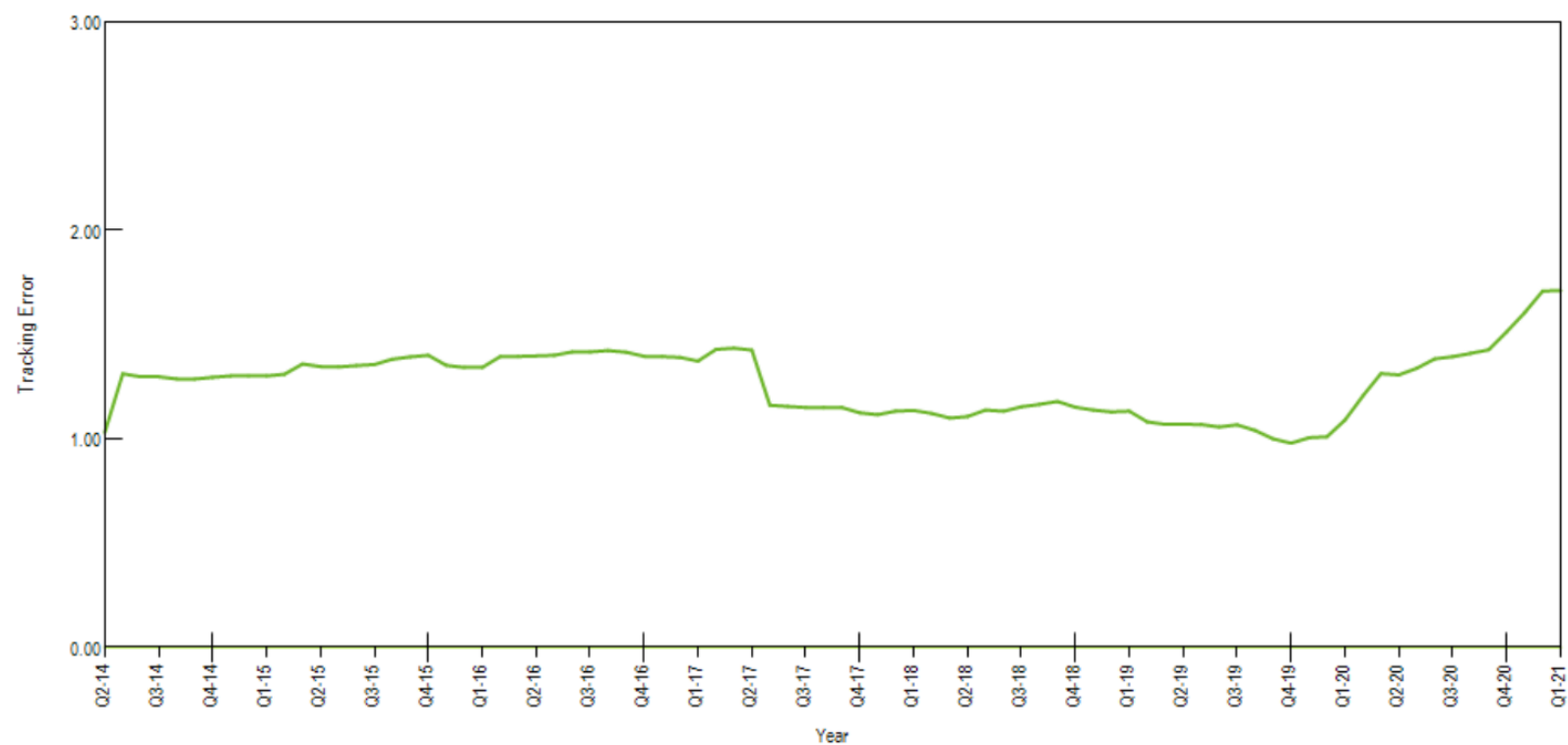
Preferred implementation is active

- Universe passes both dispersion and median outperformance tests
- Median manager has generated significant excess returns over the past decade
- EM Small Cap remains a strong alpha opportunity set; less covered and more inefficient market favorable for active management
- Overweight to EM small shouldn't be clients only EM exposure;
- Diversification benefits relative to EM large

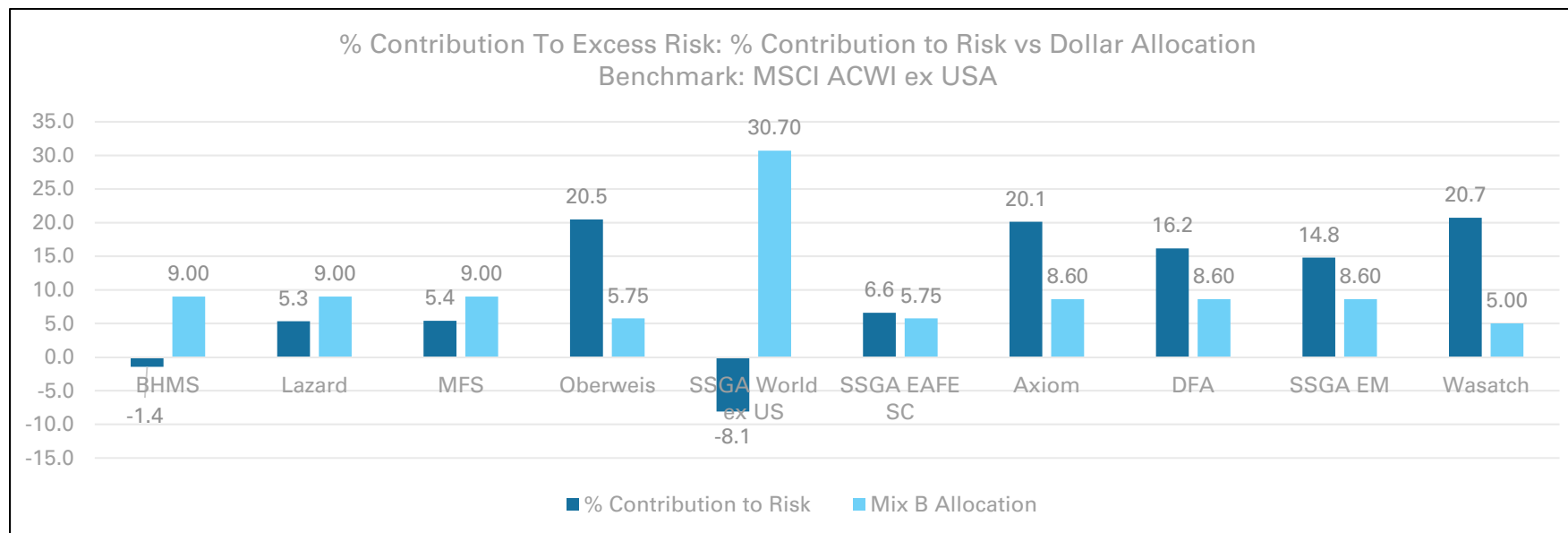


NON-U.S. EQUITY 3 YR ROLLING TRACKING ERROR

Rolling 3 Year Tracking Error



NON-U.S. EQUITY RISK BUDGETING



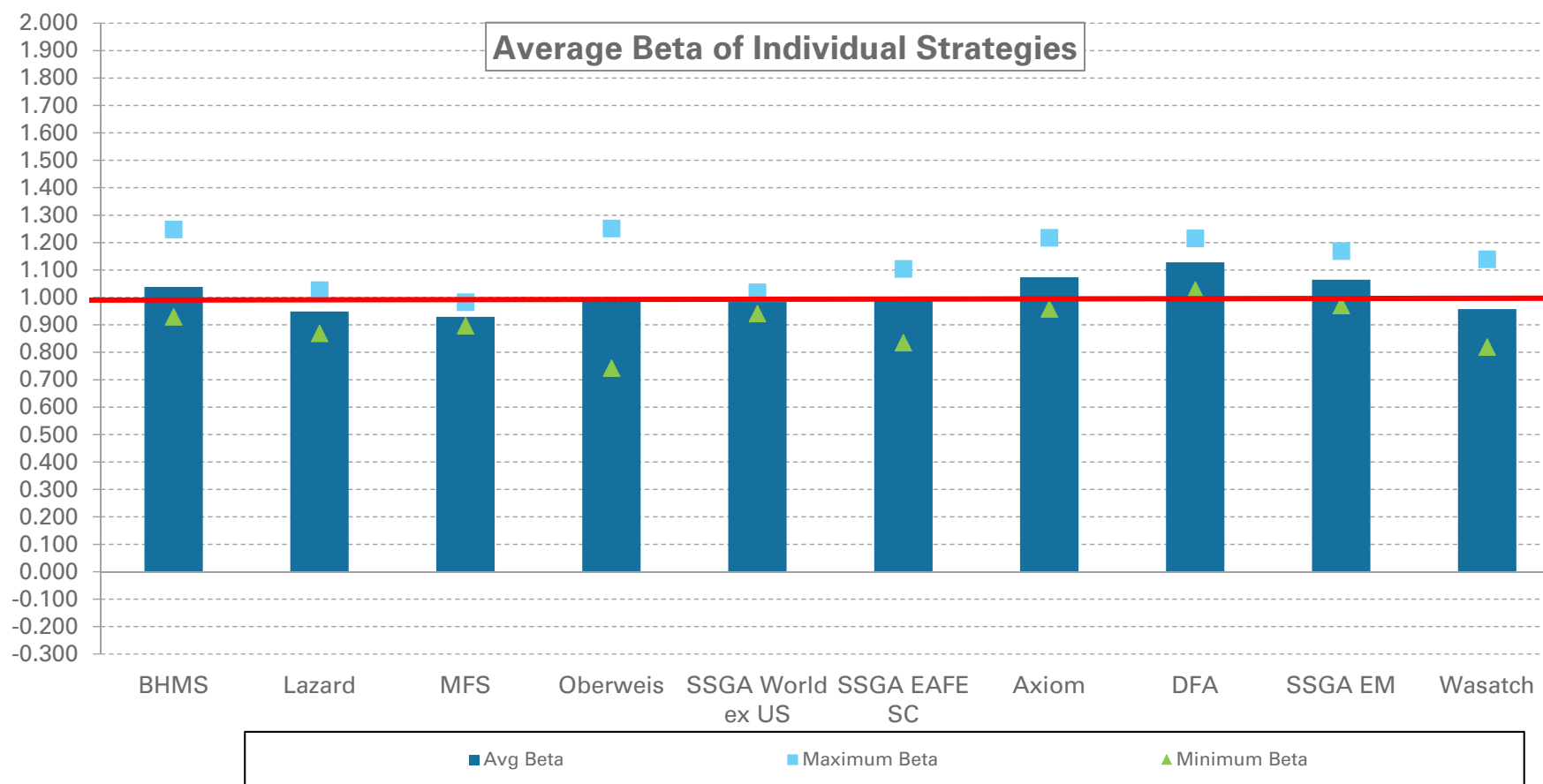
Alpha Correlations	BHMS	Lazard	MFS	Oberweis	SSGA World ex US	SSGA EAFE SC	Axiom	DFA	SSGA EM	Wasatch
BHMS	1.00									
Lazard	0.29	1.00								
MFS	-0.02	0.50	1.00							
Oberweis	0.00	0.40	0.26	1.00						
SSGA World ex US	0.51	0.60	0.36	0.30	1.00					
SSGA EAFE SC	0.19	0.35	0.20	0.58	0.60	1.00				
Axiom	-0.52	-0.45	-0.23	0.00	-0.88	-0.31	1.00			
DFA	-0.33	-0.52	-0.39	-0.29	-0.76	-0.33	0.55	1.00		
SSGA EM	-0.52	-0.58	-0.36	-0.14	-0.96	-0.41	0.91	0.84	1.00	
Wasatch	-0.26	0.00	0.00	0.22	-0.40	0.00	0.58	0.38	0.49	1.00



Benchmark for total Non-US Equities is the MSCI ACWI ex US Index.

Strongly Uncorrelated	Uncorrelated	Modestly Correlated	Strongly Correlated
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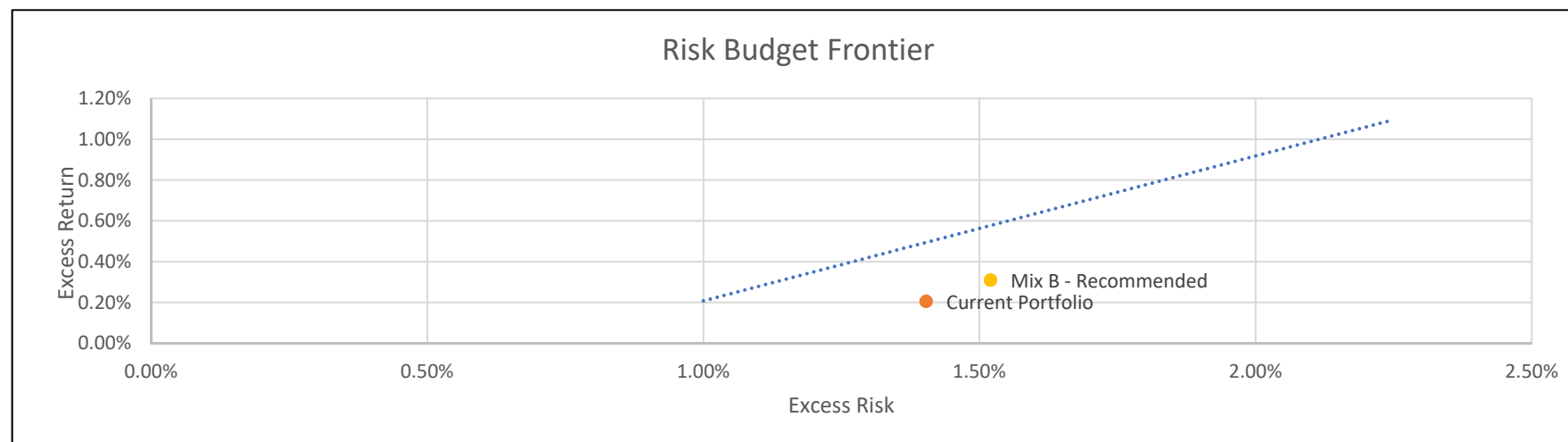
NON-U.S. EQUITY BETA PROFILES



Benchmark for total Non-US Equities is the MSCI ACWI ex US Index.

NON-U.S. EQUITY RISK BUDGETING

Portfolio	Current Allocation (%)	Expected Excess Return (%)	Tracking Error (%)	Strategy Benchmark	Current Excess Risk Contribution (%)	Mix B Recommended Allocation	Recommended Excess Risk Contribution (%)
SSgA - World ex USA IMI Index	35.0%	-1.00%	2.21%	MSCI World ex USA IMI	4.6%	30.70%	-8.1%
MFS - Growth	9.5%	0.50%	4.17%	MSCI World ex USA Growth	10.1%	9.0%	5.4%
Barrow Hanley - Value	8.4%	0.50%	4.57%	MSCI EAFE Value	2.1%	9.0%	-1.4%
Lazard - Core	10.2%	0.50%	3.84%	MSCI EAFE	12.2%	9.0%	5.3%
Oberweis	5.5%	1.00%	9.20%	MSCI EAFE Small Cap	24.5%	5.75%	20.5%
SSGA EAFE Small Cap Index	5.5%	-0.70%	4.67%	MSCI EAFE Small Cap	9.5%	5.75%	6.6%
Axiom - Emerging Markets Growth	6.9%	1.50%	7.43%	MSCI Emerging Markets	8.9%	8.6%	20.1%
DFA - Emerging Markets Value	7.7%	1.50%	8.09%	MSCI Emerging Markets Value	6.0%	8.6%	16.2%
SSGA Emerging Markets Index	6.6%	1.00%	6.92%	MSCI Emerging Markets	3.8%	8.6%	14.8%
Wasatch	4.7%	1.75%	9.03%	MSCI Emerging Markets Small Cap	18.2%	5.0%	20.7%
Expected Excess Return	0.20%					0.31%	
Expected Excess Risk	1.40%					1.52%	
Information Ratio	0.15					0.20	



Benchmark for total Non-US Equities is the MSCI ACWI ex US index.

CORE FIXED INCOME



SAFE-HAVEN FIXED INCOME

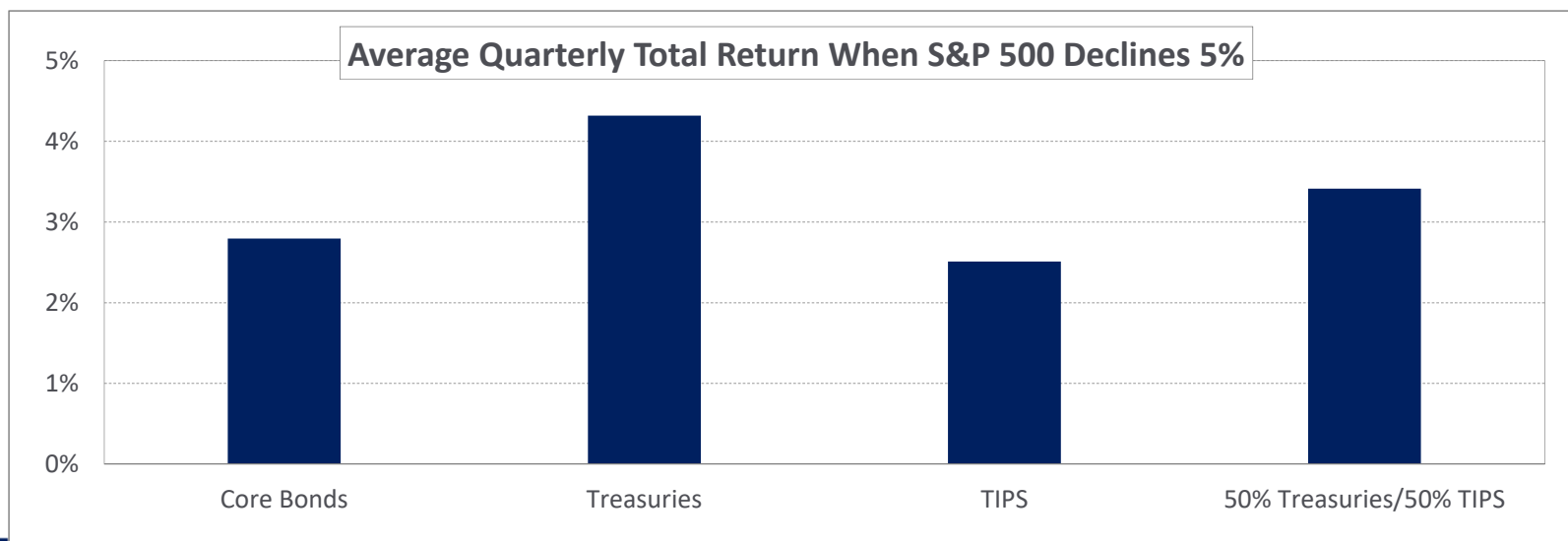
STRATEGIC VIEWS

Safe-haven fixed income exposure is a liquidity source and offers downside protection for the total portfolio

The safe-haven liquidity profile is vital as market stress can impair the portfolio's ability to meet cash flow needs

The inability to service capital calls, support spending needs, or rebalance in times of market stress limit the portfolio's future return

Sizing of the safe-haven exposure to support downside protection needs should reflect return objectives and investor risk tolerance



Source: Barclays, FactSet, NEPC

SAFE-HAVEN FIXED INCOME

STRATEGIC VIEWS

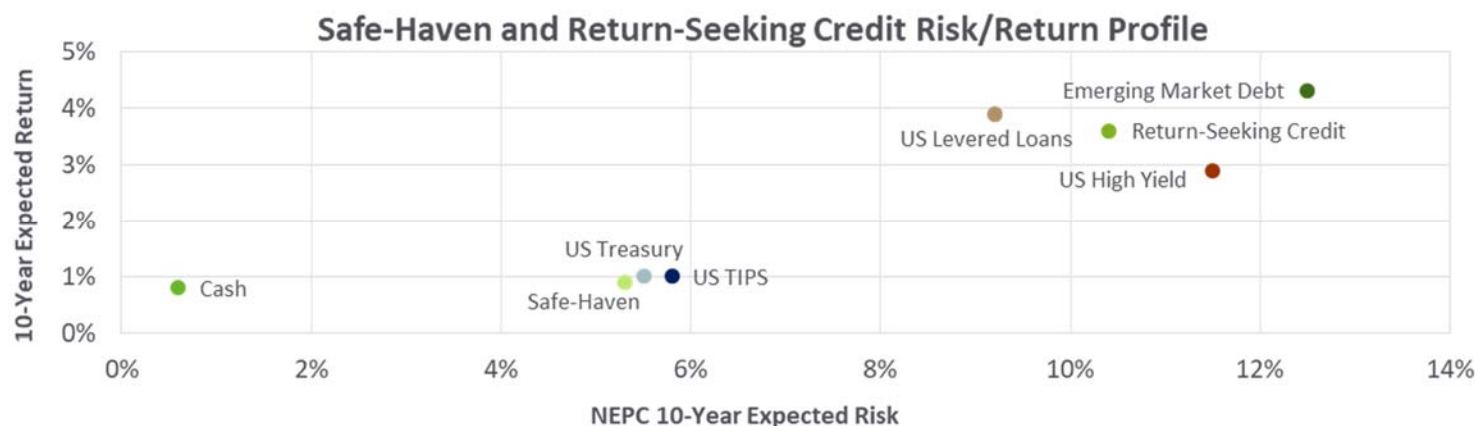
For many investors, fixed income target allocations are applied with a broad brush with conflicting objectives

The goal of safety vs return are in conflict and the need for liquidity and downside protection can be overlooked when reaching for yield

We recommend investors create distinct strategic targets for safe-haven fixed income and return-seeking credit

Separate strategic targets align the objective and benchmark for each mandate and highlight the role each play in a portfolio

We encourage investors to acknowledge the conflicting objectives of safe-haven vs return-seeking assets



SAFE-HAVEN FIXED INCOME

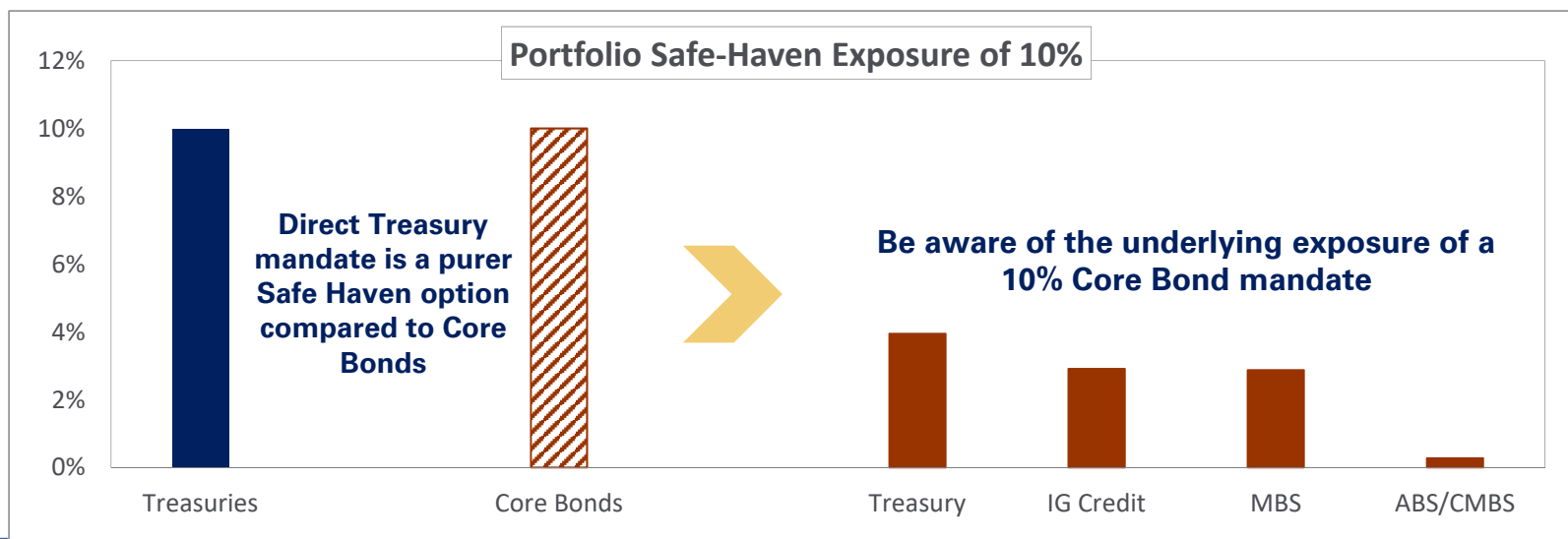
STRATEGIC VIEWS

We recommend investors to have access to Treasury securities or Core Bond portfolios to service overall portfolio liquidity needs

Direct or “look-through” Treasury exposure can be critical to influence portfolio outcomes in times of market stress

We encourage investors to understand their underlying safe-haven exposure relative to their strategic objectives

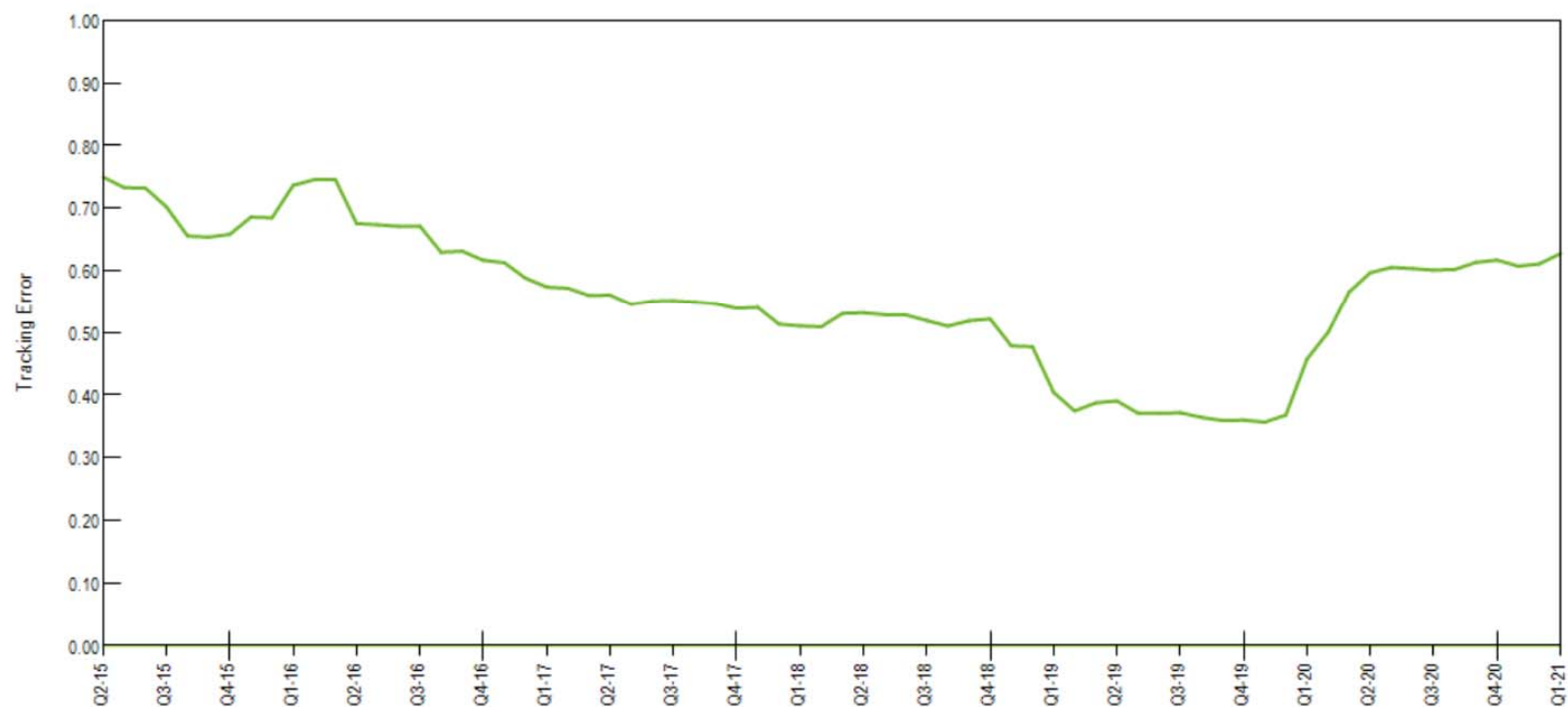
Look to control the safe-haven beta exposure and be aware that Core Bond strategies can stray from a safe-haven mandate



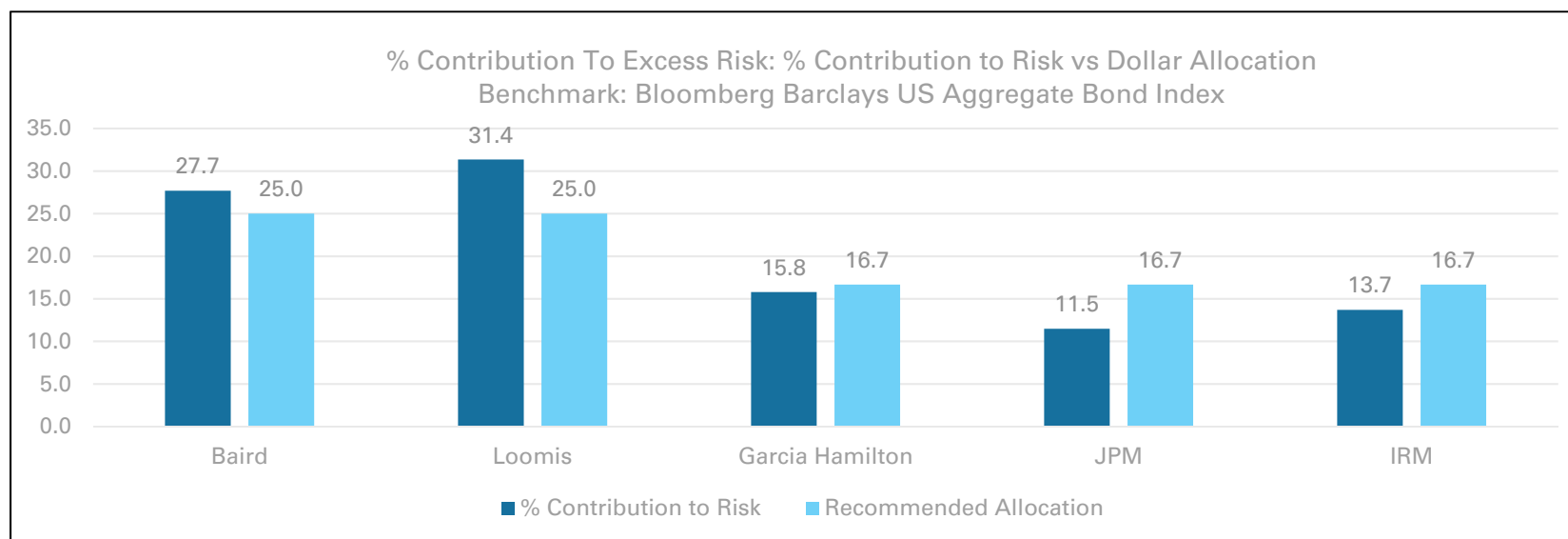
Source: Barclays, FactSet, NEPC

CORE FIXED INCOME 3 YR ROLLING TRACKING ERROR

Rolling 3 Year Tracking Error



CORE FIXED INCOME RISK BUDGETING



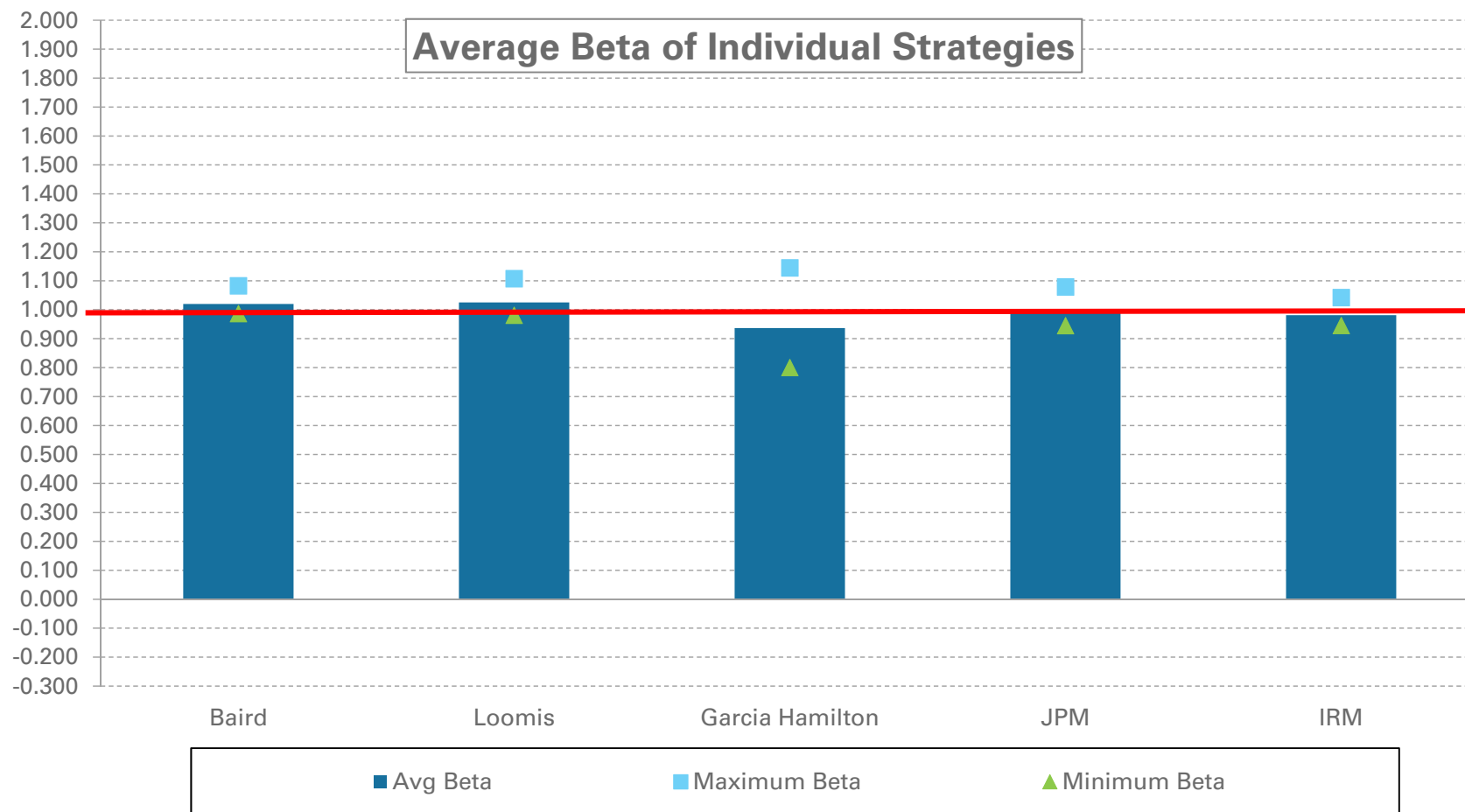
Alpha Correlations	Baird	Loomis	Garcia Hamilton	JPM	IRM
Baird	1.00				
Loomis	0.94	1.00			
Garcia Hamilton	0.35	0.26	1.00		
JPM	0.54	0.60	0.29	1.00	
IRM	0.89	0.92	0.33	0.51	1.00



Note: Index is Bloomberg Barclays US Aggregate Bond Index. Historical LACERS data used where applicable to core bonds, then eVestment composite data was used to supplement historical data.

Strongly Uncorrelated	Uncorrelated	Modestly Correlated	Strongly Correlated
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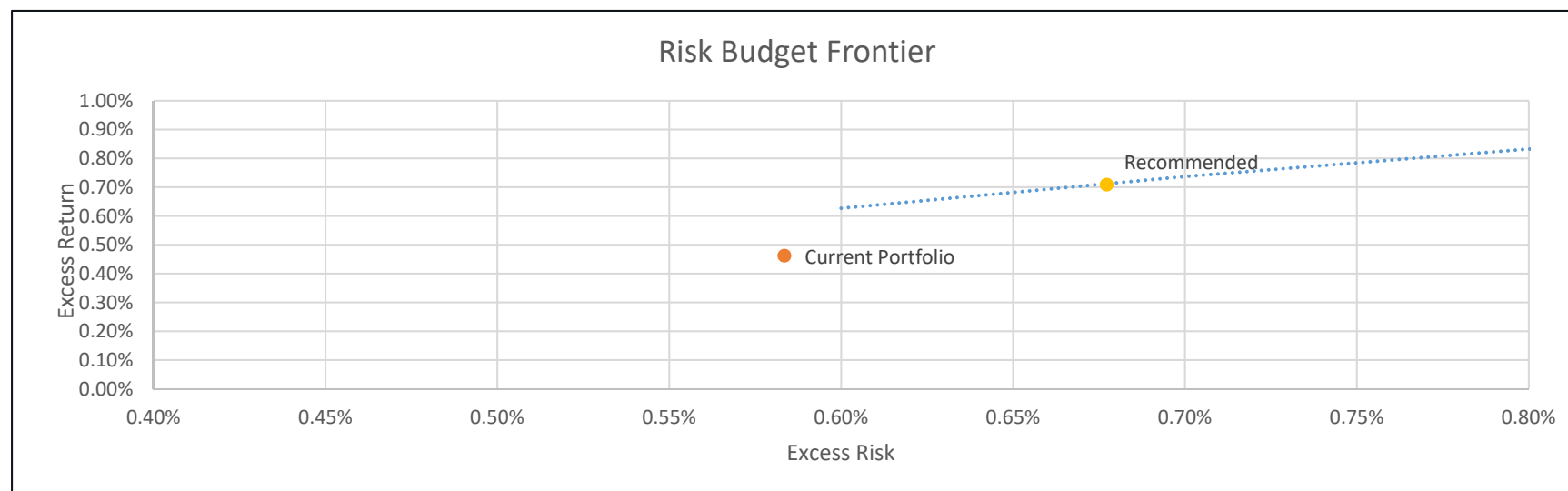
BETA PROFILES



Note: Index is Bloomberg Barclays US Aggregate Bond Index. Historical LACERS data used where applicable to core bonds, then eVestment composite data was used to supplement historical data.

CORE FIXED INCOME RISK BUDGETING

Portfolio	Current Allocation	Expected Excess Return (%)	Tracking Error (%)	Current Excess Risk Contribution (%)	Recommended Allocation (%)	Recommended Excess Risk Contribution (%)
Loomis	24.4%	0.90%	0.90%	36%	25%	31%
NB	24.4%	0.55%	1.15%	32%		
Baird	9.8%	0.80%	0.80%	12%	25%	28%
Garcia Hamilton	0.0%	0.60%	1.15%		17%	16%
IRM	0.0%	0.65%	0.65%		17%	14%
JPM	0.0%	0.45%	0.65%		17%	11%
LM	9.8%	0.30%	0.80%	17%		
SSGA	31.7%	0.00%	0.00%	0%		
Expected Excess Return	0.46%				0.71%	
Expected Excess Risk	0.58%				0.68%	
Information Ratio	0.79				1.05	



Note: Index is Bloomberg Barclays US Aggregate Bond Index. Historical LACERS data used where applicable to core bonds, then eVestment composite data was used to supplement historical data.



CREDIT OPPORTUNITIES

RETURN-SEEKING CREDIT

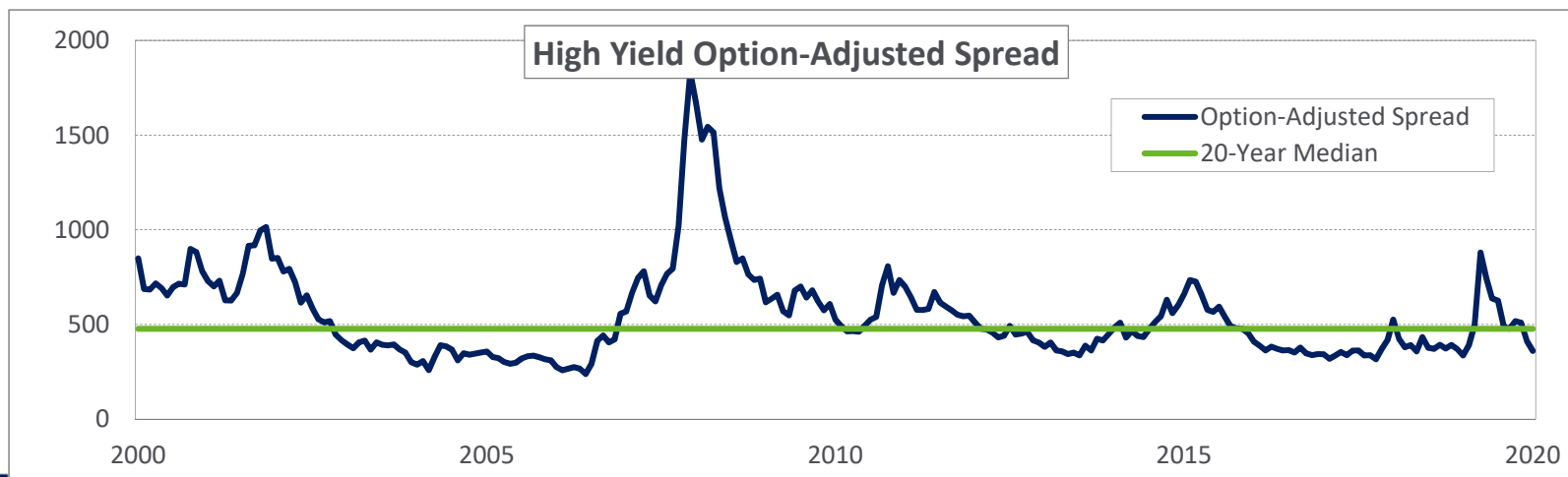
STRATEGIC VIEWS

Return-seeking credit investments look to earn income and exploit credit spread changes across credit cycles

High yield corporate debt is the opportunity cost for return-seeking credit when evaluating portfolio exposure

Helps to inform the implementation decision when identifying niche or opportunistic mandates that arise during the credit cycle

With a dynamic approach to return-seeking credit, exposure can be adjusted relative to the peaks and troughs of credit spread levels and serve as an alpha source from active asset allocation shifts



Source: Barclays, FactSet, NEPC

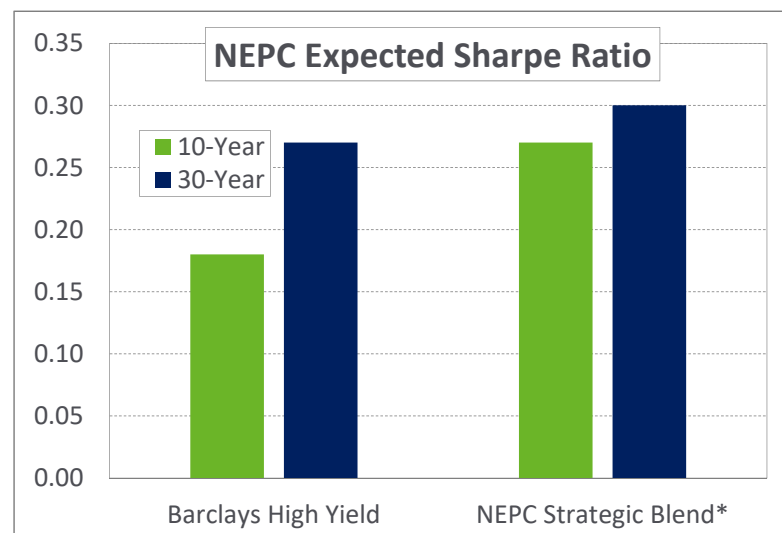
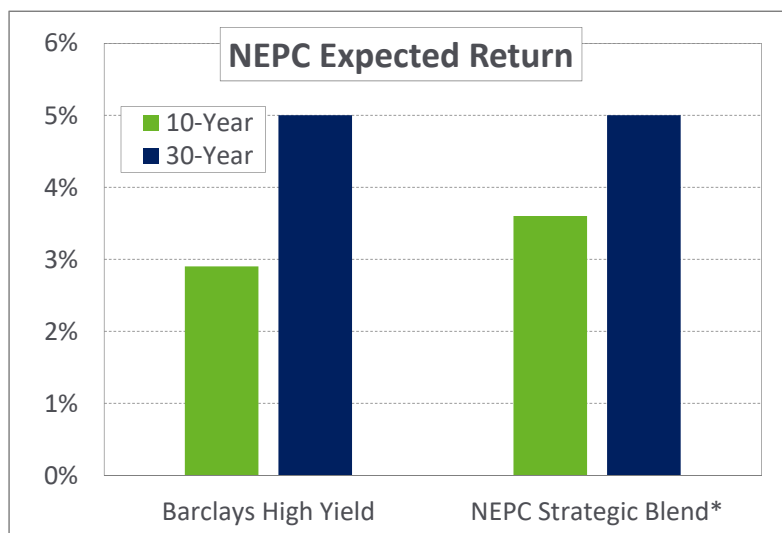
RETURN-SEEKING CREDIT

STRATEGIC VIEWS

We believe a strategic blend of high yield, levered loans, and emerging market debt offer an improved beta profile for return-seeking credit relative to US high yield

A mix has exhibited a similar return profile versus high yield with a meaningful reduction in volatility

For example, a blend of 50% high yield, 25% levered loans, and 25% blended EMD represents a diversified credit beta and a transparent opportunity cost to evaluate credit implementation options



Source: Barclays, S&P, JPM, FactSet, NEPC Capital Market Assumptions

*NEPC Strategic Blend represents 50% High Yield, 25% Levered Loans (Bank Loans), 25% Blended Emerging Market Debt



RETURN-SEEKING CREDIT

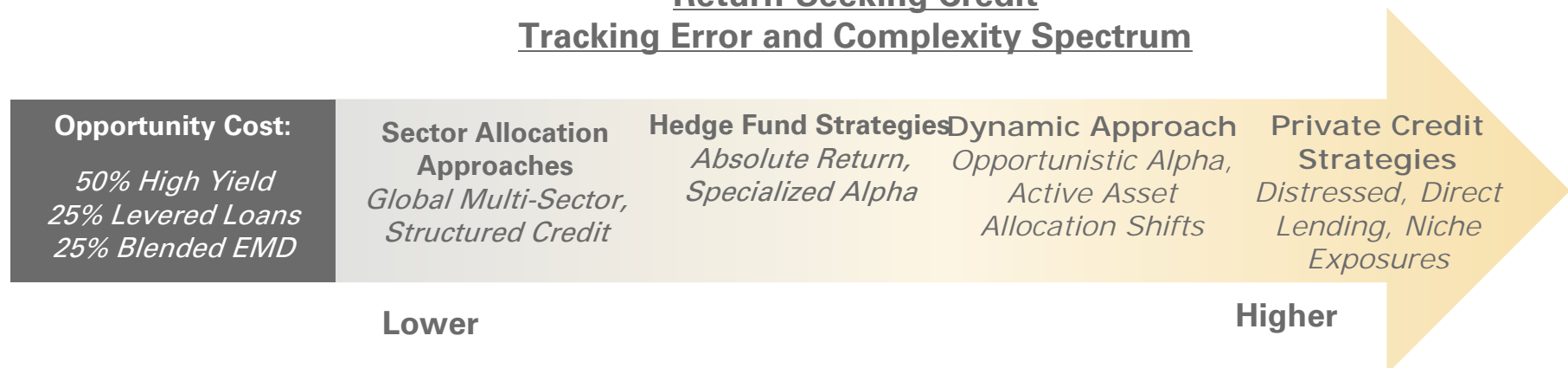
STRATEGIC VIEWS

The strategic blend for return-seeking credit is a guide to set tracking error risk and assess the return opportunity for managers with unique credit expertise

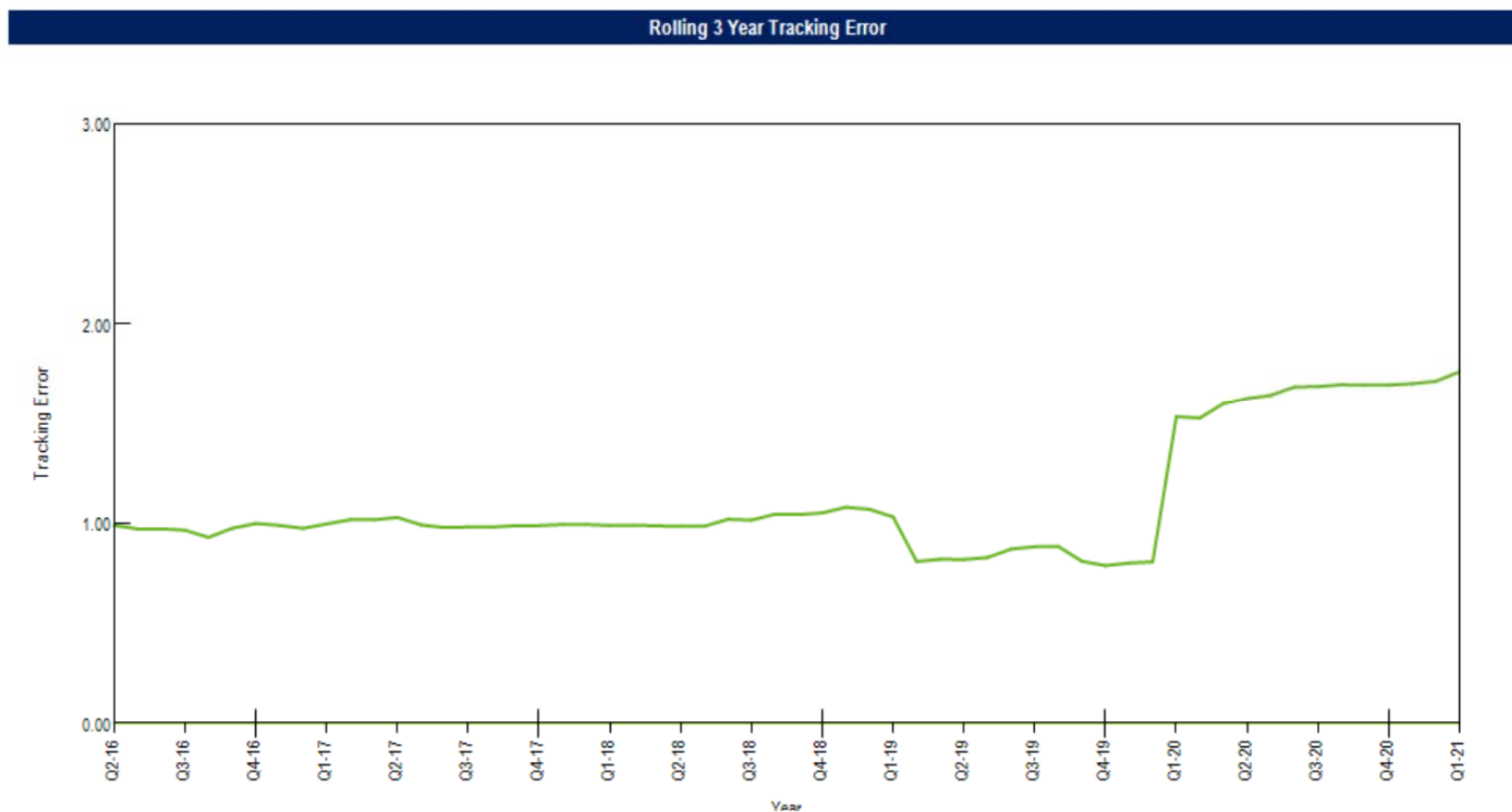
The strategic mix for return-seeking credit is an entry point to align with a credit beta framework

Investor return goals, size of the strategic target to return-seeking credit, and illiquidity risk-tolerance guide the decision regarding the use and type of active credit and private credit investments

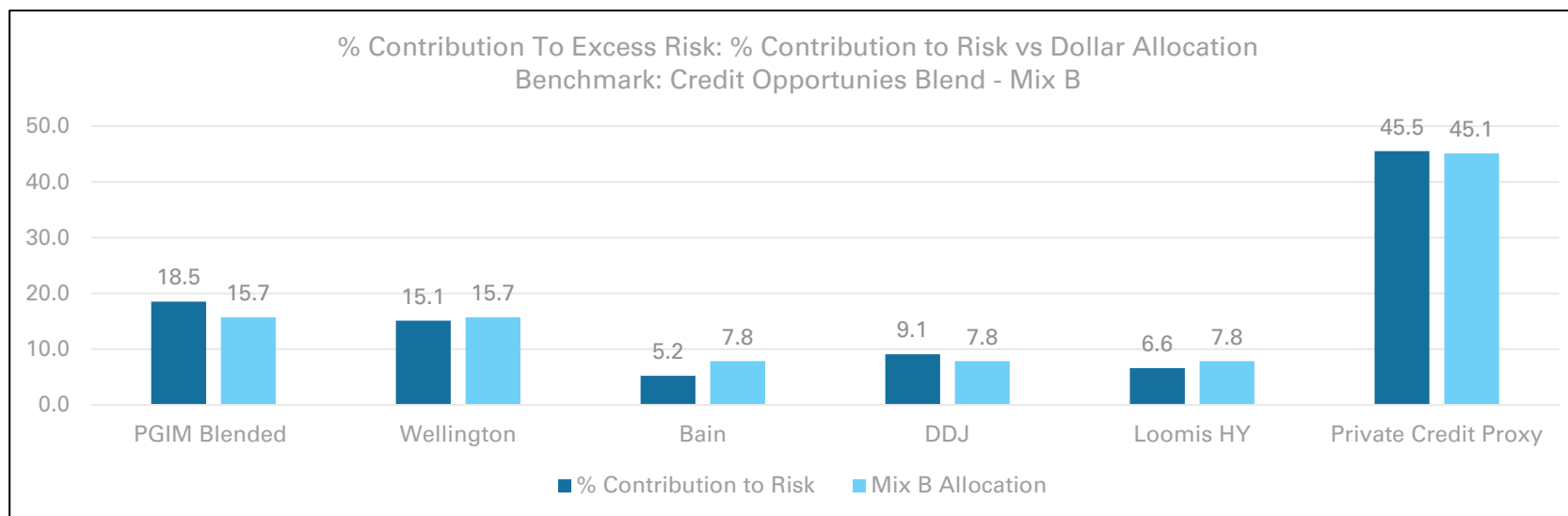
Return-Seeking Credit Tracking Error and Complexity Spectrum



CREDIT OPPORTUNITIES 3 YR ROLLING TRACKING ERROR



CREDIT OPPORTUNITIES RISK BUDGETING



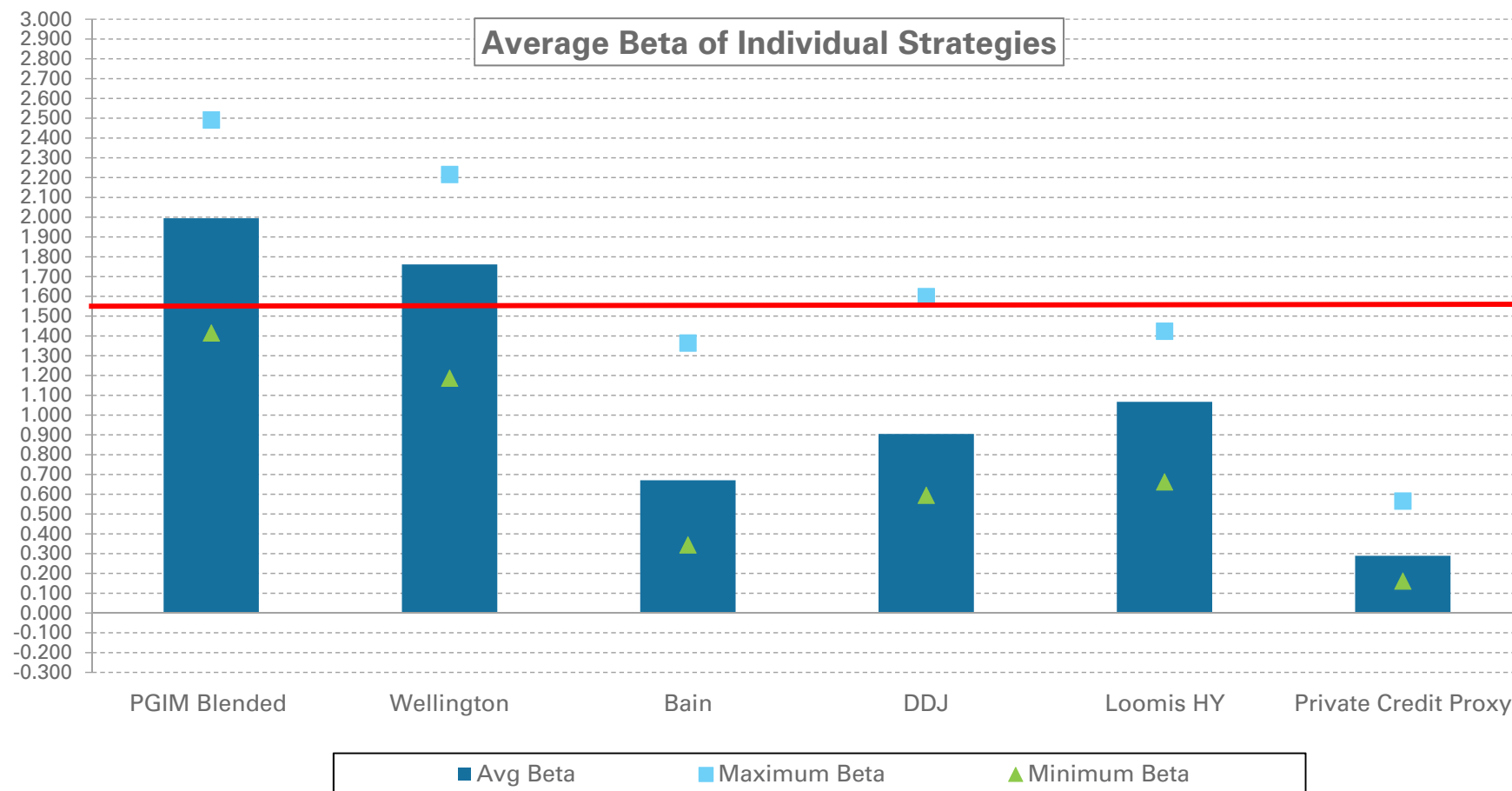
Alpha Correlations	PGIM Blended	Wellington	Bain	DDJ	Loomis HY	Benefit Street Proxy
PGIM Blended	1.00					
Wellington	0.97	1.00				
Bain	0.30	0.25	1.00			
DDJ	0.35	0.31	0.85	1.00		
Loomis HY	0.36	0.37	0.74	0.74	1.00	
Private Credit Proxy	0.06	0.04	0.33	0.55	0.37	1.00

Note: Benchmark used is the Credit Opportunities Blend comprised of 11.8% Bbg Barclays US High Yield 2% Issuer Cap + 11.8% Credit Suisse Leverage Loans Index + 31.4% ½ JPM EMBI-GD + ½ JPM GBI-EM GD + 45% Credit Suisse Leveraged Loan Index One Quarter Lagged



Strongly Uncorrelated	Uncorrelated	Modestly Correlated	Strongly Correlated
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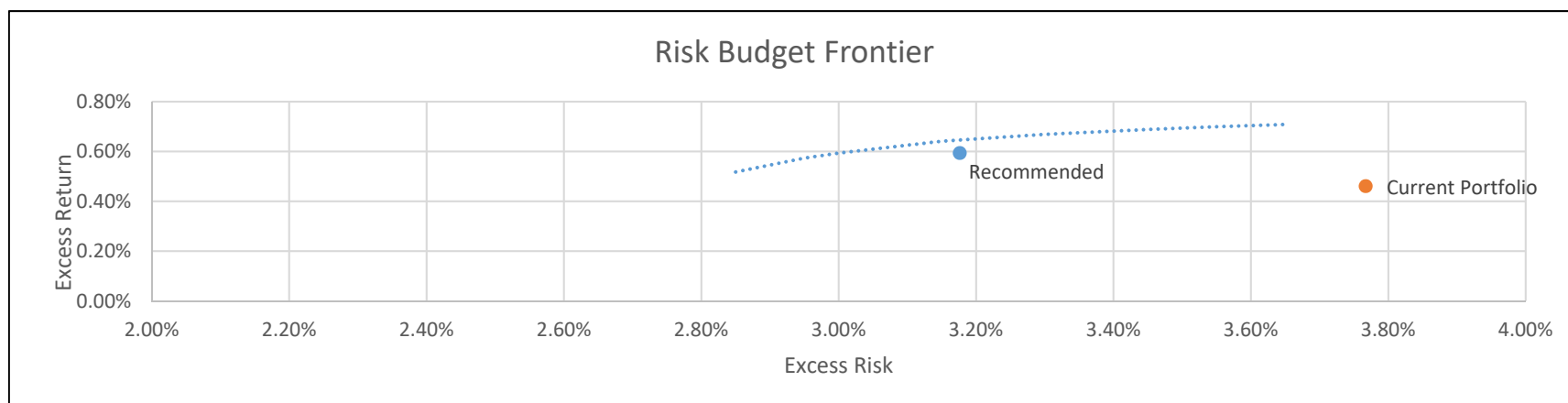
CREDIT OPPORTUNITIES BETA PROFILES



Note: Benchmark used is the Credit Opportunities Blend comprised of 11.8% Bbg Barclays US High Yield 2% Issuer Cap + 11.8% Credit Suisse Leverage Loans Index + 31.4% ½ JPM EMBI-GD + ½ JPM GBI-EM GD + 45% Credit Suisse Leveraged Loan Index One Quarter Lagged

CREDIT OPPORTUNITIES RISK BUDGETING

Portfolio	Current Allocation (%)	Expected Excess Return (%)	Tracking Error (%)	Strategy Benchmark	Current Excess Risk Contribution (%)	Mix B Recommended Allocation	Recommended Excess Risk Contribution (%)
DDJ High Yield/Bank Loans	15.7%	0.50%	4.80%	Bbg Barclays US High Yield 2% Issuer Cap	13.9%	7.8%	9.1%
Loomis High Yield	17.1%	0.50%	4.04%	Bbg Barclays US High Yield 2% Issuer Cap	12.9%	7.8%	6.6%
Bain Capital - Bank Loans	15.7%	0.25%	3.49%	Credit Suisse Leveraged Loans	9.4%	7.8%	5.2%
PGIM EMD Blended	25.7%	0.50%	5.74%	½ JPM EMBI-GD + ½ JPM GBI-EM GD	35.0%	15.7%	18.5%
Wellington EMD Blended	25.7%	0.50%	4.82%	½ JPM EMBI-GD + ½ JPM GBI-EM GD	28.8%	15.7%	15.1%
Private Credit Proxy	0.00%	0.75%	4.23%	CS Leveraged Loans Index Lagged	0.0%	45.1%	45.5%
Expected Excess Return	0.46%					0.59%	
Expected Excess Risk	3.77%					3.18%	
Information Ratio	0.12					0.19	



Note: Benchmark used is the Credit Opportunities Blend comprised of 11.8% Bbg Barclays US High Yield 2% Issuer Cap + 11.8% Credit Suisse Leverage Loans Index + 31.4% ½ JPM EMBI-GD + ½ JPM GBI-EM GD + 45% Credit Suisse Leveraged Loan Index One Quarter Lagged



PUBLIC REAL ASSETS

PUBLIC REAL ASSETS 2021 VIEWS

General Market Thoughts

- **REITs are trading at slight premium to implied private valuations**
 - Non-core exposure represents growth opportunity; wide disparity among underlying property types and by perceived asset quality
- **Commodity return potential challenged**
 - Futures curves for many commodities appear unappealing
 - Natural Resource Equities remain a somewhat more attractive option
- **Listed infrastructure partially rebounded after sell-off in early 2020**
 - Added volatility present during shorter time periods, similar to REITs
 - Asset-level cash flows over long-term periods generally in-line with private strategies

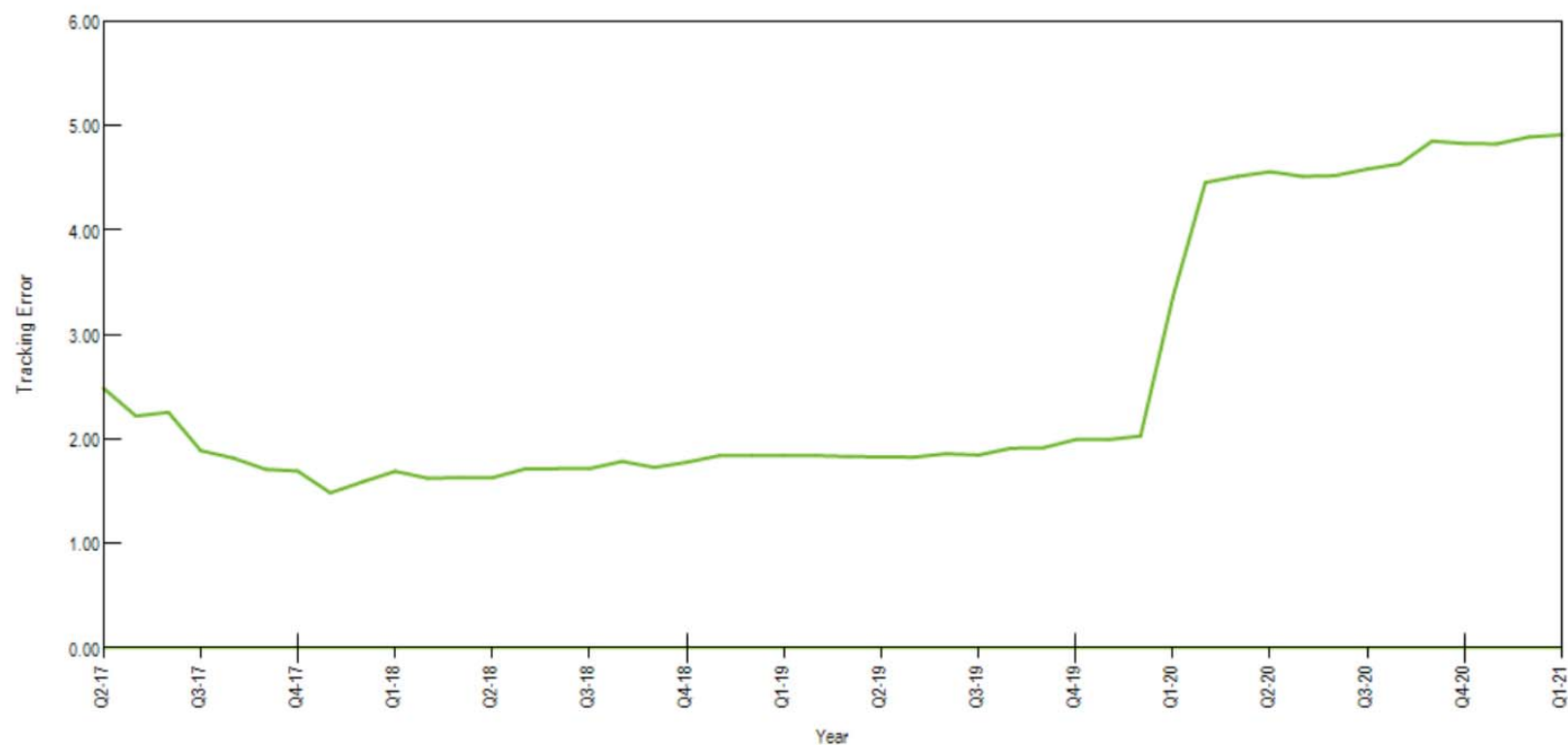
Implementation Views

Strategy	Outlook	Commentary
REITs	Neutral	Property-type selection important, many niche sectors outperforming
Commodities (long-only)	Negative	Low collateral yield and persistent negative roll yield have recently offset favorable supply/demand dynamics
Natural Resource Equities	Neutral	Focus on flexible mandates to be opportunistic with allocation to energy, agriculture, and mining; natural resource equities offer relatively efficient exposure to commodities
Listed Infrastructure	Neutral	Similar yields to private markets, but high sensitivity to equities

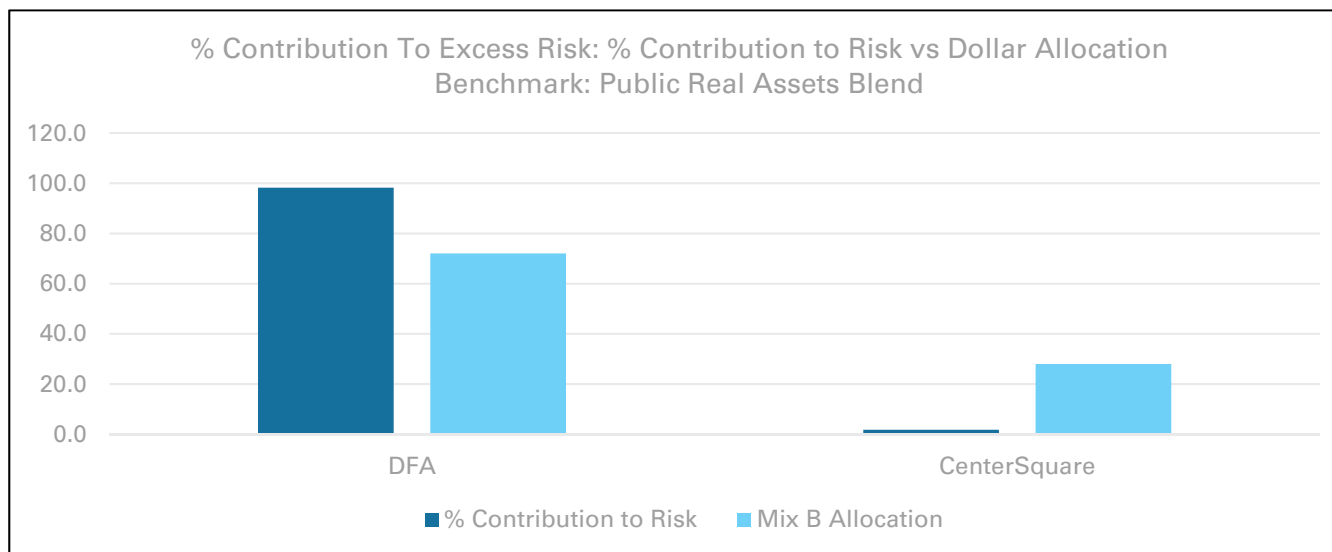


PUBLIC REAL ASSETS 3 YR ROLLING TRACKING ERROR

Rolling 2 Year Tracking Error



PUBLIC REAL ASSETS RISK BUDGETING

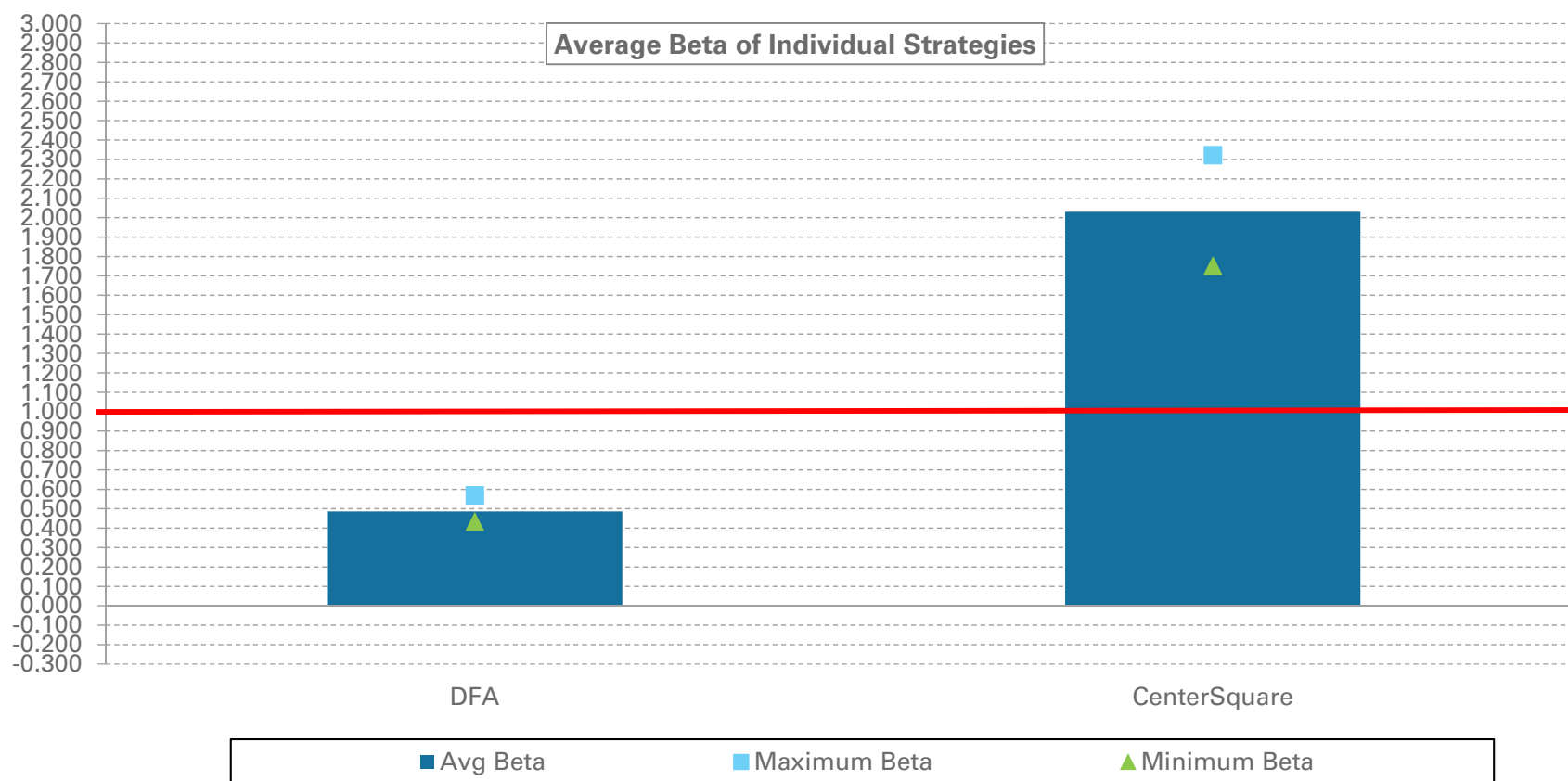


Alpha Correlations	DFA	CenterSquare
DFA	1.00	
CenterSquare	-0.88	1.00

Note: Benchmark used is the Public Real Assets Blend comprised of 72% BBgBarc US TIPS TR + 28% FTSE NAREIT All Equity REIT Index.



PUBLIC REAL ASSETS BETA PROFILES

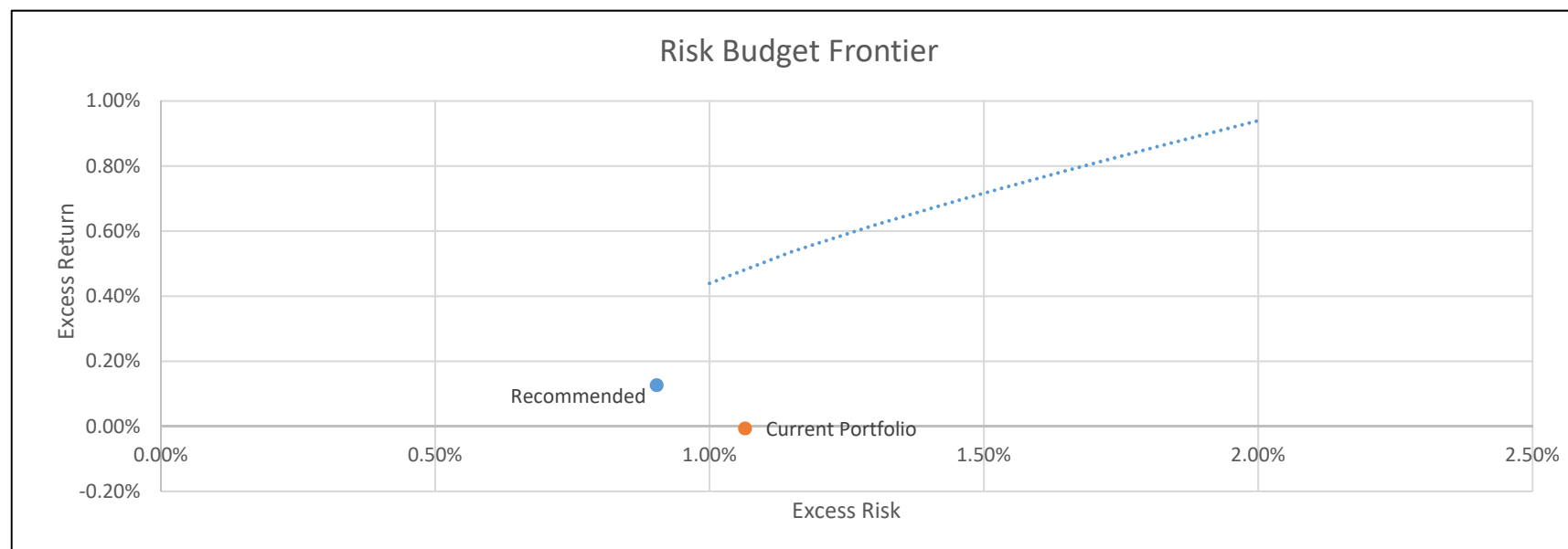


Note: Benchmark used is the Public Real Assets Blend comprised of 72% BBgBarc US TIPS TR + 28% FTSE NAREIT All Equity REIT Index.



PUBLIC REAL ASSETS RISK BUDGETING

Portfolio	Current Allocation (%)	Expected Excess Return (%)	Tracking Error (%)	Strategy Benchmark	Current Excess Risk Contribution (%)	Mix B Recommended Allocation	Recommended Excess Risk Contribution (%)
DFA - US TIPS	76.50%	-0.70%	2.25%	Bloomberg Barclays US TIPS	147.2%	72.0%	98.2%
CenterSquare	23.50%	2.25%	5.26%	FTSE NAREIT All Equity REIT	-47.2%	28.0%	1.8%
Expected Excess Return	0.00%					0.13%	
Expected Excess Risk	1.07%					0.90%	
Information Ratio	0.00					0.14	



Note: Benchmark used is the Public Real Assets Blend comprised of 72% BBgBarc US TIPS TR + 28% FTSE NAREIT All Equity REIT Index.





APPENDIX

INFORMATION DISCLAIMER

Past performance is no guarantee of future results.

The goal of this report is to provide a basis for substantiating asset allocation recommendations. 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.

Information on market indices was provided by 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.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

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PORTFOLIO PERFORMANCE REVIEW

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Quarter Ending March 31, 2021



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

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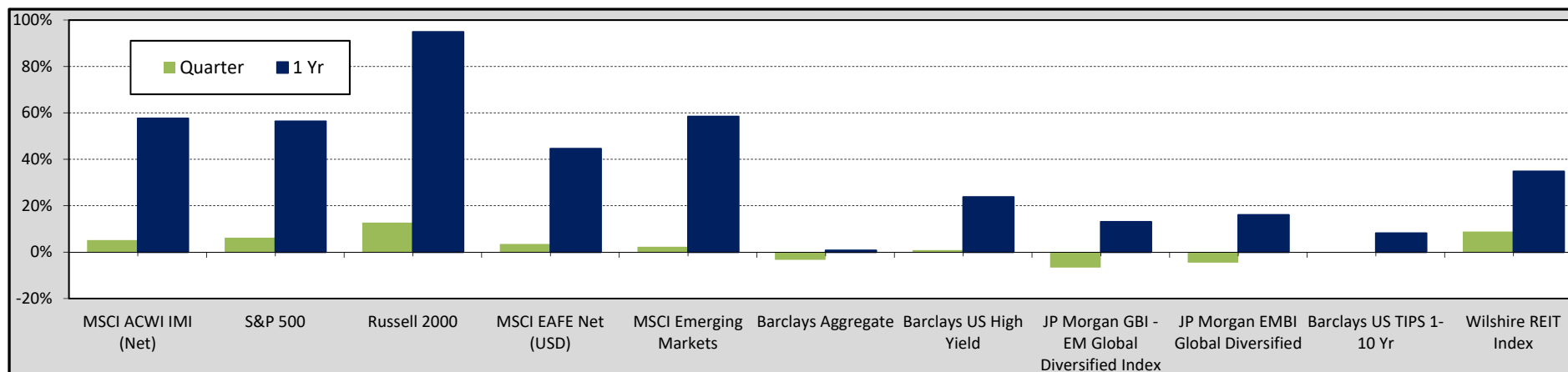
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EXECUTIVE SUMMARY

PERFORMANCE OVERVIEW

Q1 Market Summary – Risk Assets Continue Their Run



	Ending March 31, 2021															
	Market Value(\$)	3 Mo(%)	Rank	YTD(%)	Rank	1 Yr(%)	Rank	3 Yrs(%)	Rank	5 Yrs(%)	Rank	10 Yrs(%)	Rank	15 Yrs(%)	Rank	Inception(Inception)
LACERS Master Trust	21,474,270,600	3.77	32	3.77	32	33.94	39	9.61	42	10.42	36	8.78	31	7.23	35	8.51 Oct-94
Policy Index		2.96	70	2.96	70	37.32	24	10.66	19	11.08	20	8.88	25	7.34	30	8.54 Oct-94
InvMetrics Public DB \$1-50B Gross Median		3.42		3.42		32.64		9.23		10.15		8.28		6.91		8.18 Oct-94
InvMetrics Public DB \$5-50B Gross Median		3.67		3.67		31.74		9.35		10.31		8.51		6.95		8.27

Note: Performance is gross of fees

Risk assets continued their upward trend as unprecedented global fiscal and monetary stimulus buoyed markets

- The U.S. Equity, Non-US Equity and Private Equity composites outperformed their benchmarks due to manager performance

U.S. interest rates rose significantly during the quarter, reaching pre-pandemic levels. Investment-grade and high-yield spreads continued to compress with significant tightening occurring in lower-quality credit

- The Core Fixed Income composite outperformed due to manager performance while Credit Opportunities underperformed

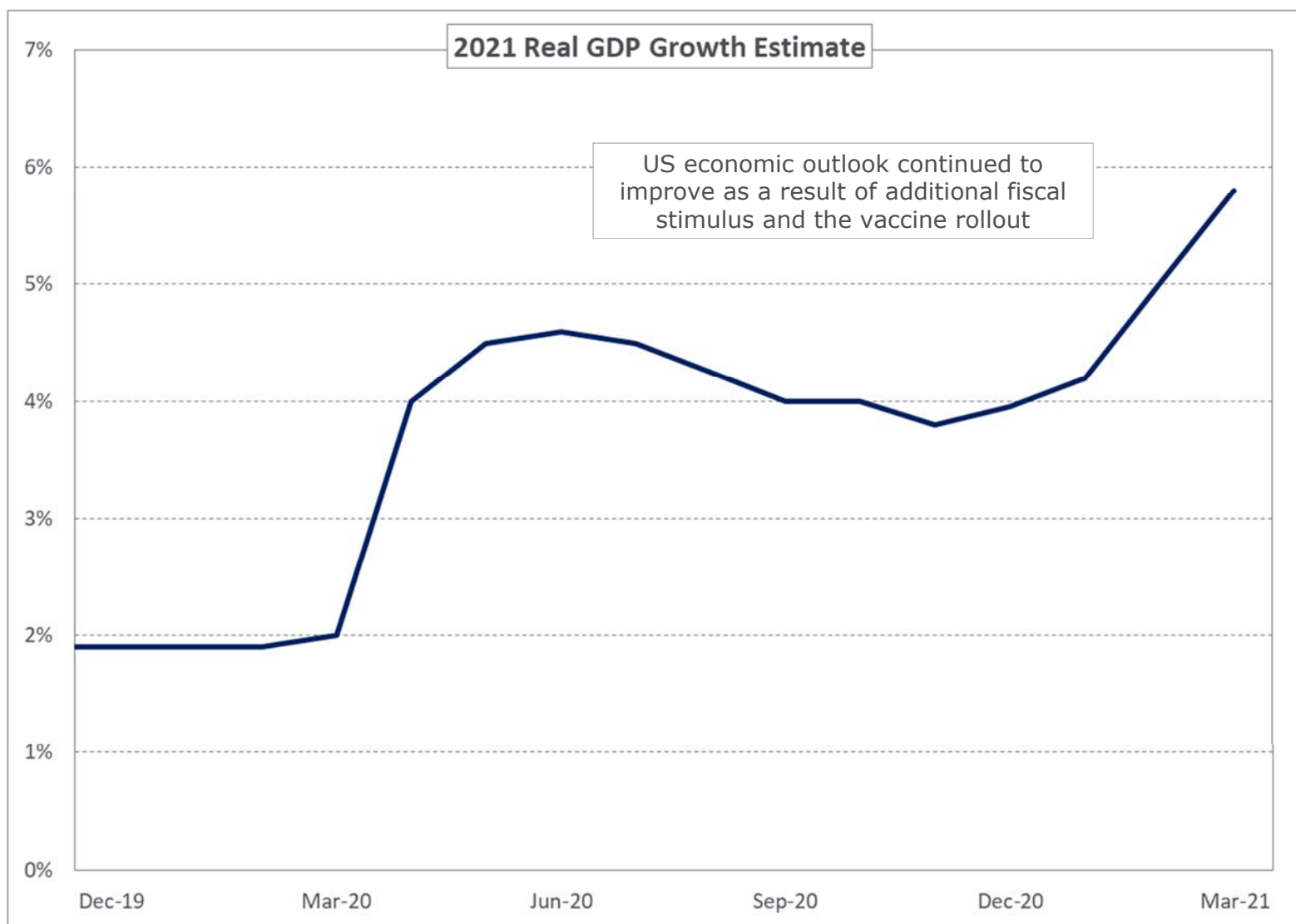
The wide range of outcomes associated with COVID-19 places a greater focus on strategic beliefs



MARKET OUTLOOK

NEPC, LLC

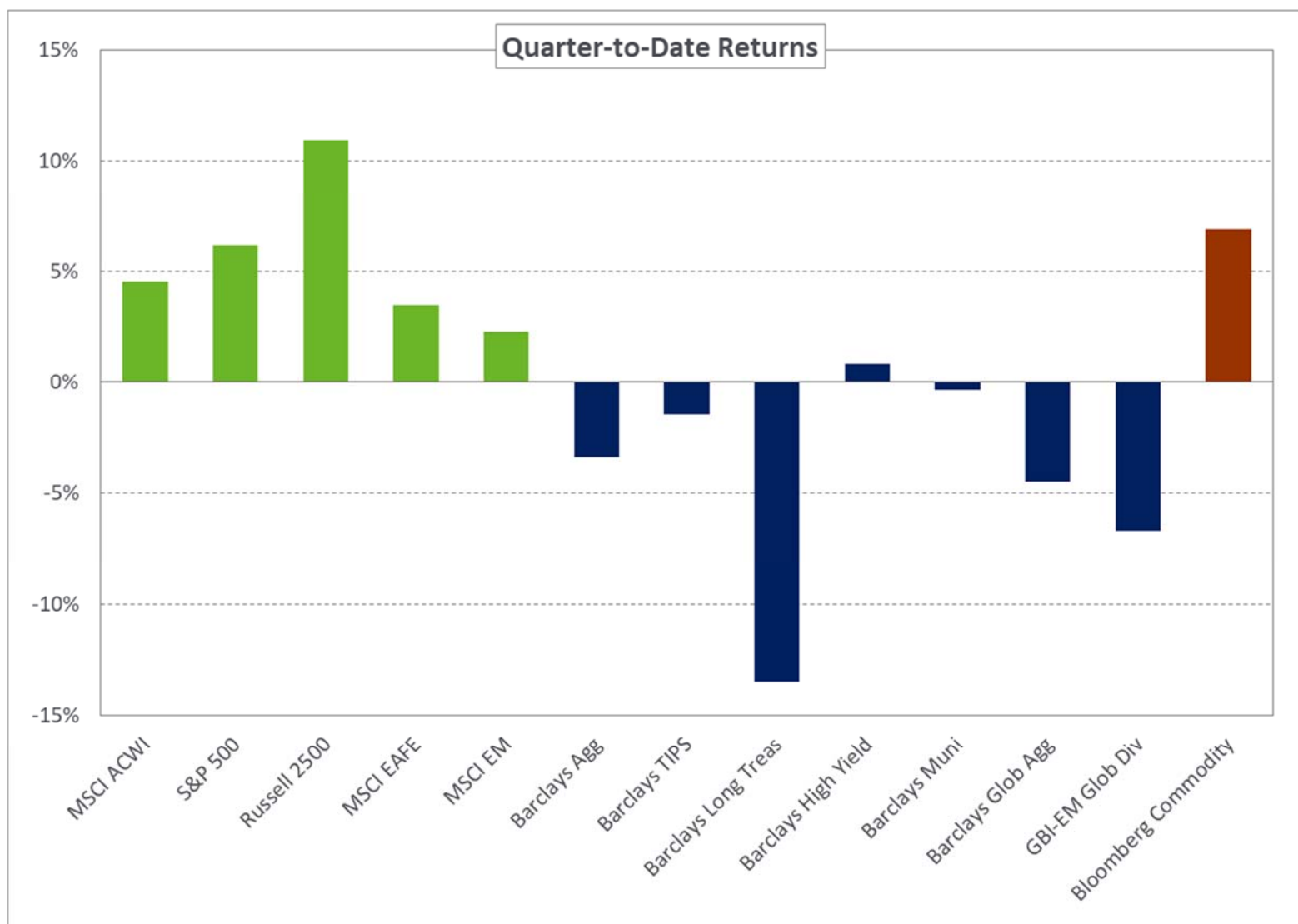
THE U.S. ECONOMIC OUTLOOK IMPROVED



Source: FactSet



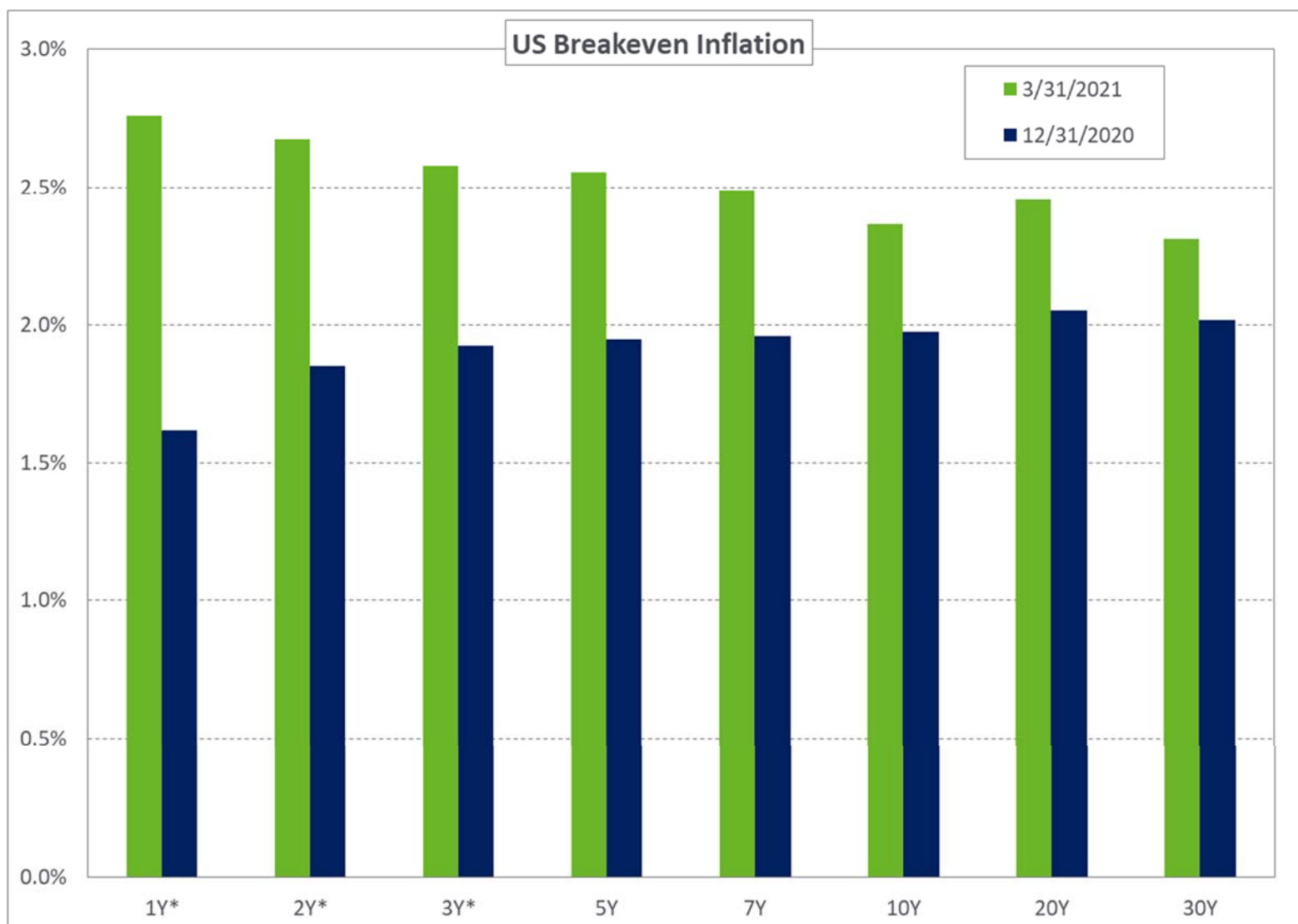
FIXED INCOME UNDERPERFORMED



Source: S&P, Russell, MSCI, JPM, Bloomberg, FactSet



NEAR-TERM INFLATION EXPECTATIONS ROSE

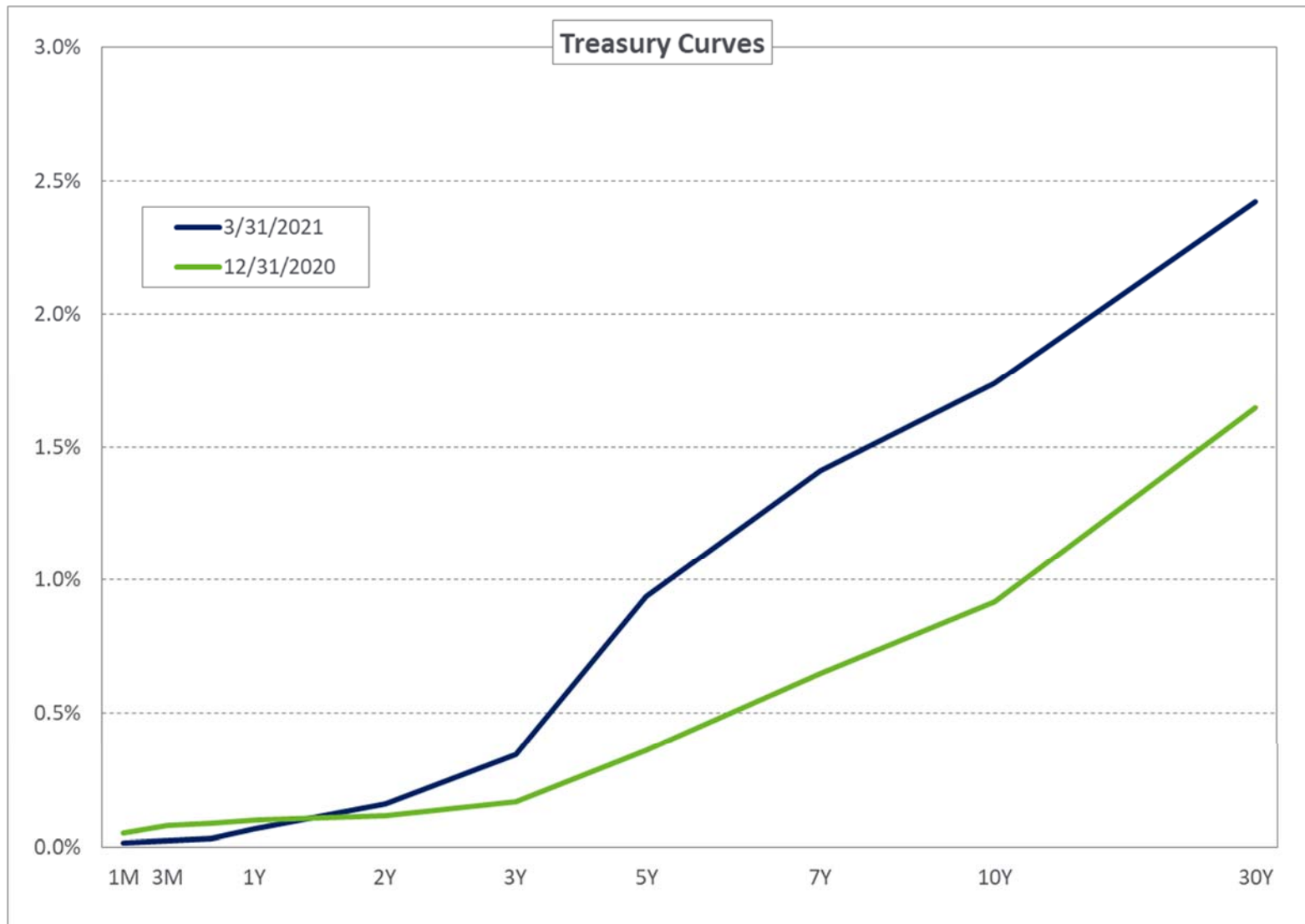


Source: NEPC, Bloomberg, FactSet

*Real yields are calculated based on a weighted average of select off-the-run TIPS yields



LONG-TERM INTEREST RATES ROSE



Source: FactSet



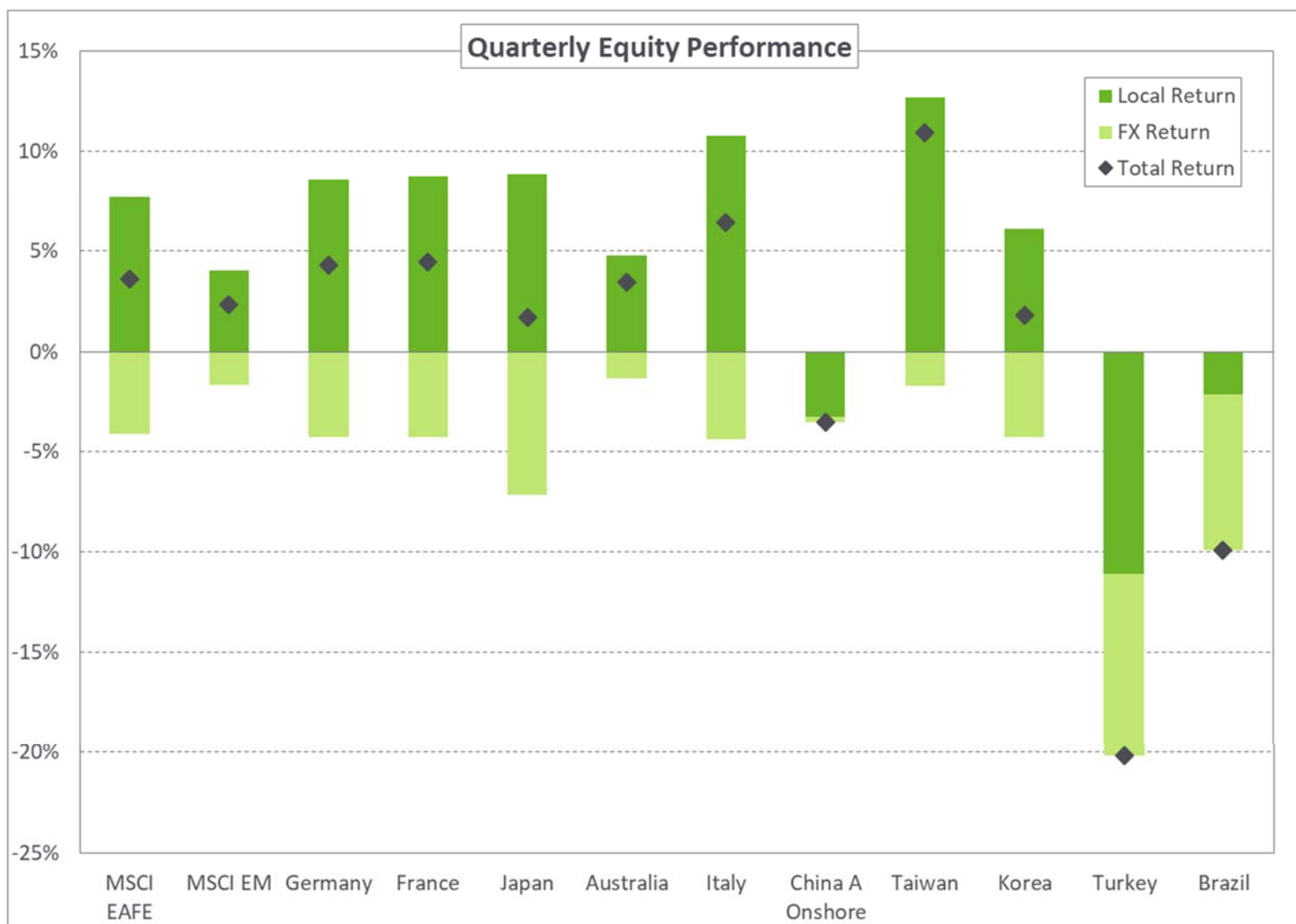
THE U.S. YIELD CURVE STEEPENED



Source: FactSet
Long-Term Median calculated as of 6/1/1976



USD STRENGTH WEIGHED ON NON-US EQUITIES



Source: MSCI, FactSet

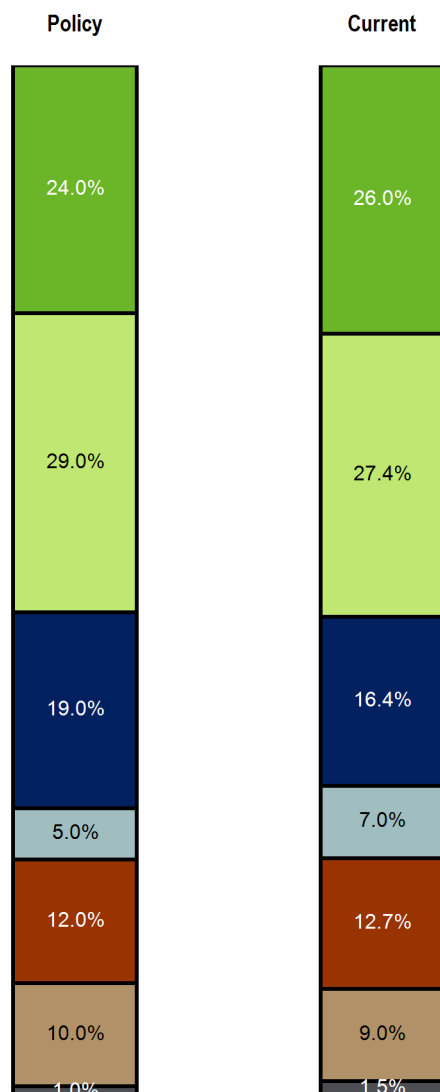


ASSET CLASS POLICY OVERVIEW

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	\$5,581,966,050	24.00%	25.99%	1.99%	19.00% - 29.00%	Yes
Non-US Equity	\$5,889,472,889	29.00%	27.43%	-1.57%	24.00% - 34.00%	Yes
Core Fixed Income	\$3,526,060,923	19.00%	16.42%	-2.58%	15.00% - 22.00%	Yes
Credit Opportunities	\$1,501,518,391	5.00%	6.99%	1.99%	0.00% - 10.00%	Yes
Private Equity	\$2,720,856,017	12.00%	12.67%	0.67%	0.00% - 100.00%	Yes
Real Assets	\$1,927,483,780	10.00%	8.98%	-1.02%	7.00% - 13.00%	Yes
Cash	\$326,912,550	1.00%	1.52%	0.52%	0.00% - 2.00%	Yes
Total	\$21,474,270,600	100.00%	100.00%			

*Difference between Policy and Current Allocation

LACERS has a temporary policy of being able to hold cash outside of the stated bound

Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018.

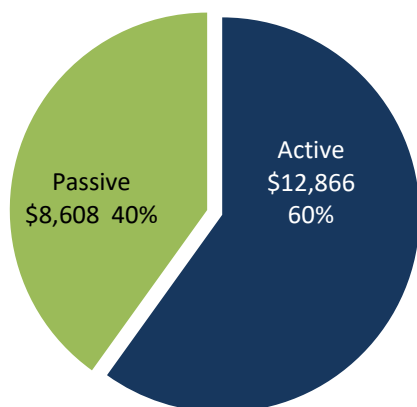
Implementation of the new asset allocation is currently in progress.



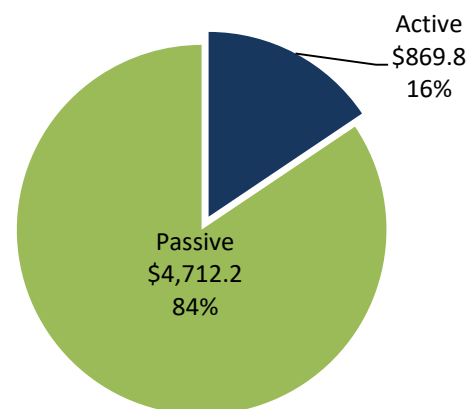
ACTIVE VS. PASSIVE MANAGER BREAKDOWN

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

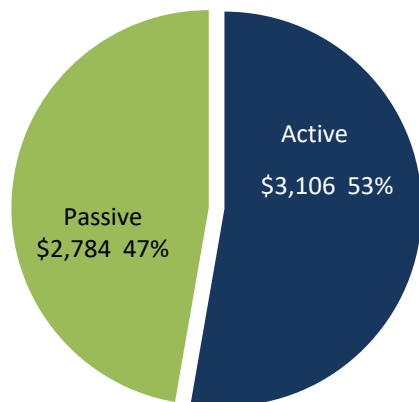
Total Fund



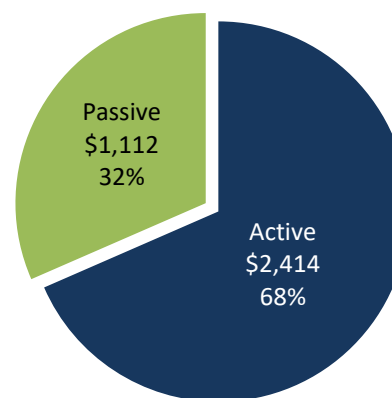
U.S. Equity



Non-U.S. Equity



Core Fixed Income



- LACERS allocated 60% to active managers and 40% 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	YTD(%)	Rank	1 Yr(%)	Rank	3 Yrs(%)	Rank	5 Yrs(%)	Rank	10 Yrs(%)	Rank	15 Yrs(%)	Rank	Inception (%) Since Oct. 1994
LACERS Master Trust	21,474,270,600	3.77	32	3.77	32	33.94	39	9.61	42	10.42	36	8.78	31	7.23	35	8.51
Policy Index		2.96	70	2.96	70	37.32	24	10.66	19	11.08	20	8.88	25	7.34	30	8.54
InvMetrics Public DB \$1-50B Gross Median		3.42		3.42		32.64		9.23		10.15		8.28		6.91		8.18

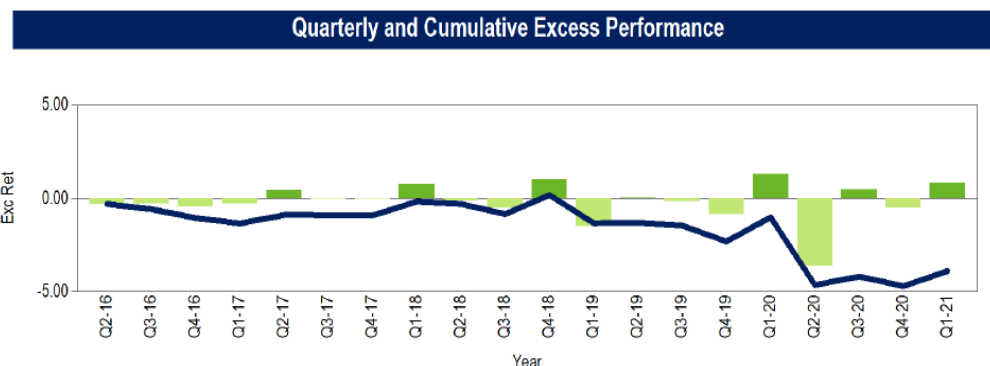
Over the past five years, the Fund returned 10.42% outperforming the actuarial rate of return but underperformed the policy index by 0.66%. This return ranks in the 36th percentile within the Public Funds \$1 Billion- \$50 Billion universe. The Fund's volatility of 8.65% ranked in the 51st percentile over this period. The Fund's risk-adjusted performance, as measured by the Sharpe Ratio, ranks in the 44th percentile and the Sortino Ratio ranks in the 34th percentile. Both measures outperform the benchmark indicating that active management benefited the Plan.

Over the past three years, the Fund return of 9.61% underperformed the policy index by 1.05% and ranked in the 42nd percentile in its peer group. The Fund's volatility ranks in the 52nd percentile, the Sharpe Ratio of 0.77 ranks in the 43rd percentile and the Sortino Ratio of 0.91 ranks in the 38th percentile.

In the one-year ended March 31, 2021, assets increased from \$16.28 billion twelve months ago to \$21.47 billion. The Fund returned 33.94% and underperformed the policy index by 3.38%. The Fund's return ranks in the 39th percentile in its peer group.

All asset classes were within policy range as of March 31, 2021.

The InvMetrics Public Funds \$1 Billion- \$50 Billion Universe contains 90 observations and the InvMetrics Public Funds \$5-\$50 Billion Universe contains 31 observations for the period ending March 31, 2021.



5 Years Ending March 31, 2021								
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	10.42%	36	8.65%	51	1.08	44	1.12	34
Policy Index	11.08%	20	9.89%	84	1.01	60	1.07	46
InvMetrics Public DB \$1-50B Gross Median	10.15%	--	8.64%	--	1.05	--	1.04	--

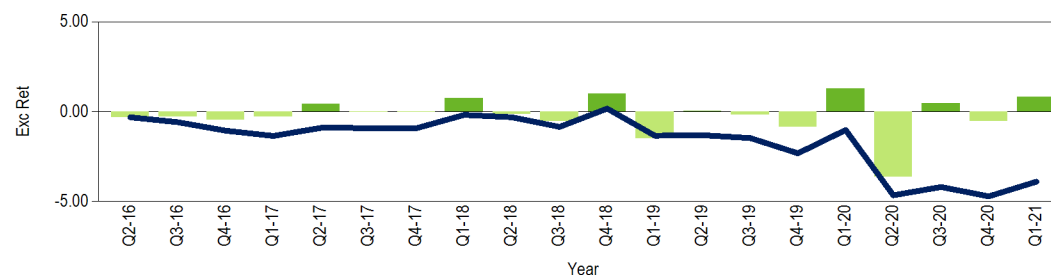
3 Years Ending March 31, 2021								
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	9.61%	42	10.70%	52	0.77	43	0.91	38
Policy Index	10.66%	19	12.28%	85	0.76	48	0.90	38
InvMetrics Public DB \$1-50B Gross Median	9.23%	--	10.64%	--	0.74	--	0.84	--



PERFORMANCE SUMMARY (GROSS; \$5B-\$50B Universe)

	Market Value	3 Mo	Rank	YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	15 Yrs	Rank	Inception	Inception Date
LACERS Master Trust	\$21,474,270,600	3.77%	44	3.77%	44	33.94%	34	9.61%	44	10.42%	44	8.78%	36	7.23%	34	8.51%	Oct-94
Policy Index		2.96%	86	2.96%	86	37.32%	18	10.66%	23	11.08%	24	8.88%	24	7.34%	30	8.54%	Oct-94
InvMetrics Public DB \$5-50B Gross Median		3.67%		3.67%		31.74%		9.35%		10.31%		8.51%		6.95%		8.40%	Oct-94

Quarterly and Cumulative Excess Performance



5 Years Ending March 31, 2021								
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	10.42%	44	8.65%	61	1.08	68	1.12	64
Policy Index	11.08%	24	9.89%	93	1.01	84	1.07	71
InvMetrics Public DB \$5-50B Gross Median	10.31%	--	8.26%	--	1.11	--	1.18	--

3 Years Ending March 31, 2021								
	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
LACERS Master Trust	9.61%	44	10.70%	62	0.77	63	0.91	64
Policy Index	10.66%	23	12.28%	93	0.76	74	0.90	66
InvMetrics Public DB \$5-50B Gross Median	9.35%	--	10.14%	--	0.84	--	0.96	--



Los Angeles City Employees' Retirement System

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
LACERS Master Trust	21,474,270,600	100.00	3.77	3.77	33.94	9.61	10.42	8.78	7.62	8.51	Oct-94
Policy Index			<u>2.96</u>	<u>2.96</u>	<u>37.32</u>	<u>10.66</u>	<u>11.08</u>	<u>8.88</u>	<u>7.47</u>	<u>8.54</u>	Oct-94
Over/Under			0.81	0.81	-3.38	-1.05	-0.66	-0.10	0.15	-0.03	
U.S. Equity	5,581,966,050	25.99	7.06	7.06	62.81	16.57	16.36	13.44	9.19	11.17	Oct-94
U.S. Equity Blend			<u>6.35</u>	<u>6.35</u>	<u>62.53</u>	<u>17.12</u>	<u>16.64</u>	<u>13.79</u>	<u>8.85</u>	<u>10.22</u>	Oct-94
Over/Under			0.71	0.71	0.28	-0.55	-0.28	-0.35	0.34	0.95	
Non-U.S. Equity	5,889,472,889	27.43	4.24	4.24	58.21	8.04	11.18	6.59	7.19	5.88	Nov-94
MSCI ACWI ex USA			<u>3.49</u>	<u>3.49</u>	<u>49.41</u>	<u>6.51</u>	<u>9.76</u>	<u>4.93</u>	<u>6.16</u>	<u>5.51</u>	Nov-94
Over/Under			0.75	0.75	8.80	1.53	1.42	1.66	1.03	0.37	
Core Fixed Income	3,526,060,923	16.42	-3.08	-3.08	3.09	5.29	3.77			3.64	Jul-12
Core Fixed Income Blend			<u>-3.37</u>	<u>-3.37</u>	<u>0.71</u>	<u>4.65</u>	<u>3.10</u>			<u>2.93</u>	Jul-12
Over/Under			0.29	0.29	2.38	0.64	0.67			0.71	
Credit Opportunities	1,501,518,391	6.99	-1.96	-1.96	21.32	5.03	6.57			5.42	Jun-13
Credit Opportunities Blend			<u>-1.05</u>	<u>-1.05</u>	<u>20.95</u>	<u>5.87</u>	<u>7.01</u>			<u>5.85</u>	Jun-13
Over/Under			-0.91	-0.91	0.37	-0.84	-0.44			-0.43	
Real Assets	1,927,483,780	8.98	2.12	2.12	9.76	5.14	5.31	7.63	5.19	6.20	Nov-94
CPI + 5% (Unadjusted)			<u>2.93</u>	<u>2.93</u>	<u>7.74</u>	<u>7.10</u>	<u>7.25</u>	<u>6.79</u>	<u>7.15</u>	<u>7.29</u>	Nov-94
Over/Under			-0.81	-0.81	2.02	-1.96	-1.94	0.84	-1.96	-1.09	
Public Real Assets	1,086,230,340	5.06	2.42	2.42	17.85	6.21	4.74			3.16	Jun-14
Public Real Assets Blend			<u>3.42</u>	<u>3.42</u>	<u>24.25</u>	<u>5.29</u>	<u>4.15</u>			<u>1.11</u>	Jun-14
Over/Under			-1.00	-1.00	-6.40	0.92	0.59			2.05	
Private Equity	2,720,856,017	12.67	12.21	12.21	23.30	15.10	14.09	13.04	10.40	10.94	Nov-95
Private Equity Blend			<u>7.12</u>	<u>7.12</u>	<u>67.21</u>	<u>20.59</u>	<u>20.09</u>	<u>17.31</u>	<u>12.71</u>	<u>13.86</u>	Nov-95
Over/Under			5.09	5.09	-43.91	-5.49	-6.00	-4.27	-2.31	-2.92	
Cash	326,912,550	1.52									

- Policy Index = 24% Russell 3000 / 29% MSCI ACWI ex USA / 19% BBgBarc US Aggregate TR / 5% Credit Opportunities Blend / 10% Real Assets Policy Benchmark / 12% Private Equity Blend / 1% 91 Day T-Bills

- U.S. Equity Blend = Russell 3000

- Core Fixed Income Blend = BBgBarc US Aggregate TR

- Credit Opportunities Blend = 65% BBgBarc US High Yield 2% Issuer Cap TR / 35% JP Morgan EMBI Global Diversified

- CPI + 5% (Unadjusted) = 100% Consumer Price Index / 1% .05% 1% 12% 1% 10

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

- Private Equity Blend = Russell 3000 + 300bps



Los Angeles City Employees' Retirement System

TOTAL FUND PERFORMANCE DETAIL (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
LACERS Master Trust	21,474,270,600	100.00	3.73	3.73	33.73	9.42	10.22	8.58			Oct-94
Policy Index			2.96	2.96	37.32	10.66	11.08	8.88			Oct-94
Over/Under			0.77	0.77	-3.59	-1.24	-0.86	-0.30			
U.S. Equity	5,581,966,050	25.99	7.05	7.05	62.73	16.50	16.29	13.31			Oct-94
U.S. Equity Blend			6.35	6.35	62.53	17.12	16.64	13.79			Oct-94
Over/Under			0.70	0.70	0.20	-0.62	-0.35	-0.48			
Non-U.S. Equity	5,889,472,889	27.43	4.14	4.14	57.69	7.65	10.78	6.24			Nov-94
MSCI ACWI ex USA			3.49	3.49	49.41	6.51	9.76	4.93			Nov-94
Over/Under			0.65	0.65	8.28	1.14	1.02	1.31			
Core Fixed Income	3,526,060,923	16.42	-3.10	-3.10	3.00	5.19	3.67			3.53	Jul-12
Core Fixed Income Blend			-3.37	-3.37	0.71	4.65	3.10			2.93	Jul-12
Over/Under			0.27	0.27	2.29	0.54	0.57			0.60	
Credit Opportunities	1,501,518,391	6.99	-2.01	-2.01	21.02	4.73	6.24			5.08	Jun-13
Credit Opportunities Blend			-1.05	-1.05	20.95	5.87	7.01			5.85	Jun-13
Over/Under			-0.96	-0.96	0.07	-1.14	-0.77			-0.77	
Real Assets	1,927,483,780	8.98	2.08	2.08	9.59	4.97	5.14	7.48			Nov-94
CPI + 5% (Unadjusted)			2.93	2.93	7.74	7.10	7.25	6.79			Nov-94
Over/Under			-0.85	-0.85	1.85	-2.13	-2.11	0.69			
Public Real Assets	1,086,230,340	5.06	2.37	2.37	17.63	5.98	4.50			2.95	Jun-14
Public Real Assets Blend			3.42	3.42	24.25	5.29	4.15			1.11	Jun-14
Over/Under			-1.05	-1.05	-6.62	0.69	0.35			1.84	
Private Equity	2,720,856,017	12.67	12.21	12.21	23.31	15.10	14.10	13.05			Nov-95
Private Equity Blend			7.12	7.12	67.21	20.59	20.09	17.31			Nov-95
Over/Under			5.09	5.09	-43.90	-5.49	-5.99	-4.26			
Cash	326,912,550	1.52									

- Policy Index = 24% Russell 3000 / 29% MSCI ACWI ex USA / 19% BBgBarc US Aggregate TR / 5% Credit Opportunities Blend / 10% Real Assets Policy Benchmark / 12% Private Equity Blend / 1% 91 Day T-Bills

- U.S. Equity Blend = Russell 3000

- Core Fixed Income Blend = BBgBarc US Aggregate TR

- Credit Opportunities Blend = 65% BBgBarc US High Yield 2% Issuer Cap TR / 35% JP Morgan EMBI Global Diversified

- CPI + 5% (Unadjusted) = 100% Consumer Price Index / 1% .05% 1% 12% 1% 10

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

- Private Equity Blend = Russell 3000 + 300bps



Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS (GROSS; \$1B-50B Universe)

3 Years Ending March 31, 2021

	% 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%	9.61%	42	10.70%	52	0.20%	51	-0.50	83	0.91	38	2.08%	60
Total Equity	53.42%	11.80%	43	18.47%	77	-0.11%	52	-0.10	40	0.69	51	0.97%	17
U.S. Equity	25.99%	16.57%	39	19.35%	42	-0.55%	34	-0.60	46	0.93	35	0.92%	17
Non-U.S. Equity	27.43%	8.04%	25	18.34%	63	1.35%	29	0.89	18	0.48	39	1.73%	28
Developed ex-U.S.	20.36%	8.02%	44	18.72%	75	1.77%	43	0.84	47	0.48	46	2.38%	32
Emerging Markets	7.06%	6.79%	15	19.37%	59	0.29%	18	0.14	15	0.40	18	2.18%	17
Core Fixed Income	16.42%	5.29%	30	3.57%	13	0.67%	28	1.01	4	2.53	4	0.62%	16
Credit Opportunities	6.99%	5.03%	--	10.75%	--	-1.32%	--	-0.48	--	0.29	--	1.76%	--
Real Assets	8.98%	5.14%	46	3.76%	7	0.84%	62	-0.52	88	1.11	34	3.76%	10
Public Real Assets	5.06%	6.21%	--	6.20%	--	2.40%	--	0.22	--	0.84	--	4.11%	--
Private Real Estate	3.83%	3.30%	81	2.73%	69	1.81%	15	-0.63	85	0.83	83	3.83%	91
Private Equity	12.67%	15.10%	44	10.01%	56	13.65%	17	-0.25	76	2.04	62	21.69%	84

5 Years Ending March 31, 2021

	% 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%	10.42%	36	8.65%	51	0.65%	46	-0.40	90	1.12	34	1.69%	57
Total Equity	53.42%	13.49%	33	14.89%	62	0.26%	34	0.33	25	0.90	37	0.84%	14
U.S. Equity	25.99%	16.36%	40	15.60%	39	-0.30%	28	-0.34	47	1.03	35	0.82%	17
Non-U.S. Equity	27.43%	11.18%	27	15.12%	61	1.17%	25	0.95	8	0.83	31	1.50%	23
Developed ex-U.S.	20.36%	10.44%	37	15.39%	71	1.32%	38	0.81	38	0.77	44	1.98%	26
Emerging Markets	7.06%	12.72%	15	16.68%	62	0.54%	16	0.36	12	0.95	15	1.80%	12
Core Fixed Income	16.42%	3.77%	58	3.28%	15	0.72%	54	1.27	7	1.41	7	0.53%	16
Credit Opportunities	6.99%	6.57%	--	8.61%	--	-0.98%	--	-0.30	--	0.51	--	1.50%	--
Real Assets	8.98%	5.31%	52	3.13%	3	1.20%	67	-0.62	94	1.44	31	3.13%	6
Public Real Assets	5.06%	4.74%	--	5.43%	--	1.64%	--	0.18	--	0.83	--	3.34%	--
Private Real Estate	3.83%	5.29%	77	2.35%	43	4.49%	11	-0.44	90	1.74	83	3.96%	86
Private Equity	12.67%	14.09%	47	8.06%	40	13.11%	23	-0.34	72	2.22	68	17.63%	78

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.
Peer universe: InvMetrics Public DB \$1-50B Gross (USD)



Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS (GROSS; \$5B-50B Universe)

3 Years Ending March 31, 2021

	% 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%	9.61%	44	10.70%	62	0.20%	53	-0.50	85	0.91	64	2.08%	37
Total Equity	53.42%	11.80%	43	18.47%	77	-0.11%	52	-0.10	40	0.69	51	0.97%	17
U.S. Equity	25.99%	16.57%	39	19.35%	42	-0.55%	34	-0.60	46	0.93	35	0.92%	17
Non-U.S. Equity	27.43%	8.04%	25	18.34%	63	1.35%	29	0.89	18	0.48	39	1.73%	28
Developed ex-U.S.	20.36%	8.02%	44	18.72%	75	1.77%	43	0.84	47	0.48	46	2.38%	32
Emerging Markets	7.06%	6.79%	15	19.37%	59	0.29%	18	0.14	15	0.40	18	2.18%	17
Core Fixed Income	16.42%	5.29%	30	3.57%	13	0.67%	28	1.01	4	2.53	4	0.62%	16
Credit Opportunities	6.99%	5.03%	--	10.75%	--	-1.32%	--	-0.48	--	0.29	--	1.76%	--
Real Assets	8.98%	5.14%	46	3.76%	7	0.84%	62	-0.52	88	1.11	34	3.76%	10
Public Real Assets	5.06%	6.21%	--	6.20%	--	2.40%	--	0.22	--	0.84	--	4.11%	--
Private Real Estate	3.83%	3.30%	81	2.73%	69	1.81%	15	-0.63	85	0.83	83	3.83%	91
Private Equity	12.67%	15.10%	44	10.01%	56	13.65%	17	-0.25	76	2.04	62	21.69%	84

5 Years Ending March 31, 2021

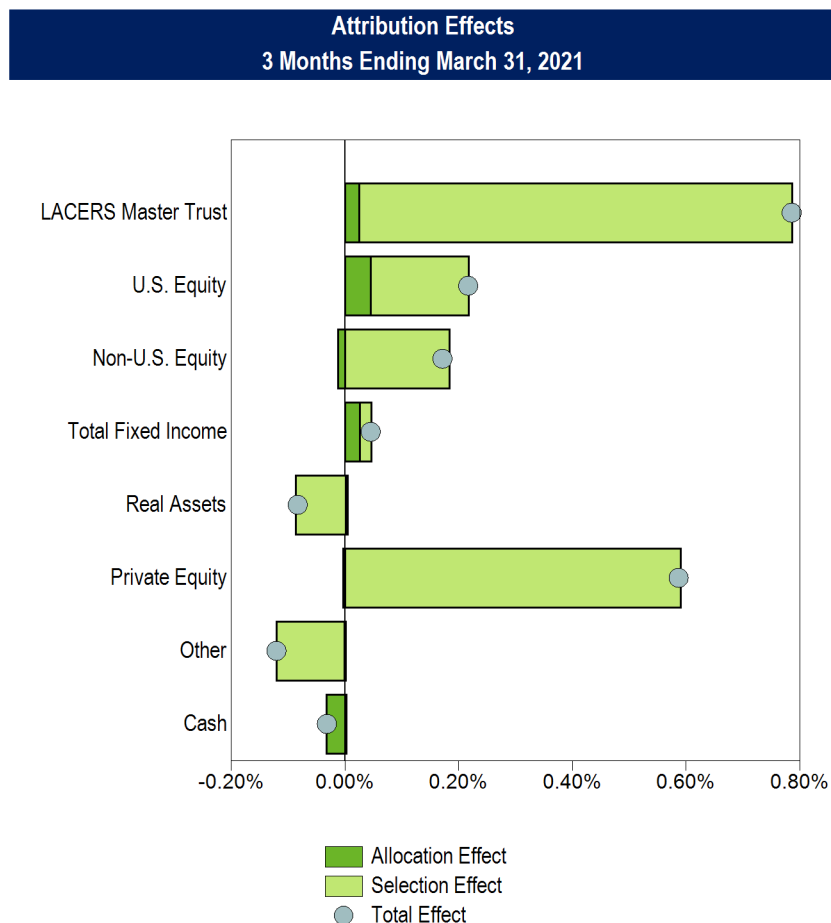
	% of Total MV (%)	Annualized Return (%)	Rank	Annualized Standard Deviation	Rank	Annualized Alpha Jensen (%)	Rank	Information Ratio	Rank	Sortino Ratio RF	Rank	Tracking Error	Rank
LACERS Master Trust	100.00%	10.42%	44	8.65%	61	0.65%	48	-0.40	90	1.12	64	1.69%	37
Total Equity	53.42%	13.49%	33	14.89%	62	0.26%	34	0.33	25	0.90	37	0.84%	14
U.S. Equity	25.99%	16.36%	40	15.60%	39	-0.30%	28	-0.34	47	1.03	35	0.82%	17
Non-U.S. Equity	27.43%	11.18%	27	15.12%	61	1.17%	25	0.95	8	0.83	31	1.50%	23
Developed ex-U.S.	20.36%	10.44%	37	15.39%	71	1.32%	38	0.81	38	0.77	44	1.98%	26
Emerging Markets	7.06%	12.72%	15	16.68%	62	0.54%	16	0.36	12	0.95	15	1.80%	12
Core Fixed Income	16.42%	3.77%	58	3.28%	15	0.72%	54	1.27	7	1.41	7	0.53%	16
Credit Opportunities	6.99%	6.57%	--	8.61%	--	-0.98%	--	-0.30	--	0.51	--	1.50%	--
Real Assets	8.98%	5.31%	52	3.13%	3	1.20%	67	-0.62	94	1.44	31	3.13%	6
Public Real Assets	5.06%	4.74%	--	5.43%	--	1.64%	--	0.18	--	0.83	--	3.34%	--
Private Real Estate	3.83%	5.29%	77	2.35%	43	4.49%	11	-0.44	90	1.74	83	3.96%	86
Private Equity	12.67%	14.09%	47	8.06%	40	13.11%	23	-0.34	72	2.22	68	17.63%	78

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the Citi 91 Day T-Bill Index.
Peer universe: InvMetrics Public DB \$5-50B Gross (USD)



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)



Attribution Summary 3 Months Ending March 31, 2021							
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	7.05%	6.35%	0.70%	0.17%	0.04%	0.22%
Non-U.S. Equity	29.00%	4.14%	3.49%	0.65%	0.18%	-0.01%	0.17%
Total Fixed Income	24.00%	-2.80%	-2.89%	0.09%	0.02%	0.02%	0.04%
Real Assets	10.00%	2.08%	2.93%	-0.85%	-0.09%	0.00%	-0.08%
Private Equity	12.00%	12.21%	7.12%	5.09%	0.59%	0.00%	0.58%
Other							
Cash	1.00%	0.04%	0.01%	0.03%	0.00%	-0.03%	-0.03%
Total	100.00%	3.73%	2.96%	0.78%	0.76%	0.02%	0.78%

Wtd. = Weighted

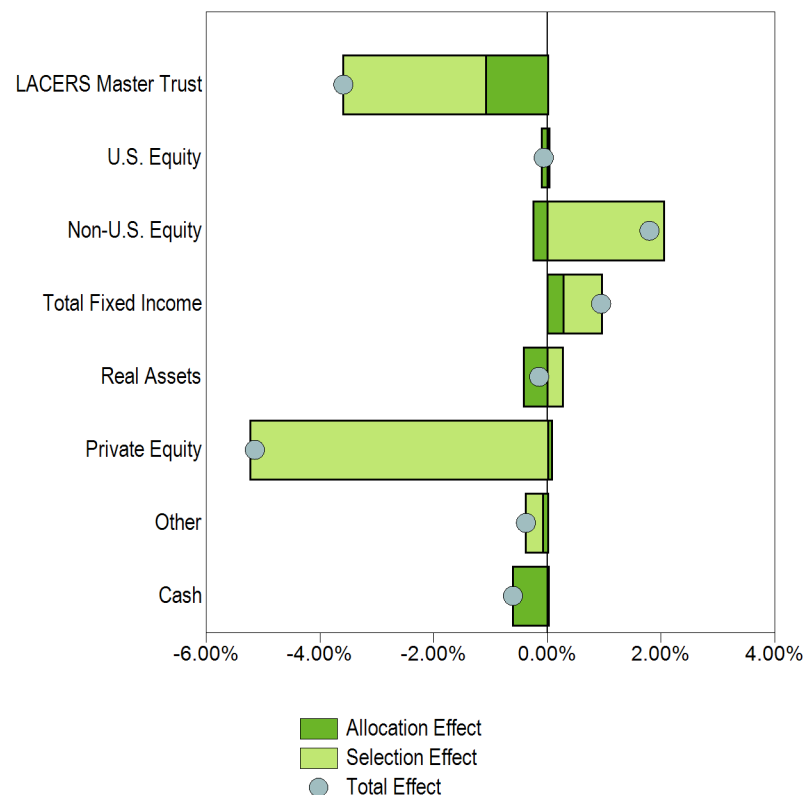
Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.

Other composite is comprised of securities lending income, tax reclaims and other miscellaneous transactions.

Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects
1 Year Ending March 31, 2021



Attribution Summary
1 Year Ending March 31, 2021

	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	62.73%	62.53%	0.20%	0.03%	-0.09%	-0.06%
Non-U.S. Equity	29.00%	57.69%	49.41%	8.28%	2.04%	-0.25%	1.80%
Total Fixed Income	24.00%	7.03%	4.67%	2.36%	0.66%	0.28%	0.95%
Real Assets	10.00%	9.59%	7.74%	1.85%	0.26%	-0.41%	-0.14%
Private Equity	12.00%	23.31%	67.21%	-43.90%	-5.22%	0.08%	-5.14%
Other							
Cash	1.00%	0.27%	0.09%	0.18%	0.00%	-0.61%	-0.60%
Total	100.00%	33.73%	37.32%	-3.59%	-2.50%	-1.09%	-3.59%

Wtd. = Weighted

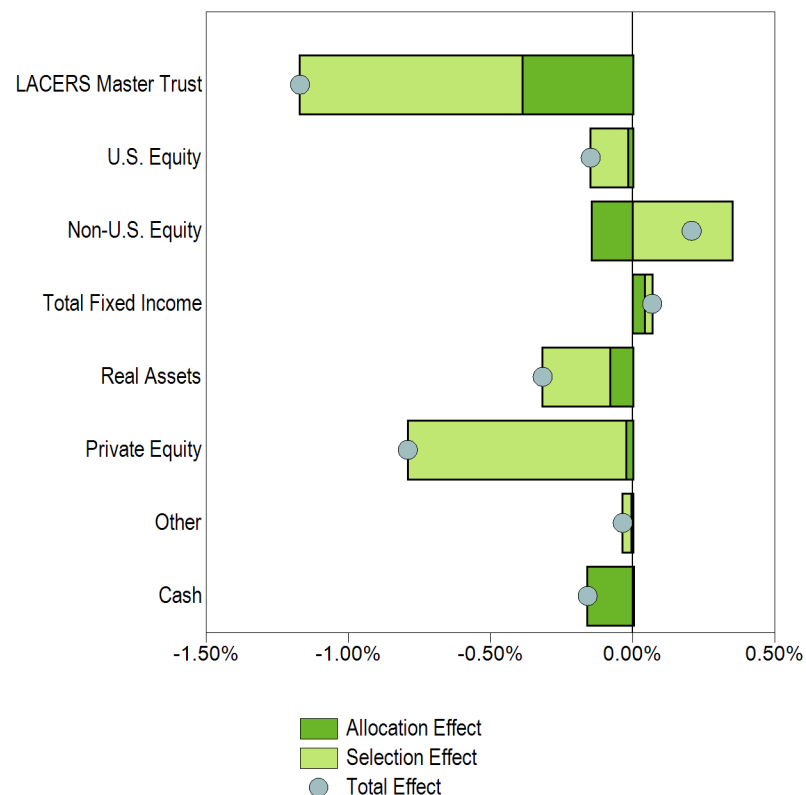
Note: Policy Target Asset Allocation does not reflect the new target asset allocation adopted on April 10, 2018. Implementation of the new asset allocation is currently in progress.

Other composite is comprised of securities lending income, tax reclaims and other miscellaneous transactions.

Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects
3 Years Ending March 31, 2021



Attribution Summary
3 Years Ending March 31, 2021

	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	16.50%	17.12%	-0.62%	-0.13%	-0.01%	-0.14%
Non-U.S. Equity	29.00%	7.65%	6.51%	1.14%	0.34%	-0.16%	0.18%
Total Fixed Income	24.00%	5.16%	4.98%	0.18%	0.03%	0.04%	0.07%
Real Assets	10.00%	4.97%	7.10%	-2.12%	-0.24%	-0.08%	-0.32%
Private Equity	12.00%	15.10%	20.59%	-5.49%	-0.77%	-0.02%	-0.79%
Other							
Cash	1.00%	1.54%	1.36%	0.19%	0.00%	-0.16%	-0.16%
Total	100.00%	9.42%	10.66%	-1.24%	-0.83%	-0.41%	-1.24%

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.

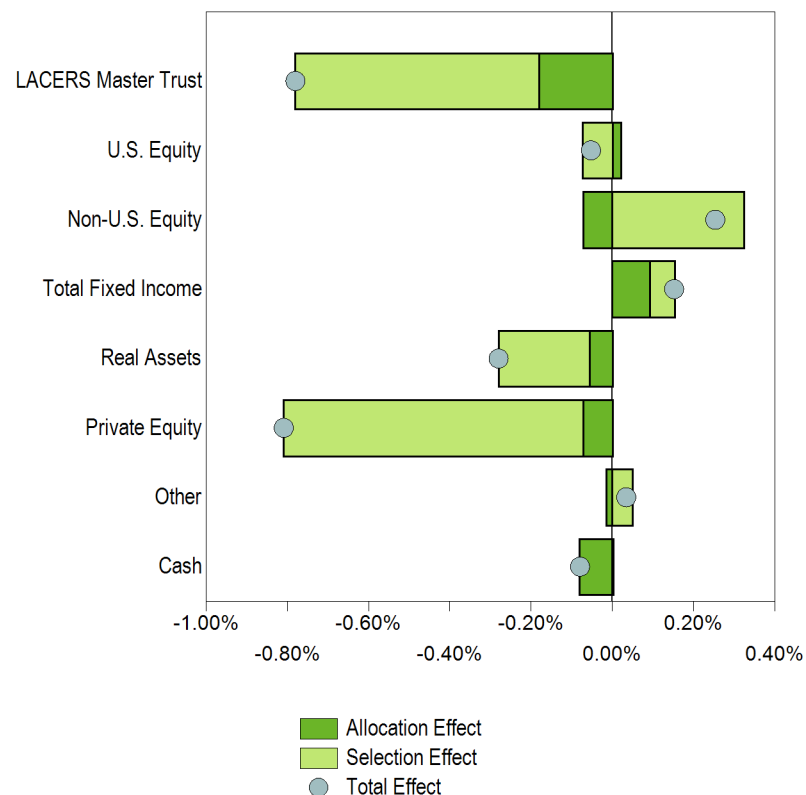
Other composite is comprised of securities lending income, tax reclaims and other miscellaneous transactions.



Los Angeles City Employees' Retirement System

TOTAL FUND ATTRIBUTION ANALYSIS (NET)

Attribution Effects
5 Years Ending March 31, 2021



Attribution Summary
5 Years Ending March 31, 2021

	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
U.S. Equity	24.00%	16.29%	16.64%	-0.35%	-0.07%	0.02%	-0.05%
Non-U.S. Equity	29.00%	10.78%	9.76%	1.02%	0.32%	-0.08%	0.24%
Total Fixed Income	24.00%	4.25%	3.96%	0.29%	0.06%	0.09%	0.15%
Real Assets	10.00%	5.14%	7.25%	-2.11%	-0.22%	-0.06%	-0.28%
Private Equity	12.00%	14.10%	20.09%	-5.99%	-0.74%	-0.07%	-0.81%
Other							
Cash	1.00%	1.32%	1.12%	0.20%	0.00%	-0.08%	-0.08%
Total	100.00%	10.26%	11.09%	-0.83%	-0.63%	-0.20%	-0.83%

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.

Other composite is comprised of securities lending income, tax reclaims and other miscellaneous transactions.



PRIVATE MARKETS PERFORMANCE AS OF DECEMBER 31, 2020

Private Equity	10 Year IRR	Since Inception IRR	Since Inception Multiple
Aggregate Portfolio	13.2%	11.8%	1.64x
Core Portfolio	13.9%	12.3%	1.67x
Specialized Portfolio	3.4%	2.0%	1.13x
Russell 3000 + 300 bps	16.8%	12.7%	N/A

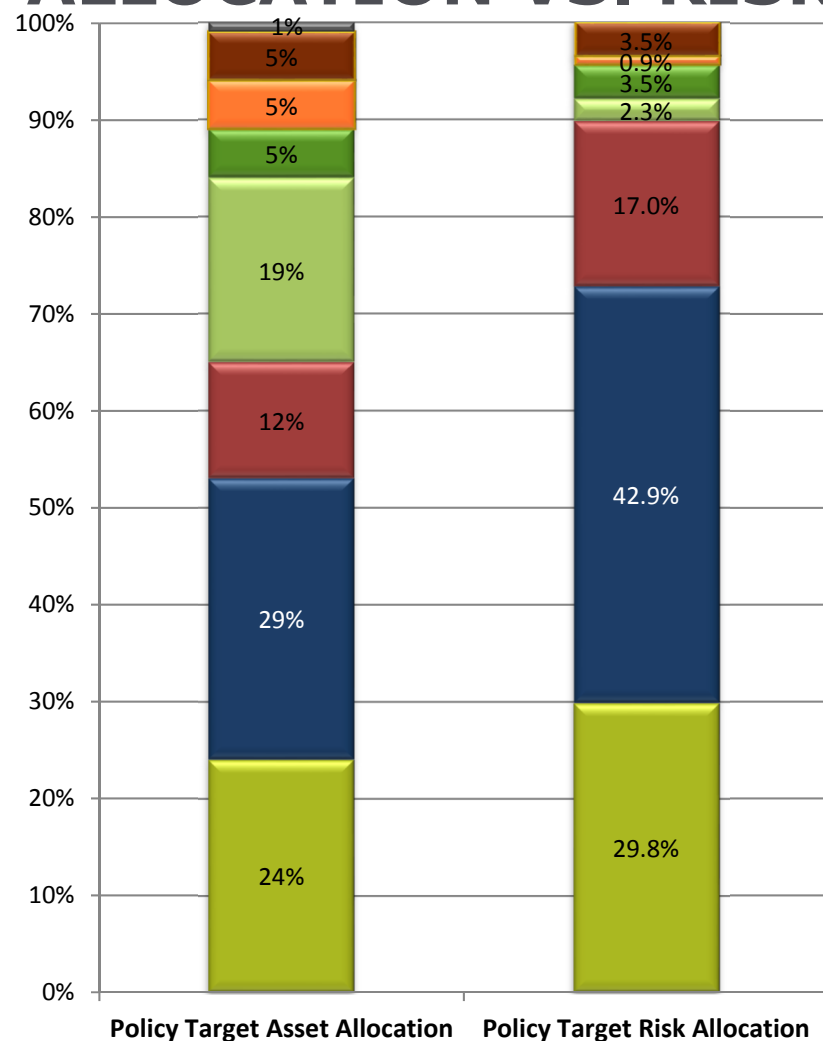
Real Estate	10 Year Return (Net)	Since Inception Return (Net)
Total Portfolio (TWR) ¹	8.8%	5.7%
NFI-ODCE + 80 basis points (TWR)	10.6%	6.9%

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.



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, 2021

Public Markets Asset Class	Target Risk Budget	Actual 3 Yr Tracking Error
U.S. Equity	0.50%	0.92%
Non-U.S. Equity	1.20%	1.73%
Core Fixed Income	1.00%	0.62%
Credit Opportunities	1.50%	1.76%
Public Real Assets*	3.00%	4.11%

- Current 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 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.

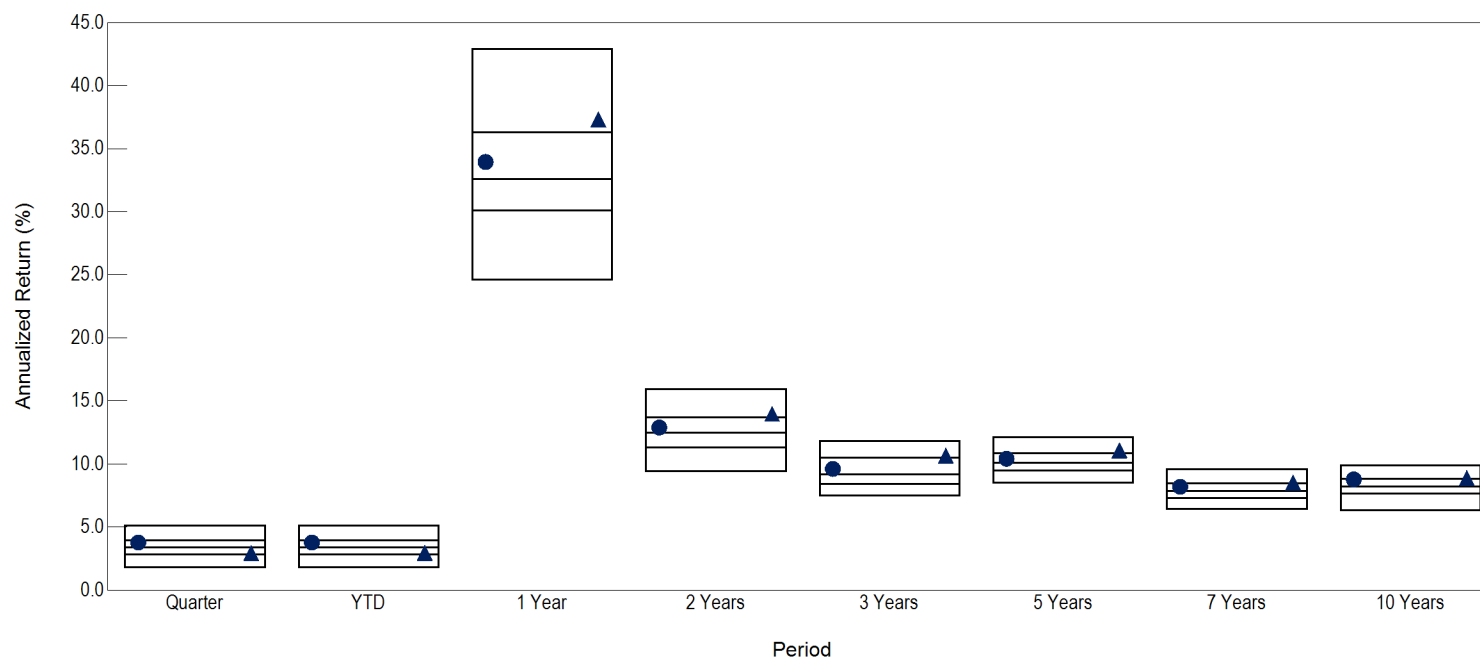
* The benchmark for the Public Real Assets composite is a custom policy benchmark that is comprised of the target weights of the public real asset components. The public real asset benchmark weights are 60% TIPS, 20% Commodities, 10% REITs, and 10% MLPs.



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. \$1B-\$50B UNIVERSE

InvMetrics Public DB \$1-50B Gross Return Comparison



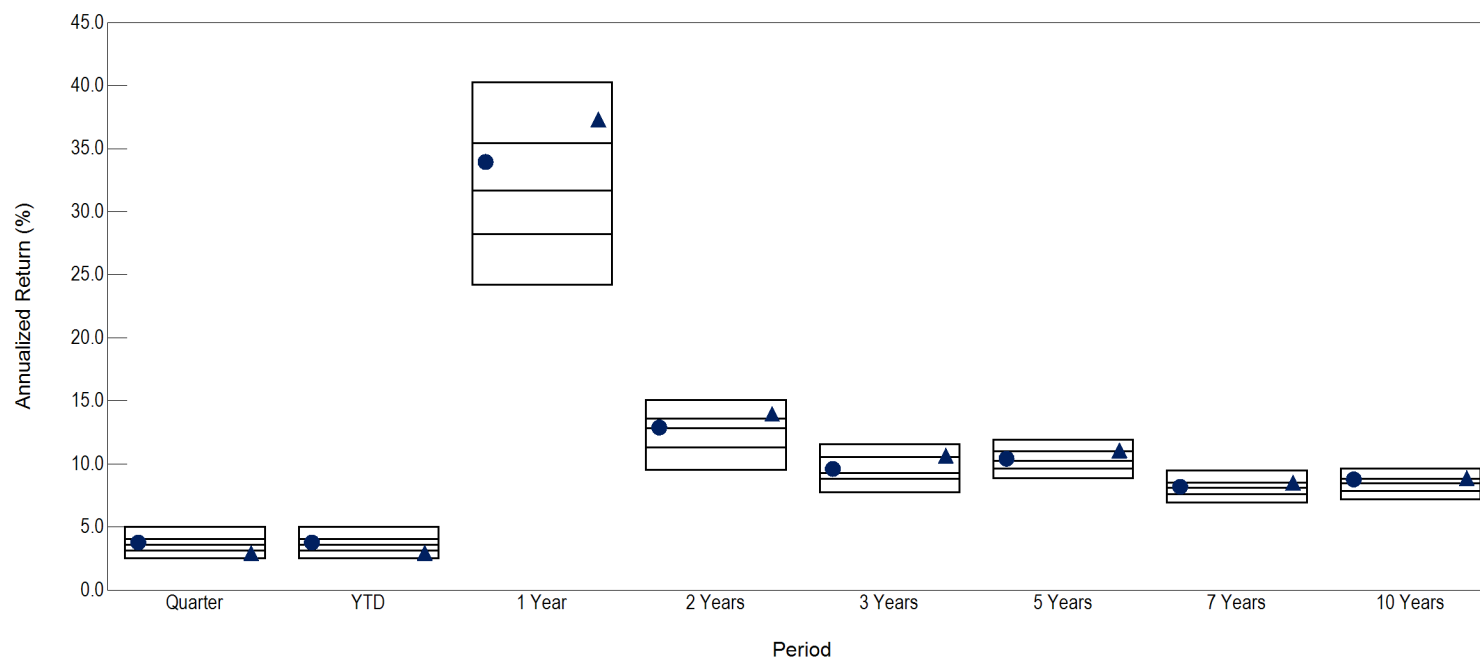
		Return (Rank)															
5th Percentile		5.10	5.10	42.89	15.94	11.84	12.14	9.60	9.91								
25th Percentile		4.01	4.01	36.37	13.74	10.55	10.92	8.53	8.87								
Median		3.42	3.42	32.64	12.54	9.23	10.15	7.91	8.28								
75th Percentile		2.87	2.87	30.16	11.36	8.46	9.53	7.38	7.68								
95th Percentile		1.85	1.85	24.68	9.48	7.55	8.56	6.47	6.41								
# of Portfolios		90	90	90	90	90	90	89	86								
●	LACERS Master Trust	3.77	(32)	3.77	(32)	33.94	(39)	12.89	(41)	9.61	(42)	10.42	(36)	8.19	(41)	8.78	(31)
▲	Policy Index	2.96	(70)	2.96	(70)	37.32	(24)	13.98	(21)	10.66	(19)	11.08	(20)	8.53	(26)	8.88	(25)



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. \$5B-\$50B UNIVERSE

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



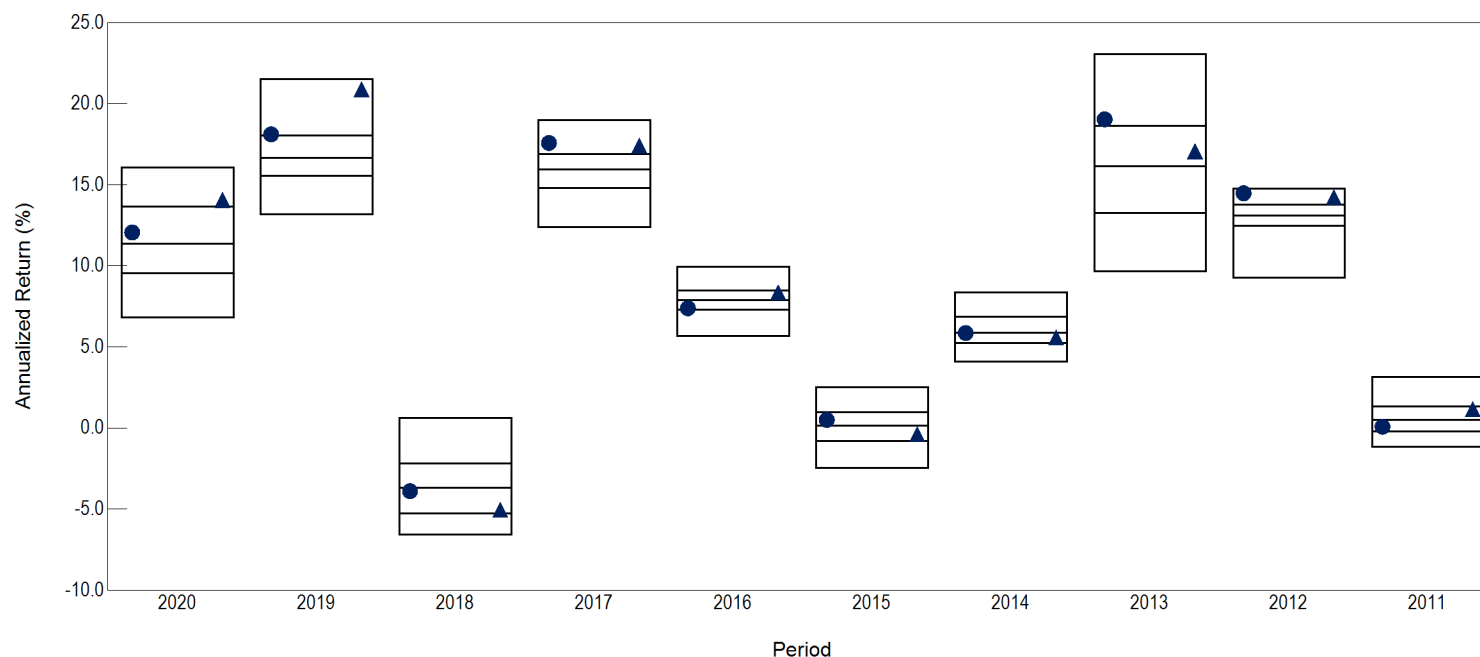
		Return (Rank)															
5th Percentile		5.01	5.01	40.25	15.06	11.58	11.93	9.51	9.62								
25th Percentile		4.13	4.13	35.51	13.66	10.59	11.07	8.55	8.86								
Median		3.67	3.67	31.74	12.89	9.35	10.31	8.17	8.51								
75th Percentile		3.20	3.20	28.29	11.35	8.86	9.66	7.66	7.93								
95th Percentile		2.57	2.57	24.28	9.60	7.80	8.93	7.00	7.24								
# of Portfolios		31	31	31	31	31	31	30	29								
●	LACERS Master Trust	3.77	(44)	3.77	(44)	33.94	(34)	12.89	(51)	9.61	(44)	10.42	(44)	8.19	(49)	8.78	(36)
▲	Policy Index	2.96	(86)	2.96	(86)	37.32	(18)	13.98	(19)	10.66	(23)	11.08	(24)	8.53	(32)	8.88	(24)



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. \$1B-\$50B UNIVERSE

LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross



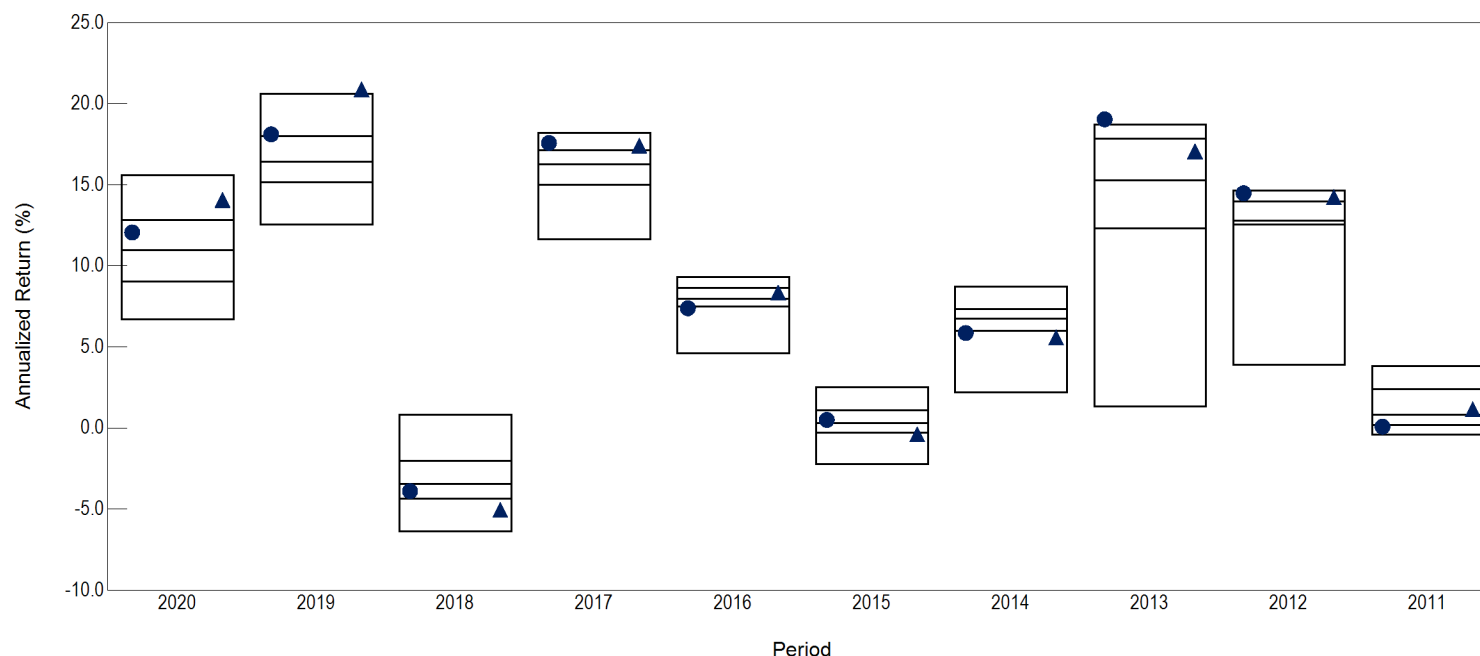
		Return (Rank)																			
5th Percentile		16.05	21.49	0.60	19.00	9.95	2.50	8.38	23.05	14.75	3.13										
25th Percentile		13.67	18.08	-2.13	16.94	8.51	1.00	6.90	18.67	13.81	1.37										
Median		11.41	16.68	-3.64	15.99	7.91	0.20	5.93	16.17	13.15	0.53										
75th Percentile		9.59	15.61	-5.22	14.83	7.34	-0.77	5.28	13.30	12.50	-0.16										
95th Percentile		6.87	13.20	-6.53	12.43	5.71	-2.43	4.12	9.70	9.31	-1.14										
# of Portfolios		89	77	78	78	78	77	77	76	75	74										
●	LACERS Master Trust	12.05	(43)	18.10	(25)	-3.89	(60)	17.57	(15)	7.38	(72)	0.49	(35)	5.85	(53)	19.03	(23)	14.47	(10)	0.08	(68)
▲	Policy Index	14.06	(21)	20.88	(9)	-5.04	(71)	17.41	(16)	8.35	(35)	-0.39	(68)	5.58	(61)	17.06	(35)	14.23	(18)	1.17	(32)



Los Angeles City Employees' Retirement System

TOTAL FUND RETURN SUMMARY VS. \$5B-\$50B UNIVERSE

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



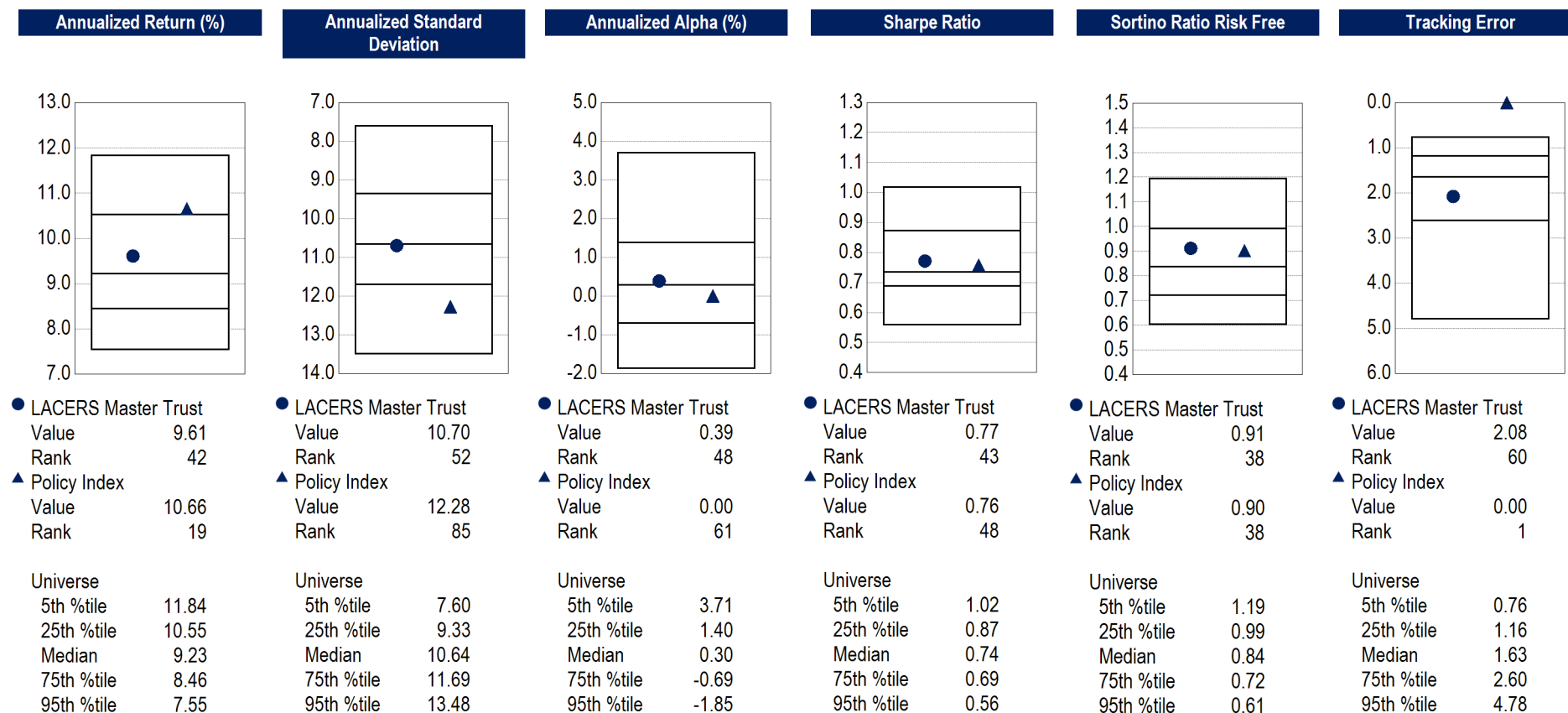
		Return (Rank)																			
5th Percentile		15.58	20.62	0.81	18.21	9.30	2.50	8.72	18.69	14.65	3.83										
25th Percentile		12.88	18.02	-1.99	17.15	8.68	1.12	7.38	17.86	14.01	2.41										
Median		11.01	16.46	-3.40	16.29	7.99	0.35	6.79	15.31	12.83	0.86										
75th Percentile		9.06	15.18	-4.32	15.05	7.51	-0.24	6.04	12.36	12.58	0.21										
95th Percentile		6.73	12.57	-6.33	11.68	4.65	-2.20	2.25	1.36	3.92	-0.37										
# of Portfolios		32	27	25	46	30	24	24	23	16	16										
●	LACERS Master Trust	12.05	(44)	18.10	(23)	-3.89	(67)	17.57	(12)	7.38	(78)	0.49	(41)	5.85	(81)	19.03	(4)	14.47	(7)	0.08	(89)
▲	Policy Index	14.06	(19)	20.88	(5)	-5.04	(84)	17.41	(14)	8.35	(41)	-0.39	(77)	5.58	(87)	17.06	(31)	14.23	(21)	1.17	(44)



Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS VS. \$1B-\$50B UNIVERSE

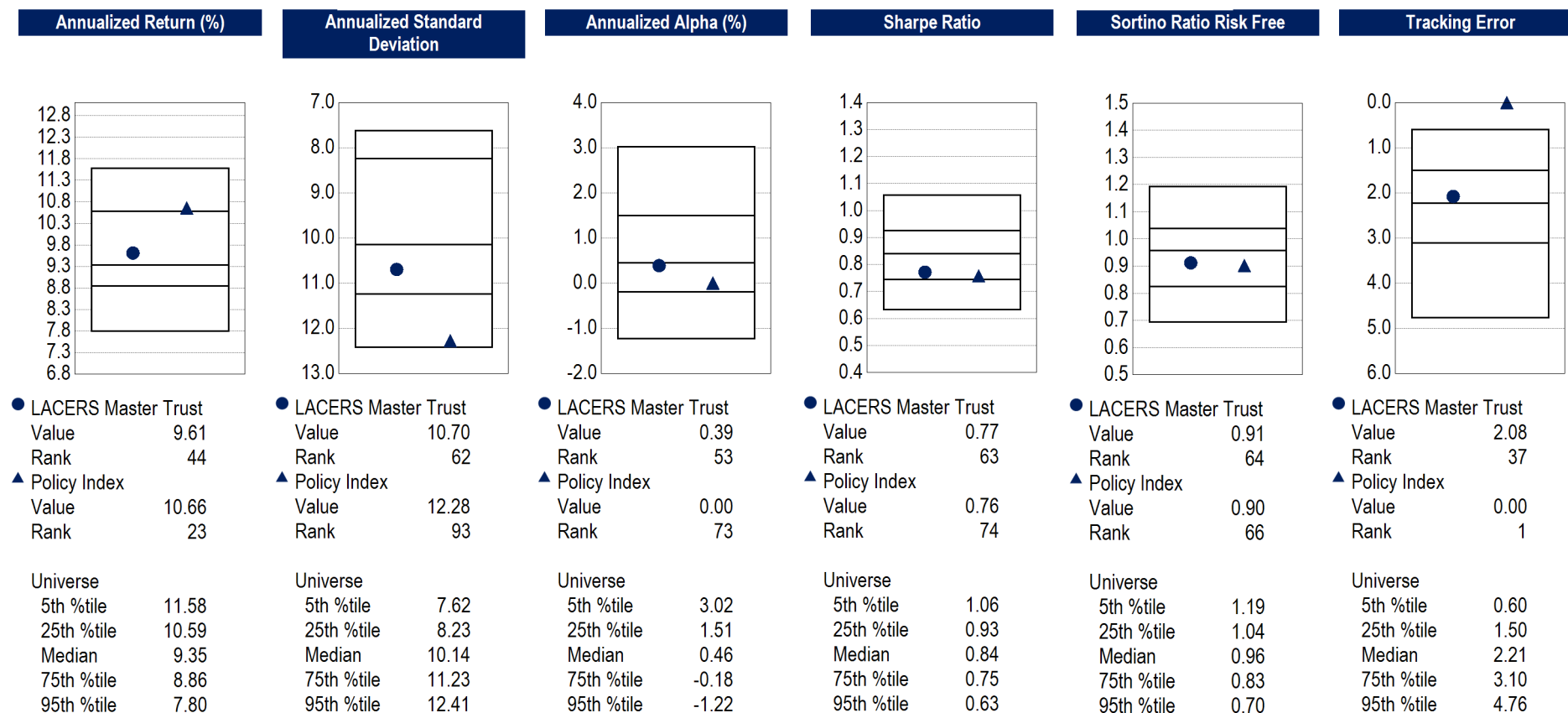
LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross 3 Years



Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS VS. \$5B-\$50B UNIVERSE

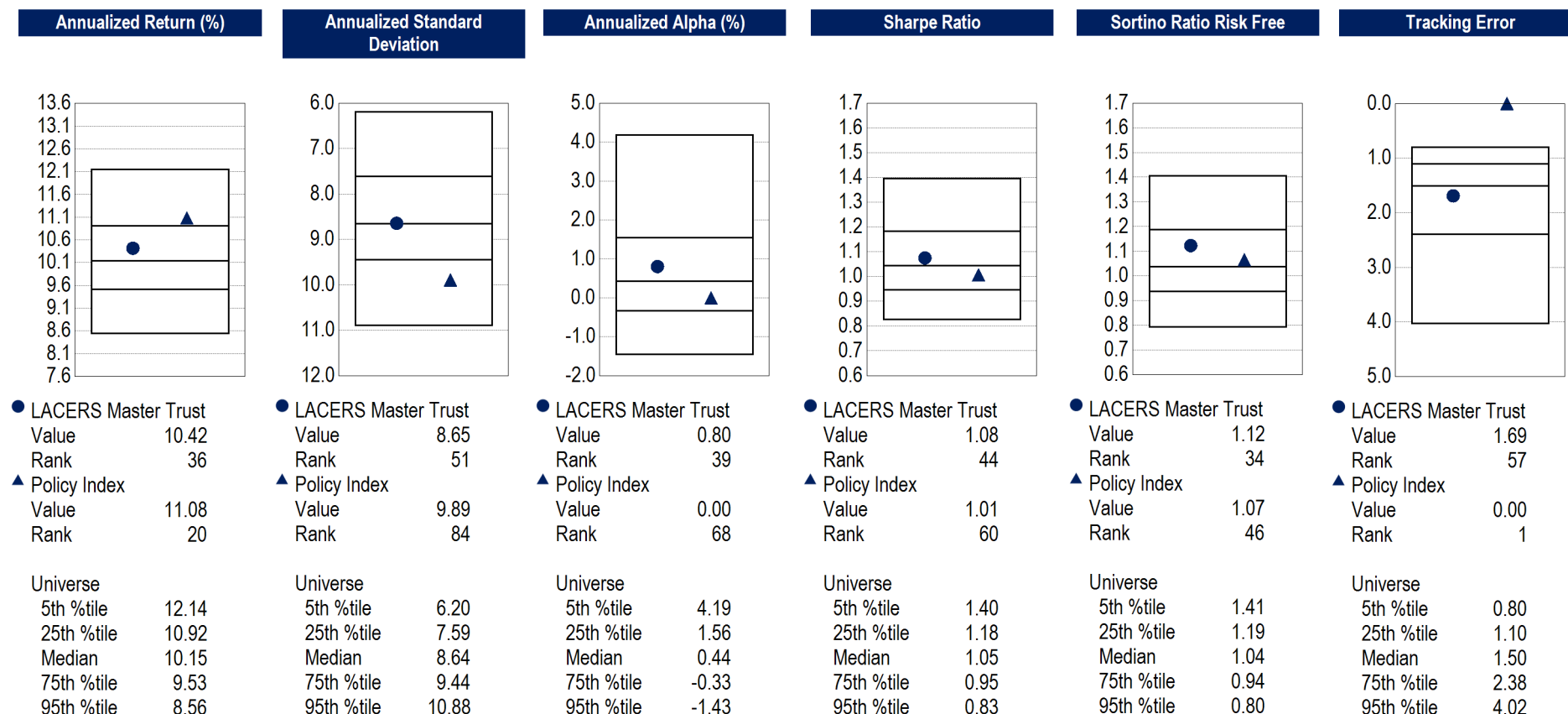
LACERS Master Trust vs. InvMetrics Public DB \$5-50B Gross 3 Years



Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS VS. \$1B-\$50B UNIVERSE

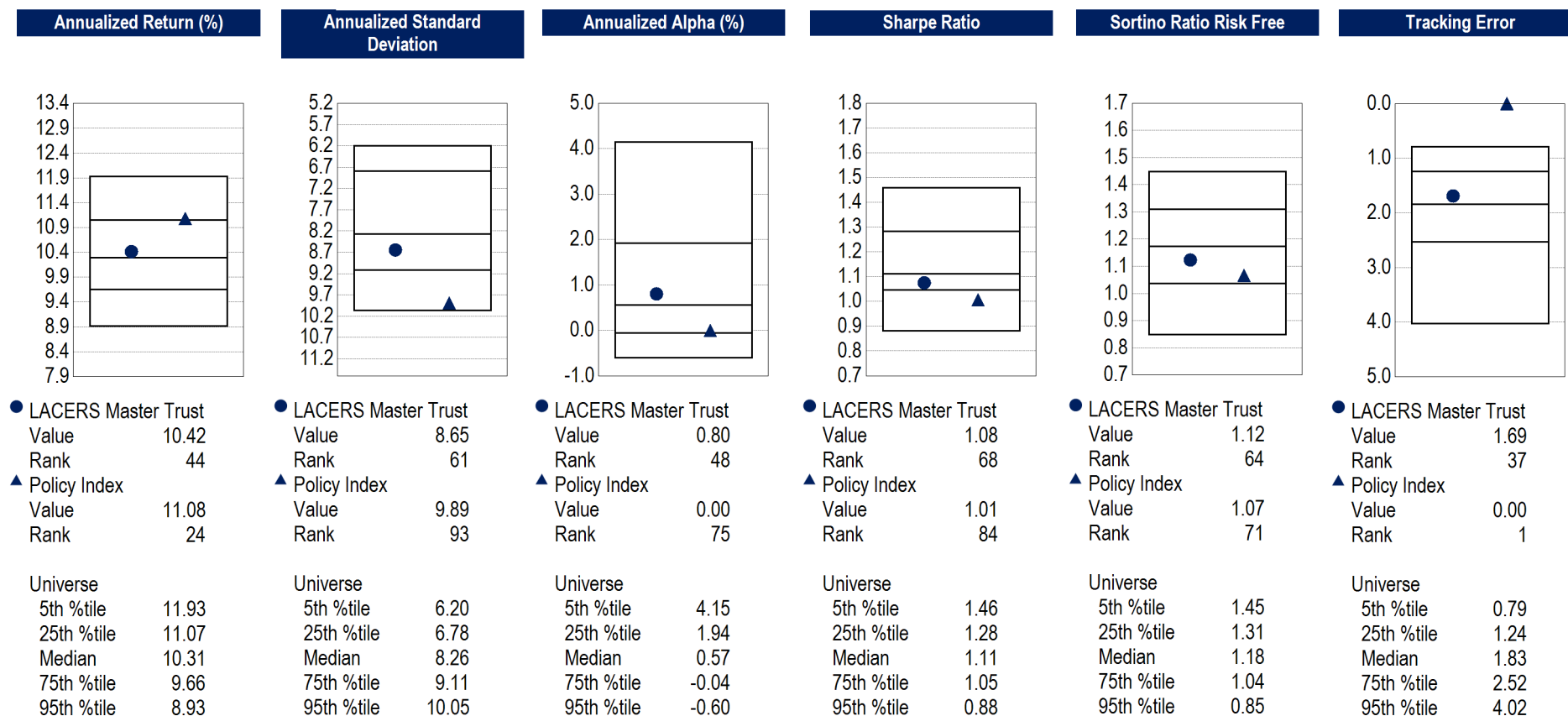
LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross 5 Years



Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS VS. \$5B-\$50B UNIVERSE

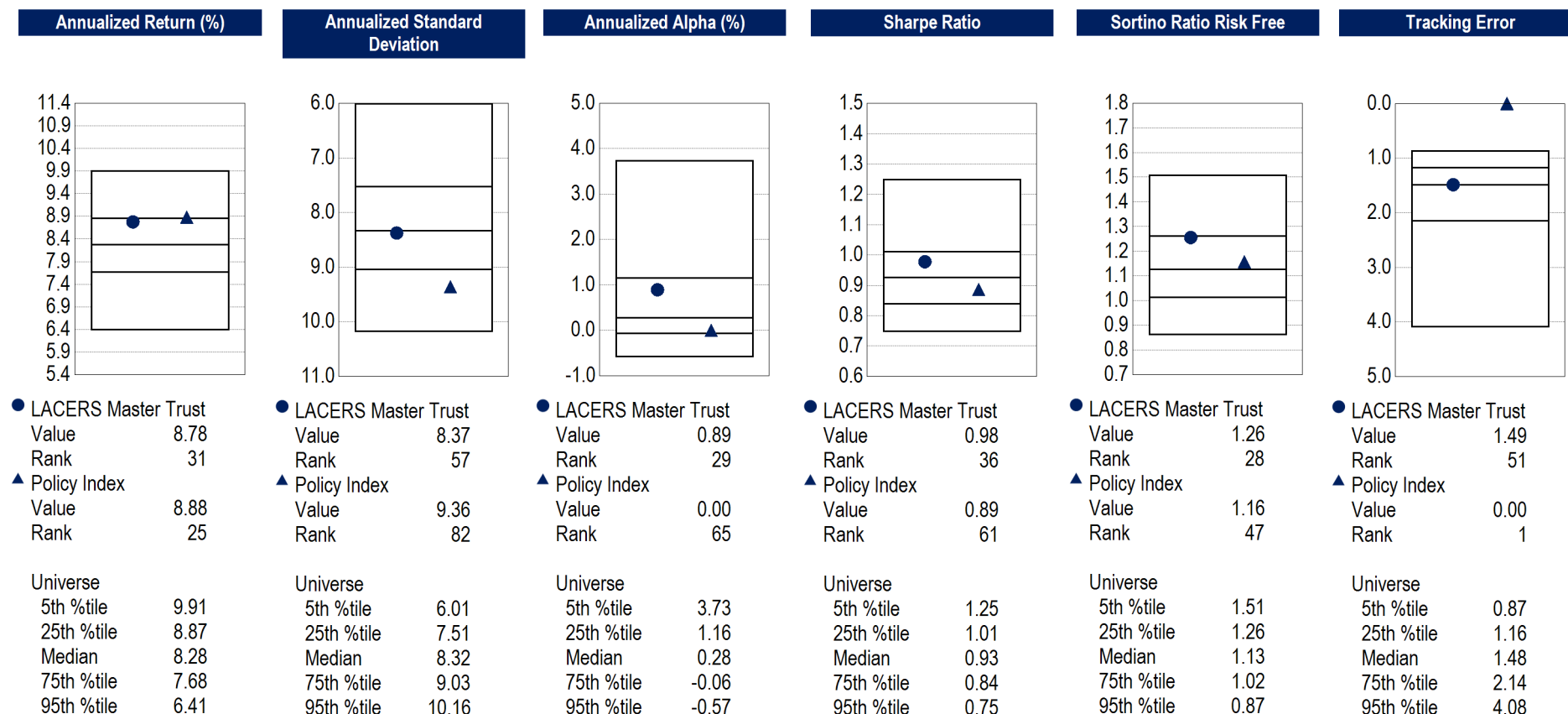
LACERS Master Trust vs. InvMetrics Public DB \$5-50B Gross 5 Years



Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS VS. \$1B-\$50B UNIVERSE

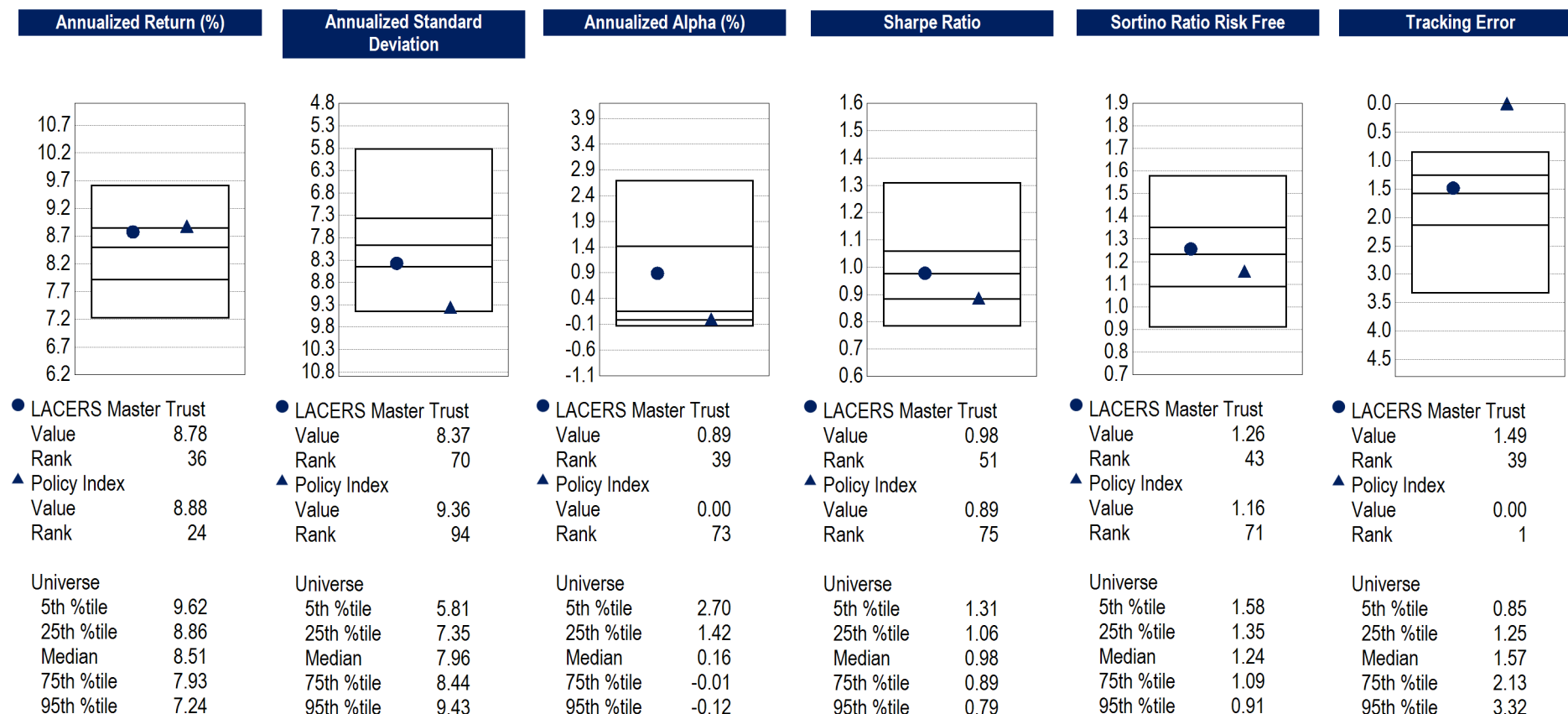
LACERS Master Trust vs. InvMetrics Public DB \$1-50B Gross 10 Years



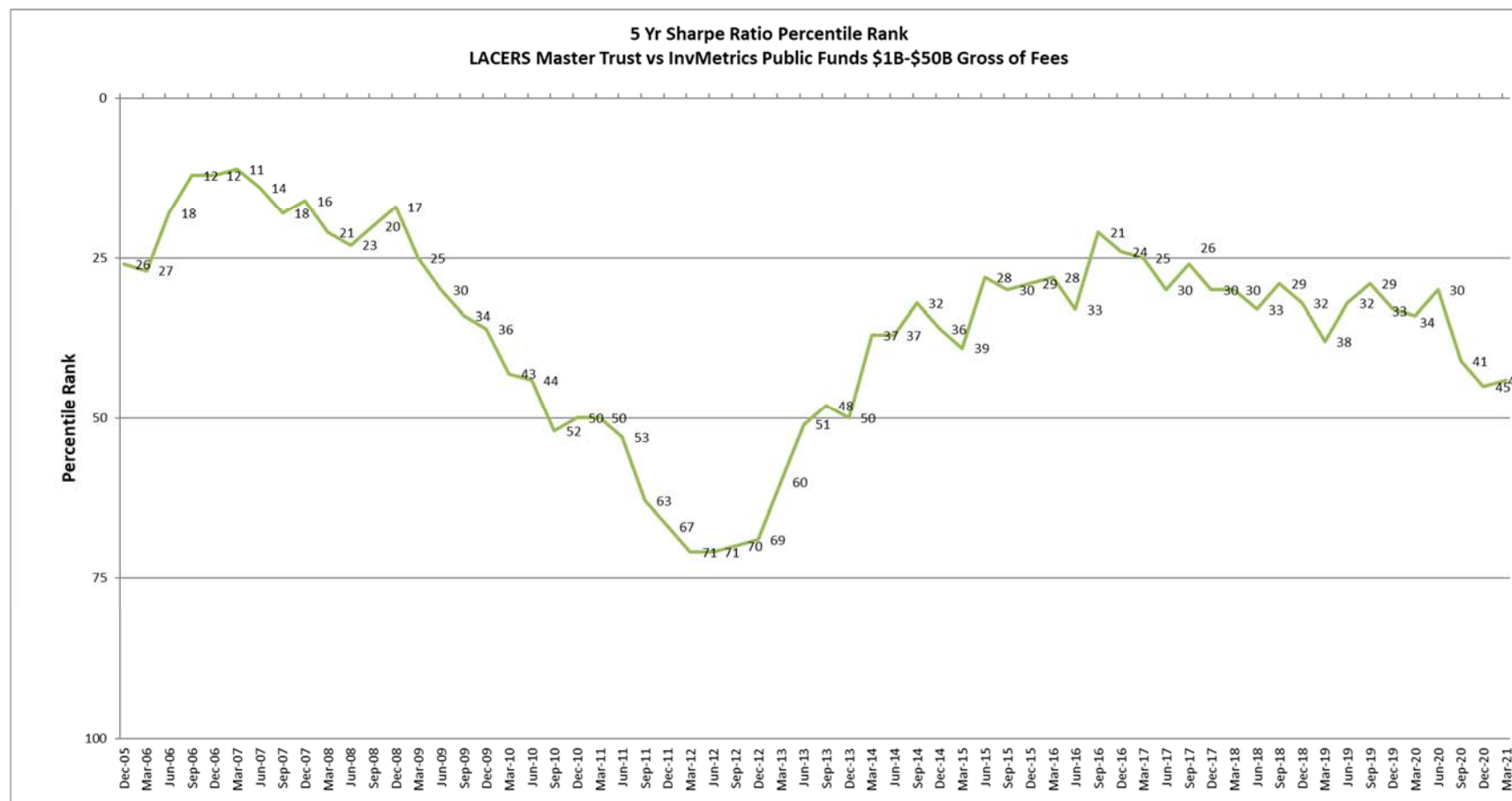
Los Angeles City Employees' Retirement System

TOTAL FUND RISK STATISTICS VS. \$5B-\$50B UNIVERSE

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



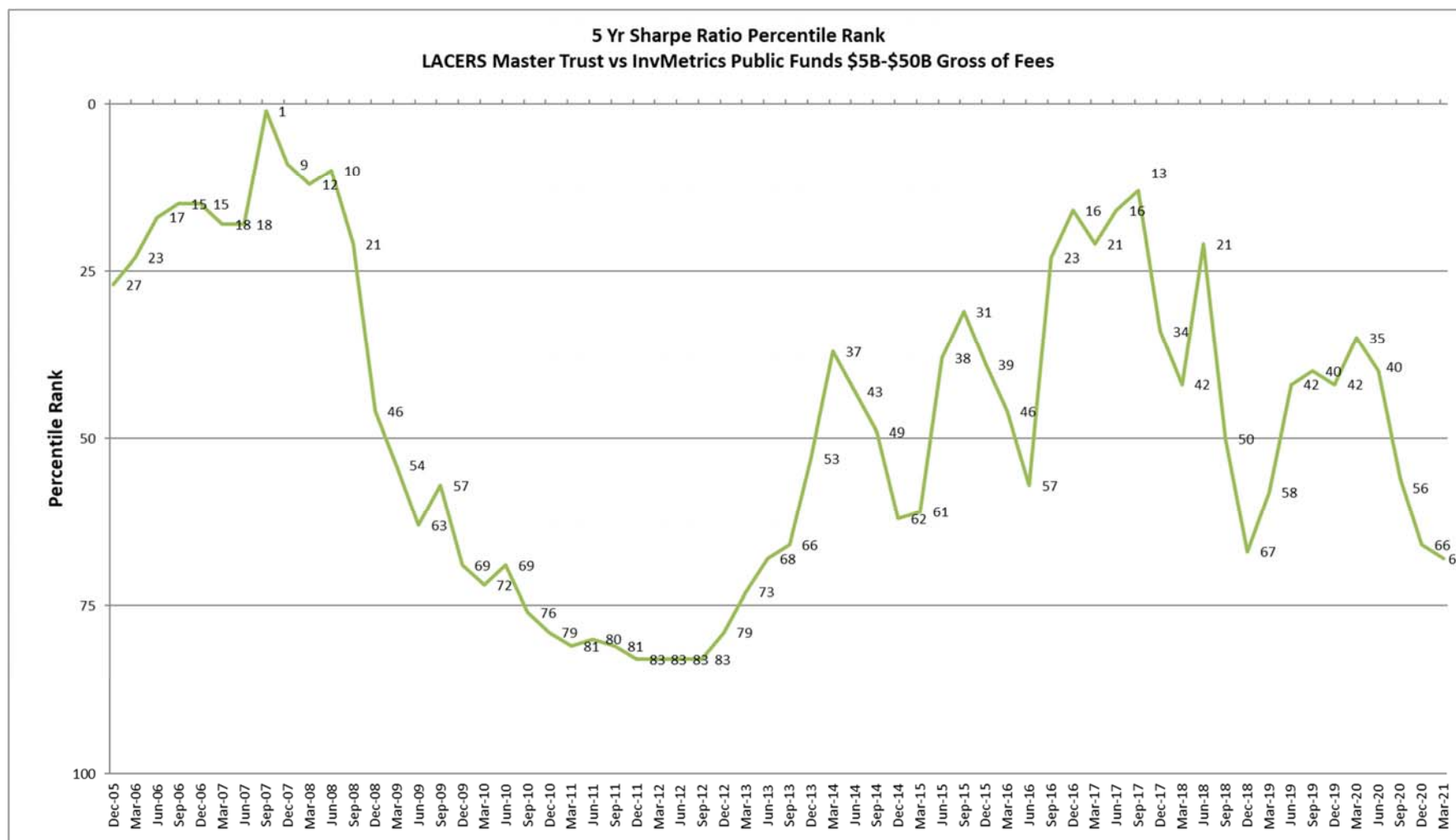
HISTORICAL RISK ADJUSTED RETURN \$1B-\$50B UNIVERSE COMPARISON



- Total Plan ranks in the 44th percentile versus other large public plans on a Sharpe Ratio basis.
 - U.S. Equity has detracted from the overall Sharpe Ratio rank.
 - Non-U.S. Equity detracted from Sharpe Ratio Rank on a relative basis.
 - Core Fixed Income detracted from Sharpe Ratio rank.
 - Real Assets, Private Real Estate and Private Equity contributed positively to the Sharpe Ratio Rank.



HISTORICAL RISK ADJUSTED RETURN \$5B-\$50B UNIVERSE COMPARISON



U.S. EQUITY

NEPC, LLC

Los Angeles City Employees' Retirement System

U.S. EQUITY (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
U.S. Equity	5,581,966,050	100.00	7.06	7.06	62.81	16.57	16.36	13.44	11.17	Oct-94
U.S. Equity Blend ¹			<u>6.35</u>	<u>6.35</u>	<u>62.53</u>	<u>17.12</u>	<u>16.64</u>	<u>13.79</u>	<u>10.22</u>	Oct-94
Over/Under			0.71	0.71	0.28	-0.55	-0.28	-0.35	0.95	
RhumbLine Advisers Russell 2000	269,755,377	4.83	12.66	12.66	94.76	14.81	16.35	--	11.47	Apr-15
Russell 2000			<u>12.70</u>	<u>12.70</u>	<u>94.85</u>	<u>14.76</u>	<u>16.35</u>	<u>11.68</u>	<u>11.53</u>	Apr-15
Over/Under			-0.04	-0.04	-0.09	0.05	0.00		-0.06	
RhumbLine Advisers Russell 2000 Value ²	198,311,068	3.55	21.15	21.15	--	--	--	--	21.15	Jan-21
Russell 2000 Value			<u>21.17</u>	<u>21.17</u>	<u>97.05</u>	<u>11.57</u>	<u>13.56</u>	<u>10.06</u>	<u>21.17</u>	Jan-21
Over/Under			-0.02	-0.02					-0.02	
EAM Investors	143,391,365	2.57	1.61	1.61	97.72	24.12	23.46	--	18.86	Sep-15
Russell 2000 Growth			<u>4.88</u>	<u>4.88</u>	<u>90.20</u>	<u>17.16</u>	<u>18.61</u>	<u>13.02</u>	<u>16.66</u>	Sep-15
Over/Under			-3.27	-3.27	7.52	6.96	4.85		2.20	
Principal Global Investors ²	259,551,066	4.65	3.62	3.62	61.70	19.10	18.54	--	15.74	Aug-14
Russell MidCap			<u>8.14</u>	<u>8.14</u>	<u>73.64</u>	<u>14.73</u>	<u>14.67</u>	<u>12.47</u>	<u>11.96</u>	Aug-14
Over/Under			-4.52	-4.52	-11.94	4.37	3.87		3.78	
RhumbLine Advisers S&P 500	4,244,109,373	76.03	6.17	6.17	56.31	16.63	16.18	13.85	10.42	Feb-93
S&P 500			<u>6.17</u>	<u>6.17</u>	<u>56.35</u>	<u>16.78</u>	<u>16.29</u>	<u>13.91</u>	<u>10.28</u>	Feb-93
Over/Under			0.00	0.00	-0.04	-0.15	-0.11	-0.06	0.14	
Copeland Capital Management ²	248,916,674	4.46	14.36	14.36	--	--	--	--	38.52	Oct-20
Russell 2000			<u>12.70</u>	<u>12.70</u>	<u>94.85</u>	<u>14.76</u>	<u>16.35</u>	<u>11.68</u>	<u>48.05</u>	Oct-20
Over/Under			1.66	1.66					-9.53	
Granahan Investment Management ²	110,650,613	1.98	-0.38	-0.38	--	--	--	--	36.82	Oct-20
Russell 2000 Growth			<u>4.88</u>	<u>4.88</u>	<u>90.20</u>	<u>17.16</u>	<u>18.61</u>	<u>13.02</u>	<u>35.92</u>	Oct-20
Over/Under			-5.26	-5.26					0.90	
Segall, Bryant & Hamill ²	107,278,807	1.92	15.53	15.53	--	--	--	--	48.11	Oct-20
Russell 2000 Value			<u>21.17</u>	<u>21.17</u>	<u>97.05</u>	<u>11.57</u>	<u>13.56</u>	<u>10.06</u>	<u>61.59</u>	Oct-20
Over/Under			-5.64	-5.64					-13.48	

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 1/1/2000

2- 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 (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
U.S. Equity	5,581,966,050	100.00	7.05	46	7.05	46	62.73	66	16.50	42	16.29	49	13.31	42	--	Oct-94
U.S. Equity Blend ¹			6.35	86	6.35	86	62.53	71	17.12	16	16.64	24	13.79	12	10.22	Oct-94
Over/Under			0.70		0.70		0.20		-0.62		-0.35		-0.48			
InvMetrics Public DB > \$1 Billion US Equity Net Median			7.02		7.02		64.00		16.29		16.27		13.16		10.09	Oct-94
RhumbLine Advisers Russell 2000	269,755,377	4.83	12.66	57	12.66	57	94.75	42	14.80	43	16.34	42	--	--	11.46	Apr-15
Russell 2000			12.70	57	12.70	57	94.85	42	14.76	43	16.35	42	11.68	48	11.53	Apr-15
Over/Under			-0.04		-0.04		-0.10		0.04		-0.01		-0.07			
eV US Small Cap Equity Net Median			13.80		13.80		91.74		13.76		14.83		11.51		11.12	Apr-15
Rhumbline Advisers Russell 2000 Value ²	198,311,068	3.55	21.15	18	21.15	18	--	--	--	--	--	--	--	--	21.15	Jan-21
Russell 2000 Value			21.17	18	21.17	18	97.05	33	11.57	41	13.56	25	10.06	64	21.17	Jan-21
Over/Under			-0.02		-0.02								-0.02			
eV US Small-Mid Cap Value Equity Net Median			15.71		15.71		86.59		10.32		11.80		10.28		15.71	Jan-21
EAM Investors	143,391,365	2.57	1.48	80	1.48	80	96.54	44	23.29	43	22.59	45	--	--	18.05	Sep-15
Russell 2000 Growth			4.88	54	4.88	54	90.20	56	17.16	79	18.61	73	13.02	79	16.66	Sep-15
Over/Under			-3.40		-3.40		6.34		6.13		3.98		1.39			
eV US Small Cap Growth Equity Net Median			5.45		5.45		94.37		22.04		21.38		14.45		19.59	Sep-15
Principal Global Investors ²	259,551,066	4.65	3.53	66	3.53	66	61.20	80	18.69	29	18.11	29	--	--	15.33	Aug-14
Russell MidCap			8.14	48	8.14	48	73.64	43	14.73	51	14.67	48	12.47	47	11.96	Aug-14
Over/Under			-4.61		-4.61		-12.44		3.96		3.44		3.37			
eV US Mid Cap Equity Net Median			7.02		7.02		71.57		14.74		14.31		12.29		11.85	Aug-14
RhumbLine Advisers S&P 500	4,244,109,373	76.03	6.17	56	6.17	56	56.31	55	16.63	38	16.17	35	13.84	32	--	Feb-93
S&P 500			6.17	56	6.17	56	56.35	55	16.78	37	16.29	34	13.91	31	10.28	Feb-93
Over/Under			0.00		0.00		-0.04		-0.15		-0.12		-0.07			
eV US Large Cap Equity Net Median			6.81		6.81		57.22		14.80		14.66		12.65		10.53	Feb-93

1 - 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 1/1/2000.

2- 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 (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Copeland Capital Management ¹	248,916,674	4.46	14.36	47	14.36	47									38.52	Oct-20
Russell 2000			<u>12.70</u>	57	<u>12.70</u>	57									<u>48.05</u>	Oct-20
Over/Under			1.66		1.66										-9.53	
eV US Small Cap Equity Net Median			13.80		13.80										45.18	Oct-20
Granahan Investment Management ¹	110,650,613	1.98	-0.57	91	-0.57	91									36.57	Oct-20
Russell 2000 Growth			<u>4.88</u>	54	<u>4.88</u>	54									<u>35.92</u>	Oct-20
Over/Under			-5.45		-5.45										0.65	
eV US Small Cap Growth Equity Net Median			5.45		5.45										33.79	Oct-20
Segall, Bryant & Hamill ¹	107,278,807	1.92	15.37	76	15.37	76									47.91	Oct-20
Russell 2000 Value			<u>21.17</u>	32	<u>21.17</u>	32									<u>61.59</u>	Oct-20
Over/Under			-5.80		-5.80										-13.68	
eV US Small Cap Value Equity Net Median			19.20		19.20										54.67	Oct-20

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

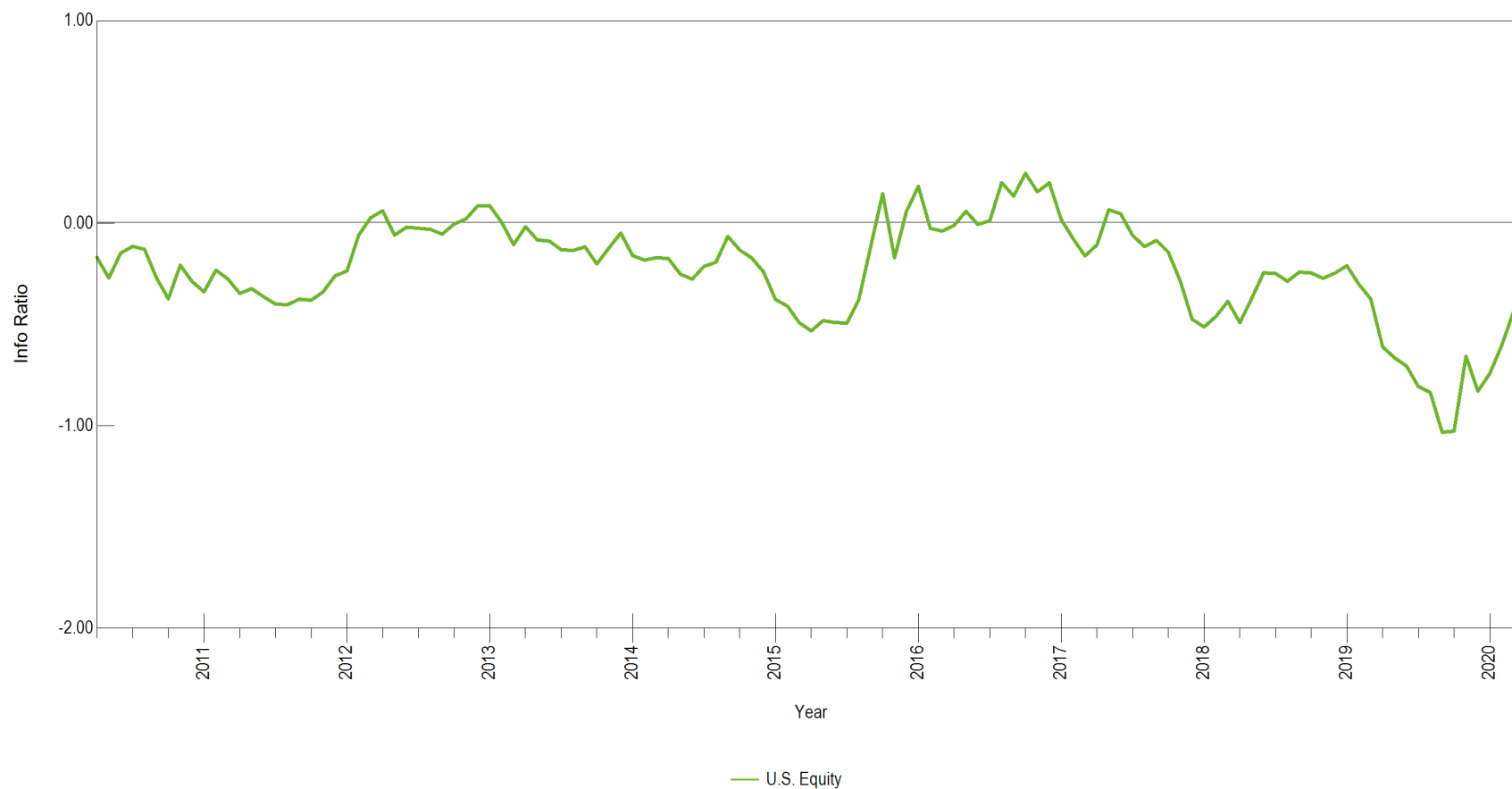
eA = eVestment Alliance



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			
Principal Global Investors	Jul-14	Mid Cap	✗	✗	✗	✗	✓	✓	✓	✓	✓	703.0	Performance compliant with LACERS' Manager Monitoring Policy
EAM Investors	Sep-15	Small Cap Growth	✗	✗	✓	✓	✓	✓	✓	✓	✓	908.5	Performance compliant with LACERS' Manager Monitoring Policy
Copeland	Oct-20	Small Cap Core	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	✗	N/A	Newly Hired Manager
Granahan	Oct-20	Small Cap Growth	✗	✗	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A	Newly Hired Manager
Segall Bryant & Hamill	Oct-20	Small Cap Value	✗	✗	N/A	N/A	N/A	N/A	N/A	N/A	✗	N/A	Newly Hired Manager
RhumbLine (Passive)	Dec-20	R2000 Value	✗	✗	N/A	N/A	N/A	N/A	N/A	N/A	✗	N/A	Newly Hired Manager
RhumbLine (Passive)	Feb-93	S&P 500	=	✗	✗	✗	✗	✓	✗	✓	✓✓	186.9	Performance compliant with LACERS' Manager Monitoring Policy
RhumbLine (Passive)	Jun-15	R2000	✗	✗	✗	✓	✓	✓	✗	✓	✗	13.5	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, 2020.
- * 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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-U.S. Equity	5,889,472,889	100.00	4.24	4.24	58.21	8.04	11.18	6.59	5.88	Nov-94
MSCI ACWI ex USA			<u>3.49</u>	<u>3.49</u>	<u>49.41</u>	<u>6.51</u>	<u>9.76</u>	<u>4.93</u>	<u>5.51</u>	<u>Nov-94</u>
Over/Under			0.75	0.75	8.80	1.53	1.42	1.66	0.37	
Developed ex-U.S.	4,372,819,446	74.25	3.96	3.96	54.97	8.02	10.44	--	9.50	Jun-12
MSCI EAFE			<u>3.48</u>	<u>3.48</u>	<u>44.57</u>	<u>6.02</u>	<u>8.85</u>	<u>5.52</u>	<u>7.97</u>	<u>Jun-12</u>
Over/Under			0.48	0.48	10.40	2.00	1.59		1.53	
AQR Capital	1,699,577	0.03								
Barrow Hanley ¹	492,907,614	8.37	10.10	10.10	69.05	6.46	9.06		5.22	Nov-13
MSCI EAFE Value			<u>7.44</u>	<u>7.44</u>	<u>45.71</u>	<u>1.85</u>	<u>6.57</u>		<u>2.45</u>	<u>Nov-13</u>
Over/Under			2.66	2.66	23.34	4.61	2.49		2.77	
Lazard Asset Management ¹	597,087,528	10.14	3.81	3.81	50.90	7.34	9.25		6.65	Nov-13
MSCI EAFE			<u>3.48</u>	<u>3.48</u>	<u>44.57</u>	<u>6.02</u>	<u>8.85</u>		<u>4.89</u>	<u>Nov-13</u>
Over/Under			0.33	0.33	6.33	1.32	0.40		1.76	
MFS Institutional Advisors	563,992,330	9.58	-0.16	-0.16	39.49	10.97	12.53		8.48	Oct-13
MSCI World ex USA Growth NR USD			<u>-0.36</u>	<u>-0.36</u>	<u>43.55</u>	<u>10.02</u>	<u>10.72</u>		<u>7.01</u>	<u>Oct-13</u>
Over/Under			0.20	0.20	-4.06	0.95	1.81		1.47	
Oberweis Asset Mgmt ¹	319,634,199	5.43	0.48	0.48	119.45	16.57	17.62		13.95	Jan-14
MSCI EAFE Small Cap			<u>4.50</u>	<u>4.50</u>	<u>61.98</u>	<u>6.32</u>	<u>10.50</u>		<u>7.97</u>	<u>Jan-14</u>
Over/Under			-4.02	-4.02	57.47	10.25	7.12		5.98	
SSgA World ex US IMI	2,071,713,077	35.18	4.27	4.27	49.78	7.11	9.75	5.99	6.12	Aug-93
MSCI World ex USA IMI NR USD ²			<u>4.17</u>	<u>4.17</u>	<u>48.47</u>	<u>6.41</u>	<u>9.16</u>	<u>5.47</u>	<u>5.82</u>	<u>Aug-93</u>
Over/Under			0.10	0.10	1.31	0.70	0.59	0.52	0.30	
State Street EAFE SC ¹	325,785,122	5.53	4.51	4.51					4.51	Jan-21
MSCI EAFE Small Cap			<u>4.50</u>	<u>4.50</u>					<u>4.50</u>	<u>Jan-21</u>
Over/Under			0.01	0.01					0.01	

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

eA = eVestment

2 Since inception return sourced from SSgA



Los Angeles City Employees' Retirement System

NON-U.S. EQUITY (GROSS)

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets	1,516,653,442	25.75	3.31	3.31	63.87	6.79	12.72		6.56	Jun-12
<i>MSCI Emerging Markets</i>			<u>2.29</u>	<u>2.29</u>	<u>58.39</u>	<u>6.48</u>	<u>12.07</u>		<u>6.42</u>	<i>Jun-12</i>
Over/Under			1.02	1.02	5.48	0.31	0.65		0.14	
Axiom Emerging Markets	408,578,151	6.94	-0.61	-0.61	67.65	10.51	15.53		9.48	May-14
<i>MSCI Emerging Markets</i>			<u>2.29</u>	<u>2.29</u>	<u>58.39</u>	<u>6.48</u>	<u>12.07</u>		<u>6.61</u>	<i>May-14</i>
Over/Under			-2.90	-2.90	9.26	4.03	3.46		2.87	
<i>MSCI Emerging Markets Growth NR USD</i>			<u>0.59</u>	<u>0.59</u>	<u>63.78</u>	<u>10.10</u>	<u>15.53</u>		<u>9.60</u>	<i>May-14</i>
DFA Emerging Markets ¹	440,536,681	7.48	7.63	7.63	61.48	2.67	9.92		3.15	Aug-14
<i>MSCI Emerging Markets Value NR USD</i>			<u>4.11</u>	<u>4.11</u>	<u>52.53</u>	<u>2.60</u>	<u>8.42</u>		<u>2.20</u>	<i>Aug-14</i>
Over/Under			3.52	3.52	8.95	0.07	1.50		0.95	
QMA Emerging Markets	387,944	0.01								
State Street Emerging Markets ¹	386,040,887	6.55	2.30	2.30					2.30	Jan-21
<i>MSCI Emerging Markets</i>			<u>2.29</u>	<u>2.29</u>					<u>2.29</u>	<i>Jan-21</i>
Over/Under			0.01	0.01					0.01	
Wasatch Global Investors ¹	281,109,780	4.77	4.15	4.15					4.15	Jan-21
<i>MSCI Emerging Markets Small Cap</i>			<u>7.67</u>	<u>7.67</u>					<u>7.67</u>	<i>Jan-21</i>
Over/Under			-3.52	-3.52					-3.52	

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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Non-U.S. Equity	5,889,472,889	100.00	4.14	32	4.14	32	57.69	18	7.65	44	10.78	36	6.24	30		Nov-94
MSCI ACWI ex USA			<u>3.49</u>	46	<u>3.49</u>	46	<u>49.41</u>	81	<u>6.51</u>	65	<u>9.76</u>	75	<u>4.93</u>	96		Nov-94
Over/Under			0.65		0.65		8.28		1.14		1.02		1.31			
Developed ex-U.S.	4,372,819,446	74.25	3.88	36	3.88	36	54.53	24	7.68	48	10.10	51			9.19	Jun-12
MSCI EAFE			<u>3.48</u>	51	<u>3.48</u>	51	<u>44.57</u>	92	<u>6.02</u>	79	<u>8.85</u>	80			<u>7.97</u>	Jun-12
Over/Under			0.40		0.40		9.96		1.66		1.25				1.22	
InvMetrics Public DB > \$1 Billion Dev Mkt ex-US Eq Net Median			3.50		3.50		50.88		7.64		10.10				9.19	Jun-12
AQR Capital	1,699,577	0.03														
eV EAFE Small Cap Equity Net Median			5.20		5.20		61.60		4.99		10.26				7.22	Feb-14
Barrow Hanley ¹	492,907,614	8.37	9.96	15	9.96	15	68.32	21	5.95	16	8.52	38			4.71	Nov-13
MSCI EAFE Value			<u>7.44</u>	49	<u>7.44</u>	49	<u>45.71</u>	73	<u>1.85</u>	76	<u>6.57</u>	66			<u>2.45</u>	Nov-13
Over/Under			2.52		2.52		22.61		4.10		1.95				2.26	
eV EAFE Value Equity Net Median			7.32		7.32		53.26		4.00		7.26				4.15	Nov-13
Lazard Asset Management ¹	597,087,528	10.14	3.67	57	3.67	57	50.19	56	6.80	39	8.69	58			6.10	Nov-13
MSCI EAFE			<u>3.48</u>	60	<u>3.48</u>	60	<u>44.57</u>	76	<u>6.02</u>	50	<u>8.85</u>	55			<u>4.89</u>	Nov-13
Over/Under			0.19		0.19		5.62		0.78		-0.16				1.21	
eV All EAFE Equity Net Median			4.29		4.29		52.01		5.96		9.15				5.84	Nov-13
MFS Institutional Advisors	563,992,330	9.58	-0.28	60	-0.28	60	38.95	97	10.50	37	12.02	51			7.98	Oct-13
MSCI World ex USA Growth NR USD			<u>-0.36</u>	61	<u>-0.36</u>	61	<u>43.55</u>	87	<u>10.02</u>	48	<u>10.72</u>	56			<u>7.01</u>	Oct-13
Over/Under			0.08		0.08		-4.60		0.48		1.30				0.97	
eV EAFE All Cap Growth Net Median			0.30		0.30		51.87		9.60		12.27				7.47	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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Oberweis Asset Mgmt ¹	319,634,199	5.43	0.23	81	0.23	81	117.74	1	15.61	1	16.66	4			13.01	Jan-14
MSCI EAFE Small Cap			<u>4.50</u>	60	<u>4.50</u>	60	<u>61.98</u>	50	<u>6.32</u>	43	<u>10.50</u>	45			<u>7.97</u>	Jan-14
Over/Under			-4.27		-4.27		55.76		9.29		6.16				5.04	
eV EAFE Small Cap Equity Net Median			5.20		5.20		61.60		4.99		10.26				7.76	Jan-14
SSgA World ex US IMI	2,071,713,077	35.18	4.27	51	4.27	51	49.76	55	7.09	33	9.73	42	5.97	75	6.12	Aug-93
MSCI World ex USA IMI NR USD ²			<u>4.17</u>	52	<u>4.17</u>	52	<u>48.47</u>	61	<u>6.41</u>	46	<u>9.16</u>	50	<u>5.47</u>	88	<u>5.82</u>	Aug-93
Over/Under			0.10		0.10		1.29		0.68		0.57		0.50		0.30	
eV EAFE Core Equity Net Median			4.37		4.37		51.07		6.17		9.15		6.66		7.06	Aug-93
State Street EAFE SC ¹	325,785,122	5.53	4.51	60	4.51	60									4.51	Jan-21
MSCI EAFE Small Cap			<u>4.50</u>	60	<u>4.50</u>	60									<u>4.50</u>	Jan-21
Over/Under			0.01		0.01										0.01	
eV EAFE Small Cap Equity Net Median			5.20		5.20										5.20	Jan-21
Emerging Markets	1,516,653,442	25.75	3.19	43	3.19	43	63.19	32	6.26	32	12.15	23			5.94	Jun-12
MSCI Emerging Markets			<u>2.29</u>	86	<u>2.29</u>	86	<u>58.39</u>	76	<u>6.48</u>	24	<u>12.07</u>	24			<u>6.42</u>	Jun-12
Over/Under			0.90		0.90		4.80		-0.22		0.08				-0.48	
InvMetrics Public DB > \$1 Billion Emg Mkt Eq Net Median			2.97		2.97		61.49		5.73		10.50				5.66	Jun-12
Axiom Emerging Markets	408,578,151	6.94	-0.84	94	-0.84	94	66.62	46	9.78	24	14.75	22			8.76	May-14
MSCI Emerging Markets			<u>2.29</u>	64	<u>2.29</u>	64	<u>58.39</u>	72	<u>6.48</u>	53	<u>12.07</u>	56			<u>6.61</u>	May-14
Over/Under			-3.13		-3.13		8.23		3.30		2.68				2.15	
MSCI Emerging Markets Growth NR USD			0.59	85	0.59	85	63.78	53	10.10	22	15.53	16			9.60	May-14
eV Emg Mkts Equity Net Median			3.29		3.29		64.42		6.70		12.52				6.95	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 (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
DFA Emerging Markets ¹	440,536,681	7.48	7.49	13	7.49	13	60.74	64	2.16	91	9.37	81			2.65	Aug-14
MSCI Emerging Markets Value NR USD			<u>4.11</u>	45	<u>4.11</u>	45	<u>52.53</u>	87	<u>2.60</u>	89	<u>8.42</u>	88			<u>2.20</u>	Aug-14
Over/Under			3.38		3.38		8.21		-0.44		0.95				0.45	
eV Emg Mkts Equity Net Median			3.29		3.29		64.42		6.70		12.52				6.18	Aug-14
QMA Emerging Markets	387,944	0.01														
eV Emg Mkts Equity Net Median															6.95	May-14
State Street Emerging Markets ¹	386,040,887	6.55	2.30	64	2.30	64									2.30	Jan-21
MSCI Emerging Markets			<u>2.29</u>	64	<u>2.29</u>	64									<u>2.29</u>	Jan-21
Over/Under			0.01		0.01										0.01	
eV Emg Mkts Equity Net Median			3.29		3.29										3.29	Jan-21
Wasatch Global Investors ¹	281,109,780	4.77	4.15	76	4.15	76									4.15	Jan-21
MSCI Emerging Markets Small Cap			<u>7.67</u>	39	<u>7.67</u>	39									<u>7.67</u>	Jan-21
Over/Under			-3.52		-3.52										-3.52	
eV Emg Mkts Small Cap Equity Net Median			6.88		6.88										6.88	Jan-21

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 COUNTRY ALLOCATION

Versus MSCI ACWI ex USA - Quarter Ending March 31, 2021		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Europe		
Austria	0.1%	0.1%
Belgium	0.2%	0.6%
Croatia**	0.0%	0.0%
Czech Republic*	0.0%	0.0%
Denmark	1.4%	1.5%
Estonia**	0.0%	0.0%
Finland	1.9%	0.6%
France	11.4%	7.0%
Germany	6.1%	5.9%
Greece*	0.0%	0.0%
Hungary*	0.1%	0.1%
Ireland	2.0%	0.4%
Italy	1.7%	1.6%
Lithuania**	0.0%	0.0%
Luxembourg	0.2%	0.0%
Netherlands	2.2%	2.6%
Norway	0.9%	0.4%
Poland*	0.0%	0.2%
Portugal	0.2%	0.1%
Romania**	0.0%	0.0%
Russia*	0.5%	0.9%
Serbia**	0.0%	0.0%
Slovenia**	0.0%	0.0%
Spain	1.9%	1.5%
Sweden	2.8%	2.3%
Switzerland	5.8%	5.7%
United Kingdom	12.9%	8.9%
Total-Europe	52.4%	40.4%

Versus MSCI ACWI ex USA - Quarter Ending March 31, 2021		
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Americas		
Argentina*	0.1%	0.0%
Brazil*	0.2%	1.4%
Canada	4.1%	6.7%
Colombia*	0.4%	0.0%
Mexico*	1.1%	0.5%
United States	1.9%	0.0%
Total-Americas	7.8%	9.0%
AsiaPacific		
Australia	1.4%	4.4%
China*	4.6%	11.7%
Hong Kong	3.8%	2.1%
India*	1.8%	3.0%
Indonesia*	0.3%	0.4%
Japan	14.7%	15.5%
Korea*	3.5%	4.1%
Malaysia*	0.0%	0.4%
New Zealand	0.1%	0.2%
Philippines*	0.1%	0.2%
Singapore	1.3%	0.7%
Taiwan*	3.1%	4.3%
Thailand*	0.2%	0.6%
Total-AsiaPacific	34.9%	47.5%
Other		
Israel	1.2%	0.4%
Other Countries	1.4%	0.0%
South Africa*	0.7%	1.2%
Total-Other	3.3%	3.1%
Totals		
Developed	80.4%	69.2%
Emerging*	16.6%	30.8%
Other	1.4%	
Cash	1.6%	

* = Emerging Market

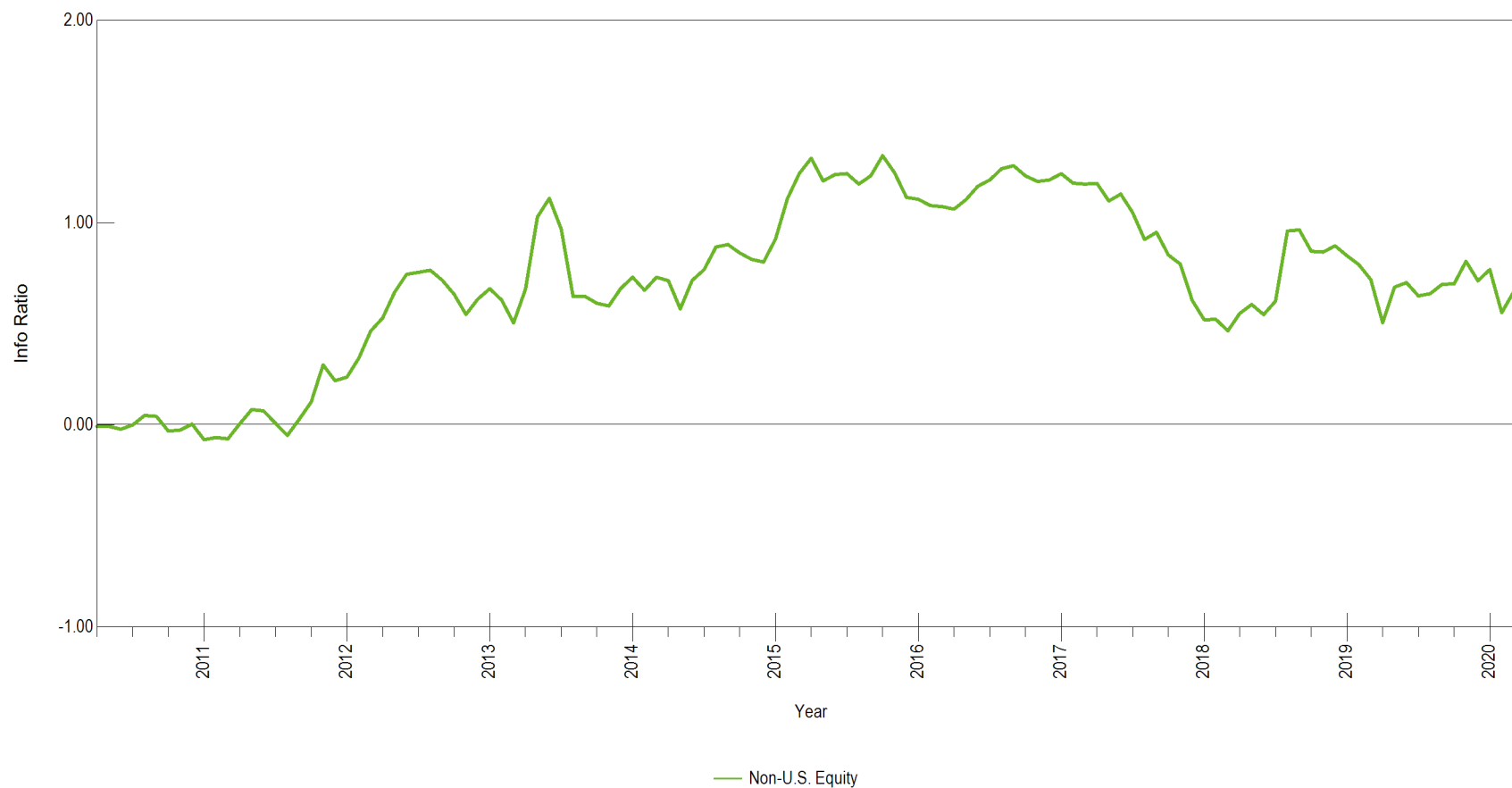
** = Frontier Market



Los Angeles City Employees' Retirement System

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		
SsgA (Passive)	Dec-20	Emerging Markets	✖	✖	N/A	N/A	N/A	N/A	N/A	✖	N/A	Newly Hired Manager
Axiom International	Mar-14	Emerging Markets	✖	✖	✖	✖	✖	✖	✖	✓	2,645.8	On Watch on August 2020 due to benchmark change and On Watch on October 2020 due to CIO change
DFA Emerging Markets	Jul-14	Emerging Markets	✓	✓	✓	✖	✖	✓	✖	✓	1,931.9	Performance compliant with LACERS' Manager Monitoring Policy
Oberweis Asset Mgt.	Jan-14	Non-U.S. Developed	✖	✖	✓	✓	✓	✓	✓	✓	2,015.3	Performance compliant with LACERS' Manager Monitoring Policy
Barrow, Hanley, Mewhinney & Strauss	Nov-13	Non-U.S. Developed	✓	✓	✓	✓	✓	✓	✓	✓	2,308.5	On Watch since August 2020 due to organizational change
Lazard Asset Mgt.	Nov-13	Non-U.S. Developed	✓	✖	✓	✖	✓	✓	✖	✓	2,929.5	Performance compliant with LACERS' Manager Monitoring Policy
MFS Institutional Advisors	Oct-13	Non-U.S. Developed	✓	✖	✖	✖	✓	✓	✓	✓	2,535.9	Performance compliant with LACERS' Manager Monitoring Policy
Wasatch	Dec-20	Emerging Markets Small Cap	✓	✓	N/A	N/A	N/A	N/A	N/A	✓	N/A	Newly Hired Manager
SsgA (Passive)	Dec-20	Non-U.S. Developed Small Cap	✓	✖	N/A	N/A	N/A	N/A	N/A	✓	N/A	Newly Hired Manager
SsgA (Passive)	Aug-93	Non-U.S. Developed	✓	✖	✓	✖	✓	✖	✓	✓✓	380.5	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, 2020.
- * Where net of fees performance is not available gross of fee returns are evaluated.

Legend	
✓	Outperformed
✖	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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Fixed Income	3,526,060,923	100.00	-3.08	-3.08	3.09	5.29	3.77	--	3.64	Jul-12
Core Fixed Income Blend			-3.37	-3.37	0.71	4.65	3.10	3.52	2.93	Jul-12
Over/Under			0.29	0.29	2.38	0.64	0.67		0.71	
Baird Advisors	351,426,993	9.97	-1.85	-1.85	3.77	4.85	3.39	3.67	4.35	Mar-05
BBgBarc US Govt/Credit Int TR			-1.86	-1.86	2.01	4.36	2.75	2.88	3.70	Mar-05
Over/Under			0.01	0.01	1.76	0.49	0.64	0.79	0.65	
LM Capital ¹	349,511,464	9.91	-2.75	-2.75	5.26	5.37	3.73	3.92	4.70	Mar-05
LM Custom Benchmark			-3.37	-3.37	0.71	4.65	3.10	3.46	4.06	Mar-05
Over/Under			0.62	0.62	4.55	0.72	0.63	0.46	0.64	
Loomis Sayles & Co. Core Fixed Income	864,533,583	24.52	-3.46	-3.46	3.26	5.84	4.59	4.61	8.92	Jul-80
Loomis Custom Benchmark			-3.37	-3.37	0.71	4.65	3.10	3.52	7.44	Jul-80
Over/Under			-0.09	-0.09	2.55	1.19	1.49	1.09	1.48	
Neuberger Berman	848,511,558	24.06	-3.00	-3.00	3.74	5.28	3.72	4.04	5.66	Sep-01
Core Fixed Income Blend			-3.37	-3.37	0.71	4.65	3.10	3.52	4.55	Sep-01
Over/Under			0.37	0.37	3.03	0.63	0.62	0.52	1.11	
SSgA U.S. Aggregate Bond	1,112,077,325	31.54	-3.37	-3.37	0.86	4.70	3.14	--	3.24	Aug-14
BBgBarc US Aggregate TR			-3.37	-3.37	0.71	4.65	3.10	3.44	3.20	Aug-14
Over/Under			0.00	0.00	0.15	0.05	0.04		0.04	

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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Core Fixed Income	3,526,060,923	100.00	-3.10	65	-3.10	65	3.00	71	5.19	35	3.67	68			3.53	Jul-12
Core Fixed Income Blend			-3.37	81	-3.37	81	0.71	88	4.65	71	3.10	93			2.93	Jul-12
Over/Under			0.27		0.27		2.29		0.54		0.57				0.60	
InvMetrics Public DB > \$1 Billion US Fixed Income Net Median			-2.88		-2.88		5.47		4.84		3.86				3.47	Jul-12
Baird Advisors	351,426,993	9.97	-1.87	66	-1.87	66	3.66	41	4.73	20	3.27	22	3.54	16	4.22	Mar-05
BBgBarc US Govt/Credit Int TR			-1.86	65	-1.86	65	2.01	86	4.36	50	2.75	61	2.88	60	3.70	Mar-05
Over/Under			-0.01		-0.01		1.65		0.37		0.52		0.66		0.52	
eV US Interm Duration Fixed Inc Net Median			-1.70		-1.70		3.39		4.34		2.85		3.01		3.87	Mar-05
LM Capital ¹	349,511,464	9.91	-2.78	20	-2.78	20	5.17	18	5.27	22	3.63	32	3.79	42	4.56	Mar-05
LM Custom Benchmark			-3.37	61	-3.37	61	0.71	90	4.65	76	3.10	75	3.46	72	4.06	Mar-05
Over/Under			0.59		0.59		4.46		0.62		0.53		0.33		0.50	
eV US Core Fixed Inc Net Median			-3.20		-3.20		3.07		4.89		3.45		3.68		4.38	Mar-05
Loomis Sayles & Co. Core Fixed Income	864,533,583	24.52	-3.49	71	-3.49	71	3.14	47	5.71	6	4.46	3	4.48	6		Jul-80
Loomis Custom Benchmark			-3.37	61	-3.37	61	0.71	90	4.65	76	3.10	75	3.52	68		Jul-80
Over/Under			-0.12		-0.12		2.43		1.06		1.36		0.96			
eV US Core Fixed Inc Net Median			-3.20		-3.20		3.07		4.89		3.45		3.68			Jul-80
Neuberger Berman	848,511,558	24.06	-3.02	33	-3.02	33	3.62	40	5.14	30	3.58	37	3.87	35	5.51	Sep-01
Core Fixed Income Blend			-3.37	61	-3.37	61	0.71	90	4.65	76	3.10	75	3.52	68	4.55	Sep-01
Over/Under			0.35		0.35		2.91		0.49		0.48		0.35		0.96	
eV US Core Fixed Inc Net Median			-3.20		-3.20		3.07		4.89		3.45		3.68		4.57	Sep-01
SSgA U.S. Aggregate Bond ¹	1,112,077,325	31.54	-3.37	61	-3.37	61	0.82	90	4.66	76	3.10	76			3.20	Jul-14
BBgBarc US Aggregate TR			-3.37	61	-3.37	61	0.71	90	4.65	76	3.10	75			3.20	Jul-14
Over/Under			0.00		0.00		0.11		0.01		0.00				0.00	
eV US Core Fixed Inc Net Median			-3.20		-3.20		3.07		4.89		3.45				3.38	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

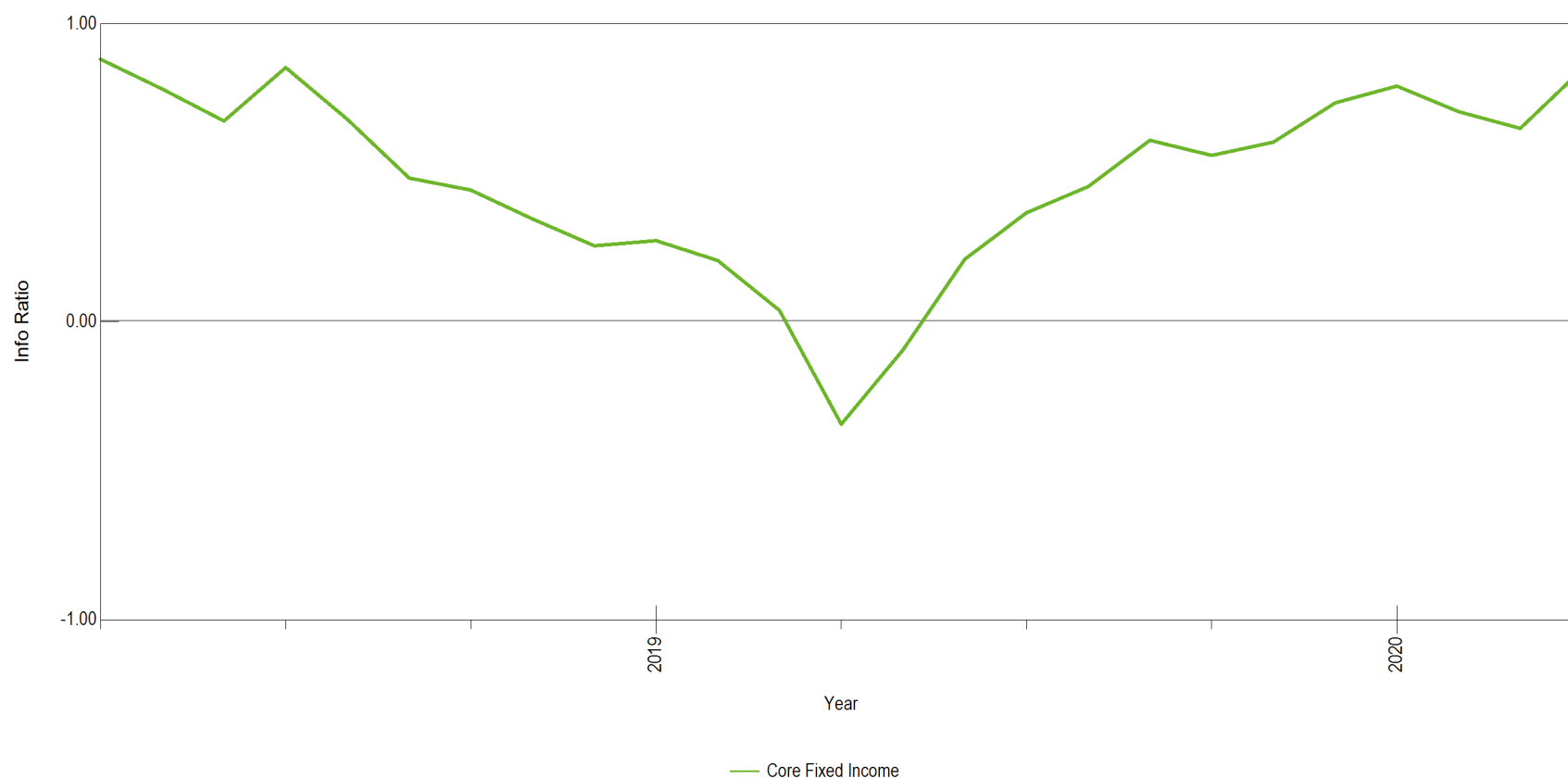
eV = eVestment



Los Angeles City Employees' Retirement System

CORE FIXED INCOME 3 YEAR INFORMATION RATIO

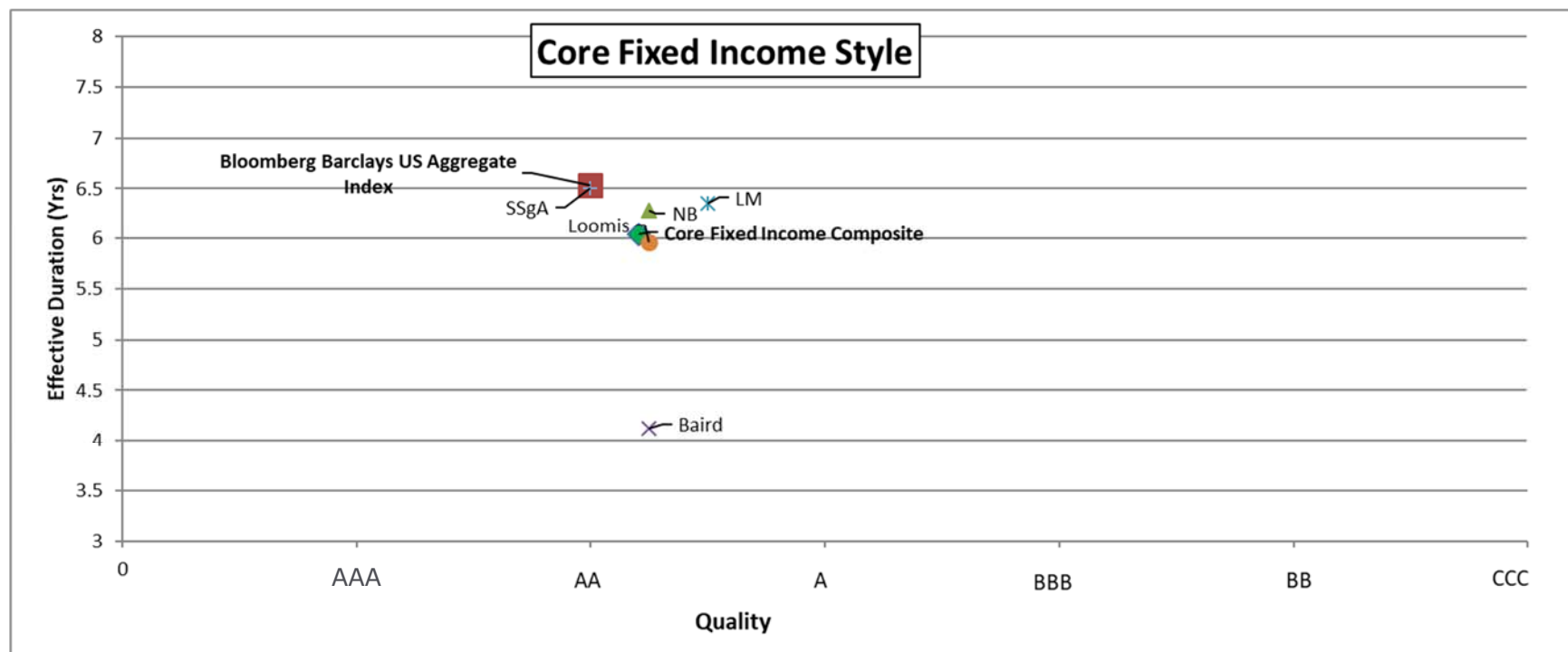
Rolling 3 Year Information Ratio



*Returns are net of fees



CORE FIXED INCOME STYLE ANALYSIS



- LACERS Core Fixed Income Composite 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	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓	1,093.7	Performance compliant with LACERS' Manager Monitoring Policy
Loomis Sayles	Jul-80	Core	✗ ✗	✓ ✓	✓ ✓	✓ ✓	✓✓	1,029.2	Performance compliant with LACERS' Manager Monitoring Policy
Baird Advisors	Mar-05	Intermediate	✗ ✗	✓ ✓	✓ ✓	✓ ✓	✓	372.7	Performance compliant with LACERS' Manager Monitoring Policy
LM Capital Group	Mar-05	Core	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓	317.4	Performance compliant with LACERS' Manager Monitoring Policy
SSgA (Passive)	Jul-14	Core	= ✗	✓ ✗	✓ ✗	= ✗	=	347.4	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, 2020.
- * 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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Credit Opportunities	1,501,518,391	100.00	-1.96	-1.96	21.32	5.03	6.57		5.42	Jun-13
<i>Credit Opportunities Blend</i>			<u>-1.05</u>	<u>-1.05</u>	<u>20.95</u>	<u>5.87</u>	<u>7.01</u>		<u>5.85</u>	<i>Jun-13</i>
Over/Under			-0.91	-0.91	0.37	-0.84	-0.44		-0.43	
PGIM Blended	380,744,163	25.36							-4.90	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>									<u>-4.58</u>	<i>Feb-21</i>
Over/Under									-0.32	
Wellington	381,097,998	25.38							-4.72	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>									<u>-4.58</u>	<i>Feb-21</i>
Over/Under									-0.14	
Bain Capital Senior Loan Fund, LP*	233,928,942	15.58	2.35	2.35	22.55	4.83	5.69		4.46	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<u>2.01</u>	<u>2.01</u>	<u>20.77</u>	<u>4.13</u>	<u>5.33</u>		<u>4.28</u>	<i>Jun-15</i>
Over/Under			0.34	0.34	1.78	0.70	0.36		0.18	
DDJ Capital Management ¹	242,257,169	16.13	2.06	2.06					6.29	Nov-20
<i>50% BBgBarc US High Yield 2% Issuer Cap / 50% Credit Suisse Leveraged Loan Index</i>			<u>1.43</u>	<u>1.43</u>					<u>6.18</u>	<i>Nov-20</i>
Over/Under			0.63	0.63					0.11	
Loomis Sayles & Co. High Yield ¹	253,501,424	16.88	0.86	0.86					7.72	Nov-20
<i>BBgBarc US High Yield 2% Issuer Cap TR</i>			<u>0.86</u>	<u>0.86</u>					<u>6.83</u>	<i>Nov-20</i>
Over/Under			0.00	0.00					0.89	
Benefit Street Partners LLC	9,900,010	0.66	0.00	0.00					0.00	Dec-20
<i>Credit Suisse Leveraged Loan Qtr Lag</i>			<u>3.64</u>	<u>3.64</u>					<u>4.35</u>	<i>Dec-20</i>
Over/Under			-3.64	-3.64					-4.35	

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

- 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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Credit Opportunities	1,501,518,391	100.00	-2.01		-2.01		21.02		4.73		6.24				5.08	Jun-13
<i>Credit Opportunities Blend</i>			<u>-1.05</u>		<u>-1.05</u>		<u>20.95</u>		<u>5.87</u>		<u>7.01</u>				<u>5.85</u>	<i>Jun-13</i>
Over/Under			-0.96		-0.96		0.07		-1.14		-0.77				-0.77	
PGIM Blended	380,744,163	25.36													-4.90	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>															-4.58	Feb-21
Over/Under															-0.32	
<i>eV All Emg Mkts Fixed Inc Net Median</i>															-3.43	Feb-21
Wellington	381,097,998	25.38													-4.72	Feb-21
<i>50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified</i>															-4.58	Feb-21
Over/Under															-0.14	
<i>eV All Emg Mkts Fixed Inc Net Median</i>															-3.43	Feb-21
Bain Capital Senior Loan Fund, LP	233,928,942	15.58	2.35	11	2.35	11	22.55	14	4.83	5	5.69	9			4.46	Jun-15
<i>Credit Suisse Leveraged Loans</i>			<u>2.01</u>	23	<u>2.01</u>	23	<u>20.77</u>	19	<u>4.13</u>	24	<u>5.33</u>	13			<u>4.28</u>	<i>Jun-15</i>
Over/Under			0.34		0.34		1.78		0.70		0.36				0.18	
<i>eV US Float-Rate Bank Loan Fixed Inc Net Median</i>			1.54		1.54		17.60		3.47		4.50				3.77	Jun-15
DDJ Capital Management	242,257,169	16.13	1.97		1.97										6.19	Nov-20
<i>50% BBgBarc US High Yield 2% Issuer Cap / 50% Credit Suisse Leveraged Loan Index</i>			<u>1.43</u>		<u>1.43</u>										<u>6.18</u>	<i>Nov-20</i>
Over/Under			0.54		0.54										0.01	

- 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

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Los Angeles City Employees' Retirement System

CREDIT OPPORTUNITIES (NET)

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Loomis Sayles & Co. High Yield	253,501,424	16.88	0.80	58	0.80	58									7.66	Nov-20
BBgBarc US High Yield 2% Issuer Cap TR			<u>0.86</u>	55	<u>0.86</u>	55									<u>6.83</u>	Nov-20
Over/Under			-0.06		-0.06										0.83	
eV US High Yield Fixed Inc Net Median			0.98		0.98										6.27	Nov-20
Benefit Street Partners LLC	9,900,010	0.66	0.00		0.00										0.00	Dec-20
Credit Suisse Leveraged Loan Qtr Lag			<u>3.64</u>		<u>3.64</u>										<u>4.35</u>	Dec-20
Over/Under			-3.64		-3.64										-4.35	

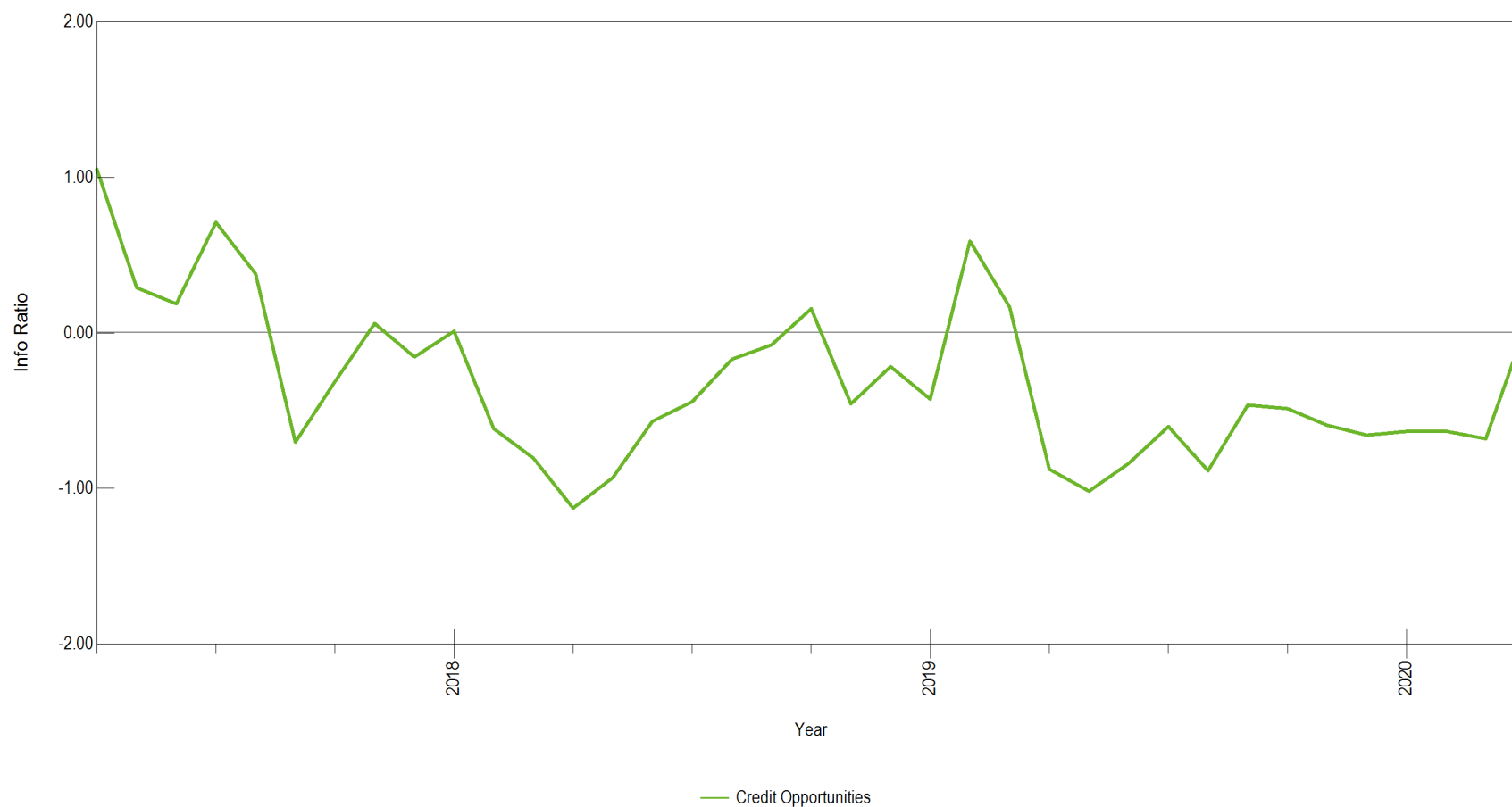
- Credit Opportunities Blend = 65% BBgBarc US High Yield 2% Issuer Cap TR / 35% JP Morgan EMBI Global Diversified 7/01/2014 to present; BBgBarc US High Yield 2% Issuer Cap TR prior to
eA = eVestment Alliance
BBgBarc = Bloomberg Barclays



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		
PGIM	Feb-21	Emerging Market Debt Blended	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Newly Hired Manager
Wellington	Feb-21	Emerging Market Debt Blended	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Newly Hired Manager
Bain	Jun-15	Bank Loans	✓	✓	✓	✓	✓	✓	✓	✓	885.4		On Watch since July 2020 due to performance
Benefit Street Partners	Dec-20	Private Credit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Newly Hired Manager
Looms Sayles	Nov-20	High Yield	✗	✗	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Newly Hired Manager
DDJ	Nov-20	High Yield/Bank Loan	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Newly Hired Manager

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, 2020.
- * 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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Assets	1,927,483,780	100.00	2.12	2.12	9.76	5.14	5.31	7.63	6.20	Nov-94
<i>CPI + 5% (Unadjusted)</i>			<u>2.93</u>	<u>2.93</u>	<u>7.74</u>	<u>7.10</u>	<u>7.25</u>	<u>6.79</u>	<u>7.29</u>	<i>Nov-94</i>
Over/Under			-0.81	-0.81	2.02	-1.96	-1.94	0.84	-1.09	
Public Real Assets	1,086,230,340	56.35	2.42	2.42	17.85	6.21	4.74		3.16	Jun-14
<i>Public Real Assets Blend</i>			<u>3.42</u>	<u>3.42</u>	<u>24.25</u>	<u>5.29</u>	<u>4.15</u>		<u>1.11</u>	<i>Jun-14</i>
Over/Under			-1.00	-1.00	-6.40	0.92	0.59		2.05	
TIPS	833,407,016	43.24	-1.70	-1.70	8.29	6.08	4.04		3.12	Jul-14
<i>BBgBarc US TIPS TR</i>			<u>-1.47</u>	<u>-1.47</u>	<u>7.54</u>	<u>5.68</u>	<u>3.86</u>		<u>3.00</u>	<i>Jul-14</i>
Over/Under			-0.23	-0.23	0.75	0.40	0.18		0.12	
<i>DFA US TIPS¹</i>	<i>833,407,016</i>	<i>43.24</i>	<i>-1.70</i>	<i>-1.70</i>	<i>8.29</i>	<i>6.08</i>	<i>4.04</i>		<i>3.23</i>	<i>Aug-14</i>
<i>BBgBarc US TIPS TR</i>			<u>-1.47</u>	<u>-1.47</u>	<u>7.54</u>	<u>5.68</u>	<u>3.86</u>		<u>3.00</u>	<i>Aug-14</i>
Over/Under			-0.23	-0.23	0.75	0.40	0.18		0.23	
REITS	249,478,500	12.94	7.54	7.54	34.17	12.60	8.53		8.64	Mar-15
<i>FTSE NAREIT All Equity REIT</i>			<u>8.32</u>	<u>8.32</u>	<u>34.24</u>	<u>10.64</u>	<u>7.11</u>		<u>6.70</u>	<i>Mar-15</i>
Over/Under			-0.78	-0.78	-0.07	1.96	1.42		1.94	
<i>CenterSquare US Real Estate¹</i>	<i>249,478,500</i>	<i>12.94</i>	<i>7.54</i>	<i>7.54</i>	<i>34.17</i>	<i>12.60</i>	<i>8.53</i>		<i>9.33</i>	<i>May-15</i>
<i>FTSE NAREIT All Equity REIT</i>			<u>8.32</u>	<u>8.32</u>	<u>34.24</u>	<u>10.64</u>	<u>7.11</u>		<u>7.72</u>	<i>May-15</i>
Over/Under			-0.78	-0.78	-0.07	1.96	1.42		1.61	
Commodities	3,344,825	0.17								
Private Real Estate	823,161,389	42.71	1.77	1.77	-1.31	3.30	5.29	8.39	6.48	Oct-94
<i>Real Estate Blend</i>			<u>2.29</u>	<u>2.29</u>	<u>3.12</u>	<u>5.72</u>	<u>7.04</u>	<u>10.05</u>	<u>9.49</u>	<i>Oct-94</i>
Over/Under			-0.52	-0.52	-4.43	-2.42	-1.75	-1.66	-3.01	
Timber	18,092,051	0.94	0.00	0.00	2.55	2.26	2.68	5.07	8.71	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	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Real Assets	1,927,483,780	100.00	2.08	60	2.08	60	9.59	49	4.97	47	5.14	55	7.48	32		Nov-94
CPI + 5% (Unadjusted)			<u>2.93</u>	50	<u>2.93</u>	50	<u>7.74</u>	52	<u>7.10</u>	28	<u>7.25</u>	21	<u>6.79</u>	36		Nov-94
Over/Under			-0.85		-0.85		1.85		-2.13		-2.11		0.69			
InvMetrics Public DB > \$1 Billion Real Assets/Commodities Gross Median			2.80		2.80		8.05		4.56		5.36		5.03			Nov-94
Public Real Assets	1,086,230,340	56.35	2.37		2.37		17.63		5.98		4.50				2.95	Jun-14
Public Real Assets Blend			<u>3.42</u>		<u>3.42</u>		<u>24.25</u>		<u>5.29</u>		<u>4.15</u>				<u>1.11</u>	Jun-14
Over/Under			-1.05		-1.05		-6.62		0.69		0.35				1.84	
TIPS	833,407,016	43.24	-1.71		-1.71		8.24		6.03		3.99				3.06	Jul-14
BBgBarc US TIPS TR			<u>-1.47</u>		<u>-1.47</u>		<u>7.54</u>		<u>5.68</u>		<u>3.86</u>				<u>3.00</u>	Jul-14
Over/Under			-0.24		-0.24		0.70		0.35		0.13				0.06	
DFA US TIPS ¹	833,407,016	43.24	-1.71	87	-1.71	87	8.24	61	6.03	24	3.99	52			3.17	Aug-14
BBgBarc US TIPS TR			<u>-1.47</u>	65	<u>-1.47</u>	65	<u>7.54</u>	72	<u>5.68</u>	48	<u>3.86</u>	57			<u>3.00</u>	Aug-14
Over/Under			-0.24		-0.24		0.70		0.35		0.13				0.17	
eV US TIPS / Inflation Fixed Inc Net Median			-1.26		-1.26		8.74		5.60		4.03				2.91	Aug-14
REITS	249,478,500	12.94	7.43		7.43		33.62		12.09		8.05				8.18	Mar-15
FTSE NAREIT All Equity REIT			<u>8.32</u>		<u>8.32</u>		<u>34.24</u>		<u>10.64</u>		<u>7.11</u>				<u>6.70</u>	Mar-15
Over/Under			-0.89		-0.89		-0.62		1.45		0.94				1.48	
CenterSquare US Real Estate ¹	249,478,500	12.94	7.43	71	7.43	71	33.62	76	12.09	32	8.05	25			8.87	May-15
FTSE NAREIT All Equity REIT			<u>8.32</u>	42	<u>8.32</u>	42	<u>34.24</u>	69	<u>10.64</u>	55	<u>7.11</u>	36			<u>7.72</u>	May-15
Over/Under			-0.89		-0.89		-0.62		1.45		0.94				1.15	
eV US REIT Net Median			8.05		8.05		35.20		11.08		6.27				7.19	May-15
Commodities	3,344,825	0.17														
Private Real Estate	823,161,389	42.71	1.75	61	1.75	61	-1.39	89	3.22	82	5.20	78	8.28	62		Oct-94
Real Estate Blend			<u>2.29</u>	44	<u>2.29</u>	44	<u>3.12</u>	14	<u>5.72</u>	10	<u>7.04</u>	9	<u>10.05</u>	9		Oct-94
Over/Under			-0.54		-0.54		-4.51		-2.50		-1.84		-1.77			
InvMetrics Public DB Real Estate Priv Net Median			1.96		1.96		2.14		4.87		6.24		8.66			Oct-94
Timber	18,092,051	0.94	0.00		0.00		2.55		2.26		2.68		5.06			Sep-99

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



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	x	x	x	✓	✓	✓	✓	x	✓	383.6	Performance compliant with LACERS' Manager Monitoring Policy
CenterSquare	Apr-15	REITS	x	x	x	x	✓	✓	✓	✓	✓	923.6	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, 2020.
- * Where net of fees performance is not available gross of fee returns are evaluated.

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



APPENDIX

NEPC, LLC

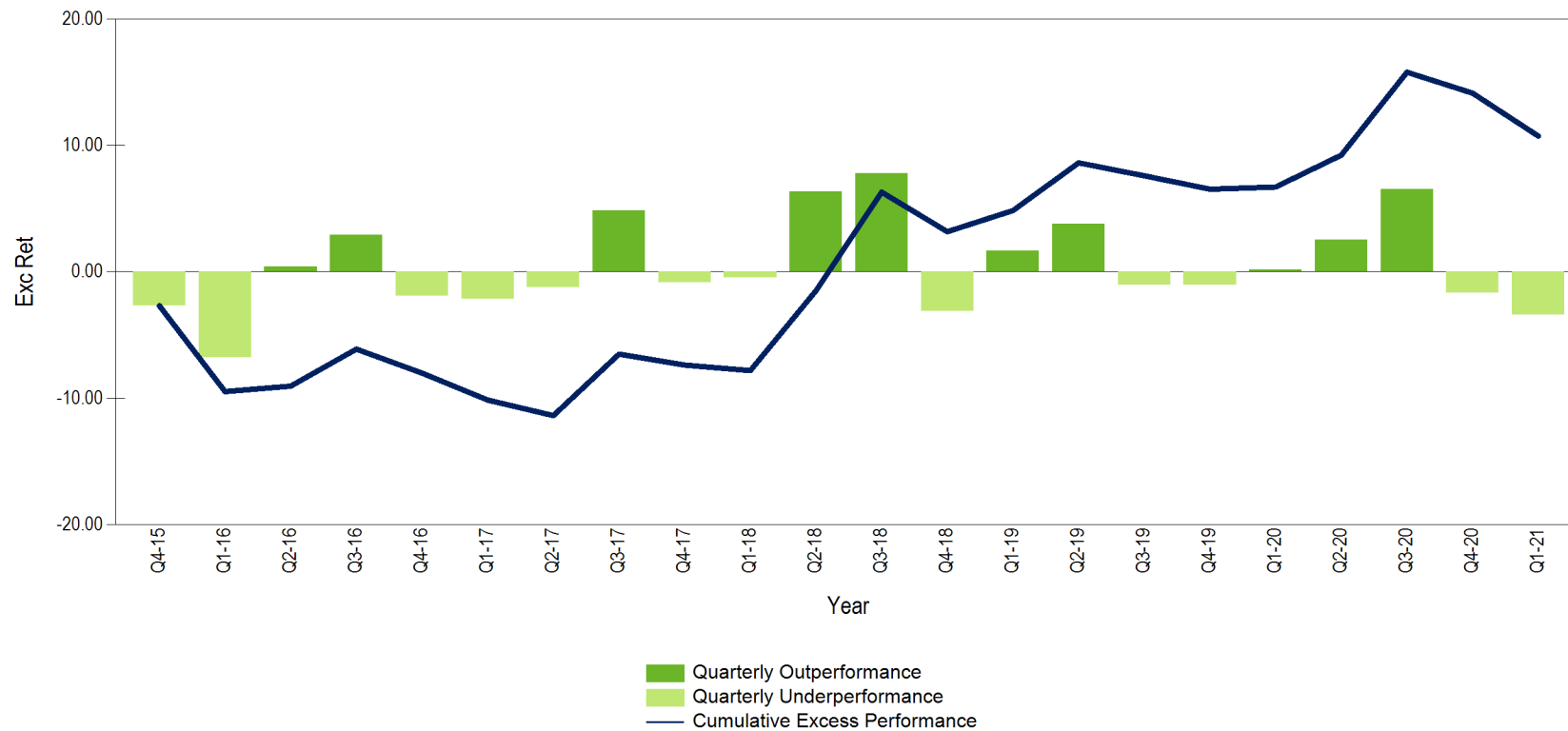
U.S. EQUITY MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

EAM INVESTORS

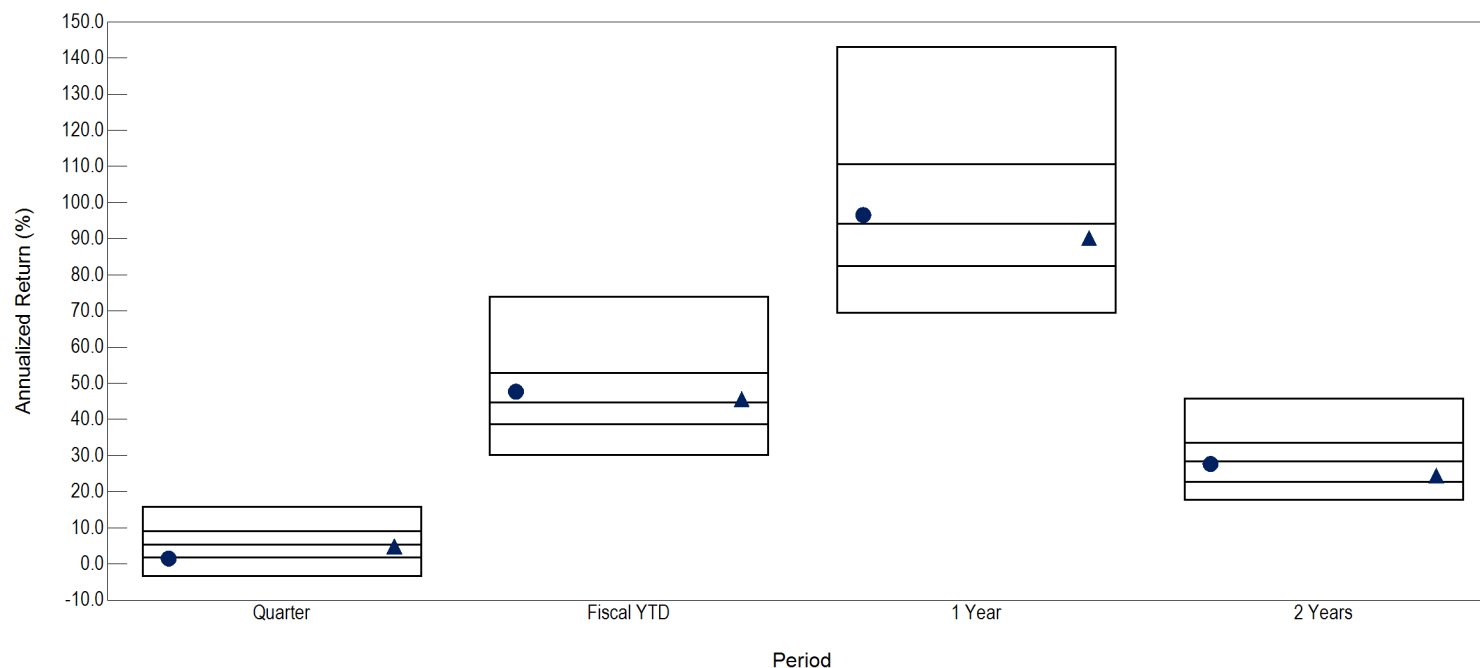
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

EAM INVESTORS

EAM Investors vs. eV US Small Cap Growth Equity Net



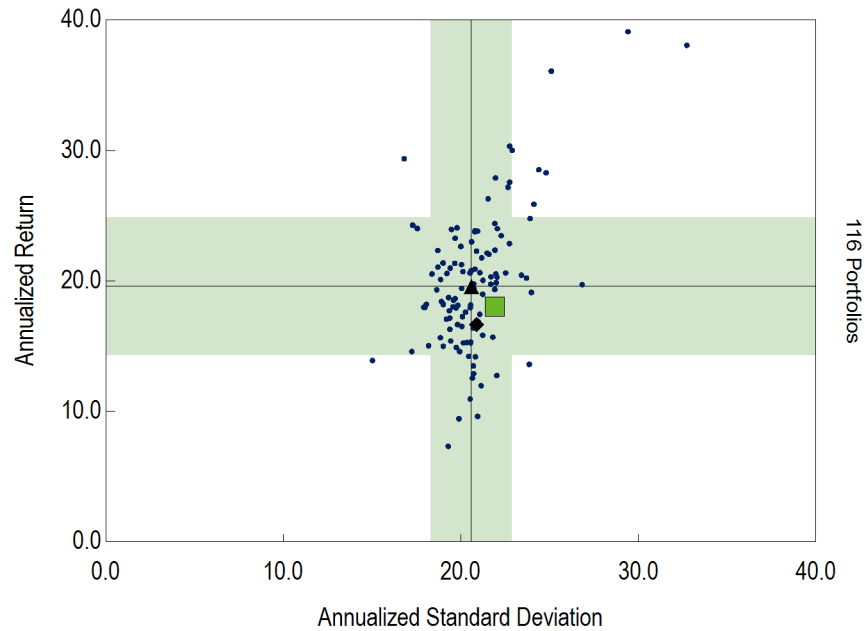
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5th Percentile	15.86		73.99		143.01		45.69	
25th Percentile	9.18		52.97		110.80		33.72	
Median	5.45		44.83		94.37		28.54	
75th Percentile	2.01		38.88		82.65		22.81	
95th Percentile	-3.20		30.37		69.63		17.90	
# of Portfolios	125		125		125		124	
● EAM Investors	1.48	(80)	47.66	(40)	96.54	(44)	27.65	(54)
▲ Russell 2000 Growth	4.88	(54)	45.65	(47)	90.20	(56)	24.44	(66)



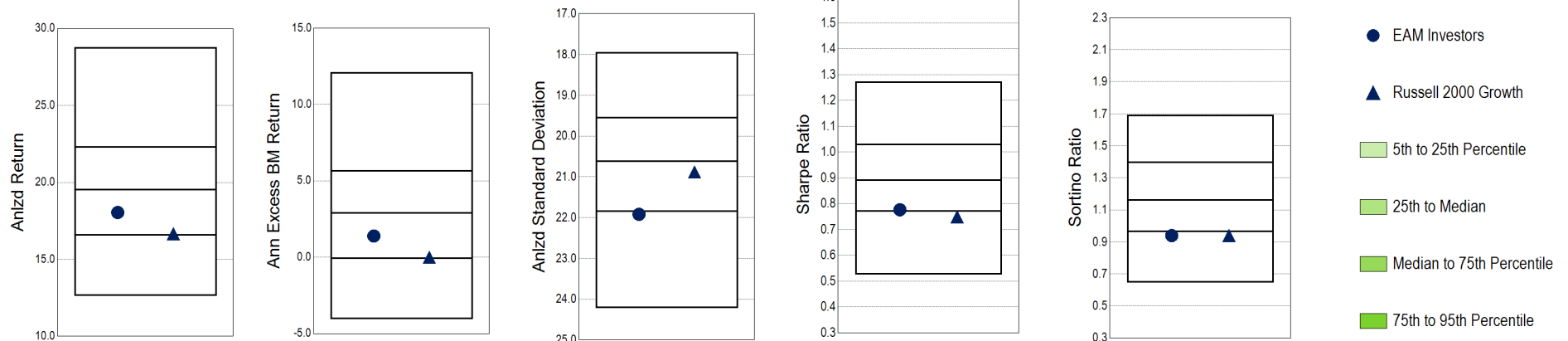
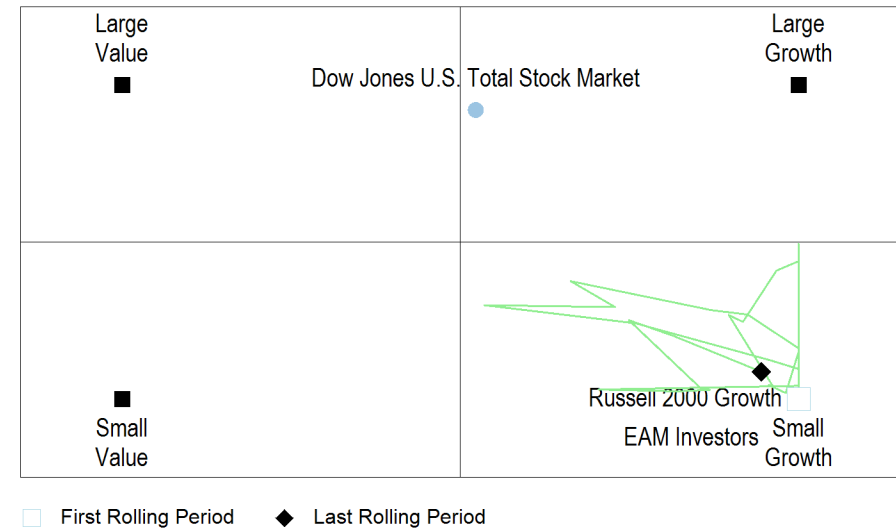
Los Angeles City Employees' Retirement System

EAM INVESTORS

Since Inception Risk Return



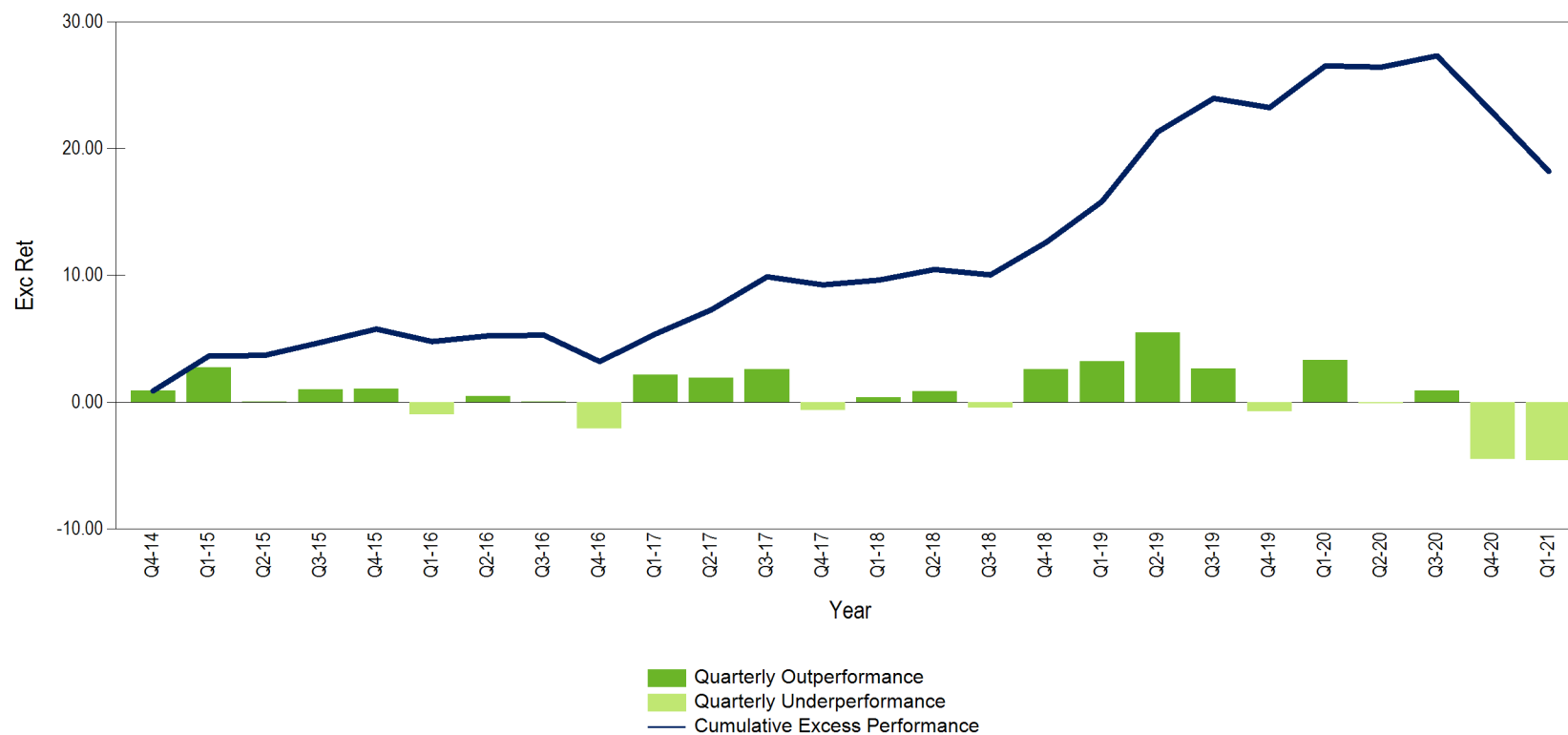
Since Inception Style Map



Los Angeles City Employees' Retirement System

PRINCIPAL GLOBAL INVESTORS

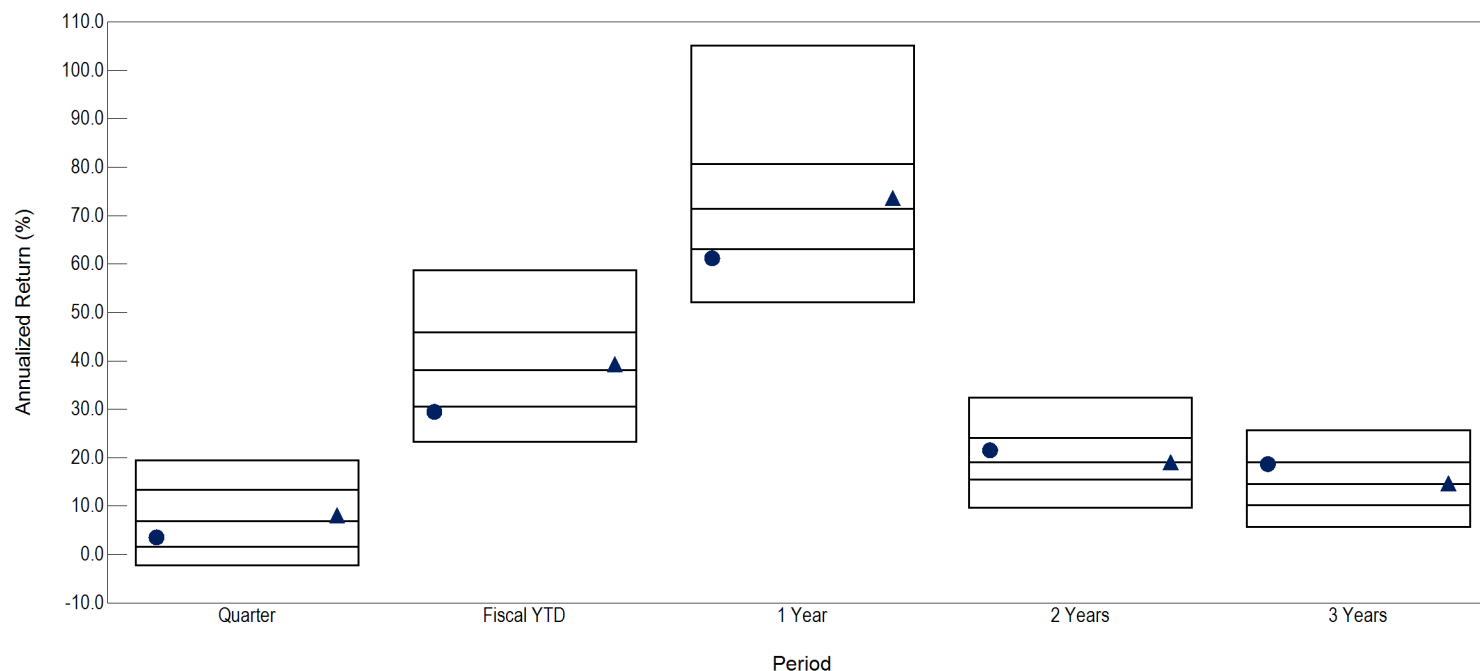
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

PRINCIPAL GLOBAL INVESTORS

Principal Global Investors vs. eV US Mid Cap Equity Net



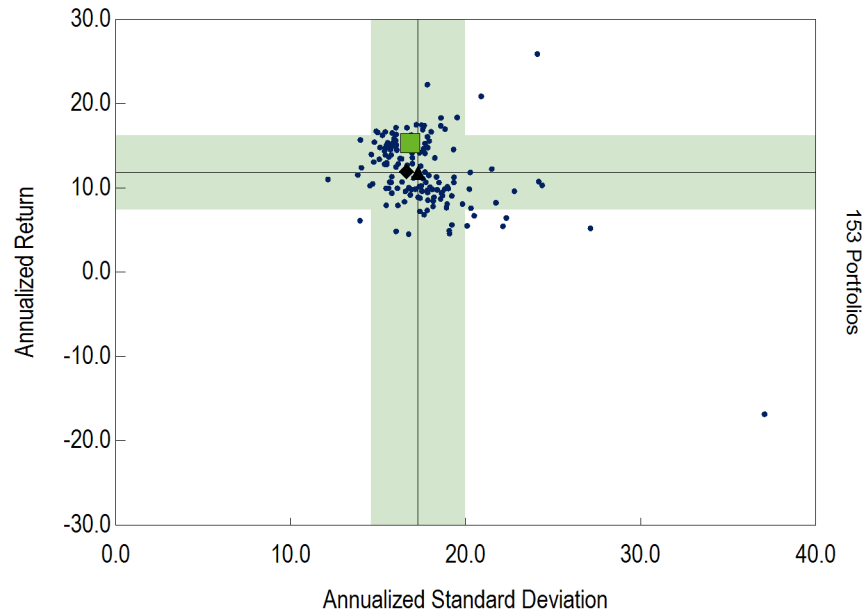
		Return (Rank)									
5th Percentile		19.47		58.74		105.12		32.41		25.65	
25th Percentile		13.52		46.06		80.84		24.19		19.21	
Median		7.02		38.18		71.57		19.21		14.74	
75th Percentile		1.78		30.73		63.19		15.62		10.36	
95th Percentile		-2.10		23.41		52.23		9.86		5.86	
# of Portfolios		171		170		169		167		167	
●	Principal Global Investors	3.53	(66)	29.47	(81)	61.20	(80)	21.53	(42)	18.69	(29)
▲	Russell MidCap	8.14	(48)	39.35	(47)	73.64	(43)	19.10	(52)	14.73	(51)



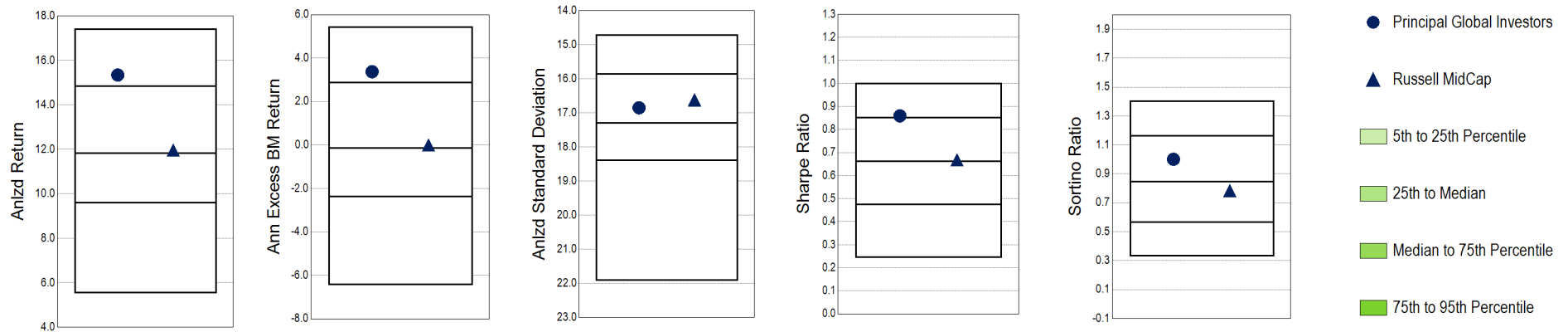
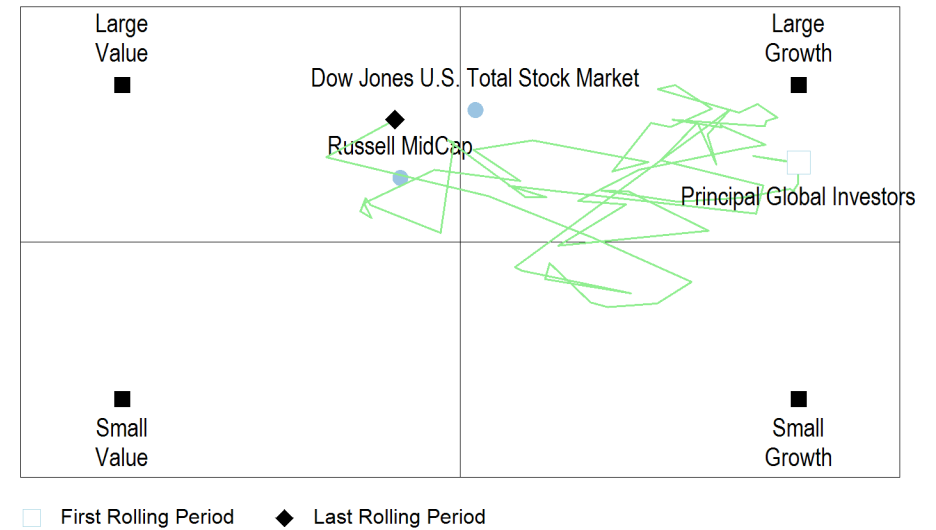
Los Angeles City Employees' Retirement System

PRINCIPAL GLOBAL INVESTORS

Since Inception Risk Return



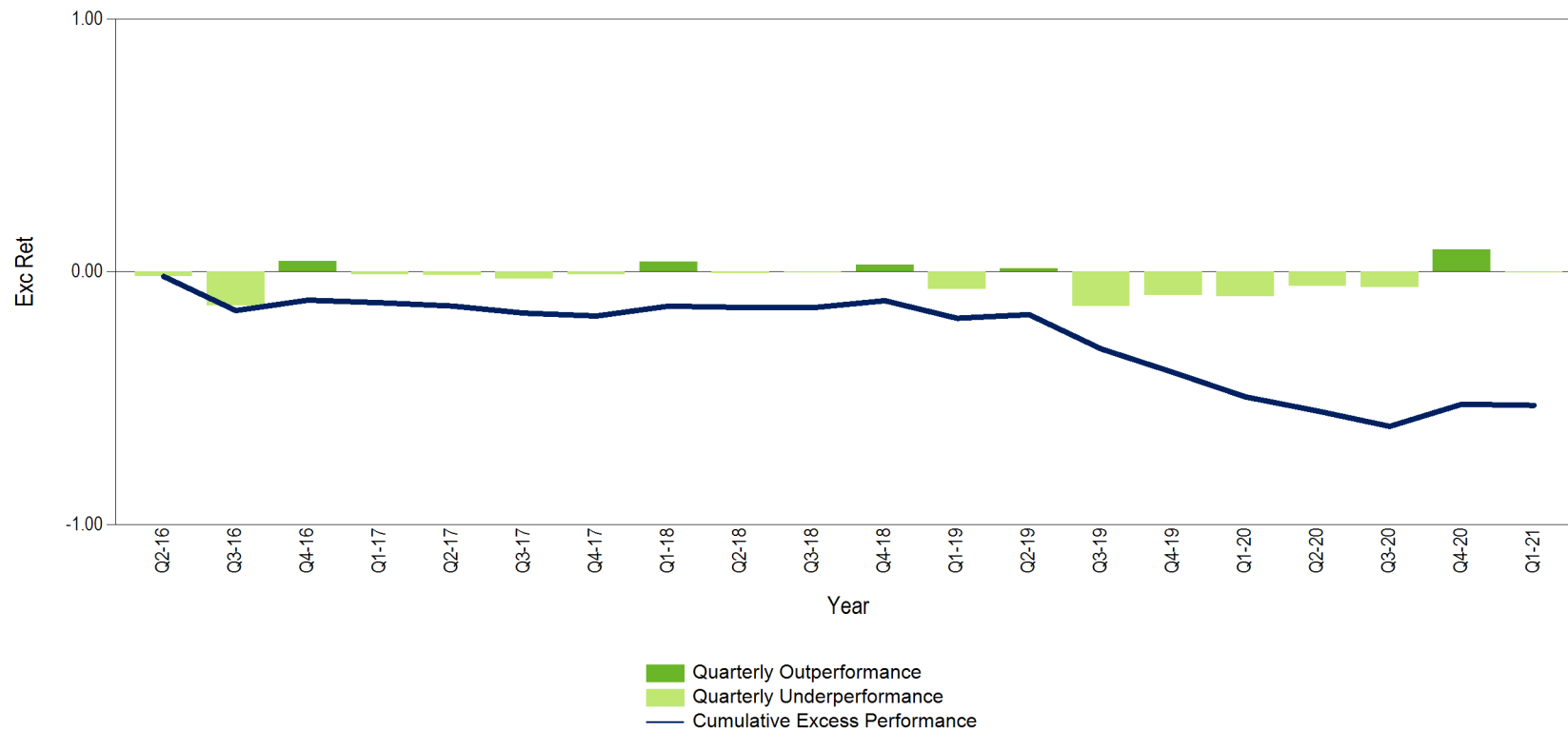
Since Inception Style Map



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS S&P 500

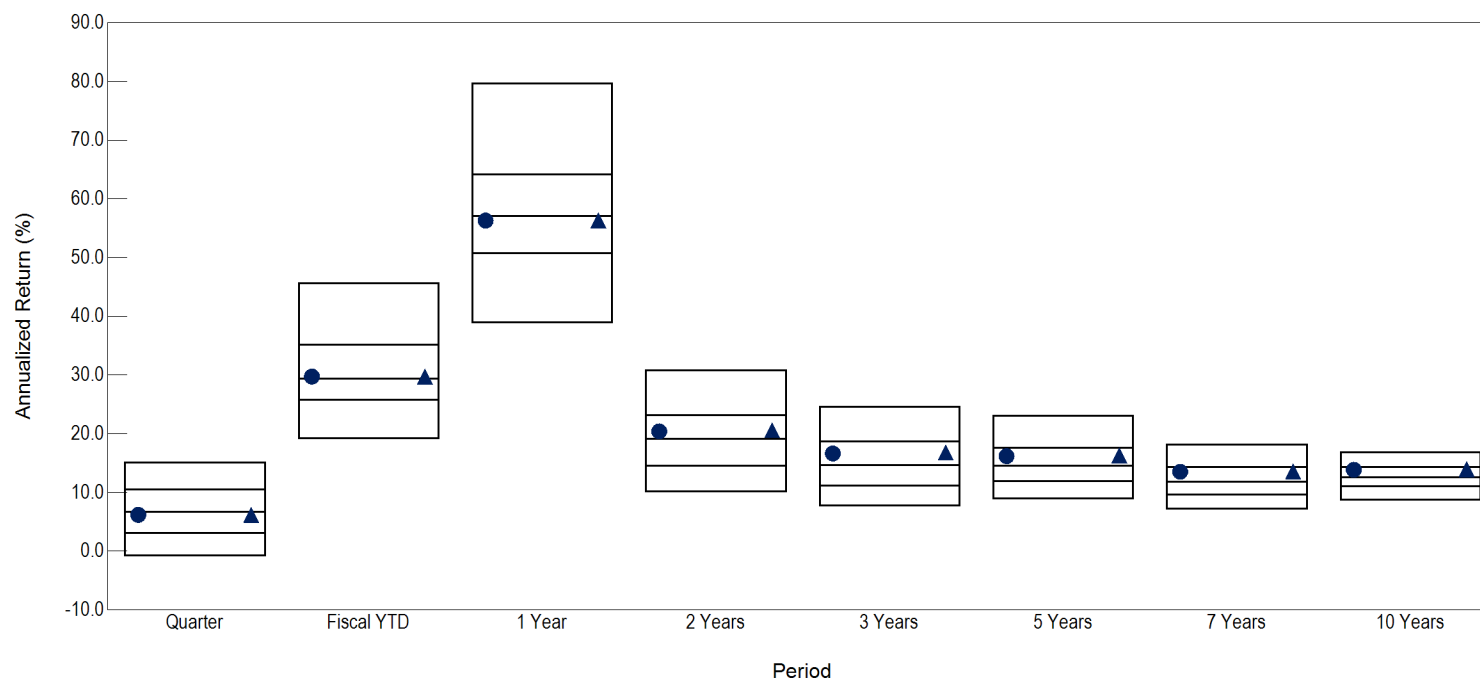
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS S&P 500

RhumbLine Advisers S&P 500 vs. eV US Large Cap Equity Net



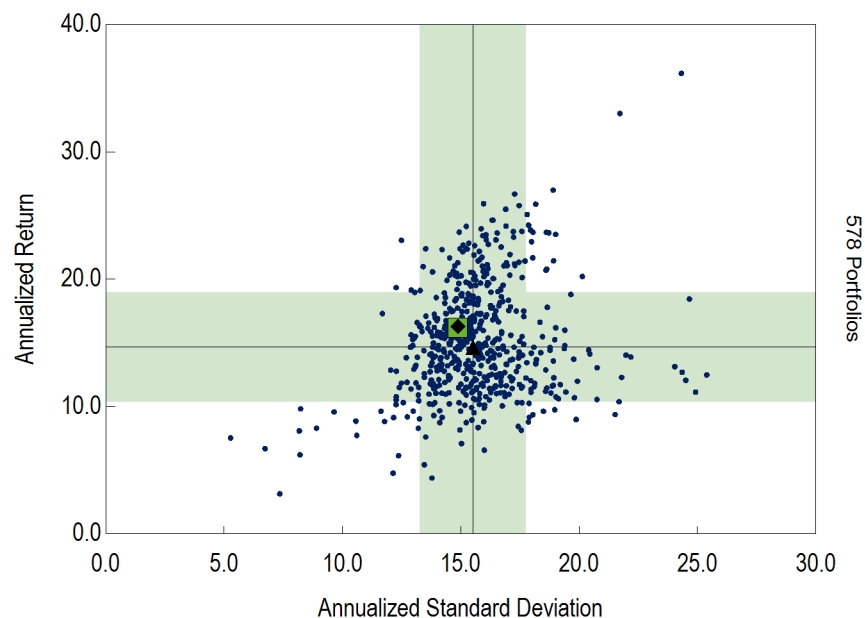
	Return (Rank)															
5th Percentile	15.12		45.63		79.65		30.77		24.59		23.06		18.13		16.86	
25th Percentile	10.63		35.22		64.30		23.25		18.82		17.72		14.42		14.43	
Median	6.81		29.49		57.22		19.24		14.80		14.66		11.94		12.65	
75th Percentile	3.18		25.84		50.83		14.68		11.25		12.04		9.79		11.15	
95th Percentile	-0.63		19.38		39.04		10.25		7.91		9.13		7.38		8.90	
# of Portfolios	645		643		641		626		619		578		538		464	
● RhumbLine Advisers S&P 500	6.17	(56)	29.73	(50)	56.31	(55)	20.39	(43)	16.63	(38)	16.17	(35)	13.51	(32)	13.84	(32)
▲ S&P 500	6.17	(56)	29.71	(50)	56.35	(55)	20.60	(42)	16.78	(37)	16.29	(34)	13.59	(31)	13.91	(31)



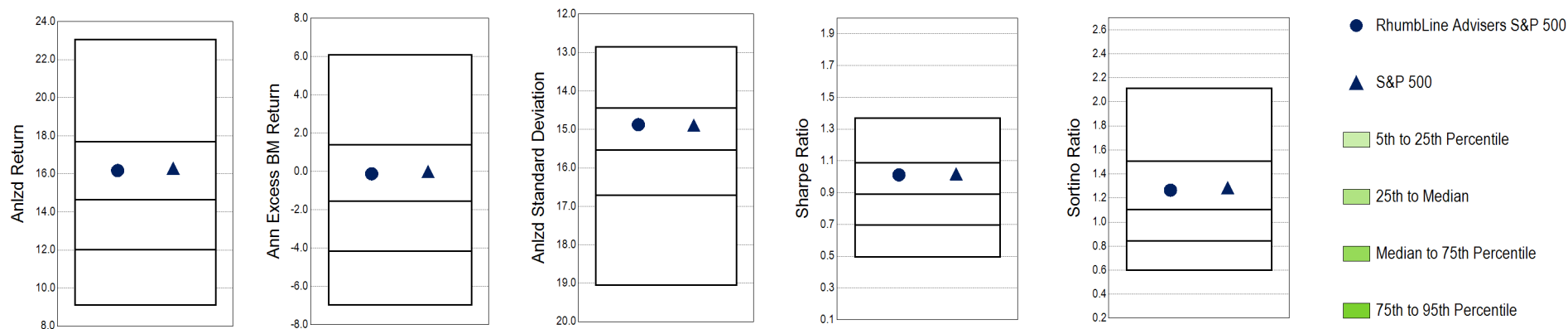
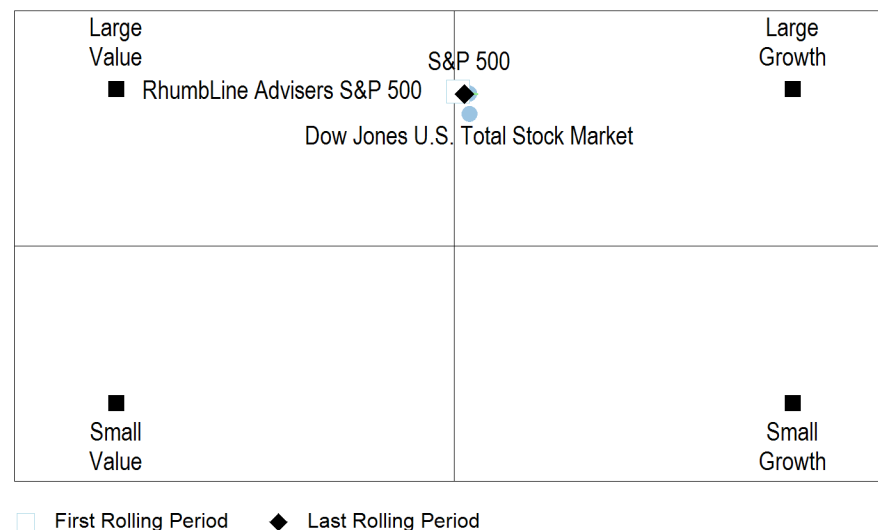
Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS S&P 500

5 Year Risk Return

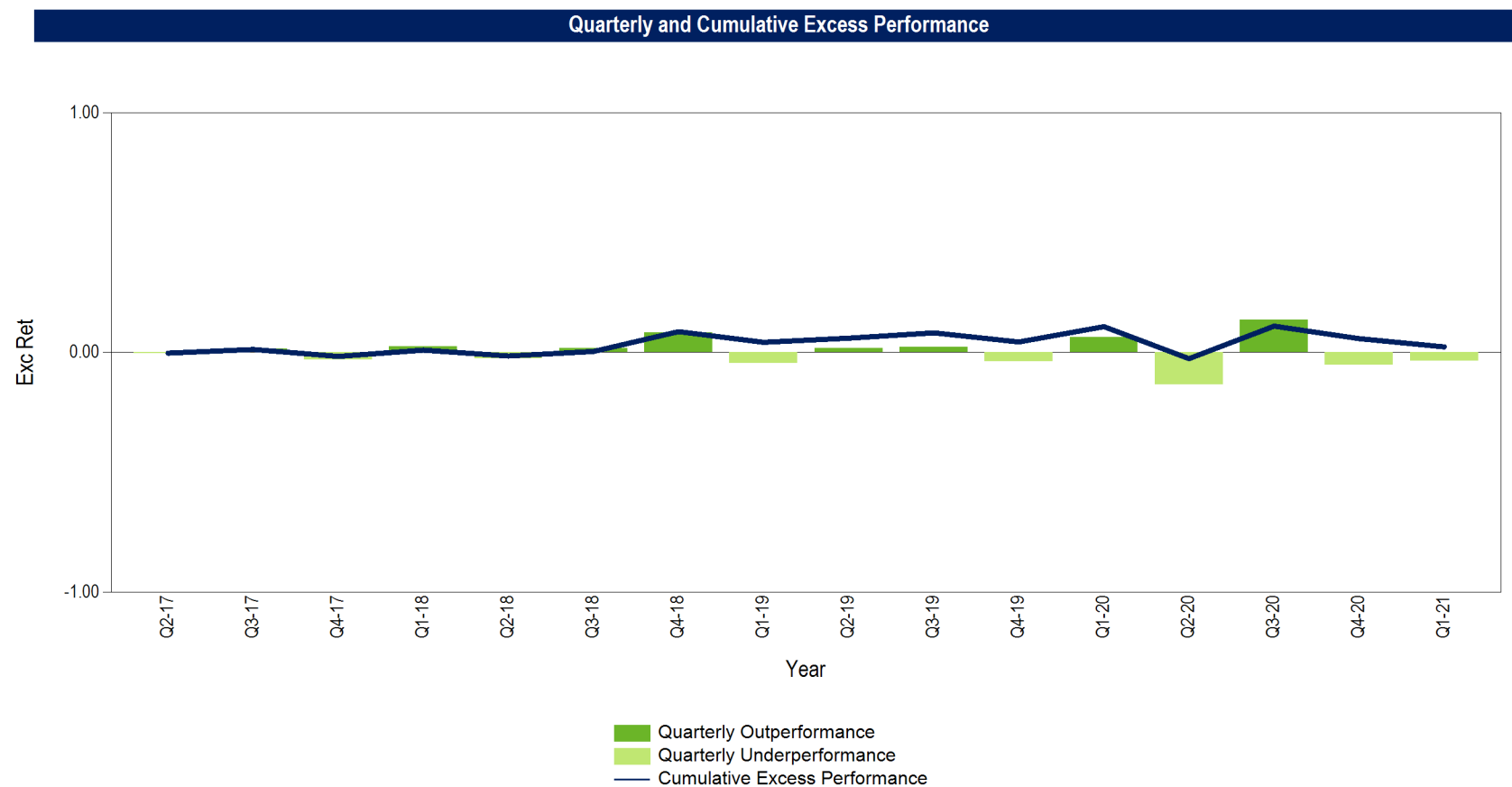


5 Year Style Map



Los Angeles City Employees' Retirement System

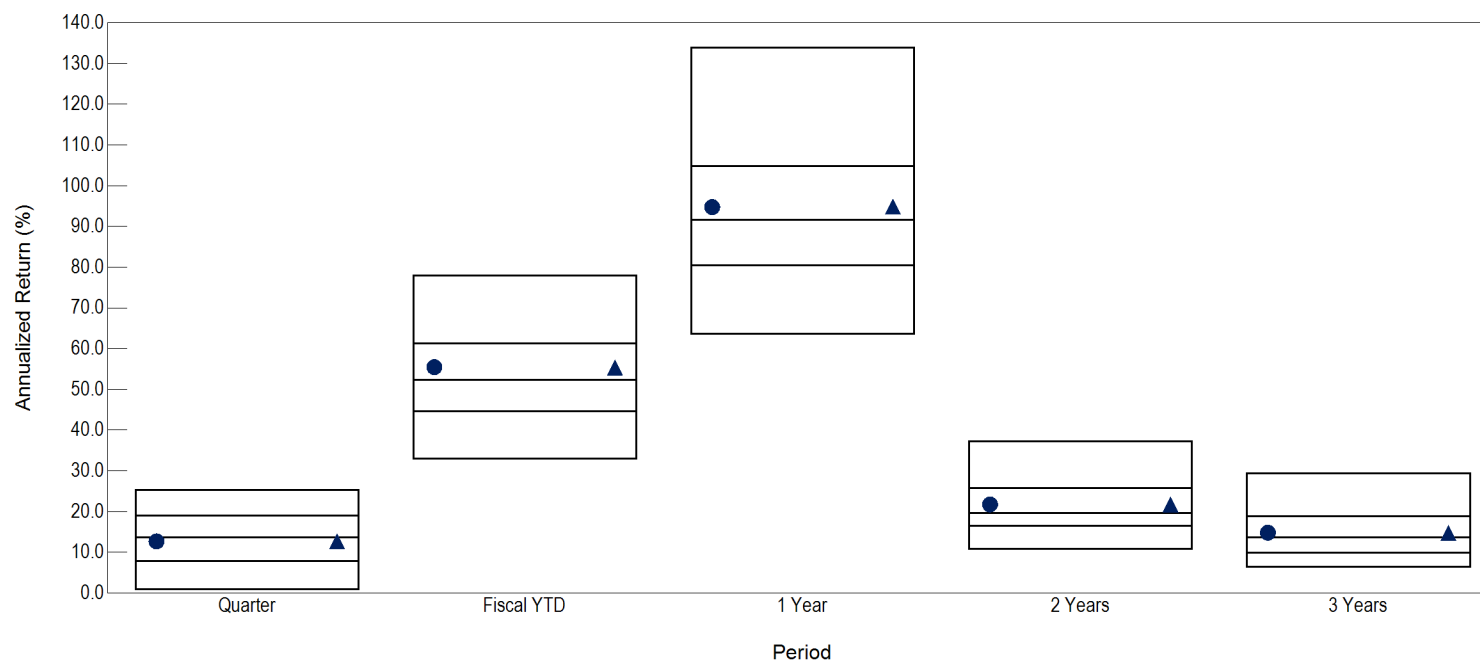
RHUMBLINE ADVISORS RUSSELL 2000



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS RUSSELL 2000

RhumbLine Advisers Russell 2000 vs. eV US Small Cap Equity Net



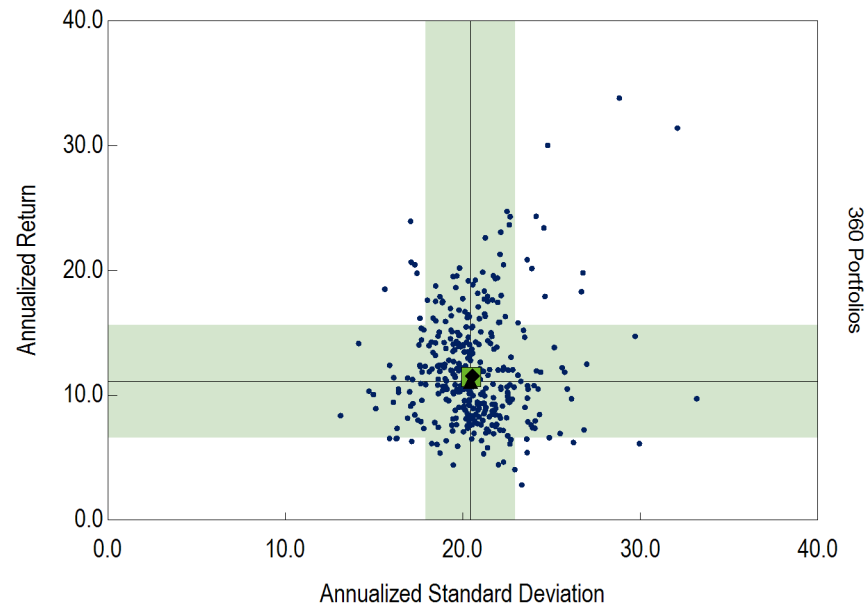
	Return (Rank)									
5th Percentile	25.37		77.95		133.91		37.23		29.40	
25th Percentile	19.13		61.42		105.05		25.91		19.04	
Median	13.80		52.41		91.74		19.80		13.76	
75th Percentile	8.02		44.83		80.69		16.63		10.10	
95th Percentile	1.05		33.19		63.84		11.02		6.59	
# of Portfolios	402		401		400		396		391	
● RhumbLine Advisers Russell 2000	12.66	(57)	55.45	(39)	94.75	(42)	21.73	(41)	14.80	(43)
▲ Russell 2000	12.70	(57)	55.36	(40)	94.85	(42)	21.70	(41)	14.76	(43)



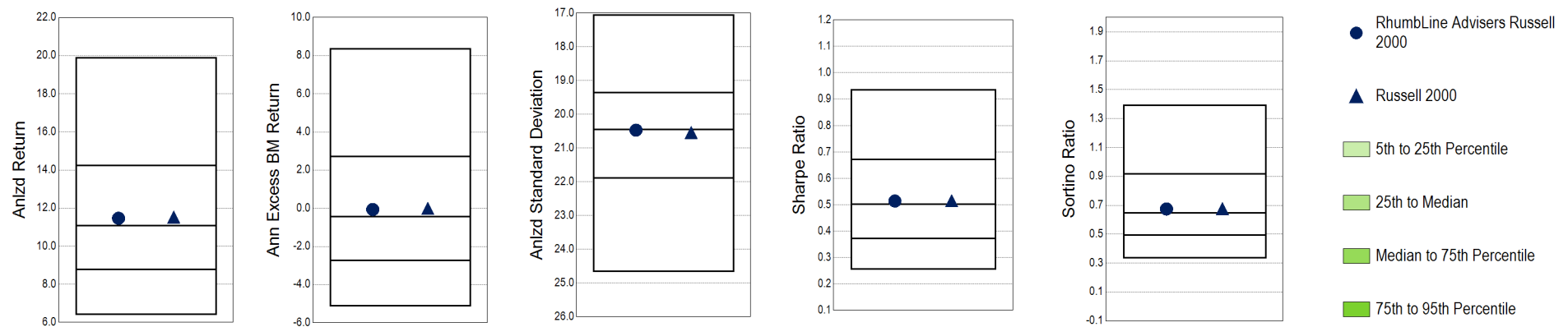
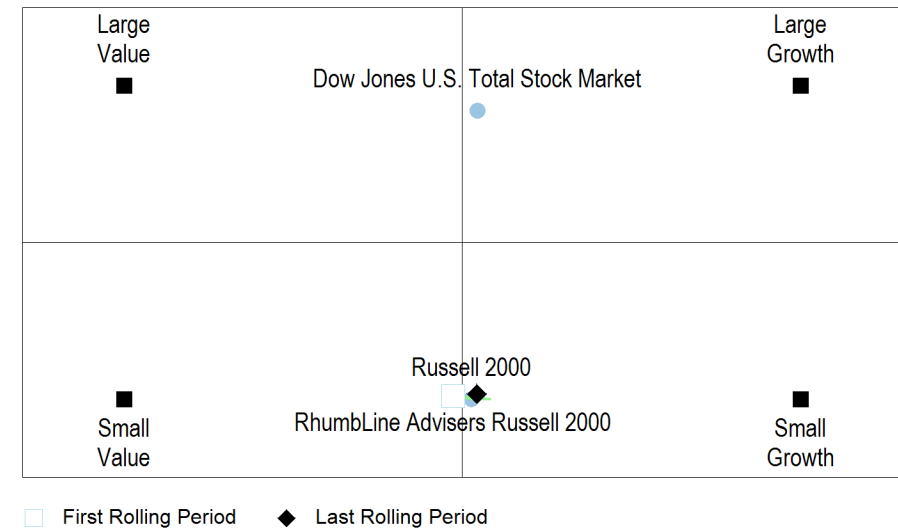
Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS RUSSELL 2000

Since Inception Risk Return



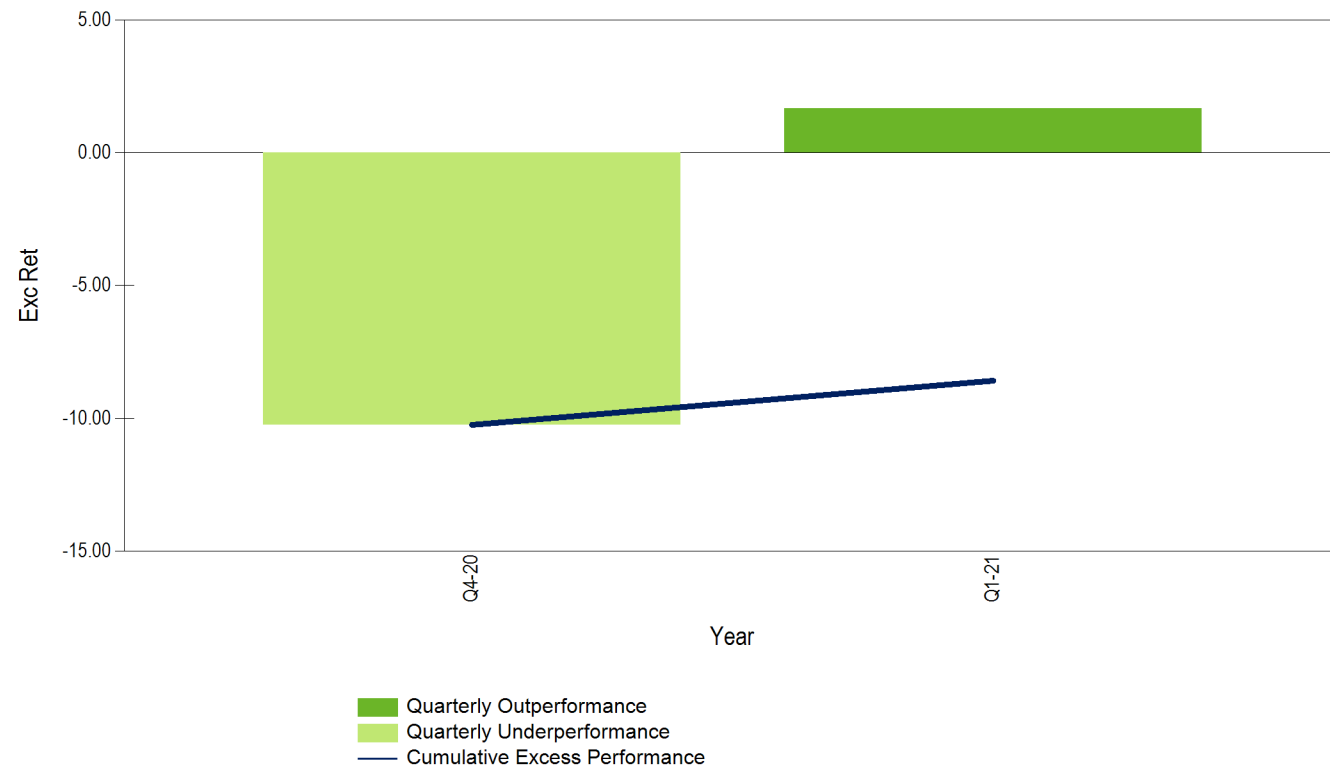
Since Inception Style Map



Los Angeles City Employees' Retirement System

COPELAND CAPITAL MANAGEMENT

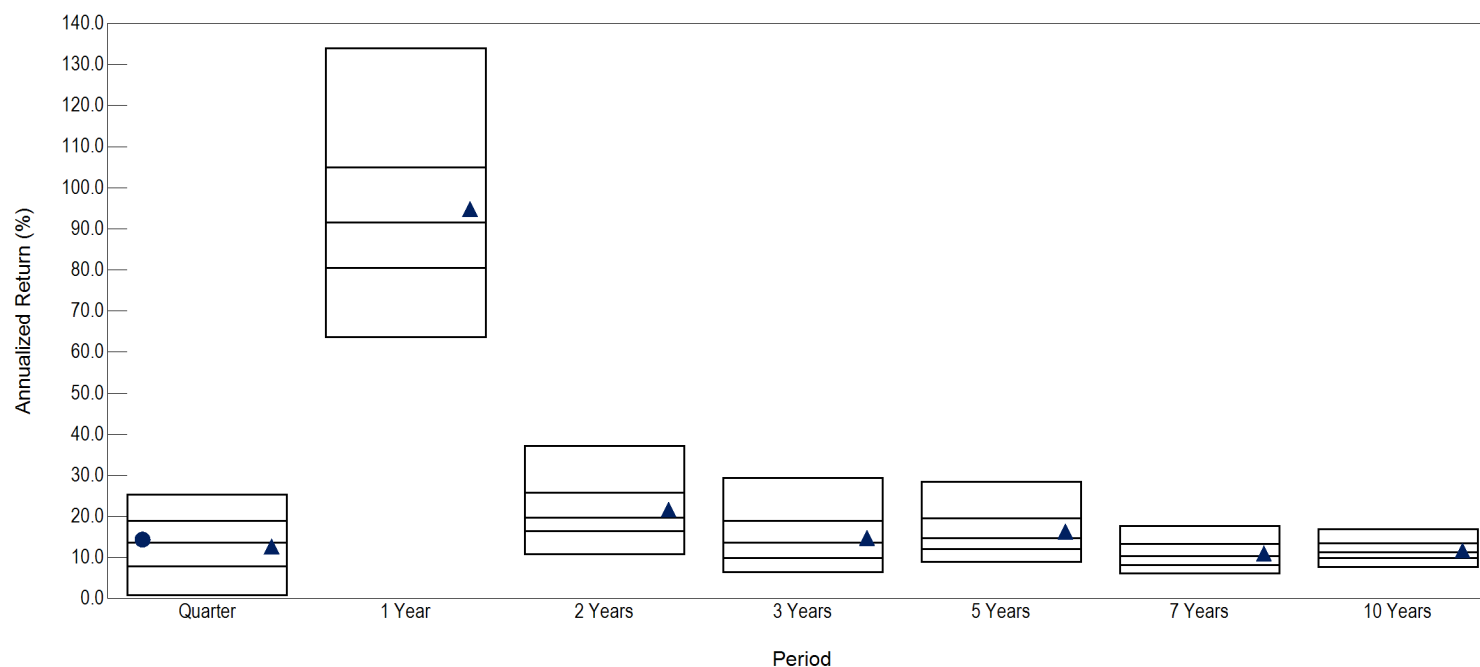
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

COPELAND CAPITAL MANAGEMENT

Copeland Capital Management vs. eV US Small Cap Equity Net



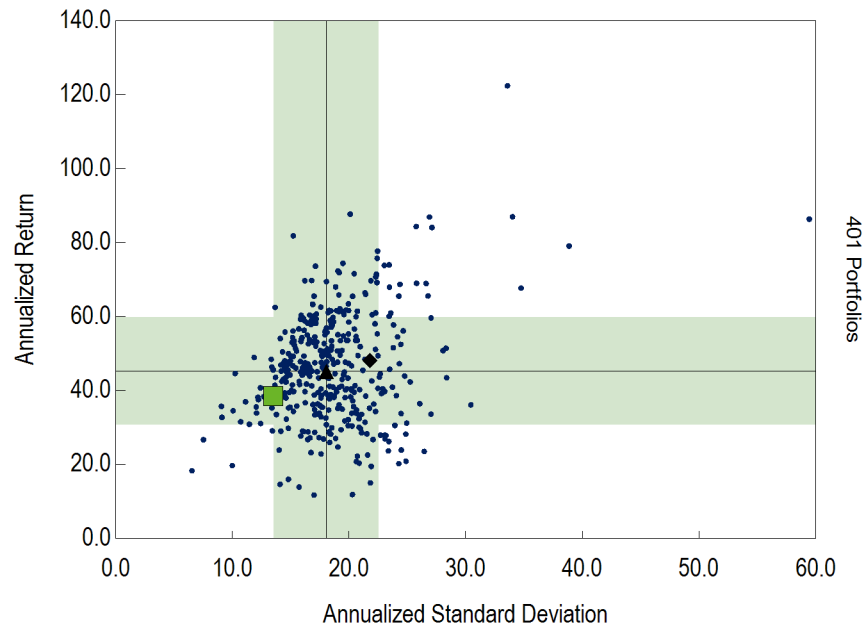
		Return (Rank)													
5th Percentile		25.37	133.91	37.23	29.40	28.42	17.66	16.89							
25th Percentile		19.13	105.05	25.91	19.04	19.64	13.44	13.70							
Median		13.80	91.74	19.80	13.76	14.83	10.50	11.51							
75th Percentile		8.02	80.69	16.63	10.10	12.17	8.38	10.07							
95th Percentile		1.05	63.84	11.02	6.59	9.14	6.26	7.81							
# of Portfolios		402	400	396	391	376	349	316							
●	Copeland Capital Management	14.36	(47)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	(--)	
▲	Russell 2000	12.70	(57)	94.85	(42)	21.70	(41)	14.76	(43)	16.35	(42)	11.05	(44)	11.68	(48)



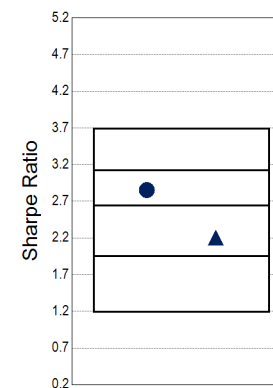
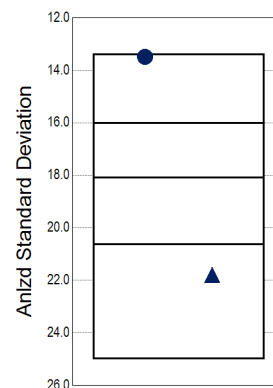
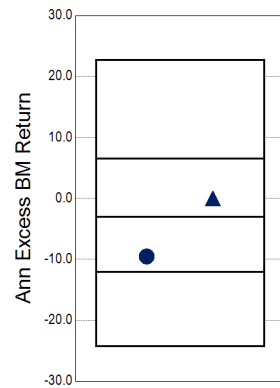
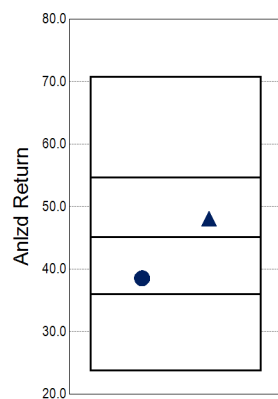
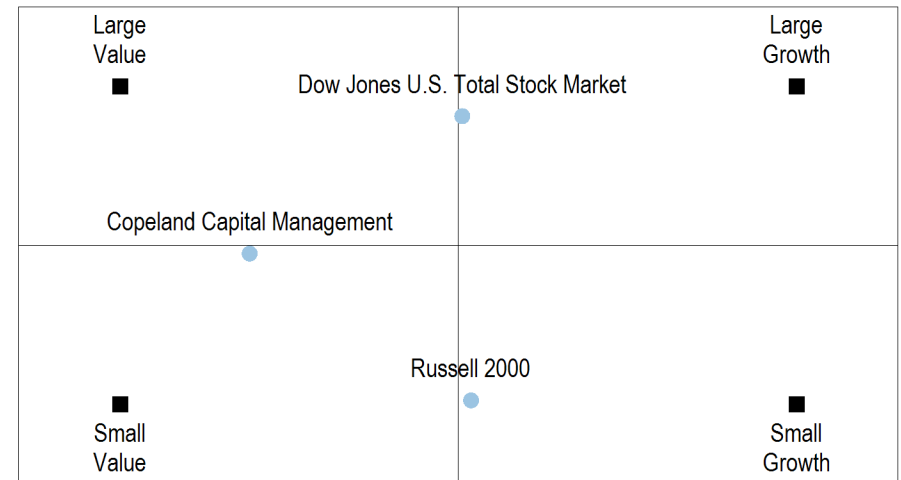
Los Angeles City Employees' Retirement System

COPELAND CAPITAL MANAGEMENT

Since Inception Risk Return



U.S. Effective Style Map
6 Months Ending March 31, 2021



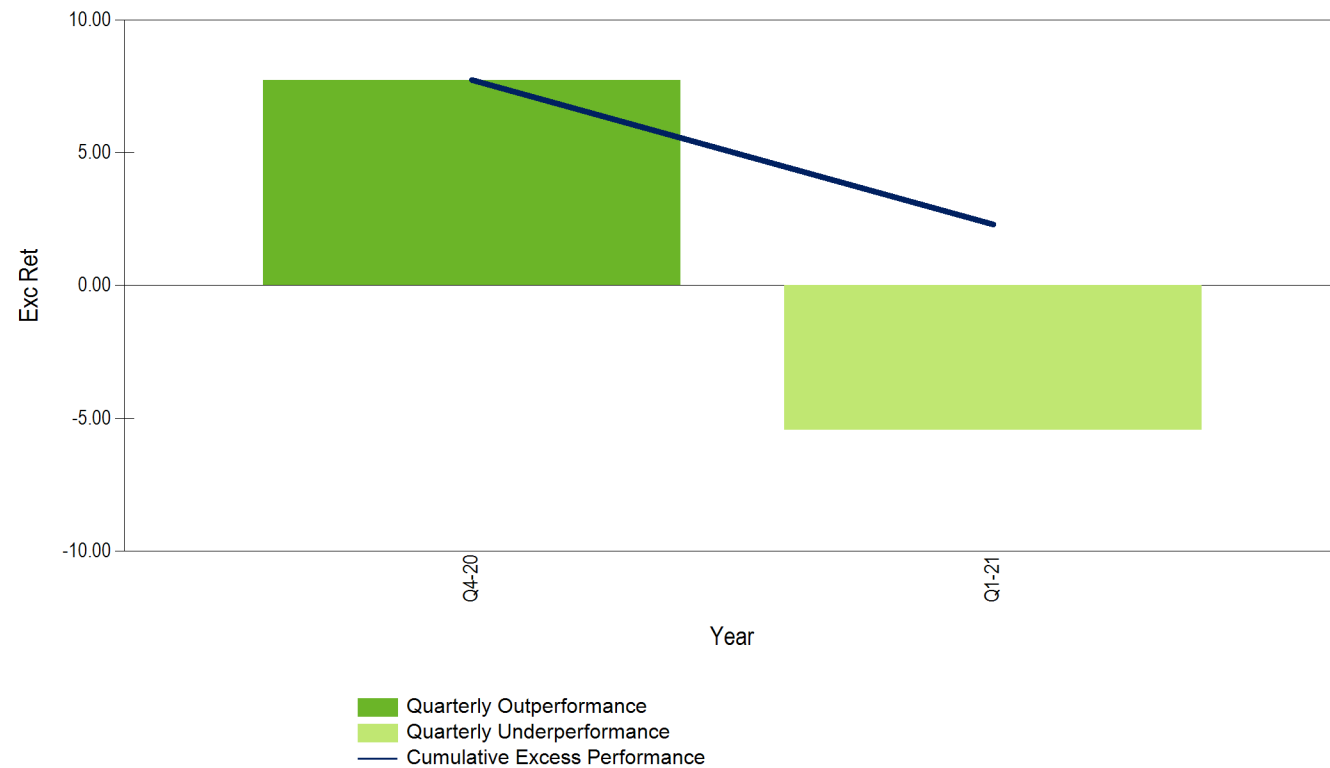
- Copeland Capital Management
- ▲ Russell 2000
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

GRANAHAN INVESTMENT MANAGEMENT

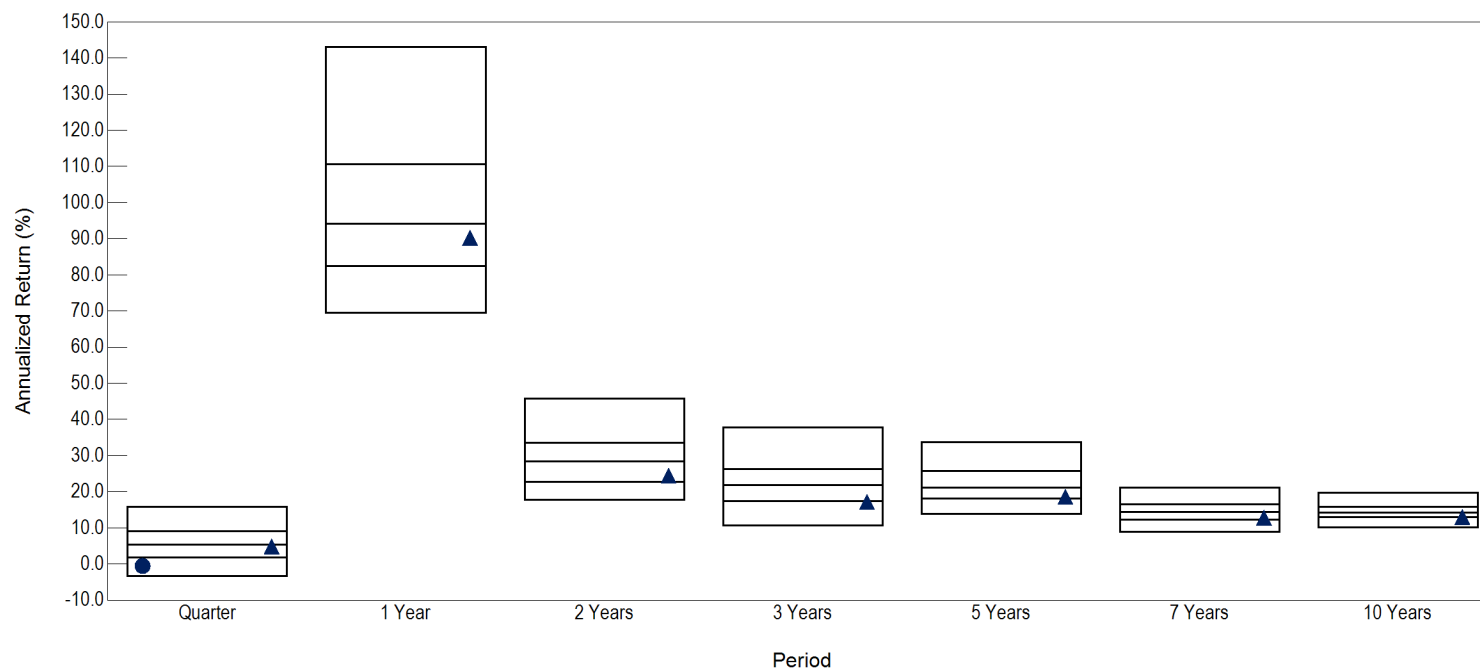
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

GRANAHAN INVESTMENT MANAGEMENT

Granahan Investment Management vs. eV US Small Cap Growth Equity Net



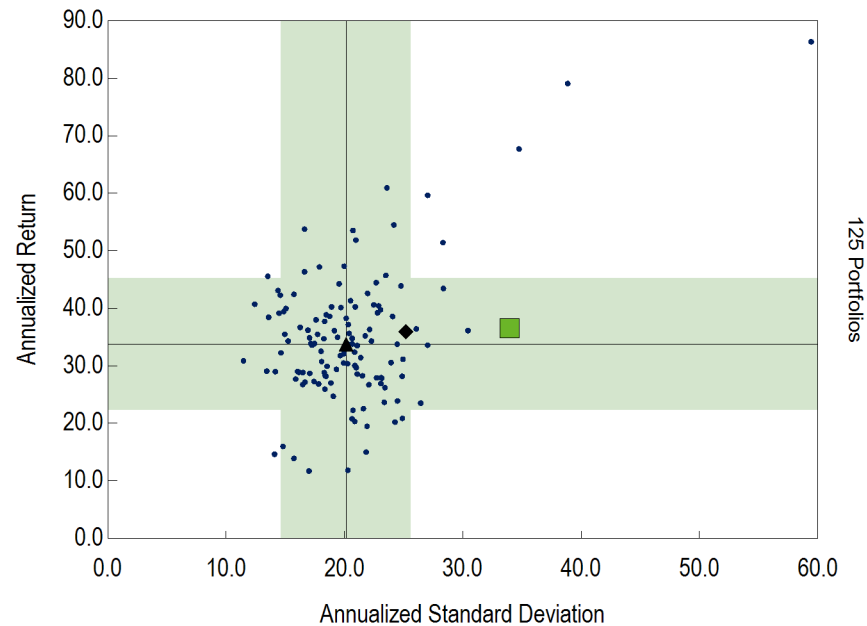
		Return (Rank)													
5th Percentile		15.86	143.01		45.69		37.71		33.74		21.17		19.66		
25th Percentile		9.18	110.80		33.72		26.37		25.87		16.73		15.99		
Median		5.45	94.37		28.54		22.04		21.38		14.63		14.45		
75th Percentile		2.01	82.65		22.81		17.60		18.27		12.37		13.12		
95th Percentile		-3.20	69.63		17.90		10.85		13.98		9.05		10.31		
# of Portfolios		125	125		124		124		119		108		102		
●	Granahan Investment Management	-0.57	(91)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)		
▲	Russell 2000 Growth	4.88	(54)	90.20	(56)	24.44	(66)	17.16	(79)	18.61	(73)	12.77	(73)	13.02 (79)	



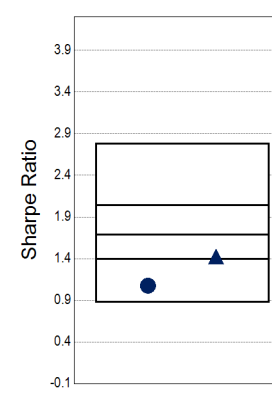
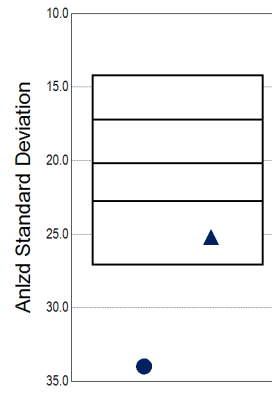
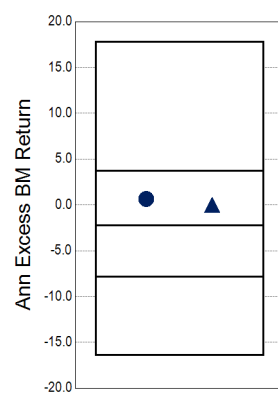
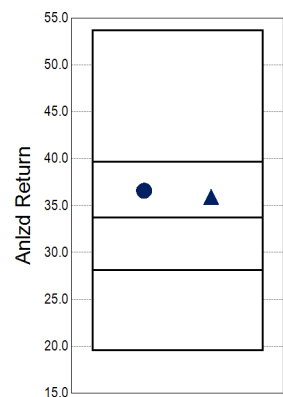
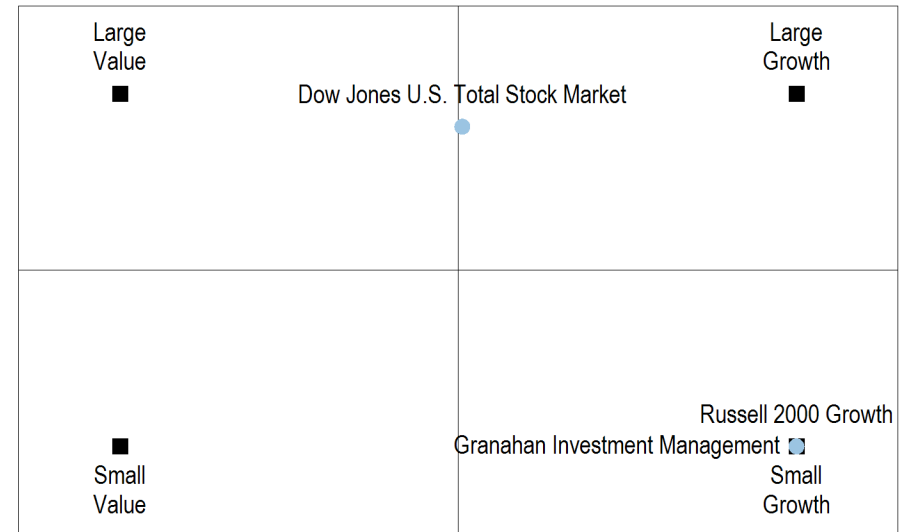
Los Angeles City Employees' Retirement System

GRANAHAN INVESTMENT MANAGEMENT

Since Inception Risk Return



U.S. Effective Style Map



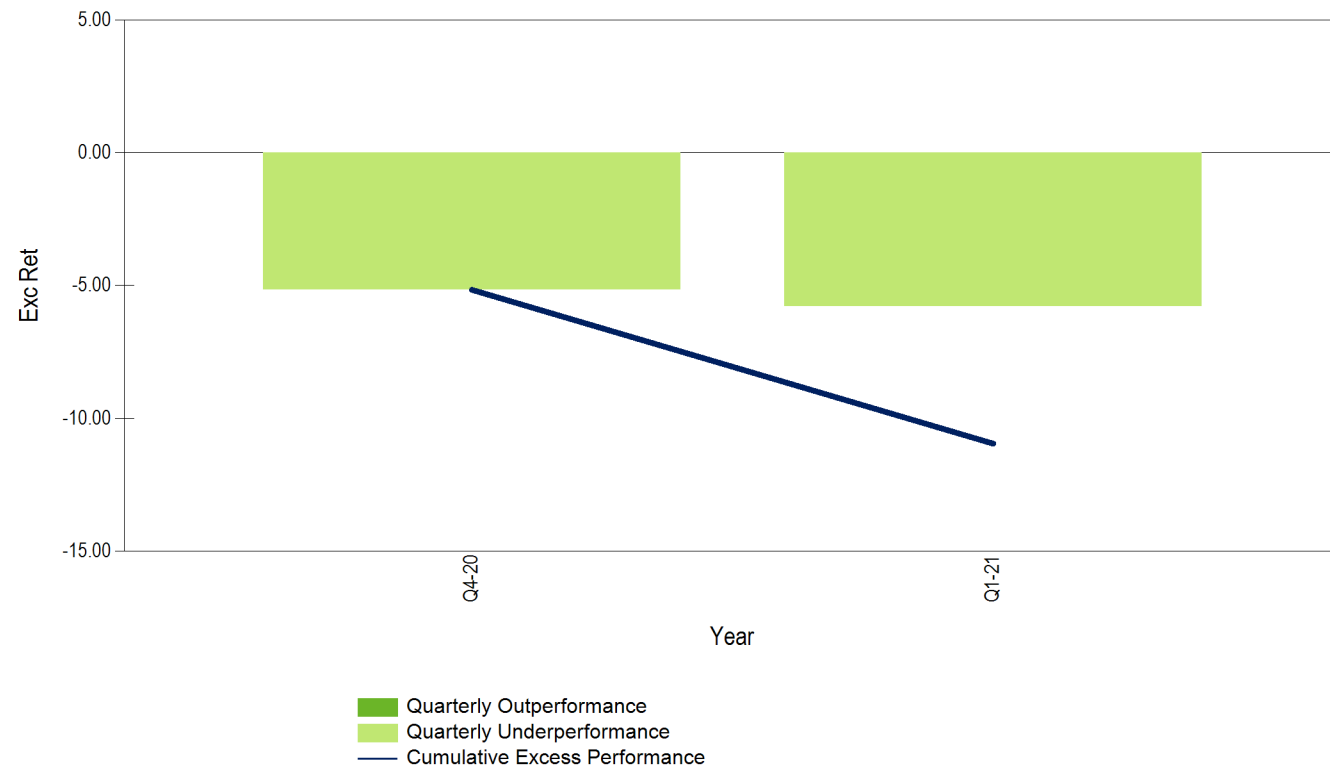
- Granahan Investment Mana...
- ▲ Russell 2000 Growth
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SEGALL, BRYANT & HAMILL

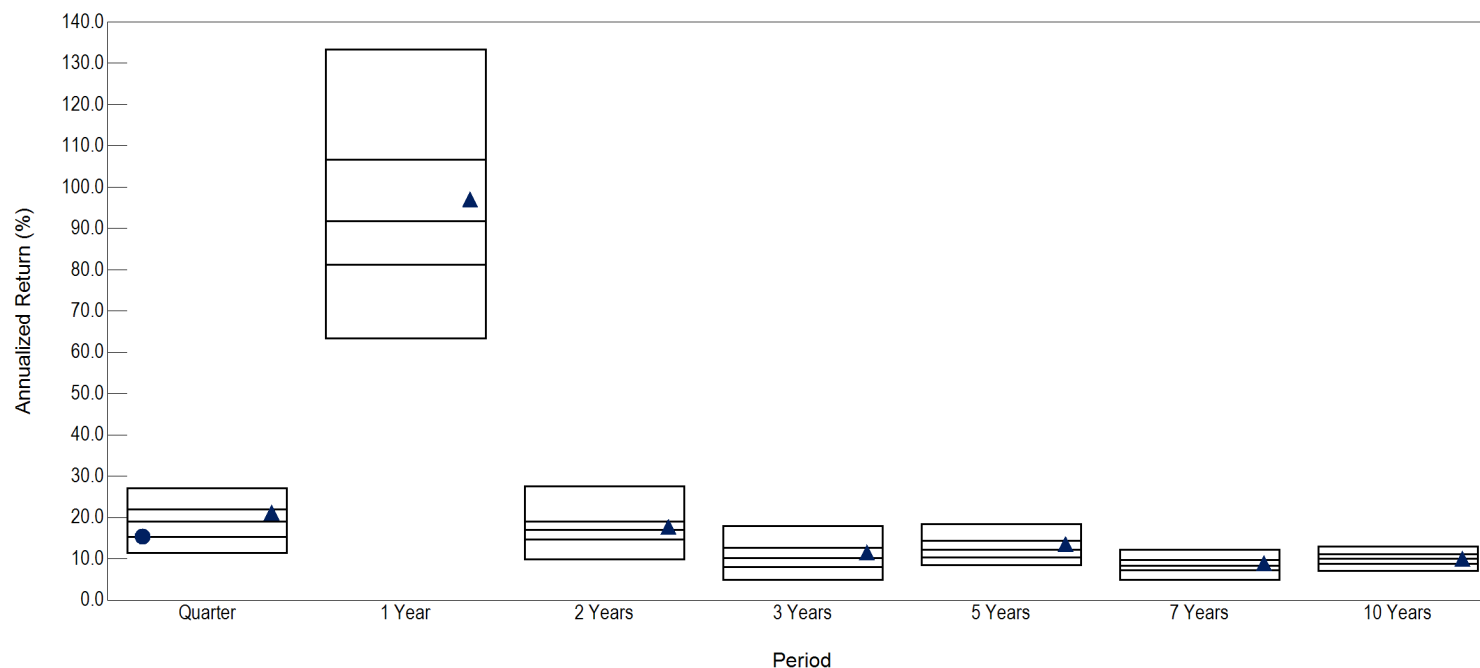
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SEGALL, BRYANT & HAMILL

Segall, Bryant & Hamill vs. eV US Small Cap Value Equity Net



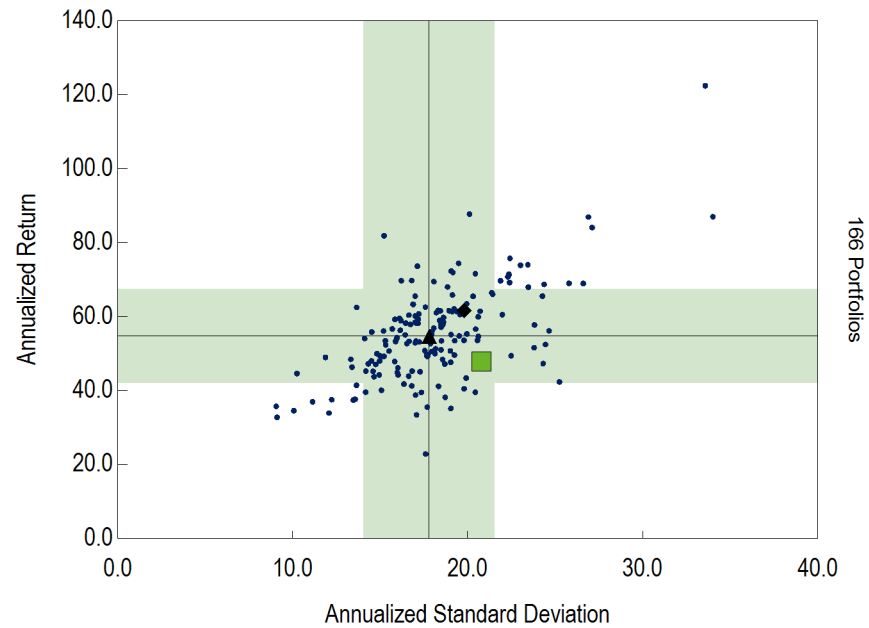
		Return (Rank)													
5th Percentile		27.09	133.31	27.47	17.88	18.34	12.12	12.96							
25th Percentile		22.17	106.84	19.14	12.76	14.50	9.86	11.22							
Median		19.20	91.94	17.09	10.28	12.33	8.39	10.17							
75th Percentile		15.43	81.32	14.84	8.20	10.48	7.41	8.99							
95th Percentile		11.63	63.43	9.97	5.04	8.60	5.09	7.17							
# of Portfolios		167	165	163	159	155	144	132							
●	Segall, Bryant & Hamill	15.37	(76)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)		
▲	Russell 2000 Value	21.17	(32)	97.05	(40)	17.74	(42)	11.57	(37)	13.56	(36)	8.93	(41)	10.06	(54)



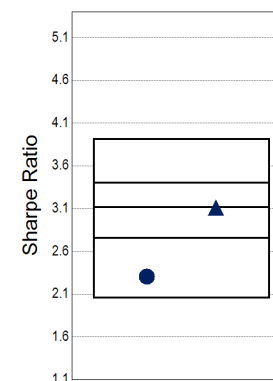
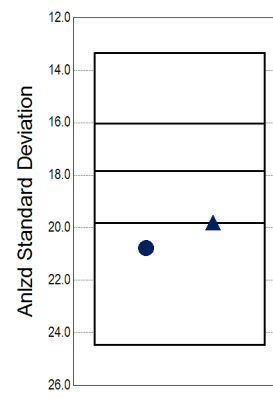
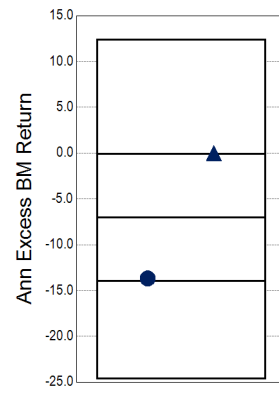
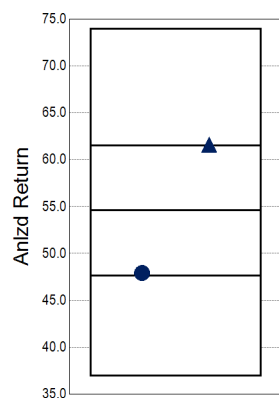
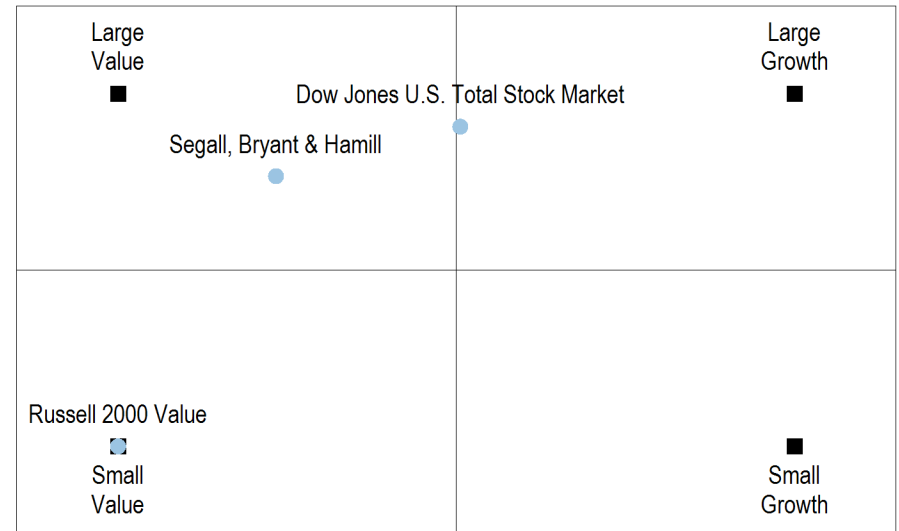
Los Angeles City Employees' Retirement System

SEGALL, BRYANT & HAMILL

Since Inception Risk Return



U.S. Effective Style Map



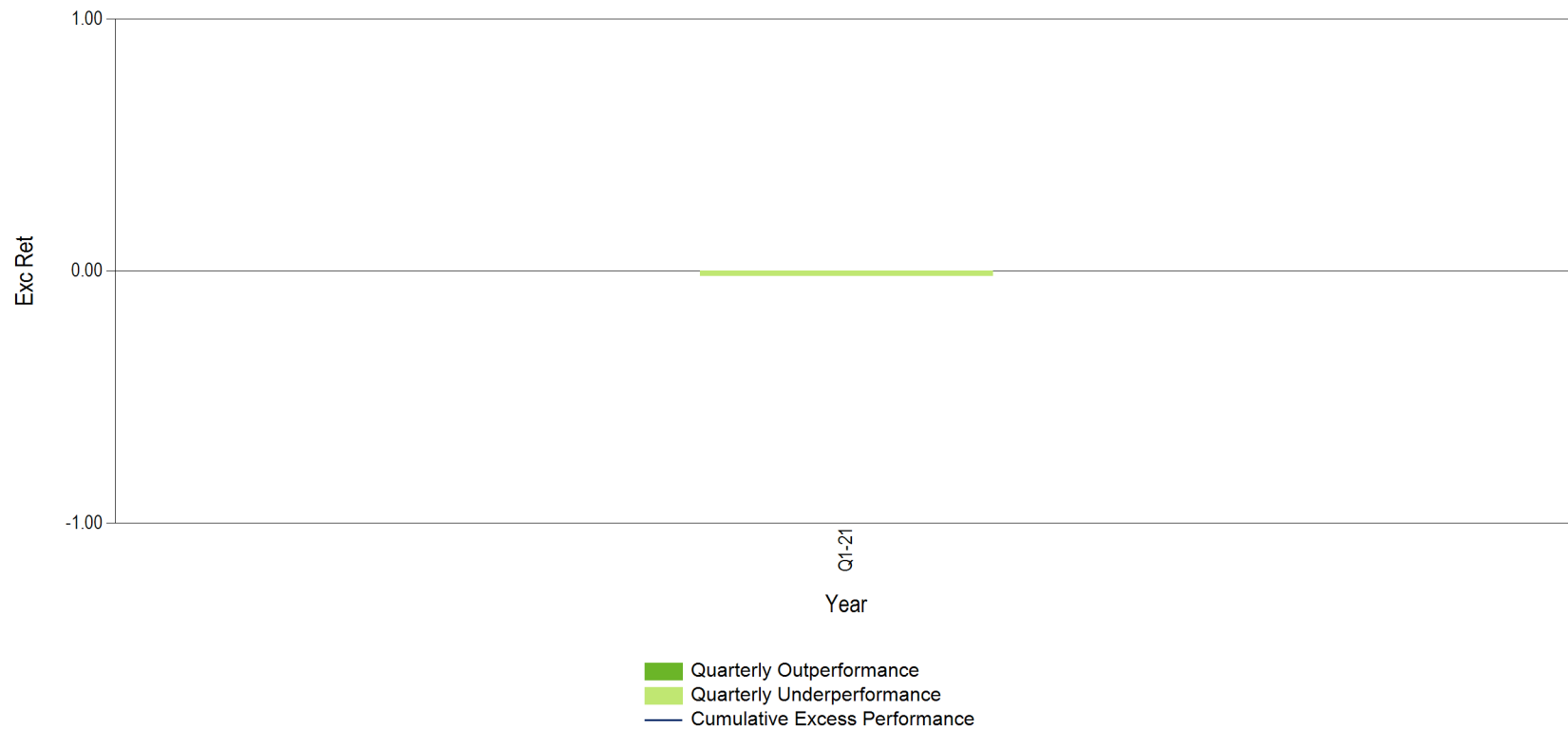
- Segall, Bryant & Hamill
- ▲ Russell 2000 Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS RUSSELL 2000 VALUE

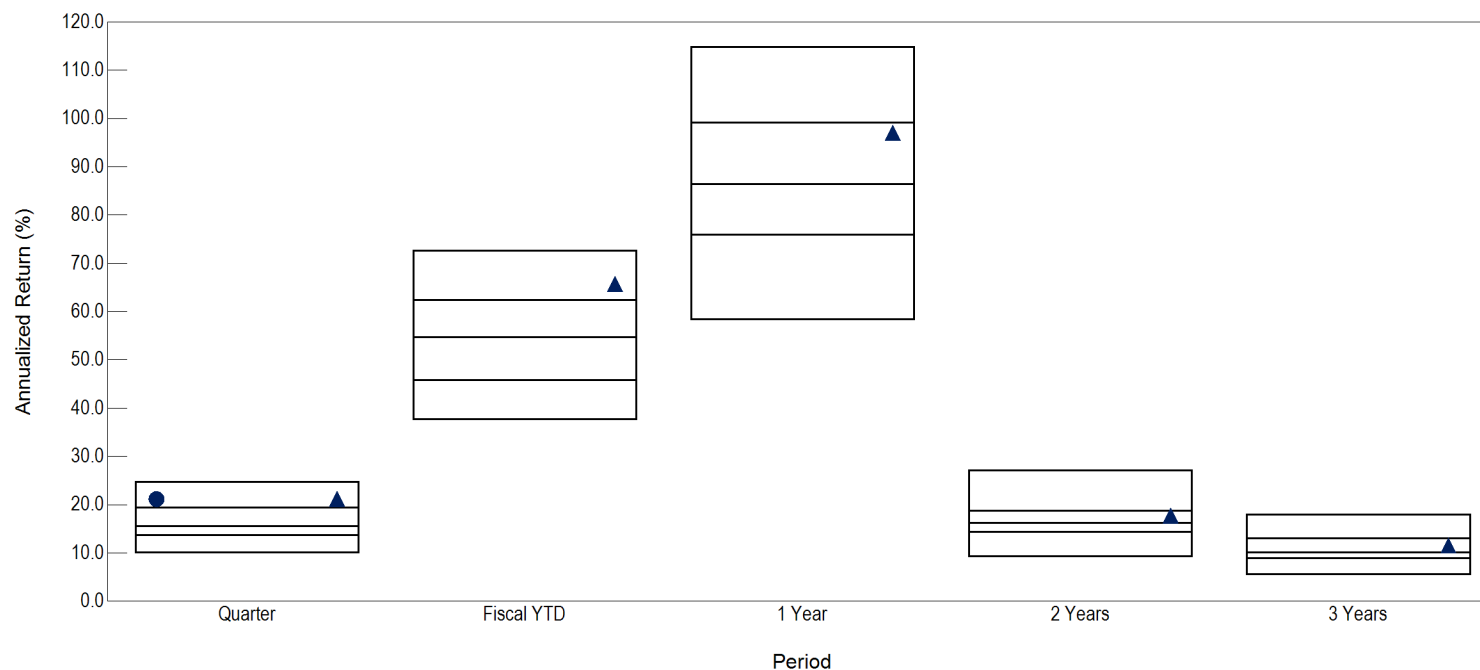
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Rhumbline Advisers Russell 2000 Value vs. eV US Small-Mid Cap Value Equity Net



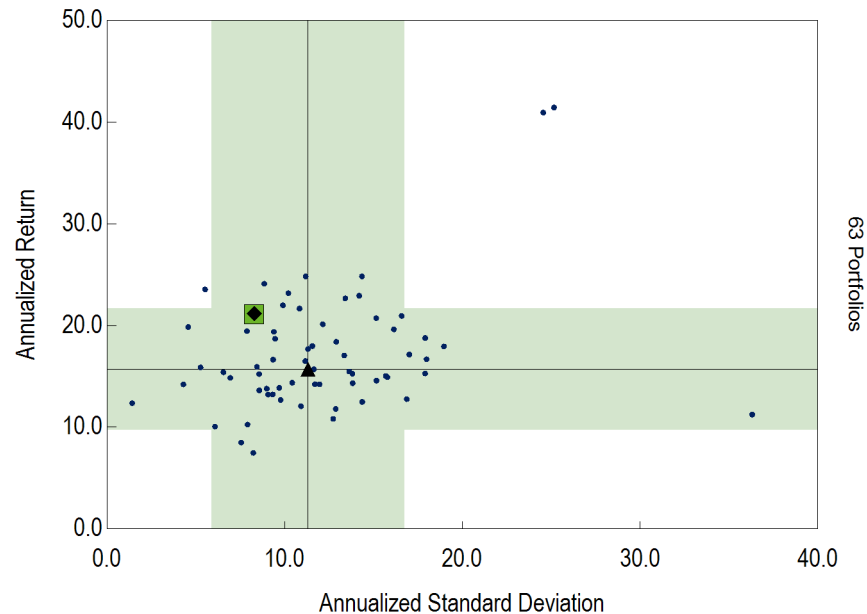
		Return (Rank)									
5th Percentile		24.76		72.59		114.84		27.16		17.92	
25th Percentile		19.54		62.56		99.27		18.83		13.21	
Median		15.71		54.88		86.59		16.41		10.32	
75th Percentile		13.83		45.94		76.01		14.48		9.03	
95th Percentile		10.31		37.86		58.56		9.52		5.81	
# of Portfolios		63		63		63		59		58	
●	Rhumbline Advisers Russell 2000 Value	21.15	(18)	--	(--)	--	(--)	--	(--)	--	(--)
▲	Russell 2000 Value	21.17	(18)	65.72	(14)	97.05	(33)	17.74	(39)	11.57	(41)



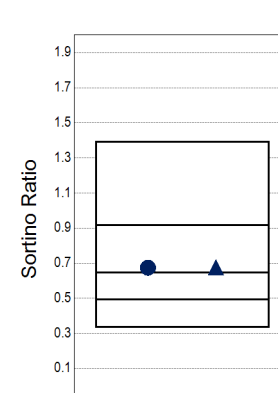
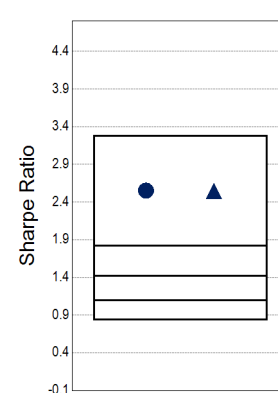
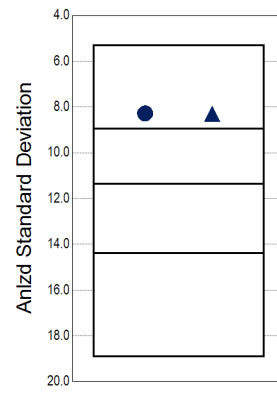
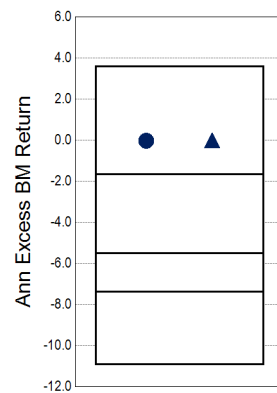
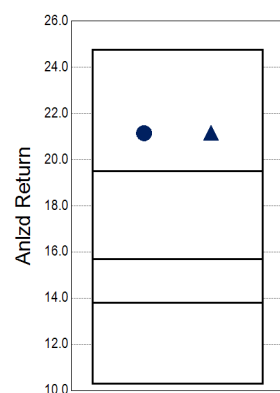
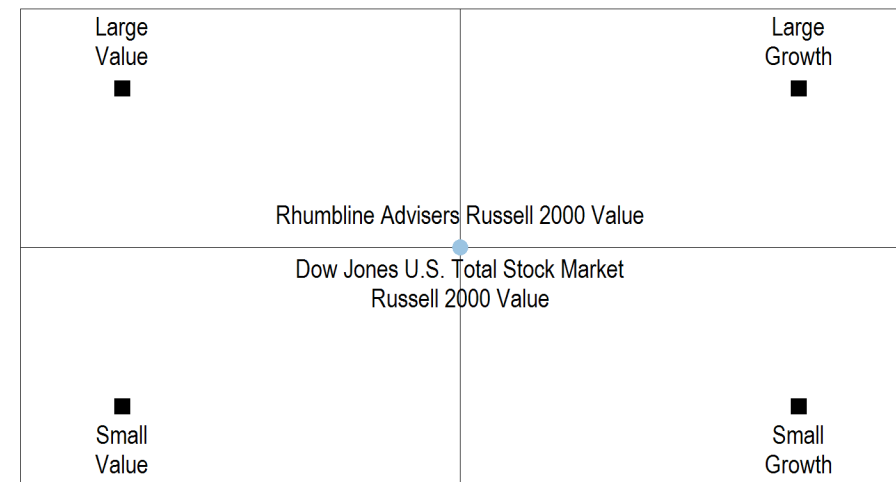
Los Angeles City Employees' Retirement System

RHUMBLINE ADVISORS RUSSELL 2000 VALUE

Since Inception Risk Return



U.S. Effective Style Map
3 Months Ending March 31, 2021



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



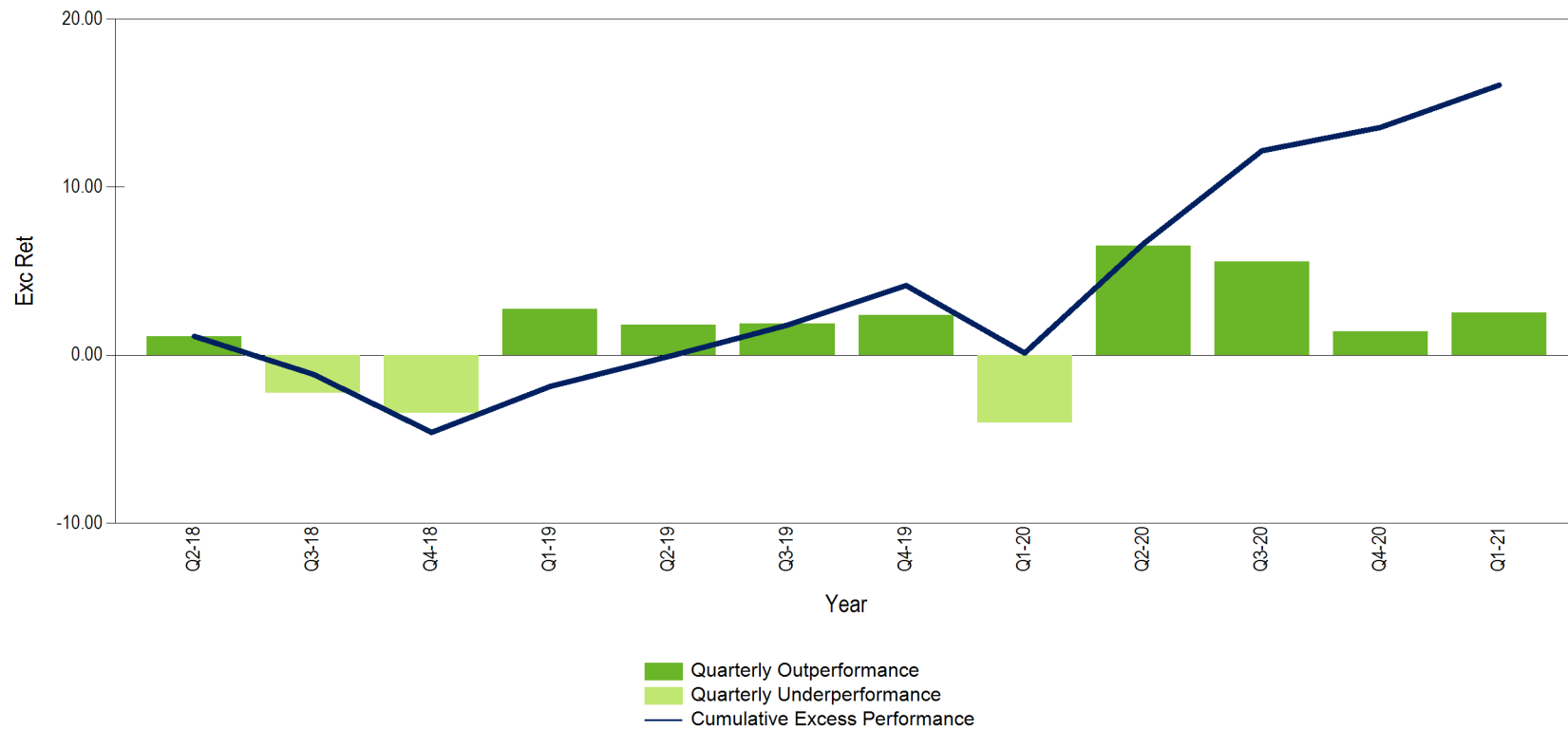
NON-U.S. EQUITY MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

BARROW HANLEY

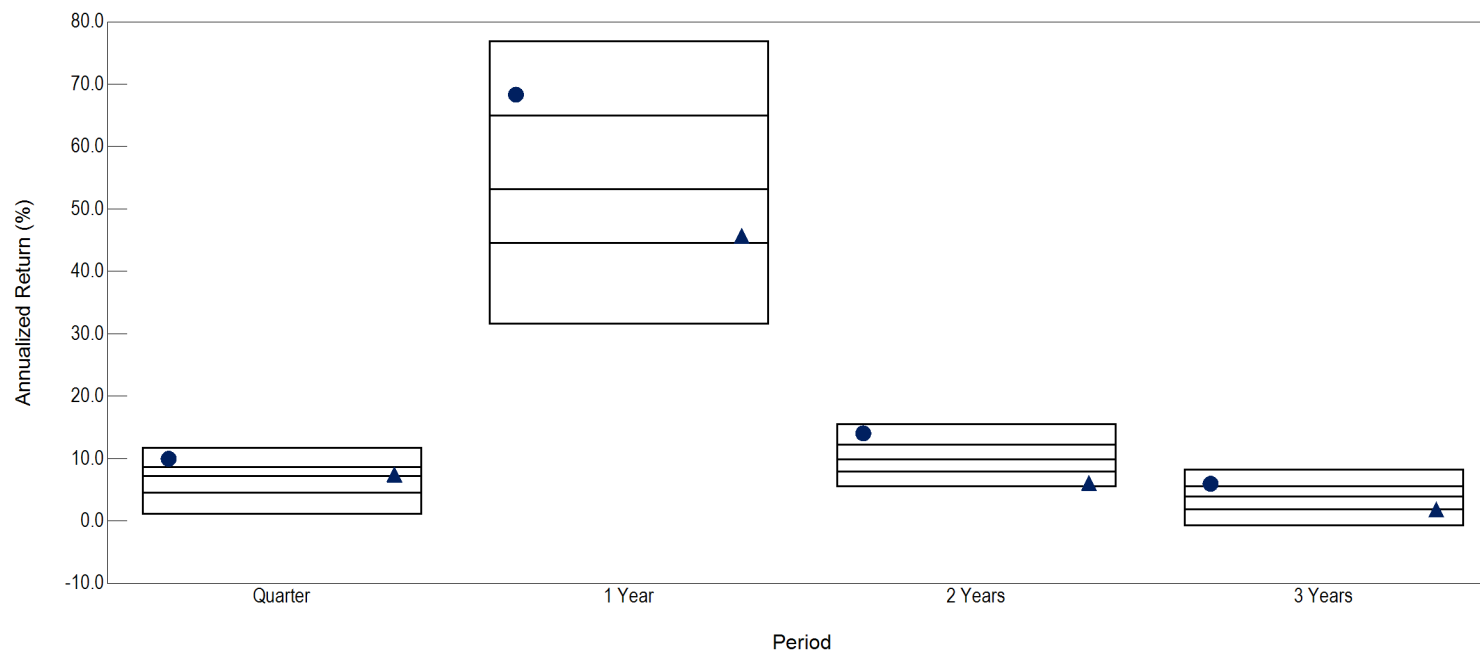
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

BARROW HANLEY

Barrow Hanley vs. eV EAFE Value Equity Net



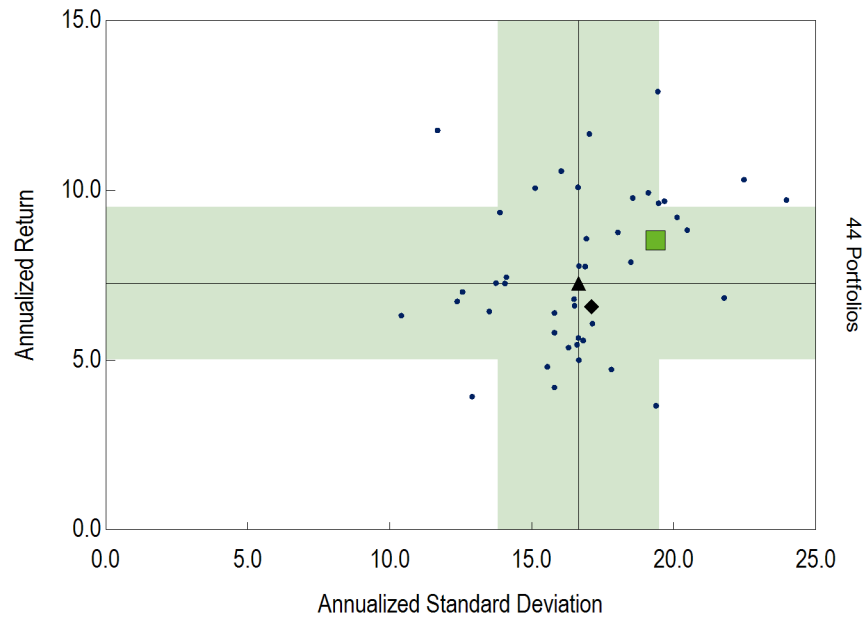
	Return (Rank)							
5th Percentile	11.69		76.83		15.52		8.26	
25th Percentile	8.78		65.03		12.32		5.67	
Median	7.32		53.26		9.99		4.00	
75th Percentile	4.67		44.65		7.99		1.95	
95th Percentile	1.25		31.73		5.61		-0.56	
# of Portfolios	60		60		54		50	
● Barrow Hanley	9.96	(15)	68.32	(21)	14.03	(17)	5.95	(16)
▲ MSCI EAFE Value	7.44	(49)	45.71	(73)	6.09	(92)	1.85	(76)



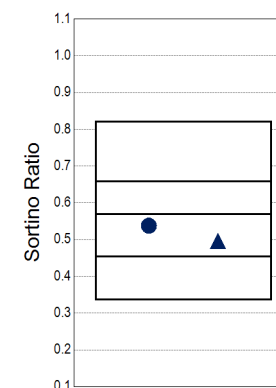
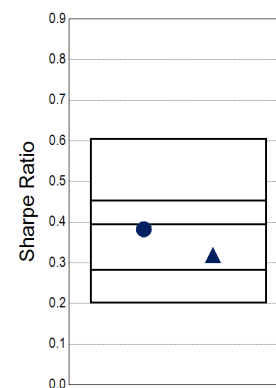
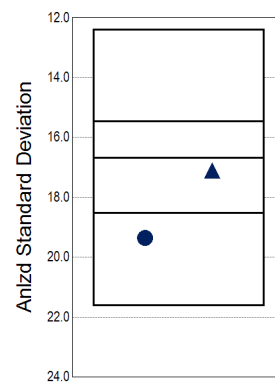
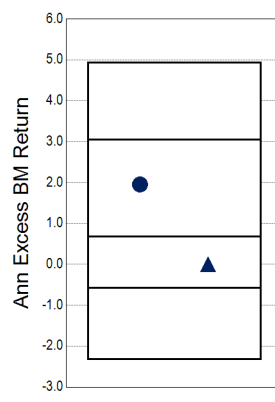
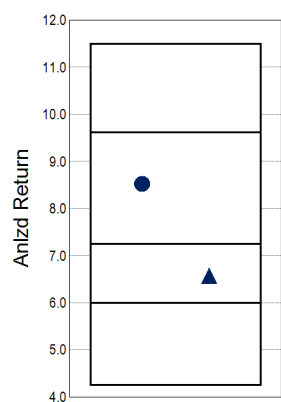
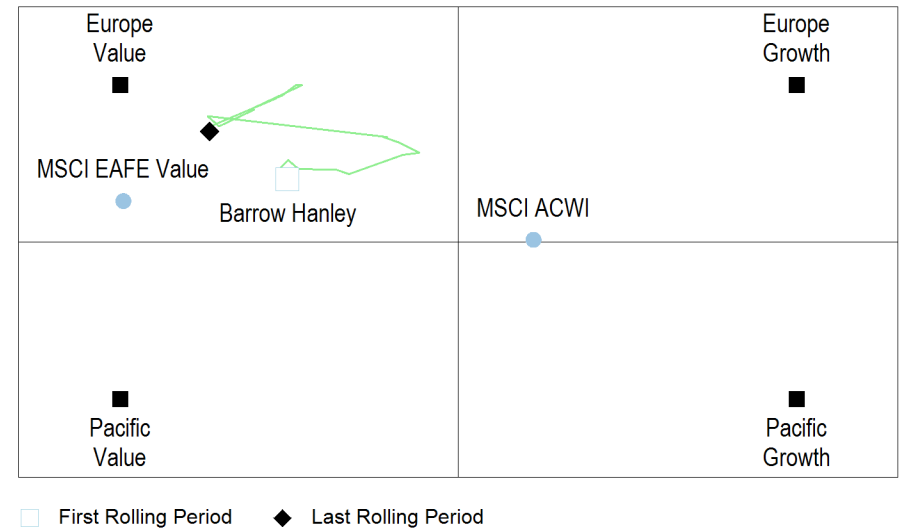
Los Angeles City Employees' Retirement System

BARROW HANLEY

5 Year Risk Return



5 Year Style Map



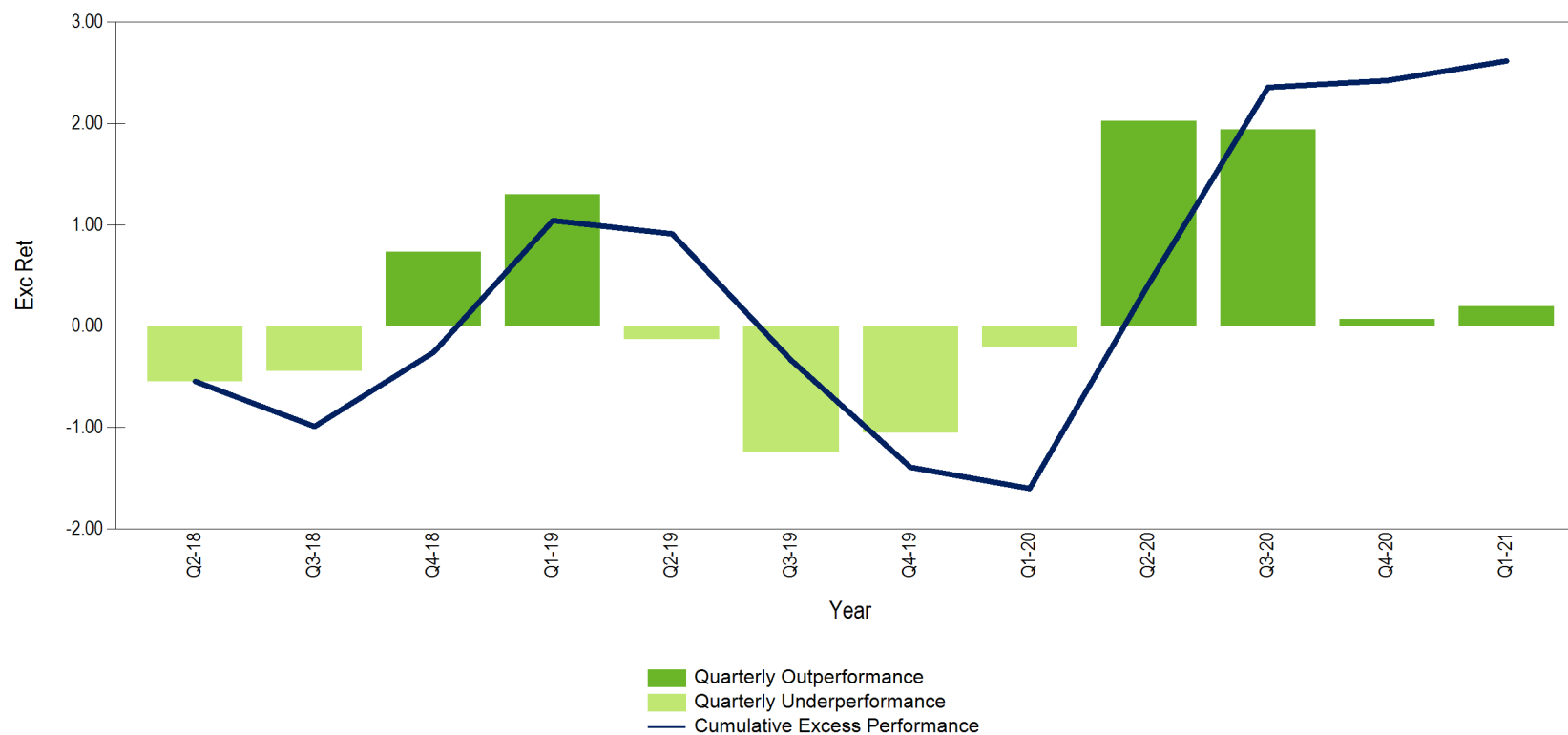
- Barrow Hanley
- ▲ MSCI EAFE Value
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

LAZARD ASSET MANAGEMENT

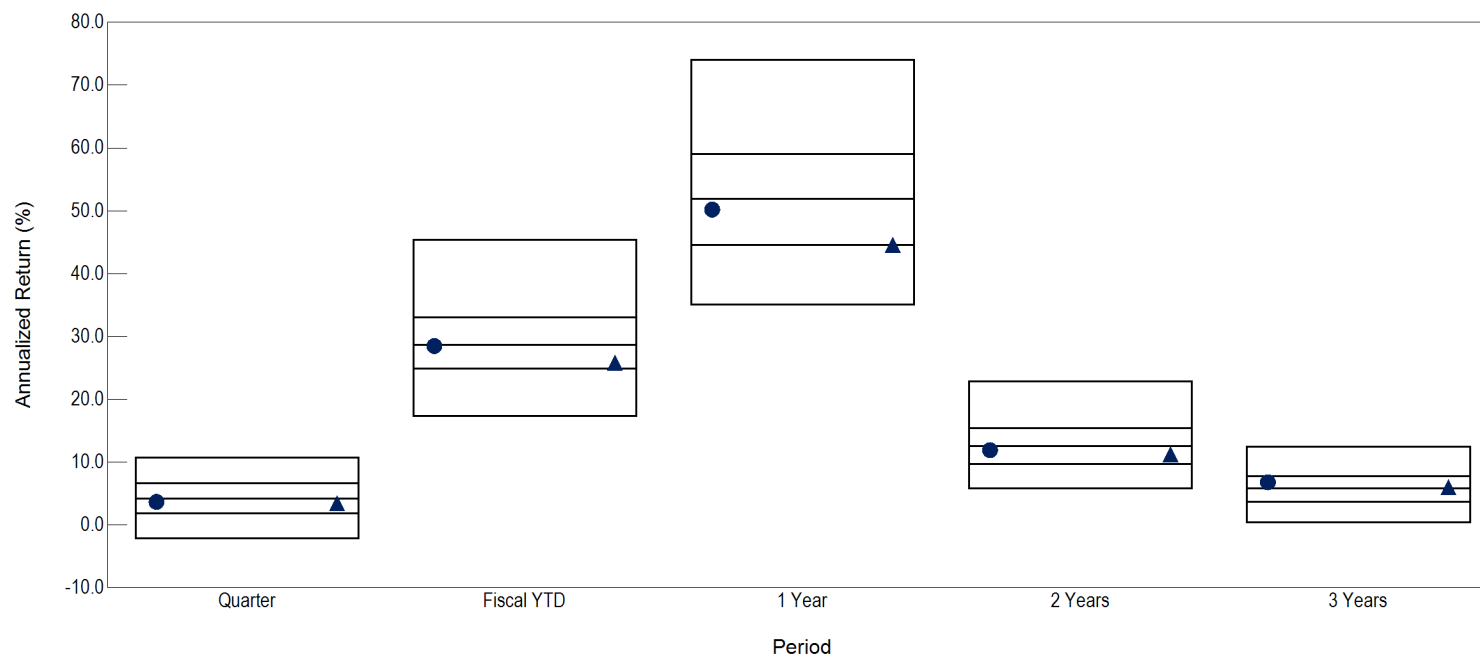
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LAZARD ASSET MANAGEMENT

Lazard Asset Management vs. eV All EAFE Equity Net



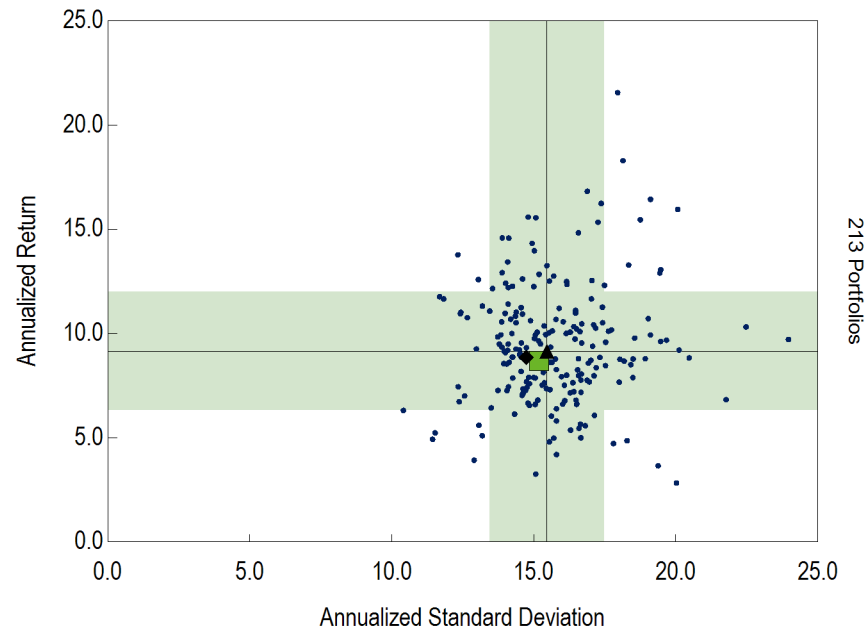
	Return (Rank)									
5th Percentile	10.77		45.37		74.06		22.88		12.43	
25th Percentile	6.70		33.10		59.11		15.55		7.89	
Median	4.29		28.72		52.01		12.62		5.96	
75th Percentile	1.98		25.01		44.65		9.85		3.81	
95th Percentile	-2.00		17.43		35.18		5.99		0.49	
# of Portfolios	244		244		244		236		231	
● Lazard Asset Management	3.67	(57)	28.48	(53)	50.19	(56)	11.91	(55)	6.80	(39)
▲ MSCI EAFE	3.48	(60)	25.84	(71)	44.57	(76)	11.25	(61)	6.02	(50)



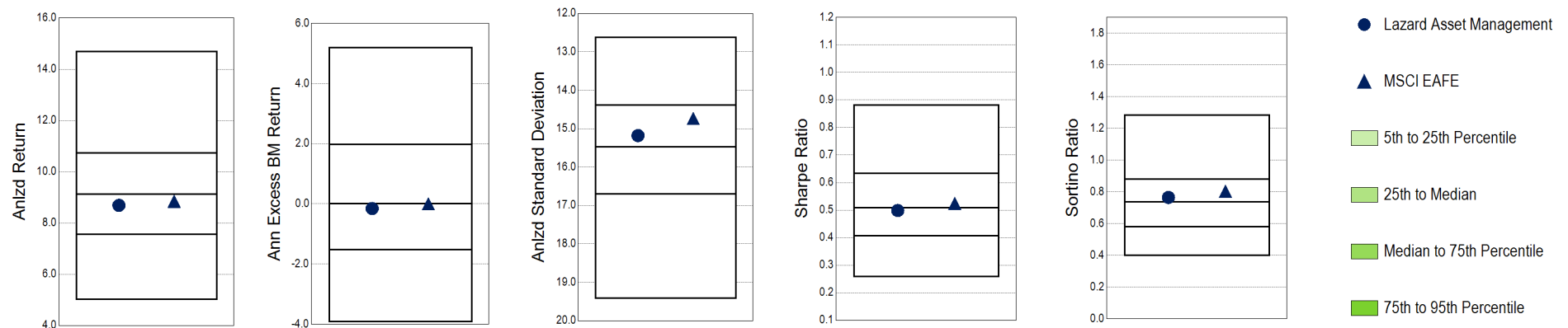
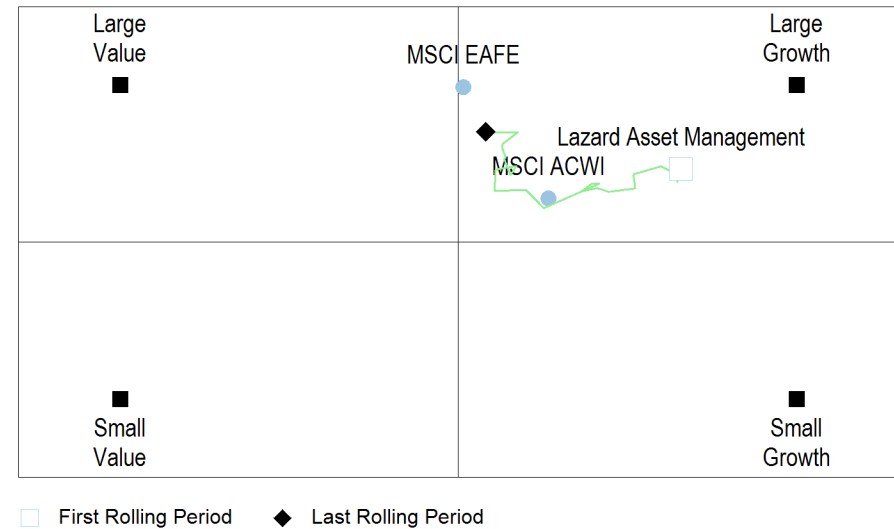
Los Angeles City Employees' Retirement System

LAZARD ASSET MANAGEMENT

5 Year Risk Return

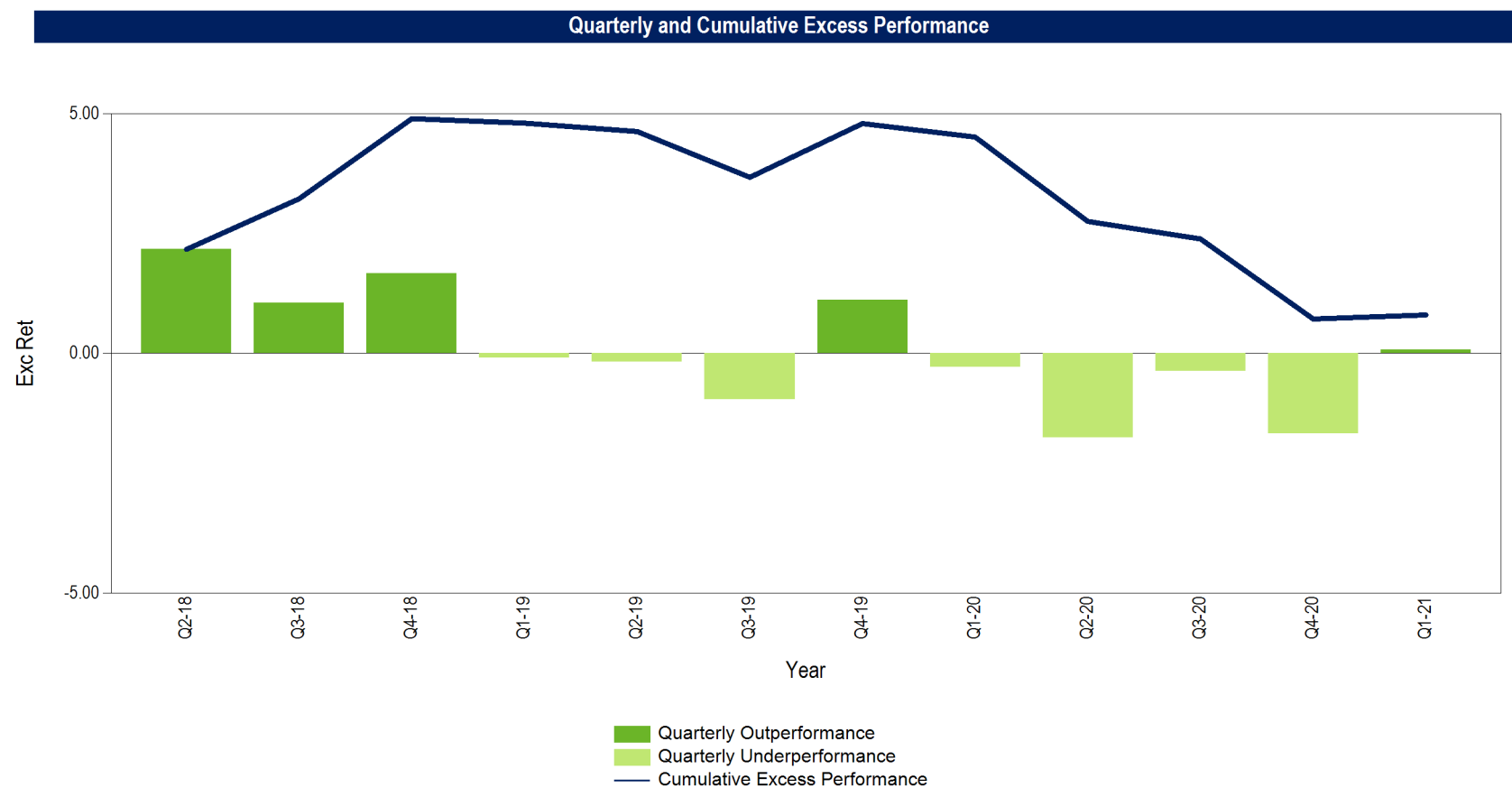


5 Year Style Map



Los Angeles City Employees' Retirement System

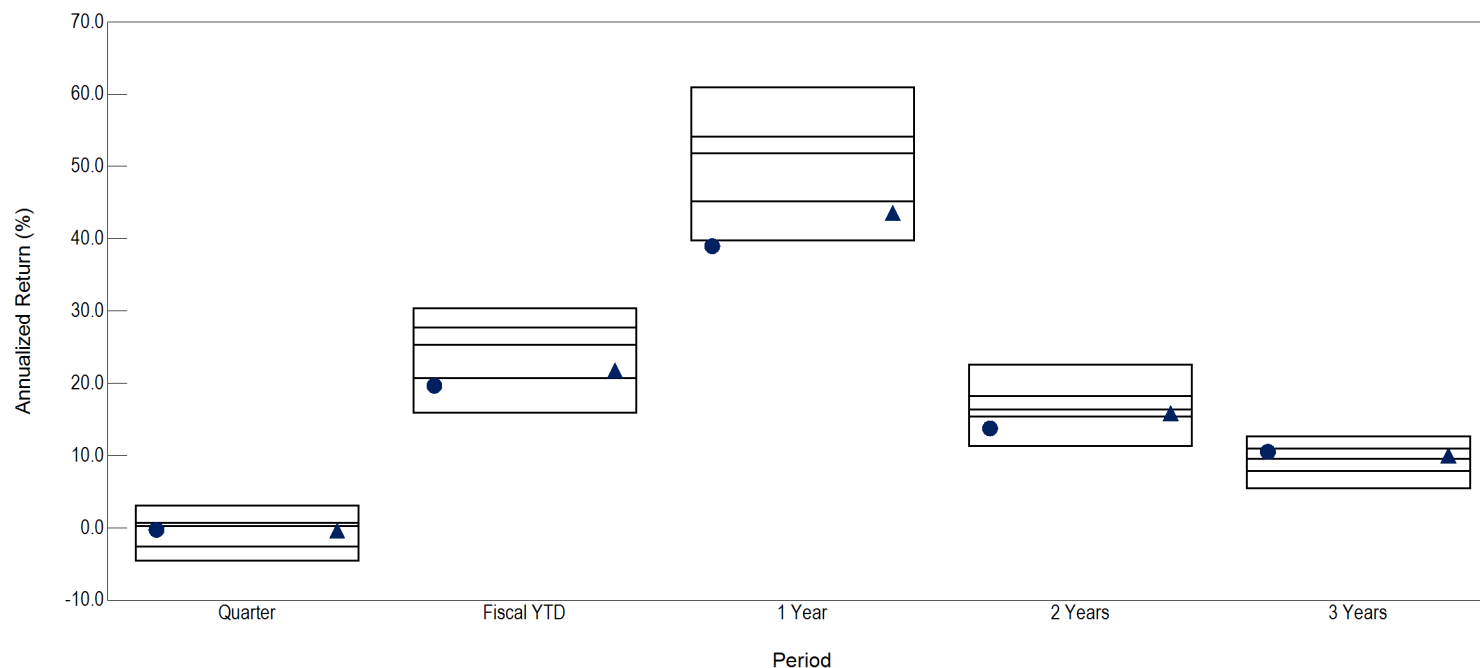
MFS INSTITUTIONAL ADVISORS



Los Angeles City Employees' Retirement System

MFS INSTITUTIONAL ADVISORS

MFS Institutional Advisors vs. eV EAFE All Cap Growth Net



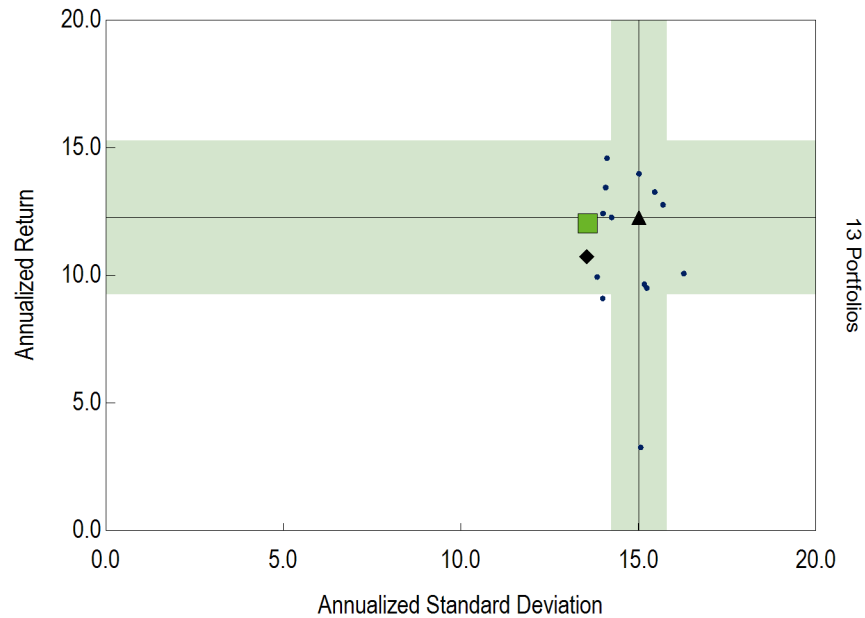
	Return (Rank)									
5th Percentile	3.05		30.40		60.96		22.55		12.63	
25th Percentile	0.80		27.83		54.19		18.30		11.06	
Median	0.30		25.38		51.87		16.49		9.60	
75th Percentile	-2.53		20.77		45.26		15.44		7.99	
95th Percentile	-4.46		16.03		39.83		11.41		5.58	
# of Portfolios	14		14		14		14		14	
● MFS Institutional Advisors	-0.28	(60)	19.65	(86)	38.95	(97)	13.75	(89)	10.50	(37)
▲ MSCI World ex USA Growth NR USD	-0.36	(61)	21.76	(68)	43.55	(87)	15.87	(70)	10.02	(48)



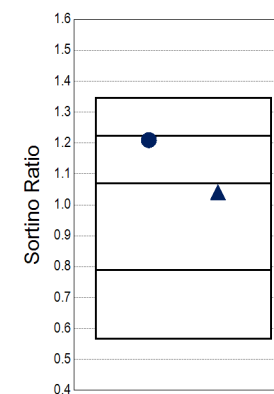
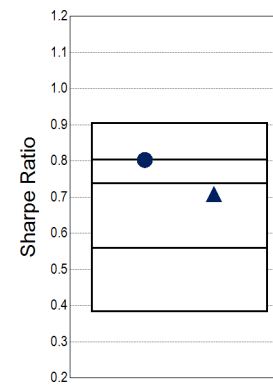
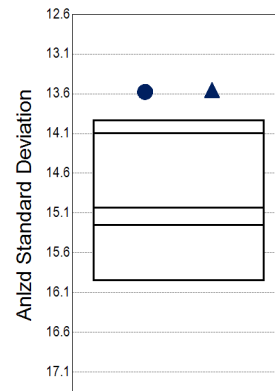
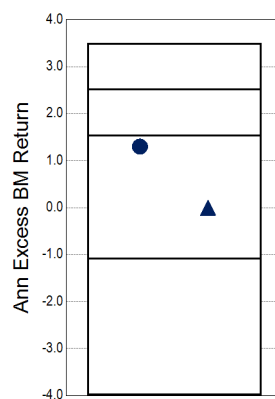
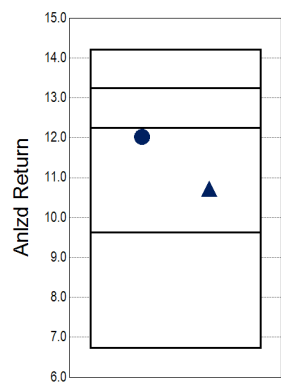
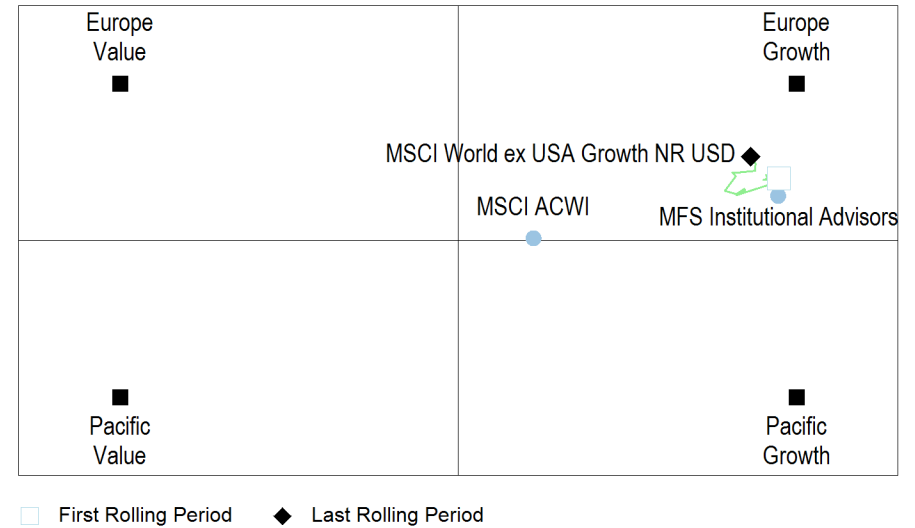
Los Angeles City Employees' Retirement System

MFS INSTITUTIONAL ADVISORS

5 Year Risk Return



5 Year Style Map



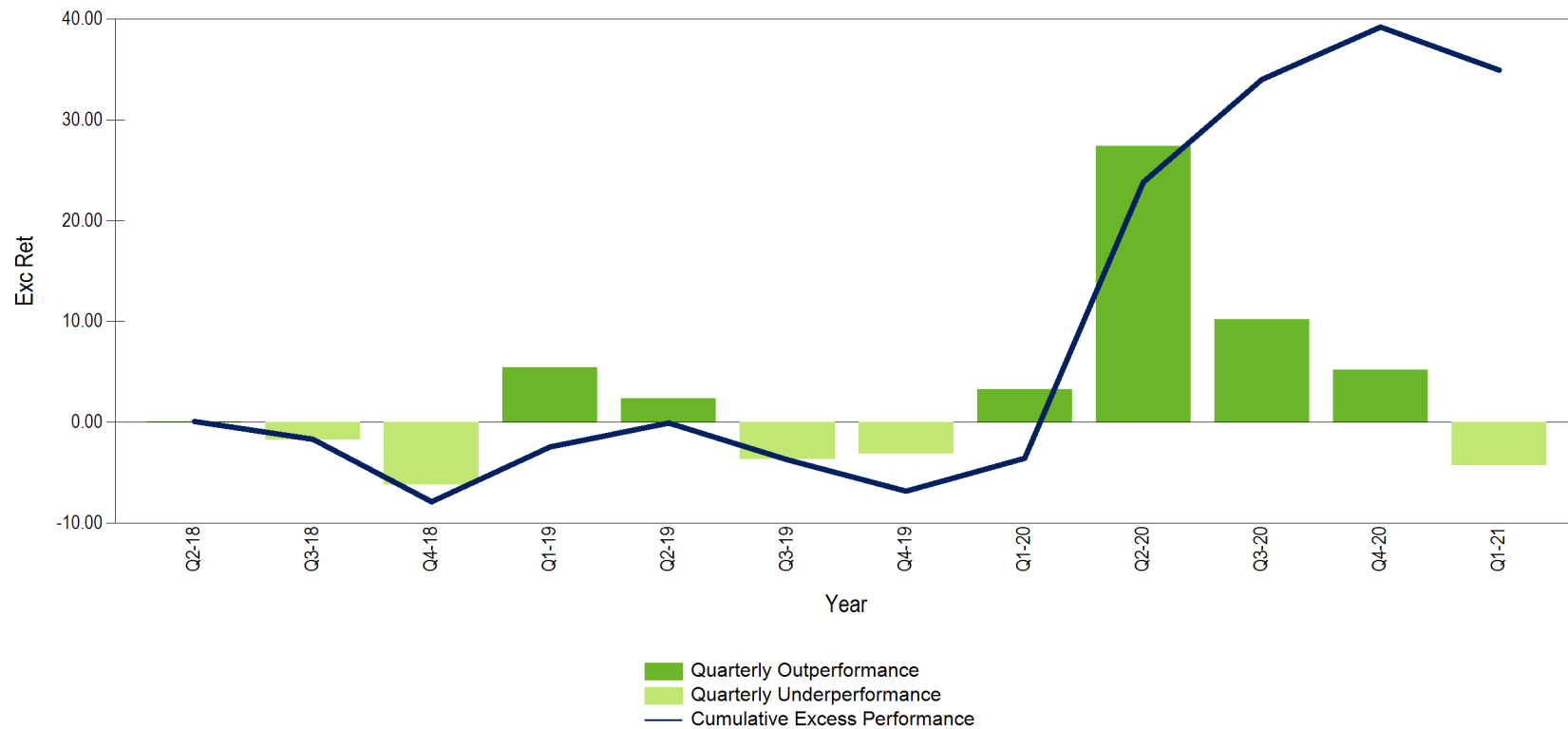
- MFS Institutional Advisors
- ▲ MSCI World ex USA Growth NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

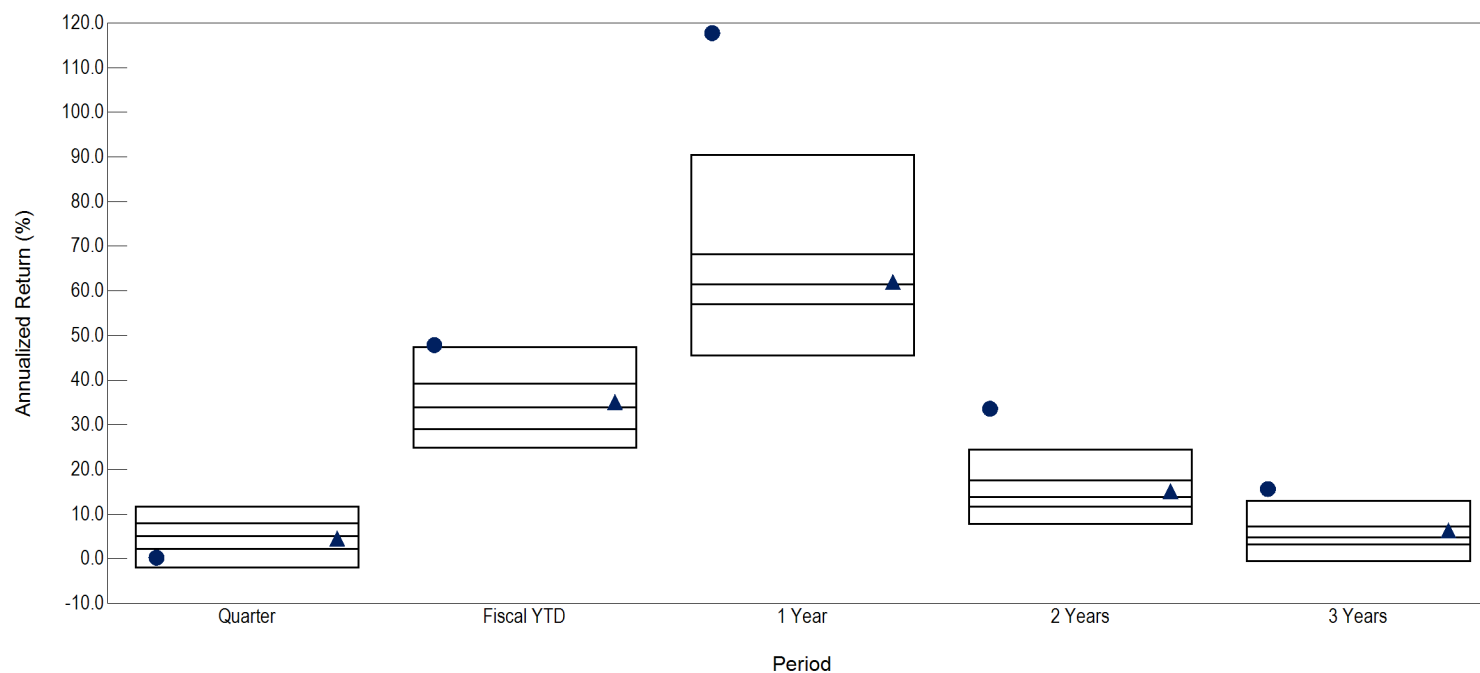
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

Oberweis Asset Mgmt vs. eV EAFE Small Cap Equity Net



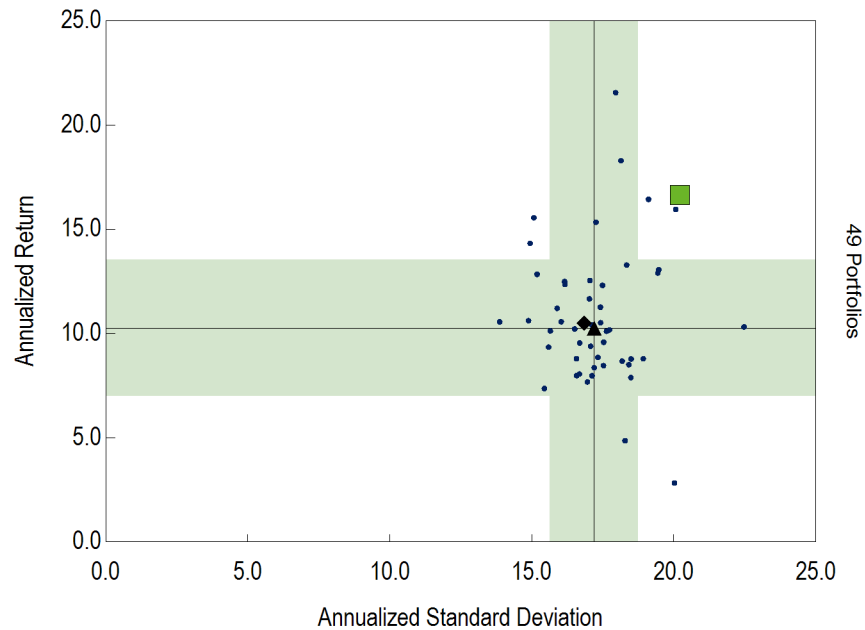
	Return (Rank)									
5th Percentile	11.67		47.34		90.51		24.47		12.89	
25th Percentile	8.07		39.35		68.38		17.64		7.38	
Median	5.20		34.11		61.60		14.01		4.99	
75th Percentile	2.36		29.24		57.16		11.76		3.35	
95th Percentile	-1.80		25.06		45.62		7.99		-0.32	
# of Portfolios	59		59		59		57		55	
● Oberweis Asset Mgmt	0.23	(81)	47.84	(4)	117.74	(1)	33.59	(1)	15.61	(1)
▲ MSCI EAFE Small Cap	4.50	(60)	35.11	(40)	61.98	(50)	15.14	(40)	6.32	(43)



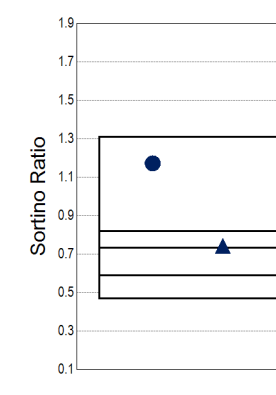
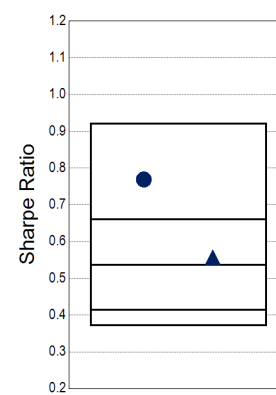
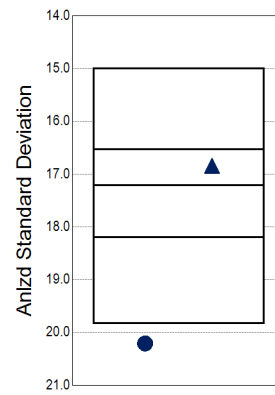
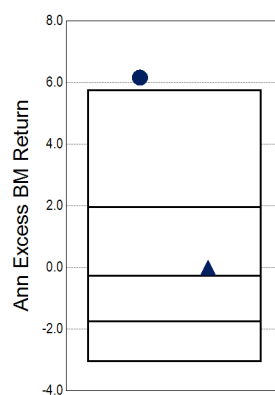
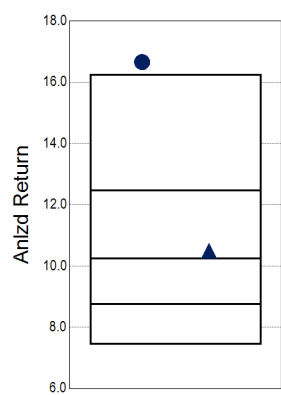
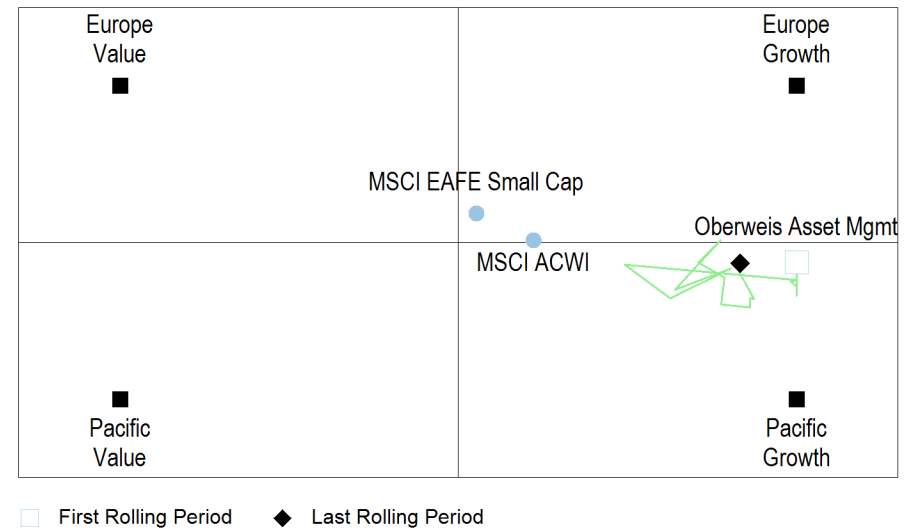
Los Angeles City Employees' Retirement System

OBERWEIS ASSET MGMT

5 Year Risk Return



5 Year Style Map



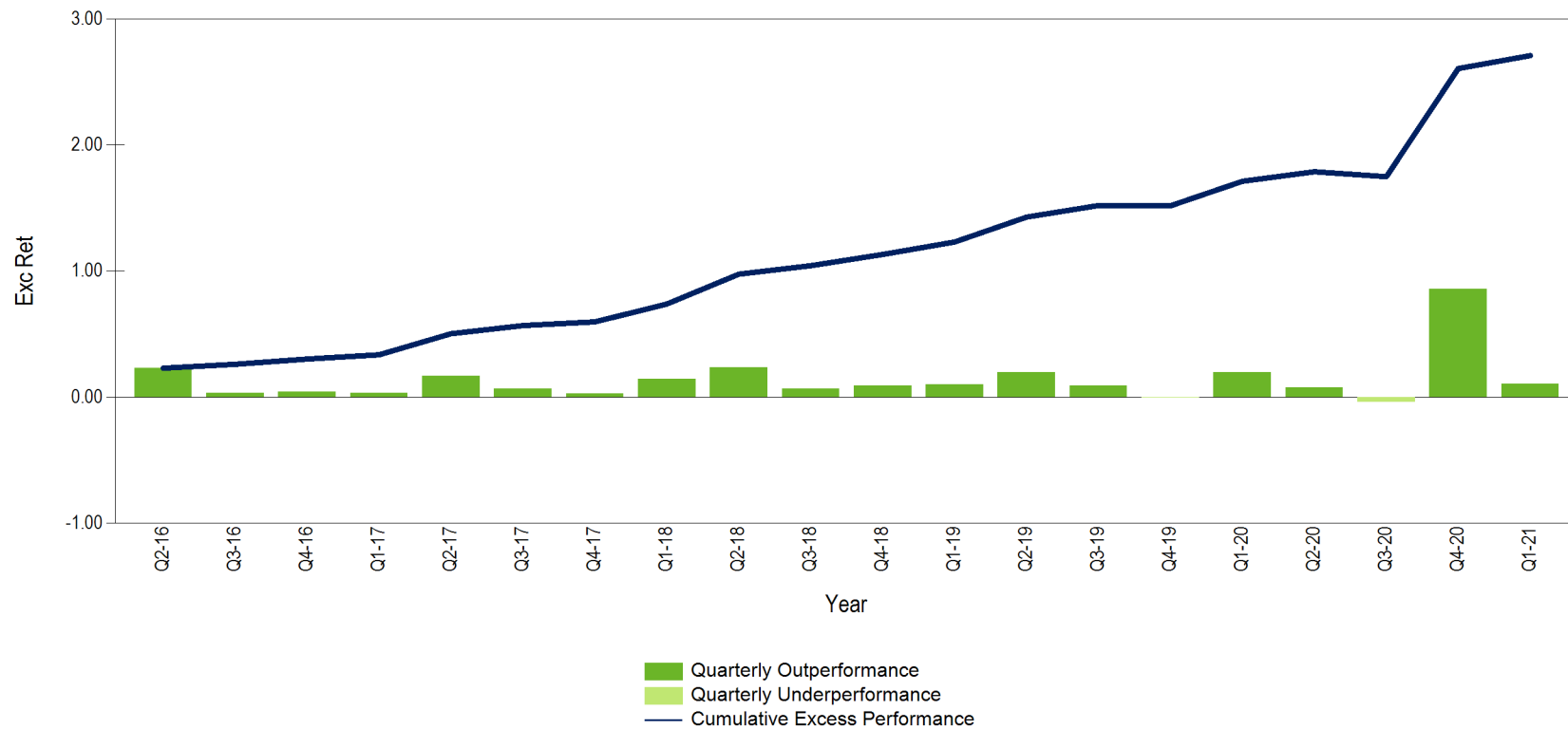
- Oberweis Asset Mgmt
- ▲ MSCI EAFE Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

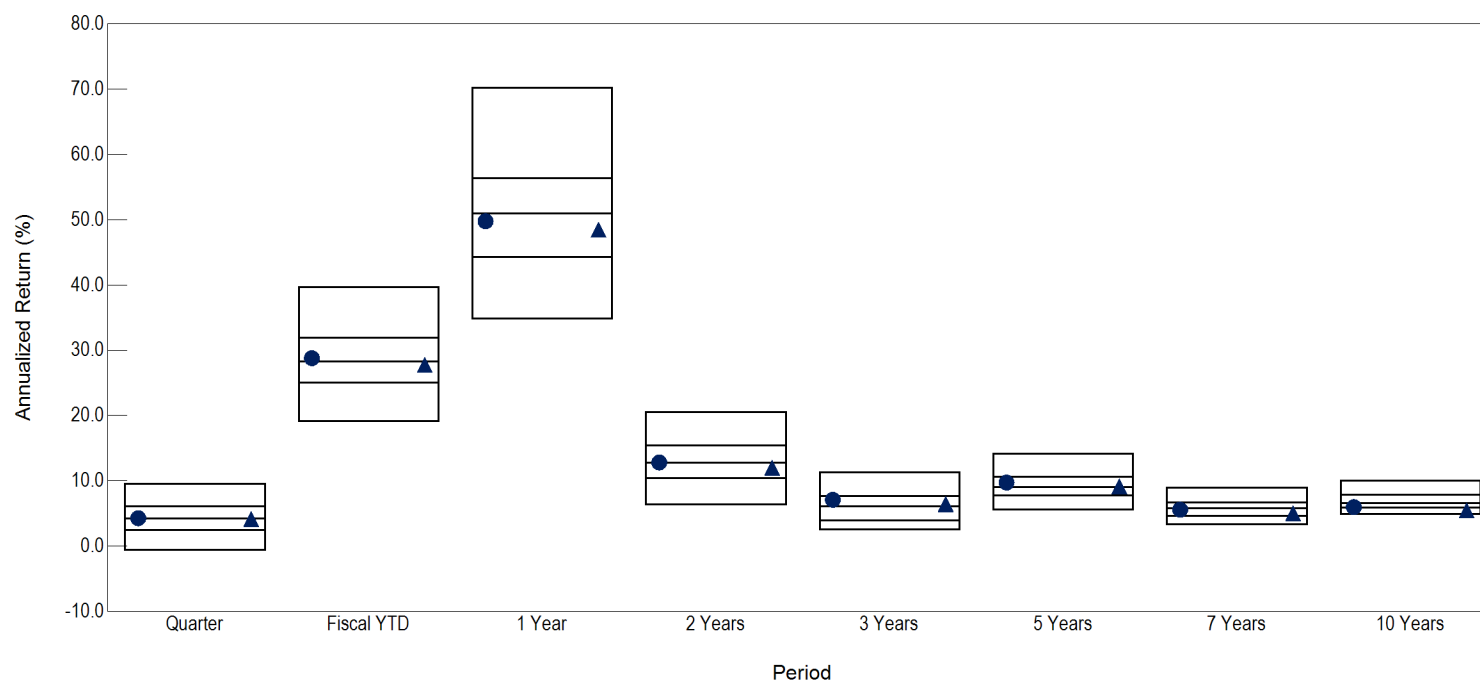
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

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



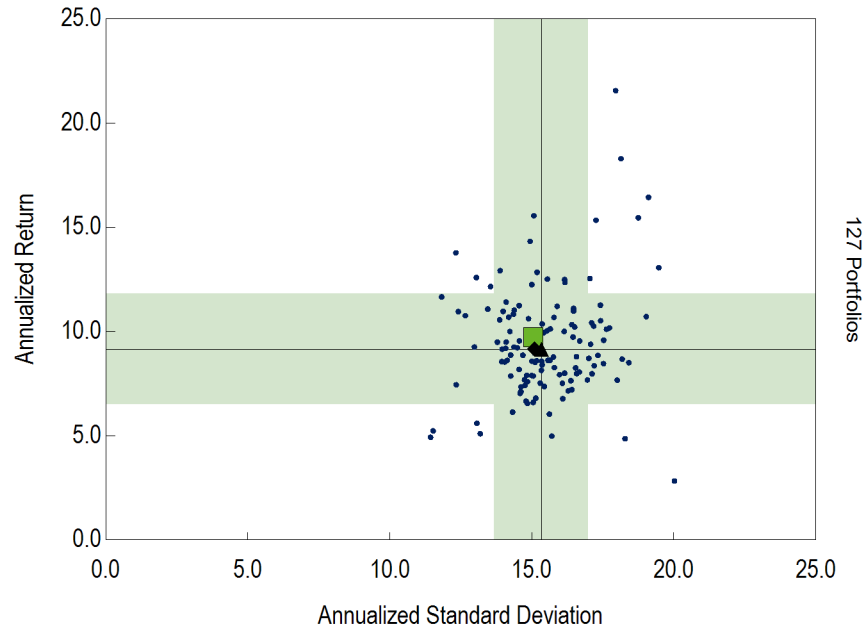
	Return (Rank)															
5th Percentile	9.50	39.66	70.20	20.53	11.31	14.16	8.90	9.98								
25th Percentile	6.18	32.02	56.43	15.49	7.74	10.70	6.82	8.00								
Median	4.37	28.43	51.07	12.91	6.17	9.15	5.90	6.66								
75th Percentile	2.56	25.17	44.39	10.54	4.04	7.89	4.68	5.95								
95th Percentile	-0.44	19.25	34.98	6.45	2.62	5.73	3.46	5.02								
# of Portfolios	136	136	136	135	134	127	106	78								
● SSGA World ex US IMI	4.27	(51)	28.79	(47)	49.76	(55)	12.81	(53)	7.09	(33)	9.73	(42)	5.57	(56)	5.97	(75)
▲ MSCI World ex USA IMI NR USD	4.17	(52)	27.76	(58)	48.47	(61)	12.02	(58)	6.41	(46)	9.16	(50)	5.06	(68)	5.47	(88)



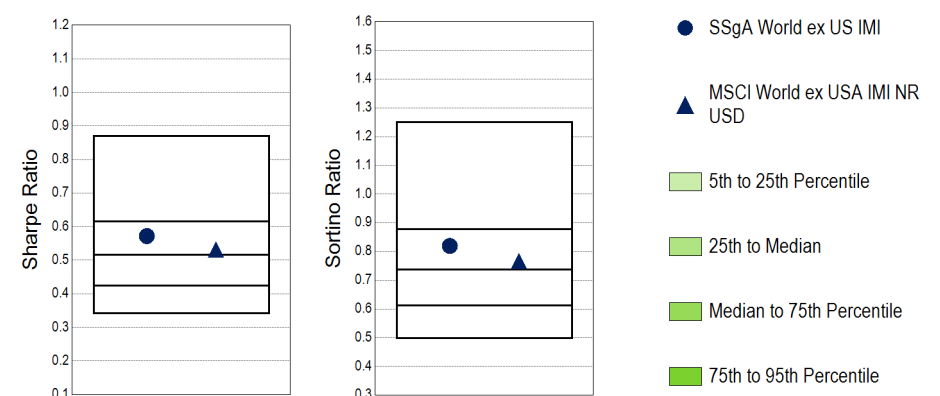
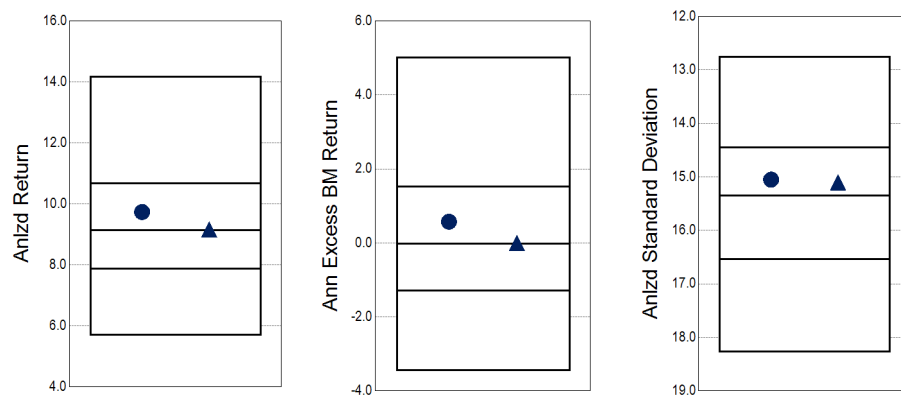
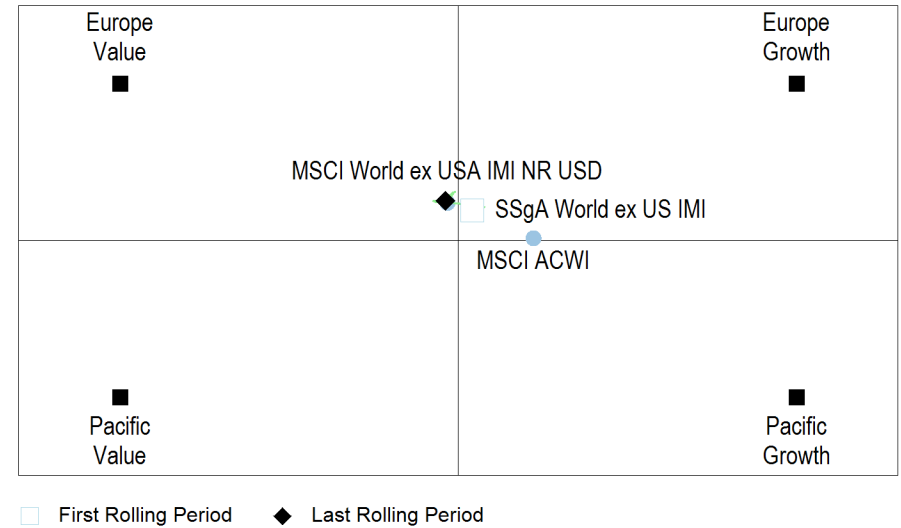
Los Angeles City Employees' Retirement System

SSGA WORLD EX US IMI

5 Year Risk Return



5 Year Style Map



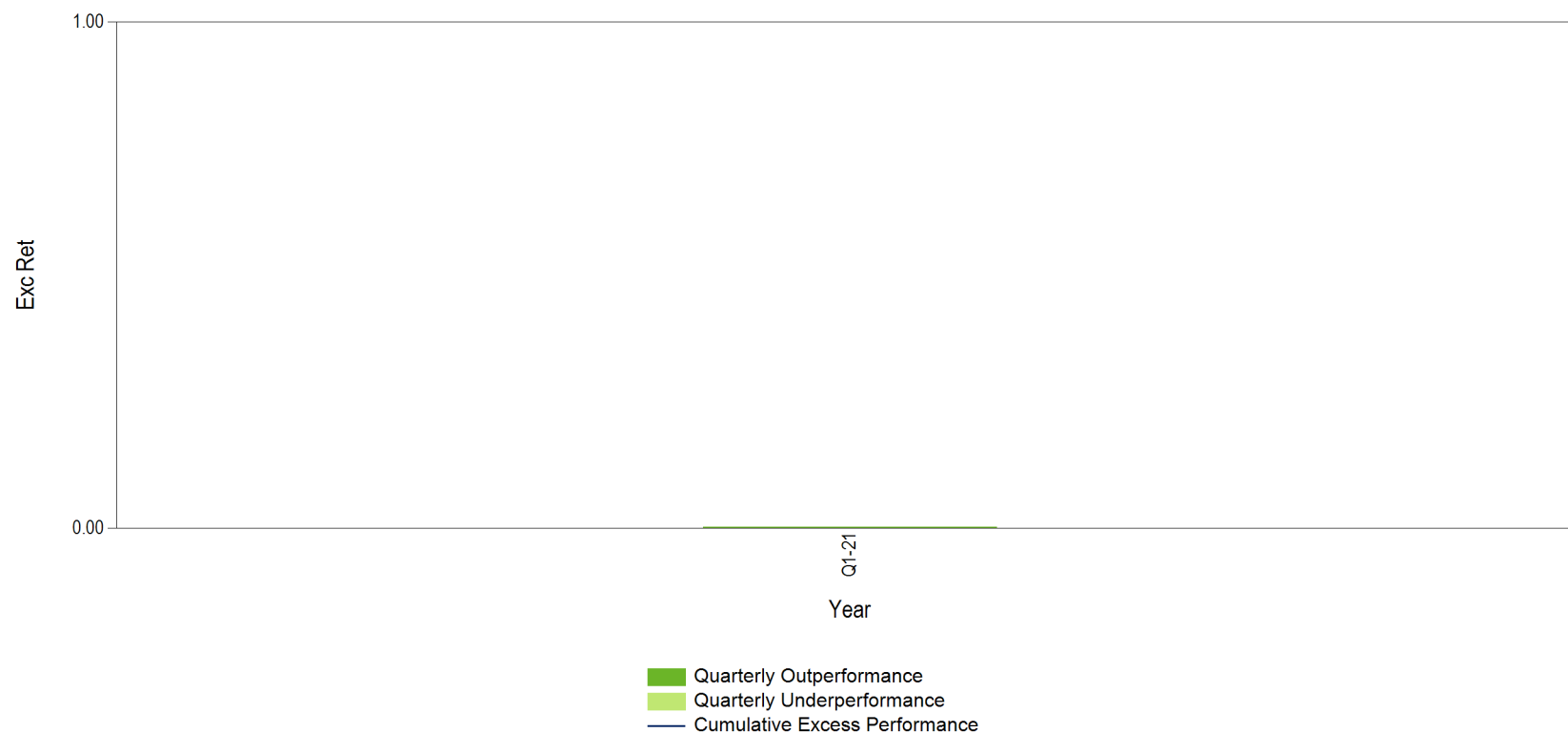
- SSGA World ex US IMI
- ▲ MSCI World ex USA IMI NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SSGA EAFE SC

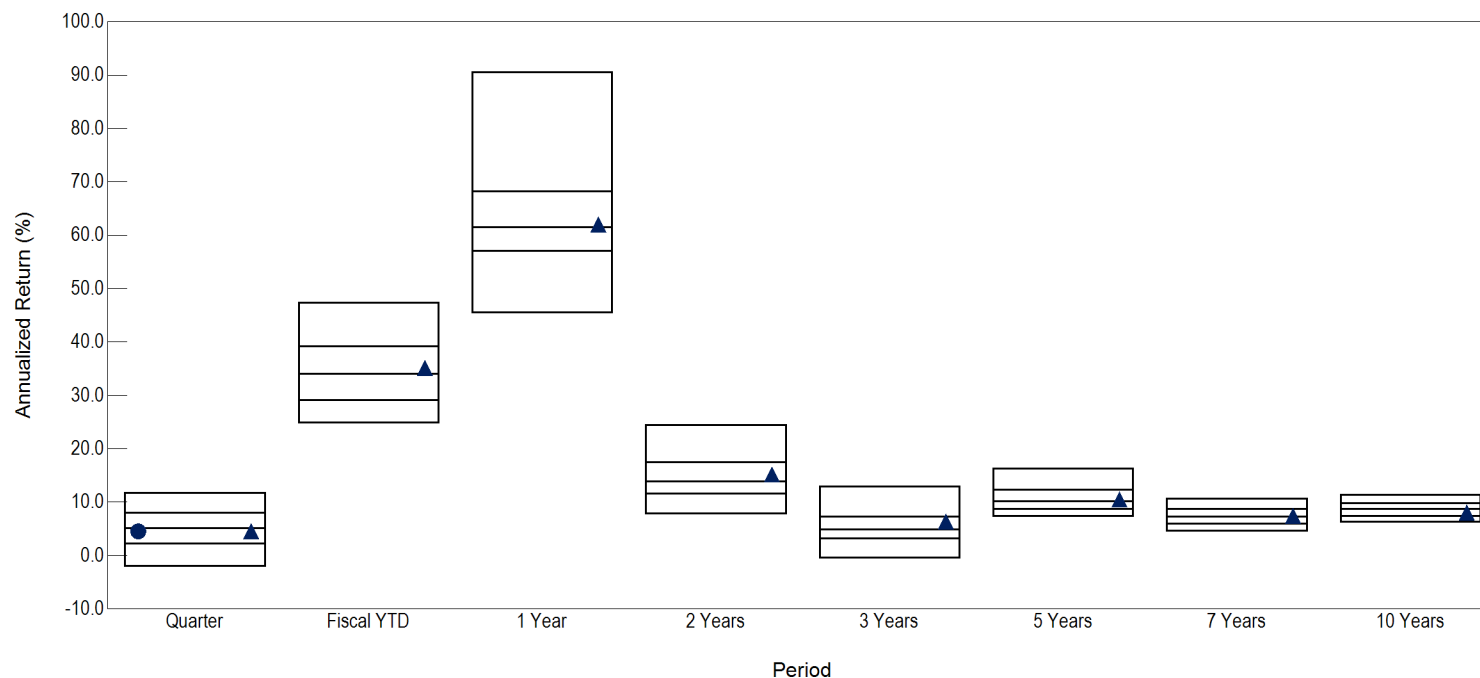
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA EAFE SC

State Street EAFE SC vs. eV EAFE Small Cap Equity Net



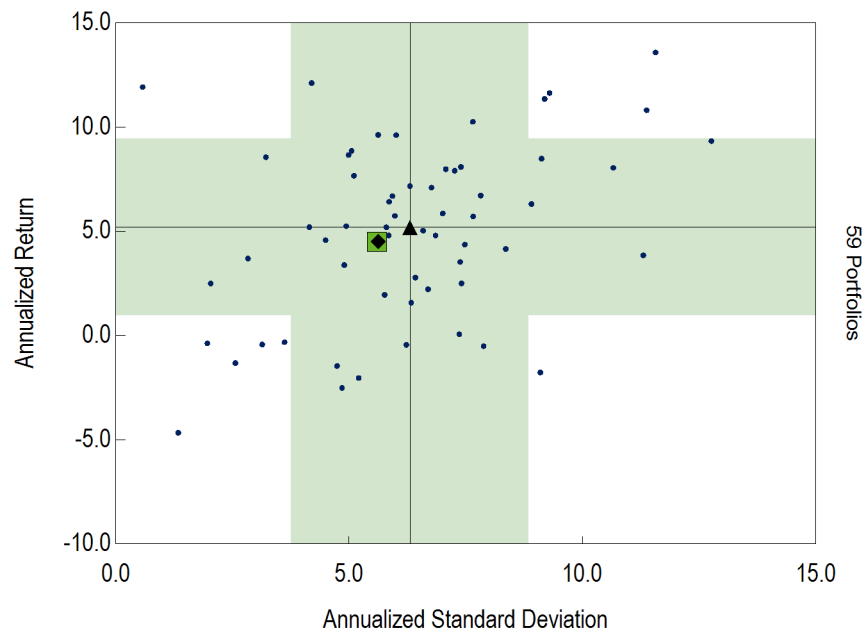
	Return (Rank)															
5th Percentile	11.67	47.34	90.51	24.47	12.89	16.24	10.64	11.39								
25th Percentile	8.07	39.35	68.38	17.64	7.38	12.49	8.82	9.86								
Median	5.20	34.11	61.60	14.01	4.99	10.26	7.37	8.82								
75th Percentile	2.36	29.24	57.16	11.76	3.35	8.78	6.04	7.46								
95th Percentile	-1.80	25.06	45.62	7.99	-0.32	7.49	4.81	6.45								
# of Portfolios	59	59	59	57	55	49	36	25								
● State Street EAFE SC	4.51	(60)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI EAFE Small Cap	4.50	(60)	35.11	(40)	61.98	(50)	15.14	(40)	6.32	(43)	10.50	(45)	7.42	(49)	8.01	(65)



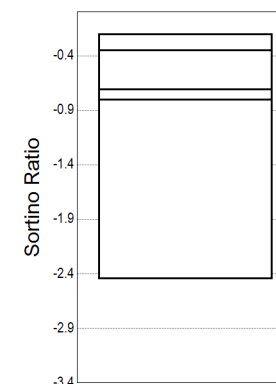
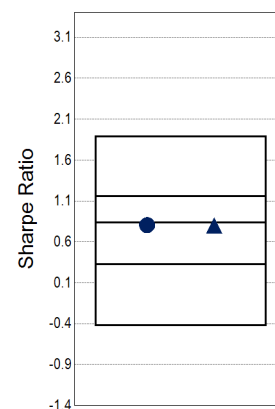
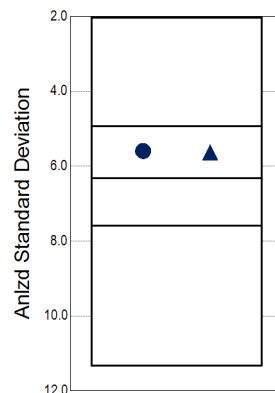
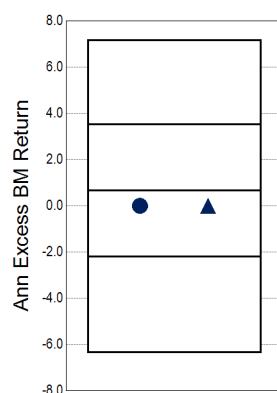
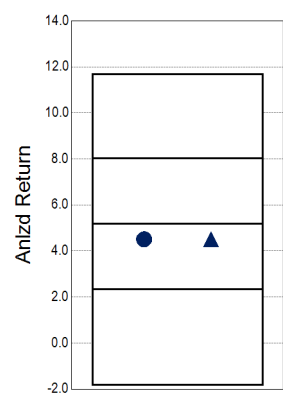
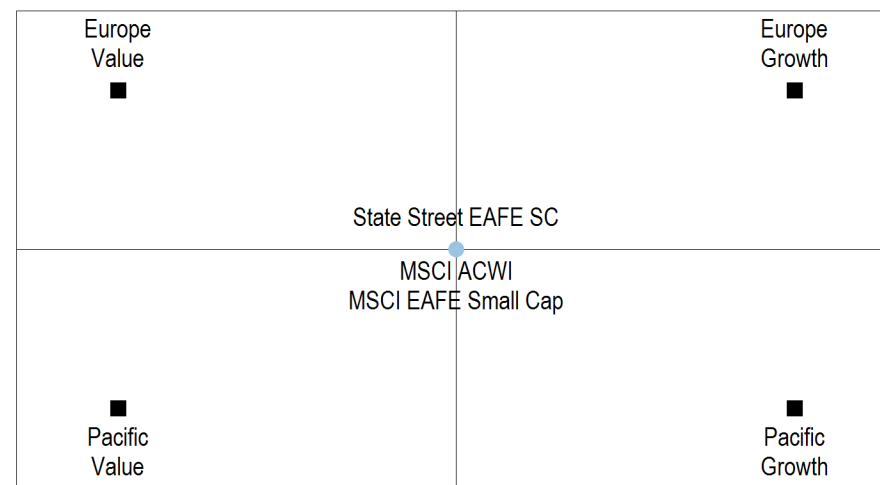
Los Angeles City Employees' Retirement System

SSGA EAFE SC

Since Inception Risk Return



Non U.S. Regional Effective Style Map
3 Months Ending March 31, 2021



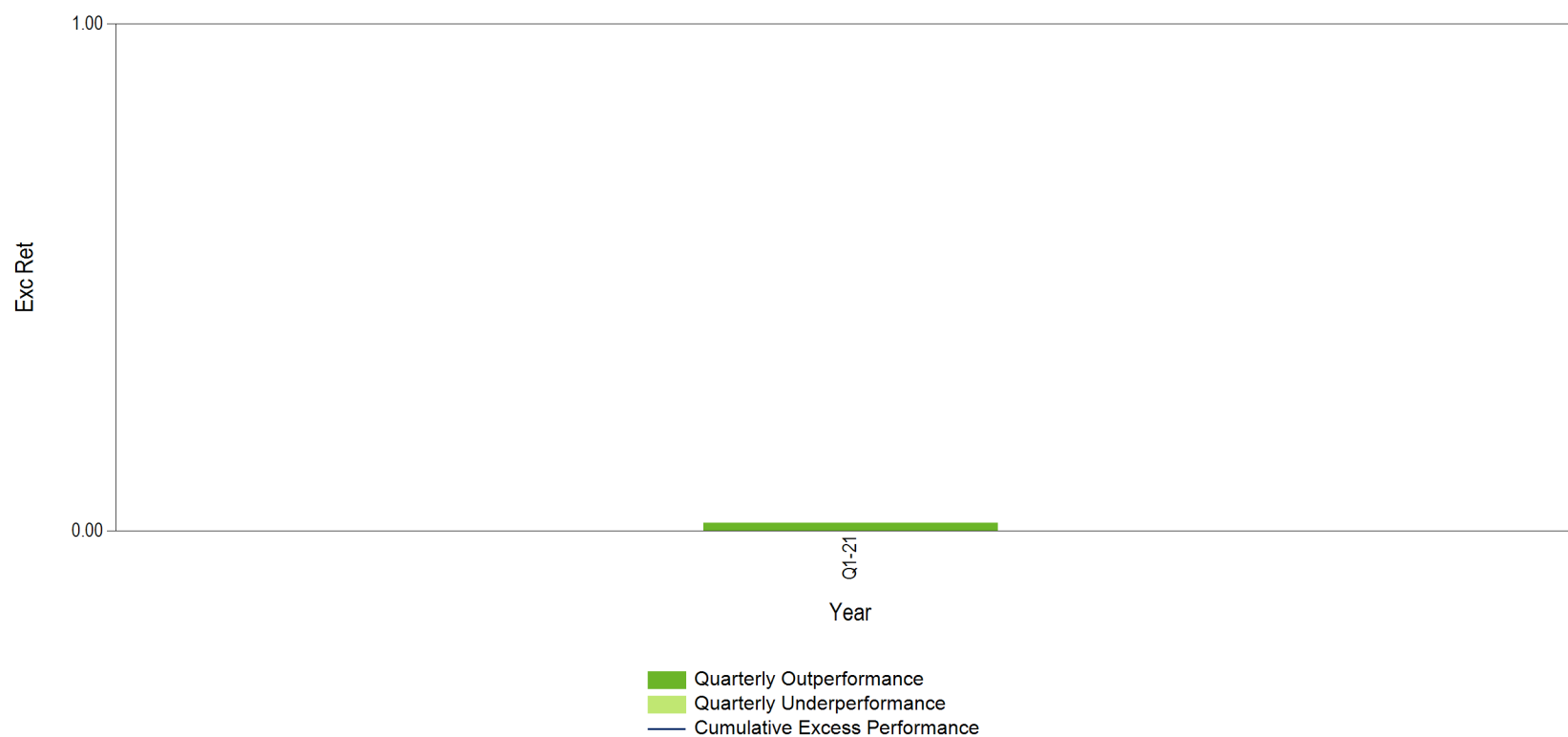
- State Street EAFE SC
- ▲ MSCI EAFE Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SSGA EMERGING MARKETS

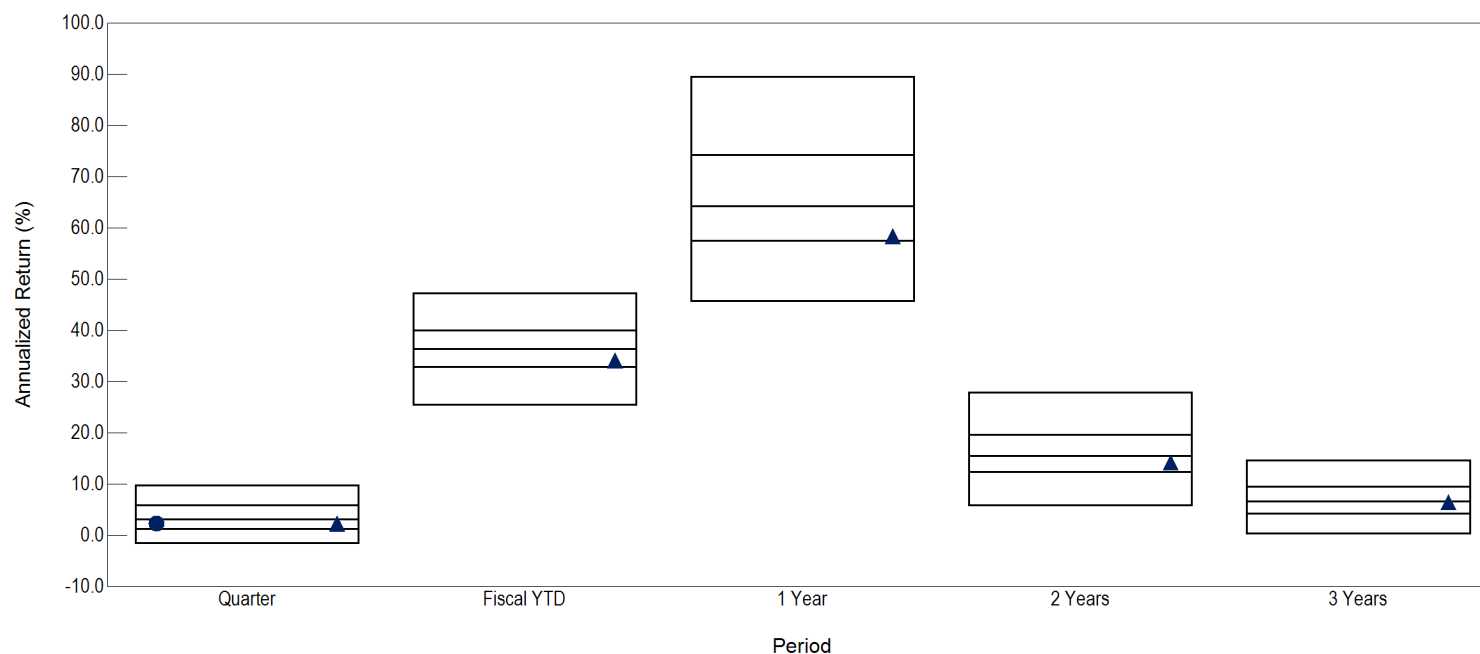
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA EMERGING MARKETS

State Street Emerging Markets vs. eV Emg Mkts Equity Net



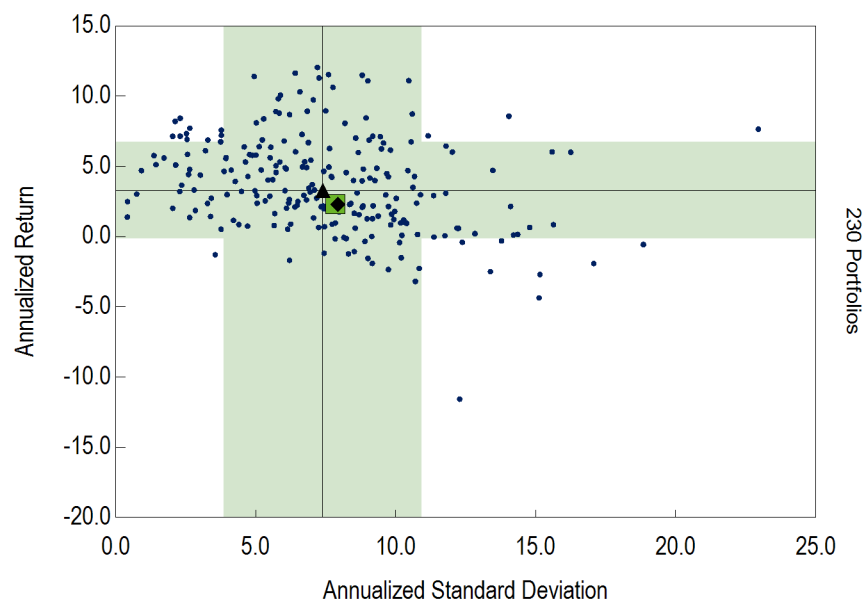
	Return (Rank)									
5th Percentile	9.77		47.28		89.54		27.84		14.58	
25th Percentile	6.02		40.16		74.40		19.71		9.57	
Median	3.29		36.48		64.42		15.60		6.70	
75th Percentile	1.33		32.94		57.61		12.51		4.37	
95th Percentile	-1.42		25.63		45.82		5.97		0.43	
# of Portfolios	230		230		230		219		206	
● State Street Emerging Markets	2.30	(64)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI Emerging Markets	2.29	(64)	34.13	(68)	58.39	(72)	14.18	(64)	6.48	(53)



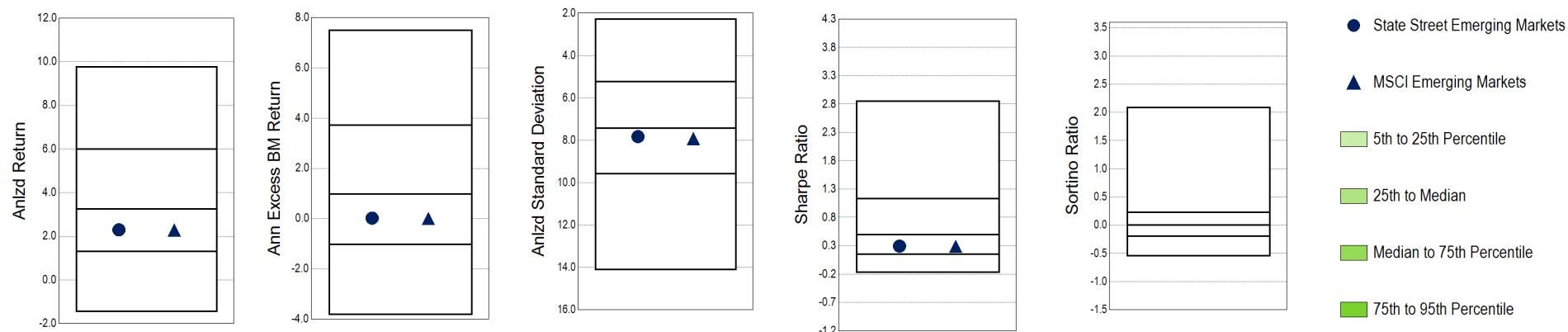
Los Angeles City Employees' Retirement System

SSGA EMERGING MARKETS

Since Inception Risk Return



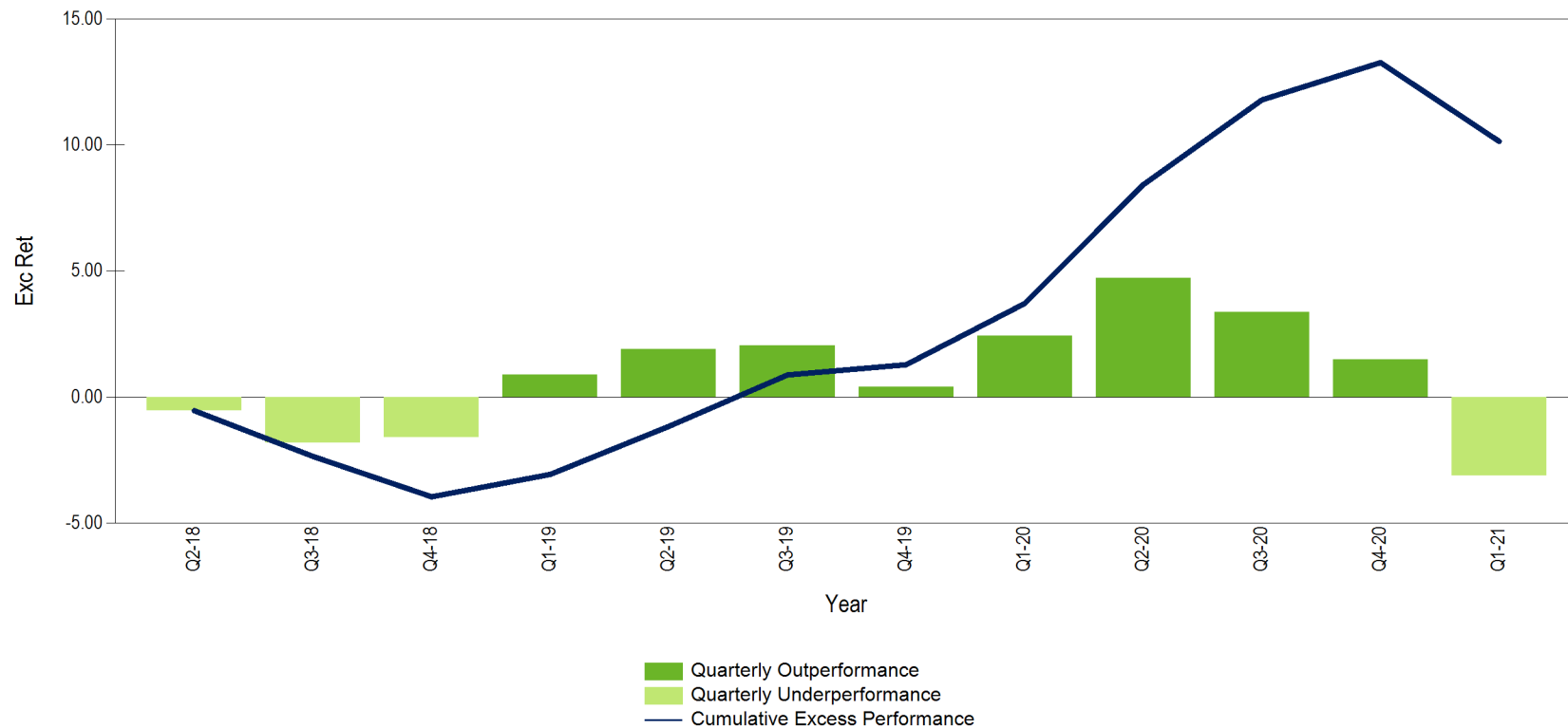
Non U.S. Regional Effective Style Map
3 Months Ending March 31, 2021



Los Angeles City Employees' Retirement System

AXIOM EMERGING MARKETS

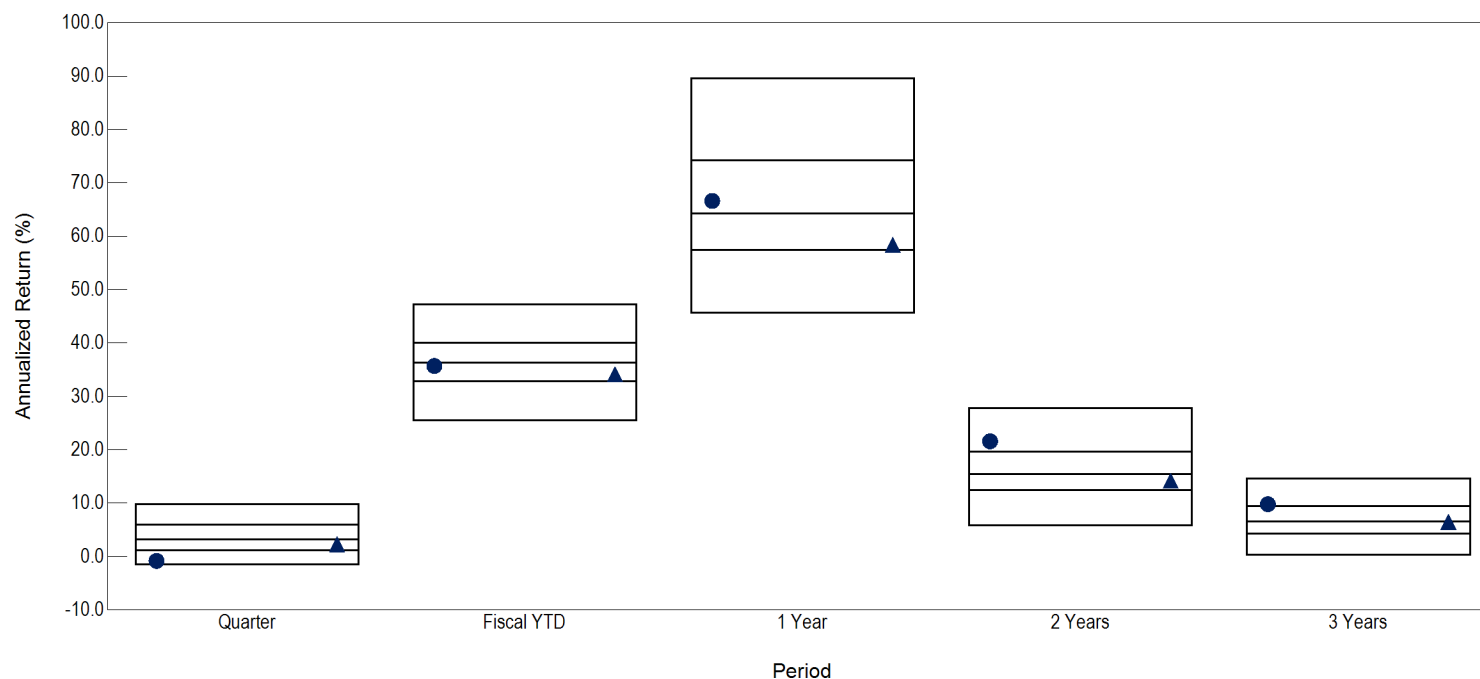
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

AXIOM EMERGING MARKETS

Axiom Emerging Markets vs. eV Emg Mkts Equity Net



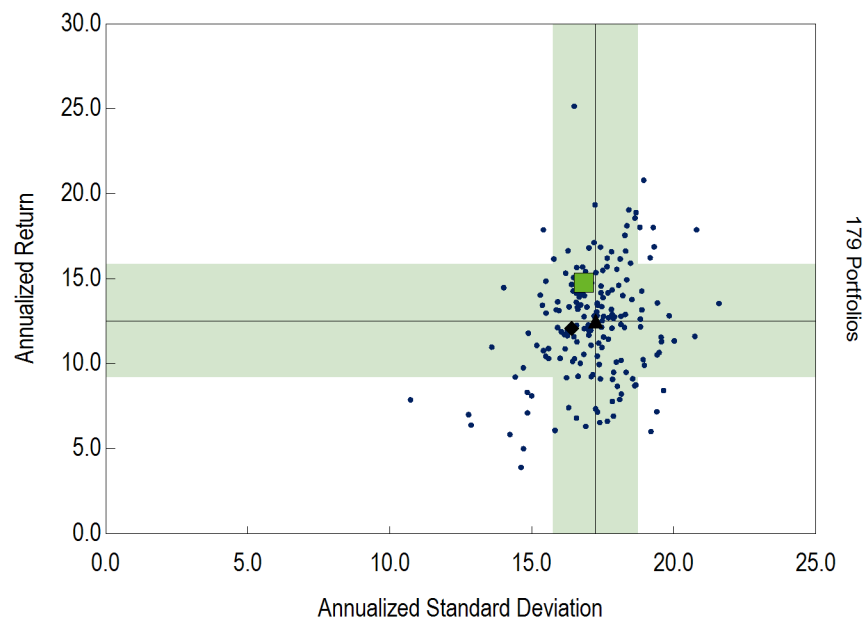
	Return (Rank)									
5th Percentile	9.77		47.28		89.54		27.84		14.58	
25th Percentile	6.02		40.16		74.40		19.71		9.57	
Median	3.29		36.48		64.42		15.60		6.70	
75th Percentile	1.33		32.94		57.61		12.51		4.37	
95th Percentile	-1.42		25.63		45.82		5.97		0.43	
# of Portfolios	230		230		230		219		206	
● Axiom Emerging Markets	-0.84	(94)	35.69	(56)	66.62	(46)	21.57	(16)	9.78	(24)
▲ MSCI Emerging Markets	2.29	(64)	34.13	(68)	58.39	(72)	14.18	(64)	6.48	(53)



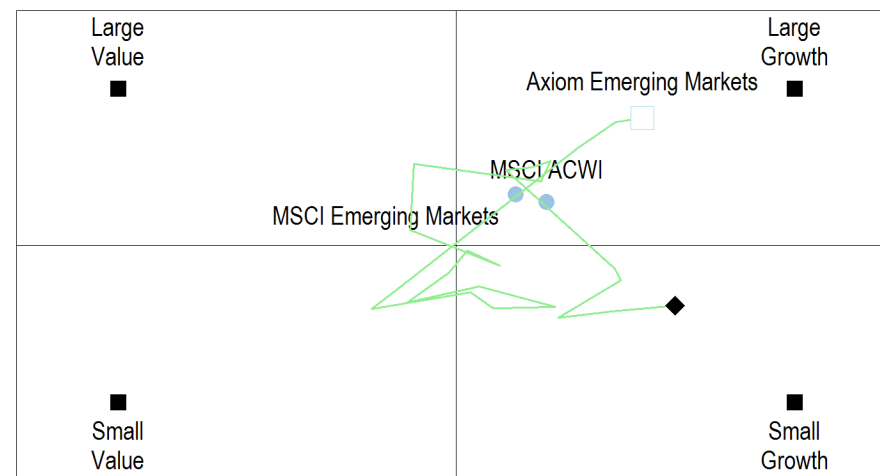
Los Angeles City Employees' Retirement System

AXIOM EMERGING MARKETS

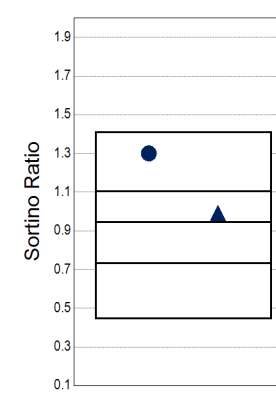
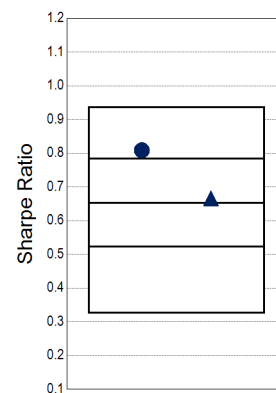
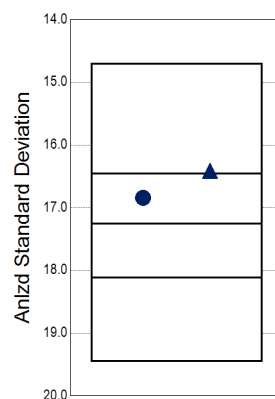
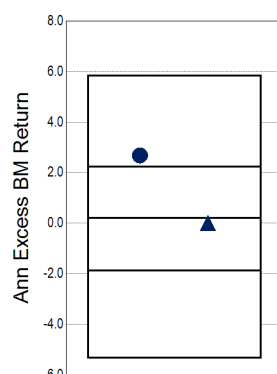
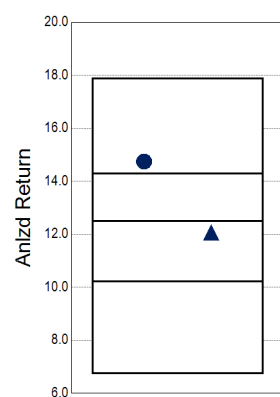
5 Year Risk Return



5 Year Style Map



□ First Rolling Period ◆ Last Rolling Period



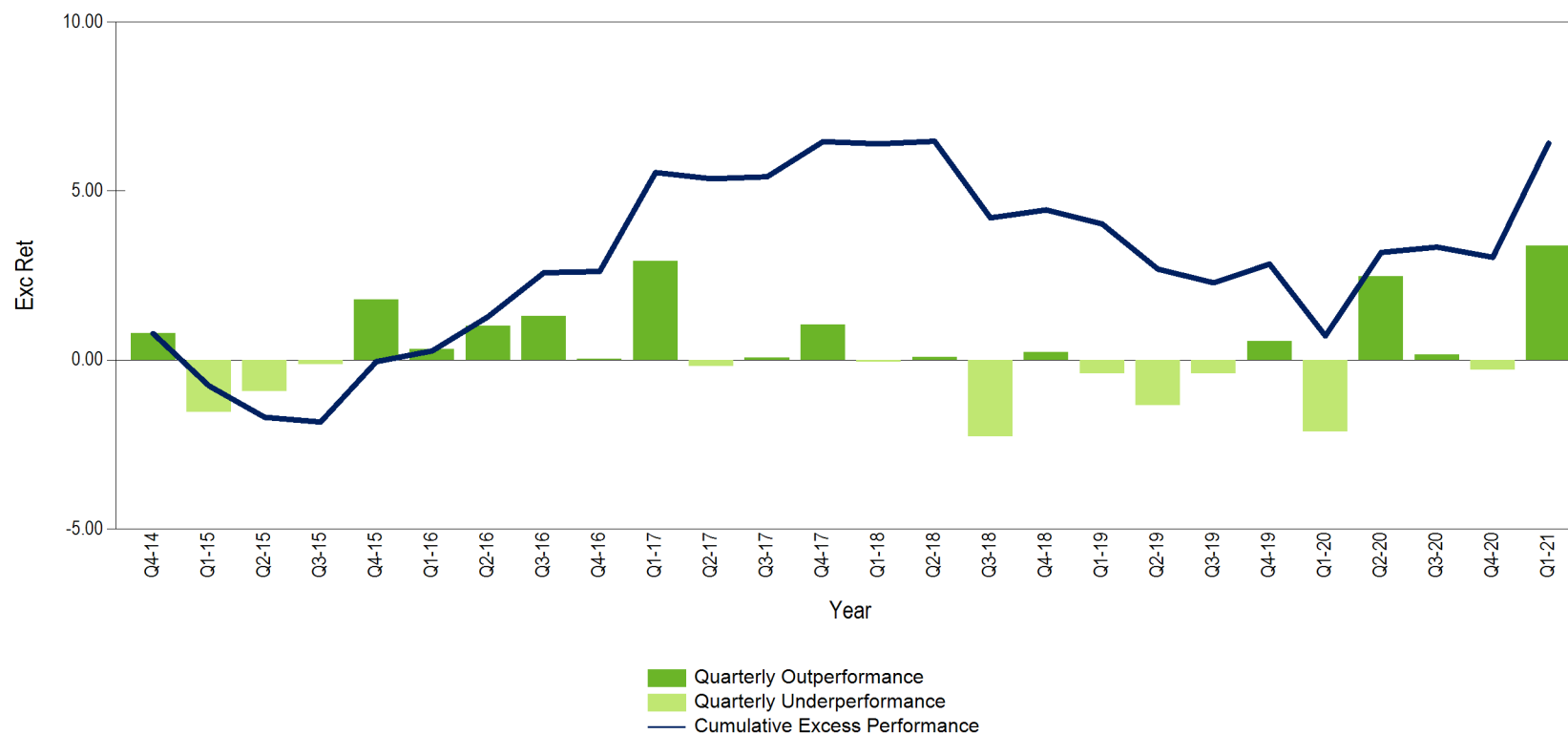
- Axiom Emerging Markets
- ▲ MSCI Emerging Markets
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

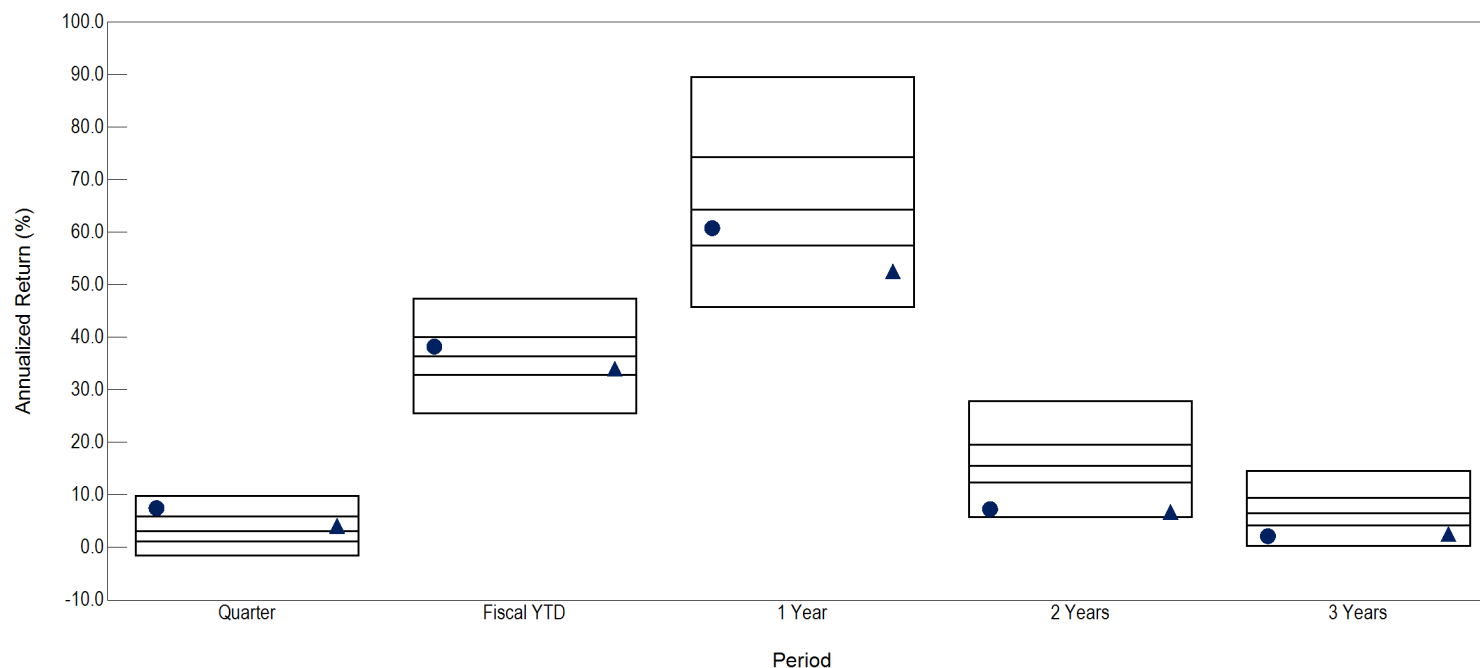
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

DFA Emerging Markets vs. eV Emg Mkts Equity Net



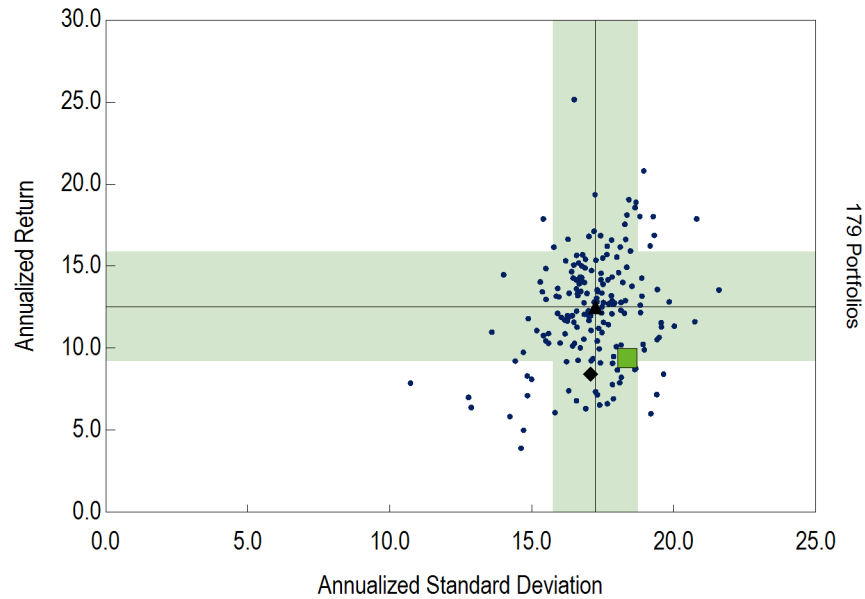
	Return (Rank)									
5th Percentile	9.77		47.28		89.54		27.84		14.58	
25th Percentile	6.02		40.16		74.40		19.71		9.57	
Median	3.29		36.48		64.42		15.60		6.70	
75th Percentile	1.33		32.94		57.61		12.51		4.37	
95th Percentile	-1.42		25.63		45.82		5.97		0.43	
# of Portfolios	230		230		230		219		206	
● DFA Emerging Markets	7.49	(13)	38.21	(37)	60.74	(64)	7.30	(93)	2.16	(91)
▲ MSCI Emerging Markets Value NR USD	4.11	(45)	34.00	(69)	52.53	(87)	6.77	(94)	2.60	(89)



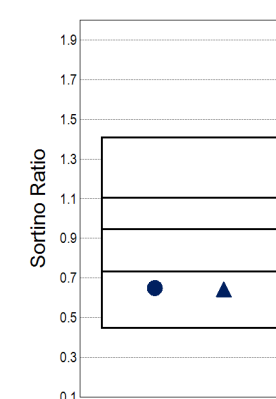
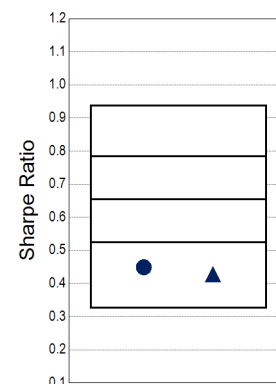
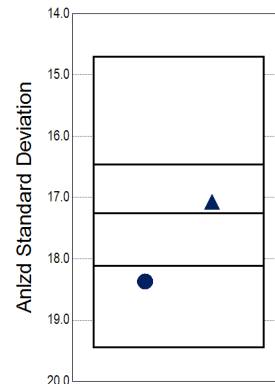
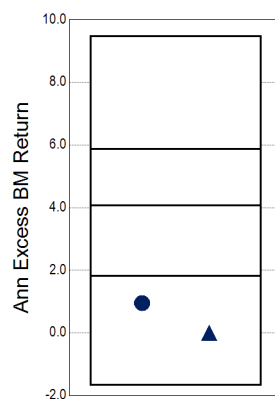
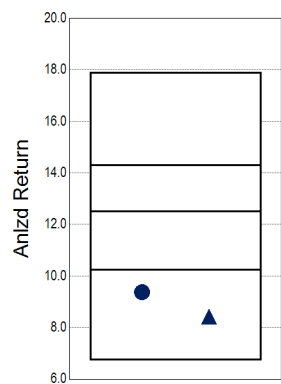
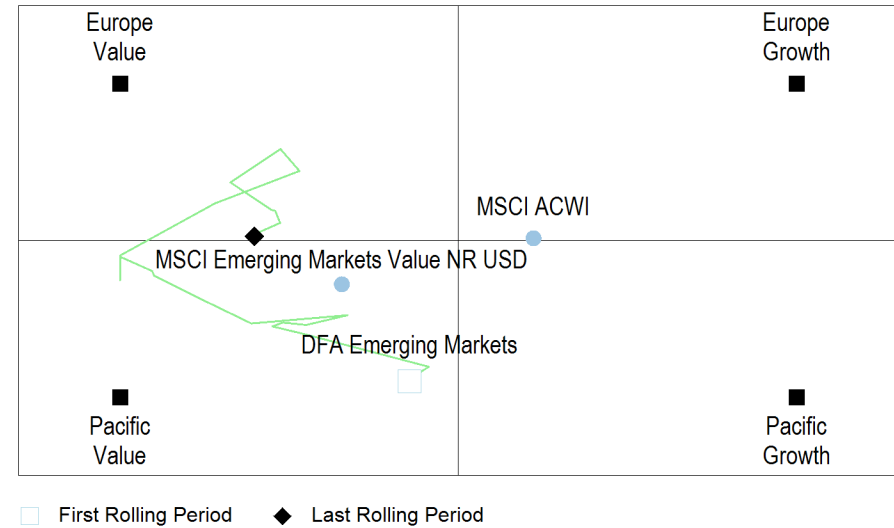
Los Angeles City Employees' Retirement System

DFA EMERGING MARKETS

5 Year Risk Return



5 Year Style Map



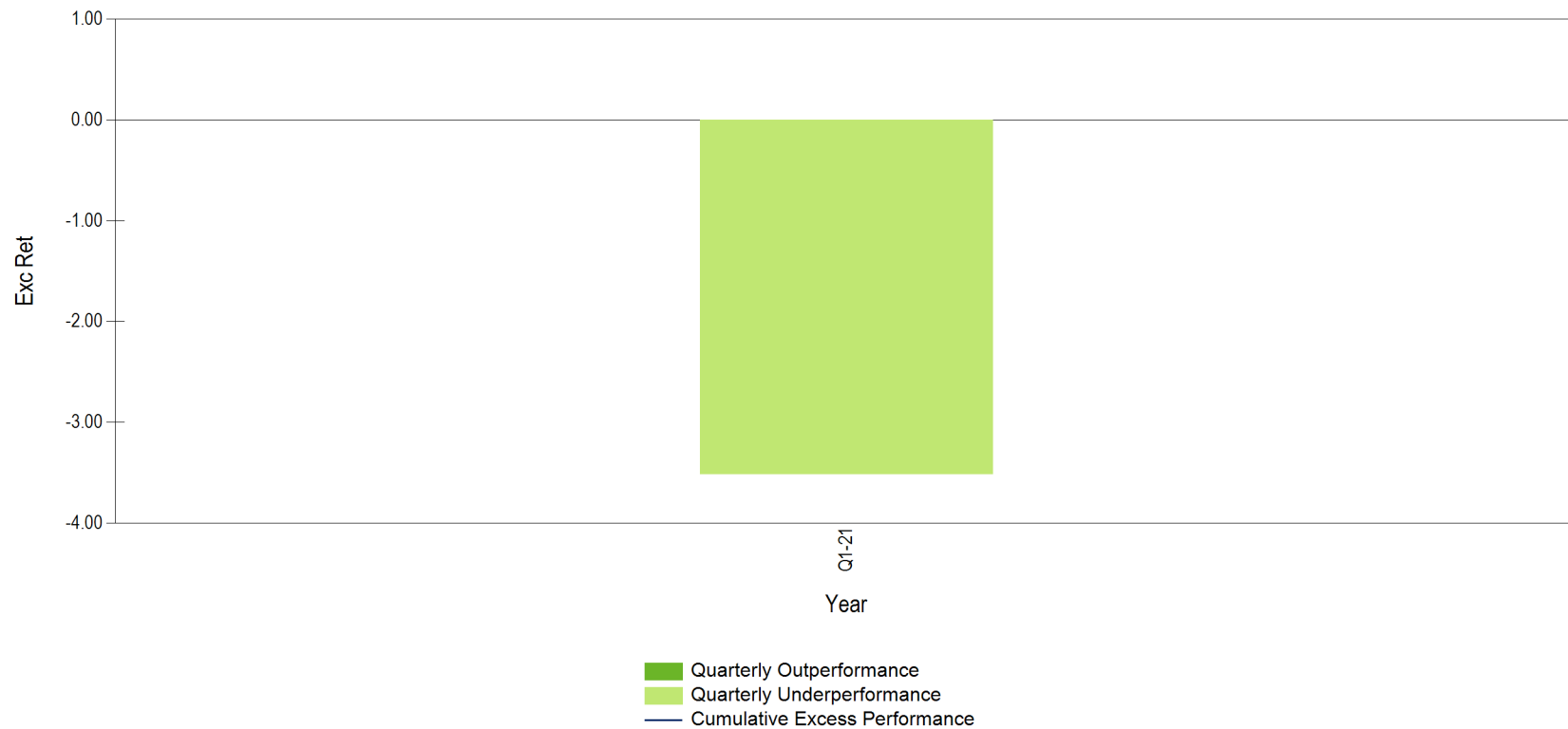
- DFA Emerging Markets
- ▲ MSCI Emerging Markets Value NR USD
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

WASATCH GLOBAL INVESTORS

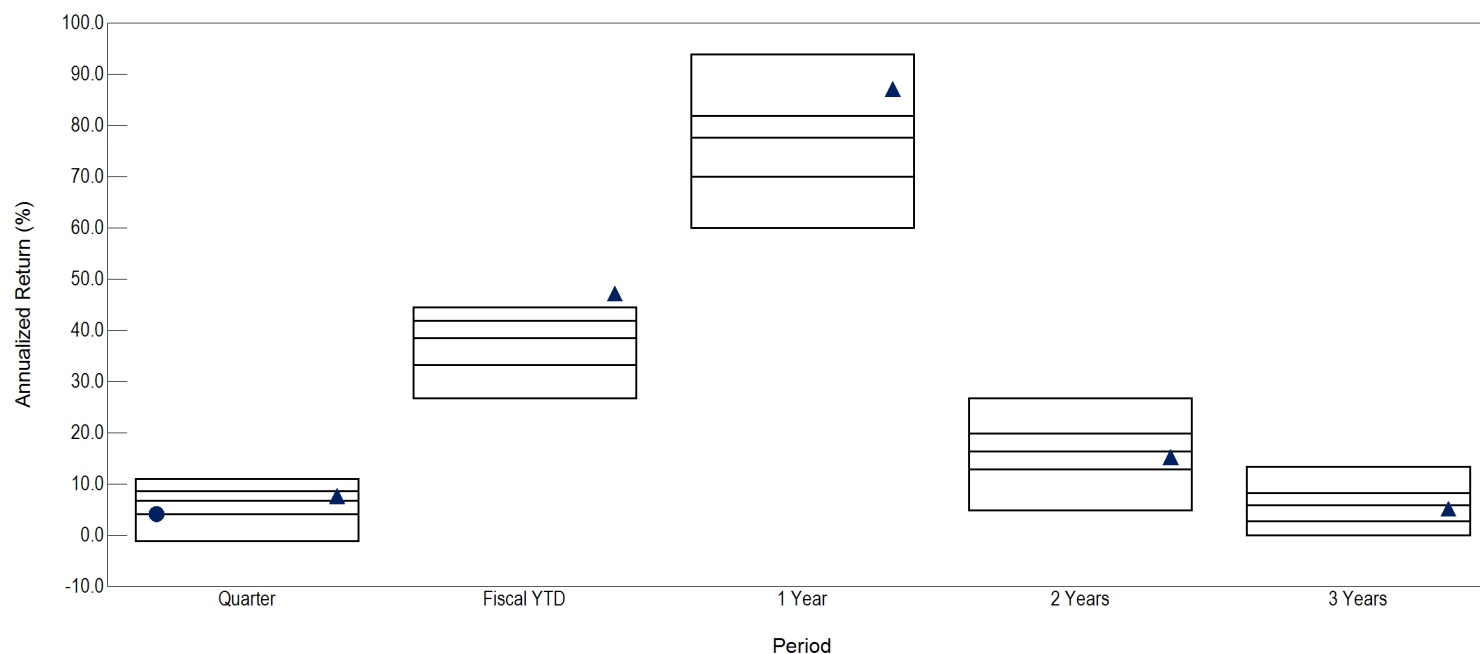
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

WASATCH GLOBAL INVESTORS

Wasatch Global Investors vs. eV Emg Mkts Small Cap Equity Net



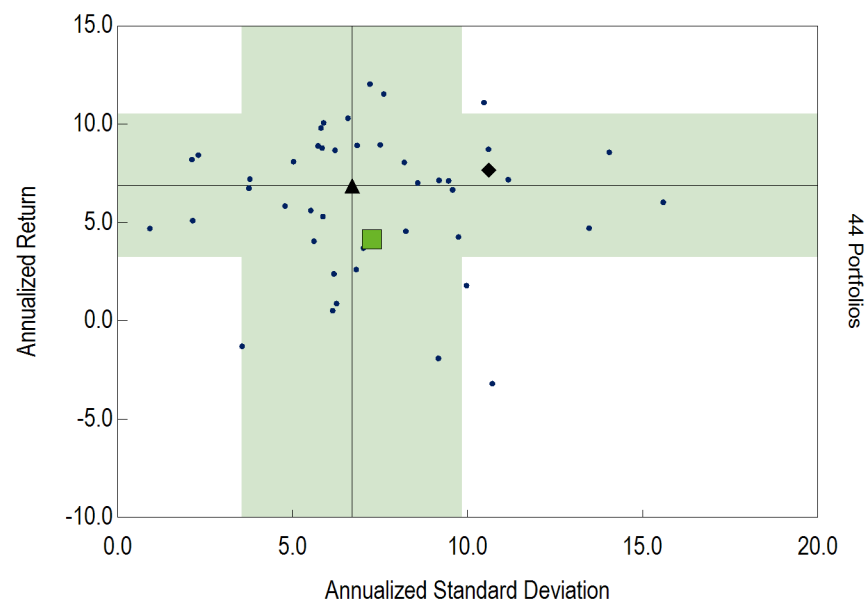
	Return (Rank)									
5th Percentile	10.98		44.54		93.90		26.78		13.41	
25th Percentile	8.69		41.96		82.03		20.04		8.32	
Median	6.88		38.64		77.79		16.50		5.93	
75th Percentile	4.21		33.35		70.14		13.00		2.92	
95th Percentile	-1.03		26.92		60.12		5.00		0.17	
# of Portfolios	44		44		44		42		39	
● Wasatch Global Investors	4.15	(76)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI Emerging Markets Small Cap	7.67	(39)	47.18	(3)	87.12	(15)	15.28	(62)	5.19	(57)



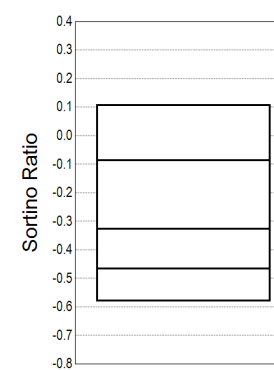
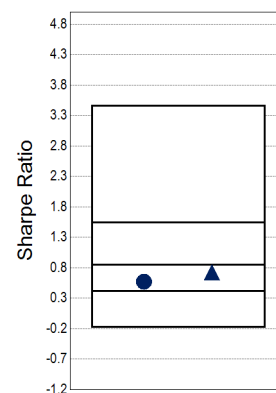
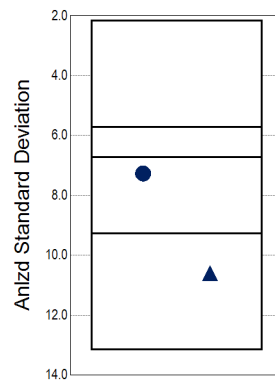
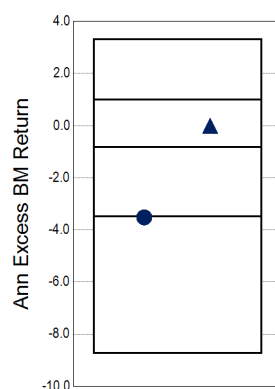
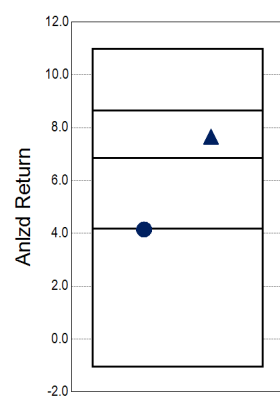
Los Angeles City Employees' Retirement System

WASATCH GLOBAL INVESTORS

Since Inception Risk Return



Non U.S. Regional Effective Style Map
3 Months Ending March 31, 2021



- Wasatch Global Investors
- ▲ MSCI Emerging Markets Small Cap
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



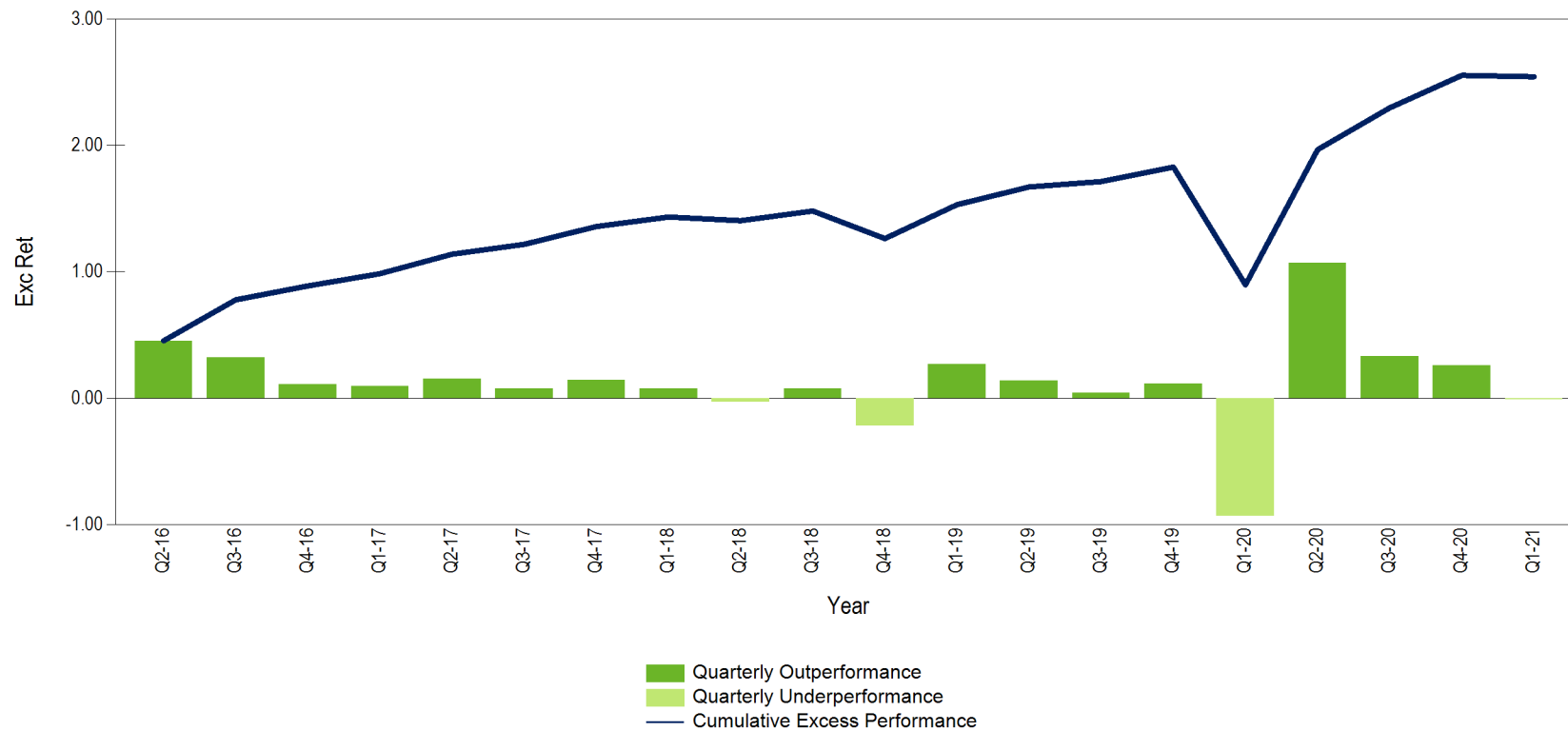
CORE FIXED INCOME MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

BAIRD ADVISORS

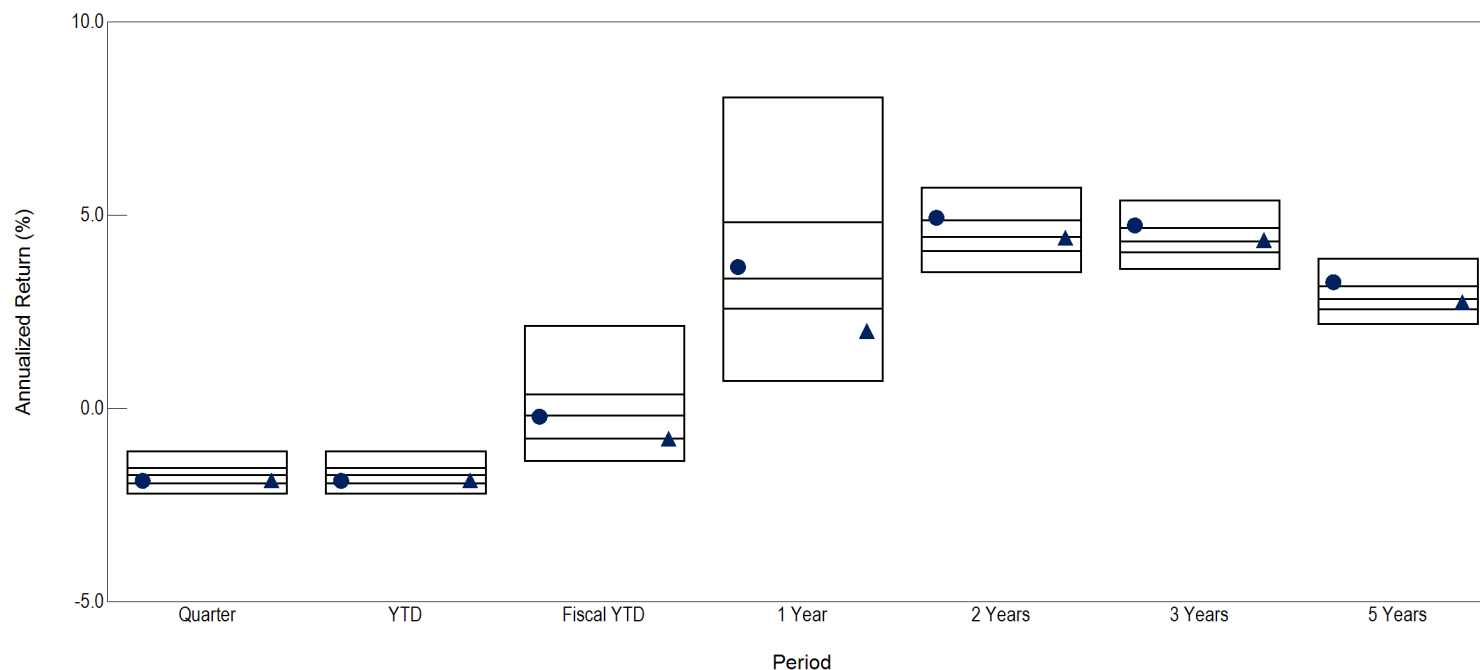
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

BAIRD ADVISORS

Baird Advisors vs. eV US Interm Duration Fixed Inc Net



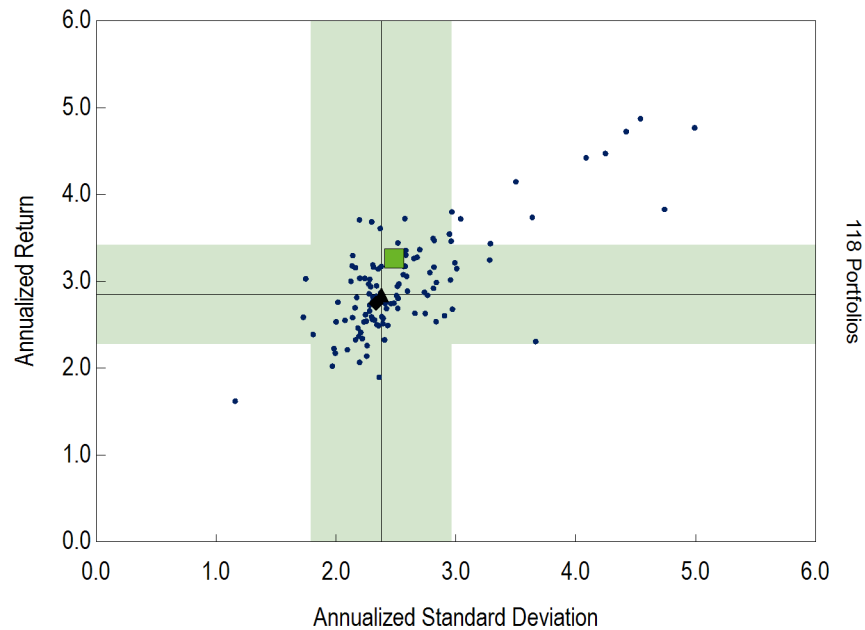
		Return (Rank)													
5th Percentile		-1.10		-1.10		2.13		8.05		5.71		5.39		3.88	
25th Percentile		-1.52		-1.52		0.39		4.84		4.89		4.68		3.19	
Median		-1.70		-1.70		-0.17		3.39		4.45		4.34		2.85	
75th Percentile		-1.93		-1.93		-0.77		2.59		4.08		4.06		2.58	
95th Percentile		-2.18		-2.18		-1.35		0.73		3.55		3.63		2.21	
# of Portfolios		125		125		125		125		123		121		118	
●	Baird Advisors	-1.87	(66)	-1.87	(66)	-0.21	(52)	3.66	(41)	4.93	(23)	4.73	(20)	3.27	(22)
▲	BBgBarc US Govt/Credit Int TR	-1.86	(65)	-1.86	(65)	-0.78	(76)	2.01	(86)	4.42	(53)	4.36	(50)	2.75	(61)



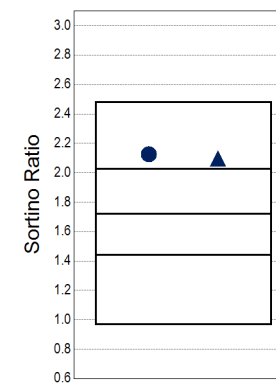
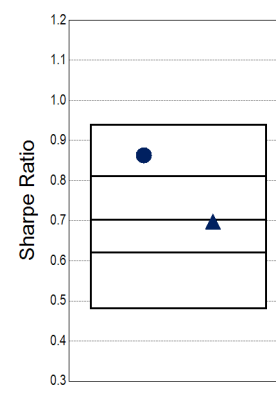
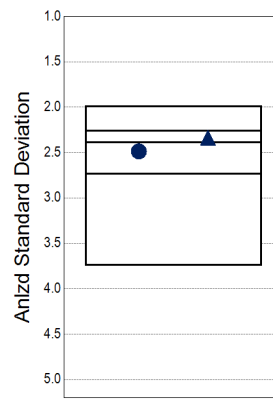
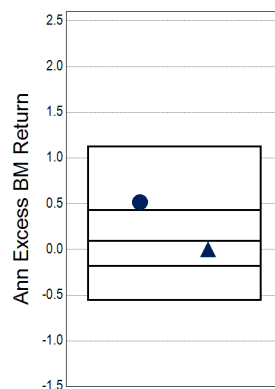
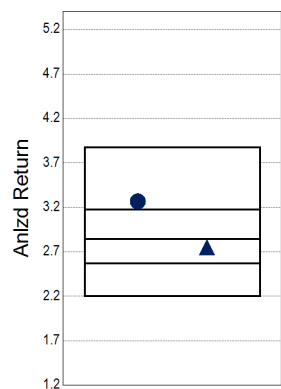
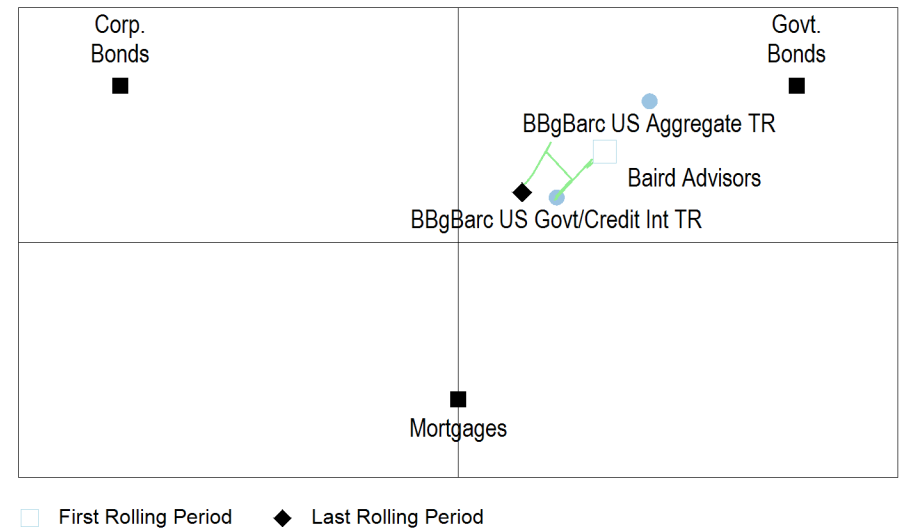
Los Angeles City Employees' Retirement System

BAIRD ADVISORS

5 Year Risk Return



5 Year Style Map



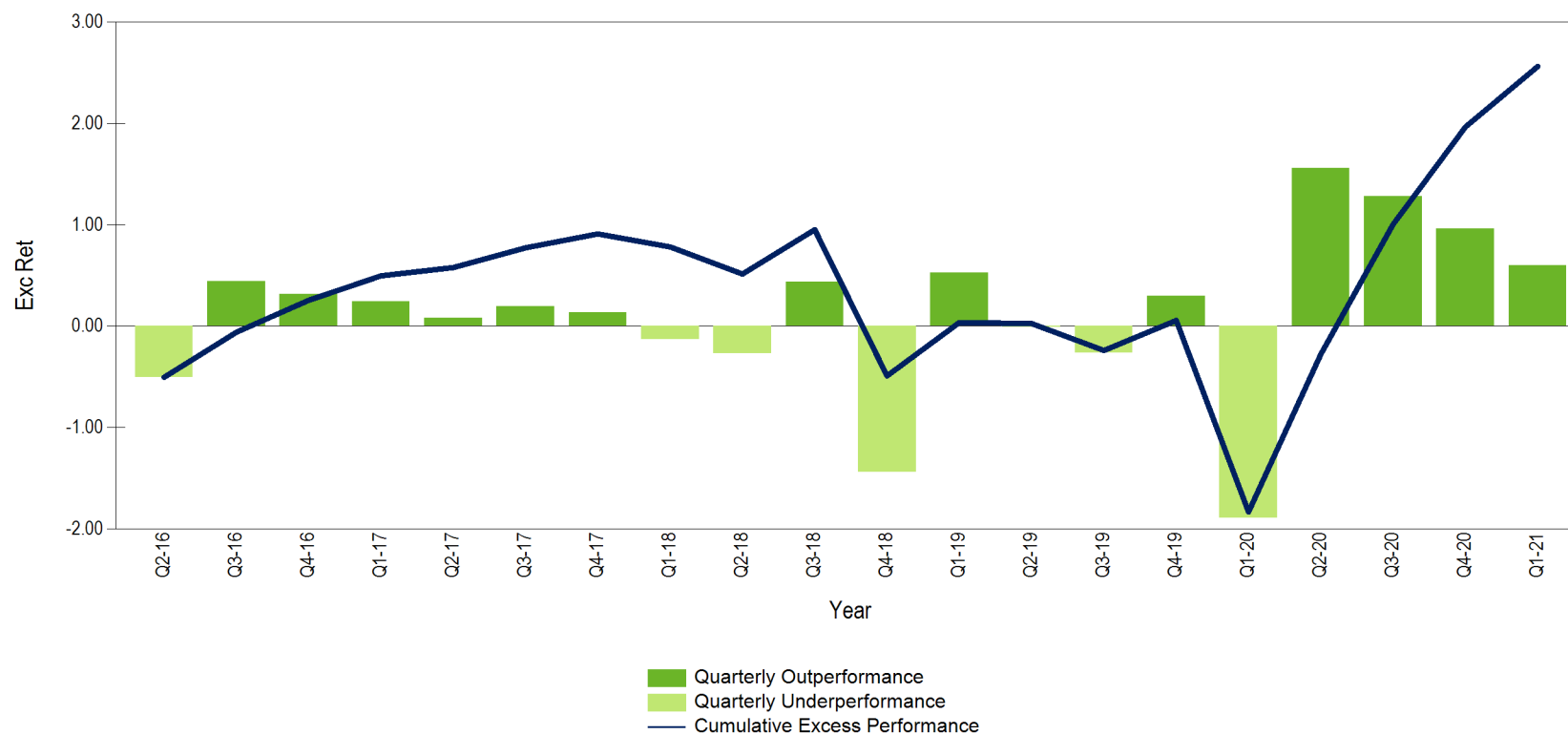
- Baird Advisors
- ▲ BBgBarc US Govt/Credit Int TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

LM CAPITAL

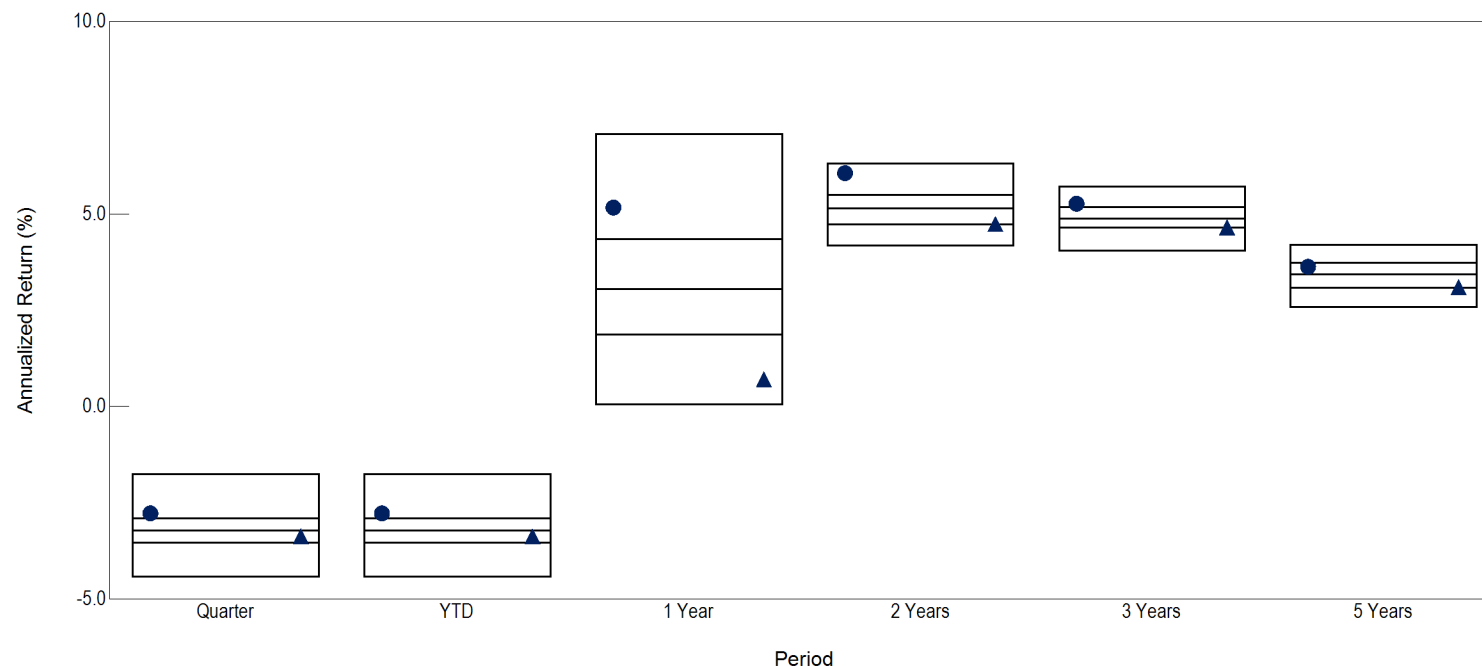
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LM CAPITAL

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



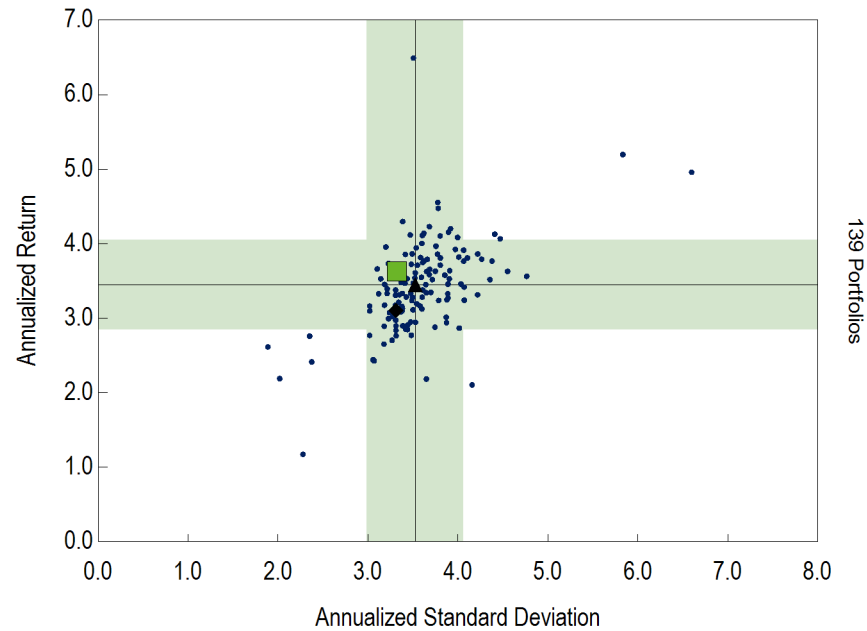
		Return (Rank)											
5th Percentile		-1.75		-1.75		7.08		6.31		5.72		4.20	
25th Percentile		-2.90		-2.90		4.37		5.52		5.20		3.76	
Median		-3.20		-3.20		3.07		5.16		4.89		3.45	
75th Percentile		-3.53		-3.53		1.88		4.75		4.67		3.10	
95th Percentile		-4.40		-4.40		0.07		4.20		4.07		2.60	
# of Portfolios		149		149		147		144		142		139	
●	LM Capital	-2.78	(20)	-2.78	(20)	5.17	(18)	6.06	(10)	5.27	(22)	3.63	(32)
▲	LM Custom Benchmark	-3.37	(61)	-3.37	(61)	0.71	(90)	4.74	(76)	4.65	(76)	3.10	(75)



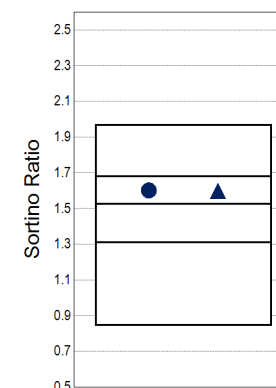
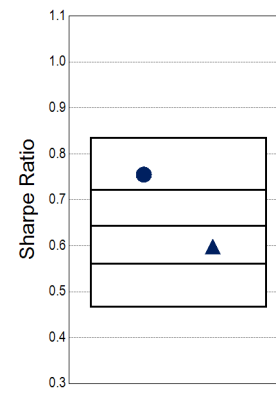
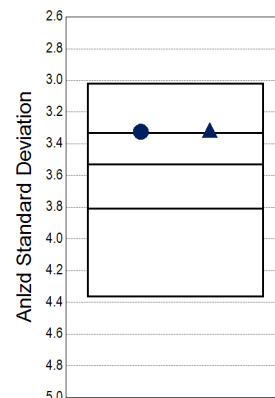
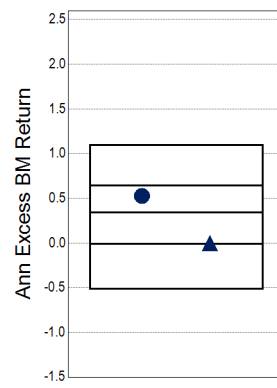
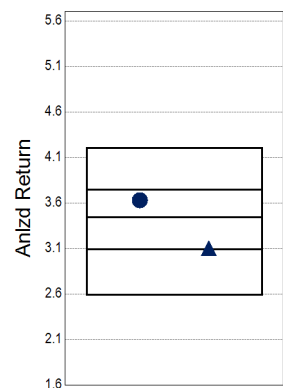
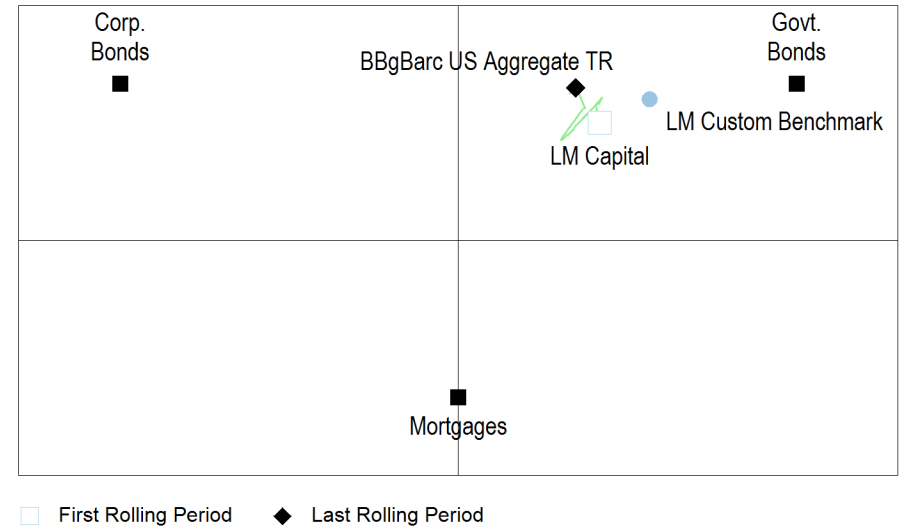
Los Angeles City Employees' Retirement System

LM CAPITAL

5 Year Risk Return



5 Year Style Map



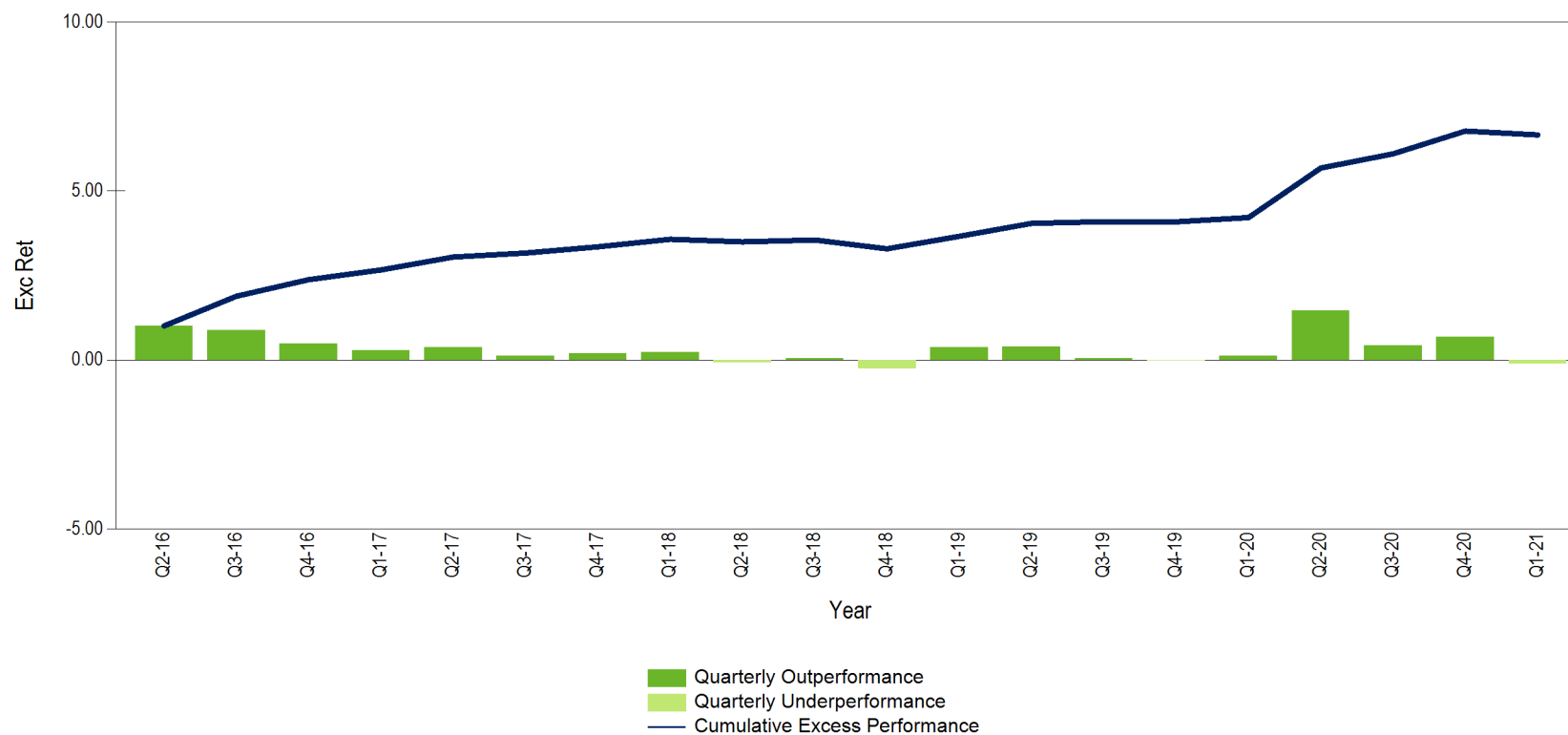
- LM Capital
- ▲ LM Custom Benchmark
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

LOOMIS SAYLES & CO. CORE FIXED INCOME

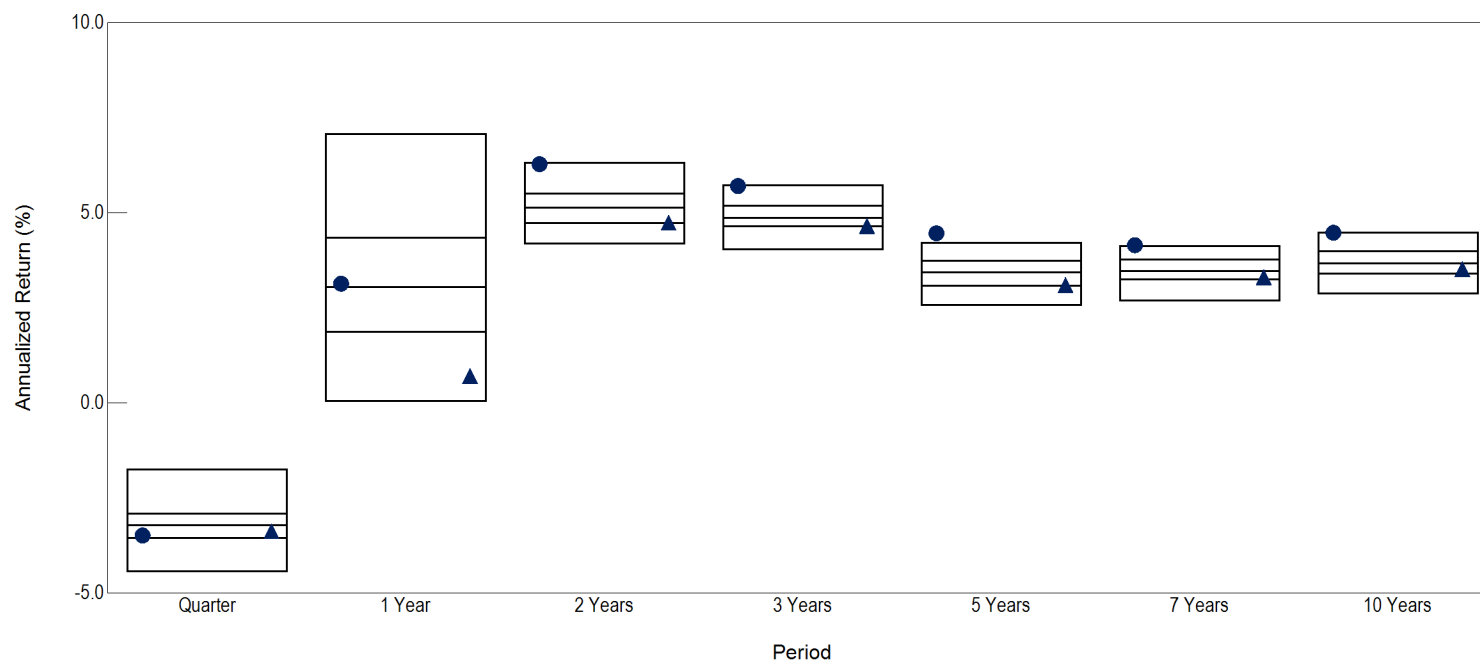
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LOOMIS SAYLES & CO. CORE FIXED INCOME

Loomis Sayles & Co. Core Fixed Income vs. eV US Core Fixed Inc Net



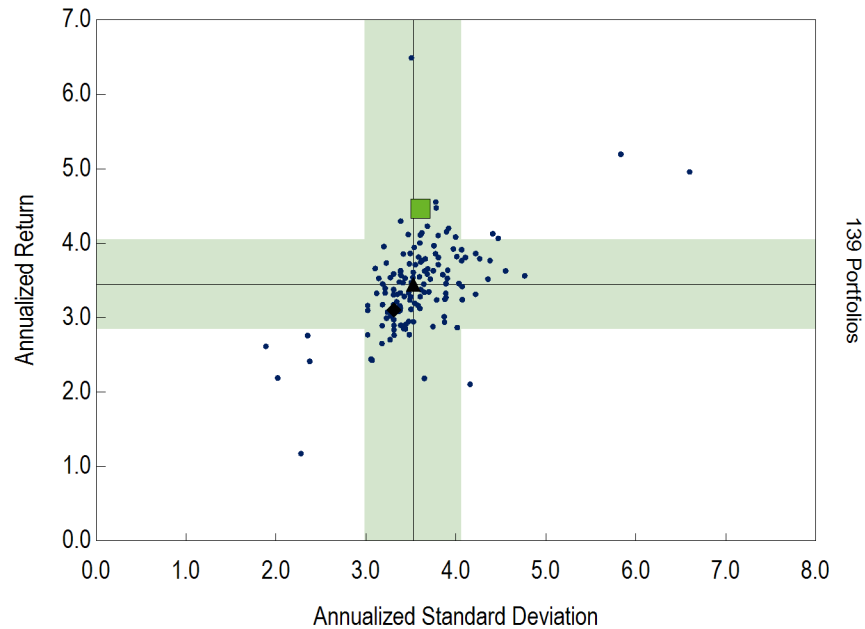
		Return (Rank)													
5th Percentile		-1.75		7.08		6.31		5.72		4.20		4.12		4.48	
25th Percentile		-2.90		4.37		5.52		5.20		3.76		3.79		4.01	
Median		-3.20		3.07		5.16		4.89		3.45		3.48		3.68	
75th Percentile		-3.53		1.88		4.75		4.67		3.10		3.27		3.43	
95th Percentile		-4.40		0.07		4.20		4.07		2.60		2.72		2.90	
# of Portfolios		149		147		144		142		139		134		124	
●	Loomis Sayles & Co. Core Fixed Income	-3.49	(71)	3.14	(47)	6.28	(6)	5.71	(6)	4.46	(3)	4.15	(5)	4.48	(6)
▲	Loomis Custom Benchmark	-3.37	(61)	0.71	(90)	4.74	(76)	4.65	(76)	3.10	(75)	3.31	(71)	3.52	(68)



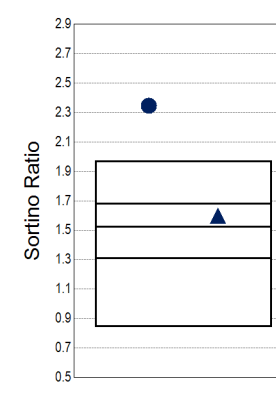
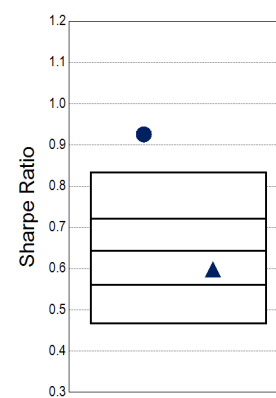
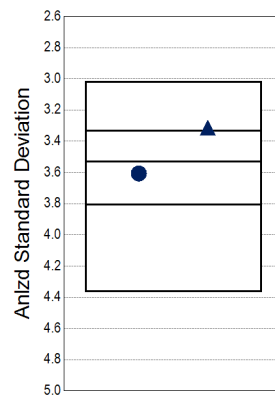
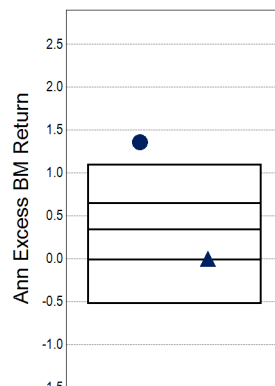
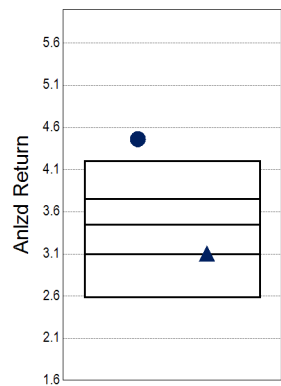
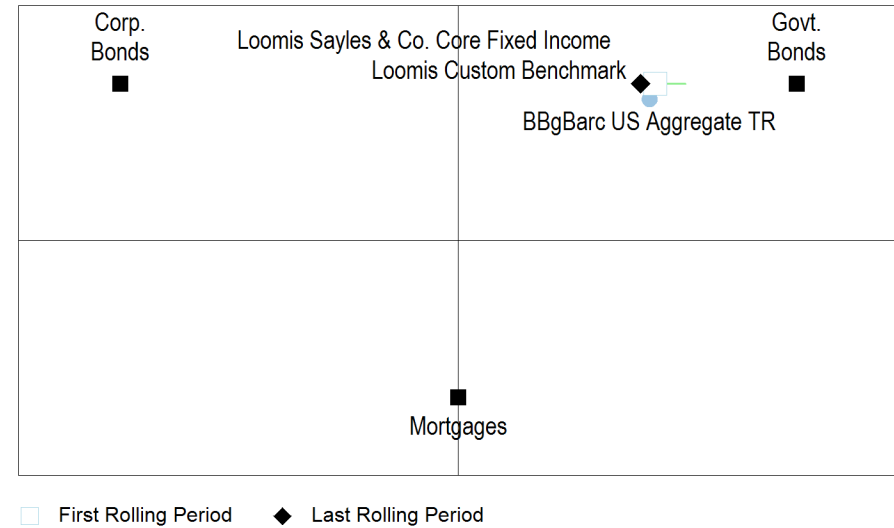
Los Angeles City Employees' Retirement System

LOOMIS SAYLES & CO. CORE FIXED INCOME

5 Year Risk Return



5 Year Style Map



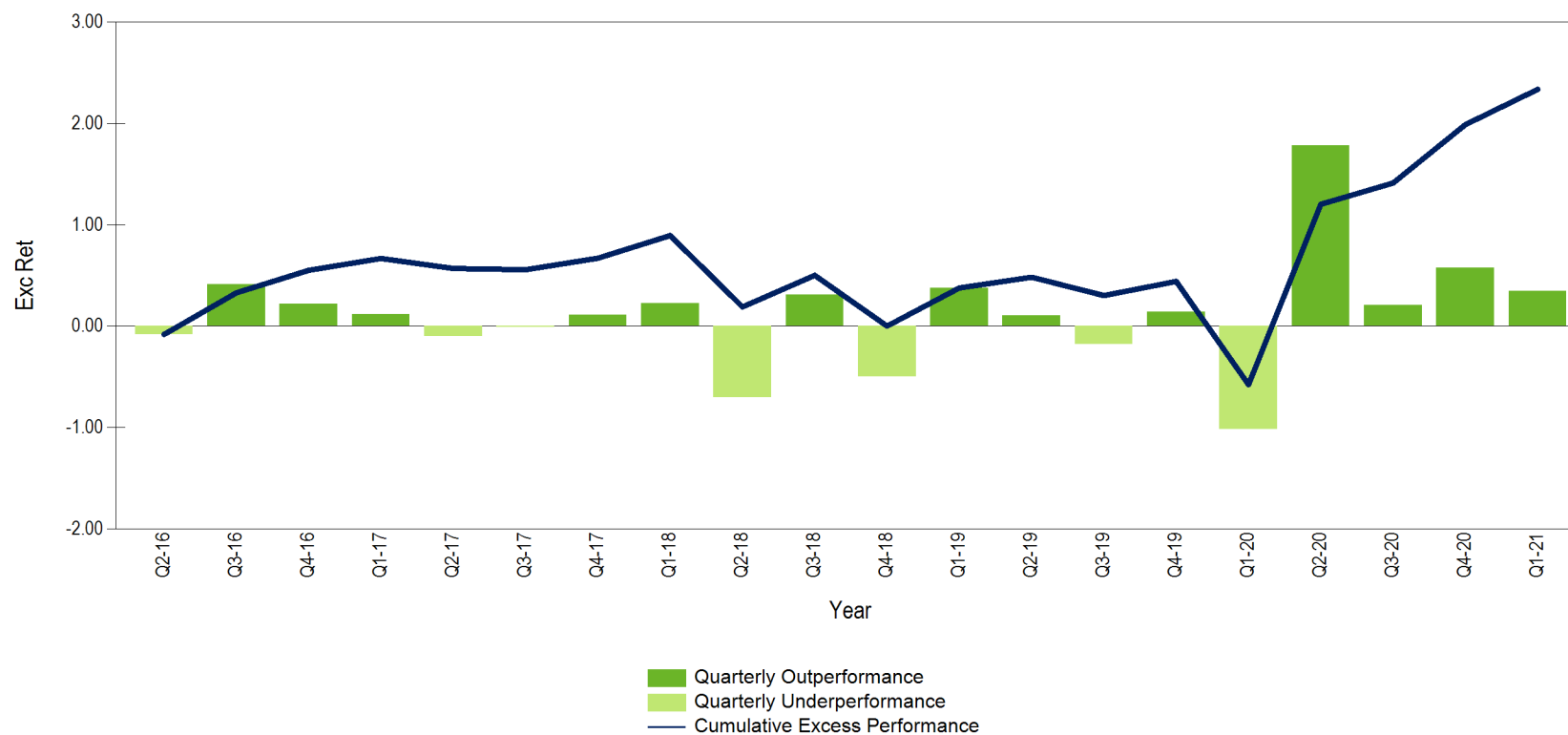
- Loomis Sayles & Co. Core Fixed Income
- ▲ Loomis Custom Benchmark
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

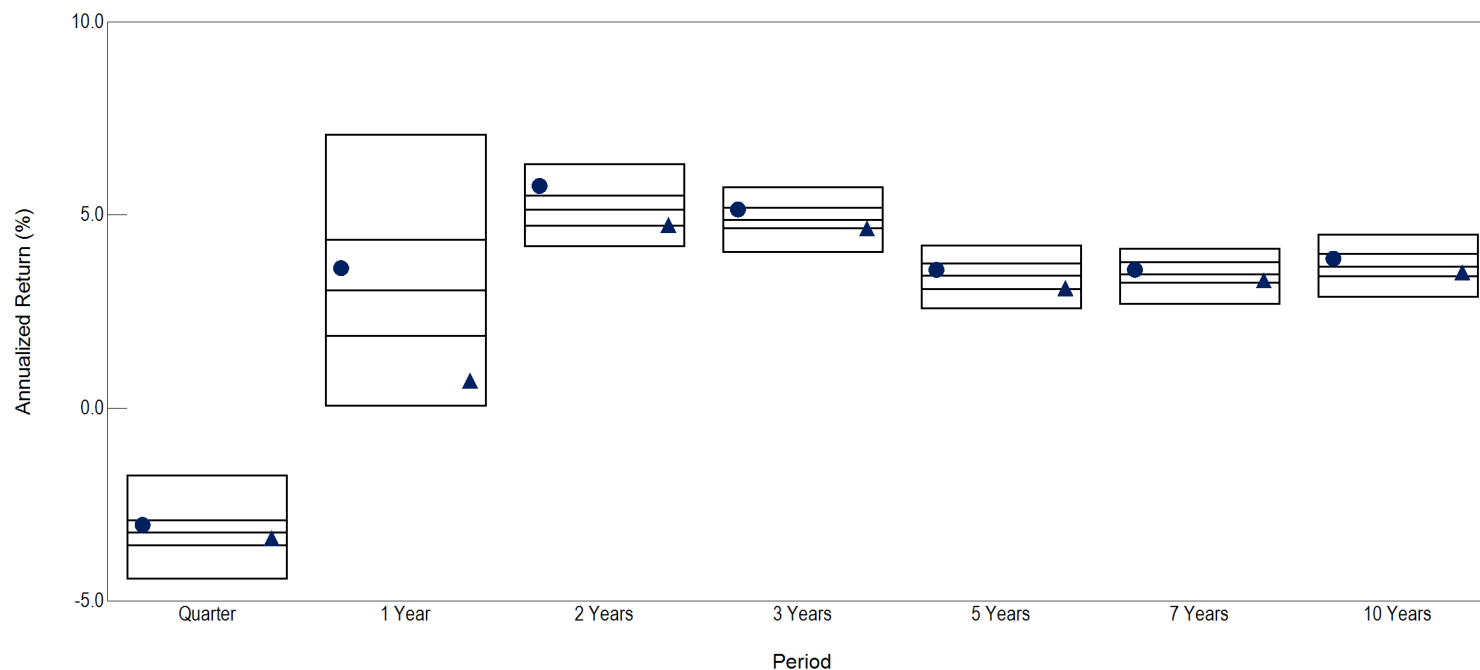
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

Neuberger Berman vs. eV US Core Fixed Inc Net



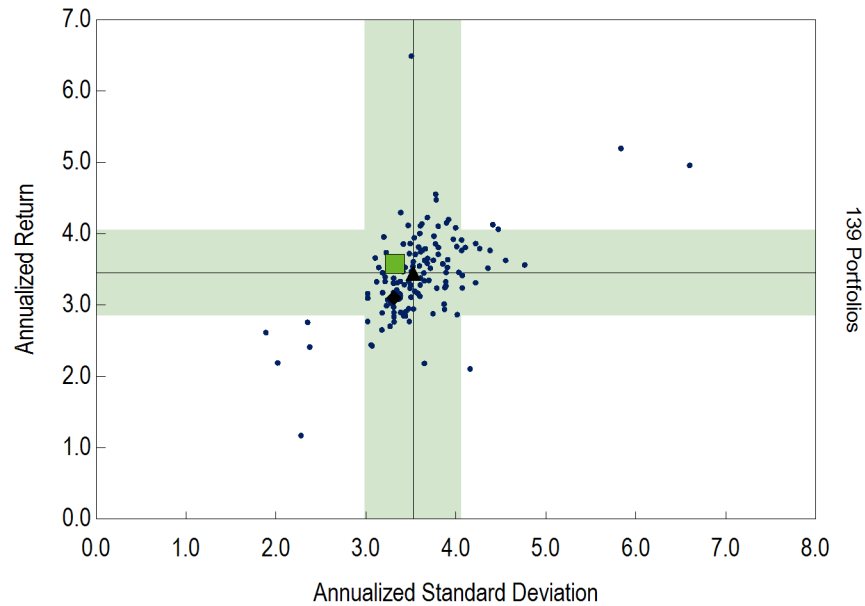
		Return (Rank)													
5th Percentile		-1.75		7.08		6.31		5.72		4.20		4.12		4.48	
25th Percentile		-2.90		4.37		5.52		5.20		3.76		3.79		4.01	
Median		-3.20		3.07		5.16		4.89		3.45		3.48		3.68	
75th Percentile		-3.53		1.88		4.75		4.67		3.10		3.27		3.43	
95th Percentile		-4.40		0.07		4.20		4.07		2.60		2.72		2.90	
# of Portfolios		149		147		144		142		139		134		124	
●	Neuberger Berman	-3.02	(33)	3.62	(40)	5.75	(19)	5.14	(30)	3.58	(37)	3.58	(37)	3.87	(35)
▲	Core Fixed Income Blend	-3.37	(61)	0.71	(90)	4.74	(76)	4.65	(76)	3.10	(75)	3.31	(71)	3.52	(68)



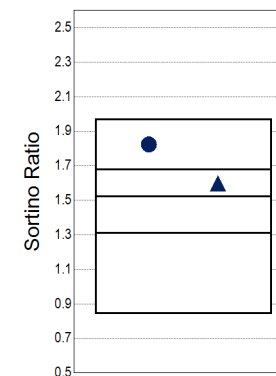
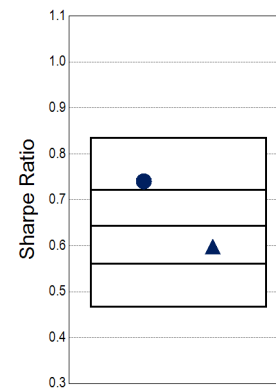
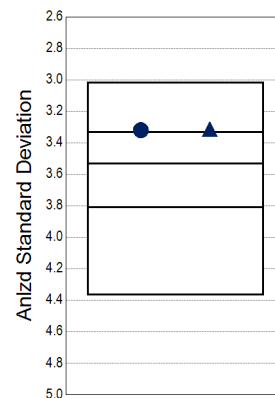
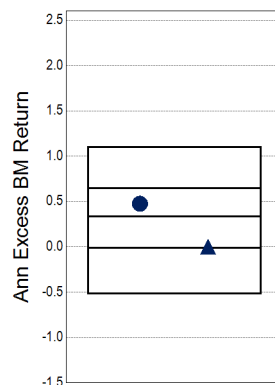
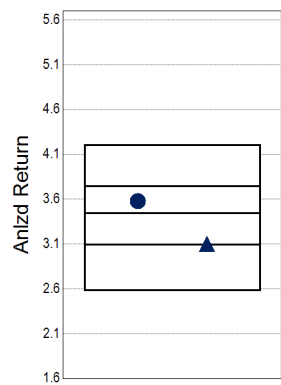
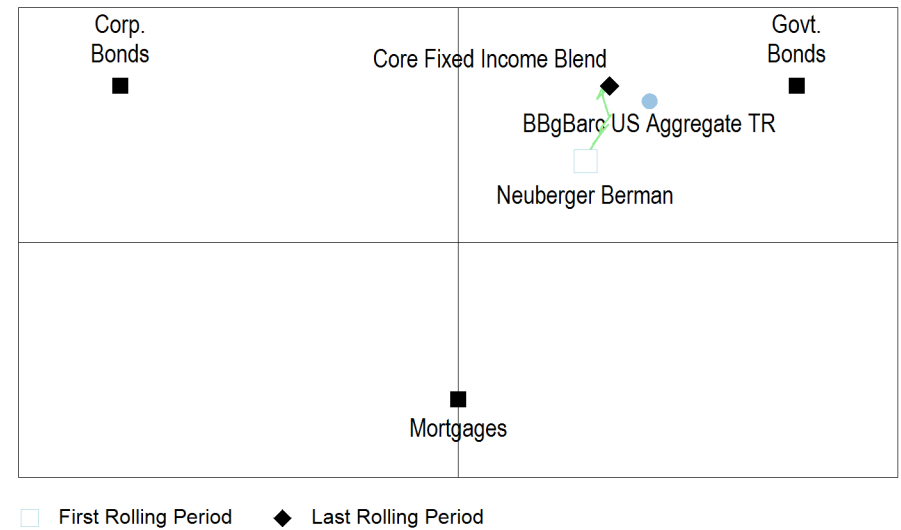
Los Angeles City Employees' Retirement System

NEUBERGER BERMAN

5 Year Risk Return



5 Year Style Map



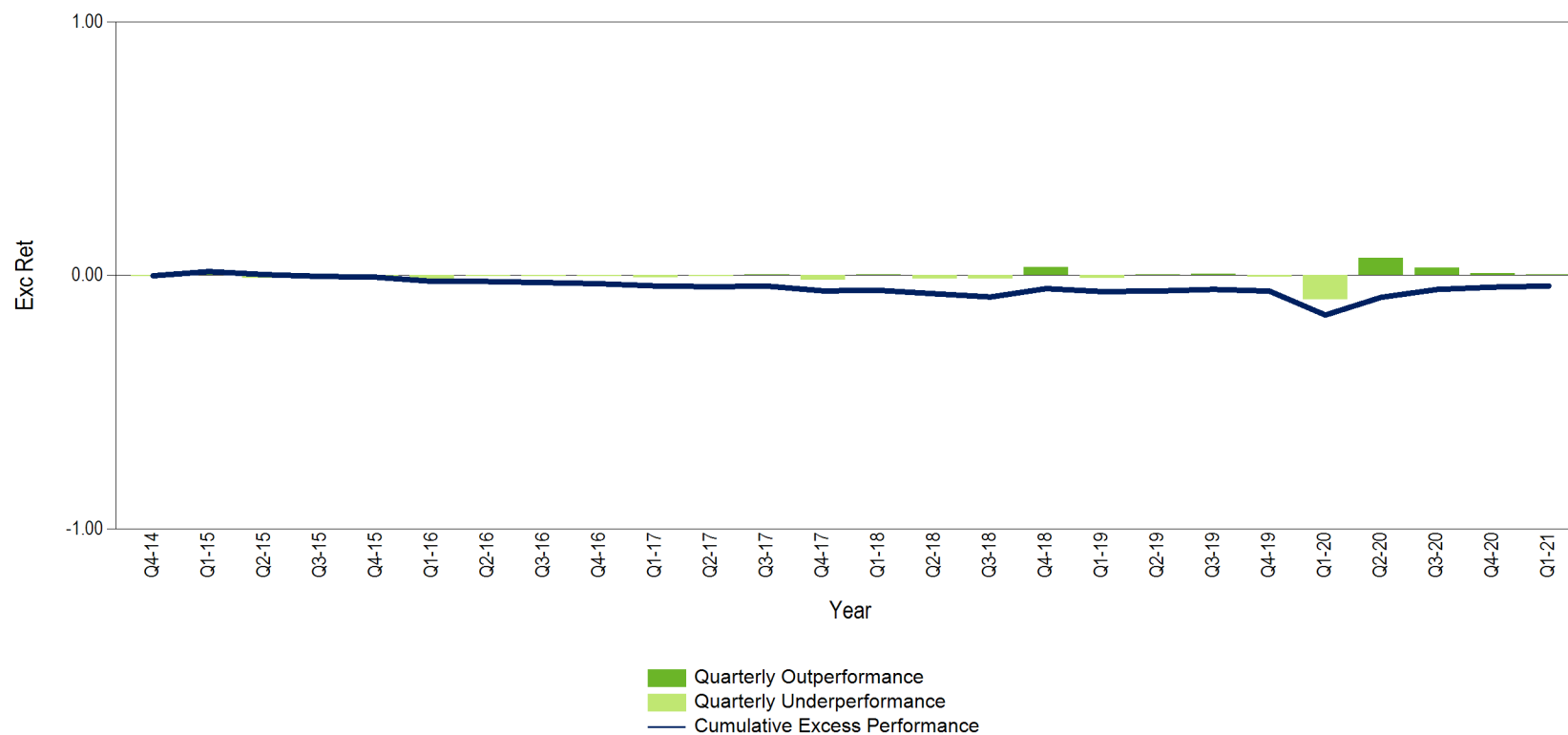
- Neuberger Berman
- ▲ Core Fixed Income Blend
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

SSGA U.S. AGGREGATE BOND

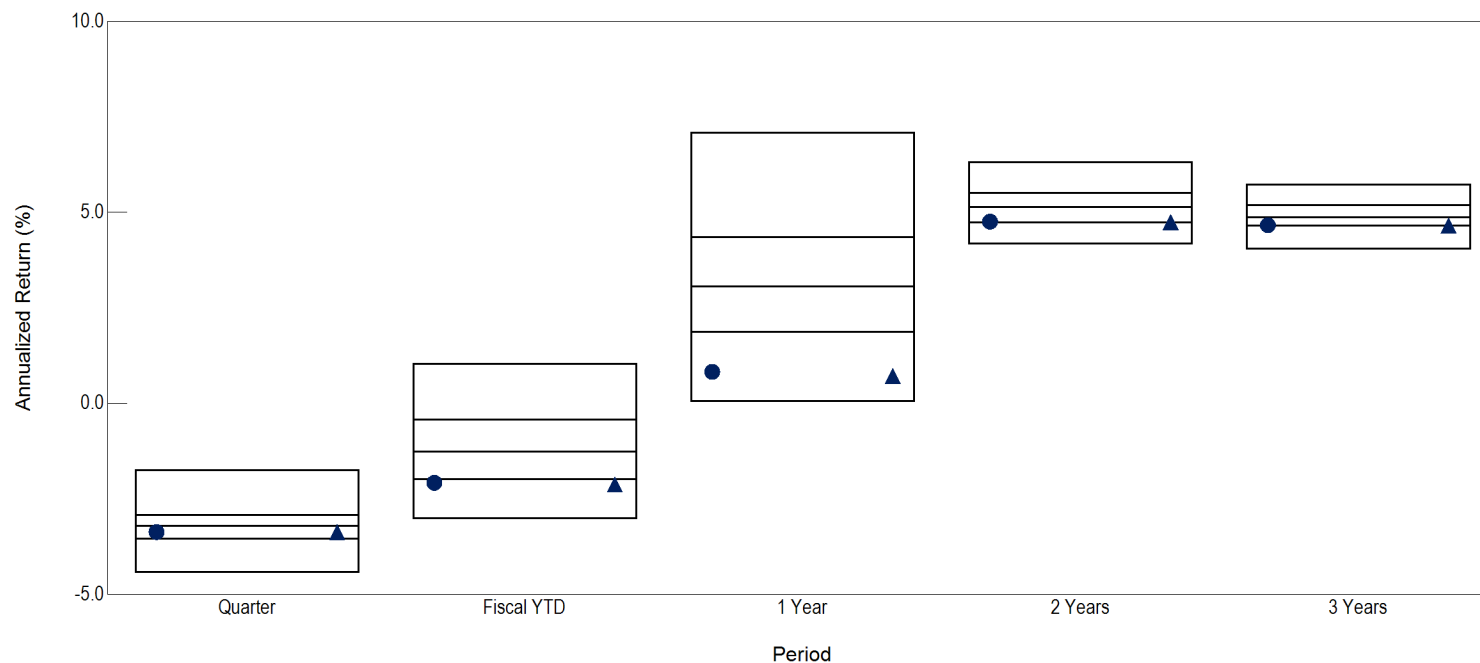
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

SSGA U.S. AGGREGATE BOND

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



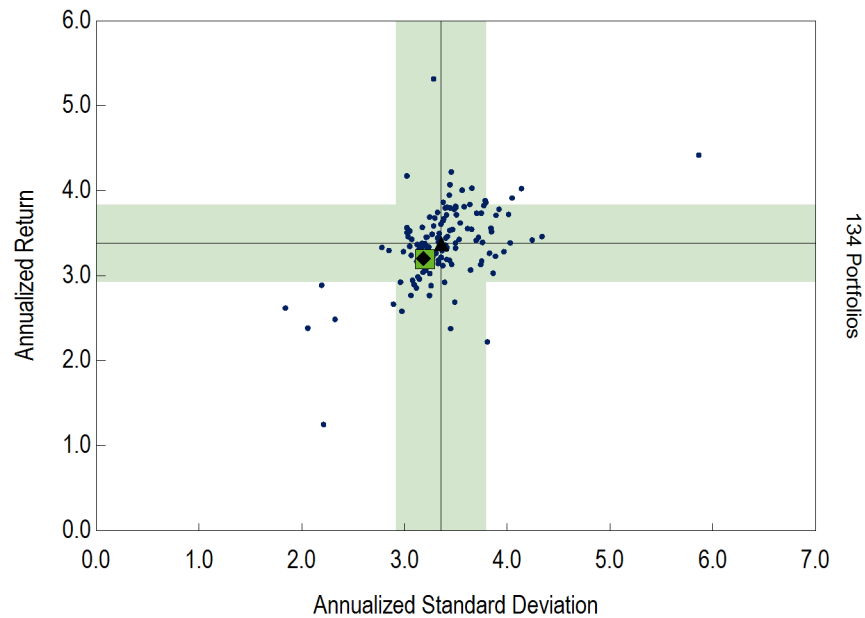
	Return (Rank)									
5th Percentile	-1.75		1.03		7.08		6.31		5.72	
25th Percentile	-2.90		-0.41		4.37		5.52		5.20	
Median	-3.20		-1.25		3.07		5.16		4.89	
75th Percentile	-3.53		-1.97		1.88		4.75		4.67	
95th Percentile	-4.40		-3.00		0.07		4.20		4.07	
# of Portfolios	149		147		147		144		142	
● SSGA U.S. Aggregate Bond	-3.37	(61)	-2.08	(81)	0.82	(90)	4.75	(75)	4.66	(76)
▲ BBgBarc US Aggregate TR	-3.37	(61)	-2.12	(82)	0.71	(90)	4.74	(76)	4.65	(76)



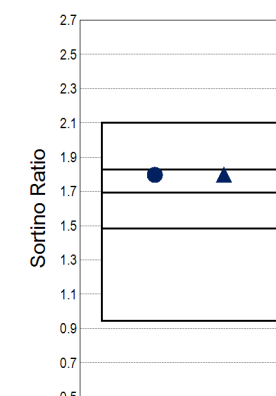
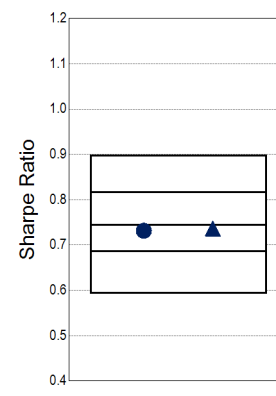
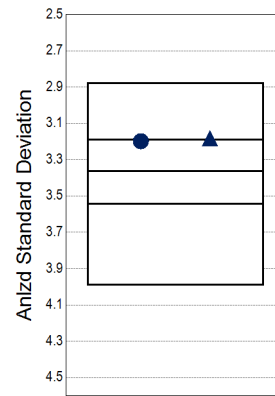
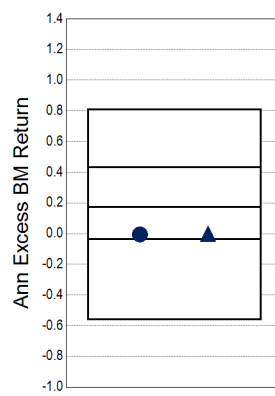
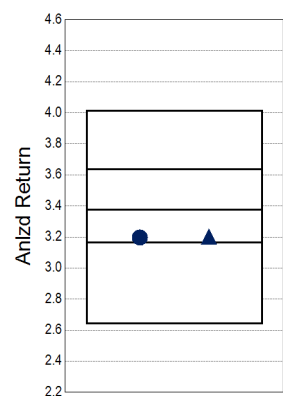
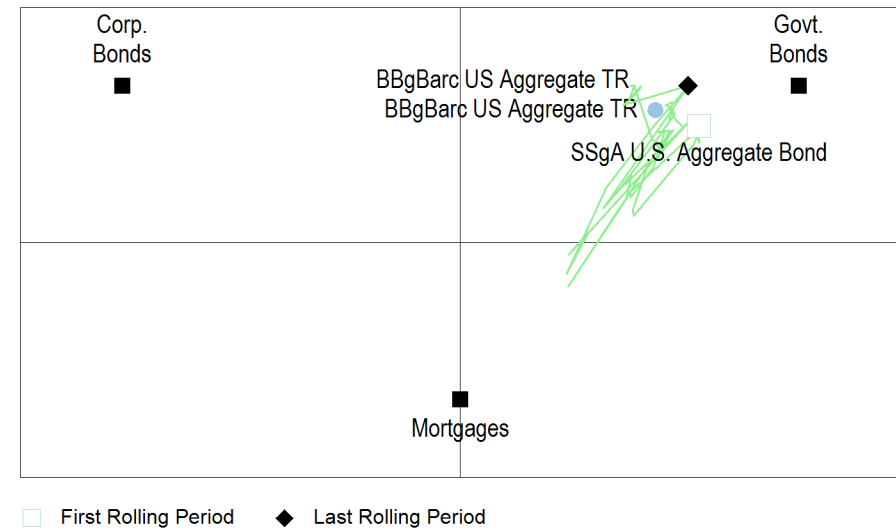
Los Angeles City Employees' Retirement System

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



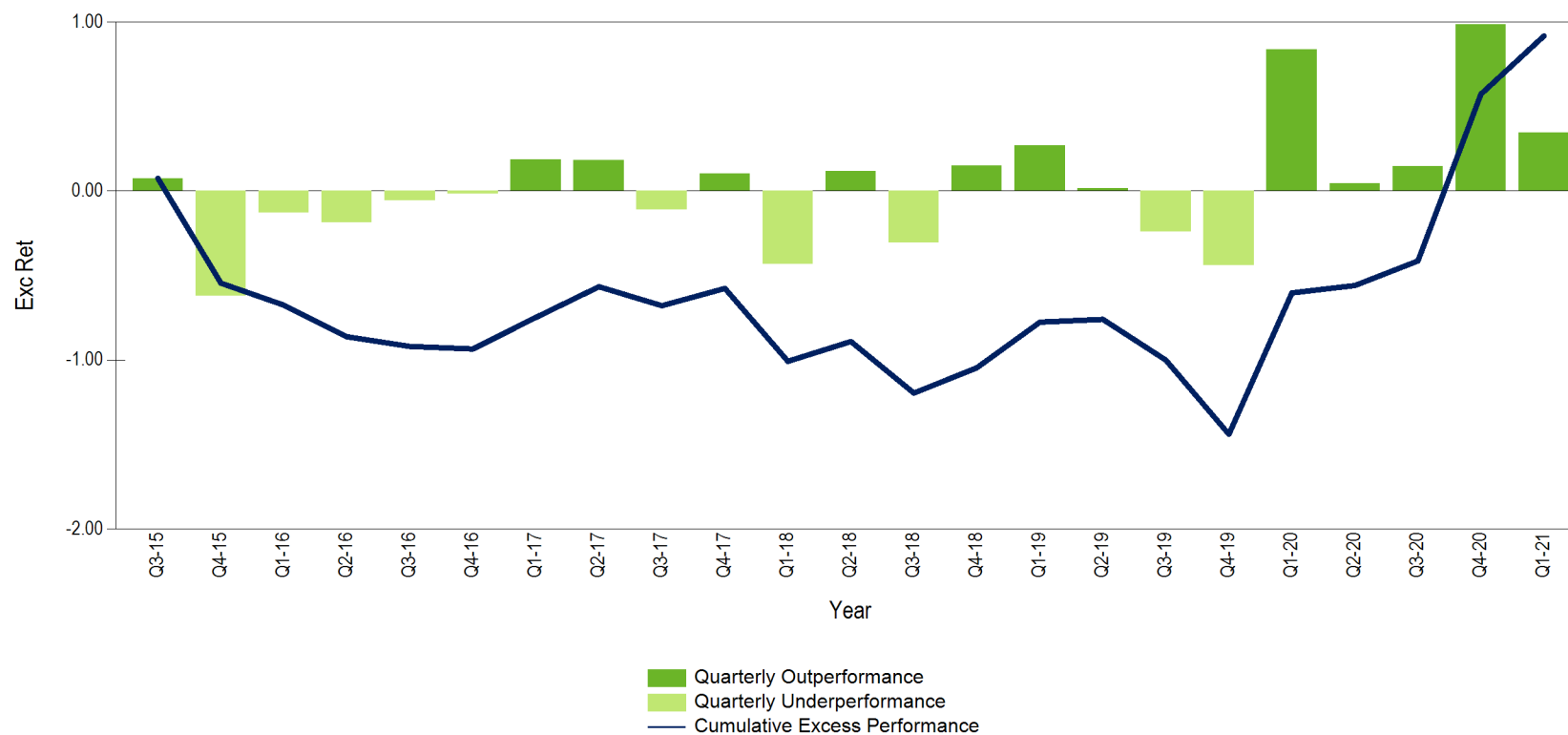
CREDIT OPPORTUNITIES MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

BAIN CAPITAL SENIOR LOAN FUND, LP

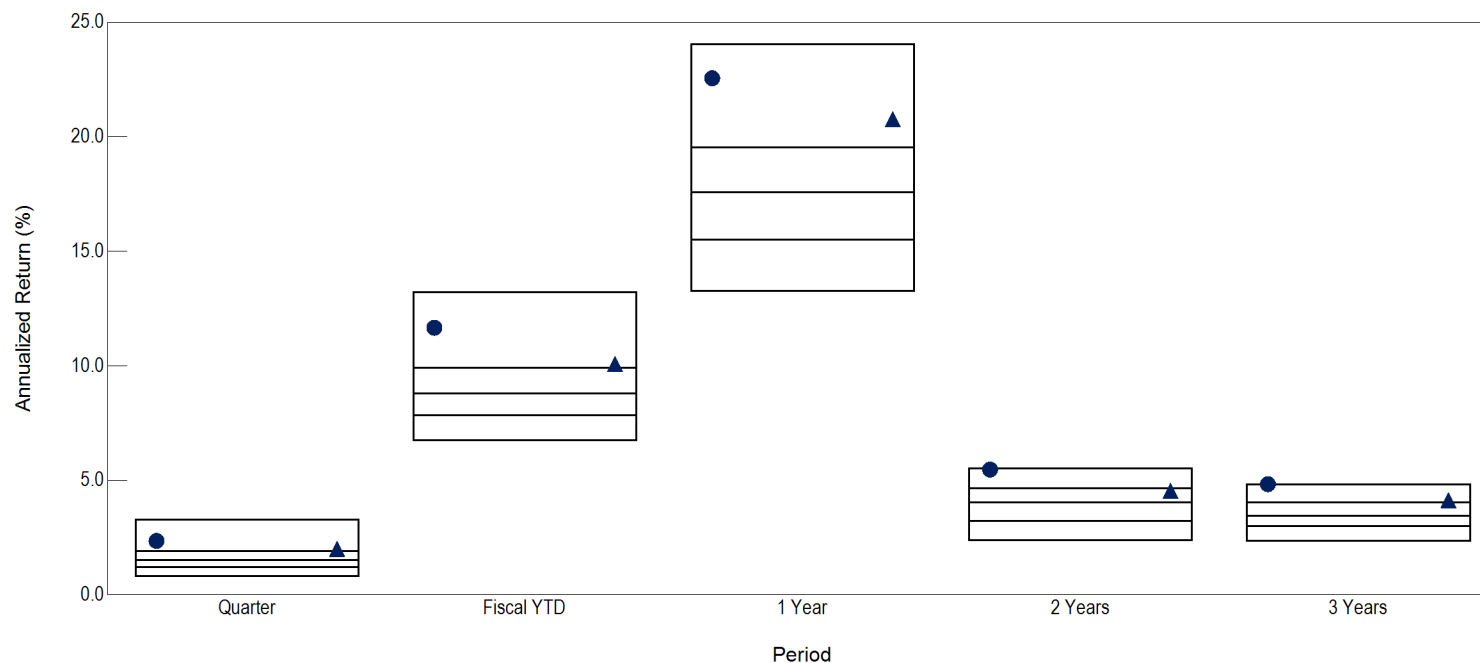
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

BAIN CAPITAL SENIOR LOAN FUND, LP

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



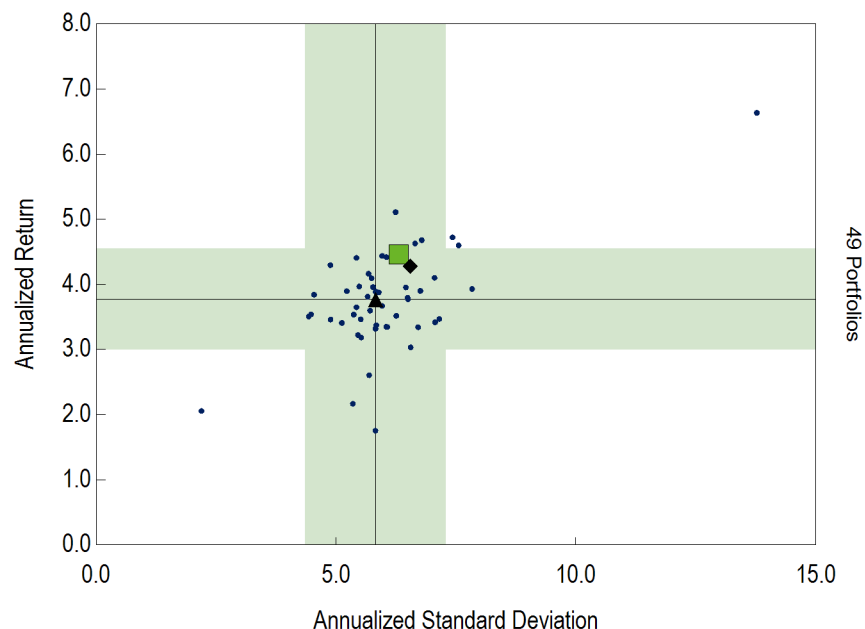
	Return (Rank)									
5th Percentile	3.28		13.21		24.04		5.52		4.82	
25th Percentile	1.94		9.94		19.55		4.67		4.07	
Median	1.54		8.82		17.60		4.06		3.47	
75th Percentile	1.24		7.87		15.52		3.24		3.02	
95th Percentile	0.86		6.79		13.30		2.41		2.38	
# of Portfolios	55		55		55		55		54	
● Bain Capital Senior Loan Fund, LP	2.35	(11)	11.66	(9)	22.55	(14)	5.47	(6)	4.83	(5)
▲ Credit Suisse Leveraged Loans	2.01	(23)	10.08	(24)	20.77	(19)	4.54	(30)	4.13	(24)



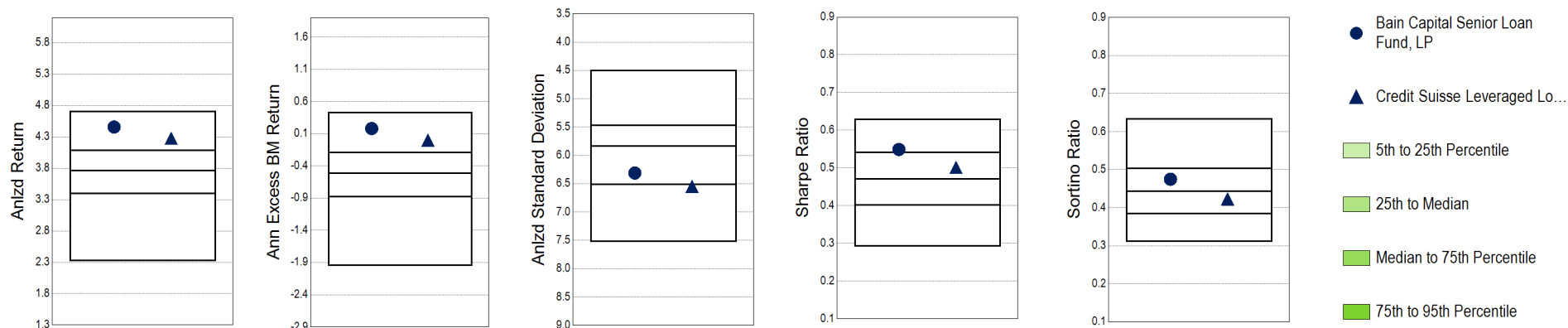
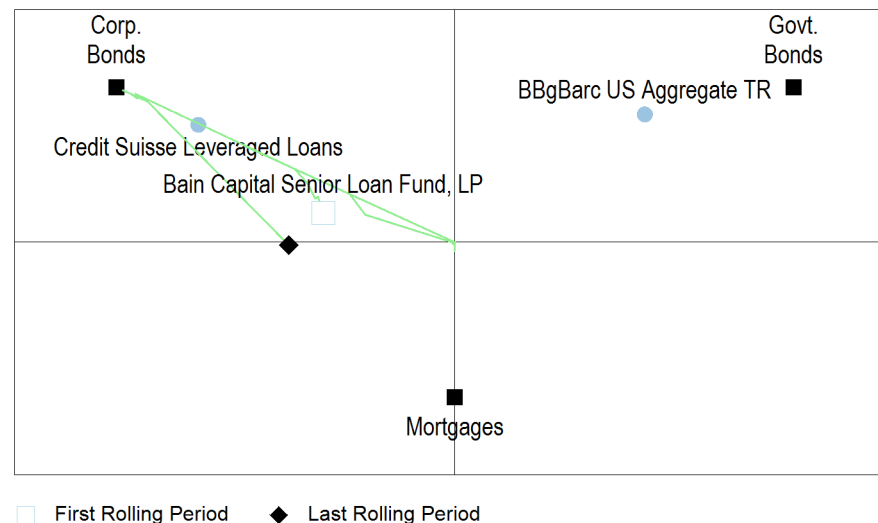
Los Angeles City Employees' Retirement System

BAIN CAPITAL SENIOR LOAN FUND, LP

Since Inception Risk Return



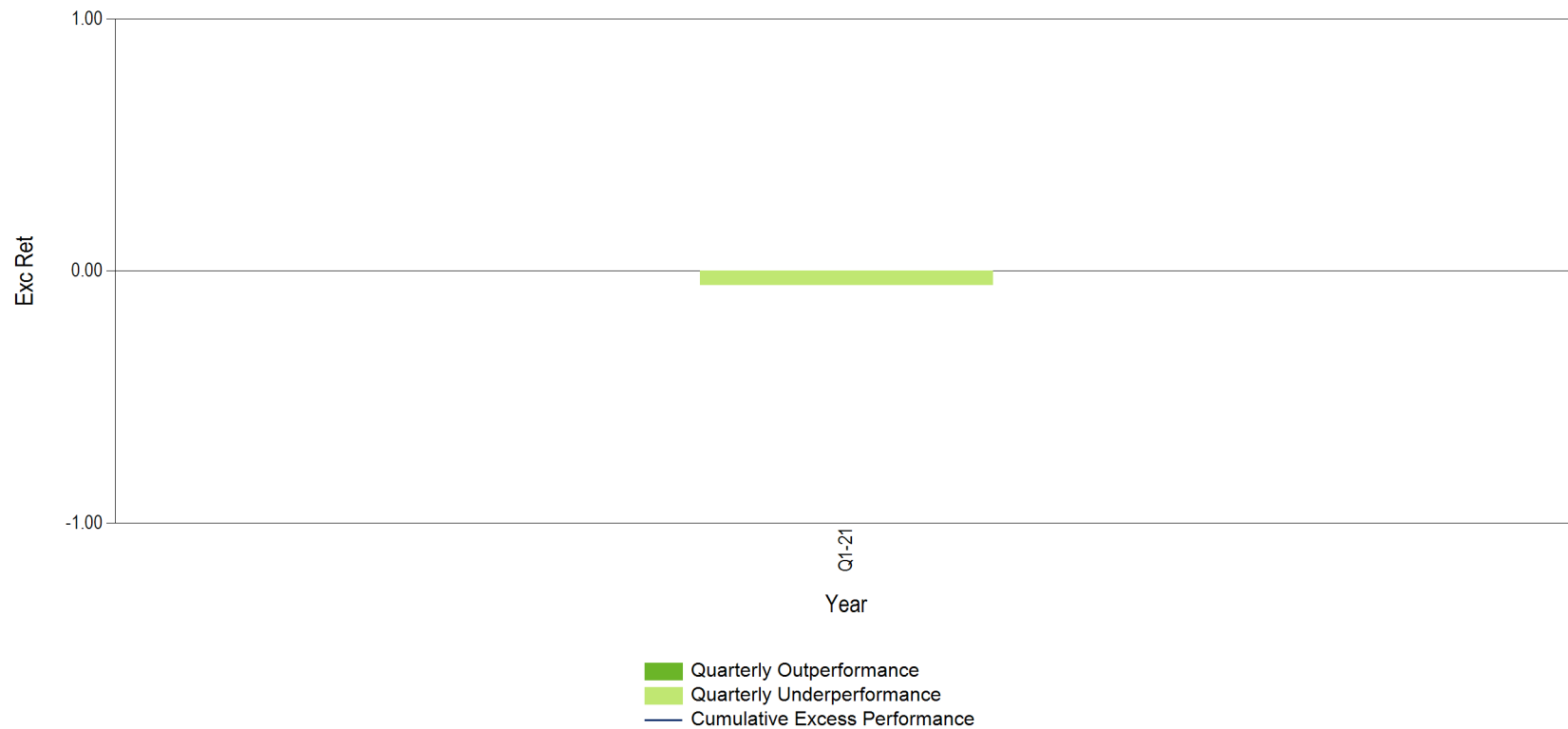
Since Inception Style Map



Los Angeles City Employees' Retirement System

LOOMIS SAYLES & CO. HIGH YIELD

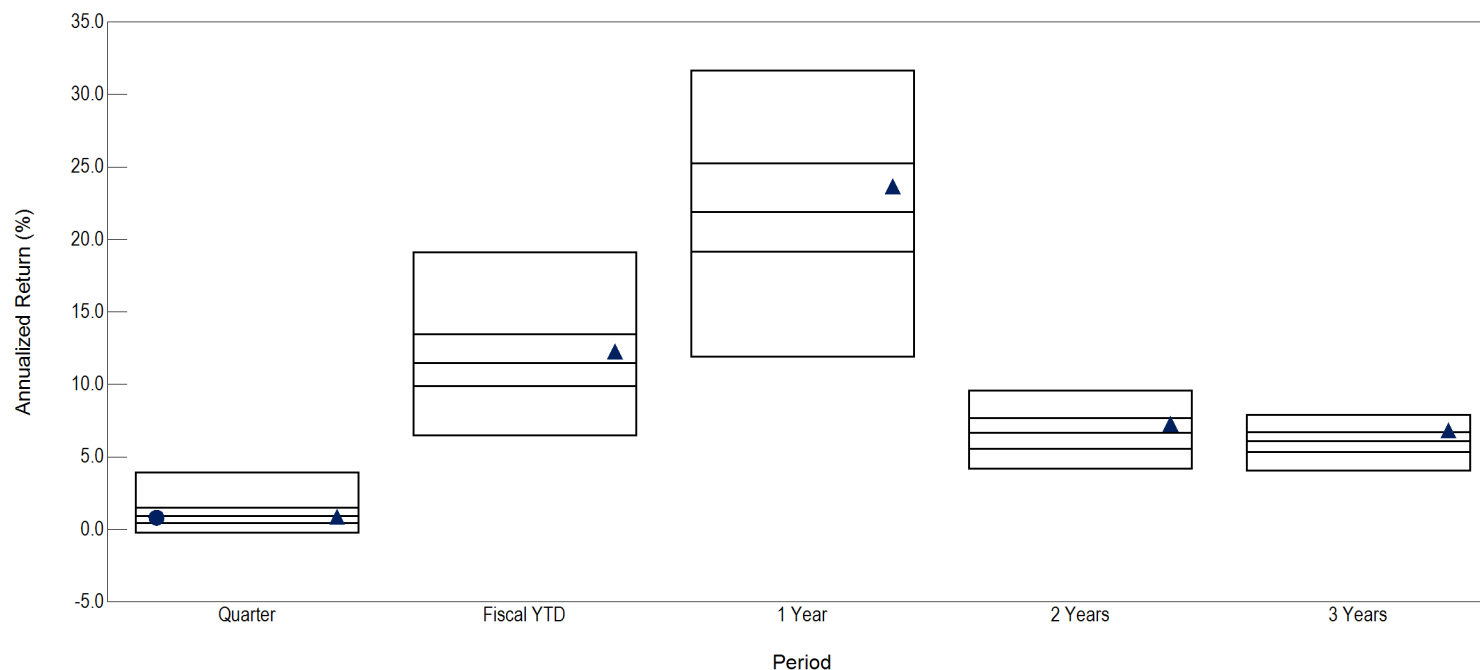
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

LOOMIS SAYLES & CO. HIGH YIELD

Loomis Sayles & Co. High Yield vs. eV US High Yield Fixed Inc Net



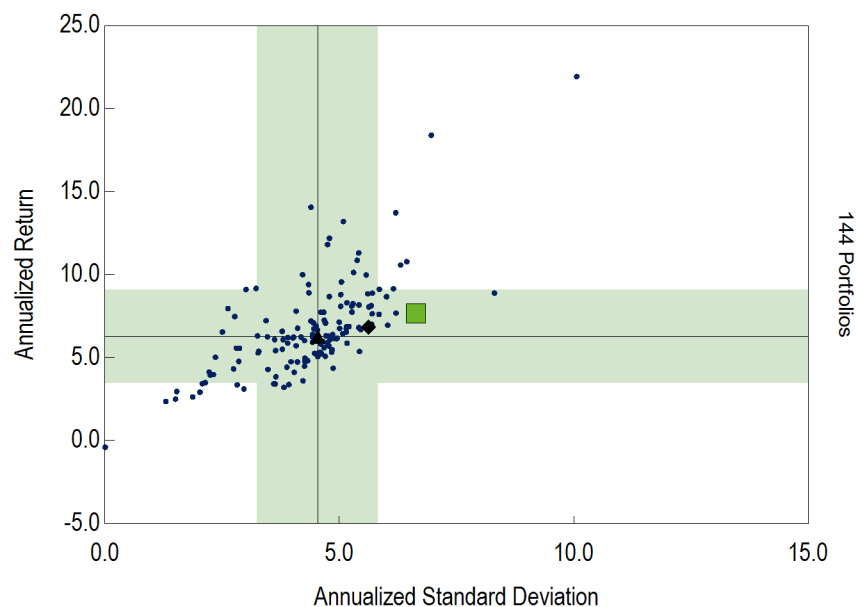
	Return (Rank)									
5th Percentile	3.94		19.09		31.66		9.59		7.89	
25th Percentile	1.54		13.51		25.29		7.73		6.73	
Median	0.98		11.53		21.95		6.69		6.14	
75th Percentile	0.46		9.93		19.18		5.61		5.36	
95th Percentile	-0.18		6.50		11.96		4.24		4.07	
# of Portfolios	145		144		144		142		140	
● Loomis Sayles & Co. High Yield	0.80	(58)	--	(--)	--	(--)	--	(--)	--	(--)
▲ BBgBarc US High Yield 2% Issuer Cap TR	0.86	(55)	12.27	(39)	23.65	(37)	7.27	(34)	6.82	(23)



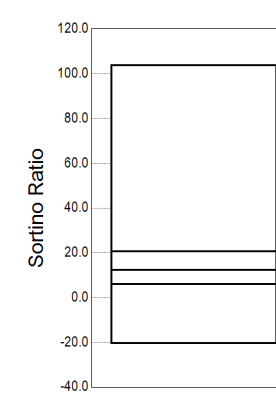
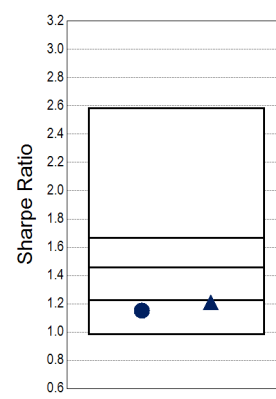
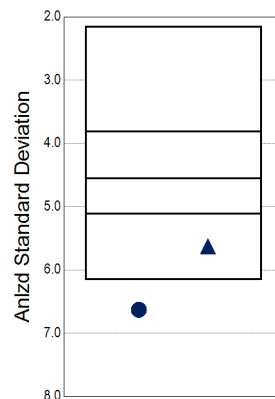
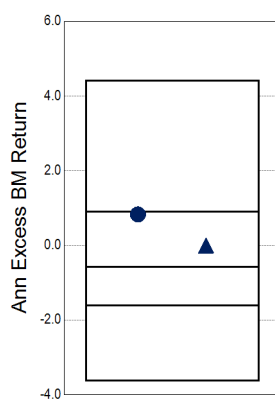
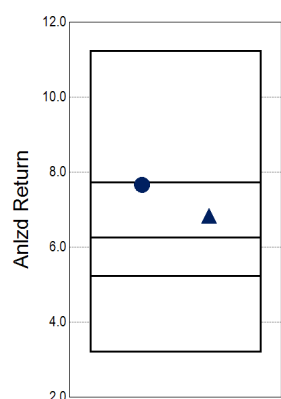
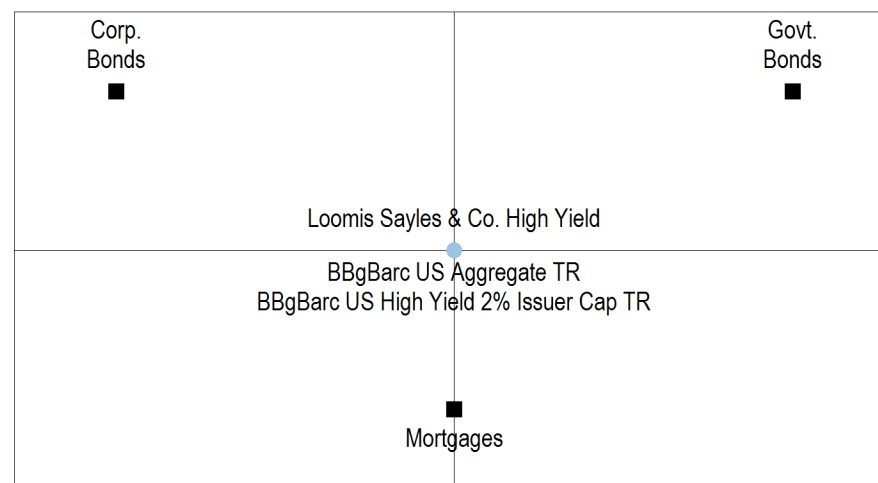
Los Angeles City Employees' Retirement System

LOOMIS SAYLES & CO. HIGH YIELD

Since Inception Risk Return



Fixed Income Style Map
3 Months Ending March 31, 2021



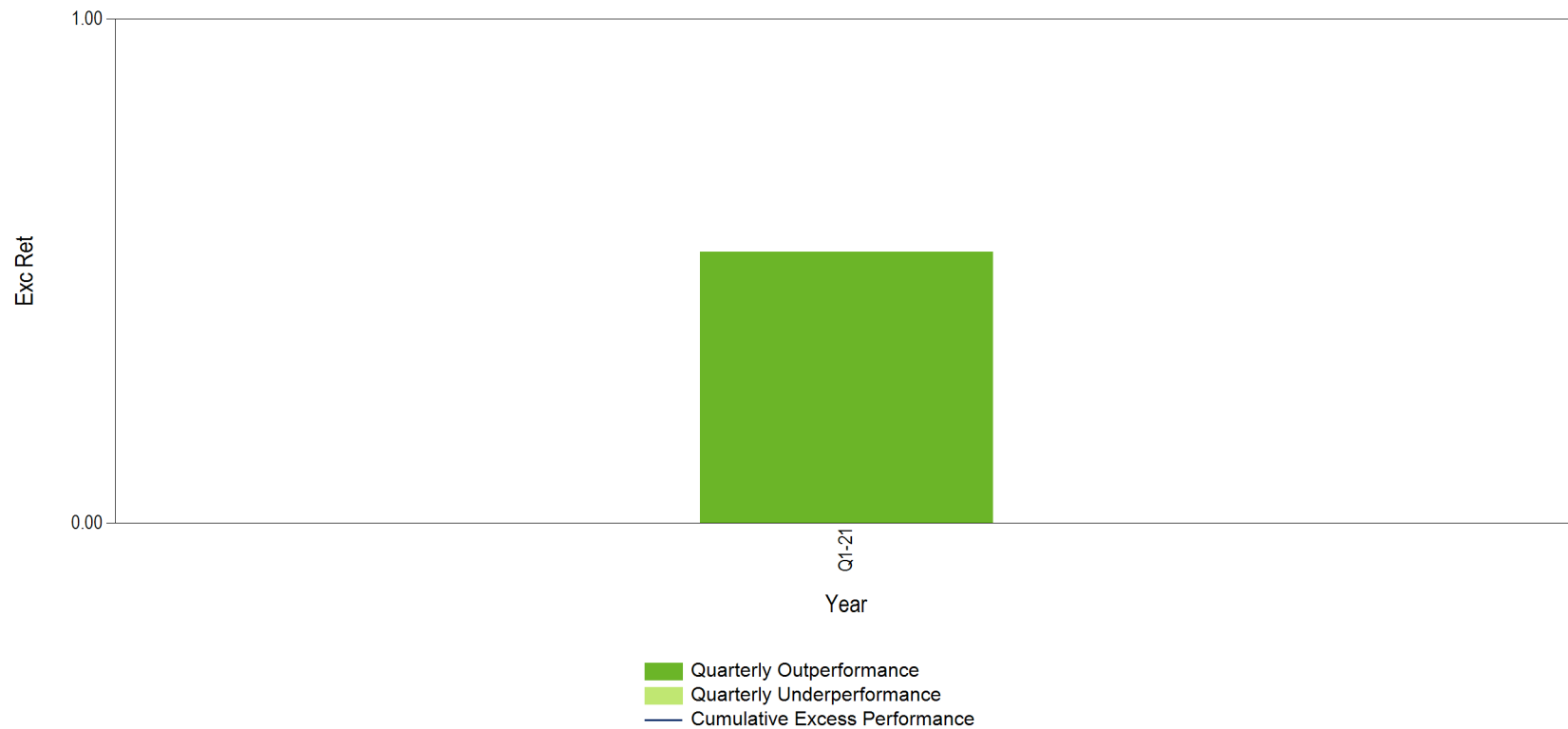
- Loomis Sayles & Co. High Yield
- ▲ BBgBarc US High Yield 2% Issuer Cap TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

DDJ CAPITAL MANAGEMENT

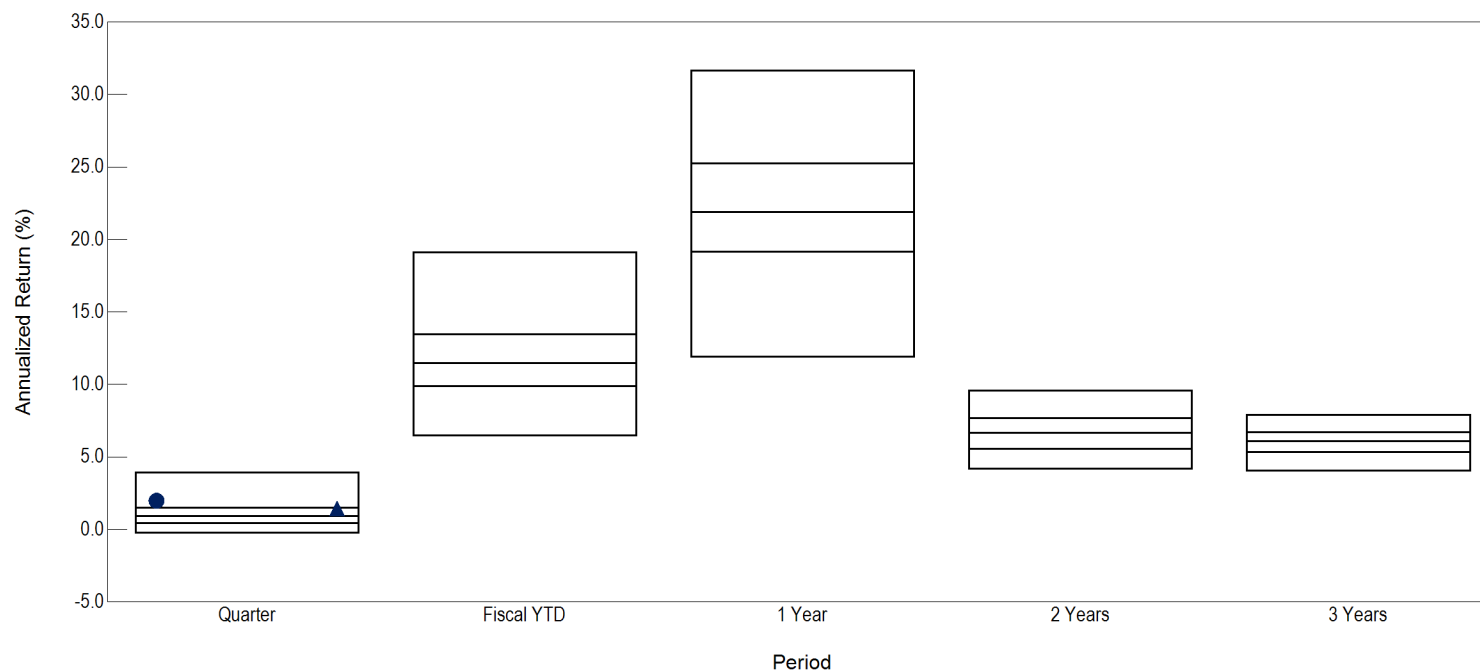
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

DDJ CAPITAL MANAGEMENT

DDJ Capital Management vs. eV US High Yield Fixed Inc Net



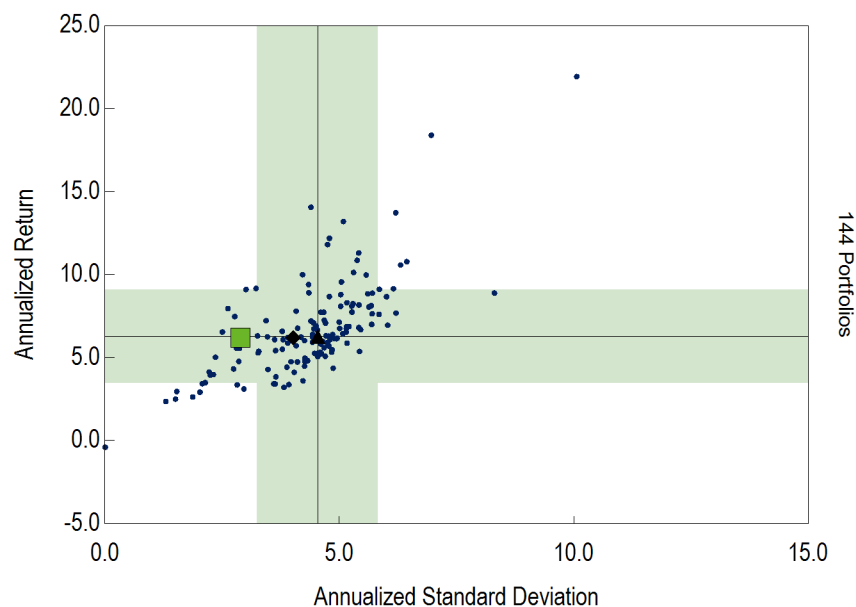
	Return (Rank)									
5th Percentile	3.94		19.09		31.66		9.59		7.89	
25th Percentile	1.54		13.51		25.29		7.73		6.73	
Median	0.98		11.53		21.95		6.69		6.14	
75th Percentile	0.46		9.93		19.18		5.61		5.36	
95th Percentile	-0.18		6.50		11.96		4.24		4.07	
# of Portfolios	145		144		144		142		140	
● DDJ Capital Management	1.97	(19)	--	(--)	--	(--)	--	(--)	--	(--)
▲ 50% BBgBarc US High Yield 2% Issuer Cap /	1.43	(32)	--	(--)	--	(--)	--	(--)	--	(--)



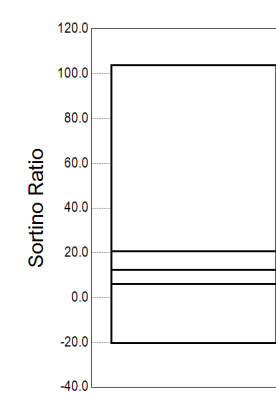
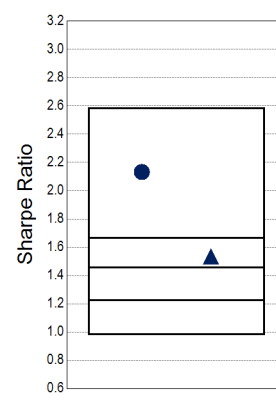
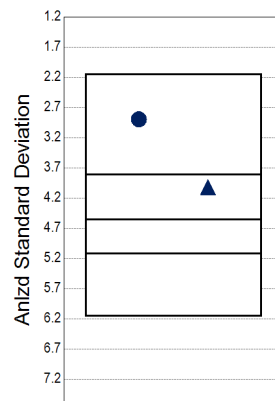
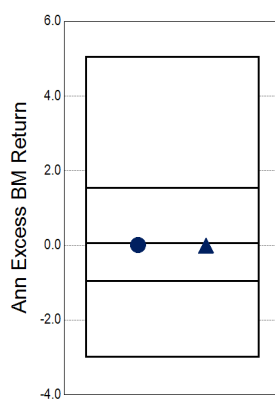
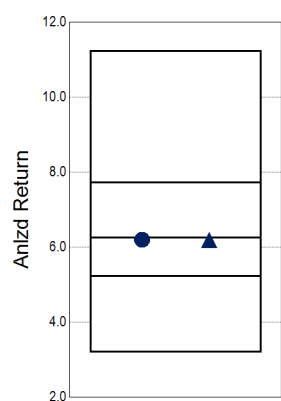
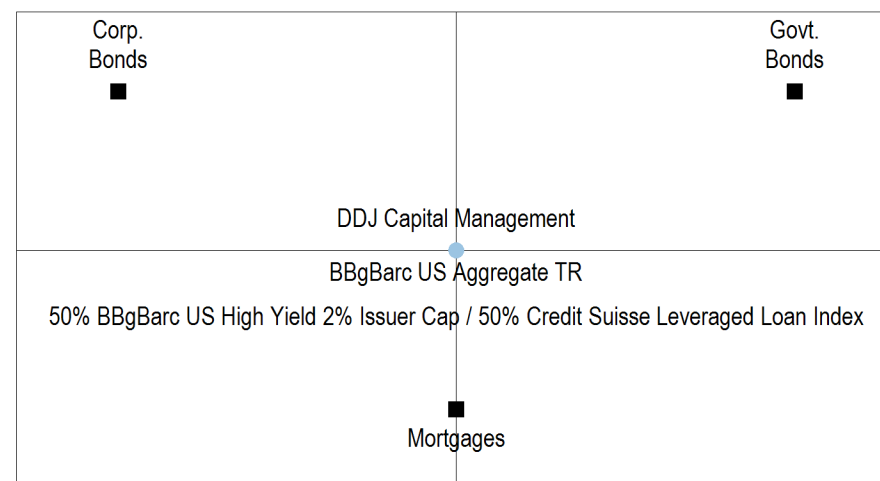
Los Angeles City Employees' Retirement System

DDJ CAPITAL MANAGEMENT

Since Inception Risk Return



Fixed Income Style Map
3 Months Ending March 31, 2021



- DDJ Capital Management
- ▲ 50% BBgBarc US High Yield 2% Issuer Cap / 50% Credit Suisse Leveraged Loan Index
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



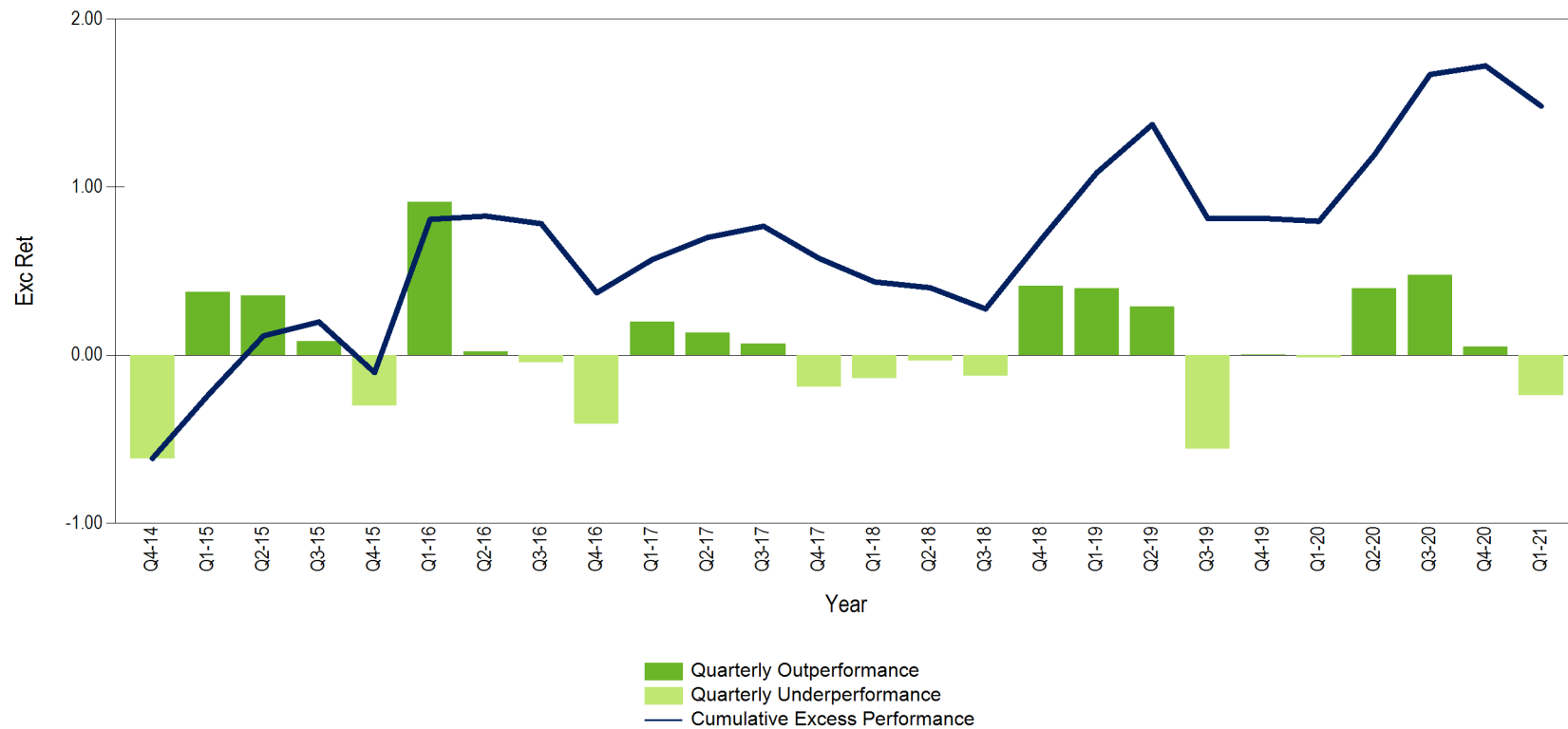
REAL ASSETS MANAGER PERFORMANCE

NEPC, LLC

Los Angeles City Employees' Retirement System

DFA US TIPS

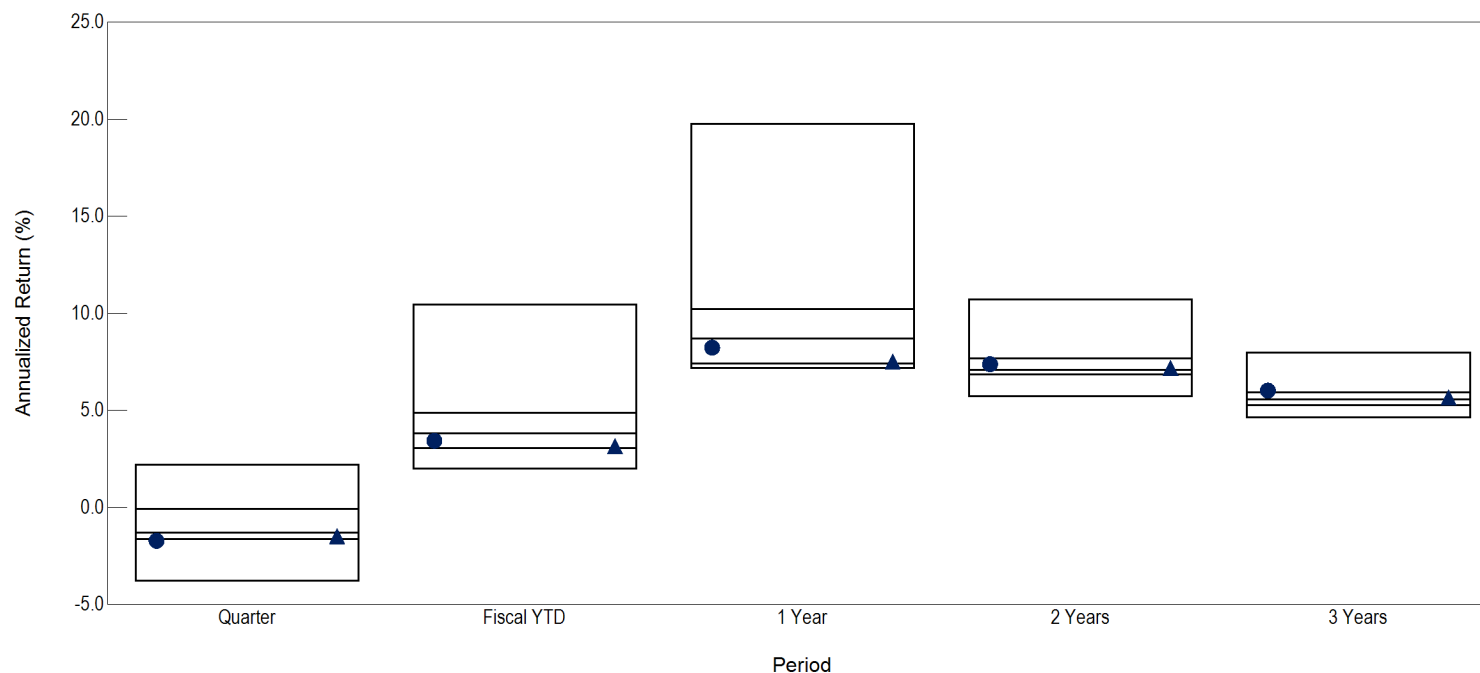
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

DFA US TIPS

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



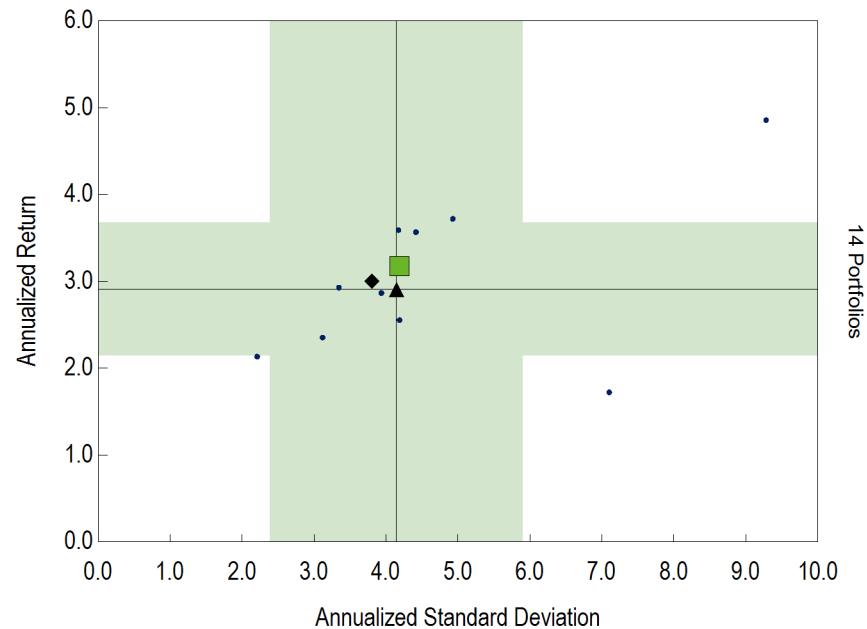
	Return (Rank)									
5th Percentile	2.22		10.46		19.78		10.72		7.97	
25th Percentile	-0.03		4.93		10.26		7.72		5.99	
Median	-1.26		3.84		8.74		7.12		5.60	
75th Percentile	-1.57		3.10		7.44		6.89		5.32	
95th Percentile	-3.72		2.05		7.23		5.78		4.68	
# of Portfolios	16		16		16		15		15	
● DFA US TIPS	-1.71	(87)	3.44	(67)	8.24	(61)	7.39	(45)	6.03	(24)
▲ BBgBarc US TIPS TR	-1.47	(65)	3.16	(73)	7.54	(72)	7.19	(49)	5.68	(48)



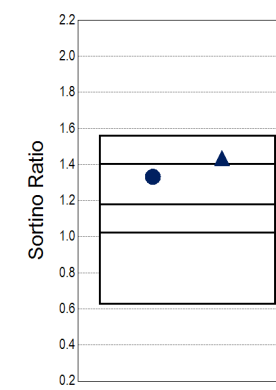
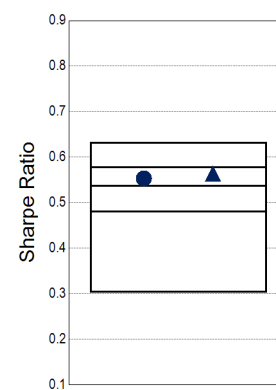
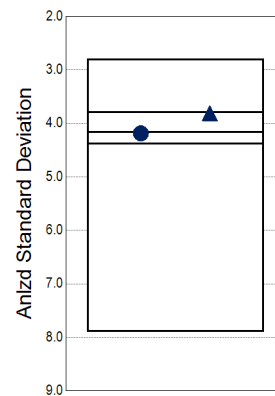
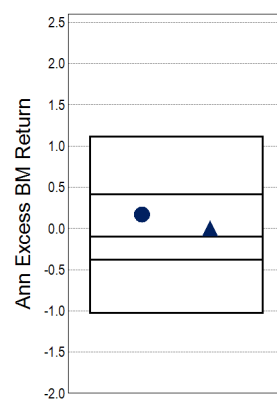
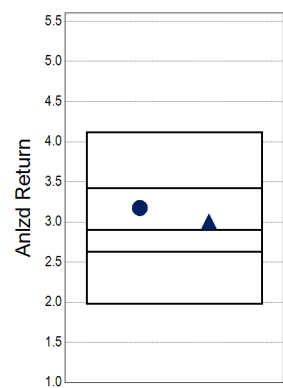
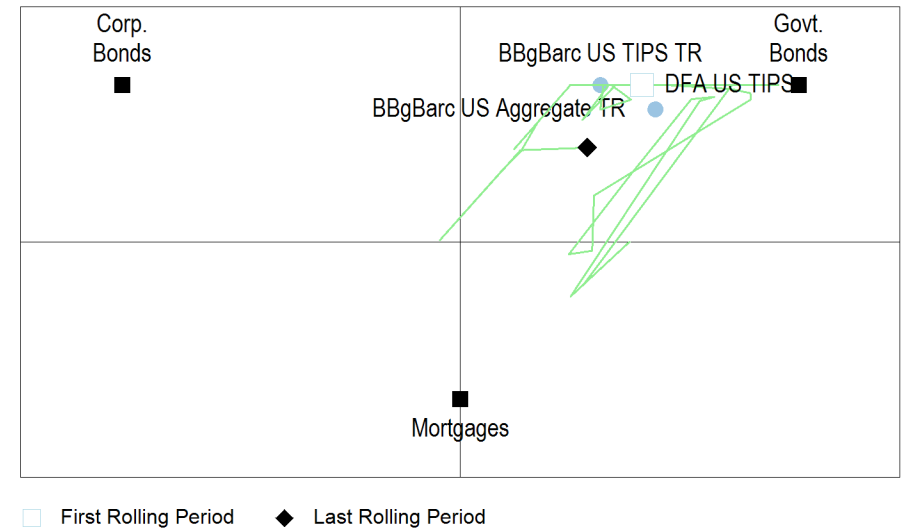
Los Angeles City Employees' Retirement System

DFA US TIPS

Since Inception Risk Return



Since Inception Style Map



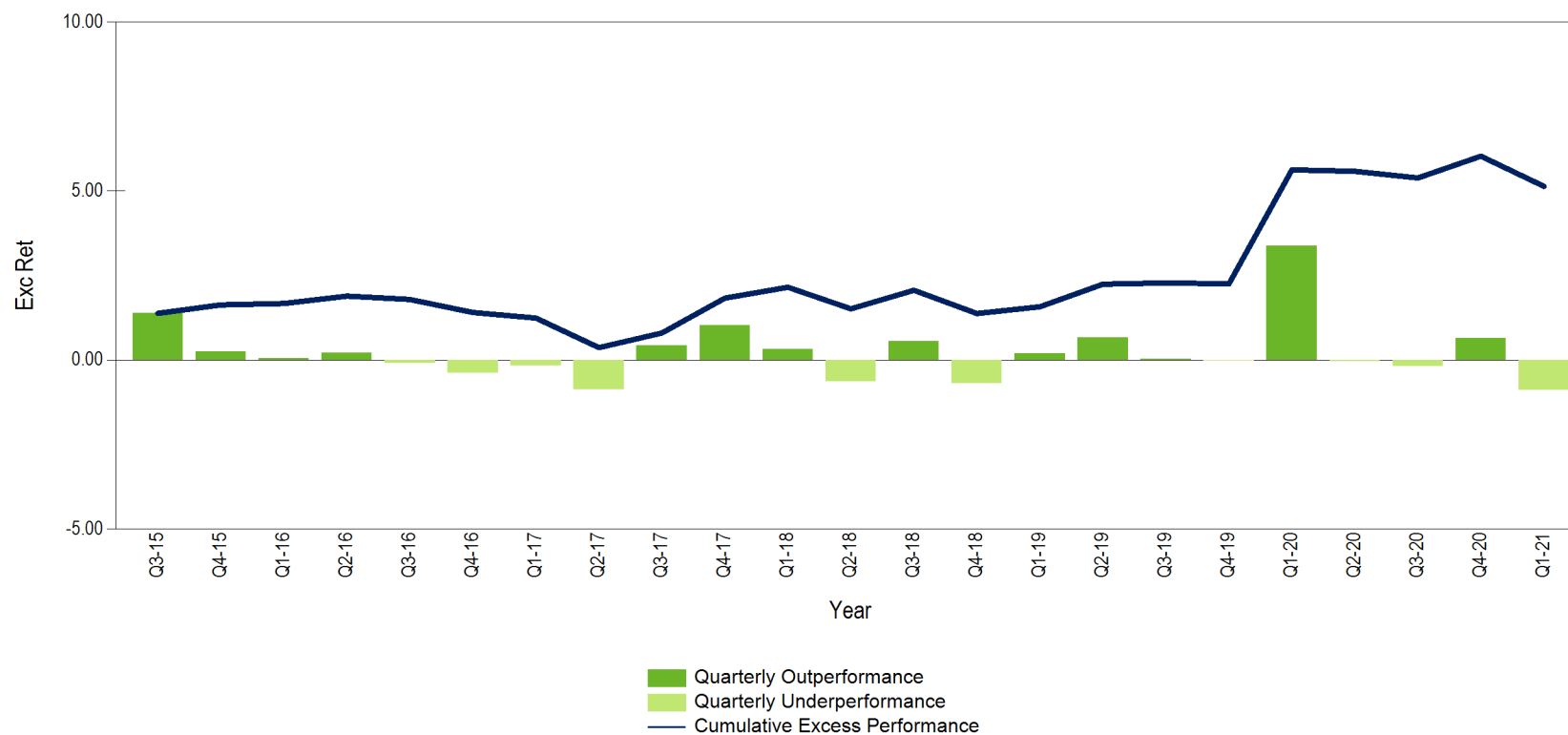
- DFA US TIPS
- ▲ BBgBarc US TIPS TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile



Los Angeles City Employees' Retirement System

CENTERSQUARE US REAL ESTATE

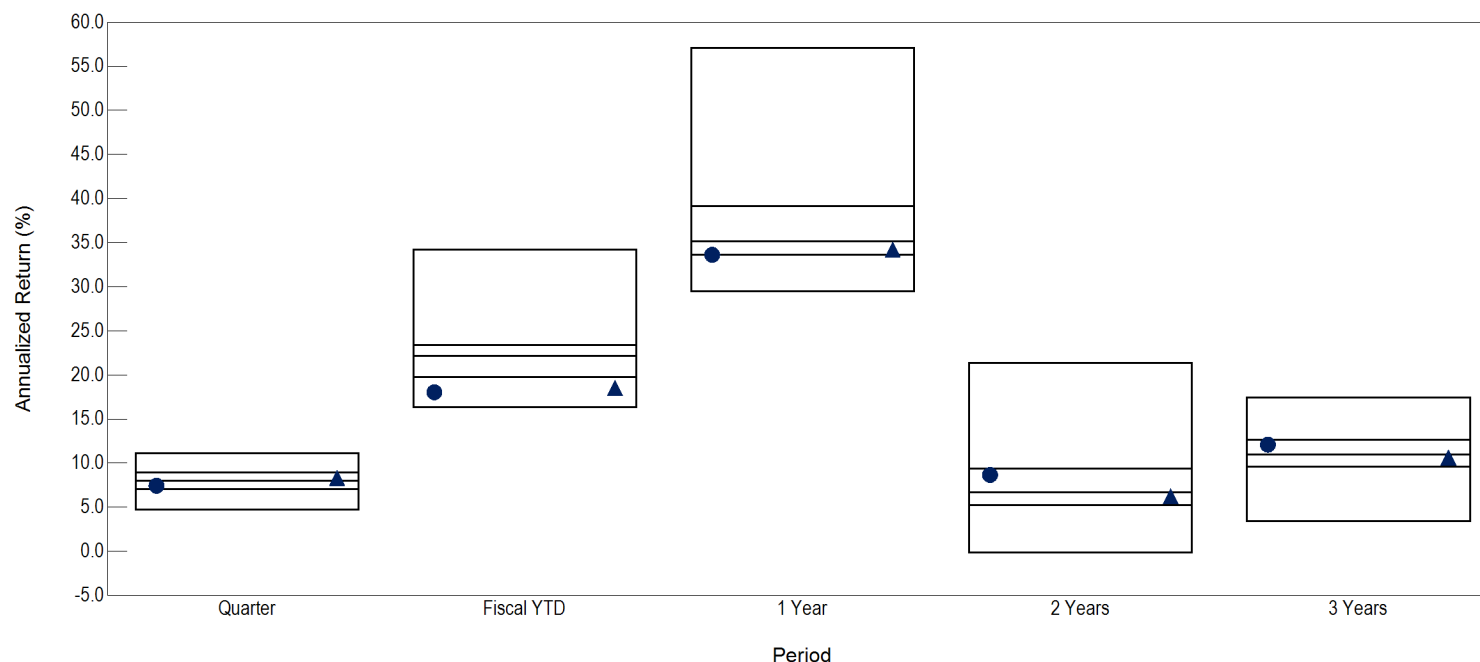
Quarterly and Cumulative Excess Performance



Los Angeles City Employees' Retirement System

CENTERSQUARE US REAL ESTATE

CenterSquare US Real Estate vs. eV US REIT Net



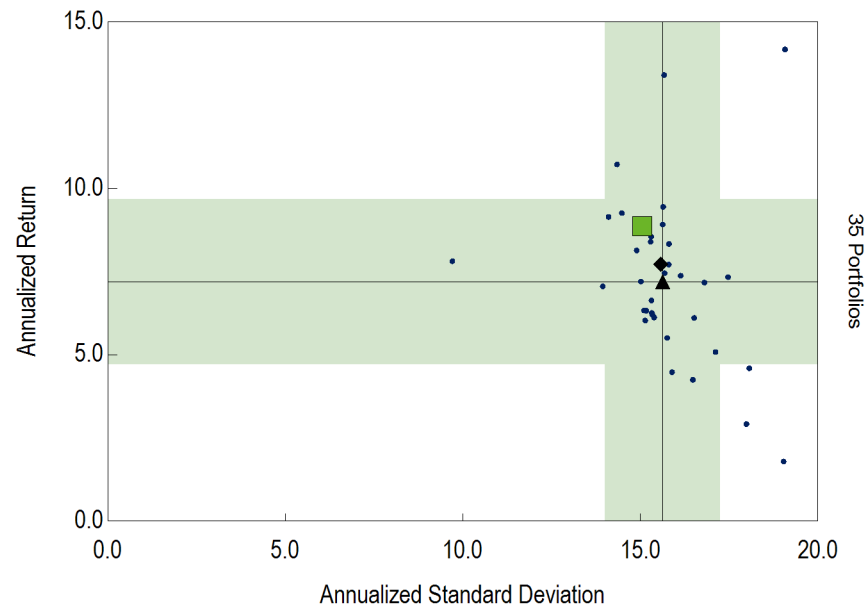
		Return (Rank)									
5th Percentile		11.13		34.20		57.09		21.33		17.41	
25th Percentile		9.02		23.47		39.24		9.45		12.68	
Median		8.05		22.21		35.20		6.74		11.08	
75th Percentile		7.10		19.82		33.72		5.32		9.67	
95th Percentile		4.82		16.41		29.56		-0.09		3.49	
# of Portfolios		38		38		38		37		37	
●	CenterSquare US Real Estate	7.43	(71)	18.03	(88)	33.62	(76)	8.65	(32)	12.09	(32)
▲	FTSE NAREIT All Equity REIT	8.32	(42)	18.54	(83)	34.24	(69)	6.23	(63)	10.64	(55)



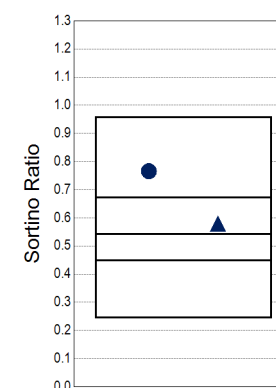
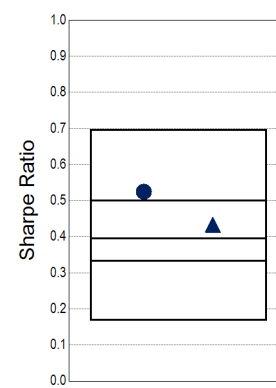
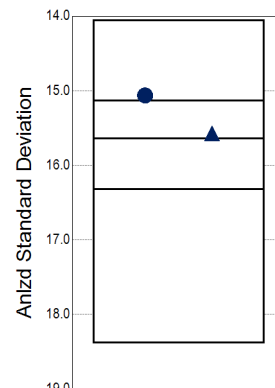
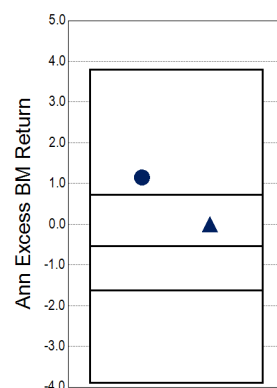
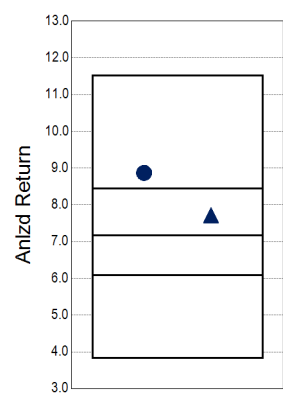
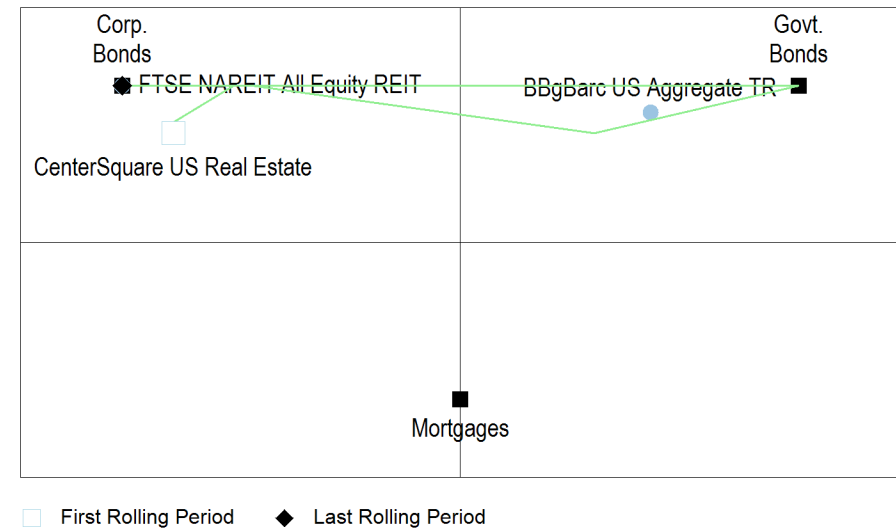
Los Angeles City Employees' Retirement System

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



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 Index² – 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, ⁵Hedgerco.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.
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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.





LACERS
LA CITY EMPLOYEES'
RETIREMENT SYSTEM



REPORT TO BOARD OF ADMINISTRATION

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

MEETING: JUNE 22, 2021
ITEM: VIII – D

SUBJECT: REAL ESTATE FISCAL YEAR 2021-22 STRATEGIC PLAN AND POSSIBLE BOARD ACTION

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board adopt the Real Estate Fiscal Year 2021-22 Strategic Plan.

Discussion

On June 8, 2021, the Committee considered the attached report regarding the Real Estate Fiscal Year 2021-22 Strategic Plan. The Committee heard a presentation from Chae Hong, Felix Fels, and Prashant Tewari of The Townsend Group (Townsend), LACERS' Real Estate Consultant. The plan, developed by Townsend with input from staff, establishes strategic objectives and investment plan recommendations for the Fiscal Year 2021-22. The Committee inquired about Townsend's higher proposed annual commitment to non-core funds relative to core funds, as well as potential real estate opportunities arising from the dislocated market environment caused by the COVID-19 pandemic. Based on this discussion, the Committee concurs with the staff recommendation to adopt the plan. Townsend will be present at the Board meeting of June 22, 2021, should the Board desire to hear a presentation of the plan.

Strategic Alignment

The annual real estate strategic plan assists the Board in building a diversified real estate and total fund portfolio and aligns with the Strategic Plan Goals of optimizing long-term risk adjusted investment returns (Goal IV) and promoting good governance practices (Goal V).

Prepared By: Eduardo Park, Investment Officer II, Investment Division

NMG/RJ/BF/WL/EP:rm

Attachment: 1. Investment Committee Recommendation Report dated June 8, 2021



REPORT TO INVESTMENT COMMITTEE
From: Neil M. Guglielmo, General Manager

MEETING: JUNE 8, 2021
ITEM: V

Neil M. Guglielmo

SUBJECT: REAL ESTATE FISCAL YEAR 2021-22 STRATEGIC PLAN AND POSSIBLE COMMITTEE ACTION

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Committee recommend to the Board the adoption of the Real Estate Fiscal Year 2021-22 Strategic Plan.

Discussion

The Townsend Group (Townsend), LACERS' Real Estate Consultant, with input from staff, has developed the proposed Real Estate Fiscal Year 2021-22 Strategic Plan, which considers strategic objectives and investment plan recommendations for the next fiscal year. Staff has reviewed the plan and recommends its adoption. Townsend will present the proposed plan.

Strategic Alignment

The annual real estate strategic plan assists the Board in building a diversified real estate and total fund portfolio and aligns with the Strategic Plan Goals of optimizing long-term risk adjusted investment returns (Goal IV) and promoting good governance practices (Goal V).

Prepared By: Eduardo Park, Investment Officer II, Investment Division

NMG/RJ/BF/WL/EP:jp

Attachments: 1. Executive Summary – The Townsend Group
2. Proposed Real Estate Strategic Plan – The Townsend Group

MEMORANDUM

TO: The Board of Los Angeles City Employees' Retirement System

DATE: June 2021

SUBJECT: Real Estate Strategic & Investment Plan for Fiscal Year 2021-2022 – Executive Summary

FROM: The Townsend Group

Executive Summary

The purpose of this report is to review the Los Angeles City Employees' Retirement System ("LACERS" or the "System") Real Estate Strategic Plan ("Strategic Plan") and outline the corresponding Real Estate Investment Plan ("Investment Plan"). The Investment Plan includes actions which will help LACERS to capitalize on current market opportunities while still meeting the guidelines set forth in the proposed Strategic Plan.

Townsend was re-engaged by LACERS's Board in 2014 to serve as its real estate consultant. Since that time, Townsend has worked with LACERS Staff to successfully transition the Portfolio to reflect a more conservative risk profile. The investment strategy from 2014 to-date has emphasized \$405 million of investments into Core funds, \$335 million into tactical Non-Core funds and close monitoring of pre-GFC underperforming investments which have begun to mature and liquidate.

In April 2018, LACERS Board adopted changes to its Asset Allocation targets, as advised by its general consultant. The impact to real estate was to increase the target from 5.0% of Total Plan Assets to 7.0% of Total Plan Assets. In May 2021, the Board elected to maintain a 7.0% real estate allocation with the adoption of the new asset allocation.

FY 2021-2022 Investment Recommendations

The LACERS Program (the "Program") has a 7.0% allocation target (with an allowable range of $\pm 2.0\%$). As of December 31, 2020, the market value of the Portfolio was \$777 million on a committed and funded basis (3.7% of Total Plan Assets). With the combination of the recently approved increased allocation to real estate, and planned liquidations, LACERS will need to deploy significant capital in order to reach its 7.0% allocation target over the coming years.

Townsend recommends the following 2021-2022 Goals to LACERS for consideration:

LACERS Annual Investment Plan FY 2021-2022	
Core	
Capital	\$90 M - \$130* M
Number of Funds/Top-Ups	0-1 New Funds / 2-4 Top-Ups
Target Commitment per Fund/Top-Up	\$60-80 M / \$25-40M
Non-Core	
Capital	\$120 M - \$165 M
Number of Funds	3-4
Target Commitment per Fund	\$35-50 M
Total Annual Commitments	\$210 M - \$295 M

**Core commitment amount includes \$50 million in capital to be re-invested from recent Core redemptions.*

Overall Portfolio Goals

- Actively identify and capture opportunities where LACERS can benefit from market distress as well as thematic trends.
 - Aim to complement 2020 commitments with high-conviction, diversifying strategies.
- For compelling opportunities, consider increasing average commitment size to reflect the new real estate allocation.
 - Consider over-committing in 2021-2022 if attractive opportunities continue to appear.
 - Remain mindful of the strategic targets of 60% Core/40% Non-Core, and of the Total Real Estate Benchmark (ODCE+80bps).
 - LACERS has committed to 5 Non-Core strategies since March 2020, which will help increase Non-Core exposure towards target.
 - Non-Core commitments include Waterton Residential Property Venture XIV, Cerberus Institutional Real Estate Partners V, Oaktree Real Estate Opportunities

Fund VIII, GLP Capital Partners IV and one additional Non-Core Fund approved in closed session that has not yet closed.

Core Portfolio Goals

- Commit to high conviction, specialist funds that can provide LACERS access to attractive property types with high expected risk-adjusted returns (e.g. industrial, multifamily, or medical office).
- Identify opportunities to rebalance the Core portfolio to optimize fees, increase exposure to outperforming managers and desired property types.

Non-Core Portfolio Goals

- Focus on up to four incremental commitments in Non-Core (ranging from \$35 to \$50 million per investment) that are Townsend Best Ideas or add complementary exposures, as well as thematic investments arising from the current economic impact on the real estate sector.
 - Explore complementary exposures such as cold storage, life sciences, data centers or single family residential if attractive fund options exist.
 - Consider additional diversified funds due to large opportunity set, with potential to invest in distress in a variety of sectors/regions.
 - Consider diversifying industrial and multifamily exposures further (e.g. through adding new regions or differentiated strategies)
- Continue to evaluate Emerging Managers that are an appropriate fit for LACERS' portfolio, without compromising returns.
- Consider further exploring co-investments and/or secondaries to increase the opportunity set.

END OF INVESTMENT RECOMMENDATIONS



Real Estate Portfolio

Fiscal Year 2021-2022 Investment Plan

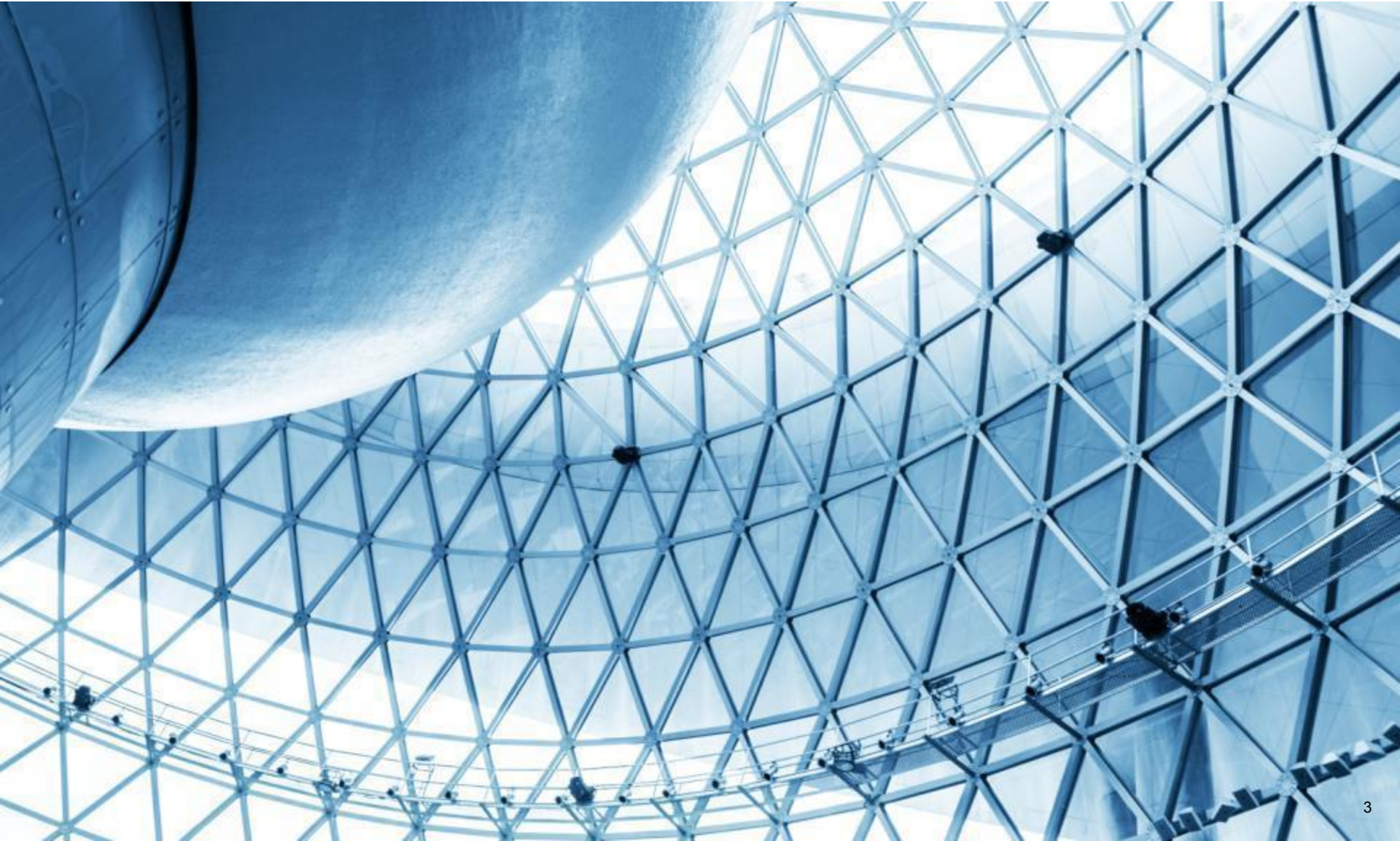




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- A. Townsend View of the World – Real Estate Market Outlook
- B. LACERS Real Estate Program Overview
- C. LACERS Commitment History
- D. LACERS 2021-2025 Objectives and Investment Plan
- E. Sourcing and Deal Flow

A. Townsend View of the World – Real Estate Market Outlook



The New Normal In A Vaccinated World

- COVID-19 forced everyone to adapt due to acute circumstances, and measures to moderate the spread of the disease were fairly consistent on a global basis. Looking forward, investors should assess what changes to our routines/habits may stick, what regions will they most impact, and how do those impact property specific demand drivers. So, what do we think happens next?
 - Occupiers will search for the optimal balance for work from home arrangements. The pandemic forced a new perspective on work from home, and employees generally enjoy it. Tightness in the labor market and the fight for talent may drive broader acceptance and accommodation. Flexible work arrangements are here to stay. High cost of living areas generally have the highest concentration of WFH-able jobs, and these are the same jobs that are high paying and value talent.
 - We believe the hospitality sector largely recovers, but the demand profile is different than before. After a year or more of being cooped up, we anticipate individuals to seek out leisure travel with a fervor and create a boom. A slower recovery is anticipated for business travel, and a portion of redundant meetings are on Zoom.
 - The roaring twenties 2.0, driven by more fiscal stimulus globally, accommodative monetary policy, and high household savings rates supporting consumer buying power. COVID-19 has emerged as a non-issue for financial markets, as the link between lockdowns and the virus are potentially broken by the vaccine rollout. The global economy is forecasted to grow at its fastest pace in two decades in 2021.
 - We believe a stressed supply chain will not keep up with the boom in demand and the market experiences near-term inflation. Construction, land, and labor costs all drive real asset replacement costs higher, and limit potential new supply. This is already being witnessed in residential construction, with finished lumber prices increasing 3x since pre-COVID and adding roughly \$24k in costs to new home construction.
 - Liquidity and an abundance of cheap debt limits distressed selling. Lessons were learned after the GFC¹, and leverage was used more conservatively across the market. A proliferation of high yield debt funds is sitting on the sidelines ready to provide solutions to cash strapped owners. Growing number of GP led recapitalization of funds provides another avenue for liquidity. These factors have culminated in less distressed selling than prior downturns.

¹ Global Financial Crisis represents the time period beginning mid-2007 and ending in early 2009.

Sources: The Townsend Group.

Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results.

Real Estate Transactions

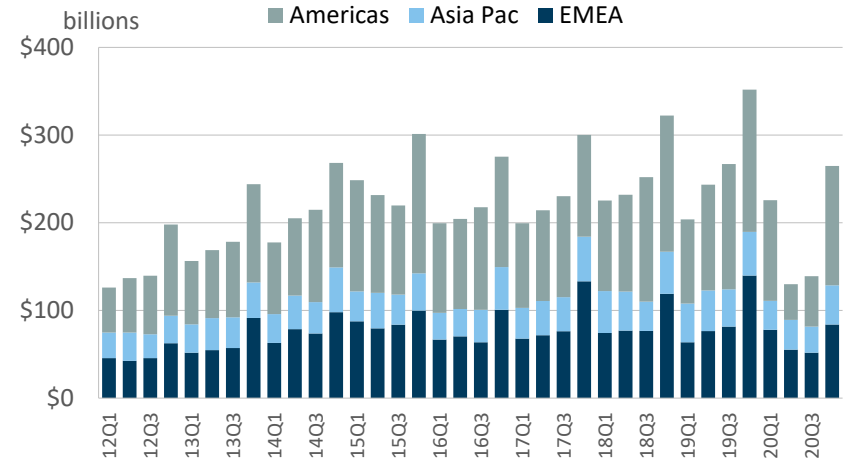
After an historically subdued period in mid-2020, transactions have rebounded and capital available for real estate investment is near its 20-year peak

- Limited distressed sales have been witnessed thus far, although plenty of capital has been raised to capitalize on any potential opportunities coming out of COVID-19
 - 60% of transaction volume has been driven by the apartment and industrial sectors which were broadly resilient
 - The lodging sector has witnessed the most distress thus far and even then, that only accounts for ~\$1 billion of distressed transactions
 - Investors remain eager to take advantage of potential distress and over \$80 billion of capital was raised in 2020 by non-core real estate funds

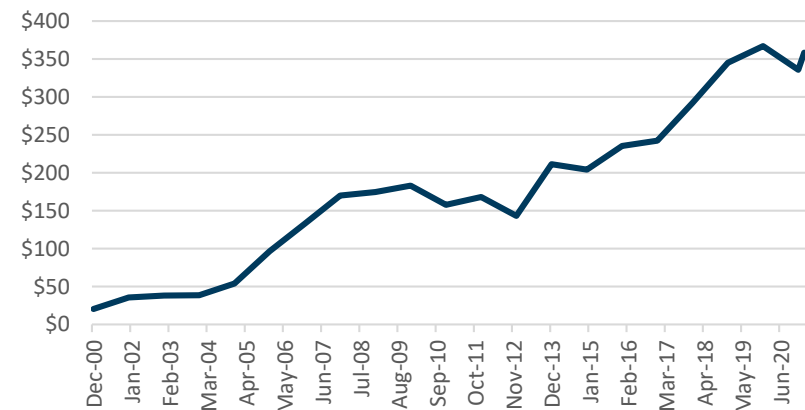
- High yield lenders have provided essential bridge loans to newly developed apartments assets in Central Business Districts (CBDs) to provide interim takeout financing while the owner works to stabilize the asset

- Potential for more undercapitalized or distressed assets coming to market with foreclosure moratoriums rolling off and the pressure to not foreclose on individuals during a pandemic coming off lenders

**Regional Transaction Volume
(Excluding Development Sites)**



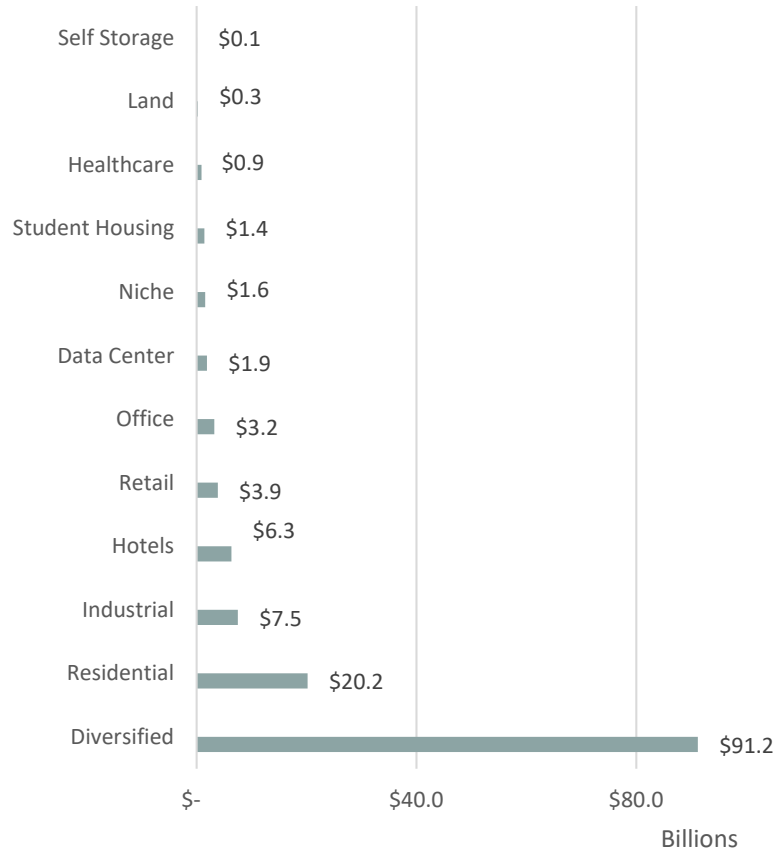
**Dry Powder in Private Real Estate Funds
(\$ Billions)**



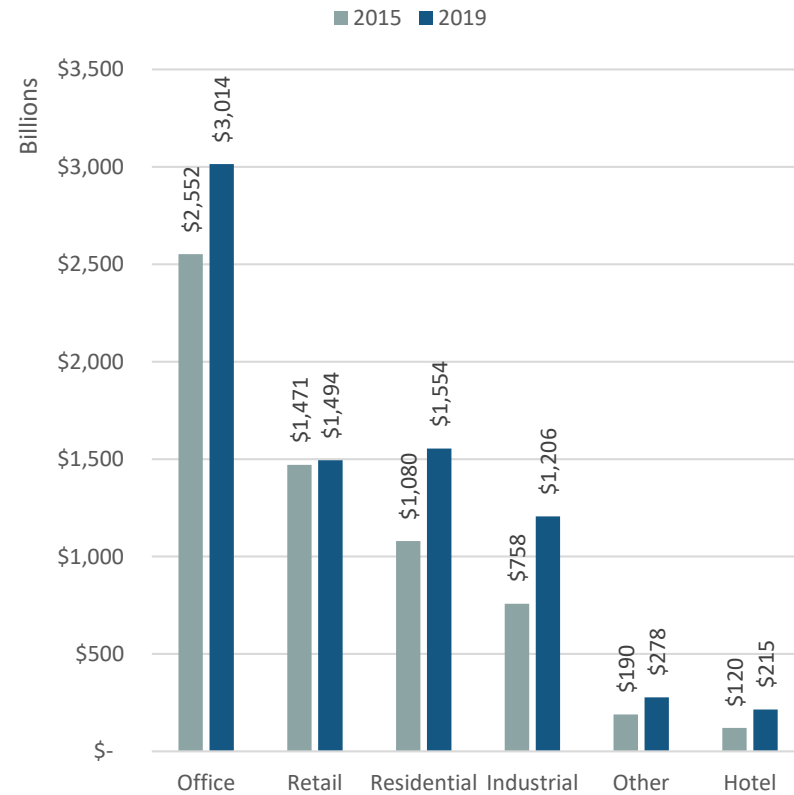
Size Of The Investment Opportunity

Non-Traditional Sectors Remains A Small Component Of Total Real Estate Market

Active Close-End Fund Target Raise by Property Sector



Investable Universe by Property Sector
(USD Billions)

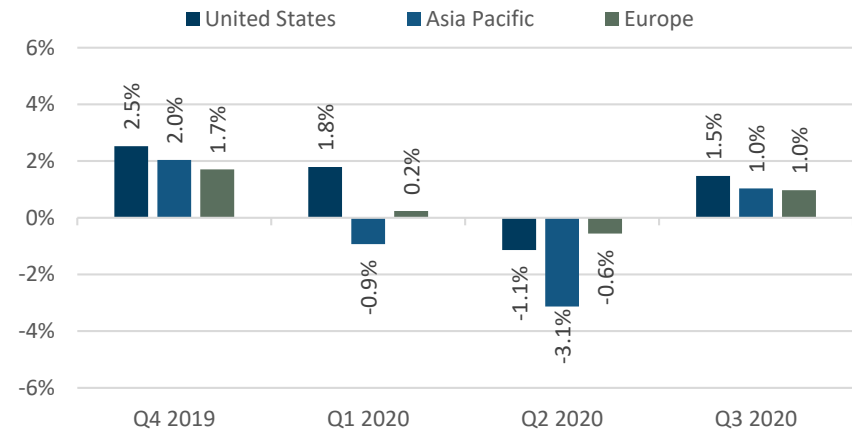


Core Real Estate Returns Turned Negative In 2020

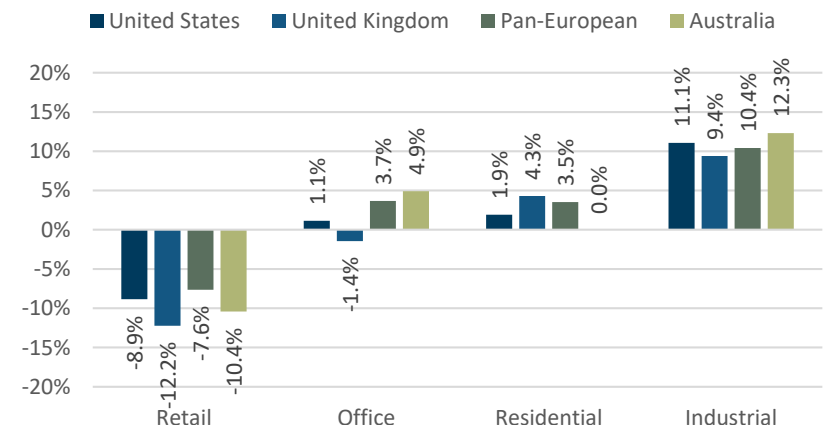
Property Sector Exposure Drove Portfolio Performance

- Technology is changing consumption trends and lifestyle preferences globally, driving demand for certain property sectors consistently across regions
- The acute circumstances of a recession driven by a virus magnified this effect in 2020
- Industrial continues to experience outsized demand driven by consumption shifting to e-commerce, and physical brick & mortar retail is struggling as a result
- The office sector faces uncertainty, because employers may implement flexible work arrangements, but tenant credit quality and long duration leases have resulted in strong cash flows
- Residential has generated positive returns driven by the steady income generation
- Townsend is forecasting certain changes to persist post-COVID and has actively re-evaluated our investment strategy to align with the changing economy

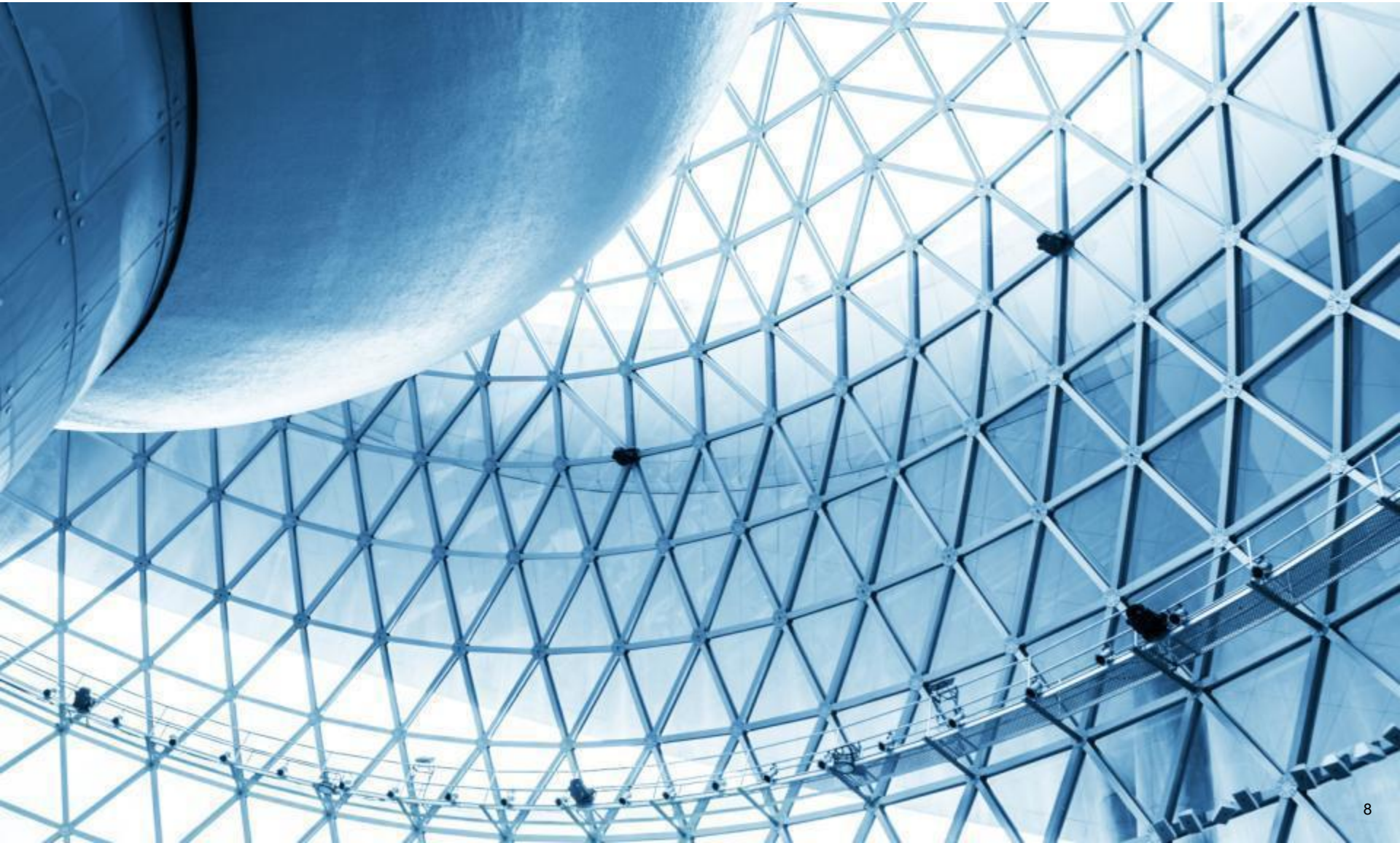
**Core Real Estate Fund Returns by Region
(Local Currency)¹**



**Property Sector Returns By Country In 2020²
(Local Currency)**

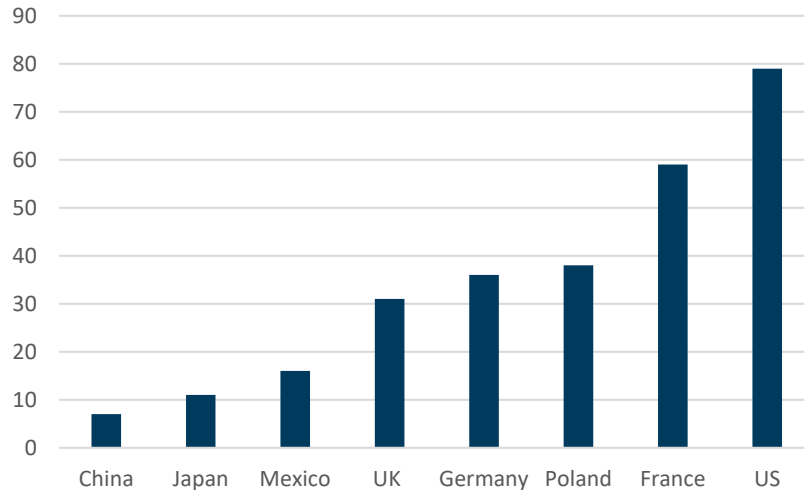


Post-Pandemic Real Estate Investment Themes

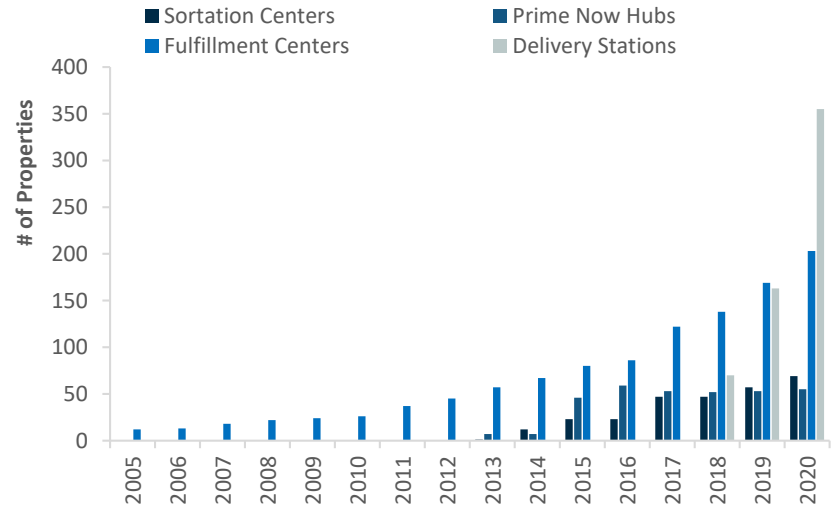


Evolution Of The Modern Supply Chain

**Modern Logistics SF Per Consumer Household
As of December 2020¹**



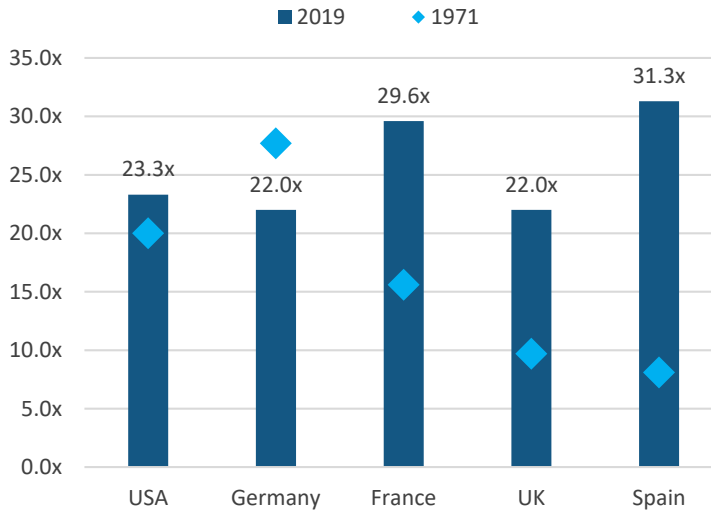
Amazon's Warehouse Network²



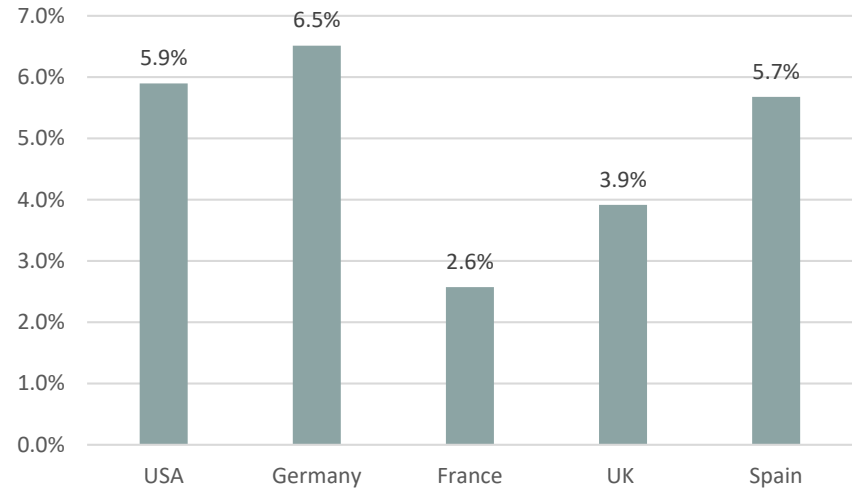
- The COVID-19 pandemic has accelerated a shift in consumption from physical retail outlets to e-commerce, e-commerce utilization in the US was forward from 15% at YE 2019 to a projected 20% at YE 2020
 - US e-commerce is forecasted to grow by 13% p.a. over the next decade and fulfillment requires 2-3x more space than traditional retail
- The entitlement process is becoming more challenging, as communities weigh the nuisance of additional large trucks and smaller parcel trucks impact on traffic
- Townsend believes the warehouse supply/demand mismatch created by e-commerce demand continues to create one of the most compelling real estate investment opportunities today

Global Housing Shortage & Affordability Crisis

Price-to-Rent Multiples



Home Price Appreciation CAGR 2015-2019

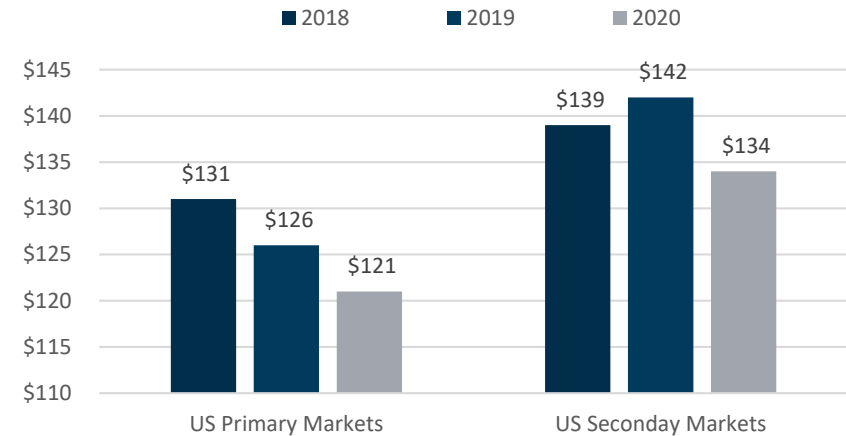


- Home ownership affordability is a global issue which continues to drive demand for rentals. Apartment / private rental sector occupancy has historically been resilient. The sector has held up well thus far through COVID-19
- Affordability has been challenged by home price appreciation outpacing wage growth. Single family housing demand has boomed in the wake of COVID-19 and accelerating price appreciation has only driven the hurdle towards home ownership higher
- The sector remains fragmented across countries based on estimates of institutional ownership: US – 37%, UK – 2%, and Germany – 15%
- Affordable and workforce housing is growing in importance and focus. Political pressures and the growing risk of regulation are a tail risk for certain regions/product types
- New regional trends will emerge post COVID-19, but it's still too early to tell how long-term demand for housing will be reshaped. The residential remains an attractive and defensively positioned property sector long term

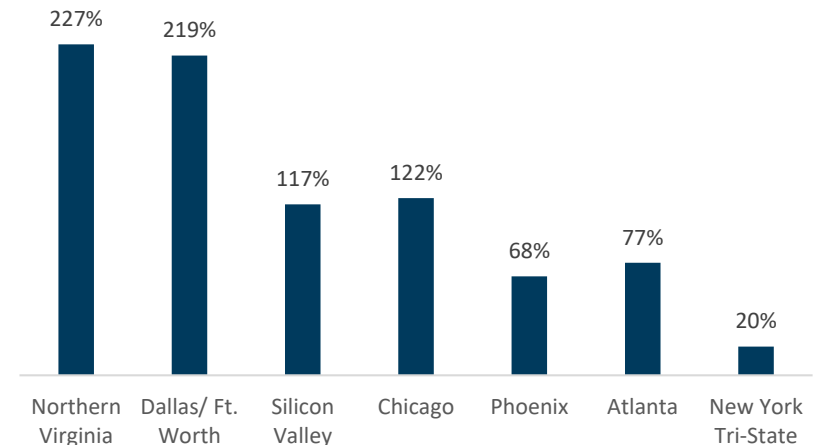
Advancement Of Tech: Data Centers Hosting The Future

- Data centers and cell towers are essential infrastructure to keep the world connected, working, and consuming
- Apps are fine tuned to capture your attention and alter your habits for incremental engagement, which is ultimately reshaping consumer behavior and preferences
- 5G cell service and 4k media consumption is anticipated to result in substantial near-term demand increases for cell towers and media consumption
- While the demand for data has grown at an astonishing rate, so has supply. Data center development still generates a healthy premium to stabilized cap rates, but rental rate growth has lagged traditional property types
- A strong narrative and hot tech stocks have piqued investor interest, but a selective approach with a focus on markets that have natural barriers to supply and finding the right partner is crucial for these sectors

Average Asking Rental Rates

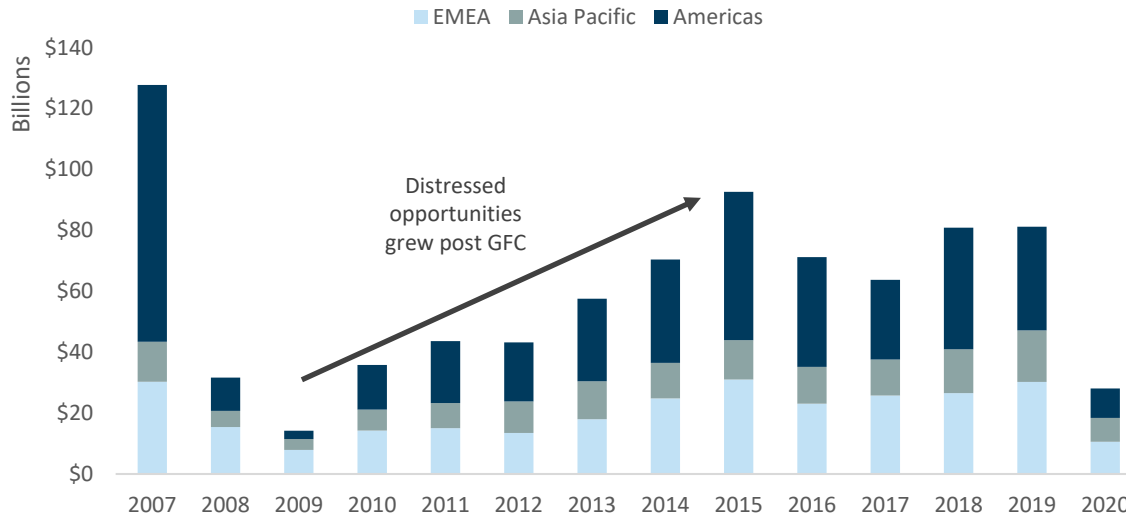


Inventory Growth of US Primary Data Center Markets Since 2015

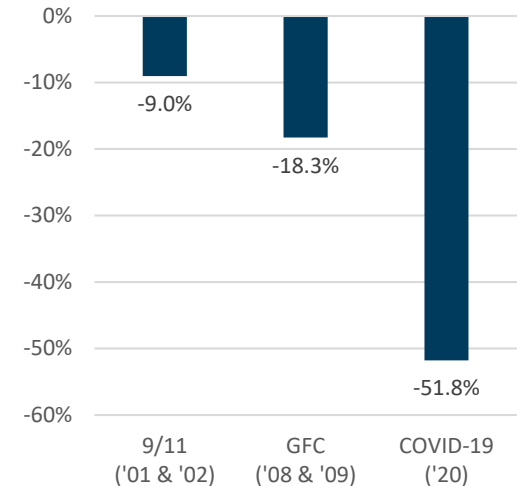


Dislocation In The Lodging Market: A Growing Opportunity

Hotel Transaction Volume By Region



Total US RevPar Decline

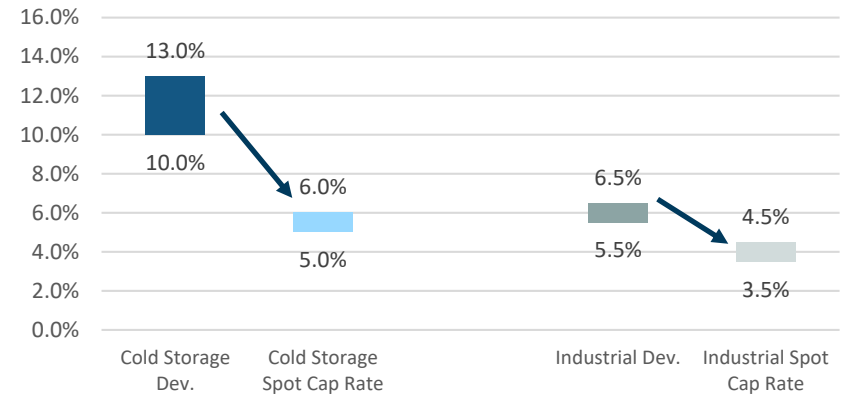


- The lodging industry is facing its most challenging operating conditions yet with the COVID-19 pandemic, and measures to control the pandemic at its worst resulted in US lodging RevPAR declining more than 80%
- Through January 2021, CMBS delinquency rates reached 19%
- Distressed acquisition opportunities are anticipated in the lodging sector, and Townsend anticipates the sector to begin to recover in conjunction with the deployment of vaccines and therapeutics, with a full recovery projected by 2024
- Demand will likely recover unevenly across lodging segments, and winners and losers will diverge as some redundant travel is eliminated via video conferencing

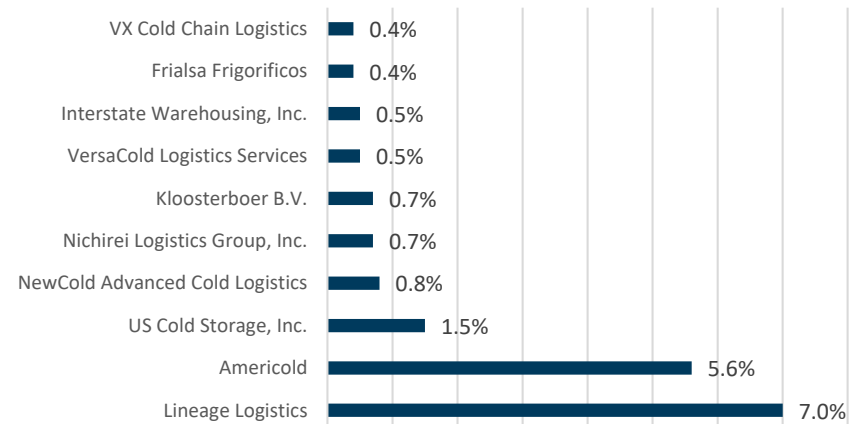
Evolution Of The Modern Cold Chain: An Emerging Niche Sector

- With the supply chain garnering increased attention, investors are looking beyond traditional logistics assets to the cold storage market
- Cold storage is operationally intensive, more expensive to build, and requires a substantial rent premium to traditional industrial assets
 - This has created a natural barrier to new supply, with speculative development being unusual
 - The cold chain is outdated by modern standards, with the average asset age in the US of c.34 years
- Cold storage demand is directly linked with fresh and frozen food consumption which has historically experienced steady growth
 - Recent shifts in consumption towards perishable items and away from preservatives has buoyed demand
- Cold storage offers diversification via differentiated demand drivers and an attractive overall return profile, which is driven by natural barriers to entry via specialized asset requirements and operational intensity

Illustrative Development Yields¹



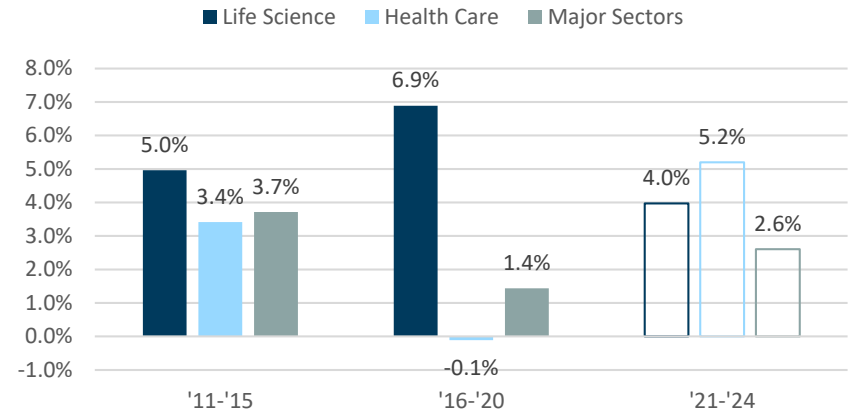
Top 10 Global Cold Storage Platforms²



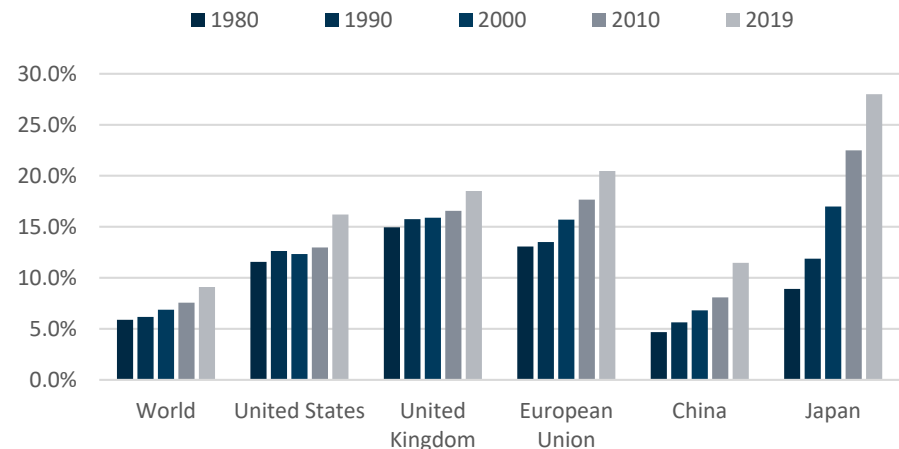
Healthcare: Accommodating The Aging Population

- An aging population continues to drive demand for additional and improved healthcare
 - In 2018, US healthcare expenditures accounted for 17.7% of GDP or roughly \$3.7 trillion
 - Individuals over 65 spend 3x more on healthcare on an annual basis than working age individuals (\$7,153 vs \$19,098 p.a.)
 - The “silver wave” created by the aging baby boomer generation may provide strong tailwinds, an additional 24 million people are expected to be 65 years or older by 2030
 - By 2028, healthcare expenditures are forecasted to reach \$6.2 trillion (~5% CAGR). Retail outlet sales and medical products, which include prescription drugs, are anticipated to grow at a rate consistent with overall healthcare expenditures
 - Chronic disease is exceedingly common with 6 in 10 adults having at least one and 4 in 10 adults have at least two
- Global pharma R&D spending has grown by ~7% p.a. over the last 20 years
- These trends are forecasted to create strong secular tailwinds and support outsized demand growth for Life Science, Medical Office, and Senior Housing

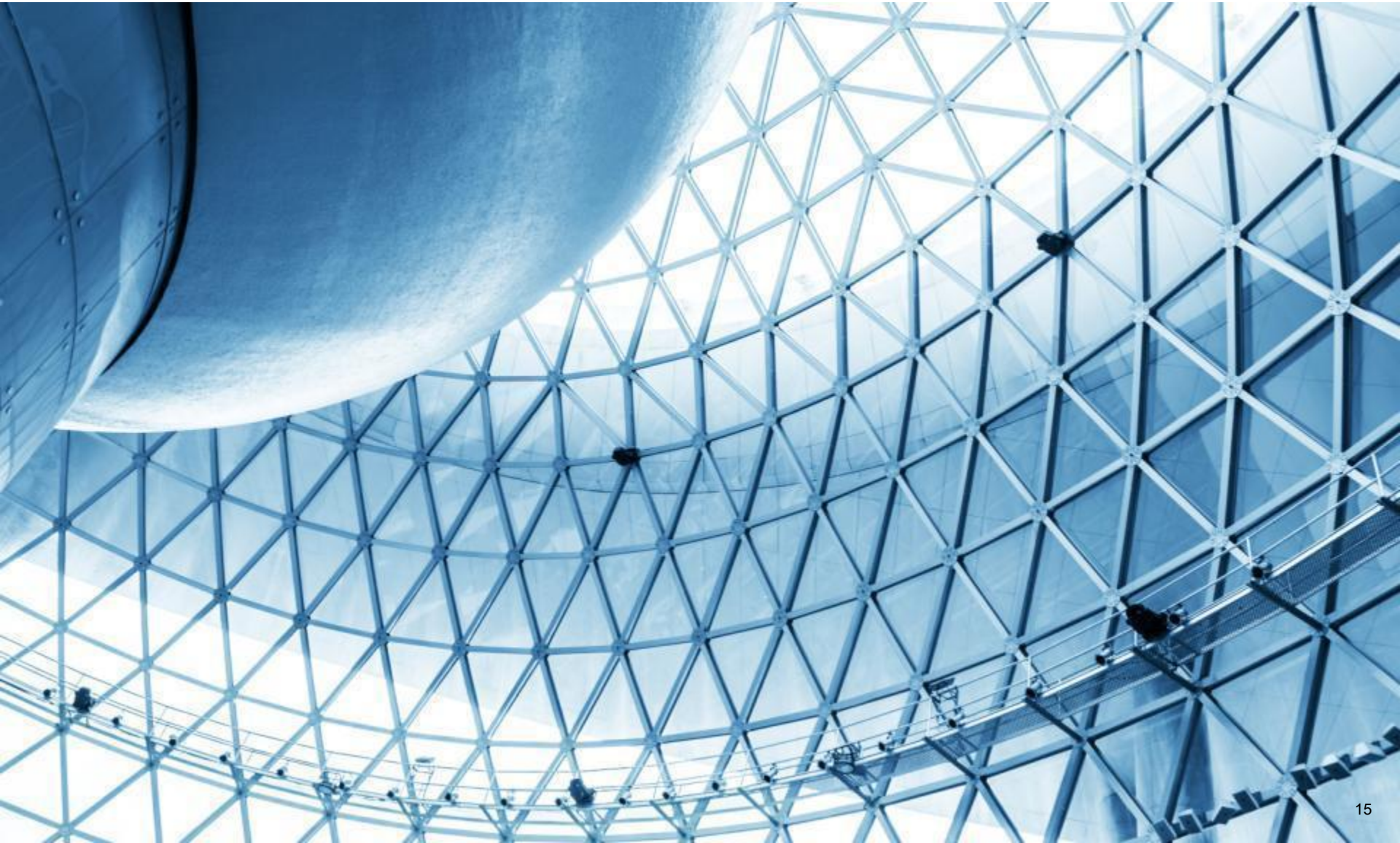
US Same-Store NOI Growth



% Of Population Over 65 by Country



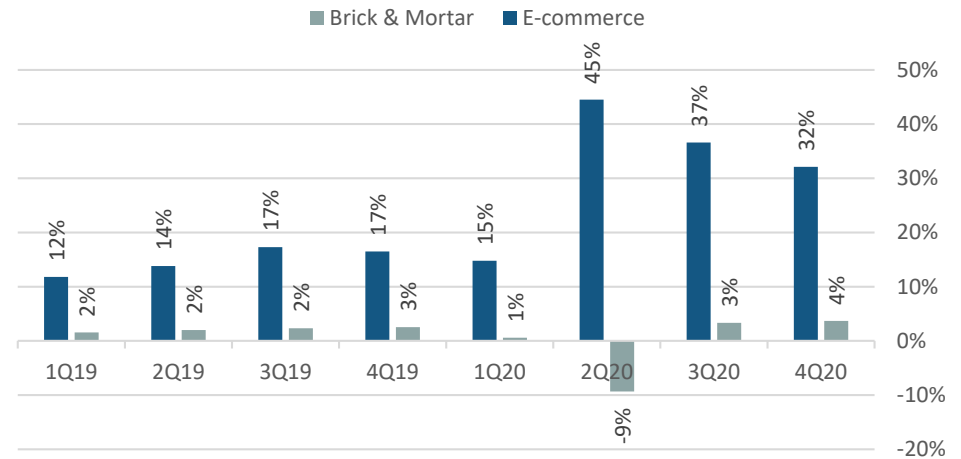
United States: Investment Themes



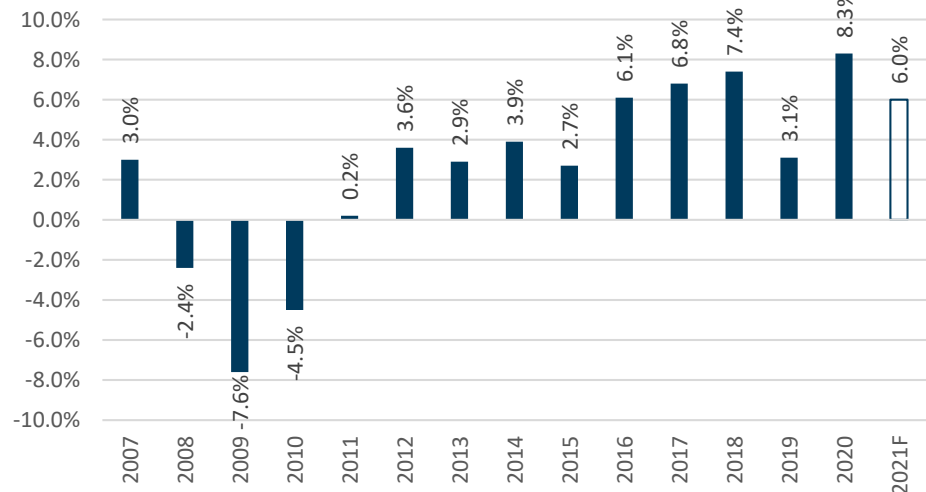
Industrial: E-commerce Enabling Consumption At A Distance

- The COVID-19 crisis has demonstrated the absolute critical need for an online presence and further strengthened the position of successful omni-channel retailers
- E-commerce grew 32.1% YOY despite a global recession and retail consumption only growing 6.9% in total
- Infill and large diversified industrial REITs continue to trade at a premium to private market valuations, indicating the market has high conviction in the resiliency of e-commerce driven demand; especially infill logistics
- Vacancy rates remain below 4% across much of the US, and NOI growth was above 6% for 2020
- Industrial remains well positioned to benefit from shifting consumption habits and near-term demand is forecasted to continuing outpacing new supply

E-Commerce vs. Brick & Mortar Sales Growth YoY

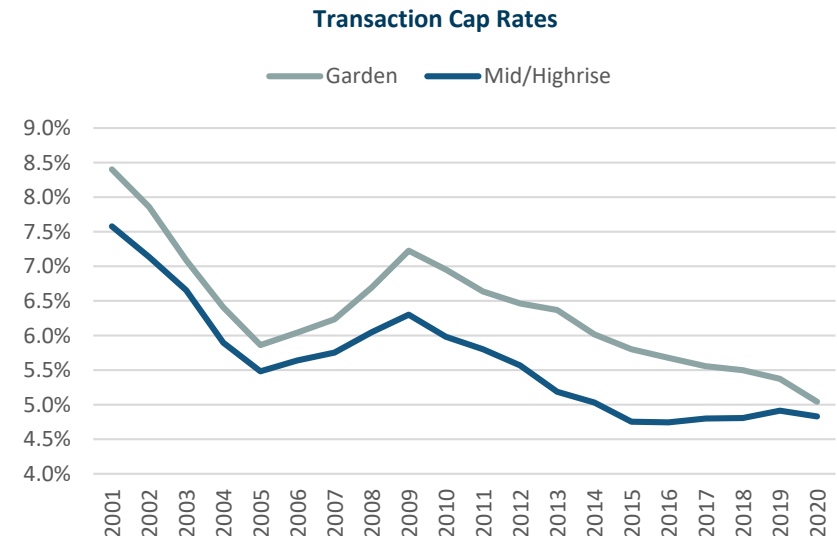
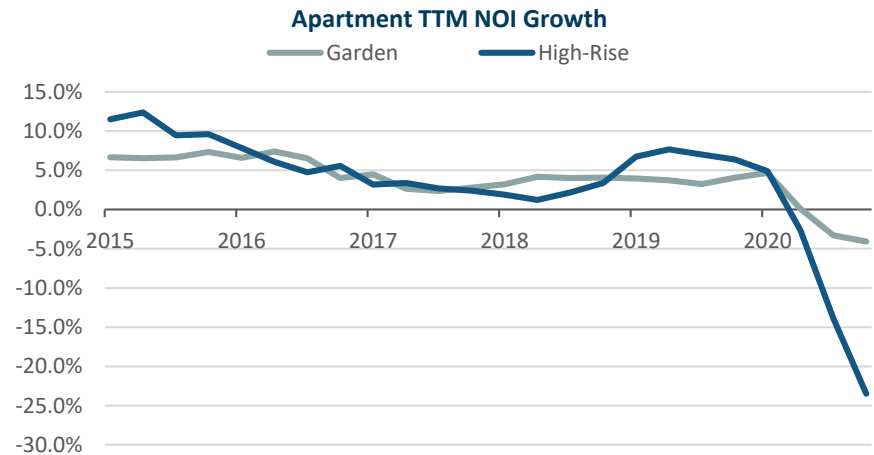


Growth in Asking Rents YoY



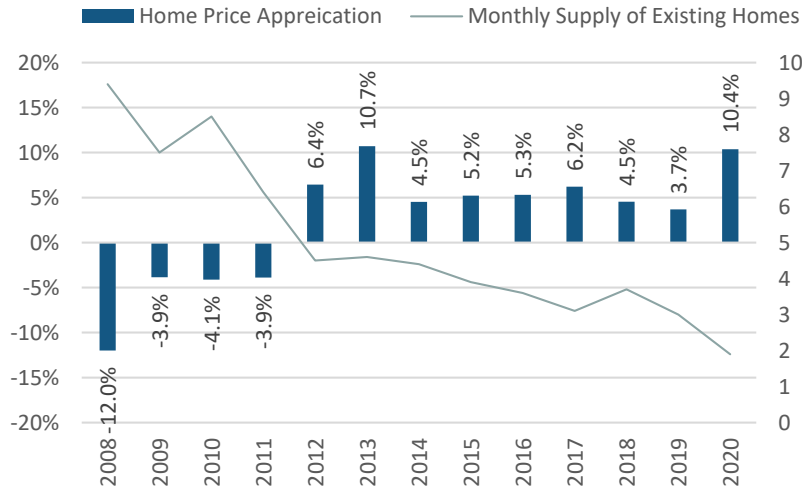
Apartments: Finding A Safe Space

- Apartments have demonstrated operating resiliency, with high rent collections and occupancy levels through the COVID-19 pandemic
- Effective rents declined meaningfully in select gateway market CBDs, but effects were bifurcated between garden style and mid/high-rise product types
- Historic low borrowing costs have supported asset prices despite declining rents, and transaction cap rates sharpened to offset declines in NOI
- New trends may emerge post COVID-19, but it is still too early to tell if and how much demand has shifted away from CBDs
 - Anecdotally, garden style product in the South/Southwest has recently been trading in the low 4%, indicative of the investors conviction in smile states and the shift towards less dense living arrangements
- Apartments remain an attractive and defensively positioned property sector long-term

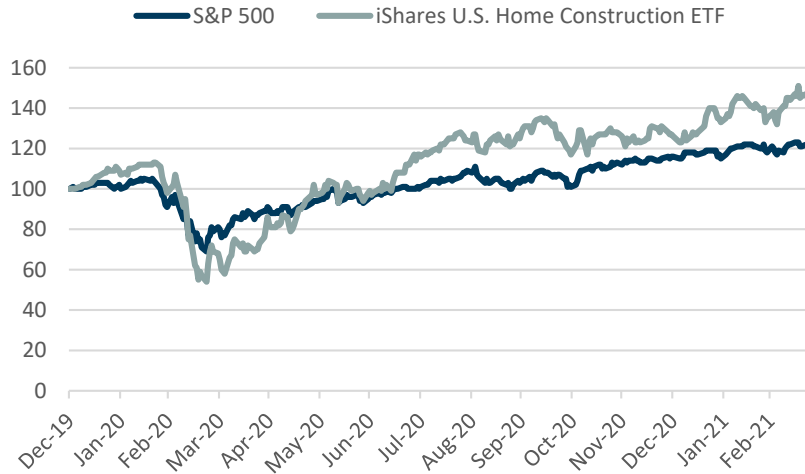


Single Family For Rent: Millennials Grow Up

Home Price Appreciation vs. Available Supply



Home Construction ETF vs. S&P 500



- The largest portion of the millennials are now entering their thirties, and 2020 is anticipated to be the first year of net decline in 25–29-year-olds, and the 35–44-year-old population is anticipated to grow 2x the US average over the next 5-years
- Naturally, the aging millennial cohort was forecasted to shift towards home ownership and less dense living arrangements but work from home arrangements and all-time low mortgages rates have created more immediate outsized demand for single family housing
- The transition has just begun and there are not enough homes to meet demand, and as of January 2021, new and existing home sales exceeded the prior peak of February '06
- A shortage of a housing stock, rising residential construction costs, and tightening lending standards have contributed to a robust rental growth outlook for the single-family rental sector

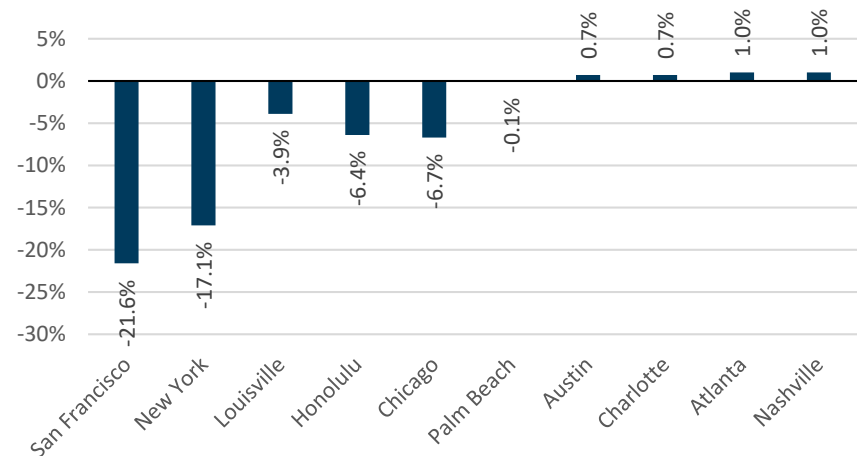
Office Sector: A New Relationship With Office

- Increased flexible work arrangements are forecasted to disrupt the correlation between office space demand and economic growth
- Average number of days in the office is more impactful on total office demand than potential de-densification
- Due to typical lease structures and the credit quality of underlying tenants, most high-quality office assets will continue to generate cash flow in the medium-term, but investors need to re-evaluate the long-term prospects
- Office space will be utilized to build the intangible human elements of business and facilitate collaboration, socialization, mentorship, culture building, etc.
- The death of the office market appears exaggerated, but there will need to be meaningful repricing of the sector for it to become attractive on a relative basis
- Townsend seeking office in tech and innovation-oriented markets but only at a meaningful discount to pre-COVID-19 pricing

Aggregate Demand
(Estimated Pre-COVID baseline of 200 square feet / employee and 4.6 days in the office per week)

		Space Per Employee In The Office					
Avg. SF		195	200	205	210	215	220
+/- %		-2.5%	0.0%	2.5%	5.0%	7.5%	10.0%
Avg. Days In The Office	4.60	-2.5%	0.0%	2.5%	5.0%	7.5%	10.0%
	4.40	-6.7%	-4.3%	-2.0%	0.4%	2.8%	5.2%
	4.20	-11.0%	-8.7%	-6.4%	-4.1%	-1.8%	0.4%
	4.00	-15.2%	-13.0%	-10.9%	-8.7%	-6.5%	-4.3%
	3.80	-19.5%	-17.4%	-15.3%	-13.3%	-11.2%	-9.1%
	3.60	-23.7%	-21.7%	-19.8%	-17.8%	-15.9%	-13.9%

2021 Office Market Forecasted M-RevPaf¹ Growth



Source: The Townsend Group, Green Street (2021 Office Outlook).

¹A measure of the health of a market (or sector) that combines two key operating metrics (effective market rents and occupancy) into a single value. Although same-store NOI growth is a more widely used performance benchmark, this metric is heavily influenced by the length of leases in each sector and does not serve as a timely proxy for market-level operating fundamentals.

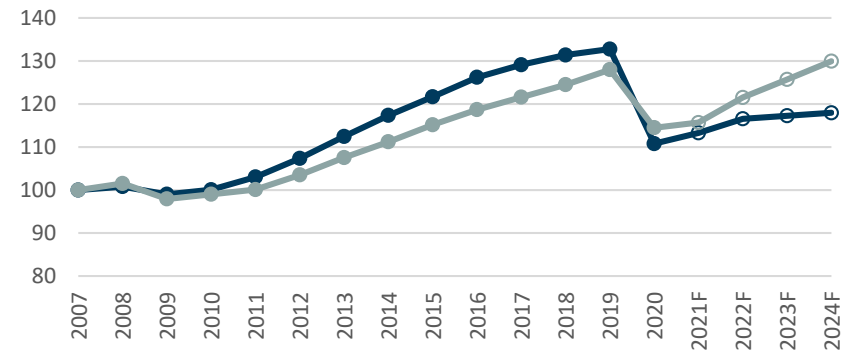
Townsend's views are as of the date of this publication and may be changed or modified at any time and without notice. Past performance is not indicative of future results.

Retail: The Challenges Continue

- Total retail sales growth is not anticipated to translate to brick & mortar sales to the extent it has historically. E-commerce has structurally changed the relationship
 - Near-term rebound likely with a return to normal, but long-term growth outlook still low
- The US is a case study for the long-term implications of ecommerce for physical retail outlets. Consolidation is occurring to the most productive locations, but even then, growth comes at the cost of rising capital expenditures
 - Redeveloping anchor space is costly, time consuming, and a primary driver of the growing cap-ex reserves
- Underlying tenant financial strength was deteriorating prior to COVID-19, bankruptcies and store closures forecasted to accelerate
- Green Street's Commercial Property Price Index has estimated mall values are down 24% and strip centers 13% from pre-COVID-19 prices
- Going forward, the retail sector will face a challenging period of price discovery as rents rebase and occupancy rates broadly decline

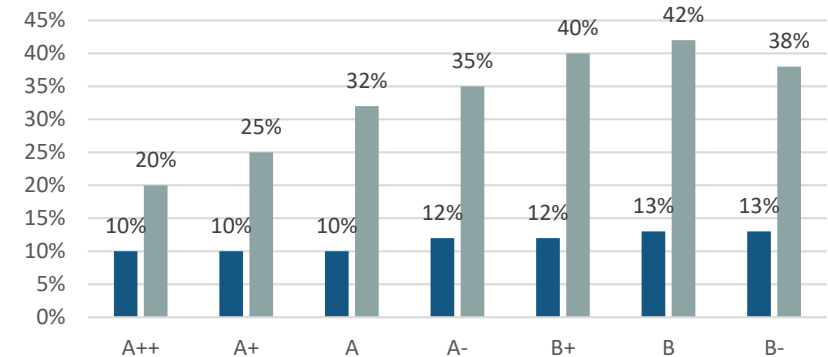
**Same-Store NOI Growth
(Indexed to '07)**

— Mall — Strip Center

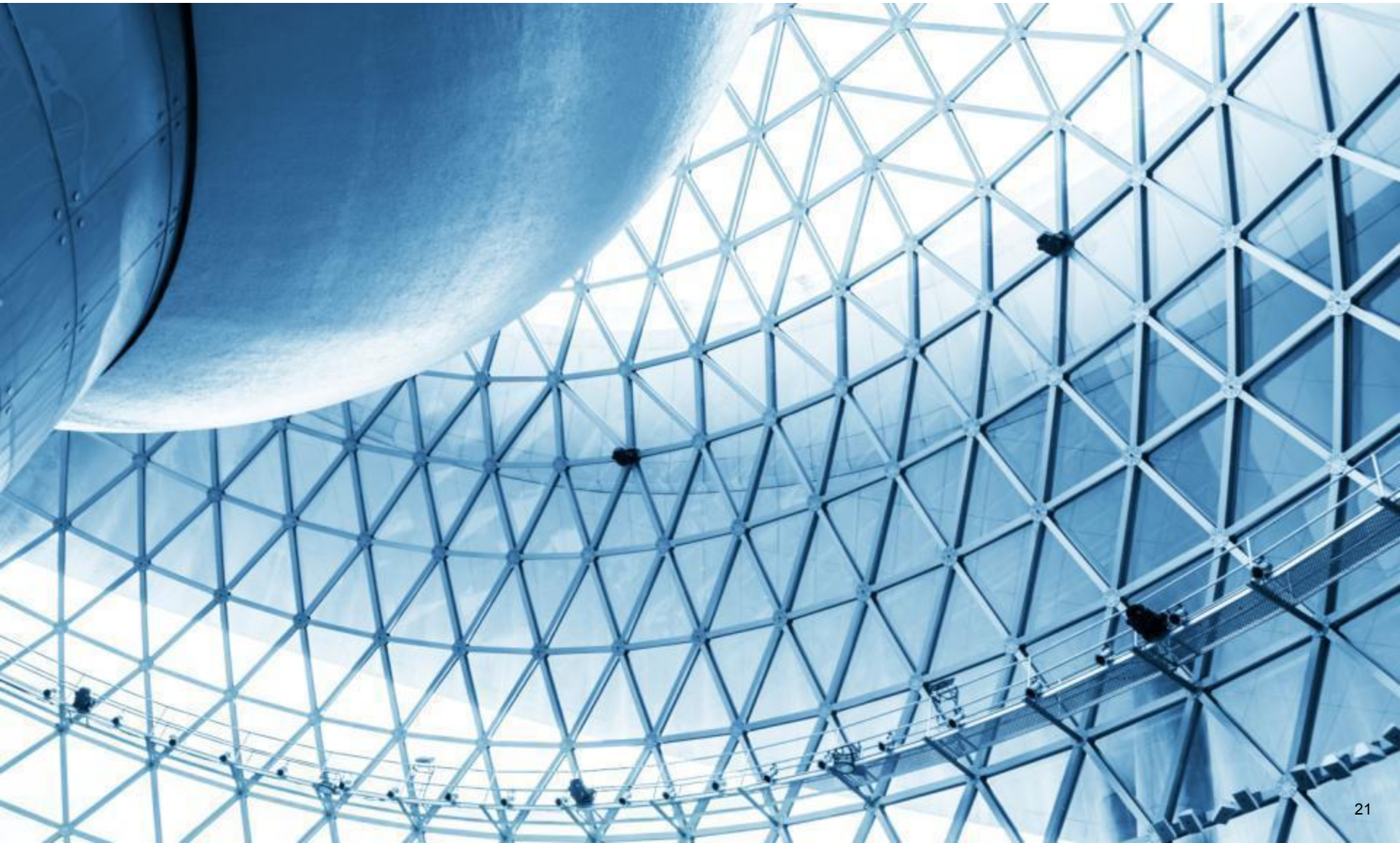


Mall Cap-Ex Reserve as % of NOI

■ 2015 ■ 2021



B. LACERS Real Estate Program Overview



LACERS Real Estate Program Overview

- LACERS began investing in Real Estate in 1989.
- In April 2018, LACERS' Board elected to increase its real estate allocation from 5.0% to 7.0% of Total Plan Assets (with an allowable range of $\pm 2.0\%$). In May 2021, the Board elected to maintain a 7.0% real estate allocation with the adoption of the new asset allocation.
- As of December 31, 2020, the market value of the Portfolio was \$777 million (3.7% of Total Plan Assets).
- Forecasts show that several investments will be liquidating from the Portfolio over the next three-year period. These liquidations will be offset by Value Add and Opportunistic commitments that have been made over the last three years.

	Market Value (\$ millions)*	% LACERS Plan*
LACERS Total Plan Assets	20,959	
Real Estate Target	1,467	7.0%
RE Market Value:		
Core	579	
Non-Core	179	
Timber	19	
Total RE Market Value	777	3.7%
Unfunded Commitments	274	1.3%
RE Market Value & Unfunded Commitments	1051	5.0%
Remaining Allocation	416	2.0%

*Figures may not add due to rounding. Unfunded commitments exclude commitments made after 12/31/20.

LACERS Real Estate Program Overview (continued)

	<i>Strategic Targets</i>		<i>Portfolio Composition (12/31/2020)*</i>	
	Target Allocation	Tactical Range	Market Value	Market Value & Unfunded Commitments
Core	60%	40% - 80%	74.6%	55.1%
Non-Core	40%	20% - 60%	23.0%	43.1%
<i>Value Add Portfolio</i>	<i>N/A</i>	<i>N/A</i>	<i>13.5%</i>	<i>24.2%</i>
<i>Opportunistic Portfolio</i>	<i>N/A</i>	<i>N/A</i>	<i>9.5%</i>	<i>18.9%</i>
Timber	N/A	N/A	2.4%	1.8%

- In May 2014, the Board approved the strategic targets displayed above in order to reflect a more conservative risk profile going-forward. At the time, the Portfolio had 30% exposure to Core and 70% exposure to Non-Core.
- Since 2015, in an effort to transition the Portfolio, the LACERS Board has approved \$305 million in Core commitments, which have all been fully funded to date, with the exception of the Lion Industrial Trust Top-Up and Kayne Anderson Core Real Estate Fund Top-Up.
- The LACERS Board approved \$435 million** in Non-Core investments since 2015. These investments initially focused on Value Add strategies with pre-specified portfolios, embedded value and/or an element of current income, with recent commitments focused on blind pool opportunistic funds and strategies with attractive property type exposures.
- As of 12/31/20, on a funded and committed basis, the LACERS Core and Non-Core allocations are in line with the strategic targets. On a funded basis, LACERS is below the 40% target to Non-Core strategies but within the tactical range.
- The Core Portfolio utilizes 28.3% leverage, measured on a loan-to-value (LTV) basis, well below the 40.0% constraint.
- The Non-Core Portfolio has a 51.8% LTV ratio, well below the 75.0% constraint.

*Figures may not add due to rounding. Funded & Committed figures exclude commitments made after 12/31/20.

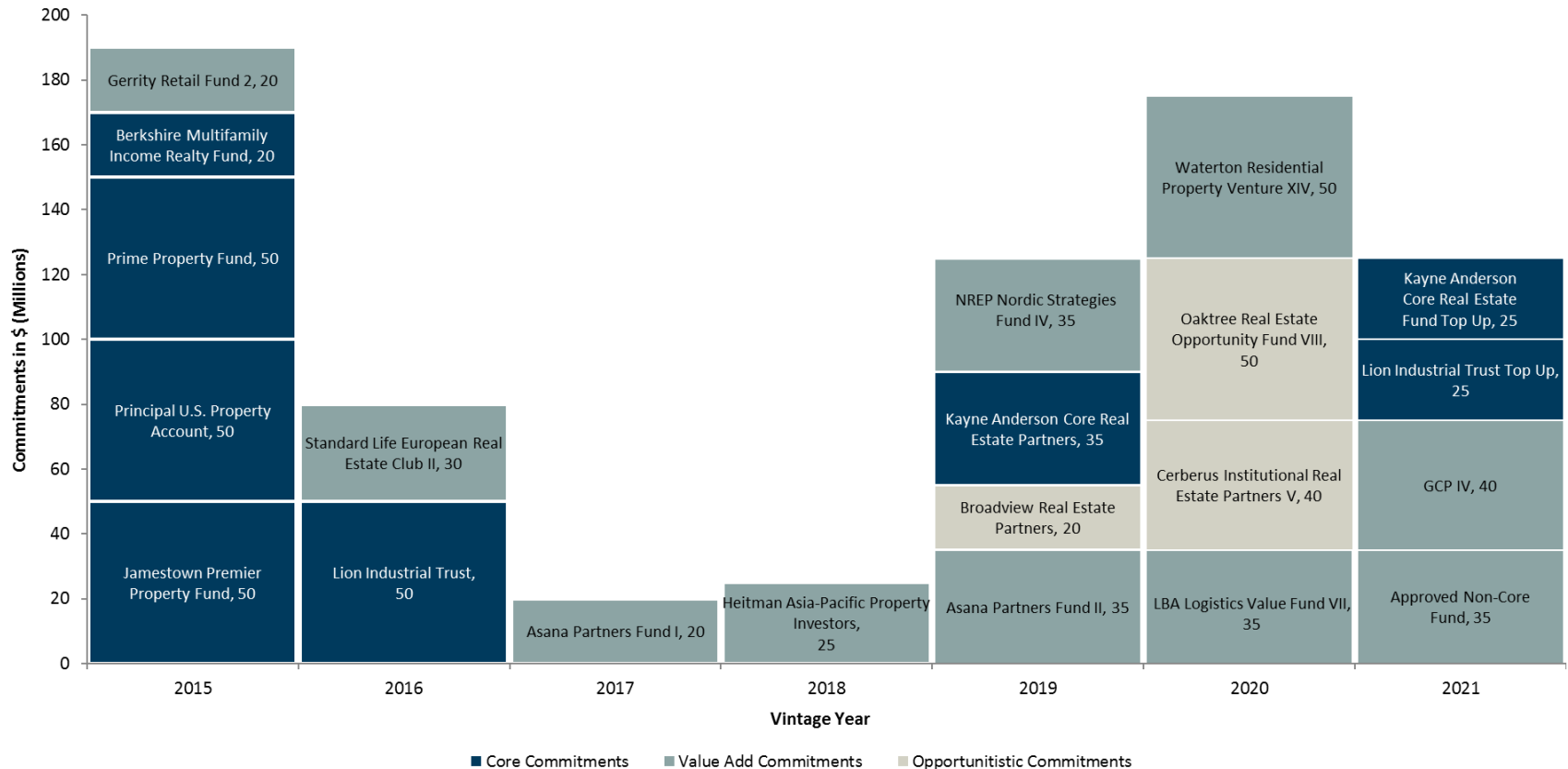
**Inclusive of investments approved subsequent to 12/31/2020.

C. LACERS Commitment History



LACERS Commitment History

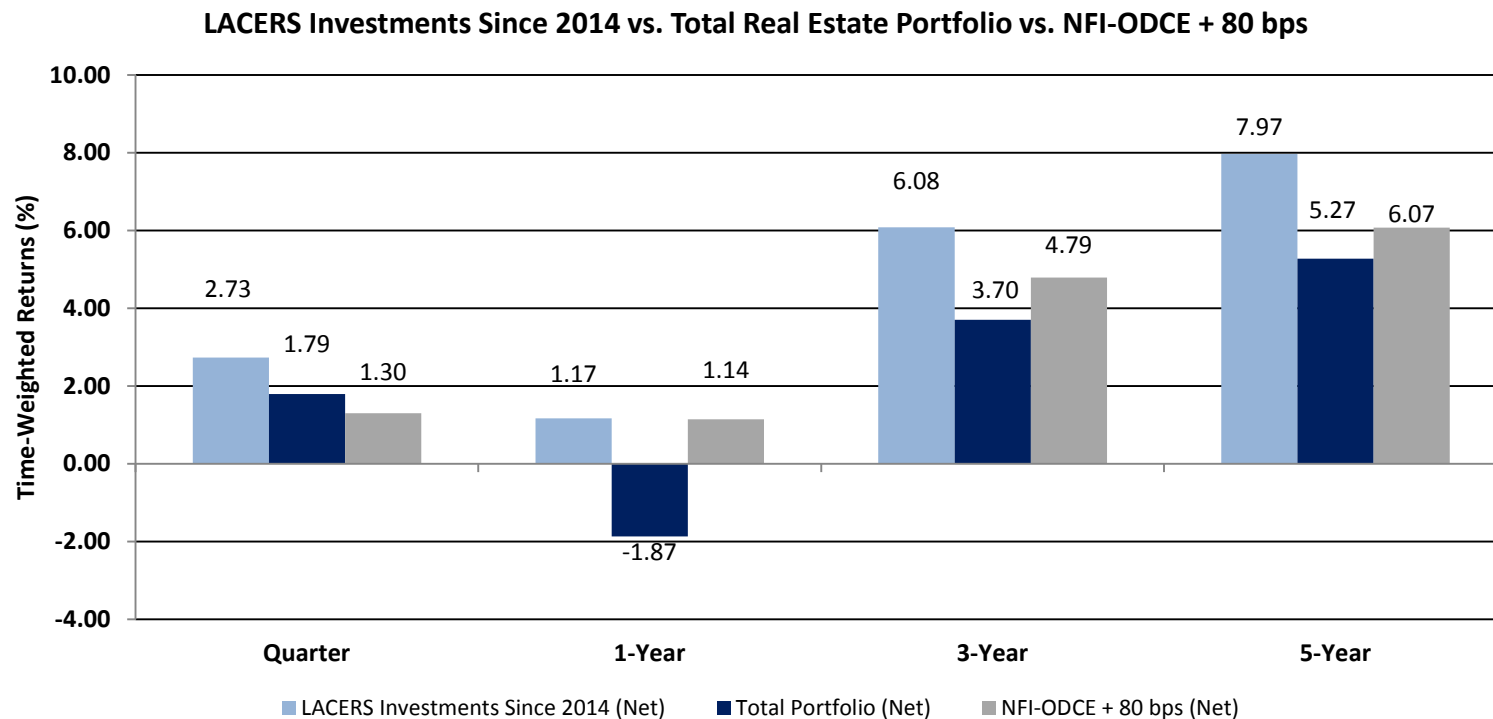
Under Townsend Advisory



- LACERS has committed \$740* million since 2015 while under advisement of Townsend.
- Four Non-Core commitments since 2015 (Gerrity, Asana I & II, Broadview) met LACERS Emerging Manager guidelines. In the Core open-end fund space, there are currently no managers meeting these guidelines.
- Vintage year classifications are based on LACERS' first capital call (or expected capital call), though commitments may have been approved in prior years.

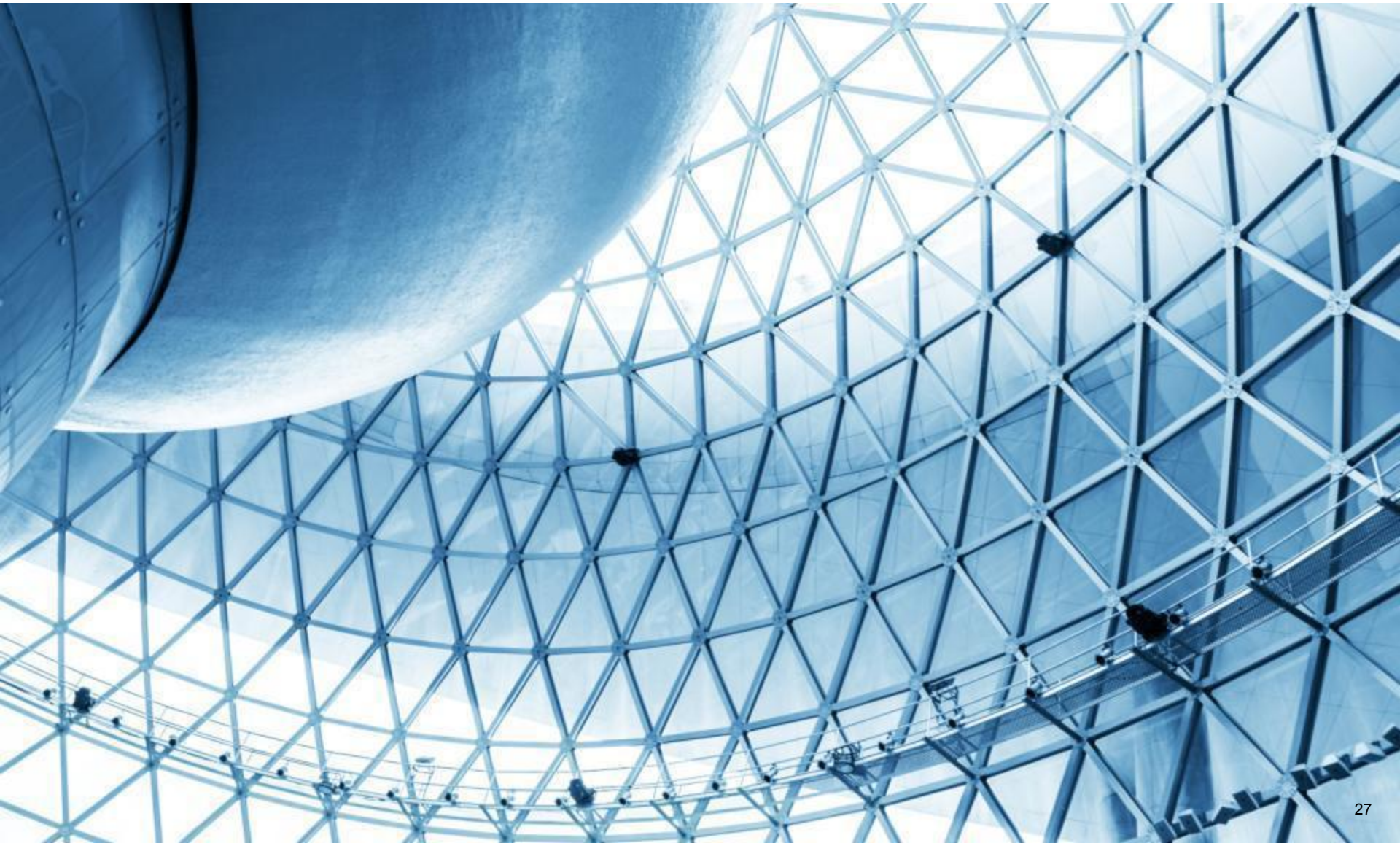
*Inclusive of investments approved as of May 2021. LACERS total presented in USD.

LACERS New Investment Performance



- As of 4Q20, LACERS commitments since 2014 have outperformed the LACERS Total Portfolio over all periods.
- Additionally, recent commitments have outperformed the policy benchmark of NFI-ODCE + 80 bps over the Quarter, 3-year, and 5-year periods, and matched the benchmarked over the 1-year period.
- Going forward, Townsend expects recent investments to drive performance as underperforming Legacy GFC funds liquidate from the portfolio.

D. LACERS 2021-2022 Objectives and Investment Plan



LACERS Investment Plan Summary – Fiscal Year 2021-2022

LACERS Annual Investment Plan FY 2021-2022	
Core	
Capital	\$90 M - \$130* M
Number of Funds/Top-Ups	0-1 New Funds / 2-4 Top-Ups
Target Commitment per Fund/Top-Up	\$60-80 M / \$25-40M
Non-Core	
Capital	\$120 M - \$165 M
Number of Funds	3-4
Target Commitment per Fund	\$35-50 M
Total Annual Commitments	\$210 M - \$295 M

**Core commitment amount includes \$50 million in capital to be re-invested from recent Core redemptions.*

LACERS Real Estate Return Projections

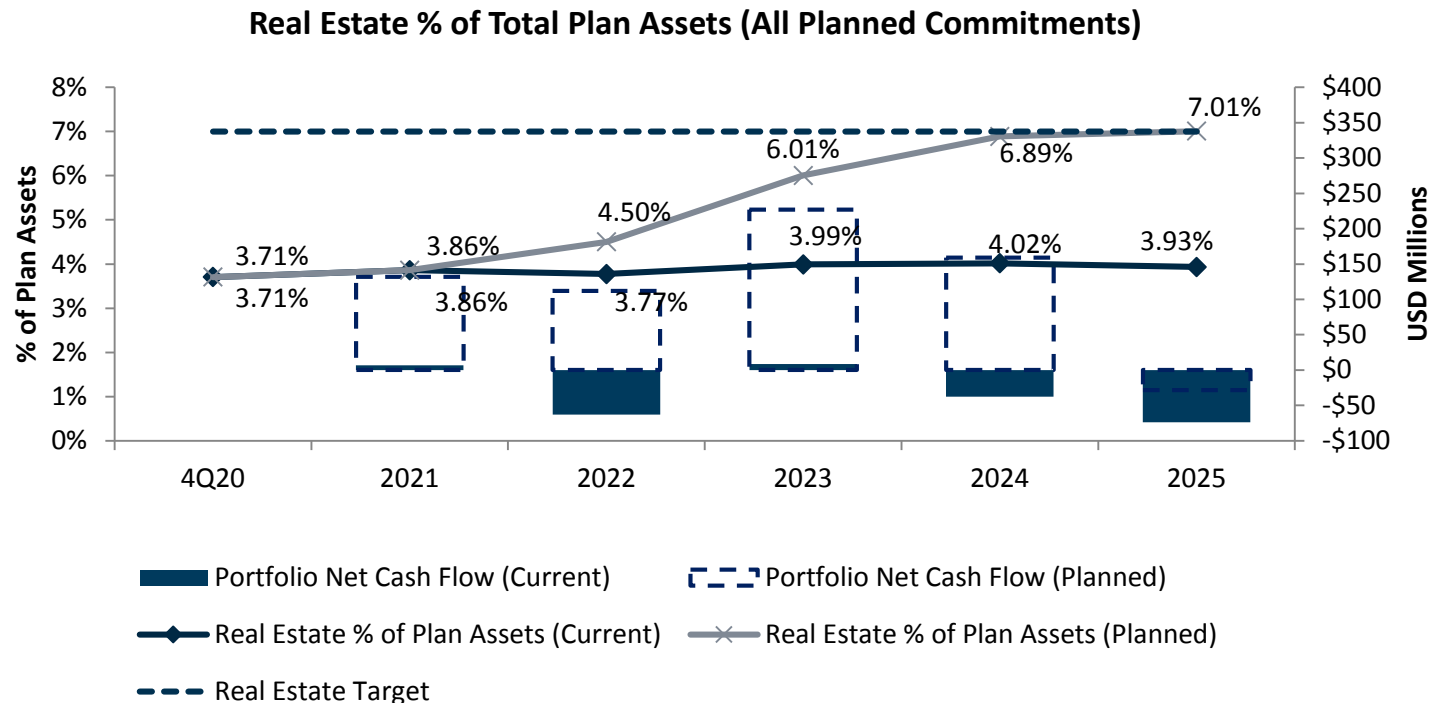
- Yearly, Townsend conducts an in-depth analysis of expected real estate returns by segment. These projections consider historical returns as well as macro-economic and asset class specific characteristics.
- Overall, real estate returns are expected to moderate towards long term averages of 5%-7%.
- Core strategies are expected to return 6.0%, Value-Added 6.5% and Opportunistic 9.0%.
- All returns are nominal and net of fees.

Nominal Return Assumptions*			
Risk and Return	Core	Value Add	Opportunistic
Net Expected Return	6.0%	6.5%	9.0%
Standard Deviation	6.4%	9.1%	10.3%

LACERS Capital Pacing Plan

Projected Growth

- The below capital projections assume a 6.0% annual growth rate for Core strategies, a 6.5% annual growth rate for Value Add strategies, and a 9.0% annual growth rate for Opportunistic strategies. Total plan growth is projected at 4.0%.
- According to Townsend's capital projections, LACERS requires annual private real estate commitments in excess of \$200 million in order to grow its allocation to 7.0% of Plan Assets by 2024.
- Townsend will work with Staff to carefully manage LACERS investment exposure.
 - Preserve investment capacity to allow LACERS to take advantage of opportunities during all market cycles (not all capital needs to be deployed at once) and maintain vintage year diversification.
 - Monitor contribution and distribution/withdrawal activities, and forecasts provided by LACERS' managers.

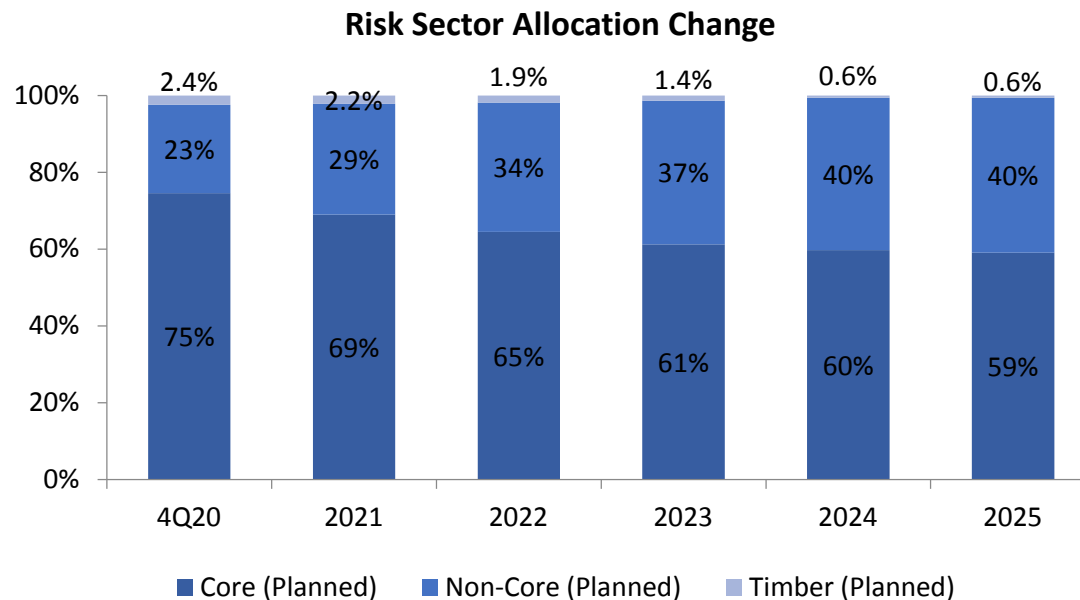


LACERS 2021-2022 Investment Plan

Real Estate Program Proposed Plan

2021-2022 Overall Portfolio Activity

- Actively identify and capture opportunities where LACERS can benefit from market distress as well as thematic trends.
 - Aim to complement 2020 commitments with high-conviction, diversifying strategies.
- For compelling opportunities, consider increasing commitment size.
 - Consider over-committing in 2021-2022 if attractive opportunities continue to appear.
- Remain mindful of the strategic targets of 60% Core/40% Non-Core, and of the Total Real Estate Benchmark (ODCE+80bps).
 - LACERS has committed to 5 Non-Core strategies since March 2020, which will help increase Non-Core exposure towards the target.
 - Non-Core commitments include Waterton Residential Property Venture XIV, Cerberus Institutional Real Estate Partners V, Oaktree Real Estate Opportunities Fund VIII, GLP Capital Partners IV and one additional Non-Core Fund approved in closed session that has not yet closed.



LACERS 2021-2022 Investment Plan

2021-2022 Planned Commitment Activity (\$ in millions)			
<u>Core*</u>		<u>Non-Core</u>	
Target	\$110	Target	\$140
Max	\$130	Max	\$165
Min	\$90	Min	\$120
<u>Commitments To-Date</u>			
Lion Industrial Trust**	\$25	Approved Non-Core Fund	\$35
Kayne Anderson Core Real Estate Fund**	\$25	GLP Capital Partners IV	\$40
Total	\$50	Total	\$75
Remaining	Up to \$80	Remaining	Up to \$90
Core Fund/Top-Up #1	Up to \$40	Non-Core Fund #1	Up to \$50
Core Fund/Top-Up #2	Up to \$40	Non-Core Fund #2	Up to \$40

*Includes \$50 million in recycled capital from Core redemptions.

**Top-up commitment to redeploy capital redeemed from Jamestown Premier Property Fund and Berkshire Multifamily Income Fund.

2021-2022 Core Activity

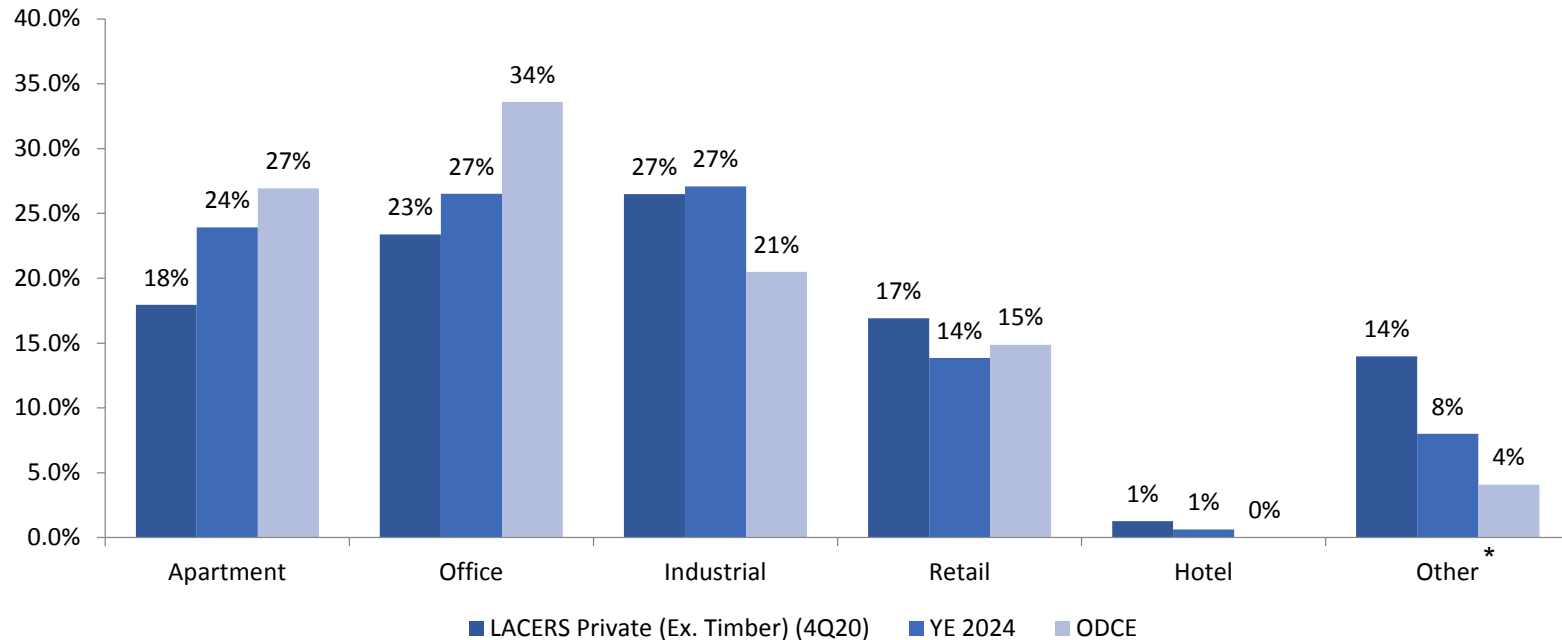
- Commit to high conviction, specialist funds that can provide LACERS access to attractive property types with high expected risk-adjusted returns (e.g. industrial, multifamily, or medical office).
- Identify opportunities to rebalance the Core portfolio to optimize fees, increase exposure to outperforming managers and desired property types.

2021-2022 Non-Core Activity

- Focus on up to four incremental commitments in Non-Core (ranging from \$35 to \$50 million per investment) that are Townsend Best Ideas or add complementary exposures, as well as thematic investments arising from the current economic impact on the real estate sector.
 - Explore complementary exposures such as cold storage, life sciences, data centers or single family residential if attractive fund options exist.
 - Consider additional diversified funds due to large opportunity set, with potential to invest in distress in a variety of sectors/regions.
 - Consider diversifying industrial and multifamily exposures further (e.g. through adding new regions or differentiated strategies)
- Continue to evaluate Emerging Managers that are an appropriate fit for LACERS' portfolio, without compromising returns.
- Consider further exploring co-investments and/or secondaries to increase the opportunity set.

LACERS Diversification Projections

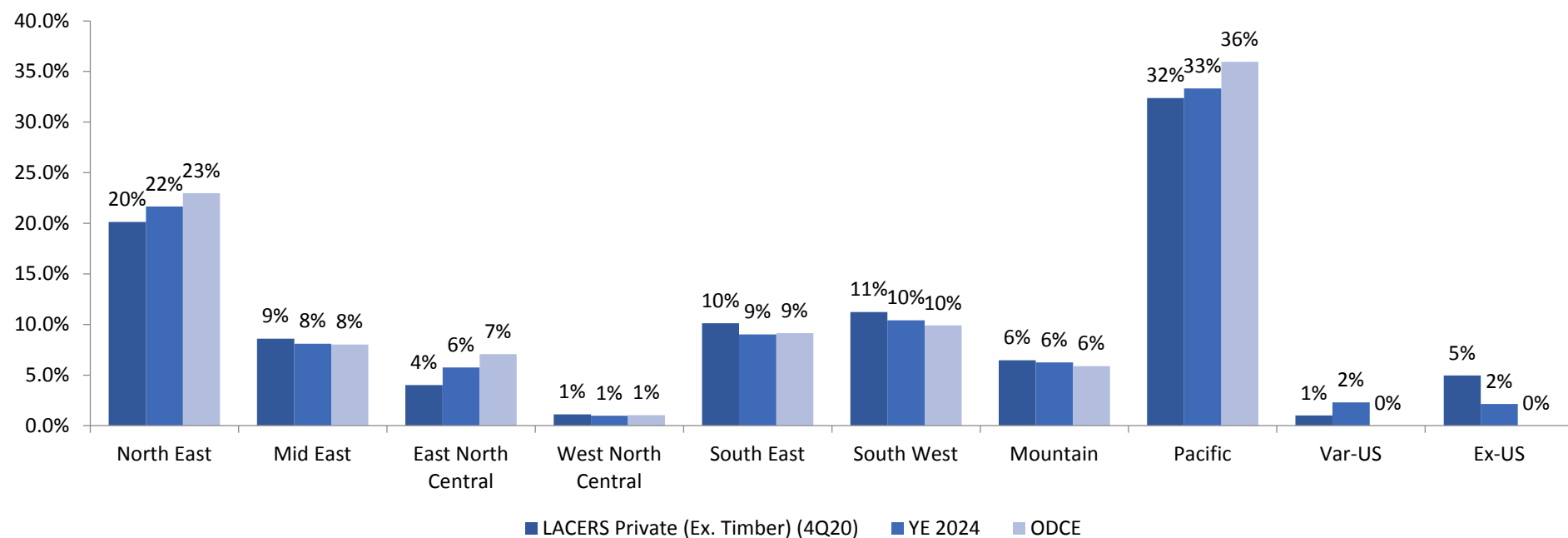
Private Real Estate Exposure - Property Type Diversification
Private Portfolio (Ex. Timber)



- LACERS continues to be underweight to Office and Apartment.
 - An Office underweight is supported by Townsend's View of the World, due to increased uncertainty within the property type.
 - Apartment exposure is projected to increase due to recent non-core commitments to Waterton and an additional approved fund that has yet to close. This exposure may be increased further through rebalancing of Core open-end fund positions.
- The overweight to industrial is supported by Townsend's View of the World, and we will work towards maintaining that overweight over the near-term.
- Retail exposure is projected to reach an underweight in the next few years as recent commitments fund into the portfolio and redemptions/liquidations continue.

LACERS Diversification Projections

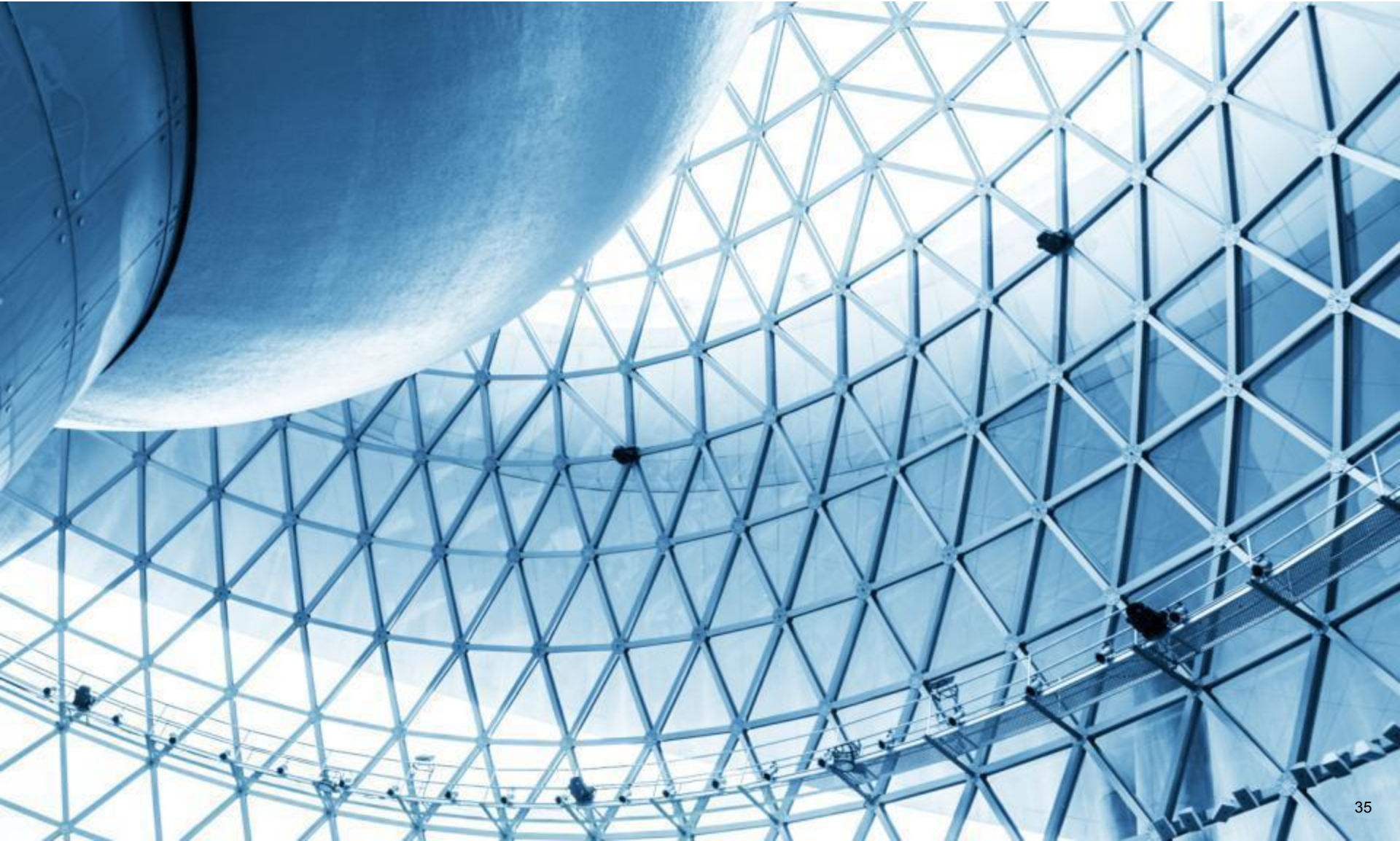
LACERS Projected Geographic Diversification *Private Portfolio (Ex. Timber)*



- LACERS continues to be well-diversified geographically and remains within 3% of the benchmark within all U.S. regions.
- While the NFI-ODCE is a U.S.-only benchmark, we are comfortable with selective international exposures to pursue thematic trends and enhance portfolio diversification.
 - As of 4Q20, LACERS held a 4.2% Ex-US exposure, composed primarily of three large regional exposures: Asia (2.6%), Europe (1.0%), and Emerging Americas/Frontier (0.6%).

*Var-US includes any investments that are not directly tied to specific regions, such as real estate debt investments through Torchlight or entity-level investments through Almanac.

E. Sourcing and Deal Flow



Manager Sourcing & Due Diligence

Core and Core Plus Fund Sourcing and Selection

- Townsend's dedicated open-end fund team reviews and monitors the open-end universe on a monthly and quarterly basis.
- As of December 31, 2020, the statistics for the existing open-end fund universe were as follows:
 - 25 Core Diversified Funds,
 - 17 Core Plus Funds,
 - 14 Specialty Funds (Property Type Specific and Debt Funds).
- Townsend also evaluates Core closed-end funds, though fewer exist.
- Comprehensive review, evaluation and selection process:
 - Sourcing and evaluation of new fund launches,
 - Quarterly data collection and analysis,
 - On-site meetings and quarterly reviews,
 - Advisory board participation,
 - Ongoing platform assessment,
 - Continual due diligence.

Manager Sourcing & Due Diligence

Non-Core Fund Sourcing and Selection

- In addition to the work completed for open-end commingled funds (evaluation process outlined on the previous page), Townsend is continuously analyzing the universe of Non-Core closed-end funds available for investment.
- In 2020, Townsend's statistics for the Non-Core fund universe were as follows:
 - 279 funds screened.
 - 106 funds in initial due diligence.
 - 77 funds approved for client investment.
 - 72% North America/Global, 16% Europe, 4% Asia, and 8% Rest of the World.
- Detailed due diligence follows a three-phase due diligence process:
 - Sourcing and evaluation of new fund launches.
 - On-site due diligence meetings.
 - Evaluation of investment characteristics includes, but is not limited to the following:
 - *Executive Summary*: Strategy Overview, Comparative Advantages, Potential Issues and Concerns.
 - *Strategy*: Overview, Leverage, Investment Guidelines, Pipeline.
 - *Sponsor*: Organizational Background/History, Turnover, Compensation, and Retention.
 - *Investment Process*: Overview, Investment Committee, Affiliate Transactions, Limited Partner Advisory Committee, Exclusivity and Allocations, Valuations.
 - *Fund Structure*: Key Terms, Fees and Distributions, Analysis of Fees.
 - *Performance*: Detailed Summary of Prior Vehicles, Vintage Year Comparison, Dispersion of Returns, Investment Highlights.
- Ongoing due diligence includes fund coverage, investment monitoring, reporting, advisory board representation and client advocacy.

Emerging Manager Sourcing Process

Emerging Manager Sourcing

- Townsend focuses on identifying emerging managers during its sourcing and monitoring process.
 - Network and establish new relationships through regular sourcing channels, outreach and conference attendance.
 - Seek new and unique opportunities that align with Townsend View of the World.
 - Uncover experienced niche operating partners interested in raising third-party capital.
 - Oversight and management of dedicated Emerging Manager programs across the firm.
 - Maintain active pipeline of Emerging Manager candidates.
 - Actively vetting new owner/operators as potential Emerging Manager candidates.

LACERS Emerging Manager Efforts

- Majority of Emerging Manager opportunity set is in the Non-Core segment:
 - 2014-2015: 50% of LACERS Non-Core commitments qualified under the LACERS Emerging Manager Program.
 - 2016: In 2H2016, Townsend conducted a LACERS-specific Emerging Manager search resulting in the recommendation of a \$20 million Non-Core commitment to Asana Partners I, which was approved by the Board in August 2016.
 - A \$35 million commitment to Asana Partners II was recommended and approved in 2018.
 - 2019: A \$20 million commitment to Broadview Real Estate Partners was approved by the Board.
- In 2021, LACERS updated its Emerging Manager Policy to the following:
 - The fund size may not be larger than \$2 billion.
 - First, second or third institutional fund for a given General Partner.
 - The firm must have been in existence for a minimum of one year (6 months if all senior staff come from an established manager as part of a spin-out).
 - The team must have a minimum track record of five years.
 - No person or entity, other than the principals and/or employees of the firm, shall own more than forty-nine percent (49%) interest of the firm.
 - No Limited Partner can represent more than 30% of the total Fund's capital.
 - The fund shall have a minimum fund size of \$150 million in committed capital inclusive of LACERS pending commitment.
 - For first-time institutional funds, LACERS commitment shall not exceed 10% of the projected final closing fund size or \$30 million, whichever is lower (20% or \$40 million for second- and third-time institutional funds).

Real Asset ESG Considerations

Townsend And ESG

- Townsend is committed to engaging with the industry at large on sustainability initiatives to understand how they may impact real estate performance at the investment and portfolio level. Townsend became an early signatory to the UN Principles of Responsible Investment (PRI) in 2010 and was an active Advisory Board member to the Global Real Estate Sustainability Benchmark (GRESB), fulfilling an initial five-year term in 2019. In 2016, Townsend's efforts were recognized by GRESB and the US Green Building Council when Townsend was awarded the GRESB Investor Leadership award.
- In 2018, Townsend's Real Asset ESG Team joined forces with the broader Responsible Investment team at Aon. In 2019, Aon & Townsend completed a joint submission to the PRI for the 2018 reporting period, which will continue going forward. Going forward, Townsend's PRI Signatory responsibilities will be completed under Aon Hewitt and Townsend will maintain its relationship with GRESB. Townsend's team is led by Jay Long and includes other professionals from Townsend's global offices. The team focuses on the incorporation of ESG in the due diligence and client reporting process. The team also participates in ESG industry events and organizes periodic internal education sessions.
- Townsend has taken steps to integrate analysis of ESG issues into its due diligence efforts and to use its relationships and indirect ownership positions to engage in dialogue with the entities in which our clients invest. All employees of the firm are responsible for raising the awareness ESG issues in real estate by asking questions throughout the due diligence process and sharing findings with others.

SCREENING AND DUE DILIGENCE ACTIVITIES

- Identify issues relating to ESG prior to making commitments (incorporated via Townsend's standard DDQ and OECF questionnaire).
 - Government and regulatory policy
 - Social and industrial relations issues
 - Environmental performance variables
 - Health and Safety issues (Infrastructure)
- Procure due diligence from experts where these risks have potential to impact value.
- Establish an upfront governance and reporting framework to enable ongoing monitoring of ESG issues after an investment is made.

INVESTMENT OVERSIGHT

- Monitor and manage ESG factors for the duration of investment
- Use of governance rights to actively engage with management on important issues that may impact performance.
- Townsend implemented a report and rating system for several clients interested in understanding how investment managers are incorporating ESG into their real estate portfolio investments; for these clients we typically carry out an annual ESG audit .
- For client portfolio assessment, there are tools available to Townsend employees and Townsend clients through Townsend's relationship with GRESB.



LACERS
LA CITY EMPLOYEES'
RETIREMENT SYSTEM



REPORT TO BOARD OF ADMINISTRATION

From: Neil M. Guglielmo, General Manager

MEETING: JUNE 22, 2021

ITEM: VIII – E

Neil M. Guglielmo

**SUBJECT: CONTINUED DISCUSSION OF SECURITIES LENDING PROGRAM MODIFICATIONS
AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board:

1. Authorize the temporary modifications to Securities Lending Program (SLP) Cash Collateral Guidelines to remain in effect.
2. Approve the permanent adoption of the temporary modifications to the SLP Non-Cash Collateral Guidelines.

Executive Summary

This report provides a status update on the temporary modifications to the SLP approved by the Board on April 28, 2020 and extended by the Board on October 27, 2020. Staff recommends the temporary modifications to the Cash Collateral Guidelines to remain in effect. Staff also recommends that the temporary modifications to SLP Non-Cash Collateral Guidelines be permanently adopted.

Discussion

Background

On April 28, 2020, the Board authorized temporary modifications to the SLP in response to the extreme market volatility and uncertain economic outlook brought about by the COVID-19 pandemic. The Board affirmed the staff decision undertaken in late March 2020 to pursue revisions to the SLP Cash and Non-Cash Collateral Guidelines to reduce risk exposure and protect investment program liquidity. Staff negotiated the guideline revisions with The Northern Trust Company (Northern Trust), LACERS' Master Custodian Bank, which also serves as the SLP agent and Cash Collateral investment portfolio manager. The revised guidelines were executed on June 12, 2020. On October 27, 2020, the Board authorized the temporary modifications to the SLP to continue through the fiscal year ending June 30, 2021. The Board also directed staff to provide this follow up report to update the Board on the status and effects of these program modifications prior to the fiscal year ending June 30, 2021.

Status of Implementation of Revised Cash Collateral Guidelines

The revised Cash Collateral Guidelines limit counterparty exposure and improve the liquidity and credit quality of the Cash Collateral investment portfolio, which presents the highest source of risk for those investors who participate in the SLP due to the potential for principal losses. Pursuant to the staff update report of October 27, 2020 (Attachment 1), six of 13 total holdings as of October 14, 2020, were temporarily out of compliance with the revised guidelines due to a phased implementation plan. As these securities reached maturity, the Cash Collateral investment portfolio became fully compliant with the revised guidelines by April 30, 2021. Since the time of approval of the revised guidelines, the Cash Collateral program has functioned according to staff's expectations, and remains in full compliance with the revised guidelines through the most recent monthly reporting period ending May 31, 2021.

Status of Implementation of Non-Cash Collateral Guidelines

The revised Non-Cash Collateral Guidelines limit counterparty exposure and narrow the acceptable forms of non-cash collateral backing securities loans. Since the approval of the Non-Cash Collateral Guidelines, the Non-Cash Collateral program has functioned according to staff's expectations, and has been in full compliance with the revised guidelines since the date of execution of June 12, 2020, through the most recent monthly reporting period ending May 31, 2021.

Impact of Guideline Revisions to SLP Earnings

As a result of the implementation of the aforementioned guideline revisions, SLP loan volumes and earnings have declined. Loan volume and earnings information pre- and post-modification of the SLP is summarized in the following table.

Period	Average Monthly On Loan (\$)	Average Monthly Available To Loan (\$)	Utilization Rate	Average Monthly Net Earnings (\$)
Pre-Modification Jul-19 - Mar-20	1,931,383,723	12,437,282,125	15.5%	525,782
Post-Modification Apr-20 - May-21	1,158,073,979	12,712,110,386	9.1%	346,165
% Change	-40.0%	2.2%	-41.3%	-34.2%

The loan volume and utilization rate (value of securities on loan as a percentage of value of securities available to loan) have both decreased by approximately 40% while average monthly net earnings have declined by 34.2%. Staff and Northern Trust anticipated a decline in net earnings as the Cash Collateral investment portfolio reached full compliance with the revised guidelines, primarily due to low yields associated with the shorter maturity, higher quality securities required by the revised guidelines.

Staff Recommendations

Pursuant to the staff update report of October 27, 2020 (Attachment 1), staff was directed to return to the Board prior to the fiscal year ending June 30, 2021, and provide a recommendation whether to continue the SLP's adherence to the temporary guideline revisions or to restore the guidelines to their previous form.

While markets are no longer characterized by the extreme volatility witnessed during the onset of the pandemic, Federal Reserve Bank officials have informally indicated that the Fed may consider tapering its asset purchases and allow interest rates to rise. The current temporary guidelines are designed to

better mitigate the potential negative impact of rising interest rates on the Cash Collateral investment portfolio compared to the previous guidelines. Accordingly, staff recommends that the temporary revisions to the Cash Collateral Guidelines remain in effect for an indefinite period of time. Staff will continually monitor and evaluate the Cash Collateral investment portfolio and the impact of rising interests on the portfolio, and return to the Board with guideline adjustments that will optimize the SLP's return and risk objectives, as needed.

Staff further recommends that the Board permanently adopt the temporary revisions to the Non-Cash Collateral Guidelines given its balanced approach to income generation and the presence of essential risk-management features. The revised guidelines already align with Northern Trust's stricter internal standards regarding non-cash collateral.

Should the Board approve these recommendations, staff will report back to the Board after close of calendar year 2021 (or sooner, if necessary) to provide an SLP update and possible recommendations regarding the temporary Cash Collateral Guidelines.

Strategic Alignment

The ongoing review of the modifications to the Securities Lending Program aligns with the Strategic Plan Goal to optimize long-term risk adjusted investment returns (Goal IV). The process also aligns with the Strategic Plan Goal to uphold good governance practices which affirm transparency, accountability and fiduciary duty (Goal V).

Prepared By: Jeremiah Paras, Investment Officer I, Investment Division

NMG/RJ/BF/JP

Attachments: 1. Report to Board of Administration Dated October 27, 2020



LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM



REPORT TO BOARD OF ADMINISTRATION

From: Neil M. Guglielmo, General Manager

MEETING: OCTOBER 27, 2020

ITEM: VII – D

Neil M. Guglielmo

**SUBJECT: CONTINUED DISCUSSION OF SECURITIES LENDING PROGRAM MODIFICATIONS
AND POSSIBLE BOARD ACTION**

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

That the Board:

1. Authorize the temporary modifications to Securities Lending Program to continue through the fiscal year ending June 30, 2021; and
2. Direct staff to report to the Board on the status of the Securities Lending Program and the effects of such modifications prior to the fiscal year ending June 30, 2021.

Executive Summary

This report provides a status update on the temporary modifications to the Securities Lending Program approved by the Board on April 28, 2020. Staff recommends continuing with the temporary policy modifications through the fiscal year ending June 30, 2021.

Discussion

Background

On April 28, 2020, the Board authorized temporary modifications to the Securities Lending Program (SLP) in response to the extreme market volatility and uncertain economic outlook brought about by the COVID-19 pandemic. The Board affirmed the staff decision undertaken in late March 2020 to pursue revisions to the SLP Cash and Non-Cash Collateral Guidelines, as presented in the attached report (Attachment 1), to reduce risk exposure and protect investment program liquidity. Staff subsequently negotiated the guideline revisions with The Northern Trust Company (Northern Trust), LACERS' Master Custodian Bank, which also serves as the SLP agent and Cash Collateral investment portfolio manager. The revised guidelines were executed on June 12, 2020. To date, Northern Trust continues to transition the Cash Collateral investment portfolio to full compliance with the revised guidelines; the Non-Cash Collateral portfolio has been in full compliance with the revised guidelines since execution date.

Status of Implementation of Revised Cash Collateral Guidelines

The revised Cash Collateral Guidelines (Attachment 2) improve the liquidity and credit quality of the Cash Collateral investment portfolio, which presents the highest source of risk for participating in the SLP due to the potential for principal losses. Northern Trust has yet to achieve full compliance with the revised guidelines. As of October 14, 2020, six of 13 total holdings (or approximately 20% of the portfolio by market value), are out of compliance with the revised guidelines due to a deliberate risk/loss-reduction phase-in plan. These holdings are legacy securities purchased prior to staff initiating SLP modification discussions with Northern Trust in March 2020. Northern Trust has advised holding these securities to maturity to avoid principal losses from liquidating them under unfavorable market conditions. The following table provides further information about the six securities out of compliance. Note that securities #1, #3, and #4 breach both the maximum 3% allocation and average maturity guidelines; therefore, the number of securities presented in the table total more than six.

Guideline	Securities Out of Compliance	Criteria	Compliance Estimate
Maximum of 3% of the value of the total assets of the Fund may be invested in securities of any one issuer	Security #1	Allocation-4.81%	3/9/2021
	Security #2	Allocation-4.39%	11/3/2021
	Security #3	Allocation-3.21%	1/28/2021
	Security #4	Allocation-3.21%	2/19/2021
The maximum final or average maturity of any variable or floating rate security will be limited to 60 days; the maximum final or average maturity of a fixed rate security will be limited to 60 days	Security #3	Maturity-1/28/2021	11/29/2020
	Security #4	Maturity-2/19/2021	12/21/2020
	Security #1	Maturity-3/9/2021	1/8/2021
Asset backed commercial paper is excluded from eligible investments	Security #5	Asset Backed Commercial Paper	11/6/2020
	Security #6	Asset Backed Commercial Paper	11/23/2020

The Cash Collateral investment portfolio is compliant with all other provisions of the revised guidelines; staff anticipates the portfolio to be in full compliance with the revised guidelines by March 2021.

Status of Implementation of Non-Cash Collateral Guidelines

The revised Non-Cash Collateral Guidelines (Attachment 3) narrow the acceptable forms of non-cash collateral backing securities loan and emphasize higher asset quality. The Non-Cash Collateral portfolio has been in full compliance with the revised guidelines since the date of execution (June 12, 2020).

Impact of Guideline Revisions to SLP Earnings

As anticipated by staff in the April 28, 2020 Board Report, SLP loan volumes and earnings have declined as a result of implementing these risk reducing guidelines. Loan volume and earnings information pre- and post-modification of the SLP is summarized in the following table.

Period	Average Monthly On Loan (\$)	Average Monthly Available To Loan (\$)	Utilization Rate	Average Monthly Net Earnings (\$)
Pre-Modification Jul-19 - Mar-20	1,931,383,723	12,437,282,125	15.5%	525,782
Post-Modification Apr-20 - Sep-20	1,160,891,269	12,364,498,606	9.4%	471,434
% Change	-39.9%	-0.6%	-39.5%	-10.3%

Since implementation of the SLP modifications began, the loan volume and utilization rate (value of securities on loan as a percentage of value of securities available to loan) have decreased by approximately 40% and average monthly net earnings have declined by 10.3%. Staff and Northern Trust anticipate net earnings to decline further as the Cash Collateral investment portfolio reaches full compliance with the revised guidelines, primarily due to low yields associated with the shorter maturity, higher quality securities required by the revised Guidelines.

Staff recommends that the modifications to the SLP remain in effect until the fiscal year ending June 30, 2021. While the markets are no longer characterized by the extreme volatility witnessed during the onset of the pandemic, heightened volatility and lingering uncertainty over the economic outlook remain, warranting a continued reduction of risk exposure to the SLP. Should the Board approve staff's recommendation, staff will continue to monitor the implementation of the modifications to the SLP and the state of the markets. Staff will report back to the Board prior to the fiscal year ending June 30, 2021, to reassess the impact of the modifications to the program's income and risk factors and make a recommendation to continue with the temporary revisions or restore current policy.

Strategic Alignment

The continued implementation of the temporary modifications to the Securities Lending Program enables LACERS to address the risks brought about by the unpredictability of near term market conditions. The program modifications align with the Strategic Plan Goal to optimize long-term risk adjusted investment returns (Goal IV). The modifications also align with the Strategic Plan Goal to uphold good governance practices which affirm transparency, accountability and fiduciary duty (Goal V).

Prepared By: Jeremiah Paras, Investment Officer I, Investment Division

NMG/RJ/BF/JP

Attachments: 1. Report to Board of Administration Dated April, 28, 2020
 2. Revised Cash Collateral Guidelines Executed June 12, 2020
 3. Revised Non-Cash Collateral Guidelines Executed June 12, 2020



LACERS
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM



REPORT TO BOARD OF ADMINISTRATION
From: Neil M. Guglielmo, General Manager

MEETING: APRIL 28, 2020
ITEM: VII – B

Neil M. Guglielmo

SUBJECT: SECURITIES LENDING PROGRAM MODIFICATIONS AND POSSIBLE BOARD ACTION

ACTION: ☒ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☐

Recommendation

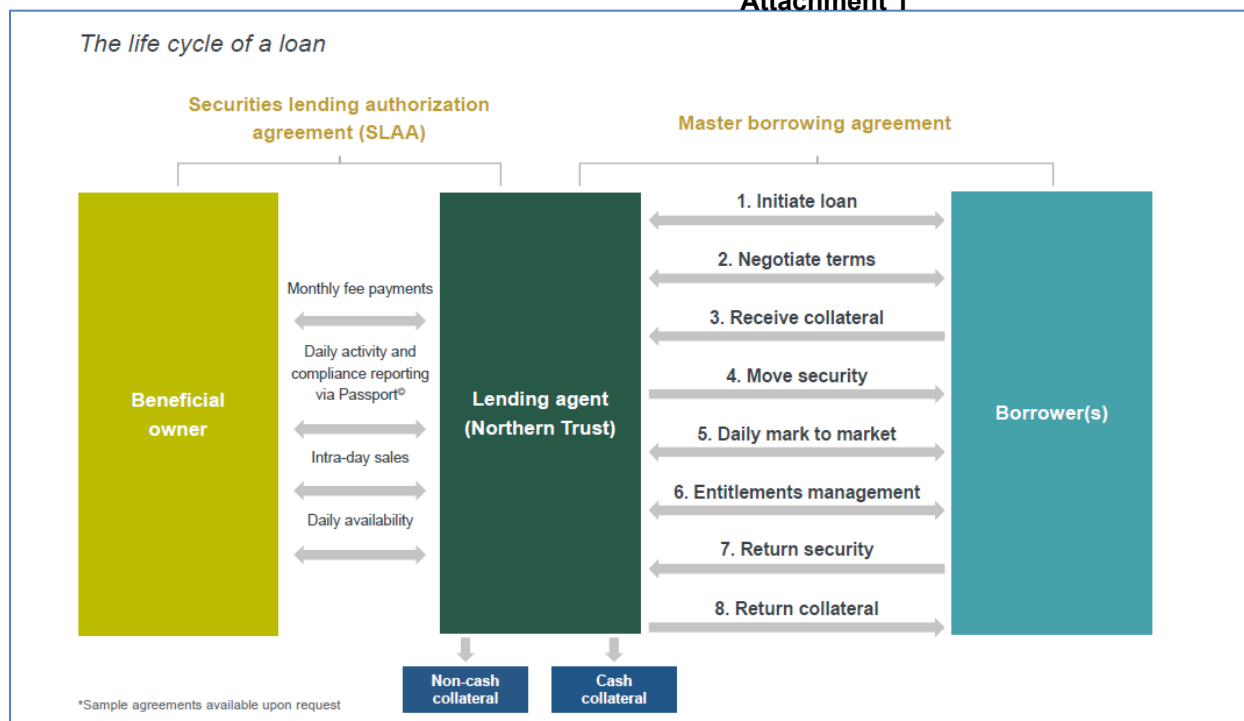
That the Board:

1. Affirm staff decision to temporarily reduce the volume of loans under the Securities Lending Program in order to reduce LACERS' exposure to program risks in light of current market conditions;
2. Authorize staff to revise the Securities Lending Program Cash and Non-Cash Collateral Guidelines as needed in light of both current and forecasted near term market conditions; and,
3. Direct staff to report to the Board in approximately six months on the status of the Securities Lending Program and the effects of such modifications.

Discussion

Background on LACERS' Securities Lending Program

The LACERS Securities Lending Program (SLP) seeks to generate income by lending public markets securities owned by LACERS to qualified borrowers. Securities loans are fully collateralized based on the fair value of the borrowed securities. Collateral received against the securities loans may be in certain types of eligible securities (Non-Cash Collateral) or in the form of cash (Cash Collateral); income is earned differently based on collateral type. Under a Non-Cash Collateral lending structure, income is generated from fees paid by borrowers. Under a Cash Collateral lending structure, income is generated by investing the cash collateral in short-term investments under a separately managed custom investment fund. The Northern Trust Company (Northern Trust), LACERS' Master Custodian Bank, has served as the SLP agent (agent) and as Cash Collateral custom fund investment manager since 1991. The following diagrams provide a hypothetical illustration of the aforementioned program structure and process in greater detail.



HOW REVENUE IS GENERATED

Example: Northern Trust lends \$25 million of US Equity

Non-Cash Loan

The \$25 million market value loan is for 30 days collateralized by a US Treasury.

1	Receive non-cash collateral valued at \$25,500,000 (102%)	
2	Fee charged to borrower on the value of the loan (20 bps)	\$4,167
3	Gross revenue (gross spread 20 bps) credited to client monthly	\$4,167
4	Monthly lender's fee (@ 30%)	<u>\$1,250</u>
5	Net client earnings	\$2,917

Cash Loan

The \$25 million market value loan is for 30 days collateralized with cash (federal funds at 2.00%)

1	Receive cash collateral valued at \$25,500,000 (102%)	
2	Cash collateral invested in a collateral pool at yield of 2.10%	\$44,625
3	Rebate paid to borrower at rate of 1.80%	\$(38,250)
4	Gross Revenue (gross spread 30 bps)	\$6,375
5	Monthly lender's fee (@ 30%)	<u>\$1,913</u>
6	Net client earnings	\$4,462

*Fee split between Lender and agent referenced in the diagram is for illustrative purposes only. The current agreement entitles Northern Trust to 15% of program revenue, with LACERS earning the residual 85% of program revenue.

The SLP is governed by LACERS Securities Lending Policy (Policy) under the broader Investment Policy adopted February 12, 2019, and by customized collateral and investment guidelines. The Policy defines the SLP objective, scope, and the roles and responsibilities of the Board, staff, and the SLP agent. Additionally, the Policy acknowledges risks from securities lending activities to include, but are

not limited to, credit risk in the form of counterparty risk, market risk in the form of cash collateral reinvestment risk and interest rate risk, and operational risk in the form of trade settlement risk. The current agent indemnifies LACERS against counterparty defaults¹; however, LACERS bears the risk of investing cash collateral, exposing LACERS to potential principal losses as a tradeoff to generating income from cash collateral.

The collateral and investment guidelines, which are negotiated by staff with general investment consultant input and approved by the General Manager, supplement the Policy and mitigate identified risks by setting standards for the type, level, and investment of collateral the agent may accept on LACERS' behalf. The guidelines are set forth in two separate documents, one for Cash Collateral and the other for Non-Cash Collateral, which are attachments to the securities lending contract with the agent. The Cash Collateral Guidelines address the eligible investments, credit quality, diversification, liquidity, and trading for the custom investment fund. The Non-Cash Collateral Guidelines address collateralization levels, eligible collateral, credit quality, and diversification. The Cash Collateral Guidelines were last negotiated and agreed upon between the agent and staff in 2015. The Non-Cash Collateral Guidelines were more recently amended in 2018.

SLP Modifications under Current Market Conditions

While the SLP has been designed to mitigate risks and earn incremental income to LACERS under recent bull market conditions, staff and NEPC, LLC (NEPC), LACERS' General Fund Consultant, are concerned that the current COVID-19 crisis and its unprecedented impact on economic and market conditions has severely elevated the inherent risks of the SLP including reduced investment program liquidity. When time is of the essence, the Policy empowers LACERS' General Manager and Chief Investment Officer to modify or suspend the SLP to address unusual and significant risk factors deemed to have a material adverse impact. Accordingly, LACERS staff, with the concurrence of NEPC, initiated a temporary de-risking of the SLP in mid-March by reducing the volume of loans outstanding. A survey of several other public pension plans has indicated that they either have made or in the process of making modifications to their respective securities lending programs since the beginning of the crisis. The table below summarizes volume reduction of the SLP between February 29, 2020 and April 10, 2020.

	2/29/2020	4/10/2020	\$ Change	% Change
Securities Loans Market Value	\$2,202,806,781	\$1,122,147,370	-\$1,080,659,411	-49%
Cash Collateral Market Value	\$773,792,174	\$361,134,747	-\$412,657,427	-53%
Non-Cash Collateral Market Value	\$1,535,005,490	\$804,650,991	-\$730,354,499	-48%
Utilization Rate ²	18%	10%	NA	-44%

¹ An example of a default is when a counterparty is unable to return the borrowed securities according to the agreed-upon terms.

² Value of securities on loan as a percentage of the value of securities available to loan

Proposed SLP Modifications to Collateral and Investment Guidelines

To further reduce LACERS' SLP risk exposure and protect investment program liquidity in light of both current and forecasted near term market conditions, staff is seeking the Board's authorization to implement temporary modifications of the SLP Cash and Non-Cash Collateral Guidelines (as drafted by staff and NEPC) as summarized below.

Cash Collateral Guidelines

- Shorten the duration and maturity of individual investments to 60 days, thus shortening the investment fund's maximum weighted average maturity to 60 days. Currently, a portion of the fund has investment maturities extended up to 13 months; the current guidelines permit a maximum weighted average maturity of 180 days
- Require a non-U.S. country to hold a sovereign credit rating of AA- or higher (or the equivalent) by at least two Nationally Recognized Statistical Rating Organizations (NRSRO) in order for non-U.S. government or corporate debt to be eligible for investment
- Remove asset-backed commercial paper³ as an eligible investment
- Include Secured Overnight Financing Rate (SOFR)-indexed variable and floating rate securities as eligible investments
- Define the minimum credit rating requirement for short term investments to be A1/P1/F1 or higher (or the equivalent) by any two NRSRO's
- Restrict investments in obligations of issuers who are also LACERS' counterparties in a securities loan

Non-Cash Collateral Guidelines

- Limit non-U.S. government debt collateral to those countries with a sovereign credit rating of AA- or higher (or the equivalent) by at least two NRSRO's
- Remove debt of political subdivisions and agencies of non-U.S. governments as eligible non-cash collateral
- Require the agent to inform LACERS of debt collateral downgrades within five business days

By implementing these temporary SLP risk-reducing and investment program liquidity enhancement modifications, staff and consultant believe that the SLP risk level will be better aligned with these unusual and more volatile market conditions. However, a reduction in SLP risk will decrease securities lending income as a result of reduced loan volumes due to more restrictive collateral and investment guidelines.

Should the Board approve the recommendations included within this report, staff would then negotiate temporary SLP guideline modifications with the agent. Staff will continue to closely monitor the state of the markets, implementation of proposed guideline changes, and the impact of such changes on program income and risk factors, and will report back to the Board in approximately six months. NEPC concurs with the recommendations contained in this report.

³ A short-term investment vehicle that is backed by underlying securities. Underlying asset pools usually include credit card receivables, student loans, and auto loan receivables.

Strategic Plan Impact Statement

The modification of the Securities Lending Program, by way of both the reduction of the volume of loans and the revision of the Cash and Non-Cash Collateral Guidelines, helps LACERS address the risks brought about by the current and forecasted near term market conditions. The program modifications allow LACERS to optimize long-term risk adjusted investment returns (Goal IV) and to uphold good governance practices which affirm transparency, accountability and fiduciary duty (Goal V).

Prepared By: Jeremiah Paras, Investment Officer I, Investment Division

RJ/BF/WL/JP

Attachments:

1. Investment Policy – Section XV. Securities Lending Policy (pages 244 to 246)
2. Current Cash Collateral Guidelines
3. Current Non-Cash Collateral Guidelines

Section 10 SECURITIES LENDING POLICY

XV. SECURITIES LENDING POLICY

A. Objectives

The primary goal of LACERS' Securities Lending Program ("Program") is to enhance returns for the System by lending securities owned by LACERS to qualified borrowers. The Program features customized guidelines for prudent risk controls and is designed to not interfere with LACERS' overall investment strategy.

B. Scope

The securities lending agent ("Agent"), pursuant to the securities lending contract, is responsible for locating creditworthy securities borrowers, facilitating securities lending transactions, managing collateral pledged by borrowers, providing daily mark-to-market, and acting in a fiduciary capacity in carrying out its lending duties on behalf of LACERS. The Agent may manage two distinct types of collateral with the goal to maximize net income, split between the Agent and the System, consistent with the safety of principal, maintenance of liquidity and LACERS' guidelines.

Cash collateral is reinvested by the Agent in a separate account based on LACERS' guidelines. Guidelines for the cash collateral separate account are provided in detail in the securities lending contract and address the eligible investments, credit quality, diversification, liquidity, and trading for the Program.

Non-cash collateral is held in a separate account established expressly for LACERS. Guidelines for the non-cash collateral separate account are provided in detail in the securities lending contract and address collateralization levels, eligible instruments, credit quality, and diversification.

C. Roles and Responsibilities

1. The Board:

- a) Reviews and approves the Securities Lending Policy.
- b) Modifies or terminates the Program.
- c) Selects and terminates the Securities Lending Agent.
- d) Reviews the Program's overall performance.

2. Staff:

- a) Oversees the performance of the lending agent and the cash collateral investment manager in carrying out the objectives of the Program and complying with pre-determined guidelines.
- b) Consistent with the Program objectives and the securities lending contract, reviews, approves, and removes the counterparties as proposed by the Agent.
- c) If the Board is unable to convene in a timely manner to address unusual and significant risk factors that are deemed to have a material adverse impact (e.g. a material reduction in cash reinvestment market liquidity) on the integrity of the Program, LACERS' General Manager and Chief Investment Officer may decide

Section 10 SECURITIES LENDING POLICY

jointly to modify or suspend the Program. The Chief Investment Officer shall report the action(s) and reasons for such action(s) at the next scheduled Board meeting.

- d) Reports to the Board an annual report summarizing securities lending activity for the fiscal year. The report will be presented within four months following the end of the fiscal year.

3. The Agent:

- a) Ensures that counterparties that borrow LACERS' securities are qualified pursuant to LACERS' approved credit standards.
- b) Indemnifies LACERS against borrower default.
- c) Accepts and invests collateral according to collateral investment guidelines agreed upon with LACERS.
- d) Provides the following reports to LACERS:

Reporting Requirements of the Agent		
Ad hoc Reports	Monthly Reports	Quarterly Reports
<ul style="list-style-type: none">Any borrower defaults within a practicable time frame.Any violations of LACERS' guidelines with a plan for correction within a practicable time frame.	<ul style="list-style-type: none">Volume and lending spreads for the Program.Total income received by LACERS and by the Agent for borrowing activity.Investment management activities and risk characteristics of the collateral investment portfolio including sector allocation, quality exposures, maturity exposures, borrower exposures, average days' liquidity, etc.	<ul style="list-style-type: none">LACERS lending activity, earnings, risk characteristics and general trends in the security lending marketplace.

D. Potential Risks

LACERS acknowledges the following primary risks of its securities lending activities:

1. Counterparty Risk

Counterparty risk arises when the borrower defaults on the return of the securities on loan to the lender. This risk is mitigated by LACERS' guideline requirements that borrowed securities are over-collateralized and marked to market on a daily basis by the Agent. Additionally, the Agent is bound by the securities lending contract to indemnify LACERS for any shortfalls in collateral in the event of a borrower default.

2. Cash Reinvestment Risk

Cash reinvestment risk arises when the investments in the cash collateral separate account become impaired or decrease in value, potentially resulting in a collateral

Section 10 SECURITIES LENDING POLICY

deficiency and loss of principal. LACERS' guidelines are designed to minimize cash reinvestment risk.

3. Interest Rate Risk

Interest rate risk arises when the rebate rate that LACERS pays to the borrowers exceeds the return on the cash collateral investments. The Agent monitors and manages the interest rate exposure of the cash collateral pool versus the Agent's current interest rate forecast by using statistical analysis. Any negative earnings that occur as a result of interest rate risk will be shared between LACERS and the Agent at the same percentage as the fee arrangement.

4. Other Risks

Trade settlement and operational risks associated with securities lending are assumed by the Agent. Corporate actions such as voting rights remain with the security and will become the right of the borrower when the security is on loan. LACERS can still vote proxies for those shares not on loan or may instruct the Agent to return shares so that any specific proxy can be voted.

**ATTACHMENT 1 TO SCHEUDLE B
SECURITIES LENDING AUTHORIZATION AGREEMENT
(the "Agreement")
BETWEEN THE BOARD OF ADMINISTRATION OF THE CITY EMPLOYEES'
RETIREMENT SYSTEM OF THE CITY OF LOS ANGELES ("System")
AND THE NORTHERN TRUST COMPANY ("Agent")**

***INVESTMENT MANAGER OBJECTIVES AND GUIDELINES
FOR CUSTOM CASH COLLATERAL ACCOUNT / COLLATERAL ACCOUNT
(THE SHORT TERM INVESTMENT ACCOUNT)***

INVESTMENT OBJECTIVE

To seek to maximize current income to the extent consistent with safety of principal, maintenance of liquidity and the investment standards set forth below. The Short Term Investment Account (the "Fund") is intended as a separate account for the investment of U.S.-dollar based cash Collateral received by Agent..

Upon the effective date of these guidelines, the Lender and Agent hereby acknowledge that there may be certain assets in the Fund that would not meet these guidelines if newly purchased at this time ("Transition Assets"), though these assets were in compliance with the relevant guidelines at the time of purchase. The Lender and Agent hereby agree that Agent may, at its sole discretion, hold Transition Assets until maturity, unless otherwise directed by Lender.

Cash Collateral Guidelines

Listed below are the cash Collateral guidelines specifying eligible investments, credit quality standards, and diversification, maturity and liquidity requirements. Subject to the above, all requirements, including diversification, listed in these guidelines are effective at the time of purchase of any security or instrument as a cash Collateral investment. Agent will make use of market standard settlement methods for cash investments including the use of a tri-party custodian as approved by Agent's appropriate risk committee. Settlement through a tri-party custodian may result in cash collateral.

INVESTMENT GUIDELINES

1. Eligible Investments:

- (a) Obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities and custodial receipts with respect thereto.

- (b) Obligations of domestic or foreign commercial banks, including Agent, (or branches thereof where deposits with branches are general obligations of the parent bank) and bank holding companies, including, but not limited to, commercial paper, bankers' acceptances, certificates of deposit, time deposits, notes and bonds. Certificates of deposit and time deposits shall not be acceptable from issuers domiciled in Portugal, Italy, Ireland, Greece or Spain.
- (c) Obligations of U.S. and foreign corporations, including, but not limited to, commercial paper, asset backed commercial paper, notes, bonds and debentures. Asset backed commercial paper must carry 100% liquidity support.
- (d) Obligations issued by foreign governments or political subdivisions thereof, and their agencies or instrumentalities.
- (e) Units of the NTGI Collective Short Term Investment Fund.
- (f) Repurchase agreements with counterparties approved by the Agent's appropriate credit committee at the time of purchase where the Collateral is held by Agent or for the account of Agent by an agent or subcustodian of Agent or a central bank, depository, or a third party custodian, and which is fully collateralized by investments described in paragraph (a) above and having a market value, including accrued interest, equal to or greater than the amount invested in the repurchase agreement. Initial collateralization will be at 102%, except cash collateral shall be collateralized at 100%.
- (g) In the case of each investment (a) through (f) above: (i) All investments shall be denominated in U.S. dollars, and (ii) investments may include variable and floating rate instruments. Variable and floating rate instruments will be limited to those securities with reference indexes of Federal Funds Effective, Federal Funds Open, 1 Month LIBOR and 3 Month LIBOR and which are structured such that the spread relationship between the security coupon rate and index reference rate is constant.

2. Credit Quality:

- (a) With respect to commercial paper and other short-term obligations, investments and reinvestments shall be limited to obligations rated (or issued by an issuer that has been rated) at the time of purchase in the highest rating category (within which there may be sub-categories or gradations indicating relative standing) by any two of the Nationally Recognized Statistical Rating Organizations ("NRSROs") that have assigned a rating to such security (or issuer).

- (b) With respect to bonds and other long-term obligations, investments and reinvestments shall be limited to obligations rated at the time of purchase in one of the two highest rating categories (within which there may be sub-categories or gradations indicating relative standing) by the NRSROs that have assigned a rating to such security.
- (c) Notwithstanding (a) and (b) above, Agent may invest assets of the Fund in the NTGI Collective Short Term Investment Fund which is deemed to be of equal or superior credit quality.

3. Diversification:

- (a) Except for repurchase agreements and obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities, a maximum of 3% of the value of the total assets of the Fund may be invested in securities of any one issuer. With respect to the NTGI Collective Short Term Investment Fund, holdings in excess of 3% of the value of total assets of the Fund are permitted, but should not exceed 50% without written permission from the client.
- (b) A maximum of 15% of the value of the total assets of the Fund may be invested in repurchase agreements with one counterparty.
- (c) A maximum of 15% of the value of the total assets of the Fund may be exposed to the risks of any one foreign country and a maximum of 25% of the value of the total assets of the Fund may be exposed to the risks of non-U.S. entities. This limitation is applicable to the obligations of all foreign issuers. Only entities domiciled in large industrialized and politically stable countries which have been assigned a sovereign long-term rating of AA- or higher by each NRSRO monitored by Lender may be used, subject to that restriction outlined in 1 (b) above.
- (d) Except for the banking industry, a maximum of 25% of the value of the total assets of the Fund may be invested in obligations of issuers having their principal business in the same industry. For such purposes, personal and business finance companies are considered to be in separate industries. Finance companies which are wholly-owned will be considered to be in the industries of their parents if their activities are primarily related to financing the operations of their parents.
- (e) Compliance with the credit quality and diversification requirements of these guidelines shall be determined on the basis of values or ratings at the time of acquisition of any security.

4. Liquidity/Maturity:

- (a) A minimum of 20% of the value of the assets of the Fund should mature daily. Holdings of the NTGI Collective Short Term Investment Fund will be included in this calculation.
- (b) A minimum of 35% of the value of the assets of the Fund will mature within one month.
- (c) The interest rate sensitivity of the Fund will be limited to a maximum of 60 days.
- (d) The maximum final or average maturity of any variable or floating rate security will be two years. The maximum final or average maturity of a fixed rate security will be 13 months. The maximum weighted average maturity (as herein defined) of the Fund will be limited to 180 days.
- (e) A maximum of 25% of the value of the assets of the Fund may be invested in securities or instruments which have a maturity (as herein defined) exceeding 97 days.
- (f) Compliance with the liquidity and maturity requirements of these guidelines shall be determined on the basis of values or ratings at the time of acquisition of any security.
- (g) For the purposes of this Annex 1, the "maturity" of a security or instrument shall be defined as the date when final payment is due, with these exceptions: (a) instruments issued or guaranteed by the U.S. Government or any agency or instrumentality thereof which have a variable rate of interest shall be deemed to have a maturity equal to the period remaining until the next readjustment of the interest rate, (b) variable rate instruments (other than those described in (a) above) shall be deemed to have a maturity equal to the longer of the period of time remaining until either, (i) the next readjustment of the interest rate or (ii) the principal amount can be recovered through demand or maturity, (c) floating rate instruments which incorporate a demand feature shall be deemed to have a maturity equal to the period of time remaining until the principal amount can be recovered through demand, (d) a repurchase agreement shall be deemed to have a maturity equal to the period of time remaining until the date on which the repurchase is scheduled to occur, or, if no date is specified but the agreement is subject to demand, the notice period applicable to a demand for the repurchase of the securities.
- (h) For the purposes of this Annex 1, the "interest rate sensitivity" of a security or instrument shall mean (a), in the case of a fixed rate security or instrument (i) the date on which final payment is due or (ii) the principal amount can be recovered through demand (if applicable) or

(b) in the case of a floating or variable rate security or instrument, the shorter of the period of time remaining until either (i) the next readjustment of the interest rate or (ii) the principal amount can be recovered through demand (if applicable).

5. Trading Policy

Although the Fund will generally not engage in short-term trading, the Agent may dispose of any portfolio security prior to its maturity if, on the basis of a revised credit evaluation of the issuer or other considerations, Agent believes such disposition is advisable. Subsequent to its purchase, a portfolio security or issuer thereof may be assigned a lower rating or cease to be rated. Such an event would not necessarily require the disposition of the security, if the continued holding of the security is determined to be in the best interest of the Fund. In any event, Lacers will be notified within 5 business days when any security is downgraded below the minimum requirements set forth in these investment guidelines.

Dated: 8/24/15

**THE BOARD OF ADMINISTRATION OF
THE LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM**

By: 
Name: Thomas Moutes
Title: General Manager

EXHIBIT A
ATTACHMENT 2 TO SCHEDULE B
SECURITIES LENDING AUTHORIZATION AGREEMENT
(the "Agreement")

BETWEEN THE BOARD OF ADMINISTRATION OF THE LOS ANGELES CITY
EMPLOYEES' RETIREMENT SYSTEM ("System") AND THE NORTHERN TRUST
COMPANY (the "Agent")

*INVESTMENT MANAGER GUIDELINES FOR CUSTOMER NON-CASH
COLLATERAL ACCOUNT*

Non-Cash Collateral Guidelines

Listed below are the Non-Cash Collateral Guidelines specifying collateralization levels and eligible Non-Cash Collateral.

Agent will make use of market standard settlement methods for Non-Cash Collateral, including the use of a tri-party custodian. Any cash held intra-day or temporarily overnight at a tri-party custodian with respect to Non-Cash Collateral arising directly from Loans is a balance sheet obligation of the bank used by your custodian.

Capitalized terms used but not defined herein shall have the meanings given to them in the Addendum or the Agreement, as applicable.

Collateralization Levels

Initial collateralization levels for all Loans will not be less than 102% of the Market Value of the Borrowed Securities, or not less than 105% if the Borrowed Securities and the Non-Cash Collateral are denominated in different currencies. Initial Non-Cash Collateral will be received prior to, or simultaneously with, delivery of loaned securities.

Marking to market is performed every business day subject to de minimis rules of change in value, and, pursuant to the Borrowing Agreements, the Borrower is required to deliver additional Non-Cash Collateral when necessary so that the total Non-Cash Collateral held by Agent for all Loans to the Borrower of all Participating Lenders will at least equal the Market Value of all the Borrowed Securities of all Participating Lenders loaned to the Borrower. If the Borrowed Securities and the initial Non-Cash Collateral are denominated in the same currency, additional Non-Cash Collateral may be denominated in a currency different from that of the original Non-Cash Collateral, but Non-Cash Collateral levels shall be maintained throughout the Loan as if all Non-Cash Collateral were denominated in the same currency as the Borrowed Securities.

Eligible Instruments

Eligibility of Non-Cash Collateral is determined at the time of receipt of such Non-Cash Collateral.

- Obligations issued or guaranteed by the U.S., U.K., and any other OECD (Organization for Economic Cooperation and Development) member states or their local governments, agencies, instrumentalities or authorities ("Government and Agency Instruments")
- Obligations issued by Supranational entities
- Corporate debt securities, including convertible securities and excluding commercial paper, issued by U.S. and non-U.S. corporations and which match the currency of the borrowed securities
- Equity securities which are part of any of the following indices:

Australia S&P/ASX 200	Hong Kong Hang Seng
Canada S&P/TSX 60	Japan NIKKEI 225
German DAX 30	United Kingdom FTSE 100
EURO STOXX 50	United States S&P 500
France CAC 40	United States Russell 1000
	United States Russell 3000

Credit Quality

- Except for obligations issued or guaranteed by the U.S. Government and U.K. Government, Government and Agency Instruments and Supranational Instruments are restricted to those obligations with a long-term rating (or issued by an issuer that is rated with respect to a class of long-term obligations or a comparable long-term obligation) of AA- or higher (or the equivalent) at time of receipt by at least one Nationally Recognized Statistical Rating Organization ("NRSRO").
- Corporate debt securities are restricted to those obligations with a long-term rating (or issued by an issuer that is rated with respect to a class of long-term obligations or a comparable long-term obligation) of AA (or the equivalent) or higher by at least two NRSROs. If there are more than two ratings by NRSROs, then all ratings must be AA (or the equivalent) or higher.

Diversification

- Obligations issued or guaranteed by the U.S., U.K., and any other OECD member states or their local governments, agencies, instrumentalities or authorities and supranational obligations may be accepted without limit.
- Equity and convertible securities may only be accepted (interchangeably) as Collateral for equity and convertible securities loans. Corporate debt securities, other than convertible securities, may only be accepted as Collateral for loans of corporate debt securities (other than convertible securities).

- Eligible Instruments shall be accepted subject to internal diversification limits (which may include, without limitation, issuer or liquidity restrictions) as may be established for each Instrument type by Agent's appropriate risk committee from time to time.

Dated:

THE BOARD OF ADMINISTRATION OF THE
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM



By: -

Name: Neil Guglielmo

Title: General

Manager

ACCEPTED:

THE NORTHERN TRUST COMPANY

By: 

Name: George Trapp

Title: Senior Vice President

**ATTACHMENT 1 TO SCHEDULE B
SECURITIES LENDING AUTHORIZATION AGREEMENT
(the "Agreement")**

**BETWEEN THE BOARD OF ADMINISTRATION OF THE LOS ANGELES CITY
EMPLOYEES' RETIREMENT SYSTEM ("System") AND THE NORTHERN
TRUST COMPANY (the "Agent")**

***INVESTMENT MANAGER OBJECTIVES AND GUIDELINES FOR CUSTOM CASH
COLLATERAL ACCOUNT / COLLATERAL ACCOUNT (THE SHORT TERM
INVESTMENT ACCOUNT)***

INVESTMENT OBJECTIVE

To seek to maximize current income to the extent consistent with safety of principal, maintenance of liquidity and the investment standards set forth below. The Short Term Investment Account (the "Fund") is intended as a separate account for the investment of U.S.-dollar based cash Collateral received by Agent.

Upon the effective date of these guidelines, the Lender and Agent hereby acknowledge that there may be certain assets in the Fund that would not meet these guidelines if newly purchased at this time ("Transition Assets"), though these assets were in compliance with the relevant guidelines at the time of purchase. The Lender and Agent hereby agree that Agent may, at its sole discretion, hold Transition Assets until maturity, unless otherwise directed by Lender.

Cash Collateral Guidelines

Listed below are the cash Collateral guidelines specifying eligible investments, credit quality standards, and diversification, maturity and liquidity requirements. Subject to the above, all requirements, including diversification, listed in these guidelines are effective at the time of purchase of any security or instrument as a cash Collateral investment. Agent will make use of market standard settlement methods for cash investments including the use of a tri-party custodian as approved by Agent's appropriate risk committee. Settlement through a tri-party custodian may result in cash collateral.

INVESTMENT GUIDELINES

1. Eligible Investments:

- (a) Obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities and custodial receipts with respect thereto.

- (b) Obligations of domestic or foreign commercial banks, including Agent (or branches thereof where deposits with branches are general obligations of the parent bank) and bank holding companies, including, but not limited to, commercial paper, bankers' acceptances, certificates of deposit, time deposits, notes and bonds. Obligations of foreign commercial banks shall only be acceptable from issuers domiciled in countries with a sovereign credit rating of AA- or higher (or the equivalent) by at least two Nationally Recognized Statistical Rating Organizations ("NRSRO").
- (c) Obligations of U.S. and foreign corporations, including, but not limited to, commercial paper, notes, bonds and debentures. Asset backed commercial paper is excluded from eligible investments.
- (d) Obligations issued by foreign governments. The issuing country shall have a sovereign credit rating of AA- or higher (or the equivalent) by at least two Nationally Recognized Statistical Rating Organizations ("NRSRO").
- (e) Units of the NTGI Collective Short Term Investment Fund.
- (f) Repurchase agreements with counterparties approved by the Agent's appropriate credit committee at the time of purchase where the Collateral is held by Agent or for the account of Agent by an agent or subcustodian of Agent or a central bank, depository, or a third party custodian, and which is fully collateralized by investments described in paragraph (a) above and having a market value, including accrued interest, equal to or greater than the amount invested in the repurchase agreement. Initial collateralization will be at 102%, except cash collateral shall be collateralized at 100%.
- (g) In the case of each investment (a) through (f) above: (i) All investments shall be denominated in U.S. dollars, and (ii) investments may include variable and floating rate instruments. Variable and floating rate instruments will be limited to those securities with reference indexes of Federal Funds Effective, Federal Funds Open, SOFR, OBFR, 1 Month LIBOR and 3 Month LIBOR and which are structured such that the spread relationship between the security coupon rate and index reference rate is constant.

2. Credit Quality:

- (a) Investments and reinvestments in commercial paper and other short-term obligations shall be limited to obligations (or issuers) with a rating of A1/P1/F1 or higher (or the equivalent) at the time of purchase by any two of the Nationally Recognized Statistical Rating Organizations ("NRSROs") that have assigned a rating to such security (or issuer).

- (b) With respect to bonds and other long-term obligations, investments and reinvestments shall be limited to obligations rated at the time of purchase in one of the two highest rating categories (within which there may be sub-categories or gradations indicating relative standing) by the NRSROs that have assigned a rating to such security.
- (c) Notwithstanding (a) and (b) above, Agent may invest assets of the Fund in the NTGI Collective Short Term Investment Fund.

3. Diversification:

- (a) Except for repurchase agreements and obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities, a maximum of 3% of the value of the total assets of the Fund may be invested in securities of any one issuer. With respect to the NTGI Collective Short Term Investment Fund, holdings in excess of 3% of the value of total assets of the Fund are permitted, but should not exceed 50% without written permission from the client.
- (b) A maximum of 15% of the value of the total assets of the Fund may be invested in repurchase agreements with one counterparty.
- (c) A maximum of 15% of the value of the total assets of the Fund may be exposed to the risks of any one foreign country and a maximum of 25% of the value of the total assets of the Fund may be exposed to the risks of non-U.S. entities. This limitation is applicable to the obligations of all foreign issuers. Only entities domiciled in countries with a sovereign credit rating of AA- or higher (or the equivalent) by at least two Nationally Recognized Statistical Rating Organizations ("NRSRO") are eligible for investment, subject to that restriction outlined in 1 (b) above.
- (d) Except for the banking industry, a maximum of 25% of the value of the total assets of the Fund may be invested in obligations of issuers having their principal business in the same industry. For such purposes, personal and business finance companies are considered to be in separate industries. Finance companies which are wholly-owned will be considered to be in the industries of their parents if their activities are primarily related to financing the operations of their parents.
- (e) Compliance with the credit quality and diversification requirements of these guidelines shall be determined on the basis of values or ratings at the time of acquisition of any security.

4. Liquidity/Maturity:

- (a) A minimum of 20% of the value of the assets of the Fund should mature daily. Holdings of the NTGI Collective Short Term Investment Fund will be included in this calculation.

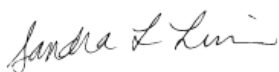
- (b) A minimum of 35% of the value of the assets of the Fund will mature within one month.
- (c) The interest rate sensitivity of the Fund will be limited to a maximum of 60 days.
- (d) The maximum final or average maturity of any variable or floating rate security will be limited to 60 days; the maximum final or average maturity of a fixed rate security will be limited to 60 days; and the maximum weighted average maturity (as herein defined) of the Fund will be limited to 60 days.
- (e) Compliance with the liquidity and maturity requirements of these guidelines shall be determined on the basis of values or ratings at the time of acquisition of any security.
- (f) For the purposes of this Attachment 1, the "maturity" of a security or instrument shall be defined as the date when final payment is due, with these exceptions: (a) instruments issued or guaranteed by the U.S. Government or any agency or instrumentality thereof which have a variable rate of interest shall be deemed to have a maturity equal to the period remaining until the next readjustment of the interest rate, (b) variable rate instruments (other than those described in (a) above) shall be deemed to have a maturity equal to the longer of the period of time remaining until either, (i) the next readjustment of the interest rate or (ii) the principal amount can be recovered through demand or maturity, (c) floating rate instruments which incorporate a demand feature shall be deemed to have a maturity equal to the period of time remaining until the principal amount can be recovered through demand, (d) a repurchase agreement shall be deemed to have a maturity equal to the period of time remaining until the date on which the repurchase is scheduled to occur, or, if no date is specified but the agreement is subject to demand, the notice period applicable to a demand for the repurchase of the securities.
- (g) For the purposes of this Attachment 1, the "interest rate sensitivity" of a security or instrument shall mean (a) in the case of a fixed rate security or instrument (i) the date on which final payment is due or (ii) the principal amount can be recovered through demand (if applicable) or (b) in the case of a floating or variable rate security or instrument, the shorter of the period of time remaining until either (i) the next readjustment of the interest rate or (ii) the principal amount can be recovered through demand (if applicable).

5. Trading Policy

Although the Fund will generally not engage in short-term trading, the Agent may dispose of any portfolio security prior to its maturity if, on the basis of a revised credit evaluation of the issuer or other considerations, Agent believes such disposition is in the best interest of the

fund. Subsequent to its purchase, a portfolio security or issuer thereof may be assigned a lower rating or cease to be rated. Such an event would not necessarily require the disposition of the security, if the continued holding of the security is determined to be in the best interest of the Fund. In any event, Lender will be notified within five business days when any security is downgraded below the minimum requirements set forth in these investment guidelines.


THE NORTHERN TRUST COMPANY

By: 

Title: Senior Vice President

Date: June 11, 2020

**BOARD OF ADMINISTRATION
LOS ANGELES CITY EMPLOYEES'
RETIREMENT SYSTEM**

By: 
Neil M. Guglielmo, General Manager

Date: 06/12/2020

**ATTACHMENT 2 TO SCHEDULE B
SECURITIES LENDING AUTHORIZATION AGREEMENT
(the "Agreement")
BETWEEN THE BOARD OF ADMINISTRATION OF THE LOS ANGELES CITY
EMPLOYEES' RETIREMENT SYSTEM ("System") AND THE NORTHERN
TRUST COMPANY (the "Agent")**

***INVESTMENT MANAGER GUIDELINES FOR CUSTOM NON-CASH
COLLATERAL ACCOUNT***

Non-Cash Collateral Guidelines

Listed below are the Non-Cash Collateral Guidelines specifying collateralization levels and eligible Non-Cash Collateral.

Agent will make use of market standard settlement methods for Non-Cash Collateral, including the use of a tri-party custodian. Any cash held intra-day or temporarily overnight at a tri-party custodian with respect to Non-Cash Collateral arising directly from Loans is a balance sheet obligation of the bank used by your custodian.

Capitalized terms used but not defined herein shall have the meanings given to them in the Addendum or the Agreement, as applicable.

Collateralization Levels

Initial collateralization levels for all Loans will not be less than 102% of the Market Value of the Borrowed Securities, or not less than 105% if the Borrowed Securities and the Non-Cash Collateral are denominated in different currencies. Initial Non-Cash Collateral will be received prior to, or simultaneously with, delivery of loaned securities.

Marking to market is performed every business day subject to de minimis rules of change in value, and, pursuant to the Borrowing Agreements, the Borrower is required to deliver additional Non-Cash Collateral when necessary so that the total Non-Cash Collateral held by Agent for all Loans to the Borrower of all Participating Lenders will at least equal the Market Value of all the Borrowed Securities of all Participating Lenders loaned to the Borrower. If the Borrowed Securities and the initial Non-Cash Collateral are denominated in the same currency, additional Non-Cash Collateral may be denominated in a currency different from that of the original Non-Cash Collateral, but Non-Cash Collateral levels shall be maintained throughout the Loan as if all Non-Cash Collateral were denominated in the same currency as the Borrowed Securities.

Eligible Instruments

Eligibility of Non-Cash Collateral is determined at the time of receipt of such Non-Cash Collateral.

- Obligations issued or guaranteed by countries with a sovereign credit rating of AA- or higher (or the equivalent) by at least two Nationally Recognized Statistical Rating Organization ("NRSRO"), or by these countries' local governments, agencies, instrumentalities or authorities ("Government and Agency Instruments").
- Obligations issued by Supranational entities
- Corporate debt securities, including convertible securities and excluding commercial paper, issued by U.S. and non-U.S. corporations and which match the currency of the borrowed securities
- Equity securities which are part of any of the following indices:

Australia S&P/ASX 200	Hong Kong Hang Seng
Canada S&P/TSX 60	Japan Nikkei 225
German DAX 30	United Kingdom FTSE 100
EURO STOXX 50	United States S&P 500
France CAC 40	United States Russell 1000
	United States Russell 3000

- Obligations issued or guaranteed by countries with a sovereign credit rating of AA- or higher (or the equivalent) by at least two Nationally Recognized Statistical Rating Organization ("NRSRO"), or by these countries' local governments, agencies, instrumentalities or authorities ("Government and Agency Instruments") may be accepted as Collateral for all types of loanable securities.
- Equity and convertible securities may only be accepted (interchangeably) as Collateral for equity and convertible securities loans. Corporate debt securities, other than convertible securities, may only be accepted as Collateral for loans of corporate debt securities (other than convertible securities).

Credit Quality

- Government and Agency Instruments and Supranational Instruments are restricted to those obligations with a long-term rating (or issued by an issuer that is rated with respect to a class of long-term obligations or a comparable long-term obligation) of AA- or higher (or the

equivalent) at time of receipt by at least two Nationally Recognized Statistical Rating Organization ("NRSRO").

- Corporate debt securities are restricted to those obligations with a long-term rating (or issued by an issuer that is rated with respect to a class of long-term obligations or a comparable long-term obligation) of AA (or the equivalent) or higher by at least two NRSROs. If there are more than two NRSRO ratings, then all ratings must be AA (or the equivalent) or higher.
- In the event that any security is downgraded below the requirements set forth by the above credit quality guidelines, the Agent shall, within five business days, notify Lender and present remedial action to restore collateral credit quality requirements.

Diversification

- Eligible Instruments shall be accepted subject to internal diversification limits (which may include, without limitation, issuer or liquidity restrictions) as may be established for each Instrument type by Agent's appropriate risk committee from time to time. The Agent shall disclose said internal diversification limits upon request by the Lender.


THE NORTHERN TRUST COMPANY

By: 

Title: Senior Vice President

Date: June 11, 2020

BOARD OF ADMINISTRATION LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

By: 
Neil M. Guglielmo, General Manager

Date: 06/12/2020



LACERS
LA CITY EMPLOYEES'
RETIREMENT SYSTEM



REPORT TO BOARD OF ADMINISTRATION

From: Neil M. Guglielmo, General Manager

MEETING: JUNE 22, 2021

ITEM: VIII – F

Neil M. Guglielmo

SUBJECT: NOTIFICATION OF COMMITMENT OF UP TO \$35 MILLION IN WOLFF CREDIT PARTNERS III, L.P.

ACTION: ☐ CLOSED: ☐ CONSENT: ☐ RECEIVE & FILE: ☒

Recommendation

That the Board receive and file this notice of the commitment of up to \$35 million in Wolff Credit Partners III, L.P.

Discussion

On April 27, 2021, the Board, in closed session pursuant to Government Code Section 54956.81, approved a commitment of up to \$35 million in the following private real estate fund: Wolff Credit Partners III, L.P. The investment closed on June 17, 2021. Board vote: Ayes 6 (Commissioners Annie Chao, Elizabeth Lee, Sandra Lee, Michael Wilkinson, Vice President Sung Won Sohn, and President Cynthia Ruiz), Recusal 0, and Nays 0.

Strategic Alignment

The commitment to Wolff Credit Partners III, L.P. aligns with the Strategic Plan Goal to optimize long-term risk adjusted investment returns (Goal IV).

Prepared By: Eduardo Park, Investment Officer II, Investment Division

NMG/RJ/BF/WL/EP:rm