

# LIVE VIRTUAL BOARD MEETING



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TO PROVIDE PUBLIC COMMENT

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**Attention:** Public comment requests must be submitted via email to [PublicComment@lacera.com](mailto:PublicComment@lacera.com) no later than 5:00 p.m. the day before the scheduled meeting.

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION  
300 N. LAKE AVENUE, SUITE 650, PASADENA, CA

## AGENDA

### A REGULAR MEETING OF THE BOARD OF INVESTMENTS

#### LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

300 N. LAKE AVENUE, PASADENA, CALIFORNIA 91101

9:00 A.M., WEDNESDAY, DECEMBER 9, 2020

This meeting will be conducted by teleconference under the Governor's Executive Order No. N-29-20.

Any person may view the meeting online at  
[https://members.lacera.com/lmpublic/live\\_stream.xhtml](https://members.lacera.com/lmpublic/live_stream.xhtml)

*The Board may take action on any item on the agenda,  
and agenda items may be taken out of order.*

I. CALL TO ORDER

II. APPROVAL OF MINUTES

A. Approval of the Minutes of the Regular Meeting of November 5, 2020

III. REPORT ON CLOSED SESSION ITEMS

IV. PUBLIC COMMENT

(\*You may submit written public comments by email to [PublicComment@lacera.com](mailto:PublicComment@lacera.com). Please include the agenda number and meeting date in your correspondence. Correspondence will be made part of the official record of the meeting. Please submit your written public comments or documentation as soon as possible and up to the close of the meeting.

You may also request to address the Boards. A request to speak must be submitted via email to [PublicComment@lacera.com](mailto:PublicComment@lacera.com) no later than 5:00 p.m. the day before the scheduled meeting. Please include your contact information, agenda item, and meeting date so that we may contact you with information and instructions as to how to access the Board meeting as a speaker.)

V. CHIEF EXECUTIVE OFFICER'S REPORT

(Memo dated November 18, 2020)

VI. CHIEF INVESTMENT OFFICER'S REPORT

(Presentation dated December 5, 2020)

## VII. CONSENT ITEMS

- A. Recommendation as submitted by Herman Santos, Chair, Equity: Public/Private Committee: That the Board approve the proposed private equity consultant search Minimum Qualifications, Evaluation Criteria, and Scope of Work advanced by the Equity Committee.  
(Memo dated November 17, 2020)
- B. Recommendation as submitted by Herman Santos, Chair, Equity: Public/Private Committee: That the Board approve the Growth Functional Category Biennial Structure Review. (Memo dated November 25, 2020)

## VIII. NON-CONSENT ITEMS

- A. Recommendation as submitted by David Chu, Senior Investment Officer and Cheryl Lu, Investment Officer: That the Board approve the replacement of Greenhill & Co. with Jefferies LLC on the list of firms authorized to provide LACERA with private equity secondary sale and purchase consulting services. (Memo dated November 17, 2020)
- B. Recommendation as submitted by Esmeralda del Bosque, Senior Investment Officer, Adam Cheng, Senior Investment Analyst and Mel Tsao, Senior Investment Analyst: That the Board approve establishing a bench of three transition management service providers including BlackRock Institutional Trust Company, N.A., Citigroup Global Markets, Inc., and State Street Bank and Trust. (Memo dated November 19, 2020)
- C. Recommendation as submitted by Santos H. Kreimann, Chief Executive Officer: That the Board review the 2021 meeting calendar and consider rescheduling meeting dates that conflict with a holiday and/or the potential of a lack of quorum. (Memo dated November 13, 2020)
- D. Recommendation as submitted by Santos H. Kreimann, Chief Executive Officer and Ted Granger, Interim Chief Financial Officer: That the Board:
  - 1. Accept the June 30, 2020, Actuarial Valuation of Retirement Benefits (Valuation) as submitted by the plan actuary (Milliman).
  - 2. Adopt recommended employer contribution rates (all plan tiers) and employee contribution rates (plan tiers General Plan G and Safety Plan C).

VIII. NON-CONSENT ITEMS (Continued)

3. Delegate authority to the Chief Executive Officer to communicate the results of the 2020 Actuarial Valuation of Retirement Benefits to the Board of Supervisors by May 15, 2021, with a recommendation to implement the employer and employee rates no later than September 29, 2021. (Memo dated November 30, 2020)

IX. REPORTS

- A. Strategic Asset Allocation Discussion  
Jonathan Grabel, Chief Investment Officer  
Jude Pérez, Principal Investment Officer  
Stephen McCourt, Principal, Meketa Investment Group  
Tim Filla, Principal, Meketa Investments Group  
(Memo dated November 25, 2020)
- B. LACERA “Towards Inclusion, Diversity, And Equity” – Or “T.I.D.E” – Initiative in the Investment Program  
Jonathan Grabel, Chief Investment Officer  
Jude Perez, Principal Investment Officer  
Scott Zdrazil, Senior Investment Officer  
Cheryl Lu, Investment Officer  
(Memo dated November 24, 2020)
- C. Assembly Bill 2833 Report – Fiscal Year 2020  
Quoc Nguyen, Investment Officer  
Calvin Chang, Senior Investment Analyst  
Terra Elijah, Investment Analyst  
(Memo dated November 25, 2020)
- D. Principles for Responsible Investment Election Ballot  
Scott Zdrazil, Senior Investment Officer  
(For Information Only) (Memo dated November 19, 2020)
- E. LACERA Holdings in Securities Subject to Executive Order 13959 Related to Investments That Finance Chinese Military Companies  
Ted Wright, Principal Investment Officer  
Mel Tsao, Senior Investment Analyst  
(For Information Only) (Memo dated November 18, 2020)



IX. REPORTS (Continued)

- F. Custody Services Overview and Search Timeline – Update  
Jude Pérez, Principal Investment Officer  
Esmeralda del Bosque, Senior Investment Officer  
Michael Huang, Accounting Officer II  
(For Information Only) (Memo dated November 24, 2020)
  - G. LACERA Quarterly Performance Report  
Meketa Report: Total Fund Performance Report  
Jude Perez, Principal Investment Officer  
(For Information Only) (Memo dated November 25, 2020)
  - H. OPEB Master Trust Quarterly Performance Report  
Meketa Report: OPEB Master Trust Performance Report  
Jude Perez, Principal Investment Officer  
(For Information Only) (Memo dated November 25, 2020)
  - I. Real Estate Recoveries Report  
Christine Roseland, Senior Staff Counsel  
(For Information Only) (Memo dated November 24, 2020)
  - J. 2020 Year-End Legislative Report  
Barry W. Lew, Legislative Affairs Officer  
(For Information Only) (Memo dated November 23, 2020)
  - K. Monthly Status Report on Board of Investments Legal Projects  
Steven P. Rice, Chief Counsel  
(For Information Only) (Memo dated November 30, 2020)
  - L. Monthly Education and Travel Reports for October 2020  
Ted Granger, Interim Chief Financial Officer  
(For Information Only)
- Monthly Education and Travel Reports for October 2020  
(Public Memo dated November 18, 2020)  
(Confidential Memo dated November 18, 2020 – Includes Anticipated Travel)
- 1st Quarter Education and Travel Expenditure Reports  
(Memo dated November 18, 2020)

IX. REPORTS (Continued)

- M. November 2020 Fiduciary Counsel Contact and Billing Report  
Steven P. Rice, Chief Counsel  
(For Information Only) (Privileged and Confidential)  
(Attorney-Client Communication/Attorney Work Product)  
(Memo dated November 23, 2020)

X. ITEMS FOR STAFF REVIEW

- XI. GOOD OF THE ORDER  
(For information purposes only)

XII. EXECUTIVE SESSION

- A. Conference with Staff and Legal Counsel to Consider the Purchase or Sale of Particular, Specific Pension Fund Investments  
(Pursuant to California Government Code Section 54956.81)

1. Proposed Modifications to Private Equity Program based on Growth Functional Category Biennial Structure Review  
Christopher J. Wagner, Principal Investment Officer  
Ted Wright, Principal Investment Officer  
(Memo dated November 16, 2020)
2. Hedge Funds Emerging Manager Program Separate Account Manager Search Recommendation  
James Rice, Principal Investment Officer  
Chad Timko, Senior Investment Officer  
Quoc Nguyen, Investment Officer  
(Memo dated November 17, 2020)
3. Potential Manager Termination  
Ted Wright, Principal Investment Officer  
Jeff Jia, Senior Investment Analyst  
(Memo dated November 17, 2020)
4. Private Equity Secondary Investment Update  
David Chu, Senior Investment Officer  
Derek Kong, Investment Officer  
(For Information Only) (Memo dated November 13, 2020)

## XII. EXECUTIVE SESSION (Continued)

- B. Conference with Legal Counsel – Pending Litigation (Pursuant to Paragraph (1) of Subdivision (d) of California Government Code Section 54956.9)
1. In re BP Securities Litigation  
(MDL No. 10-md-2185)  
Michael D. Herrera Senior Staff Counsel  
(Memo dated November 24, 2020)
  2. In re FirstEnergy Corp. Securities Litigation  
(Case No. 2:20-cv-03785)  
Michael D. Herrera Senior Staff Counsel  
(For Information Only) (Memo dated November 25, 2020)
- C. Conference with Legal Counsel – Anticipated Litigation Significant Exposure to Litigation (Pursuant to Paragraph (2) of Subdivision (d) of California Government Code Section 54956.9) And Initiation of Litigation (Pursuant to Paragraph (4) of Subdivision (d) of Section 54956.9)
- Number of Cases: 1
- D. Conference with Legal Counsel – Anticipated Litigation Significant Exposure to Litigation (Pursuant to Paragraph (2) of Subdivision (d) of California Government Code Section 54956.9)
- Number of Cases: 2

## XIII. ADJOURNMENT

***Documents subject to public disclosure that relate to an agenda item for an open session of the Board of Investments that are distributed to members of the Board of Investments less than 72 hours prior to the meeting will be available for public inspection at the time they are distributed to a majority of the Board of Investments Members at LACERA's offices at 300 N. Lake Avenue, Suite 820, Pasadena, CA 91101, during normal business hours of 9:00 a.m. to 5:00 p.m. Monday through Friday.***

***\*Requests for reasonable modification or accommodation of the telephone public access and Public Comments procedures stated in this agenda from individuals with disabilities, consistent with the Americans with Disabilities Act of 1990, may call the Board Offices at (626) 564-6000, Ext. 4401/4402 from 8:30 a.m. to 5:00 p.m. Monday through Friday or email PublicComment@lacera.com, but no later than 48 hours prior to the time the meeting is to commence.***

MINUTES OF THE REGULAR MEETING OF THE BOARD OF INVESTMENTS

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

300 N. LAKE AVENUE, PASADENA, CALIFORNIA 91101

9:00 A.M., THURSDAY, NOVEMBER 5, 2020

This meeting was be conducted by teleconference under the Governor's Executive Order No. N-29-20.

PRESENT: David Green, Chair

Herman B. Santos, Vice Chair

Wayne Moore, Secretary

Alan Bernstein

Elizabeth Greenwood

Shawn Kehoe

Keith Knox

David Muir

Gina V. Sanchez

STAFF ADVISORS AND PARTICIPANTS

Santos H. Kreimann, Chief Executive Officer

Jonathan Grabel, Chief Investment Officer

Steven P. Rice, Chief Counsel

Ted Granger, Interim Chief Financial Officer

Christine Roseland, Senior Staff Counsel

Christopher Wagner, Principal Investment Officer

STAFF ADVISORS AND PARTICIPANTS (Continued)

John McClelland, Principal Investment Officer

Vache Mahseredjian, Principal Investment Officer

Jude Perez, Principal Investment Officer

James Rice, Principal Investment Officer

Ted Wright, Principal Investment Officer

Didier Acevedo, Investment Officer

Quoc Nguyen, Investment Officer

Mel Tsao, Senior Investment Analyst

Jeff Jia, Senior Investment Analyst

Cindy Rivera, Senior Investment Analyst

Barry W. Lew, Legislative Affairs Officer

Meketa Investment Group

Stephen McCourt, Managing Principal

Leandro Festino, Managing Principal

Timothy Filla, Principal

Jonathan Camp, Principal

Alina Yuan, Associate

StepStone Group LP

Jose Fernandez, Partner

Albourne

James Walsh, Head of Portfolio Advisory

Townsend Group

Rob Kochis, Partner

November 5, 2020

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I. CALL TO ORDER

The meeting was called to order by Chair Green at 9:16 a.m., in the Board Room of Gateway Plaza.

II. APPROVAL OF MINUTES

A. Approval of the Minutes of the Regular Meeting of October 14, 2020

Mr. Bernstein made a motion, Mr. Muir seconded, to approve the minutes of the regular meeting of October 14, 2020. The motion passed unanimously (roll call) with Messrs. Bernstein, Green, Kehoe, Knox, Moore, Muir, Santos, Ms. Sanchez and Ms. Greenwood voting yes.

III. REPORT ON CLOSED SESSION ITEMS

There was nothing to report.

IV. PUBLIC COMMENT

Joseph Kelly provided a written comment regarding agenda item VIII. F.

V. CHIEF EXECUTIVE OFFICER'S REPORT  
(Memo dated October 23, 2020)

Mr. Kreimann provided a brief presentation on the Chief Executive Officer's Report and answered questions from the Board.

VI. CHIEF INVESTMENT OFFICER'S REPORT  
(Presentation dated November 5, 2020)

Mr. Grabel provided a brief presentation on the Chief Investment Officer's Report and answered questions from the Board.

## VII. CONSENT ITEMS

Mr. Kehoe made a motion, Mr. Knox seconded, to approve the following consent items. The motion passed (roll call) with Messrs. Bernstein, Green, Kehoe, Knox, Moore, Muir, Santos, Ms. Sanchez and Ms. Greenwood voting yes.

- A. Recommendation as submitted by Alan Bernstein, Chair, Corporate Governance Committee: That the Board approve LACERA's nomination of Scott Zdrazil for re-election to the Council of Institutional Investors ("CII") 2021 annual board elections. (Memo dated October 20, 2020)
- B. Recommendation as submitted by Alan Bernstein, Chair, Corporate Governance Committee: That the Board approve the proposed Minimum Qualifications, Evaluation Criteria, and Scope of Work, thereby authorizing staff to initiate a Request for Proposals for a proxy voting platform provider and proxy research service(s). (Memo dated October 20, 2020)
- C. Recommendation that the Board approve participation of Trustees at the Yale School of Management – Women's Leadership Program. (Memo dated October 21, 2020) (Placed on the agenda on behalf of Ms. Greenwood)

## VIII. REPORTS

- A. Strategic Asset Allocation Discussion  
Jonathan Grabel, Chief Investment Officer  
Jude Perez, Principal Investment Officer  
Leandro A. Festino, Meketa Investment Group  
Jonathan Camp, Meketa Investment Group  
Tim Filla, Meketa Investment Group  
(Memo dated October 23, 2020)

The Meketa Investment Group provided a presentation and answered questions from the Board.

- B. Operational Due Diligence – Deep Dive Assessment  
Quoc Nguyen, Investment Officer  
Mel Tsao, Senior Investment Analyst  
Cindy Rivera, Senior Investment Analyst  
Operational Due Diligence Working Group  
(Memo dated October 22, 2020)



VIII. REPORTS (Continued)

Messrs. Nguyen and Tsao and Ms. Rivera provided a presentation and answered questions from the Board.

- C. Amicus Curiae Brief of the Council of Institutional Investors in Institutional Shareholder Services V. Sec, NO.1:19-CV-3275  
Scott Zdrazil, Senior Investment Officer  
(For Information Only) (Memo dated October 20, 2020)

This item was received and filed.

- D. Real Estate Process Workflow Findings – Update II  
Esmeralda del Bosque, Senior Investment Officer  
Trina Sanders, Investment Officer  
Cindy Rivera, Senior Investment Analyst  
(For Information Only) (Memo dated October 19, 2020)

This item was received and filed.

- E. Semi-Annual Interest Crediting for Reserves as of June 30, 2020  
(AUDITED)  
Ted Granger, Interim Chief Financial Officer  
(For Information Only) (Memo dated October 22, 2020)

This item was received and filed.

- F. Retired Board Member Election  
Barry W. Lew, Legislative Affairs Officer  
(For Information Only) (Memo dated October 23, 2020)

This item was received and filed.

- G. Monthly Status Report on Board of Investments Legal Projects  
Steven P. Rice, Chief Counsel  
(For Information Only) (Memo dated October 26, 2020)

This item was received and filed.

VIII. REPORTS (Continued)

- H. Monthly Education and Travel Reports for September 2020  
Ted Granger, Interim Chief Financial Officer  
(For Information Only) (Public Memo dated October 23, 2020)  
(Confidential Memo dated October 23, 2020– Includes Anticipated Travel)

This item was received and filed.

- I. October 2020 Fiduciary Counsel Contact and Billing Report  
Steven P. Rice, Chief Counsel  
(For Information Only) (Privileged and Confidential)  
(Attorney-Client Communication/Attorney Work Product)  
(Memo dated October 26, 2020)

This item was received and filed.

IX. ITEMS FOR STAFF REVIEW

There were no items for review.

- X. GOOD OF THE ORDER  
(For information purposes only)

Mr. Green recognized Christine Roseland and Soo Park for their hard work in the Legal Division.

XI. EXECUTIVE SESSION

- A. Conference with Staff and Legal Counsel to Consider the Purchase or Sale of Particular, Specific Pension Fund Investments  
(Pursuant to California Government Code Section 54956.81)

- 1. Private Equity Co-Investment Update  
David Chu, Senior Investment Officer  
Derek Kong, Investment Officer  
(For Information Only) (Memo dated October 19, 2020)

The Board received an information only report providing notice that LACERA completed a \$20 million co-investment in a group purchasing company alongside Leonard Green & Partners, one of LACERA's approved managers. The co-investment

XI. EXECUTIVE SESSION (Continued)

was made in compliance with LACERA's private equity in-house investment guidelines.

2. Centerbridge Capital Partners IV, L.P. Update  
Christopher Wagner, Principal Investment Officer  
Didier Acevedo, Investment Officer  
(For Information Only) (Memo dated October 20, 2020)

The Board received an information only update on LACERA's investment in Centerbridge Capital Partners IV, L.P. At the Board of Investments meeting on October 14, 2020, under agenda Item XI.A.1, on a motion by Mr. Muir, seconded by Mr. Kehoe, the Board voted 8-0 to approve a commitment of up to \$150 million in this investment, subject to receipt of additional information. The investment is a private equity fund that will invest in leveraged buyouts, structured equity, corporate buildups, and other transaction structures, predominantly in the United States and Europe, with a sector focus in consumer, financial services, healthcare, industrials, technology, media, and telecommunications. The motion passed (roll call) with Messrs. Green, Santos, Bernstein, Kehoe, Moore, Knox, Muir and Ms. Sanchez voted yes. Ms. Greenwood was absent during the vote.

3. Notice of Re-Up Commitment of up to \$130 Million to  
GGV Capital VIII L.P., GGV Capital VIII Plus, L.P., and  
GGV Discovery III, L.P.  
David Chu, Senior Investment Officer  
Cheryl Lu, Investment Officer  
(For Information Only) (Memo dated October 23, 2020)

November 5, 2020

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XI. EXECUTIVE SESSION (Continued)

The Board received an information only update on the above commitment, which was approved by the Chief Investment Officer in accordance with Board policy. GGV VIII and GGV VIII Plus will target investments at various stages looking to raise capital in specific ranges, and GGV Discovery III will focus on early stage investments. The funds' geographic focus is predominantly the United States and Asia, with a sector focus in social media, internet services, enterprise technology, and smart technology.

XII. ADJOURNMENT

There being no further business to come before the Board, the meeting was adjourned at 10:30 a.m.

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WAYNE MOORE, SECRETARY

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DAVID GREEN, CHAIR



November 18, 2020

TO: Each Trustee,  
Board of Retirement  
Board of Investments

FROM: Santos H. Kreimann *SHK*  
Chief Executive Officer

SUBJECT: **CHIEF EXECUTIVE OFFICER'S REPORT**

I am pleased to present the Chief Executive Officer's Report for November 2020 that highlights a few of the operational activities that have taken place during the past month, key business metrics to monitor how well we are meeting our performance objectives, and an educational calendar.

**Election 2020 Welcoming New and Returning Trustees to LACERA Boards**

At its October 13, 2020 meeting the Board of Supervisors certified the LACERA election results. We are pleased to officially congratulate the following returning Trustees:

David Green – Second Member, Board of Investments  
Joseph Kelly – Eighth Member, Board of Investments  
Herman B. Santos – Second Member, Board of Retirement  
Leslie “Les” Robbins – Eighth Member, Board of Retirement  
James “J.P.” Harris – Alternate Retired Member, Board of Retirement

Historically, the Registrar-Recorder conducted the LACERA elections by mailing a ballot to all eligible active and retired members, who in turn submit their filled-out ballots by mail. The 2020 election marked the first time the Executive Office of the Board of Supervisors held the general elections using a vendor that offers online and telephonic voting options. Mail-in ballots were not distributed to General active members, and retirees were mailed ballots only upon request. As announced by the Executive Office, the new election process saw a 43.7 percent increase in participation by General active members. At the same time, the electronic voting options and restricted mail-in process resulted in a 22.7 percent decrease in participation by retired members.

At the September 2, 2020 Board of Retirement meeting we discussed the new process and the retiree experience. We addressed our concerns about the changes and how the new process disenfranchised some retiree members who could not be reached electronically or could not vote with the new online process. Accordingly, we will be working with the County to try and restore the paper ballot process for retirees.

On November 16, 2020, I hand delivered a letter to Celia Zavala, Executive Officer for the Executive Office of the Board of Supervisors, regarding our insights surrounding the 2020 Trustee elections. I congratulated her team on their success of increasing the turnout for active general members, and shared our deep concern over the sharp decrease in turnout for retired members. I shared the Trustees' clear desire and expectation to see a physical ballot mailed in future retired elections until such time as empirical data demonstrates that increased usage by retirees for electronic voting is equal to or greater than voting by physical ballots.

I also took the steps to open a discussion with the Executive Office and the Registrar-Recorder to look into adopting an electronic signature acceptance process for nominating petitions. We will continue to work to address Trustee concerns about ensuring that all future elections are easily accessible by all eligible members.

### **COVID-19 Response Update**

Conditions in Los Angeles County, California, and across the nation continue to degrade as a large surge in reported infections and hospitalizations occurs. Recently, California Governor Newsom issued new guidelines causing several counties surrounding Los Angeles County to change to the purple tier – the tier representing the highest risk and with the most restrictions. New guidelines were issued on Personal Protection Equipment (PPE) – requiring everyone to wear face coverings anytime they are in public – and unable to maintain social distancing of at least 6 feet. LACERA continually reviews and updates our protocols to remain consistent with current guidelines. The Business Continuity and HR teams reviewed those protocols and updated them on November 18, 2020 (Attachment 1).

Also, on November 17, 2020, Los Angeles County Public Health Officials issued new restrictions on restaurants, breweries, bars, wineries, and non-essential retail establishments. These restrictions include a curfew between the hours of 10:00 p.m. to 6:00 a.m. Additional restrictions state that no more than 15 people may be present at any outdoor gathering and they may not represent members from any more than three families. Other restrictions limit retail businesses and offices to no more than 25% capacity.

LACERA is not immune to the surge in cases. During the months of October and November we had 12 incidents where a staff member reported being around someone who tested positive for COVID-19 or tested positive themselves. This resulted in several staff members having to quarantine, including an entire team in our Document Processing Center (DPC). Fortunately, none of these cases has resulted in serious illness, but the risk of future incidents remains high.

Due to the efforts we have taken to date, LACERA is as well prepared as we can be at this time. Our remote teleworking program allows us to operate with only about 15-25% of staff in the office on any given day. We continue to make physical modifications to office spaces to protect support staff whose work requires them to come into work, and to prepare for that day when this surge

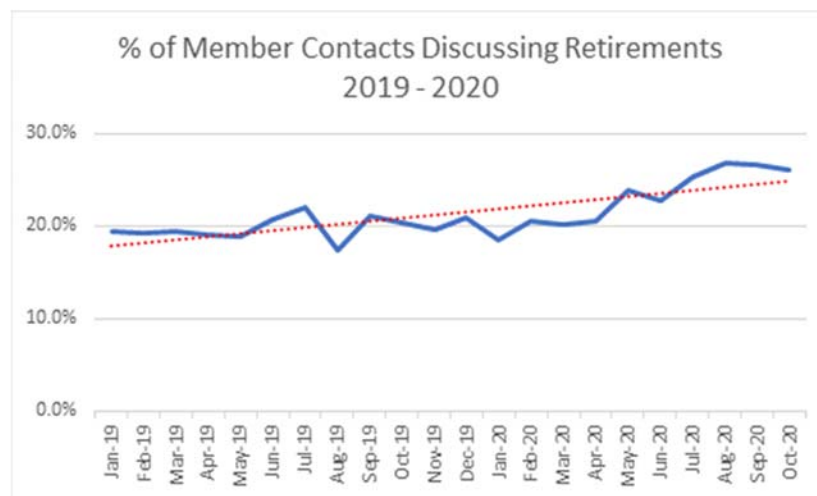
subsidies and we can bring people back to work onsite at LACERA. The workspaces of the Financial Accounting Services Division and the sixth-floor Reception area are scheduled to be fitted with taller partitions by December 7<sup>th</sup>. DPC will follow shortly thereafter as we finalize the appropriate plans. Additional work areas will be updated in the coming months.

I would like to take this time to thank the Business Continuity and HR teams for their efforts in coordinating the response. I would also like to thank LACERA staff members for remaining flexible as we adjust to the continuing challenges presented by this pandemic, and for remaining focused on meeting our mission.

### **Preparing for March Madness**

We are just days away from the traditional start of our annual March Madness season. We refer to the period beginning in December through the end of March as “March Madness” because retirements tend to spike during this period as members desire to retire in time to be eligible for any April 1<sup>st</sup> cost-of-living adjustment (COLA) that may be approved. As we have in years past, we will be continuing our commitment to share the annual March Madness statistics in the Chief Executive Officer's report.

Member Services keeps track of the reasons why members contact us and we have noticed an increase in inquiries for retirement counseling over the last few months. The chart below shows a steady increase in “retirement counseling” calls.



Over the last five months we have averaged almost 5,000 member contacts requesting retirement counseling vs. an average of almost 4,000 calls in the same period in 2019. This may be an early indicator of a heavier than usual March Madness season.

The Member Services Operation Group is starting discussions on how we may respond to the heavier than normal call volumes. Our MSC staff, those that normally do the face-to-face counseling, is operating at about 80% of their normal capacity. Typically, we offer about 50



counseling sessions per day, and we are currently offering about 30 per day. This is partially a result of reduced staffing levels due to recent retirements and leaves of absence. In an effort to compensate, we are training Retirement Benefit Specialists who work in the Member Services Call Center on the procedures for retiring a member in the Member Service Center. This will allow us to offer additional virtual counseling appointments to members.

We are also evaluating the feasibility of offering additional webinars and counseling on the weekends as we have done in the past.

Likewise, we expect this to be another busy year for Retiree Healthcare (RHC). RHC will see a similar spike in contacts from members who are retiring and transitioning to LACERA administered health plans due to March Madness. At the same time, RHC will be dealing with the annual increase in calls due to the annual Medicare Part B reimbursement program's 2021 Medicare Part B premium amount verification. We are currently waiting for the Board of Supervisor's approval to continue the Medicare Part B Premium Verification Program for 2021. Once this occurs, RHC will mail all eligible retirees and survivors a request for verification of their new 2021 Part B premium amount. The County will only reimburse up to the standard Part B amount, which is \$148.50 for 2021, as announced by the Centers for Medicare and Medicaid Services (CMS).

RHC is working with Communications and Member Services to help prepare communications to our members that will be as clear as possible to help members understand what documentation they need to submit for Medicare Part B reimbursement. As in previous years, examples of Social Security and Medicare Premium verifications will be uploaded to the website to assist members and staff. The team applies lessons learned from past years to create the most helpful documentation. However, as we have seen in the past years, we still expect a significant amount of calls from members with questions and wishing to verify they have submitted what they need. During the 2019-2020 verification period, RHC received an average of 5,800 calls between January and March vs. an average of 5,166 calls between June and September (the months preceding the re-opening of the RHC Call Center) and representing a more normal call volume. Additionally, the team received over 187,000 Part B work objects from members in the first half of 2020 related to the Part B verification. It is anticipated that this year we will see an increase due to new retirees and members who are getting accustomed to the process.

RHC is also working with Member Services to train them to answer basic Part B questions about what members need to do in submitting their verifications timely and contacting the right agencies such as Social Security and Medicare. We hope this will lessen the impact of an increased amount of calls to the smaller RHC Call Center.

## Normalizing Member Services Outreach Efforts

October has been a busy month in our efforts to normalize Member Services Outreach operations in the COVID-19 “new normal” era.

Earlier in the year we began partnering with Empower to provide our Pre-Retirement webinars with their weekly webinar series. This partnership continued throughout the month of October as we participated in their webinar outreach events. Working together, we were able to provide Pre-Retirement seminars to 257 members. Additionally, we served another 190 members by offering our new Retiree Healthcare webinar.

October also provided Outreach the opportunity to continue to normalize operations by providing virtual webinars and benefit tables at the request of DPSS and SEIU. LACERA has traditionally offered workshops for specific departments and would operate benefit tables at all manner of events held for LA County employees. At the request of SEIU, we provided Virtual Benefit tables at seven SEIU Virtual Benefit Webinars, allowing us to answer questions for 214 members. Additionally, at the request of DPSS, we provided a Pre-Retirement webinar to 146 members.

Outreach staff members also partnered with the Superior Court Human Resources to assist them with the rollout of their Voluntary Separation Incentive program. Staff developed a special presentation which we provided to 76 eligible Superior Court employees. This program helped educate members before making a decision to take advantage of the program. We have included the webinar presentation as an attachment to this report.

Beginning on October 15, 2020, we began accepting appointments for members to sign up to attend one of our new virtual webinars that have filled in for the in-person workshops that we cannot offer due to the pandemic. Members can sign up for webinars designed for 1) new members, 2) “Making the Most of Your Retirement Plan” Mid-Career, 3) Pre-Retirement, and 4) new Retiree Healthcare webinars. The response has been tremendous and because we are offering these virtually we are able to reach more members at one time than we would normally if we held these in our offices due to space limitations. While we don’t have the final numbers for November yet, here is a breakdown of the attendance so far:

<b>Mid-Career</b>	
November 3, 2020	62
November 5, 2020	79
<b>Pre-Retirement</b>	
November 3, 2020	181
November 5, 2020	189
<b>Retiree Healthcare</b>	
November 5, 2020	184
November 10, 2020	116

We are also pleased to announce that, even in the midst of a pandemic, we are developing new webinars as part of our long-standing goal of creating a Retirement University (a series of courses you can choose to take one at a time to learn about your retirement benefits). We will be holding our first Power of Attorney (POA) webinar later this month. We already have 20 members signed up. This new webinar will explain our Special Durable Power of Attorney form and help members understand how to complete the form.

### **Welcoming New Members and Transitioning Retiring Members**

I recently had the pleasure of welcoming Supervisor-elect Holly Mitchell to LACERA membership. One of the services we offer are new member workshops or webinars. In the pre-COVID-19 world, Outreach staff members provided new member workshops for groups of 10 upon request by LA County Departments. When a new Supervisor is elected, or a new Department Head is hired, we partner with LA County Human Resources and other business partners like Empower as the new member goes through the County's on-boarding process. Michael Peterson, Senior Retirement Benefits Specialist, and I spent time with Supervisor-elect Mitchell helping her understand LACERA's mission and important information about choices she has as a new member. I will be scheduling a meeting with Supervisor Mitchell at a later date to further discuss LACERA and important issues facing the system.

We also worked to help transition several staff in the District Attorney's Office as they are leaving County service. At the request of the department, each staff member participated in our standard one-on-one counseling session as we assisted them with the retirement process.

SHK: jp  
CEO Report November 2020.doc

Attachments



## **COVID-19 EXPOSURE RESPONSE PROTOCOL (Updated 11/20/2020)**

The cooperation of all LACERA staff members is necessary to create a safe and beneficial work environment. As an organization, LACERA will follow Federal, State, County and both Pasadena and Los Angeles City rules related to health and safety regarding this pandemic. All staff members are required to follow health and safety guidelines in order to create and maintain a safe and productive work environment.

The first step in protecting staff members is to ensure that LACERA is following the Organizational Protocols outlined in the Phased Return to Work Transition Plan which includes the following:

### **LACERA shall:**

- Follow the most updated Public Health guidelines for employers.<sup>1 2</sup>
- Promote and ensure appropriate physical distancing of six feet.
- Limit staff to groups of no more than 15 in work spaces and meeting rooms.
- Educate on the proper use of personal protective equipment (PPE) including the wearing of cloth face coverings.
- Promote and educate staff members on measures for hand hygiene, including providing hand sanitizer for staff usage.
- Ensure the Office of the Building regularly cleans workplaces, meeting rooms and common areas within LACERA, and may assign specific staff members, on a rotational basis, to help keep specific areas clean.
- Disseminate messaging to educate and remind staff members of important precautionary health measures.
- Minimize contact among workers, clients, and customers by replacing face-to-face meetings with virtual communications and implementing telework wherever feasible.
- Restrict the movement of staff between floors and work areas for essential and for as needed business purposes only.

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<sup>1</sup> [http://www.publichealth.lacounty.gov/media/Coronavirus/docs/protocols/Reopening\\_OfficeBasedWorksites.pdf](http://www.publichealth.lacounty.gov/media/Coronavirus/docs/protocols/Reopening_OfficeBasedWorksites.pdf)

<sup>2</sup> <http://publichealth.lacounty.gov/acd/docs/COVHomeQuarantine.pdf>

- Continue to limit the number of staff in the office by using the Red/Blue/Black/Purple Team concepts.
- Report any direct exposure cases and confirmed cases of COVID-19 to the Office of the Building.
- Comply with all reporting requirements of AB 685<sup>3</sup> and SB 1159 including:
  - Report any confirmed cases of COVID-19 to Sedgwick, LACERA’s third-party Worker’s Compensation administrator.
  - Report outbreaks to local health officials. An outbreak is defined as three probable or confirmed COVID-19 cases within a 14-day period among staff at the same worksite.

The following are procedures and expectations LACERA will activate and adhere to in the event a staff member is exposed to COVID-19.

### **Staff Member Expectations and Protocols**

The process begins with Staff Members reporting any possible incidents. Therefore we begin this policy with expectations for Staff Members.

#### **Staff Members shall:**

- Follow the most updated Public Health orders and guidelines for individuals.
- Wear a face covering whenever they are in contact or likely to come in contact with others. Face coverings shall maintain professionalism and comply with LACERA’s Dress Code Policy.
  - a) Staff members are not required to wear a face covering when they are alone in an office or a cubicle with a solid partition that exceeds the height of the staff member when standing<sup>4</sup>.
- Notify their supervisor or manager that they are ill (i.e. displays symptoms; is suspected to have COVID-19; or tests positive of COVID-19).
- Notify their supervisor, manager, the Director of Human Resources, or the Executive Office, immediately that they have come in close contact with an infected person. Timely reporting is critical.
- A close contact is any of the following people who were exposed to an “infected person” while they are infectious:

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<sup>3</sup> <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Employer-Questions-about-AB-685.aspx>

<sup>4</sup> [http://www.publichealth.lacounty.gov/media/Coronavirus/docs/protocols/Reopening\\_OfficeBasedWorksites.pdf](http://www.publichealth.lacounty.gov/media/Coronavirus/docs/protocols/Reopening_OfficeBasedWorksites.pdf)

- a) an individual who was within 6 feet of the infected person for a total of 15 minutes or more over a 24-hour period
  - b) an individual who had unprotected contact with the infected person's body fluids and/or secretions.
- An infected person is anyone with COVID-19, or who is suspected to have COVID-19, and is considered to be infectious from 48 hours before their symptoms first appear until they are no longer required to be isolated. A person with a positive COVID-19 test but no symptoms is considered to be infectious from 48 hours before their test was taken until 10 days after their test.
- Staff members who fall into one of the above categories shall not come to work or remain at work once aware of illness or exposure to illness. Instead, staff members shall speak with their manager about their illness, level of exposure, potential exposure to others, requirement to self-isolate, telework options, and leave options. The specific length of the quarantine period shall be discussed with staff based on the circumstances of their symptoms and/or exposure. Examples of quarantine periods are contained in Attachment A of this protocol.

Staff may be required to quarantine even if they themselves are not symptomatic in order to protect themselves and others. Staff who are required to quarantine shall not come to work for the entire quarantine period. No supervisors or managers have authority to reduce or clear staff from quarantine. Once staff is on quarantine, only the Director of Human Resources and the Executive Office may authorize a return to work.

- All staff members who display symptoms; is suspected to have COVID-19; test positive for COVID-19; or have been in close contact as defined above, shall participate with their supervisor, manager, and Human Resources to perform contact tracing – the identification of staff members who have come into contact with a confirmed positive person, presumptive positive person, symptomatic person, or one who had close contact with a confirmed positive person, presumptive positive person or symptomatic person. Sample contact tracing questions are in Attachment B.
- Seek Medical attention if necessary and get tested for COVID-19 in order to take recommended precautions. LACERA will require anyone who displays symptoms while at work to be tested. Free testing locations are listed at <https://covid19.lacounty.gov/testing/>.
- Follow latest travel advisory from the State of California<sup>5</sup>, including quarantining after non-essential travel.

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<sup>5</sup> <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Travel-Advisory.aspx>

Mild symptoms of COVID-19 include fever, cough, shortness of breath, chills, repeated shaking with chills, muscle pain, headache, sore throat, or new loss of taste or smell.<sup>6</sup> For a comparison of flu symptoms and COVID-19 symptoms see <https://www.cdc.gov/flu/symptoms/flu-vs-covid19.htm>

Staff Members who have symptoms of serious illness such as trouble breathing, pressure or pain in chest, bluish lips or appear confused, should seek immediate medical attention. If these symptoms occur while at work, call 9-1-1.<sup>7</sup>

Staff members who develop symptoms of COVID-19 while in quarantine should contact their healthcare provider. Staff members are expected to update Human Resources of any changes in their condition such as testing positive or being diagnosed as having COVID-19 as soon as possible.

LACERA highly recommends testing of staff members who are symptomatic, had close contact with a person who has a confirmed infection, or had close contact with a person who displays symptoms (with or without a confirmed test) to be tested in order to take the recommended precautions. Free testing locations are listed at <https://covid19.lacounty.gov/testing/>

### **LACERA Staff Notification Policy**

LACERA is committed to being transparent and keeping all of our staff members reasonably informed of any incidents. LACERA is also committed to ensuring the privacy of any staff member who may be ill or exposed. LACERA will balance these two values by following these notification protocols.

1. LACERA Human Resources or Executive Office will notify all staff members of an incident as soon as reasonable and practical after the incident has been reported and the facts of the incident have been determined.
2. The notification will contain the general location of the incident and refer to the steps LACERA has taken – in accordance with this policy and any future guidelines from the public health authorities.
3. LACERA will also share the notification sent to staff with our business partners at SEIU.
4. The notification will not include any reference to any specific employee. LACERA has a duty to ensure the privacy of any staff member.
5. LACERA will follow up with periodic notifications regarding any incident if the situation changes.

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<sup>6</sup> [https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fsymptoms-testing%2Findex.html](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fsymptoms-testing%2Findex.html)

<sup>7</sup> <http://publichealth.lacounty.gov/media/Coronavirus/docs/business/FAQ-Managers.pdf>



6. In the event of a staff member testing positive for COVID-19, LACERA will confirm that “a” staff member has tested positive, but will not confirm who that staff member is. Again, we have a duty to protect our staff member’s privacy.\*

\*Because LACERA’ exposure policy requires those with close contact to a member who is suspected of, or who may have COVID-19 to quarantine or self-isolate at home, a report of a positive test does not change how we respond to an incident, but may change how long we require those who have been required to quarantine or self-isolate to remain in that state.

### **Management Expectations and Protocols**

Managers and supervisors will also routinely remind staff members to follow general steps to prevent the spread of illness by frequent handwashing; discouraging staff members from using other staff’s phones, desks, offices, or other work tools and equipment; reminding staff to practice social distancing by maintaining a six-foot person-to-person distance; advising staff to clean and disinfect frequently touched objects and surfaces; and actively encouraging staff to stay home if they are sick.

Managers and supervisors are required to report any suspected or confirmed incidents to the Director of Human Resources and the Executive Office immediately to help protect other LACERA staff members or members. Time is of the essence in making reports. Furthermore managers and supervisors are expected to enforce all Organizational and Phased Transition Plan protocols. Managers and supervisors do not have authority to send staff home or decide when staff can come back to work, but rather are required to immediately report incidents and suspected violations of these protocols to the Director of Human Resources and the Executive Office, who will provide direction as to the proper response. These are part of management’s performance expectations going forward.

#### **Managers and Supervisors will:**

- Follow and apply the most updated Public Health guidelines for individuals and employers.
- Immediately inform the Director of Human Resources and the Assistant Executive Officer of any suspected cases, exposure, or expected exposure to COVID-19.
- Working with HR, the supervisor/manager shall discuss with the staff member their status (confirmed, suspected, or close contact with another confirmed or suspected positive person) to determine if the staff member should remain at or return to work.
- Discuss with the staff member their level of exposure to other staff members (contact tracing) to determine if other staff members should remain at or return to work. If quarantine is required, the amount of time will vary based upon the circumstance and will be determined and confirmed on a case-by-case basis. Examples are described in the attachment to this protocol. Managers and supervisors do not have authority to change the terms of quarantine,

such as an early release or extension; all decisions shall only be made by the Director of Human Resources and the Executive Office.

- Maintain confidentiality of staff member's protected health information. This information may be shared with the LACERA Incident Response Team (LIRT) in order to make appropriate decisions, but will not be shared with other staff members.
- Confer with self-isolating staff members to arrange for telework to the extent possible and reasonable.
- Work with Administrative Services to arrange for impacted work spaces and common areas to be cleaned.
- Notify the LACERA Incident Response Team if necessary.
- Coordinate with the Human Resources Division to provide leave paperwork to staff members who cannot telecommute during self-isolation or quarantine.

#### Additional Resources

List of [free testing sites](#) in Los Angeles County

County of Los Angeles [Health Officer Order](#), updated 11/20/2020

Examples of staff member illness and return to work timelines (adapted from the California Department of Public Health<sup>8</sup>)

Staff Member Situation	Need to Self-Quarantine?	Return to Work Conditions (As of September 18, 2020)	Resources for More Information (As of November 17, 2020)
<p><b>Example 1</b> <b>Symptomatic Positive</b> Staff Member with symptoms who is laboratory confirmed to have COVID-19</p>	Yes	At least 10 days have passed since symptoms first appeared; <b>and</b> at least 24 hours have passed since last fever without the use of fever-reducing medications; <b>and</b> symptoms (e.g., cough, shortness of breath) have improved.	<a href="#">Self-Isolation Guide</a> <a href="#">FAQs about testing</a>
<p><b>Example 2</b> <b>Asymptomatic Positive</b> Staff member never had symptoms and is laboratory confirmed to have COVID-19</p>	Yes	A minimum of 10 days have passed since the date of their first positive COVID-19 test. If they develop symptoms, then the criteria for laboratory confirmed cases with symptoms apply (example #1).	<a href="#">Self-Isolation Guide</a> <a href="#">FAQs about testing</a>
<p><b>Example 3</b> <b>Symptomatic Negative</b> Staff Member who had symptoms of COVID-19 but test result returned negative</p>	Yes	Use the same criteria as laboratory confirmed cases (example #1).	<a href="#">Self-Isolation Guide</a> <a href="#">FAQs about testing</a>
<p><b>Example 4</b> <b>Symptomatic Untested</b> Staff Member had symptoms of COVID-19 but was not tested</p>	Yes	Testing is highly recommended. If the staff member cannot be tested, use the same criteria for return to work as laboratory confirmed cases (example #1).	<a href="#">Self-Isolation Guide</a>

<sup>8</sup> <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Workplace-Outbreak-Employer-Guidance.aspx#Xuv50TqknY.mailto>

Staff Member Situation	Need to Self-Quarantine?	Return to Work Conditions (As of September 18, 2020)	Resources (As of 11/17/20)
<p><b>Example 5</b>  <b>Close Contact and Asymptomatic Negative</b>  Staff Member never had symptoms but was tested due to close contact with a laboratory-confirmed case, and Staff Member’s test is negative</p>	<p>Yes</p>	<p>Employees should quarantine at home for 14 days after the last known close contact with the case patient. Symptoms can develop even after testing negative within 14 days after exposure. LIRT may consider allowing earlier return to work only for an employee in a critical position in which the essential operations of the workplace would be compromised by quarantine of the staff member and no alternate staff can perform the same role.</p>	<p><a href="#">Close Contact Self-Isolation Guide</a>  <a href="#">FAQs about testing</a></p>
<p><b>Example 6A</b>  <b>Close Contact and Asymptomatic Untested</b>  Staff Member had close contact to a laboratory-confirmed positive person at work, home, or in the community and Staff Member does not have symptoms.  OR  Staff Member refuses or is unable to be tested after close contact with a laboratory-confirmed case, despite recommendation for testing from LACERA management or healthcare provider, and Staff Member does not have symptoms.</p>	<p>Yes</p>	<p>Staff Member should be quarantined at home for 14 days after the last known close contact with the case patient. Testing is highly recommended; if testing has not occurred, LACERA management may consider allowing an employee who had close contact to a confirmed case to continue to work only in a critical position in which the essential operations of the workplace would be compromised by quarantine of the staff member and no alternate staff can perform the same role.  Even if they are not tested, the same criteria for return to work should be used as laboratory-confirmed cases (example #1).</p>	<p><a href="#">Close Contact Self-Isolation Guide</a></p>

<b>Staff Member Situation</b>	<b>Need to Self-Quarantine?</b>	<b>Return to Work Conditions</b> <i>(As of September 18, 2020)</i>	<b>Resources</b> <i>(As of 11/17/20)</i>
<p><b>Example 6B</b>  <b>Close Contact and Asymptomatic Untested</b>  Staff Member had close contact to a person with symptoms at work, home, or in the community and Staff Member does not have symptoms.  OR  Staff Member refuses or is unable to be tested after close contact with a person with symptoms, despite recommendation for testing from LACERA management or healthcare provider, and Staff Member does not have symptoms.</p>	<p>Yes</p>	<p>Staff Member should be quarantined at home for 14 days after the last known close contact with the case patient. Testing is highly recommended; if testing has not occurred, LACERA management may consider allowing an employee who had close contact to a suspected case to continue to work only in a critical infrastructure industry in which the essential operations of the workplace would be compromised by quarantine of the staff member and no alternate staff can perform the same role.  Even if they are not tested, the same criteria for return to work should be used as laboratory-confirmed cases (example #1).</p>	<p><a href="#">Close Contact Self-Isolation Guide</a></p>

Example of contact tracing questions with Staff Members:

- Currently, how are you feeling?
- Are you currently displaying any symptoms of Covid-19?
- When was the first day you had symptoms?
- Have you contacted a medical provider? Do you need help contacting a medical provider?
- When was the first day you felt ill?
- Were you tested for Covid-19?
  - When were you tested?
  - When do expect your results?
  - Do you plan on being tested?
- When was the last day you were at work?
- What locations did you visit when you were last at work?
- What locations did you visit any other days when you had symptoms?
- What locations did you visit 48 hours (2 days) before your first symptom?
  
- Based on a) your last day at work, b) 48 hours before you started feeling ill, or 3) when you were exposed to someone who is ill, who did you come into close contact with?
  - Close contact is with an individual who was within 6 feet of the infected person for more than 15 minutes; **OR** an individual who had unprotected contact with the infected person's body fluids and/or secretions.
- Have you spoken to your supervisor about the option to telecommute?

Example of contact tracing questions with Managers:

- What is your division's workflow for in-office staff members?
- Does this workflow involve close contact between in-office staff?
- Does this workflow involve the passing of work between in-office staff?
- Does this workflow involve interactions with staff members from different divisions?
- Based on the impacted staff member's last day in the office, could any of the above be different?
- If you were in the office did you observe any close contact that would lead us to expand our contact tracing to include additional staff members?
- Are you able to provide the impacted staff member work duties to perform while in quarantine?





# **VSIP – Superior Courts**

## **Voluntary Separation Incentive Program**

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**How Does This Affect  
LACERA Membership?**





# Overview

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- VSIP lump-sum payment is not pensionable.
- The lump-sum payment is subject to tax.
- VSIP does not require anyone to retire.
- Those who accept the VSIP are restricted from reemployment with the Courts for 3 Years.

# My Retirement

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- Defer your retirement
- Enter a reciprocal agency
- Withdraw contributions
- Retire
- Return to service

# Defer Your Retirement

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## Defer Contributions

- Accrue interest up to the assumed rate of return
- Age 72 mandatory distribution
- Retire when you become eligible
- All contributory plans must have 5 years minimum
- Plan E must have 10 years minimum

Remember to keep your address and phone number up to date with LACERA

# Enter Reciprocal Agency

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## Benefits:

- Helps meet minimum retirement eligibility requirements
- Highest final compensation either agency
- Separate retirement checks
- LACERA health insurance based on LACERA service only
  - LA City exception

LACERA has reciprocity within California public retirement systems only.

# Enter Reciprocal Agency

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## Requirements:

- Join within 6 months of leaving prior system
- No overlap in service
- Must retire from all agencies on the same day
- Must apply with each agency separately
- May not withdraw while employed at either agency

Benefit limitations apply to a reciprocal member who applies for a disability retirement.

# Withdraw Your Contributions

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- Waive your right to future benefits
- 2 Methods
  - Direct rollover into Tax-Qualified Plan
    - Preserves your savings for retirement
    - EXCEPTION: After-tax contributions cannot be rolled over
  - Paid directly to you:
    - 20% mandatory Federal tax withheld
    - Possible Tax penalty under age 59 ½

# Retirement

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## Goodbye Tension, Hello Pension!

- Receive a guaranteed life-time pension
- Receive subsidized medical, dental and vision insurance
  - 10+ years service

Retirees seeking employment by the County of Los Angeles, LACERA, Local Agency Formation Commission, or the Little Lake Cemetery must go through the Return to Work process and cannot enter less than 180 days from retirement.

# Changing Your Mind

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## Must be in writing! Inform your department

- Complete the Request to Rescind or Change Retirement Date form
  - Go to Brochures & Forms page – [www.lacera.com](http://www.lacera.com)
  - Before 5:00 PM on the business day prior to retirement date

Note that the deadline date to rescind your retirement may not be the same deadline date to rescind your VSIP application.



# Return to Service

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## Scenario: Defer Contributions\*

- Return to Superior Court after 3-year break:
  - Same plan, same age
- Return to other employer covered by LACERA within 6 months:
  - Same plan, same age
- Return to other employer covered by LACERA after 6 months:
  - New Plan – PEPRA and maintain a double plan

# Return to Service

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## Scenario: Minimum 10 years Plan E

- Return to Superior Court after 3-year break:
  - Remain in Plan E
- Return to other employer covered by LACERA within 6 months:
  - Remain in Plan E
- Return to other employer covered by LACERA after 6 months:
  - Enter into New Plan – PEPRA
  - Retain Plan E credit – double account
- Plan E is forfeited if you terminate service with less than 10 years

# Return to Service

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## Scenario: Defer – PPT last in Plan E - Vested

- Return to Superior Court after 3-year break:
  - Return to Plan E. Retain Plan D service.
- Return to other employer covered by LACERA within 6 months:
  - Return to Plan E. Retain Plan D service.
- Return to other employer covered by LACERA after 6 months:
  - Enter into New Plan – PEPRRA. Retain Plan E & Plan D credit.

# Return to Service

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## Scenario: Defer – PPT last in Plan E – Non-Vested

- Return to Superior Court after 3-year break:
  - New Plan – PEPRA. Plan D contributions can be left on deposit.
- Return to other employer covered by LACERA within 6 months:
  - New Plan – PEPRA. Plan D contributions can be left on deposit.
- Return to other employer covered by LACERA after 6 months:
  - New Plan – PEPRA. Plan D contributions can be left on deposit.

# Return to Service

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## Scenario: Defer – PPT last in Plan D – (not withdrawn)

- Return to Superior Court after 3-year break:
  - Same plan, same age. Retain Plan E credit if vested under combine plans.
- Return to other employer covered by LACERA within 6 months:
  - Same plan, same age. Retain Plan E credit if vested under combine plans.
- Return to other employer covered by LACERA after 6 months:
  - New Plan – PEPRA. Retain Plan D credit Retain Plan E if vested under combined Plans D & E.

# Return to Service

## Scenario: Defer – PPT last in Plan D – (withdrawn)

- Return to Superior Court after 3-year break:
  - Enter New Plan – PEPRA. May redeposit/restore to prior contributory plan. Former Plan E credit is included upon contributory plan restoration.
- Return to other employer covered by LACERA within 6 months:
  - Enter New Plan – PEPRA. May redeposit/restore to prior contributory plan. Former Plan E credit is included upon contributory plan restoration.
- Return to other employer covered by LACERA after 6 months:
  - Enter New Plan – PEPRA. May redeposit former plan but will remain in PEPRA Plan G. Former Plan E credit is included upon contributory plan restoration.

# Return to Service

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## Scenario: Withdraw Funds (Contributory Plans).

- Return to Superior Court after 3-year break:
  - Enter new plan – PEPRA. May redeposit/restore to prior plan with new entry age.
- Return to other employer covered by LACERA within 6 months:
  - Enter new plan – PEPRA. May redeposit/restore to prior plan with new entry age.
- Return to other employer covered by LACERA after 6 months:
  - Enter new plan – PEPRA. May redeposit former plan but will remain in PEPRA Plan as double-account.



# Key Contacts

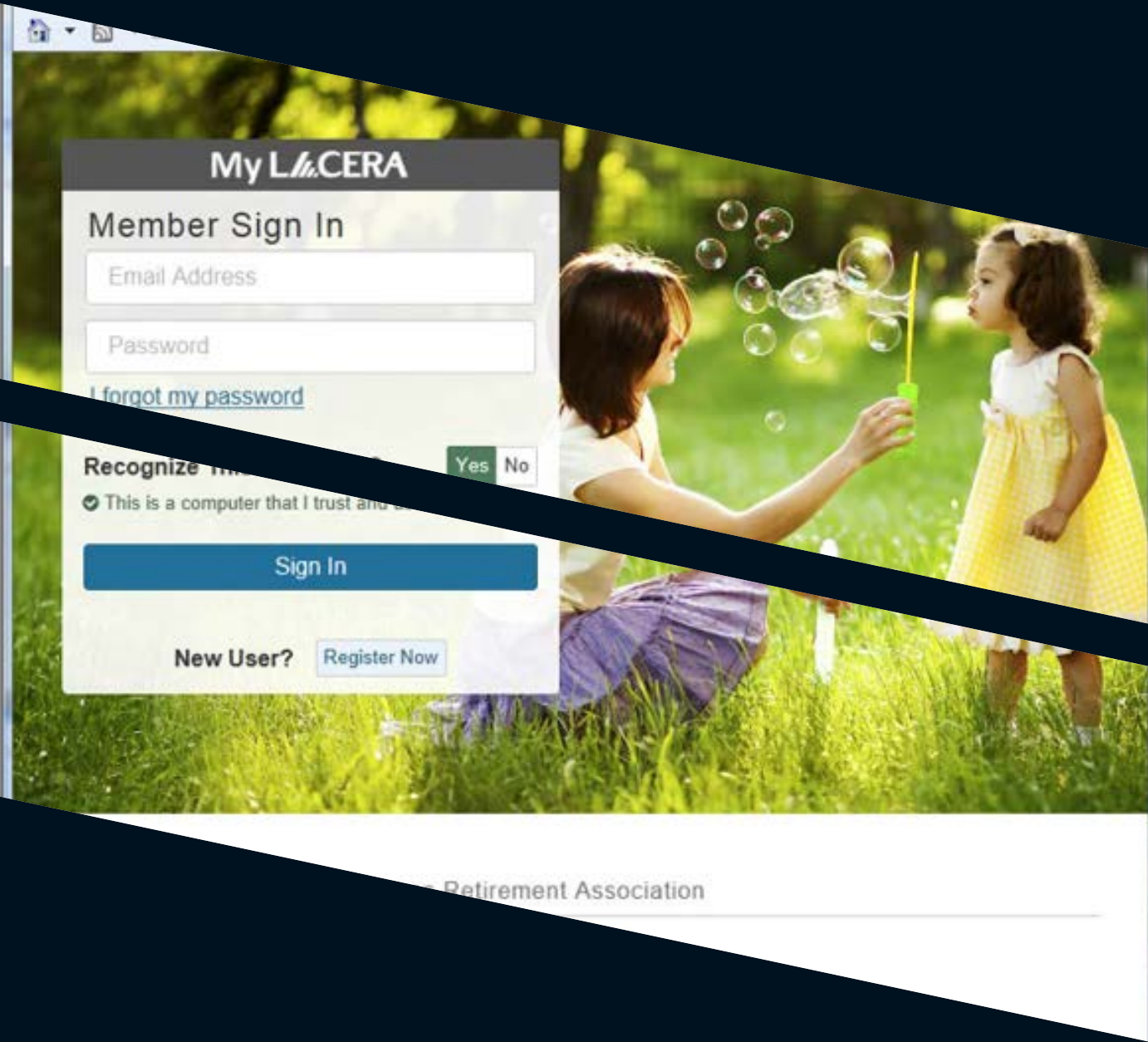
For questions regarding VSIP:

- email: [AskHR@lacourt.org](mailto:AskHR@lacourt.org)

For questions regarding Horizons 457(b) or Savings401(k) related to VSIP:

- Call Empower: 800-947-0845





# Stay Connected

LACERA's website:  
[www.lacera.com](http://www.lacera.com)

- Register on myLACERA
- Access your personal retirement information
- Calculate your retirement
- Update your email
- Send confidential emails through the Secure Message center
- Upload documents
- And much more!



# How Do I Contact LACERA?

By phone: **1-800-786-6464**

In Person: **300 N. Lake Ave. Pasadena, CA 91101**  
(Temporarily Suspended Due To COVID-19)

By email: [welcome@lacera.com](mailto:welcome@lacera.com)

Online: [www.lacera.com](http://www.lacera.com)

**MyLACERA: Secure Message Center**

# Durable Power of Attorney

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- Allows trusted individual to act in your place
- No need to obtain court ordered conservatorship
- Stops upon death





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**THANK  
YOU!**

# Striving for Excellence in Service

Service Metrics Reported on a Fiscal Year Basis (July 1) Through: **October 2020**



**Outreach Attendance**  
1,641  
6,707 Year-to-Date



**Outreach Events**  
18  
51 Year-to-Date



**Outreach Satisfaction**  
N/A  
Change Since Last Mo

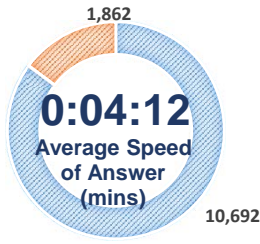
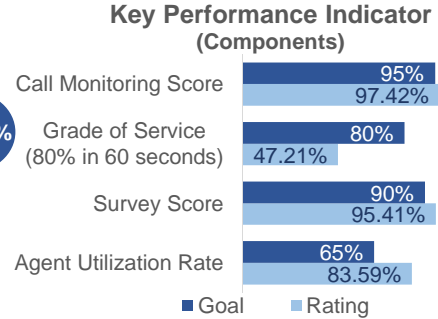
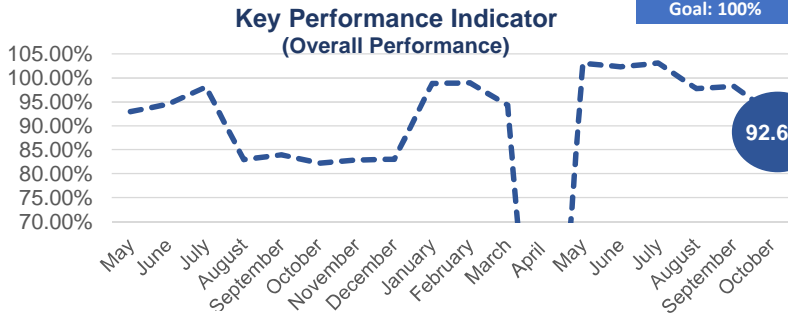


**Member Service Center**  
N/A  
- Change Since Last Mo



**Member Services Calls**  
12,554  
11,981 3 Mo. Avg.

## Member Services



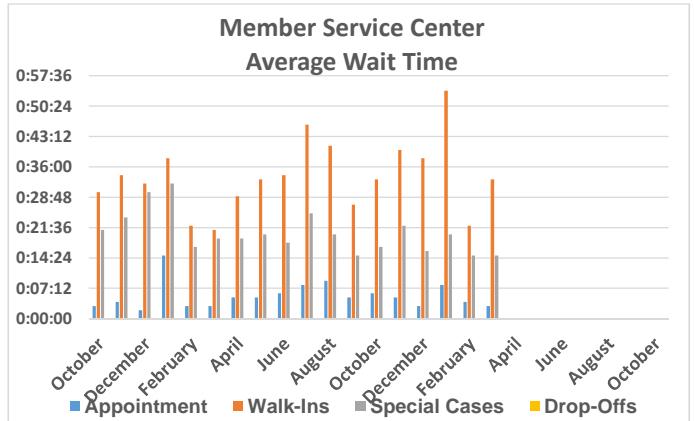
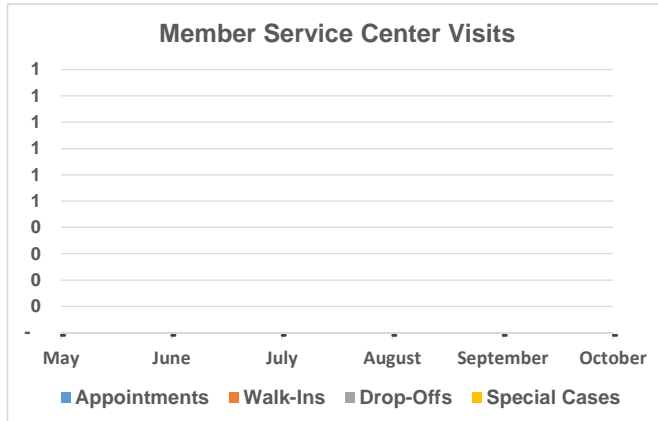
### Top Calls

1. Retirement Counseling: Process Overview
2. Retirement Counseling: Estimate
3. MyLACERA Portal Login Issues

**Emails 481**  
24:00 hours  
Avg. Response Time (ART)



**Secure Messages 701**



\*Drop Off Wait Time: No Waiting



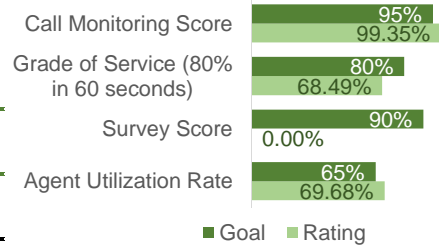
Total RHC Calls: **6,293**

## Retiree Healthcare



### Top Calls

1. Medical-New Enrollment/Change/Cancel
2. Medical Benefits
3. Medicare Part B Reimbursement



**Emails 310**  
1 Day  
Avg. Response Time (ART)



**Secure Messages 125**

## Striving for Excellence in Service (Continued)

Disability

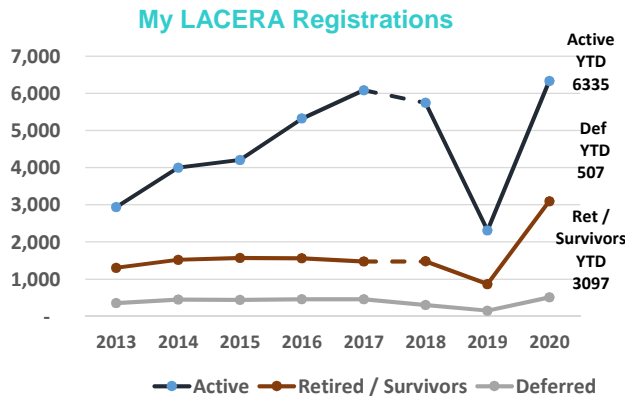
### Applications

<b>665</b>	666 Pending on: 9/30/2020
<b>In Process</b>	48 Received
<b>As Of:</b>	196 Year-to-Date
<b>10/31/2020</b>	0 Re-Opened
	0 Year-to-Date
	49 To Board - Initial
	167 Year-to-Date
	0 Closed
	7 Year-to-Date

### Appeals

<b>94</b>	94 Pending on: 9/30/2020
<b>In Process</b>	1 Received
<b>As Of:</b>	5 Year-to-Date
<b>10/31/2020</b>	0 Admin Closed/Rule 32
	6 Year-to-Date
	1 Referee Recommended
	3 Year-to-Date
	0 Revised/Reconsidered for Granting
	1 Year-to-Date

My LACERA

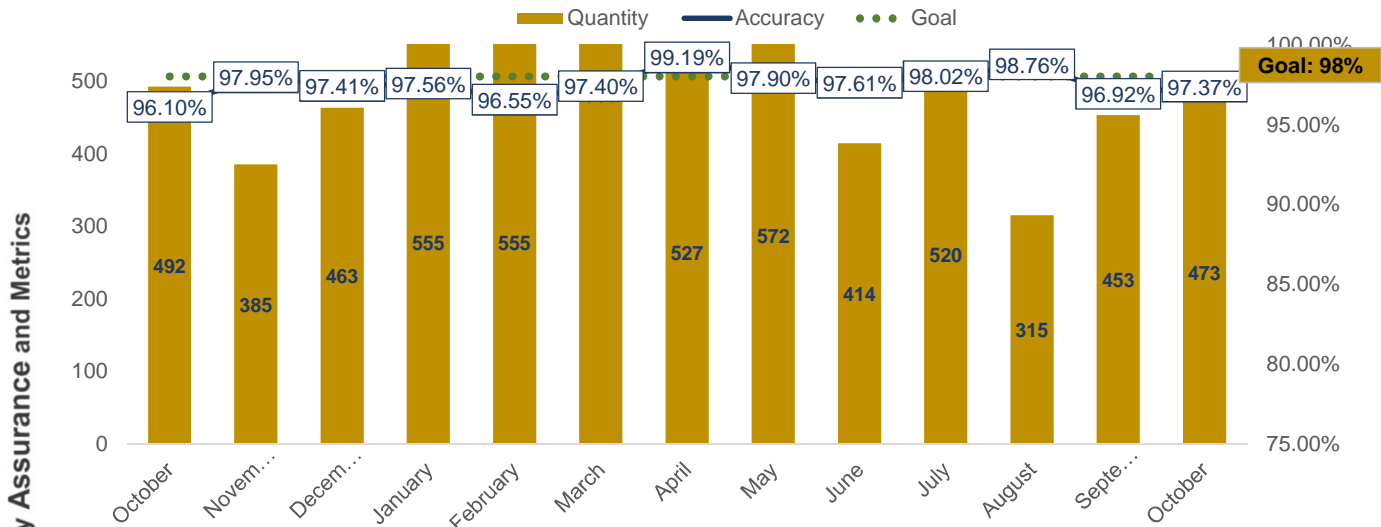


**COVID-19 NOTE**

Some Member Services, Retiree Healthcare, and Quality Assurance statistics became unavailable for a short time beginning in April 2020 due to COVID-19 impacts. Most of the data contained herein is up to date and based on current production both virtually and in the office. However, some data points such as surveys are based on six month average for survey scores prior to the pandemic.

## Striving for Excellence in Quality

### Audits of Retirement Elections, Payment Contracts, and Data Entry Completed by QA



\*Data for April 2020 is incomplete due to COVID-19 challenges. This is an estimated accuracy %

**October**



#### Retirement Elections

**216** Samples  
97.09% Accuracy

#### Payment Contracts

**197** Samples  
95.71% Accuracy

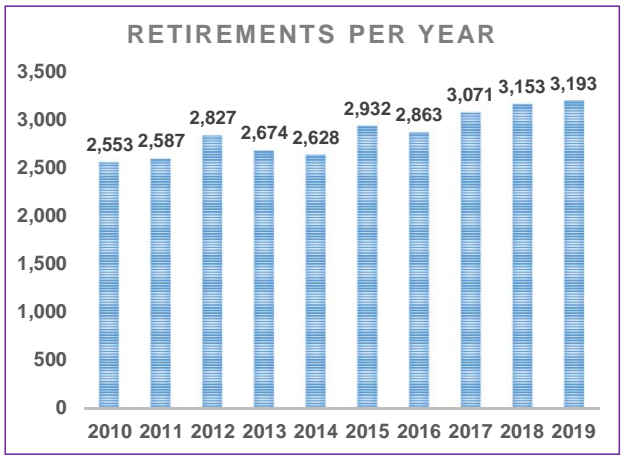
#### Data Entry

**60** Samples  
99.32% Accuracy

**97.37%**

## Member Snapshot

		Members as of 11/16/2020			
	Plan	Active	Retired	Survivors	Total
General	Plan A	87	15,586	4,353	20,026
	Plan B	20	677	70	767
	Plan C	30	424	68	522
	Plan D	39,561	17,250	1,601	58,412
	Plan E	16,026	13,809	1,318	31,153
	Plan G	31,282	70	6	31,358
	<b>Total General</b>	<b>87,006</b>	<b>47,816</b>	<b>7,416</b>	<b>142,238</b>
Safety	Plan A	2	4,985	1,621	6,608
	Plan B	9,085	6,502	321	15,908
	Plan C	4,319	11	0	4,330
	<b>Total Safety</b>	<b>13,406</b>	<b>11,498</b>	<b>1,942</b>	<b>26,846</b>
<b>TOTAL MEMBERS</b>		<b>100,412</b>	<b>59,314</b>	<b>9,358</b>	<b>169,084</b>
<b>% by Category</b>		<b>59%</b>	<b>35%</b>	<b>6%</b>	<b>100%</b>



### Average Monthly Benefit Allowance Distribution November 2020

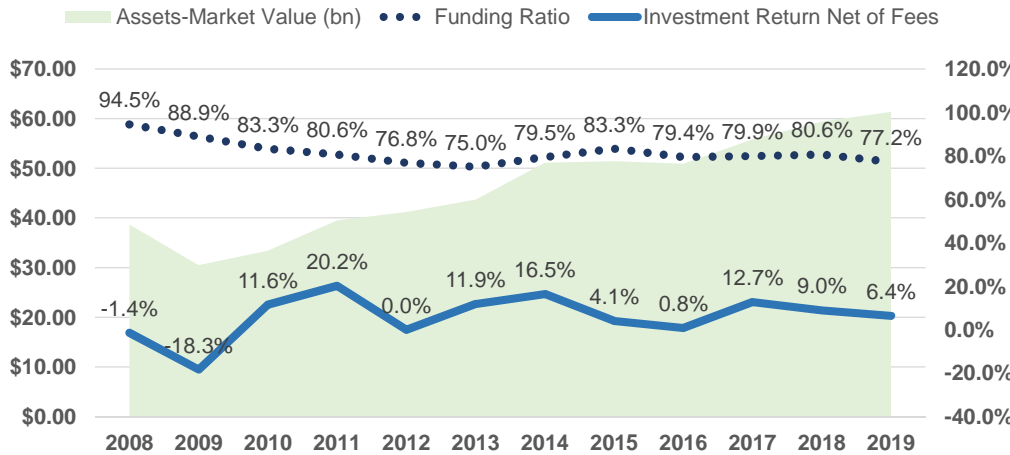
	General	Safety	Total	%
\$0 to \$3,999	29,905	1,842	31,747	53.81%
\$4,000 to \$7,999	12,942	3,498	16,440	27.86%
\$8,000 to \$11,999	3,379	4,162	7,541	12.78%
\$12,000 to \$15,999	933	1,521	2,454	4.16%
\$16,000 to \$19,999	295	276	571	0.97%
\$20,000 to \$23,999	82	107	189	0.32%
\$24,000 to \$27,999	27	18	45	0.08%
> \$28,000	12	3	15	0.03%
<b>Totals</b>	<b>47,575</b>	<b>11,427</b>	<b>59,002</b>	<b>100%</b>

**Average Monthly Benefit Allowance: \$ 4,465.00**

Healthcare Program		Healthcare Enrollments	
(YTD as of 10/31/20)		(Mo. Ending: 10/31/20)	
	Employer	Member	
Medical	190.1	14.9	Medical 52,356
Dental	15.1	1.5	Dental 53,731
Part B	24.8	0	Part B 36,655
			LTC 600
<b>Total</b>	<b>230</b>	<b>16.4</b>	<b>Total 143,342</b>

## Key Financial Metrics

Fiscal Year End Financial Update (as of 06/30/2019)



### Funding Metrics (as of 6/30/19)

Employer NC	10.86%
UAAL	13.92%
Assumed Rate	7.00%
Star Reserve	\$614m
Total Assets	\$58.3b

### Contributions (as of 6/30/19)

	Employer	Member
Annual Add	\$1.7b	\$635.4m
% of Payroll	22.59%	7.68%

### TOTAL FUND RETURN (Net of Fees)

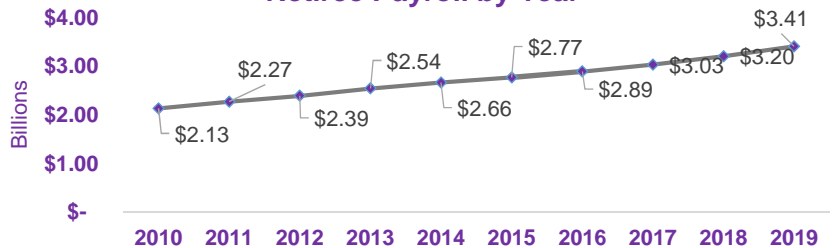
5 YR:	6.5%	10 YR:	9.1%
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### Retired Members Payroll

(As of 10/31/2020)

Monthly Payroll	\$316.33m
Payroll YTD	\$1.3b
New Retired Payees Added	337
Seamless %	97.03%
New Seamless Payees Added	1,211
Seamless YTD	95.87%
By Check %	2.00%
By Direct Deposit %	98.00%

### Retiree Payroll by Year



Date	Conference
<b>December, 2020</b>	
8-10	IFEBP (International Foundation of Employment Benefit Plans) Public Employee Benefits Institute Virtual
<b><i>DUE TO COVID-19, SCHEDULED EVENTS FOR 2021 ARE SUBJECT TO CHANGE</i></b>	
<b>February, 2021</b>	
2-3	NCPERS FALL (Financial, Actuarial, Legislative & Legal) Conference Virtual
16-18	Pacific Pension Institute (PPI) North American Winter Roundtable Virtual
<b>March, 2021</b>	
8-9	CALAPRS (California Association of Public Retirement Systems) General Assembly Meeting Virtual
8-10	Council of Institutional Investors (CII) Spring Conference Washington D.C.
25-26	PREA (Pension Real Estate Association) Spring Conference TBD
<b>April, 2021</b>	
11-14	World Healthcare Congress Washington D.C.
<b>May, 2021</b>	
11-14	SACRS Spring Conference Long Beach, CA
23-26	NCPERS (National Conference on Public Employee Retirement Systems) Annual Conference Denver, CO <b><i>IN-PERSON EVENT CANCELLED</i></b>
<b>June, 2021</b>	
14-18	Investment Strategies & Portfolio Management ( <i>prev. Pension Fund &amp; Investment Mgmt.</i> ) Wharton School, University of Pennsylvania
<b>July, 2021</b>	
12-14	ICGN (International Corporate Governance Network) Annual Conference Toronto, Canada
14-16	Pacific Pension Institute (PPI) North American Summer Roundtable Vancouver, BC Canada
<b>September, 2021</b>	
22-24	Council of Institutional Investors (CII) Fall Conference Chicago, IL



# Chief Investment Officer Monthly Report

Board of Investments

December 9, 2020



Jonathan Grabel   
Chief Investment Officer

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

# Table of Contents

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1. Market Environment
2. Portfolio Performance Updates
3. Portfolio Structural Updates
4. Key Initiatives and Operational Updates
5. Commentary
6. Appendix



# Market Environment



# Global Market Performance as of November 30, 2020

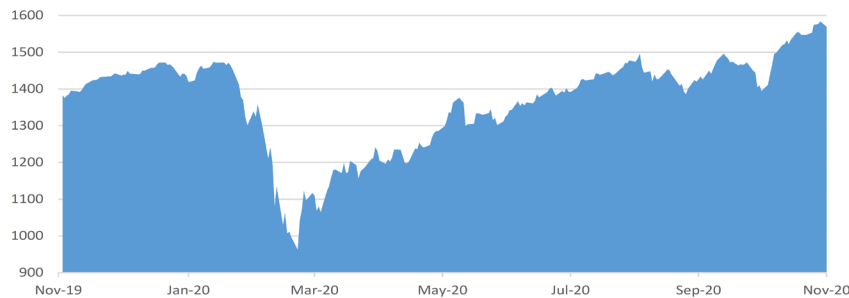
## MSCI ACWI Index (Global Equity Market)\*

Trailing Returns (%)			Annualized Returns (%)			
1-month	3-month	YTD	1Y	3Y	5Y	10Y
12.7	6.8	10.8	14.7	8.5	10.7	9.4

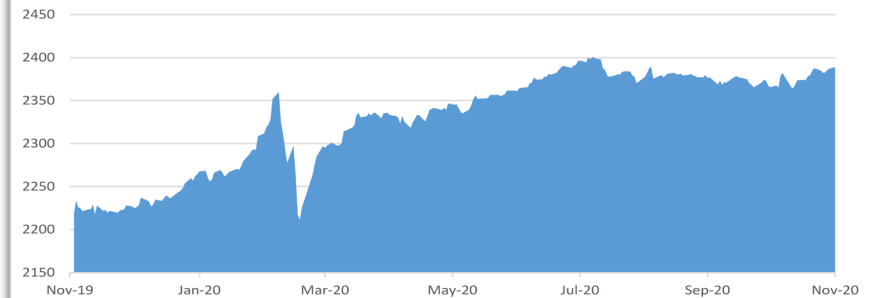
## Russell 3000 Index (U.S. Equity Market)

Trailing Returns (%)			Annualized Returns (%)			
1-month	3-month	YTD	1Y	3Y	5Y	10Y
12.2	5.8	15.7	19.0	13.2	14.0	14.0

MSCI ACWI IMI Index (Global Equity Markets)



Barclays U.S. Aggregate Bond Index



## MSCI Emerging Market Index

Trailing Returns (%)			Annualized Returns (%)			
1-month	3-month	YTD	1Y	3Y	5Y	10Y
9.3	9.7	10.2	18.4	3.9	10.7	3.6

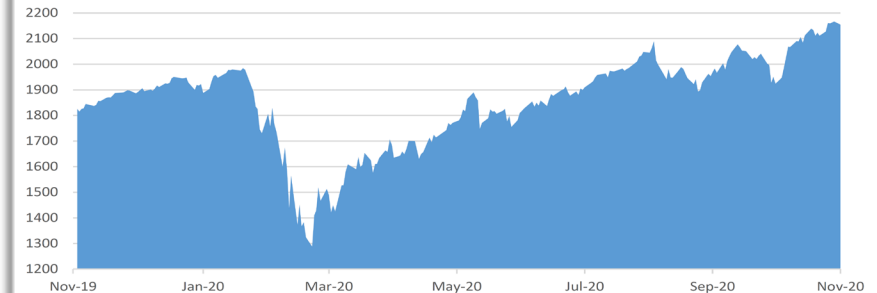
## Barclays U.S. Aggregate Bond Index\*\*

Trailing Returns (%)			Annualized Returns (%)			
1-month	3-month	YTD	1Y	3Y	5Y	10Y
1.0	0.5	7.4	7.3	5.5	4.3	3.7

MSCI Emerging Markets 1-Year Performance



Russell 3000 1-Year Performance



\*Global Equity Policy Benchmark - MSCI ACWI IMI Index

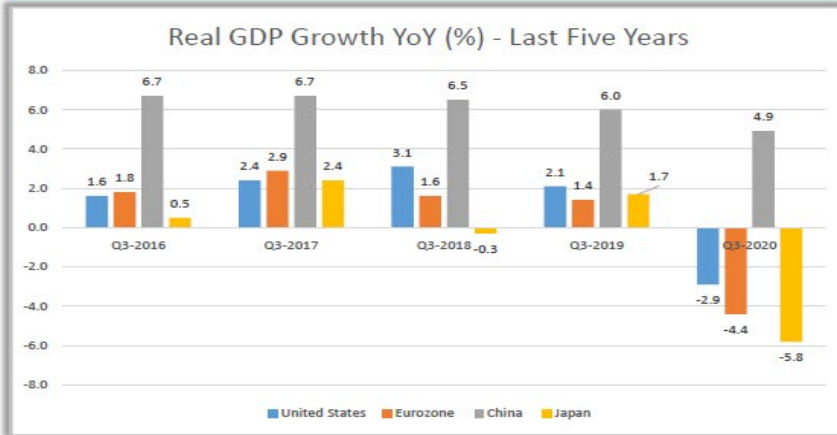
\*\*Investment Grade Bonds Policy Benchmark - Barclays U.S. Aggregate Bond Index

Source: Bloomberg

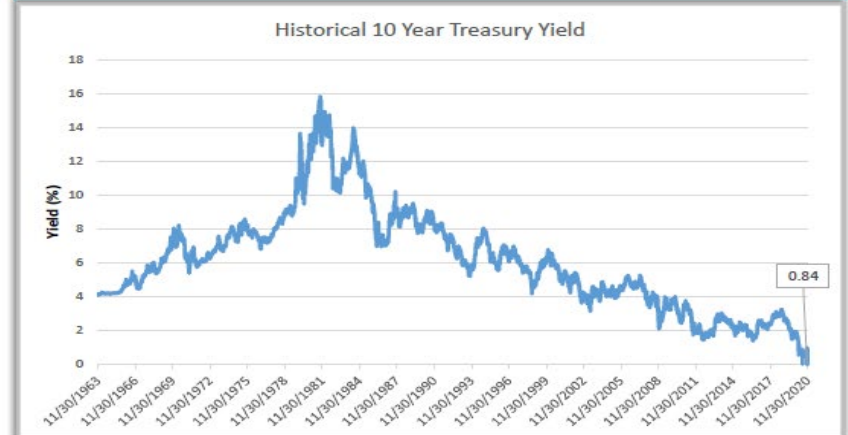


# Key Macro Indicators\*

## GDP Growth of Major Economies<sup>1</sup>



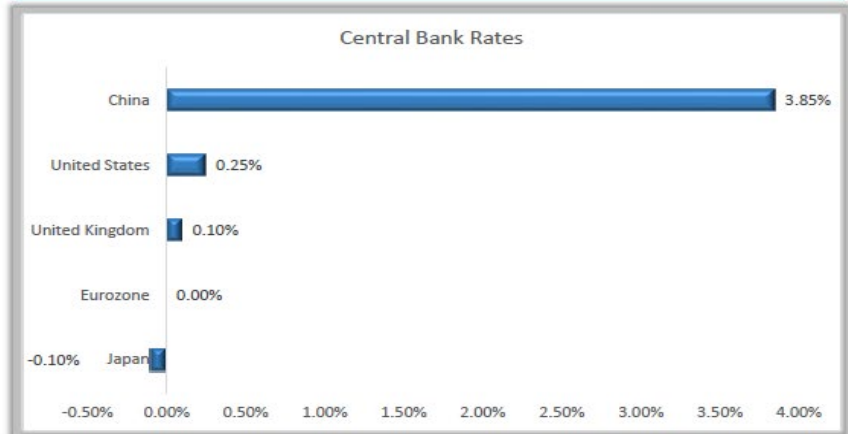
## Historical Low for 10-Year Treasury Yield<sup>2</sup>



## World Equity Valuation<sup>3</sup>



## Central Bank Rates<sup>4</sup> (as of 11/30/2020)



Sources: 1. Bloomberg  
2. St. Louis Federal Reserve

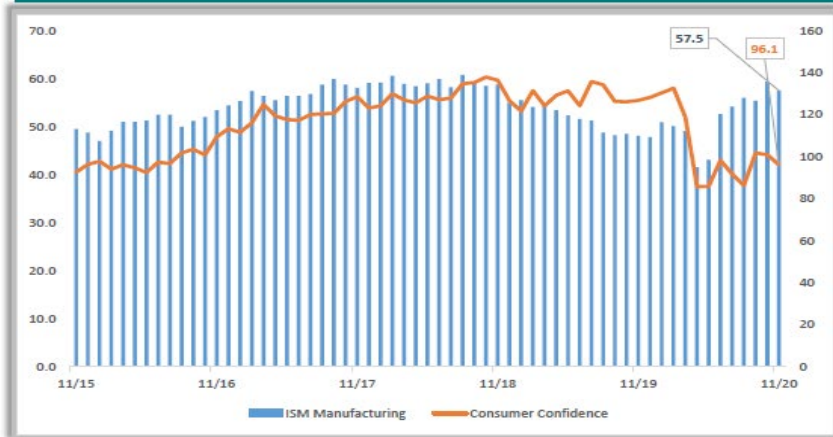
3. FactSet  
4. FactSet

\*The information on the "Key Macro Indicators" charts is the best available data as of 11/30/20 and may not reflect the current market and economic environment.

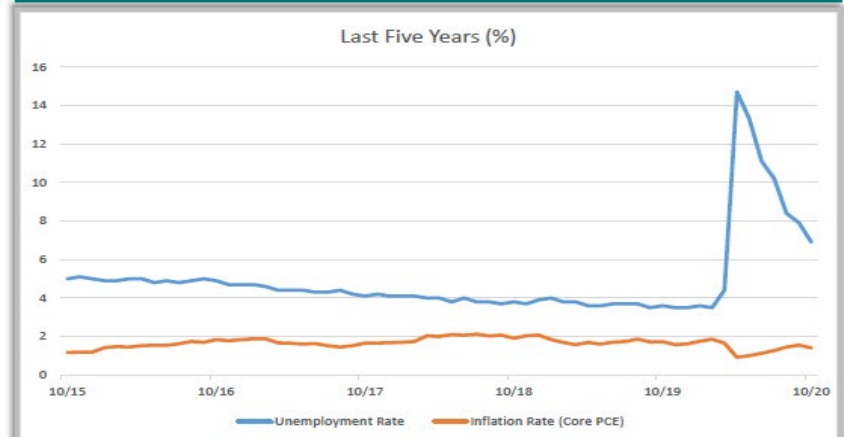


# Key Macro Indicators\*

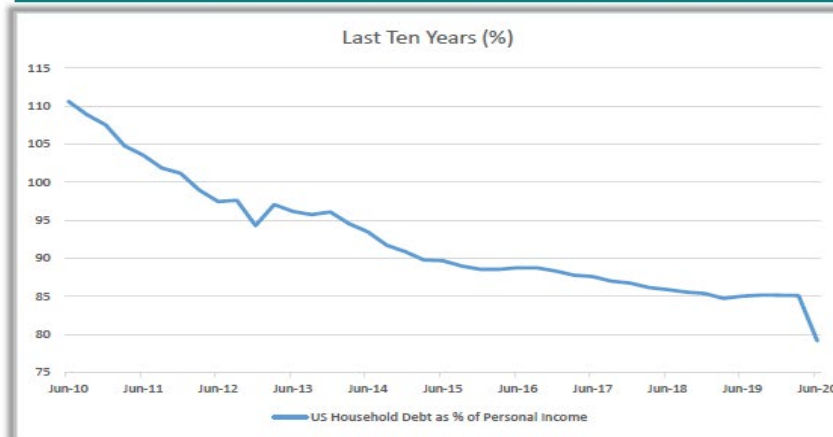
### Consumer Confidence & ISM Manufacturing<sup>1</sup>



### U.S. Inflation & Unemployment<sup>2</sup>



### U.S. Household Debt as % of Personal Income<sup>3</sup>



### U.S. Treasury "Real" Yield Curve<sup>4</sup>



Sources: 1. Bloomberg 3. Bloomberg  
2. Bloomberg 4. U.S. Treasury

\*The information on the "Key Macro Indicators" charts is the best available data as of 11/30/20 and may not reflect the current market and economic environment



# Market Themes and Notable Items to Watch

## Recent Themes

- COVID-19
  - More than 63 million cases and 1.4 million deaths worldwide
    - Over 13 million cases in the U.S.
    - Over 15 million cases in Brazil and India
    - New peak seven-day average of more than 172,000 new cases per day in the U.S. set on November 25<sup>th</sup>
- Resurgence of COVID-19 cases brings curfews and other restrictions to select parts of the world
- Fed Chair Jerome Powell – “the outlook for the economy is extraordinarily uncertain”
- Investor optimism rose in November
  - Election outcomes pointing to a U.S. national government divided by political party
  - Positive news on COVID vaccines
- Global equities (MSCI ACWI) reached all-time highs in November
- U.S. dollar set a 2-year low in November

## What to Watch

- COVID-19
  - Global spread
  - Treatment developments
  - Lasting impact
- Social equity and civil rights initiatives
- Unemployment and consumer spending
- Potential government infrastructure spending
- Health of corporate balance sheets and credit availability
- Interest rates and inflation data
- Geopolitical risks and trade arrangements



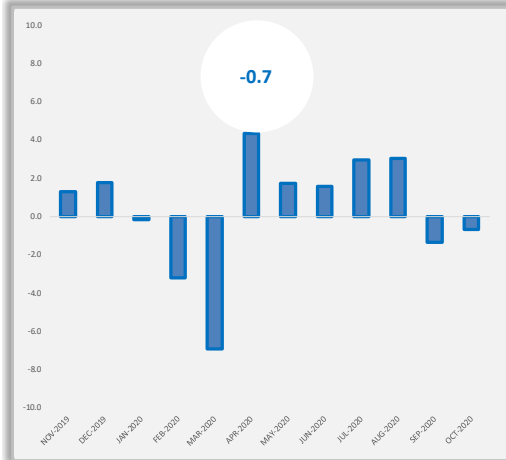
# Portfolio Performance Updates



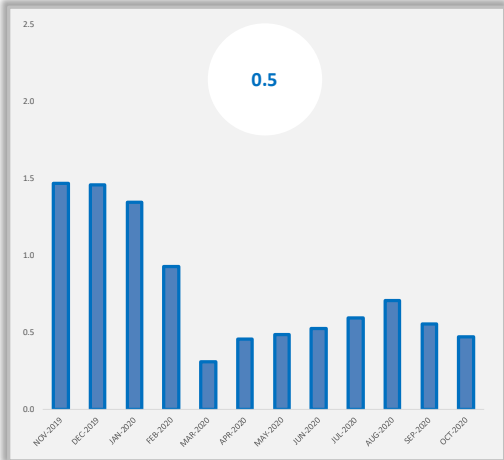


# Total Fund Summary as of October 2020

## Monthly Return (% net)



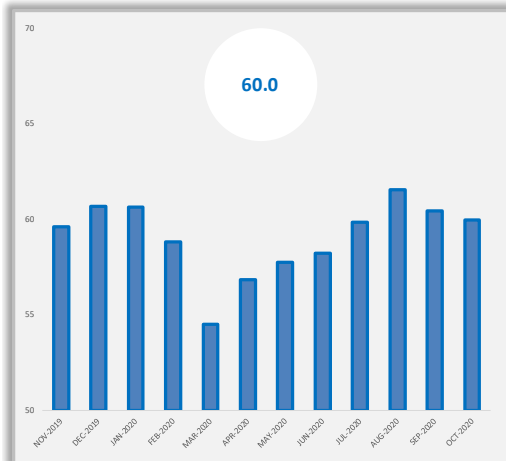
## Sharpe Ratio (3-Year Annualized)



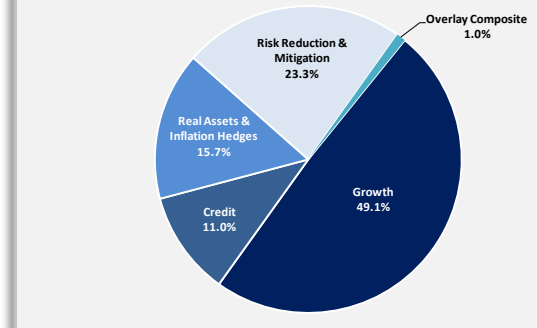
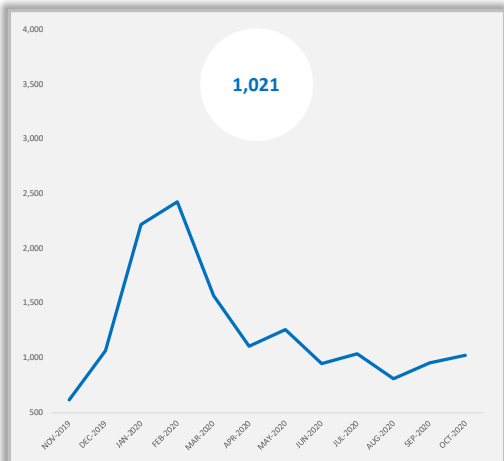
## Asset Allocation

	Market Value <sup>1</sup> (\$ millions)	% of Total	Final Target <sup>2</sup>
<b>TOTAL FUND</b>	<b>59,956</b>	<b>100.0%</b>	
<b>Growth</b>	<b>29,412</b>	<b>49.1%</b>	<b>47.0%</b>
Global Equity	21,597	36.0%	35.0%
Private Equity <sup>3</sup>	7,100	11.8%	10.0%
Opportunistic Real Estate <sup>4</sup>	716	1.2%	2.0%
<b>Credit</b>	<b>6,587</b>	<b>11.0%</b>	<b>12.0%</b>
High Yield	2,016	3.4%	3.0%
Bank Loans	2,450	4.1%	4.0%
Emerging Market Debt	823	1.4%	2.0%
Illiquid Credit <sup>3,4,5</sup>	1,296	2.2%	3.0%
<b>Real Assets &amp; Inflation Hedges</b>	<b>9,387</b>	<b>15.7%</b>	<b>17.0%</b>
Core & Value Added Real Estate <sup>4</sup>	4,393	7.3%	7.0%
Natural Resources & Commodities	2,188	3.6%	4.0%
Infrastructure	1,694	2.8%	3.0%
Treasury Inflation-Protected Securities	1,114	1.9%	3.0%
<b>Risk Reduction &amp; Mitigation</b>	<b>13,988</b>	<b>23.3%</b>	<b>24.0%</b>
Investment Grade Bonds	11,025	18.4%	19.0%
Diversified Hedge Fund Portfolio <sup>5</sup>	1,943	3.2%	4.0%
Cash	1,021	1.7%	1.0%
Overlay Composite <sup>6</sup>	581	1.0%	—

## Total Market Value (\$ billions)



## Cash (\$ millions)



1. Transition balances are included in each subcategory total, if applicable  
 2. Final target weights effective as of 10/1/19  
 3. Private Equity market values reflect latest available and are adjusted for cash flows

4. Real Estate market values reflect a 3-month lag and best available values  
 5. Hedge Fund market values reflect a 1-month lag  
 6. Reflects net cash position for overlay investing

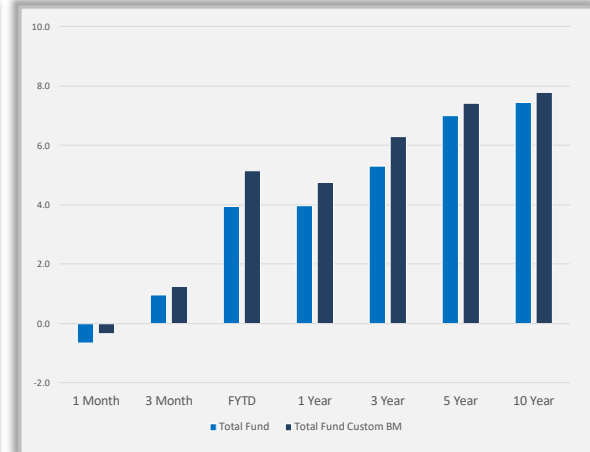


# Historical Net Performance as of October 2020\*

## LACERA Pension Fund (net)

	Market Value (\$ millions)	% of Total Fund	Final Target <sup>1</sup>	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year
<b>TOTAL FUND</b>	<b>59,956</b>	<b>100.0%</b>	<b>100.0%</b>	<b>-0.7</b>	<b>1.0</b>	<b>3.9</b>	<b>4.0</b>	<b>5.3</b>	<b>7.0</b>	<b>7.5</b>
Total Fund Custom BM				-0.3	1.3	5.2	4.8	6.3	7.4	7.8
7% Annual Hurdle Rate				0.57	1.71	2.28	7.00	7.00	7.00	7.00
<b>Functional Composites<sup>2</sup></b>				<b>1 Month</b>	<b>3 Month</b>	<b>FYTD</b>	<b>1 Year</b>			
<b>GROWTH</b>	<b>29,412</b>	<b>49.1%</b>	<b>47.0%</b>	<b>-1.3</b>	<b>2.3</b>	<b>6.0</b>	<b>5.1</b>			
Growth Custom BM				-0.5	3.3	9.8	6.3			
<b>CREDIT</b>	<b>6,587</b>	<b>11.0%</b>	<b>12.0%</b>	<b>0.6</b>	<b>1.9</b>	<b>5.5</b>	<b>1.5</b>			
Credit Custom BM				0.2	1.0	3.6	4.1			
<b>REAL ASSETS &amp; INFLATION HEDGES</b>	<b>9,387</b>	<b>15.7%</b>	<b>17.0%</b>	<b>-0.3</b>	<b>-1.5</b>	<b>0.7</b>	<b>-3.1</b>			
Real Assets & Inflation Hedges Custom BM				-0.5	-1.3	0.5	-1.5			
<b>RISK REDUCTION &amp; MITIGATION</b>	<b>13,988</b>	<b>23.3%</b>	<b>24.0%</b>	<b>-0.1</b>	<b>-0.4</b>	<b>1.4</b>	<b>6.4</b>			
Risk Reduction & Mitigation Custom BM				-0.3	-0.9	0.3	5.5			
<b>OVERLAY COMPOSITE</b>	<b>581</b>	<b>1.0%</b>	<b>—</b>							

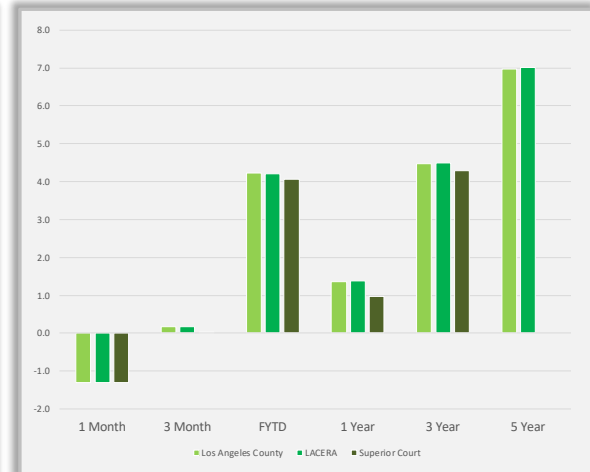
## Historical Returns (net)



## OPEB Master Trust Fund (net)

Sub-Trusts	Market Value (\$ millions) <sup>3</sup>	Trust Ownership %	Final Target	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year
<b>TOTAL OPEB MASTER TRUST</b>	<b>1,631</b>								
Los Angeles County	1,578	96.7%	—	-1.3	0.2	4.2	1.4	4.5	7.0
LACERA	6	0.4%	—	-1.3	0.2	4.2	1.4	4.5	7.0
Superior Court	47	2.9%	—	-1.3	0.0	4.1	1.0	4.3	—
<b>Functional Composites</b>				<b>1 Month</b>	<b>3 Month</b>	<b>FYTD</b>	<b>1 Year</b>	<b>3 Year</b>	
<b>OPEB Growth</b>	<b>807</b>	<b>49.5%</b>	<b>50.0%</b>	<b>-2.2</b>	<b>0.6</b>	<b>5.8</b>	<b>4.6</b>	<b>5.3</b>	
Custom OPEB MT Growth Pool				-2.2	0.5	5.8	4.3	5.0	
<b>OPEB Credit</b>	<b>333</b>	<b>20.4%</b>	<b>20.0%</b>	<b>0.2</b>	<b>0.5</b>	<b>3.5</b>	<b>0.3</b>	<b>—</b>	
Custom OPEB MT Credit Pool				0.3	0.9	3.9	1.1	—	
<b>OPEB Real Assets &amp; Inflation Hedges</b>	<b>324</b>	<b>19.8%</b>	<b>20.0%</b>	<b>-1.2</b>	<b>-1.4</b>	<b>2.0</b>	<b>-11.5</b>	<b>—</b>	
Custom OPEB MT RA & IH Pool				-1.2	-1.6	1.9	-12.1	—	
<b>OPEB Risk Reduction &amp; Mitigation</b>	<b>167</b>	<b>10.2%</b>	<b>10.0%</b>	<b>-0.3</b>	<b>-1.0</b>	<b>0.2</b>	<b>5.4</b>	<b>5.3</b>	
Custom OPEB MT RR & M Pool				-0.4	-1.0	0.2	5.2	5.0	
<b>Operating Cash</b>	<b>0.2</b>	<b>0.0%</b>	<b>—</b>						

## Historical Returns (net)



1. Final target weights effective as of 10/1/19  
2. Functional composites were adopted on 4/1/19

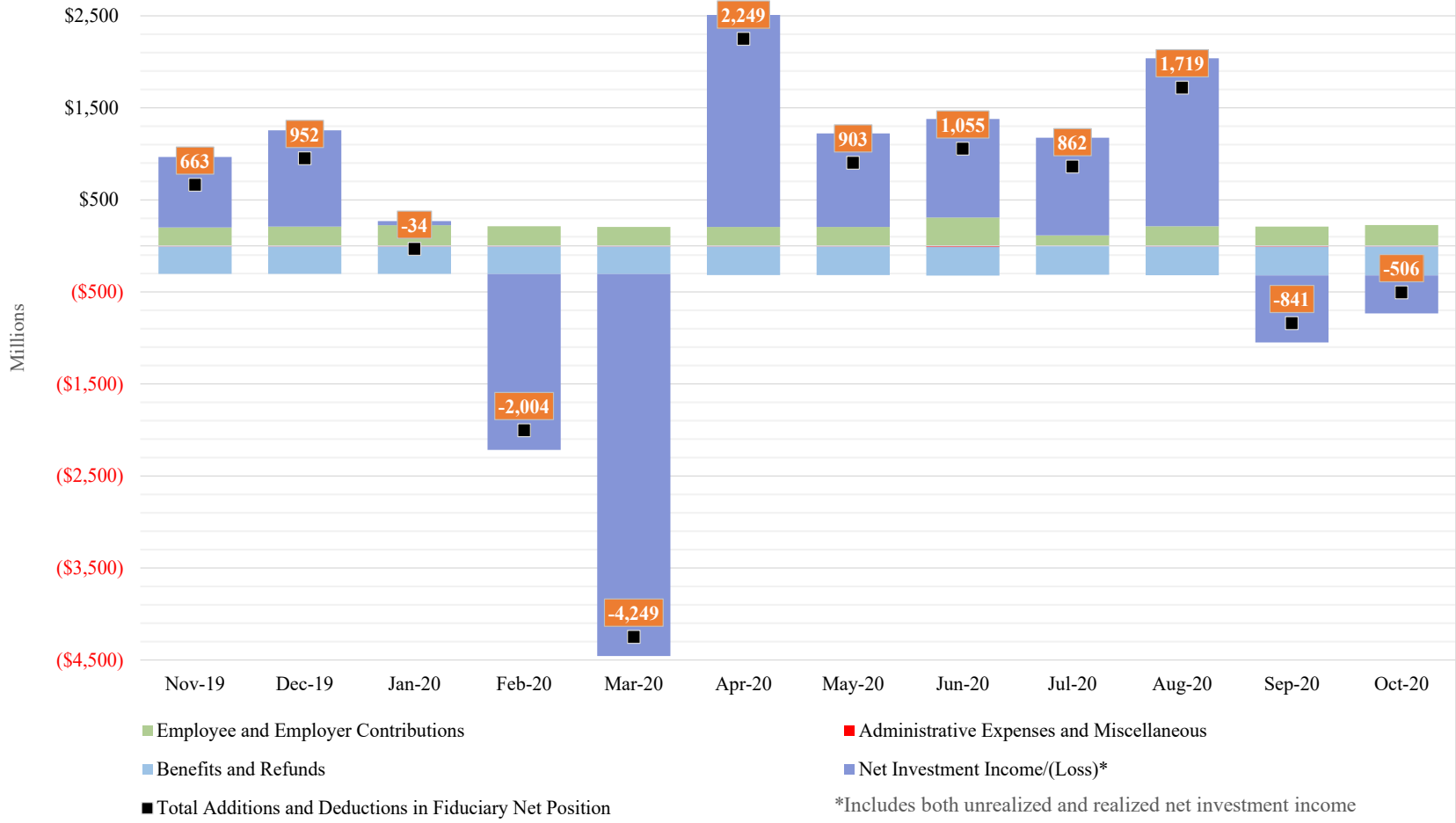
3. Market value differences between the sub-trusts and functional composites are due to operational cash

\* Historical real estate valuations are currently under review, therefore total fund, composite, and benchmark returns are preliminary.



# Change In Fiduciary Net Position

Additions and Deductions in Fiduciary Net Position (Unaudited)



Fiscal Year	Negative Months	Positive Months	Total Net Position Change \$
FY-19	4	8	\$1.9 billion
FY-20	5	7	-
FY-21	2	2	\$1.2 billion



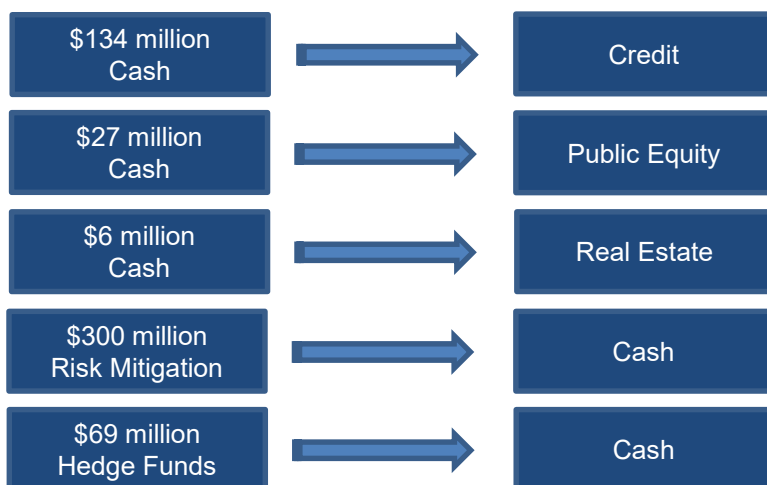
# Portfolio Structural Updates



# Portfolio Structural Updates

## Portfolio Movements

### Rebalancing Activity



### Hedges and Overlays

Program	October Return	October Gain/Loss	Inception* Gain/Loss
Currency Hedge**	0.0%	-\$30.2 Million	\$906 Million
Cash/Rebalance Overlay***	-1.3%	-\$15.7 Million	\$6.5 Million

\*Currency and overlay program inception dates are 8/2010 & 7/2019, respectively

\*\* LACERA's currency hedge program's 1-month return is calculated monthly whereas the monthly gain/loss amount for the same period is the net realized dollar amount at contract settlement over three monthly tranches

\*\*\* LACERA's overlay program's 1-month return includes interest earned on the cash that supports the futures contracts

## Current Search Activity

### Status of Active Searches – Subject to Change

Name	RFP Issued	Due Diligence	BOI Review
Hedge Funds Emerging Manager Program Separate Account Manager	●	●	Anticipated Late 2020
High Yield Fixed Income Investment Management Services	●	●	Anticipated Early 2021
Transition Management Services	●	●	December BOI 2020
Dedicated Managed Account Services	●	●	Anticipated Early 2021
Real Estate Consultant Services	●	●	Anticipated Early 2021
Proxy Research and Proxy Voting Platform Services	●		Anticipated Early 2021

### Quiet Period for Search Respondents

Please see the Appendix for this month's list of respondents to active searches



# Key Initiatives and Operational Updates



# Notable Initiatives and Operational Updates

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## Key Initiative Updates

- Onboarding process of new risk, performance system, and real estate administrator continues
- Ongoing development of T.I.D.E. initiative
- Development of 2021 Workplan

## Operational Updates

- ← The Annual Contract Compliance exercise is underway across public markets
- ← Investments formed a “Back To Office” working group to develop plans to return to the office
- Financial Analyst II & III searches
  - Public Equity, Real Assets and Portfolio Analytics (Corporate Governance)
- Investments formed an Operational Due Diligence (“ODD”) Group to standardize and enhance ODD across the total Fund

## Manager/Consultant Updates

- Barings had a change in management with Mike Freno being promoted from President to Chairman and CEO. Tom Finke left the role of Chairman and CEO at the end of November to pursue another opportunity.
- Deutsche Börse Group AG, in partnership with Institutional Shareholder Services (ISS) management, has entered into a definitive agreement to acquire a majority stake in ISS, which is LACERA’s proxy voting software platform.
- State Street Global Advisors (SSGA) announced that Lori Heinel, Executive Vice President and Deputy Global Chief Investment Officer has been promoted to Global Chief Investment Officer effective by March 31, 2021.
- S&P Global, the parent company of Trucost, part of LACERA’s risk analytics, has announced a transaction with IHS Markit.



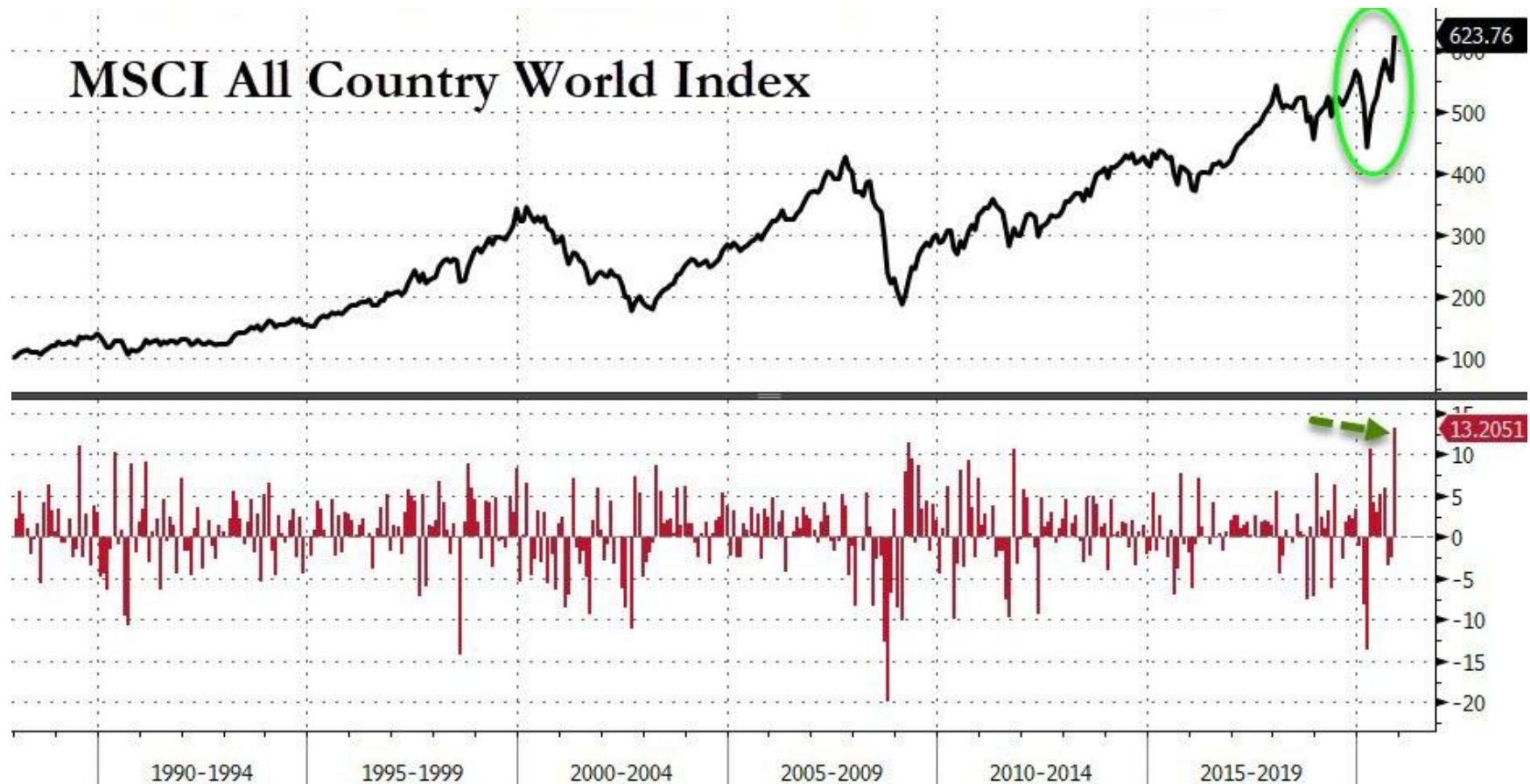


# Commentary



# Staff Chart of the Month\*

## Global Equity All Time Highs; Best Month in Decades



Source: Bloomberg



\* Submitted by the hedge fund team

# Appendix



# Quiet Period for Search Respondents

## Real Estate Consultant Services

- ✓ Albourne
- ✓ Callan, LLC
- ✓ Cambridge Associates
- ✓ Meketa Investment Group
- ✓ NEPC, LLC
- ✓ RCLCO Fund Advisors
- ✓ Stepstone Real Estate

## Dedicated Managed Account Services

- ✓ Blueprint Capital Advisors
- ✓ HedgeMark Advisors LLC
- ✓ HFR Investments LLC
- ✓ Innocap
- ✓ Lighthouse Investment Partners LLC
- ✓ Lyxor Asset Management
- ✓ Man FRM
- ✓ Maples Group
- ✓ Monroe Capital
- ✓ Ultimus LeverPoint Private Fund Solutions
- ✓ Wilshire Associates Inc

## Hedge Funds Emerging Manager Program Separate Account Manager

- ✓ Appomattox Advisory, Inc
- ✓ BlackRock, Inc
- ✓ Goldman Sachs Asset Management
- ✓ GCM Grosvenor
- ✓ New Alpha Asset Management
- ✓ PAAMCO Prisma, LLC
- ✓ The Rock Creek Group, LP
- ✓ Stable Asset Management

## Transition Management Bench Service Provider

- ✓ Blackrock Institutional Trust Company, N.A.
- ✓ Citigroup Global Markets, Inc.
- ✓ Loop Capital Markets
- ✓ Macquarie Capital (USA) Inc.
- ✓ State Street Bank & Trust

## High Yield Fixed Income Investment Management Services

- ✓ Advent Capital
- ✓ Alliance Bernstein
- ✓ Ares
- ✓ AXA
- ✓ Barings
- ✓ BlackRock
- ✓ Columbia Threadneedle
- ✓ Credit Suisse
- ✓ Crescent Capital HY
- ✓ DDJ Capital
- ✓ Eaton Vance
- ✓ Federated Hermes
- ✓ HPS Investment Partners
- ✓ JP Morgan
- ✓ KKR
- ✓ Loomis Sayles
- ✓ Lord Abbett
- ✓ MacKay Shields
- ✓ Mellon
- ✓ Morgan Stanley
- ✓ Muzinich
- ✓ Nomura
- ✓ Payden and Rygel
- ✓ PGIM
- ✓ PIMCO
- ✓ PineBridge
- ✓ Post Advisory
- ✓ Seix Advisors
- ✓ Shenkman Capital
- ✓ T. Row Price
- ✓ Van Eck Associates
- ✓ Wellington
- ✓ Western Asset
- ✓ Yorkville Asset Management



November 17, 2020

TO: Trustees– Board of Investments  
FROM: Equity: Public/Private Committee

Christopher Wagner *CW*  
Principal Investment Officer

Derek Kong *DK*  
Investment Officer

Cheryl Lu *CL*  
Investment Officer

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **PRIVATE EQUITY CONSULTANT – REQUEST FOR PROPOSAL,  
MINIMUM QUALIFICATIONS, AND SCOPE OF WORK**

### **RECOMMENDATION**

Approve the proposed private equity consultant search Minimum Qualifications, Evaluation Criteria, and Scope of Work advanced by the Equity Committee.

### **BACKGROUND**

At the November 5, 2020 Equity Committee meeting, LACERA proposed Minimum Qualifications (“MQs”), Evaluation Criteria, and Scope of Work (“SOW”) (**Attachment A**) for a private equity consultant search which the Equity Committee (the “Committee”) modified and advanced. Page 5 of the attached PowerPoint slide deck lists the MQs.

### **OPTIONS AVAILABLE TO THE BOARD**

The Board may wish to approve, modify, or reject the recommendation.

### **DELIBERATIONS AND OPINIONS EXPRESSED BY THE COMMITTEE**

The Committee unanimously approved the recommendation, as modified, to advance the MQs for a private equity consultant Request for Proposal (the “RFP”). The Committee asked that one modification be made to the recommendation:

- The evaluation team will be expanded to include a Trustee from the Committee, appointed by the Board Chair, for Phase II of the evaluation.

Staff has incorporated the Committee's requested change in red in the Evaluation Process included in **Attachment I**.

A Committee member inquired as to the current evaluation process for LACERA's private equity consultant. Currently, all consultants submit an annual self-assessment which is provided to the Board for review. As part of the 2021 Investments Division Work Plan, LACERA will review the efficacy of the consultant evaluation process and propose options for improvement.

### **RISK OF ACTION AND INACTION**

If the Board approves the recommendation, LACERA will issue an RFP to conduct a search for a private equity consultant.

Should the Board reject the recommendation, the current consultant, the Stepstone Group ("SSG") will continue to be LACERA's private equity consultant and after October 2021, SSG's contract will be renewed on an annual basis.

### **CONCLUSION**

The Committee unanimously approved the recommendation, as modified, to advance the MQs, Evaluation Criteria, and SOW for a private equity consultant RFP to the Board for approval. If the Board approves, LACERA will issue an RFP using the attached MQs, Evaluation Criteria, and SOW and present a recommendation to the Board with a target date of September 2021.

Attachments

Noted and Reviewed:




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Jonathan Grabel  
Chief Investment Officer

October 20, 2020

TO: Trustees – Equity: Public/Private Committee

FROM: Christopher Wagner   
Principal Investment Officer

Derek Kong   
Investment Officer

Cheryl Lu   
Investment Officer

FOR: November 5, 2020 Equity: Public/Private Committee Meeting

SUBJECT: **PRIVATE EQUITY CONSULTANT – REQUEST FOR PROPOSAL,  
MINIMUM QUALIFICATIONS, AND SCOPE OF WORK**

### **RECOMMENDATION**

Advance the proposed Minimum Qualifications, Evaluation Criteria, and Scope of Work to the Board of Investments for approval.

### **BACKGROUND**

Staff prepared materials related to the Private Equity Consultant RFP for discussion with the Equity Committee. **ATTACHMENT I** describes the recommended search criteria in compliance with the Procurement Policy for Investment-Related Services. This includes: (i) scope of services; (ii) Minimum Qualifications; (iii) search timing; (iv) structure of the evaluation team; (v) evaluation criteria, and (vi) the selection authority. **ATTACHMENT II** outlines the detailed Scope of Work. Following this discussion, staff will incorporate any recommended changes before presenting the revised documents to the Board of Investments for consideration.

Attachments

Noted and Reviewed:



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Jonathan Grabel  
Chief Investment Officer



**Private Equity Consultant Search  
Request for Proposal  
Minimum Qualifications**

**Equity: Public/Private Committee Meeting**  
November 5, 2020



**Christopher Wagner, Principal Investment Officer**  
**Derek Kong, Investment Officer**  
**Cheryl Lu, Investment Officer**

# Recommendation and Background

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## Recommendation

- Advance the proposed Minimum Qualifications, Evaluation Criteria, and Scope of Work to the Board of Investments for approval

## Background

- Last private equity consultant search was conducted in 2016 via RFP which went through a competitive search process
- The Stepstone Group (“SSG”) was selected and retained in October of 2016
- The current agreement with SSG has a five-year term which expires in October 2021, then renews automatically every year, subject to a 30-day notice of termination at LACERA’s convenience

# Evaluation Process

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- Proposed Evaluation Team would consist of one Principal Investment Officer and two Investment Officers. ~~, and board members who wish to participate during the interview phase~~ A Trustee, appointed by the Board Chair, will be included for Phase II of the evaluation
- Evaluation Team will conduct the Request for Proposal process in two phases:
  - Phase One: Evaluation of written RFP responses
  - Phase Two: Candidate interviews (virtual and possibly on-site)
- Final scores, evaluation review, and recommendation will be advanced to the Board
- Selection authority for this RFP will be the Board

# Proposed Search Timeline



I  
Nov 20 - Jan 21

II  
Mar 21

III  
Jun 21

IV  
Sept 21

Phase	Steps	Actions	Firms in Process (Est.)	Timing	Status
I	RFP Design and Launch	<ul style="list-style-type: none"> <li>- Equity Committee and BOI approval of search recommendation including composition of Evaluation Team</li> <li>- Publish the RFP document</li> </ul>	N/A	Nov 20 - Jan 21	In process
II	RFP Evaluation	<ul style="list-style-type: none"> <li>- Evaluation Team to review and rank RFP responses, select semi-finalists</li> </ul>	10-15	March 2021	Not started
III	Semi-Finalist Evaluation	<ul style="list-style-type: none"> <li>- Evaluation Team conducts interviews, completes reference checks</li> </ul>	5-6	June 2021	Not started
IV	Finalist Recommendations	<ul style="list-style-type: none"> <li>- Evaluation Team presents review of RFP responses and finalists recommendation to the BOI</li> <li>- Finalists present to BOI</li> <li>- BOI selects consultants</li> </ul>	2-3	Sept 2021	Not started



# Minimum Qualifications

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1. The firm and its principals must have experience providing consulting services relating to private equity funds and co-investments to public or private clients with private equity portfolios, in aggregate, of at least \$7 billion in committed capital.
2. The firm must have at least five clients, including one U.S. public pension fund.
3. The firm must maintain and provide staff with access to a searchable database containing relevant performance metrics of domestic and international private equity managers and private equity-owned businesses tracked by the firm.
4. The firm must have international offices with fully dedicated private equity investment professionals based in those offices.
5. The primary account consultant must have at least five years of experience in a lead role recommending domestic and international private equity funds in a variety of strategies (e.g., venture capital, growth, buyout, and special situation) for investment.
6. Must agree to be a fiduciary to LACERA under California and other applicable law.



# Evaluation Criteria

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All responses received shall be subject to evaluations on the following seven categories:

1. Organization
2. Professional Staff
3. Technology
4. Research Capabilities
5. Service Model
6. Conflicts of Interest
7. Fees



# Scope of Work Summary

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## **Strategic Consulting:**

- Provide recommendations concerning long-term investment policy, objectives, and strategy for LACERA's private equity portfolio that is consistent with LACERA's Investment Policy Statement
- Advise on structure reviews of the private equity portfolio and provide an opinion to the Board on each structure review outlining any concerns or concurrence
- Provide comprehensive information and research regarding significant changes in the private equity industry, including best practices, trends, and major events

## **Sourcing and Due Diligence:**

- Conduct independent evaluations of fund opportunities and provide detailed written recommendations, including results of investment and operational due diligence, strategic considerations, and LACERA portfolio fit
- Provide LACERA with access to Consultant's database containing all investment due diligence produced by Consultant on private equity funds and private equity-owned businesses
- Create a sourcing program that incorporates LACERA's and Consultant's resources to identify investment opportunities for LACERA's private equity portfolio

## **Physical Presence at Meetings:**

- Attend all Board of Investments meetings, equity committee meetings, annual off-site meetings, and other meetings as requested by LACERA

## **Collaboration with Board, Staff, and General Consultant:**

- Provide educational workshops to the Board
- Collaborate with LACERA's general consultant to provide ongoing advice and technical support in the establishment and refinement of portfolio asset allocation, investment goals and objectives, and investment policies and procedures



**SCOPE OF WORK**

**Strategic Consulting**

- Carry out the Board’s strategic goals and initiatives and report directly to the Board.
- Provide recurring recommendations concerning long-term investment policy, objectives, and strategy for LACERA’s private equity portfolio that are consistent with LACERA’s Investment Policy Statement.
- Review applicable investment policies and objectives prepared and established by LACERA and recommend any changes or modifications as may be appropriate in light of changes in the private equity portfolio, private equity markets, and capital markets.
- Advise on structure reviews of LACERA’s private equity portfolio, recommend any changes or modifications as may be appropriate, and provide an opinion to the Board on each structure review outlining any concerns or concurrence. Structure reviews are periodic, forward-looking reviews performed by staff of portfolio construction and investment plan for the private equity portfolio.
- Provide information and comprehensive research regarding significant changes in the private equity industry, including best practices, trends, and major events.
- Provide LACERA staff, on a quarterly basis, a rolling 24-month forward calendar of high conviction general partners, presented by investment strategy and geography.
- Present and provide a full review of the private equity portfolio to the Board on at least an annual basis.

**Sourcing, Diligence, and Monitoring**

- Create a sourcing program that incorporates LACERA’s and Consultant’s resources to identify investment opportunities that are consistent with LACERA’s investment policies, objectives, and strategy.
- Provide LACERA with access to Consultant’s database containing all investment due diligence produced by Consultant on private equity funds and private equity-owned businesses, including all operational and quantitative due diligence reports produced by Consultant, all performance information obtained by Consultant, and all investment committee reports prepared by Consultant.
- Conduct independent evaluations and provide written recommendations on private equity fund investment opportunities as requested by LACERA. Recommendations will include a detailed memorandum outlining the results of Consultant’s due diligence, strategic

considerations, and fit within the LACERA portfolio, as well as merits and concerns of the investment. Due diligence must include an evaluation of the prospective manager's investment history, team, performance and strategy, as well as operational evaluation of the prospective manager's governance, organization, back office, accounting, external relationships, risk systems, cash controls, and valuation methodologies. Due diligence should also incorporate environmental, social, governance factors, and diversity and inclusion considerations.

- Provide LACERA staff guidance and introductions to managers executing successful investment strategies in niche markets and geographies.
- Provide LACERA with all Consultant-generated private equity market/industry research and make Consultant's research staff available to LACERA as requested.
- Evaluate and provide written recommendations on any amendments to fund partnership agreements proposed by sponsors of funds in which LACERA is an investor, including, without limitation, amendments regarding fund restructurings, fee waivers, term extensions, and investor liquidity options.
- Evaluate secondary interests offered to LACERA by private equity fund sponsors and provide LACERA with guidance on the valuation of the interests offered and appropriateness of the interest for LACERA's portfolio.
- Report to LACERA on changes with existing investment managers that could reasonably be expected to materially and negatively affect the performance of the fund in which LACERA is an investor, including any organizational, structural or key personnel changes, or client turnover.
- Notify LACERA of any identified material issues that may impact investment performance and recommend a course of action to enhance returns or mitigate risk.
- Assist LACERA staff in providing detailed attribution analysis on the private equity portfolio, including reasons for over/under performance compared to applicable benchmarks.
- Provide other reasonably requested consulting services ancillary to identification, analysis and evaluation of goals, strategies and objectives of the private equity portfolio.

### **Physical Presence at Meetings**

- Consultant's representatives will be required to attend:
  - One Board of Investments meeting per month (typically the second Wednesday);
  - Equity committee meetings (typically once per quarter);

- Annual Board off-site meeting (typically 2-3 days in July); and
- Meetings as requested by the Board or LACERA staff to (i) present research, analyses, written reports and recommendations, and (ii) respond to questions relating to private equity portfolio or market in general.

### **Collaboration with Board and Staff**

- Provide assistance on special projects as requested by LACERA and participate in ad hoc workshops on specific issues designated by the Board.
- Respond to inquiries between meetings in an appropriate and timely manner and is expected to communicate with and be available to LACERA Trustees as needed.
- The Board will review and evaluate the Consultant annually to ensure that services and communications provided by the Consultant are clear, effective, and meaningfully aligned with the Board's overall policy objectives, and that the Board is receiving the quality services envisioned at the time of Consultant's engagement. The Consultant will provide the Board with the necessary information to conduct an annual assessment, including but not limited to, a completed self-assessment questionnaire, a list of projects showing status of completion, and status of changes recommended by the Board at the prior evaluation.
- The Consultant may also be asked to provide other services on a time and materials basis as required by the Board and/or LACERA staff.
- Periodically provide educational presentations to the Board on specific issues.

### **Collaboration with General Consultant Regarding Formulation and Review of Investment Goals, Objectives, Policies, and Procedures**

- Collaborate with LACERA's general consultant to provide ongoing advice and technical support in the establishment and refinement of portfolio strategic asset allocation, investment goals and objectives, and LACERA policies and procedures. The Consultant will produce and utilize investment pacing models, as requested by staff.
- LACERA periodically engages the services of the general consultant and actuary to conduct an asset/liability modeling study. While the general consultant will take the lead on asset liability studies, the Consultant shall assist in any matter necessary and applicable.

November 25, 2020

TO: Trustees – Board of Investments

FROM: Equity: Public/Private Committee

Christopher J. Wagner *CJW*  
Principal Investment Officer

Ted Wright, CFA, FRM, PRM, CAIA *TW*  
Principal Investment Officer

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **GROWTH FUNCTIONAL CATEGORY BIENNIAL STRUCTURE  
REVIEW**

### **RECOMMENDATION**

Approve the Growth Functional Category Biennial Structure Review.

### **BACKGROUND**

On November 5, 2020, LACERA presented the Growth Functional Category Biennial Structure Review (“Growth Structure Review”) (**Attachment**) to the Equity: Public/Private Committee. The Growth Structure Review combined the Global Equity and Private Equity asset categories. While Opportunistic Real Estate is also part of the Growth functional category, its structure review was included in the Real Assets and Inflation Hedges Structure Review in October.

The Growth Structure Review recommends the reaffirmation of the Global Equity and Private Equity investment guidelines, the continuation of the 2020 Private Equity commitment pace of \$1.6 billion in 2021, and the adoption of several Private Equity co-investment and secondary program investment parameter changes. Proposed parameter changes include: (1) raising the maximum co-investment size from \$40 million to \$70 million; (2) increasing deployment pace to co-investments and secondaries from \$350 million per year to \$450 million per year; (3) expanding co-investment deal types to include pre-EBITDA companies; (4) eliminating primary fund minimum capital invested requirements for secondary opportunities; and (5) providing staff the ability to make non-U.S co-investments. The Committee voted to advance the Growth Structure Review to the Board of Investments for approval with no changes.

### **OPTIONS AVAILABLE TO THE BOARD**

The Growth Structure Review covers the Growth functional category comprised of Global Equity and Private Equity, but not Opportunistic Real Estate. If the Board does not approve the Growth

Structure Review, staff will consult with the Committee and propose an alternative or include the Board's direction in revised documents.

### **DELIBERATIONS AND OPINIONS EXPRESSED BY THE COMMITTEE**

Some of the opinions expressed by Committee members during its discussion include the following:

In response to a question from Committee members, it was noted that the private equity emerging and frontier market exposure stands at 12.3%, slightly below the MSCI ACWI benchmark weight of 12.5%. LACERA reaffirmed its commitment to assessing these markets due to their high growth potential.

Committee members acknowledged the benefits of the Private Equity Co-Investment Program as transforming LACERA from an allocator to an investor while at the same time reducing management fees paid by Trust.

### **RISKS OF ACTION AND INACTION**

Board approval of the Growth Structure Review authorizes LACERA to commit \$1.6 billion in 2021 to private equity investments during the coming calendar year (+/- 20%). The capital deployment amounts for subsequent years will be revisited after the Board completes the 2021 strategic asset allocation exercise.

If the Board does not approve the Growth Structure Review, private equity investments and strategy initiatives could be delayed.

### **CONCLUSION**

LACERA, in consultation with the Meketa Investment Group (LACERA's general consultant) and the StepStone Group (LACERA's private equity consultant), proposed the Growth Structure Review, the primary planning document for the Growth functional category. The Equity: Public/Private Committee reviewed and advanced the document for approval at its November 2020 meeting. Approval of the Growth Functional Category Biennial Structure Review is recommended.

Attachment

Noted and Reviewed:



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Jonathan Grabel  
Chief Investment Officer



October 23, 2020

TO: Trustees – Equity: Public/Private Committee

FROM: Christopher J. Wagner *cfw*  
Principal Investment Officer

Ted Wright *TW*  
Principal Investment Officer

FOR: November 5, 2020 Equity: Public/Private Committee Meeting

SUBJECT: **GROWTH FUNCTIONAL CATEGORY BIENNIAL STRUCTURE REVIEW**

### RECOMMENDATION

Advance the Growth functional category Biennial Structure Review and the proposed modifications to the Private Equity program as recommended on slide 37 of the attached presentation to the Board of Investments for approval.

### BACKGROUND

This biennial Growth functional category structure review combines the Global Equity and Private Equity asset categories. While Opportunistic Real Estate is also part of Growth, its structure review was included in the Real Assets functional category structure review last month.

The benefit of a consolidated structure review at the functional level is the specific role each functional category plays in the Fund. For example, Growth's role in the portfolio is that of primary driver of long-term total returns for the Fund.

Staff has prepared the Growth functional category Biennial Structure Review (**Attachment A**) for evaluation by the Equity: Public/Private Committee and ultimately for approval by the Board of Investments ("Board"). The structure review identifies key themes and outlines upcoming initiatives across the functional category. A key purpose of the Growth structure review is to establish the framework to optimize LACERA's Global Equity portfolio for the 2021 calendar year. A second purpose of the Growth structure review is to establish an appropriate commitment pace for Private Equity in the 2021 calendar year and ensure appropriate diversification to private equity investment strategies (i.e., Buyouts, Venture Capital, and Co-Investments/Fund-of-Funds).

### GLOBAL EQUITY

The purpose of this structure review for Global Equity, since the consolidation of the portfolio into a single global structure in April 2019, is to identify initiatives that strengthen processes and evaluate portfolio construction in the 2021-2022 calendar years.

Trustees approved recommendations in the December 2019 Global Equity Implementation Update to simplify the portfolio's benchmark to the MSCI ACWI IMI Index and establish market capitalization and regional bands for the portfolio relative to the benchmark. These bands help to mitigate risk and construct a more intentional portfolio. Additional recommendations approved by Trustees in 2020 included the

funding of factor strategies, terminating underperforming managers, and trimming of exposures to align the portfolio closer to target weights. These modifications were designed to optimize the risk-adjusted prospects for the global equity portfolio. Their effectiveness will be evaluated over time.

Over the past ten years, capturing above-benchmark returns from U.S. active managers has been a challenge. As a result, staff has identified areas for improvement. In collaboration with the general consultant, Meketa, staff will address these areas in the upcoming year. Discussion topics will include: (1) a review of active management, (2) an evaluation of new portfolio management tools, (3) an assessment of the manager search process, (4) an analysis of the role of activist managers, and (5) a study of the current currency hedging program.

Meketa has reviewed the Global Equity component of the Growth Structure Review. Their comments are in **Attachment B**.

### **PRIVATE EQUITY**

The primary purpose of this structure review for Private Equity is to establish an appropriate commitment pace for the 2021 calendar year, identify key investment themes, outline upcoming initiatives, and ensure appropriate diversification to private equity investment strategies (i.e., Buyouts, Venture Capital, and Co-Investments/Fund-of-Funds). Further, the review proposes certain changes to the parameters of the Co-Investment and Secondary Program.

StepStone calculated a potential annual commitment pace for the 2021-2026 period. Using their investment-pacing model for estimating private equity commitments, for the years covered by this Structure Review, StepStone projected that LACERA should commit up to \$1.6 billion (+/- 20%) in 2021. The wide range recognizes variability in the economy, the private equity marketplace, fund availability, constraints to allocation access, and fluctuations in the total plan assets denominator.

In calculating the projected commitment pace, StepStone made several assumptions about the rate of contributions and distributions to the Fund, economic growth rates, fund durations, and LACERA's commitments by strategy. As the economy and market are subject to change, the pacing model is viewed as a planning tool and proposed investments during the year will depend on market conditions, the availability of high-quality opportunities, and LACERA's overall exposure to private equity.

Staff is proposing several changes to the Co-Investment and Secondary Program that will enhance its effectiveness. The changes include: (1) increase the single investment limit for co-investments, (2) increase the annual deployment pace for co-investment and secondary opportunities, (3) expand the growth capital definition applicable to co-investments, (4) remove certain parameters relating to the maturity of secondary opportunities, and (5) allow for international co-investments to be made directly by LACERA subject to certain conditions.

Throughout calendar year 2021, staff and StepStone will look for quality investments (both re-ups and new) in each investment strategy, in addition to co-investments and secondaries. Over the past five years, LACERA's commitments have been approximately 63% to Buyouts and 78% to U.S. managers. While LACERA will maintain relationships with compelling managers returning to the marketplace, an emphasis in the upcoming period will be on increasing exposure to funds outside of the United States. Staff and StepStone expect this strategy will incorporate several new managers. StepStone's assessment of the Private Equity component of the Growth Structure Review is in **Attachment C**.

## CONCLUSION

As identified in the Structure Review, staff proposes no changes to the Global Equity portfolio structure. Staff will continue to align portfolio exposures with the benchmark, reduce tracking error, and incorporate exposure analysis across the combined public and private equity portfolio.

Staff proposes the Private Equity program to maintain its deployment pace of up to \$1.6 billion (+/- 20%) in 2021. This best positions LACERA to stay at or slightly above the target private equity exposure of 10% of the overall Fund. Staff also proposes modifications to the Co-Investment and Secondary Program parameters to expand the opportunity set available to LACERA.

### Attachments

Noted and Reviewed:



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Jonathan Grabel  
Chief Investment Officer



# Growth Functional Category Biennial Structure Review\*

*\* Select portions of this presentation have been redacted pursuant to California Government Code Sections 54956.81 and 54957.5(a) and will be reviewed in closed session.*

**Equity: Public/Private Committee**

**November 5, 2020**

Christopher J. Wagner – Principal Investment Officer

Ted Wright, CFA – Principal Investment Officer

David Chu – Senior Investment Officer

David E. Simpson, CFA – Investment Officer

Ron Senkandwa – Investment Officer

Jeff Jia – Senior Investment Analyst



**LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION**

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# Role of Growth

Growth<sup>1</sup>

Global Equities

Private Equity

## Growth

Growth investments are the primary driver of long-term total Fund returns

## Global Equities

Within the Growth category, public equity is primarily expected to provide global market beta exposure with alpha (excess returns) as a secondary consideration.

## Private Equity

Within the Growth category, private equity is expected to generate the highest performance at an acceptable level of risk.

<sup>1</sup>Opportunistic Real Estate sub-asset category was reviewed as part of the Real Assets Structure Review.

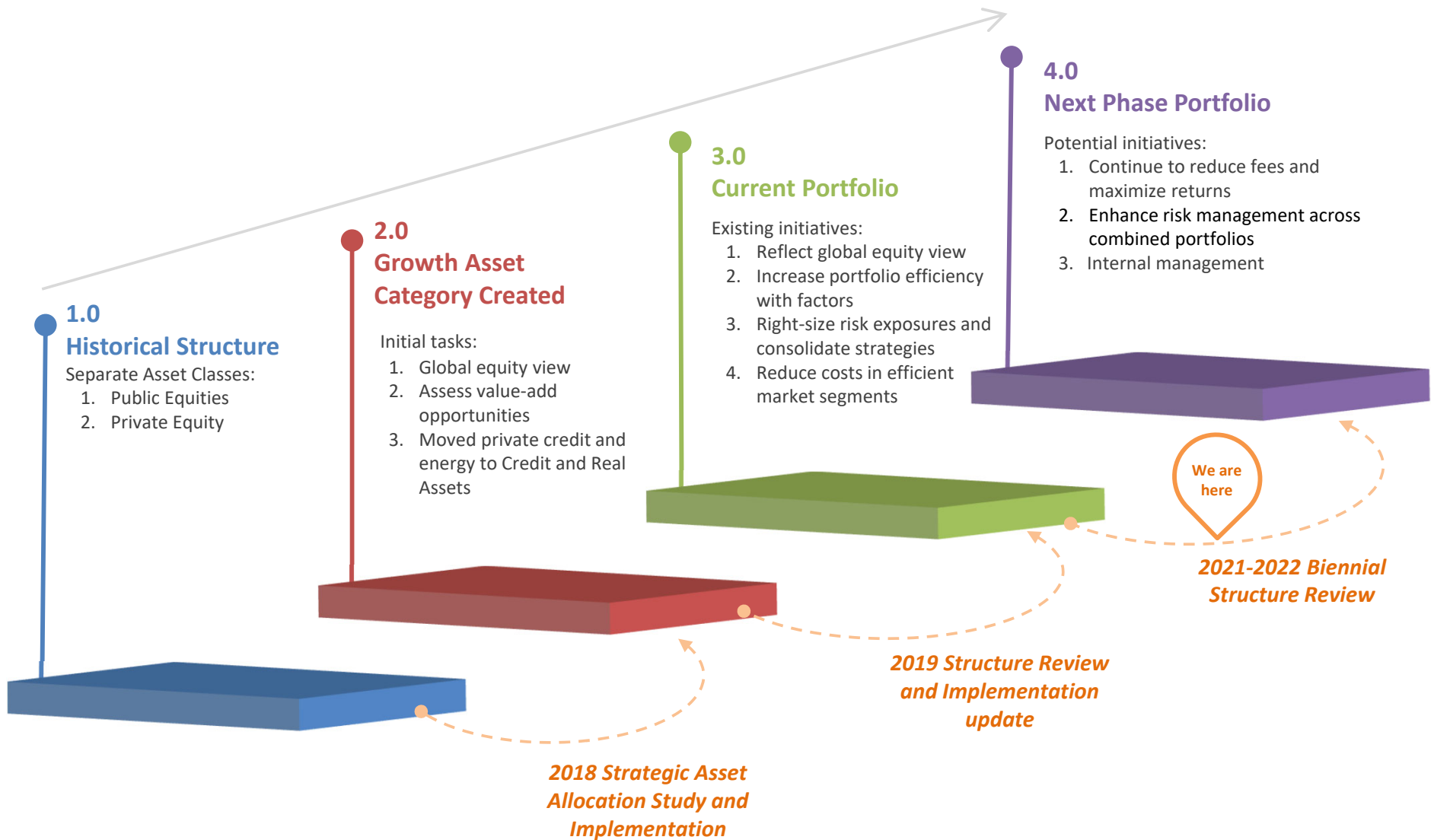


# Role of Growth



- Provides global market beta exposure to growth assets
- Seeks risk-adjusted returns to higher performing private capital assets

# Structure Review – Background

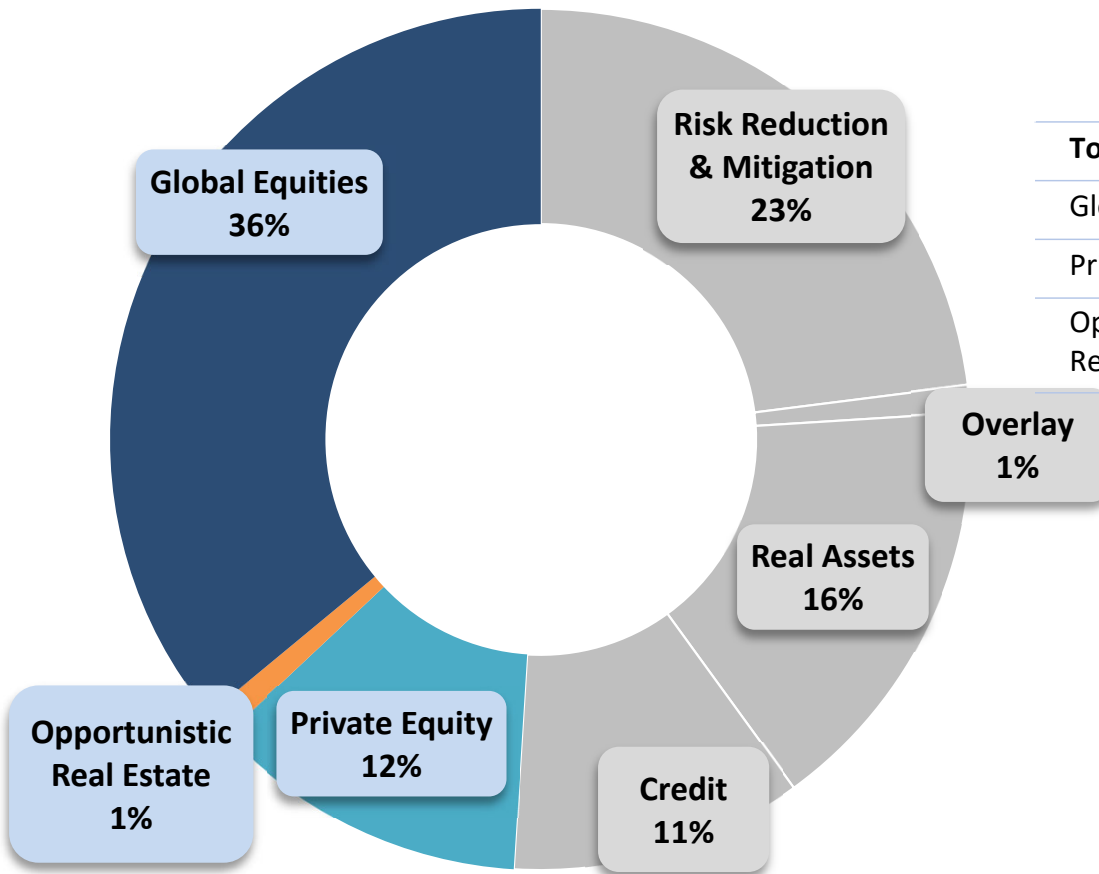


# Growth Portfolio Composition

**Total Fund Asset Allocation\***  
as of September 30, 2020 Preliminary (\$ in millions)

	% of Total	Final Target	Target Ranges	vs Target (%)	vs Target (\$)
<b>Total Growth</b>	<b>48.9%</b>	<b>47.0%</b>	<b>+/- 7%</b>	<b>1.9%</b>	<b>\$1,147</b>
Global Equity	36.3%	35.0%	+/- 7%	1.3%	\$769
Private Equity	11.5%	10.0%	+/- 3%	1.5%	\$905
Opportunistic Real Estate	1.1%	2.0%	+1%/-2%	-0.9%	-\$527

- Growth is overweight by 190 bps
- Largest overweight component is Private Equity by 150 bps or \$905 million



\*Asset weights are preliminary as of September 30, 2020; Private Equity valuation reflect latest available and are adjusted for cash flows.



# Growth Portfolio Composition - Sector Exposures

Data as of June 30, 2020

Sector	LACERA Weights			Benchmark Weight	Difference
	Global Equity	Private Equity	Growth Total		
Communication Services	8.0%	1.5%	6.5%	8.7%	-2.2%
Consumer Discretionary	11.4%	15.4%	12.4%	11.9%	0.5%
Consumer Staples	7.6%	4.7%	6.9%	7.7%	-0.8%
Energy	2.7%	1.2%	2.3%	3.4%	-1.1%
Financials	12.2%	6.4%	10.9%	13.3%	-2.4%
Health Care	12.6%	12.5%	12.6%	12.9%	-0.3%
Industrials	10.3%	13.1%	10.9%	10.3%	0.6%
Information Technology	19.9%	38.5%	24.1%	20.0%	4.1%
Materials	4.3%	4.7%	4.4%	4.9%	-0.5%
Real Estate	3.3%	0.3%	2.6%	3.7%	-1.1%
Utilities	2.8%	0.3%	2.2%	3.2%	-1.0%
[Cash]	0.8%	0.0%	0.7%	0.0%	0.7%
[Unassigned]	4.2%	1.3%	3.6%	0.1%	3.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>0%</b>

## Sector Exposure Commentary

- In the Private Equity portfolio, Information Technology is overweight versus its benchmark and has driven outperformance. In the aggregate Equity portfolio, the Information Technology overweight stands at 4.1%
- Staff is being intentional and thematic in its relative overweight in the technology sector in the Private Equity portfolio as technology-led disruption is likely to permeate every sector

# Growth Performance

<i>Period Ending 9/30/2020 Net-of-Fees</i> <sup>1</sup>	<i>3-Month</i>	<i>YTD</i>	<i>1 -Year</i>	<i>Since Incep</i>
<b>GROWTH</b> <sup>2</sup>	<b>7.37</b>	<b>1.19</b>	<b>8.61</b>	<b>8.85</b>
<i>Growth Custom BM</i>	<i>10.28</i>	<i>2.16</i>	<i>9.16</i>	<i>10.12</i>
<i>Excess Return</i>	<i>(2.91)</i>	<i>(0.97)</i>	<i>(0.54)</i>	<i>(1.27)</i>
<b>GLOBAL EQUITY</b>	<b>7.54</b>	<b>(0.15)</b>	<b>8.62</b>	<b>8.35</b>
<i>Global Equity Custom BM</i>	<i>8.11</i>	<i>0.48</i>	<i>9.57</i>	<i>8.50</i>
<i>Excess Return</i>	<i>(0.57)</i>	<i>(0.63)</i>	<i>(0.95)</i>	<i>(0.15)</i>
<b>PRIVATE EQUITY - GROWTH</b>	<b>7.60</b>	<b>4.87</b>	<b>7.99</b>	<b>9.31</b>
<i>Private Equity - Growth Custom BM</i>	<i>20.39</i>	<i>2.87</i>	<i>3.20</i>	<i>13.52</i>
<i>Excess Return</i>	<i>(12.79)</i>	<i>2.00</i>	<i>4.79</i>	<i>(4.21)</i>
<b>OPPORTUNISTIC REAL ESTATE</b>	<b>0.00</b>	<b>4.25</b>	<b>5.50</b>	<b>3.65</b>
<i>Opportunistic Real Estate Custom BM</i>	<i>(1.02)</i>	<i>2.49</i>	<i>4.36</i>	<i>5.27</i>
<i>Excess Return</i>	<i>1.02</i>	<i>1.76</i>	<i>1.14</i>	<i>(1.62)</i>

## Performance Commentary

- Underperformance across Growth is due to the volatility of the Private Equity benchmark in Q2 2020
- Short term Private Equity performance measured against a public benchmark is less meaningful

<sup>1</sup> Preliminary net-of-fee returns as of September 30, 2020; Private Equity valuation reflect latest available and are adjusted for cash flows.

<sup>2</sup> Growth Functional Asset category inception is April 1, 2019



# Market Environment / Themes

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## ***COVID-19 continues to be topical***

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- Market uncertainty and volatility
- Lingering effects on different sectors - positive impact on technology sector and negative impacts on travel, leisure, and hospitality sectors
- Different rate of recovery for countries will impact future economic growths
- Impact of rapid global debt increase

## ***Increased Political Risk***

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- U.S. election and subsequent policies
- Heightened geopolitical tensions

## ***Investment Themes***

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- Cautious on U.S. market as indices reach new historical levels
- Continue to diversify regional exposures as well as factor risk exposures
- Further enhance risk management capabilities

# Environmental, Social, and Governance Factors

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## ***LACERA Mission Statement***

“We Produce, Protect and Provide the Promised Benefits”

## ***Environmental, Social, and Governance (ESG) Principles***

- Advance Investment Beliefs by articulating LACERA’s view on sound governance
- Advocate practices in line with the Corporate Governance Principles

## ***Present and Forward-Looking Initiatives***

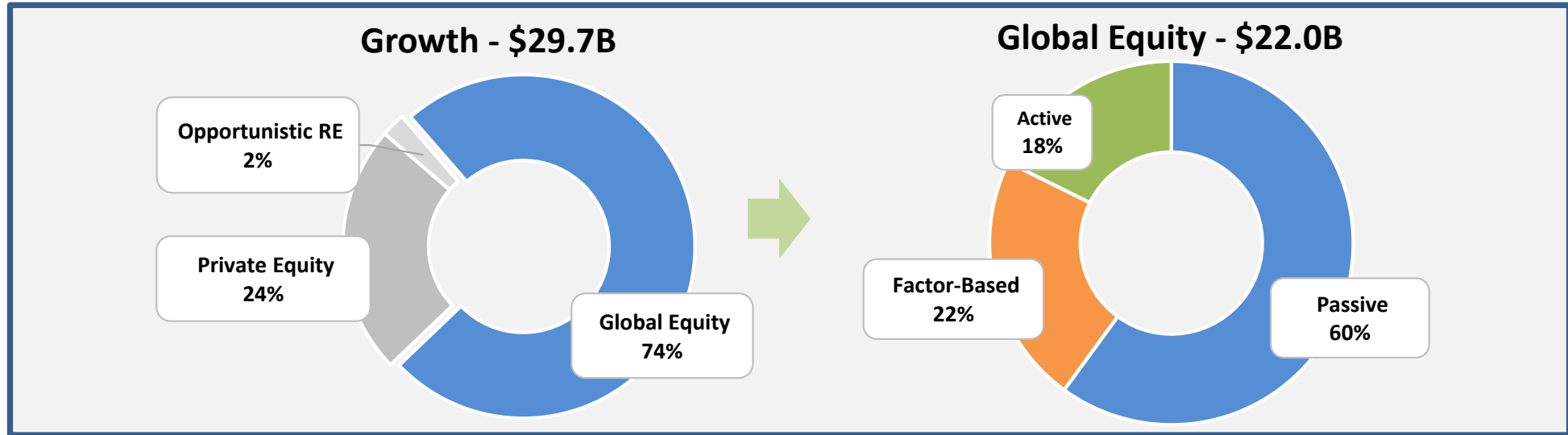
- Increased tools and resources dedicated to ESG engagement and monitoring with investment managers and general partners
- Utilizing ESG lenses and analytics to evaluate investment merits and reporting
- Increasing the transparency of reporting to foster visibility into ESG considerations
- Implement Manager Score Card Report for Public Markets into private equity
- Systematic roll out of operational due diligence questionnaire dedicated to ESG evaluation and diversity and inclusion efforts
- Work with organizations comprised of like-minded investors

# Global Equity



# Role of Global Equity and Structure

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%



(% of total Fund)	Target Allocation	Allocation Ranges
Global Equity	35%	28-42%
Breakdown by Strategies (% of Global Equity)		
	Target Allocation	Allocation Ranges
Passive	60%	40% - 80%
Factor-Based	15%	0% - 30%
Active	25%	10% - 40%

- Global Equity primarily provides global market beta exposure with alpha (excess returns) as a secondary consideration
- Slight overweight in Global Equity due to market recovery since March low
- Passive and Factor-based allocations reflect efforts to improve portfolio efficiency
- Active strategies, which collectively have small cap and value biases, have struggled recently versus a broad market that favored growth oriented large cap stocks.

Data from the 2018 Board-approved asset allocation study and 2019 Global Equity Structure Review.

Asset weights and performance are based on preliminary report as of September 30, 2020 and may be subject to revisions.



# Recent Performance

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%

April 2019 - September 2020

	Returns (%)			Risk Metrics			
	YTD 2020	1-Year	Since April 2019	Tracking Error (%)	Sharpe Ratio	Up Capture	Down Capture
Global Equity (Gross)	0.01	8.84	8.55	1.09	0.34	99.8%	99.7%
Global Equity (Net)	(0.14)	8.62	8.35	1.10	0.33	99.4%	99.9%
Benchmark <sup>1</sup>	0.48	9.57	8.50	--	0.34	--	--
<b>Difference: Net-Benchmark</b>	<b>(0.62)</b>	<b>(0.95)</b>	<b>(0.15)</b>				

See Appendix E – Glossary of Terms for definitions

- Global Equity structure was adopted in April 2019
- Performance needs more time to be evaluated as several changes, including funding of factor strategies, were implemented recently
- Currency hedge detracting year-to-date performance due to recent U.S. dollar weakness

<sup>1</sup>The benchmark for Global Equity portfolio since July 2019 is the MSCI ACWI IMI Index. The benchmark from April 2019 to June 2019 is 80% MSCI ACWI IMI and 20% MSCI World ex-U.S. IMI currency hedged.

Total Fund transitioned to functional category in April 2019. As a result, Global Equity portfolio inception date is April 2019.

Performance is based on preliminary report as of September 30, 2020 and may be subject to revisions.



# Performance Pre-Global Structure

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%

- Prior to April 2019, the equity portfolio was structured with separate U.S. and Non-U.S. portfolios
- U.S. strategies have underperformed due to value and small cap tilt
- Non-U.S. strategies have consistently outperformed
- Currency hedge has been beneficial since program inception in 2010

## Performance as of March 31, 2019

U.S. Equity Portfolio <sup>1</sup>	Annualized Return (%)			
	1-Year	3-Year	5-Year	10-Year
U.S. Equity (Gross)	7.1	12.8	9.9	15.8
U.S. Equity (Net)	7.0	12.7	9.8	15.7
Russell 3000 Index	8.8	13.5	10.4	16.0
<b>Difference: Net-Index</b>	<b>(1.8)</b>	<b>(0.8)</b>	<b>(0.6)</b>	<b>(0.3)</b>

## Performance as of March 31, 2019

Non-U.S. Equity Portfolio <sup>1</sup>	Annualized Return (%)			
	1-Year	3-Year	5-Year	10-Year
Non-U.S. Equity (Gross)	(0.8)	10.0	5.2	10.7
Non-U.S. Equity (Net)	(1.0)	9.7	4.9	10.5
Custom Hedged Index <sup>2</sup>	(1.8)	9.1	4.5	10.1
<b>Difference: Net-Index</b>	<b>0.8</b>	<b>0.6</b>	<b>0.4</b>	<b>0.4</b>

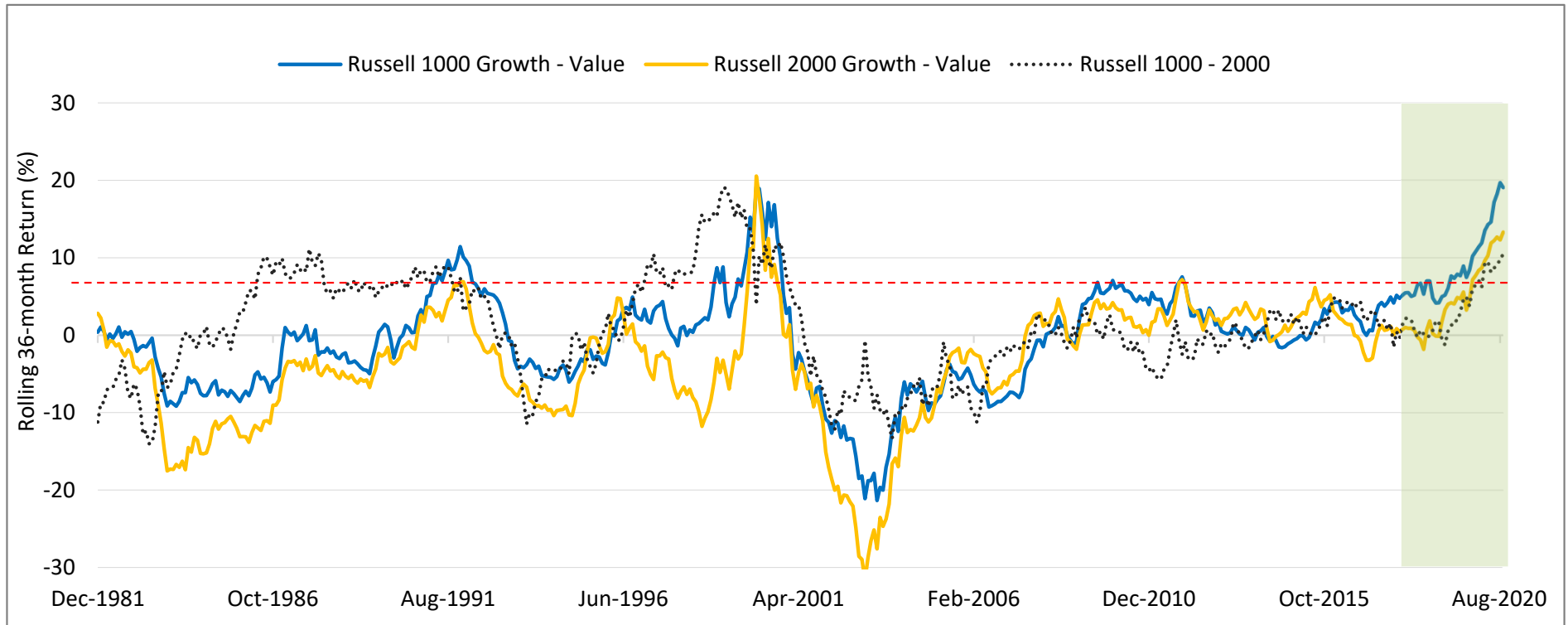
<sup>1</sup>Equity portfolio transitioned into single global equity portfolio on April 1, 2019.

<sup>2</sup>MSCI ACWI ex-U.S. IMI Custom Hedged Index.



# U.S. Growth/Large Cap Outperform

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%



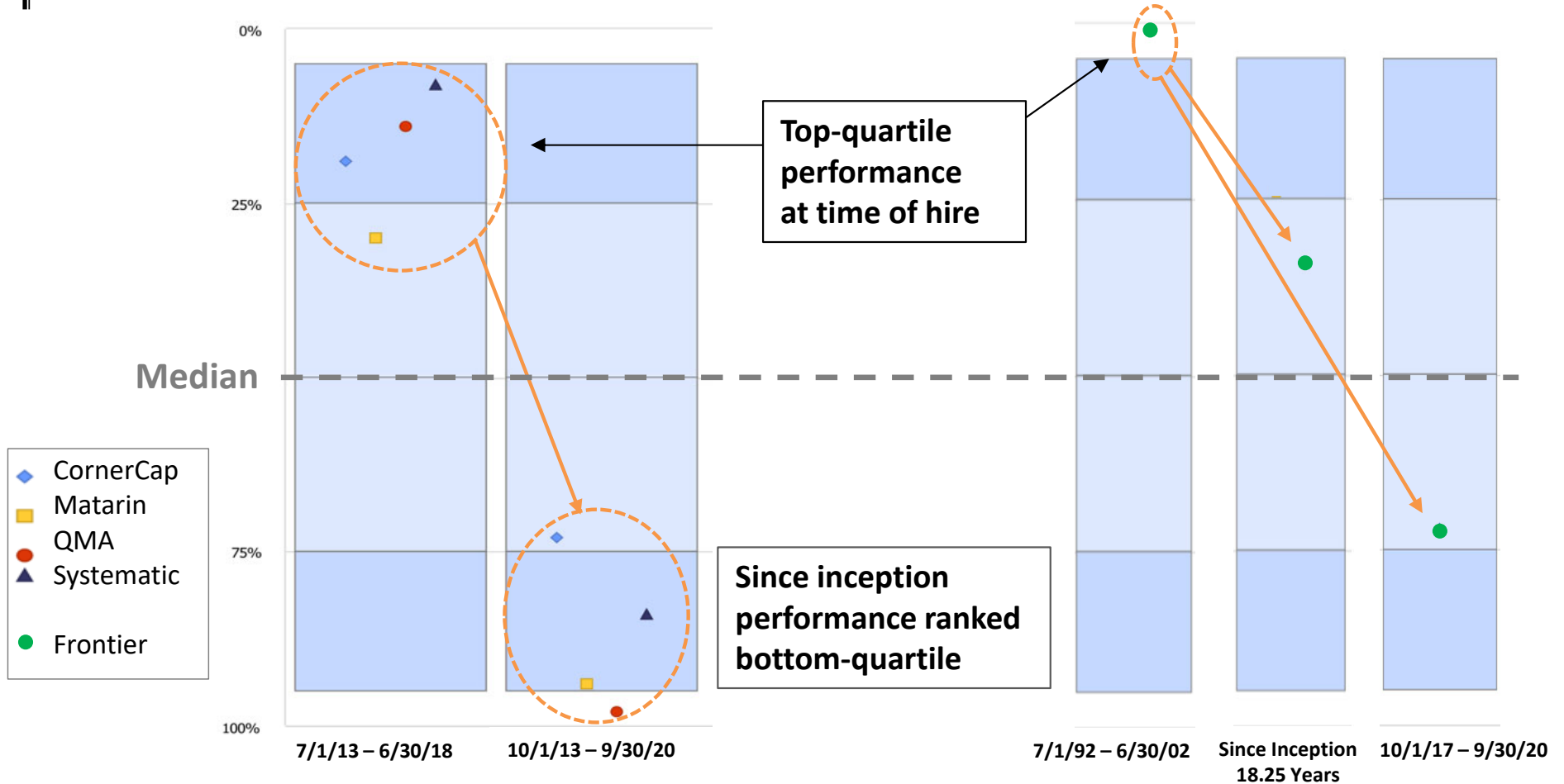
- Market in recent years characterized by
  - U.S. large cap stocks outperforming small cap stocks
  - U.S. growth stocks outperforming value stocks **near historical highs**

Russell 1000 index represents the top 1,000 U.S. stocks by market cap and is a proxy for large cap stocks. Russell 2000 index represents the 2,000 smallest cap U.S. stocks and is a proxy for small cap stocks.



# U.S. Small Cap Manager Peer Universe

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%



- May indicate lack of persistence in U.S. active management
- Re-evaluate the role of past performance during manager searches

Source: State Street, eVestment. As of September 30, 2020.

\* eVestment U.S. Small Cap Core Equity (QMA, Systematic, Matarin, and Corner Cap) and U.S. Small-Mid Cap Core Equity (Frontier) peer universe.

\*\* Excess return peer ranking versus Russell 2000 Index (QMA, Systematic, Matarin, and Corner Cap) and Russell 2500 Index (Frontier).





# Activist Managers

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%

	Returns (%)					Since Inception Date	3-Year Sharpe Ratio
	YTD 2020	1-Year	3-Year	Since Nov-2016	Since Inception		
JANA (Net)	(4.8)	7.1	8.3	16.1	16.2	Oct-2016	0.26
S&P 500 Index	5.6	15.1	12.3	14.7	13.8		0.60
<b>Difference: Net-Index</b>	<b>(10.4)</b>	<b>(8.0)</b>	<b>(4.0)</b>	1.4	2.4		
Cevian (Net)	(6.2)	(0.1)	(0.4)	4.2	3.6	Oct-2016	<b>(0.11)</b>
MSCI Europe Index	(8.8)	(0.8)	(0.6)	5.7	4.7		<b>(0.14)</b>
<b>Difference: Net-Index</b>	2.7	0.7	0.2	<b>(1.5)</b>	<b>(1.1)</b>		
Symphony (Net)	(3.0)	17.5	16.1	17.7	17.7	Nov-2016	0.54
MSCI Japan Small Cap Index	(1.5)	6.6	2.4	6.0	6.0		0.05
<b>Difference: Net-Index</b>	<b>(1.5)</b>	10.9	13.7	11.7	11.7		

- Activist managers met objectives of the mandates at the time of hire: 1) excess returns, 2) uncorrelated returns, and 3) benefit passive indices holdings
- Activist managers have sustained periods of volatility which may not be additive to the portfolio on a risk-adjusted basis
- Activist strategies should be reconciled with corporate governance program

Performance is based on preliminary report as of September 30, 2020 and may be subject to revisions.



# Evaluation

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%

## What has Worked:



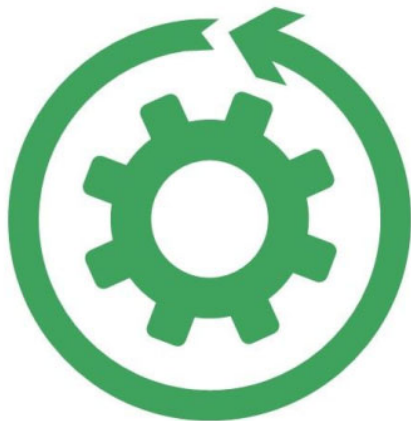
### *Non-U.S. Portfolio*

Active managers in Non-U.S. portfolio have outperformed

### *Lower Volatility*

Better alignment to benchmark and fee savings from reduction of overweight exposures and allocation to lower cost strategies

## Areas for Refinement:



### *U.S. Active Management*

Review implementation of active management

### *Activist Management*

Evaluate fit of activist managers within portfolio

### *Currency Hedge*

Evaluate role of currency hedge within portfolio

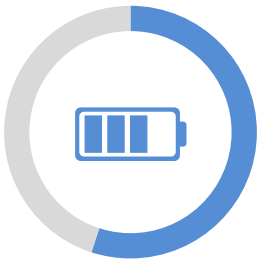
# Initiatives - Strategic

(as of September 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Global Equity	\$22.0	74.2%	36.3%



## Completed

- Simplified portfolio structure
- Fee reduction of approximately 38% compared to five years ago (5 bps per year fee savings)<sup>1</sup>



## In-Process

- Continue to review internal management
- Integrate risk analytics platform
- Continue to build out Emerging Manager Program



## Upcoming

- Align portfolio risks and exposures closer to benchmark
- Meketa and staff presentations on the following topics:
  - Review of active management
  - Evaluation of new portfolio management tools
  - Assessment of manager search process
  - Analysis of the role of activist managers
  - Study of currency hedging program

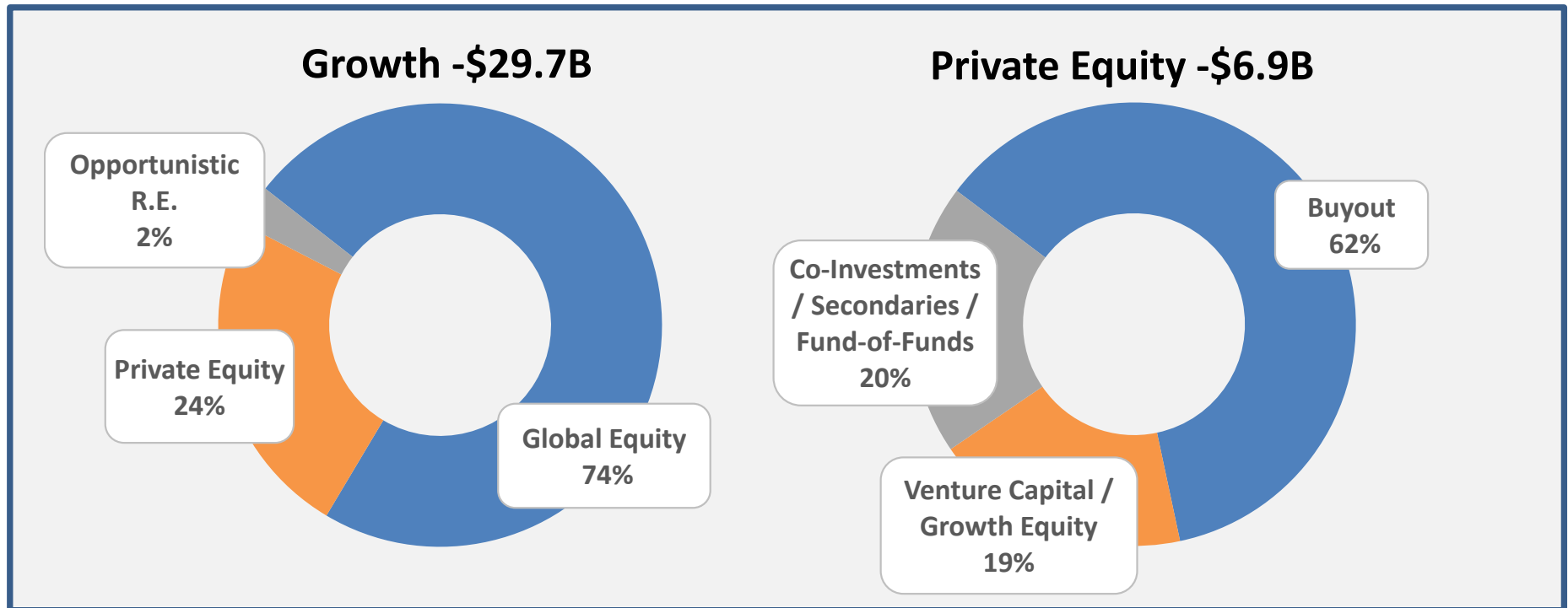
<sup>1</sup>Effective annualized fees based on comparison of 2015 and 2020 quarterly performance book numbers. If compared to 2016, which is the highest fee level within the past 5 years, the fee savings would be approximately 9 bps per year or 50% fee reduction.

# Private Equity



# Role and Objectives of Private Equity<sup>1</sup>

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%



- Growth investments are the primary driver of long-term total Fund returns
- Within the Growth category, Private Equity is expected to generate the highest performance at an acceptable level of risk
- The target return for Private Equity is 200 basis points over the MSCI ACWI IMI<sup>2</sup> Index, net of all fees

<sup>1</sup>Private Equity market value data as of June 30, 2020. Global Equity value as of September 30, 2020.

<sup>2</sup>Morgan Stanley Capital International, All Country World Index, Investable Market Index.



(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

# Portfolio Structure by Investment Type

<i>As of 6/30/2020</i>	Active GPs	Market Value	Outstanding Commitments	Exposure	% of NAV	Current Range	Proposed Range
Buyouts Sub-Total	42	\$4,245	\$3,719	\$7,964	62%	50% - 85%	50% - 85%
VC/Growth Equity Sub-Total	22	\$1,295	\$732	\$2,027	19%	15% - 30%	15% - 30%
Co-Inv/FoF/Sec Sub-Total	8	\$1,350	\$543	\$1,893	20%	10% - 25%	10% - 25%
<b>Grand Total</b>	<b>72</b>	<b>\$6,890</b>	<b>\$4,994</b>	<b>\$11,884</b>	<b>100%</b>		

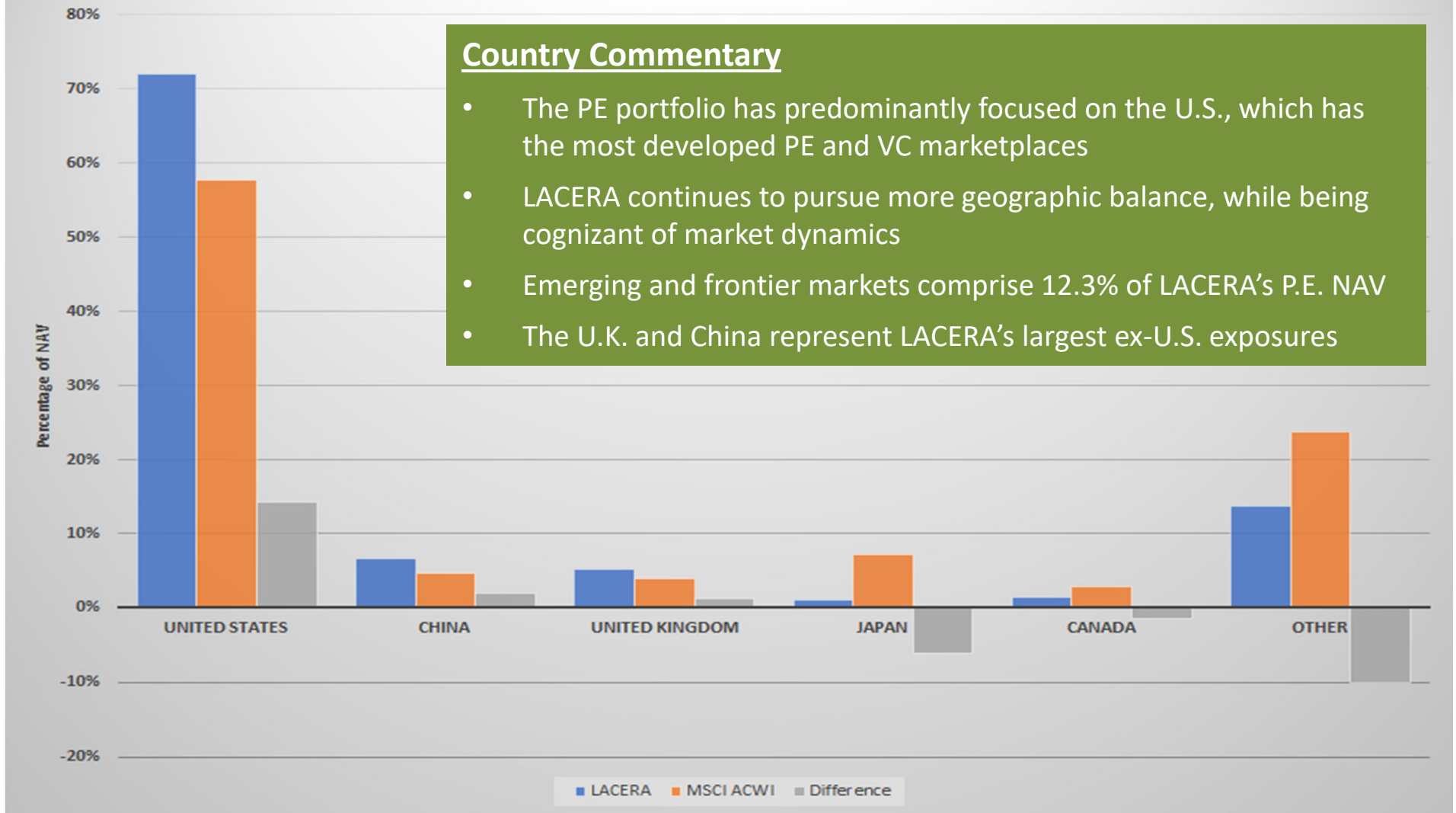
## Portfolio Structure Commentary

- All investment strategies are within range; no proposed changes to the current range
- International exposure stands at 28% within target range of 20%-45%
- As one of the active components of the Growth portfolio, staff will continue to identify equity exposures that are either unavailable, mispriced, or difficult to find in the public markets
- An added benefit of LACERA's increased emphasis on in-house co-Investment and secondaries are the fee savings. Co-Investments are generally entered into on a no-fee, no carry basis while secondaries typically have a lower fee base than primary fund commitments
- Staff is seeking to increase its allocation to in-house co-investments, secondaries, and other alternative structures which can enhance returns, reduce risks, or minimize costs

# Portfolio Structure – Country Weights

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

LACERA PE NAV<sup>1</sup> versus MSCI ACWI<sup>2</sup> by Country



<sup>1</sup>Based on March 31, 2020 values.

<sup>2</sup>Morgan Stanley Capital International, All Country World Index.



# Private Equity Periodic Returns<sup>1,2</sup>

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

## *LACERA Private Equity has exceeded its performance objectives across all periods*

- Given the 10-year terms of illiquid Private Equity investments, the 5-Year and 10-Year performance numbers carry the most weight
- In the 5-Year period, Private Equity outperformed its policy benchmark by 460 bps
- In the 10-Year period, Private Equity outperformed the benchmark by 430 bps

Year	LACERA IRR	MSCI ACWI + 200 bps
1	7.9%	3.2%
3	13.7%	7.6%
5	12.7%	8.1%
10	15.4%	11.1%

<sup>1</sup>Based on June 30, 2020 values.

<sup>2</sup>PE IRR is a dollar-weighted return which calculates the rate of return that will set the present values of all cash flows to the value of the initial investment. This methodology differs from Global Equity's time-weighted return which measures the compound rate of growth in a portfolio.





# Capital Allocation Request for 2021

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

## LACERA'S Plan Level Target Allocation Status Projected December 31, 2020 (\$MM)

Total Fund Value	\$59,864
Net Asset Value (PE)	\$6,330
Allocation %	10.6%
Target Allocation	10.0%
Target Allocation Range	7%-13%

## Recommendation

- Maintain the current \$1.6 billion (+/-20%) commitment level. Revisit the commitment pace after 2021 strategic asset allocation exercise

## StepStone Pacing Model: 2021 - 2026 PROJECTIONS<sup>1</sup> (\$MM)

Calendar Year	New Commitments	PE Draw-downs	PE Distributions	PE Market Value	Total Portfolio Value <sup>2</sup>	PE Allocation
2021	\$1,600	\$1,363	\$1,301	\$6,911	\$62,787	11.0%
2022	\$1,600	\$1,446	\$1,429	\$7,502	\$65,948	11.4%
2023	\$1,600	\$1,519	\$1,592	\$8,055	\$69,296	11.6%
2024	\$1,600	\$1,553	\$1,812	\$8,468	\$72,765	11.6%
2025	\$1,600	\$1,570	\$2,046	\$8,695	\$76,377	11.4%
2026	\$1,600	\$1,582	\$2,209	\$8,785	\$80,117	11.0%

*Grey shaded cells provided for illustrative purposes*

## Target Allocation Model Commentary

- New commitment targets assume a +/- 20% range, based on opportunities available in the marketplace
- Model projects allocations over the next six years

<sup>1</sup>StepStone model assumptions are in Appendix F.

<sup>2</sup>Total Portfolio Value is projected using an assumed 7.0% annual growth with estimated contributions/distributions as provided by Milliman



# Evaluation

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

## What has Worked:



### ***Overweight Technology Exposure***

Intentional overweight to technology, reflective of PE opportunity set, has driven outperformance

### ***In-house Co-Investment and Secondaries Program***

Early performance is promising

## Areas for Refinement:



### ***Portfolio Design***

Better manage vintage year exposure through co-investments and secondaries

### ***Strengthen Influence on Fees / Maximize Returns***

Continue to explore alternative structures which can lower the cost of investing in Private Equity and maximize sources of returns

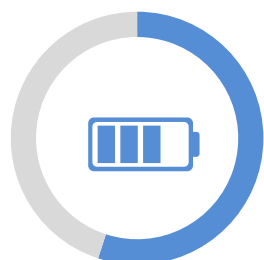
# Initiatives – Strategic

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%



## Completed

- Further expanded sources of co-investment deal flow
- Resumed secondary investments
- Provided Board education on General Partner stakes investments



## In-Process

- Finalize Manager Scorecards across the Private Equity portfolio
- Enhance fund operational due diligence process



## Upcoming

- Refine In-House Co-Investment and Secondary Parameters
- RFP for Private Equity consultant
- RFP for manager of the Emerging Manager Program
- Education session on synthetic Private Equity portfolio

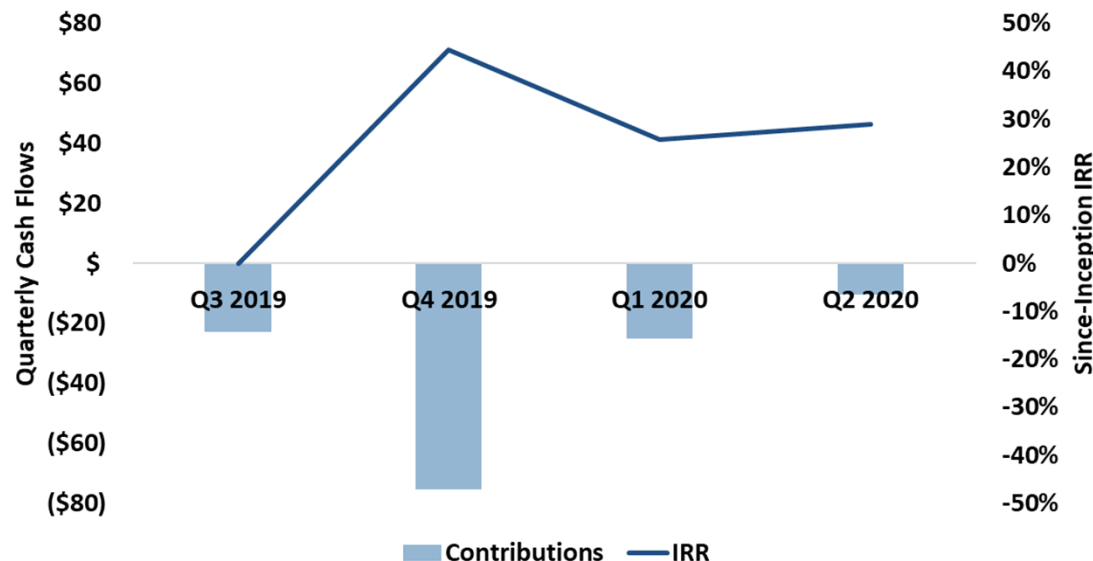
(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

# In-House Co-Investment and Secondary Performance

As of 6/30/2020	Commitments	Cumulative Contributions	Cumulative Distributions <sup>1</sup>	Market Value	Total Value	Net IRR	TVPI	DPI <sup>1</sup>
Co-Investments	\$70.0	\$45.4	\$8.4	\$52.7	\$52.7	35.3%	1.2x	0.2x
Secondaries	\$106.0	\$88.2	\$0.0	\$103.4	\$103.4	22.8%	1.2x	0.0x
<b>Grand Total</b>	<b>\$176.0</b>	<b>\$133.6</b>	<b>\$8.4</b>	<b>\$156.1</b>	<b>\$156.1</b>	<b>28.9%</b>	<b>1.2x</b>	<b>0.1x</b>

Quartile **1<sup>st</sup>** Burgiss All PE – U.S. benchmark

## LACERA In-House Co-Investment and Secondary Program Cash Flows and Net IRR



### Since Q3 2019

- No J-Curve
- ~29% net IRR
- \$8.4M in distributions<sup>1</sup>
- \$3.1M in mgmt. fee savings
- 1st quartile vs. 2019 vintage year U.S. PE funds

## Performance Commentary

- In aggregate, in-house co-investments and secondaries outperformed LACERA's primary Private Equity funds by 2,100 basis points for the fiscal year ending June 30, 2020
- While the in-house program is off to a good start, this performance is still very early; staff will stay vigilant

<sup>1</sup>Cash distribution was received in October 2020 and therefore not reflected in the bar chart above.



(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

# Co-Inv. & Secondaries Parameters – Proposed Changes

Term <sup>1</sup>	2020 Parameters	Proposed Parameters
<b>Investment Size</b>	Co-investment: Maximum \$40 million per investment	<b>Co-Investment: Maximum \$70 million per investment</b>
<b>Annual Deployment</b>	Co-investment: \$150 million Secondary: \$200 million	<b>\$450 million across co-investments and secondaries</b>
<b>Deal Types</b>	Co-Investment: buyouts and growth capital	<b>Co-investment: Expand growth capital definition to include high-growth pre-EBITDA companies with a liquidity event expected in the next two years</b>
<b>Other Parameters</b>	Secondaries: <ul style="list-style-type: none"> <li>• Related primary fund must be at least 70% deployed</li> <li>• Investment must have been managed by the current investment team for at least 3 years</li> </ul>	<b>Secondaries:</b> <ul style="list-style-type: none"> <li>• <b>Remove these parameters to provide flexibility to pursue a wider range of potential opportunities which may arise during a downturn</b></li> </ul>
<b>Geography</b>	Co-Investment: U.S. only	<b>Co-investment: Global with EX-U.S. investments subject to a maximum of i) \$40 million investment size and ii) \$150 million annual deployment</b>

<sup>1</sup> Existing 2020 parameters for co-investments and secondaries are in Appendix B. Any parameters that were not mentioned above are proposed to remain unchanged.



(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

**CONFIDENTIAL**

[Redacted]

[Redacted]

- **Current Situation:** [Redacted]

- **Concern –** [Redacted]

- [Redacted]

- [Redacted]

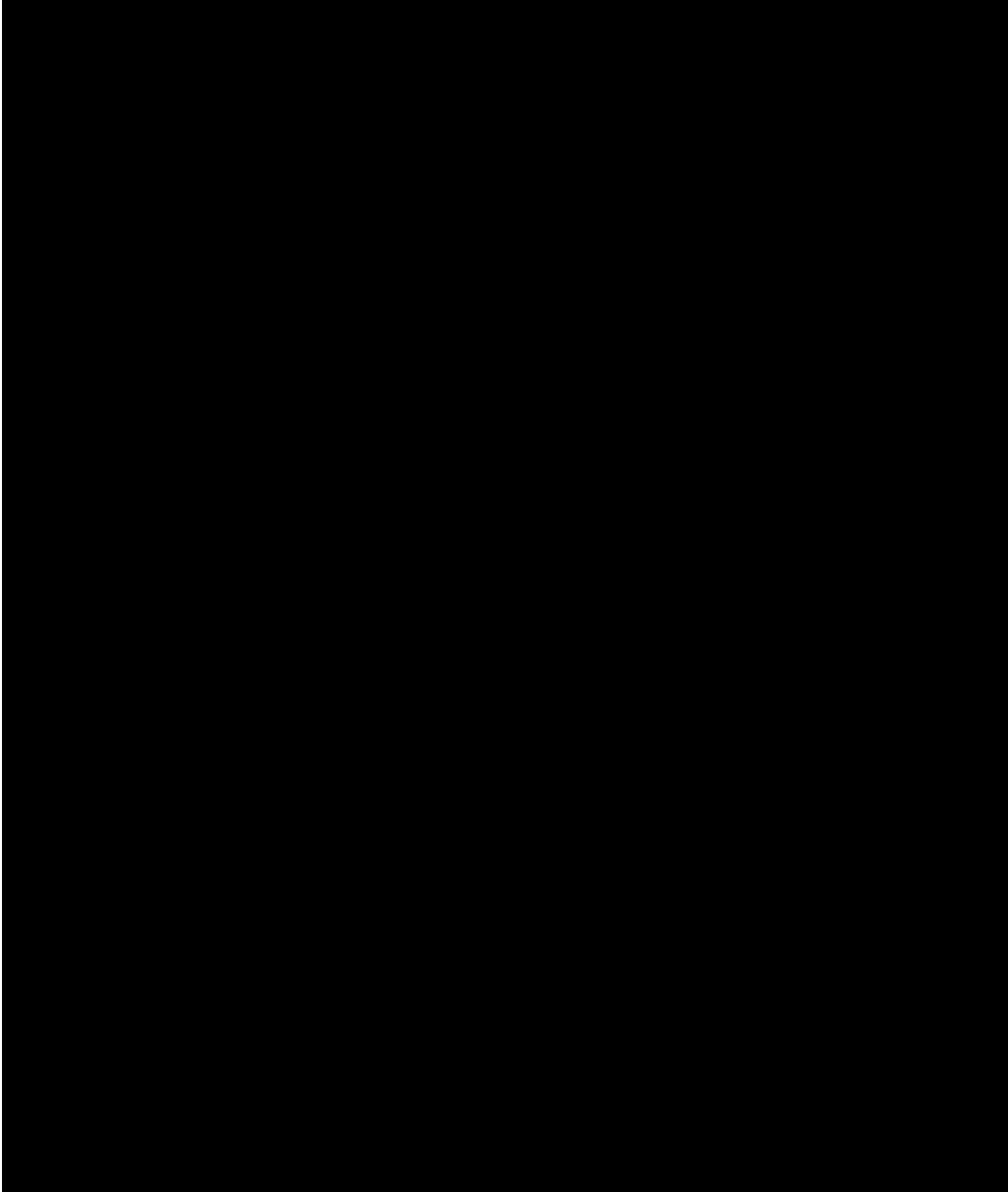
- **What is Working:** [Redacted]

[Redacted]

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

CONFIDENTIAL

# Illustrative – Proposed [REDACTED] Change



## Overview

- [REDACTED]
- [REDACTED]

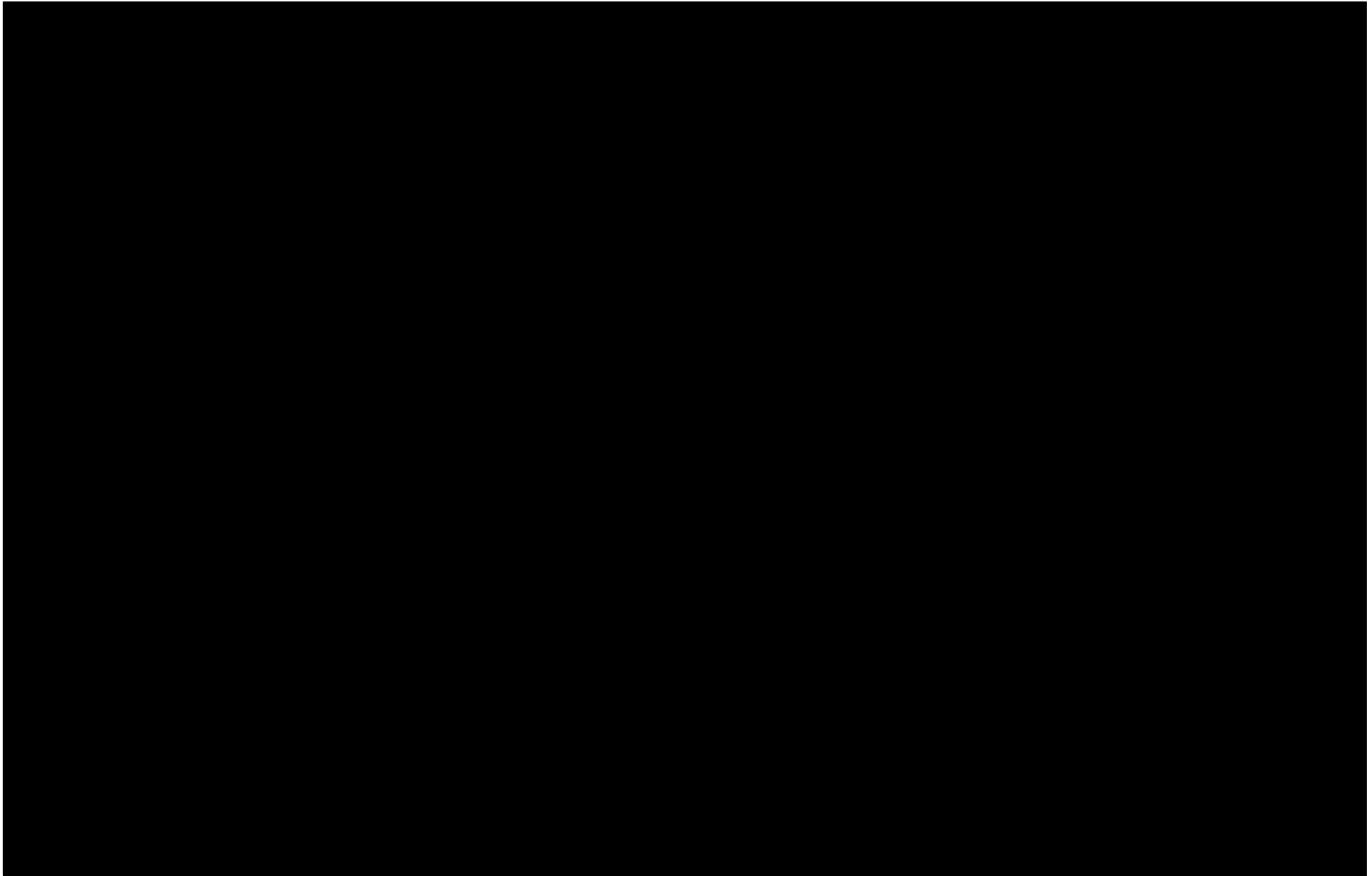
## Benefits

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

**CONFIDENTIAL**

# Case Study –

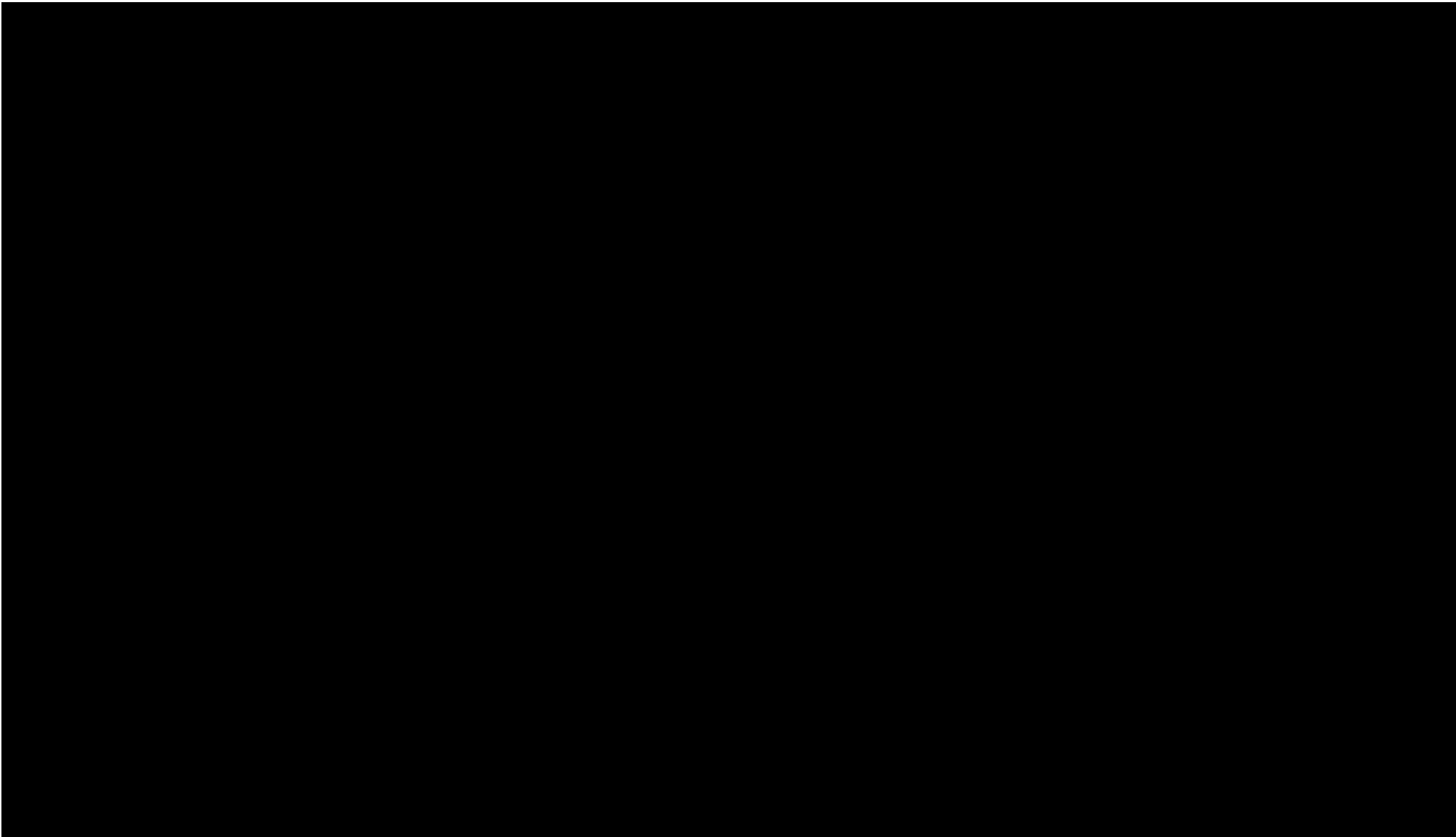




(as of Sept 2020)	Market Value (in \$ billion)	% of Growth	% of total Fund
Private Equity	\$6.9	23.5%	11.5%

CONFIDENTIAL

# Transaction Pipeline - Illustrative



# Growth: Next Steps



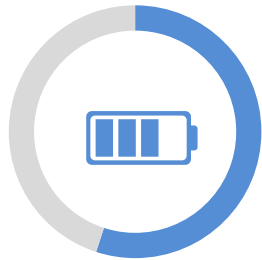
# Initiatives – Strategic

---



## Completed

- Combined Global Equity and Private Equity under functional Growth asset category



## In-Process

- Assessing optimal active management strategy across Growth
- Reducing Private Equity costs to maximize returns
- Further integrate ESG assessment into capital deployment processes



## Upcoming

- Review and refine sector exposures with intentionality looking across Growth portfolio holistically
- Focus on risk management tools

# Conclusion

---

## *Prioritize Growth Objectives*

---

Provide global market  
beta exposure with  
alpha (excess returns)  
as a secondary  
consideration



Global Equity

Generate highest  
performance at an  
acceptable level of  
risk



Private Equity

# Advance to Board

---

- Staff proposes advancing the following

## Growth

- Maintain proposed Private Equity target commitment amount of \$1.6 billion (+/- 20%) for 2021
- Adopt proposed parameter changes for the Private Equity in-house co-investments and secondaries programs
- Reaffirm Global Equity and Private Equity investment guidelines (Appendices A and B )
- [REDACTED]

# Appendices



# Appendix A – Global Equity Investment Guidelines

	Target	
Performance	Meet or exceed the MSCI ACWI IMI Index	
Tracking Error	1.0% – 2.5% rolling 7-year	

	Target Allocation	Target Allocation Range
Passive (Index)	60%	40 – 80%
Factor-based	15%	0 – 30%
Active	25%	10 – 40%

Market	Parameter	Target Allocation Range Relative to Benchmark
Capitalization	Large	+/- 5%
	Mid	+/- 5%
	Small	+/- 5%
Region	United States	+/- 5%
	Developed ex US	+/- 5%
	Emerging	+/- 5%

\*LACERA allows staff and the external managers some latitude outside of the ranges. In the short term, LACERA does not wish to have staff or its external managers constrained by the designated ranges; i.e., fulfilling target allocations will not drive the investment recommendation process. LACERA will invest consistently over time to gain the proper exposures.



## Appendix A – Global Equity Investment Guidelines (Cont.)

Prohibited Investment Type	Description
Tobacco	Investment managers should refrain from purchasing tobacco securities when the same investment goals concerning risk, return and diversification can be achieved through the purchase of another security.
Sudan	Investment managers should refrain from purchasing securities where the company has been identified as doing business in Sudan or with the government of Sudan, when the same investment goals concerning risk, return and diversification can be achieved through the purchase of another security.
Iran	Investment managers should refrain from purchasing securities where the company has been identified as doing business in Iran’s energy sector or with the government of Iran, when the same investment goals concerning risk, return and diversification can be achieved through the purchase of another security.



# Appendix B – Private Equity Investment Guidelines

Limit	Minimum	Maximum	Notes
Investment Size	\$5 Million	10% of LACERA's MV plus undrawn commitments	
Single Partnership		50% of total commitments from all LPs	Does not apply to separate accounts
General Partner		10% of Private Equity portfolio MV plus unfunded commitments	Applies to aggregate across multiple funds

	Parameter	Target Allocation Ranges*
Sub-Asset Class	Buyouts	50 – 85%
	Venture Capital/Growth Equity	15 – 30%
	Co-Inv/FoF/Sec	10 – 25%
Geography	Non-United States	20 – 45%
	Emerging Markets	0 – 15% maximum

	Report**	Responsible Parties	Audience	Frequency
1	Portfolio Performance	Staff	Board	Semi-annually
2	Status of Current Investments	Staff & PEA	Board	No less than annually
3	Portfolio Performance and Investment Analysis	PEA or other service provider	Staff	Annually & quarterly

\*LACERA allows staff and the PEA(s) some latitude outside of the ranges. In the short term, LACERA does not wish to have staff or its PEA(s) constrained by the designated ranges; i.e., fulfilling target allocations will not drive the investment recommendation process. LACERA will invest consistently over time to gain the proper exposures.

\*\*Reports shall include information on general market environment and expected opportunities, portfolio composition, performance summary, and recent activity.



## Appendix B – Private Equity Investment Guidelines (Cont.)

	Co-Investment Parameters*	Secondary Parameters*
<b>Sourcing</b>	<ul style="list-style-type: none"> <li>Co-investments offered by Board-approved managers so long as the manager is currently managing capital on behalf of LACERA; or</li> <li>Co-investments alongside a Board-approved discretionary PE manager, PE consultant, or their approved managers</li> </ul> <p>*Includes funds approved by the CIO through LACERA’s private equity fund re-up procedure</p>	<ul style="list-style-type: none"> <li>A private equity fund in which LACERA is an existing investor; or</li> <li>A private equity fund or vehicle that is managed by a manager of the same institutional quality as those LACERA has previously committed to</li> </ul>
<b>Investment Size</b>	\$40 million	\$130 million
<b>Geography</b>	<p>United States only</p> <p>International co-investments will continue to be outsourced to Morgan Stanley</p>	Maximum \$150 million outside United States
<b>Deal Types</b>	Buyout and growth capital transactions only	<p>Related primary fund must be at least 70% deployed, committed or reserved</p> <p>Investment must have been managed by current team for at least 3 years</p>
<b>Annual Capital Deployment</b>	\$150 million	\$200 million
<b>Advisory Confirmation</b>	Third party confirms LACERA’s due diligence was satisfactorily followed	Third party secondary advisor confirms valuation

\*Reflects parameters for 2020 calendar year



## Appendix B – Private Equity Investment Guidelines (Cont.)

Prohibited Investment Type	Description	Notes
Hostile Takeovers	LACERA avoids investment strategies that primarily involve hostile takeovers, defined as acquisitions opposed by the board of directors of the target company.	
Privatization	<p>LACERA does not aim to promote privatization of public jobs through its private equity investment program. It is highly unlikely that LACERA would invest in private equity investments that are dependent on privatization strategies.</p> <p>When performing due diligence prior to making the initial investment in a domestic partnership, staff and/or PEA, as applicable, will use reasonable efforts to ascertain the following:</p> <ol style="list-style-type: none"> <li>1. Whether the partnership’s current investment strategy includes the privatization of jobs held by LACERA members, and</li> <li>2. Whether previous partnerships operated by the general partners, if any, have invested in companies dependent upon privatization of jobs held by LACERA members.</li> </ol>	Staff and/or PEA will seek guidance from the Board before investing in a domestic partnership if the due diligence establishes privatization.

# Appendix C – Global Equity Portfolio Liquidity Analysis

## Liquidity Buckets Breakdown

As of September 2020

	Portfolio Weight (%)	Estimated Days to Liquidate
Highly Liquid	96.71	0.45
Moderately Liquid	1.28	3.99
Less Liquid	0.39	8.69
Illiquid Investment	1.62	59.75
Total	100.00	1.55

Source: FactSet. Calculation based on 20% sell threshold and average stock volume.



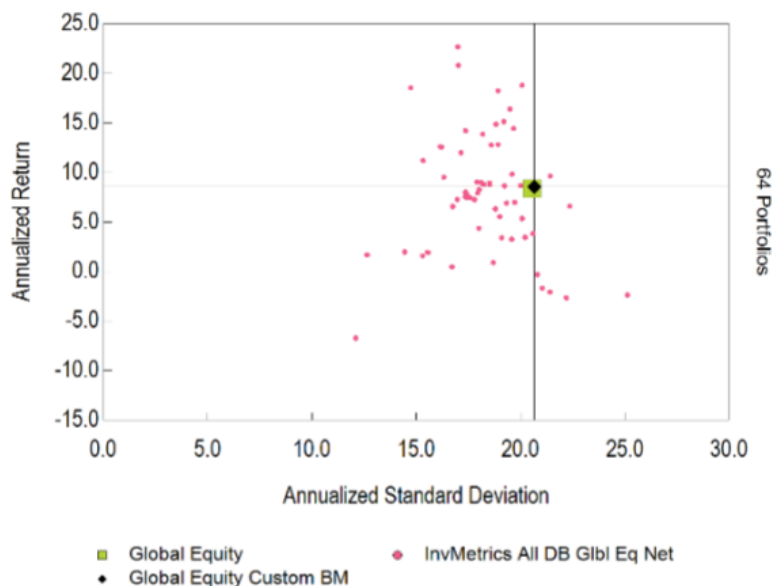
## Appendix D – Universe Comparison

### MEKETA

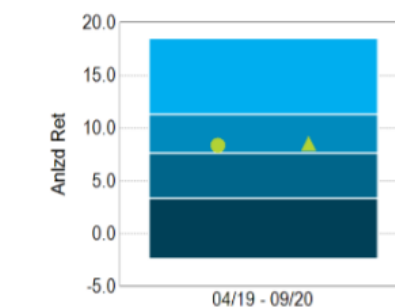
### Los Angeles County Employees Retirement Association

### Global Equity | September 30, 2020

**Annualized Return vs. Annualized Standard Deviation  
1 Year 6 Months Ending September 30, 2020**

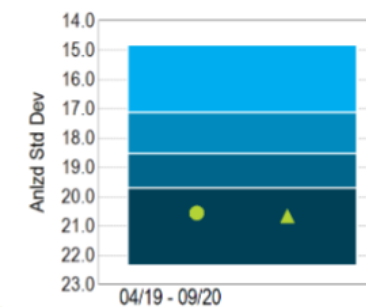


**Anlzd Ret  
vs. InvMetrics All DB Glbl Eq Net**



● Global Equity	
Value	8.3
Rank	45
▲ Global Equity Custom BM	
Value	8.5
Rank	44
Universe	
5th %tile	18.5
25th %tile	11.4
Median	7.7
75th %tile	3.4
95th %tile	-2.4

**Anlzd Std Dev  
vs. InvMetrics All DB Glbl Eq Net**



● Global Equity	
Value	20.6
Rank	84
▲ Global Equity Custom BM	
Value	20.7
Rank	85
Universe	
5th %tile	14.8
25th %tile	17.1
Median	18.5
75th %tile	19.7
95th %tile	22.3

### Statistics Summary

1 Year 6 Months Ending September 30, 2020

	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Information Ratio	Information Ratio Rank	Sharpe Ratio	Sharpe Ratio Rank
Global Equity	45	20.56%	84	-0.18	47	0.34	57
Global Equity Custom BM	44	20.67%	85	--	--	0.35	55



# Appendix E – Glossary of Terms

Term	Definition
<b>Allocation Effect</b>	Returns attributed to decision to tilt composite away from the program benchmark.
<b>Down Capture Ratio</b>	Measure of an investment's performance during down-markets, calculated as the strategy's returns divided by the returns of the benchmark index during the down-market. A lower down-market capture ratio means an investment was less negatively impacted during market downturns.
<b>Information Ratio</b>	The portfolio's excess return over its benchmark divided by its tracking error.
<b>Manager Selection Effect</b>	Returns attributed to decision to implement active management as opposed to a passive index.
<b>MSCI ACWI IMI</b>	Morgan Stanley Capital International All Country World Investable Market Index is the benchmark for Global Equity.
<b>Sharpe Ratio</b>	Measure of risk-adjusted performance, calculated as portfolio excess return over risk-free return over portfolio volatility.
<b>Tracking Error</b>	The standard deviation of the portfolio's excess returns over its benchmark.
<b>Up Capture Ratio</b>	Measure of an investment's performance during up-markets, calculated as returns divided by the returns of the benchmark index during the up-market. A high up capture ratio means an investment outperformed the index during up-markets.



## Appendix F – Allocation Model Assumptions

- StepStone pacing model driven by five independent variables<sup>(1)</sup>:
  - Rate of contributions
  - Rate of distributions
  - Annual growth or return by sub-sector
  - Life of fund in years
  - Annual commitments by sub-sector
- StepStone’s pacing model utilizes the following assumptions for LACERA’s portfolio:
  - Total Portfolio Value: ~\$58.2 billion<sup>(2)</sup>
  - Actuarial Rate of Return (net): 7.0%<sup>(3)</sup>
  - Annual Cash Contributions and Distribution provided by LACERA<sup>(4)</sup>
  - Target Private Equity (% of Total FMV): 10.0% (7-13% Target Range)
- PE Weighted Average Return assumptions equate to:
  - Base Case Net IRR of 8.4%<sup>(5)</sup>
  - Low Case Net IRR of 3.9%
  - High Case Net IRR of 13.2%
- StepStone assumed the following exposures going forward:
  - Buyout 70%
  - VC/Growth 20%
  - Co-investments 10%

(1) Any return contained herein is hypothetical and is not a guarantee of future performance. The returns set forth herein do not constitute a forecast; rather they are indicative of the internal transaction analysis regarding outcome potentials. Any returns set forth herein are based on Stepstone’s belief about the returns that may be achievable on investments that the Partnership intends to pursue. Such returns are based on current view in relation to future events and financial performance of potential investments and various models, estimations and “base case” assumptions made, including estimations and assumptions about events that have not occurred. Actual events and conditions may differ materially from the assumptions used to establish returns and there is no guarantee that the assumptions will be applicable to the Partnership’s investments

(2) Total Portfolio Value as of June 30, 2020 as provided by LACERA

(3) The Actuarial Assumed Rate of Return as adopted by the LACERA Board of Investments

(4) Projected portfolio contributions and distributions for calendar years, as provided by LACERA on 9/25/2020

(5) Net IRRs by Sub-Sector: Buyouts (7.7%), Growth Equity (8.2%), VC (9.2%), Co-investments (12.2%)



# Appendix G1 – 2019 Commitments

Board Date	Fund Name	Commitment (\$ in Millions)
January 9, 2019	LAV Biosciences Fund V, L.P.	\$48
February 13, 2019	BRV Aster Fund III, L.P.	\$50
February 13, 2019	BRV Aster Opportunity Fund II, L.P.	\$25
February 13, 2019	Vinci Capital Partners III, L.P.	\$75
March 13, 2019	Advent International GPE IX, L.P.	\$100
April 10, 2019	TA Associates XIII, L.P.	\$75
May 15, 2019	Accel-KKR Capital Partners VI, L.P.	\$110
June 12, 2019	Joy Capital III, L.P.	\$65
June 12, 2019	Joy Opportunity, L.P.	\$25
July 2, 2019	Blackfin Financial Services Fund III	\$100
August 14, 2019	Atlantic Street Capital IV, L.P.	\$50
August 14, 2019	RedBird Capital Partners Series 2019 L.P.	\$150
September 11, 2019	Co-Investment No. 1	\$20
October 8, 2019	Accel-KKR Capital Partners CV III, L.P.	\$16
October 8, 2019	Green Equity Investors VIII, L.P.	\$150
October 8, 2019	Jade Equity Investors, L.P.	\$50
November 20, 2019	Sterling Investment Partners IV, L.P.*	\$125
November 20, 2019	Revelstoke Capital Partners Single Asset Fund I, L.P.	\$60
December 11, 2019	MBK Partners Fund V, L.P.*	\$150
December 11, 2019	Wynnchurch Capital Partners V, L.P.	\$75
December 27, 2019	Access Foundation Partners Group II, LLC	\$30
<b>Total YTD</b>		<b>\$1,549</b>

\*Denotes re-up commitment approved under CIO authority.





# Appendix G2 – 2020 YTD Commitments

Board Date	Fund Name	Commitment (\$ in Millions)
January 8, 2020	Montefiore Investment V S.L.P.	\$45
February 6, 2020	Co-Investment	\$30
February 12, 2020	Clearlake Capital Partners VI, L.P.*	\$160
February 12, 2020	Summit Partners Europe Growth Equity Fund III, SCSp	\$38
March 16, 2020	One Rock Capital Partners III, L.P.	\$150
May 13, 2020	Thoma Bravo XIV, LP	\$100
May 13, 2020	Thoma Bravo Discover III, LP	\$50
May 13, 2020	Canaan XII, LP	\$100
May 30, 2020	Co-Investment	\$20
June 10, 2020	Silver Lake Partners VI*	\$200
June 10, 2020	CVC Capital Partners VIII	\$218
September 9, 2020	STG VI	\$100
October 14, 2020	Centerbridge Capital Partners Fund IV	\$150
November 5, 2020	GGV VIII*	\$78
November 5, 2020	GGV VIII Plus*	\$20
November 5, 2020	GGV Discovery III*	\$32
<b>Total YTD</b>		<b>\$1,491</b>

\*Denotes re-up commitment approved under CIO authority.



## Appendix G3 – 2019-2020 Re-Ups Not Done

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***LACERA did not re-up into the following funds***

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- Incline Equity V
- Livingbridge 7
- Marlin Equity V
- Blackstone VIII
- Pathway

# Appendix H – 2021-2022 Potential Re-Ups

Investments	Commitment Date	Vintage Year	Strategy	Commitment	Cumulative Contributions	Percent Committed
Excellere Capital Fund III, L.P.	7/31/2015	2016	Buyout - Small	\$70	\$44	63%
GBOF V Feeder SCS	11/20/2015	2016	Buyout - Mid	\$86	\$76	88%
Australis Partners Fund, L.P.	12/4/2015	2016	Growth Equity	\$125	\$88	70%
Harvest Partners VII, L.P.	12/11/2015	2016	Buyout - Mid	\$80	\$83	103%
Lightyear Fund IV, L.P.	2/18/2016	2016	Buyout - Small	\$150	\$147	98%
USV 2016, L.P.	3/3/2016	2016	Venture Capital - Early Stage	\$9	\$6	72%
J.P. Morgan Emerging Managers Program III	9/9/2016	2017	Fund of Funds	\$100	\$71	71%
Sinovation Ventures V, L.P.	3/31/2018	2018	Venture Capital - Early Stage	\$75	\$26	35%
Accel-KKR Growth Equity IV	8/28/2018	2018	Growth Equity	\$50	\$13	25%
Hellman & Friedman Capital Partners IX, L.P.	9/28/2018	2018	Buyout - Global	\$150	\$33	22%
Siris Partners IV, L.P.	10/25/2018	2019	Buyout - Mid	\$100	\$54	54%
LAV Biosciences Fund V, L.P.	1/18/2019	2019	Venture Capital - Balanced	\$48	\$26	54%
TA XIII, L.P.	5/2/2019	2019	Growth Equity	\$75	\$11	15%
Joy Capital Opportunity, L.P.	6/18/2019	2019	Venture Capital - Balanced	\$25	\$21	82%
Joy Capital III, L.P.	6/18/2019	2019	Venture Capital – Early Stage	\$40	\$16	40%
RedBird Capital Partners Series 2019, L.P.	10/4/2019	2019	Growth Equity	\$150	\$66	44%

## MEMORANDUM

**TO:** LACERA Board of Investments  
**FROM:** Stephen McCourt, Leo Festino, Tim Filla, Alina Yuan  
**CC:** Meketa Investment Group  
**DATE:** October 26, 2020  
**RE:** Global Equity Structure Review

---

At the May 2018 Board of Investments (“Board”) meeting, the Board approved a new strategic asset allocation. As part of this transition, staff has worked with Meketa to appropriately establish the structure for the new Global Equity composite for the 2019-2020 calendar years. Through 2019 and early 2020, staff has accomplished several actions to better align the Global Equity portfolio with exposures relative to its benchmark including: combining the US and non US Public Equity Composites, consolidating 7 passive index mandates into one MSCI ACWI IMI Index mandate, changing the Global Equity benchmark to the MSCI ACWI IMI Index, and approving a long-term oriented factor strategy. All mentioned initiatives served to create a more simplified, and economical, equity structure.

Subsequent to the July’s global equity structure review, Meketa and staff continued to assess the global equity portfolio. In the attached presentation, staff and Meketa focused on understanding implicit and explicit portfolio tilts, assessing performance, and evaluating potential changes to further optimize the portfolio, in order to improve the risk-adjusted return and lower the tracking error to the global benchmark. In following meetings within the coming months, we plan to present jointly with staff deep-dive reviews on these matters, starting at the December committee meeting.

Meketa acknowledges that performance since April 2019, the start of the new global framework, comprises a short period. Nonetheless, when coupled with prior performance broken down into US and non-US composites, an underperformance versus the broad domestic market is apparent. Given the consistent large cap passive approach utilized by LACERA over many years, the attention focuses on the actively managed strategies, as the factor portfolio was implemented just a few months ago. We would like to highlight several observations.

First, the underperformance versus the broad market is explained largely by the focus of the active strategies in the portfolio. Excluding the activist strategy, we find that QMA, CornerCap, and Systematic may have value characteristics, the degree to which Meketa will seek to evaluate by the next Committee meeting in December. The tilt towards value by some of LACERA’s US small cap strategies, and lack of offsetting growth exposure, has been a recent headwind. Furthermore, LACERA has an overweight to small cap of about 2.8 percentage points. Combined, the small cap and value biases explain the majority of the domestic equity underperformance. However, it would be important to recall that with the exception of Frontier Capital, the other four actively managed domestic strategies have only about two years of tenure with LACERA.

Next, we shift our attention to the hiring process. Historically, LACERA has relied heavily on performance driven Minimum Qualifications (MQs), which were codified in previous versions of the Investment Policy Statement, at the start of manager searches. This has been a long standing practice for the Fund. Subsequent to the small cap search, LACERA updated its Investment Policy Statement, and removed language on MQs from it, including them instead in the Operating Procedures. We believe it is appropriate to revisit the procedures, as they may yield unexpected results. For example, when the small cap search was run, the MQs essentially sorted out better performing funds from the universe. The catch is that the performance referred to is historical performance, which may have a tendency to be mean reverting. Thus, at the time of the search, certain factors had a positive impact on trailing performance, such as value, and it is not surprising that the best strategies that met the MQs had a value orientation. Over a long horizon, this may not matter much. Similarly, during periods where growth and value investing do not deviate much from each other, it may not matter much either. In LACERA's case, however, the horizon has been about two years with four of the five active strategies in the roster, during a period in which a pronounced outperformance of growth stocks materialized. In short, we believe LACERA should reassess the emphasis placed on historical performance to screen out strategies at the onset of a search, and assess performance instead at the end of the process to validate the understanding of the strategies reviewed.

Given the above analysis, we concur with the findings and focus areas mentioned by staff in the presentation. We agree with the decision to align exposures closer to its benchmark, which would benefit LACERA by reducing tracking error and lowering fees. Looking into the future, we would emphasize the following initiatives for the coming year:

- Deep examination of the manager hiring process, with a focus on the Minimum Qualifications and the role of historical performance (this may be extended to other public markets categories such as fixed income).
- Review of selection and use of equity strategy benchmarks.
- Assessment of the case for small cap implementations (such as active vs passive).
- Analysis of current value tilt in domestic equities.
- Evaluation of fit of activist strategies in the global equity portfolio.
- Revision of the role of currency hedge in the global equity portfolio.

In conclusion, for a long-term investor, such as LACERA, it is prudent to continue to invest with a long term horizon. From a risk spectrum perspective, LACERA has target weights of 60% passive, 15% factor-based, and 25% active strategies. We believe these targets remain appropriate for LACERA. From an investment style perspective, the Total Fund is overweight to small cap and has a modest value bias; however, the discussed actions should act to reduce this exposure.

We look forward to working with staff on these matters, and presenting our findings and recommendations to the Committee and the Board.

SPM/LF/TF/AY/sf



StepStone Group LP  
4275 Executive Square, Suite 500  
La Jolla, CA 92037  
Phone +1 858.558.9700

October 21, 2020

Board of Investments  
Los Angeles County Employees Retirement Association ("LACERA")  
300 N Lake Avenue, Suite 850  
Pasadena, CA 91101-6130

Re: 2021-2022 Structure Review - Private Equity

Dear Board Members,

Since 2016, StepStone Group L.P. ("StepStone") has worked closely with LACERA's Board of Investments and staff to develop and review LACERA's annual Private Equity investment plans. In 2018, StepStone and staff collaborated on LACERA's 2019-2020 Structure Review, which was approved by the Board in December 2018. Given the COVID-19 induced market volatility and uncertainty, StepStone and staff revisited the annual commitment pace established in the 2019-2020 Structure Review, and at the June 2020 Board meeting recommended LACERA maintain its commitment target of up to \$1.6 billion (+/- 20%). These processes were iterative and involved a number of analyses to arrive at and reaffirm the recommendations.

We believe the themes and initiatives identified in the 2019-2020 Structure Review and addressed in the 2020 Mid-Cycle Structure Review remain relevant in the current market environment and are consistent with the long-term goals of LACERA's Private Equity portfolio. Therefore, in consultation with staff, we recommend LACERA maintain its annual commitment target of up to \$1.6 billion (+/- 20%) in 2021-2022. This target was developed with the goal of achieving LACERA's target Private Equity allocation range in the long term, recognizing that market conditions can lead to interim deviations from the target.

In our prior Structure Review letters, we discussed the importance of maintaining a flexible investment pace to invest more or less according to market conditions and opportunities. While a consistent annual investment pace is important to maintain proper vintage year diversification, LACERA should not feel forced to invest a specific amount every year if enough high quality opportunities are not available and should have the flexibility to invest more if there are more high quality opportunities in a given year than could be accommodated with a fixed allocation target. We believe this to be especially true in the current market environment, as highlighted by staff in the 2020 Mid-Cycle Structure Review.

StepStone will review this recommendation each year as well as when market conditions warrant to ensure it continues to align with LACERA's overall investment goals.

StepStone Group LP

**To the knowledge of StepStone, (i) this recommendation does not take into account the interest of StepStone or any StepStone Entity (as defined in the Advisory Services Agreement between LACERA and StepStone), (ii) neither StepStone nor any StepStone Entity will receive any benefit from this recommendation other than compensation paid by LACERA to StepStone pursuant to the Advisory Services Agreement, and (iii) there are no conflicts of interest among StepStone and its affiliates in connection with the recommendation herein.**

November 17, 2020

TO: Trustees – Board of Investments

FROM: David Chu   
Senior Investment Officer

Cheryl Lu   
Investment Officer

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **PRIVATE EQUITY SECONDARY ADVISOR RECOMMENDATION**

### **RECOMMENDATION**

Approve the replacement of Greenhill & Co. with Jefferies LLC on the list of firms authorized to provide LACERA with private equity secondary sale and purchase consulting services.

### **BACKGROUND**

At the May 9, 2018 Board of Investments meeting, Greenhill & Co. (“Greenhill”) was one of three vendors approved by the Board of Investments (the “Board”) to provide private equity secondary sale and purchase consulting services to LACERA. Subsequently, LACERA selected Greenhill to conduct the secondary sale process of LACERA’s legacy limited partnership interests, which process was completed in 2019.

In accordance with LACERA’s in-house secondary investments program parameters, a Board-approved secondary advisor must advise on the valuations of secondary sales and purchases. Accordingly, Greenhill has been engaged by LACERA to provide discrete advisory services on valuations of several secondary purchases. LACERA has enjoyed a highly collaborative relationship with the team at Greenhill thus far and has developed an efficient process with the team providing such services.

LACERA’s primary contacts at Greenhill publicly announced recently their anticipated departure from the firm with the plan to move the secondaries team to Jefferies LLC (“Jefferies”) effective January 19, 2021. All of the senior professionals and many of the junior professionals at Greenhill who served LACERA are anticipated to join Jefferies. Jefferies is a publicly traded, global firm that provides investment banking and private capital advisory services. Jefferies has over 900 investment banking professionals operating from offices throughout the Americas, Europe, and Asia. Jefferies’ professionals are organized into industry, product, and geographic coverage groups, with product expertise in strategic advisory (including secondaries), equity underwriting, debt underwriting, mergers and acquisitions, and restructuring. After the anticipated move from Greenhill, Jefferies will have one of the largest secondary advisory practices of any investment

Trustees – Board of Investments

November 17, 2020

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bank, with more than enough resources to provide LACERA with the same level of service as the Greenhill team has provided historically.

Given the positive experience with the Greenhill team and their anticipated move to Jefferies, LACERA seeks the Board's approval to replace Greenhill with Jefferies on the list of firms (see **Attachment A**) authorized to provide private equity secondary sale and purchase consulting services.

Attachment

Noted and Reviewed:



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Jonathan Grabel  
Chief Investment Officer



**BOARD-APPROVED PRIVATE EQUITY SECONDARY ADVISORS**

Greenhill & Co  
Evercore Group L.L.C.  
Campbell Lutyens

November 19, 2020

TO: Trustees – Board of Investments

FROM: Esmeralda del Bosque, Senior Investment Officer *ESB*  
Adam Cheng, Senior Investment Analyst *Ac*  
Mel Tsao, Senior Investment Analyst *MT*

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **TRANSITION MANAGEMENT BENCH SEARCH**

### RECOMMENDATION

Approve establishing a bench of three transition management service providers including BlackRock Institutional Trust Company, N.A., Citigroup Global Markets, Inc., and State Street Bank and Trust

### EXECUTIVE SUMMARY

At the July 2020 Board of Investments ("Board") meeting, the Board authorized staff to initiate a request for proposal ("RFP") for a Transition Management Bench search. The Evaluation Team has concluded its due diligence and recommends that Trustees approve populating the bench with BlackRock Institutional Trust Company, N.A. ("BlackRock"), Citigroup Global Markets, Inc. ("Citigroup"), and State Street Bank and Trust ("State Street"). This memo provides information about the search process that staff completed. **ATTACHMENT A** provides a description of the evaluation criteria as well as organizational profiles for the recommended bench, and **ATTACHMENT B** is a memorandum drafted by LACERA's General Consultant, Meketa, in support of the recommendation. **ATTACHMENT C** is the PowerPoint deck that staff will review with Trustees that walks through the evaluation process and search results.

### BACKGROUND

The search fulfills a strategic initiative listed in LACERA's 2020 Workplan and is intended to build upon recent operational enhancements within the investment division. The purpose of the search was to establish a pre-approved roster of Transition Managers ("TMs") to enhance LACERA's operational effectiveness by expediting the time to identify TMs by pre-populating a bench of firms that are vetted and Board approved. The aim was to identify a set of TMs that could complete single, multi-asset, and complex transition events. Notably, the priority was to identify TMs that would serve as a fiduciary to LACERA through the duration of the event.

#### Transition Management

A Transition Manager is a contracted third-party hired to facilitate the liquidation, transfer, or funding of assets from a 'legacy' portfolio to a pre-defined 'target' portfolio. TMs are used for changes in portfolio asset allocation, investment manager hires/terminations, multi-asset class structural shifts, or to obtain temporary mandate exposure. During a transition event, the TM assumes the portfolio manager's role in overseeing and executing the transition strategy. TM's are responsible for project management, trading, monitoring costs, managing risks, maintaining market exposure, measuring performance, and reporting.

### Establishing and Using the Bench

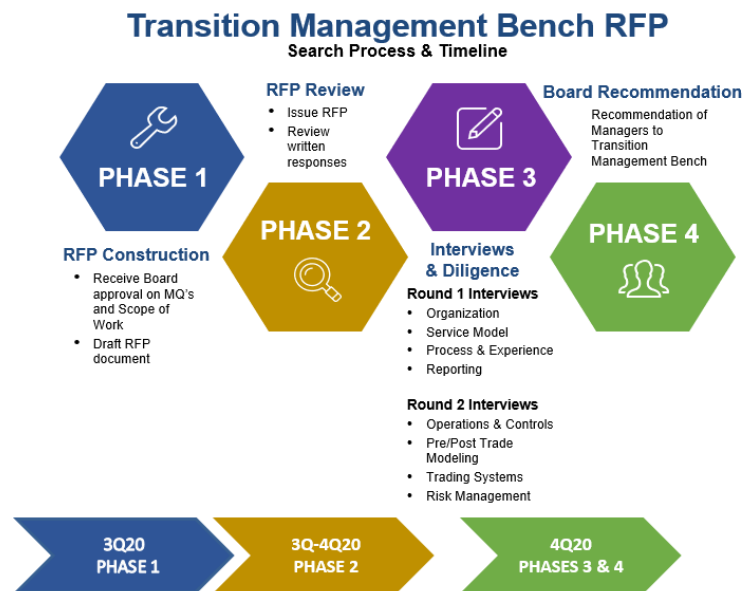
Historically, LACERA has used its existing managers to facilitate and act as transition managers. BlackRock was the most heavily used TM as they were LACERA's sole index fund manager for many years, and most transitions involved selling out of or purchasing indexed mandates.

There are many advantages to creating a TM bench. First, assembling a panel of TMs is timely, given that LACERA has expanded into new asset classes and will prepare LACERA for changes resulting from the upcoming strategic asset allocation exercise, should the Board approve any changes. Second, an established bench expedites the bidding and contract negotiation process, which allows for more timely transitions. As part of the bidding process, LACERA will draw upon multiple transition plans that include detailed market analysis, trade execution plans, and risk management considerations from seasoned TM experts. Last, utilizing the bench is a cost-effective and efficient way for the Fund to restructure existing portfolio mandates over a short-term horizon, with risk management and fiduciary considerations at the core of the event.

The use of the bench will be triggered when LACERA needs to conduct a transition. At that point, the bench managers will be asked to submit a transition proposal with details of the transition event, timeline, pre-trade analysis, and detailed cost estimate. The submissions will be reviewed with each TM and the firm best positioned to conduct that specific event will be selected. Staff anticipates refreshing the bench according to LACERA's Investment Procurement Policy, or if the need arises.

### EVALUATION SUMMARY

The search was comprised of four phases, designed to evaluate each firm's response based on LACERA's specific needs and scope of work.



### RFP Construction and Review

At the July 2020 Board of Investments meeting, Trustees authorized the TM Bench search. The **Scope of Work** included the following:

1. If awarded a transition event, the Transition Manager ("TM") must act as a **Fiduciary** to LACERA
2. TM's will be hired to **facilitate** the liquidation, **transfer**, or funding of **assets** from a 'legacy' portfolio to a pre-defined 'target' portfolio. Examples of transition events include, but are not limited to: Changes in portfolio asset allocation, multi-asset class structural shifts, manager hires and terminations, and to create or maintain specific market exposures
3. If TM bids for an event, the **TM will submit a proposal**, inclusive of a pre-trade analysis, including an estimate of all costs.
4. During the course of a transition, **TM will be responsible for the execution strategy** and maintain the pre-determined market exposures.
5. The **TM will serve as project manager**, coordinating with multiple third parties to ensure that the assets are transitioned in the most efficient and cost-effective way possible.
6. The **TM will provide daily updates** on the transition
7. **Within ten business days** following the event, the **TM will provide a detailed post-trade report**, which will include a written analysis of the expected pre-trade results versus actual results of the event, including an attribution analysis of all costs incurred.

The RFP was issued in July, and final proposals were due to LACERA at the end of August. A brief description of evaluation categories and respective scoring weights are in **Attachment A**.

The RFP Evaluation Team ("Evaluation Team" or "Team") was comprised of Investment Division staff members that are knowledgeable and adept with capital markets trading, strategy implementation, and transition management services. The Team included:

Esmeralda del Bosque – Portfolio Analytics

Adam Cheng – Fixed Income & Credit

Mel Tsao – Global Equities

A total of five responses were received by the deadline: BlackRock, Citigroup, Loop Capital Markets, Macquarie Capital (USA), Inc., and State Street. Of the five firms, BlackRock, Citigroup, and State Street met the minimum qualifications and moved on through each phase of the process.

### **TM Interviews and Due Diligence**

Staff conducted two rounds of virtual interviews. The first round aimed to clarify outstanding questions regarding the written RFP and provide firm overviews. Each candidate was assessed on their TM experience and overall capacity to perform the scope of services for LACERA. Round two focused on the operational capabilities and competitive advantages each firm offered. The candidates reviewed their transition process workflow from pre- to post-trade analysis and provided detailed information on their trade execution process, transition management philosophy, and risk management approach. Each candidate also demonstrated all the systems utilized to conduct trading, risk management, compliance, and reporting. A synopsis of the three candidates is in **ATTACHMENT A**.

### **Recommendation**

The Team would like to highlight the following competitive advantages applicable to the three candidates:

1. *Extensive Transition Management experience*

The market for transition management is very competitive with thin margins. Many competitors have exited the space, leaving only the largest and most cost-effective firms. The search candidates have extensive experience as transition managers and are top TMs in their respective business lines. BlackRock has been in the transition management business since 1993 and conducts 290 to 450 transitions annually. Citigroup has been providing transition management services for more than 30 years. In 2019, Citigroup completed over a thousand transitions amounting to over \$500 billion in trading volume. State Street's dedicated transition management business was established in 1994 and completed over 200 transitions last year.

## ***2. Multiple business models allow LACERA to access differentiated execution***

BlackRock as the world's largest asset management firm, Citigroup as a leading broker/dealer, and State Street as one of the largest global custodians in the world provides LACERA a variation of choice from both a business model and trade execution perspective. To illustrate these differentiating advantages, Blackrock, through its size, can provide LACERA extensive liquidity options on trades. These include internal and external crossing networks that reduce transaction costs. Citigroup has a strong non-U.S. presence and may offer LACERA an edge for international transitions. As LACERA's custodian, equity index, cash, and securities lending provider, State Street may provide an advantage with multi-asset class portfolio transitions for custodied assets.

## ***3. Strong back office and analytics platforms***

All three candidates have robust back-office support as well as advanced trading, compliance, and risk platforms. They have significant internal resources for operational support, incorporate comprehensive reconciliation and trading procedures and safeguards in their TM process, and have established protocols to link trading details with custodians and investment managers.

## ***4. High-touch client service models***

Each firm will have a dedicated team working with LACERA staff on each transition. That team will include a lead transition manager, lead portfolio manager(s) to execute the TM strategy, and numerous strategists and operational analysts for support. The team will be available for the duration of the TM event with 24-hour coverage. Furthermore, each TM will provide daily updates on the progress of the transition.

Two anomalies of this search are worth addressing: One regarding final rankings, and the other on fees. In a typical search, staff provides a final ranking of candidates and a table of fees for the mandate. This memo does not include either. To thoroughly vet each RFP candidate, staff ranked each firm to ensure that candidates that moved through each phase met LACERA's diligence standards. However, considering that the purpose of this search is to populate a bench for a hypothetical future transition event and not to hire for a specific mandate, final rankings are not applicable.

Fees are also not provided, given that a TM will be hired for a specific, unique event. To gain comfort on pricing, staff compared schedules across the three candidates for various transition types to ensure there were no outliers. Additionally, the Team reviewed statistics that compared costs between pre-and post-trade reports to gauge the consistency in fees charged and had discussions with each firm on their pricing methodology.

Throughout this search, the Evaluation Team has gained a significant amount of knowledge on the search candidate's TM approach, including demonstrations of each TMs trading and risk platforms. By populating a bench of pre-approved transition managers, LACERA will expedite the bidding and contract negotiating process and have a bench of experienced candidates that staff can run various transition scenarios with. An added benefit to the bench is knowledge transfer through receiving multiple execution strategies on a specific transition event. LACERA can draw upon the expertise of TMs who represent some of the largest trade volumes in the capital markets and understand the risks and nuances of the various types of LACERA investments. For these reasons and those cited throughout this memo, the Team recommends BlackRock, Citigroup, and State Street be placed on a transition management panel.

If Trustees approve this recommendation, staff will contact each firm to notify them that they have been selected as bench candidates and update operational procedures to reflect how the bench will be used.

### CONCLUSION

In July 2020, the Board approved a search for a transition management bench. Based on an evaluation of RFP responses, virtual interviews, and diligence, the Evaluation Team recommends the appointment of BlackRock, Citi Global Markets, and State Street Global Markets to a pre-approved bench of transition managers to select from readily.

Attachments

Noted and Reviewed:

  
Jonathan Grabel  
Chief Investment Officer

## EVALUATION CATEGORIES AND SCORING WEIGHTS

### **(1) Organization (20%)**

This category reviewed corporate, size, and ownership of the organization and a review of any regulatory audits, past or pending litigation, and operations model. Questions also covered their client base as well as the history of the organization's transition management business.

### **(2) Professional Staff (15%)**

This section assessed the size and experience of the proposed team and their professional certifications, years at the firm, and rate of personnel turnover.

### **(3) Service Process and Model (20%)**

The questions in this category addressed the firm's philosophy and approach to transition management. Specifics about the service model, technology infrastructure, and data management were reviewed.

### **(4) Transition Management Experience (25%)**

This segment carried the most weight and covered the transition management experience, methodology, competitive advantages, and trade execution. The amount of transition management business the firm completed over the last five years by asset type was also examined.

### **(5) Reporting (10%)**

This section assessed both pre-trade and post-trade reporting provided by each firm. Questions evaluated risk analytics, implementation shortfall models and methodology, transparency of broker counterparty commissions, and trade cost management.

### **(6) Fees (10%)**

This section was ranked on an absolute basis. Staff reviewed fees by asset type and reviewed pre- versus post-trade cost statistics.

## ORGANIZATIONAL PROFILES

### **BlackRock Institutional Trust Company**

BlackRock Institutional Trust Company, N.A. ("BlackRock") was founded in 1988, evolving from an eight-person start-up. Today BlackRock manages over \$7.3 trillion as of June 30, 2020, in multiple asset classes and strategies for both institutional and retail clients. Through BlackRock Solutions ("BRS"), the firm provides risk-management and advisory services that combine capital markets expertise with internally developed systems and technology. As a trust company, BlackRock is primarily regulated by the Office of the Comptroller of Currency ("OCC"). Their common stock are listed on the New York Stock Exchange.

Headquartered in New York, the BlackRock Transition Management team ("TRIM") was established in 1993. As of June 30, 2020, the team consisted of 60 professionals with regional offices located in San



## ATTACHMENT A

Francisco, New York, Budapest, Hong Kong, and Tokyo. The transition management platform is integrated with their proprietary Aladdin trade and risk system. BlackRock's size and reach as an asset manager enables synergies in transition management utilizing its large order flows and vast broker/dealer network to achieve the best execution while striving to minimize implementation shortfall.

While BlackRock's expertise and footprint span across all major asset categories, the firm continually invests in their transition management business by developing and enhancing their reporting packages based on the Aladdin platform, and continued hires to bolster the team. Additionally, BlackRock has also expanded with new offices in Japan, Australia, and Hungary to broaden its global trading and customer service presence.

Notably, in May of 2018, as related to fraud charges stemming from State Street's fixed income transition management business, a former State Street executive that had been hired on to BlackRock's transition management team was arrested. Immediately upon learning of the arrest, BlackRock placed the individual on administrative leave, and was not brought back to BlackRock. BlackRock had hired the individual in 2015 and was not aware that he was being investigated in connection with his prior work at State Street. In June and August of 2018, the Board was provided memos that further describe this incident.

### **Diversity and Inclusion**

BlackRock expressed its commitment to diversity and inclusion. They believe creating an inclusive environment allows the firm to harness the collective talents of their diverse workforce. BlackRock employs over 16,000 individuals from various backgrounds. BlackRock's Human Resources Department has an Inclusion & Diversity Function that works to develop strategies around attracting and retaining a diverse workforce, strengthening corporate partnerships to support under-represented groups, and supporting diversity in their community. BlackRock maintains a firm-wide Equal Employment Opportunity policy that asserts its commitment to diversity and inclusion, as well as a zero-tolerance policy covering illegal discrimination or harassment of any kind.

Senior leaders are held accountable for progress towards diversity while the Board of Directors sets the annual Talent and Diversity objectives. BlackRock provides unconscious bias training for its managers and coaches hiring managers how to build high-performing diverse teams. Diversity progress reports are disclosed publicly for Sustainability Accounting Standards Board and EEO-1 data on an annual basis. BlackRock provided their most recent statistics showing that 18% of their executive team are women and 24% are people of color.

### **Operational Controls and Cybersecurity**

Every year, BlackRock's independent auditor performs a Systems and Organization Controls Report ("SOC 1") as mandated by the American Institute of Certified Public Accountants. Undergoing an independent audit helps stakeholders, such as LACERA, to ensure critical aspects such as the firm's controls, integrity, and processes are in order.

In its most recent evaluation, BlackRock's auditor found that the organization's controls and processes operated effectively and provided reasonable assurance that risk management and operational controls are in place for each stated objective. Notably, the transition team uses a proprietary system called Aladdin for trade, compliance, and risk. The audit review confirmed that the system fully integrates BlackRock's legal & compliance controls. Further, each trade is required to pass all of BlackRock's established risk management controls before execution by trading desks.



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Blackrock's cybersecurity practice is robust. The firm maintains five global data centers in the U.S. and U.K. These data centers are under 24-hour security protection with perimeter fencing and key-card systems to track and monitor entry. Additionally, BlackRock offers multiple points of client data protection, including firewalls, web proxies, and intrusion detection/prevention systems.

### **Impact of COVID-19**

During the coronavirus pandemic, BlackRock remained fully operational with minimal disruption to service or systems. The transition to a work-from-home environment was efficient, and team members remained productive. Roughly 90% of the firm worked from home, with those returning to the office carefully monitored. Steps have been put in place to ensure safety in the office. On the market activity front, BlackRock was selected by the Federal Reserve to implement and manage its bond-buying program.

## **Citigroup Global Markets**

The history of Citigroup, Inc. ("Citigroup") dates back to 1812. As one of the country's oldest banks in continuous operation, Citigroup has been providing transition management services for more than 30 years. Citigroup's transition management business originated as a stand-alone office in Sydney, Australia office. In 1996 due to its strong relationships with the Australian pension fund community, Citigroup quickly grew to be one of the largest transition managers in the Asia-Pacific region. Citi Global Markets, Inc., founded in 1977, is the firm's US broker/dealer affiliate, and transition management is one of its business lines. As a publicly held company, Citigroup's common shares are listed on the New York Stock Exchange.

Headquartered in New York, Citigroup is regulated by the U.S. Securities and Exchange Commission and the Financial Industry Regulatory Authority. In addition to offices in New York, Citigroup maintains additional regional offices in London and Sydney. As of June 30, 2020, the team is comprised of 16 members.

A noted comparative advantage in utilizing Citigroup as a transition manager is its banking presence in non-U.S. markets. Citigroup's global footprint includes 97 countries, many of which are in emerging markets. Their local trading networks and market knowledge enhance their transition management business.

### **Diversity and Inclusion**

Citigroup noted that they actively seek diverse perspectives at all levels within their organization to improve performance and boost innovation. Over the prior two years, the firm has elevated the conversations around race, gender, and equal pay for equal work. To push beyond their comfort zone, Citigroup decided to be transparent about the pay gap for women and U.S. minorities in 2019. After doing so, they committed to increasing the representation of both women and U.S. minorities in senior and higher-paying roles within the organization and making pay adjustments when needed. Citigroup memorializes its dedication to diversity and a harassment-free workplace in its Fair Employment Practices and Diversity and Discrimination and Harassment policies.

## ATTACHMENT A

Citigroup embraces diversity and inclusion throughout their business segments. The senior leadership team holds itself to the highest standards while setting the tone from the top. In fact, Citigroup's President and CEO of Global Consumer Banking is Jane Fraser. Ms. Fraser will be assuming Citigroup's CEO role in February 2021, making her the first female CEO of one of Wall Street's biggest banks.

Senior leaders view themselves and others as accountable for enabling an equitable and inclusive culture. Citigroup has ten affinity groups representing a broad range of demographics to help its 200,000 plus employees globally by creating a more diverse and inclusive workplace. As of 2018, Citigroup indicated that the firm's executives include approximately 133 women, representing over one-third of the executive and senior management pool. Additionally, the first/mid-level and professional female managers represent 40% and 43% of all employees, respectively. Furthermore, roughly 40% of its U.S. based investment professionals are people of color.

### Operational Controls and Cybersecurity

Each year, Citigroup's auditor conducts a SOC 1 Report. In its latest report, the auditor found that Citigroup's controls and process operated effectively in providing reasonable assurance that risk management and operational controls were in place for each stated objective. Furthermore, Citigroup has an Independent Compliance and Risk Management ("ICRM") team to oversee the transition management team and process. It is the responsibility of the ICRM team members to carry out monitoring and surveillance and review processes to ensure compliance with firm and regulatory policies.

Citi has many policies and procedures in place to address both cybersecurity and data integrity and utilizes a four-pronged cyber approach:

- **Cyber Security Fusion Center** – An information-sharing environment that fuses information and intelligence from multiple sources to allow decision-makers to better understand and adapt to a changing threat environment.
- **Cyber Intelligence Center** – A 24/7 operation that collects, analyzes, and exchanges actionable intelligence from professional third-party intelligence providers about activities of malicious actors anywhere in the world.
- **Security Operations Center** – Two command centers operating in a 24x7 model to deliver real-time information security analysis, incident detection, and response.
- **Financial Services Information Sharing and Analysis Center (FS-ISAC)** – Constantly gathering reliable and timely information from financial services providers, commercial security firms, federal, state and local government agencies, law enforcement, and other trusted resources, the FS-ISAC is positioned to quickly disseminate physical and cyber threat alerts and additional critical information throughout the financial sector.

### Impact of COVID-19

Under its parent company, Citigroup believes the organization is well-positioned to continue supporting its clients actively. The firm thinks that its strong balance sheet and commitment to continue its ordinary course of business will help Citigroup through the pandemic. Citigroup has worked with all levels of government, the investment industry, and with other large U.S. banks to be proactive in efforts to facilitate

## ATTACHMENT A

liquidity and preserve company capital while also focusing its efforts on supporting clients and customers to mitigate the broader economic impacts of this event.

Citigroup's personnel have been working from home remotely and productively for an extended amount of time. Although there is no defined date when the team plans to return to the office, the team can fully function and access essential systems and communicate effectively throughout their global organization.

### State Street Global Markets

State Street Bank and Trust Company ("State Street") was founded in 1792. For more than 200 years, the firm has delivered financial services, tools, and solutions to its clients. State Street is a publicly held company listed on the New York Stock Exchange. The firm is headquartered in Boston, MA, with offices in more than 79 cities spanning 28 countries. In 1994 State Street formed a team dedicated to transition management. Today the team operates within State Street's broker/dealer affiliate, State Street Global Markets. State Street is regulated by the U.S. Securities and Exchange Commission, the Financial Industry Regulatory Authority, and the Federal Reserve Bank.

As a current partner and existing service provider, the team is already familiar with State Street. In virtual meetings, State Street was able to review their transition management service in detail. One noted comparative advantage is the breadth of the State Street organization. Utilizing their multi-broker networks, trade execution options, and access to large pools of liquidity lead to more efficient trading and the potential to minimize costs over the life of a transition.

State Street settled charges with the U.S. Department of Justice, Securities and Exchange Commission, and the U.K.'s Financial Conduct Authority in 2017 for overcharging six fixed income transition clients in 2010 and 2011. A total of four former State Street employees were charged with fraud, with the latest charge occurring in May 2018. In June and August 2018, memos were provided to the Board addressing the incidents. Given this history, the evaluation team spent a significant amount of time understanding the changes made to State Street's transition management business. Upon discovering the issue in 2011, State Street revamped the people and processes operating its transition management business. The bank strengthened its compliance, audit, and risk management infrastructure and instituted various controls on trading as well as ethics training for employees.

### Diversity and Inclusion

State Street states diversity and inclusion are embedded in their values and culture, and their core beliefs regarding diversity and inclusion are explicitly stated on the firm's website. The firm has had a Diversity Policy since 2017 which embraces and encourages differences across employees, including race, color, religion, creed, national origin, ancestry, ethnicity, age, disability, genetic information, sex, sexual orientation, gender, gender identity, or expression, citizenship, marital status, domestic partnership or civil union status, familial status, military and veteran status, socioeconomic status, culture, and other legally protected characteristics. The Diversity Policy is a component of State Street's Standard of Conduct document that includes a policy addressing harassment and bullying. State Street affirms that they are committed to developing a diverse, inclusive workforce and participating in several industry groups. In the RFP response, State Street indicated that the firm's executives include 107 women, representing 29% of the executive pool. Additionally, first/mid-level and professional female managers represent 36% and

## ATTACHMENT A

42% of all employees, respectively. Of its U.S. operations, 35% of its workforce and 24% of executives are people of color.

State Street also shared that the firm's CEO joined more than 150 fellow CEOs from top companies and business organizations in signing the CEO Action for Diversity & Inclusion, the largest CEO driven business commitment to advance diversity and inclusion in the corporate workplace. Each signatory has committed to increasing diversity and fostering inclusion within their organizations and the broader business community.

### **Operational Controls and Cybersecurity**

Each year, State Street's auditor completes a SOC 1 report. In its latest SOC 1, the auditor found that State Street's controls and processes operated effectively and provided reasonable assurance that risk management and controls were in place to achieve each stated objective. Also, a dedicated operations team provides support to the transition management group, managing all operational aspects for transitions to reduce operational risks. The team's proprietary accounting and analytics platform link to State Street's order management systems allowing for straight-through communication of trades and auto-reconciliations with custodians via SWIFT.

State Street's Corporate Information Security ("CIS") organization defines and manages the enterprise-wide CIS Program. CIS partners with information technology, corporate functional areas, and business units to implement controls designed to protect the confidentiality, integrity, and availability of corporate information assets. The CIS Program and underlying controls cover every aspect of its information risk environment, including architecture, networks, information systems, data, organizational structure, risk mitigation, communications, and training. State Street has also aligned its CIS program to the National Institute of Standards and Technology Framework for improving critical infrastructure cybersecurity. This framework encompasses the five basic cybersecurity functions at their highest level: Identify, Protect, Detect, Respond, and Recover — and provides a common vocabulary organizations can use to describe their current cybersecurity process.

### **Impact of COVID-19**

State Street has been proactive and experienced minimal business disruption during the COVID-19 pandemic. State Street works with its health experts and monitors public health updates from the Center for Disease Control, World Health Organization, and other prominent health organizations globally. Additionally, the firm had bolstered its systems and technical capacity to improve its internal bandwidth. The State Street transition management team, which would service LACERA for this mandate, had minimal to no impact on their servicing capabilities. Most of the team had already been working from home.

## MEMORANDUM

**TO:** LACERA Board of Investments  
**FROM:** Stephen McCourt, Leandro Festino, Tim Filla, Alina Yuan  
**CC:** Meketa Investment Group  
**DATE:** November 20, 2020  
**RE:** Transition Management Bench

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### Background

In January 2020 Board of Investments (“Board”) meeting, staff shared their Vision for 2020. Successfully executing the strategic asset allocation was a primary objective for LACERA. Enhancing operation effectiveness was a key initiative that stemmed from the Investments Division Work Plan. At the July 2020 Board meeting, the Board authorized issuing an RFP for a Transition Management Bench in order to meet this initiative.

### Search Process

The Transition Management Bench RFP was posted in July 2020. The minimum qualifications (“MQs”) called for respondents that have met a number of initial search parameters set, including criteria relating to: ability to act as a Fiduciary to LACERA, minimum number of years of management, minimum number of transitions of a designated market value, issuance of SOC 1 and or/ SOC 2 audits, and GIPS compliance.

LACERA received a total of five RFP respondents, two of which did not meet the prescribed minimum qualifications. Over the past several months, Meketa worked in concert with staff to vet each remaining candidate through evaluating written RFP responses, conducting virtual interviews, and assessing system demonstrations. After thorough deliberation, BlackRock, Citi Global Markets, and State Street Global Markets held clear preference for bench seats.

### Recommendation

Meketa concurs with staff’s recommendation. Whether transferring assets to a new manager, liquidating assets from a terminated manager, or simply re-allocating fund assets, the potential benefits associated with utilizing a transition a manager are numerous. In an industry with thin margins, LACERA can benefit from the economies of scale that are concomitant with larger firms such as BlackRock, Citi, and State Street. Meketa believes that a transition bench of multiple managers will provide LACERA with a degree of competitiveness with each transition project and serve as a buffer should the industry experience atrophy.

In conclusion, we concur with staff’s recommendation to advance BlackRock, Citi Global Markets, and State Street Global Markets to the transition management bench. We look forward to discussing the matter with you at the upcoming meeting.

SM/LF/TF/AY/sf

# Transition Management Bench Search

Board of Investments  
December 9, 2020

Esmeralda del Bosque – Senior Investment Officer  
Adam Cheng – Senior Investment Analyst  
Mel Tsao – Senior Investment Analyst



# Transition Management

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- A transition manager (“TM”) is a contracted third party hired to facilitate the liquidation, transfer, or funding of assets from a 'legacy' portfolio to a pre-defined 'target' portfolio  
Used for changes in portfolio asset allocation, investment manager hires & terminations, multi-asset class structural shifts, or to obtain temporary mandate exposure
- TM assumes the role of portfolio manager for a specific transition event  
Responsible for the execution strategy and risk management - monitoring costs, market exposure, and performance



# Purpose of the Transition Management Bench Search

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**Establishing a pre-approved roster of Transition Managers with differentiated skill sets will enhance LACERA's operational effectiveness**

- **Enhances Current Process**

LACERA has used existing managers to act as TM. This search aimed to broaden options by identifying a deep bench of dedicated TM providers

- **Ideal Timing**

LACERA has expanded into new asset classes and pre-populating a bench prepares for changes resulting from the upcoming strategic asset allocation exercise, if changes are necessary

- **Expedites the bidding and contracting process, allowing for more timely transitions**

- **Knowledge Transfer**

As part of the bidding process, LACERA will receive multiple execution strategies for a specific event from TMs who represent some of the largest trade volumes in the capital markets





# Evaluation Team

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Esmeralda del Bosque, Senior Investment Officer – Portfolio Analytics



Adam Cheng, Senior Investment Analyst – Fixed Income/Credit



Mel Tsao, Senior Investment Analyst – Global Equities

# Evaluation Process and Timeline

## Transition Management Bench RFP Search Process & Timeline



# Recommendation

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**Approve establishing a bench of three transition management service providers including BlackRock, Citigroup, and State Street**

**BlackRock**<sup>®</sup>



**STATE STREET**<sup>®</sup>

# Bench Candidate Competitive Advantages

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## 1. Extensive transition management experience

*Top TMs in their respective business lines with ~ 30 years of experience*

## 2. Multiple business models provide access to differentiated execution

*BlackRock - world's largest asset management firm; liquidity provider*

*Citigroup - leading global broker-dealer; strong presence in non-U.S. markets*

*State Street - one of the largest global custodians; custodied multi-asset class*

## 3. Strong back office and analytics platforms

*Robust back-office support and internal resources; advanced trading, compliance and risk platforms*

## 4. High-touch client service models

*Dedicated team available to LACERA for the duration of the TM event with 24-hour coverage*



# How the Bench will Function

## Transition Event Triggered

### Proposals

- Bench participants will be asked to submit a proposal including:
  - Project plan and timeline
  - Risk management and trading execution approach
  - Pre-trade analysis including cost estimates

### Selection

- Evaluate the proposals
- Review the execution plan with each TM
- Select firm best suited for the specific event

### Transition

- Contract with TM; finalize execution plan
- TM to provide daily status updates
- Receive and Review post-trade report with TM

# Bench Candidates: At-a-Glance



	BlackRock	Citigroup	State Street
<b>Stability</b>	<p>Largest asset manager with \$7.3 trillion under management</p> <p>Transition management business established in 1993</p>	<p>Large global bank and leading broker/dealer</p> <p>Transition management business established in 1996</p>	<p>One of the largest global custody banks</p> <p>Transition management business established in 1994</p>
<b>Global Footprint</b>	<p>60 professionals with offices located in San Francisco, New York, Budapest, Hong Kong, and Tokyo</p>	<p>16 professionals with offices in London and Sydney</p>	<p>58 professionals with offices located in Boston, Irvine, Toronto, Tokyo, Sydney, Melbourne, and Singapore</p>
<b>Transition Volumes</b>	<p>Annual transition volume: 290 to 450 transitions, ranging from \$400B to \$600B</p>	<p>2019 transition volume: Equity: \$468B (916 transitions) Fixed Income: \$92B (166 transitions)</p>	<p>2019 transition volume: 220 transitions representing \$135B</p>
<b>Analytics</b>	<p>Fully integrated trade, accounting, and risk management systems built on BlackRock's Aladdin platform</p>	<p>Proprietary trade management system, Bloomberg Port and Best Execution Consulting Services, MSCI Barra</p>	<p>Charles River Developments order management system, FICOM fixed income OMS, proprietary accounting and analytics platform</p>



# BlackRock – Diversity and Inclusion

LACERA supports diversity in the workforce and has shared our desire to partner with like-minded firms

18% of BlackRock’s executive team are women and within this group, 24% are people of color

Diversity and Inclusion Items	Response
Diversity and Inclusion policy	Yes
Workplace harassment policy	Yes
Demographics of investment team and firm leadership, as reported:	
a. Percentage of women in U.S. operations:	41%
b. Percentage of people of color in U.S. operations:	40%
Known EEO regulatory or litigation track record, as reported and researched for past 12 years, if any:	<ul style="list-style-type: none"> <li>From time to time, BlackRock is involved with litigation involving former employees. None of these matters have been material to the Firm and in no instances have there been any adverse determinations concerning alleged violations of Federal, State or City equal opportunity or anti-discrimination laws, rules or regulations</li> </ul>
Notable initiatives, objectives, and strategies addressing Diversity and Inclusion (including any efforts to improve firm’s track record):	<ul style="list-style-type: none"> <li>BlackRock strives to making a diverse workforce a top priority and foster a collaborative culture based on trust, respect and integrity. Knowing that diversity strengthens the firm, and an inclusive culture is essential to delivering superior results for our clients</li> </ul>



# Citigroup – Diversity and Inclusion

LACERA supports diversity in the workforce and has shared our desire to partner with like-minded firms

Citigroup named Jane Fraser as President and CEO of Global Consumer Banking, and will succeed the current CEO in February 2021, making her the first woman to ever head a major U.S. bank; 33% of Citigroup's executive team are women and within this group, 24% are people of color

Diversity and Inclusion Items	Response
Diversity and Inclusion policy	Yes
Workplace harassment policy	Yes
Demographics of investment team and firm leadership, as reported:	
a. Percentage of women in U.S. operations:	53%
b. Percentage of people of color in U.S. operations:	47%
Known EEO regulatory or litigation track record, as reported and researched for past 12 years, if any:	<ul style="list-style-type: none"> <li>• Citi Global Markets Inc. Is the subject of occasional legal claims in various judicial and administrative forums across the country which is not unusual given the size and breadth of the organization</li> </ul>
Notable initiatives, objectives, and strategies addressing Diversity and Inclusion (including any efforts to improve firm's track record):	<ul style="list-style-type: none"> <li>• Citigroup's commitment to achieve global pay equity: In 2019, they became the first financial institution to publicly release the results of a pay equity review comparing compensation of women to men, and U.S. minorities to U.S. non-minorities</li> </ul>





# State Street – Diversity and Inclusion

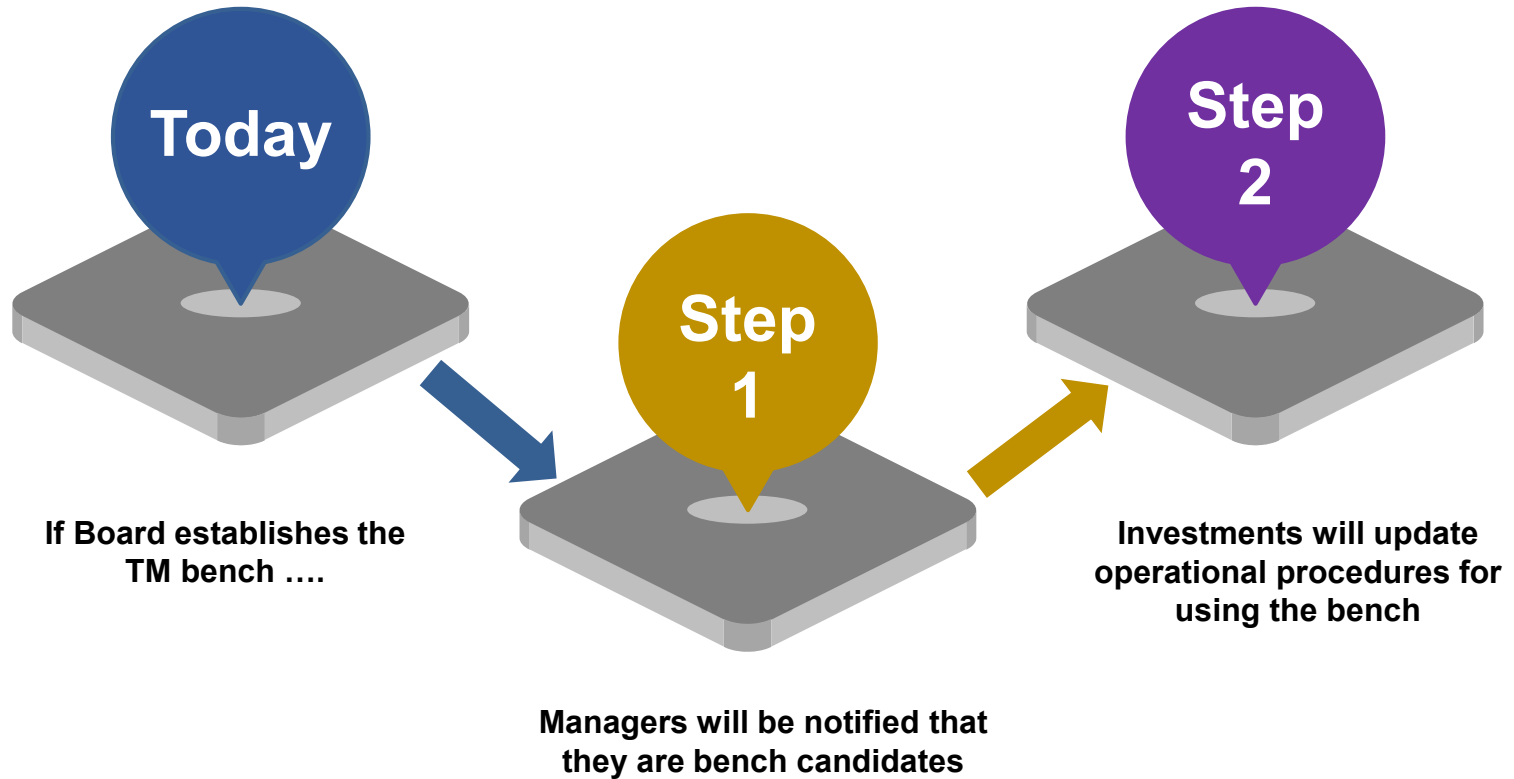
LACERA supports diversity in the workforce and has shared our desire to partner with like-minded firms

35% of State Street’s executive team are women and within this group, 24% are people of color

Diversity and Inclusion Items	Response
Diversity and Inclusion policy	Yes
Workplace harassment policy	Yes
Demographics of investment team and firm leadership, as reported:	
a. Percentage of women in U.S. operations:	41%
b. Percentage of people of color in U.S. operations:	35%
Known EEO regulatory or litigation track record, as reported and researched for past 12 years, if any:	<ul style="list-style-type: none"> <li>• State Street is subject to pending claims filed by employees</li> <li>• State Street represents that claims will be investigated and resolved without material adverse effect on its financial position</li> <li>• For confidentiality reasons, State Street cannot disclose details regarding filed claims</li> </ul>
Notable initiatives, objectives, and strategies addressing Diversity and Inclusion (including any efforts to improve firm’s track record):	<ul style="list-style-type: none"> <li>• The firm indicates it is undergoing a number of efforts to broaden its diversity and inclusion and cites, as examples, striving to include diverse candidates in each job search and launching a mentoring initiative for female employees</li> </ul>



# Next Steps



# Questions & Answers



November 13, 2020

TO: Each Trustee  
Board of Retirement  
Board of Investments

FROM: Santos H. Kreimann <sup>SHK</sup>  
Chief Executive Officers

FOR: Board of Retirement Meeting on December 2, 2020  
Board of Investments Meeting on December 9, 2020

SUBJECT: **BOARD OF RETIREMENT AND BOARD OF INVESTMENTS 2021  
MEETING CALENDAR**

### **RECOMMENDATION**

It is recommended the Boards review the 2021 meeting calendar and consider rescheduling meeting dates that conflict with a holiday and/or the potential of a lack of quorum.

### **DISCUSSION**

Regular meetings of the Board of Retirement shall be held on the first Wednesday and the Thursday following the second Wednesday in each month. Regular meetings of the Board of Investments shall be held on the second Wednesday of each month. It is encouraged to focus on rescheduling meeting dates that conflict with a holiday and/or the potential of a lack of quorum.

For the Board of Retirement and Board of Investments, following are meeting dates that the Board may consider rescheduling:

Thursday, May 13, 2021 - SACRS Spring Conference

Thursday, November 11, 2021 - SACRS Spring Conference/Veteran's Day

A copy of the 2021 meeting and educational calendar is attached for your planning convenience.

SHK:bn

Attachment

# JANUARY 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1 New Year's Day	2
3	4	5	6 BOR	7	8	9
10	11	12	13 BOI	14 BOD	15	16
17	18 Martin Luther King Jr. Day	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

## FEBRUARY 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	1	2	3 <b>BOR</b>	4	5	6
		NCPERS Fall Conference (Virtual)				
7	8	9	10 <b>BOI</b>	11 <b>BOR</b>	12	13
<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	20
Valentine's Day	Presidents' Day	PPI Winter Roundtable (Virtual)				
21	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	27
28	1	2	3	4	5	6

# MARCH 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	<b>1</b>	<b>2</b>	<b>3</b>  <b>BOR</b>	<b>4</b>	<b>5</b>	6
7	<b>8</b>  CALAPRS General Assembly (Virtual)	<b>9</b>	<b>10</b>  <b>BOI</b>	<b>11</b>  <b>BOR</b>	<b>12</b>	13
	CII Spring Conference – Washington, DC					
14	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	20
21	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	27
				PREA Spring Conference - TBD		
28	<b>29</b>  Cesar Chavez Day	<b>30</b>	<b>31</b>	1	2	3

# APRIL 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	31	1	2 Good Friday	3
4 Easter Sunday	5	6	7 BOR	8	9	10
11	12	13	14 BOI	15 BOR	16	17
World Health Care Congress – Washington, DC						
18	19	20	21	22	23	24
25	26	27	28	29	30	1



# MAY 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27	28	29	30	1
2	3	4	BOR	6	7	8
9 Mother's Day	10	11	BOI	BOR	14	15
SACRS Spring Conference – Long Beach, CA						
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31 Memorial Day	1	2	3	4	5

## JUNE 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	1	2 <b>BOR</b>	3	4	5
6	7	8	9 <b>BOI</b>	10 <b>BOR</b>	11	12
13	14	15	16	17	18	19
Wharton Investment Strategies and Portfolio Management – Philadelphia, PA						
20  Father's Day	21	22	23	24	25	26
27	28	29	30	1	2	3

# JULY 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	1	2	3
<b>4</b> Independence Day	<b>5</b> Independence Day Holiday	<b>6</b>	<b>7</b> BOR	<b>8</b>	<b>9</b>	10
11	<b>12</b>	<b>13</b>	<b>14</b> BOI	<b>15</b> BOR	<b>16</b>	17
	ICGN Annual Conference – Toronto, Canada		PPI Summer Roundtable – Vancouver, Canada			
18	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	24
25	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	31

# AUGUST 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 BOR	5	6	7
8	9	10	11 BOI	12 BOR	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

## SEPTEMBER 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	1  <b>BOR</b>	2	3	4
5	6  Labor Day	7	8  <b>BOI</b>	9  <b>BOR</b>	10	11
12	13	14	15	16  Yom Kippur	17	18
19	20	21	22	23	24	25
			CII Fall Conference – Chicago, IL			
26	27	28	29	30	1	2
		CALAPRS Principles of Pension Governance for Trustees – Malibu, CA				

# OCTOBER 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	1	2
3	4	5	6 <b>BOR</b>	7	8	9
ICGN Conference – Seoul, South Korea						
10	11 Indigenous People's Day	12	13 <b>BOI</b>	14 <b>BOR</b>	15	16
17	18	19	20	21	22	23
IFEBP Employee Benefits Conference – Denver, CO						
24	25	26	27	28	29	30
PREA Institutional Investor Conference – Chicago, IL						
PPI Executive Seminar – Tokyo, Japan			PPI Asia Pacific Roundtable – Tokyo, Japan			
31 Halloween	1	2	3	4	5	6

# NOVEMBER 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	1	2	3  BOR	4	5	6
7	8	9	10  BOI	11 Veterans Day BOR	12	13
CRCEA Conference – Long Beach, CA			SACRS Fall Conference – Hollywood, CA			
14	15	16	17	18	19	20
21	22	23	24	25  Thanksgiving Day	26  Thanksgiving Day Holiday	27
28	29  Hanukkah Begins	30	1	2	3	4

# DECEMBER 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	1 BOR	2	3	4
5	6 Hanukkah Ends	7	8 BOI	9 BOR	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24 Christmas Eve Holiday	25 Christmas
26	27	28	29	30	31 New Year's Eve	1





November 30, 2020

TO: Trustees – Board of Investments

FROM: Santos H. Kreimann *SHK*  
Chief Executive Officer

Ted Granger *TG*  
Interim Chief Financial Officer

FOR: Board of Investments Meeting on December 9, 2020

SUBJECT: **2020 ACTUARIAL VALUATION OF RETIREMENT BENEFITS**

## **RECOMMENDATION**

It is recommended that the Board of Investments (BOI):

1. Accept the June 30, 2020, Actuarial Valuation of Retirement Benefits (Valuation) as submitted by the plan actuary (Milliman).
2. Adopt recommended employer contribution rates (all plan tiers) and employee contribution rates (plan tiers General Plan G and Safety Plan C).
3. Delegate authority to the Chief Executive Officer to communicate the results of the 2020 Actuarial Valuation of Retirement Benefits to the Board of Supervisors by May 15, 2021, with a recommendation to implement the employer and employee rates no later than September 29, 2021.

## **EXECUTIVE SUMMARY**

The June 30, 2020 Actuarial Valuation report (Attachment I) has been prepared by Milliman to determine the employer and certain employee<sup>1</sup> contribution rates, which will be effective July 1, 2021. The 2020 Valuation results include increases in employer contribution rates, decreases in General Plan G and Safety Plan C member contribution rates, a reduction in the Plan's funded ratio, and an increase in the UAAL. LACERA is required to communicate the results to Los Angeles County (County) so the new contribution rates can be implemented by the beginning of the upcoming fiscal year.

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<sup>1</sup> Government Code Section 7522.30 of the California Public Employees' Pension Reform Act (PEPRA) requires annual adjustments to contribution rates for members entering the retirement system beginning January 1, 2013. PEPRA applies to LACERA members enrolled in General Plan G and Safety Plan C. Contribution rates for all other members who participate in contributory plans are updated every three years which was implemented as a result of the June 30, 2019 Actuarial Valuation report. This schedule is confirmed in LACERA's Funding Policy.

## SUMMARY OF KEY VALUATION RESULTS

The key valuation results for the past three years are presented in the table below.

<b>Significant Valuation Results</b>				
		<b>FISCAL YEAR ENDED</b>		
		<b>2020</b>	<b>2019</b>	<b>2018</b>
(\$ in Millions)				
	<b>Actuarial Accrued Liability</b>	\$78,275	\$74,635	\$68,527
	<b>Valuation Assets</b>	\$59,763	\$57,617	\$55,233
	<b>Unfunded Actuarial Accrued Liability</b>	\$18,512	\$17,018	\$13,294
<hr/>				
	<b>Funded Ratio</b>	76.3%	77.2%	80.6%
<hr/>				
	<b>Assumed Investment Return</b>	7.00%	7.00%	7.25%
	<b>Actual Investment Return</b>	1.80%	6.40%	9.00%
<hr/>				
	<b>Retired Members (count)</b>	68,012	66,507	64,880
	<b>Average Monthly Benefit Payment</b>	\$4,541	\$4,385	\$4,233

Since the June 2019 valuation, the Actuarial Accrued Liability (AAL) increased 4.9% to \$78.3 billion. The valuation measures how well the Plan's assumptions estimated the actual Plan experience. This increase is primarily attributable to the expected liability growth.

The Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2020, is \$18.51 billion and requires employers to make additional payments to the Plan using closed 20-year layered amortization periods. The estimated annual employer contributions for the upcoming fiscal year 2021-2022 is \$2.24 billion. The actuary is recommending changes to the employer and PEPRAs employee contribution rates at this time, as discussed below.

A valuation report is often described as a snapshot of a retirement Plan's funded status at a particular point in time. This year's snapshot finds LACERA funded ratio at 76.3%. That is, the estimated benefit liability is greater than the actuarial value of assets. However, this snapshot applies the actuarial asset smoothing method which distributes previous investment gains and losses over a five-year period. Based on the market value of assets, LACERA's funded ratio is 74.0%.

Plan demographics reported in the valuation indicate a 0.9% increase in the size of the active member population that totals 100,108, with an overall average age of 46.5 years. The retired population increased by 2.3% and totals over 68,000. The average benefit payment increased by 3.6% to \$4,541 per month. The retirees' average age increased by approximately one month to 73 years.

The table below includes both historical and projected information based on the June 30, 2020 Actuarial Valuation report.

	<b>EMPLOYER AND EMPLOYEE CONTRIBUTIONS</b>		
	<b>FISCAL YEAR BEGINNING</b>		
	<b>July 1, 2021</b>	<b>July 1, 2020</b>	<b>July 1, 2019</b>
(\$ in millions)			
<b>Total Employer Contribution Rate with Phase-in</b>	24.64%	22.59%	20.91%
<b>Employee Safety Plan C</b>	14.42%	14.54%	13.69%
<b>Employee General Plan G</b>	9.10%	9.11%	8.43%
<b>Estimated Employer Contributions</b>	\$2,244	\$1,965	\$1,744

Annual valuations determine the employer and employee contribution rates each year. Member contribution rates for all plans except General Plan G and Safety Plan C are effective in fiscal years following when relevant actuarial assumptions are adopted, such as the fiscal year beginning in 2020. For members of General Plan G and Safety Plan C, member contribution rates are recalculated each year, based on one-half of the Plan's normal cost rate.

## **LEGAL AUTHORITY**

Provisions contained in the County Employees Retirement Law (California Government Code, Sections 31450-31899.1) (CERL) and the California Constitution (Article XVI, Section 17) govern the actuarial process at LACERA.

Section 31453 of the (CERL) requires LACERA to obtain an actuarial valuation at least once every three years. The valuation shall be conducted under the supervision of an actuary, shall cover the mortality, service, and compensation experience of the members and beneficiaries, and shall evaluate the assets and liabilities of the retirement fund. Government Code Section 7504(a) additionally provides, for all California public pension systems, not less than every three years, the fund actuary "shall perform a valuation of the system utilizing actuarial assumptions and techniques established by the agency that are, in the aggregate, reasonably related to the experience and the actuary's best estimate of anticipated experience under the system. Any differences between the actuarial assumptions and techniques used by the actuary that differ significantly from those established by the agency shall be disclosed in the actuary's report and the effect of the differences on the actuary's statement of costs and obligations shall be shown." Government Code Section 7522.30 of the California Public Employees' Pension Reform Act (PEPRA) requires annual adjustments to contribution rates for members entering the retirement system beginning January 1, 2013. PEPRA applies to LACERA members enrolled in General Plan G and Safety Plan C.

The California Constitution, Article XVI, Section 17(a) of the Constitution provides that public pension trustees “shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. A retirement board’s duty to its participants and their beneficiaries shall take precedence over any other duty.” To comply with their fiduciary duty with respect to actuarial decisions, the Constitution requires that each of these three elements be considered and evaluated with the interests of members and beneficiaries being paramount.

Article XVI, Section 17(e), assigns “the sole and exclusive power to provide for actuarial services” to the governing body of the public employees’ retirement system. Such power is given by the Constitution in order to “assure the competency of the assets of the public pension or retirement system.”

Section 31453 further requires the Board of Investments to transmit its recommendations concerning assumptions, interest rates, and contributions to the Board of Supervisors at least 45 days prior to the beginning of the succeeding fiscal year. Section 31454 requires the Board of Supervisors to adjust contribution rates in accordance with LACERA’s recommendations no later than 90 days following the beginning of the immediately succeeding fiscal year, which means that the adjustments must be made no later than September 29, 2020. Section 31454.1 exempts the independent assumptions and calculations of LACERA’s actuary from “meet and confer” requirements. This same section also recognizes the “meet and confer” responsibility of the Board of Investments or Board of Supervisors in implementing the recommendations contained in the actuarial valuation report.

## **LACERA’s RETIREMENT BENEFIT FUNDING POLICY**

LACERA’s Retirement Benefit Funding Policy’s main goal is to provide benefit security for its members as well as achieving and maintaining stable employer contributions that are as low as possible. The policy requires annual actuarial valuations to review the retirement system’s funding progress, and to set the employer contribution and member contribution rates according to the plan documents (CERL and PEPRA), the relevant provisions of which are described in the Legal Authority above.

In addition to the annual valuations, LACERA requires its actuary to review the reasonableness of the economic and non-economic (demographic) actuarial assumptions every three years. This review, commonly referred to as the Investigation of Experience or Experience Study, is accomplished by comparing recent actual experience to what was expected to happen according to the actuarial assumptions. Additionally, forecasts are considered where available, particularly for the economic assumptions. On the basis of this review, the actuary recommends whether any changes in the assumptions or methodology would allow a more accurate projection of total benefit

liabilities and asset growth. Milliman completed the most recent experience study as of June 30, 2019.

For plan tiers using age-based employee contribution rates (General Plans A, B, C and D and Safety Plans A and B), LACERA's actuary will recommend adjusted employee rates, as required, due to changes in the underlying assumptions and methodologies used to calculate the employee rates. Therefore, it is expected the age-based employee rates will change no more frequently than every three years when the actuary reviews the assumptions and methodologies as part of the Experience Study. As there was no experience study conducted in connection with the June 30, 2020 valuation, the actuary is not recommending new employee rates for the age-based employee contribution rate plan tiers (i.e. non-PEPRA tiers).

For the plan tiers using single-rate employee contribution rates (plan tiers General Plan G and Safety Plan C), the employee is required to contribute one-half of the total normal cost rate for the plan. The actuary is recommending slightly lower employee rates for those PEPRA tiers effective July 1, 2021.

#### **ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION RATES**

Liabilities not funded through employee contributions and portfolio earnings are the responsibility of the employer. The employer is responsible to contribute the cost of benefits expected to be earned in the future in excess of those funded by employee contributions. These contributions are known as employer Normal Cost contributions. The actuary has calculated employer Normal Cost rates for all retirement plans. Comparing the recommended employer Normal Cost rates calculated in the 2020 valuation to the 2019 valuation rates currently in effect, the general plans' average decreased by 0.05% of pay and the safety plans' average increased by 0.27% of pay, for an aggregate increase of 0.03%. A comparison by plan is presented in the Valuation report's Exhibit 10 on page 32. Overall, the actuary recommends raising the employer Normal Cost contribution rate from 10.86% to 10.89% of estimated payroll.

	<b>June 30, 2020 Valuation</b>	2019 Valuation	2018 Valuation	2017 Valuation
Employer Normal Cost Rate	<b>10.89%</b>	10.86%	9.92%	9.94%
Employer Normal Cost Rate	<b>10.89%</b>	10.86%	9.92%	9.94%
Employer UAAL Rate	<b>14.85%</b>	13.92%	10.99%	11.06%
Calculated Contribution Rate	<b>25.74%</b>	24.78%	20.91%	21.00%
Less cost phase-in	<b>-1.10%</b>	-2.19%	0.00%	-0.96%
Total Employer Rate with cost phase-in	<b>24.64%</b>	22.59%	20.91%	20.04%

The employer is also responsible to contribute for funding shortfalls related to liabilities accrued in the past (which includes changes in the economic and non-economic assumptions affecting past service, if any). This portion of the employer's contribution is known as the UAAL contribution. Under the terms of the Retirement Benefit Funding Policy, contributions to retire an unfunded liability are calculated using a closed 20-year layered amortization period method when the funded ratio is below 100%. As the funded ratio as of June 30, 2020 is 76.3%, the employer is required to contribute an additional 14.85% of covered payroll towards the unfunded liability for the fiscal year beginning July 1, 2021. The Board of Investments provided direction to the Plan actuary to phase-in the cost of the 2019 Experience Study report's assumption changes over a three year period (2019–2021 valuations) using a contribution smoothing method.

Together, the employer's 10.89% Normal Cost and 14.85% UAAL contribution rates equal 25.74% of covered payroll. After reflecting the cost phase-in, the total employer contribution rate is equal to 24.64% of covered payroll. For the fiscal year 2021-2022, the annual employer contribution is projected to increase approximately \$279 million compared to fiscal year 2020-2021, resulting in an approximate annual employer cost of \$2.2 billion.

### **ACTUARIALLY DETERMINED EMPLOYEE CONTRIBUTION RATES**

Employees participating in the closed contributory plan tiers (General Plans A, B, C and D and Safety Plans A and B) contribute using age-based rates to fund a defined annuity at a specified age and to fund one-half the cost-of-living benefit. Employee age-based annuity contribution rates are affected by changes made in the salary, investment, and life expectancy assumptions and will vary according to the employee's age at first membership. Since no new assumptions were adopted for this 2020 Valuation, the actuary is not recommending changes to the member contribution rates for General Plan A to D and Safety Plans A and B.

Employees participating in the open plan tiers (General Plan G and Safety Plan C) are required to contribute one-half of the plan's total normal cost rate. The actuary recommends changes to employee contribution rates in these tiers to reflect the Plan's Normal Cost rates. The General Plan G employee rate is recommended to decrease 0.01% to 9.10% of pay and Safety Plan C employee rate to decrease by 0.12% to 14.42% of pay.

Employee contribution rates for all plans at every entry age can be found in the Valuation report's Appendix D on page 106.

### **ACTUARIAL ASSUMPTION CHANGE COST PHASE-IN**

The Board's January 8, 2020 action to use "direct rate smoothing" to phase-in the actuarial assumption change cost impact on the employer contribution rate is an implicit increase of the UAAL amortization period. The phase-in approach initially results in a lower employer contribution rate. Future employer contribution rates after the phase-in period are projected to be greater by approximately 0.23% of covered payroll due to lower employer contributions received during the phase-in period. Applying the 0.23% cost factor to the \$9.4 billion estimated employer payroll for fiscal year 2022 results in an approximate additional cost of \$21 million (based on a projected increase in the UAAL due to the cost phase-in of \$303 million) for the fiscal period beginning July 1, 2022.

The employer contribution rate beginning July 1, 2021 is 24.64% of payroll (25.74% without phase-in of the increase). For the future fiscal period beginning July 1, 2022, the remaining 1.10% increase due to the new assumptions and amortization method (25.74% minus 24.64%) will be phased-in. Employee contributions rates are not impacted by the cost phase-in approach.

### **ACTUARIAL RISK DISCUSSION**

Under Actuarial Standard of Practice (ASOP) Number 51 (ASOP 51), effective with the current valuation, the report includes a risk discussion (see pages 44-46) in which Milliman assesses and discloses the main risks associated with measuring pension liabilities and the determination of pension plan contributions. This section is intended to identify significant risks, assess the risks, and disclose plan maturity measures and historical information necessary to understand the risks. In addition to the ASOP 51 discussion in the valuation, Milliman will prepare a separate ASOP 51 risk report, which will be placed on the Board agenda and discussed at a future meeting.

### **ACTUARIAL AUDITS**

An actuarial audit was conducted by Cavanaugh MacDonald Consulting (CMC) on Milliman's 2019 Experience Study and valuation reports. CMC concluded that "We find the June 30, 2019 actuarial valuation results to be reasonable and accurate, based on the assumptions and methods used. The valuation was performed by qualified actuaries

and was performed in accordance with the principals and practices prescribed by the Actuarial Standards Board.” The next triennial Experience Study and Valuation audit will be performed as of June 30, 2022.

## **CONCLUSION**

The LACERA Board of Investments adopted the Retirement Benefit Funding Policy to require the employer contribution rates to be adjusted annually based on the LACERA actuary’s annual valuation. Member contribution rates are updated annually for plans established subsequent to January 2013 and triennially for all other legacy plans (or at such other times that valuation assumptions change). The Plan actuary, Milliman, performed the 2020 actuarial valuation, the employer contribution rates (all tiers) will change effective July 1, 2021 due to the phase-in adopted in the 2019 Valuation and current and prior year investments losses. Milliman recommends changes to the employee contribution rates for only General Plan G and Safety Plan C. California State Law requires LACERA to transmit the contribution rate recommendations to the Board of Supervisors prior to May 15 and for the Board of Supervisors to implement the recommended rates by July 1 but no later than September 29.

LACERA’s consulting actuaries, Nick Collier and Craig Glyde with Milliman, will be attending the December 9, 2020 meeting to discuss the valuation report and answer any questions you may have.

## **Attachments**

- I. Milliman’s 2020 Pension Plan Valuation Report (final)
- II. Milliman’s Presentation Slides

SHK:tg

2020\_Actuarial Valuation of Retirement Benefits\_Final

c: Steven P. Rice, LACERA  
Carlos Barrios, LACERA  
Richard Bendall, LACERA  
Fesia Davenport, Los Angeles County



# **ATTACHMENT I**

Milliman's 2020 Pension Plan Valuation  
Report (final)



# Los Angeles County Employees Retirement Association

Actuarial Valuation of Retirement Benefits

June 30, 2020

Prepared by:

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Consulting Actuary

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November 25, 2020

Board of Investments  
Los Angeles County Employees Retirement Association  
300 North Lake Avenue, Suite 820  
Pasadena, CA 91101-4199

**Re: Los Angeles County Employees Retirement Association**

Dear Members of the Board:

As requested, we have performed an actuarial valuation of retirement benefits for the Los Angeles County Employees Retirement Association (LACERA) as of June 30, 2020 to be used in determining the contribution rates effective July 1, 2021. The major findings of the valuation are contained in this report. This report reflects the benefit provisions and contribution rates in effect as of June 30, 2020, and LACERA's Funding Policy that was adopted in December of 2009 and amended as of February 2013. It should be noted that under the amended Funded Policy, the reserve value for STAR benefits is included in the Valuation Assets for 2014 and future valuations; however, the liability for any potential STAR benefits that may be granted in the future is not included in this valuation.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by LACERA's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for LACERA have been determined on the basis of actuarial assumptions and methods that are individually reasonable (taking into account the experience of LACERA and reasonable expectations); and that, in combination, offer a reasonable estimate of anticipated experience affecting LACERA. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the Plan and to reasonable expectations, which, in combination, represent a reasonable estimate of anticipated experience for LACERA. The valuation results were developed using models intended for valuations that use standard actuarial techniques.

This valuation report is only an estimate of LACERA's financial condition as of a single date. It can neither predict LACERA's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of benefits, only the timing of contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement, although for informational purposes we have shown valuation results at +/- 0.5% on the investment return assumption at the end of the Executive Summary.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Board of Investments has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix A of this report.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts of LACERA. The calculations in the enclosed report have been made on a basis consistent with our understanding of LACERA's funding requirements as stated under their Funding Policy, with a modification to reflect the three-year phase-in of the employer contribution rate change due to the new assumptions. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. Milliman will provide LACERA financial reporting results relevant to GASB Statements No. 67 and 68 in separate reports.

Milliman's work is prepared solely for the internal business use of LACERA. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

- (a) LACERA may provide a copy of Milliman's work, in its entirety, to LACERA's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit LACERA.
- (b) LACERA may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsors. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We would like to express our appreciation to members of LACERA staff who gave substantial assistance in supplying the data on which this report is based.

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,



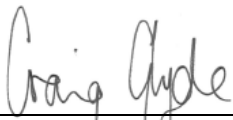
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Consulting Actuary



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Nick Collier, ASA, EA, MAAA  
Consulting Actuary



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Craig Glyde, ASA, EA, MAAA  
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## 1. Summary of Findings

### 2020 Valuation Results

	Fiscal Year Beginning	
	July 1, 2021	July 1, 2020
Employer Contribution Rate with phase-in	24.64% <sup>(1)</sup>	22.59% <sup>(2)</sup>
Funded Ratio	76.3%	77.2%

1. The FYB 2021 employer contribution rate was calculated in the June 30, 2020 valuation. The FYB 2021 employer contribution rate without phase-in is 25.74%.
2. The FYB 2020 employer contribution rate was calculated in the June 30, 2019 valuation.

This report presents the results of the June 30, 2020 actuarial valuation. This valuation determines the member and employer contribution rates payable starting July 1, 2021. Several key points are summarized below:

**Funding:** The Funded Ratio decreased from 77.2% to 76.3% primarily due to the recognition of current and prior year asset losses which caused a 0.9% decrease, and salary increases greater than assumed which caused a 0.4% decrease. Contributions to amortize the Unfunded Actuarial Accrued Liability (UAAL) partially offset these decreases and caused the Funded Ratio to decrease by 0.5% less than it otherwise would have. On a market-value basis, the Funded Ratio decreased from 77.3% to 74.0%.

The “Analysis of Change” section that follows later in Section 1 provides an analysis of the sources of change in the Funded Ratio since last year.

**Investment Returns:** For the fiscal year ending in 2020, the fund returned 1.8% on a market-value basis (net of investment expenses). In total, there was an \$2.7 billion loss on market assets relative to the assumed rate of return of 7.00%. Under the actuarial asset method, which recognizes investment gains and losses over a five-year period, the return on actuarial assets was 5.8%, equivalent to a loss of \$701 million relative to the assumed return of 7.00%.

**COVID-19 Impact:** The ongoing pandemic had a negative impact on investment markets in the first half of 2020. The below-assumption return for the fiscal year is reflected in the valuation results, as discussed in this report. We did not observe any other material impact on the valuation results related to COVID-19, although it is possible this may appear in future valuations. In particular, we did not see any significant deviation from the assumptions in the other areas that we believe are most likely to be affected by the pandemic: mortality rates, salary increases, and payroll increases.

**Employer Contribution Rates:** The total calculated employer contribution rate increased from the prior valuation by 2.05% (from 22.59% to 24.64%) of payroll. The increase in the employer contribution rate is primarily due to the phase-in recognition of assumption and amortization method changes effective June 30, 2019 and the recognition of current and prior year investment losses.

At the January 2020 Board of Investments (BOI) meeting, the BOI adopted a three-year phase-in of the increase in the employer contribution rate due to the new assumptions and amortization method. Without the phase-in of the increase, the total employer contribution rate would be 25.74% effective July 1, 2021. The remaining 1.10% increase due to the new assumptions and amortization method change (25.74% minus 24.64%) will be phased-in with the employer contributions effective July 1, 2022.



The “Analysis of Change” section provides an analysis of the sources of change in employer contribution rates since last year. In addition, the section “Projected Future Employer Contribution Rates” below shows a 10-year projection of employer contribution rates.

**Member Contribution Rates:** New member contribution rates are recommended for General Plan G and Safety Plan C effective July 1, 2021. General Plan G and Safety Plan C member rates are required to be equal to 50% of the Gross Normal Cost of the respective plan. The recommended member contribution rates are slightly lower for General Plan G and Safety Plan C. Member contribution rates are discussed in detail in Section 5 of this report.

Member contribution rates for all plans, except General Plans E and G and Safety Plan C, vary based on a member’s entry age to LACERA and the underlying actuarial assumptions. Since no new assumptions were adopted effective with this valuation, there are no recommended changes to member contribution rates for those plans.

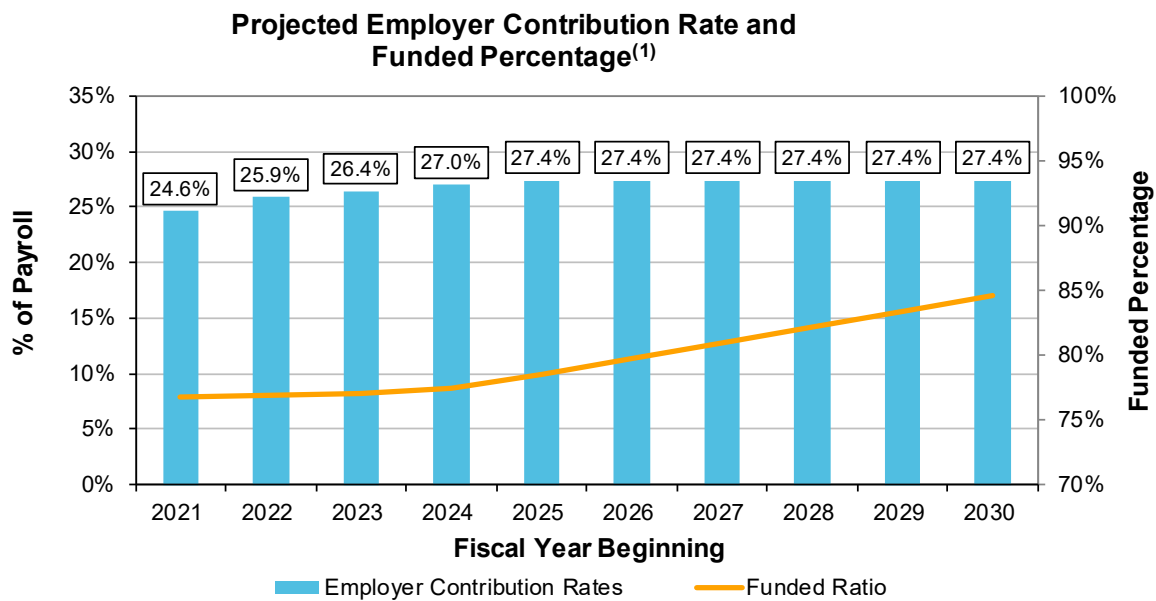
### **Amortization of the UAAL**

LACERA employs a “layered” amortization method to pay off the UAAL. Under this method, the UAAL amount as June 30, 2009 was amortized over a closed 30-year period. Subsequent changes in the UAAL were amortized over new closed 30-year periods. Effective with the June 30, 2019 valuation, all existing layers with more than 22 years remaining were re-amortized over closed 22-year periods. All new UAAL layers are amortized over a 20-year period, beginning with the date the contribution is first expected to be made. Exhibit 12 of this report illustrates in detail the calculation of the total UAAL rate for the fiscal year beginning in 2021.

**Projected Future Employer Contribution Rates**

The employer contribution rate beginning July 1, 2021 is 24.64% of payroll, which is a weighted average for all LACERA plans. The actual percent of payroll to be contributed by the employers varies by plan as shown in Exhibit 11.

The new calculated employer contribution rate is effective for the fiscal year beginning July 1, 2021. Additional increases are projected in the fiscal year beginning July 1, 2022 as the increase due to assumption and method changes is phased in. Even if all actuarial assumptions are met over the next few years, we project additional changes in the employer contribution rate as deferred asset gains and losses are recognized. To illustrate these impacts, we have performed a 10-year projection of the employer contribution rate and funded ratio that assumes all actuarial assumptions are met, and reflects the phase-in and the projected recognition of the remaining deferred asset gains and losses as of June 30, 2020. This projection is shown in the graph below.



1. Projections assume that all actuarial assumptions are met after June 30, 2020, and reflect the scheduled recognition of asset gains and losses currently being deferred. Actual results will vary.

**Analysis of Change**

The following table shows an analysis of the primary causes of the change in the employer contribution rate and the Funded Ratio over the last year. The recognition of the 2019 assumption changes was the most significant factor affecting the employer contribution rate, although this was somewhat mitigated by the three-year phase-in of this increase.

Sources of Change	Employer Contribution Rate	Funded Ratio
<b>June 30, 2019 Actuarial Valuation</b>	<b>22.59%</b>	<b>77.2%</b>
Expected Year-to-Year Change <sup>(1)</sup>	0.16%	0.5%
Assumption and Method Changes	0.00%	0.0%
<u>Recognized Asset Gain/Loss</u>		
From Current Year	0.44%	-0.7%
From Prior Years	0.14%	-0.2%
Combined Asset Gain/Loss	<u>0.58%</u>	<u>-0.9%</u>
Contributions > Assumed	-0.07%	0.1%
Payroll Increase > Assumed	-0.21%	0.0%
<u>Liability Gain / Loss</u>		
Salary Increase > Assumed	0.32%	-0.4%
Retiree COLAs > Assumed	0.04%	0.0%
Other	0.14%	-0.2%
Combined Liability Gain/Loss	<u>0.50%</u>	<u>-0.6%</u>
Recognition of 2019 Assumption Changes	1.09%	0.0%
<b>Total Change</b>	<b><u>2.05%</u></b>	<b><u>-0.9%</u></b>
<b>June 30, 2020 Actuarial Valuation</b>	<b>24.64%</b>	<b>76.3%</b>

1. Expected increase in employer contribution rate reflects the impact of the phase-in of 2019 assumption changes.

Based on the 2019 valuation, the expected UAAL as of June 30, 2020 was \$17.3 billion. The actual UAAL as of June 30, 2020 is \$18.5 billion. The additional UAAL is primarily due to the recognition of actuarial asset losses from the current and prior years, and salary increases greater than assumed in the prior fiscal year. An analysis of the difference between expected and actual UAAL is shown in Exhibit 8a.

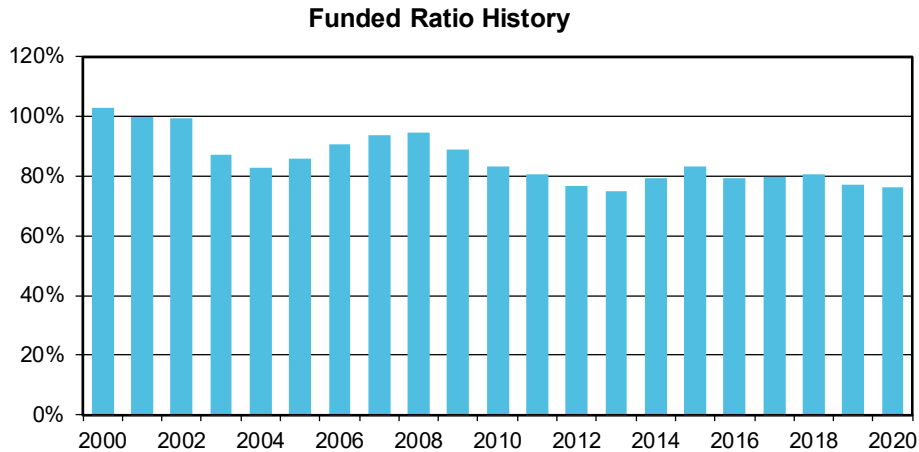
**Funding Progress**

One measure of the funding adequacy of the system is the Funded Ratio, which compares the Valuation Assets (the actuarial value of assets net of certain non-valuation reserves) to the Actuarial Accrued Liability (AAL). The Funded Ratio shown in this valuation is appropriate for assessing the future contributions needed. However, it is not appropriate for assessing the sufficiency of current system assets to cover the estimated cost of settling the system’s accrued benefit obligations. As shown in Exhibit 1, the Funded Ratio is different depending on whether the Market Assets or Valuation Assets is used.

As shown in the graph that follows, the Funded Ratio was 94.5% as of June 30, 2008, but decreased steadily over the five-year period following the economic downturn to a low of 75.0% as of June 30, 2013 as asset losses were gradually recognized. The Funded Ratio has increased slightly since that time, although this increase has

been slow as the Board has strengthened the actuarial assumptions over the period, thereby increasing the AAL and offsetting some of the increase in the Funded Ratio from other sources.

A historical perspective of the Funded Ratio is shown in the following chart.



**Assets**

On June 30, 2020, the market value of the fund (including non-valuation reserves) was \$58.5 billion. The actuarial value of assets was \$60.3 billion, split between \$0.6 billion of Non-Valuation Assets and \$59.8 billion of Valuation Assets (values do not sum due to rounding). The actuarial value of assets is approximately 103% of the market value of assets.

On a market-value basis, for the fiscal year ended June 30, 2020, LACERA earned 1.8% net of investment expenses, as reported by LACERA in the June 30, 2020 CAFR. The market value of assets is used in calculating the actuarial value of assets. Under the actuarial asset method, investment gains and losses are recognized (or smoothed in) over a five-year period. Due to the recognition of current and deferred net asset losses, the return on the actuarial valuation of assets is 5.8% net of investment and administrative expenses, and is less than the assumed return for the prior year of 7.00%.

Valuation Assets are used in the calculation of the UAAL contribution rate and Funded Ratio. Valuation Assets are equal to the actuarial value of assets less certain non-valuation reserves. The Valuation Assets of \$59.8 billion are equal to 76.3% of the \$78.3 billion AAL.

The non-valuation reserves are set aside for obligations or contingencies. They are not used to fund the retirement benefits unless explicitly stated. As of June 30, 2020, the non-valuation reserves include only the Contingency Reserve, which is equal to 1% of the market value of assets, or \$585 million. Note that the Contingency Reserve affects the assets used in the actuarial valuation and is not part of the accounting process used in creating the financial statements.

Under LACERA’s Funding Policy, the reserve value for STAR benefits is included in the Valuation Assets; however, the liability for any STAR benefits that may be granted in the future is not included in the valuation. Note that if the STAR reserve of \$614 million was excluded from the Valuation Assets, the UAAL would increase by this amount. Under this hypothetical scenario, the calculated employer contribution rate for the fiscal year beginning July 1, 2021 would increase by 0.51% of payroll, and the Funded Ratio would decrease by 0.7% to 75.6%.

**Future Impact of Recognition of Deferred Gains/Losses**

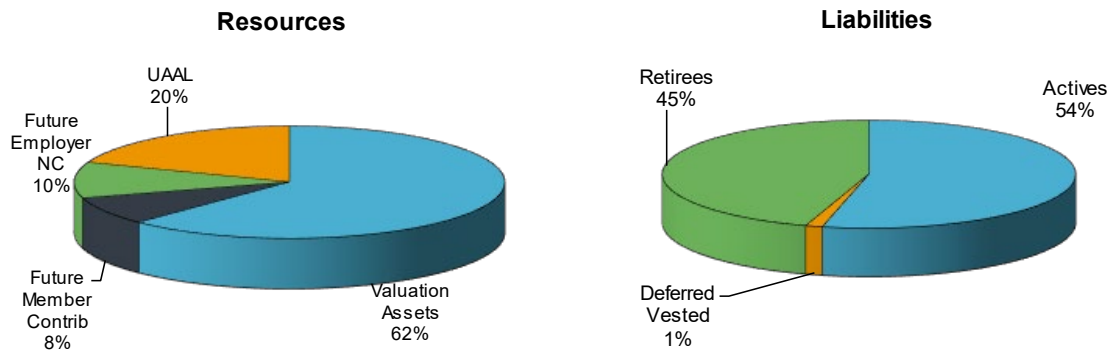
The smoothing method is currently deferring \$1.8 billion in net asset losses. As the currently deferred gains and losses are recognized over upcoming valuations, it is projected there will be fluctuations in the calculated employer contribution rate.

The potential future impact of the recognition of these deferred gains and losses on the projected employer contribution rate is included in the graph on page 3.

**Actuarial Balance Sheet**

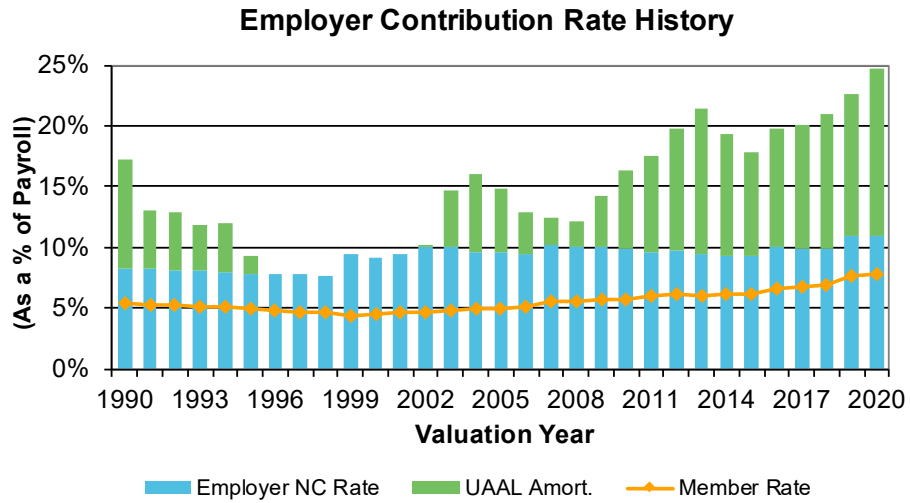
The first step in the valuation process is to compare the total actuarial assets of LACERA with its total liabilities for all plans. In this analysis, assets are those currently on hand at the actuarial value and also include expected future contributions by both the employers and members. Liabilities reflect benefits already earned in the past and those expected to be earned in the future by current members. This relationship is shown in the pie charts below. The AAL is the total of these liabilities less expected future Normal Cost contributions.

The 2020 actuarial valuation indicates that LACERA’s Valuation Assets are less than its AAL. The difference between these two values is the UAAL. It is discussed, along with the effect of the experience gains and losses, in detail in Section 4, Actuarial Liabilities.



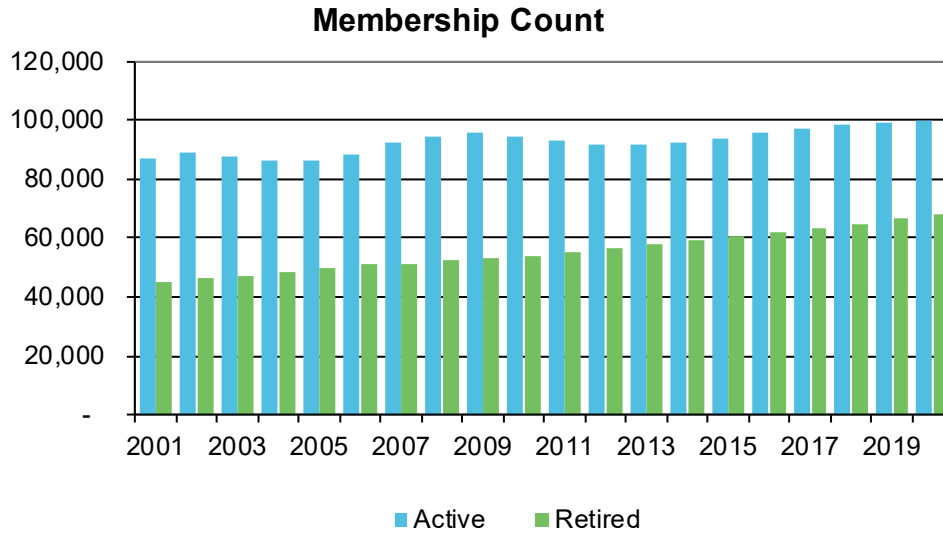
**Employer Contribution Rate History**

Based on the results of the valuation, the calculated employer contribution rate should increase for the fiscal year beginning in 2021 to a rate of 24.64% of pay. A historical perspective of the employer contribution rates is shown in the following graph.

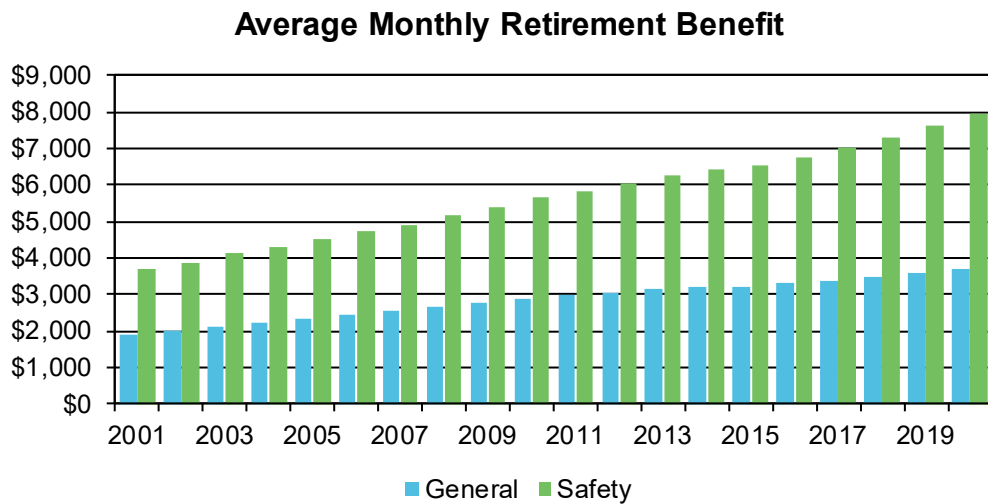


**Member Information**

Active membership and payroll have each increased since 2019. As of June 30, 2020, the annualized payroll is \$8.8 billion for 100,108 active members. This reflects a 3.7% increase in average member pay and a 0.9% increase in the number of active members.



Retired member counts and average retirement benefit amounts continue to increase steadily. For 2020, there were 68,012 retired members and beneficiaries with an average benefit of \$4,541 per month. This represents a 2.3% increase in count and a 3.6% increase in the average monthly benefit.



**Analysis of Change in Member Population**

The following table summarizes the year-to-year change in member population.

	Active Members	Inactive Members	Service Retired Members	Disabled Retired Members	Beneficiaries in Pay	Total
<b>As of June 30, 2019</b>	<b>99,186</b>	<b>15,567</b>	<b>47,517</b>	<b>9,891</b>	<b>9,099</b>	<b>181,260</b>
New Members	5,450	128	18		752	6,348
Status Change:						
to Active	136	(136)				-
to Inactive	(1,392)	1,392				-
to Service Retirement	(2,518)	(405)	2,923			-
to Disabled Retirement	(228)	(9)	(244)	481		-
Refunds	(283)	(367)				(650)
Terminated non-vested	(33)					(33)
Benefits Expired			(11)		(17)	(28)
Deaths	(210)	(2)	(1,575)	(267)	(555)	(2,609)
<b>As of June 30, 2020</b>	<b>100,108</b>	<b>16,168</b>	<b>48,628</b>	<b>10,105</b>	<b>9,279</b>	<b>184,288</b>

Note: Inactive Members include non-vested former members who have not taken a refund of their contributions.

**Sensitivity to Investment Return**

The valuation results are projections based on the actuarial assumptions. Actual experience will differ from these assumptions, either increasing or decreasing the ultimate cost. Of the assumptions, the investment return generally has the biggest impact. The following table provides a simple analysis on how the short-term costs are affected by the investment return assumption. Note that the long-term cost of the Plan will be largely driven by actual investment returns and other experience; the assumptions used in the valuation impact the timing of the contributions over the long term.

	Investment Return Assumption		
	Current 7.00%	+0.5% 7.50%	-0.5% 6.50%
<b>Employer Contribution Rate</b>	24.64%	20.00%	29.53%
Change		-4.64%	4.89%
<b>Funded Ratio</b>	76.3%	81.2%	71.7%
Change		4.9%	-4.6%

**Summary Valuation Results**

Exhibit 1 on the following page presents a summary of key valuation elements as of June 30, 2020 and June 30, 2019, and shows the relative change over the past year. More detail on each of these elements can be found in the following sections and exhibits of this report.



**Exhibit 1**  
**Summary of Significant Valuation Results**

	June 30, 2020	June 30, 2019	Percentage Change
Total Membership			
A. Active Members	100,108	99,186	0.9%
B. Retired Members & Beneficiaries	68,012	66,507	2.3%
C. Vested Former Members <sup>(1)</sup>	16,168	15,567	3.9%
D. Total	<u>184,288</u>	<u>181,260</u>	1.7%
Pay Rate as of valuation date			
A. Annual Total (\$millions)	\$ 8,819	\$ 8,423	4.7%
B. Monthly Average per Active Member	7,341	7,076	3.7%
Average Monthly Benefit Paid to Current Retirees and Beneficiaries			
A. Service Retirement	4,469	4,334	3.1%
B. Disability Retirement	6,141	5,856	4.9%
C. Surviving Spouse and Dependents	3,176	3,052	4.1%
D. Total	<u>4,541</u>	<u>4,385</u>	3.6%
Actuarial Accrued Liability (\$millions)			
A. Active Members	33,775	32,400	4.2%
B. Retired Members	43,239	41,021	5.4%
C. Vested Former Members	1,261	1,214	3.9%
D. Total	<u>78,275</u>	<u>74,635</u>	4.9%
Assets			
A. Market Value of Fund (\$millions)	58,510	58,295	0.4%
B. Actuarial Value (\$millions)			
1. Valuation Reserves	59,763	57,617	3.7%
2. Non-valuation Reserves	585	583	0.4%
C. Annual Investment Return			
1. Market Basis (Net Return)	1.8%	6.4%	n/a
2. Valuation (Actuarial) Basis	5.8%	6.5%	n/a
Unfunded Actuarial Accrued Liability (\$ millions)	\$ 18,512	\$ 17,018	8.8%
Employer contribution rate for all plans combined as a percent of total payroll			
A. Gross Normal Cost	18.69%	18.54%	0.8%
B. Member Contributions <sup>(2)</sup>	<u>(7.80)%</u>	<u>(7.68)%</u>	1.6%
C. Employer Normal Cost	10.89%	10.86%	0.3%
D. UAAL Amortization	<u>14.85%</u>	<u>13.92%</u>	6.7%
E. Calculated Contribution Rate	25.74%	24.78%	3.9%
F. Deferred Recognition of new assumptions	<u>(1.10)%</u>	<u>(2.19)%</u>	n/a
G. Employer Contribution Rate with phase-in	24.64%	22.59%	9.1%
Funded Ratio	76.3%	77.2%	(1.2)%
Results Based on Market Value (Informational Purposes Only)			
Calculated Contribution Rate	26.15%	22.51%	16.2%
Funded Ratio (excluding non-valuation reserves)	74.0%	77.3%	(4.3)%

1. Includes non-vested former members with contributions on deposit.
2. Includes non-contributory members. The average rate for contributory plans increased from 8.32 % to 9.13%.

## 2. Scope of the Report

This report presents the actuarial valuation of the Los Angeles County Employees Retirement Association as of June 30, 2020. This valuation was requested by the Board of Investments. Section 31453 of the County Employees Retirement Law of 1937 (the '37 Act) requires an actuarial valuation to be performed at least every three years for the purpose of setting contribution rates. The 2020 valuation meets this requirement. Under LACERA's Funding Policy, annual valuations determine the employer contribution rates each year. Member contribution rates for all plans except General Plan G and Safety Plan C are set in years in which relevant actuarial assumptions are altered, such as 2020. For members of General Plan G and Safety Plan C, member contribution rates are recalculated each year, based on one-half of the Plan's normal cost rate.

A summary of the findings resulting from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the Plan. The assets and investment income are presented in Exhibits 2-4. Exhibit 5 develops the actuarial value of assets as of June 30, 2020. Exhibit 6 develops the Valuation Assets used for funding benefits.

Section 4 describes the benefit obligations of LACERA. Exhibit 7 is the Actuarial Balance Sheet and Exhibit 8a analyzes the change in UAAL. Exhibit 8b shows a history of these changes.

Section 5 discusses the member contribution rates.

Section 6 discusses the employer contributions rates.

Section 7 discloses supplemental information for use in the Comprehensive Annual Financial Report (CAFR). Milliman provides LACERA financial reporting information relevant to GASB Statements No. 67 and 68 in separate reports.

Section 8 shows the estimated cash flow of the Plan, including a projection of both contributions and benefit payments.

This report includes several appendices:

- Appendix A A summary of the actuarial procedures and assumptions used to estimate liabilities and contributions.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on June 30, 2020.
- Appendix C Schedules of valuation data classified by various categories of plan members.
- Appendix D Member contribution rates by plan.
- Appendix E Historical information.
- Appendix F A glossary of actuarial terms used in this report.

### 3. Assets

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is June 30, 2020. On that date, the assets available for the payment of retirement benefits are appraised. These assets are compared with the actuarial liabilities (both accrued and future) for current members, which are generally in excess of the actuarial assets. The purpose of the valuation is to determine what future contributions by the members and employers are needed to pay all expected future benefits.

This section of the report looks at the assets used for funding purposes. In the next section, the actuarial liabilities will be discussed. Section 6 reviews the process for determining required contributions based on the relationship between the valuation assets and the actuarial liabilities.

A historical summary of the Plan's assets is presented below (dollar amounts in billions).

	Market Value of Total Assets	Actuarial Value		
		Non-Valuation Reserves	Valuation Assets	Total Fund Return (%) <sup>(1)</sup>
2011	\$ 39.5	\$ 0.9	\$ 39.2	20.2
2012	38.3	0.9	39.0	0.0
2013	41.8	0.4	39.9	11.9
2014	47.7	0.5	43.7	16.5
2015	48.8	0.5	47.3	4.1
2016	47.8	0.5	49.4	0.8
2017	52.7	0.5	52.2	12.7
2018	56.3	0.6	55.2	9.0
2019	58.3	0.6	57.6	6.4
2020	58.5	0.6	59.8	1.8

*1. As reported in the Investment Section of LACERA's CAFR for the fiscal year ended June 30, 2020. All returns are shown net of investment expenses and calculated on a time-weighted basis.*

On June 30, 2020, the total market value of the fund, less current liabilities, was \$58.5 billion. The actuarial value of the fund was determined to be \$60.3 billion, including the non-valuation reserves. The average total fund return for the last 10 years is 8.1% net of fees, as reported by LACERA.

#### Financial Exhibits

Exhibit 2 presents a Statement of Fiduciary Net Position and Exhibit 3 presents a Statement of Changes in Fiduciary Net Position. Exhibit 4 describes the allocation of LACERA's assets by the various reserve values determined for accounting purposes as disclosed in the audited financial statements.

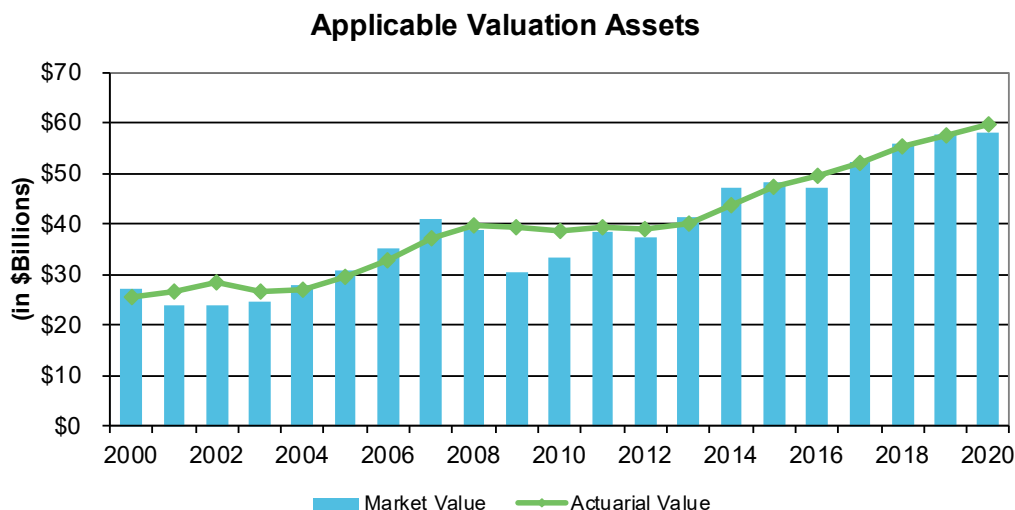
Exhibits 2-4 are taken directly from data furnished to us by LACERA in its annual financial report. We have accepted these tables for use in this report without audit, but we have reviewed them both for the prior year and the current year for reasonableness and consistency with previous reports.

### Actuarial Asset Method

The actuarial asset method computes the expected market value of assets based on the prior year’s market value of assets, the actual cash flow of contributions and benefit payments, and the assumed investment rate of return. For the previous year, the assumed rate of return was 7.00%, net of all expenses. The difference between the actual market value and the expected market value is recognized evenly (also referred to as “smoothing”) over a five-year period.

### Actuarial Value of Assets

The development of the June 30, 2020 actuarial value of assets is shown in Exhibit 5. Note the smoothing process is deferring past investment gains and losses, and is currently in a net actuarial loss position. The result is an actuarial value of assets that is more than the June 30, 2020 market value by \$1.8 billion. The following graph shows a historical comparison of the actuarial and market assets used for valuation purposes.



### Funding Policy

Under the Board of Investments’ long-term Funding Policy, the following is the allocation of actuarial assets. A Funded Ratio equal to 100% is the Funding Goal. Note that although the allocation of assets used in the actuarial valuation is similar to the process LACERA uses for accounting purposes, there are some differences, including the earnings considered for interest crediting purposes.

For funding purposes and for setting contributions rates, recognized earnings for a plan year is the recognized investment income as determined by the Actuarial Asset Method and includes both unrealized income and net realized income, together with the prior balance in the Contingency Reserve. The allocation of recognized earnings is performed once a year as of the Valuation Date in the following order of priority:

- Priority 1: Allocate to the Member Reserve so the Actuarial Asset allocation to that Reserve equals the accounting value for that Reserve on the Valuation Date.
- Priority 2: Allocate to the Advanced Employer Contributions Reserve so the Actuarial Asset allocation to that Reserve equals the accounting value for that Reserve on the Valuation Date.

- Priority 3: Allocate to the Employer Reserve so the Actuarial Asset allocation to that reserve equals the accounting value for that Reserve on the Valuation Date.
- Priority 4: Allocate to the County Contribution Credit Reserve so the Actuarial Asset allocation to that reserve equals the accounting value for that Reserve on the Valuation Date. Note: This Reserve is not a Valuation Reserve.
- Priority 5: Allocate to the Employer Reserve so the total amounts allocated equal one-year's interest at the assumed interest rate used in the actuarial valuation as of the preceding Valuation Date to the extent there are positive recognized earnings to allocate.
- Priority 6: Allocate to the Contingency Reserve an amount equal to 1% of the Market Value of Assets as of the Valuation Date to the extent there are positive recognized earnings to allocate.
- Priority 7: Allocate to the Employer Reserve an amount, if necessary, when combined with other Valuation Reserves, to provide 100% funding of the AAL as of the Valuation Date to reach the Funding Goal. In the event there are negative recognized earnings, allocate the entire amount.
- Priority 8: The Board may consider additional actions as permitted under the County Employee Retirement Law (CERL) using funds in excess of the amount needed to meet the Funding Goal for funding discretionary benefits. "Excess Earnings" as defined in the County Employees Retirement Law (CERL) may be appropriated upon reaching the Funding Goal; however, the Board may consider adjustment to the employer's contributions only upon satisfying California Government Code Section 7522.52(b).

### Valuation Assets

Valuation Assets are the actuarial value of the fund, less the value of any Non-Valuation Reserves. Non-Valuation Reserves include Contingency Reserves and other reserves that have been set aside for current liabilities and special benefits to be funded outside of the actuarially determined contribution rates. The Contingency Reserve is set at a minimum of 1.0% of the market value of the total assets.

The Funding Policy allows the STAR Reserve to be allocated to the Valuation Assets (subject to periodic review), if needed. The June 30, 2020 STAR Reserve accounting value of \$614 million was included in Valuation Assets and used to determine the employer contribution rates for the fiscal year beginning July 1, 2021. Although the STAR Reserve is included in the 2020 Valuation Assets, there is no liability included in this valuation for STAR benefits that may be granted in the future.

The Non-Valuation Reserves shown in Exhibit 6 for funding purposes are not the same as those shown in the audited financial statements and in Exhibit 4.

**Exhibit 2**  
**Statement of Fiduciary Net Position**  
**As of June 30, 2020 and June 30, 2019**

	2020	2019
<b>Assets</b>		
Cash and Short-Term Investments	\$ 2,668,514,883	\$ 1,310,026,598
Cash Collateral on Loaned Securities	1,177,374,278	814,829,353
Receivables		
Contributions Receivable	101,730,406	96,481,733
Accounts Receivable - Sale of Investments	697,420,087	1,046,945,184
Accrued Interest and Dividends	133,935,398	102,714,643
Accounts Receivable - Other	7,586,880	8,334,664
Total Receivables	<u>940,672,771</u>	<u>1,254,476,224</u>
Investments at Fair Value		
Equity	23,332,239,318	25,836,066,007
Fixed Income	18,778,182,107	18,028,747,241
Private Equity	7,141,780,830	6,028,264,809
Real Estate	5,128,770,609	6,192,619,038
Hedge Funds	2,193,437,377	1,890,739,586
Total Investments	<u>56,574,410,240</u>	<u>57,976,436,681</u>
<b>Total Assets</b>	<b><u>61,360,972,171</u></b>	<b><u>61,355,768,857</u></b>
<b>Liabilities</b>		
Accounts Payable - Purchase of Investments	1,598,943,189	2,162,819,244
Retiree Payroll and Other Payables	1,176,761	921,886
Accrued Expenses	34,887,345	44,518,045
Tax Withholding Payable	38,002,636	35,504,456
Obligations under Securities Lending Program	1,177,374,278	814,829,353
Accounts Payable - Other	180,051	2,339,307
<b>Total Liabilities</b>	<b><u>2,850,564,261</u></b>	<b><u>3,060,932,291</u></b>
<b>Fiduciary Net Position Restricted For Pension Benefits</b>	<b><u>\$ 58,510,407,911</u></b>	<b><u>\$ 58,294,836,565</u></b>

**Exhibit 3**  
**Statement of Changes in Fiduciary Net Position**  
**For the Fiscal Years Ended June 30, 2020 and 2019**

	2020	2019
<b>Additions</b>		
Contributions		
Employer	\$ 1,800,137,447	\$ 1,708,121,851
Member <sup>(1)</sup>	659,295,961	595,444,371
Total Contributions	<u>2,459,433,409</u>	<u>2,303,566,222</u>
Investment Income		
From Investing Activities:		
Net Appreciation/(Depreciation) in Fair Value of Investments	(4,256,243,407)	1,215,624,890
Investment Income/(Loss)	5,906,599,371	2,188,735,905
Total Investing Activity Income	<u>1,650,355,964</u>	<u>3,404,360,796</u>
Less Expenses From Investing Activities	<u>(209,320,451)</u>	<u>(233,125,624)</u>
Net Investing Activity Income	1,441,035,513	3,171,235,172
From Securities Lending Activities:		
Securities Lending Income	15,987,146	26,146,035
Less Expenses From Securities Lending Activities:		
Borrower Rebates	(10,030,889)	(20,545,040)
Management Fees	(1,115,182)	(1,112,831)
Total Expenses from Securities Lending Activities	<u>(11,146,071)</u>	<u>(21,657,871)</u>
Net Securities Lending Income	4,841,076	4,488,164
Total Net Investment Income	<u>1,445,876,588</u>	<u>3,175,723,336</u>
Miscellaneous	<u>2,382,427</u>	<u>5,958,105</u>
Total Additions	<u>3,907,692,424</u>	<u>5,485,247,662</u>
<b>Deductions</b>		
Retiree Payroll	3,578,878,907	3,375,752,179
Administrative Expenses	72,054,032	70,800,052
Investment Expenses	13,329,577	12,105,588
Refunds	25,231,451	28,691,156
Lump Sum Death Benefits	2,230,036	2,711,348
Miscellaneous	397,076	332,945
Total Deductions	<u>3,692,121,078</u>	<u>3,490,393,268</u>
Net Increase/(Decrease)	215,571,346	1,994,854,395
<b>Fiduciary Net Position Restricted For Pension Benefits</b>		
Beginning of Year	58,294,836,565	56,299,982,171
End of Year	<u>\$ 58,510,407,911</u>	<u>\$ 58,294,836,565</u>

1. 2020 member contributions includes employer pick-up contributions.

**Exhibit 4**  
**Allocation of Assets by Accounting Reserve Amounts**

(Dollars in Thousands)

	June 30, 2020	June 30, 2019
1. Member Reserves		
a. Active Members	\$ 23,481,576	\$ 22,363,377
b. Unclaimed Deposits	<u>-</u>	<u>-</u>
c. Total Member Reserves	23,481,576	22,363,377
2. Employer Reserves		
a. Actual Employer Contributions	25,818,509	22,464,894
b. Advanced Employer Contributions	<u>-</u>	<u>-</u>
c. Total Employer Contributions	25,818,509	22,464,894
3. County Contribution Credit Reserve	-	-
4. STAR Reserve	614,011	614,011
5. Contingency Reserve	<u>-</u>	<u>-</u>
6. Total Reserves at Book Value	49,914,096	45,442,282
7. Unrealized Investment Portfolio Appreciation	<u>8,596,312</u>	<u>12,852,555</u>
8. <b>Total Reserves at Fair Value</b>	<b><u>\$ 58,510,408</u></b>	<b><u>\$ 58,294,837</u></b>

Note: These amounts were determined by LACERA for accounting purposes and are reported in the CAFR for the fiscal year ended June 30, 2020.



**Exhibit 5  
 Five-Year Smoothing of Gains and Losses on Market Value**

(Dollars in Thousands)

June 30, 2020 Valuation					
Plan Year Ending	Contributions	Benefit Payments	Expected Market Value	Actual Market Value	Phase-Out of Gain / (Loss)
06/30/2020	\$ 2,459,433	\$ 3,606,340	\$ 61,189,106	\$ 58,510,408	80.00% x \$ (2,678,698) = \$ (2,142,958)
06/30/2019	2,303,566	3,407,155	59,238,837	58,294,837	60.00% x (944,000) = (566,400)
06/30/2018	2,116,085	3,203,375	55,441,551	56,299,982	40.00% x 858,431 = 343,372
06/30/2017	1,857,938	3,029,633	50,102,154	52,743,651	20.00% x 2,641,497 = 528,299
06/30/2016	1,901,795	2,889,186	51,455,977	47,846,694	0.00% x (3,609,283) = <u>0</u>
					(a) Total Phase-Out of Gain / (Loss) = \$ (1,837,687)
					(b) Total Market Value of Assets = \$ 58,510,408
					(c) Total Actuarial Value of Assets [(b) - (a)] = \$ <b>60,348,095</b>

Total Actuarial Value of Assets = Total Market Value of Assets less the Total Phase-Out amount  
 Phase-Out amounts will be recognized in future years.

**Projected Recognition of Actuarial Asset Gains / (Losses) in Future Valuations**

	2021 Val	2022 Val	2023 Val	2024 Val	Total
Amount to be Recognized	\$ (24,554)	\$ (552,853)	\$ (724,540)	\$ (535,740)	\$ (1,837,687)

**Exhibit 6**  
**Allocation of Valuation and Non-Valuation Assets**

(Dollars in Thousands)

	June 30, 2020	June 30, 2019
1. Total Market Value of Assets	\$ 61,360,972	\$ 61,355,769
2. Current Liabilities	2,850,564	3,060,932
3. Net Assets Held in Trust for Pension Benefits	58,510,408	58,294,837
4. Market Stabilization Reserve <sup>(1)</sup>	(1,837,687)	94,601
5. Actuarial Value of Fund Assets	60,348,095	58,200,236
6. Non-Valuation Reserves <sup>(2)</sup>		
a. Unclaimed Deposits	-	-
b. Contingency Reserve	585,104	582,948
c. Advanced Employer Contributions	-	-
d. County Contribution Credit Reserve	-	-
e. Reserve for STAR Program	-	-
f. Total	585,104	582,948
7. Valuation Assets <sup>(2)</sup>		
a. Member Reserves	23,481,576	22,363,377
b. Employer Reserves for Funding Purposes	36,281,415	35,253,911
c. Total	59,762,991	57,617,288

1. The Market Stabilization Reserve represents the difference between the Market Value of the fund less Current Liabilities, and the Actuarial Value of the fund as determined in Exhibit 5.

2. The values used for funding purposes for all reserves are based on the Board's Funding Policy. Amounts used for funding purposes may differ from those reported in the audited financial statements as shown in Exhibit 4.

#### 4. Actuarial Liabilities

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of LACERA's assets as of the valuation date, June 30, 2020. In this section, the discussion will focus on the commitments of LACERA for retirement benefits, which are referred to as its actuarial liabilities.

##### **Actuarial Balance Sheet – Liabilities**

Actuarial liabilities attributable to both past and future benefits are included on the actuarial balance sheet. The difference between the Valuation Assets and the total actuarial liabilities is the amount that needs to be funded by future member and employer contributions. Both the current and future assets (contributions) are included on the actuarial balance sheet and compared to the total actuarial liabilities. The determination of the level of future member and employer contributions needed is discussed in the next section.

Exhibit 7 contains an analysis of the actuarial present value of all future benefits for inactive members (both retired and vested former members) and active members. The analysis is given by class of membership, by plan and by type of benefit. Note that for purposes of this exhibit the Valuation Assets are shown allocated by plan in proportion to each plan's reserves (employer and member).

The actuarial liabilities include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits to be earned. For all members, active and inactive, the value extends over the rest of their lives and for the lives of any surviving beneficiaries.

The actuarial assumptions used to determine the liabilities are based on the results of the 2019 Investigation of Experience Report. New assumptions were adopted by the Board effective with the June 30, 2020 actuarial valuation. See Appendix A of this report for details.

All liabilities reflect the benefits effective through June 30, 2020. This includes permanent STAR COLAs that have been adopted through the valuation date, but does not include the value of any STAR benefits that may be granted in the future.

**Exhibit 7**  
**Actuarial Balance Sheet – June 30, 2020**

(Dollars in Millions)

	General						Safety			All Plans
	Plan A	Plan B	Plan C	Plan D	Plan E	Plan G	Plan A	Plan B	Plan C	
<b>LIABILITIES</b>										
Present Value of Benefits - Inactives										
- Retirees and Beneficiaries	\$ 11,223	\$ 480	\$ 282	\$ 9,688	\$ 4,420	\$ 14	\$ 7,197	\$ 9,926	\$ 9	\$ 43,239
- Vested Former	7	1	1	622	448	42	0	136	4	1,261
- Inactive Total	11,230	481	283	10,310	4,868	56	7,197	10,062	13	44,500
Present Value of Benefits - Actives										
- Service Retirement	97	24	30	21,545	6,325	5,882	4	8,812	1,349	44,068
- Transfer Service (prior LACERA plan)	0	0	0	241	439	7	0	13	0	700
- Disability Retirement	1	0	0	919	N/A	434	0	3,260	737	5,351
- Death	1	0	0	376	N/A	135	0	76	24	612
- Termination	0	0	0	181	79	342	0	42	71	715
- Active Total	99	24	30	23,262	6,843	6,800	4	12,203	2,181	51,446
<b>Total Actuarial Liabilities</b>	<b>\$ 11,329</b>	<b>\$ 505</b>	<b>\$ 313</b>	<b>\$ 33,572</b>	<b>\$ 11,711</b>	<b>\$ 6,856</b>	<b>\$ 7,201</b>	<b>\$ 22,265</b>	<b>\$ 2,194</b>	<b>\$ 95,946</b>
<b>ASSETS</b>										
Valuation Assets	(3,462)	365	280	29,658	13,853	2,449	(1,937)	18,064	493	59,763
PV Future Member Contributions	1	1	0	2,897	N/A	2,865	0	1,069	977	7,810
PV Future Employer Normal Cost Contributions	3	0	1	3,320	1,124	2,589	0	1,922	902	9,861
UAAL or (Surplus Funding)	14,787	139	32	(2,303)	(3,266)	(1,047)	9,138	1,210	(178)	18,512
<b>Total Current and Future Assets</b>	<b>\$ 11,329</b>	<b>\$ 505</b>	<b>\$ 313</b>	<b>\$ 33,572</b>	<b>\$ 11,711</b>	<b>\$ 6,856</b>	<b>\$ 7,201</b>	<b>\$ 22,265</b>	<b>\$ 2,194</b>	<b>\$ 95,946</b>

### Actuarial Balance Sheet – Assets

For the purpose of the Actuarial Balance Sheet, LACERA's assets are equal to the sum of:

- (a) Assets currently available to pay benefits and considered for funding purposes (the Valuation Assets);
- (b) The present value of future contributions expected to be made by current active members; and
- (c) The present value of future contributions expected to be made by the employer.

### Actuarial Cost Method

The Actuarial Balance sheet determines the amount of future contributions that are needed, but the method used to determine when those future contributions will be made in future years is called the "actuarial cost method." For this valuation, the entry age actuarial cost method has been used. Under this method, the contributions required to meet the difference between current assets and current actuarial liabilities are allocated each year between two elements:

- A normal cost amount; and
- An amount to amortize the UAAL (Unfunded Actuarial Accrued Liability). Note that the UAAL may be negative (representing current assets greater than current actuarial liabilities).

The two items described above – the Normal Cost and UAAL – are the keys to understanding the actuarial cost method.

### Normal Cost

The Normal Cost is the theoretical contribution rate that will meet the ongoing costs of a group of average new employees. Suppose that a group of new employees was covered under a separate fund from which all benefits and to which all contributions and associated investment returns were paid. Under the entry age actuarial cost method, the Normal Cost contribution rate maintains the funding of benefits as a level percentage of pay. If experience follows the actuarial assumptions precisely, the fund would be completely liquidated when the last payment to the last survivor of the group is made.

By applying the Normal Cost contribution rate to the present value of salaries expected to be paid in the future, we determine the present value of future Normal Cost contributions. Future contributions are expected to be made by both the members and the employer. The member contribution rates are determined based upon requirements established in the '37 Act and the actuarial assumptions. Based on these member contribution rates, we determine the present value of future member contributions. We subtract that value from the total future Normal Cost contributions expected, based on the entry age cost method. The remaining difference is the employer's portion of the future Normal Cost contributions.

**Actuarial Accrued Liability**

The difference between the present value of all future obligations and the present value of the future Normal Cost contributions is referred to as the Actuarial Accrued Liability (AAL). The AAL is calculated and then compared to the value of assets available to fund benefits. The difference is referred to as the UAAL. The results for all LACERA plans in aggregate are summarized below:

(Dollars in millions)	2020	2019	Percent Change
A. Actuarial present value of all future benefits for contributing members, former contributing members, and their survivors	\$ 95,946	\$ 91,283	5.1%
B. Actuarial present value of total future normal costs for current members	17,671	16,648	6.1%
C. Actuarial accrued liability [A-B]	78,275	74,635	4.9%
D. Valuation Assets	59,763	57,617	3.7%
E. UAAL or (Surplus Funding) [C-D]	18,512	17,018	8.8%
F. Funded Ratio [D/C]	76.3%	77.2%	-1.2%

**Unfunded Actuarial Accrued Liability**

The portion allocated to service already rendered or accrued is called the AAL. The difference between the AAL and the Valuation Assets is called the Unfunded AAL (UAAL). If a UAAL amount exists, it usually results from prior years' benefit or assumption changes and the net effect of accumulated gains and losses. If the employer had always contributed the current Normal Cost, and if there were no prior benefit or assumption changes, and if actual experience exactly matched the actuarial assumptions, then the present value of all future Normal Cost contributions would be sufficient to fund all benefits and there would be no UAAL.

Exhibit 7 shows how the UAAL was derived for each level of plan benefits. In the Actuarial Balance sheet, the total actuarial liability for all future benefits must be equal to the current and future assets.

The Actuarial Balance Sheet for each plan, as well as its UAAL, is based on an estimated allocation of the total LACERA Valuation Assets, as previously shown in Exhibit 7. The allocation is based on the relative value of each plan's employer and member reserves as reported to us by LACERA. These allocations are shown for illustrative purposes only, as the UAAL contribution rates are paid by the employer based on the valuation results in aggregate.

**Funding Adequacy**

A key consideration in determining the adequacy of the funding of LACERA is how the UAAL is being funded. Under LACERA's Funding Policy, a new UAAL "layer" is established each year when the Funded Ratio is less than 100% or greater than or equal to 120%. Effective with the June 30, 2019 valuation, all new UAAL layers are amortized over 20-year periods.

If future experience is significantly more favorable than expected based on the actuarial assumptions, then LACERA's UAAL may be eliminated. Conversely, if experience is less favorable, a larger UAAL will develop.

### Analysis of Change in Unfunded Actuarial Accrued Liability

The UAAL, at any date after establishment of a retirement plan, is affected by any actuarial gains (decreases in UAAL) or losses (increases in UAAL) arising when the actual experience of the retirement plan varies from the experience anticipated by the actuarial assumptions. To the extent actual experience, as it develops, differs from that expected according to the assumptions used, so also will the emerging costs differ from the estimated costs.

The 2020 actuarial valuation reflects an increase in the UAAL of approximately \$1.5 billion since the prior year. The effect of the gains and losses on the UAAL is shown in Exhibit 8a. A summary of these factors is:

- Investment Returns: Returns on market assets were 1.4% (net of investment expenses) compared to the assumed return of 7.00%. This, combined with recognitions of gains and losses from prior periods, resulted in an actuarial asset loss of \$701 million.
- Active Member Experience (non salary): This includes gains and losses from termination, service retirement, disability retirement, and death different than assumed. This resulted in an actuarial loss of \$91 million.
- Salary Increases: Individual salaries for continuing active members increased at a rate greater than the valuation assumption. This resulted in an actuarial loss of \$388 million.
- Actual CPI versus Assumption: The actual CPI increase was greater than assumed for members of Plan A. This resulted in COLA increases more than the assumption, which generated an actuarial loss of \$43 million.
- Mortality Experience: An actuarial loss due to mortality generally indicates that retired members are living longer than the current assumption predicts. This year, there was an actuarial loss of \$1 million due to mortality.
- Other Experience: Examples of this are gains and losses from retirement and mortality experience of inactive members, reciprocity, and transfers between plans. These factors combined resulted in an actuarial gain of \$36 million.

### Change in Unfunded Actuarial Accrued Liability – History

Exhibit 8b shows the sources of change in the UAAL over the past five valuations. The single biggest source of annual change in most years, when there are no changes in the assumptions, is the return on investments being either greater than or less than the assumption.

**Exhibit 8a  
 Analysis of Change in Unfunded Actuarial Accrued Liability**

(Dollars in Millions)

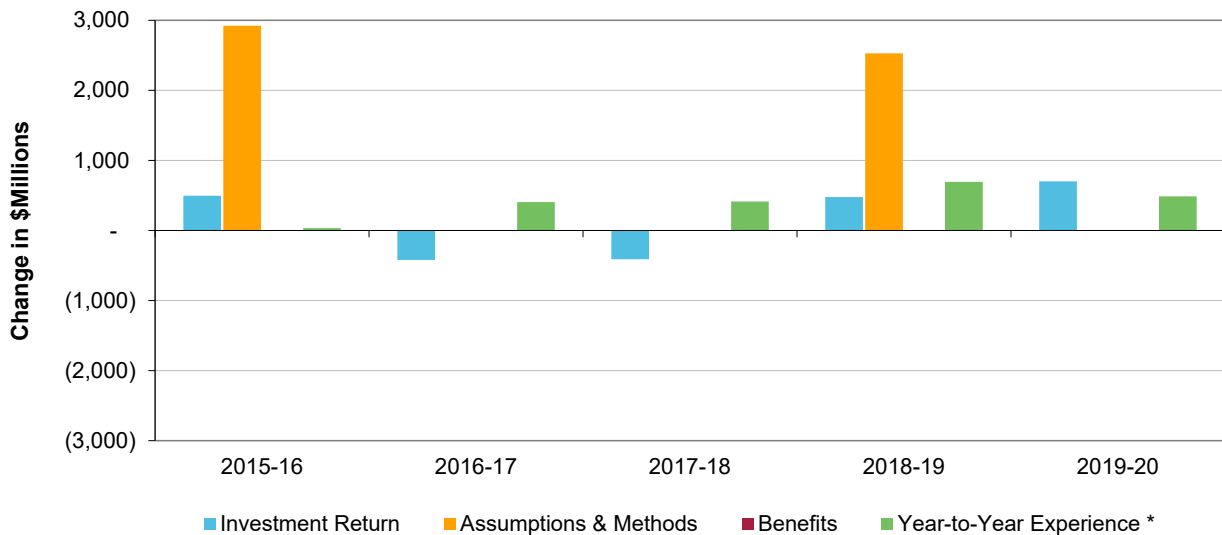
	Amount	As a Percent of June 30, 2020 Actuarial Accrued Liability
<b>Unfunded Actuarial Accrued Liability - June 30, 2019</b>	<b>\$ 17,018</b>	<b>21.74%</b>
Interest Accrued	1,212	1.55%
Benefits Accrued (Normal Cost)	1,553	1.98%
<u>Contributions</u>		
Employer - Cash	\$ (1,800)	-2.30%
Employer - Contribution Credit	-	0.00%
Member	(659)	-0.84%
Total	<u>(2,459)</u>	-3.14%
<b>Expected Unfunded Actuarial Accrued Liability - June 30, 2020</b>	<b>\$ 17,324</b>	<b>22.13%</b>
<b>Sources of Change:</b>		
Increase in UAAL due to New Assumptions	-	0.00%
<u>Asset (Gains) and Losses</u>		
(Gain) / Loss due to Investment Income	701	0.90%
<u>Liability (Gains) and Losses</u>		
Active Member Experience (non salary)	\$ 91	0.12%
Salary Increases Greater than Expected	388	0.50%
CPI Greater than Expected	43	0.05%
Mortality Experience	1	0.00%
All Other Experience	(36)	-0.05%
Total	<u>487</u>	0.62%
<b>Total Changes</b>	<b>\$ 1,188</b>	<b>1.52%</b>
<b>Unfunded Actuarial Accrued Liability - June 30, 2020</b>	<b>\$ 18,512</b>	<b>23.65%</b>



**Exhibit 8b**  
**History of Changes in Unfunded Actuarial Accrued Liability**

(Dollars in Millions)

	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
<b>Prior Valuation UAAL</b>	\$ 9,491	\$ 12,841	\$ 13,145	\$ 13,294	\$ 17,018	\$ 9,491
Increase in UAAL due to:						
Expected Increase / (Decrease)	(102)	320	146	25	306	695
■ Asset (Gains) and Losses	496	(421)	(411)	477	701	842
■ Changes in Benefits	-	-	-	-	-	-
■ Changes in Assumptions	2,922	-	-	2,528	-	5,450
■ Changes in Methods	-	-	-	-	-	-
■ Salary Increases	162	277	223	486	388	1,536
■ CPI Increases	(191)	(139)	45	44	43	(198)
■ Mortality Experience	(4)	(51)	(20)	(6)	1	(80)
■ All Other Experience	67	318	166	170	55	776
<b>Total Increase / (Decrease)</b>	<b>3,350</b>	<b>304</b>	<b>149</b>	<b>3,724</b>	<b>1,494</b>	<b>9,021</b>
<b>Valuation UAAL</b>	\$ 12,841	\$ 13,145	\$ 13,294	\$ 17,018	\$ 18,512	\$ 18,512
<b>Funded Ratio</b>	<b>79.4%</b>	<b>79.9%</b>	<b>80.6%</b>	<b>77.2%</b>	<b>76.3%</b>	<b>76.3%</b>



\* Year-to-Year Experience includes changes due to Salary, CPI, Mortality and Other Experience.

## 5. Member Contributions

### Normal Contributions for non-PEPRA Plans

Member contributions are of two types: Normal contributions and cost-of-living contributions.

Normal contributions for each non-PEPRA plan (all plans except General Plan G and Safety Plan C) are defined in the following sections of the County Employees' Retirement Law:

Plan	'37 Act Reference	Formula
General A	31621.3	1/240th of FAC at age 55
General B	31621.1	1/120th of FAC at age 55
General C	31621	1/120th of FAC at age 60
General D	31621	1/120th of FAC at age 60
General E	N/A	Plan E is non-contributory
Safety A	31639.5	1/200th of FAC at age 50
Safety B	31639.25	1/100th of FAC at age 50

Note: FAC = Final Average Compensation

Normal member contributions are determined using the Entry Age Normal Funding Method and the following actuarial assumptions:

1. Expected rate of return on assets.
2. Individual salary increase rate (wage growth + merit).
3. Mortality for members on service retirement.

Since new assumptions were not adopted for the 2020 valuation, we are not recommending changes to the member contribution rates for General Plans A to D and Safety Plans A and B. Member contributions are shown in Appendix D. A sample of these recommended member contribution rates is shown in Exhibit 9.

Member contribution rates for General Plan G and Safety Plan C are discussed below.

**Cost-of-Living Contributions for non-PEPRA Plans**

The determination of the member cost-of-living (COLA) contributions is based on Section 31873 of the County Employees’ Retirement Law. This section requires that the cost of the COLA benefit be shared equally between members and the employer. Unlike the member normal contributions, these rates are based on the actuarial cost of the benefits and reflect all assumptions used in the valuation of liabilities.

Since new assumptions were not adopted for the 2020 valuation we are not recommending changes in the member cost-of-living contribution rates. The recommended cost-of-living contribution rates, expressed as a percentage of the normal member contribution rates, are as follows:

Plan	COLA %
General A	84.46%
General B	25.90%
General C	26.81%
General D	25.94%
General E	0.00%
Safety A	87.15%
Safety B	33.03%

The relative magnitude of these amounts reflects the differences in the normal contribution rates for each plan and the different cost-of-living benefits offered by the different plans. The rate for Plan E is 0.00%, since it is non-contributory.

A sample of the current member contribution rates (normal plus cost-of-living) can be found in Exhibit 9.

Full disclosure of the member rates, showing both the normal and the total (normal plus cost-of-living) contribution rates, can be found in Appendix D.

**Member Contribution Rates for General Plan G and Safety Plan C (PEPRA Plans)**

Members of the two plans developed in compliance with the California Public Employees’ Pension Reform Act of 2013 (PEPRA) contribute a flat rate (i.e., does not vary by entry age) based on whether they are in the General or Safety plan. This rate is set equal to one-half of the total Normal Cost rate. We are recommending changes to the member contribution rates for these plans, as shown below, to reflect the Plan’s Normal Cost rates for the 2020 valuation.

	General Plan G	Safety Plan C
<b>All Ages: Recommended</b>	<b>9.10%</b>	<b>14.42%</b>
All Ages: Current	9.11%	14.54%
Ratio (Recommended / Current)	99.9%	99.2%

Note that the member contribution rates for these plans are further split for purposes of this report into a “Normal” and “Cost of Living” component. The cost-of-living component for these members, as shown in Exhibit 9 below, represents one-half of the cost of the COLA for these plans.

### **Average Member Rates**

The average member contribution rate for only those members in contributory plans at June 30, 2020 is 9.17% of covered payroll. This number compares to 7.80% of covered payroll, which is the average member contribution rate among all members. The 7.80% offsets the gross normal cost to yield the employer normal cost rate. Note that covered payroll does not include pay for PEPRA plan members that is above the PEPRA compensation limit.

**Exhibit 9**  
**Sample Member Contribution Rates**

<b>Recommended Rates (Based on 2020 Valuation)</b>						
	<b>Entry Age</b>	<b>Normal</b>	<b>Cost of Living</b>	<b>Total as a % of Pay</b>	<b>Current Rate (Total)</b>	<b>Ratio (New / Current)</b>
<b>General Members</b>						
<b>Plan A</b>	25	3.24%	2.74%	5.98%	5.98%	100.0%
	35	3.99%	3.37%	7.36%	7.36%	100.0%
	45	4.83%	4.08%	8.91%	8.91%	100.0%
	55	5.13%	4.33%	9.46%	9.46%	100.0%
<b>Plan B</b>	25	6.47%	1.68%	8.15%	8.15%	100.0%
	35	7.98%	2.07%	10.05%	10.05%	100.0%
	45	9.66%	2.50%	12.16%	12.16%	100.0%
	55	10.25%	2.65%	12.90%	12.90%	100.0%
<b>Plan C</b>	25	5.52%	1.48%	7.00%	7.00%	100.0%
	35	6.80%	1.82%	8.62%	8.62%	100.0%
	45	8.33%	2.23%	10.56%	10.56%	100.0%
	55	9.68%	2.60%	12.28%	12.28%	100.0%
<b>Plan D</b>	25	5.52%	1.43%	6.95%	6.95%	100.0%
	35	6.80%	1.76%	8.56%	8.56%	100.0%
	45	8.33%	2.16%	10.49%	10.49%	100.0%
	55	9.68%	2.51%	12.19%	12.19%	100.0%
<b>Plan G</b>	All Ages	7.34%	1.76%	9.10%	9.11%	99.9%
<b>Safety Members</b>						
<b>Plan A</b>	25	4.74%	4.13%	8.87%	8.87%	100.0%
	35	5.63%	4.91%	10.54%	10.54%	100.0%
	45	6.70%	5.84%	12.54%	12.54%	100.0%
	55	6.70%	5.84%	12.54%	12.54%	100.0%
<b>Plan B</b>	25	9.48%	3.13%	12.61%	12.61%	100.0%
	35	11.27%	3.72%	14.99%	14.99%	100.0%
	45	13.40%	4.43%	17.83%	17.83%	100.0%
	55	13.40%	4.43%	17.83%	17.83%	100.0%
<b>Plan C</b>	All Ages	11.17%	3.25%	14.42%	14.54%	99.2%

Note: A portion of some of the member contribution rates is paid for (“picked up”) by the employer and is not considered part of the member’s contribution account for refund purposes. Such contributions are referred to as the surcharge amount and are subject to change each year. The rates shown in the table above are prior to any surcharge payments.

## 6. Employer Contributions

### Calculated Employer Contribution Rate

Contributions to LACERA are determined using the Entry Age Normal Cost Method. The portion of the actuarial present value of retirement benefits allocated to a valuation year by the Actuarial Cost Method is called the Normal Cost. These amounts are usually expressed as a percentage of payroll and called the Normal Cost Contribution Rate. Exhibit 10 illustrates the Normal Cost Contribution Rates by type of benefit and for each plan based on this valuation. A comparison with last year is also shown.

Under the Funding Policy, the total contribution rate is set equal to the Normal Cost contribution plus a payment by the employer towards the UAAL. The calculation of the UAAL contribution rate is shown in Exhibit 12. A portion of the Normal Cost contribution is funded by member contributions. The remainder is paid for by the employer.

The total calculated employer contribution rates for each plan, along with a comparison to the prior year's calculated rates, can be found in Exhibit 11. These results are expressed as a percentage of payroll and annual contribution dollars. Note that LACERA's UAAL contribution rate is not determined separately for each plan but is funded evenly as a percentage of pay over salaries for all members.

For the fiscal year beginning in 2021, the total calculated employer contribution rate increases to 24.64% (after reflecting the phase in of the employer contribution rate). This is equal to the aggregate employer Normal Cost contribution rate of 10.89% based on the 2020 valuation, plus a layered amortization payment of the UAAL. The UAAL amortization layers are shown in Exhibit 12. Effective with the June 30, 2019 valuation, all new UAAL layers are amortized over a 20-year period, beginning with the date the contribution is first expected to be made.

(All values as a % of Payroll)

Employer Normal Cost Contribution Rate	10.89%
Layered Amortization of UAAL	<u>14.85%</u>
Calculated Employer Contribution Rate (before phase-in)	25.74%
Deferred Recognition of 2019 Assumption Changes	<u>(1.10)%</u>
Calculated Employer Contribution Rate (with phase-in)	24.64%

The 2.05% increase from last year in the calculated employer contribution rate is partially due to the deferred recognition of assumption and method changes adopted by the Board of Investments effective June 30, 2019. These changes resulted in an increase of 3.29% in the employer contribution rate, which are being phased-in over three fiscal years effective with the fiscal year beginning July 1, 2020. This phase-in resulted in an increase of 1.09% in the employer contribution rate effective July 1, 2021. Recognition of investment losses resulted in an increase of 0.67% in the employer contribution rate, and other sources, including salary increases greater than assumed, increased the employer contribution rate by about 0.29%.

### Employer Contribution Rate with phase-in

At the January 2020 meeting, the Board of Investments adopted a three-year phase-in of the impact of the change in employer contribution rate resulting from the new assumptions adopted effective June 30, 2019. For the fiscal year beginning July 1, 2022, the impact of the June 30, 2019 assumption changes will be fully phased in.

Section II 1A(4) of the Funding Policy states: "In no case shall the total amount contributed by the employer be less than the Normal Cost Rate for the year, plus a 30-year amortization of the total UAAL." Based on discussion with LACERA staff, it is our understanding that provided the employer contribution rate, including future phased-in increases, is projected to amortize the UAAL 30 years or less, the employer contribution rate is deemed to meet the requirements under Section II 1A(4) of the Funding Policy.

**Exhibit 10**  
**Calculated Normal Cost Contribution Rates – June 30, 2020**

	General							Safety				Grand Total
	Plan A	Plan B	Plan C	Plan D	Plan E	Plan G	Total	Plan A	Plan B	Plan C	Total	
<b>A. Normal Cost Contribution Rate</b>												
Service Retirement	21.05%	18.14%	13.41%	14.70%	10.13%	15.57%	14.12%	24.57%	18.60%	17.30%	18.31%	14.90%
Disability Retirement	1.08%	1.01%	0.70%	1.15%	0.00%	1.29%	0.98%	11.57%	9.21%	10.24%	9.44%	2.58%
Death	0.30%	0.28%	0.23%	0.38%	0.00%	0.35%	0.30%	0.41%	0.35%	0.32%	0.34%	0.31%
Termination	0.45%	0.41%	0.40%	0.98%	0.61%	0.99%	0.91%	0.82%	0.83%	0.98%	0.86%	0.90%
<b>Total</b>	<b>22.88%</b>	<b>19.84%</b>	<b>14.74%</b>	<b>17.21%</b>	<b>10.74%</b>	<b>18.20%</b>	<b>16.31%</b>	<b>37.37%</b>	<b>28.99%</b>	<b>28.84%</b>	<b>28.95%</b>	<b>18.69%</b>
B. Member Contributions	(5.75)%	(9.43)%	(7.10)%	(8.02)%	0.00%	(9.10)%	(6.86)%	(11.00)%	(11.14)%	(14.42)%	(11.88)%	(7.80)%
C. Net Employer Normal Cost as of June 30, 2020 (A) - (B)	17.13%	10.41%	7.64%	9.19%	10.74%	9.10%	9.45%	26.37%	17.85%	14.42%	17.07%	10.89%
D. Net Employer Normal Cost as of June 30, 2019	17.34%	9.40%	7.99%	9.21%	10.74%	9.11%	9.50%	26.37%	17.27%	14.54%	16.80%	10.86%
E. Increase (Decrease) as a Percentage of Payroll (C) - (D)	(0.21)%	1.01%	(0.35)%	(0.02)%	0.00%	(0.01)%	(0.05)%	0.00%	0.58%	(0.12)%	0.27%	0.03%
F. Estimated Payroll for fiscal year beginning July 1, 2021*	\$ 11	\$ 3	\$ 3	\$ 3,908	\$ 1,373	\$ 2,087	\$ 7,384	\$ 0	\$ 1,335	\$ 386	\$ 1,722	\$ 9,106
G. Estimated Total Normal Cost Contribution in Dollars (A x F)**	\$ 2	\$ -	\$ -	\$ 673	\$ 147	\$ 380	\$ 1,204	\$ -	\$ 387	\$ 111	\$ 498	\$ 1,702

\* Estimated Payroll based upon annualized salary rate as of June 30, 2020 increased by 3.25% wage inflation. Dollar figures in millions.

\*\* The timing of the Normal Cost shown in this exhibit is spread over the entire year and corresponds to payroll timing.

**Exhibit 11**  
**Total Employer Contributions**

	General							Safety				All Plans
	Plan A	Plan B	Plan C	Plan D	Plan E	Plan G	Total	Plan A	Plan B	Plan C	Total	
<b>A. Net Employer Normal Cost</b>												
1. Basic Benefits	13.61%	8.38%	6.15%	7.55%	8.88%	7.34%	7.73%	20.51%	14.15%	11.17%	14.20%	8.82%
2. Cost-of-Living Benefits	3.52%	2.03%	1.49%	1.64%	1.86%	1.76%	1.72%	5.86%	3.70%	3.25%	2.87%	2.07%
3. Total June 30, 2020	17.13%	10.41%	7.64%	9.19%	10.74%	9.10%	9.45%	26.37%	17.85%	14.42%	17.07%	10.89%
B. UAAL Contribution Rate	14.85%	14.85%	14.85%	14.85%	14.85%	14.85%	14.85%	14.85%	14.85%	14.85%	14.85%	14.85%
<b>C. Calculated June 30, 2020 Contribution Rate (A) + (B)</b>	<b>31.98%</b>	<b>25.26%</b>	<b>22.49%</b>	<b>24.04%</b>	<b>25.59%</b>	<b>23.95%</b>	<b>24.30%</b>	<b>41.22%</b>	<b>32.70%</b>	<b>29.27%</b>	<b>31.92%</b>	<b>25.74%</b>
D. Deferred Recognition of new assumptions	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%	(1.10)%
<b>E. Calculated June 30, 2020 Contribution Rate with phase-in (C) + (D)</b>	<b>30.88%</b>	<b>24.16%</b>	<b>21.39%</b>	<b>22.94%</b>	<b>24.49%</b>	<b>22.85%</b>	<b>23.20%</b>	<b>40.12%</b>	<b>31.60%</b>	<b>28.17%</b>	<b>30.82%</b>	<b>24.64%</b>
F. Total June 30, 2019 Contribution Rate with phase-in	29.07%	21.13%	19.72%	20.94%	22.47%	20.84%	21.23%	38.10%	29.00%	26.27%	28.53%	22.59%
G. Estimated Payroll for fiscal year beginning July 1, 2021*	\$ 11	\$ 3	\$ 3	\$ 3,908	\$ 1,373	\$ 2,087	\$ 7,384	\$ 0	\$ 1,335	\$ 386	\$ 1,722	\$ 9,106
<b>H. Estimated Annual Contribution (E x G)</b>	<b>\$ 3</b>	<b>\$ 1</b>	<b>\$ 1</b>	<b>\$ 897</b>	<b>\$ 336</b>	<b>\$ 477</b>	<b>\$ 1,713</b>	<b>\$ -</b>	<b>\$ 422</b>	<b>\$ 109</b>	<b>\$ 531</b>	<b>\$ 2,244</b>
I. Last Year's Estimated Annual Contribution	\$ 3	\$ 1	\$ 1	\$ 819	\$ 313	\$ 363	\$ 1,500	\$ -	\$ 391	\$ 74	\$ 465	\$ 1,965
J. Increase / (Decrease) in Annual Contribution	\$ -	\$ -	\$ -	\$ 78	\$ 23	\$ 114	\$ 213	\$ -	\$ 31	\$ 35	\$ 66	\$ 279

\* Estimated Payroll based upon annualized salary rate as of June 30, 2020 increased by 3.25% wage inflation. Dollar figures in millions.



**Exhibit 12**  
**Unfunded Actuarial Accrued Liability Detail**

(Dollars in Millions)

Unfunded Actuarial Accrued Liability - Amortization Detail							
Date Established	Description	Balance as of June 30, 2020	Interest on Balance	Amort. Payment on June 30, 2021 <sup>(1)</sup>	Balance as of June 30, 2021 <sup>(2)</sup>	Remaining Period as of June 30, 2021 <sup>(5)</sup>	July 1, 2021 Amortization Payment
June 30, 2009	Initial UAAL	\$ 5,601.6	\$ 392.1	\$ 426.7	\$ 5,567.0	18 Years	\$ 419.8
June 30, 2010	(Gain) / Loss <sup>(3)</sup>	3,058.6	214.1	224.9	3,047.9	19 Years	221.2
June 30, 2011	(Gain) / Loss <sup>(3)</sup>	1,516.4	106.2	107.9	1,514.8	20 Years	106.1
June 30, 2012	(Gain) / Loss <sup>(3)</sup>	2,479.9	173.6	171.0	2,482.5	21 Years	168.2
June 30, 2013	(Gain) / Loss <sup>(3)</sup>	1,402.1	98.1	96.7	1,403.5	21 Years	95.1
June 30, 2014	(Gain) / Loss	(2,596.3)	(181.7)	(179.0)	(2,599.0)	21 Years	(176.1)
June 30, 2015	(Gain) / Loss	(2,028.4)	(142.0)	(139.9)	(2,030.5)	21 Years	(137.6)
June 30, 2016	(Gain) / Loss <sup>(3)</sup>	3,897.4	272.8	268.8	3,901.4	21 Years	264.4
June 30, 2017	(Gain) / Loss	(21.1)	(1.5)	(1.5)	(21.2)	21 Years	(1.4)
June 30, 2018	(Gain) / Loss	61.0	4.3	4.2	61.1	21 Years	4.1
June 30, 2019	(Gain) / Loss <sup>(3)</sup>	3,949.6	276.5	290.4	3,935.8	19 Years	285.7
June 30, 2020	(Gain) / Loss	1,191.2	83.4	(187.2) <sup>(4)</sup>	1,461.8	20 Years	102.4
Total Amortization Payment July 1, 2021:							\$ 1,351.9
Projected Payroll July 1, 2021:							\$ 9,105.8
<b>UAAL as of June 30, 2020:</b>		<b>\$ 18,512.0</b>		<b>UAAL Contribution Rate (as a % of Payroll) FYB July 1, 2021:</b>			<b>14.85%</b>

Explanatory Notes:

- Amortization Payments are based on a fixed schedule that increases by the payroll assumption each year.
- The assets and liabilities used in the calculation of the UAAL are as of June 30, 2020, whereas, the contribution rates are not effective until July 1, 2021. Therefore, the UAAL is adjusted to June 30, 2021 based on the actual contribution rate for the period.
- (Gain) / Loss layers include impact of assumption changes in these years.
- The amortization of UAAL does not begin until July 1, 2021; therefore, the UAAL amount is adjusted by one year to reflect the actual July 1, 2020 contribution rate.
- Effective with the June 30, 2019 valuation, all new UAAL layers are amortized over a 20-year period, beginning with the date the contribution is first expected to be made.

## 7. Supplemental Information

Governmental Accounting Standards Board (GASB) Statement No. 67 sets out requirements for defined benefit pension plan reporting and disclosures. GASB Statement No. 68 sets out requirements for accounting by state and local government employers.

Milliman provides LACERA with results relevant to Statements No. 67 and 68 in separate stand-alone financial reporting valuation reports.

For informational purposes, we have provided the following exhibits in this report that LACERA may use in the audited financial statements:

- Exhibit 13: Schedule of Funding Progress
- Exhibit 14: Schedule of Employer Contributions
- Exhibit 15: Solvency Test
- Exhibit 16: Actuarial Analysis of Financial Experience
- Exhibit 17: Retirants and Beneficiaries added to / removed from Retiree Payroll

Exhibit 13, Schedule of Funding Progress, compares actuarial assets and liabilities of the Plan, based on the actuarial funding method used.

Exhibit 14, Schedule of Employer Contributions, compares the employer contributions required based on the actuarial valuation with the employer contributions actually made. Information shown in this exhibit comes from LACERA's audited financial statements.

Exhibit 15 compares the Actuarial Value of Valuation Assets to the types of Actuarial Accrued Liabilities, applying them first to Active Member contributions, then to retirees and beneficiaries, and then the remaining amount to the Active Members benefits. This is referred to as the Solvency Test.

Exhibit 16 shows the changes in actual versus expected UAAL from year to year.

Exhibit 17 reconciles the retired members and beneficiaries who have been added to and removed from the retiree payroll.

**Exhibit 13**  
**Schedule of Funding Progress**

(Dollars in Thousands)

Actuarial Valuation Date	(a) Actuarial Value of Valuation Assets	(b) Actuarial Accrued Liabilities	(b-a) Unfunded Actuarial Accrued Liabilities (UAAL)	(a/b) Funded Ratio	(c) Covered Payroll <sup>(1)</sup>	[(b-a)/c] UAAL as a Percentage of Covered Payroll
June 30, 2011 <sup>(2)</sup>	\$ 39,193,627	\$ 48,598,166	\$ 9,404,539	80.6%	\$ 6,650,674	141.4%
June 30, 2012 <sup>(2)</sup>	39,039,364	50,809,425	11,770,061	76.8%	6,619,816	177.8%
June 30, 2013 <sup>(2)</sup>	39,932,416	53,247,776	13,315,360	75.0%	6,595,902	201.9%
June 30, 2014	43,654,462	54,942,453	11,287,991	79.5%	6,672,228	169.2%
June 30, 2015	47,328,270	56,819,215	9,490,945	83.3%	6,948,738	136.6%
June 30, 2016 <sup>(2)</sup>	49,357,847	62,199,214	12,841,367	79.4%	7,279,777	176.4%
June 30, 2017	52,166,307	65,310,803	13,144,496	79.9%	7,637,032	172.1%
June 30, 2018	55,233,108	68,527,354	13,294,246	80.6%	7,957,981	167.1%
June 30, 2019 <sup>(2)</sup>	57,617,288	74,635,840	17,018,552	77.2%	8,370,050	203.3%
June 30, 2020	59,762,991	78,275,175	18,512,184	76.3%	8,724,151	212.2%

1. Covered Payroll includes compensation paid to all active employees on which contributions are calculated, as reported by LACERA. Covered Payroll differs from the Active Member Valuation Payroll shown in Table C-1, which is an annualized compensation of only those members who were active on the actuarial valuation date.

2. Assumption changes.

**Exhibit 14**  
**Schedule of Contributions from the Employer**

(Dollars in Thousands)

Fiscal Year Ending	Actuarially Determined Employer Contribution	Actual Employer Contributions			Percentage of Actuarially Determined Contribution Contributed
		Cash Payment	Transfer from Reserve Accounts	Total	
06/30/2011	\$ 944,174	\$ 944,174	\$ -	\$ 944,174	100%
06/30/2012	1,078,929	1,078,929	-	1,078,929	100%
06/30/2013	1,172,014	723,195	448,819	1,172,014	100%
06/30/2014	1,320,442	1,320,442	-	1,320,442	100%
06/30/2015	1,494,975	1,494,975	-	1,494,975	100%
06/30/2016	1,443,130	1,443,130	-	1,443,130	100%
06/30/2017 <sup>(1)</sup>	1,392,813	1,370,922	21,891	1,392,813	100%
06/30/2018	1,564,284	1,564,284	-	1,564,284	100%
06/30/2019	1,708,122	1,708,122	-	1,708,122	100%
06/30/2020	1,800,137	1,800,137	-	1,800,137	100%

1. The County Contribution Reserve was used to offset the contribution required from the Courts in the fiscal year ended June 30, 2017. Exhibit 14 in the June 30, 2017 actuarial valuation report did not reflect this transfer amount.

**Exhibit 15  
 Solvency Test**

(Dollars in Millions)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities for			Portion of Actuarial Accrued Liabilities Covered by Assets		
		Active Member Contributions (A)	Retirees and Beneficiaries <sup>(1)</sup> (B)	Active Members (Employer Financed Portion) (C)	(A)	(B)	(C)
June 30, 2011	\$ 39,194	\$ 6,529	\$ 27,559	\$ 14,511	100%	100%	35%
June 30, 2012	39,039	6,961	29,118	14,730	100%	100%	20%
June 30, 2013	39,932	7,837	30,980	14,430	100%	100%	8%
June 30, 2014	43,654	8,354	31,882	14,706	100%	100%	23%
June 30, 2015	47,328	8,805	32,734	15,280	100%	100%	38%
June 30, 2016	49,358	8,767	35,316	18,116	100%	100%	29%
June 30, 2017	52,166	9,482	37,077	18,752	100%	100%	30%
June 30, 2018	55,233	9,882	39,192	19,453	100%	100%	32%
June 30, 2019	57,617	10,210	42,235	22,190	100%	100%	23%
June 30, 2020	59,763	10,650	44,500	23,125	100%	100%	20%

1. Includes vested and non-vested former members.

**Exhibit 16**  
**Actuarial Analysis of Financial Experience**

(Dollars in Millions)

	Valuation as of June 30						
	2014	2015	2016	2017	2018	2019	2020
Unfunded Actuarial Accrued Liability	\$13,315	\$11,288	\$9,491	\$12,841	\$13,145	\$13,294	\$17,018
Expected Increase/(Decrease) from Prior Valuation	338	(54)	(102)	320	146	25	306
Salary Increases Greater/(Less) than Expected	(291)	79	162	277	223	486	388
CPI Less than Expected	(427)	(570)	(191)	(139)	45	44	43
Change in Assumptions	-	-	2,922	-	-	2,528	-
Asset Return Less/(Greater) than Expected	(1,664)	(1,263)	496	(421)	(411)	477	701
All Other Experience	17	11	63	267	146	164	56
<b>Ending Unfunded Actuarial Accrued Liability</b>	<b>\$11,288</b>	<b>\$9,491</b>	<b>\$12,841</b>	<b>\$13,145</b>	<b>\$13,294</b>	<b>\$17,018</b>	<b>\$18,512</b>

**Exhibit 17**  
**Retirants and Beneficiaries added to and removed from Retiree Payroll**

(Dollars in Thousands)

Valuation Date	Added to Rolls		Removed from Rolls		Rolls at End of Year		% Increase in Retiree Allowance	Average Annual Allowance
	Member Count	Annual Allowance <sup>(1)</sup>	Member Count	Annual Allowance <sup>(1)</sup>	Member Count	Annual Allowance <sup>(1)</sup>		
June 30, 2011	3,134	\$ 185,204 <sup>(2)</sup>	(1,959)	\$ (62,923)	55,371	\$ 2,342,625	5.51%	\$ 42.3
June 30, 2012	3,194	193,865 <sup>(2)</sup>	(1,795)	(61,588)	56,770 <sup>(3)</sup>	2,474,902	5.65%	43.6
June 30, 2013	3,373	205,659 <sup>(2)</sup>	(2,057)	(69,494)	58,086 <sup>(3)</sup>	2,611,067	5.50%	45.0
June 30, 2014	3,128	172,743 <sup>(2)</sup>	(1,985)	(71,730)	59,229 <sup>(3)</sup>	2,712,080	3.87%	45.8
June 30, 2015	3,501	180,549 <sup>(2)</sup>	(2,124)	(80,028)	60,606 <sup>(3)</sup>	2,812,601	3.71%	46.4
June 30, 2016	3,479	220,632 <sup>(2)</sup>	(2,171)	(80,881)	61,914 <sup>(3)</sup>	2,952,352	4.97%	47.7
June 30, 2017	3,721	245,915 <sup>(2)</sup>	(2,311)	(89,624)	63,324 <sup>(3)</sup>	3,108,643	5.29%	49.1
June 30, 2018	3,826	276,118 <sup>(2)</sup>	(2,270)	(89,033)	64,880 <sup>(3)</sup>	3,295,728	6.02%	50.8
June 30, 2019	3,978	302,022 <sup>(2)</sup>	(2,351)	(97,840)	66,507 <sup>(3)</sup>	3,499,910	6.20%	52.6
June 30, 2020	3,930	311,206 <sup>(2)</sup>	(2,425)	(104,914)	68,012 <sup>(3)</sup>	3,706,202	5.89%	54.5

1. Annual allowance is the monthly benefit allowance annualized for those members counted as of June 30.

2. Includes COLAs that occurred during the fiscal year and therefore were not included in the previous years' Annual Allowance totals.

3. For the actuarial valuation year, Member Count includes retirees who due to timing at year end, are not yet included in the total Retired Members count disclosed in Note A - Plan Description of LACERA's CAFR for the fiscal year ended June 30, 2020.

## 8. Cash Flow History and Projections

Exhibits 18a and 18b contain tables and graphs that illustrate both the cash flow history for the past 10 years and a projection on the valuation basis for the next 10 years.

Contributions include both employer and member contributions. Exhibit 18a shows that net cash outflow has gradually increased over the last five years. In future years, after the phase-in of the rate increase due to assumption changes and methods, the cash flow is expected to become increasingly negative. This is a typical pattern for a mature retirement plan where it is expected that contributions will be less than benefits and that the plan will begin drawing on the fund that has been built up over prior years.

Note that the actual cash contributions do not reflect the transfers made between reserve funds, but only cash coming into the Plan. We are assuming no further transfers, only full cash contributions. In addition, LACERA will receive dividends and interest payments from its investments. These types of payments are not considered for this analysis, which focuses solely on comparing contributions with benefit payments and administrative expenses.

The projected cash flows include contributions, statutory benefits, and administrative expenses only. They are based on the actuarial assumptions as stated in Appendix A of this valuation report. The total employer contribution rate is assumed to be 22.59% for the first year and 24.64% for the second year; total employer contributions for the remainder of the period reflect the expected recognition of asset gains currently being deferred and the phase-in of the increase due to the assumption and method changes. The aggregate member rate is assumed to stay at the calculated rate for June 30, 2020 of 7.80% of payroll. Expenses are based on the expenses for the year ended June 30, 2020, increased annually with the actuarial inflation assumption of 2.75%.

Any increases or reductions in future contribution rates will increase or decrease the net cash flow. The projected cash flows do not include:

- Projected STAR benefits that have not yet been granted. STAR benefits that were vested as of January 2020 are included.
- Projected benefits payable under certain insurance contracts for a group of retired members. These payments are netted against the total expected retiree benefits.



**Exhibit 18a**  
**Cash Flow History and Projections – Dollars**

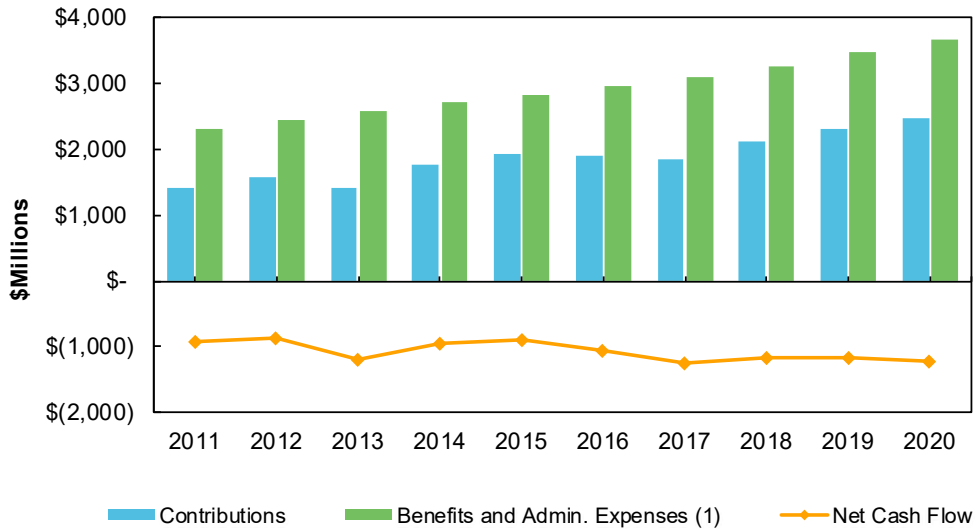
Plan Year Ending	Cash Flow History		
	Total Contributions	Benefits & Administrative Expenses <sup>(1)</sup>	Net Cash Flow
2011	\$ 1,408	\$ 2,318	\$ (910)
2012	1,586	2,439	(853)
2013	1,403	2,593	(1,190)
2014	1,759	2,719	(960)
2015	1,936	2,829	(893)
2016	1,902	2,954	(1,052)
2017	1,858	3,094	(1,236)
2018	2,116	3,268	(1,152)
2019	2,304	3,475	(1,171)
2020	2,459	3,676	(1,217)

Plan Year Ending	Cash Flow Projections <sup>(2)</sup>		
	Total Contributions	Benefits & Administrative Expenses <sup>(1)</sup>	Net Cash Flow
2021	\$ 2,713	\$ 4,033	\$ (1,320)
2022	3,002	4,137	(1,135)
2023	3,216	4,335	(1,120)
2024	3,371	4,542	(1,171)
2025	3,542	4,759	(1,216)
2026	3,701	4,983	(1,282)
2027	3,821	5,214	(1,393)
2028	3,945	5,448	(1,504)
2029	4,073	5,687	(1,614)
2030	4,205	5,930	(1,725)

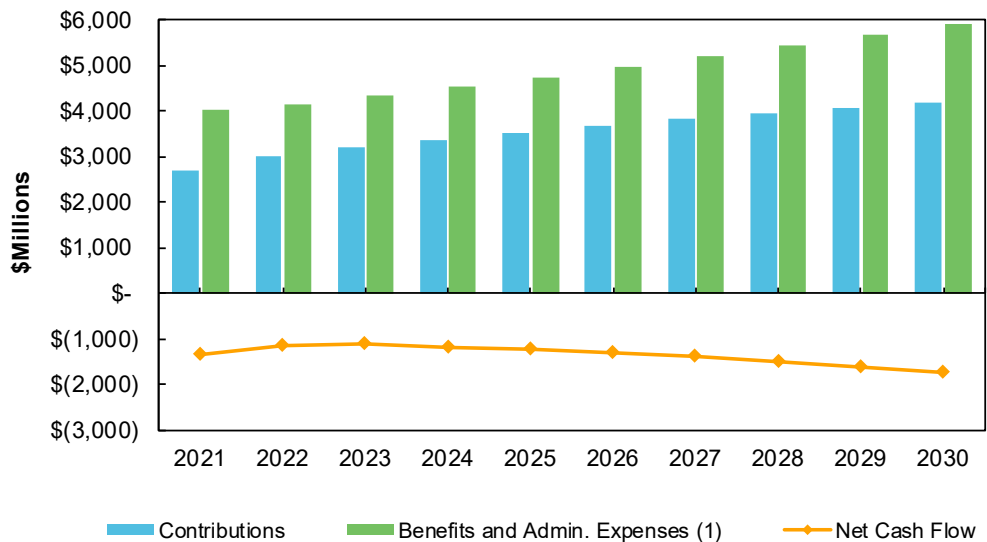
1. Investment expenses are assumed to be covered by investment return.
2. Future contributions reflect the expected impact of asset gains and losses currently being deferred.

**Exhibit 18b**  
**Cash Flow History and Projections – Graphs**

**Cash Flow History**



**Cash Flow Projections<sup>(2)</sup>**



1. Investment expenses are assumed to be covered by investment return.
2. Future contributions reflect the expected impact of asset gains and losses currently being deferred.

## 9. Risk Discussion

Please refer to the Risk Assessment report dated September 8, 2020 for a detailed analysis of the main risks applicable to LACERA. That report includes detailed identification and assessment of risks.

### Overview

The results of any actuarial valuation are based on one set of reasonable assumptions. Although we believe the current assumptions provide a reasonable estimate of future expectations, it is almost certain that future experience will differ from the assumptions to some extent. It is therefore important to consider the potential impacts of these likely differences when making decisions that may affect the future financial health of the Plan, or of the Plan's members.

Actuarial Standard of Practice No. 51 (ASOP 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions) addresses these issues by providing actuaries with guidance for assessing and disclosing the risk associated with measuring pension liabilities and the determination of pension plan contributions. Specifically, it directs the actuary to:

- Identify risks that may be significant to the Plan.
- Assess the risks identified as significant to the Plan. The assessment does not need to include numerical calculations.
- Disclose plan maturity measures and historical information that are significant to understanding the Plan's risks.

ASOP 51 states that if in the actuary's professional judgment, a more detailed assessment would be significantly beneficial in helping the individuals responsible for the Plan to understand the risks identified by the actuary, then the actuary should recommend that such an assessment be performed. The standard is first effective for certain actuarial work products with a measurement date on or after November 1, 2018; for LACERA it was first effective with the June 30, 2019 actuarial valuation.

In addition, the California Actuarial Advisory Panel (CAAP) has adopted a set of model disclosure elements for actuarial valuation reports of public retirement systems in California. Most of these elements are included in other areas of this report. The remaining CAAP-recommended disclosures are as follows:

Disclosure Element	Description	Value
Gross Normal Cost \$ <sup>1</sup>	Normal Cost allocated to valuation year, paid at mid-year.	\$ 1,674.9
Statutory Contribution \$ <sup>1</sup>	Expected Employer Contribution paid at mid-year.	\$ 2,024.4
Asset Smoothing Ratio	Actuarial Value of Assets divided by Market Value of Assets	103.1%
Asset Volatility Ratio	Market Value of Assets divided by Payroll	6.6
Liability Volatility Ratio	Actuarial Accrued Liability divided by Payroll	8.9

1. Amounts shown in millions of dollars

This Section 9 uses the framework of ASOP 51 and the Asset and Liability Volatility Ratios shown above to communicate important information about: significant risks to the Plan, the Plan's maturity, and relevant historical plan data.

### Asset and Liability Volatility Ratios

Asset and Liability Volatility Ratios are a measure of the level of assets (or liabilities) to payroll. In general, a higher ratio means that the employer contribution rates (ECR) are more sensitive to changes in levels of assets or liabilities. Historical Asset and Liability Volatility Ratios are shown in Exhibit E-4.

As shown above, in the current valuation LACERA has an Asset Volatility Ratio of 6.6 and a Liability Volatility Ratio of 8.9. As shown in Exhibit E-4, these ratios have increased over time as LACERA has matured.

### Factors Affecting Future Results

There are a number of factors that affect future valuation results. To the extent actual experience for these factors varies from the assumptions, this will likely cause either increases or decreases in the plan's future funding level and ECR. The factors that can have the most significant impact on LACERA's valuation results are:

- Investment returns

To the extent that actual investment returns differ from the assumed investment return, the Plan's future assets, ECR, and funded status may differ significantly from those presented in this valuation. Additional discussion of the impact of variance of investment returns is included below.

- Compensation increases

Individual member retirement benefits are linked to that member's compensation. As such, assumptions need to be made as to a member's future compensation increases. Higher future compensation increases will generally result in larger retirement benefits, liabilities, ECRs, and a lower funded status. Conversely, lower compensation increases than assumed will generally result in smaller retirement benefits, liabilities, ECRs, and a higher funded status.

- Payroll variation

In the valuation, an assumption is made for the overall rate of payroll growth of LACERA from year-to-year. To the extent that the overall rate of payroll growth is greater than assumed, the ECR may decrease since the UAAL will be amortized over a larger payroll base. The opposite will occur if the overall rate of payroll growth is lower than assumed.

This effect often will offset somewhat with individual compensation increases, discussed above.

- Longevity and other demographic risks

The liabilities reported in this valuation have been calculated by assuming that members will follow specific patterns of demographic experience (e.g., mortality, retirement, termination, disability) as described in Appendix A. To the extent that actual demographic experience is different than is assumed to occur, future liabilities, ECRs, and funded status may differ from that presented in this valuation.

All of these assumptions are reviewed in detail during the triennial Investigation of Experience study, and are also reviewed annually during the valuation process. Changes in assumptions are generally recommended as part of the triennial Investigation of Experience if actual experience has been materially different than assumed or forecasts have changed significantly. Additionally, changes may be recommended and discussed at each valuation if they are deemed to be appropriate at that time.

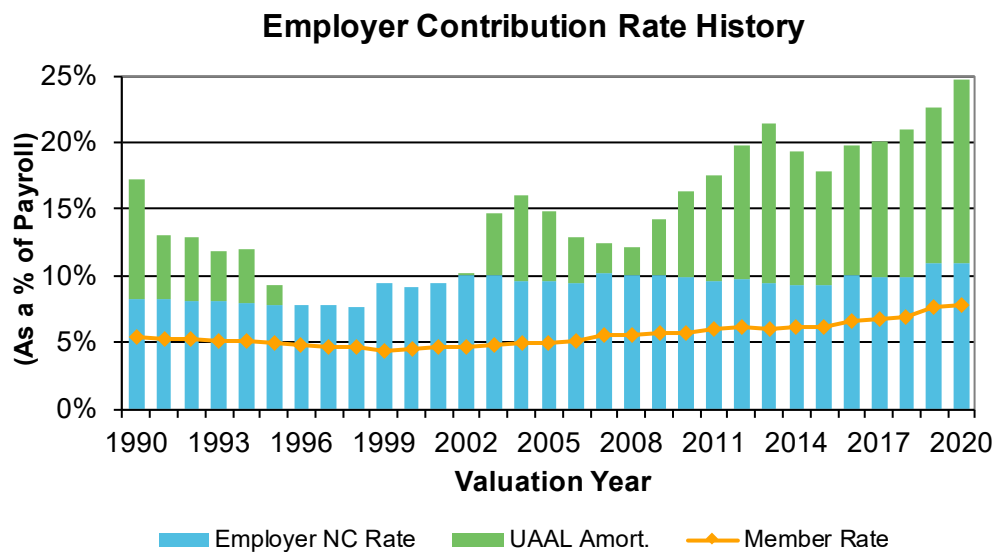
### Discussion of Investment Return Risk

Of these factors, we believe the factor with the greatest potential risk to impact future valuation results for LACERA is future investment returns. For example, if actual returns fall short of the current assumption of 7.0% per year, this will cause an increase in the ECR and a decrease in the Funded Ratio, all other things being equal. Conversely, if actual returns exceed the current assumption of 7.0% per year, this will cause a decrease in the ECR and an increase in the Funded Ratio.

The magnitude of the increase or decrease in the ECR is affected by the maturity level, and specifically, the asset volatility ratio. LACERA has accumulated a significant amount of assets relative to its payroll and by several measures is considered a mature plan. Accumulating assets to pay for future benefit obligations is responsible funding, but it does mean that changes in the investment markets can have a significant impact on the ECR.

### Historical Variation in Employer Contribution Rate

One way to assess future risks is to look at historical measurements. The following graph shows how the ECR has varied over the last 30 years under various investment return and assumption environments.



## Appendix A Actuarial Procedures and Assumptions

The actuarial procedures and assumptions used in this valuation are described in this section. The assumptions were reviewed and changed for the June 30, 2019 actuarial valuation as a result of the 2019 triennial Investigation of Experience Study.

The actuarial assumptions used in the valuations are intended to estimate the future experience of the members of LACERA and of LACERA itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of LACERA's benefits.

Table A-1 summarizes the assumptions. The mortality probabilities are taken from the sources listed. Tables A-2 and A-3 show how members are expected to leave retired status due to death.

Table A-4 presents the probability of refund of contributions upon termination of employment while vested. Table A-5 presents the expected annual percentage increase in salaries.

Tables A-6 to A-13 were developed from the experience as measured by the 2019 Investigation of Experience Study. These are the probability that a member will leave the System for various reasons.

### Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method (CERL 31453.5). Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit (until maximum retirement age).

For members who transferred between plans, entry age is based on original entry into the System.

The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the Unfunded Actuarial Accrued Liability (UAAL). The original UAAL as of June 30, 2009 is amortized as a level percentage of the projected salaries of present and future members of LACERA over a closed 30-year period. As of the June 30, 2019 valuation, all amortization layers with periods greater than 22 years as of July 1, 2020 were amortized over a 22-year period. Future gains and losses are amortized over new closed 20-year periods, beginning with the date the contribution is first expected to be made. This is referred to as "layered" amortization.

For General Plan G and Safety Plan C, the normal cost rate is rounded up to the nearest 0.02%.

### Records and Data

The data used in this valuation consists of financial information and the age, service, and income records for active and inactive members and their survivors. All of the data were supplied by LACERA and are accepted for valuation purposes without audit.

### Replacement of Former Members

The ages and relative salaries at entry of future members are assumed to follow a new entrant distribution based on the pattern of current members. Under this assumption, the normal cost rates for active members will remain fairly stable in future years unless there are changes in the governing law, the actuarial assumptions, or the pattern of the new entrants.

### **Growth in Membership**

For benefit determination purposes, no growth in the membership of LACERA is assumed. For funding purposes, if amortization is required, the total payroll of covered members is assumed to grow due to the combined effects of future wage increases of current active members and the replacement of the current active members by new employees. No growth or decline in the total number of active members is assumed.

### **Internal Revenue Code Section 415 Limit**

The Internal Revenue Code Section 415 maximum benefit limitation is not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement.

### **Internal Revenue Code Section 401(a)(17)**

The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement.

### **Employer Contributions**

The employer contribution rate is set by the Board of Investments based on actuarial valuations.

### **Member Contributions**

The member contribution rates vary by entry age (except for PEPRAs) and are described in the law. Code references are shown in Appendix B of the valuation report. The methods and assumptions used are detailed later in this section.

The individual member rates by entry age, plan, and class are illustrated in Appendix D of the valuation report.

### **Valuation of Assets**

The assets are valued using a five-year smoothed method based on the difference between the expected market value and the actual market value of the assets as of the valuation date. The expected market value is the prior year's market value increased with the net increase in the cash flow of funds, all increased with interest during the past fiscal year at the expected investment return rate assumption. The five-year smoothing valuation basis for all assets was adopted effective June 30, 2009.

### **Investment Earnings and Expenses**

The future investment earnings of the assets of LACERA are assumed to accrue at an annual rate of 7.00% compounded annually, net of both investment and administrative expenses. This rate was adopted June 30, 2019.

### **Postretirement Benefit Increases**

Postretirement increases are assumed for the valuation in accordance with the benefits provided as described in Appendix B. These adjustments are assumed payable each year in the future as they are not greater than the expected increase in the Consumer Price Index of 2.75% per year. This rate was adopted June 30, 2016.

### **Interest on Member Contributions**

The annual credited interest rate on member contributions is assumed to be 7.00% compounded semi-annually for an annualized rate of 7.12%. This rate was adopted effective June 30, 2019.

## Future Salaries

The rates of annual salary increase assumed for the purpose of the valuation are illustrated in Table A-5. In addition to increases in salary due to promotions and longevity, this scale includes an assumed 3.25% per annum rate of increase in the general wage level of the membership. These rates were adopted June 30, 2019.

Increases are assumed to occur mid-year (i.e., January 1st) and only apply to base salary, excluding megaflex compensation. The mid-year timing reflects that salary increases occur throughout the year, or on average mid-year.

For plans with a one-year final average compensation period, actual average annual compensation is used. For Plan E, Plan G and Safety Plan C, the monthly rate as of June of the valuation year was annualized. Due to irregular compensation payments now included as pensionable earnings, actual annual pay is preferred over annualizing a single monthly payment amount.

## Social Security Wage Base

Plan E members have their benefits offset by an assumed Social Security Benefit. For valuation funding purposes, we need to project the Social Security Benefit. We assume the current Social Security provisions will continue and the annual Wage Base will increase at the rate of 3.25% per year. Note that statutory provisions describe exactly how to compute the offset for purposes of determining a member's offset amount at time of termination or retirement. This rate was adopted June 30, 2016.

Note also, that it is assumed all Plan E members born after 1950 have less than 10 years of Social Security-covered service and, therefore, do not have their benefit offset.

General Plan G and Safety Plan C members have their compensation limited to approximately 120% of the Social Security Wage Base. The limit for 2020 is \$151,549 (after applying the 120% factor) and is projected to increase at the CPI rate of 2.75%. This rate of future increase was adopted effective June 30, 2016.

## Retirement

Members in General Plans A-D may retire at age 50 with 10 years of service, or any age with 30 years of service, or age 70 regardless of the number of years of service. General Plan G members are eligible to retire at age 52 with 5 years of service, or age 70 regardless of the number of years of service. Non-contributory Plan E members may retire at age 55 with 10 years of service. Members of Safety Plans A and B may retire at age 50 with 10 years of service, or any age with 20 years of service. Safety Plan C members are eligible to retire at age 50 with 5 years of County service. Retirement probabilities vary by age and are shown by plan in Tables A-6 through A-13.

All general members who attain or have attained age 75 in active service and all safety members who attain or have attained age 65 in active service are assumed to retire immediately (except for Safety Plan C members who have not yet attained 5 years of service).



Vested former members are assumed to retire at the later of their current age and the assumed retirement age specified as follows:

Assumption for Deferred Commencement	
Plan	Age at Commencement
GA	62
GB	62
GC	62
GD	59
GE	62
GG	57
SA	55
SB	50
SC	50

The assumptions regarding termination of employment, early retirement, and unreduced service retirement are treated as a single set of decrements in regards to a particular member. For example, a General Plan D member hired at age 30 has a probability of withdrawing from LACERA due to death, disability or other termination of employment until age 50. After age 50, the member can withdraw due to death, disability, or retirement. Thus, in no year during the member's projected employment would the member be eligible for both a probability of other termination of employment and a probability of retirement.

The retirement probabilities were adopted June 30, 2019.

**Disability**

The probabilities of disability used in the valuation are also illustrated in Tables A-6 through A-13. These probabilities were adopted June 30, 2019.

**Postretirement Mortality – Other Than Disabled Members**

The same postretirement mortality probabilities are used in the valuation for members retired for service and beneficiaries. These probabilities are illustrated in Table A-2. Current beneficiary mortality is assumed to be the same as for healthy members of the same sex. Future beneficiaries are assumed to be of the opposite sex and have the same mortality as General members. The amount-weighted Pub-2010 mortality tables are used.

Note that these assumptions include a projection for expected future mortality improvement. These probabilities were adopted June 30, 2019.

**Males:** General members: PubG-2010 Healthy Retiree Mortality Table for Males, with MP-2014 Ultimate Projection Scale.

Safety members: PubS-2010 Healthy Retiree Mortality Table for Males multiplied by 85%, with MP- 2014 Ultimate Projection Scale.

**Females:** General members: PubG-2010 Healthy Retiree Mortality Table for Females multiplied by 110%, with MP-2014 Ultimate Projection Scale.

Safety members: PubS-2010 Healthy Retiree Mortality Table for Females, with MP-2014 Ultimate Projection Scale.

**Postretirement Mortality – Disabled Members**

For members retired for disability, the mortality probabilities used in the valuation are illustrated in Table A-3. The amount-weighted Pub-2010 mortality tables are used.

Note that these assumptions include a projection for expected future mortality improvement. These probabilities were adopted June 30, 2019.

**Males:** General members: Average of PubG-2010 Healthy Retiree Mortality Table for Males and PubG-2010 Disabled Retiree Mortality Table for Males, both projected with MP-2014 Ultimate Projection Scale.

Safety members: PubS-2010 Healthy Retiree Mortality Table for Males, with MP-2014 Ultimate Projection Scale.

**Females:** General members: Average of PubG-2010 Healthy Retiree Mortality Table for Females and PubG-2010 Disabled Retiree Mortality Table for Females, both projected with MP-2014 Ultimate Projection Scale.

Safety members: PubS-2010 Healthy Retiree Mortality Table for Females, with MP-2014 Ultimate Projection Scale.

**Mortality while in Active Status**

For active members, the mortality probabilities used in the valuation are illustrated in Tables A-6 through A-13. The amount-weighted Pub-2010 mortality tables are used. These probabilities were adopted June 30, 2019.

Class	Gender	Proposed Table
General	Male	PubG-2010 (120%) Employee Male <sup>(1)</sup>
General	Female	PubG-2010 (130%) Employee Female <sup>(1)</sup>
Safety	Male	PubS-2010 (100%) Employee Male <sup>(1)</sup>
Safety	Female	PubS-2010 (100%) Employee Female <sup>(1)</sup>

1. Projected using the MP-2014 Ultimate projection scale.

Note that Safety members have an additional service-connected mortality probability of 0.01% per year.

**Other Employment Terminations**

Tables A-6 to A-13 show, for all ages, the probabilities assumed in this valuation for future termination from active service other than for death, disability, or retirement. These probabilities do not apply to members eligible for service retirement. These probabilities were adopted June 30, 2019.

Terminating employees may withdraw their contributions immediately upon termination of employment and forfeit the right to further benefits, or they may leave their contributions with LACERA. Former contributing members whose contributions are on deposit may later elect to receive a refund, may return to work, or may remain inactive until becoming eligible to receive a retirement benefit under either LACERA or a reciprocal retirement system. All terminating members who are not eligible for vested benefits are assumed to withdraw their contributions immediately. It is assumed that all terminating members will not be rehired in the future.

Table A-4 gives the assumed probabilities that vested members will withdraw their contributions and elect a refund immediately upon termination and the probability that remaining members will elect a deferred vested benefit. All non-vested members are assumed to elect a refund and withdraw their contributions. These probabilities were adopted June 30, 2019.

### Probability of Eligible Survivors

For members not currently in pay status, 77% of all males and 50% of all females are assumed to have eligible survivors (spouses or qualified domestic partners). Survivors are assumed to be four years younger than male members and two years older than female members. Survivors are assumed to be of the opposite gender as the member. There is no explicit assumption for children's benefits. We believe the survivor benefits based on this assumption are sufficient to cover children's benefits as they occur.

### Valuation of Vested Former Members

The deferred retirement benefit is calculated based on the member's final compensation and service at termination. The compensation amount is projected until the assumed retirement age for members who are assumed to be employed by a reciprocal agency. For members who are missing compensation data, Final Compensation is estimated as the average amount for all members who terminated during the same year and had a valid compensation amount. The greater of the present value of the calculated benefit and the employee's current contribution balance is valued for future deferred vested members.

### Reciprocal Employment

16% of General and 35% of Safety current and future vested former members are assumed to work for a reciprocal employer.

Current vested reciprocal members are assumed to receive annual salary increases of 4.25%. Future reciprocal vested members are assumed to receive the same salary increases they would have received if they had stayed in active employment with LACERA and retired at the assumed retirement age.

### Valuation of Annuity Purchases

Over 30 years ago, LACERA purchased single life annuities from two insurance companies for some retired members (currently less than 1% of the retired population). The total liability for these members is calculated and then offset by the expected value of the benefit to be paid by the insurance companies.

For affected members, the insurance companies are responsible for:

1. Straight life annuity payments
2. Statutory COLAs

LACERA is responsible for:

1. Benefit payments payable to any beneficiary
2. STAR COLAs

### Member Contribution Rate Assumptions

The following assumptions summarize the procedures used to compute member contribution rates based on entry age:

In general, the member rate is determined by the Present Value of the Future Benefit (PVFB) payable at retirement age, divided by the present value of all future salaries payable between age at entry and retirement age. For these purposes, per the CERL:

- A. The Annuity factor used for general members is based on a 35% / 65% blend of the male and female valuation mortality tables and projection scale, with a static projection to 2041. For Safety members, it is based on a 85% / 15% blend of the male and female annuity factors determined using the same mortality tables as used for service-retired members.

- B. The annuity factor used in determining the present value of future benefits (PVFB) at entry age is equal to the life only annuity factor at 7.00%.
- C. The Final Compensation is based on the salary paid in the year prior to attaining the retirement age.
- D. Example: For a General Plan C Member who enters at age 59 or earlier, the Final Compensation at retirement (age 60) will be the monthly average of the annual salaries during age 59.
- E. Member Rates are assumed to increase with entry age. There are a few exceptions at the higher entry ages where the calculated rate is less than the previous entry age. In these cases the member contribution rate is adjusted so that it is no less than the value for the previous entry age.

**Table A-1**  
**Summary of Valuation Assumptions as of June 30, 2020**

- I. Economic assumptions
  - A. General wage increases 3.25%
  - B. Investment earnings 7.00%
  - C. Growth in membership 0.00%
  - D. Postretirement benefit increases (varies by plan) Plan COLA not greater than CPI assumption.
  - E. CPI inflation assumption 2.75%
- II. Demographic assumptions
  - A. Salary increases due to service Table A-5
  - B. Retirement Tables A-6 to A-13
  - C. Disability Tables A-6 to A-13
  - D. Mortality during active employment Tables A-6 to A-13
  - E. Mortality for active members after termination and service retired members<sup>(1)</sup> Table A-2

Class	Gender	
General	Male	PubG-2010 (100%) Healthy Retiree Male
General	Female	PubG-2010 (110%) Healthy Retiree Female
Safety	Male	PubS-2010 (85%) Healthy Retiree Male
Safety	Female	PubS-2010 (100%) Healthy Retiree Female

- F. Mortality among disabled members<sup>(1)</sup> Table A-3

Class	Gender	
General	Male	Avg of: PubG-2010 (100%) Healthy Retiree Male PubG-2010 (100%) Disabled Retiree Male
General	Female	Avg of: PubG-2010 (100%) Healthy Retiree Female PubG-2010 (100%) Disabled Retiree Female
Safety	Male	PubS-2010 (100%) Healthy Retiree Male
Safety	Female	PubS-2010 (100%) Healthy Retiree Female

- G. Mortality for beneficiaries<sup>(1)</sup> Table A-2  
 Basis – Beneficiaries are assumed to have the same mortality as a general member of the opposite gender who has taken a service retirement.
- H. Other terminations of employment Tables A-6 to A-13
- I. Refund of contributions on vested termination Table A-4

1. All mortality probabilities are projected using the MP-2014 Ultimate projection scale.

**Table A-2**  
**Mortality for Members Retired for Service<sup>(1)</sup>**

<u>Age</u>	<u>Safety Male</u>	<u>Safety Female</u>	<u>General Male</u>	<u>General Female</u>
20	0.0520%	0.0210%	0.0740%	0.0380%
25	0.0470%	0.0260%	0.0560%	0.0260%
30	0.0520%	0.0350%	0.0720%	0.0440%
35	0.0590%	0.0470%	0.0940%	0.0680%
40	0.0750%	0.0640%	0.1320%	0.1060%
45	0.1037%	0.0870%	0.1960%	0.1650%
50	0.1632%	0.1490%	0.2980%	0.2442%
55	0.2601%	0.2580%	0.4310%	0.3146%
60	0.4318%	0.4460%	0.6150%	0.4224%
65	0.7489%	0.7700%	0.9130%	0.6743%
70	1.3328%	1.3290%	1.5260%	1.1693%
75	2.4021%	2.2950%	2.6710%	2.0713%
80	4.3376%	3.9620%	4.7740%	3.6960%
85	7.7648%	6.8420%	8.5910%	6.8255%
90	13.4810%	11.8150%	14.6720%	12.6357%

<u>Age</u>	<u>All Groups</u>
65 & Less	1.000%
70	1.000%
75	1.000%
80	1.000%
85	1.000%
90	0.930%
95	0.850%
100	0.640%
105	0.430%
110	0.210%
115	0.000%

1. Mortality probabilities are those applicable for the fiscal year beginning in 2010. Annual projected improvements are assumed in the following years under the schedule shown. For example, the annual mortality probability for an 85-year old Safety male in fiscal year beginning in 2020 is 7.0223% calculated as follows:

$$\begin{aligned}
 \text{Age 85 probability in 2020} &= \text{Age 85 probability in 2010 with 10 years improvement} \\
 &= 7.7648\% \times (100.0\% - 1.0\%)^{10} \\
 &= 7.0223\%
 \end{aligned}$$

**Table A-3**  
**Mortality for Members Retired for Disability<sup>(1)</sup>**

<b>Age</b>	<b>Safety Male</b>	<b>Safety Female</b>	<b>General Male</b>	<b>General Female</b>
20	0.0610%	0.0210%	0.2430%	0.1340%
25	0.0550%	0.0260%	0.1670%	0.0940%
30	0.0610%	0.0350%	0.2130%	0.1485%
35	0.0700%	0.0470%	0.2760%	0.2315%
40	0.0880%	0.0640%	0.3885%	0.3625%
45	0.1220%	0.0870%	0.6015%	0.5675%
50	0.1920%	0.1490%	0.9515%	0.8525%
55	0.3060%	0.2580%	1.2725%	1.0140%
60	0.5080%	0.4460%	1.5590%	1.1700%
65	0.8810%	0.7700%	1.9785%	1.4345%
70	1.5680%	1.3290%	2.7135%	1.9625%
75	2.8260%	2.2950%	3.9315%	2.9430%
80	5.1030%	3.9620%	6.0610%	4.6835%
85	9.1350%	6.8420%	9.7030%	7.7680%
90	15.8600%	11.8150%	15.4625%	12.5760%

1. Mortality probabilities are those applicable for the fiscal year beginning in 2010. Annual projected improvements are assumed in the following years under the schedule shown on the preceding page.

**Table A-4**  
**Immediate Refund of Contributions upon Termination of Employment**  
**(Excludes Plan E)**

<b>Years of Service</b>	<b>General</b>	<b>Safety</b>
0	100%	100%
1	100%	100%
2	100%	100%
3	100%	100%
4	100%	100%
5	32%	30%
6	32%	30%
7	32%	30%
8	32%	28%
9	31%	26%
10	31%	24%
11	30%	22%
12	30%	20%
13	29%	18%
14	28%	16%
15	26%	14%
16	25%	12%
17	24%	10%
18	22%	9%
19	21%	8%
20	19%	7%
21	18%	6%
22	16%	5%
23	14%	4%
24	12%	3%
25	10%	2%
26	8%	2%
27	6%	2%
28	4%	2%
29	2%	2%
30 & Above	0%	0%



**Table A-5**  
**Annual Increase in Salary<sup>(1)</sup>**

<b>Years of Service</b>	<b>General</b>	<b>Safety</b>
<1	6.00%	9.00%
1	5.25%	8.50%
2	4.75%	8.00%
3	4.10%	6.00%
4	3.50%	4.50%
5	3.00%	3.25%
6	2.50%	2.50%
7	2.00%	2.00%
8	1.60%	1.50%
9	1.30%	1.35%
10	1.15%	1.20%
11	1.00%	1.05%
12	0.85%	0.95%
13	0.75%	0.85%
14	0.70%	0.75%
15	0.65%	0.70%
16	0.60%	0.65%
17	0.55%	0.60%
18	0.50%	0.55%
19	0.45%	2.25%
20	0.40%	0.50%
21	0.35%	0.50%
22	0.30%	0.50%
23	0.25%	0.50%
24	0.25%	3.00%
25	0.25%	0.50%
26	0.25%	0.50%
27	0.25%	0.50%
28	0.25%	0.50%
29	0.25%	3.00%
30 & Above	0.25%	0.50%

1. The total expected increase in salary includes both merit (shown above) and the general wage increase assumption of 3.25% per annum increase. The total result is compounded rather than additive. For example, the total assumed increase for General members for service less than one year is 9.45%.

## Appendix A Probabilities of Separation from Active Service Tables A-6 to A-13

A schedule of the probabilities of termination of employment due to the following causes can be found on the following pages:

Service Retirement:	Member retires after meeting age and service requirements for reasons other than disability.
Withdrawal:	Member terminates and elects a refund of member contributions, or a deferred vested retirement benefit.
Service Disability:	Member receives disability retirement; disability is service related.
Ordinary Disability:	Member receives disability retirement; disability is not service related.
Service Death:	Member dies before retirement; death is service related.
Ordinary Death:	Member dies before retirement; death is not service related.

Each of these represents the probability that a member will separate from service at each age due to the particular cause. For example, a probability of 0.0300 for a member's service retirement at age 50 means we assume that 30 out of 1,000 members who are age 50 will retire at that age.

Each table represents the detailed probabilities needed for each LACERA plan by gender:

Table A-6: General Plan A, B & C – Males	A-10: General Plan E – Males
A-7: General Plan A, B & C – Females	A-11: General Plan E – Females
A-8: General Plan D & G – Males	A-12: Safety Plan A, B & C – Males
A-9: General Plan D & G – Females	A-13: Safety Plan A, B & C – Females

**Table A-6**  
**Probability of Separation from Active Service for General Members**  
**Plans A, B & C – Male**

Age	Service Retirement	Other Terminations	Service Disability	Ordinary Disability	Service Death	Ordinary Death
18	0.00000	0.00500	0.00010	0.00010	N/A	0.00043
19	0.00000	0.00500	0.00010	0.00010	N/A	0.00046
20	0.00000	0.00500	0.00010	0.00010	N/A	0.00044
21	0.00000	0.00500	0.00010	0.00010	N/A	0.00043
22	0.00000	0.00500	0.00010	0.00010	N/A	0.00040
23	0.00000	0.00500	0.00010	0.00010	N/A	0.00037
24	0.00000	0.00500	0.00010	0.00010	N/A	0.00035
25	0.00000	0.00500	0.00010	0.00010	N/A	0.00034
26	0.00000	0.00500	0.00010	0.00010	N/A	0.00036
27	0.00000	0.00500	0.00010	0.00010	N/A	0.00037
28	0.00000	0.00500	0.00010	0.00010	N/A	0.00040
29	0.00000	0.00500	0.00010	0.00010	N/A	0.00041
30	0.00000	0.00500	0.00010	0.00020	N/A	0.00043
31	0.00000	0.00500	0.00010	0.00020	N/A	0.00046
32	0.00000	0.00500	0.00010	0.00020	N/A	0.00048
33	0.00000	0.00500	0.00016	0.00020	N/A	0.00050
34	0.00000	0.00500	0.00022	0.00020	N/A	0.00053
35	0.00000	0.00500	0.00028	0.00020	N/A	0.00056
36	0.00000	0.00500	0.00034	0.00020	N/A	0.00060
37	0.00000	0.00500	0.00040	0.00020	N/A	0.00064
38	0.00000	0.00500	0.00048	0.00020	N/A	0.00068
39	0.00000	0.00500	0.00056	0.00020	N/A	0.00073
40	0.03000	0.00500	0.00064	0.00020	N/A	0.00079
41	0.03000	0.00500	0.00072	0.00020	N/A	0.00085
42	0.03000	0.00500	0.00080	0.00020	N/A	0.00092
43	0.03000	0.00500	0.00084	0.00024	N/A	0.00100
44	0.03000	0.00500	0.00088	0.00028	N/A	0.00108
45	0.03000	0.00500	0.00092	0.00032	N/A	0.00118
46	0.03000	0.00500	0.00096	0.00036	N/A	0.00128
47	0.03000	0.00500	0.00100	0.00040	N/A	0.00139
48	0.03000	0.00500	0.00104	0.00044	N/A	0.00152
49	0.03000	0.00500	0.00108	0.00048	N/A	0.00166
50	0.03000	0.00500	0.00112	0.00052	N/A	0.00179
51	0.03000	0.00500	0.00116	0.00056	N/A	0.00194
52	0.03000	0.00500	0.00120	0.00060	N/A	0.00210
53	0.03000	0.00500	0.00156	0.00064	N/A	0.00227
54	0.06000	0.00500	0.00192	0.00068	N/A	0.00244
55	0.10000	0.00500	0.00228	0.00072	N/A	0.00263
56	0.12000	0.00500	0.00264	0.00076	N/A	0.00283
57	0.17000	0.00500	0.00300	0.00080	N/A	0.00306
58	0.26000	0.00500	0.00330	0.00084	N/A	0.00330
59	0.26000	0.00500	0.00360	0.00088	N/A	0.00355
60	0.32000	0.00500	0.00390	0.00092	N/A	0.00383
61	0.32000	0.00500	0.00420	0.00096	N/A	0.00413
62	0.32000	0.00500	0.00450	0.00100	N/A	0.00445
63	0.32000	0.00500	0.00450	0.00104	N/A	0.00481
64	0.32000	0.00500	0.00450	0.00108	N/A	0.00520
65	0.32000	0.00500	0.00450	0.00112	N/A	0.00562
66	0.25000	0.00500	0.00450	0.00116	N/A	0.00607
67	0.24000	0.00500	0.00450	0.00120	N/A	0.00658
68	0.24000	0.00500	0.00450	0.00124	N/A	0.00713
69	0.24000	0.00500	0.00450	0.00128	N/A	0.00775
70	0.24000	0.00500	0.00450	0.00132	N/A	0.00844
71	0.24000	0.00500	0.00450	0.00136	N/A	0.00920
72	0.24000	0.00500	0.00450	0.00140	N/A	0.01004
73	0.24000	0.00500	0.00450	0.00144	N/A	0.01098
74	0.24000	0.00500	0.00450	0.00148	N/A	0.01201
75	1.00000	0.00000	0.00000	0.00000	N/A	0.01315

**Table A-7**  
**Probability of Separation from Active Service for General Members**  
**Plans A, B & C – Female**

<u>Age</u>	<u>Service Retirement</u>	<u>Other Terminations</u>	<u>Service Disability</u>	<u>Ordinary Disability</u>	<u>Service Death</u>	<u>Ordinary Death</u>
18	0.00000	0.00500	0.00015	0.00010	N/A	0.00017
19	0.00000	0.00500	0.00015	0.00010	N/A	0.00017
20	0.00000	0.00500	0.00015	0.00010	N/A	0.00017
21	0.00000	0.00500	0.00015	0.00010	N/A	0.00016
22	0.00000	0.00500	0.00015	0.00010	N/A	0.00014
23	0.00000	0.00500	0.00015	0.00010	N/A	0.00013
24	0.00000	0.00500	0.00015	0.00010	N/A	0.00012
25	0.00000	0.00500	0.00015	0.00010	N/A	0.00012
26	0.00000	0.00500	0.00015	0.00010	N/A	0.00013
27	0.00000	0.00500	0.00015	0.00010	N/A	0.00014
28	0.00000	0.00500	0.00015	0.00010	N/A	0.00016
29	0.00000	0.00500	0.00015	0.00010	N/A	0.00017
30	0.00000	0.00500	0.00015	0.00010	N/A	0.00020
31	0.00000	0.00500	0.00015	0.00010	N/A	0.00021
32	0.00000	0.00500	0.00015	0.00010	N/A	0.00023
33	0.00000	0.00500	0.00020	0.00010	N/A	0.00025
34	0.00000	0.00500	0.00025	0.00010	N/A	0.00027
35	0.00000	0.00500	0.00030	0.00010	N/A	0.00030
36	0.00000	0.00500	0.00035	0.00010	N/A	0.00033
37	0.00000	0.00500	0.00040	0.00010	N/A	0.00036
38	0.00000	0.00500	0.00042	0.00014	N/A	0.00039
39	0.00000	0.00500	0.00044	0.00018	N/A	0.00043
40	0.03000	0.00500	0.00046	0.00022	N/A	0.00047
41	0.03000	0.00500	0.00048	0.00026	N/A	0.00052
42	0.03000	0.00500	0.00050	0.00030	N/A	0.00056
43	0.03000	0.00500	0.00060	0.00032	N/A	0.00061
44	0.03000	0.00500	0.00070	0.00034	N/A	0.00066
45	0.03000	0.00500	0.00080	0.00036	N/A	0.00073
46	0.03000	0.00500	0.00090	0.00038	N/A	0.00079
47	0.03000	0.00500	0.00100	0.00040	N/A	0.00086
48	0.03000	0.00500	0.00110	0.00042	N/A	0.00092
49	0.03000	0.00500	0.00120	0.00044	N/A	0.00100
50	0.03000	0.00500	0.00130	0.00046	N/A	0.00108
51	0.03000	0.00500	0.00140	0.00048	N/A	0.00117
52	0.03000	0.00500	0.00150	0.00050	N/A	0.00126
53	0.03000	0.00500	0.00156	0.00052	N/A	0.00137
54	0.06000	0.00500	0.00162	0.00054	N/A	0.00147
55	0.10000	0.00500	0.00168	0.00056	N/A	0.00160
56	0.12000	0.00500	0.00174	0.00058	N/A	0.00173
57	0.17000	0.00500	0.00180	0.00060	N/A	0.00187
58	0.26000	0.00500	0.00194	0.00064	N/A	0.00203
59	0.26000	0.00500	0.00208	0.00068	N/A	0.00221
60	0.32000	0.00500	0.00222	0.00072	N/A	0.00242
61	0.32000	0.00500	0.00236	0.00076	N/A	0.00264
62	0.32000	0.00500	0.00250	0.00080	N/A	0.00289
63	0.32000	0.00500	0.00250	0.00084	N/A	0.00317
64	0.32000	0.00500	0.00250	0.00088	N/A	0.00350
65	0.32000	0.00500	0.00250	0.00092	N/A	0.00385
66	0.25000	0.00500	0.00250	0.00096	N/A	0.00425
67	0.24000	0.00500	0.00250	0.00100	N/A	0.00471
68	0.24000	0.00500	0.00250	0.00104	N/A	0.00520
69	0.24000	0.00500	0.00250	0.00108	N/A	0.00575
70	0.24000	0.00500	0.00250	0.00112	N/A	0.00636
71	0.24000	0.00500	0.00250	0.00116	N/A	0.00703
72	0.24000	0.00500	0.00250	0.00120	N/A	0.00777
73	0.24000	0.00500	0.00250	0.00124	N/A	0.00859
74	0.24000	0.00500	0.00250	0.00128	N/A	0.00950
75	1.00000	0.00000	0.00000	0.00000	N/A	0.01050

**Table A-8**  
**Probability of Separation from Active Service for General Members**  
**Plan D & G – Male**

Age	Service Retirement Plan D	Service Retirement Plan G	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.00000	0.00000	0.00010	0.00010	N/A	0.00043	0	0.07000
19	0.00000	0.00000	0.00010	0.00010	N/A	0.00046	1	0.05500
20	0.00000	0.00000	0.00010	0.00010	N/A	0.00044	2	0.04000
21	0.00000	0.00000	0.00010	0.00010	N/A	0.00043	3	0.03250
22	0.00000	0.00000	0.00010	0.00010	N/A	0.00040	4	0.02500
23	0.00000	0.00000	0.00010	0.00010	N/A	0.00037	5	0.02330
24	0.00000	0.00000	0.00010	0.00010	N/A	0.00035	6	0.02170
25	0.00000	0.00000	0.00010	0.00010	N/A	0.00034	7	0.02000
26	0.00000	0.00000	0.00010	0.00010	N/A	0.00036	8	0.01900
27	0.00000	0.00000	0.00010	0.00010	N/A	0.00037	9	0.01800
28	0.00000	0.00000	0.00010	0.00010	N/A	0.00040	10	0.01700
29	0.00000	0.00000	0.00010	0.00010	N/A	0.00041	11	0.01600
30	0.00000	0.00000	0.00010	0.00020	N/A	0.00043	12	0.01500
31	0.00000	0.00000	0.00010	0.00020	N/A	0.00046	13	0.01400
32	0.00000	0.00000	0.00010	0.00020	N/A	0.00048	14	0.01300
33	0.00000	0.00000	0.00016	0.00020	N/A	0.00050	15	0.01200
34	0.00000	0.00000	0.00022	0.00020	N/A	0.00053	16	0.01100
35	0.00000	0.00000	0.00028	0.00020	N/A	0.00056	17	0.01000
36	0.00000	0.00000	0.00034	0.00020	N/A	0.00060	18	0.00920
37	0.00000	0.00000	0.00040	0.00020	N/A	0.00064	19	0.00840
38	0.00000	0.00000	0.00048	0.00020	N/A	0.00068	20	0.00760
39	0.00000	0.00000	0.00056	0.00020	N/A	0.00073	21	0.00680
40	0.01500	0.00000	0.00064	0.00020	N/A	0.00079	22	0.00600
41	0.01500	0.00000	0.00072	0.00020	N/A	0.00085	23	0.00560
42	0.01500	0.00000	0.00080	0.00020	N/A	0.00092	24	0.00520
43	0.01500	0.00000	0.00084	0.00024	N/A	0.00100	25	0.00480
44	0.01500	0.00000	0.00088	0.00028	N/A	0.00108	26	0.00440
45	0.01500	0.00000	0.00092	0.00032	N/A	0.00118	27	0.00400
46	0.01500	0.00000	0.00096	0.00036	N/A	0.00128	28	0.00400
47	0.01500	0.00000	0.00100	0.00040	N/A	0.00139	29	0.00400
48	0.01500	0.00000	0.00104	0.00044	N/A	0.00152	30 & Above	0.00000
49	0.01500	0.00000	0.00108	0.00048	N/A	0.00166		
50	0.01500	0.01200	0.00112	0.00052	N/A	0.00179		
51	0.01200	0.00960	0.00116	0.00056	N/A	0.00194		
52	0.01200	0.00960	0.00120	0.00060	N/A	0.00210		
53	0.01500	0.01200	0.00156	0.00064	N/A	0.00227		
54	0.02000	0.01600	0.00192	0.00068	N/A	0.00244		
55	0.02500	0.02000	0.00228	0.00072	N/A	0.00263		
56	0.02500	0.02000	0.00264	0.00076	N/A	0.00283		
57	0.03000	0.02400	0.00300	0.00080	N/A	0.00306		
58	0.03500	0.02800	0.00330	0.00084	N/A	0.00330		
59	0.05000	0.04000	0.00360	0.00088	N/A	0.00355		
60	0.07000	0.05600	0.00390	0.00092	N/A	0.00383		
61	0.08000	0.06400	0.00420	0.00096	N/A	0.00413		
62	0.11000	0.11000	0.00450	0.00100	N/A	0.00445		
63	0.11000	0.11000	0.00450	0.00104	N/A	0.00481		
64	0.16000	0.16000	0.00450	0.00108	N/A	0.00520		
65	0.23000	0.18000	0.00450	0.00112	N/A	0.00562		
66	0.20000	0.18000	0.00450	0.00116	N/A	0.00607		
67	0.19000	0.30000	0.00450	0.00120	N/A	0.00658		
68	0.18000	0.18000	0.00450	0.00124	N/A	0.00713		
69	0.20000	0.20000	0.00450	0.00128	N/A	0.00775		
70	0.23000	0.23000	0.00450	0.00132	N/A	0.00844		
71	0.20000	0.20000	0.00450	0.00136	N/A	0.00920		
72	0.20000	0.20000	0.00450	0.00140	N/A	0.01004		
73	0.20000	0.20000	0.00450	0.00144	N/A	0.01098		
74	0.20000	0.20000	0.00450	0.00148	N/A	0.01201		
75	1.00000	1.00000	0.00000	0.00000	N/A	0.01315		

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**Table A-9**  
**Probability of Separation from Active Service for General Members**  
**Plan D & G – Female**

Age	Service Retirement Plan D	Service Retirement Plan G	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.00000	0.00000	0.00015	0.00010	N/A	0.00017	0	0.07000
19	0.00000	0.00000	0.00015	0.00010	N/A	0.00017	1	0.05500
20	0.00000	0.00000	0.00015	0.00010	N/A	0.00017	2	0.04000
21	0.00000	0.00000	0.00015	0.00010	N/A	0.00016	3	0.03250
22	0.00000	0.00000	0.00015	0.00010	N/A	0.00014	4	0.02500
23	0.00000	0.00000	0.00015	0.00010	N/A	0.00013	5	0.02330
24	0.00000	0.00000	0.00015	0.00010	N/A	0.00012	6	0.02170
25	0.00000	0.00000	0.00015	0.00010	N/A	0.00012	7	0.02000
26	0.00000	0.00000	0.00015	0.00010	N/A	0.00013	8	0.01900
27	0.00000	0.00000	0.00015	0.00010	N/A	0.00014	9	0.01800
28	0.00000	0.00000	0.00015	0.00010	N/A	0.00016	10	0.01700
29	0.00000	0.00000	0.00015	0.00010	N/A	0.00017	11	0.01600
30	0.00000	0.00000	0.00015	0.00010	N/A	0.00020	12	0.01500
31	0.00000	0.00000	0.00015	0.00010	N/A	0.00021	13	0.01400
32	0.00000	0.00000	0.00015	0.00010	N/A	0.00023	14	0.01300
33	0.00000	0.00000	0.00020	0.00010	N/A	0.00025	15	0.01200
34	0.00000	0.00000	0.00025	0.00010	N/A	0.00027	16	0.01100
35	0.00000	0.00000	0.00030	0.00010	N/A	0.00030	17	0.01000
36	0.00000	0.00000	0.00035	0.00010	N/A	0.00033	18	0.00920
37	0.00000	0.00000	0.00040	0.00010	N/A	0.00036	19	0.00840
38	0.00000	0.00000	0.00042	0.00014	N/A	0.00039	20	0.00760
39	0.00000	0.00000	0.00044	0.00018	N/A	0.00043	21	0.00680
40	0.01500	0.00000	0.00046	0.00022	N/A	0.00047	22	0.00600
41	0.01500	0.00000	0.00048	0.00026	N/A	0.00052	23	0.00560
42	0.01500	0.00000	0.00050	0.00030	N/A	0.00056	24	0.00520
43	0.01500	0.00000	0.00060	0.00032	N/A	0.00061	25	0.00480
44	0.01500	0.00000	0.00070	0.00034	N/A	0.00066	26	0.00440
45	0.01500	0.00000	0.00080	0.00036	N/A	0.00073	27	0.00400
46	0.01500	0.00000	0.00090	0.00038	N/A	0.00079	28	0.00400
47	0.01500	0.00000	0.00100	0.00040	N/A	0.00086	29	0.00400
48	0.01500	0.00000	0.00110	0.00042	N/A	0.00092	30 & Above	0.00000
49	0.01500	0.00000	0.00120	0.00044	N/A	0.00100		
50	0.01500	0.01200	0.00130	0.00046	N/A	0.00108		
51	0.01200	0.00960	0.00140	0.00048	N/A	0.00117		
52	0.01200	0.00960	0.00150	0.00050	N/A	0.00126		
53	0.01500	0.01200	0.00156	0.00052	N/A	0.00137		
54	0.02000	0.01600	0.00162	0.00054	N/A	0.00147		
55	0.02500	0.02000	0.00168	0.00056	N/A	0.00160		
56	0.02500	0.02000	0.00174	0.00058	N/A	0.00173		
57	0.03000	0.02400	0.00180	0.00060	N/A	0.00187		
58	0.03500	0.02800	0.00194	0.00064	N/A	0.00203		
59	0.05000	0.04000	0.00208	0.00068	N/A	0.00221		
60	0.07000	0.05600	0.00222	0.00072	N/A	0.00242		
61	0.08000	0.06400	0.00236	0.00076	N/A	0.00264		
62	0.11000	0.11000	0.00250	0.00080	N/A	0.00289		
63	0.11000	0.11000	0.00250	0.00084	N/A	0.00317		
64	0.16000	0.16000	0.00250	0.00088	N/A	0.00350		
65	0.23000	0.18000	0.00250	0.00092	N/A	0.00385		
66	0.20000	0.18000	0.00250	0.00096	N/A	0.00425		
67	0.19000	0.30000	0.00250	0.00100	N/A	0.00471		
68	0.18000	0.18000	0.00250	0.00104	N/A	0.00520		
69	0.20000	0.20000	0.00250	0.00108	N/A	0.00575		
70	0.23000	0.23000	0.00250	0.00112	N/A	0.00636		
71	0.20000	0.20000	0.00250	0.00116	N/A	0.00703		
72	0.20000	0.20000	0.00250	0.00120	N/A	0.00777		
73	0.20000	0.20000	0.00250	0.00124	N/A	0.00859		
74	0.20000	0.20000	0.00250	0.00128	N/A	0.00950		
75	1.00000	1.00000	0.00000	0.00000	N/A	0.01050		

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**Table A-10**  
**Probability of Separation from Active Service for General Members**  
**Plan E – Male**

Age	Service Retirement	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.00000	N/A	N/A	N/A	0.00043	0	0.15000
19	0.00000	N/A	N/A	N/A	0.00046	1	0.08000
20	0.00000	N/A	N/A	N/A	0.00044	2	0.06000
21	0.00000	N/A	N/A	N/A	0.00043	3	0.04500
22	0.00000	N/A	N/A	N/A	0.00040	4	0.03500
23	0.00000	N/A	N/A	N/A	0.00037	5	0.03100
24	0.00000	N/A	N/A	N/A	0.00035	6	0.02700
25	0.00000	N/A	N/A	N/A	0.00034	7	0.02300
26	0.00000	N/A	N/A	N/A	0.00036	8	0.02200
27	0.00000	N/A	N/A	N/A	0.00037	9	0.02100
28	0.00000	N/A	N/A	N/A	0.00040	10	0.02000
29	0.00000	N/A	N/A	N/A	0.00041	11	0.01900
30	0.00000	N/A	N/A	N/A	0.00043	12	0.01800
31	0.00000	N/A	N/A	N/A	0.00046	13	0.01680
32	0.00000	N/A	N/A	N/A	0.00048	14	0.01560
33	0.00000	N/A	N/A	N/A	0.00050	15	0.01440
34	0.00000	N/A	N/A	N/A	0.00053	16	0.01320
35	0.00000	N/A	N/A	N/A	0.00056	17	0.01200
36	0.00000	N/A	N/A	N/A	0.00060	18	0.01160
37	0.00000	N/A	N/A	N/A	0.00064	19	0.01120
38	0.00000	N/A	N/A	N/A	0.00068	20	0.01080
39	0.00000	N/A	N/A	N/A	0.00073	21	0.01040
40	0.00000	N/A	N/A	N/A	0.00079	22	0.01000
41	0.00000	N/A	N/A	N/A	0.00085	23	0.01000
42	0.00000	N/A	N/A	N/A	0.00092	24	0.01000
43	0.00000	N/A	N/A	N/A	0.00100	25	0.01000
44	0.00000	N/A	N/A	N/A	0.00108	26	0.01000
45	0.00000	N/A	N/A	N/A	0.00118	27	0.01000
46	0.00000	N/A	N/A	N/A	0.00128	28	0.01000
47	0.00000	N/A	N/A	N/A	0.00139	29	0.01000
48	0.00000	N/A	N/A	N/A	0.00152	30 & Above	0.01000
49	0.00000	N/A	N/A	N/A	0.00166		
50	0.00000	N/A	N/A	N/A	0.00179		
51	0.00000	N/A	N/A	N/A	0.00194		
52	0.00000	N/A	N/A	N/A	0.00210		
53	0.00000	N/A	N/A	N/A	0.00227		
54	0.00000	N/A	N/A	N/A	0.00244		
55	0.02000	N/A	N/A	N/A	0.00263		
56	0.02000	N/A	N/A	N/A	0.00283		
57	0.02500	N/A	N/A	N/A	0.00306		
58	0.02500	N/A	N/A	N/A	0.00330		
59	0.03000	N/A	N/A	N/A	0.00355		
60	0.04000	N/A	N/A	N/A	0.00383		
61	0.06000	N/A	N/A	N/A	0.00413		
62	0.09000	N/A	N/A	N/A	0.00445		
63	0.09000	N/A	N/A	N/A	0.00481		
64	0.20000	N/A	N/A	N/A	0.00520		
65	0.28000	N/A	N/A	N/A	0.00562		
66	0.19000	N/A	N/A	N/A	0.00607		
67	0.19000	N/A	N/A	N/A	0.00658		
68	0.19000	N/A	N/A	N/A	0.00713		
69	0.19000	N/A	N/A	N/A	0.00775		
70	0.19000	N/A	N/A	N/A	0.00844		
71	0.19000	N/A	N/A	N/A	0.00920		
72	0.19000	N/A	N/A	N/A	0.01004		
73	0.19000	N/A	N/A	N/A	0.01098		
74	0.19000	N/A	N/A	N/A	0.01201		
75	1.00000	N/A	N/A	N/A	0.01315		

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**Table A-11**  
**Probability of Separation from Active Service for General Members**  
**Plan E – Female**

Age	Service Retirement	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.00000	N/A	N/A	N/A	0.00017	0	0.15000
19	0.00000	N/A	N/A	N/A	0.00017	1	0.08000
20	0.00000	N/A	N/A	N/A	0.00017	2	0.06000
21	0.00000	N/A	N/A	N/A	0.00016	3	0.04500
22	0.00000	N/A	N/A	N/A	0.00014	4	0.03500
23	0.00000	N/A	N/A	N/A	0.00013	5	0.03100
24	0.00000	N/A	N/A	N/A	0.00012	6	0.02700
25	0.00000	N/A	N/A	N/A	0.00012	7	0.02300
26	0.00000	N/A	N/A	N/A	0.00013	8	0.02200
27	0.00000	N/A	N/A	N/A	0.00014	9	0.02100
28	0.00000	N/A	N/A	N/A	0.00016	10	0.02000
29	0.00000	N/A	N/A	N/A	0.00017	11	0.01900
30	0.00000	N/A	N/A	N/A	0.00020	12	0.01800
31	0.00000	N/A	N/A	N/A	0.00021	13	0.01680
32	0.00000	N/A	N/A	N/A	0.00023	14	0.01560
33	0.00000	N/A	N/A	N/A	0.00025	15	0.01440
34	0.00000	N/A	N/A	N/A	0.00027	16	0.01320
35	0.00000	N/A	N/A	N/A	0.00030	17	0.01200
36	0.00000	N/A	N/A	N/A	0.00033	18	0.01160
37	0.00000	N/A	N/A	N/A	0.00036	19	0.01120
38	0.00000	N/A	N/A	N/A	0.00039	20	0.01080
39	0.00000	N/A	N/A	N/A	0.00043	21	0.01040
40	0.00000	N/A	N/A	N/A	0.00047	22	0.01000
41	0.00000	N/A	N/A	N/A	0.00052	23	0.01000
42	0.00000	N/A	N/A	N/A	0.00056	24	0.01000
43	0.00000	N/A	N/A	N/A	0.00061	25	0.01000
44	0.00000	N/A	N/A	N/A	0.00066	26	0.01000
45	0.00000	N/A	N/A	N/A	0.00073	27	0.01000
46	0.00000	N/A	N/A	N/A	0.00079	28	0.01000
47	0.00000	N/A	N/A	N/A	0.00086	29	0.01000
48	0.00000	N/A	N/A	N/A	0.00092	30 & Above	0.01000
49	0.00000	N/A	N/A	N/A	0.00100		
50	0.00000	N/A	N/A	N/A	0.00108		
51	0.00000	N/A	N/A	N/A	0.00117		
52	0.00000	N/A	N/A	N/A	0.00126		
53	0.00000	N/A	N/A	N/A	0.00137		
54	0.00000	N/A	N/A	N/A	0.00147		
55	0.02000	N/A	N/A	N/A	0.00160		
56	0.02000	N/A	N/A	N/A	0.00173		
57	0.02500	N/A	N/A	N/A	0.00187		
58	0.02500	N/A	N/A	N/A	0.00203		
59	0.03000	N/A	N/A	N/A	0.00221		
60	0.04000	N/A	N/A	N/A	0.00242		
61	0.06000	N/A	N/A	N/A	0.00264		
62	0.09000	N/A	N/A	N/A	0.00289		
63	0.09000	N/A	N/A	N/A	0.00317		
64	0.20000	N/A	N/A	N/A	0.00350		
65	0.28000	N/A	N/A	N/A	0.00385		
66	0.19000	N/A	N/A	N/A	0.00425		
67	0.19000	N/A	N/A	N/A	0.00471		
68	0.19000	N/A	N/A	N/A	0.00520		
69	0.19000	N/A	N/A	N/A	0.00575		
70	0.19000	N/A	N/A	N/A	0.00636		
71	0.19000	N/A	N/A	N/A	0.00703		
72	0.19000	N/A	N/A	N/A	0.00777		
73	0.19000	N/A	N/A	N/A	0.00859		
74	0.19000	N/A	N/A	N/A	0.00950		
75	1.00000	N/A	N/A	N/A	0.01050		



**Table A-12**  
**Probability of Separation from Active Service for Safety Members**  
**Plan A, B & C – Male**

Age	Service Retirement Plans A-B	Service Retirement Plan C	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.00000	0.00000	0.00200	0.00000	0.00010	0.00037	0	0.03500
19	0.00000	0.00000	0.00200	0.00000	0.00010	0.00040	1	0.02750
20	0.00000	0.00000	0.00200	0.00000	0.00010	0.00041	2	0.02000
21	0.00000	0.00000	0.00200	0.00000	0.00010	0.00041	3	0.01500
22	0.00000	0.00000	0.00200	0.00000	0.00010	0.00040	4	0.01200
23	0.00000	0.00000	0.00200	0.00000	0.00010	0.00039	5	0.01130
24	0.00000	0.00000	0.00200	0.00000	0.00010	0.00038	6	0.01070
25	0.00000	0.00000	0.00200	0.00000	0.00010	0.00037	7	0.01000
26	0.00000	0.00000	0.00200	0.00000	0.00010	0.00038	8	0.00920
27	0.00000	0.00000	0.00200	0.00000	0.00010	0.00039	9	0.00840
28	0.00000	0.00000	0.00200	0.00000	0.00010	0.00040	10	0.00760
29	0.00000	0.00000	0.00200	0.00000	0.00010	0.00041	11	0.00680
30	0.00000	0.00000	0.00200	0.00000	0.00010	0.00041	12	0.00600
31	0.00000	0.00000	0.00200	0.00000	0.00010	0.00042	13	0.00560
32	0.00000	0.00000	0.00200	0.00000	0.00010	0.00043	14	0.00520
33	0.00000	0.00000	0.00210	0.00000	0.00010	0.00044	15	0.00480
34	0.00000	0.00000	0.00220	0.00000	0.00010	0.00045	16	0.00440
35	0.00000	0.00000	0.00230	0.00000	0.00010	0.00047	17	0.00400
36	0.00000	0.00000	0.00240	0.00000	0.00010	0.00049	18	0.00360
37	0.00000	0.00000	0.00250	0.00000	0.00010	0.00050	19	0.00320
38	0.00000	0.00000	0.00260	0.00000	0.00010	0.00053	20	0.00280
39	0.00000	0.00000	0.00270	0.00000	0.00010	0.00056	21	0.00240
40	0.00750	0.00000	0.00280	0.00000	0.00010	0.00059	22	0.00200
41	0.00750	0.00000	0.00290	0.00000	0.00010	0.00062	23	0.00200
42	0.00750	0.00000	0.00300	0.00000	0.00010	0.00067	24	0.00200
43	0.00750	0.00000	0.00310	0.00000	0.00010	0.00071	25	0.00200
44	0.00750	0.00000	0.00320	0.00000	0.00010	0.00076	26	0.00200
45	0.00750	0.00000	0.00330	0.00000	0.00010	0.00082	27	0.00200
46	0.00750	0.00000	0.00340	0.00000	0.00010	0.00088	28	0.00200
47	0.00750	0.00000	0.00350	0.00000	0.00010	0.00095	29	0.00200
48	0.00750	0.00000	0.00400	0.00000	0.00010	0.00102	30 & Above	0.00000
49	0.00750	0.00000	0.00500	0.00000	0.00010	0.00111		
50	0.02000	0.02000	0.00750	0.00000	0.00010	0.00120		
51	0.02000	0.02000	0.00750	0.00000	0.00010	0.00129		
52	0.02000	0.02000	0.00750	0.00000	0.00010	0.00140		
53	0.03000	0.03000	0.02000	0.00000	0.00010	0.00151		
54	0.15000	0.10000	0.02000	0.00000	0.00010	0.00162		
55	0.26000	0.15000	0.07500	0.00000	0.00010	0.00175		
56	0.17000	0.15000	0.07500	0.00000	0.00010	0.00190		
57	0.17000	0.28000	0.10000	0.00000	0.00010	0.00205		
58	0.17000	0.17000	0.10000	0.00000	0.00010	0.00223		
59	0.27000	0.27000	0.10000	0.00000	0.00010	0.00243		
60	0.27000	0.27000	0.10000	0.00000	0.00010	0.00264		
61	0.25000	0.25000	0.05000	0.00000	0.00010	0.00288		
62	0.25000	0.25000	0.05000	0.00000	0.00010	0.00315		
63	0.25000	0.25000	0.05000	0.00000	0.00010	0.00344		
64	0.25000	0.25000	0.05000	0.00000	0.00010	0.00375		
65	1.00000	1.00000	0.00000	0.00000	0.00000	0.00410		

**Table A-13**  
**Probability of Separation from Active Service for Safety Members**  
**Plan A, B & C – Female**

Age	Service Retirement Plans A-B	Service Retirement Plan C	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.00000	0.00000	0.00300	0.00000	0.00010	0.00014	0	0.03500
19	0.00000	0.00000	0.00300	0.00000	0.00010	0.00015	1	0.02750
20	0.00000	0.00000	0.00300	0.00000	0.00010	0.00016	2	0.02000
21	0.00000	0.00000	0.00300	0.00000	0.00010	0.00017	3	0.01500
22	0.00000	0.00000	0.00300	0.00000	0.00010	0.00017	4	0.01200
23	0.00000	0.00000	0.00300	0.00000	0.00010	0.00018	5	0.01130
24	0.00000	0.00000	0.00300	0.00000	0.00010	0.00019	6	0.01070
25	0.00000	0.00000	0.00300	0.00000	0.00010	0.00020	7	0.01000
26	0.00000	0.00000	0.00300	0.00000	0.00010	0.00021	8	0.00920
27	0.00000	0.00000	0.00300	0.00000	0.00010	0.00022	9	0.00840
28	0.00000	0.00000	0.00340	0.00000	0.00010	0.00024	10	0.00760
29	0.00000	0.00000	0.00380	0.00000	0.00010	0.00025	11	0.00680
30	0.00000	0.00000	0.00420	0.00000	0.00010	0.00027	12	0.00600
31	0.00000	0.00000	0.00460	0.00000	0.00010	0.00028	13	0.00560
32	0.00000	0.00000	0.00500	0.00000	0.00010	0.00030	14	0.00520
33	0.00000	0.00000	0.00560	0.00000	0.00010	0.00032	15	0.00480
34	0.00000	0.00000	0.00620	0.00000	0.00010	0.00034	16	0.00440
35	0.00000	0.00000	0.00680	0.00000	0.00010	0.00036	17	0.00400
36	0.00000	0.00000	0.00740	0.00000	0.00010	0.00038	18	0.00360
37	0.00000	0.00000	0.00800	0.00000	0.00010	0.00041	19	0.00320
38	0.00000	0.00000	0.00840	0.00000	0.00010	0.00043	20	0.00280
39	0.00000	0.00000	0.00880	0.00000	0.00010	0.00046	21	0.00240
40	0.00750	0.00000	0.00920	0.00000	0.00010	0.00049	22	0.00200
41	0.00750	0.00000	0.00960	0.00000	0.00010	0.00052	23	0.00200
42	0.00750	0.00000	0.01000	0.00000	0.00010	0.00056	24	0.00200
43	0.00750	0.00000	0.01040	0.00000	0.00010	0.00059	25	0.00200
44	0.00750	0.00000	0.01080	0.00000	0.00010	0.00063	26	0.00200
45	0.00750	0.00000	0.01120	0.00000	0.00010	0.00067	27	0.00200
46	0.00750	0.00000	0.01160	0.00000	0.00010	0.00071	28	0.00200
47	0.00750	0.00000	0.01200	0.00000	0.00010	0.00076	29	0.00200
48	0.00750	0.00000	0.01300	0.00000	0.00010	0.00080	30 & Above	0.00000
49	0.00750	0.00000	0.01500	0.00000	0.00010	0.00085		
50	0.02000	0.02000	0.01800	0.00000	0.00010	0.00091		
51	0.02000	0.02000	0.02000	0.00000	0.00010	0.00097		
52	0.02000	0.02000	0.02400	0.00000	0.00010	0.00103		
53	0.03000	0.03000	0.02800	0.00000	0.00010	0.00109		
54	0.15000	0.10000	0.03200	0.00000	0.00010	0.00116		
55	0.26000	0.15000	0.11000	0.00000	0.00010	0.00123		
56	0.17000	0.15000	0.06000	0.00000	0.00010	0.00131		
57	0.17000	0.28000	0.06000	0.00000	0.00010	0.00140		
58	0.17000	0.17000	0.06000	0.00000	0.00010	0.00148		
59	0.27000	0.27000	0.06000	0.00000	0.00010	0.00158		
60	0.27000	0.27000	0.06000	0.00000	0.00010	0.00168		
61	0.25000	0.25000	0.06000	0.00000	0.00010	0.00178		
62	0.25000	0.25000	0.06000	0.00000	0.00010	0.00190		
63	0.25000	0.25000	0.06000	0.00000	0.00010	0.00202		
64	0.25000	0.25000	0.06000	0.00000	0.00010	0.00215		
65	1.00000	1.00000	0.00000	0.00000	0.00000	0.00228		

## Appendix B Summary of Plan Provisions

All actuarial calculations are based on our understanding of the statutes governing LACERA as contained in the County Employees Retirement Law (CERL) of 1937 and the California Public Employees' Pension Reform Act of 2013 (PEPRA). The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the Government Code Section. This summary does not attempt to cover all the detailed provisions of the law.

<b>MEMBERSHIP</b>	<b>Government Code Section</b>
Permanent employees of Los Angeles County (County) and participating districts who work $\frac{3}{4}$ time or more are eligible for membership in LACERA.	(31551, 31552, Bylaws)
Employees eligible for safety membership (law enforcement, firefighting and specific lifeguards) become safety members on the first day of the month after date of hire. Employees who become members on or after January 1, 2013, will enter into Safety Plan C.	(31558)
All other employees become general members on the first day of the month after date of hire or the first day of the month after they make an election of either Plan D or Plan E, depending on the law in effect at that time. Employees who become members on or after January 1, 2013 will enter into General Plan G.	(31493, 31493.5, 31493.6, Bylaws)
Elective officers become members on the first day of the month after filing a declaration with the Board of Retirement (Board).	(31553, 31562)
General members in Plan E may transfer all their Plan E service credit to Plan D during an approved transfer period by making the required contributions. Transferred members relinquish, waive, and forfeit any and all vested or accrued benefits available under any other retirement plan and are entitled only to the benefits of Plan D.	(31494.1, 31494.3)

**RETIREMENT PLANS**

The County has established nine defined benefit plans. The following outlines the dates these plans were available, based on a member’s date of entry into LACERA:

**Safety Member Plans:**

- Plan A:** Inception to August 1977
- Plan B:** September 1977 through December 2012
- Plan C:** January 2013 to present (7522.02)

**General Member Plans:**

- Plan A:** Inception through August 1977
- Plan B:** September 1977 through September 1978
- Plan C:** October 1978 through May 1979
- Plan D:** June 1979 through December 2012
- Plan E:** February 1982 through December 2012 (31487, 31496)
- Plan G:** January 2013 to present (7522.02)

NOTE: After review of a new member’s account, a member with prior membership may be enrolled into one of the pre-PEPRA plans.

**MEMBER CONTRIBUTIONS**

**Plans A, B, D and General Plan C members**

- Contributions are based on the entry age and class of each member and are required of all members in Plans A, B, C, and D. Current member rates are shown in Appendix D. Section 5 provides additional detail on how these rates are calculated. (31620)
- Contributions cease when general members are credited with 30 years of service in a contributory plan, provided they were members of LACERA or a reciprocal plan on March 7, 1973, and continuously thereafter. All safety members are eligible for the 30-year cessation of contributions. (31625.2, 31836.1)
- Interest is credited to contributions semiannually on June 30 and December 31 at an interest rate set by the Board of Investments on amounts that have been on deposit for at least six months. (31591, 31700)
- In addition to the normal contributions, members pay one-half of the cost of their plan’s COLA. This is discussed further in Section 5 of this report. (31873)

**General Plan G and Safety Plan C members**

- Members contribute 50% of the aggregate Normal Cost rate for their Plan. (7522.30)

**EMPLOYER CONTRIBUTIONS**

The employer (County or District) contributes to the retirement fund a percent of the total compensation provided for all members based on an actuarial valuation and recommendation of the actuary and the Board of Investments. (31453, 31454 31581)

**SERVICE RETIREMENT ALLOWANCE**

**Eligibility**

- Plans A-B: Safety members** (31662.4, 31662.6, 31663.25)  
 Age 50 with 10 years of County service;  
 Any age with 20 years of service; or
- Plans A-D: General members** (31672)  
 Age 50 with 10 years of County service;  
 Any age with 30 years of service; or  
 Age 70 and actively employed, regardless of service.
- Plan C: Safety members** (7522.25(d))  
 Age 50 with 5 years of service.
- Plan E: General members** (31491, 31491.3)  
 Age 65 with 10 years of service.  
 A reduced benefit is also payable at age 55 with 10 years of service.
- Plan G: General members** (7522.20(a))  
 Age 52 with 5 years of service.

**Final Compensation**

- General Plans A-D and Safety Plans A-B** (31462.3)  
 Average of the member's highest monthly pensionable earnings during any 12-consecutive-month period.
- Plan E:** Average of the member's highest monthly pensionable earnings during any three 12-consecutive month periods. (31488)
- General Plan G and Safety Plan C** (7522.32)  
 Average of the member's highest monthly pensionable earnings during any 36-consecutive month period.

The amount of compensation that is taken into account in computing benefits payable to any person who first becomes a member on or after July 1, 1996, shall not exceed the dollar limitations in Section 401(a)(17) of Title 26 of the US Code. (31671)

The amount of compensation taken into account for General Plan G and Safety Plan C members is limited to \$151,549 for 2020. The amount of compensation taken into account shall be adjusted based on changes in the Consumer Price Index for All Urban Consumers: U.S. City Average. Adjustments shall be effective annually on January 1. (7522.10)

**SERVICE RETIREMENT ALLOWANCE (continued)**

**Monthly Allowance**

<b>Plans A-B:</b>	<b>Safety members</b> 1/50 x Final Compensation x Safety age factor x Years of service. (The Safety Plan A and Safety Plan B age factors are the same.)	(31664)
<b>Plans A-D:</b>	<b>General members</b> 1/60 x Final Compensation x a Plan specific age factor x years of service. (The General Plan C and General D age factors are the same.)	(31676.1) (31676.11) (31676.14) (7522.25(d))
<b>Plan C:</b>	<b>Safety members</b> Final Compensation x Safety Plan percentage x Years of service.	
<b>Plan E:</b>	<b>General members [(a)+(b)-(c)] x d where:</b> (a) 2% x Final Compensation x (Years of Service (up to 35 years), plus (b) 1 % x Final Compensation x Years of Service in excess of 35 (up to 10) (c) Estimated Primary Insurance Amount (PIA) x Years of Covered Service (up to 35) divided by 35. (d) Early Retirement Adjustment Factor The PIA is calculated based on certain assumptions specified by statute, and an assumed Social Security retirement age of 62. If retirement occurs prior to age 65, benefit amount is adjusted by an Early Retirement Adjustment Factor.	(31491, 31491.3 (b)&(c))
<b>Plan G:</b>	<b>General members</b> Final Compensation x General Plan percentage x Years of Service.	(7522.20(a))
 <b>Social Security Integration</b>		
<b>Plans A-C:</b>	<b>General Members</b> For County service covered by Social Security prior to January 1, 1983, the 1/60 factor is replaced by 1/90 for the first \$350 of compensation.	(31808)
<b>Plan D:</b>	The 1/90 factor is applied to the first \$1,050 of compensation.	

**SERVICE RETIREMENT ALLOWANCE** (continued)

**Sample Plan Age Factors**

Plan	Age 50	Age 55	Age 60	Age 65 & Up	
General A	0.8850	1.1686	1.4638	1.5668	(31676.14)
General B	0.7454	1.0000	1.3093	1.5668	(31676.11)
General C&D	0.7091	0.8954	1.1500	1.4593	(31676.1)
General E	N/A	0.3748	0.6009	1.0000	(31491.3(a))
Safety A&B	1.0000	1.3099	1.3099	1.3099	(31664)

**Sample Plan Age Percentages**

Plan	Age 50	Age 55	Age 60	Age 65 & Up	
General G	N/A	1.30%	1.80%	2.30%*	(7522.20(a))
Safety C	2.00%	2.50%	2.70%	2.70%	(7522.25(d))

\*Maximum percentage for General Plan G is 2.50% at age 67.

**Maximum Allowance**

<b>Plans A-D, G:</b>	Allowance may not exceed 100% of final compensation.	(31676.1, 31676.11, 31676.14)
<b>Plan E:</b>	The sum of the normal retirement allowance and the estimated PIA cannot exceed 70% of Final Compensation for a member with 35 or less years of service, and cannot exceed 80% of Final Compensation if service exceeds 35 years.	(31491)

**Unmodified Retirement Allowance (Normal Form)**

<b>Plans A-D, G:</b>	Life Annuity payable to retired member with 65% continuance to an eligible survivor (or eligible children).	(31760.12, 31785.4)
<b>Plan E:</b>	Life Annuity payable to retired member with 55% continuance to an eligible survivor (or eligible children).	(31492.1)
Eligible survivor includes certain domestic partners.		(31780.2)

**SERVICE RETIREMENT ALLOWANCE** (continued)

**Optional Retirement Allowance**

A member may elect to have the actuarial equivalent of the service or disability retirement allowance applied to a lesser retirement allowance during the retired member's life in order to provide an optional survivor allowance. (31760)

**Unmodified Plus:** Members with eligible survivors may elect a higher percent than the standard unmodified continuance, up to 100%. The benefit is actuarially reduced from the unmodified amount. The elected percent of the member's reduced allowance is payable to the eligible survivor. (31760.5)

**Option 1:** Member's allowance is reduced to pay a cash refund of any unpaid annuity payments (up to the amount of the member's contributions at retirement) to the member's estate or to a beneficiary having an insurable interest in the life of the member. (31761)

**Option 2:** 100% of member's reduced allowance is payable to a beneficiary having an insurable interest in the life of the member. (31762)

**Option 3:** 50% of member's reduced allowance is payable to a beneficiary having an insurable interest in the life of the member. (31763)

**Option 4:** Other % of member's reduced allowance is payable to a beneficiary(ies) having an insurable interest in the life of the member. (31764)

A member may not revoke and name another beneficiary if the member elects Option 2, 3, or 4. (31782)

**Pension Advance Option:** The Pension Advance Option is available to members who are fully insured under Social Security for the purpose of coordinating a member's retirement allowance with benefits receivable from Social Security. It is not available to disability retirees or members who elect Option 2, 3, or 4. The allowance is increased prior to age 62 and then reduced after 62 by amounts which have equivalent actuarial values. The automatic 65% continuance for eligible spouses of members who elect the Pension Advance Option is based on the unmodified allowance the member would have received if the member had not elected the option. (31810, 31811)

**All Allowances** (31452.7, 31600)

All allowances are made on a pro-rata basis (based on the number of days in that month) if not in effect for the entire month of retirement. For deaths that occur mid-month, the full month's payment is made.



**SERVICE-CONNECTED DISABILITY RETIREMENT ALLOWANCE**

**Eligibility**

<b>Plans A-D, G:</b>	Any age or years of service; disability must result from occupational injury or disease, and member must be permanently incapacitated for the performance of duty.	(31720)
<b>Plan E:</b>	Not available under Plan E.	(31487)

**Monthly Allowance**

Greater of (1) 50% of final compensation, and (2) the service retirement allowance, if eligible to retire. (31727.4)

**Normal Form Of Payment**

Life Annuity with 100% continuance to a surviving spouse (or eligible children). (31786)

**NONSERVICE-CONNECTED DISABILITY RETIREMENT ALLOWANCE**

**Eligibility**

<b>Plans A-D, G:</b>	Any age with five years of service, and permanently incapacitated for the performance of duty.	(31720)
<b>Plan E:</b>	Not available under Plan E.	(31487)

**Monthly Allowance**

The monthly allowance is equal to a service retirement allowance if a General member is age 65 or a Safety member is age 55; otherwise the monthly allowance is the greater of that to which the member would be entitled as service retirement or the sum of (a) or (b) where: (31726, 31726.5)

<b>General Members:</b>	(a) 90% of 1/60 of Final Compensation x years of service, if member must rely on service in another retirement plan in order to be eligible to retire, or allowance exceeds 1/3 of final compensation.	(31727(a))
	(b) 90% of 1/60 of Final Compensation x years of service projected to age 65, not to exceed 1/3 of Final Compensation.	(31727(b))
<b>Safety Members:</b>	1/60 is replaced by 1/50 and age 65 is replaced by age 55 in (a) and (b) above.	(31727.2)

**Normal Form of Payment**

Life Annuity with 65% continuance to a surviving spouse (or eligible children). (31760.1,  
31760.12, 31785,  
31785.4)

**SERVICE-CONNECTED PRE-RETIREMENT DEATH BENEFITS**

**Eligibility**

<b>Plans A-D, G:</b>	Active members who die in service as a result of injury or disease arising out of and in the course of employment.	(31787)
<b>Plan E:</b>	Not available under Plan E.	(31487)

**Monthly Allowance** (31787)

A monthly allowance payable to an eligible survivor (or eligible children) equal to the retirement allowance the deceased member would have received under a service-connected disability retirement.

**Optional Combined Benefit** (31781.3)

In lieu of the monthly allowance above, a surviving spouse may elect:  
 (a) A lump sum equal to 1/12 of the compensation earned in the preceding 12 months x years of service (benefit not to exceed 50% of the 12 months' compensation), plus  
 (b) A monthly payment equal to 50% of the member's Final Compensation, reduced by a monthly amount, which is the actuarial equivalent of (a) above based on the age of surviving spouse.

**Death Benefit (Lump Sum)** (31781)

The member's accumulated contributions with interest, plus 1/12 of the compensation earned in the preceding 12 months x years of service (benefit not to exceed 50% of the 12 months' compensation).

**Additional Allowance for Children** (31787.5)

25% of death allowance (whether or not the monthly allowance or combined benefit is chosen) for one child, 40% for two children, and 50% for three or more children.

**Additional Amount for Spouse of Safety Member** (31787.6)

A surviving spouse of a safety member is also entitled to receive a lump-sum death benefit equal to 12 x monthly rate of compensation at the time of member's death in addition to all other benefits.

**Note:** For valuation purposes, an unmarried member is assumed to take the lump sum benefit. A married member is assumed to take the monthly allowance or the lump sum, whichever is more valuable.

**NONSERVICE-CONNECTED PRE-RETIREMENT DEATH BENEFITS**

**Eligibility**

<b>Plans A-D, G:</b>	Active members who die while in service or while physically or mentally incapacitated for the performance of duty.	(31780)
<b>Plan E:</b>	Not available under Plan E.	(31487)

**Death Benefit (Lump Sum)** (31781)

The member's accumulated contributions with interest, plus 1/12 of the compensation earned in preceding 12 months x the number of completed years of service (benefit not to exceed 50% of the 12 months' compensation).

**Optional Death Benefit**

In lieu of the lump-sum death benefit, the following several optional death benefits are available to provide flexibility to survivors.

**First Optional Death Benefit** (31781.1,  
31781.12)

If a member who would have been entitled to a non-service-connected disability retirement allowance dies prior to retirement as a result of such disability, the surviving spouse (or eligible children) may elect to receive an optional death allowance equal to 65% of the monthly retirement allowance to which the member would have been entitled as of the date of death.

**Second Optional Death Benefit** (31781.2,  
31765.2)

If a member dies prior to reaching the minimum retirement age but has 10 or more years of County service, a surviving spouse (or eligible children) may elect to leave the amount of the death benefit on deposit until the earliest date the member could have retired and at that time receive the allowance provided for in Section 31765 (an Option 3 benefit) or 31765.2 (a 65% continuance).

**Third Optional Death Benefit**

A surviving spouse of a member who dies after five years of County service may elect a combined benefit equal to:

- (a) A lump sum equal to 1/12 of the compensation earnable in the preceding 12 months x the number of completed years of service (benefit not to exceed 50% of the 12 months' compensation), plus (31781.3)
- (b) A monthly payment equal to 65% of the monthly retirement allowance to which the member would have been entitled if the member retired or could have retired for a non-service-connected disability as of the date of death, reduced by a monthly amount which is the actuarial equivalent of (a) above based on the age of surviving spouse. (31781.1,  
31781.12)

**Fourth Optional Death Benefit**

If a member dies while eligible for a service retirement and the surviving spouse is designated as beneficiary, the spouse (or eligible children) may elect to receive 65% of the monthly retirement allowance to which the member would have been entitled as of the date of death. (31765.1, 31765.2)

**Fifth Optional Death Benefit**

If a member dies while eligible for a service retirement and the surviving spouse is designated as beneficiary and survives the member by not less than 30 days, the spouse (or eligible children) may elect to receive the same retirement allowance as the spouse would have received had the member retired on the date of death and selected Option 3. (31765)

**Note:** For valuation purposes, an unmarried member is assumed to take the lump sum benefit. A married member is assumed to take the first optional death benefit or the lump sum, whichever is more valuable.

**POSTRETIREMENT DEATH/BURIAL BENEFIT**

<b>Plans A-E:</b>	A one-time lump-sum benefit of \$5,000 is payable to the estate or to the beneficiary designated by the member upon the death of any member while receiving a retirement allowance. This is in addition to any other death or survivor benefits. The amount is currently paid by the County based on agreement with LACERA. It is not included for valuation purposes.	(31789.3)
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**DEFERRED RETIREMENT ALLOWANCE**

**Eligibility**

<b>Plans A, B, D and General Plan C:</b>		
	Five years of county or reciprocal service. Member contributions must be left on deposit.	(31700)
<b>Safety Plan C:</b>	Age 50 with 5 years of service.	(7522.25(d))
<b>Plan E:</b>	Age 55 with 10 years of service.	(31491)
<b>Plan G:</b>	Age 52 with 5 years of service.	(7522.20(a))

**DEFERRED RETIREMENT ALLOWANCE** (continued)

**Monthly Allowance**

<b>Plans A-D, G:</b>	Same as service retirement allowance; payable any time after the member would have been eligible for service retirement.	(31703, 31704, 31705)
	If a former member dies before the effective date of the deferred retirement allowance, the member's accumulated contributions are paid to the estate or to the named beneficiary.	(31702)
<b>Plan E:</b>	Same as service retirement allowance at normal retirement age 65 or in an actuarially equivalent reduced amount at early retirement, after age 55.	(31491)

**TRANSFERS BETWEEN PLAN D AND PLAN E**

Members in Plan D may transfer to Plan E on a prospective basis. Members in Plan E may transfer to Plan D on a prospective basis.	(31494.2, 31494.5)
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**RECIPROCITY**

<b>All Plans:</b>	Reciprocal benefits are may be granted to members who are entitled to retirement benefits from two or more retirement plans established under the CERL or from a County retirement plan and the California Public Employees' Retirement System (CalPERS). Reciprocity also applies to the members of the State Teachers' Retirement System Defined Benefit Plan.	(31830, 31840.4, 31840.8)
	Final Compensation may be based on service with CalPERS or another County retirement plan, if greater.	(31835)
	Vested former members are eligible for disability and death benefits from LACERA, if disabled while a member of CalPERS or another County retirement plan, but combined benefits are limited.	(31837, 31838, 31838.5, 31839)

**TRANSFER FROM CALPERS**

Whenever firefighting or law enforcement functions performed by a public agency or the state subject to the California Public Employees Retirement Law are transferred to the County, fire authority, or district, employees performing those functions become members of LACERA. LACERA and CalPERS may enter into an agreement whereby the members' service credit plus the members' and the cities' or states' retirement contributions are transferred from CalPERS to LACERA. (31657)

**COST-OF-LIVING INCREASES**

Cost-of-living increases (or decreases) are applied to all retirement allowances (service and disability), optional death allowances, and annual death allowances effective April 1, based on changes in the Consumer Price Index (CPI) from the previous January 1 to the current January 1, to the nearest ½ of 1%. (31870, 31870.1)

**Plan A:** Members (and their beneficiaries) are limited to a maximum 3% cost-of-living increase. (31870.1)

**Plans B-D, G:** Members (and their beneficiaries) are limited to a maximum 2% cost-of-living increase. (31870)

When the CPI exceeds 2% or 3%, the difference between the actual CPI and the maximum cost-of-living increase given in any year is credited to the COLA Accumulation. It may be used in future years to provide cost-of-living increases when the CPI falls below 2% or 3%, depending on the retirement plan.

**Plan E:** Members (and their beneficiaries) are limited to a maximum 2% cost-of-living increase. The 2% is pro-rated based on service earned after June 4, 2002. "Elective COLA" increases for service earned prior to June 4, 2002 may be purchased by the member. (31495.5)

**STAR PROGRAM**

Contributory plan members who have a COLA Accumulation of more than 20% resulting from CPI increases that exceeded the maximum cost-of-living increases that could be granted are eligible for a supplemental cost-of-living increase effective January 1 known as the Supplemental Targeted Adjustment for Retirees Cost-of-Living Adjustment (STAR COLA). These benefits are not evaluated in this report, or as part of the actuarially required funding amount, unless they have been vested by the Board of Retirement. (31874.3(b))

## Appendix C Valuation Data and Schedules

On the following table, Exhibit C-1, we present a summary of LACERA membership at June 30, 2020 for active members. Similar information is shown in Exhibit C-2 Retired for retired members and C-2 Former for vested former members.

Note that salary amounts shown are the prior year annual pensionable earnings for those members of plans with a one-year final compensation period. For plans with a three-year final compensation period, the monthly rate of pay at June 2020 is shown.

Additional statistical data on both active and retired members is shown in the following tables. Additional detailed summaries are supplied to LACERA staff in a supplementary report.

Exhibit C-3: Age Distribution of Active Members

Exhibit C-4: Age, Service, Compensation Distribution of Active Members

Exhibit C-5: Age, Retirement Year, Benefit Amount and Plan Distribution of Retired Members Exhibits C-4 and C-5 are shown for all plans combined as well as for each plan separately.

Data on LACERA membership as of June 30, 2020 was supplied to us by LACERA staff. Based on our review of this data and discussions with LACERA staff, all retiree and beneficiary records were included in our valuation.

All records for active and former members supplied by LACERA were included in the valuation.

**Exhibit C-1**  
**LACERA Membership – Active Members as of June 30, 2020**

	Sex	Vested	NonVested	Total Number	Annual Salary	Average Age	Average Monthly Salary	Average Service
<b>General Members</b>								
Plan A	M	32	-	32	\$ 4,463,292	74.0	\$ 11,623	42.4
	F	60	-	60	5,465,364	70.7	7,591	39.7
Plan B	M	5	-	5	502,884	68.6	8,381	33.5
	F	17	-	17	1,848,120	66.2	9,059	37.0
Plan C	M	6	-	6	481,992	65.3	6,694	40.7
	F	25	-	25	2,385,960	66.4	7,953	39.5
Plan D	M	12,889	102	12,991	1,295,254,908	51.1	8,309	19.0
	F	26,830	177	27,007	2,439,863,640	50.7	7,528	19.1
Plan E	M	4,910	276	5,186	479,045,364	55.3	7,698	22.5
	F	10,722	442	11,164	850,452,048	55.3	6,348	23.5
Plan G	M	2,803	7,368	10,171	749,779,716	38.9	6,143	3.5
	F	5,297	14,969	20,266	1,356,559,104	38.0	5,578	3.4
Total		63,596	23,334	86,930	\$ 7,186,102,392	47.3	\$ 6,889	14.4
<b>Safety Members</b>								
Plan A	M	2	-	2	\$ 301,068	65.5	\$ 12,545	33.3
	F	-	-	-	-	N/A	N/A	N/A
Plan B	M	7,762	66	7,828	1,043,456,160	46.2	11,108	19.6
	F	1,343	11	1,354	172,150,896	44.1	10,595	17.6
Plan C	M	632	2,798	3,430	320,921,580	31.2	7,797	3.0
	F	138	426	564	53,720,244	30.5	7,937	3.1
Total		9,877	3,301	13,178	\$ 1,590,549,948	41.4	\$ 10,058	14.4
<b>Grand Total</b>		73,473	26,635	100,108	\$ 8,776,652,340	46.5	\$ 7,306	14.4



**Exhibit C-2**  
**Retired LACERA Membership – Retired Members as of June 30, 2020**

	<b>Sex</b>	<b>Number</b>	<b>Annual Allowance</b>	<b>Average Age</b>	<b>Average Monthly Benefit</b>
<b>General Members</b>					
Plan A	M	7,270	\$ 515,906,207	80.2	\$ 5,914
	F	12,917	657,810,337	80.0	4,244
Plan B	M	223	15,162,273	74.9	5,666
	F	524	27,708,828	74.8	4,407
Plan C	M	151	8,273,105	73.8	4,566
	F	344	15,891,333	74.3	3,850
Plan D	M	6,434	292,765,582	68.8	3,792
	F	11,947	478,198,582	68.8	3,336
Plan E	M	4,765	154,001,822	72.5	2,693
	F	10,052	269,373,900	72.2	2,233
Plan G	M	30	659,229	67.4	1,831
	F	36	436,336	63.1	1,010
<b>Total</b>		<b>54,693</b>	<b>\$ 2,436,187,534</b>	<b>74.0</b>	<b>\$ 3,712</b>
<b>Safety Members</b>					
Plan A	M	4,616	\$ 487,488,772	76.9	\$ 8,801
	F	2,025	147,861,702	78.4	6,085
Plan B	M	5,462	546,492,063	60.7	8,338
	F	1,207	87,505,008	58.0	6,041
Plan C	M	7	597,044	57.0	7,108
	F	2	70,228	38.5	2,926
<b>Total</b>		<b>13,319</b>	<b>\$ 1,270,014,817</b>	<b>68.8</b>	<b>\$ 7,946</b>
<b>Grand Total</b>		<b>68,012</b>	<b>\$ 3,706,202,351</b>	<b>73.0</b>	<b>\$ 4,541</b>

**Exhibit C-2**  
**Former LACERA Membership – Vested Former Members as of June 30, 2020<sup>(1)</sup>**  
**Subtotaled by Plan and Retirement Type**

	Sex	Number	Average Age
<b><i>General Members</i></b>			
Plan A	M	20	73.9
	F	38	72.3
Plan B	M	3	72.3
	F	9	70.6
Plan C	M	5	67.0
	F	11	65.2
Plan D	M	2,534	49.4
	F	5,316	48.6
Plan E	M	1,017	57.2
	F	2,215	57.0
Plan G	M	1,199	37.9
	F	2,760	37.2
Total		15,127	47.7
<b><i>Safety Members</i></b>			
Plan A	M	4	68.0
	F	-	-
Plan B	M	682	44.3
	F	129	44.5
Plan C	M	199	31.9
	F	27	31.1
Total		1,041	41.7
<b><i>Grand Total</i></b>		16,168	47.3

1. Includes non-vested former members who still have member contributions with LACERA

**Exhibit C-2a**  
**LACERA Membership – Retired Members as of June 30, 2020**  
**Subtotaled by Plan and Retirement Type**

<u>Plan</u>	<u>Retirement Type</u>	<u>Number</u>	<u>Annual Benefits in Thousands</u>	<u>Average Monthly Benefit</u>
<b>General Plans:</b>				
<b>Plan A</b>				
	Healthy	14,384	\$ 950,852	\$ 5,509
	Disabled	1,431	60,612	3,530
	Beneficiaries	<u>4,372</u>	<u>162,253</u>	<u>3,093</u>
	Total	20,187	\$ 1,173,717	\$ 4,845
<b>Plan B</b>				
	Healthy	621	\$ 38,314	\$ 5,141
	Disabled	57	2,121	3,101
	Beneficiaries	<u>69</u>	<u>2,436</u>	<u>2,942</u>
	Total	747	\$ 42,871	\$ 4,783
<b>Plan C</b>				
	Healthy	376	\$ 20,598	\$ 4,565
	Disabled	49	1,674	2,847
	Beneficiaries	<u>70</u>	<u>1,893</u>	<u>2,253</u>
	Total	495	\$ 24,165	\$ 4,068
<b>Plan D</b>				
	Healthy	14,668	\$ 658,871	\$ 3,743
	Disabled	2,155	75,801	2,931
	Beneficiaries	<u>1,558</u>	<u>36,292</u>	<u>1,941</u>
	Total	18,381	\$ 770,964	\$ 3,495
<b>Plan E</b>				
	Healthy	13,536	\$ 404,773	\$ 2,492
	Disabled	N/A	N/A	N/A
	Beneficiaries	<u>1,281</u>	<u>18,603</u>	<u>1,210</u>
	Total	14,817	\$ 423,376	\$ 2,381
<b>Plan G</b>				
	Healthy	57	\$ 935	\$ 1,367
	Disabled	3	104	2,890
	Beneficiaries	<u>6</u>	<u>56</u>	<u>782</u>
	Total	66	\$ 1,095	\$ 1,383
<b>Safety Plans:</b>				
<b>Plan A</b>				
	Healthy	2,146	\$ 237,932	\$ 9,239
	Disabled	2,888	285,300	8,232
	Beneficiaries	<u>1,607</u>	<u>112,118</u>	<u>5,814</u>
	Total	6,641	\$ 635,350	\$ 7,973
<b>Plan B</b>				
	Healthy	2,834	\$ 295,033	\$ 8,675
	Disabled	3,519	318,946	7,553
	Beneficiaries	<u>316</u>	<u>20,018</u>	<u>5,279</u>
	Total	6,669	\$ 633,997	\$ 7,922
<b>Plan C</b>				
	Healthy	6	\$ 562	\$ 7,809
	Disabled	3	105	2,917
	Beneficiaries	<u>0</u>	<u>0</u>	<u>N/A</u>
	Total	9	\$ 667	\$ 6,178
<b>Grand Totals</b>		68,012	3,706,202	4,541

**Exhibit C-2b**  
**LACERA Membership – Retired Members as of June 30, 2020**  
**Subtotaled by Retirement Type and Plan**

<u>Type</u>	<u>Plan</u>	<u>Number</u>	<u>Annual Benefits in Thousands</u>	<u>Average Monthly Benefit</u>
<b>Healthy Retirees</b>				
	General A	14,384	\$ 950,852	\$ 5,509
	General B	621	38,314	5,141
	General C	376	20,598	4,565
	General D	14,668	658,871	3,743
	General E	13,536	404,773	2,492
	General G	57	935	1,367
	Safety A	2,146	237,932	9,239
	Safety B	2,834	295,033	8,675
	Safety C	6	562	7,809
	<b>Total</b>	<b>48,628</b>	<b>\$ 2,607,870</b>	<b>\$ 4,469</b>
<b>Disabled Retirees</b>				
	General A	1,431	\$ 60,612	\$ 3,530
	General B	57	2,121	3,101
	General C	49	1,674	2,847
	General D	2,155	75,801	2,931
	General E	N/A	N/A	N/A
	General G	3	104	2,890
	Safety A	2,888	285,300	8,232
	Safety B	3,519	318,946	7,553
	Safety C	3	105	2,917
	<b>Total</b>	<b>10,105</b>	<b>\$ 744,663</b>	<b>\$ 6,141</b>
<b>Beneficiaries</b>				
	General A	4,372	\$ 162,253	\$ 3,093
	General B	69	2,436	2,942
	General C	70	1,893	2,253
	General D	1,558	36,292	1,941
	General E	1,281	18,603	1,210
	General G	6	56	782
	Safety A	1,607	112,118	5,814
	Safety B	316	20,018	5,279
	Safety C	0	0	N/A
	<b>Total</b>	<b>9,279</b>	<b>\$ 353,669</b>	<b>\$ 3,176</b>
<b>Grand Totals</b>		<b>68,012</b>	<b>\$ 3,706,202</b>	<b>\$ 4,541</b>

**Exhibit C-3  
 Age Distribution of Active Members as of June 30, 2020**

	Age Groups						Total
	0-29	30-39	40-49	50-59	60-69	70+	
<b>General Plans:</b>							
Plan A							
Male	-	-	-	-	8	24	32
Female	-	-	-	-	33	27	60
Plan B							
Male	-	-	-	-	3	2	5
Female	-	-	-	-	14	3	17
Plan C							
Male	-	-	-	-	6	-	6
Female	-	-	-	1	18	6	25
Plan D							
Male	15	1,536	4,118	4,738	2,291	293	12,991
Female	9	3,287	9,015	9,712	4,482	502	27,007
Plan E							
Male	-	343	1,129	1,836	1,559	319	5,186
Female	2	652	2,185	4,388	3,458	479	11,164
Plan G							
Male	1,624	4,613	2,274	1,183	447	30	10,171
Female	3,487	9,675	4,215	2,192	664	33	20,266
<b>Safety Plans:</b>							
Plan A							
Male	-	-	-	-	2	-	2
Female	-	-	-	-	-	-	-
Plan B							
Male	34	1,721	3,029	2,872	169	3	7,828
Female	8	395	597	340	13	1	1,354
Plan C							
Male	1,548	1,574	244	58	6	-	3,430
Female	290	232	34	8	-	-	564
<b>Grand Totals:</b>	<u>7,017</u>	<u>24,028</u>	<u>26,840</u>	<u>27,328</u>	<u>13,173</u>	<u>1,722</u>	<u>100,108</u>

**Exhibit C-4**  
**Age and Service Distribution of Active Members by Count**  
**and Average Compensation as of June 30, 2020**  
**All Plans**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	531	252	114	50	15	1	-	-	-	-	-	-	963
25-29	1,517	1,302	1,153	944	618	514	6	-	-	-	-	-	6,054
30-34	1,317	1,361	1,346	1,542	1,403	3,344	846	15	-	-	-	-	11,174
35-39	805	831	976	978	1,044	3,313	4,125	739	43	-	-	-	12,854
40-44	485	521	624	643	578	2,082	4,180	2,905	1,148	73	1	-	13,240
45-49	337	359	377	437	444	1,464	2,875	2,919	3,330	946	108	4	13,600
50-54	252	256	303	300	300	1,043	2,125	2,305	3,010	2,935	1,691	159	14,679
55-59	142	152	198	217	203	878	1,623	1,680	1,941	2,179	2,510	926	12,649
60-64	72	94	109	103	133	561	1,228	1,281	1,387	1,270	1,519	1,433	9,190
65 & Over	25	28	33	51	43	321	863	923	1,060	779	675	904	5,705
<b>Total Count</b>	5,483	5,156	5,233	5,265	4,781	13,521	17,871	12,767	11,919	8,182	6,504	3,426	100,108

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	58,113	61,957	63,532	66,090	65,992	48,312	-	-	-	-	-	-	60,287
25-29	58,814	62,140	65,876	70,115	71,464	74,892	78,390	-	-	-	-	-	65,312
30-34	65,286	66,651	67,179	71,643	71,247	78,960	84,390	82,506	-	-	-	-	72,867
35-39	69,780	73,997	74,107	75,843	75,335	87,104	91,527	90,712	103,576	-	-	-	84,054
40-44	64,358	73,802	73,384	75,299	80,911	90,249	92,691	94,478	99,587	117,288	113,820	-	89,384
45-49	65,120	68,681	71,449	74,939	79,201	87,143	91,492	97,172	103,209	109,992	113,315	142,887	93,843
50-54	65,694	67,002	74,316	74,159	73,743	83,123	87,012	96,853	101,971	112,085	115,502	114,533	98,431
55-59	61,486	74,103	71,247	73,032	77,502	83,568	80,370	86,954	92,924	103,911	108,204	108,945	94,461
60-64	68,859	69,374	68,640	76,854	75,822	83,346	78,565	84,041	88,785	96,541	104,866	100,955	91,139
65 & Over	90,499	86,984	82,328	121,636	100,157	86,695	76,885	82,690	80,320	84,604	95,546	96,894	86,163
<b>Avg. Annual Compensation</b>	\$ 63,451	\$ 67,728	\$ 69,845	\$ 73,603	\$ 74,867	\$ 84,409	\$ 88,304	\$ 92,401	\$ 97,160	\$ 104,684	\$ 108,094	\$ 102,722	\$ 87,672

**Exhibit C-4a**  
**Age and Service Distribution of Active Members by Count**  
**and Average Compensation as of June 30, 2020**  
**General Plan A**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-	-	-	3	3
65 & Over	-	-	-	-	-	-	1	4	10	7	5	62	89
<b>Total Count</b>	-	-	-	-	-	-	1	4	10	7	5	65	92

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-	-	-	63,192	63,192
65 & Over	-	-	-	-	-	-	110,880	92,007	119,719	77,595	83,885	114,522	109,428
<b>Avg. Annual Compensation</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 110,880	\$ 92,007	\$ 119,719	\$ 77,595	\$ 83,885	\$ 112,153	\$ 107,920

**Exhibit C-4b  
 Age and Service Distribution of Active Members by Count  
 and Average Compensation as of June 30, 2020  
 General Plan B**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	1	-	-	7	8
65 & Over	-	-	-	-	-	-	-	2	1	2	1	8	14
<b>Total Count</b>	-	-	-	-	-	-	-	2	2	2	1	15	22

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	58,932	-	-	104,643	98,930
65 & Over	-	-	-	-	-	-	-	137,850	60,132	126,420	135,408	104,436	111,398
<b>Avg. Annual Compensation</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 137,850	\$ 59,532	\$ 126,420	\$ 135,408	\$ 104,533	\$ 106,864



**Exhibit C-4c  
 Age and Service Distribution of Active Members by Count  
 and Average Compensation as of June 30, 2020  
 General Plan C**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	1	1
60-64	-	-	-	-	-	-	-	-	-	1	1	12	14
65 & Over	-	-	-	-	-	-	-	-	-	-	-	16	16
<b>Total Count</b>	-	-	-	-	-	-	-	-	-	1	1	29	31

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	192,036	192,036
60-64	-	-	-	-	-	-	-	-	-	65,208	68,028	74,256	73,165
65 & Over	-	-	-	-	-	-	-	-	-	-	-	103,226	103,226
<b>Avg. Annual Compensation</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 65,208	\$ 68,028	\$ 94,301	\$ 92,515

**Exhibit C-4d**  
**Age and Service Distribution of Active Members by Count**  
**and Average Compensation as of June 30, 2020**  
**General Plan D**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>												<b>Total Count</b>
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	1	-	-	20	3	-	-	-	-	-	24
30-34	1	8	9	5	3	465	402	9	-	-	-	-	902
35-39	2	15	15	15	20	893	2,486	443	32	-	-	-	3,921
40-44	1	6	11	18	16	663	2,812	1,889	666	50	1	-	6,133
45-49	1	9	9	17	8	483	2,013	1,896	1,923	564	74	3	7,000
50-54	2	7	12	13	11	312	1,524	1,494	1,823	1,506	736	123	7,563
55-59	-	2	3	9	6	262	1,149	1,142	1,278	1,245	1,249	542	6,887
60-64	2	3	4	6	4	157	864	860	888	781	725	565	4,859
65 & Over	-	1	2	1	1	99	558	577	613	395	281	181	2,709
<b>Total Count</b>	<b>9</b>	<b>51</b>	<b>66</b>	<b>84</b>	<b>69</b>	<b>3,354</b>	<b>11,811</b>	<b>8,310</b>	<b>7,223</b>	<b>4,541</b>	<b>3,066</b>	<b>1,414</b>	<b>39,998</b>

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>												<b>Average Comp.</b>
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	78,276	-	-	55,910	54,488	-	-	-	-	-	56,664
30-34	47,580	66,722	76,759	74,738	65,552	78,478	70,775	66,308	-	-	-	-	74,704
35-39	107,538	86,906	85,991	86,826	95,285	92,275	84,145	84,452	97,397	-	-	-	86,236
40-44	194,760	125,454	89,174	84,619	106,624	96,973	88,906	91,380	91,607	110,971	113,820	-	91,105
45-49	131,784	107,476	77,735	107,352	93,624	97,986	90,483	94,940	96,584	101,601	108,664	127,556	95,044
50-54	105,648	168,537	144,905	106,680	120,886	89,421	86,806	96,477	98,464	103,982	100,344	113,523	97,063
55-59	-	250,530	131,576	86,629	137,568	90,828	82,413	89,822	94,538	102,606	106,728	112,174	96,738
60-64	107,256	124,284	94,173	84,086	143,331	87,596	81,003	88,593	95,425	101,155	109,545	109,847	96,150
65 & Over	-	36,684	88,266	48,492	76,236	87,545	77,428	86,024	81,750	87,848	101,627	118,578	87,367
<b>Avg. Annual Compensation</b>	<b>\$ 112,779</b>	<b>\$ 110,740</b>	<b>\$ 97,368</b>	<b>\$ 92,187</b>	<b>\$ 106,696</b>	<b>\$ 91,159</b>	<b>\$ 85,524</b>	<b>\$ 91,838</b>	<b>\$ 94,840</b>	<b>\$ 101,496</b>	<b>\$ 105,443</b>	<b>\$ 112,214</b>	<b>\$ 93,383</b>

**Exhibit C-4e**  
**Age and Service Distribution of Active Members by Count**  
**and Average Compensation as of June 30, 2020**  
**General Plan E**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	2	-	-	-	-	-	-	2
30-34	-	-	-	-	1	87	125	2	-	-	-	-	215
35-39	-	-	-	-	-	136	524	118	2	-	-	-	780
40-44	-	-	-	-	-	100	601	502	184	4	-	-	1,391
45-49	-	-	-	-	-	106	488	563	616	140	10	-	1,923
50-54	-	-	-	-	-	73	422	502	641	709	428	22	2,797
55-59	-	-	-	-	-	85	419	448	504	686	969	316	3,427
60-64	-	-	-	-	-	74	350	399	476	459	752	812	3,322
65 & Over	-	-	-	-	-	54	292	336	432	368	382	629	2,493
<b>Total Count</b>	-	-	-	-	1	717	3,221	2,870	2,855	2,366	2,541	1,779	16,350

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	54,060	-	-	-	-	-	-	54,060
30-34	-	-	-	-	61,668	72,108	60,784	79,332	-	-	-	-	65,543
35-39	-	-	-	-	-	77,774	71,747	70,056	57,810	-	-	-	72,506
40-44	-	-	-	-	-	82,014	77,065	74,200	74,773	87,528	-	-	76,114
45-49	-	-	-	-	-	88,734	76,089	78,942	81,072	78,230	74,058	-	79,363
50-54	-	-	-	-	-	85,607	75,340	75,749	82,100	87,298	80,395	87,563	81,131
55-59	-	-	-	-	-	84,328	68,779	71,501	76,136	90,283	91,907	86,704	83,100
60-64	-	-	-	-	-	90,616	71,663	71,999	74,367	85,886	97,239	91,870	85,207
65 & Over	-	-	-	-	-	105,663	74,168	76,261	76,882	79,893	90,493	87,951	82,427
<b>Avg. Annual Compensation</b>	\$ -	\$ -	\$ -	\$ -	\$ 61,668	\$ 84,232	\$ 73,267	\$ 74,748	\$ 78,257	\$ 86,202	\$ 91,263	\$ 89,514	\$ 81,315

**Exhibit C-4f**  
**Age and Service Distribution of Active Members by Count**  
**and Average Compensation as of June 30, 2020**  
**General Plan G**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	306	158	68	27	9	1	-	-	-	-	-	-	569
25-29	1,161	1,030	879	694	449	329	-	-	-	-	-	-	4,542
30-34	1,143	1,219	1,152	1,295	1,221	2,202	15	-	-	-	-	-	8,247
35-39	729	773	887	856	918	1,864	13	1	-	-	-	-	6,041
40-44	453	494	578	582	524	1,158	16	1	-	-	-	-	3,806
45-49	325	346	357	405	420	816	12	1	1	-	-	-	2,683
50-54	239	245	283	284	285	631	9	2	-	1	-	-	1,979
55-59	137	148	192	207	194	505	9	4	-	-	-	-	1,396
60-64	69	90	105	97	129	324	7	3	-	-	-	-	824
65 & Over	25	27	31	50	42	165	9	1	-	-	-	-	350
<b>Total Count</b>	<b>4,587</b>	<b>4,530</b>	<b>4,532</b>	<b>4,497</b>	<b>4,191</b>	<b>7,995</b>	<b>90</b>	<b>13</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>30,437</b>

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	45,057	47,898	49,302	50,196	47,587	48,312	-	-	-	-	-	-	46,643
25-29	52,310	55,327	57,921	60,407	60,667	61,117	-	-	-	-	-	-	56,781
30-34	62,785	64,491	62,982	66,751	66,779	71,505	71,534	-	-	-	-	-	66,623
35-39	68,302	72,950	72,265	72,721	71,692	79,810	79,329	71,316	-	-	-	-	74,195
40-44	62,807	72,399	71,791	73,163	78,450	84,034	143,093	143,412	-	-	-	-	75,971
45-49	64,433	67,451	70,418	72,546	77,809	78,809	120,026	67,224	41,040	-	-	-	73,550
50-54	63,949	63,521	69,967	72,259	71,417	78,529	107,431	299,760	-	38,700	-	-	72,097
55-59	60,306	71,280	69,125	72,180	73,754	77,356	171,955	107,679	-	-	-	-	73,335
60-64	67,518	66,604	67,667	76,407	73,729	78,708	85,370	92,996	-	-	-	-	74,100
65 & Over	90,499	88,847	81,945	123,099	100,727	79,165	106,504	44,904	-	-	-	-	90,437
<b>Avg. Annual Compensation</b>	<b>\$ 60,156</b>	<b>\$ 64,717</b>	<b>\$ 66,256</b>	<b>\$ 69,593</b>	<b>\$ 70,916</b>	<b>\$ 76,945</b>	<b>\$ 110,052</b>	<b>\$ 125,852</b>	<b>\$ 41,040</b>	<b>\$ 38,700</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 69,203</b>

**Exhibit C-4g**  
**Age and Service Distribution of Active Members by Count**  
**and Average Compensation as of June 30, 2020**  
**Safety Plan A**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-	1	-	-	1
65 & Over	-	-	-	-	-	-	-	-	-	-	-	1	1
<b>Total Count</b>	-	-	-	-	-	-	-	-	-	1	-	1	2

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-	166,344	-	-	166,344
65 & Over	-	-	-	-	-	-	-	-	-	-	-	134,724	134,724
<b>Avg. Annual Compensation</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 166,344	\$ -	\$ 134,724	\$ 150,534

**Exhibit C-4h  
 Age and Service Distribution of Active Members by Count  
 and Average Compensation as of June 30, 2020  
 Safety Plan B**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>												<b>Total Count</b>
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	1	-	38	3	-	-	-	-	-	42
30-34	1	1	5	7	-	250	302	4	-	-	-	-	570
35-39	3	5	4	4	8	240	1,096	177	9	-	-	-	1,546
40-44	2	4	4	8	7	103	748	512	298	19	-	-	1,705
45-49	-	-	2	2	2	39	362	457	790	242	24	1	1,921
50-54	-	-	4	-	-	16	170	305	546	719	527	14	2,301
55-59	1	-	2	-	-	10	46	86	159	248	292	67	911
60-64	-	-	-	-	-	3	7	19	22	28	41	34	154
65 & Over	-	-	-	-	-	2	3	3	4	7	6	7	32
<b>Total Count</b>	<b>7</b>	<b>10</b>	<b>21</b>	<b>22</b>	<b>17</b>	<b>701</b>	<b>2,737</b>	<b>1,563</b>	<b>1,828</b>	<b>1,263</b>	<b>890</b>	<b>123</b>	<b>9,182</b>

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>												<b>Average Comp.</b>
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	104,748	-	108,426	102,292	-	-	-	-	-	107,901
30-34	84,636	91,896	102,744	103,233	-	110,954	112,632	120,537	-	-	-	-	111,664
35-39	92,620	103,814	91,467	103,341	106,607	114,228	117,775	120,263	135,719	-	-	-	117,357
40-44	89,028	112,812	115,143	103,022	111,242	114,484	118,347	125,697	132,745	140,176	-	-	122,925
45-49	-	-	105,594	114,852	101,100	113,118	116,922	128,943	136,675	147,921	144,013	188,880	132,078
50-54	-	-	145,020	-	-	108,247	116,750	132,009	137,006	153,603	165,183	165,784	146,476
55-59	115,416	-	147,936	-	-	119,441	117,023	128,401	133,170	148,159	168,599	186,472	151,123
60-64	-	-	-	-	-	136,112	115,951	129,471	134,091	141,151	162,909	182,169	152,307
65 & Over	-	-	-	-	-	127,176	140,124	125,056	139,014	144,276	135,510	155,210	141,107
<b>Avg. Annual Compensation</b>	<b>\$ 93,710</b>	<b>\$ 106,222</b>	<b>\$ 115,586</b>	<b>\$ 104,301</b>	<b>\$ 107,867</b>	<b>\$ 112,790</b>	<b>\$ 117,178</b>	<b>\$ 127,443</b>	<b>\$ 135,798</b>	<b>\$ 150,915</b>	<b>\$ 165,428</b>	<b>\$ 181,169</b>	<b>\$ 132,390</b>

**Exhibit C-4i**  
**Age and Service Distribution of Active Members by Count**  
**and Average Compensation as of June 30, 2020**  
**Safety Plan C**

<b>Count</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Total Count</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	225	94	46	23	6	-	-	-	-	-	-	-	394
25-29	356	272	273	249	169	125	-	-	-	-	-	-	1,444
30-34	172	133	180	235	178	340	2	-	-	-	-	-	1,240
35-39	71	38	70	103	98	180	6	-	-	-	-	-	566
40-44	29	17	31	35	31	58	3	1	-	-	-	-	205
45-49	11	4	9	13	14	20	-	2	-	-	-	-	73
50-54	11	4	4	3	4	11	-	2	-	-	-	-	39
55-59	4	2	1	1	3	16	-	-	-	-	-	-	27
60-64	1	1	-	-	-	3	-	-	-	-	-	-	5
65 & Over	-	-	-	-	-	1	-	-	-	-	-	-	1
<b>Total Count</b>	<b>880</b>	<b>565</b>	<b>614</b>	<b>662</b>	<b>503</b>	<b>754</b>	<b>11</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3,994</b>

<b>Compensation</b>													
<b>Age</b>	<b>Years of Service</b>											<b>Average Comp.</b>	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34		35&Over
Under 25	75,870	85,587	84,567	84,748	93,600	-	-	-	-	-	-	-	79,992
25-29	80,025	87,942	91,445	97,035	100,148	104,324	-	-	-	-	-	-	91,067
30-34	81,898	86,261	92,570	97,594	102,040	106,129	128,250	-	-	-	-	-	96,500
35-39	82,934	86,281	93,910	99,124	102,831	107,855	109,550	-	-	-	-	-	99,115
40-44	82,387	87,162	92,109	99,700	102,382	108,620	105,060	93,588	-	-	-	-	98,041
45-49	79,357	87,780	98,468	100,961	109,593	106,249	-	100,146	-	-	-	-	99,758
50-54	96,334	102,537	99,528	113,040	109,827	115,012	-	110,094	-	-	-	-	105,941
55-59	88,416	106,524	144,288	127,032	199,764	134,290	-	-	-	-	-	-	132,813
60-64	84,636	153,960	-	-	-	129,636	-	-	-	-	-	-	125,501
65 & Over	-	-	-	-	-	139,716	-	-	-	-	-	-	139,716
<b>Avg. Annual Compensation</b>	<b>\$ 79,880</b>	<b>\$ 87,304</b>	<b>\$ 91,816</b>	<b>\$ 97,468</b>	<b>\$ 102,334</b>	<b>\$ 107,302</b>	<b>\$ 111,725</b>	<b>\$ 102,814</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 93,801</b>

**Exhibit C-5**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**All Plans**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	1	1	10	11	99	13	135	\$ 1,072
35-39	-	-	-	-	-	-	2	4	15	73	3	97	2,513
40-44	-	-	-	-	-	1	2	18	65	120	13	219	3,056
45-49	-	-	-	-	-	2	41	59	93	159	13	367	3,090
50-54	-	-	-	1	16	71	119	107	176	639	133	1,262	3,517
55-59	-	-	-	5	70	139	155	159	536	2,345	478	3,887	5,580
60-64	-	-	11	45	107	138	173	441	1,860	3,426	523	6,724	5,184
65-69	-	11	58	84	101	157	461	1,806	3,241	5,323	631	11,873	4,656
70-74	7	94	180	146	181	640	2,152	3,382	4,309	3,191	271	14,553	4,630
75-79	20	140	185	212	591	1,655	2,803	2,550	1,905	1,386	127	11,574	4,689
80-84	57	109	153	452	1,199	1,588	1,691	1,041	660	1,049	89	8,088	4,203
85-89	77	105	340	684	1,238	915	546	314	275	749	76	5,319	3,996
90-94	61	167	382	452	564	242	158	154	158	407	19	2,764	3,608
95-99	33	115	194	193	119	59	59	49	57	117	6	1,001	3,073
100 & Over	20	34	29	13	11	10	9	7	11	4	1	149	2,947
<b>Total Count</b>	275	775	1,532	2,287	4,197	5,618	8,372	10,101	13,372	19,087	2,396	<b>68,012</b>	
<b>Avg Monthly Benefit</b>	\$ 2,310	\$ 2,973	\$ 3,122	\$ 3,558	\$ 4,526	\$ 4,449	\$ 5,167	\$ 4,478	\$ 4,537	\$ 4,569	\$ 5,277		<b>\$ 4,541</b>



**Exhibit C-5a**  
**Distribution of Retired Members by Age**  
**and Retirement Year as of June 30, 2020**  
**General Plan A**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	-	-	2	2	7	-	11	\$ 357
35-39	-	-	-	-	-	-	-	2	1	3	1	7	1,267
40-44	-	-	-	-	-	-	1	5	6	1	1	14	2,069
45-49	-	-	-	-	-	-	-	3	4	4	-	11	2,498
50-54	-	-	-	1	1	1	3	1	2	8	1	18	2,481
55-59	-	-	-	-	-	4	2	7	4	13	2	32	3,382
60-64	-	-	1	5	-	7	9	25	46	90	6	189	4,340
65-69	-	5	22	16	8	21	150	333	684	256	14	1,509	5,377
70-74	2	47	61	43	48	336	763	1,407	724	300	35	3,766	5,723
75-79	12	62	73	70	384	775	1,539	808	261	432	35	4,451	5,503
80-84	34	65	69	336	775	962	822	219	151	540	38	4,011	4,739
85-89	42	70	257	477	957	566	186	94	95	470	44	3,258	4,173
90-94	42	126	297	376	451	125	70	75	85	300	13	1,960	3,634
95-99	28	102	176	172	85	40	38	39	39	94	5	818	3,032
100 & Over	17	34	29	13	6	8	7	6	9	2	1	132	3,064
<b>Total Count</b>	177	511	985	1,509	2,715	2,845	3,590	3,026	2,113	2,520	196	<b>20,187</b>	
<b>Avg Monthly Benefit</b>	\$ 1,778	\$ 2,421	\$ 2,520	\$ 3,051	\$ 4,378	\$ 4,515	\$ 6,123	\$ 6,241	\$ 6,224	\$ 3,865	\$ 3,497		<b>\$ 4,845</b>

**Exhibit C-5b**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**General Plan B**

Age	Retirement Year											Total Count	Average Monthly Benefit	
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24			
Under 35	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	1	-	1	2,738	
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-	
55-59	-	-	-	-	-	-	-	-	-	1	1	2	4,215	
60-64	-	-	-	-	1	1	-	11	7	31	5	56	5,335	
65-69	-	-	-	-	-	1	7	19	74	59	1	161	6,055	
70-74	-	-	1	5	3	7	21	59	73	25	1	195	5,360	
75-79	-	-	2	3	5	13	38	31	23	7	1	123	4,403	
80-84	-	-	-	3	4	17	35	20	11	5	-	95	4,065	
85-89	-	-	1	3	10	27	6	7	3	7	-	64	3,326	
90-94	-	-	3	3	13	8	3	3	-	7	-	40	1,964	
95-99	-	-	-	3	3	-	1	-	-	2	-	9	2,154	
100 & Over	-	-	-	-	1	-	-	-	-	-	-	1	4,071	
<b>Total Count</b>	-	-	7	20	40	74	111	150	191	145	9	<b>747</b>		
<b>Avg Monthly Benefit</b>	\$ -	\$ -	\$ 1,338	\$ 1,418	\$ 2,025	\$ 2,492	\$ 3,684	\$ 4,716	\$ 6,332	\$ 6,130	\$ 6,098		<b>\$ 4,783</b>	

**Exhibit C-5c**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**General Plan C**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	-	-	-	-	2	-	2	\$ 5,003
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	1	-	-	1	1,623
45-49	-	-	-	-	-	-	-	-	2	-	-	2	1,475
50-54	-	-	-	-	-	-	-	-	-	1	-	1	1,284
55-59	-	-	-	-	-	-	1	-	-	1	1	3	4,127
60-64	-	-	-	1	-	1	-	3	7	26	4	42	4,455
65-69	-	1	2	4	1	2	7	13	39	39	3	111	5,876
70-74	-	-	3	2	1	2	16	23	44	25	3	119	5,012
75-79	-	-	1	3	8	9	11	28	14	3	-	77	2,990
80-84	-	-	-	7	9	13	19	6	6	5	1	66	2,641
85-89	-	-	-	3	6	12	10	7	1	6	-	45	2,265
90-94	-	-	1	2	8	1	2	1	1	5	-	21	1,811
95-99	-	-	-	1	3	-	-	-	-	-	-	4	881
100 & Over	-	-	-	-	-	-	-	-	-	1	-	1	1,648
<b>Total Count</b>	-	1	7	23	36	40	66	81	115	114	12	<b>495</b>	
<b>Avg Monthly Benefit</b>	\$ -	\$ 1,844	\$ 1,301	\$ 1,016	\$ 1,369	\$ 2,119	\$ 2,879	\$ 3,361	\$ 5,846	\$ 5,418	\$ 7,764		<b>\$ 4,068</b>

**Exhibit C-5d**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**General Plan D**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	-	-	2	6	45	7	60	\$ 880
35-39	-	-	-	-	-	-	1	1	3	28	1	34	1,679
40-44	-	-	-	-	-	1	-	5	28	30	6	70	2,057
45-49	-	-	-	-	-	2	12	14	34	71	4	137	2,269
50-54	-	-	-	-	3	5	19	30	74	375	75	581	2,106
55-59	-	-	-	-	9	29	46	60	343	875	151	1,513	2,740
60-64	-	-	2	5	16	38	60	251	603	1,634	342	2,951	3,733
65-69	-	1	3	12	24	45	172	466	1,085	2,469	315	4,592	4,168
70-74	-	-	-	13	31	120	281	609	1,518	1,381	123	4,076	3,717
75-79	-	-	4	11	41	136	291	675	723	402	31	2,314	3,322
80-84	-	-	4	13	45	123	332	363	234	170	17	1,301	2,717
85-89	-	-	-	10	26	118	146	85	66	65	11	527	2,551
90-94	-	-	2	3	27	46	29	26	12	37	2	184	2,030
95-99	-	-	-	4	11	8	7	2	1	6	-	39	1,679
100 & Over	-	-	-	-	1	-	-	-	-	1	-	2	690
<b>Total Count</b>	-	1	15	71	234	671	1,396	2,589	4,730	7,589	1,085	<b>18,381</b>	
<b>Avg Monthly Benefit</b>	\$ -	\$ 2,872	\$ 1,635	\$ 1,620	\$ 1,769	\$ 2,035	\$ 2,381	\$ 2,796	\$ 3,540	\$ 3,954	\$ 4,622		<b>\$ 3,495</b>

**Exhibit C-5e**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**General Plan E**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	1	-	3	1	19	-	24	\$ 696
35-39	-	-	-	-	-	-	1	1	5	10	-	17	1,012
40-44	-	-	-	-	-	-	-	2	4	17	3	26	1,194
45-49	-	-	-	-	-	-	-	1	12	18	1	32	1,191
50-54	-	-	-	-	-	-	2	5	17	24	3	51	1,082
55-59	-	-	-	-	-	-	2	5	14	300	56	377	1,036
60-64	-	-	-	-	-	-	2	6	366	695	109	1,178	1,752
65-69	-	-	-	-	-	4	8	434	733	2,244	265	3,688	2,909
70-74	-	-	-	-	-	5	337	715	1,809	1,300	88	4,254	2,699
75-79	-	-	-	-	2	182	363	938	839	375	40	2,739	2,332
80-84	-	-	-	-	57	196	429	409	223	166	16	1,496	1,867
85-89	-	-	-	21	71	163	172	94	77	74	10	682	1,475
90-94	-	-	-	10	48	51	28	25	20	14	1	197	1,161
95-99	-	-	1	10	13	8	5	1	7	4	1	50	830
100 & Over	-	-	-	-	3	2	-	1	-	-	-	6	438
<b>Total Count</b>	-	-	1	41	194	612	1,349	2,640	4,127	5,260	593	<b>14,817</b>	
<b>Avg Monthly Benefit</b>	\$ -	\$ -	\$ 81	\$ 297	\$ 555	\$ 815	\$ 1,275	\$ 1,696	\$ 2,596	\$ 3,002	\$ 3,305		<b>\$ 2,381</b>

**Exhibit C-5f**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**General Plan G**

Age	Retirement Year											Total Count	Average Monthly Benefit	
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24			
Under 35	-	-	-	-	-	-	-	-	-	-	1	-	1	\$ 2,430
35-39	-	-	-	-	-	-	-	-	-	-	1	-	1	1,289
40-44	-	-	-	-	-	-	-	-	-	-	1	-	1	2,361
45-49	-	-	-	-	-	-	-	-	-	-	2	-	2	1,024
50-54	-	-	-	-	-	-	-	-	-	-	1	1	2	247
55-59	-	-	-	-	-	-	-	-	-	-	1	5	6	680
60-64	-	-	-	-	-	-	-	-	-	-	7	2	9	742
65-69	-	-	-	-	-	-	-	-	-	-	15	7	22	1,029
70-74	-	-	-	-	-	-	-	-	-	-	10	5	15	2,269
75-79	-	-	-	-	-	-	-	-	-	-	5	-	5	2,364
80-84	-	-	-	-	-	-	-	-	-	-	2	-	2	1,715
85-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90-94	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95-99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100 & Over	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Count</b>	-	-	-	-	-	-	-	-	-	-	46	20	<b>66</b>	
<b>Avg Monthly Benefit</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,568	\$ 959		<b>\$ 1,383</b>

**Exhibit C-5g**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**Safety Plan A**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	-	-	-	2	2	4	8	\$ -
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	1	1	-	2	6,667
45-49	-	-	-	-	-	-	-	-	-	1	-	1	5,134
50-54	-	-	-	-	-	-	3	-	1	2	-	6	5,867
55-59	-	-	-	-	2	-	1	-	2	13	1	19	5,296
60-64	-	-	1	1	1	1	3	6	47	20	6	86	10,117
65-69	-	4	21	24	21	41	43	282	160	74	15	685	9,653
70-74	5	47	109	67	82	144	679	412	68	122	16	1,751	8,602
75-79	8	78	102	125	143	530	533	63	36	157	19	1,794	8,135
80-84	23	44	80	92	308	275	53	22	34	160	17	1,108	7,268
85-89	35	35	81	169	167	28	25	27	32	124	10	733	6,792
90-94	19	41	79	58	16	11	26	24	40	43	3	360	5,919
95-99	5	13	17	3	4	3	8	7	10	11	-	81	5,761
100 & Over	3	-	-	-	-	-	2	-	2	-	-	7	3,567
<b>Total Count</b>	98	262	490	539	744	1,033	1,376	843	435	730	91	<b>6,641</b>	
<b>Avg Monthly Benefit</b>	\$ 3,272	\$ 4,054	\$ 4,473	\$ 5,815	\$ 7,580	\$ 8,422	\$ 9,868	\$ 10,357	\$ 9,249	\$ 6,793	\$ 6,659		<b>\$ 7,973</b>

**Exhibit C-5h**  
**Distribution of Retired Members by Age and Retirement Year**  
**as of June 30, 2020**  
**Safety Plan B**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	-	1	3	-	21	2	27	\$ 1,964
35-39	-	-	-	-	-	-	-	-	6	31	1	38	4,194
40-44	-	-	-	-	-	-	1	6	25	69	3	104	4,278
45-49	-	-	-	-	-	-	29	41	41	62	8	181	4,115
50-54	-	-	-	-	12	65	92	71	82	228	53	603	5,104
55-59	-	-	-	5	59	106	103	87	173	1,138	260	1,931	8,761
60-64	-	-	7	33	89	90	99	139	784	923	49	2,213	8,853
65-69	-	-	10	28	47	43	74	259	466	166	11	1,104	8,166
70-74	-	-	6	16	16	26	55	157	72	28	-	376	6,504
75-79	-	-	3	-	8	10	28	7	9	5	1	71	4,553
80-84	-	-	-	1	1	2	1	2	1	1	-	9	4,488
85-89	-	-	1	1	1	1	1	-	1	3	1	10	1,797
90-94	-	-	-	-	1	-	-	-	-	1	-	2	1,069
95-99	-	-	-	-	-	-	-	-	-	-	-	-	-
100 & Over	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Count</b>	-	-	27	84	234	343	484	772	1,660	2,676	389	<b>6,669</b>	
<b>Avg Monthly Benefit</b>	\$ -	\$ -	\$ 2,418	\$ 2,614	\$ 3,489	\$ 3,831	\$ 4,242	\$ 6,370	\$ 8,517	\$ 9,380	\$ 10,819		<b>\$ 7,922</b>



**Exhibit C-5i**  
**Distribution of Retired Members and Beneficiaries by Age and Retirement Year**  
**as of June 30, 2020**  
**Safety Plan C**

Age	Retirement Year											Total Count	Average Monthly Benefit
	Pre-1975	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2020-24		
Under 35	-	-	-	-	-	-	-	-	-	2	-	2	\$ 2,887
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	1	-	1	2,976
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-	3	1	4	1,217
60-64	-	-	-	-	-	-	-	-	-	-	-	-	-
65-69	-	-	-	-	-	-	-	-	-	1	-	1	23,607
70-74	-	-	-	-	-	-	-	-	1	-	-	1	18,381
75-79	-	-	-	-	-	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	-	-	-	-	-	-
85-89	-	-	-	-	-	-	-	-	-	-	-	-	-
90-94	-	-	-	-	-	-	-	-	-	-	-	-	-
95-99	-	-	-	-	-	-	-	-	-	-	-	-	-
100 & Over	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Count</b>	-	-	-	-	-	-	-	-	1	7	1	<b>9</b>	
<b>Avg Monthly Benefit</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,381	\$ 5,162	\$ 1,090		<b>\$ 6,178</b>

## Appendix D Member Contribution Rates

This section illustrates the member normal contribution rates and the normal plus cost-of-living contribution rates by entry age.

**Exhibit D-1**  
**Normal Member Contribution Rates**

Entry Age	General					Safety		
	Plan A	Plan B	Plan C	Plan D	Plan G	Plan A	Plan B	Plan C
16	2.68%	5.36%	4.57%	4.57%	7.34%	4.17%	8.34%	11.17%
17	2.74%	5.48%	4.66%	4.66%	7.34%	4.17%	8.34%	11.17%
18	2.80%	5.59%	4.76%	4.76%	7.34%	4.17%	8.34%	11.17%
19	2.86%	5.71%	4.87%	4.87%	7.34%	4.25%	8.50%	11.17%
20	2.92%	5.83%	4.97%	4.97%	7.34%	4.34%	8.67%	11.17%
21	2.98%	5.95%	5.07%	5.07%	7.34%	4.42%	8.85%	11.17%
22	3.04%	6.08%	5.18%	5.18%	7.34%	4.51%	9.03%	11.17%
23	3.10%	6.21%	5.29%	5.29%	7.34%	4.61%	9.21%	11.17%
24	3.17%	6.34%	5.40%	5.40%	7.34%	4.70%	9.40%	11.17%
25	3.24%	6.47%	5.52%	5.52%	7.34%	4.74%	9.48%	11.17%
26	3.30%	6.61%	5.63%	5.63%	7.34%	4.78%	9.55%	11.17%
27	3.37%	6.75%	5.75%	5.75%	7.34%	4.87%	9.75%	11.17%
28	3.45%	6.89%	5.87%	5.87%	7.34%	4.97%	9.95%	11.17%
29	3.52%	7.04%	6.00%	6.00%	7.34%	5.08%	10.15%	11.17%
30	3.59%	7.19%	6.12%	6.12%	7.34%	5.14%	10.28%	11.17%
31	3.67%	7.34%	6.25%	6.25%	7.34%	5.20%	10.40%	11.17%
32	3.75%	7.50%	6.38%	6.38%	7.34%	5.31%	10.61%	11.17%
33	3.83%	7.66%	6.52%	6.52%	7.34%	5.41%	10.83%	11.17%
34	3.91%	7.82%	6.66%	6.66%	7.34%	5.52%	11.04%	11.17%
35	3.99%	7.98%	6.80%	6.80%	7.34%	5.63%	11.27%	11.17%
36	4.07%	8.14%	6.95%	6.95%	7.34%	5.75%	11.49%	11.17%
37	4.15%	8.30%	7.10%	7.10%	7.34%	5.86%	11.72%	11.17%
38	4.23%	8.47%	7.25%	7.25%	7.34%	5.98%	11.95%	11.17%
39	4.32%	8.63%	7.40%	7.40%	7.34%	6.09%	12.19%	11.17%
40	4.40%	8.80%	7.55%	7.55%	7.34%	6.21%	12.43%	11.17%
41	4.49%	8.97%	7.70%	7.70%	7.34%	6.34%	12.67%	11.17%
42	4.57%	9.15%	7.85%	7.85%	7.34%	6.45%	12.91%	11.17%
43	4.66%	9.32%	8.01%	8.01%	7.34%	6.56%	13.12%	11.17%
44	4.75%	9.49%	8.17%	8.17%	7.34%	6.65%	13.30%	11.17%
45	4.83%	9.66%	8.33%	8.33%	7.34%	6.70%	13.40%	11.17%
46	4.91%	9.83%	8.49%	8.49%	7.34%	6.70%	13.40%	11.17%
47	4.99%	9.97%	8.66%	8.66%	7.34%	6.70%	13.40%	11.17%
48	5.04%	10.09%	8.82%	8.82%	7.34%	6.70%	13.40%	11.17%
49	5.09%	10.18%	8.98%	8.98%	7.34%	6.70%	13.40%	11.17%
50	5.12%	10.23%	9.14%	9.14%	7.34%	6.70%	13.40%	11.17%
51	5.13%	10.25%	9.30%	9.30%	7.34%	6.70%	13.40%	11.17%
52	5.13%	10.25%	9.43%	9.43%	7.34%	6.70%	13.40%	11.17%
53	5.13%	10.25%	9.54%	9.54%	7.34%	6.70%	13.40%	11.17%
54	5.13%	10.25%	9.63%	9.63%	7.34%	6.70%	13.40%	11.17%
55	5.13%	10.25%	9.68%	9.68%	7.34%	6.70%	13.40%	11.17%
56	5.13%	10.25%	9.70%	9.70%	7.34%	6.70%	13.40%	11.17%
57	5.13%	10.25%	9.70%	9.70%	7.34%	6.70%	13.40%	11.17%
58	5.13%	10.25%	9.70%	9.70%	7.34%	6.70%	13.40%	11.17%
59	5.13%	10.25%	9.70%	9.70%	7.34%	6.70%	13.40%	11.17%
60	5.13%	10.25%	9.70%	9.70%	7.34%	6.70%	13.40%	11.17%

**Exhibit D-2**  
**Normal Plus Cost-of-Living Member Contribution Rates**

Entry Age	General					Safety		
	Plan A	Plan B	Plan C	Plan D	Plan G	Plan A	Plan B	Plan C
16	4.94%	6.75%	5.80%	5.76%	9.10%	7.80%	11.09%	14.42%
17	5.05%	6.90%	5.91%	5.87%	9.10%	7.80%	11.09%	14.42%
18	5.16%	7.04%	6.04%	5.99%	9.10%	7.80%	11.09%	14.42%
19	5.28%	7.19%	6.18%	6.13%	9.10%	7.95%	11.31%	14.42%
20	5.39%	7.34%	6.30%	6.26%	9.10%	8.12%	11.53%	14.42%
21	5.50%	7.49%	6.43%	6.39%	9.10%	8.27%	11.77%	14.42%
22	5.61%	7.65%	6.57%	6.52%	9.10%	8.44%	12.01%	14.42%
23	5.72%	7.82%	6.71%	6.66%	9.10%	8.63%	12.25%	14.42%
24	5.85%	7.98%	6.85%	6.80%	9.10%	8.80%	12.50%	14.42%
25	5.98%	8.15%	7.00%	6.95%	9.10%	8.87%	12.61%	14.42%
26	6.09%	8.32%	7.14%	7.09%	9.10%	8.95%	12.70%	14.42%
27	6.22%	8.50%	7.29%	7.24%	9.10%	9.11%	12.97%	14.42%
28	6.36%	8.67%	7.44%	7.39%	9.10%	9.30%	13.24%	14.42%
29	6.49%	8.86%	7.61%	7.56%	9.10%	9.51%	13.50%	14.42%
30	6.62%	9.05%	7.76%	7.71%	9.10%	9.62%	13.68%	14.42%
31	6.77%	9.24%	7.93%	7.87%	9.10%	9.73%	13.84%	14.42%
32	6.92%	9.44%	8.09%	8.03%	9.10%	9.94%	14.11%	14.42%
33	7.06%	9.64%	8.27%	8.21%	9.10%	10.12%	14.41%	14.42%
34	7.21%	9.85%	8.45%	8.39%	9.10%	10.33%	14.69%	14.42%
35	7.36%	10.05%	8.62%	8.56%	9.10%	10.54%	14.99%	14.42%
36	7.51%	10.25%	8.81%	8.75%	9.10%	10.76%	15.29%	14.42%
37	7.66%	10.45%	9.00%	8.94%	9.10%	10.97%	15.59%	14.42%
38	7.80%	10.66%	9.19%	9.13%	9.10%	11.19%	15.90%	14.42%
39	7.97%	10.87%	9.38%	9.32%	9.10%	11.40%	16.22%	14.42%
40	8.12%	11.08%	9.57%	9.51%	9.10%	11.62%	16.54%	14.42%
41	8.28%	11.29%	9.76%	9.70%	9.10%	11.87%	16.85%	14.42%
42	8.43%	11.52%	9.95%	9.89%	9.10%	12.07%	17.17%	14.42%
43	8.60%	11.73%	10.16%	10.09%	9.10%	12.28%	17.45%	14.42%
44	8.76%	11.95%	10.36%	10.29%	9.10%	12.45%	17.69%	14.42%
45	8.91%	12.16%	10.56%	10.49%	9.10%	12.54%	17.83%	14.42%
46	9.06%	12.38%	10.77%	10.69%	9.10%	12.54%	17.83%	14.42%
47	9.20%	12.55%	10.98%	10.91%	9.10%	12.54%	17.83%	14.42%
48	9.30%	12.70%	11.18%	11.11%	9.10%	12.54%	17.83%	14.42%
49	9.39%	12.82%	11.39%	11.31%	9.10%	12.54%	17.83%	14.42%
50	9.44%	12.88%	11.59%	11.51%	9.10%	12.54%	17.83%	14.42%
51	9.46%	12.90%	11.79%	11.71%	9.10%	12.54%	17.83%	14.42%
52	9.46%	12.90%	11.96%	11.88%	9.10%	12.54%	17.83%	14.42%
53	9.46%	12.90%	12.10%	12.01%	9.10%	12.54%	17.83%	14.42%
54	9.46%	12.90%	12.21%	12.13%	9.10%	12.54%	17.83%	14.42%
55	9.46%	12.90%	12.28%	12.19%	9.10%	12.54%	17.83%	14.42%
56	9.46%	12.90%	12.30%	12.22%	9.10%	12.54%	17.83%	14.42%
57	9.46%	12.90%	12.30%	12.22%	9.10%	12.54%	17.83%	14.42%
58	9.46%	12.90%	12.30%	12.22%	9.10%	12.54%	17.83%	14.42%
59	9.46%	12.90%	12.30%	12.22%	9.10%	12.54%	17.83%	14.42%
60	9.46%	12.90%	12.30%	12.22%	9.10%	12.54%	17.83%	14.42%

## Appendix E Historical Information

This section presents historical statistical information on LACERA's membership and the calculated contribution rates.

**Exhibit E-1  
Active Membership Data**

General Members						Safety Members					Total Members				
Valuation Date (June 30)	Number	Annual Salary (in millions)	Average Age	Average Service	Average Monthly Salary	Number	Annual Salary (in millions)	Average Age	Average Service	Average Monthly Salary	Number	Annual Salary (in millions)	Average Age	Average Service	Average Monthly Salary
1998	65,782	\$ 2,837	44.7	12.9	\$ 3,594	10,947	\$ 725	39.9	13.8	\$ 5,519	76,729	\$ 3,562	44.0	13.0	\$ 3,870
1999	68,652	\$ 3,105	44.6	12.7	\$ 3,769	11,024	\$ 753	40.0	13.7	\$ 5,696	79,676	\$ 3,858	43.9	12.8	\$ 4,035
2000	71,940	\$ 3,353	44.4	12.5	\$ 3,884	11,264	\$ 790	39.8	13.8	\$ 5,849	83,204	\$ 4,143	43.8	12.6	\$ 4,150
2001	75,048	\$ 3,608	44.5	12.3	\$ 4,006	12,021	\$ 860	39.6	13.0	\$ 5,967	87,069	\$ 4,468	43.9	12.4	\$ 4,277
2002	77,062	\$ 3,833	44.7	12.3	\$ 4,145	12,190	\$ 894	39.6	13.8	\$ 6,115	89,252	\$ 4,727	44.0	12.5	\$ 4,414
2003	75,995	\$ 3,954	45.2	12.7	\$ 4,336	11,765	\$ 899	40.1	13.7	\$ 6,370	87,760	\$ 4,853	44.5	12.9	\$ 4,609
2004	74,826	\$ 3,967	45.6	13.1	\$ 4,418	11,409	\$ 885	40.6	14.7	\$ 6,467	86,235	\$ 4,852	44.9	13.3	\$ 4,689
2005	75,167	\$ 4,046	45.8	13.2	\$ 4,486	11,217	\$ 905	41.0	14.9	\$ 6,722	86,384	\$ 4,951	45.2	13.4	\$ 4,777
2006	77,167	\$ 4,267	45.7	13.0	\$ 4,608	11,464	\$ 969	41.2	15.0	\$ 7,047	88,631	\$ 5,236	45.1	13.3	\$ 4,924
2007	79,829	\$ 4,673	45.7	12.8	\$ 4,878	12,267	\$ 1,104	40.8	14.4	\$ 7,499	92,096	\$ 5,777	45.1	13.0	\$ 5,227
2008	81,664	\$ 5,017	45.8	12.8	\$ 5,119	12,828	\$ 1,187	40.5	13.7	\$ 7,714	94,492	\$ 6,204	45.1	12.9	\$ 5,471
2009	82,878	\$ 5,348	46.1	13.1	\$ 5,377	12,910	\$ 1,240	40.8	14.0	\$ 8,002	95,788	\$ 6,588	45.4	13.2	\$ 5,731
2010	81,413	\$ 5,318	46.6	13.6	\$ 5,444	12,997	\$ 1,257	41.3	14.5	\$ 8,062	94,410	\$ 6,575	45.9	13.7	\$ 5,804
2011	80,145	\$ 5,295	47.0	14.0	\$ 5,506	12,641	\$ 1,240	41.9	15.1	\$ 8,172	92,786	\$ 6,535	46.3	14.2	\$ 5,869
2012	79,467	\$ 5,272	47.3	14.4	\$ 5,528	12,485	\$ 1,230	42.3	15.5	\$ 8,209	91,952	\$ 6,502	46.7	14.6	\$ 5,892
2013	79,006	\$ 5,253	47.6	14.8	\$ 5,541	12,539	\$ 1,235	42.3	15.7	\$ 8,207	91,545	\$ 6,488	46.9	14.9	\$ 5,906
2014	79,943	\$ 5,488	47.6	14.9	\$ 5,720	12,523	\$ 1,253	42.6	15.8	\$ 8,337	92,466	\$ 6,741	47.0	15.0	\$ 6,075
2015	81,228	\$ 5,706	47.6	14.8	\$ 5,854	12,446	\$ 1,300	42.8	16.0	\$ 8,702	93,674	\$ 7,006	46.9	15.0	\$ 6,233
2016	82,916	\$ 5,950	47.4	14.6	\$ 5,980	12,528	\$ 1,343	42.8	16.0	\$ 8,931	95,444	\$ 7,293	46.8	14.8	\$ 6,367
2017	84,513	\$ 6,290	47.3	14.5	\$ 6,202	12,698	\$ 1,388	42.5	15.6	\$ 9,110	97,211	\$ 7,678	46.7	14.6	\$ 6,582
2018	85,703	\$ 6,610	47.2	14.4	\$ 6,428	12,771	\$ 1,452	42.2	15.3	\$ 9,471	98,474	\$ 8,062	46.6	14.5	\$ 6,822
2019	86,392	\$ 6,816	47.3	14.4	\$ 6,574	12,794	\$ 1,540	42.0	15.1	\$ 10,032	99,186	\$ 8,356	46.6	14.5	\$ 7,020
2020	86,930	\$ 7,186	47.3	14.4	\$ 6,889	13,178	\$ 1,591	41.4	14.4	\$ 10,058	100,108	\$ 8,777	46.5	14.4	\$ 7,306

**Exhibit E-2  
 Retired Membership Data**

General Members					Safety Members				Total Members			
Valuation Date (June 30)	Number	Annual Allowance (in millions)	Average Age	Average Monthly Benefit	Number	Annual Allowance (in millions)	Average Age	Average Monthly Benefit	Number	Annual Allowance (in millions)	Average Age	Average Monthly Benefit
1998	35,462	\$ 692	71.1	\$ 1,626	7,425	\$ 267	62.5	\$ 3,001	42,887	\$ 959	69.6	\$ 1,864
1999	35,837	\$ 725	71.4	\$ 1,686	7,674	\$ 291	63.1	\$ 3,166	43,511	\$ 1,016	70.0	\$ 1,947
2000	36,596	\$ 780	71.4	\$ 1,778	8,032	\$ 324	63.1	\$ 3,358	44,628	\$ 1,104	69.9	\$ 2,062
2001	37,077	\$ 890	71.6	\$ 2,001	8,319	\$ 382	63.4	\$ 3,828	45,396	\$ 1,272	70.1	\$ 2,336
2002	37,618	\$ 914	71.8	\$ 2,025	8,624	\$ 403	63.7	\$ 3,892	46,242	\$ 1,317	70.3	\$ 2,374
2003	38,283	\$ 984	71.9	\$ 2,142	8,949	\$ 443	63.9	\$ 4,128	47,232	\$ 1,427	70.4	\$ 2,518
2004	39,097	\$ 1,056	72.0	\$ 2,250	9,235	\$ 478	64.2	\$ 4,318	48,332	\$ 1,534	70.5	\$ 2,645
2005	40,251	\$ 1,138	72.1	\$ 2,355	9,518	\$ 514	64.6	\$ 4,504	49,769	\$ 1,652	70.7	\$ 2,766
2006	41,309	\$ 1,224	72.2	\$ 2,469	9,683	\$ 549	65.0	\$ 4,728	50,992	\$ 1,773	70.8	\$ 2,898
2007	41,584	\$ 1,280	72.2	\$ 2,565	9,808	\$ 578	65.4	\$ 4,914	51,392	\$ 1,858	70.9	\$ 3,013
2008	42,298	\$ 1,356	72.4	\$ 2,671	10,052	\$ 623	65.8	\$ 5,167	52,350	\$ 1,979	71.1	\$ 3,150
2009	42,825	\$ 1,423	72.6	\$ 2,768	10,244	\$ 663	66.3	\$ 5,394	53,069	\$ 2,086	71.4	\$ 3,275
2010	43,752	\$ 1,514	72.7	\$ 2,883	10,444	\$ 706	66.7	\$ 5,638	54,196	\$ 2,220	71.6	\$ 3,414
2011	44,726	\$ 1,597	72.9	\$ 2,976	10,645	\$ 746	67.0	\$ 5,836	55,371	\$ 2,343	71.7	\$ 3,526
2012	45,899	\$ 1,686	73.0	\$ 3,061	10,871	\$ 789	67.3	\$ 6,049	56,770	\$ 2,475	71.9	\$ 3,633
2013	46,939	\$ 1,774	73.2	\$ 3,149	11,147	\$ 837	67.5	\$ 6,261	58,086	\$ 2,611	72.1	\$ 3,746
2014	47,867	\$ 1,836	73.4	\$ 3,196	11,362	\$ 876	67.8	\$ 6,427	59,229	\$ 2,712	72.3	\$ 3,816
2015	48,958	\$ 1,898	73.5	\$ 3,231	11,648	\$ 914	68.0	\$ 6,541	60,606	\$ 2,813	72.5	\$ 3,867
2016	50,034	\$ 1,988	73.6	\$ 3,311	11,880	\$ 965	68.3	\$ 6,766	61,914	\$ 2,952	72.6	\$ 3,974
2017	51,083	\$ 2,079	73.8	\$ 3,391	12,241	\$ 1,030	68.4	\$ 7,012	63,324	\$ 3,109	72.7	\$ 4,091
2018	52,292	\$ 2,192	73.9	\$ 3,493	12,588	\$ 1,104	68.5	\$ 7,308	64,880	\$ 3,296	72.8	\$ 4,233
2019	53,560	\$ 2,316	73.9	\$ 3,603	12,947	\$ 1,184	68.6	\$ 7,620	66,507	\$ 3,500	72.9	\$ 4,385
2020	54,693	\$ 2,436	74.0	\$ 3,712	13,319	\$ 1,270	68.8	\$ 7,946	68,012	\$ 3,706	73.0	\$ 4,541

**Exhibit E-3  
 Contribution Rates**

Valuation Date (June 30)	General Plans					Safety Plans					Total All Plans				
	Calculated Normal Cost	Member Contributions	Net Employer Normal Cost	UAAL Rate	Total Employer Contribution	Calculated Normal Cost	Member Contributions	Net Employer Normal Cost	UAAL Rate	Total Employer Contribution	Calculated Normal Cost	Member Contributions	Net Employer Normal Cost	UAAL Rate	Total Employer Contribution
1998	10.27%	3.06%	7.21%	0.00%	7.21%	25.00%	8.70%	16.30%	0.00%	16.30%	13.27%	4.21%	9.06%	0.00%	9.06%
1999	10.98%	3.20%	7.78%	0.00%	7.78%	25.41%	9.12%	16.29%	0.00%	16.29%	13.81%	4.36%	9.45%	0.00%	9.45%
2000	10.91%	3.33%	7.58%	0.00%	7.58%	25.22%	9.44%	15.78%	0.00%	15.78%	13.66%	4.51%	9.15%	0.00%	9.15%
2001	11.27%	3.45%	7.82%	0.00%	7.82%	25.47%	9.27%	16.20%	0.00%	16.20%	14.01%	4.57%	9.44%	0.00%	9.44%
2002	12.04%	3.53%	8.51%	0.21%	8.72%	25.92%	9.37%	16.55%	0.21%	16.76%	14.66%	4.63%	10.03%	0.21%	10.24%
2003	12.25%	3.72%	8.53%	4.66%	13.19%	25.89%	9.55%	16.34%	4.66%	21.00%	14.80%	4.81%	9.99%	4.66%	14.65%
2004	12.20%	3.82%	8.38%	6.41%	14.79%	24.61%	9.61%	15.00%	6.41%	21.41%	14.48%	4.88%	9.60%	6.41%	16.01%
2005	12.22%	3.91%	8.31%	5.33%	13.64%	24.69%	9.68%	15.01%	5.33%	20.34%	14.50%	4.97%	9.53%	5.33%	14.86%
2006	12.22%	4.07%	8.15%	3.49%	11.64%	24.70%	9.70%	15.00%	3.49%	18.49%	14.54%	5.12%	9.42%	3.49%	12.91%
2007	13.15%	4.38%	8.77%	2.24%	11.01%	26.04%	10.18%	15.86%	2.24%	18.10%	15.67%	5.51%	10.16%	2.24%	12.40%
2008	13.18%	4.47%	8.71%	1.99%	10.70%	26.01%	10.22%	15.79%	1.99%	17.78%	15.68%	5.59%	10.09%	1.99%	12.08%
2009	13.29%	4.57%	8.72%	4.12%	12.84%	26.08%	10.21%	15.87%	4.12%	19.99%	15.75%	5.65%	10.10%	4.12%	14.22%
2010	13.32%	4.68%	8.64%	6.47%	15.11%	25.00%	10.19%	14.81%	6.47%	21.28%	15.59%	5.75%	9.84%	6.47%	16.31%
2011	13.36%	4.91%	8.45%	7.89%	16.34%	25.09%	10.50%	14.59%	7.89%	22.48%	15.65%	6.00%	9.65%	7.89%	17.54%
2012	13.50%	5.01%	8.49%	10.09%	18.58%	25.42%	10.52%	14.90%	10.09%	24.99%	15.81%	6.08%	9.73%	10.09%	19.82%
2013	13.25%	5.01%	8.24%	11.90%	20.14%	24.67%	10.26%	14.41%	11.90%	26.31%	15.47%	6.03%	9.44%	11.90%	21.34%
2014	13.14%	5.09%	8.05%	10.04%	18.09%	24.71%	10.23%	14.48%	10.04%	24.52%	15.37%	6.08%	9.29%	10.04%	19.33%
2015	13.28%	5.22%	8.06%	8.49%	16.55%	24.71%	10.26%	14.45%	8.49%	22.94%	15.46%	6.18%	9.28%	8.49%	17.77%
2016	14.51%	5.72%	8.79%	9.73%	18.52%	25.54%	10.57%	14.97%	9.73%	24.70%	16.62%	6.65%	9.97%	9.73%	19.70%
2017	14.62%	5.87%	8.75%	10.10%	18.85%	25.69%	10.56%	15.13%	10.10%	25.23%	16.70%	6.76%	9.94%	10.10%	20.04%
2018	14.77%	6.04%	8.73%	10.99%	19.72%	25.70%	10.59%	15.11%	10.99%	26.10%	16.80%	6.88%	9.92%	10.99%	20.91%
2019	16.24%	6.74%	9.50%	11.73%	21.23%	28.58%	11.78%	16.80%	11.73%	28.53%	18.54%	7.68%	10.86%	11.73%	22.59%
2020	16.31%	6.86%	9.45%	13.75%	23.20%	28.95%	11.88%	17.07%	13.75%	30.82%	18.69%	7.80%	10.89%	13.75%	24.64%



**Exhibit E-4  
Funded Status History**

Valuation Year	Actuarial Liability (AAL)	Market Value Basis			Actuarial Value Basis			Annual Total Payroll	Asset Smoothing Ratio (AVA / MVA)	Asset Volatility Ratio (MVA / Payroll)	Liability Volatility Ratio (AAL / Payroll)
		Market Value of Assets (MVA) <sup>1</sup>	Unfunded AAL (UAAL)/Surplus MVA Basis	Funded Ratio MVA Basis	Actuarial Value of Assets (AVA) <sup>1</sup>	Unfunded AAL (UAAL)/Surplus AVA Basis	Funded Ratio AVA Basis				
1996 <sup>2</sup>	17,300	18,600	1,300	107.5%	17,700	400	102.3%	3,356	95.2%	5.5	5.2
1997 <sup>2</sup>	19,300	21,100	1,800	109.3%	19,600	300	101.6%	3,373	92.9%	6.3	5.7
1998	20,960	22,332	1,372	106.5%	20,851	(109)	99.5%	3,562	93.4%	6.3	5.9
1999	22,785	24,382	1,597	107.0%	23,536	751	103.3%	3,858	96.5%	6.3	5.9
2000	24,721	27,257	2,536	110.3%	25,427	706	102.9%	4,143	93.3%	6.6	6.0
2001	26,490	23,916	(2,574)	90.3%	26,490	-	100.0%	4,469	110.8%	5.4	5.9
2002	28,437	24,085	(4,352)	84.7%	28,262	(175)	99.4%	4,730	117.3%	5.1	6.0
2003	30,474	24,616	(5,858)	80.8%	26,564	(3,910)	87.2%	4,934	107.9%	5.0	6.2
2004	32,700	28,094	(4,606)	85.9%	27,089	(5,611)	82.8%	4,942	96.4%	5.7	6.6
2005	34,375	30,904	(3,471)	89.9%	29,497	(4,878)	85.8%	5,051	95.4%	6.1	6.8
2006	36,259	34,256	(2,003)	94.5%	32,820	(3,439)	90.5%	5,333	95.8%	6.4	6.8
2007	39,503	40,073	570	101.4%	37,042	(2,461)	93.8%	5,886	92.4%	6.8	6.7
2008	41,975	37,834	(4,141)	90.1%	39,662	(2,313)	94.5%	6,257	104.8%	6.0	6.7
2009	44,469	29,723	(14,746)	66.8%	39,542	(4,927)	88.9%	6,673	133.0%	4.5	6.7
2010	46,646	32,629	(14,017)	69.9%	38,839	(7,807)	83.3%	6,739	119.0%	4.8	6.9
2011	48,599	38,587	(10,012)	79.4%	39,194	(9,405)	80.6%	6,705	101.6%	5.8	7.2
2012	50,809	37,453	(13,356)	73.7%	39,039	(11,770)	76.8%	6,675	104.2%	5.6	7.6
2013	53,247	41,334	(11,913)	77.6%	39,932	(13,315)	75.0%	6,656	96.6%	6.2	8.0
2014	54,942	47,223	(7,719)	86.0%	43,654	(11,288)	79.5%	6,815	92.4%	6.9	8.1
2015	56,819	48,308	(8,511)	85.0%	47,328	(9,491)	83.3%	7,078	98.0%	6.8	8.0
2016	62,199	47,347	(14,852)	76.1%	49,358	(12,841)	79.4%	7,390	104.2%	6.4	8.4
2017	65,311	52,217	(13,094)	80.0%	52,166	(13,145)	79.9%	7,749	99.9%	6.7	8.4
2018	68,527	55,737	(12,790)	81.3%	55,233	(13,294)	80.6%	8,079	99.1%	6.9	8.5
2019	74,635	57,712	(16,923)	77.3%	57,617	(17,018)	77.2%	8,423	99.8%	6.9	8.9
2020	78,275	57,925	(20,350)	74.0%	59,763	(18,512)	76.3%	8,819	103.2%	6.6	8.9

1. Asset values exclude non-valuation reserves
2. Only rounded values are available.

**Exhibit E-5**  
**Reconciliation of Changes in Unfunded Actuarial Accrued Liability or Surplus**

<b>Valuation Year</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Prior Year UAAL	7,807	9,405	11,770	13,315	11,288	9,491	12,841	13,145	13,294	17,018
Normal Cost	1,200	1,237	1,430	1,163	1,068	1,118	1,246	1,243	1,352	1,553
Contributions	(1,461)	(1,646)	(1,455)	(1,824)	(1,936)	(1,902)	(1,880)	(2,116)	(2,303)	(2,459)
Interest	605	724	895	999	814	682	954	968	976	1,212
Changes in Assumptions/Methodology	221	457	511	-	-	2,922	-	-	2,528	-
Changes in Benefit Provisions	-	-	-	-	-	-	-	-	-	-
Expected Current Year UAAL	8,372	10,177	13,151	13,653	11,234	12,311	13,161	13,240	15,847	17,324
Actual Current Year UAAL	9,405	11,770	13,315	11,288	9,491	12,841	13,145	13,294	17,018	18,512
Total (Gain)/Loss on UAAL	1,033	1,593	164	(2,365)	(1,743)	530	(16)	54	1,171	1,188
Asset (Gains)/Losses	1,761	2,337	893	(1,664)	(1,263)	496	(421)	(411)	477	701
Salary Increases	(579)	(629)	(563)	(291)	79	162	277	223	486	388
All Other Actuarial (Gains)/Losses	(149)	(115)	(166)	(410)	(559)	(128)	128	242	208	99

**Exhibit E-6**  
**Reconciliation of Changes in Calculated Employer Contribution Rate**

Valuation Year	Prior Year Contribution Rate	Changes in Existing Amortization Bases	Assumption/ Method Changes	Salary/Payroll Variations	Plan Amendments	Asset (Gains)/Losses	Demographic/Other (Gains)/Losses	Current Year Contribution Rate
2004	14.65%	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	16.01%
2005	16.01%	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A <sup>1</sup>	14.86%
2006	14.86%	-0.29%	0.00%	0.02%	0.00%	-1.82%	0.14%	12.91%
2007	12.91%	-0.28%	1.34%	0.61%	0.00%	-2.14%	-0.04%	12.40%
2008	12.40%	-0.17%	0.00%	0.21%	0.00%	-0.24%	-0.12%	12.08%
2009	12.08%	-0.04%	-1.76%	0.21%	0.00%	3.91%	-0.18%	14.22%
2010	14.22%	0.00%	-0.27%	-0.10%	0.00%	2.29%	0.17%	16.31%
2011	16.31%	0.00%	0.25%	-0.14%	0.00%	1.39%	-0.27%	17.54%
2012	17.54%	0.00%	0.54%	-0.11%	0.00%	1.92%	-0.07%	19.82%
2013	19.82%	0.00%	0.82%	-0.01%	0.00%	0.74%	-0.03%	21.34%
2014	21.34%	0.00%	0.00%	-0.15%	0.00%	-1.43%	-0.43%	19.33%
2015	19.33%	0.00%	0.00%	0.04%	0.00%	-1.04%	-0.56%	17.77%
2016	17.77%	0.00%	2.87%	0.20%	0.00%	0.39%	-0.02%	21.21%
2017	21.21%	0.00%	0.00%	0.05%	0.00%	-0.32%	0.06%	21.00%
2018	21.00%	0.00%	0.00%	0.04%	0.00%	-0.30%	0.17%	20.91%
2019	20.91%	0.00%	1.10%	0.20%	0.00%	0.42%	-0.04%	22.59%
2020	22.59%	0.00%	1.09%	0.04%	0.00%	0.58%	0.34%	24.64%

1. Data not available.

**Exhibit E-7  
 Funding Policy History**

	Description of changes, if any	Effective Date	Impact on Contribution Rate	Impact on Funded Ratio	Rationale
2009	Changed from 3-year to 5-year asset smoothing. Included STAR reserve as a valuation asset. Adopted 30-year layered amortization period.	June 30, 2009	-1.68% <sup>1</sup>	4.40%	See June 30, 2009 valuation report.
2010	Included STAR reserve as a valuation asset.	June 30, 2010	-0.52% <sup>1</sup>	1.40%	See June 30, 2010 valuation report.
2011	Included STAR reserve as a valuation asset.	June 30, 2011	-0.52% <sup>1</sup>	1.20%	See June 30, 2011 valuation report.
2012	Included STAR reserve as a valuation asset for 2012 and future valuations (adopted February 2013).	June 30, 2012	-0.53% <sup>1</sup>	1.20%	See June 30, 2012 valuation report.
2019	Adopted 20-year layered amortization period for new layers. Existing layers are set to be no greater than 22 years, so they are fully amortized no later than 2042.	June 30, 2019	0.30%	0.00%	See June 30, 2019 valuation report.

1. Note that savings due to inclusion of STAR reserve as valuation asset are not cumulative from year to year.

**Exhibit E-8**  
**History of Changes in Economic Assumptions**

Valuation Year	Price Inflation	Wage Inflation	Real Wage Inflation <sup>1</sup>	Investment Return Assumption	Real Investment Return <sup>2</sup>	Effective Date	Change in Contribution Rate	Change in Funded Ratio
2004	3.50%	3.75%	0.25%	7.75%	4.25%	July 1, 2004	1.65%	N/A <sup>3</sup>
2007	3.50%	4.00%	0.50%	7.75%	4.25%	July 1, 2007	0.66%	-1.3%
2011	3.45%	3.95%	0.50%	7.70%	4.25%	July 1, 2011	0.25%	-0.3%
2012	3.35%	3.85%	0.50%	7.60%	4.25%	July 1, 2012	0.54%	-0.7%
2013	3.00%	3.50%	0.50%	7.50%	4.50%	July 1, 2013	0.37%	-0.1%
2016	2.75%	3.25%	0.50%	7.25%	4.50%	July 1, 2016	1.14%	-1.4%
2019	2.75%	3.25%	0.50%	7.00%	4.25%	July 1, 2019	2.20%	-2.3%

1. Excess of assumed wage inflation over price inflation.
2. Excess of assumed investment return over price inflation.
3. Information not available.

### Exhibit E-9 History of Changes in Demographic and Other Non-Economic Assumptions

	Demographic Assumption Revisions	Effective Date	Change in Contribution Rate	Change in Funded Ratio	Rationale
2004	Mortality, merit salary scale, retirement, termination, probability of refund, probability of eligible survivor revised.	July 1, 2004	-0.63%	N/A <sup>1</sup>	Refer to the 2004 Investigation of Experience Report.
2007	Mortality, retirement, termination, probability of refund, merit salary scale for Safety members revised.	July 1, 2007	0.68%	N/A <sup>1</sup>	Refer to the 2007 Investigation of Experience Report.
2010	Mortality, retirement, termination, probability of refund, assumed benefit commencement age revised.	July 1, 2010	-0.27%	-0.1%	Refer to the 2010 Investigation of Experience Report.
2013	Mortality, retirement, termination, probability of refund, merit salary scale for Safety members, probability of eligible survivor, assumption for beneficiary age, reciprocity assumption revised.	July 1, 2013	0.45%	-0.6%	Refer to the 2013 Investigation of Experience Report.
2016	Mortality, retirement, termination, probability of eligible survivor, assumed benefit commencement age, reciprocity assumption revised.	July 1, 2016	1.73%	-2.5%	Refer to the 2016 Investigation of Experience Report.
2019	Mortality, retirement, termination, probability of refund, merit salary scale, assumed benefit commencement age.	July 1, 2019	0.80%	-0.4%	2019 Investigation of Experience.

1. Information not available.

## Appendix F Glossary

The following definitions include excerpts from a list adopted by the major actuarial organizations in the United States. In some cases, the definitions have been modified for specific applicability to LACERA and include terms used exclusively by LACERA. Defined terms are capitalized throughout this Appendix.

### **Accrued Benefit**

The amount of an individual's benefit (whether or not vested) as of a specific date, determined in accordance with the terms of a pension plan and based on compensation and service to that date.

### **Actuarial Accrued Liability**

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

### **Actuarial Assumptions**

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

### **Actuarial Gain (Loss)**

A measure of the difference between actual experience and that expected based on a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

### **Actuarial Present Value**

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

### **Actuarial Valuation**

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

### **Actuarial Value of Assets**

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

### **Actuarially Equivalent**

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

### **Amortization Payment**

That portion of the pension plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

### **Contingency Reserve**

Reserves accumulated for future earning deficiencies, investment losses, and other contingencies. Additions include investment income and other revenues; deductions include investment expense, administrative expense, interest allocated to other reserves, funding the STAR Reserve, and distributions to the Contribution Credit Reserve. Amounts are allocated to the Contingency Reserve to the extent there are positive recognized earnings to allocate. The California Government Code (Sections 31592 and 31592.2) requires the Contingency Reserve to be set at a minimum of 1.0% of the market value of total assets.

### **County Contribution Credit Reserve**

The accumulated balance of the County's proportionate share of excess earnings as stipulated in the Retirement System Funding Agreement between LACERA and the County. Additions include distributions from excess earning during the fiscal years ending 1994 through 1998 and related earnings. Deductions include payments, as the County authorizes, for future employer contributions due LACERA and for funding a portion of the Retiree Healthcare Program under the provisions of Internal Revenue Code 401(h).

### **Employer Reserve**

The accumulation of employer contributions for future retirement benefit payments. Additions include contributions from employers and related earnings. Deductions include annuity payments to retired members and survivors, lump sum death benefit payments to member survivors, and supplemental disability payments.

### **Entry Age Actuarial Cost Method**

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

### **Funded Ratio**

A measurement of the funded status of the Plan. The Funded Ratio is calculated by dividing the Valuation Assets by the Actuarial Accrued Liability. For example, a Funded Ratio of 90% indicates assets are 10% less than liabilities.

### **Funding Goal**

The Funding Goal is the funded status the Board of Investments would like LACERA to achieve. The main goal is to provide benefit security for its members as well as to achieve and maintain stable employer contributions that are as low as possible. A Funded Ratio equal to 100% is the Funding Goal.

### **Layered Amortization Period**

Payment of each year's change in the Unfunded Actuarial Accrued Liability (UAAL) is amortized over separate closed periods. For LACERA, the original UAAL as of June 30, 2009 is being amortized over a closed 30-year period. Subsequent changes in the UAAL were amortized over new closed 30-year periods. Effective with the June 30, 2019 valuation all existing layers with more than 22 years remaining as of June 30, 2020 were re-amortized over closed 22-year periods. All new UAAL layers thereafter are amortized over closed 20-year periods beginning with the date the contribution is first expected to be made. All amortization payments are based on a level percent of pay.



### **Member Reserve**

The accumulation of member contributions. Additions include member contributions and related earnings. Deductions include annuity payments to retirees and refunds to members.

### **Non-Valuation Reserves**

Reserves excluded from the calculation of contribution rates, including the Contingency Reserve, the County Contribution Credit Reserve, and any other reserves specifically excluded by the Board of Investments.

### **Normal Cost**

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

### **Plan Year**

A 12-month period beginning July 1 and ending June 30.

### **Projected Benefits**

Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.

### **STAR Reserve**

Reserves accumulated for the payment of cost-of-living benefits as defined in California Government Code Section 31874.3.

Supplemental Targeted Adjustment for Retirees (STAR) Benefits Supplemental cost-of-living payments to retired members to restore purchasing power at a specified percentage level, as described in California Government Code Section 31874.3.

### **Surplus Funding**

The excess, if any, of the Actuarial Value of Assets over the Actuarial Accrued Liability. Standard actuarial terminology defines this as the "Funding Excess." LACERA uses the term "Surplus Funding."

### **Unfunded Actuarial Accrued Liability**

The excess, if any, of the Actuarial Accrued Liability over the Actuarial Value of Assets.

### **Valuation Date**

The date upon which the Normal Cost, Actuarial Accrued Liability, and Actuarial Value of Assets are determined. Generally, the Valuation Date will coincide with the ending of a Plan Year.

### **Valuation Reserves**

All reserves excluding the Non-Valuation Reserves.

# **ATTACHMENT II**

Milliman's Presentation Slides  
dated December 9, 2020

# LACERA

June 30, 2020 Actuarial Valuation

Nick Collier and Craig Glyde

DECEMBER 9, 2020

# Overview

- Significant results
  - Increase in employer contribution rate primarily due to:
    - Recognition of one-third of increase for 2019 assumption and amortization changes; and
    - Recognition of investment losses (relative to assumed return)
  - Small decreases in member contribution rates for General Plan G and Safety Plan C
  - Decrease in Funded Ratio
    - Primarily due to recognition of investment losses (relative to assumed return)
- Changes since last year
  - Benefit provisions, actuarial methods: no changes since prior year
  - Assumptions: no changes since prior year

# COVID-19 Impact

- Negative impact on investment returns (especially in Q1-2020)
  - 1.8% return on market basis for fiscal year 2019-2020
- No other material impact on valuation results
- Areas where future experience might be expected to deviate from assumed includes:
  - Mortality rates
  - Salary increases
  - Payroll growth

# Summary of Results

## Assets & Liabilities

(in \$millions)	June 30th Valuation	
	2020	2019
Actuarial Accrued Liability (AAL):		
Active Members	\$ 33,775	\$ 32,400
Retired Members	43,239	41,021
Vested Terminated Members	1,261	1,214
Total AAL	\$ 78,275	\$ 74,635
Valuation Assets	\$ 59,763	\$ 57,617
Unfunded AAL	\$ 18,512	\$ 17,018
Funded Ratio (Valuation Assets / AAL)	76.3%	77.2%

# Summary of Results

## Employer Contribution Rates beginning July 1, 2021

	June 30th Valuation		
	2020	2019	Change
Gross Normal Cost Rate	18.69%	18.54%	0.15%
Member Contribution Rate <sup>(1)</sup>	-7.80%	-7.68%	-0.12%
Employer Normal Cost Rate	10.89%	10.86%	0.03%
UAAL Rate	14.85%	13.92%	0.93%
Preliminary Employer Rate	25.74%	24.78%	0.96%
Deferred Recognition of new assumptions	-1.10%	-2.19%	1.09%
Employer Contribution Rate with phase-in	24.64%	22.59%	2.05%

1. Includes non-contributory members.

- 24.64% is a weighted average of all plans
- Employer rate would be 0.51% higher if STAR Reserve was excluded

# Summary of Results

## Employer Contribution Rates beginning July 1, 2021

	Employer Normal Cost Rate	UAAL Rate	Total Employer Contribution Rate	Change Since Last Year
General Plan A	17.13%	13.75%	30.88%	1.81%
General Plan B	10.41%	13.75%	24.16%	3.03%
General Plan C	7.64%	13.75%	21.39%	1.67%
General Plan D	9.19%	13.75%	22.94%	2.00%
General Plan E	10.74%	13.75%	24.49%	2.02%
General Plan G	9.10%	13.75%	22.85%	2.01%
Safety Plan A	26.37%	13.75%	40.12%	2.02%
Safety Plan B	17.85%	13.75%	31.60%	2.60%
Safety Plan C	14.42%	13.75%	28.17%	1.90%

More volatile changes  
due to small number of  
members

\* All rates as a percentage of payroll



# Summary of Results

## Member Contribution Rates beginning July 1, 2021

- General Plan G and Safety Plan C (PEPRA plans) members contribute one-half of plan's normal cost rate

	General Plan G	Safety Plan C
<b>All Ages: Recommended</b>	<b>9.10%</b>	<b>14.42%</b>
All Ages: Current	9.11%	14.54%
Ratio (Recommended / Current)	99.9%	99.2%

- Member rates for other contributory plans determined by formula
  - Only change when certain assumptions change
  - No changes to these rates since no assumption changes in 2020

# Summary of Results

## Analysis of changes since last year

Sources of Change	Employer Contribution Rate	Funded Ratio
<b>June 30, 2019 Actuarial Valuation</b>	<b>22.59%</b>	<b>77.2%</b>
Expected Year-to-Year Change	0.16%	0.5%
Recognition of 2019 Assumption Changes	1.09%	0.0%
Recognition of Asset Gains / Losses	0.58%	-0.9%
Salary / Payroll Increases	0.11%	-0.4%
Other	0.11%	-0.1%
<b>Total Change</b>	<b>2.05%</b>	<b>-0.9%</b>
<b>June 30, 2020 Actuarial Valuation</b>	<b>24.64%</b>	<b>76.3%</b>

Increase due to less contributions received in FYB 2020 as a result of phase-in of 2019 assumption changes

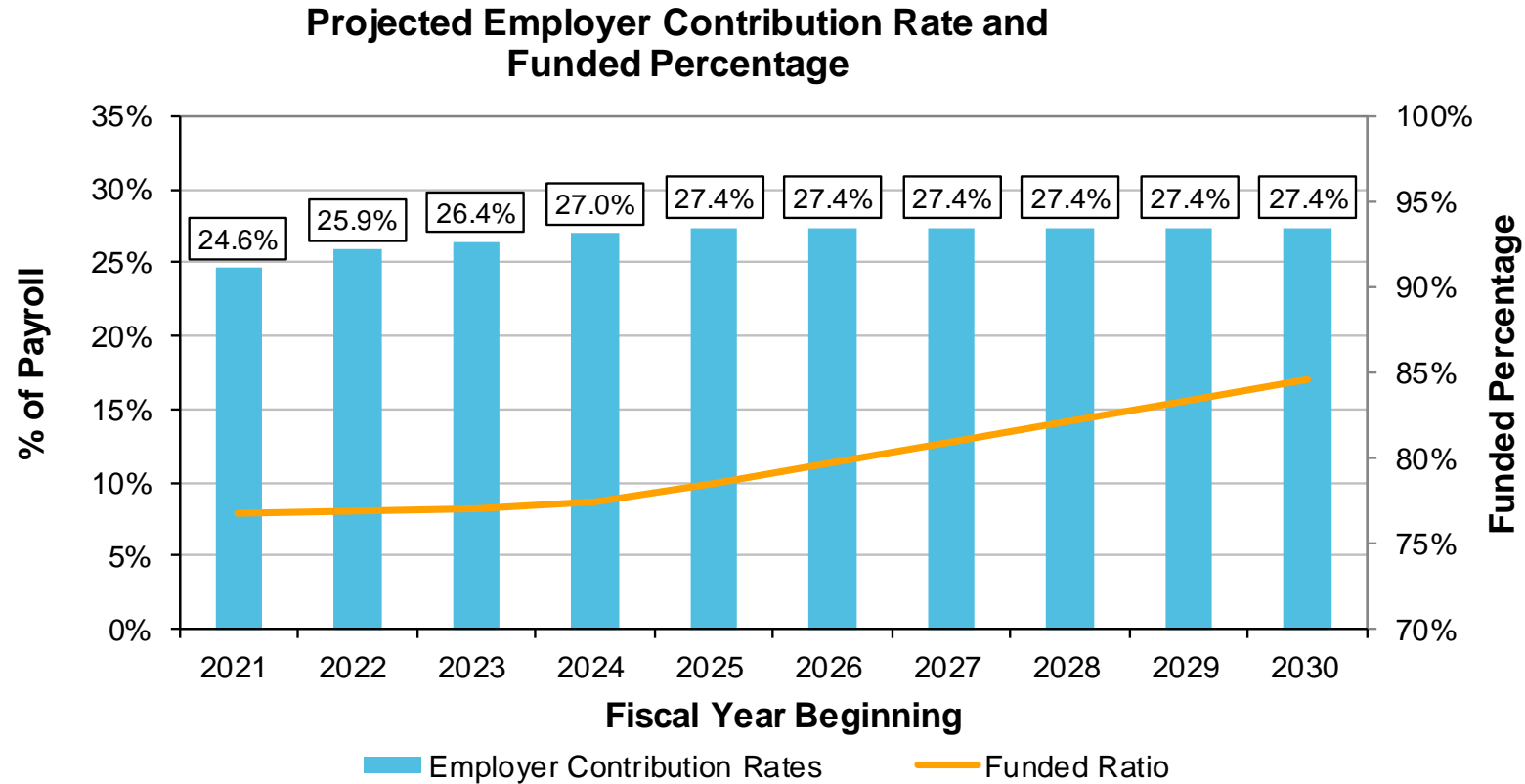
2/3rds of 2019 assumption change impact is phased-in effective July 1, 2021. Full impact will be phased-in effective July 1, 2022

# Looking Ahead

- Projection: 1 Year
  - Increase in employer contribution rate next valuation projected to be about 1.3% of pay if LACERA earns 7.00% for FYE 2021
    - Increase is primarily due to final step of phase-in of contribution rate increase for 2019 assumption changes
    - Actual rate will be dependent on other factors
- Projection: 10 Years
  - Future required employer contribution rates and funded ratios will be dependent on investment returns and other factors
  - Baseline projection shows projection with:
    - All assumptions met, no changes in assumptions
  - Alternate projection includes:
    - 25th and 75th percentile returns for 10 years

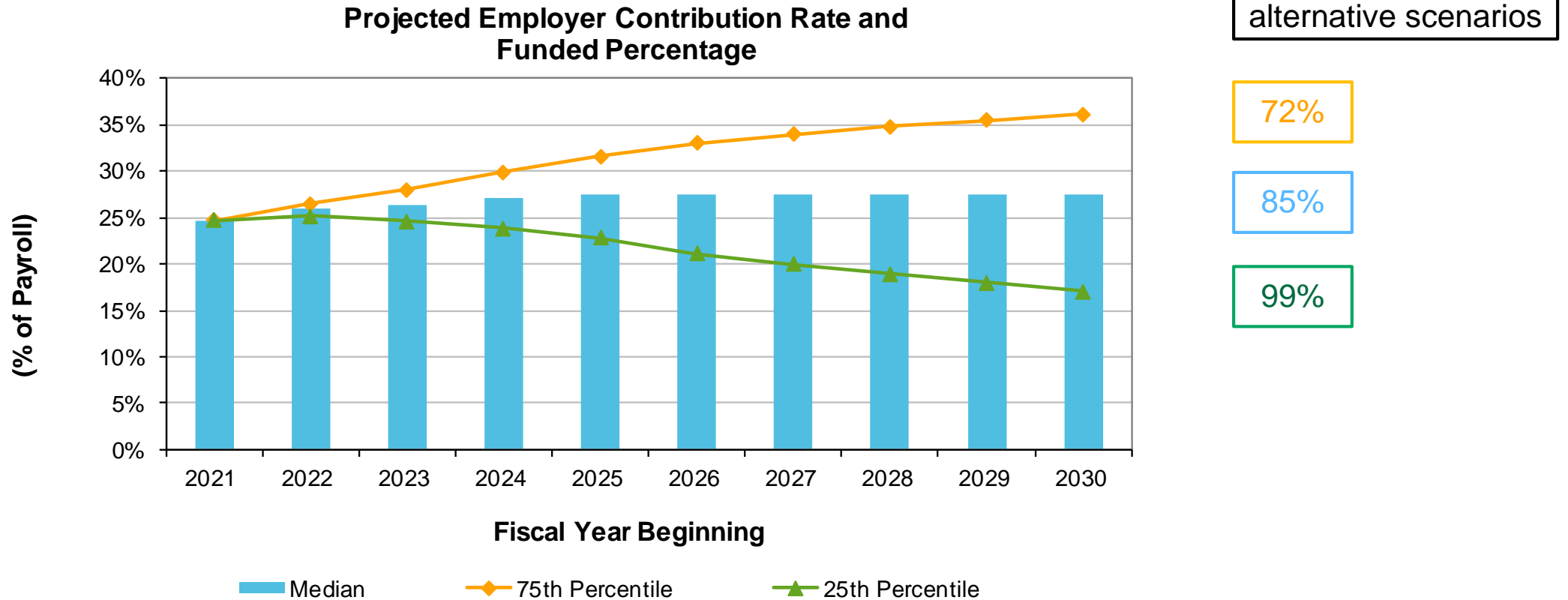
*Projections based on June 30, 2020 valuation and do not reflect actual investment returns since that date.*

# Looking Ahead - Baseline



*Projections assume that all actuarial assumptions are met after June 30, 2020 and reflect the phasing in of the new assumption costs and the scheduled recognition of asset gains and losses currently being deferred. Actual results will vary.*

# Looking Ahead – Good & Bad Returns



*Projections assume that all actuarial assumptions are met after June 30, 2020 (except alternate returns where noted) and reflect the scheduled recognition of asset gains and losses currently being deferred. Actual results will vary.*

*75<sup>th</sup> percentile reflects approximate average annual 4.75% returns over 10 years*

*25<sup>th</sup> percentile reflects approximate average annual 9.25% returns over 10 years*

# Recommendations

## For fiscal year beginning July 1, 2021

- Adopt new employer contribution rates as shown on slide 6, and in Exhibit 11 (page 33) of Milliman's June 30, 2020 valuation report
  - Weighted average employer contribution rate = 24.64%
- Adopt new member contributions rates as follows (and shown on slide 7):
  - General Plan G = 9.10%
  - Safety Plan C = 14.42%

# Questions?



# Statement of Reliance and Limitation

This presentation is intended as a high level discussion of the results of the June 30, 2020 actuarial valuation. It is based on the data, methods, assumptions and plan provisions described in our actuarial valuation report dated November 25, 2020. The statements of reliance and limitations on the use of this material is reflected in the actuarial report and still apply to this presentation.

These statements include reliance on data provided, on actuarial certification, and the purpose of the report.

Milliman's work product was prepared exclusively for LACERA for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning LACERA's operations, and uses LACERA's data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

The results of the actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match the assumptions. As an example, investments may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these potential differences when making decisions that may affect the future financial health of the Plan, or the Plan's participants. Please refer to the Risk Assessment report dated September 8, 2020 for a detailed analysis of the main risks applicable to LACERA.





**Thank you**

November 25, 2020

TO: Trustees – Board of Investments

FROM: Jonathan Grabel   
Chief Investment Officer

Jude Pérez   
Principal Investment Officer

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **STRATEGIC ASSET ALLOCATION DISCUSSION**

At previous Board of Investments' ("BOI") meetings, it has been communicated that the strategic asset allocation ("SAA") review cycle will take place over the next seven months, culminating at the end of the 2021 fiscal year. To date, the BOI has seen presentations that have discussed asset-liability management, the effects the coronavirus pandemic has had on the economy and capital markets, as well as the implications of investing in a very low global interest rate environment. The BOI has also discussed potential ways to refine strategies such as risk mitigation, given the changes in market conditions since the previous SAA review, and participated in a survey to help design the objectives and framework for the SAA study going forward.

The following presentation (**Attachment**) examines the addition of a fifth category to LACERA's current asset allocation functional framework. This additional functional category could be used to accommodate LACERA's overlay and hedging programs. This would allow for discrete assessment of their value-add in meeting Plan objectives and improve performance attribution within other asset categories. Meketa will review the presentation at the December 2020 BOI meeting.

Attachment

# Strategic Asset Allocation Discussion Overlays and Hedges

December 2020

### Introduction

- In May of 2018, the BOI approved a new strategic asset allocation utilizing a functional framework. The primary driver of the decision to use a functional framework was to provide an additional lens through which to view the Plan's objectives, performance and risks.
- In July of 2019, LACERA began utilizing the BOI approved cash overlay to improve the overall efficiency of the Plan and reduce the cash drag on the Plan. The current passive cash overlay is implemented to provide market exposures in-line with the Plan's target, while still maintaining a cash balance for liquidity purposes.
- LACERA has been utilizing a currency hedge within its equity allocations since August of 2019. The purpose of the currency hedge is to reduce overall volatility and to better match the Plan's liability exposure which is in US dollars. This currency hedge is not expected to be a primary source of return in the long run, but in any given month its risk and return can be high enough to overshadow other risk and return drivers in the portfolio. This can cause short term performance attribution challenges.
- The use of hedges and overlays can be beneficial in meeting a Plan's objectives, but can also create challenges with measuring performance attribution and assessing risks relative to assigned benchmarks.
- An additional functional category could be used to accommodate LACERA's current and future overlay and hedging programs. This would allow for discrete assessment of their overall value in meeting Plan objective and also improve performance attribution within other asset categories.
- The goal of this presentation is to facilitate a discussion regarding adding a fifth functional category and solicit the Board's feedback before we proceed with the strategic asset allocation.

### Current LACERA Framework

	LACERA Current Targets	LACERA Low Range	LACERA High Range
Growth	47%	40%	54%
Credit	12%	9%	15%
Real Assets and Inflation Hedges	17%	14%	20%
Risk Reduction and Mitigation	24%	18%	30%

### Potential LACERA Framework

	LACERA Current Targets	LACERA Low Range	LACERA High Range
Growth	47%	40%	54%
Credit	12%	9%	15%
Real Assets and Inflation Hedges	17%	14%	20%
Risk Reduction and Mitigation	24%	18%	30%
Overlays and Hedges	0%	0%	5%

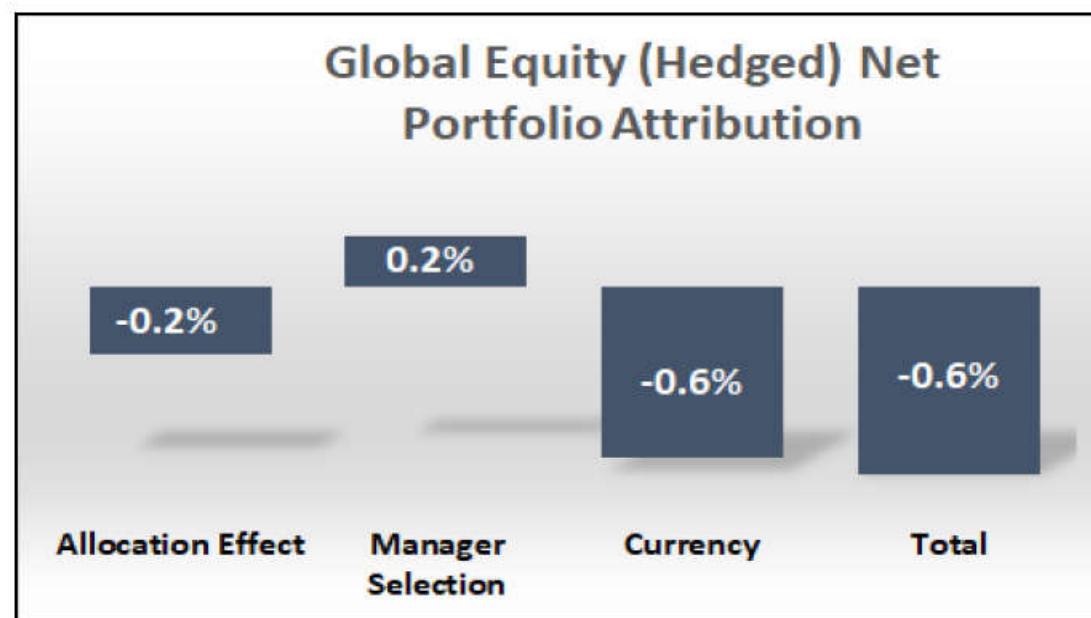
- Overlays and Hedges could be given a 0% target so there would be no impact on the strategic asset allocation.
- Within a separate category it would be easier to monitor exposures.

### Considerations

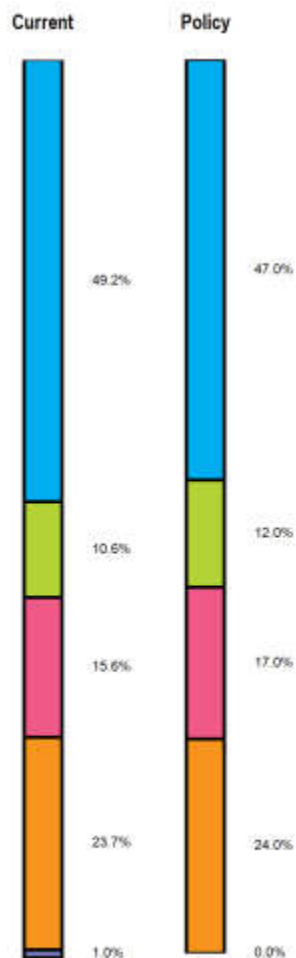
- LACERA manages a truly global portfolio and as the Plan's asset grow in size and complexity, currency hedging may become desirable across a number of different asset categories.
  - Implementing and reporting on currency hedges across multiple asset categories would be complex.
  - A single hedging program could be developed based on underlying exposures of each asset category.
- Overlays and hedging programs involve the use of derivatives and should be carefully monitored.
- Benchmarking overlays and hedging programs can be challenging since they can be utilized to achieve multiple objectives.
  - As an example, an overlay can be utilized to enhance the return of cash in the portfolio or manage exposures through transitions or portfolio rebalancing.
  - It may be suitable to use multiple benchmarks.
- Utilizing a separate reporting category for overlays and hedges may improve LACERA's ability to perform performance attribution at each category level without currency value fluctuations impacting asset category returns, LACERA could better assess what investments are working and not working overtime.

### Considerations (continued)

3Q 2020	
Global Equity Hedged (Gross)	7.6%
Global Equity Hedged (Net)	7.5%
<i>MSCI ACWI IMI Index</i>	8.1%
<b>Net Excess</b>	<b>-0.6%</b>



### Reporting Example



Allocation vs. Targets and Policy							
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?	
<b>Growth</b>	\$29,737,448,392	49.2%	47.0%	2.2%	40.0% - 54.0%	Yes	
Global Equity	\$22,043,748,714	36.5%	35.0%	1.5%	28.0% - 42.0%	Yes	
Private Equity	\$6,978,053,579	11.5%	10.0%	1.5%	7.0% - 13.0%	Yes	
Opportunistic Real Estate	\$715,646,100	1.2%	2.0%	-0.8%	0.0% - 3.0%	Yes	
<b>Credit</b>	\$6,431,831,857	10.6%	12.0%	-1.4%	9.0% - 15.0%	Yes	
High Yield	\$2,003,411,474	3.3%	3.0%	0.3%	0.0% - 6.0%	Yes	
Bank Loans	\$2,426,108,446	4.0%	4.0%	0.0%	0.0% - 6.0%	Yes	
EM Debt	\$821,198,536	1.4%	2.0%	-0.6%	0.0% - 4.0%	Yes	
Illiquid Credit <sup>1</sup>	\$1,178,887,856	1.9%	3.0%	-1.1%	0.0% - 5.0%	Yes	
<b>Real Assets and Inflation Hedges</b>	\$9,413,812,322	15.6%	17.0%	-1.4%	14.0% - 20.0%	Yes	
Core and Value-Added Real Estate	\$4,392,714,183	7.3%	7.0%	0.3%	4.0% - 10.0%	Yes	
Natural Resources and Commodities	\$2,216,982,353	3.7%	4.0%	-0.3%	2.0% - 6.0%	Yes	
Infrastructure	\$1,683,116,171	2.8%	3.0%	-0.2%	0.0% - 4.0%	Yes	
TIPS	\$1,209,999,616	1.9%	3.0%	-1.1%	0.0% - 5.0%	Yes	
<b>Risk Reduction and Mitigation</b>	\$14,300,619,658	23.7%	24.0%	-0.3%	18.0% - 30.0%	Yes	
Investment Grade Bonds	\$11,367,573,961	18.8%	19.0%	-0.2%	13.0% - 25.0%	Yes	
Diversified Hedge Fund Portfolio	\$1,977,681,731	3.3%	4.0%	-0.7%	0.0% - 6.0%	Yes	
Cash	\$955,363,965	1.6%	1.0%	0.6%	0.0% - 3.0%	Yes	
<b>Overlays and Hedges</b>	\$575,780,158	1.0%	0.0%	1.0%	0.0% - 5.0%	Yes	
<b>Total<sup>2</sup></b>	\$60,459,492,387	100.0%	100.0%				

<sup>1</sup> Illiquid Credit contains credit hedge funds, real estate debt, private debt strategies and private equity-related debt.

<sup>2</sup> Totals may not add up due to rounding.

\* The Functional Framework became effective April 1, 2019.



## Reporting Example (continued)

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Cash (Net)</b>	<b>955,363,965</b>	<b>1.6</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>1.4</b>	<b>1.9</b>	<b>1.5</b>	<b>1.0</b>
<b>Cash (Gross)</b>			<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>1.5</b>	<b>2.0</b>	<b>1.6</b>	<b>1.0</b>
<i>Cash Custom BM</i>			<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1.0</u>	<u>1.7</u>	<u>1.2</u>	<u>0.7</u>
Excess Return (vs. Net)			0.1	0.2	0.2	0.4	0.2	0.3	0.3
SSGA Cash (Net)			0.0	--	--	--	--	--	--
SSGA Cash (Gross)			0.0	--	--	--	--	--	--
<i>Cash Custom BM</i>			<u>0.0</u>	--	--	--	--	--	--
Excess Return (vs. Net)			0.0						
<b>Overlays and Hedges (Net)</b>	<b>575,780,158</b>	<b>1.0</b>							
<b>Overlays and Hedges (Gross)</b>									
Parametric Overlay (Net)	596,977,700	1.0							
Parametric Overlay (Gross)									
BTC Passive Currency Hedge (Net)	-21,197,542	0.0	0.9	-1.7	-1.7	-1.7	0.9	0.4	1.0
BTC Passive Currency Hedge (Gross)			0.9	-1.7	-1.7	-1.7	0.9	0.4	1.0
<i>50% FX Hedge Index</i>			<u>0.9</u>	<u>-1.7</u>	<u>-1.7</u>	<u>-1.9</u>	<u>0.9</u>	<u>0.4</u>	<u>1.0</u>
Excess Return (vs. Net)			0.0	0.0	0.0	0.2	0.0	0.0	0.0

### Summary

- Overlays and hedging programs can play important roles in achieving the Plan's objective.
- The use of these programs can create challenges such as conducting performance attribution.
- The use of a fifth functional category for hedging programs and overlays may enhance LACERA's ability to identify over and underperformance from individual investment managers and better understand drivers of risk and return across the portfolio.
- The use of a fifth functional category will also improve LACERA's ability to monitor the overlay and currency hedging programs and evaluate their performance and portfolio impact.

### Next Steps

Next steps include:

- Discussing any differences of opinion regarding Meketa's Capital Markets Expectations and those of the other asset category consultants.
- Reviewing and approving Capital Markets Expectations.
- Presenting the Asset Liability Study, and possible iterations thereafter, for both the OPEB and the Pension Funds.
- Discussing suitability of benchmarks.
- Addressing risk budgeting.

### Disclaimers

These materials are intended solely for the recipient and may contain information that is not suitable for all investors. This presentation is provided by Meketa Investment Group (“Meketa”) for informational purposes only and no statement is to be construed as a solicitation or offer to buy or sell a security, or the rendering of personalized investment advice. There is no agreement or understanding that Meketa will provide individual advice to any advisory client in receipt of this document. There can be no assurance the views and opinions expressed herein will come to pass. Any data and/or graphics presented herein is obtained from what are considered reliable sources; however, its delivery does not warrant that the information contained is correct. Any reference to a market index is included for illustrative purposes only, as an index is not a security in which an investment can be made and are provided for informational purposes only. For additional information about Meketa, please consult the Firm’s Form ADV disclosure documents, the most recent versions of which are available on the SEC’s Investment Adviser Public Disclosure website ([www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov)) and may otherwise be made available upon written request.

November 24, 2020

TO: Trustees  
Board of Investments

FROM: Jonathan Grabel   
Chief Investment Officer

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **LACERA “TOWARDS INCLUSION, DIVERSITY, AND EQUITY” – OR  
“T.I.D.E” – INITIATIVE IN THE INVESTMENT PROGRAM**

Please find attached a presentation (**Attachment**) providing an overview of LACERA’s current and upcoming strategies to promote diversity, equity, and inclusion in the investment industry and as part of LACERA’s investment program. The presentation follows the September 2020 Board of Investments meeting presentation of LACERA’s diversity, equity, and inclusion initiatives and the Board’s approval of two related motions, as detailed in the attached deck.

Attachments

**LACERA's T.I.D.E. Initiative**  
**“Towards Inclusion, Diversity, and Equity”**

**Board of Investments**  
**December 9, 2020**

Investments Division



# Discussion Outline

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1. Recap of objective of T.I.D.E. initiative: expanding influence
2. Five pillars T.I.D.E.: Build on current approaches and set near and long-term objectives
  - Due Diligence (including Monitoring and Influencing Investment Partners)
  - Capital Formation
  - Engagement
  - Industry Advocacy
  - Internal with LACERA Investment Team
3. Summary of the Roadmap Forward

# Recap Objectives and Formalization of T.I.D.E. Initiative



# Recap Why Diversity, Equity, and Inclusion Matter



***LACERA's actions are founded in its mission***  
**To Produce, Protect, and Pay the Promised Benefits**

## ***Diversity, Equity, and Inclusion (“DEI”) influences investment risks and returns***

<b>Performance</b>	Diverse teams correlate with better financial performance
<b>Innovation</b>	Diversity of thought to inform better decisions
<b>Talent</b>	Broader recruitment, retention, and engagement of employees
<b>Risk Mitigation</b>	Risks of “groupthink”
<b>Compliance</b>	Legal, regulatory risks of discrimination and harassment
<b>Reputation</b>	Inclusion enhances employee, client, stakeholder perceptions
<b>Efficiency</b>	Wasted resources when firms are in “response mode” and reactive rather than being <i>proactive</i> and <i>forward-thinking</i>

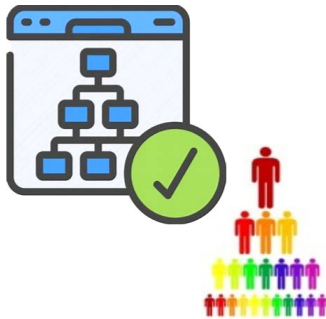
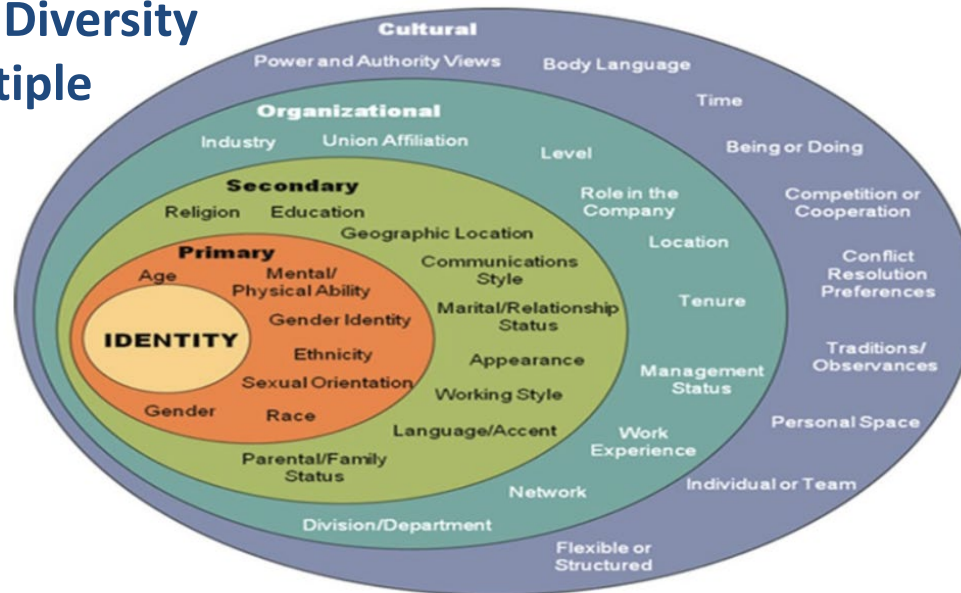
***Attention to DEI is consistent with LACERA's fiduciary duties***  
to act exclusively in beneficiaries' interests with prudence, skill, and care





# Multiple Dimensions and Depth of DEI

## LACERA Defines Diversity Inclusive of Multiple Dimensions\*



## DEI Is Pivotal At All Levels of an Organization

DEI can enhance performance and mitigate risks at multiple levels of the firms that provide LACERA with investment services, including:

- Boards and executives
- Investment teams
- Firm ownership

\* Graphic previously discussed with The Learners Groups at the September joint Board of Retirement/Board of Investments meeting

# TIDE.: Expand Current Initiatives and Influence

The September Board meeting reviewed LACERA’s longstanding DEI efforts, recent evolution, and discussed a proposed T.I.D.E. initiative

## Version 1.0 Initiation

### *Long-standing initiatives:*

- Proxy voting
- Emerging manager program
- Affinity group collaboration

## Version 2.0 Intentionality

### *Cohesive Total Fund actions:*

- DEI in core fund policies
- Comprehensive due diligence
- Governance engagement initiatives

## Version 3.0 T.I.D.E. Influence

### *Concerted actions:*

- Disseminate best practices
- Move the needle at investment partners and industry
- Measure progress

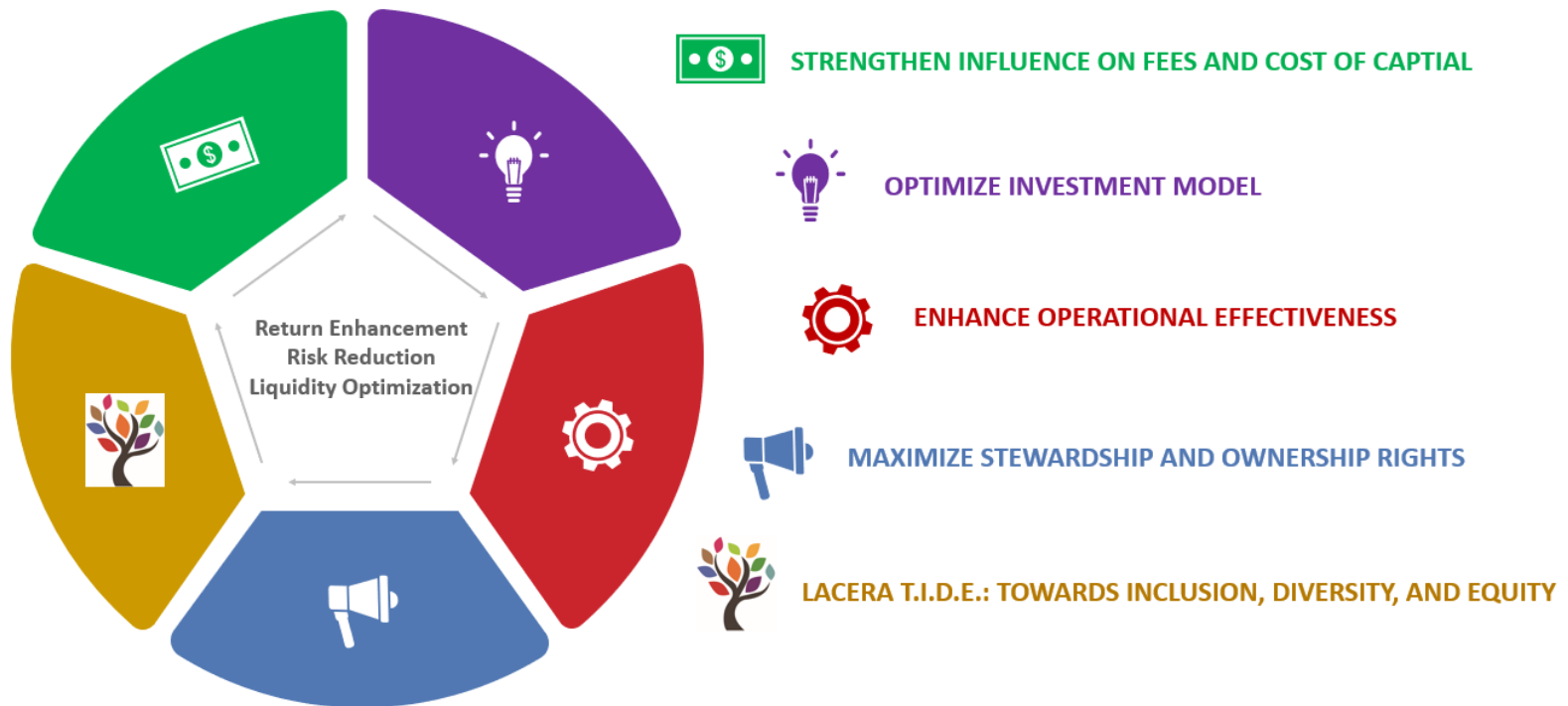
ALL ACTIONS ROOTED IN AND GUIDED BY LACERA’S MISSION AND FIDUCIARY DUTIES



# T.I.D.E. Initiatives Integral and Additive to Work Plan

LACERA's current strategic plan incorporates DEI efforts throughout 4 pillars, consistent with LACERA's effort to move "from allocator to investor"

By consolidating DEI efforts under a designated 5<sup>th</sup> "TIDE" pillar, LACERA intends to galvanize and focus resources to take **concerted, meaningful, measurable** actions on DEI



# Board Input and Related Motions

---

Staff presented an overview of all DEI efforts related to LACERA's investment program and discussed formalizing efforts under the "TIDE" banner at the September Board of Investments. Trustees voiced support and approved two related motions.

## 1. That LACERA develop in 90 days a roadmap to further equity initiatives:

- Expand outreach to minority and women owned firms in the financial services and investment community
- Provide equitable opportunities to qualified investment firms and investment professionals with varied backgrounds to manage LACERA investment assets and provide advisory or other financial services
- Provide equitable opportunities with respect to the amount of assets managed by these same firms

## 2. That trustees review LACERA's emerging manager programs within 120 days

Scheduled for in-depth discussion at **January 2021 Board of Investments meeting**

# T.I.D.E. - Five Pillars of Comprehensive Action

T.I.D.E. is defined by five pillars with near and long-term objectives

-  **Due Diligence** Influence our investment partners to adopt better DEI practices
-  **Capital Formation** Enable more equitable and inclusive sourcing of investment opportunities
-  **Engagement** Exercise ownership and legal rights to advance sound DEI governance practices and promote financial value at portfolio companies
-  **Industry Advocacy** Influence the investment industry and elevate DEI discussions
-  **Internal** Cultivate and maintain a diverse, equitable, and inclusive investments team at LACERA

T.I.D.E.'s pillars are designed to improve outcomes



Enhanced Risk-Adjusted Returns

# The Five T.I.D.E Pillars





# 1. Due Diligence Pillar

This pillar focuses on

assessing and engaging all investment partners on their commitment, track record, and momentum of accessing and retaining diverse, equitable, and inclusive workforces

“Investment partners” are all firms that manage (or seek to manage) LACERA’s capital or provide investment services (such as consultants)



“LACERA expects external asset managers and other third-party providers to respect and reflect LACERA’s value of diversity and inclusion. LACERA’s ongoing monitoring of third-party service providers incorporates an assessment of vendors’ commitment to, adherence with, and track record of accessing and retaining diverse and inclusive workforces.”

LACERA *Investment Policy Statement*  
(page 9)



# Builds on Current, Comprehensive Due Diligence

LACERA's formal diligence and ongoing monitoring of all investment partners aims to understand strengths, weaknesses, *and* momentum

1	<b>Policy Commitment</b>	What is the firm's formal commitment to DEI, equal opportunity, and anti-harassment?
2	<b>Oversight &amp; Engaged Leadership</b>	What role does the firm's board or executive team play in overseeing its DEI strategy?
3	<b>Track Record</b>	What are the firm's investment team and leadership demographics? Are there any legal violations?
4	<b>Objectives and Momentum</b>	What is the firm doing to promote adherence to its DEI commitment and address any shortcomings?
5	<b>Portfolio Strategies</b>	How does the firm incorporate DEI into its investment analysis and process?

T.I.D.E. aims to engage and influence practices and measure progress







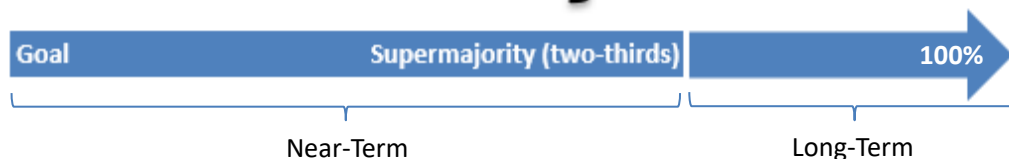
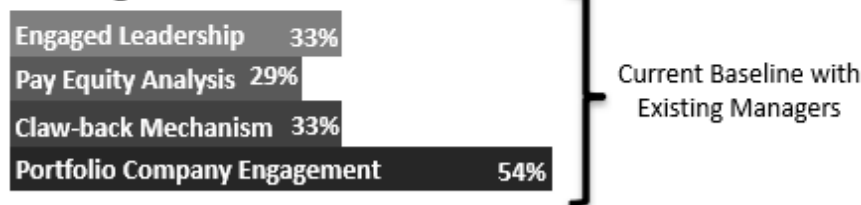
# Influence: Encourage DEI Competencies

T.I.D.E will advocate that all LACERA investment partners meet key DEI standards

## Core DEI Expectations<sup>1</sup>



## Leading DEI Practices<sup>2</sup>



## 5 Steps Towards Influence

1. Incorporate DEI reporting into agreements
2. Engage managers to encourage key practices
3. Move the needle on core and leading DEI practices
4. Measure and report on progress
5. Disaggregate DEI as a separate pillar in Manager Scorecard

<sup>1</sup> Core DEI Expectations:

- Policy: all LACERA investment partners should have policies addressing equal employment and harassment
- Transparency: all investment partners should report DEI to LACERA

<sup>2</sup> Leading DEI Practices:

- Engaged Leadership: Board or executive-level oversight of DEI
- Pay Equity Analysis: Equal pay for equal work
- Claw-back Mechanisms: Recoup pay for DEI violations
- Portfolio Company Engagement: DEI part of investment process





## 2. Capital Formation Pillar

*The Capital Formation pillar aims to promote equitable and inclusive sourcing of investment opportunities and to facilitate the growth of our capital managed by diverse firms by influencing the DEI profiles of our current investment partners*

- Builds off the **5-step due diligence and monitoring process** previewed in the Due Diligence pillar, which includes manager monitoring and influence
- **Identify and assess capital commitments** to investment partners consistent with our DEI objectives
- DEI considerations need to be incorporated at **every stage of the capital formation** process and **goes beyond the emerging manager program to the Total Fund**





# Capital Formation Next Steps

## Recap of Current Approach

- Due Diligence Questionnaire currently tracks demographics of investment teams and executive/board leadership
  - LACERA estimates 6.4% of fund assets managed by, and 12.1% of all fees paid to, firms owned in part by women or minorities, as reported in September BOI meeting<sup>1</sup>
- Capital formation (that is, the emergence and growth of firms) over the long-term is a function of improved pipeline, advancement, and ownership across the industry

## Next Steps

- ✓ **Incorporate direct reporting of ownership profiles** into due diligence and tracking
- ✓ **Refine RFP process** to ensure a more equitable search process
- ✓ **Collaborate with consultants and database providers** to tap into the knowledge and resources of our investment partners
- ✓ **Expand sourcing and intake avenues for LACERA** to widen our opportunity set
- ✓ **Monitor** potential and existing investment partners' progress on the expanded components of DEI

<sup>1</sup> Includes, but is not limited to, participants in emerging manager programs; LACERA's analysis is based on known or attributed ownership of U.S.-based investment partners applying consistent EEO-1 categories of gender and race/ethnicity





# 3. Company Engagement and Active Ownership

This pillar focuses on

**exercising legal and ownership rights we have as investors to advocate sound DEI practices that safeguard and promote financial value in LACERA's investment portfolio companies**



“LACERA prudently exercises its rights as an investor to support policies and practices at companies in which LACERA invests... that are consistent with LACERA's economic interests.”

*LACERA Investment Policy Statement (pages 8-9)*





# Advancing Robust Portfolio Company Practices

Many securities provide LACERA legal and ownership rights to exercise in accordance with its DEI principles

## Recap Current Practices

- **Vote proxies in equity portfolio**  
Workforce demographic disclosure; Pay disparity analysis; Board diversity; Equal employment protections
- **California board diversity engagement initiative**
- **Support DEI regulatory disclosure measures**

## Next Steps

- **Amplify board diversity initiative nationally**
  - Broad diversity (race/ethnicity, gender, LGBTQ+)
- **Workforce equity engagement initiative**
- **Continue robust global proxy voting**
- **Investigate opportunities in private market portfolio companies**
  - Consistent with legal rights and limitations
  - Emphasize in manager due diligence
  - Promote DEI transparency at portfolio company





## 4. Industry Advocacy Pillar

*The Industry Advocacy pillar aims to influence and advance diversity, equity and inclusion in all aspects of the investment management industry*

### Recap Current Approach

- Active participation and membership with over 15 industry associations that promote DEI
- Successful work with ILPA and AIMA to encourage adopting DEI in private equity due diligence and enhanced hedge fund transparency and disclosure reporting

### Next Steps

- Become a **recognized leader** in advocating for DEI in the investment management industry
- **Expand industry influence** through active engagement initiatives
- **Sponsor events** on diversity, equity and inclusion with increasing reach
- **Encourage participation** by service providers and peers





## 5. Internal DEI Practices within Investment Team

The purpose of this pillar is to **cultivate and maintain a diverse, equitable, and inclusive investments team at LACERA**

The goals of this pillar will be accomplished via






- ✓ **Recruitment** - optimize recruitment channels and practices
- ✓ **Development** – invest in our team
- ✓ **Community** – recognize and inspire LACERA’s talent

### Next Steps

- **Be a career destination of choice for all**
- **Collaborate with LACERA departments** to enhance workplace policies and procedures (e.g. new hire screening and professional development)
- **Strengthen and expand** internship program



# T.I.D.E. Roadmap (not exhaustive list)

	Near-Term	Longer-Term
 <p><b>Due Diligence</b></p>	<ul style="list-style-type: none"> <li>Require DEI reporting in investment agreements</li> <li>Engage managers to adopt DEI best practices</li> <li>Measure and report on progress</li> <li>Separate DEI as unique pillar in Manager Scorecard</li> </ul>	<ul style="list-style-type: none"> <li>Assess progress to date and refine goals, as necessary</li> <li>Assess procurement practices to ensure equitable access among prospective investment partners</li> </ul>
 <p><b>Capital Formation</b></p>	<ul style="list-style-type: none"> <li>Refine RFP procedures to ensure equitable process</li> <li>Widen sourcing avenues to expand opportunity set</li> <li>Collaborate with consultants and database providers</li> <li>Monitor potential and existing investment partners on DEI progress</li> </ul>	<ul style="list-style-type: none"> <li>Incorporate DEI tracking metrics into capital commitment measurements</li> <li>Incentivize current roster to enhance DEI initiatives</li> </ul>
 <p><b>Engagement</b></p>	<ul style="list-style-type: none"> <li>Amplify corporate board diversity efforts</li> <li>Workforce equity engagement initiative</li> <li>Continue robust, global reach of proxy voting</li> </ul>	<ul style="list-style-type: none"> <li>Expand portfolio company focus to private markets</li> <li>Promote transparency of portfolio company and board DEI profiles</li> <li>Facilitate best practice sharing and adoption in private asset class companies</li> </ul>
 <p><b>Industry Advocacy</b></p>	<ul style="list-style-type: none"> <li>Sponsor DEI events with increasing geographic reach</li> <li>Expand influence through active leadership</li> <li>Encourage participation by service providers/peers</li> <li>Moderate and participate on panels and forums</li> </ul>	<ul style="list-style-type: none"> <li>Engage industry (consultants, peers, etc.) to influence active DEI participation and discussion</li> <li>Host annual advocacy/affiliation day</li> </ul>
 <p><b>Internal</b></p>	<ul style="list-style-type: none"> <li>Team with HR to support and enhance diverse recruitment into the Investments Division</li> <li>Strengthen cross-asset team collaboration</li> <li>Foster and promote mentorship and collaboration</li> <li>Share investment postings with partner organizations</li> </ul>	<ul style="list-style-type: none"> <li>Strive to always be an employer of choice for all</li> <li>Utilize social media to promote LACERA</li> <li>Introduce rotational analyst role within investments</li> <li>Affirm all roles in spirit of allocator to investor</li> </ul>



# Conclusion

T.I.D.E



Enhanced Risk-Adjusted Returns



Consistent with Fiduciary Duty



 **Produce, Protect, and Provide  
the Promised Benefits**

November 25, 2020

TO: Trustees - Board of Investments

FROM: Quoc Nguyen   
Investment Officer

Calvin Chang   
Senior Investment Analyst

Terra Elijah   
Investment Analyst

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **ASSEMBLY BILL 2833 REPORT – FISCAL YEAR 2020**

California Assembly Bill 2833 ("AB 2833") requires that public pension systems obtain information on fees, expenses, and carried interest information in connection with their investments in alternative investment vehicles and disclose, at least on an annual basis, the results to the public in an open meeting for all new commitments made on and after January 1, 2017. In addition, the bill requires each public pension system to undertake reasonable efforts to obtain the aforementioned information for any existing contracts to which the public pension has not made a new capital commitment on or after January 1, 2017. This expense and fee report provides maximum transparency within the limitations of the law and existing confidentiality agreements.

LACERA collected cost data from 251 active alternative investment vehicles and aggregated the information consistent with the mandate and spirit of AB 2833. For the fiscal year ended June 30, 2020, LACERA's total alternative investment vehicle costs were \$334 million compared to \$318 million the prior fiscal year. A combination of an increase in private equity management fees and carried interest earned by global equity and hedge fund managers led to the five percent rise in total costs.

It is worth noting that staff observed significant improvements in data availability from LACERA's investment managers compared to prior years. Private equity general partner's response rates hit an all-time high at 97%, surpassing the previous high of 81% from 2019. The response rates from the remaining asset categories was 100%.

An overview of AB 2833 (**Attachment 1**) and the fees listed in the summary above will be discussed at the December 9, 2020 Board of Investments meeting. An expanded view of the fees is provided (**Attachment 2**) as required by AB 2833, in addition to Section 6254.26(b) reporting (**Attachment 3**).

Attachments

Noted and Reviewed:

A handwritten signature in black ink, appearing to read "Jonathan Grabel", written in a cursive style.

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Jonathan Grabel  
Chief Investment Officer

# AB 2833 Fiscal Year 2020 Report

Board of Investments

December 9, 2020

Quoc Nguyen – Investment Officer

Calvin Chang – Senior Investment Analyst

Terra Elijah – Investment Analyst



LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

# Overview of AB 2833

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The intent of California Assembly Bill 2833 ("AB 2833") is to increase the transparency of fees paid by public investment funds to alternative investments<sup>1</sup> by requiring public investment funds to disclose the fees, expenses, and carried interest in connection with alternative investment vehicles and their underlying investments at least once annually at an open meeting. The fee transparency disclosure requirements are applicable to:

- 1) New contracts entered into on and after January 1, 2017; and
- 2) Existing contracts for which a new capital commitment is made on or after January 1, 2017
- 3) In addition, each public pension system is required to undertake reasonable efforts to disclose such information for any existing contract for which the public investment fund has not made a new capital commitment on or after January 1, 2017

<sup>1</sup> "Alternative investment" is defined in AB 2833 as an investment in a private equity fund, venture fund, hedge fund, or absolute return fund.



# Requirements Under AB 2833

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Effective January 1, 2017, annual reporting rules require the disclosure of the following:

- 1) The fees and expenses paid directly to the alternative investment vehicle, the fund manager, or related parties;
- 2) Pro rata share of fees and expenses not covered by item (1) above that are paid from the alternative investment vehicle to the fund manager or related parties;
- 3) Pro rata share of carried interest distributed to the fund manager or related parties;
- 4) Pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties;
- 5) The gross and net rate of return of each alternative investment vehicle since inception; and
- 6) The information described in subdivision (b) of Section 6254.26 of the Public Records Act.



# Government Code Section 6254.26 (b)

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Included as a subset of AB 2833, Section 6254.26(b) requires the disclosure of the following:

- 1) Name, address and vintage year of fund;
- 2) Dollar amount since inception of public plan's commitment to fund;
- 3) Dollar amount since inception of public plan's cash contributions to fund;
- 4) Fiscal year-end dollar amount of fund's cash distributions received by public plan from fund;
- 5) Fiscal year-end dollar amount of cash distributions received plus the remaining value of fund's assets attributable to the investment by public plan;
- 6) Net internal rate of return of fund since inception;
- 7) Investment multiple of fund since inception;
- 8) Dollar amount of total management fees and costs paid by public plan on an annual fiscal year-end basis; and
- 9) Annual fiscal year-end dollar amount of cash profit public plan has received from fund.



# Summary of Alternative Investment Fees, Expenses, and Carried Interest for the period July 1, 2019 through June 30, 2020

Functional Category <sup>1</sup>	Management Fee <sup>2</sup>	Fund Expenses <sup>3</sup>	Carried Interest <sup>4</sup>	Total Costs
<b>Growth</b>	<b>\$ 112,373,788</b>	<b>\$ 41,523,611</b>	<b>\$ 102,929,103</b>	<b>\$ 256,826,502</b>
Global Equity	5,512,741	1,178,618	10,354,464	17,045,823
Private Equity	99,599,290	36,995,001	87,946,975	224,541,266
Opportunistic RE	7,261,758	3,349,992	4,627,664	15,239,413
<b>Credit</b>	<b>\$ 14,470,787</b>	<b>\$ 4,451,285</b>	<b>\$ 3,404,363</b>	<b>\$ 22,326,435</b>
Bank Loans	3,414,987	700,078	-	4,115,065
Illiquid Credit	11,055,800	3,751,207	3,404,363	18,211,370
<b>Real Assets and Inflation Hedges</b>	<b>\$ 6,321,982</b>	<b>\$ 1,467,489</b>	<b>\$ (963,216)</b>	<b>\$ 6,826,255</b>
Core and Value Added RE	4,734,932	1,428,636	(963,216)	5,200,352
Natural Resources & Commodities	1,587,050	38,853	-	1,625,903
<b>Risk Reduction and Mitigation</b>	<b>\$ 22,021,739</b>	<b>\$ 9,648,168</b>	<b>\$ 16,221,680</b>	<b>\$ 47,891,586</b>
Diversified Hedge Fund	22,021,739	9,648,168	16,221,680	47,891,586
<b>Total</b>	<b>\$ 155,188,296</b>	<b>\$ 57,090,552</b>	<b>\$ 121,591,930</b>	<b>\$ 333,870,778</b>

<sup>1</sup> Cost data representative for only alternative investment vehicles within each functional asset category.

<sup>2</sup> Management fees paid or accrued to the alternative investment fund during the fiscal year. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, calculation using the respective management fee rate, and pro rata share of the alternative investment fund's total management fee. Negative values indicate giveback of previously accrued or paid fees.

<sup>3</sup> Fund expenses paid or accrued to the alternative investment fund during the fiscal year, including by portfolio companies. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, pro rata share of the alternative investment fund's total fund expenses, and estimations based on alternative investment fund's operating expense ratios obtained from the most recent audited financial statement. Negative values indicate giveback of previously accrued or paid fees.

<sup>4</sup> Carried interest paid or accrued to the alternative investment fund during the fiscal year. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, and pro rata share of the alternative investment fund's total carried interest. Negative values indicate giveback of previously accrued or paid fees.





# Summary of Alternative Investment Fees, Expenses, and Carried Interest for the period July 1, 2018 through June 30, 2019

Functional Category <sup>1</sup>	Management Fee <sup>2</sup>	Fund Expenses <sup>3</sup>	Carried Interest <sup>4</sup>	Total Costs
<b>Growth</b>	<b>\$ 106,378,675</b>	<b>\$ 36,562,122</b>	<b>\$ 107,388,599</b>	<b>\$ 250,329,397</b>
Global Equity	6,586,120	902,317	2,188,297	9,676,735
Private Equity	91,300,041	32,094,805	105,156,260	228,551,107
Opportunistic RE	8,492,513	3,565,000	44,042	12,101,554
<b>Credit</b>	<b>\$ 11,920,221</b>	<b>\$ 4,232,567</b>	<b>\$ 5,434,458</b>	<b>\$ 21,587,246</b>
Bank Loans	2,383,918	476,497	-	2,860,415
Illiquid Credit	9,536,303	3,756,070	5,434,458	18,726,831
<b>Real Assets and Inflation Hedges</b>	<b>\$ 7,255,110</b>	<b>\$ 2,427,967</b>	<b>\$ -</b>	<b>\$ 9,683,078</b>
Core and Value Added RE	5,362,107	2,404,307	-	7,766,415
Natural Resources & Commodities	1,893,003	23,660	-	1,916,663
<b>Risk Reduction and Mitigation</b>	<b>\$ 22,412,070</b>	<b>\$ 8,027,972</b>	<b>\$ 5,641,009</b>	<b>\$ 36,081,051</b>
Diversified Hedge Fund	22,412,070	8,027,972	5,641,009	36,081,051
<b>Total</b>	<b>\$ 147,966,076</b>	<b>\$ 51,250,629</b>	<b>\$ 118,464,067</b>	<b>\$ 317,680,772</b>

<sup>1</sup> Cost data representative for only alternative investment vehicles within each functional asset category.

<sup>2</sup> Management fees paid or accrued to the alternative investment fund during the fiscal year. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, calculation using the respective management fee rate, and pro rata share of the alternative investment fund's total management fee. Negative values indicate giveback of previously accrued or paid fees.

<sup>3</sup> Fund expenses paid or accrued to the alternative investment fund during the fiscal year, including by portfolio companies. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, pro rata share of the alternative investment fund's total fund expenses, and estimations based on alternative investment fund's operating expense ratios obtained from the most recent audited financial statement. Negative values indicate giveback of previously accrued or paid fees.

<sup>4</sup> Carried interest paid or accrued to the alternative investment fund during the fiscal year. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, and pro rata share of the alternative investment fund's total carried interest. Negative values indicate giveback of previously accrued or paid fees.

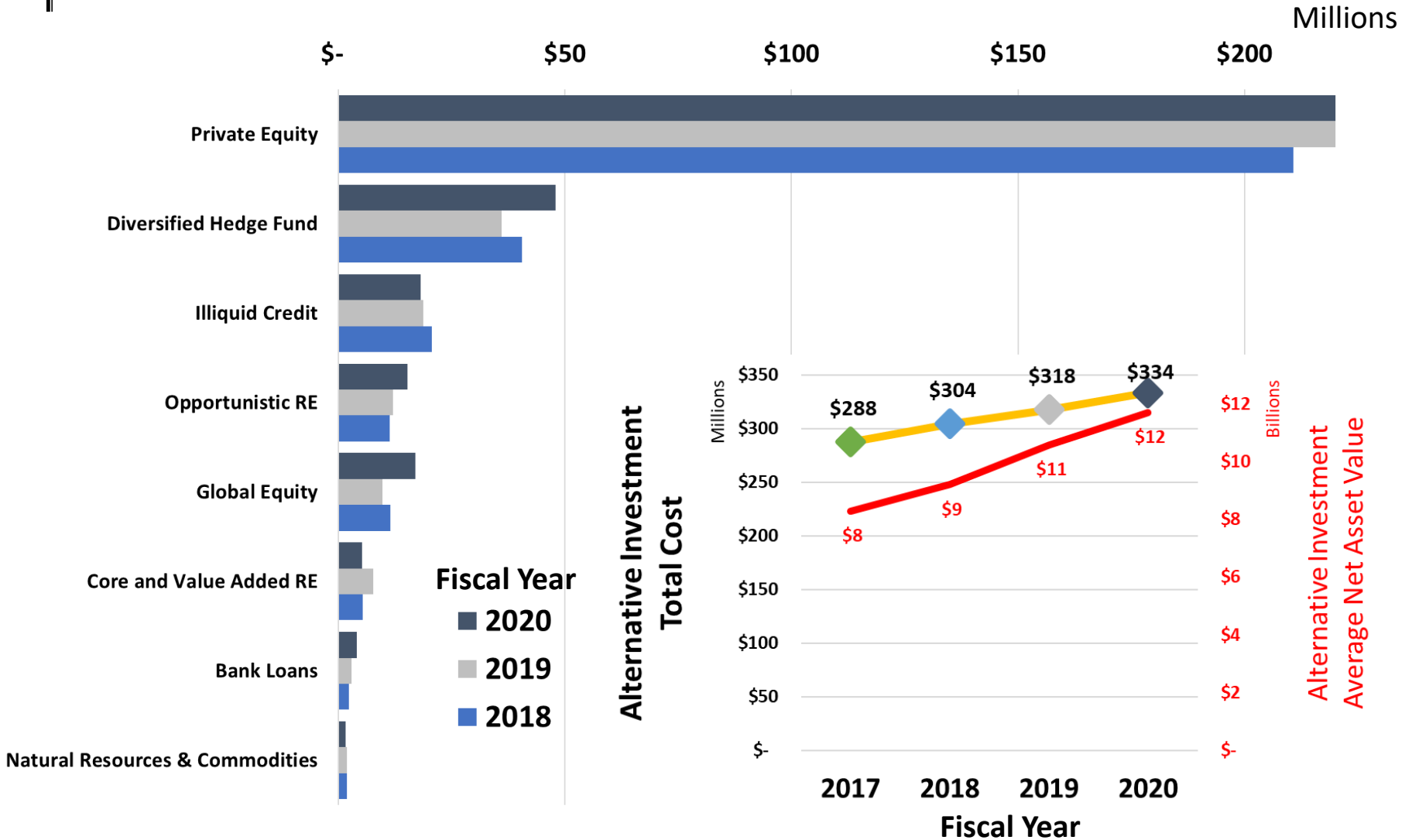


# Year-Over-Year Sources of Change

Functional Category	Sources of Change			
<b>Growth</b>				
Global Equity	Higher carried interest due to significantly higher returns relative to highwater mark			
Private Equity	Management fee and expenses increased as a result of new vintage year fund activations; carried interest was impacted by limited exits at the onset of COVID-19			
Opportunistic RE	Increased fees from increase in carried interest			
<b>Credit</b>				
Bank Loans	Increased management fee due to increase in net asset value			
Illiquid Credit	Reclassification of private equity credit funds increased management fees, which were offset by decreased carried interest from credit hedge fund-of-fund			
<b>Real Assets and Inflation Hedges</b>				
Core and Value Added RE	Decreased across all fee types due to lower net asset values			
Natural Resources & Commodities	Decreased market value led to lower management fee			
<b>Risk Reduction and Mitigation</b>				
Diversified Hedge Fund	Improved performance led to greater carried interest participation			
Functional Category	Management Fee	Fund Expenses	Carried Interest	Total Costs
Diversified Hedge Fund	\$ (390,331)	\$ 1,620,196	\$ 10,580,671	\$ 11,810,535
Global Equity	\$ (1,073,380)	\$ 276,301	\$ 8,166,167	\$ 7,369,088
Opportunistic RE	\$ (1,230,755)	\$ (215,008)	\$ 4,583,622	\$ 3,137,859
Bank Loans	\$ 1,031,069	\$ 223,581	\$ -	\$ 1,254,650
Natural Resources & Commodities	\$ (305,953)	\$ 15,193	\$ -	\$ (290,760)
Illiquid Credit	\$ 1,519,497	\$ (4,863)	\$ (2,030,095)	\$ (515,461)
Core and Value Added RE	\$ (627,175)	\$ (975,671)	\$ (963,216)	\$ (2,566,063)
Private Equity	\$ 8,299,248	\$ 4,900,196	\$ (17,209,285)	\$ (4,009,841)
<b>Increase / (Decrease) from prior year</b>				



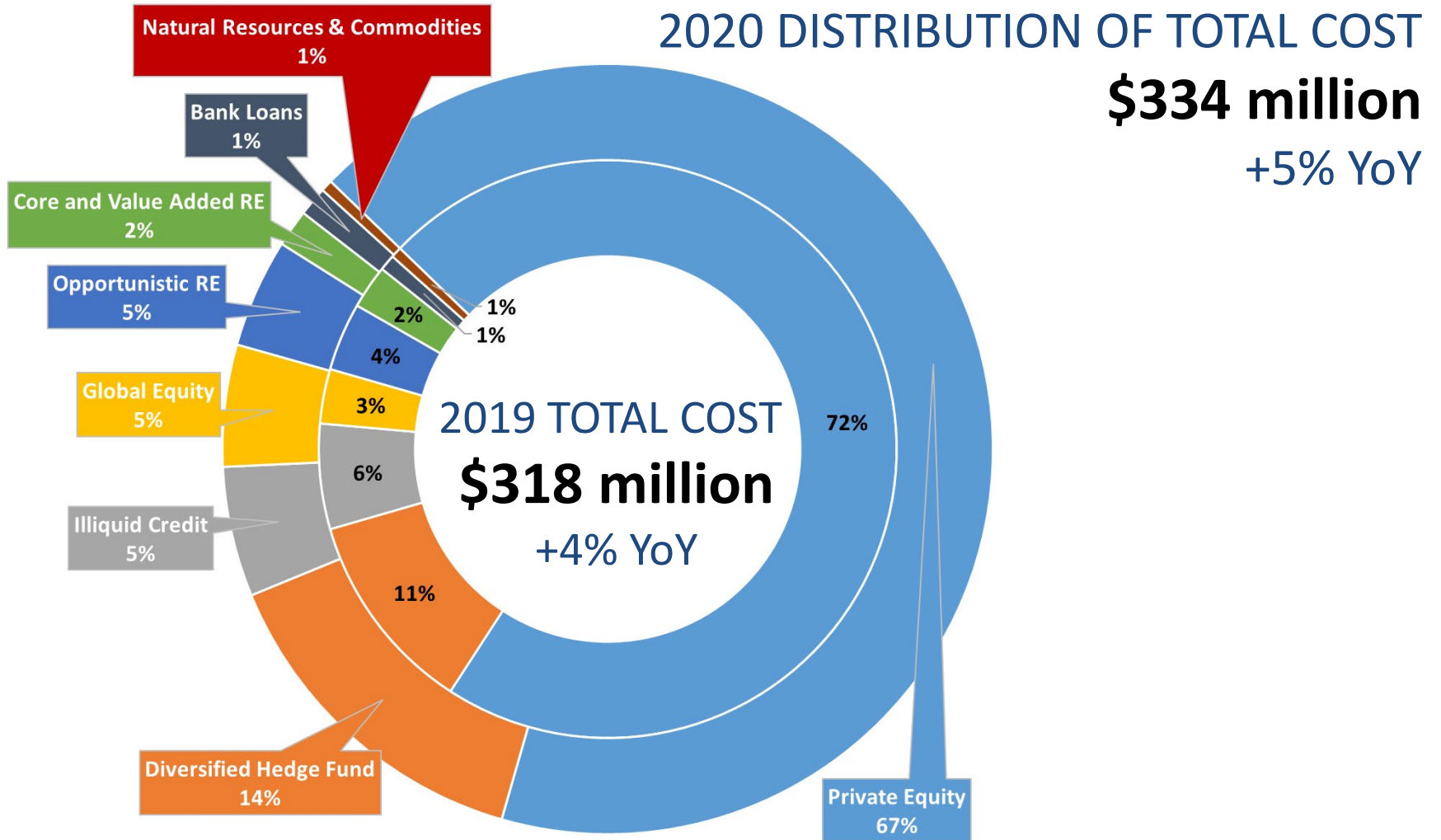
# Historical Alternative Investment Total Costs



\*Cost breakout by functional category available starting fiscal year 2018

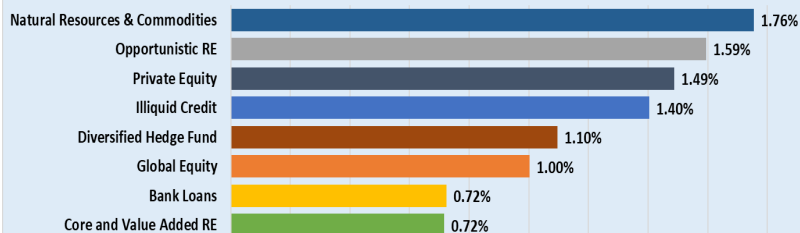


# Distribution of Total Costs Comparison

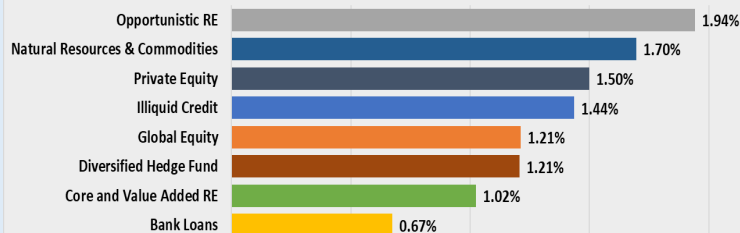


# Costs Per Market Value Comparison

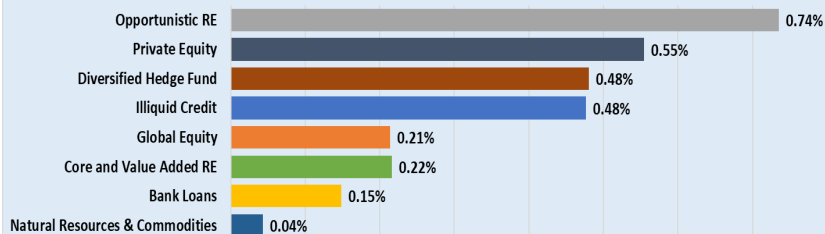
## FY 2020 Management Fee per Market Value



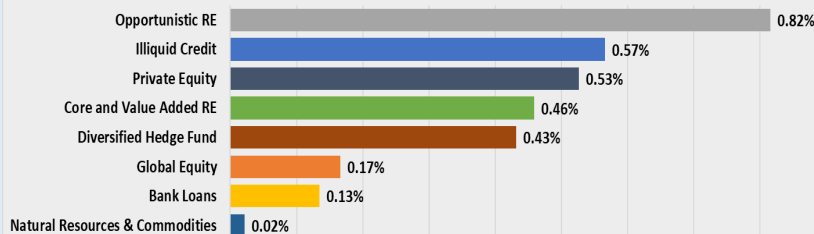
## FY 2019 Management Fee per Market Value



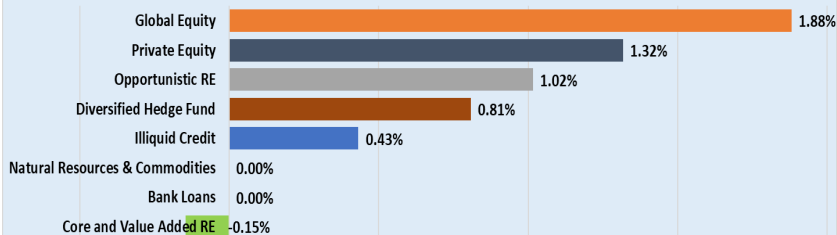
## FY 2020 Fund Expenses per Market Value



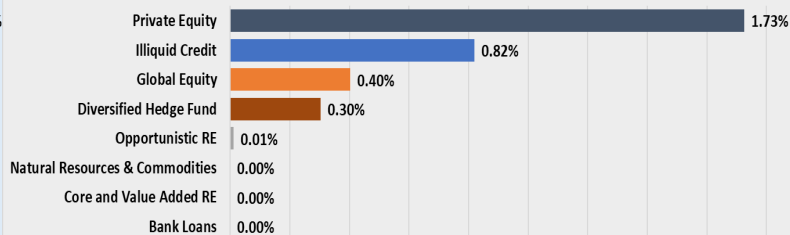
## FY 2019 Fund Expenses per Market Value



## FY 2020 Carried Interest per Market Value



## FY 2019 Carried Interest per Market Value



LACERA reports performance net of costs

\*Market value is the average of the beginning and ending market values for the respective periods



**Assembly Bill 2833**

Fiscal Year-Ended June 30, 2020

**Attachment 2**

			A	B	C			Sum of A + B + C	
Asset Category	Functional Category	Alternative Investment Fund	Management Fees <sup>1</sup>	Fund Expenses <sup>2</sup>	Carried Interest <sup>3</sup>	Portfolio Company Expenses <sup>4</sup>	Since Inception Gross Return <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Total Fees
Fixed Income	Illiquid Credit	BPC Opportunities Fund II, L.P.	\$ 437,695	\$ 276,928	\$ -	\$ -	9.60%	8.00%	\$ 714,623
Fixed Income	Illiquid Credit	BPC Opportunities Fund III, L.P.	\$ 1,501,661	\$ 663,948	\$ -	\$ -	5.00%	3.10%	\$ 2,165,609
Fixed Income	Bank Loans	Tennenbaum Senior Loan Fund V, LLC	\$ 3,414,987	\$ 700,078	\$ -	\$ -	7.50%	6.50%	\$ 4,115,065
Global Equity	Global Equity	Cevian Capital II Master Fund, L.P.	\$ 3,050,045	\$ 184,530	\$ -	\$ -	9.00%	8.91%	\$ 3,234,574
Global Equity	Global Equity	JANA Strategic Investment Fund V, L.P.	\$ 1,200,000	\$ 237,615	\$ 1,962,689	\$ 19,430	21.00%	13.40%	\$ 1,457,045
Global Equity	Global Equity	The SFP Value Realization Master Fund Ltd	\$ 1,262,696	\$ 737,043	\$ 8,391,775	\$ -	19.60%	16.40%	\$ 1,999,739
Hedge Fund	Diversified Hedge Fund	AQR Liquid Enhanced Alternative Premia Fund I, L.P.	\$ 169,128	\$ 234,078	\$ -	\$ -	-7.34%	-8.03%	\$ 403,207
Hedge Fund	Diversified Hedge Fund	AQR Liquid Enhanced Alternative Premia Fund II, L.P.	\$ 132,758	\$ 144,797	\$ -	\$ -	-17.04%	-17.21%	\$ 277,555
Hedge Fund	Diversified Hedge Fund	BosValen US Feeder Fund	\$ 91,775	\$ 267,942	\$ 14,653	\$ -	-5.07%	-6.48%	\$ 359,717
Hedge Fund	Diversified Hedge Fund	Bridgewater Pure Alpha Major Markets II, LLC	\$ 283,947	\$ 14,736	\$ -	\$ -	1.54%	0.02%	\$ 298,683
Hedge Fund	Diversified Hedge Fund	Capula Global Relative Value Fund L.P.	\$ 3,390,243	\$ 1,385,383	\$ 1,641,128	\$ -	12.63%	8.72%	\$ 4,775,626
Hedge Fund	Diversified Hedge Fund	Crabel Multi Product Program	\$ 67,017	\$ 62,156	\$ 309,898	\$ -	8.80%	5.26%	\$ 129,173
Hedge Fund	Diversified Hedge Fund	D.E. Shaw Valence Fund, LLC	\$ 520,680	\$ 28,111	\$ 812,480	\$ -	19.76%	10.18%	\$ 548,791
Hedge Fund	Diversified Hedge Fund	Davidson Kempner Institutional Partners, L.P. <sup>10</sup>	\$ 2,246,365	\$ 96,643	\$ 2,034,167	\$ 31,407	4.96%	2.44%	\$ 2,374,415
Hedge Fund	Diversified Hedge Fund	Deep Basin Long-Short Fund, L.P.	\$ 152,627	\$ 307,781	\$ 244,226	\$ -	10.91%	8.36%	\$ 460,409
Hedge Fund	Diversified Hedge Fund	Edgestream Sumatra Fund, L.P.	\$ 85,038	\$ 14,682	\$ 80,865	\$ -	9.58%	6.13%	\$ 99,720
Hedge Fund	Diversified Hedge Fund	Empyrean Capital Fund, L.P. - Class 2 Series N	\$ 219,699	\$ 1,252	\$ (21,339)	\$ -	5.35%	3.09%	\$ 220,951
Hedge Fund	Diversified Hedge Fund	EMSO Saguardo Ltd. - Class A	\$ 70,019	\$ 9,020	\$ 2,260	\$ -	1.25%	0.03%	\$ 79,039
Hedge Fund	Diversified Hedge Fund	Exoduspoint Partners Fund, LP	\$ -	\$ 1,268,361	\$ 231,753	\$ -	8.71%	7.31%	\$ 1,268,361
Hedge Fund	Diversified Hedge Fund	Glen Point Global Macro Fund, L.P. - Class A	\$ 95,487	\$ 49,102	\$ -	\$ -	-3.91%	-5.34%	\$ 144,589
Hedge Fund	Diversified Hedge Fund	Goldman Sachs Asset Management <sup>8</sup>	\$ 824,613	\$ 9,660	\$ -	\$ -	3.01%	2.62%	\$ 834,273
Hedge Fund	Diversified Hedge Fund	HBK Multi-Strategy Fund, L.P.	\$ 3,023,562	\$ 1,762,232	\$ 1,742,243	\$ -	5.32%	3.17%	\$ 4,785,794
Hedge Fund	Diversified Hedge Fund	HG Vora Special Opportunities Fund, LP - Series 1	\$ 283,688	\$ 41,679	\$ 767,960	\$ -	6.37%	3.67%	\$ 325,368
Hedge Fund	Diversified Hedge Fund	Holocene Advisors Fund, L.P. - Class AI-A	\$ 385,756	\$ 31,503	\$ 1,015,726	\$ -	14.85%	11.19%	\$ 417,259
Hedge Fund	Diversified Hedge Fund	Hudson Bay Fund, L.P.	\$ 375,000	\$ 85,405	\$ -	\$ -	2.74%	2.09%	\$ 460,405
Hedge Fund	Diversified Hedge Fund	Kintbury Equity Fund L.P. - Class F	\$ 60,600	\$ 12,764	\$ -	\$ -	4.29%	2.71%	\$ 73,364
Hedge Fund	Diversified Hedge Fund	Lakewood Capital Partners, L.P.	\$ 164,284	\$ 17,233	\$ 429,300	\$ -	9.30%	6.17%	\$ 181,516
Hedge Fund	Diversified Hedge Fund	Manikay Onshore Fund, L.P.	\$ 65,383	\$ 27,447	\$ 595,236	\$ -	10.00%	6.99%	\$ 92,830
Hedge Fund	Illiquid Credit	Napier Park Lake Credit Fund, L.P.	\$ 883,076	\$ 446,127	\$ -	\$ -	23.95%	19.46%	\$ 1,329,203
Hedge Fund	Diversified Hedge Fund	Palestra Capital Partners, LP - Series 3G Interests	\$ 166,655	\$ 19,159	\$ 1,270,044	\$ -	15.24%	11.28%	\$ 185,814
Hedge Fund	Diversified Hedge Fund	Palmetto Catastrophe Fund L.P. - Class H	\$ 120,779	\$ 13,621	\$ -	\$ -	7.40%	4.93%	\$ 134,400
Hedge Fund	Diversified Hedge Fund	PFM Therapeutics Fund, L.P.	\$ 43,403	\$ 32,524	\$ -	\$ -	-17.94%	-18.78%	\$ 75,927
Hedge Fund	Diversified Hedge Fund	PIMCO Tactical Opportunities Onshore Fund L.P.	\$ 1,942,796	\$ 515,005	\$ 1,435,485	\$ -	1.81%	0.13%	\$ 2,457,801
Hedge Fund	Diversified Hedge Fund	Polar Multi-Strategy Fund (US), L.P.	\$ 526,477	\$ 74,119	\$ -	\$ -	8.49%	6.64%	\$ 600,597
Hedge Fund	Diversified Hedge Fund	Rubric Capital Partners, L.P. - Series F1 G	\$ 69,576	\$ 19,498	\$ 319,551	\$ -	12.45%	9.58%	\$ 89,074
Hedge Fund	Diversified Hedge Fund	San Gabriel Fund, L.P. <sup>9</sup>	\$ 5,999,501	\$ 2,960,569	\$ 3,097,740	\$ -	3.58%	2.94%	\$ 8,960,070
Hedge Fund	Illiquid Credit	San Gabriel Fund 3, L.P. <sup>9</sup>	\$ 5,457,056	\$ 1,670,558	\$ 530,806	\$ -	3.33%	2.61%	\$ 7,127,614
Hedge Fund	Diversified Hedge Fund	Stone Milliner Macro Fund Delaware L.P. - Class A	\$ 114,152	\$ 21,892	\$ -	\$ -	2.86%	0.71%	\$ 136,044
Hedge Fund	Diversified Hedge Fund	Taconic Opportunity Fund, L.P.	\$ 299,152	\$ 77,593	\$ 198,304	\$ -	2.69%	0.51%	\$ 376,745
Hedge Fund	Diversified Hedge Fund	Winton Diversified Strategy Fund (US), L.P.	\$ 31,577	\$ 10,814	\$ -	\$ -	4.23%	2.70%	\$ 42,391
Private Equity	Private Equity	Accel-KKR Capital Partners CV III, L.P.	\$ -	\$ 9,938	\$ -	\$ -	10.00%	4.95%	\$ 9,938
Private Equity	Private Equity	Accel-KKR Growth Capital Partners III, L.P.	\$ 1,080,666	\$ 569,220	\$ -	\$ -	11.00%	-9.63%	\$ 1,649,886
Private Equity	Private Equity	Access Foundation Partners Group II, LLC	\$ 75,000	\$ 237,822	\$ -	\$ -	26.10%	7.89%	\$ 312,822
Private Equity	Private Equity	Access Holdings Fund I, L.P.	\$ 530,548	\$ 164,683	\$ -	\$ -	48.80%	9.49%	\$ 695,231
Private Equity	Private Equity	Advent International GPE IX, L.P.	\$ 1,614,887	\$ 546,514	\$ -	\$ -	60.93%	23.50%	\$ 2,161,401
Private Equity	Private Equity	AE Industrial Partners Fund II, L.P.	\$ 21,715	\$ 164,360	\$ -	\$ 1,872,692	13.60%	-6.56%	\$ 2,058,767
Private Equity	Private Equity	Alchemy Special Opportunities Fund IV, L.P.	\$ 922,872	\$ 269,017	\$ -	\$ -	47.50%	-62.14%	\$ 1,191,888
Private Equity	Private Equity	Aldrich Capital Partners Fund LP	\$ 176,926	\$ 9,483	\$ -	\$ 28,843	39.30%	28.48%	\$ 215,252
Private Equity	Private Equity	Alsop Louie Capital II, L.P.	\$ 25,000	\$ 13,819	\$ -	\$ -	N/A	-8.61%	\$ 38,819
Private Equity	Private Equity	Alsop Louie Capital III, L.P.	\$ 81,714	\$ 14,027	\$ -	\$ -	N/A	12.84%	\$ 95,741
Private Equity	Private Equity	Apollo Investment Fund IV, L.P.	\$ -	\$ 6,315	\$ -	\$ -	N/A	8.47%	\$ 6,315
Private Equity	Private Equity	Atlantic Street Capital II, L.P.	\$ -	\$ 9,179	\$ 15,607	\$ -	50.04%	36.05%	\$ 9,179
Private Equity	Private Equity	Atlantic Street Capital III, L.P.	\$ -	\$ 6,272	\$ -	\$ -	14.82%	8.04%	\$ 6,272
Private Equity	Private Equity	Atlantic Street Capital IV, L.P.	\$ 1,282,533	\$ 118,098	\$ -	\$ 209,134	-0.29%	-19.97%	\$ 1,609,765
Private Equity	Private Equity	Australis Partners Fund, L.P.	\$ 2,062,496	\$ 389,644	\$ -	\$ -	N/A	3.54%	\$ 2,452,140
Private Equity	Private Equity	Bertram Growth Capital I, L.P.	\$ 3,964	\$ 3,079	\$ -	\$ -	15.04%	9.76%	\$ 7,043
Private Equity	Private Equity	Blackfin Financial Services Fund III, L.P.	\$ 1,832,787	\$ 200,466	\$ -	\$ -	-47.50%	-52.22%	\$ 2,033,254
Private Equity	Private Equity	Blackstone Capital Partners IV, L.P.	\$ -	\$ 6,943	\$ 1,031	\$ 521	N/A	37.54%	\$ 7,464
Private Equity	Private Equity	Blackstone Capital Partners IV - Secondary	\$ -	\$ 463	\$ 69	\$ 35	N/A	14.09%	\$ 498

**Assembly Bill 2833**

Fiscal Year-Ended June 30, 2020

**Attachment 2**

			A	B	C			Sum of A + B + C	
Asset Category	Functional Category	Alternative Investment Fund	Management Fees <sup>1</sup>	Fund Expenses <sup>2</sup>	Carried Interest <sup>3</sup>	Portfolio Company Expenses <sup>4</sup>	Since Inception Gross Return <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Total Fees
Private Equity	Private Equity	Blackstone Capital Partners V, L.P.	\$ -	\$ (1,222)	\$ -	\$ 8,181	N/A	7.55%	\$ 6,959
Private Equity	Private Equity	Blackstone Capital Partners VI, L.P.	\$ 172,278	\$ (3,919)	\$ 725,659	\$ 142,890	N/A	10.67%	\$ 311,249
Private Equity	Private Equity	Blackstone Capital Partners VII, L.P.	\$ 2,464,815	\$ 393,620	\$ -	\$ 92,629	N/A	9.80%	\$ 2,951,064
Private Equity	Private Equity	Blackstone Communications Partners I, L.P.	\$ -	\$ 2,260	\$ -	\$ 185	N/A	6.51%	\$ 2,445
Private Equity	Private Equity	BN Capital Fund II, L.P.	\$ 48,040	\$ 23,381	\$ -	\$ -	N/A	2.20%	\$ 71,421
Private Equity	Private Equity	Brinson International Partners Fund	\$ -	\$ 3,758	\$ -	\$ 15,106	N/A	11.23%	\$ 18,864
Private Equity	Private Equity	BRV Aster Fund II, L.P.	\$ 1,000,000	\$ 60,778	\$ -	\$ 19,257	N/A	5.27%	\$ 1,080,035
Private Equity	Private Equity	Carlyle Partners V, L.P.	\$ (1,424)	\$ 8,634	\$ 3,997	\$ 27,302	N/A	13.50%	\$ 34,512
Private Equity	Private Equity	Carlyle Partners VI, L.P.	\$ 711,121	\$ 81,073	\$ -	\$ 168,861	N/A	12.61%	\$ 961,055
Private Equity	Private Equity	Carlyle U.S. Equity Opportunity Fund II, L.P.	\$ 2,203,507	\$ 674,845	\$ -	\$ 1,052,937	N/A	-3.44%	\$ 3,931,289
Private Equity	Private Equity	Canaan VII, L.P. <sup>10</sup>	\$ -	\$ 8,193	\$ -	\$ -	N/A	14.43%	\$ 8,193
Private Equity	Private Equity	Canaan XI, L.P. <sup>10</sup>	\$ 914,286	\$ 42,505	\$ -	\$ -	38.20%	17.19%	\$ 956,791
Private Equity	Private Equity	Centerbridge Capital Partners II, L.P.	\$ 300,602	\$ 69,308	\$ -	\$ 1,716	-2.10%	-5.40%	\$ 371,626
Private Equity	Private Equity	Centerbridge Capital Partners III, L.P.	\$ 1,126,460	\$ 656,447	\$ 525,995	\$ 12,697	27.50%	18.66%	\$ 1,795,604
Private Equity	Private Equity	Centerbridge Capital Partners, L.P.	\$ (11,617)	\$ 31,549	\$ 9,322	\$ 15,042	29.12%	19.25%	\$ 34,974
Private Equity	Private Equity	Chart Capital Partners II, L.P.	\$ -	\$ 16,236	\$ -	\$ 88,084	14.60%	10.10%	\$ 104,320
Private Equity	Private Equity	Clarion Investors II, L.P.	\$ 10,680	\$ 14,787	\$ 28,306	\$ 52,250	42.80%	32.07%	\$ 77,717
Private Equity	Private Equity	Clarion Investors III, L.P.	\$ 742,974	\$ 43,787	\$ -	\$ 107,026	43.00%	39.55%	\$ 893,787
Private Equity	Private Equity	Clearlake Capital Partners III, L.P.	\$ 393,925	\$ 4,732	\$ 337,934	\$ 156,660	N/A	40.42%	\$ 555,317
Private Equity	Private Equity	Clearlake Capital Partners IV, L.P.	\$ 969,632	\$ 161,065	\$ -	\$ 259,514	N/A	26.09%	\$ 1,390,211
Private Equity	Private Equity	Clearlake Capital Partners V, L.P.	\$ 1,324,365	\$ 297,924	\$ 241,071	\$ 428,046	51.80%	42.70%	\$ 2,050,335
Private Equity	Private Equity	Clearlake Capital Partners VI, L.P.	\$ 284,474	\$ 222,324	\$ -	\$ -	NM	NM	\$ 506,798
Private Equity	Private Equity	CVC Capital Partners VI (B) L.P.	\$ 892,165	\$ 55,388	\$ -	\$ 21,951	18.40%	13.34%	\$ 969,504
Private Equity	Private Equity	CVC Capital Partners VII, L.P.	\$ 3,152,782	\$ 746,334	\$ -	\$ 2,567	14.80%	9.91%	\$ 3,901,682
Private Equity	Private Equity	CVC European Equity Partners III, L.P.	\$ -	\$ 9,716	\$ -	\$ -	40.00%	41.03%	\$ 9,716
Private Equity	Private Equity	CVC European Equity Partners IV (D), L.P.	\$ -	\$ 7,768	\$ -	\$ -	22.60%	16.66%	\$ 7,768
Private Equity	Private Equity	CVC European Equity Partners Tandem Fund, L.P.	\$ -	\$ 4,118	\$ -	\$ -	9.10%	6.55%	\$ 4,118
Private Equity	Private Equity	CVC European Equity Partners V (A), L.P.	\$ -	\$ 15,534	\$ 2,745,604	\$ -	26.50%	16.42%	\$ 15,534
Private Equity	Private Equity	Excellere Capital Fund II, L.P.	\$ -	\$ 23,872	\$ 297,797	\$ -	39.11%	29.43%	\$ 23,872
Private Equity	Private Equity	Excellere Capital Fund III, L.P.	\$ 391,417	\$ 112,000	\$ -	\$ -	15.58%	11.89%	\$ 503,417
Private Equity	Private Equity	Financial Partners Fund I, L.P.	\$ 31,977	\$ 11,922	\$ 774,922	\$ -	NM	100.06%	\$ 43,899
Private Equity	Private Equity	Financial Partners Fund II, L.P.	\$ 143,933	\$ 53,974	\$ 51,401	\$ -	NM	19.61%	\$ 197,907
Private Equity	Private Equity	Foundation Investment Partners, L.P.	\$ 7,743	\$ 4,892	\$ -	\$ 5,547	50.10%	30.07%	\$ 18,182
Private Equity	Private Equity	Foundation Investment Partners II, L.P.	\$ 227,977	\$ 33,850	\$ -	\$ 3,128	NM	-12.39%	\$ 264,956
Private Equity	Private Equity	Gateway Private Equity Fund, L.P.	\$ 1,790,387	\$ 80,095	\$ -	\$ -	N/A	12.35%	\$ 1,870,482
Private Equity	Private Equity	Gateway Private Equity Fund-B, L.P.	\$ 1,015,744	\$ 36,217	\$ -	\$ -	N/A	20.17%	\$ 1,051,961
Private Equity	Private Equity	GGV Capital IV, L.P.	\$ 267,809	\$ 58,855	\$ -	\$ -	N/A	19.00%	\$ 326,664
Private Equity	Private Equity	GGV Capital V, L.P.	\$ 745,568	\$ 481,455	\$ -	\$ -	N/A	31.68%	\$ 1,227,023
Private Equity	Private Equity	GGV Capital VI Plus, L.P.	\$ -	\$ 18,112	\$ -	\$ -	2.60%	1.91%	\$ 18,112
Private Equity	Private Equity	GGV Capital VI, L.P.	\$ 778,477	\$ 17,616	\$ -	\$ -	N/A	15.52%	\$ 796,092
Private Equity	Private Equity	GGV Capital VII Plus, L.P.	\$ -	\$ 7,139	\$ -	\$ -	13.60%	8.32%	\$ 7,139
Private Equity	Private Equity	GGV Capital VII, L.P.	\$ 1,600,000	\$ 20,909	\$ -	\$ -	15.10%	-0.46%	\$ 1,620,909
Private Equity	Private Equity	GGV Discovery I, L.P.	\$ 246,372	\$ 13,235	\$ -	\$ -	N/A	15.18%	\$ 259,607
Private Equity	Private Equity	GGV Discovery II, L.P.	\$ 450,000	\$ 9,296	\$ -	\$ -	37.20%	10.63%	\$ 459,296
Private Equity	Private Equity	GBOF V Feeder SCS	\$ 734,697	\$ 46,260	\$ -	\$ 50,590	N/A	5.55%	\$ 831,547
Private Equity	Illiquid Credit	Glendon Opportunities Fund, L.P.	\$ 968,796	\$ 131,059	\$ -	\$ 2,286	1.87%	-0.92%	\$ 1,102,141
Private Equity	Illiquid Credit	Glendon Opportunities Fund II, L.P.	\$ -	\$ 152,333	\$ -	\$ -	-4.72%	-5.66%	\$ 152,333
Private Equity	Private Equity	Goode Partners Consumer Fund II, L.P.	\$ 51,589	\$ 5,666	\$ -	\$ 23,455	48.90%	48.03%	\$ 80,710
Private Equity	Private Equity	Goode Partners Consumer Fund III, L.P.	\$ 175,066	\$ 13,825	\$ -	\$ 24,934	N/A	-25.65%	\$ 213,825
Private Equity	Private Equity	Great Point Partners III, L.P.	\$ 310,423	\$ 135,786	\$ -	\$ 166,532	29.55%	22.19%	\$ 612,742
Private Equity	Private Equity	Green Equity Investors VII, L.P.	\$ 2,087,240	\$ 120,151	\$ -	\$ -	19.10%	12.68%	\$ 2,207,391
Private Equity	Private Equity	Greycroft Growth, L.P.	\$ 142,500	\$ 10,511	\$ -	\$ -	N/A	10.26%	\$ 153,011
Private Equity	Private Equity	Greycroft Growth II, L.P.	\$ 150,000	\$ 9,331	\$ -	\$ -	NM	15.63%	\$ 159,331
Private Equity	Private Equity	Greycroft Partners II, L.P.	\$ 99,773	\$ 16,429	\$ -	\$ -	N/A	17.52%	\$ 116,202
Private Equity	Private Equity	Greycroft Partners III, L.P.	\$ 188,320	\$ 15,356	\$ -	\$ -	N/A	12.38%	\$ 203,676
Private Equity	Private Equity	Greycroft Partners IV, L.P.	\$ 187,500	\$ 13,925	\$ -	\$ -	N/A	18.05%	\$ 201,425
Private Equity	Private Equity	Gridiron Capital Fund II, L.P.	\$ 22,541	\$ 3,180	\$ 504,173	\$ -	N/A	12.60%	\$ 25,721
Private Equity	Private Equity	GTB Capital Partners II, L.P.	\$ 2,024,583	\$ 363,010	\$ -	\$ -	N/A	9.62%	\$ 2,387,593
Private Equity	Private Equity	Hellman & Friedman Capital Partners VI, L.P.	\$ -	\$ 5,319	\$ -	\$ -	18.00%	12.25%	\$ 5,319



**Assembly Bill 2833**

Fiscal Year-Ended June 30, 2020

**Attachment 2**

A                      B                      C                      Sum of A + B + C

Asset Category	Functional Category	Alternative Investment Fund	Management Fees <sup>1</sup>	Fund Expenses <sup>2</sup>	Carried Interest <sup>3</sup>	Portfolio Company Expenses <sup>4</sup>	Since Inception Gross Return <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Total Fees
Private Equity	Private Equity	Hellman & Friedman Capital Partners VIII, L.P.	\$ 838,091	\$ 35,110	\$ -	\$ 16,565	N/A	13.29%	\$ 889,766
Private Equity	Private Equity	Hellman & Friedman Capital Partners IX, L.P.	\$ 2,248,190	\$ 688,485	\$ -	\$ 2,154	NM	-5.07%	\$ 2,938,829
Private Equity	Private Equity	Incline Equity Partners III, L.P.	\$ -	\$ 4,773	\$ 847,660	\$ 152,429	N/A	36.09%	\$ 157,202
Private Equity	Private Equity	Incline Equity Partners IV, L.P. (JPM)	\$ 123,238	\$ 15,755	\$ -	\$ 89,947	NM	14.16%	\$ 228,941
Private Equity	Private Equity	Incline Equity Partners IV, L.P.	\$ 462,143	\$ 59,085	\$ -	\$ 337,302	NM	14.16%	\$ 858,530
Private Equity	Private Equity	Insignia Capital Partners (Parallel A), L.P.	\$ 1,500,000	\$ 163,159	\$ -	\$ 136,260	N/A	15.19%	\$ 1,799,419
Private Equity	Private Equity	Institutional Venture Partners XIV, L.P.	\$ 1,275,000	\$ 25,055	\$ -	\$ -	N/A	10.14%	\$ 1,300,055
Private Equity	Private Equity	Institutional Venture Partners XV, L.P.	\$ 2,245,078	\$ 47,532	\$ 669,593	\$ -	N/A	17.39%	\$ 2,292,610
Private Equity	Private Equity	Jade Equity Investors, L.P.	\$ 190,287	\$ 62,760	\$ -	\$ -	NM	-2.54%	\$ 253,047
Private Equity	Private Equity	JMI Equity Fund VI, L.P.	\$ -	\$ 4,143	\$ 169,000	\$ -	16.80%	11.44%	\$ 4,143
Private Equity	Private Equity	JMI Equity Fund VII, L.P.	\$ 359,318	\$ 4,077	\$ 425,143	\$ 4,818	21.77%	15.93%	\$ 368,213
Private Equity	Private Equity	Joy Capital I, L.P.	\$ 90,625	\$ 4,565	\$ 24,538	\$ -	53.18%	43.91%	\$ 95,190
Private Equity	Private Equity	Joy Capital II, L.P.	\$ 115,625	\$ 9,358	\$ -	\$ -	12.72%	6.40%	\$ 124,983
Private Equity	Private Equity	Joy Capital III, L.P.	\$ 763,587	\$ 114,824	\$ -	\$ -	40.73%	16.96%	\$ 878,411
Private Equity	Private Equity	Joy Capital Opportunity, L.P.	\$ 139,904	\$ 43,383	\$ -	\$ -	-6.34%	-9.41%	\$ 183,286
Private Equity	Private Equity	Joy Capital Opportunity, L.P. (JPM)	\$ 83,942	\$ 26,030	\$ -	\$ -	-6.34%	-6.05%	\$ 109,972
Private Equity	Private Equity	J.P. Morgan Emerging Managers Program	\$ 413,000	\$ -	\$ 2,571,664	\$ -	19.80%	18.88%	\$ 413,000
Private Equity	Private Equity	J.P. Morgan Emerging Managers Program II	\$ 421,946	\$ -	\$ 612,263	\$ -	36.29%	35.81%	\$ 421,946
Private Equity	Private Equity	J.P. Morgan Emerging Managers Program III	\$ 398,170	\$ 33,589	\$ -	\$ -	22.08%	22.07%	\$ 431,759
Private Equity	Private Equity	J.P. Morgan Emerging Managers Program IV	\$ 236,142	\$ 79,165	\$ -	\$ -	-5.99%	-5.98%	\$ 315,307
Private Equity	Private Equity	Juggernaut Capital Partners II, L.P.	\$ 1,072,958	\$ 207,796	\$ 2,704,318	\$ 202,380	19.50%	13.30%	\$ 1,483,134
Private Equity	Private Equity	Juggernaut Capital Partners III, L.P.	\$ 1,290,062	\$ 417,084	\$ -	\$ 90,423	11.70%	8.13%	\$ 1,797,569
Private Equity	Private Equity	Juggernaut Capital Partners IV, L.P.	\$ 2,062,500	\$ 453,615	\$ -	\$ -	13.00%	0.77%	\$ 2,516,115
Private Equity	Private Equity	JZI Fund III, L.P.	\$ 123,204	\$ 67,187	\$ -	\$ 9,216	N/A	10.81%	\$ 199,608
Private Equity	Private Equity	KarpReilly Capital Partners II, L.P.	\$ 44,759	\$ 11,759	\$ -	\$ -	6.20%	3.94%	\$ 56,518
Private Equity	Private Equity	Kerogen Expansion Fund, L.P.	\$ 132,512	\$ 23,889	\$ -	\$ -	16.20%	9.77%	\$ 156,401
Private Equity	Private Equity	Kinderhook Capital III, L.P.	\$ 15,387	\$ 55,013	\$ -	\$ -	N/A	13.64%	\$ 70,400
Private Equity	Private Equity	LAV Biosciences Fund IV, L.P.	\$ 705,503	\$ 78,741	\$ -	\$ 6,118	55.56%	44.69%	\$ 790,362
Private Equity	Private Equity	LAV Biosciences Fund V, L.P.	\$ 974,010	\$ 128,228	\$ -	\$ -	81.81%	54.81%	\$ 1,102,238
Private Equity	Private Equity	Levine Leichtman Capital Partners II, L.P.	\$ -	\$ 4,416	\$ -	\$ -	N/A	4.90%	\$ 4,416
Private Equity	Private Equity	Lightyear Fund III, L.P.	\$ 107,358	\$ 64,019	\$ 13,075,756	\$ -	N/A	24.97%	\$ 171,377
Private Equity	Private Equity	Lightyear Fund IV, L.P.	\$ 1,928,123	\$ 416,320	\$ -	\$ -	N/A	11.47%	\$ 2,344,443
Private Equity	Private Equity	Livingbridge 6, L.P.	\$ 908,631	\$ 451,065	\$ -	\$ -	N/A	-0.26%	\$ 1,359,696
Private Equity	Private Equity	Marlin Equity IV, L.P.	\$ 4,718	\$ 24,192	\$ -	\$ 510,728	N/A	8.00%	\$ 539,638
Private Equity	Private Equity	MBK Partners Fund III, L.P.	\$ 483,371	\$ 44,057	\$ -	\$ -	15.56%	10.01%	\$ 527,428
Private Equity	Private Equity	MBK Partners Fund IV, L.P.	\$ 571,909	\$ 525,743	\$ 2,492,055	\$ -	19.14%	10.92%	\$ 1,097,652
Private Equity	Private Equity	Mercato Partners Growth II, L.P.	\$ 105,000	\$ 10,803	\$ -	\$ -	18.70%	10.75%	\$ 115,803
Private Equity	Private Equity	Moelis Capital Partners Opp. Fund I-B LP	\$ 25,837	\$ 36,160	\$ -	\$ 50,336	N/A	15.51%	\$ 112,333
Private Equity	Private Equity	Montefiore Investment V, S.L.P.	\$ 48,462	\$ 75,846	\$ -	\$ -	0.00%	-14.41%	\$ 124,308
Private Equity	Private Equity	Morgan Stanley Dean Witter Venture Partners IV, L.P.	\$ -	\$ 722	\$ -	\$ -	-0.30%	-2.51%	\$ 722
Private Equity	Private Equity	NeoTribe Ventures I, L.P.	\$ 125,000	\$ 6,810	\$ -	\$ -	NM	17.57%	\$ 131,810
Private Equity	Private Equity	NeoTribe Ventures II, L.P.	\$ 2,978	\$ 11,667	\$ -	\$ -	NM	-4.22%	\$ 14,645
Private Equity	Private Equity	New Mainstream Capital II, L.P.	\$ (15)	\$ 28,800	\$ 392,846	\$ 129,648	16.00%	10.23%	\$ 158,433
Private Equity	Private Equity	Next Coast Ventures I, L.P.	\$ 125,000	\$ 12,234	\$ -	\$ -	23.53%	13.21%	\$ 137,234
Private Equity	Private Equity	Next Coast Ventures II, L.P.	\$ 332,292	\$ 60,415	\$ -	\$ -	0.53%	-13.55%	\$ 392,707
Private Equity	Illiquid Credit	Oaktree Opportunities Fund IX, L.P.	\$ 1,151,857	\$ 138,449	\$ -	\$ 6,846	4.50%	2.10%	\$ 1,297,152
Private Equity	Illiquid Credit	Oaktree Opportunities Fund VIII, L.P.	\$ 39,773	\$ 115,294	\$ 235,380	\$ 946	12.70%	8.90%	\$ 156,013
Private Equity	Illiquid Credit	Oaktree Opportunities Fund VIII b, L.P.	\$ 243,750	\$ 40,140	\$ -	\$ 2,487	7.80%	4.90%	\$ 286,377
Private Equity	Illiquid Credit	OCM Opportunities Fund V, L.P.	\$ -	\$ 6,065	\$ -	\$ -	18.40%	14.10%	\$ 6,065
Private Equity	Private Equity	OCM Opportunities Fund VI, L.P.	\$ -	\$ 5,320	\$ -	\$ -	11.90%	8.80%	\$ 5,320
Private Equity	Illiquid Credit	OCM Opportunities Fund VII, L.P.	\$ -	\$ 6,992	\$ -	\$ -	10.10%	7.30%	\$ 6,992
Private Equity	Illiquid Credit	OCM Opportunities Fund VII b, L.P.	\$ (6,381)	\$ 4,369	\$ 216,146	\$ 6,831	21.80%	16.50%	\$ 4,819
Private Equity	Private Equity	One Rock Capital Partners II, L.P.	\$ 825,517	\$ 43,511	\$ -	\$ 624,483	13.90%	8.45%	\$ 1,493,511
Private Equity	Private Equity	Onex Partners III, L.P.	\$ 211,618	\$ 33,599	\$ 131,907	\$ 23,383	N/A	10.83%	\$ 268,600
Private Equity	Private Equity	Onex Partners IV, L.P.	\$ 900,283	\$ 62,499	\$ -	\$ 194,876	N/A	4.16%	\$ 1,157,658
Private Equity	Private Equity	Onex Partners V, L.P.	\$ 3,301,825	\$ 450,283	\$ -	\$ 777	NM	-21.80%	\$ 3,752,885
Private Equity	Private Equity	Osceola Fund I, L.P.	\$ 750,000	\$ 135,010	\$ -	\$ 130,050	NM	-15.25%	\$ 1,015,060
Private Equity	Private Equity	PAI Europe VII, L.P.	\$ 2,410,410	\$ 746,412	\$ -	\$ -	14.90%	-66.22%	\$ 3,156,823
Private Equity	Private Equity	Palladium Equity Partners IV, L.P.	\$ 413,582	\$ 428,376	\$ -	\$ 382,317	11.40%	6.88%	\$ 1,224,275



**Assembly Bill 2833**

Fiscal Year-Ended June 30, 2020

**Attachment 2**

		A	B	C		Sum of A + B + C			
Asset Category	Functional Category	Alternative Investment Fund	Management Fees <sup>1</sup>	Fund Expenses <sup>2</sup>	Carried Interest <sup>3</sup>	Portfolio Company Expenses <sup>4</sup>	Since Inception Gross Return <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Total Fees
Private Equity	Private Equity	Palm Beach Capital III, L.P.-Secondary	\$ -	\$ 9,071	\$ -	\$ -	24.34%	23.69%	\$ 9,071
Private Equity	Private Equity	Palm Beach Capital Fund III, L.P.	\$ -	\$ 47,036	\$ -	\$ -	24.34%	20.36%	\$ 47,036
Private Equity	Private Equity	Palm Beach Capital Fund IV, L.P.	\$ -	\$ 69,058	\$ -	\$ 222,658	NM	18.56%	\$ 291,716
Private Equity	Private Equity	Peak Rock Capital Fund, L.P.	\$ 49,344	\$ 10,988	\$ -	\$ 44,651	38.00%	24.03%	\$ 104,983
Private Equity	Private Equity	Pemira Europe III, L.P.	\$ -	\$ 4,673	\$ 51,232	\$ -	N/A	25.84%	\$ 4,673
Private Equity	Private Equity	RedBird Capital Partners Series 2019, L.P.	\$ -	\$ 830,678	\$ -	\$ 959,731	15.47%	5.74%	\$ 1,790,409
Private Equity	Private Equity	Revelstoke Capital Partners Single Asset Fund I, L.P.	\$ 22,017	\$ 101,738	\$ -	\$ -	49.70%	24.11%	\$ 123,755
Private Equity	Private Equity	Riverside Capital Appreciation Fund VI, L.P.	\$ 1,046,826	\$ 193,285	\$ 3,204,443	\$ -	N/A	9.79%	\$ 1,240,111
Private Equity	Private Equity	Riverside Micro-Cap Fund V, L.P.	\$ 1,007,371	\$ 123,504	\$ -	\$ -	6.20%	-17.51%	\$ 1,130,875
Private Equity	Private Equity	Rizvi Opportunistic Equity Fund II	\$ 29,789	\$ 5,655	\$ -	\$ -	N/A	7.99%	\$ 35,444
Private Equity	Private Equity	Silverhawk Capital Partners II L.P.	\$ -	\$ 10,849	\$ 109,702	\$ -	N/A	20.96%	\$ 10,849
Private Equity	Private Equity	Silver Lake Partners III, L.P.	\$ 18,805	\$ 12,590	\$ 817,690	\$ 11,045	N/A	18.15%	\$ 42,440
Private Equity	Private Equity	Silver Lake Partners IV, L.P.	\$ 759,577	\$ 75,267	\$ 4,314,053	\$ 14,862	N/A	23.53%	\$ 849,706
Private Equity	Private Equity	Silver Lake Partners V, L.P.	\$ 2,668,165	\$ 867,241	\$ -	\$ 35,170	16.00%	11.86%	\$ 3,570,576
Private Equity	Private Equity	Silver Oak Services Partners II, L.P.	\$ -	\$ 8,039	\$ 310,302	\$ -	N/A	24.74%	\$ 8,039
Private Equity	Private Equity	Sinovation Fund IV, L.P.	\$ 1,875,000	\$ 57,303	\$ -	\$ -	12.30%	-3.42%	\$ 1,932,303
Private Equity	Private Equity	Siris Partners III, L.P.	\$ 781,110	\$ 36,047	\$ -	\$ 22,617	N/A	12.03%	\$ 839,774
Private Equity	Private Equity	Siris Partners IV, L.P.	\$ 1,403,700	\$ 76,596	\$ -	\$ 18,812	-4.80%	-14.56%	\$ 1,499,108
Private Equity	Private Equity	Southwest Fund V, L.P.	\$ -	\$ 3,641	\$ 5,933	\$ 12,012	N/A	15.54%	\$ 15,653
Private Equity	Private Equity	Sterling Investment Partners III, L.P.	\$ 71,076	\$ 336,650	\$ 156,970	\$ 1,435,693	N/A	17.84%	\$ 1,843,419
Private Equity	Private Equity	Storm Ventures Fund V, L.P.	\$ 839,443	\$ 42,661	\$ -	\$ -	20.70%	12.02%	\$ 882,103
Private Equity	Private Equity	Storm Ventures Fund VI, L.P.	\$ 1,250,000	\$ 77,848	\$ -	\$ -	NM	-19.26%	\$ 1,327,848
Private Equity	Private Equity	Summit Park I-A	\$ -	\$ 11,015	\$ -	\$ 121,496	N/A	27.26%	\$ 132,512
Private Equity	Private Equity	Summit Park II, L.P.	\$ -	\$ 10,900	\$ -	\$ -	N/A	18.88%	\$ 10,900
Private Equity	Private Equity	Summit Park III, L.P.	\$ 82,832	\$ 7,892	\$ -	\$ -	NM	-17.85%	\$ 90,725
Private Equity	Private Equity	Summit Partners Growth Equity Fund VIII-A, L.P.	\$ 833,213	\$ 80,038	\$ 4,273,264	\$ -	36.00%	25.69%	\$ 913,252
Private Equity	Private Equity	Summit Partners Private Equity Fund VII-A, L.P.	\$ -	\$ 13,478	\$ -	\$ -	18.00%	10.33%	\$ 13,478
Private Equity	Private Equity	Summit Partners Venture Capital Fund II-A, L.P.	\$ -	\$ 6,709	\$ 145,837	\$ -	32.00%	19.28%	\$ 6,709
Private Equity	Private Equity	Summit Ventures VI-A, L.P.	\$ -	\$ 16,452	\$ 427,083	\$ -	27.00%	15.38%	\$ 16,452
Private Equity	Private Equity	TA X, L.P.	\$ -	\$ 660	\$ 15,800	\$ -	N/A	5.18%	\$ 660
Private Equity	Private Equity	TA XIII, L.P.	\$ 631,593	\$ 404,021	\$ -	\$ -	14.00%	-1.47%	\$ 1,035,614
Private Equity	Private Equity	TCV V, L.P.	\$ -	\$ 31,725	\$ 708,770	\$ -	14.70%	10.64%	\$ 31,725
Private Equity	Private Equity	TCV VI, L.P.	\$ -	\$ 29,713	\$ 590,868	\$ -	19.90%	12.63%	\$ 29,713
Private Equity	Private Equity	TCV VII, L.P.	\$ -	\$ 199,760	\$ 14,165,275	\$ -	31.40%	23.34%	\$ 199,760
Private Equity	Natural Resources & Commodities	The Energy & Minerals Group Fund III, L.P.	\$ 1,587,050	\$ 38,853	\$ -	\$ -	-9.05%	-11.10%	\$ 1,625,903
Private Equity	Private Equity	TPG Partners IV, L.P.	\$ -	\$ 35,434	\$ -	\$ -	N/A	15.25%	\$ 35,434
Private Equity	Private Equity	Triton Fund V, L.P.	\$ 2,097,811	\$ 2,008,433	\$ -	\$ 1,044,126	-2.50%	-33.25%	\$ 5,150,370
Private Equity	Private Equity	Undisclosed <sup>7</sup>	\$ 1,334,902	\$ 1,381,855	\$ 403,173	\$ -	N/A	11.77%	\$ 2,716,757
Private Equity	Private Equity	Union Square Ventures 2004, L.P.	\$ -	\$ 4,063	\$ 234,045	\$ -	90.05%	68.00%	\$ 4,063
Private Equity	Private Equity	Union Square Ventures 2008, L.P.	\$ 76,924	\$ 4,932	\$ 2,643,990	\$ -	32.49%	19.93%	\$ 81,856
Private Equity	Private Equity	Union Square Ventures 2012 Fund, L.P.	\$ 143,000	\$ 7,406	\$ 6,938,125	\$ -	33.96%	25.54%	\$ 150,406
Private Equity	Private Equity	Union Square Ventures Opportunity Fund, L.P.	\$ 24,788	\$ 3,396	\$ 500,769	\$ -	71.96%	58.75%	\$ 28,184
Private Equity	Private Equity	USV 2014, L.P.	\$ 185,624	\$ 7,520	\$ 2,624,212	\$ -	34.02%	24.29%	\$ 193,144
Private Equity	Private Equity	USV 2016, L.P.	\$ 225,000	\$ 13,281	\$ 474,801	\$ -	22.12%	13.27%	\$ 238,281
Private Equity	Private Equity	USV Opportunity 2014, L.P.	\$ 50,058	\$ 4,173	\$ 1,190,841	\$ -	18.90%	15.86%	\$ 54,231
Private Equity	Private Equity	USV 2019, L.P.	\$ 225,000	\$ 13,115	\$ -	\$ -	21.26%	-14.44%	\$ 238,115
Private Equity	Private Equity	USV Opportunity 2019, L.P.	\$ 112,500	\$ 5,205	\$ -	\$ -	11.49%	-4.99%	\$ 117,705
Private Equity	Private Equity	Vinci Capital Partners III, L.P.	\$ 837,713	\$ 1,706,723	\$ -	\$ 27,151	7.60%	-23.99%	\$ 2,571,587
Private Equity	Private Equity	Vista Equity Partners Fund III, L.P.	\$ 34,656	\$ 27,764	\$ -	\$ 14,884	N/A	27.91%	\$ 77,304
Private Equity	Private Equity	Vista Equity Partners Fund IV, L.P.	\$ 653,294	\$ 71,590	\$ -	\$ -	N/A	15.85%	\$ 724,884
Private Equity	Private Equity	Vista Equity Partners Fund V, L.P.	\$ 2,389,532	\$ 101,013	\$ 12,997,445	\$ 12,846	N/A	20.77%	\$ 2,503,391
Private Equity	Private Equity	Vista Equity Partners Fund VI, L.P.	\$ 2,894,378	\$ 122,336	\$ 2,608,417	\$ 105,622	N/A	19.36%	\$ 3,122,336
Private Equity	Private Equity	Vista Equity Partners Fund VII, L.P.	\$ 2,855,696	\$ 321,657	\$ 76,337	\$ 144,304	9.80%	-2.56%	\$ 3,321,657
Private Equity	Private Equity	Warren Equity Partners Fund II, L.P.	\$ 158,272	\$ 50,999	\$ -	\$ 23,276	19.60%	8.21%	\$ 232,548
Private Equity	Private Equity	Wynnchurch Capital Partners V, L.P.	\$ 119,909	\$ 61,838	\$ -	\$ 210,663	20.30%	-16.91%	\$ 392,410
Real Estate	Opportunistic RE	Aermont Capital Real Estate Fund IV SCSp	\$ 842,475	\$ 76,718	\$ -	\$ -	-64.10%	-81.79%	\$ 919,193
Real Estate	Core and Value Added RE	AEW Value Investors Asia III, L.P.	\$ 625,000	\$ 69,078	\$ -	\$ -	5.80%	3.80%	\$ 694,078
Real Estate	Opportunistic RE	AG Asia Realty Fund IV, L.P.	\$ 1,318,198	\$ 370,882	\$ -	\$ -	19.00%	8.02%	\$ 1,689,080
Real Estate	Opportunistic RE	AG Europe Realty Fund II, L.P.	\$ 545,100	\$ 333,263	\$ -	\$ -	17.00%	10.51%	\$ 878,363

**Assembly Bill 2833**

Fiscal Year-Ended June 30, 2020

**Attachment 2**

A                      B                      C                      Sum of A + B + C

Asset Category	Functional Category	Alternative Investment Fund	Management Fees <sup>1</sup>	Fund Expenses <sup>2</sup>	Carried Interest <sup>3</sup>	Portfolio Company Expenses <sup>4</sup>	Since Inception Gross Return <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Total Fees
Real Estate	Core and Value Added RE	Bain Capital Real Estate Fund I-A, L.P.	\$ 1,400,000	\$ 597,691	\$ -	\$ -	22.10%	31.60%	\$ 1,997,691
Real Estate	Core and Value Added RE	CapMan Nordic Real Estate II FCP-RAIF	\$ 473,385	\$ 72,879	\$ -	\$ -	21.20%	14.90%	\$ 546,264
Real Estate	Opportunistic RE	Capri Urban Investors, LLC	\$ 421,424	\$ 64,879	\$ -	\$ -	-2.93%	-4.96%	\$ 486,303
Real Estate	Opportunistic RE	Carlyle Europe Real Estate Partners III, L.P.	\$ 14,893	\$ 6,831	\$ -	\$ -	3.94%	0.84%	\$ 21,723
Real Estate	Core and Value Added RE	CBRE Strategic Partners European Fund III	\$ -	\$ -	\$ -	\$ -	-13.92%	-15.36%	\$ -
Real Estate	Opportunistic RE	CityView Bay Area Fund II, L.P.	\$ 1,542,745	\$ 31,355	\$ -	\$ -	16.44%	12.00%	\$ 1,574,100
Real Estate	Opportunistic RE	CityView Southern California Fund II, L.P.	\$ 678,545	\$ 151,467	\$ 4,705,687	\$ 438,546	19.29%	14.20%	\$ 1,268,558
Real Estate	Opportunistic RE	CityView Western Fund I, L.P.	\$ 1,377,972	\$ 59,212	\$ -	\$ 1,517,685	13.55%	9.24%	\$ 2,954,869
Real Estate	Core and Value Added RE	Core Property Index Fund	\$ 12,266	\$ 74,028	\$ -	\$ -	0.62%	0.58%	\$ 86,294
Real Estate	Opportunistic RE	Europa Fund III, L.P.	\$ -	\$ (6,621)	\$ (78,023)	\$ -	14.90%	9.93%	\$ (6,621)
Real Estate	Opportunistic RE	Europa Fund IV, L.P.	\$ (465,280)	\$ (184,569)	\$ -	\$ -	11.60%	7.60%	\$ (649,849)
Real Estate	Core and Value Added RE	Hunt UK Realty Partners, L.P.	\$ -	\$ -	\$ -	\$ -	N/A	-19.96%	\$ -
Real Estate	Core and Value Added RE	Heitman Asia-Pacific Property Investors, L.P.	\$ 231,147	\$ -	\$ -	\$ -	-2.00%	-4.00%	\$ 231,147
Real Estate	Opportunistic RE	Invesco Asian Real Estate Partners II, L.P.	\$ -	\$ -	\$ -	\$ -	16.00%	9.50%	\$ -
Real Estate	Core and Value Added RE	Invesco Real Estate Asia Fund, L.P.	\$ -	\$ 43,796	\$ -	\$ 190,580	6.72%	5.94%	\$ 234,376
Real Estate	Core and Value Added RE	Prologis European Logistics Fund	\$ 1,484,497	\$ 350,447	\$ (963,216)	\$ -	9.70%	8.60%	\$ 1,834,944
Real Estate	Core and Value Added RE	RREEF Core Plus Industrial Fund, L.P.	\$ 508,636	\$ 30,137	\$ -	\$ -	15.97%	15.60%	\$ 538,773
Real Estate	Opportunistic RE	Starwood Capital Hospitality Fund II, L.P.	\$ 342,447	\$ 35,678	\$ -	\$ -	12.00%	10.00%	\$ 378,124
Real Estate	Opportunistic RE	TPG Real Estate Partners III, L.P.	\$ 643,240	\$ 454,666	\$ -	\$ -	4.00%	-33.60%	\$ 1,097,906

<sup>1</sup> Management fees paid or accrued to the alternative investment fund during the fiscal year. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, calculation using the respective management fee rate, and pro rata share of the alternative investment fund's total management fee. Negative values indicate giveback of previously accrued or paid fees.

<sup>2</sup> Fund expenses paid or accrued to the alternative investment fund during the fiscal year. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, pro rata share of the alternative investment fund's total fund expenses, and estimations based on alternative investment fund's operating expense ratios obtained from the most recent audited financial statement. Negative values indicate giveback of previously accrued or paid fees.

<sup>3</sup> Carried interest paid or accrued to the alternative investment fund during the fiscal year. Data sources include: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, and pro rata share of the alternative investment fund's total carried interest. Negative values indicate giveback of previously accrued or paid fees.

<sup>4</sup> LACERA's pro rata share of fees and expenses paid by the portfolio companies to the general partner or related parties.

<sup>5</sup> Since-inception money-weighted gross returns for Private Equity, Fixed Income, Real Estate, and Global Equity asset category were calculated by the respective alternative investment funds, custodian banks, or asset category advisor. Hedge Funds since-inception gross returns were provided by the manager or estimated by annualizing the manager's total fees as an annualized percentage of monthly average NAV and adding the annualized fee return to the fund's since-inception net return. Hedge Funds since-inception gross returns are cumulative geometric returns for holding periods less than 12 months of the alternative investment fund and annualized geometric return for holding periods greater than 12 months. Performance results marked "NM" signifies not meaningful due to recency of the fund.

<sup>6</sup> Since-inception money-weighted net returns for Private Equity asset category were calculated by LACERA using all the outflows to and inflows from the underlying fund investments, including cash flows for expenses and fees paid by the Portfolio to those underlying fund investments. The terminal values used are the capital account balances as of the reporting period, as stated by the General Partners of the underlying fund investment, whether at cost or fair value. If the underlying fund investment's terminal value is prior to the reporting period, the internal rate of return (IRR) was calculated as of the last valuation date indicated by the fund manager. Real Estate since-inception IRR were provided by Townsend Group (asset category advisor). Hedge Fund, Fixed Income, and Global Equity (excluding JANA Strategic Investment Fund V) are cumulative geometric returns for holding periods less than 12 months of the alternative investment fund and annualized geometric return for holding periods greater than 12 months. JANA Strategic Investment Fund V (Global Equity) is a money-weighted return provided by the alternative investment fund.

<sup>7</sup> Cost data for a subset of alternative investment funds were aggregated due to existing confidentiality agreements. Management fees, fund expenses, and since inception net returns for these funds are disclosed individually in the Section 6254.26(b) report.

<sup>8</sup> Since-inception gross return is gross of Goldman Sachs Hedge Fund Strategies, LLC fund of hedge fund fees. Since-inception gross return does not include underlying hedge fund fees.

<sup>9</sup> Since-inception gross return is gross of Grosvenor Capital Management's fund of hedge fund fees. Since-inception gross return does not include underlying hedge fund fees.

<sup>10</sup> Fee and expense data as of calendar year-ended December 31, 2019.

**Section 6254.26 (b)**  
Fiscal Year-Ended June 30, 2020

Functional Category	Name <sup>1</sup>	Address <sup>1</sup>	Vintage Year <sup>1</sup>	Commitment <sup>2</sup>	Contribution <sup>3</sup>	Distributions <sup>4</sup>	Distribution Plus Market Value <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Investment Multiple <sup>7</sup>	Dollar amount of the total fees paid on a fiscal year-end basis <sup>8</sup>	Dollar amount of cash profit received on a fiscal year-end basis <sup>9</sup>
	<b>Fixed Income</b>										
Illiquid Credit	BPC Opportunities Fund II, L.P.	1620 26th Street, Suite 6000N, Santa Monica, CA 90404	2014	\$ 150,000,000	\$ 150,000,000	\$ 166,336,207	\$ 195,830,032	7.06%	1.31x	\$ 714,623	N/A
Illiquid Credit	BPC Opportunities Fund III, L.P.	1620 26th Street, Suite 6000N, Santa Monica, CA 90404	2016	\$ 170,000,000	\$ 170,000,000	\$ -	\$ 180,808,471	5.30%	1.06x	\$ 2,165,609	N/A
Bank Loans	Tennenbaum Senior Loan Fund V, LLC	2951 28th Street, Suite 1000, Santa Monica, CA 90405	2014	\$ 475,000,000	\$ 422,467,976	\$ -	\$ 511,487,378	6.50%	1.21x	\$ 4,115,065	N/A
	<b>Global Equity</b>										
Global Equity	Cevian Capital II Master Fund, L.P.	LaMotte Chambers, St. Helier, Jersey JE1-1BJ, United Kingdom	2016	\$ 250,000,000	\$ 250,000,000	\$ -	\$ 272,275,395	8.91%	1.09x	\$ 3,234,574	N/A
Global Equity	JANA Strategic Investment Fund V, L.P.	1330 Avenue of the Americas, 32nd Floor, New York, NY 10019	2016	\$ 120,000,000	\$ 367,000,000	\$ 326,356,188	\$ 412,427,859	13.40%	1.12x	\$ 1,457,045	N/A
Global Equity	The SFP Value Realization Master Fund Ltd	80 Raffles Place, #24-21 UOB Plaza 2, Singapore, 048624	2016	\$ 100,000,000	\$ 100,000,000	\$ -	\$ 190,928,993	16.40%	1.91x	\$ 1,999,739	N/A
	<b>Hedge Fund</b>										
Diversified Hedge Fund	AQR Liquid Enhanced Alternative Premia Fund I, L.P.	Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830	2018	\$ 75,000,000	\$ 75,000,000	\$ 65,690,160	\$ 65,690,160	-8.03%	0.88x	\$ 403,207	\$ (966,928)
Diversified Hedge Fund	AQR Liquid Enhanced Alternative Premia Fund II, L.P.	Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830	2019	\$ 65,690,160	\$ 65,690,160	\$ -	\$ 54,384,578	-17.21%	0.83x	\$ 277,555	\$ (1,305,582)
Diversified Hedge Fund	BosValen US Feeder Fund	3A Chater Road, Suite 701, Central Hong Kong	2018	\$ 19,000,000	\$ 19,000,000	\$ 18,490,878	\$ 18,490,878	-3.61%	0.97x	\$ 359,717	\$ 655,324
Diversified Hedge Fund	Bridgewater Pure Alpha Major Markets II, LLC	One Glendinning Place, Westport, CT 06880	2015	\$ 21,250,000	\$ 21,250,000	\$ 21,556,306	\$ 21,556,306	0.02%	1.01x	\$ 298,683	\$ 1,200,307
Diversified Hedge Fund	Capula Global Relative Value Fund L.P.	7 Clarges Street, London W1J 8AE, United Kingdom	2018	\$ 367,000,000	\$ 367,000,000	\$ -	\$ 392,828,647	8.72%	1.07x	\$ 4,775,626	\$ 21,815,997
Diversified Hedge Fund	Crabel Multi Product Program	10250 Constellation Boulevard, Suite 2650, Los Angeles, CA 90067	2015	\$ 26,823,160	\$ 26,823,160	\$ 30,209,495	\$ 30,209,495	5.26%	1.13x	\$ 129,173	\$ 981,343
Diversified Hedge Fund	D.E. Shaw Valence Fund, LLC	1166 Avenue of the Americas, Ninth Floor, New York, NY 10036	2016	\$ 20,000,000	\$ 20,000,000	\$ 29,239,087	\$ 29,239,087	10.18%	1.46x	\$ 548,791	\$ 776,533
Diversified Hedge Fund	Davidson Kempner Institutional Partners, L.P. <sup>10</sup>	520 Madison Avenue, 30th Floor, New York, NY 10022	2018	\$ 200,000,000	\$ 200,000,000	\$ -	\$ 207,198,452	2.44%	1.04x	\$ 2,374,415	\$ 2,655,122
Diversified Hedge Fund	Deep Basin Long-Short Fund, L.P.	484 Pacific Street, Stamford, CT 06902	2017	\$ 19,000,000	\$ 19,000,000	\$ 20,864,202	\$ 20,864,202	8.36%	1.10x	\$ 460,409	\$ 86,875
Diversified Hedge Fund	Edgestream Sumatra Fund, L.P.	902 Carnegie Center, Suite 200, Princeton, NJ 8540	2015	\$ 11,750,000	\$ 11,750,000	\$ 13,713,380	\$ 13,713,380	6.13%	1.17x	\$ 99,720	\$ 370,851
Diversified Hedge Fund	Empyrean Capital Fund, L.P. - Class 2 Series N	10250 Constellation Blvd, Suite 2650, Los Angeles, CA 90067	2015	\$ 22,570,495	\$ 22,570,495	\$ 13,030,086	\$ 26,056,600	3.09%	1.15x	\$ 220,951	\$ (1,072,224)
Diversified Hedge Fund	EMSO Saguro Ltd. - Class A	21 Grosvenor Place, London SW1X 7HN, United Kingdom	2018	\$ 13,500,000	\$ 13,500,000	\$ 13,509,038	\$ 13,509,038	0.03%	1.00x	\$ 79,039	\$ 112,978
Diversified Hedge Fund	Exoduspoint Partners Fund, LP	65 East 55th Street, 9th Floor, New York, NY 10022	2018	\$ 18,200,000	\$ 18,200,000	\$ 9,750,158	\$ 20,230,330	7.31%	1.11x	\$ 1,268,361	\$ 1,407,795
Diversified Hedge Fund	Glenn Point Global Macro Fund, L.P. - Class A	10 Stratton Street, London W1S 2XH, United Kingdom	2017	\$ 16,500,000	\$ 16,500,000	\$ 14,902,863	\$ 14,902,863	-5.34%	0.90x	\$ 144,589	\$ (1,418,696)
Diversified Hedge Fund	Goldman Sachs Asset Management <sup>8</sup>	200 West Street, New York, NY 10282	2015	\$ 450,000,000	\$ 450,000,000	\$ 504,912,844	\$ 504,912,844	2.62%	1.12x	\$ 834,273	\$ 11,056,783
Diversified Hedge Fund	HBK Multi-Strategy Fund, L.P.	2101 Cedar Springs Road, Suite 700, Dallas, TX 75201	2018	\$ 250,000,000	\$ 250,000,000	\$ -	\$ 260,964,511	3.17%	1.04x	\$ 4,785,794	\$ 4,152,272
Diversified Hedge Fund	HG Vora Special Opportunities Fund, LP - Series 1	330 Madison Avenue, 20th Floor, New York, NY 10017	2017	\$ 25,000,000	\$ 25,000,000	\$ 12,985,372	\$ 26,789,076	3.67%	1.07x	\$ 325,368	\$ (1,300,443)
Diversified Hedge Fund	Holocene Advisors Fund, L.P. - Class AI-A	15 East 26th Street, Suite 601, New York, NY 10010	2017	\$ 25,000,000	\$ 25,000,000	\$ 8,650,286	\$ 34,881,430	11.19%	1.40x	\$ 417,259	\$ 3,921,532
Diversified Hedge Fund	Hudson Bay Fund, L.P.	777 3rd Avenue, 30th Floor, New York, NY 10017	2020	\$ 300,000,000	\$ 300,000,000	\$ -	\$ 306,275,231	2.09%	1.02x	\$ 460,405	\$ 6,275,231
Diversified Hedge Fund	Kimbury Equity Fund L.P. - Class F	22 Sackville Street, London W1S 3DN, United Kingdom	2015	\$ 23,870,425	\$ 23,870,425	\$ 24,416,485	\$ 24,416,485	2.71%	1.02x	\$ 73,364	\$ 1,211,695
Diversified Hedge Fund	Lakewood Capital Partners, L.P.	650 Madison Avenue, 25th Floor, New York, NY 10022	2015	\$ 18,000,000	\$ 18,000,000	\$ 23,589,868	\$ 23,589,868	6.17%	1.31x	\$ 181,516	\$ 2,064,742
Diversified Hedge Fund	Mankay Onshore Fund, L.P.	580 George Street, Sydney, NSW 2000, Australia	2015	\$ 21,715,419	\$ 21,715,419	\$ 29,360,962	\$ 29,360,962	6.99%	1.35x	\$ 92,830	\$ 735,668
Illiquid Credit	Napier Park Lake Credit Fund, L.P.	280 Park Avenue, 3rd Floor, New York, NY 10017	2020	\$ 273,500,000	\$ 273,500,000	\$ -	\$ 326,733,827	19.46%	1.19x	\$ 1,329,203	\$ 52,233,827
Diversified Hedge Fund	Palestra Capital Partners, LP - Series 3G Interests	888 Seventh Avenue, 23rd Floor, New York, NY 10019	2015	\$ 20,750,000	\$ 20,750,000	\$ 33,313,684	\$ 33,313,684	11.28%	1.61x	\$ 185,814	\$ 1,646,405
Diversified Hedge Fund	Palmetto Catastrophe Fund L.P. - Class H	31 Victoria Street, 3rd Floor West, HM 10, Hamilton, Bermuda	2018	\$ 15,000,000	\$ 15,000,000	\$ 14,921,754	\$ 16,249,744	4.58%	1.08x	\$ 134,400	\$ 142,549
Diversified Hedge Fund	PFM Therapeutics Fund, L.P.	Four Embarcadero Center, Suite 3500, San Francisco, CA 94111	2015	\$ 11,532,527	\$ 11,532,527	\$ 8,442,144	\$ 8,442,144	-18.78%	0.73x	\$ 75,927	\$ (904,939)
Diversified Hedge Fund	PIMCO Tactical Opportunities Onshore Fund L.P.	650 Newport Center Drive, Newport Beach, CA 92660	2018	\$ 225,000,000	\$ 225,000,000	\$ -	\$ 226,501,629	0.13%	1.01x	\$ 2,457,801	\$ (3,570,626)
Diversified Hedge Fund	Polar Multi-Strategy Fund (US), L.P.	401 Bay Street, Suite 1900, P.O. Box 19, Toronto A6 M5H 2Y4, Canada	2020	\$ 300,000,000	\$ 300,000,000	\$ -	\$ 319,934,755	6.64%	1.07x	\$ 600,597	\$ 19,934,755
Diversified Hedge Fund	Rubric Capital Partners, L.P. - Series F1 G	20 Fenchurch Street, 23rd Floor, London EC3M 3BY, United Kingdom	2017	\$ 23,000,000	\$ 23,000,000	\$ 29,131,849	\$ 29,131,849	9.58%	1.27x	\$ 89,074	\$ 1,361,486
Diversified Hedge Fund	San Gabriel Fund, L.P.	101 Barclay Street, 20th Floor West, New York, NY 10286	2011	\$ 400,000,000	\$ 400,000,000	\$ 323,450,000	\$ 487,024,053	2.94%	1.22x	\$ 8,960,070	\$ 74,311,942
Illiquid Credit	San Gabriel Fund 3, L.P.	101 Barclay Street, 20th Floor West, New York, NY 10286	2016	\$ 300,000,000	\$ 300,000,000	\$ 115,850,000	\$ 331,411,192	2.61%	1.10x	\$ 7,127,614	\$ 23,972,831
Diversified Hedge Fund	Stone Milliner Macro Fund Delaware L.P. - Class A	1 Curzon Street, London W1J 5HD, United Kingdom	2015	\$ 17,750,000	\$ 17,750,000	\$ 18,128,640	\$ 18,128,640	0.71%	1.02x	\$ 136,044	\$ 90,829
Diversified Hedge Fund	Taeonic Opportunity Fund, L.P.	280 Park Avenue, 5th Floor, New York, NY 10017	2018	\$ 30,000,000	\$ 30,000,000	\$ 31,839,212	\$ 31,839,212	0.51%	1.06x	\$ 376,745	\$ (200,664)
Diversified Hedge Fund	Winton Diversified Strategy Fund (US), L.P.	807 Montgomery Street, San Francisco, CA 94133	2016	\$ 14,640,258	\$ 14,640,258	\$ 15,357,666	\$ 15,357,666	2.70%	1.05x	\$ 42,391	\$ 228,768
	<b>Private Equity</b>										
Private Equity	ABRY Advanced Securities Fund III, L.P.	888 Boylston Street, 16th Floor, Boston, MA 02199	2014	\$ 25,000,000	\$ 15,295,308	\$ 23,853,755	\$ 23,853,755	18.01%	1.56x	\$ -	\$ 8,558,447
Private Equity	ABRY Partners VIII, L.P.	888 Boylston Street, 16th Floor, Boston, MA 02199	2014	\$ 35,000,000	\$ 36,590,937	\$ 44,820,102	\$ 44,820,102	9.69%	1.22x	\$ -	\$ 8,229,165
Private Equity	Accel IV, L.P.	428 University Avenue, Palo Alto, CA 94301	1993	\$ 5,000,000	\$ 5,010,800	\$ 40,440,003	\$ 40,440,003	78.00%	8.07x	\$ -	\$ 35,429,203
Private Equity	Accel V, L.P.	428 University Avenue, Palo Alto, CA 94301	1996	\$ 9,000,000	\$ 9,000,000	\$ 176,580,105	\$ 176,580,105	188.44%	19.62x	\$ -	\$ 167,580,105
Private Equity	Accel VI, L.P.	428 University Avenue, Palo Alto, CA 94301	1998	\$ 9,000,000	\$ 9,000,000	\$ 3,267,735	\$ 3,618,459	-7.50%	0.40x	\$ 1,588	N/A
Private Equity	Accel VIII, L.P.	428 University Avenue, Palo Alto, CA 94301	2000	\$ 7,293,000	\$ 5,858,250	\$ 8,462,773	\$ 8,462,773	4.68%	1.44x	\$ -	\$ 2,604,523
Private Equity	Accel VI-S, L.P.	428 University Avenue, Palo Alto, CA 94301	2001	\$ 1,451,613	\$ 1,154,031	\$ 4,494,408	\$ 5,395,838	14.63%	4.68x	\$ 1,106	N/A
Private Equity	Accel-KKR Capital Partners CV III, L.P.	2500 Sand Hill Road, Menlo Park, CA 94025	2019	\$ 16,000,000	\$ 12,859,809	\$ -	\$ 13,495,879	4.95%	1.05x	\$ 9,938	N/A
Private Equity	Accel-KKR Capital Partners VI, L.P.	2500 Sand Hill Road, Menlo Park, CA 94025	2019	\$ 110,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Accel-KKR Growth Capital Partners III, L.P.	2500 Sand Hill Road, Menlo Park, CA 94025	2019	\$ 50,000,000	\$ 12,744,210	\$ -	\$ 12,072,592	-9.63%	0.95x	\$ 1,649,886	N/A
Private Equity	Access Founding Partners Group II, LLC	6 East Eager Street, Baltimore, MD 21202	2019	\$ 30,000,000	\$ 23,406,783	\$ -	\$ 25,252,986	7.89%	1.08x	\$ 312,822	N/A
Private Equity	Access Holdings Fund I, L.P.	6 East Eager Street, Baltimore, MD 21202	2019	\$ 15,000,000	\$ 5,089,525	\$ -	\$ 5,572,730	9.49%	1.09x	\$ 695,231	N/A
Private Equity	Advent International GPE IX, L.P.	160 Victoria Street, London SW1E 5LB, United Kingdom	2019	\$ 100,000,000	\$ 24,500,000	\$ -	\$ 28,515,797	23.50%	1.16x	\$ 2,161,401	N/A
Private Equity	AE Industrial Partners Fund II, L.P.	2500 North Military Trail, Suite 470, Boca Raton, FL 33431	2018	\$ 100,000,000	\$ 32,706,311	\$ -	\$ 31,414,205	-6.56%	0.96x	\$ 2,058,767	N/A
Private Equity	Alcheny Plan (Pasadena), L.P.	21 Palmer Street, London SW1H 0AD, United Kingdom	2005	\$ 44,416,660	\$ 28,571,492	\$ 32,512,635	\$ 32,512,635	1.74%	1.14x	\$ -	\$ 3,941,142
Private Equity	Alchem Special Opportunities Fund IV, L.P.	21 Palmer Street, London SW1H 0AD, United Kingdom	2018	\$ 80,844,695	\$ 8,557,394	\$ -	\$ 3,239,443	-62.14%	0.38x	\$ 1,191,888	N/A
Private Equity	Aldrich Capital Partners Fund LP	8614 Westwood Center Drive, Suite 710, VA 22182	2018	\$ 10,000,000	\$ 4,690,756	\$ -	\$ 6,455,828	28.48%	1.38x	\$ 215,252	N/A
Private Equity	Alsop Louie Capital II, L.P.	50 Pacific Avenue, San Francisco, CA 94111	2010	\$ 5,000,000	\$ 5,000,000	\$ -	\$ 2,426,306	-8.61%	0.49x	\$ 38,819	N/A
Private Equity	Alsop Louie Capital III, L.P.	50 Pacific Avenue, San Francisco, CA 94111	2015	\$ 5,000,000	\$ 4,600,000	\$ 603,254	\$ 7,344,254	12.84%	1.60x	\$ 95,741	N/A
Private Equity	Alta California Partners II, L.P.	One Embarcadero Center, 37th Floor, San Francisco, CA 94111	1998	\$ 15,000,000	\$ 15,000,000	\$ 10,576,049	\$ 10,576,049	-5.57%	0.71x	\$ -	\$ (4,423,951)
Private Equity	Alta California Partners III, L.P.	One Embarcadero Center, 37th Floor, San Francisco, CA 94111	2000	\$ 15,000,000	\$ 14,574,076	\$ 17,101,670	\$ 17,101,670	2.20%	1.17x	\$ -	\$ 2,527,594
Private Equity	Apax Europe IV-A, L.P.	Third Floor Royal Bank Place, 1 Glatigny Esplanade, St. Peter Port, GY1 2HJ Guernsey	1999	\$ 19,543,836	\$ 20,079,264	\$ 27,299,661	\$ 27,299,661	7.10%	1.36x	\$ -	\$ 7,220,398
Private Equity	Apax Europe V-A, L.P.	Third Floor Royal Bank Place, 1 Glatigny Esplanade, St. Peter Port, GY1 2HJ Guernsey	2001	\$ 57,967,184	\$ 59,047,867	\$ 125,378,810	\$ 125,378,810	36.09%	2.12x	\$ -	\$ 66,330,943
Private Equity	Apollo Investment Fund III, L.P.	2 Manhattanville Road, 2nd Floor, Suite 203, Purchase, NY 10577	1995	\$ 15,000,000	\$ 17,236,337	\$ 24,695,084	\$ 24,695,084	9.62%	1.43x	\$ -	\$ 7,458,747
Private Equity	Apollo Investment Fund IV, L.P.	2 Manhattanville Road, 2nd Floor, Suite 203, Purchase, NY 10577	1998	\$ 50,000,000	\$ 51,160,746	\$ 84,562,235	\$ 84,615,575	8.47%	1.65x	\$ 6,315	N/A
Private Equity	Apollo Investment Fund V, L.P.	2 Manhattanville Road, 2nd Floor, Suite 203, Purchase, NY 10577	2001	\$ 30,000,000	\$ 45,638,384	\$ 92,513,248	\$ 92,513,248	37.62%	2.03x	\$ -	\$ 46,874,864
Private Equity	ASC Network Corporation	4041 Macarthur Boulevard, Suite 210, Newport Beach, CA 92660	1992	\$ 5,000,000</							

Section 6254.26 (b)  
Fiscal Year-Ended June 30, 2020

Functional Category	Name <sup>1</sup>	Address <sup>1</sup>	Vintage Year <sup>1</sup>	Commitment <sup>2</sup>	Contribution <sup>3</sup>	Distributions <sup>4</sup>	Distribution Plus Market Value <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Investment Multiple <sup>7</sup>	Dollar amount of the total fees paid on a fiscal year-end basis <sup>8</sup>	Dollar amount of cash profit received on a fiscal year-end basis <sup>9</sup>
Private Equity	Atlantic Street Capital IV, L.P.	300 Main Street, Suite 801, Stamford, CT, 06901	2019	\$ 50,000,000	\$ 10,997,973	\$ -	\$ 9,544,270	-19.97%	0.87x	\$ 1,609,765	N/A
Private Equity	Aurora Equity Partners II, L.P.	10877 Wilshire Boulevard, Suite 2100, Los Angeles, CA 90024	1998	\$ 30,000,000	\$ 33,792,031	\$ 47,497,863	\$ 47,497,863	4.69%	1.41x	\$ -	\$ 13,705,832
Private Equity	Austin Ventures IX, L.P.	300 West Sixth Street, Suite 2300, Austin, TX 78701	2006	\$ 7,600,000	\$ 7,664,734	\$ 10,453,298	\$ 10,453,298	5.12%	1.36x	\$ -	\$ 2,788,564
Private Equity	Austin Ventures VII, L.P.	300 West Sixth Street, Suite 2300, Austin, TX 78701	1999	\$ 5,000,000	\$ 5,000,000	\$ 4,028,377	\$ 4,028,377	-2.84%	0.81x	\$ -	\$ (971,623)
Private Equity	Austin Ventures VIII, L.P.	300 West Sixth Street, Suite 2300, Austin, TX 78701	2001	\$ 11,066,667	\$ 11,563,792	\$ 18,908,284	\$ 18,908,284	6.92%	1.64x	\$ -	\$ 7,344,492
Private Equity	Australis Partners Fund, L.P.	675 Third Avenue, New York, NY 10017	2016	\$ 125,000,000	\$ 87,564,725	\$ 221,255	\$ 93,797,719	3.54%	1.07x	\$ 2,452,140	N/A
Private Equity	BDCM Opportunity Fund IV, L.P.	One Sound Shore Drive, Suite 200, Greenwich, CT 06830	2015	\$ 100,000,000	\$ 122,025,639	\$ 39,940,170	\$ 144,812,482	8.16%	1.19x	\$ 1,863,311	N/A
Private Equity	Behrman Capital II, L.P.	One Letterman Drive, Suite D4900, San Francisco, CA 94129	1998	\$ 34,101,071	\$ 34,101,071	\$ 41,945,892	\$ 41,945,892	3.03%	1.23x	\$ -	\$ 7,844,821
Private Equity	Behrman Capital III, L.P.	One Letterman Drive, Suite D4900, San Francisco, CA 94129	2000	\$ 35,000,000	\$ 34,999,999	\$ 62,109,146	\$ 62,109,146	11.79%	1.77x	\$ -	\$ 27,109,147
Private Equity	Berkshire Fund III, L.P.	200 Clarendon Street, 35th Floor, Boston, MA 02116	1993	\$ 5,000,000	\$ 4,839,500	\$ 18,502,393	\$ 18,502,393	55.07%	3.82x	\$ -	\$ 13,662,893
Private Equity	Berkshire Fund IV, L.P.	200 Clarendon Street, 35th Floor, Boston, MA 02116	1996	\$ 20,000,000	\$ 19,160,798	\$ 49,899,467	\$ 49,899,467	33.41%	2.60x	\$ -	\$ 30,738,668
Private Equity	Berkshire Fund V, L.P.	200 Clarendon Street, 35th Floor, Boston, MA 02116	1998	\$ 40,000,000	\$ 38,259,380	\$ 100,517,633	\$ 100,517,633	22.98%	2.63x	\$ -	\$ 62,258,253
Private Equity	Berkshire Fund VI, L.P.	200 Clarendon Street, 35th Floor, Boston, MA 02116	2002	\$ 60,000,000	\$ 59,683,417	\$ 176,349,021	\$ 176,349,021	25.06%	2.95x	\$ -	\$ 116,665,604
Private Equity	Berkshire Fund VII, L.P.	200 Clarendon Street, 35th Floor, Boston, MA 02116	2006	\$ 60,000,000	\$ 61,474,445	\$ 123,232,538	\$ 123,232,538	16.76%	2.00x	\$ -	\$ 61,758,093
Private Equity	Berkshire Fund VIII, L.P.	200 Clarendon Street, 35th Floor, Boston, MA 02116	2011	\$ 75,000,000	\$ 73,176,141	\$ 123,350,909	\$ 123,350,909	15.75%	1.69x	\$ -	\$ 50,174,768
Private Equity	Bertram Growth Capital I, L.P.	950 Tower Lane, Foster City, CA 94404	2006	\$ 10,000,000	\$ 9,404,833	\$ 13,622,199	\$ 14,961,384	9.76%	1.59x	\$ 7,043	N/A
Private Equity	Best Friends Pet Care	19717 62 Avenue South, Suite F103, Kent, WA, 98032	1994	\$ 3,665,530	\$ 3,665,530	\$ 64,260	\$ 64,260	0.00%	0.02x	\$ -	\$ (3,601,270)
Private Equity	Blackfin Financial Services Fund III, L.P.	15 rue de Laborde, 75008 Paris CEDEX 01, France	2019	\$ 98,238,979	\$ 3,894,380	\$ -	\$ 1,860,802	-52.22%	0.48x	\$ 2,033,254	N/A
Private Equity	Blackstone Capital Partners II, L.P.	345 Park Avenue, New York, NY 10154	1993	\$ 25,000,000	\$ 26,330,670	\$ 59,014,041	\$ 59,014,041	37.56%	2.24x	\$ -	\$ 32,683,371
Private Equity	Blackstone Capital Partners III Merchant, L.P.	345 Park Avenue, New York, NY 10154	1997	\$ 50,000,000	\$ 54,055,169	\$ 105,633,891	\$ 105,633,891	14.63%	1.95x	\$ -	\$ 51,578,723
Private Equity	Blackstone Capital Partners IV - Secondary	345 Park Avenue, New York, NY 10154	2012	\$ 5,000,000	\$ 3,097,278	\$ 3,910,348	\$ 3,982,179	14.09%	1.29x	\$ 498	N/A
Private Equity	Blackstone Capital Partners IV, L.P.	345 Park Avenue, New York, NY 10154	2003	\$ 75,000,000	\$ 89,421,528	\$ 210,847,666	\$ 211,925,134	37.54%	2.37x	\$ 7,464	N/A
Private Equity	Blackstone Capital Partners V, L.P.	345 Park Avenue, New York, NY 10154	2006	\$ 74,054,134	\$ 73,985,535	\$ 120,010,595	\$ 123,375,523	7.55%	1.67x	\$ 6,959	N/A
Private Equity	Blackstone Capital Partners VI, L.P.	345 Park Avenue, New York, NY 10154	2010	\$ 75,000,000	\$ 82,818,216	\$ 78,455,722	\$ 123,791,102	10.67%	1.49x	\$ 311,249	N/A
Private Equity	Blackstone Capital Partners VII, L.P.	345 Park Avenue, New York, NY 10154	2016	\$ 180,000,000	\$ 168,528,717	\$ 179,962,992	\$ 193,564,988	9.80%	1.15x	\$ 2,951,064	N/A
Private Equity	Blackstone Communications Partners I, L.P.	345 Park Avenue, New York, NY 10154	2000	\$ 25,000,000	\$ 27,657,709	\$ 33,725,886	\$ 33,853,589	6.51%	1.22x	\$ 2,445	N/A
Private Equity	Blackstone Mezzanine Partners, L.P.	345 Park Avenue, New York, NY 10154	1999	\$ 10,000,000	\$ 6,785,498	\$ 9,127,513	\$ 9,127,513	10.15%	1.35x	\$ -	\$ 2,342,015
Private Equity	BN Capital Fund II, L.P.	1550 Bryant Street, Suite 700, San Francisco, CA 94103	2017	\$ 34,000,000	\$ 2,509,937	\$ 628,091	\$ 2,651,477	2.20%	1.06x	\$ 71,421	N/A
Private Equity	Brinson International Partners Fund	One North Wacker Drive, Suite 2200, Chicago, IL 60606	1998	\$ 49,256,579	\$ 53,350,625	\$ 90,808,138	\$ 92,664,124	11.23%	1.74x	\$ 18,864	N/A
Private Equity	Bruckmann, Rosser, Sherrill & Co. II, L.P.	126 East 56th Street, 29th Floor, New York, NY 10022	1999	\$ 25,000,000	\$ 26,673,337	\$ 53,836,427	\$ 53,836,427	12.01%	2.02x	\$ -	\$ 27,163,090
Private Equity	Bruckmann, Rosser, Sherrill & Co., L.P.	126 East 56th Street, 29th Floor, New York, NY 10022	1996	\$ 28,000,000	\$ 29,307,496	\$ 51,731,311	\$ 51,731,311	10.35%	1.77x	\$ -	\$ 22,423,814
Private Equity	BRV Aster Fund II, L.P.	Unit 1308, Tower 1, China Central, NO. 81 Jian Guo Road, Chaoyang District, Beijing 100025 China	2017	\$ 40,000,000	\$ 28,000,000	\$ -	\$ 30,748,485	5.27%	1.10x	\$ 1,080,035	N/A
Private Equity	BRV Aster Opportunity Fund II, L.P.	Unit 1308, Tower 1, China Central, NO. 81 Jian Guo Road, Chaoyang District, Beijing 100025 China	2019	\$ 25,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	BRV Aster Fund III, L.P.	Unit 1308, Tower 1, China Central, NO. 81 Jian Guo Road, Chaoyang District, Beijing 100025 China	2019	\$ 50,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Canaan VII, L.P. <sup>10</sup>	285 Riverside Avenue, Suite 250, Westport, CT 06880	2005	\$ 9,500,000	\$ 9,500,000	\$ 21,186,935	\$ 22,484,775	14.43%	2.37x	\$ 8,193	N/A
Private Equity	Canaan XI, L.P. <sup>10</sup>	285 Riverside Avenue, Suite 250, Westport, CT 06880	2018	\$ 50,000,000	\$ 28,750,000	\$ -	\$ 35,480,978	17.19%	1.23x	\$ 956,791	N/A
Private Equity	Canaan XII, L.P.	285 Riverside Avenue, Suite 250, Westport, CT 06880	2020	\$ 100,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	\$ 8,733,679
Private Equity	Candover 2005 Fund, L.P.	12 Charles II Street, 3rd Floor, London SW1Y 4QU, United Kingdom	2005	\$ 78,210,646	\$ 93,797,310	\$ 51,210,873	\$ 51,210,873	-11.19%	0.55x	\$ -	\$ (42,586,437)
Private Equity	Cardinal Health Partners, L.P.	230 Nassau Street, Princeton, NJ 08542	1997	\$ 10,000,000	\$ 10,000,000	\$ 18,733,679	\$ 18,733,679	9.70%	1.87x	\$ -	\$ 8,733,679
Private Equity	Carlye U.S. Equity Opportunity Fund II, L.P.	1001 Pennsylvania Avenue N.W., Suite 220 South, Washington, D.C. 20004	2015	\$ 200,000,000	\$ 155,287,731	\$ 14,455,633	\$ 143,179,350	-3.44%	0.92x	\$ 3,931,289	N/A
Private Equity	Carlyle Management Group Partners, L.P.	1001 Pennsylvania Avenue N.W., Suite 220 South, Washington, D.C. 20004	2002	\$ 5,364,308	\$ 5,364,308	\$ 5,798,577	\$ 5,798,577	6.01%	1.08x	\$ -	\$ 434,269
Private Equity	Carlyle Partners II, L.P.	1001 Pennsylvania Avenue N.W., Suite 220 South, Washington, D.C. 20004	1994	\$ 30,000,000	\$ 33,939,244	\$ 81,622,138	\$ 81,622,138	25.74%	2.40x	\$ -	\$ 47,682,894
Private Equity	Carlyle Partners III, L.P.	1001 Pennsylvania Avenue N.W., Suite 220 South, Washington, D.C. 20004	2000	\$ 22,487,354	\$ 26,871,391	\$ 58,770,979	\$ 58,770,979	22.93%	2.19x	\$ -	\$ 31,899,588
Private Equity	Carlyle Partners IV, L.P.	1001 Pennsylvania Avenue N.W., Suite 220 South, Washington, D.C. 20004	2005	\$ 75,000,000	\$ 78,154,551	\$ 154,156,184	\$ 154,156,184	13.00%	1.97x	\$ -	\$ 76,001,633
Private Equity	Carlyle Partners V, L.P.	1001 Pennsylvania Avenue N.W., Suite 220 South, Washington, D.C. 20004	2007	\$ 75,000,000	\$ 68,531,473	\$ 120,509,588	\$ 128,202,109	13.50%	1.87x	\$ 34,512	N/A
Private Equity	Carlyle Partners VI, L.P.	1001 Pennsylvania Avenue N.W., Suite 220 South, Washington, D.C. 20004	2013	\$ 150,000,000	\$ 160,947,545	\$ 74,820,545	\$ 239,361,220	12.61%	1.49x	\$ 961,055	N/A
Private Equity	Centerbridge Capital Partners II, L.P.	375 Park Avenue, 12th Floor, New York, NY 10152	2010	\$ 50,000,000	\$ 57,795,257	\$ 38,010,683	\$ 47,455,404	-5.40%	0.82x	\$ 371,626	N/A
Private Equity	Centerbridge Capital Partners III, L.P.	375 Park Avenue, 12th Floor, New York, NY 10152	2014	\$ 75,000,000	\$ 66,887,715	\$ 27,711,681	\$ 99,290,099	18.66%	1.48x	\$ 1,795,604	N/A
Private Equity	Centerbridge Capital Partners, L.P.	375 Park Avenue, 12th Floor, New York, NY 10152	2006	\$ 60,000,000	\$ 59,284,055	\$ 127,688,287	\$ 132,969,517	19.25%	2.24x	\$ 34,974	N/A
Private Equity	Chart Capital Partners II, L.P.	53 Forest Avenue, Old Greenwich, CT, 10019	2010	\$ 6,700,000	\$ 8,626,374	\$ 12,515,689	\$ 13,534,284	10.10%	1.57x	\$ 104,320	N/A
Private Equity	CHP II, L.P.	230 Nassau Street, Princeton, NJ 08540	2000	\$ 10,000,000	\$ 10,000,000	\$ 15,266,971	\$ 15,307,201	12.64%	1.53x	\$ 2,198	N/A
Private Equity	CHS Private Equity V, L.P.	10 South Wacker Drive, Suite 3300, Chicago, IL 60606	2005	\$ 60,000,000	\$ 53,524,388	\$ 98,712,992	\$ 98,809,860	9.81%	1.85x	\$ 33,817	N/A
Private Equity	Churchill Capital Partners II, L.P.	333 South 7th Street, Suite 3100, Minneapolis, MN 55402	1992	\$ 25,000,000	\$ 25,000,000	\$ 34,314,641	\$ 34,314,641	10.11%	1.37x	\$ -	\$ 9,314,641
Private Equity	Claron Investors II, L.P.	527 Madison Avenue, 10th Floor, New York, NY 10022	2013	\$ 7,500,000	\$ 6,018,393	\$ 9,176,708	\$ 13,991,467	32.07%	2.32x	\$ 77,717	N/A
Private Equity	Claron Investors III, L.P.	527 Madison Avenue, 10th Floor, New York, NY 10022	2018	\$ 42,500,000	\$ 6,192,246	\$ -	\$ 7,690,060	39.55%	1.24x	\$ 893,787	N/A
Private Equity	Clearlake Capital Partners III, L.P.	233 Wilshire Boulevard, Suite 800, Santa Monica, CA 90401	2012	\$ 75,000,000	\$ 136,388,731	\$ 261,175,068	\$ 313,431,557	40.42%	2.30x	\$ 553,317	N/A
Private Equity	Clearlake Capital Partners IV, L.P.	233 Wilshire Boulevard, Suite 800, Santa Monica, CA 90401	2015	\$ 77,000,000	\$ 111,953,352	\$ 80,600,308	\$ 172,524,239	26.09%	1.54x	\$ 1,390,211	N/A
Private Equity	Clearlake Capital Partners V, L.P.	233 Wilshire Boulevard, Suite 800, Santa Monica, CA 90401	2018	\$ 100,000,000	\$ 92,332,087	\$ 28,358,477	\$ 139,459,826	42.70%	1.51x	\$ 2,050,335	N/A
Private Equity	Clearlake Capital Partners VI, L.P.	233 Wilshire Boulevard, Suite 800, Santa Monica, CA 90401	2020	\$ 160,000,000	\$ 15,607,070	\$ 5,647	\$ 15,607,070	0.00%	1.00x	\$ 506,798	N/A
Private Equity	Clearstone Venture Partners II-A, L.P.	1351 4th Street, 4th Floor, Santa Monica, CA 90401	1999	\$ 5,000,000	\$ 5,000,000	\$ 1,184,982	\$ 1,184,982	-20.04%	0.24x	\$ -	\$ (3,815,018)
Private Equity	Columbia Capital Equity Partners II (QP), L.P.	204 South Union Street, Alexandria, VA 22314	1999	\$ 12,000,000	\$ 12,039,711	\$ 9,537,357	\$ 9,537,357	-4.62%	0.79x	\$ -	\$ (2,502,354)
Private Equity	Columbia Capital Equity Partners III (QP), L.P.	204 South Union Street, Alexandria, VA 22314	2000	\$ 15,000,000	\$ 16,899,640	\$ 19,910,812	\$ 19,910,812	3.10%	1.18x	\$ -	\$ 3,011,172
Private Equity	Copley Partners 1, L.P.	N/A	1986	\$ 15,000,000	\$ 15,000,000	\$ 27,320,000	\$ 27,320,000	9.53%	1.82x	\$ -	\$ 12,320,000
Private Equity	Copley Partners 2, L.P.	N/A	1986	\$ 15,000,000	\$ 15,000,000	\$ 21,782,515	\$ 21,782,515	5.66%	1.45x	\$ -	\$ 6,782,515
Private Equity	Cornelstone Equity Partners IV, L.P.	355 Lexington Avenue, Suite 1400, New York, NY 10017	1996	\$ 25,000,000	\$ 25,000,000	\$ 40,412,377	\$ 40,412,377	8.58%	1.62x	\$ -	\$ 15,412,377
Private Equity	CVC Capital Partners VI (B) L.P.	111 Strand, London WC2R OAG, United Kingdom	2013	\$ 115,340,458	\$ 125,661,300	\$ 65,651,705	\$ 178,126,087	13.34%	1.42x	\$ 969,504	N/A
Private Equity	CVC Capital Partners VII, L.P.	111 Strand, London WC2R OAG, United Kingdom	2017	\$ 223,955,048	\$ 111,049,144	\$ 1,371,943	\$ 121,188,741	9.91%	1.09x	\$ 3,901,682	N/A
Private Equity	CVC Capital Partners VIII, L.P.	111 Strand, London WC2R OAG, United Kingdom	2020	\$ 224,629,998	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	CVC European Equity Partners II, L.P.	111 Strand, London WC2R OAG, United Kingdom	1998	\$ 50,000,000	\$ 46,360,215	\$ 110,703,608	\$ 110,703,60				



**Section 6254.26 (b)**  
**Fiscal Year-Ended June 30, 2020**

Functional Category	Name <sup>1</sup>	Address <sup>1</sup>	Vintage Year <sup>1</sup>	Commitment <sup>2</sup>	Contribution <sup>3</sup>	Distributions <sup>4</sup>	Distribution Plus Market Value <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Investment Multiple <sup>7</sup>	Dollar amount of the total fees paid on a fiscal year-end basis <sup>8</sup>	Dollar amount of cash profit received on a fiscal year-end basis <sup>9</sup>
Private Equity	CVC European Equity Partners, L.P.	111 Strand, London WC2R OAG, United Kingdom	1996	\$ 25,000,000	\$ 24,301,498	\$ 61,070,457	\$ 61,070,457	22.96%	2.51x	\$ -	\$ 36,768,959
Private Equity	Cypress Merchant Banking Partners II, L.P.	437 Madison Avenue, 33rd Floor, New York, NY 10022	1999	\$ 40,000,000	\$ 41,816,808	\$ 40,563,605	\$ 40,563,605	-0.51%	0.97x	\$ -	\$ (1,253,204)
Private Equity	Cypress Merchant Banking Partners, L.P.	437 Madison Avenue, 33rd Floor, New York, NY 10022	1995	\$ 10,000,000	\$ 10,465,248	\$ 12,641,091	\$ 12,641,091	2.57%	1.21x	\$ -	\$ 2,175,843
Private Equity	DLJ Merchant Banking Partners II, L.P.	11 Madison Avenue, 16th Floor, New York, NY 10010	1997	\$ 25,000,000	\$ 28,545,519	\$ 36,654,221	\$ 36,654,221	6.01%	1.28x	\$ -	\$ 8,108,702
Private Equity	Draper Fisher Jurvetson Fund VII, L.P.	2882 Sand Hill Road, Suite 150, Menlo Park, CA 94025	2000	\$ 10,000,000	\$ 10,000,000	\$ 7,238,170	\$ 7,238,170	-3.14%	0.72x	\$ -	\$ (2,761,830)
Private Equity	Enterprise Partners III, L.P.	2223 Avenida de la Playa, Suite 300, La Jolla, CA 92037	1993	\$ 10,000,000	\$ 10,000,000	\$ 74,198,158	\$ 74,198,158	63.67%	7.42x	\$ -	\$ 64,198,158
Private Equity	Excellere Capital Fund II, L.P.	3033 East First Avenue, Suite 700, Denver, CO 80206	2011	\$ 50,000,000	\$ 45,076,545	\$ 60,439,033	\$ 82,290,239	29.43%	1.83x	\$ 23,872	\$ N/A
Private Equity	Excellere Capital Fund III, L.P.	3033 East First Avenue, Suite 700, Denver, CO 80206	2016	\$ 70,000,000	\$ 44,022,200	\$ 7,213,634	\$ 51,330,361	11.89%	1.17x	\$ 503,417	\$ N/A
Private Equity	Excellere Capital Fund, L.P.	3033 East First Avenue, Suite 700, Denver, CO 80206	2007	\$ 25,000,000	\$ 21,410,078	\$ 45,443,673	\$ 45,443,673	32.73%	2.12x	\$ -	\$ 24,033,595
Private Equity	Exponent Private Equity Partners II, L.P.	2 London Bridge, London SE1 9RA, United Kingdom	2007	\$ 42,422,912	\$ 41,386,361	\$ 61,948,392	\$ 61,948,392	8.87%	1.50x	\$ -	\$ 20,562,031
Private Equity	Exponent Private Equity Partners, L.P.	2 London Bridge, London SE1 9RA, United Kingdom	2004	\$ 46,301,651	\$ 52,872,752	\$ 69,894,805	\$ 69,894,805	7.20%	1.32x	\$ -	\$ 17,022,053
Private Equity	Falcon Mezzanine Partners, L.P.	21 Custom House Street, 10th Floor, Boston, MA 02110	2003	\$ 20,000,000	\$ 19,559,608	\$ 37,695,417	\$ 37,695,417	26.03%	1.93x	\$ -	\$ 18,135,809
Private Equity	Financial Partners Fund I, L.P.	280 Park Avenue, 3rd Floor, New York, NY 10017	2018	\$ 2,902,557	\$ 3,562,785	\$ 4,277,454	\$ 12,209,107	100.06%	3.43x	\$ 43,899	\$ N/A
Private Equity	Financial Partners Fund II, L.P.	280 Park Avenue, 3rd Floor, New York, NY 10017	2018	\$ 8,225,000	\$ 4,978,357	\$ 1,625,682	\$ 6,077,491	19.61%	1.22x	\$ 197,907	\$ N/A
Private Equity	First Data Corporation	5565 Glenridge Connector NE, Suite 2000, Atlanta, GA 30342	1992	\$ 5,000,000	\$ 5,000,000	\$ 24,897,520	\$ 24,897,520	91.84%	4.98x	\$ -	\$ 19,897,520
Natural Resources & Commodities	First Reserve Fund X, L.P.	290 Harbor Drive, Stamford, CT 06902	2004	\$ 50,000,000	\$ 50,000,000	\$ 91,380,804	\$ 91,380,804	31.84%	1.83x	\$ -	\$ 41,380,804
Private Equity	First Reserve Fund XI, L.P.	290 Harbor Drive, Stamford, CT 06902	2006	\$ 60,000,000	\$ 60,000,000	\$ 39,646,621	\$ 39,646,621	-8.70%	0.66x	\$ -	\$ (20,353,379)
Private Equity	First Reserve Fund XII, L.P.	290 Harbor Drive, Stamford, CT 06902	2008	\$ 100,000,000	\$ 101,822,018	\$ 69,240,943	\$ 69,240,943	-7.86%	0.68x	\$ -	\$ (32,581,075)
Private Equity	Forward Ventures IV, L.P.	4747 Executive Drive, Suite 700, San Diego, CA 92121	2000	\$ 10,000,000	\$ 10,051,899	\$ 6,371,752	\$ 6,371,752	-4.67%	0.63x	\$ -	\$ (3,680,147)
Private Equity	Foundation Investment Partners, L.P.	50 Curzon Street, 3rd Floor, London W1J 7UW, United Kingdom	2015	\$ 5,465,886	\$ 5,607,883	\$ 7,004,338	\$ 8,094,701	30.07%	1.44x	\$ 18,182	\$ N/A
Private Equity	Foundation Investment Partners II, L.P.	50 Curzon Street, 3rd Floor, London W1J 7UW, United Kingdom	2018	\$ 14,874,317	\$ 7,742,130	\$ -	\$ 7,229,301	-12.39%	0.93x	\$ 264,956	\$ N/A
Private Equity	Gateway Private Equity Fund, L.P.	18575 Jamboree Road, 7th Floor, Irvine, CA 92612	2010	\$ 300,000,000	\$ 285,316,797	\$ 234,924,455	\$ 466,331,515	12.35%	1.63x	\$ 1,870,482	\$ N/A
Private Equity	Gateway Private Equity Fund-B, L.P.	18575 Jamboree Road, 7th Floor, Irvine, CA 92612	2015	\$ 300,000,000	\$ 243,689,966	\$ 26,902,137	\$ 391,820,685	20.17%	1.61x	\$ 1,051,961	\$ N/A
Private Equity	GBOF V Feeder SCS	Herculesplein 104, 3584, AA Utrecht, Netherlands	2016	\$ 85,869,320	\$ 75,829,839	\$ 24,995,615	\$ 84,297,167	5.55%	1.11x	\$ 831,547	\$ N/A
Private Equity	Geocapital IV, L.P.	1821 Hillendale Road, Suite 1 B-341, Durham, NC 27705	1996	\$ 9,000,000	\$ 9,000,000	\$ 15,606,095	\$ 15,606,095	14.14%	1.73x	\$ -	\$ 6,606,095
Private Equity	GGV Capital IV, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2012	\$ 50,000,000	\$ 50,409,342	\$ 35,354,157	\$ 147,851,237	19.00%	2.93x	\$ 326,664	\$ N/A
Private Equity	GGV Capital V, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2014	\$ 50,000,000	\$ 47,500,000	\$ 23,665,404	\$ 168,778,289	31.68%	3.55x	\$ 1,227,023	\$ N/A
Private Equity	GGV Capital VI Plus, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2017	\$ 15,000,000	\$ 11,475,000	\$ -	\$ 11,820,053	1.91%	1.03x	\$ 18,112	\$ N/A
Private Equity	GGV Capital VI, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2016	\$ 45,000,000	\$ 41,850,000	\$ -	\$ 59,418,771	15.52%	1.42x	\$ 796,092	\$ N/A
Private Equity	GGV Capital VII Plus, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2019	\$ 16,000,000	\$ 8,640,000	\$ -	\$ 9,039,382	8.32%	1.05x	\$ 7,139	\$ N/A
Private Equity	GGV Capital VII, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2019	\$ 64,000,000	\$ 28,160,000	\$ -	\$ 28,065,263	-0.46%	1.00x	\$ 1,620,909	\$ N/A
Private Equity	GGV Discovery I, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2016	\$ 15,000,000	\$ 13,500,000	\$ 88,348	\$ 19,151,318	15.18%	1.42x	\$ 259,607	\$ N/A
Private Equity	GGV Discovery II, L.P.	2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025	2019	\$ 20,000,000	\$ 8,000,000	\$ -	\$ 8,620,866	10.63%	1.08x	\$ 459,296	\$ N/A
Private Equity	GKH Investments, L.P.	200 West Madison Street, Suite 3800, Chicago, IL 60606	1988	\$ 150,000,000	\$ 166,588,304	\$ 350,453,542	\$ 350,453,542	13.13%	2.10x	\$ -	\$ 183,865,238
Illiquid Credit	Glendon Opportunities Fund, L.P.	1620 26th Street, Suite 2000N, Santa Monica, CA 90404	2014	\$ 60,000,000	\$ 57,000,000	\$ 13,503,963	\$ 55,270,293	-0.92%	0.97x	\$ 1,102,141	\$ N/A
Illiquid Credit	Glendon Opportunities Fund II, L.P.	1620 26th Street, Suite 2000N, Santa Monica, CA 90404	2017	\$ 100,000,000	\$ 47,500,000	\$ -	\$ 46,316,901	-5.66%	0.98x	\$ 152,333	\$ N/A
Private Equity	Goode Partners Consumer Fund II, L.P.	767 Third Avenue, 22nd Floor, New York, NY 10017	2013	\$ 8,040,750	\$ 10,515,582	\$ 19,662,220	\$ 28,385,437	48.03%	2.70x	\$ 80,710	\$ N/A
Private Equity	Goode Partners Consumer Fund III, L.P.	767 Third Avenue, 22nd Floor, New York, NY 10017	2015	\$ 10,000,000	\$ 7,052,713	\$ 92,821	\$ 3,433,464	-25.65%	0.49x	\$ 213,825	\$ N/A
Private Equity	Great Point Partners III, L.P.	165 Mason Street, 3rd Floor, Greenwich, CT 06830	2018	\$ 15,000,000	\$ 3,702,863	\$ -	\$ 4,286,119	22.19%	1.16x	\$ 612,742	\$ N/A
Private Equity	Green Equity Investors VII, L.P.	11111 Santa Monica Boulevard, Suite 2000, Los Angeles, CA 90025	2017	\$ 150,000,000	\$ 127,647,425	\$ 1,343,650	\$ 157,871,207	12.68%	1.24x	\$ 2,207,391	\$ N/A
Private Equity	Green Equity Investors VIII, L.P.	11111 Santa Monica Boulevard, Suite 2000, Los Angeles, CA 90025	2020	\$ 150,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	\$ N/A
Private Equity	Greycroft Growth II, L.P.	292 Madison Avenue, 20th Floor, New York, NY 10017	2017	\$ 7,500,000	\$ 7,281,789	\$ 1,016,876	\$ 8,616,081	15.63%	1.18x	\$ 159,331	\$ N/A
Private Equity	Greycroft Growth, L.P.	292 Madison Avenue, 20th Floor, New York, NY 10017	2014	\$ 7,500,000	\$ 7,753,594	\$ 1,072,538	\$ 11,572,634	10.26%	1.49x	\$ 153,011	\$ N/A
Private Equity	Greycroft Partners II, L.P.	292 Madison Avenue, 20th Floor, New York, NY 10017	2010	\$ 7,500,000	\$ 10,060,807	\$ 11,709,749	\$ 20,830,123	17.52%	2.07x	\$ 116,202	\$ N/A
Private Equity	Greycroft Partners III, L.P.	292 Madison Avenue, 20th Floor, New York, NY 10017	2012	\$ 8,560,000	\$ 10,367,171	\$ 4,114,323	\$ 16,656,688	12.38%	1.61x	\$ 203,676	\$ N/A
Private Equity	Greycroft Partners IV, L.P.	292 Madison Avenue, 20th Floor, New York, NY 10017	2015	\$ 7,500,000	\$ 9,286,439	\$ 2,781,356	\$ 13,219,604	18.05%	1.42x	\$ 201,425	\$ N/A
Private Equity	Gridiron Capital Fund II, L.P.	220 Elm Street, New Canaan, CT 06840	2012	\$ 10,000,000	\$ 10,856,913	\$ 13,587,815	\$ 17,734,966	12.60%	1.63x	\$ 25,721	\$ N/A
Private Equity	GS Capital Partners II, L.P.	85 Broad Street, New York, NY 10004	1995	\$ 20,000,000	\$ 19,716,236	\$ 24,256,758	\$ 24,256,758	4.78%	1.23x	\$ -	\$ 4,540,522
Private Equity	GTB Capital Partners, L.P.	100 Front Street, Suite 400, West Conshohocken, PA 19248	2006	\$ 250,000,000	\$ 264,962,800	\$ 502,979,007	\$ 502,979,007	12.00%	1.90x	\$ -	\$ 238,016,207
Private Equity	GTB Capital Partners II, L.P.	100 Front Street, Suite 400, West Conshohocken, PA 19248	2014	\$ 400,000,000	\$ 311,670,394	\$ 173,261,119	\$ 419,699,309	9.62%	1.35x	\$ 2,387,593	\$ N/A
Private Equity	GTCR Fund IX/A, L.P.	7776 Ivanhoe Avenue, Suite 200, La Jolla, CA 92037	2006	\$ 60,000,000	\$ 57,132,136	\$ 103,011,717	\$ 103,011,717	13.75%	1.80x	\$ -	\$ 45,879,581
Private Equity	GTCR Fund VIII, L.P.	7776 Ivanhoe Avenue, Suite 200, La Jolla, CA 92037	2003	\$ 75,000,000	\$ 69,393,692	\$ 120,641,835	\$ 120,641,835	22.29%	1.74x	\$ -	\$ 51,248,143
Private Equity	Halpern Denny Fund II, L.P.	500 Boylstone Street, Suite 1880, Boston, MA 02116	1997	\$ 10,000,000	\$ 10,199,997	\$ 2,334,835	\$ 2,334,835	-22.36%	0.23x	\$ -	\$ (7,865,162)
Private Equity	HarbourVest International Private Equity Partners	One Financial Center, 44th Floor, Boston, MA 02111	1998	\$ 25,000,000	\$ 24,625,000	\$ 38,182,604	\$ 38,229,595	8.56%	1.55x	\$ 602	\$ N/A
Private Equity	Harvest Partners VII, L.P.	280 Park Avenue, 25th Floor, New York, NY 10017	2016	\$ 80,000,000	\$ 82,667,442	\$ 6,920,092	\$ 94,774,140	7.74%	1.15x	\$ 755,021	\$ N/A
Private Equity	Hellman & Friedman Capital Partners V, L.P.	415 Mission Street, San Francisco, CA 94105	2004	\$ 39,953,351	\$ 38,227,150	\$ 102,043,445	\$ 102,043,445	27.86%	2.67x	\$ -	\$ 63,816,296
Private Equity	Hellman & Friedman Capital Partners VI, L.P.	415 Mission Street, San Francisco, CA 94105	2007	\$ 60,000,000	\$ 61,647,475	\$ 96,050,825	\$ 119,006,143	12.25%	1.93x	\$ 5,319	\$ N/A
Private Equity	Hellman & Friedman Capital Partners VIII, L.P.	415 Mission Street, San Francisco, CA 94105	2016	\$ 125,000,000	\$ 123,515,440	\$ 9,514,035	\$ 160,309,540	13.29%	1.30x	\$ 889,766	\$ N/A
Private Equity	Hellman & Friedman Capital Partners IX, L.P.	415 Mission Street, San Francisco, CA 94105	2019	\$ 150,000,000	\$ 33,344,192	\$ -	\$ 31,654,344	-5.07%	0.95x	\$ 2,938,829	\$ N/A
Private Equity	Incline Equity Partners III, L.P.	625 Liberty Avenue, Suite 340, Pittsburgh, PA 15222	2013	\$ 10,000,000	\$ 10,924,010	\$ 19,793,685	\$ 25,387,507	36.09%	2.32x	\$ 157,202	\$ N/A
Private Equity	Incline Equity Partners IV, L.P.	625 Liberty Avenue, Suite 340, Pittsburgh, PA 15222	2017	\$ 37,500,000	\$ 24,601,753	\$ 128,599	\$ 29,206,029	14.16%	1.19x	\$ 858,530	\$ N/A
Private Equity	Incline Equity Partners IV, L.P. (JPM)	625 Liberty Avenue, Suite 340, Pittsburgh, PA 15222	2017	\$ 10,000,000	\$ 6,560,467	\$ 34,293	\$ 7,788,274	14.16%	1.19x	\$ 228,941	\$ N/A
Private Equity	Indigo N.V.	5 Limburglaan, Maastricht, 6229 SH, Netherlands	1996	\$ 8,385,925	\$ 7,000,000	\$ 9,251,063	\$ 9,251,063	5.11%	1.32x	\$ -	\$ 2,251,063
Private Equity	Infinity Capital Venture Fund 1999, L.P.	N/A	1999	\$ 15,000,000	\$ 15,000,000	\$ 1,643,938	\$ 1,643,938	-33.68%	0.11x	\$ -	\$ (13,356,062)
Private Equity	Information Technology Venture II, L.P.	N/A	1998	\$ 15,000,000	\$ 15,000,000	\$ 11,580,601	\$ 11,580,601	-11.07%	0.77x	\$ -	\$ (3,419,399)
Private Equity	Insight Venture Partners V Co-investment Fund, L.P.	1114 Avenue of the Americas, 36th Floor, New York, NY 10036	2005	\$ 8,180,615	\$ 8,348,123	\$ 28,122,135	\$ 28,122,135	26.87%	3.37x	\$ -	\$ 19,774,012
Private Equity	Insight Venture Partners V, L.P.	1114 Avenue of the Americas, 36th Floor, New York, NY 10036	2005	\$ 9,500,000	\$ 9,916,890	\$ 26,581,388	\$ 26,581,388	20.90%	2.68x	\$ -	\$ 16,664,498
Private Equity	Insomnia Capital Partners (Parallel A), L.P.	1333 North California Blvd, Suite 520, Walnut Creek, CA 94596	2013	\$ 100,000,000	\$ 91,831,863	\$ 9,694,244	\$ 132,408,124	15.19%	1.44x	\$ 1,799,419	\$ N/A
Private Equity	Institutional Venture Partners XIV, L.P.	3000 Sand Hill									

**Section 6254.26 (b)**  
**Fiscal Year-Ended June 30, 2020**

Functional Category	Name <sup>1</sup>	Address <sup>1</sup>	Vintage Year <sup>1</sup>	Commitment <sup>2</sup>	Contribution <sup>3</sup>	Distributions <sup>4</sup>	Distribution Plus Market Value <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Investment Multiple <sup>7</sup>	Dollar amount of the total fees paid on a fiscal year-end basis <sup>8</sup>	Dollar amount of cash profit received on a fiscal year-end basis <sup>9</sup>
Private Equity	JMI Equity Fund VI, L.P.	100 International Drive, Suite 19100, Baltimore, MD 21202	2007	\$ 19,500,000	\$ 19,509,927	\$ 33,642,151	\$ 34,386,350	11.44%	1.76x	\$ 4,143	N/A
Private Equity	JMI Equity Fund VII, L.P.	100 International Drive, Suite 19100, Baltimore, MD 21202	2010	\$ 30,000,000	\$ 29,340,000	\$ 37,842,881	\$ 62,409,618	15.93%	2.13x	\$ 368,213	N/A
Private Equity	Joy Capital I, L.P.	Room 1501, Wangjing Greenland Center B, Chaoyang District, China	2015	\$ 5,000,000	\$ 4,597,178	\$ 4,719,356	\$ 15,465,893	43.91%	3.26x	\$ 95,190	N/A
Private Equity	Joy Capital II, L.P.	Room 1501, Wangjing Greenland Center B, Chaoyang District, China	2018	\$ 5,000,000	\$ 4,356,139	\$ -	\$ 4,928,695	6.40%	1.13x	\$ 124,983	N/A
Private Equity	Joy Capital III, L.P.	Room 1501, Wangjing Greenland Center B, Chaoyang District, China	2019	\$ 40,000,000	\$ 15,486,861	\$ -	\$ 17,198,676	16.96%	1.11x	\$ 878,411	N/A
Private Equity	Joy Capital Opportunity, L.P.	Room 1501, Wangjing Greenland Center B, Chaoyang District, China	2018	\$ 25,000,000	\$ 20,572,353	\$ -	\$ 19,120,294	-9.41%	0.93x	\$ 183,286	N/A
Private Equity	Joy Capital Opportunity, L.P. (JPM)	Room 1501, Wangjing Greenland Center B, Chaoyang District, China	2018	\$ 15,000,000	\$ 12,337,266	\$ -	\$ 11,472,176	-6.05%	0.93x	\$ 109,972	N/A
Private Equity	J.P. Morgan Emerging Managers Program	320 Park Avenue, New York, NY 10022	2010	\$ 150,000,000	\$ 166,568,450	\$ 208,870,918	\$ 324,556,456	18.88%	1.95x	\$ 413,000	N/A
Private Equity	J.P. Morgan Emerging Managers Program II	320 Park Avenue, New York, NY 10022	2015	\$ 100,000,000	\$ 98,621,764	\$ 103,409,450	\$ 212,996,174	35.81%	2.16x	\$ 421,946	N/A
Private Equity	J.P. Morgan Emerging Managers Program III	320 Park Avenue, New York, NY 10022	2017	\$ 100,145,842	\$ 70,878,189	\$ 8,493,301	\$ 96,810,719	22.07%	1.37x	\$ 431,759	N/A
Private Equity	J.P. Morgan Emerging Managers Program IV	320 Park Avenue, New York, NY 10022	2018	\$ 300,000,000	\$ 42,001,568	\$ -	\$ 40,338,106	-5.98%	0.96x	\$ 315,307	N/A
Private Equity	Juggernaut Capital Partners II, L.P.	4445 Willard Avenue, Suite 1040, Chevy Chase, MD 20815	2012	\$ 75,000,000	\$ 80,543,059	\$ 57,097,499	\$ 145,340,816	13.30%	1.80x	\$ 1,483,134	N/A
Private Equity	Juggernaut Capital Partners III, L.P.	4445 Willard Avenue, Suite 1040, Chevy Chase, MD 20815	2015	\$ 100,000,000	\$ 108,108,337	\$ 18,240,693	\$ 134,673,840	8.13%	1.25x	\$ 1,797,569	N/A
Private Equity	Juggernaut Capital Partners IV, L.P.	4445 Willard Avenue, Suite 1040, Chevy Chase, MD 20815	2018	\$ 125,000,000	\$ 31,081,963	\$ -	\$ 31,350,576	0.77%	1.01x	\$ 2,516,115	N/A
Private Equity	JZI Fund III, L.P.	9 West 57th Street, 33rd Floor, New York, NY 10019	2015	\$ 6,685,736	\$ 5,424,465	\$ 1,542,939	\$ 7,029,637	10.81%	1.30x	\$ 199,608	N/A
Private Equity	KarpReilly Capital Partners II, L.P.	102 Greenwich Avenue, 2nd Floor, Greenwich, CT 06830	2012	\$ 10,000,000	\$ 10,005,753	\$ 7,171,145	\$ 11,976,301	3.94%	1.20x	\$ 56,518	N/A
Private Equity	Kelso Investment Associates VII, L.P.	320 Park Ave, 24th Floor, New York, NY 10022	2004	\$ 46,000,000	\$ 49,479,790	\$ 78,216,333	\$ 78,216,333	11.35%	1.58x	\$ -	\$ 28,736,543
Private Equity	Kelso Investment Associates VIII, L.P.	320 Park Ave, 24th Floor, New York, NY 10022	2007	\$ 75,000,000	\$ 74,241,945	\$ 87,934,223	\$ 87,934,223	3.99%	1.18x	\$ -	\$ 13,692,278
Private Equity	Kerogen Expansion Fund, L.P.	190 Elgin Avenue, George Town, Grand Cayman KY1-9001, Cayman Islands	2018	\$ 6,666,667	\$ 3,925,169	\$ 22,781	\$ 4,721,704	9.77%	1.20x	\$ 156,401	N/A
Private Equity	Kidd Kamm Equity Partners, L.P.	N/A	1992	\$ 15,000,000	\$ 14,874,159	\$ 587,583	\$ 587,583	-49.85%	0.04x	\$ -	\$ (14,286,575)
Private Equity	Kinderhook Capital III, L.P.	505 Fifth Avenue, 25th Floor, New York, NY 10017	2010	\$ 7,000,000	\$ 8,550,420	\$ 8,558,810	\$ 14,765,718	13.64%	1.73x	\$ 70,400	N/A
Private Equity	KKR 1996 Fund, L.P.	9 West 57th Street, Suite 4200, New York, NY 10019	1997	\$ 125,000,000	\$ 131,822,098	\$ 235,069,550	\$ 235,069,550	13.18%	1.78x	\$ -	\$ 103,247,452
Private Equity	KKR 2006 Fund, L.P.	9 West 57th Street, Suite 4200, New York, NY 10019	2006	\$ 60,000,000	\$ 64,488,155	\$ 100,624,957	\$ 100,624,957	7.71%	1.56x	\$ -	\$ 36,136,802
Private Equity	KKR Millennium Fund, L.P.	9 West 57th Street, Suite 4200, New York, NY 10019	2002	\$ 50,000,000	\$ 67,839,702	\$ 122,794,809	\$ 122,794,809	16.36%	1.81x	\$ -	\$ 54,955,107
Private Equity	Kleiner Perkins Caulfield & Byers VI, L.P.	2750 Sand Hill Road, Menlo Park, CA 94025	1992	\$ 5,000,000	\$ 5,000,000	\$ 16,562,188	\$ 16,562,188	39.44%	3.31x	\$ -	\$ 11,562,188
Private Equity	Kleiner Perkins Caulfield & Byers VII, L.P.	2750 Sand Hill Road, Menlo Park, CA 94025	1994	\$ 3,750,000	\$ 3,750,000	\$ 121,557,017	\$ 121,557,017	124.57%	32.42x	\$ -	\$ 117,807,017
Private Equity	Kline Hawkes Pacific, L.P.	11726 San Vicente Boulevard, Suite 300, Los Angeles, CA 90049	2000	\$ 5,000,000	\$ 5,000,000	\$ 3,372,135	\$ 3,372,135	-4.81%	0.67x	\$ -	\$ (1,627,865)
Private Equity	Knightsbridge Integrated Holdings IV, L.P.	122 S.W. Frank Phillips Boulevard, Bartlesville, OK 74003	1999	\$ 12,000,000	\$ 11,817,257	\$ 11,834,267	\$ 11,834,267	0.02%	1.00x	\$ -	\$ 17,010
Private Equity	Knightsbridge Integrated Holdings V, L.P.	122 S.W. Frank Phillips Boulevard, Bartlesville, OK 74003	2000	\$ 20,000,000	\$ 19,743,132	\$ 21,401,367	\$ 21,401,367	1.07%	1.08x	\$ -	\$ 1,658,235
Private Equity	Kohlberg Investors IV, L.P.	111 Radio Circle, Mount Kisco, NY 10549	2001	\$ 25,000,000	\$ 21,656,624	\$ 29,236,119	\$ 29,236,119	9.42%	1.35x	\$ -	\$ 7,579,495
Private Equity	Landmark Equity Partners III, L.P.	681 Fifth Avenue, 14th Floor, New York, NY 10022	1993	\$ 10,000,000	\$ 10,286,670	\$ 26,789,111	\$ 26,789,111	35.08%	2.60x	\$ -	\$ 16,502,441
Private Equity	Landmark Equity Partners IV, L.P.	681 Fifth Avenue, 14th Floor, New York, NY 10022	1994	\$ 10,533,677	\$ 11,011,182	\$ 16,218,022	\$ 16,218,022	15.81%	1.47x	\$ -	\$ 5,206,840
Private Equity	LAV Biosciences Fund IV, L.P.	Room 2909-14, 168 Hubin Road, Huangpu District, Shanghai, China	2017	\$ 40,000,000	\$ 39,145,663	\$ 4,824,568	\$ 80,815,464	44.69%	2.06x	\$ 790,362	N/A
Private Equity	LAV Biosciences Fund V, L.P.	Room 2909-14, 168 Hubin Road, Huangpu District, Shanghai, China	2019	\$ 48,000,000	\$ 25,911,822	\$ 855,831	\$ 33,973,164	54.81%	1.31x	\$ 1,102,238	N/A
Private Equity	Levine Leichtman Capital Partners II, L.P.	335 North Maple Drive, Suite 130, Beverly Hills, CA 90210	1998	\$ 30,000,000	\$ 50,043,193	\$ 57,458,553	\$ 57,567,751	4.90%	1.15x	\$ 4,416	N/A
Private Equity	Lexington Capital Partners II, L.P.	660 Madison Avenue, 23rd Floor, New York, NY 10065	1998	\$ 50,000,000	\$ 49,406,937	\$ 65,710,274	\$ 65,710,274	8.17%	1.33x	\$ -	\$ 16,303,337
Private Equity	Lexington Capital Partners III, L.P.	660 Madison Avenue, 23rd Floor, New York, NY 10065	1999	\$ 25,000,000	\$ 24,654,618	\$ 30,973,827	\$ 31,175,510	8.64%	1.26x	\$ -	\$ N/A
Private Equity	Lexington Capital Partners V, L.P.	660 Madison Avenue, 23rd Floor, New York, NY 10065	2001	\$ 50,000,000	\$ 49,756,618	\$ 83,315,442	\$ 83,575,218	18.20%	1.68x	\$ 10,068	N/A
Private Equity	Lightspeed Venture Partners VI, L.P.	2200 Sand Hill Road, Menlo Park, CA 94025	2000	\$ 8,000,000	\$ 7,340,182	\$ 7,782,321	\$ 7,782,321	1.13%	1.06x	\$ -	\$ 442,139
Private Equity	Lightyear Fund III, L.P.	9 West 57th Street, 31st Floor, New York, NY 10019	2011	\$ 105,000,000	\$ 120,647,613	\$ 247,022,790	\$ 255,000,628	24.97%	2.11x	\$ 171,377	N/A
Private Equity	Lightyear Fund IV, L.P.	9 West 57th Street, 31st Floor, New York, NY 10019	2016	\$ 150,000,000	\$ 147,464,233	\$ 20,174,339	\$ 179,838,606	11.47%	1.22x	\$ 2,344,443	N/A
Private Equity	Lindsay Goldberg & Bessemer, L.P.	630 Fifth Avenue, 30th Floor, New York, NY 10111	2002	\$ 30,000,000	\$ 29,160,283	\$ 70,239,033	\$ 70,239,033	33.25%	2.41x	\$ 41,078,750	\$ -
Private Equity	Livingbridge 6, L.P.	100 Wood Street, London EC2V 7AN, United Kingdom	2016	\$ 51,544,921	\$ 40,028,517	\$ 699,152	\$ 39,845,709	-0.26%	1.00x	\$ 1,359,696	N/A
Private Equity	M/C Venture Partners VI, L.P.	75 State Street, Suite 2500, Boston, MA 02109	2006	\$ 19,000,000	\$ 18,813,924	\$ 39,761,999	\$ 39,761,999	13.31%	2.11x	\$ -	\$ 20,948,075
Private Equity	Madison Dearborn Capital Partners III, L.P.	Three First National Plaza, Suite 4600, Chicago, IL 60602	1999	\$ 30,000,000	\$ 30,021,318	\$ 45,791,560	\$ 45,791,560	8.59%	1.53x	\$ -	\$ 15,770,243
Private Equity	Madison Dearborn Capital Partners IV, L.P.	Three First National Plaza, Suite 4600, Chicago, IL 60602	2000	\$ 25,000,000	\$ 24,258,894	\$ 46,347,176	\$ 46,347,176	13.83%	1.91x	\$ -	\$ 22,088,282
Private Equity	Madison Dearborn Capital Partners V-A, L.P.	Three First National Plaza, Suite 4600, Chicago, IL 60602	2006	\$ 75,000,000	\$ 72,683,212	\$ 115,385,291	\$ 115,385,291	7.07%	1.59x	\$ -	\$ 42,702,079
Private Equity	Madison Dearborn Capital Partners VI, L.P.	Three First National Plaza, Suite 4600, Chicago, IL 60602	2008	\$ 75,000,000	\$ 68,228,887	\$ 149,537,439	\$ 149,537,439	24.29%	2.19x	\$ -	\$ 81,308,552
Private Equity	Marlin Equity IV, L.P.	338 Pier Avenue, Hermosa Beach, CA 90254	2013	\$ 50,000,000	\$ 49,745,189	\$ 25,609,119	\$ 64,463,571	8.00%	1.30x	\$ 539,638	N/A
Private Equity	MBK Partners Fund III, L.P.	22nd Floor, D Tower D1, 17 Jongno 3-gil, Jongno-gu, Seoul, Korea	2013	\$ 100,000,000	\$ 108,806,077	\$ 55,571,404	\$ 154,786,463	10.01%	1.42x	\$ 527,428	N/A
Private Equity	MBK Partners Fund IV, L.P.	22nd Floor, D Tower D1, 17 Jongno 3-gil, Jongno-gu, Seoul, Korea	2017	\$ 120,000,000	\$ 88,906,003	\$ 26,171,428	\$ 106,181,283	10.92%	1.19x	\$ 1,097,652	N/A
Private Equity	MBK Partners Fund V, L.P.	22nd Floor, D Tower D1, 17 Jongno 3-gil, Jongno-gu, Seoul, Korea	2020	\$ 150,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	McCown DeLeucoux & Co. Fund IV, L.P.	950 Tower Lane, Suite 800, Foster City, CA 94404	1998	\$ 25,000,000	\$ 21,327,148	\$ 15,493,357	\$ 15,493,357	-4.50%	0.73x	\$ -	\$ (5,833,791)
Private Equity	Media Communications Partners, L.P.	75 State Street, Suite 2500, Boston, MA 02109	1986	\$ 25,000,000	\$ 25,000,000	\$ 40,272,681	\$ 40,272,681	7.25%	1.61x	\$ -	\$ 15,272,681
Private Equity	Mediaphase Venture Partners II, L.P.	One Gateway Center, Suite 407, Newton, MA 02458	2002	\$ 10,000,000	\$ 9,703,163	\$ 17,662,114	\$ 17,662,114	7.56%	1.82x	\$ -	\$ 7,958,951
Private Equity	Menlo Ventures IX, L.P.	3000 Sand Hill Road, Building 4, Suite 100, Menlo Park, CA 94025	2001	\$ 10,000,000	\$ 10,000,000	\$ 9,812,008	\$ 9,812,008	-0.33%	0.98x	\$ -	\$ (187,992)
Private Equity	Mercato Partners Growth II, L.P.	2750 East Cottonwood Parkway, Suite 500, Cottonwood Heights, UT 84121	2011	\$ 7,000,000	\$ 7,000,000	\$ 3,102,420	\$ 12,638,136	10.75%	1.81x	\$ 115,803	N/A
Private Equity	MetroPCS	2250 Lakeside Boulevard, Richardson, TX 75082	1995	\$ 5,784,200	\$ 5,920,141	\$ 54,529,368	\$ 54,529,368	26.34%	9.21x	\$ -	\$ 48,609,227
Private Equity	Moelis Capital Partners Opp. Fund I-B LP	399 Park Avenue, 6th Floor, New York, NY 10022	2014	\$ 10,000,000	\$ 9,109,353	\$ 8,491,455	\$ 16,109,995	15.51%	1.77x	\$ 112,333	N/A
Private Equity	Montagu III, L.P.	2 More London Riverside, London SE1 2AP, United Kingdom	2005	\$ 76,404,757	\$ 74,273,362	\$ 97,904,791	\$ 97,904,791	7.34%	1.32x	\$ -	\$ 23,631,429
Private Equity	Montefiore Investment V, S.L.P.	28 rue Bayard, 75008, Paris CEDEX 01, France	2020	\$ 44,929,224	\$ 901,744	\$ -	\$ 771,829	-14.41%	0.86x	\$ 124,308	N/A
Private Equity	Morgan Stanley Dean Witter Venture Partners IV, L.P.	1585 Broadway, New York, NY 10036	1999	\$ 5,000,000	\$ 5,126,102	\$ 4,098,815	\$ 4,217,362	-2.51%	0.82x	\$ 722	N/A
Private Equity	Morgan Stanley Venture Partners 2002 Fund, L.P.	1585 Broadway, New York, NY 10036	2002	\$ 5,000,000	\$ 5,618,225	\$ 8,827,330	\$ 8,827,330	9.34%	1.57x	\$ -	\$ 3,209,105
Private Equity	NeoTribe Ventures I, L.P.	3340 Hillview Avenue, Palo Alto, CA 94304	2017	\$ 5,000,000	\$ 4,050,000	\$ 26,072	\$ 5,173,181	17.57%	1.28x	\$ 131,810	N/A
Private Equity	NeoTribe Ventures II, L.P.	3340 Hillview Avenue, Palo Alto, CA 94304	2020	\$ 8,670,500	\$ 346,820	\$ -	\$ 332,185	-4.22%	0.96x	\$ 14,645	N/A
Private Equity	New Mainstream Capital II, L.P.	5949 Sherry Lane, Suite 1080, Dallas, TX 75225	2014	\$ 10,000,000	\$ 11,710,565	\$ 7,607,562	\$ 15,295,335	10.23%	1.31x	\$ 158,433	N/A
Private Equity	Next Coast Ventures I, L.P.	1204 Nuaces Street, Austin, TX 78701	2016	\$ 5,000,000	\$ 4,695,502	\$ 119,091	\$ 5,940,710	13.21%	1.27x	\$ 137,234	N/A
Private Equity	Next Coast Ventures II, L.P.	3600 North Capital of Texas Highway, Building B Suite 250, Austin, TX 78746	2019	\$ 15,000,000	\$ 3,750,000	\$ -	\$ 3,408,817	-13.55%	0.91x	\$ 392,707	N/A
Private Equity	Nordic Capital Fund VI, L.P.	26 Esplanade, St. Helier, Jersey, JE4 8PX Channel Islands	2006	\$ 59,027,621	\$ 62,740,012	\$ 96,405,223					

Section 6254.26 (b)  
Fiscal Year-Ended June 30, 2020

Functional Category	Name <sup>1</sup>	Address <sup>1</sup>	Vintage Year <sup>1</sup>	Commitment <sup>2</sup>	Contribution <sup>3</sup>	Distributions <sup>4</sup>	Distribution Plus Market Value <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Investment Multiple <sup>7</sup>	Dollar amount of the total fees paid on a fiscal year-end basis <sup>8</sup>	Dollar amount of cash profit received on a fiscal year-end basis <sup>9</sup>
Private Equity	Oak Investment Partners V, L.P.	901 Main Avenue, Suite 600, Norwalk, CT 06851	1992	\$ 11,250,000	\$ 11,250,000	\$ 17,094,361	\$ 17,094,361	10.55%	1.52x	\$ -	\$ 5,844,361
Private Equity	Oak Investment Partners VI, L.P.	901 Main Avenue, Suite 600, Norwalk, CT 06851	1994	\$ 14,000,000	\$ 14,000,000	\$ 40,701,314	\$ 40,701,314	34.57%	2.91x	\$ -	\$ 26,701,314
Private Equity	Oak Investment Partners VIII, L.P.	901 Main Avenue, Suite 600, Norwalk, CT 06851	1998	\$ 10,000,000	\$ 10,000,000	\$ 18,005,960	\$ 18,005,960	54.28%	1.80x	\$ -	\$ 8,005,960
Private Equity	Oak Investment Partners X, L.P.	901 Main Avenue, Suite 600, Norwalk, CT 06851	2001	\$ 20,000,000	\$ 20,000,000	\$ 25,008,237	\$ 25,241,703	3.48%	1.26x	\$ -	\$ 4,355
Private Equity	Oak Investment Partners XI, L.P.	901 Main Avenue, Suite 600, Norwalk, CT 06851	2004	\$ 32,050,000	\$ 32,040,260	\$ 25,407,675	\$ 30,513,161	-0.58%	0.95x	\$ -	\$ 11,373
Private Equity	Oak Investment Partners XII, L.P.	901 Main Avenue, Suite 600, Norwalk, CT 06851	2006	\$ 40,000,000	\$ 39,933,414	\$ 30,398,594	\$ 39,106,333	-0.32%	0.98x	\$ -	\$ 27,710
Illiquid Credit	Oaktree Opportunities Fund VIII b, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2010	\$ 37,500,000	\$ 37,500,000	\$ 40,125,383	\$ 49,868,738	4.90%	1.33x	\$ -	\$ 286,377
Illiquid Credit	Oaktree Opportunities Fund VIII, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2010	\$ 37,500,000	\$ 37,500,000	\$ 53,151,225	\$ 54,048,512	8.90%	1.44x	\$ -	\$ 156,013
Illiquid Credit	Oaktree Opportunities Fund IX, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2012	\$ 100,000,000	\$ 100,000,000	\$ 47,895,430	\$ 111,311,502	2.10%	1.11x	\$ -	\$ 1,297,152
Private Equity	OCM Opportunities Fund II, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	1997	\$ 25,000,000	\$ 25,000,000	\$ 37,729,349	\$ 37,729,349	8.45%	1.51x	\$ -	\$ 12,729,349
Private Equity	OCM Opportunities Fund III, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	1999	\$ 25,000,000	\$ 26,250,000	\$ 38,931,640	\$ 38,931,640	11.93%	1.48x	\$ -	\$ 12,681,640
Private Equity	OCM Opportunities Fund IV, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2001	\$ 35,000,000	\$ 35,000,000	\$ 57,818,378	\$ 57,818,378	28.03%	1.65x	\$ -	\$ 22,818,378
Illiquid Credit	OCM Opportunities Fund V, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2004	\$ 32,400,000	\$ 32,400,000	\$ 53,554,530	\$ 53,562,019	14.10%	1.65x	\$ -	\$ 6,065
Private Equity	OCM Opportunities Fund VI, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2005	\$ 32,400,000	\$ 32,400,000	\$ 51,168,515	\$ 51,168,515	8.75%	1.58x	\$ -	\$ 18,768,515
Illiquid Credit	OCM Opportunities Fund VII b, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2007	\$ 45,000,000	\$ 40,500,000	\$ 70,540,830	\$ 70,621,923	16.50%	1.74x	\$ -	\$ 4,819
Illiquid Credit	OCM Opportunities Fund VIII, L.P.	333 South Grand Avenue, 28th Floor, Los Angeles, CA 90071	2007	\$ 30,000,000	\$ 30,000,000	\$ 41,197,225	\$ 41,411,685	7.30%	1.38x	\$ -	\$ 6,992
Private Equity	Olympus Growth Fund IV, L.P.	Metro Center, One Station Place, 4th Floor, Stamford, CT 06902	2003	\$ 18,000,000	\$ 16,361,176	\$ 26,995,690	\$ 26,995,690	8.43%	1.65x	\$ -	\$ 10,634,514
Private Equity	One Rock Capital Partners II, L.P.	30 Rockefeller Plaza, 54th Floor, New York, NY 10112	2017	\$ 72,500,000	\$ 63,032,098	\$ -	\$ 70,630,070	8.45%	1.12x	\$ 1,493,511	N/A
Private Equity	One Rock Capital Partners III, L.P.	30 Rockefeller Plaza, 54th Floor, New York, NY 10112	2020	\$ 150,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Onex Partners, L.P.	161 Bay Street, P.O. Box 700, Toronto, ON M5J 2S1, Canada	2003	\$ 75,000,000	\$ 73,984,802	\$ 221,598,361	\$ 221,877,639	38.28%	3.00x	\$ -	N/A
Private Equity	Onex Partners II, L.P.	161 Bay Street, P.O. Box 700, Toronto, ON M5J 2S1, Canada	2006	\$ 60,000,000	\$ 53,620,551	\$ 96,860,529	\$ 98,960,288	12.91%	1.85x	\$ -	\$ 4,238
Private Equity	Onex Partners III, L.P.	161 Bay Street, P.O. Box 700, Toronto, ON M5J 2S1, Canada	2008	\$ 75,000,000	\$ 83,210,881	\$ 109,861,120	\$ 128,713,847	10.83%	1.55x	\$ -	\$ 268,600
Private Equity	Onex Partners IV, L.P.	161 Bay Street, P.O. Box 700, Toronto, ON M5J 2S1, Canada	2014	\$ 150,000,000	\$ 145,468,096	\$ 74,466,312	\$ 166,276,029	4.16%	1.14x	\$ -	\$ 1,157,658
Private Equity	Onex Partners V, L.P.	161 Bay Street, P.O. Box 700, Toronto, ON M5J 2S1, Canada	2018	\$ 200,000,000	\$ 54,896,660	\$ -	\$ 46,987,567	-21.80%	0.86x	\$ -	\$ 3,752,885
Private Equity	Osecola Fund I, L.P.	1715 North Westshore Boulevard, Suite 200, Tampa, FL 33607	2020	\$ 15,000,000	\$ 6,532,964	\$ -	\$ 5,536,778	-15.25%	0.85x	\$ -	\$ 1,015,060
Private Equity	Oxford Bioscience Partners IV, L.P.	P.O. Box 2017, 12 Giles Place, Mansfield, MA 02048	2001	\$ 20,000,000	\$ 20,000,000	\$ 12,341,882	\$ 12,341,882	-9.74%	0.62x	\$ -	\$ (7,658,118)
Private Equity	PAI Europe VII, L.P.	232, rue de Rivoli, 75054 Paris, CEDEX 01, France	2018	\$ 168,210,076	\$ 36,256,687	\$ -	\$ 21,004,311	-66.22%	0.58x	\$ 3,156,823	N/A
Private Equity	Palladium Equity Partners IV, L.P.	1270 Avenue of the Americas, 31st Floor, New York, NY 10020	2014	\$ 100,000,000	\$ 106,670,342	\$ 56,600,752	\$ 128,184,838	6.88%	1.20x	\$ -	\$ 1,224,275
Private Equity	Palm Beach Capital Fund III, L.P.	525 South Flagler Drive, Suite 201, West Palm Beach, FL 33401	2011	\$ 7,000,000	\$ 6,846,163	\$ 8,351,912	\$ 13,065,398	20.36%	1.91x	\$ -	\$ 47,036
Private Equity	Palm Beach Capital III, L.P.-Secondary	525 South Flagler Drive, Suite 201, West Palm Beach, FL 33401	2015	\$ 1,053,866	\$ 949,156	\$ 828,498	\$ 1,818,501	23.69%	1.92x	\$ -	\$ 9,071
Private Equity	Palm Beach Capital Fund IV, L.P.	525 South Flagler Drive, Suite 201, West Palm Beach, FL 33401	2018	\$ 10,000,000	\$ 8,489,855	\$ 1,371,052	\$ 11,937,116	18.56%	1.41x	\$ -	\$ 291,716
Private Equity	Peak Rock Capital Fund, L.P.	13413 Galleria Circle, Suite Q-300, Austin, TX 78738	2013	\$ 11,000,000	\$ 9,613,814	\$ 10,427,511	\$ 15,706,588	24.03%	1.63x	\$ -	\$ 104,983
Private Equity	Permira Europe III, L.P.	80 Pall Mall, London SW1Y 5ES, United Kingdom	2003	\$ 95,225,609	\$ 106,878,027	\$ 174,555,493	\$ 174,792,274	25.84%	1.64x	\$ -	\$ 4,673
Private Equity	Permira Europe IV, L.P.	80 Pall Mall, London SW1Y 5ES, United Kingdom	2006	\$ 66,709,332	\$ 75,442,718	\$ 114,482,443	\$ 114,482,443	8.42%	1.52x	\$ -	\$ 39,039,724
Private Equity	Phillips-Smith Specialty Retail Group III, L.P.	5080 Spectrum Drive, Suite 805, West Addison, TX 75001	1993	\$ 5,000,000	\$ 5,000,000	\$ 10,942,836	\$ 10,942,836	23.26%	2.19x	\$ -	\$ 5,942,836
Private Equity	Phoenix Equity Partners III, L.P.	123 Victoria Street, London SW1E 6DE, United Kingdom	2000	\$ 5,195,919	\$ 4,017,519	\$ 5,407,526	\$ 5,407,526	5.99%	1.35x	\$ -	\$ 1,390,007
Private Equity	Phoenix Equity Partners IV, L.P.	123 Victoria Street, London SW1E 6DE, United Kingdom	2001	\$ 17,494,723	\$ 23,037,525	\$ 49,761,888	\$ 49,761,888	31.41%	2.16x	\$ -	\$ 26,724,363
Private Equity	Prospect Venture Partners I, L.P.	435 Tasso Street, Suite 200, Palo Alto, CA 94301	1997	\$ 10,000,000	\$ 10,000,000	\$ 7,477,919	\$ 7,477,919	-3.78%	0.75x	\$ -	\$ (2,522,081)
Private Equity	Prospect Venture Partners II, L.P.	435 Tasso Street, Suite 200, Palo Alto, CA 94301	2001	\$ 20,000,000	\$ 18,500,000	\$ 23,938,622	\$ 23,938,622	5.22%	1.29x	\$ -	\$ 5,438,622
Private Equity	Providence Equity Partners III, L.P.	50 Kennedy Plaza, 18th Floor, Providence, RI 02903	1999	\$ 21,765,349	\$ 25,250,994	\$ 38,781,756	\$ 38,781,756	14.48%	1.54x	\$ -	\$ 13,330,762
Private Equity	Providence Equity Partners IV, L.P.	50 Kennedy Plaza, 18th Floor, Providence, RI 02903	2000	\$ 35,000,000	\$ 43,939,032	\$ 89,498,730	\$ 89,498,730	23.83%	2.04x	\$ -	\$ 49,559,699
Private Equity	Providence Equity Partners IV - Secondary	50 Kennedy Plaza, 18th Floor, Providence, RI 02903	2005	\$ 1,330,097	\$ 1,251,039	\$ 2,233,649	\$ 2,233,649	19.47%	1.79x	\$ -	\$ 982,609
Private Equity	Providence Equity Partners V, L.P.	50 Kennedy Plaza, 18th Floor, Providence, RI 02903	2005	\$ 73,000,000	\$ 69,499,729	\$ 85,416,140	\$ 85,416,140	3.08%	1.23x	\$ -	\$ 15,916,411
Private Equity	Providence Equity Partners VI, L.P.	50 Kennedy Plaza, 18th Floor, Providence, RI 02903	2007	\$ 80,000,000	\$ 77,988,274	\$ 107,823,757	\$ 107,823,757	5.44%	1.38x	\$ -	\$ 29,835,483
Private Equity	Providence Growth Investors, L.P.	50 Kennedy Plaza, 18th Floor, Providence, RI 02903	2000	\$ 10,000,000	\$ 10,245,962	\$ 12,397,723	\$ 12,397,723	4.85%	1.21x	\$ -	\$ 2,151,761
Private Equity	Prudential Venture Partners II	355 Lexington Avenue, Suite 1400, New York, NY 10017	1987	\$ 50,000,000	\$ 50,000,000	\$ 116,405,441	\$ 116,405,441	23.45%	2.33x	\$ -	\$ 66,405,441
Private Equity	Quad C Partners V, L.P.	200 Garrett Street, Suite M, Charlottesville, VA 22902	1998	\$ 25,000,000	\$ 24,966,260	\$ 36,516,994	\$ 36,516,994	9.11%	1.46x	\$ -	\$ 11,550,734
Private Equity	Quad-C Partners VII, L.P.	200 Garrett Street, Suite M, Charlottesville, VA 22902	2006	\$ 43,723,396	\$ 44,927,887	\$ 73,036,197	\$ 73,036,197	10.88%	1.63x	\$ -	\$ 28,108,310
Private Equity	Quad-C Partners VII Co-Investment Fund, L.P.	200 Garrett Street, Suite M, Charlottesville, VA 22902	2007	\$ 13,639,253	\$ 13,561,143	\$ 19,291,212	\$ 19,291,212	8.18%	1.42x	\$ -	\$ 5,730,069
Private Equity	Questor Partners Fund II, L.P.	101 Southfield Road, 2nd Floor, Birmingham, MI 48009	1999	\$ 30,000,000	\$ 32,873,554	\$ 39,052,065	\$ 39,052,065	3.89%	1.19x	\$ -	\$ 6,178,511
Private Equity	Questor Partners Fund, L.P.	101 Southfield Road, 2nd Floor, Birmingham, MI 48009	1996	\$ 30,000,000	\$ 30,335,510	\$ 42,894,358	\$ 42,894,358	15.70%	1.41x	\$ -	\$ 12,558,848
Private Equity	RedBird Capital Partners Series 2019, L.P.	667 Madison Avenue, 16th Floor, New York, NY 10065	2019	\$ 150,000,000	\$ 65,816,166	\$ 304,357	\$ 72,389,786	5.74%	1.10x	\$ 1,790,409	\$ -
Private Equity	Redpoint Ventures II, L.P.	3000 Sand Hill Road, Building 2, Suite 290, Menlo Park, CA 94025	2000	\$ 4,800,000	\$ 4,656,000	\$ 6,546,873	\$ 6,546,873	5.09%	1.41x	\$ -	\$ 1,890,873
Private Equity	Reliant Equity Partners, L.P.	401 North Michigan Avenue, Suite 550, Chicago, IL 60611	2003	\$ 10,000,000	\$ 9,058,279	\$ 126,988	\$ 126,988	-48.09%	0.01x	\$ -	\$ (8,931,291)
Private Equity	Revelstoke Capital Partners Single Asset Fund I, L.P.	260 North Josephine Street, Suite 500, Denver, CO 80206	2019	\$ 60,000,000	\$ 51,976,856	\$ -	\$ 64,629,804	24.11%	1.24x	\$ 123,755	\$ -
Private Equity	Ripplewood Partners, L.P.	1 Rockefeller Plaza, 32nd Floor, New York, NY 10020	1996	\$ 20,000,000	\$ 19,604,622	\$ 36,396,534	\$ 36,396,534	13.62%	1.86x	\$ -	\$ 16,791,912
Private Equity	Riverside Capital Appreciation Fund VI, L.P.	45 Rockefeller Center, New York, NY 10111	2013	\$ 100,000,000	\$ 109,440,605	\$ 90,366,621	\$ 144,010,086	9.79%	1.32x	\$ -	\$ 1,240,111
Private Equity	Riverside Micro-Cap Fund V, L.P.	45 Rockefeller Center, New York, NY 10111	2019	\$ 65,000,000	\$ 16,234,881	\$ -	\$ 13,870,480	-17.51%	0.85x	\$ 1,130,875	N/A
Private Equity	Rizvi Opportunistic Equity Fund II	260 East Brown Street, Suite 380, Birmingham, MI 48009	2010	\$ 4,293,000	\$ 4,938,014	\$ 4,753,927	\$ 7,738,037	7.99%	1.57x	\$ -	\$ 35,444
Private Equity	RLH Investors II, L.P.	10900 Wilshire Boulevard, Suite 850, Los Angeles, CA 90024	2006	\$ 10,000,000	\$ 11,482,112	\$ 24,916,208	\$ 24,916,208	21.73%	2.17x	\$ -	\$ 13,434,096
Private Equity	RLH Investors III, L.P.	10900 Wilshire Boulevard, Suite 850, Los Angeles, CA 90024	2010	\$ 50,000,000	\$ 45,145,545	\$ 56,342,040	\$ 56,342,040	6.56%	1.25x	\$ -	\$ 11,196,495
Private Equity	RSTW Partners III, L.P.	5847 San Felipe, Suite 2929, Houston, TX 77057	1997	\$ 25,000,000	\$ 23,010,874	\$ 21,623,881	\$ 21,623,881	-1.19%	0.94x	\$ -	\$ (1,386,993)
Private Equity	Sevin Rosen Fund IV, L.P.	P.O. Box 192128, Dallas, TX 75219	1992	\$ 5,000,000	\$ 5,032,048	\$ 51,249,370	\$ 51,249,370	87.17%	10.18x	\$ -	\$ 46,217,322
Private Equity	Sevin Rosen Fund V, L.P.	P.O. Box 192128, Dallas, TX 75219	1996	\$ 10,000,000	\$ 10,029,497	\$ 11,068,441	\$ 11,068,441	9.29%	1.10x	\$ -	\$ 1,038,945
Private Equity	Sevin Rosen Fund VII, L.P.	P.O. Box 192128, Dallas, TX 75219	1999	\$ 10,000,000	\$ 9,875,000	\$ 2,054,166	\$ 2,054,166	-10.26%	0.21x	\$ -	\$ (7,820,834)
Private Equity	Sevin Rosen Fund VIII, L.P.	P.O. Box 192128, Dallas, TX 75219	2000	\$ 13,720,000	\$ 13,514,200	\$ 15,553,187	\$ 15,616,380	1.61%	1.16x	\$ 162	N/A
Private Equity	Sevin Rosen VI, L.P.	P.O. Box 192128, Dallas, TX 75219	1998	\$ 5,000,000	\$ 5,000,000	\$ 9,184,249	\$ 9,184,249	53.46%	1.84x	\$ -	\$ 4,184,249
Private Equity	Sierra Ventures V, L.P.	1400 Fashion Island Boulevard, Suite 1010, San Mateo, CA 94404	1995	\$ 5,000,000	\$ 5,000,000	\$ 21,267,421	\$ 21,267,421	80.00%	4.25x	\$ -	\$ 16,267,421
Private Equity	Sierra										



**Section 6254.26 (b)**  
**Fiscal Year-Ended June 30, 2020**

Functional Category	Name <sup>1</sup>	Address <sup>1</sup>	Vintage Year <sup>1</sup>	Commitment <sup>2</sup>	Contribution <sup>3</sup>	Distributions <sup>4</sup>	Distribution Plus Market Value <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Investment Multiple <sup>7</sup>	Dollar amount of the total fees paid on a fiscal year-end basis <sup>8</sup>	Dollar amount of cash profit received on a fiscal year-end basis <sup>9</sup>
Private Equity	Silverhawk Capital Partners II L.P.	140 Greenwich Avenue, Suite 2, Greenwich, CT 06830	2010	\$ 7,000,000	\$ 7,967,570	\$ 12,199,683	\$ 14,466,157	20.96%	1.82x	\$ 10,849	N/A
Private Equity	Sinovation Fund IV, L.P.	Dinghao Tower Block A, Haidian District, Beijing, China	2018	\$ 75,000,000	\$ 26,250,000	\$ -	\$ 24,864,355	-3.42%	0.95x	\$ 1,932,303	N/A
Private Equity	Siris Partners III, L.P.	601 Lexington Avenue, 59th Floor, New York, NY 10022	2014	\$ 60,000,000	\$ 64,016,594	\$ 29,996,236	\$ 81,708,682	12.03%	1.28x	\$ 839,774	N/A
Private Equity	Siris Partners IV, L.P.	601 Lexington Avenue, 59th Floor, New York, NY 10022	2019	\$ 100,000,000	\$ 53,835,457	\$ -	\$ 47,578,592	-14.56%	0.88x	\$ 1,499,108	N/A
Private Equity	Solera Partners, L.P.	625 Madison Avenue, 3rd Floor, New York, NY 10022	2002	\$ 10,000,000	\$ 5,119,929	\$ 14,890,218	\$ 14,890,218	9.60%	2.91x	\$ -	\$ 9,770,289
Private Equity	Southfield Capital III, L.P.	140 Greenwich Avenue, Suite 4, Greenwich, CT 06830	2020	\$ 15,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Southwest Fund V, L.P.	40 Burton Hills Boulevard, Suite 420, Nashville, TN 37215	2005	\$ 8,811,316	\$ 8,598,559	\$ 17,919,049	\$ 18,808,699	15.54%	2.19x	\$ 15,653	N/A
Private Equity	Spectrum Equity Investors V, L.P.	140 New Montgomery, San Francisco, CA 94105	2005	\$ 35,000,000	\$ 32,871,719	\$ 79,843,031	\$ 80,300,949	17.99%	2.44x	\$ -	N/A
Private Equity	Sprout VIII, L.P.	1 Madison Avenue, 7th Floor, New York, NY 10010	1998	\$ 20,000,000	\$ 20,000,000	\$ 18,911,128	\$ 18,911,128	-0.89%	0.95x	\$ -	\$ (1,088,872)
Private Equity	Sterling Investment Partners III, L.P.	285 Riverside Avenue, Westport, CT 06880	2013	\$ 100,000,000	\$ 85,054,656	\$ 60,803,466	\$ 135,080,048	17.84%	1.59x	\$ 1,843,419	N/A
Private Equity	Sterling Investment Partners IV, L.P.	285 Riverside Avenue, Westport, CT 06880	2020	\$ 125,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Storm Ventures Fund V, L.P.	3000 Sand Hill Road, Building 4-210, Menlo Park, CA 94025	2015	\$ 50,000,000	\$ 40,000,000	\$ 1,750,000	\$ 58,346,141	12.02%	1.46x	\$ 882,103	N/A
Private Equity	Storm Ventures Fund VI, L.P.	3000 Sand Hill Road, Building 4-210, Menlo Park, CA 94025	2019	\$ 50,000,000	\$ 11,500,000	\$ -	\$ 9,948,642	-19.26%	0.87x	\$ 1,327,848	N/A
Private Equity	Summit Accelerator Fund, L.P.	300 South Tryon Street, Suite 1210, Charlotte, NC 28202	1999	\$ 5,600,000	\$ 5,498,422	\$ 9,711,301	\$ 9,711,301	9.85%	1.77x	\$ -	\$ 4,212,879
Private Equity	Summit Park I-A	300 South Tryon Street, Suite 1210, Charlotte, NC 28202	2012	\$ 7,406,250	\$ 7,616,140	\$ 18,325,987	\$ 23,822,987	27.26%	3.13x	\$ 132,512	N/A
Private Equity	Summit Park III, L.P.	300 South Tryon Street, Suite 1210, Charlotte, NC 28202	2014	\$ 10,000,000	\$ 10,049,928	\$ 8,472,643	\$ 15,210,677	18.88%	1.51x	\$ 10,900	N/A
Private Equity	Summit Park II, L.P.	300 South Tryon Street, Suite 1210, Charlotte, NC 28202	2018	\$ 9,375,000	\$ 3,334,972	\$ -	\$ 2,798,188	-17.85%	0.84x	\$ 90,725	N/A
Private Equity	Summit Partners Europe Growth Equity Fund III	222 Berkeley Street, 18th Floor, Boston, MA 02116	2020	\$ 39,310,250	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Summit Partners Growth Equity Fund VIII-A, L.P.	222 Berkeley Street, 18th Floor, Boston, MA 02116	2011	\$ 75,000,000	\$ 100,484,411	\$ 158,585,671	\$ 197,532,746	25.69%	1.97x	\$ 913,252	N/A
Private Equity	Summit Partners Private Equity Fund VII-A, L.P.	222 Berkeley Street, 18th Floor, Boston, MA 02116	2006	\$ 69,900,000	\$ 73,561,446	\$ 117,556,324	\$ 132,801,181	10.33%	1.81x	\$ 13,478	N/A
Private Equity	Summit Partners Venture Capital Fund II-A, L.P.	222 Berkeley Street, 18th Floor, Boston, MA 02116	2006	\$ 8,400,000	\$ 10,218,461	\$ 20,379,955	\$ 20,846,569	19.28%	2.04x	\$ 6,709	N/A
Private Equity	Summit Ventures III, L.P.	222 Berkeley Street, 18th Floor, Boston, MA 02116	1992	\$ 25,000,000	\$ 20,000,000	\$ 78,763,052	\$ 78,763,052	61.71%	3.94x	\$ -	\$ 58,763,052
Private Equity	Summit Ventures IV, L.P.	222 Berkeley Street, 18th Floor, Boston, MA 02116	1995	\$ 24,750,000	\$ 24,007,500	\$ 181,655,345	\$ 181,655,345	103.98%	7.57x	\$ -	\$ 157,647,845
Private Equity	Summit Ventures V, L.P.	222 Berkeley Street, 18th Floor, Boston, MA 02116	1998	\$ 37,000,000	\$ 35,705,000	\$ 49,485,953	\$ 49,485,953	8.12%	1.39x	\$ -	\$ 13,780,953
Private Equity	Summit Ventures VI-A, L.P.	222 Berkeley Street, 18th Floor, Boston, MA 02116	2001	\$ 50,000,000	\$ 53,526,728	\$ 111,518,170	\$ 112,235,795	15.38%	2.10x	\$ 16,452	N/A
Private Equity	Symantec Corp.	350 Ellis Street, Mountain View, CA 94043	1992	\$ 5,569,791	\$ 5,569,791	\$ 2,222,145	\$ 2,222,145	-28.51%	0.40x	\$ -	\$ (3,347,646)
Private Equity	Syndicated Communications II, L.P.	4800 Hampden Lane, Suite 200, Bethesda, MD 20814	1990	\$ 7,500,000	\$ 7,500,000	\$ 16,664,333	\$ 16,664,333	12.98%	2.22x	\$ -	\$ 9,164,333
Private Equity	Syndicated Communications Venture Partners IV, L.P.	4800 Hampden Lane, Suite 200, Bethesda, MD 20814	2000	\$ 7,500,000	\$ 7,445,705	\$ 5,205,401	\$ 5,205,401	-5.29%	0.70x	\$ -	\$ (2,240,304)
Private Equity	T3 Partners II, L.P.	301 Commerce Street, Suite 3300, Fort Worth, TX 76102	2001	\$ 18,707,131	\$ 18,360,961	\$ 56,361,527	\$ 56,361,527	93.85%	3.07x	\$ -	\$ 38,000,566
Private Equity	TA X, L.P.	200 Clarendon Street, 56th Floor, Boston, MA 02116	2006	\$ 7,900,000	\$ 7,623,500	\$ 10,040,900	\$ 10,040,900	5.18%	1.32x	\$ 660	\$ 2,417,400
Private Equity	TA XIII, L.P.	200 Clarendon Street, 56th Floor, Boston, MA 02116	2019	\$ 75,000,000	\$ 11,250,000	\$ -	\$ 11,084,376	-1.47%	0.99x	\$ 1,035,614	N/A
Private Equity	TVC V, L.P.	528 Ramona Street, Palo Alto, CA 94301	2004	\$ 39,000,000	\$ 38,668,500	\$ 70,153,279	\$ 71,844,867	10.64%	1.86x	\$ 31,725	N/A
Private Equity	TCV VI, L.P.	528 Ramona Street, Palo Alto, CA 94301	2006	\$ 50,000,000	\$ 51,685,000	\$ 74,751,941	\$ 81,544,648	12.63%	1.58x	\$ 29,713	N/A
Private Equity	TVC VII, L.P.	528 Ramona Street, Palo Alto, CA 94301	2007	\$ 75,000,000	\$ 73,844,663	\$ 194,099,410	\$ 225,541,660	23.34%	3.05x	\$ 199,760	N/A
Private Equity	TH Lee Putnam Parallel Ventures, L.P.	200 Madison Avenue, Suite 1900, New York, NY 10016	2000	\$ 5,000,000	\$ 5,055,906	\$ 5,833,008	\$ 5,833,008	3.01%	1.15x	\$ -	\$ 777,102
Private Equity	The 1818 Fund II, L.P.	140 Broadway, 16th Floor, New York, NY 10005	1993	\$ 15,000,000	\$ 12,862,874	\$ 23,988,308	\$ 23,988,308	12.15%	1.86x	\$ -	\$ 11,125,434
Private Equity	The Beacon Group III - Focus Value Fund, L.P.	N/A	1996	\$ 40,000,000	\$ 39,634,747	\$ 10,102,452	\$ 10,102,452	-18.19%	0.25x	\$ -	\$ (29,532,295)
Natural Resources & Commodities	The Energy & Minerals Group Fund III, L.P.	2229 San Felipe Street, Houston, TX 77017	2014	\$ 150,000,000	\$ 150,000,000	\$ 16,179,223	\$ 88,046,932	-11.10%	0.59x	\$ 1,625,903	N/A
Private Equity	The Resolute Fund II, L.P.	399 Park Avenue, 30th Floor, New York, NY 10022	2007	\$ 60,000,000	\$ 61,670,887	\$ 85,432,018	\$ 85,432,018	7.47%	1.39x	\$ -	\$ 23,761,131
Private Equity	The Resolute Fund, L.P.	399 Park Avenue, 30th Floor, New York, NY 10022	2002	\$ 50,000,000	\$ 47,806,413	\$ 120,845,133	\$ 120,845,133	16.96%	2.53x	\$ -	\$ 73,038,720
Private Equity	Thoma Bravo Discover Fund III, L.P.	600 Montgomery Street, 20th Floor, San Francisco, CA 94111	2020	\$ 50,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Thoma Bravo Fund XIV, L.P.	600 Montgomery Street, 20th Floor, San Francisco, CA 94111	2020	\$ 100,000,000	\$ -	\$ -	\$ -	0.00%	0.00x	\$ -	N/A
Private Equity	Thomas H. Lee Equity Fund IV, L.P.	100 Federal Street, 35th Floor, Boston, MA 02110	1998	\$ 70,000,000	\$ 63,149,612	\$ 54,841,198	\$ 54,841,198	-2.61%	0.87x	\$ -	\$ (8,308,414)
Private Equity	Thomas H. Lee Equity Fund V, L.P.	100 Federal Street, 35th Floor, Boston, MA 02110	2000	\$ 45,000,000	\$ 47,123,524	\$ 79,014,823	\$ 79,014,823	13.70%	1.68x	\$ -	\$ 31,891,299
Private Equity	Thomas H. Lee Equity Fund VI, L.P.	100 Federal Street, 35th Floor, Boston, MA 02110	2006	\$ 60,000,000	\$ 59,938,866	\$ 99,651,791	\$ 99,651,791	8.08%	1.66x	\$ -	\$ 39,712,925
Private Equity	TPG Partners II, L.P.	301 Commerce Street, Suite 3300, Fort Worth, TX 76102	1997	\$ 75,000,000	\$ 76,009,954	\$ 132,273,911	\$ 132,273,911	9.93%	1.74x	\$ -	\$ 56,263,957
Private Equity	TPG Partners III, L.P.	301 Commerce Street, Suite 3300, Fort Worth, TX 76102	2000	\$ 25,750,055	\$ 27,527,988	\$ 68,499,799	\$ 68,499,799	24.49%	2.49x	\$ -	\$ 40,971,811
Private Equity	TPG Partners IV, L.P.	301 Commerce Street, Suite 3300, Fort Worth, TX 76102	2003	\$ 69,768,736	\$ 81,273,945	\$ 156,460,825	\$ 157,355,975	15.25%	1.94x	\$ 35,434	N/A
Private Equity	TPG Partners V, L.P.	301 Commerce Street, Suite 3300, Fort Worth, TX 76102	2006	\$ 75,000,000	\$ 65,377,267	\$ 87,755,202	\$ 87,755,202	4.05%	1.34x	\$ -	\$ 22,377,935
Private Equity	TPG Partners VI, L.P.	301 Commerce Street, Suite 3300, Fort Worth, TX 76102	2008	\$ 100,000,000	\$ 99,595,863	\$ 144,234,418	\$ 144,234,418	9.09%	1.45x	\$ -	\$ 44,638,554
Private Equity	Triton Fund V, L.P.	9 South Street, 3rd Floor, London W1K 2XA, United Kingdom	2019	\$ 167,691,563	\$ 33,666,148	\$ -	\$ 25,448,768	-33.25%	0.76x	\$ 5,150,370	N/A
Private Equity	Union Square Ventures 2004, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2005	\$ 10,000,000	\$ 8,900,000	\$ 122,376,122	\$ 123,292,861	68.00%	13.85x	\$ 4,063	N/A
Private Equity	Union Square Ventures 2008, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2008	\$ 10,000,000	\$ 9,500,000	\$ 23,493,768	\$ 34,081,253	19.93%	3.59x	\$ 81,856	N/A
Private Equity	Union Square Ventures 2012 Fund, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2011	\$ 11,000,000	\$ 10,285,000	\$ 8,117,665	\$ 40,949,959	25.54%	3.98x	\$ 150,406	N/A
Private Equity	Union Square Ventures Opportunity Fund, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2010	\$ 7,000,000	\$ 5,110,000	\$ 17,690,609	\$ 19,693,688	58.75%	3.85x	\$ 28,184	N/A
Private Equity	USV 2014, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2014	\$ 8,250,000	\$ 7,672,500	\$ 826,969	\$ 18,602,541	24.29%	2.42x	\$ 193,144	N/A
Private Equity	USV 2016, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2016	\$ 9,000,000	\$ 6,480,000	\$ -	\$ 8,334,790	13.27%	1.29x	\$ 238,281	N/A
Private Equity	USV 2019, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2019	\$ 9,000,000	\$ 2,925,000	\$ -	\$ 2,714,432	-14.44%	0.93x	\$ 238,115	N/A
Private Equity	USV Opportunity 2014, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2014	\$ 7,425,000	\$ 6,022,500	\$ 471,428	\$ 10,890,620	15.86%	1.81x	\$ 54,231	N/A
Private Equity	USV Opportunity 2019, L.P.	915 Broadway, 19th Floor, New York, NY 10010	2019	\$ 11,250,000	\$ 3,881,250	\$ -	\$ 3,704,712	-4.99%	0.95x	\$ 117,705	N/A
Private Equity	Vestar Capital Partners IV, L.P.	245 Park Avenue, 41st Floor, New York, NY 10167	1999	\$ 25,000,000	\$ 24,468,267	\$ 43,362,057	\$ 43,362,057	13.45%	1.77x	\$ -	\$ 18,893,791
Private Equity	Vestar Capital Partners V, L.P.	245 Park Avenue, 41st Floor, New York, NY 10167	2005	\$ 75,000,000	\$ 76,707,066	\$ 93,397,012	\$ 93,397,012	2.94%	1.22x	\$ -	\$ 16,689,946
Private Equity	Vestar Equity Partners III, L.P.	245 Park Avenue, 41st Floor, New York, NY 10167	1997	\$ 17,500,000	\$ 17,154,331	\$ 19,588,323	\$ 19,588,323	2.63%	1.14x	\$ -	\$ 2,433,992
Private Equity	Vestar Equity Partners, L.P.	245 Park Avenue, 41st Floor, New York, NY 10167	1993	\$ 8,000,000	\$ 6,796,492	\$ 23,880,961	\$ 23,880,961	56.48%	3.51x	\$ -	\$ 17,084,469
Private Equity	Viney Capital Partners III, L.P.	535 Madison Avenue, New York, NY 10022	2019	\$ 75,000,000	\$ 17,457,086	\$ 924,585	\$ 13,828,225	-23.99%	0.79x	\$ 2,571,587	N/A
Private Equity	Vista Equity Partners Fund III, L.P.	1111 Broadway, Suite 1980, Oakland, CA 94607	2008	\$ 50,000,000	\$ 51,581,560	\$ 125,104,261	\$ 129,371,871	27.91%	2.51x	\$ 77,304	N/A
Private Equity	Vista Equity Partners Fund IV, L.P.	1111 Broadway, Suite 1980, Oakland, CA 94607	2011	\$ 100,000,000	\$ 98,363,166	\$ 127,832,291	\$ 191,007,561	15.85%	1.94x	\$ 724,884	N/A
Private Equity	Vista Equity Partners Fund V, L.P.	1111 Broadway, Suite 1980, Oakland, CA 94607	2014	\$ 200,000,000	\$ 273,059,472	\$ 269,288,035	\$ 485,319,334	20.77%	1.78x	\$ 2,503,391	N/A
Private Equity	Vista Equity Partners Fund VI, L.P.	1111 Broadway, Suite 1980, Oakland, CA 94607	2016	\$ 200,000,000	\$ 238,289,152	\$ 68,404,201	\$ 364,136,299	19.36%	1.53x	\$ 3,122,336	N/A
Private Equity	Vista Equity Partners Fund VII, L.P.	1111 Broadway, Suite 1980, Oakland, CA 94607	2019	\$ 200,000,000	\$						



**Section 6254.26 (b)**

Fiscal Year-Ended June 30, 2020

Attachment 3

Functional Category	Name <sup>1</sup>	Address <sup>1</sup>	Vintage Year <sup>1</sup>	Commitment <sup>2</sup>	Contribution <sup>3</sup>	Distributions <sup>4</sup>	Distribution Plus Market Value <sup>5</sup>	Since Inception Net Return <sup>6</sup>	Investment Multiple <sup>7</sup>	Dollar amount of the total fees paid on a fiscal year-end basis <sup>8</sup>	Dollar amount of cash profit received on a fiscal year-end basis <sup>9</sup>
Private Equity	Wayzata Opportunities Fund, LLC	701 East Lake Street, Suite 300, Wayzata, MN 55391	2005	\$ 40,000,000	\$ 37,428,325	\$ 62,803,809	\$ 62,803,809	8.40%	1.68x	\$ -	\$ 25,375,484
Private Equity	Welsh, Carson, Anderson & Stowe VI, L.P.	320 Park Avenue, Suite 2500, New York, NY 10022	1993	\$ 10,000,000	\$ 10,000,000	\$ 20,712,010	\$ 20,712,010	13.94%	2.07x	\$ -	\$ 10,712,010
Private Equity	Welsh, Carson, Anderson & Stowe VII, L.P.	320 Park Avenue, Suite 2500, New York, NY 10022	1995	\$ 20,000,000	\$ 20,000,000	\$ 43,513,904	\$ 43,513,904	17.71%	2.18x	\$ -	\$ 23,513,904
Private Equity	Welsh, Carson, Anderson & Stowe VIII, L.P.	320 Park Avenue, Suite 2500, New York, NY 10022	1998	\$ 25,000,000	\$ 25,000,000	\$ 32,204,360	\$ 32,204,360	3.12%	1.29x	\$ -	\$ 7,204,360
Private Equity	Weston Presidio Capital IV - Secondary	200 Clarendon Street, 50th Floor, Boston, MA 02116	2003	\$ 1,811,720	\$ 1,811,720	\$ 2,311,117	\$ 2,311,117	5.22%	1.28x	\$ -	\$ 499,397
Private Equity	Weston Presidio Capital IV, L.P.	200 Clarendon Street, 50th Floor, Boston, MA 02116	2000	\$ 9,665,712	\$ 9,665,712	\$ 11,401,437	\$ 11,401,437	2.96%	1.18x	\$ -	\$ 1,735,725
Private Equity	Weston Presidio Capital V, L.P.	200 Clarendon Street, 50th Floor, Boston, MA 02116	2005	\$ 35,000,000	\$ 34,660,903	\$ 79,153,937	\$ 79,153,937	15.29%	2.28x	\$ -	\$ 44,493,034
Private Equity	Whitman Heffernan & Rhein Fund II, L.P.	N/A	1992	\$ 14,200,000	\$ 14,232,703	\$ 8,329,230	\$ 8,329,230	-23.34%	0.59x	\$ -	\$ (5,903,473)
Private Equity	William Blair Mezzanine Capital Fund II, L.P.	222 West Adams Street, Chicago, IL 60606	1997	\$ 10,000,000	\$ 10,000,000	\$ 16,954,398	\$ 16,954,398	11.84%	1.70x	\$ -	\$ 6,954,398
Private Equity	Worldview Technology Partners I, L.P.	99 South Almaden Boulevard, 6th Floor, San Jose, CA 95113	1996	\$ 8,500,000	\$ 8,500,000	\$ 32,237,243	\$ 32,237,243	68.50%	3.79x	\$ -	\$ 23,737,243
Private Equity	Worldview Technology Partners II, L.P.	99 South Almaden Boulevard, 6th Floor, San Jose, CA 95113	1998	\$ 5,000,000	\$ 5,000,000	\$ 8,406,737	\$ 8,406,737	10.06%	1.68x	\$ -	\$ 3,406,737
Private Equity	Worldview Technology Partners III, L.P.	99 South Almaden Boulevard, 6th Floor, San Jose, CA 95113	1999	\$ 10,000,000	\$ 10,000,000	\$ 1,532,976	\$ 1,532,976	-22.59%	0.15x	\$ -	\$ (8,467,024)
Private Equity	Worldview Technology Partners IV, L.P.	99 South Almaden Boulevard, 6th Floor, San Jose, CA 95113	2000	\$ 12,086,682	\$ 11,300,783	\$ 5,670,097	\$ 5,670,097	-9.24%	0.50x	\$ -	\$ (5,630,687)
Private Equity	Wynnchurch Capital Partners V, L.P.	6250 North River Road, Suite 10-100, Rosemont, IL 60018	2020	\$ 75,000,000	\$ 1,958,779	\$ -	\$ 1,627,513	-16.91%	0.83x	\$ 392,410	\$ N/A
	<b>Real Estate</b>										
Opportunistic RE	Aermont Capital Real Estate Fund IV SCSp	28 Boulevard Royal, 5th Floor, L-2449 Luxembourg	2018	\$ 56,165,000	\$ 9,530,630	\$ -	\$ 2,501,216	-81.79%	0.26x	\$ 919,193	\$ (4,918,138)
Core and Value Added RE	AEW Value Investors Asia III, L.P.	8 Queen's Road, 15th Floor, Central Hong Kong	2017	\$ 50,000,000	\$ 42,528,388	\$ -	\$ 44,729,651	3.80%	1.05x	\$ 694,078	\$ (4,895,625)
Opportunistic RE	AG Asia Realty Fund IV, L.P.	245 Park Avenue, New York, NY 10167	2018	\$ 100,000,000	\$ 35,250,000	\$ 618,065	\$ 37,213,061	8.02%	1.06x	\$ 1,689,080	\$ (22,131,935)
Opportunistic RE	AG Europe Realty Fund II, L.P.	245 Park Avenue, New York, NY 10167	2018	\$ 50,000,000	\$ 40,000,000	\$ 250,000	\$ 46,113,833	10.51%	1.15x	\$ 878,363	\$ (14,875,000)
Core and Value Added RE	Bain Capital Real Estate Fund I-A, L.P.	200 Clarendon Street, Boston, MA 02116	2018	\$ 100,000,000	\$ 32,861,736	\$ 5,039,082	\$ 37,694,347	31.60%	1.15x	\$ 1,997,691	\$ (26,623,069)
Core and Value Added RE	CapMan Nordic Real Estate II FCP-RAIF	Ludviginkatu 6, 4th Floor, 00130 Helsinki, Finland	2017	\$ 63,168,776	\$ 44,238,761	\$ 9,573,865	\$ 53,268,212	14.90%	1.20x	\$ 546,264	\$ (11,723,399)
Opportunistic RE	Capri Urban Investors, LLC	875 North Michigan Avenue, Suite 3430, Chicago, Illinois 60611	2007	\$ 150,000,000	\$ 150,000,000	\$ 68,858,024	\$ 103,503,866	-4.96%	0.69x	\$ 486,303	\$ -
Opportunistic RE	Carlisle Europe Real Estate Partners III, L.P.	1001 Pennsylvania Avenue, NW Washington, DC 20004-2505	2007	\$ 19,868,930	\$ 21,639,142	\$ 21,220,584	\$ 22,245,834	0.84%	1.03x	\$ 21,723	\$ 267,478
Core and Value Added RE	CBRE Strategic Partners European Fund III	601 South Figueroa, 49th Floor, Los Angeles, CA 90071	2006	\$ 17,972,800	\$ 17,730,167	\$ 5,713,587	\$ 5,926,384	-15.36%	0.33x	\$ -	\$ -
Opportunistic RE	CityView Bay Area Fund II, L.P.	1901 Avenue of the Stars, Suite 1950, Los Angeles, CA 90025	2012	\$ 134,100,000	\$ 143,290,517	\$ 127,465,855	\$ 213,941,247	12.00%	1.49x	\$ 1,574,100	\$ (1,221,792)
Opportunistic RE	CityView Southern California Fund II, L.P.	1901 Avenue of the Stars, Suite 1950, Los Angeles, CA 90025	2013	\$ 100,000,000	\$ 99,025,334	\$ 134,634,916	\$ 158,509,601	14.20%	1.60x	\$ 1,268,558	\$ 133,956,371
Opportunistic RE	CityView Western Fund I, L.P.	1901 Avenue of the Stars, Suite 1950, Los Angeles, CA 90025	2016	\$ 150,000,000	\$ 107,518,611	\$ -	\$ 125,751,825	9.24%	1.17x	\$ 2,954,869	\$ (1,377,972)
Core and Value Added RE	Core Property Index Fund	1111 Superior Avenue, Suite 1100, Cleveland, Ohio 44114	2019	\$ 100,000,000	\$ 100,000,000	\$ 797,677	\$ 101,297,163	0.58%	1.01x	\$ 86,294	\$ (54,590,908)
Opportunistic RE	Europa Fund III, L.P.	15 Sloane Square, London SW1W 8ER, United Kingdom	2007	\$ 19,433,090	\$ 18,497,187	\$ 24,573,347	\$ 25,287,917	9.93%	1.37x	\$ (6,621)	\$ -
Opportunistic RE	Europa Fund IV, L.P.	15 Sloane Square, London SW1W 8ER, United Kingdom	2012	\$ 56,165,000	\$ 54,647,021	\$ 39,597,342	\$ 65,109,287	7.60%	1.19x	\$ (649,849)	\$ (122,966)
Core and Value Added RE	Hunt UK Realty Partners, L.P.	4 International Drive, Rye brook, NY 10523	2007	\$ 18,234,832	\$ 20,117,112	\$ 780,339	\$ 2,417,099	-19.96%	0.12x	\$ -	\$ -
Core and Value Added RE	Heitman Asia-Pacific Property Investors, L.P.	401 Wilshire Boulevard, Suite 1200, Santa Monica, CA 90401	2017	\$ 50,000,000	\$ 27,911,405	\$ 1,008,387	\$ 25,122,597	-4.00%	0.90x	\$ 231,147	\$ (869,325)
Opportunistic RE	Invesco Asian Real Estate Partners II, L.P.	2001 Ross Avenue, Suite 3400, Dallas, TX 75201	2007	\$ 25,000,000	\$ 11,251,165	\$ 14,905,477	\$ 15,084,948	9.50%	1.34x	\$ -	\$ -
Core and Value Added RE	Invesco Real Estate Asia Fund, L.P.	37A, Avenue J.F. Kennedy L-1855 Luxembourg, Grand-Duchy of Luxembourg	2014	\$ 100,000,000	\$ 100,000,000	\$ -	\$ 143,897,961	5.94%	1.44x	\$ 234,376	\$ 53,300
Core and Value Added RE	Prologis European Logistics Fund	34-38, Avenue de la Liberté, L-1930 Luxembourg	2007	\$ 111,980,000	\$ 111,980,000	\$ 37,499,165	\$ 201,697,177	8.60%	1.80x	\$ 1,834,944	\$ 6,798,735
Core and Value Added RE	RREEF Core Plus Industrial Fund, L.P.	345 Park Avenue, 24th Floor, New York, NY 10154	2017	\$ 125,000,000	\$ 125,000,000	\$ 15,201,653	\$ 191,898,723	15.60%	1.54x	\$ 538,773	\$ 6,798,735
Opportunistic RE	Starwood Capital Hospitality Fund II, L.P.	1601 Washington Avenue, Suite 800, Miami Beach, FL 33139	2007	\$ 100,000,000	\$ 96,340,000	\$ 131,737,567	\$ 149,352,028	10.00%	1.55x	\$ 378,124	\$ 2,103,642
Opportunistic RE	TPG Real Estate Partners III, L.P.	301 Commerce Street, Suite 3300, Fort Worth, TX 76102	2018	\$ 58,750,000	\$ 9,618,304	\$ -	\$ 7,865,848	-33.60%	0.82x	\$ 1,097,906	\$ (9,618,304)

<sup>1</sup> Name, address, and vintage year of the alternative investment fund.

<sup>2</sup> Since-inception dollar amount of commitments to the alternative investment fund.

<sup>3</sup> Since-inception dollar amount of cash contributions to the alternative investment fund.

<sup>4</sup> Since-inception dollar amount of cash distributions received from the alternative investment funds.

<sup>5</sup> Since-inception dollar amount of cash distributions received plus the remaining value of the alternative investment fund.

<sup>6</sup> Since-inception net returns for Private Equity were calculated by LACERA using all the outflows to and inflows from the underlying fund investments, including cash flows for expenses and fees paid by the Portfolio to those underlying fund investments. The terminal values used are the capital account balances as of the reporting period, as stated by the General Partners of the underlying fund investment, whether at cost or fair value. If the underlying fund investment's terminal value is prior to the reporting period, the internal rate of return (IRR) was calculated as of the last valuation date indicated by the fund manager. Real Estate since-inception IRR were provided by Townsend Group (asset category advisor). Hedge Fund, Fixed Income, and Global Equity (excluding JANA Strategic Investment Fund V) are cumulative geometric returns for holding periods less than 12 months of the alternative investment fund and annualized geometric return for holding periods greater than 12 months. JANA Strategic Investment Fund V (Global Equity) is a money-weighted return provided by the alternative investment fund.

<sup>7</sup> Since-inception investment multiple is calculated by the sum of market value of the alternative investment fund as of the fiscal year-end and the cumulative distribution divided by the cumulative contribution.

<sup>8</sup> Dollar amount of total management fees and costs paid or accrued to the alternative investment manager on an annual fiscal year-end basis. Data sources included the following: aggregation of cash payments to the alternative investment fund, confirmation with the alternative investment fund, financial statements and partner capital account statements, calculation using the respective management fee rate, pro rata share of the alternative investment fund's total management fee, and estimations based on alternative investment fund's operating expense ratios obtained from the most recent audited financial statement. Negative values indicate giveback of previously accrued or paid fees.

<sup>9</sup> Annual fiscal year-end dollar amount of cash distribution net of cash contributions from the alternative investment fund for the Real Estate asset category. The since-inception total cash profit after final liquidation are reported for the remaining asset categories. All periods prior to the final liquidation are reported as not applicable.

<sup>10</sup> Total fees paid as of calendar year-ended December 31, 2019.

**FOR INFORMATION ONLY**

November 19, 2020

TO: Each Member  
Board of Investments

FROM: Scott Zdrazil   
Senior Investment Officer

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **PRINCIPLES FOR RESPONSIBLE INVESTMENT ELECTION BALLOT**

Below is LACERA’s ballot for the Principles for Responsible Investment (PRI) 2020 general signatory meeting and elections to fill one asset owner board seat. PRI’s board consists of ten directors, seven of whom are elected by asset owners to two-year terms. There were five nominees, including one incumbent.

Nominee	Signatory Name	Position	Country
<b>Renosi Mokate (incumbent)</b>	Government Employees Pension Fund	Chairperson	South Africa
<b>Patricia Alejo</b>	Pontificia Universidad Javeriana	Portfolio Manager	Colombia
<b>Rafael Castro</b>	PREVI	Executive Manager of Compliance	Brazil
<b>Juan Camilo Osorio Londono</b>	Afore Sura	Chairman of the Board	Mexico
<b>Kamal Mitha</b>	Head Investments	Sasria	South Africa

In accordance with LACERA’s *Corporate Governance and Stewardship Principles* (“Principles”), staff consulted with the Chair of the Corporate Governance Committee to execute LACERA’s ballot in advance of PRI’s vote deadline. LACERA supported the incumbent director, consistent with LACERA’s *Principles* which evaluate, in part, the depth of experience and the diversity of perspectives and experiences that a nominee would bring in order to set and oversee the strategic direction of the association. The incumbent represents a public sector pension plan in South Africa (similar to LACERA) with a noted history of ESG integration, including being a founding signatory to the PRI. She is currently the only PRI director representing an emerging market. LACERA considers it valuable for PRI to maintain a constructive, experienced voice at the board-level from an emerging market asset owner with a depth of experience in ESG. LACERA welcomed a field of qualified candidates.

Other routine business matters were voted in line with LACERA’s Principles.

Each Trustee, Board of Investments

November 19, 2020

Page 2 of 2

**Voting receipt - 2020 PRI Ballot**

Receipt code: **DXP3**

Time of vote: **2020-11-19 23:54:39 Europe/London**

IP address: **71.9.80.202**

**2020 Asset Owner Ballot**

2020 PRI Board Election: **Renosi Mokate**

Confirm the appointment of the Chair: **For**

2020 Annual Report and Accounts: **For**

2020 Signatory General Meeting (SGM) Minutes: **For**

Noted and Reviewed:



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Jonathan Grabel  
Chief Investment Officer

**FOR INFORMATION ONLY**

November 18, 2020

TO: Trustees – Board of Investments

FROM: Ted Wright, CFA, FRM, PRM, CAIA  
Principal Investment Officer

*TW*

Mel Tsao  
Senior Investment Analyst

*MT*

FOR: December 9, 2020 Board of Investments Meeting

**SUBJECT: LACERA HOLDINGS IN SECURITIES SUBJECT TO EXECUTIVE ORDER 13959 RELATED TO INVESTMENTS THAT FINANCE CHINESE MILITARY COMPANIES**

On November 12, 2020 President Trump issued and executed executive order (“EO”) 13959. The order prohibits U.S. investments in Chinese companies that the White House states are owned or controlled by the Chinese military. The current administration in conjunction with the Department of Defense included 11 additional companies to an existing list under section 1237 as “qualifying entities” to the National Defense Authorization Act of Fiscal Year 1999 for a total of 31 Chinese companies.

The Investment Division attained a copy of the executive order and qualifying entities list to gain context and understanding of the rule. A review of the total Fund portfolio was conducted to determine the net exposure and impact of the order. As of November 12, 2020, the Fund’s approximate holdings to the identified securities from the qualified entities list reside solely within the global equity portfolio and the amount is estimated at \$20.7 million with roughly 75% or \$15.5 million within the MSCI ACWI IMI Global Passive Index mandate. The remaining 25% or \$5.2 million exposure is further distributed across two non-U.S. mandates.

Stipulations of the executive order define certain conditions for which they provide a timely divestiture of applicable investments and staff notes the following two key dates: the order becomes effective January 11, 2021, and secondly the order allows until November 11, 2021 for any current and/or existing positions held from the list to be divested. Given the transition to a new administration, there is uncertainty as to whether EO 13959 will remain in effect or possibly be cancelled after January 20, 2021.

Trustees – Board of Investments

December 9, 2020

Page 2 of 2

As the situation remains fluid, the Investment Division will monitor the status of this order and work closely with its investment managers to adhere to and determine possible next steps, the disposition of the identified securities if necessary and keep Trustees abreast of any further developments.

Attachment

Noted and Reviewed:

A handwritten signature in black ink, appearing to read 'J. Grabel', is written in a cursive style.

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Jonathan Grabel  
Chief Investment Officer

TW:MT:mt

Federal Register

Vol. 85, No. 222

Tuesday, November 17, 2020

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# Presidential Documents

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Title 3—

Executive Order 13959 of November 12, 2020

The President

## Addressing the Threat From Securities Investments That Finance Communist Chinese Military Companies

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the International Emergency Economic Powers Act (50 U.S.C. 1701 *et seq.*) (IEEPA), the National Emergencies Act (50 U.S.C. 1601 *et seq.*), and section 301 of title 3, United States Code,

I, DONALD J. TRUMP, President of the United States of America, find that the People's Republic of China (PRC) is increasingly exploiting United States capital to resource and to enable the development and modernization of its military, intelligence, and other security apparatuses, which continues to allow the PRC to directly threaten the United States homeland and United States forces overseas, including by developing and deploying weapons of mass destruction, advanced conventional weapons, and malicious cyber-enabled actions against the United States and its people.

Key to the development of the PRC's military, intelligence, and other security apparatuses is the country's large, ostensibly private economy. Through the national strategy of Military-Civil Fusion, the PRC increases the size of the country's military-industrial complex by compelling civilian Chinese companies to support its military and intelligence activities. Those companies, though remaining ostensibly private and civilian, directly support the PRC's military, intelligence, and security apparatuses and aid in their development and modernization.

At the same time, those companies raise capital by selling securities to United States investors that trade on public exchanges both here and abroad, lobbying United States index providers and funds to include these securities in market offerings, and engaging in other acts to ensure access to United States capital. In that way, the PRC exploits United States investors to finance the development and modernization of its military.

I therefore further find that the PRC's military-industrial complex, by directly supporting the efforts of the PRC's military, intelligence, and other security apparatuses, constitutes an unusual and extraordinary threat, which has its source in substantial part outside the United States, to the national security, foreign policy, and economy of the United States. To protect the United States homeland and the American people, I hereby declare a national emergency with respect to this threat.

Accordingly, I hereby order:

**Section 1.** (a) The following actions are prohibited:

(i) beginning 9:30 a.m. eastern standard time on January 11, 2021, any transaction in publicly traded securities, or any securities that are derivative of, or are designed to provide investment exposure to such securities, of any Communist Chinese military company as defined in section 4(a)(i) of this order, by any United States person; and

(ii) beginning 9:30 a.m. eastern standard time on the date that is 60 days after a person is determined to be a Communist Chinese military company pursuant to section (4)(a)(ii) or (iii) of this order, any transaction in publicly traded securities, or any securities that are derivative of, or are designed to provide investment exposure to such securities, of that person, by any United States person.

(b) Notwithstanding subsection (a)(i) of this section, purchases for value or sales made on or before 11:59 p.m. eastern standard time on November 11, 2021, solely to divest, in whole or in part, from securities that any United States person held as of 9:30 a.m. eastern standard time on January 11, 2021, in a Communist Chinese military company as defined in section 4(a)(i) of this order, are permitted.

(c) Notwithstanding subsection (a)(ii) of this section, for a person determined to be a Communist Chinese military company pursuant to section 4(a)(ii) or (iii) of this order, purchases for value or sales made on or before 365 days from the date of such determination, solely to divest, in whole or in part, from securities that any United States person held in such person, as of the date 60 days from the date of such determination, are permitted.

(d) The prohibitions in subsection (a) of this section apply except to the extent provided by statutes, or in regulations, orders, directives, or licenses that may be issued pursuant to this order, and notwithstanding any contract entered into or any license or permit granted before the date of this order.

**Sec. 2.** (a) Any transaction by a United States person or within the United States that evades or avoids, has the purpose of evading or avoiding, causes a violation of, or attempts to violate the prohibitions set forth in this order is prohibited.

(b) Any conspiracy formed to violate any of the prohibitions set forth in this order is prohibited.

**Sec. 3.** (a) The Secretary of the Treasury, after consultation with the Secretary of State, the Secretary of Defense, the Director of National Intelligence, and the heads of other executive departments and agencies (agencies) as deemed appropriate by the Secretary of the Treasury, is hereby authorized to take such actions, including the promulgation of rules and regulations, and to employ all powers granted to the President by IEEPA, to carry out the purposes of this order. The Secretary of the Treasury may, consistent with applicable law, redelegate any of these functions within the Department of the Treasury. All agencies shall take all appropriate measures within their authority to carry out the provisions of this order.

(b) Rules and regulations issued pursuant to this order may, among other things, establish procedures to license transactions otherwise prohibited pursuant to this order. But prior to issuing any license under this order, the Secretary of the Treasury shall consult with the Secretary of State, the Secretary of Defense, and the Director of National Intelligence.

**Sec. 4. Definitions.** For purposes of this order:

(a) the term “Communist Chinese military company” means

(i) any person that the Secretary of Defense has listed as a Communist Chinese military company operating directly or indirectly in the United States or in any of its territories or possessions pursuant to section 1237 of Public Law 105–261, as amended by section 1233 of Public Law 106–398 and section 1222 of Public Law 108–375, as of the date of this order, and as set forth in the Annex to this order, until such time as the Secretary of Defense removes such person from such list;

(ii) any person that the Secretary of Defense, in consultation with the Secretary of the Treasury, determines is a Communist Chinese military company operating directly or indirectly in the United States or in any of its territories or possessions and therefore lists as such pursuant to section 1237 of Public Law 105–261, as amended by section 1233 of Public Law 106–398 and section 1222 of Public Law 108–375, until such time as the Secretary of Defense removes such person from such list; or

(iii) any person that the Secretary of the Treasury publicly lists as meeting the criteria in section 1237(b)(4)(B) of Public Law 105–261, or publicly lists as a subsidiary of a person already determined to be a Communist

Chinese military company, until the Secretary of the Treasury determines that such person no longer meets that criteria and removes such person from such list.

(b) the term “entity” means a government or instrumentality of such government, partnership, association, trust, joint venture, corporation, group, subgroup, or other organization;

(c) the term “person” means an individual or entity;

(d) the terms “security” and “securities” include the definition of “security” in section 3(a)(10) of the Securities Exchange Act of 1934, Public Law 73–291, as codified as amended at 15 U.S.C. 78c(a)(10), except that currency or any note, draft, bill of exchange, or banker’s acceptance which has a maturity at the time of issuance of not exceeding 9 months, exclusive of days of grace, or any renewal thereof the maturity of which is likewise limited, shall be a security for purposes of this order.

(e) the term “transaction” means the purchase for value of any publicly traded security; and

(f) the term “United States person” means any United States citizen, permanent resident alien, entity organized under the laws of the United States or any jurisdiction within the United States (including foreign branches), or any person in the United States.

**Sec. 5.** The Secretary of the Treasury, in consultation with the Secretary of State and, as appropriate, the Secretary of Defense, is hereby authorized to submit the recurring and final reports to the Congress on the national emergency declared in this order, consistent with section 401(c) of the NEA (50 U.S.C. 1641(c)) and section 204(c) of IEEPA (50 U.S.C. 1703(c)).

**Sec. 6. General Provisions.** (a) Nothing in this order shall be construed to impair or otherwise affect:

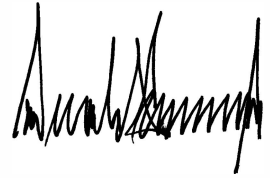
(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.



(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

A handwritten signature in black ink, appearing to be a stylized name, located in the upper right quadrant of the page.

THE WHITE HOUSE,  
*November 12, 2020.*




Annex

Aero Engine Corp of China  
Aviation Industry Corporation of China, Ltd. (AVIC)  
China Academy of Launch Vehicle Technology (CALT)  
China Aerospace Science & Technology Corporation (CASC)  
China Aerospace Science & Industry Corporation (CASIC)  
China Communication Construction Group Company, Ltd.  
China Electronics Corporation (CEC)  
China Electronics Technology Group Corporation (CETC)  
China Mobile Communications  
China National Chemical Corporation (ChemChina)  
China National Chemical Engineering Group Co., Ltd. (CNCEC)  
China National Nuclear  
China Nuclear Engineering & Construction Corporation (CNECC)  
China General Nuclear Power  
China Railway Construction Corporation (CRCC)  
China Shipbuilding Industry Corporation (CSIC)  
China South Industries Group Corporation (CSGC)  
China Spacesat  
China State Construction Group Co., Ltd.  
China State Shipbuilding Corporation (CSSC)  
China Telecommunications  
China Three Gorges Corporation Limited  
China United Network Communications Group Co Ltd  
CRRC Corporation  
Dawning Information Industry Co. (Sugon)  
Hikvision  
Huawei  
Inspur Group  
Norinco  
Panda Electronics  
Sinochem Group Co Ltd

**FOR INFORMATION ONLY**

November 24, 2020

TO: Trustees – Board of Investments

FROM: Jude Pérez, Principal Investment Officer   
Esmeralda del Bosque, Senior Investment Officer   
Michael Huang, Accounting Officer II 

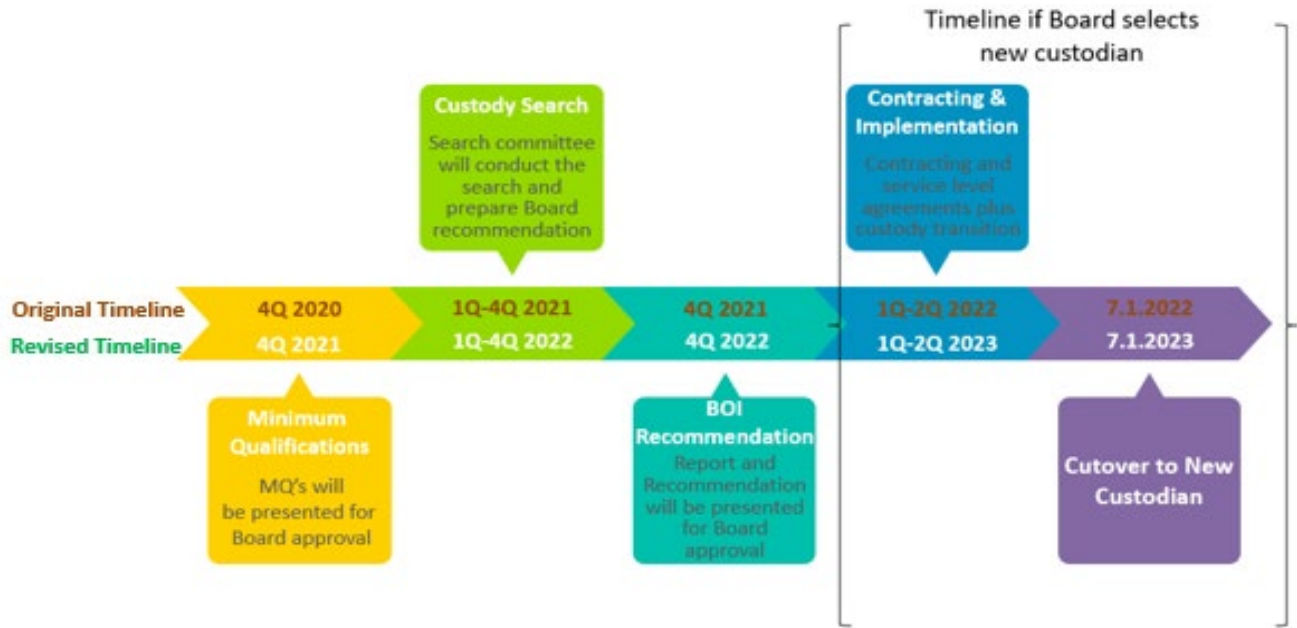
FOR: December 9, 2020 Board of Investments Meeting

**SUBJECT: CUSTODY SERVICES OVERVIEW AND SEARCH TIMELINE - UPDATE**

At the July 2020 Board of Investments meeting, the Board was presented with an overview of LACERA’s current custodial relationship and a timeline to conduct a search for custody services. As noted previously, one of LACERA’s key vendor relationships is with its custody bank, State Street Bank and Trust (“State Street”). State Street has been LACERA’s custodian since July 2013. Staff thought it prudent to start planning for the custody search this past June, given that LACERA’s Procurement Policy for Investment Services states that custody engagements should be re-bid every ten years.

In the presentation, the initial plan proposed seeking approval for minimum qualifications in the fourth quarter of 2020 and launching the search in early 2021. A series of developments have prompted staff to pause the search and extend the timeline. First, the Board recently approved State Street for significant mandates. At the September Board meeting, the Board approved hiring State Street for real estate administrator services and State Street/Solovis for total Fund performance measurement. The transition of data for both of those mandates is well underway. However, for LACERA to gain the real benefit of contracting these services via enhanced transparency of data and reporting, State Street will need to serve as the provider for a reasonable amount of time.

Second, the COVID-19 pandemic has resurged, prolonging the time that LACERA and prospective respondents will exercise modified work schedules and practices. Barring any extraneous circumstances, extending the original timeline out for an additional 12 months is sufficient. The graphic that follows presents both the original and modified timeline:



Minimum qualifications will be presented to the Board for approval in the second half of 2021.

Noted and Reviewed:


Jonathan Grabel  
Chief Investment Officer

JP:EDB

**FOR INFORMATION ONLY**

November 25, 2020

TO: Trustees – Board of Investments

FROM: Jude Pérez   
Principal Investment Officer

FOR: December 9, 2020 Board of Investments Meeting


SUBJECT: **LACERA QUARTERLY PERFORMANCE BOOK**

Attached is LACERA’s quarterly performance book as of September 30, 2020. As a reminder, the Board hired a total Fund performance provider, State Street/Solovis at the September 2020 Board meeting. The provider is currently being on-boarded, and until revised performance reporting is available to include enhanced reporting for alternative assets, the performance book will cycle through alternative asset class reporting provided by consultants. The quarterly hedge fund report and Stepstone’s annual private equity review have been added to this quarter’s performance package. Please note that there may be slight return differences between the asset class and total fund reports due to return lags and calculation methodology.

**Private Markets Investment Manager Scorecard**

Since the second calendar quarter of 2019, the performance book included a public markets scorecard. We are happy to introduce a private markets scorecard into this quarter’s report that covers private equity, real estate, hedge funds, and illiquid credit. As previously noted, the scorecards are a useful tool for enhancing staff’s investment manager monitoring and due diligence process and highlights multidimensional aspects of LACERA’s investment manager relationships. Staff will continue to refine the scorecards as needed. Both scorecards can be found under the “Manager Scorecards” tab of the performance book.

Noted and Reviewed

  
Jonathan Grabel  
Chief Investment Officer

Attachments  
EdB:JP

# **PERFORMANCE** *REVIEW*

AS OF SEPTEMBER 30, 2020

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**HEDGE FUNDS PERFORMANCE REPORT**

**PRIVATE EQUITY PERFORMANCE REPORT**

# EXECUTIVE SUMMARY

for the quarter ended September 30, 2020



## TOTAL FUND PERFORMANCE

The quarter began with a resurgence of COVID-19 cases in the United States; despite that, markets rose to new all-time highs. Most asset classes posted positive gains in the quarter. With that backdrop, LACERA's total Fund returned 4.6%, lagging the policy benchmark by 90 bps. The plan also underperformed year to date: The Fund returned 1.5% versus 2.3% for the benchmark and lagged the 7.0% annual hurdle rate by 3.7%. Three of the four functional categories outpaced their respective benchmarks in the quarter.

The Growth composite was the only functional category to lag in the third quarter, returning 7.4% versus 10.3% for the benchmark. The vast majority of underperformance was due to private equity, which trailed the benchmark by 12.8%. Notably, private equity was the largest positive contributor to Growth last quarter. Much of the short-term out/underperformance is due to the benchmark, which is a lagged public equity index plus a hurdle rate. Consequently, longer-term relative performance is more instructive. For the balance of Growth categories, global equity posted 7.5%, lagging the index by 60 bps, and opportunistic real estate returned 1.9%, besting the index by 290 bps.

Credit registered a 4.8% return, outpacing its benchmark by 150 bps. All categories within Credit outperformed or matched their respective benchmarks: high yield posted 5.2% versus 4.6% for the index; bank loans matched the benchmark return of 4.1%, emerging market debt outpaced its index by 80 bps, and illiquid credit outperformed by an impressive 520 bps.

Real Assets and Inflation Hedges returned 1.0% and was flat versus the benchmark. Core and value-added real estate was the only laggard within the composite, trailing the index by 90 bps. The balance of the composite outperformed: Natural resources & commodities infrastructure and TIPS outperformed by 170 bps, 260 bps, and 10 bps, respectively.

LACERA's Risk Reduction and Mitigation group outpaced the index by 90 bps as all components outperformed. Investment-grade bonds surpassed the benchmark by 40 bps, diversified hedge funds returned 5.3%, exceeding by 460 bps, and cash outperformed its index by 20 bps.

Please note that all of LACERA's benchmarks will be re-assessed as part of forthcoming structure reviews and strategic asset allocation study.

### Note on 3Q2020 real estate performance:

Market values and returns for the quarter reflect best-available reported numbers from the real estate performance book of record<sup>1</sup>.

## NET-OF-FEES

	1 Month	Qtr End	FYTD	1 Year
<b>Growth</b>	<b>-2.0</b>	<b>7.4</b>	<b>7.4</b>	<b>8.7</b>
Growth Custom BM	-1.6	10.3	10.3	9.2
<b>Credit</b>	<b>0.1</b>	<b>4.8</b>	<b>4.8</b>	<b>1.1</b>
Credit Custom BM	-0.4	3.3	3.3	3.9
<b>Real Assets &amp; Inflation Hedges</b>	<b>-2.4</b>	<b>1.0</b>	<b>1.0</b>	<b>-2.5</b>
Real Assets & Inflation Hedges Custom BM	-1.9	1.0	1.0	-0.5
<b>Risk Reduction &amp; Mitigation</b>	<b>0.2</b>	<b>1.5</b>	<b>1.5</b>	<b>6.9</b>
Risk Reduction & Mitigation Custom BM	-0.0	0.6	0.6	6.2

	Qtr	FYTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Total Fund*</b>	<b>4.6</b>	<b>4.6</b>	<b>5.8</b>	<b>6.0</b>	<b>7.9</b>	<b>7.8</b>
Total Fund Custom BM	5.5	5.5	6.4	6.9	8.3	7.8
7% Annual Return	1.7	1.7	7.0	7.0	7.0	7.0

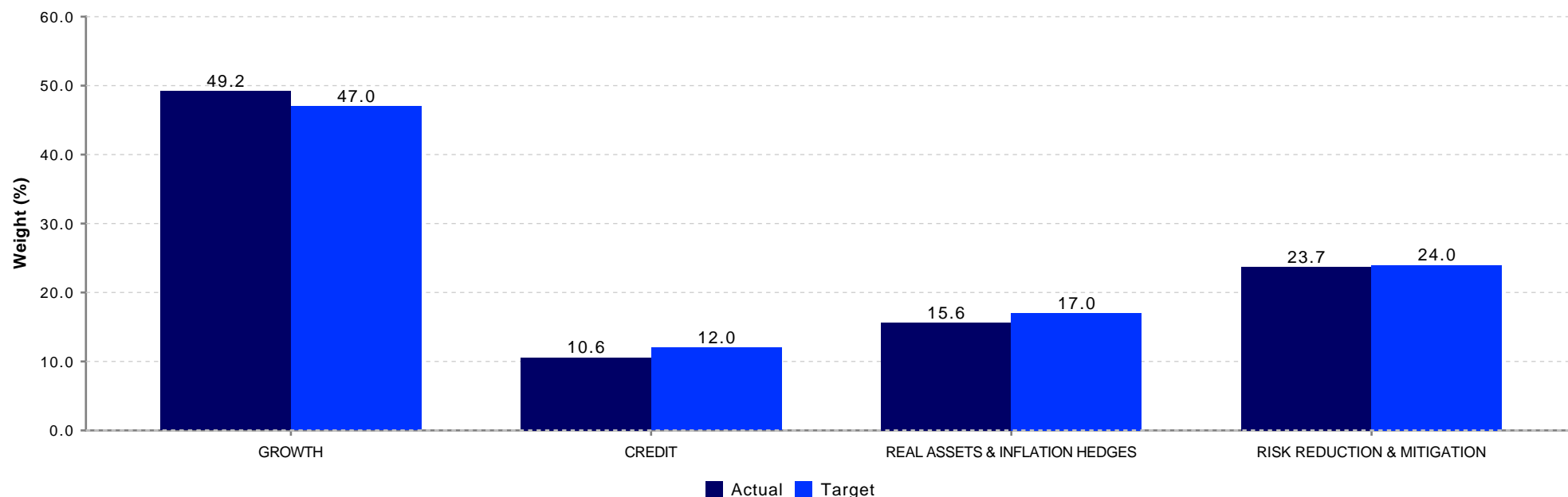
## Fiscal Year Returns

	FYTD	Jun 30 2020	Jun 30 2019	Jun 30 2018	Jun 30 2017
<b>Total Fund*</b>	<b>4.6</b>	<b>1.8</b>	<b>6.4</b>	<b>9.0</b>	<b>12.7</b>
Total Fund Custom BM	5.5	2.0	8.6	7.8	11.2
7% Annual Return	1.7	7.0	7.0	7.0	7.0

# EXECUTIVE SUMMARY

## ASSET ALLOCATION - ACTUAL vs. TARGET

for the quarter ended September 30, 2020



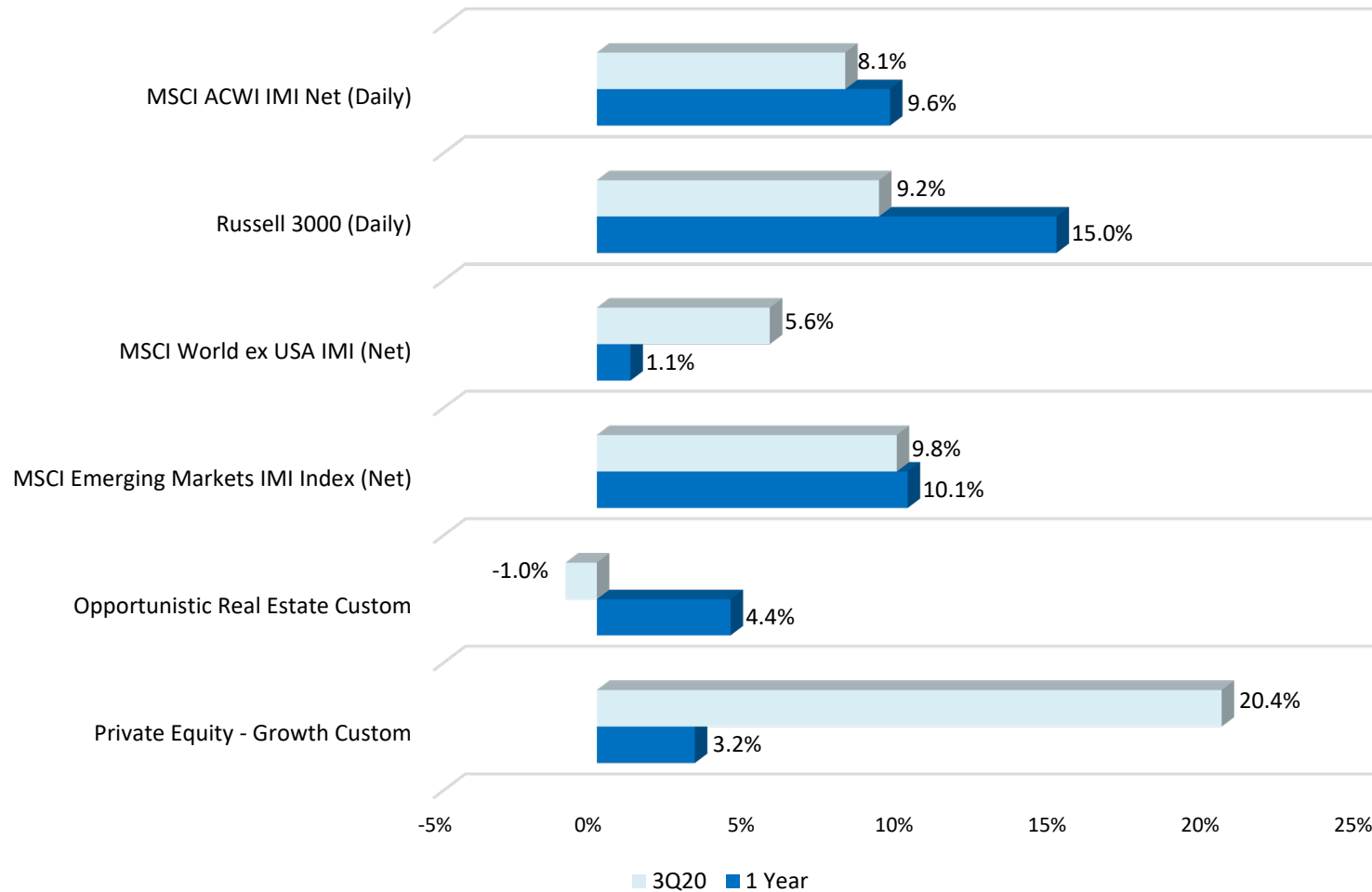
	Ending Market Value	Actual	Target	Relative	Min	Max
GROWTH	29,716,250,850	49.2	47.0	2.2	40.0	54.0
CREDIT	6,431,831,857	10.6	12.0	-1.4	9.0	15.0
REAL ASSETS & INFLATION HEDGES	9,413,812,322	15.6	17.0	-1.4	14.0	20.0
RISK REDUCTION & MITIGATION	14,300,619,658	23.7	24.0	-0.3	18.0	30.0
OVERLAY COMPOSITE	596,977,700	1.0	0.0			
TOTAL FUND	60,459,492,387	100.0	100.0			

# MARKET SUMMARY

for the quarter ended September 30, 2020



## GROWTH INDEX RETURNS

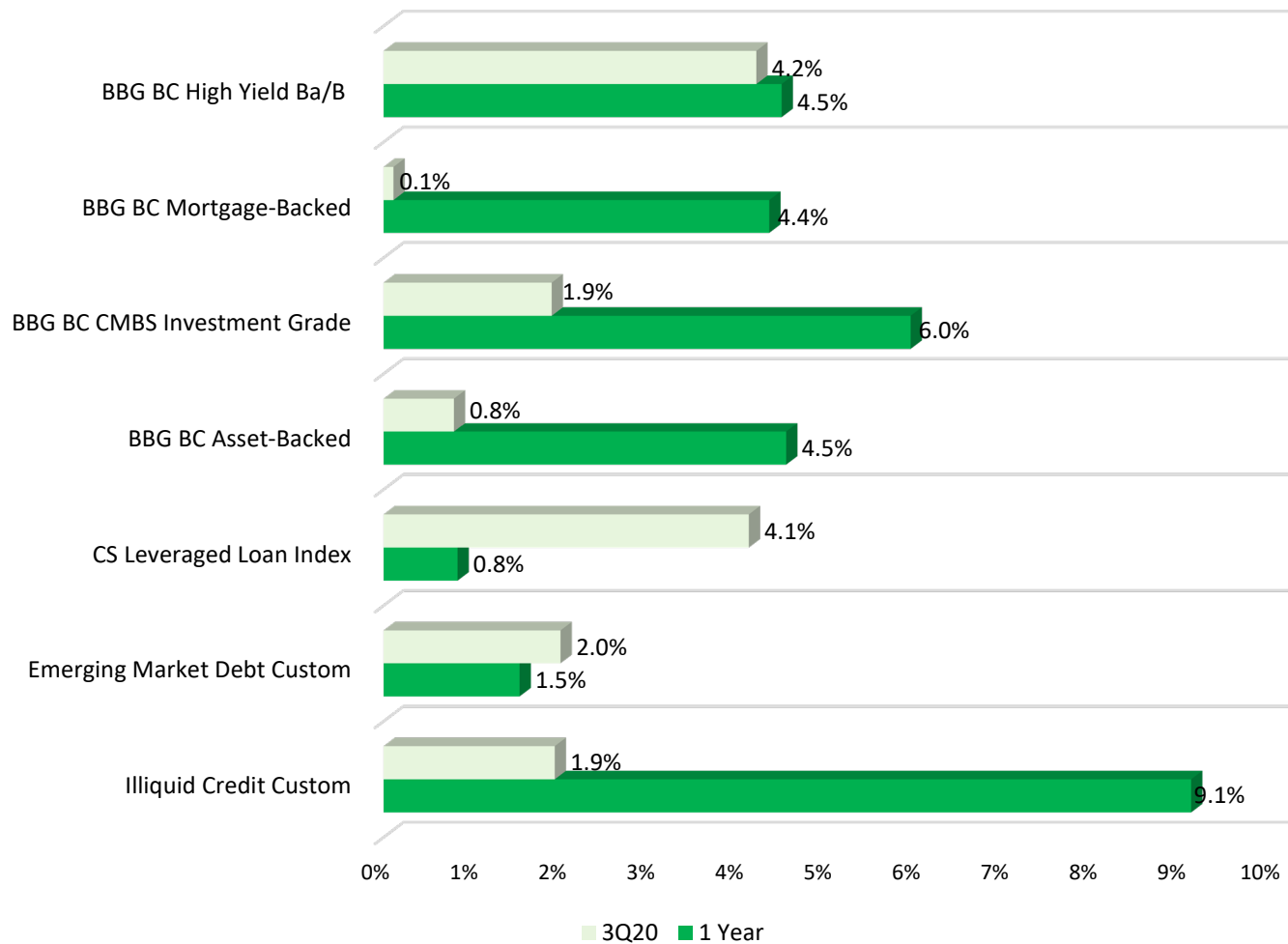


# MARKET SUMMARY

for the quarter ended September 30, 2020

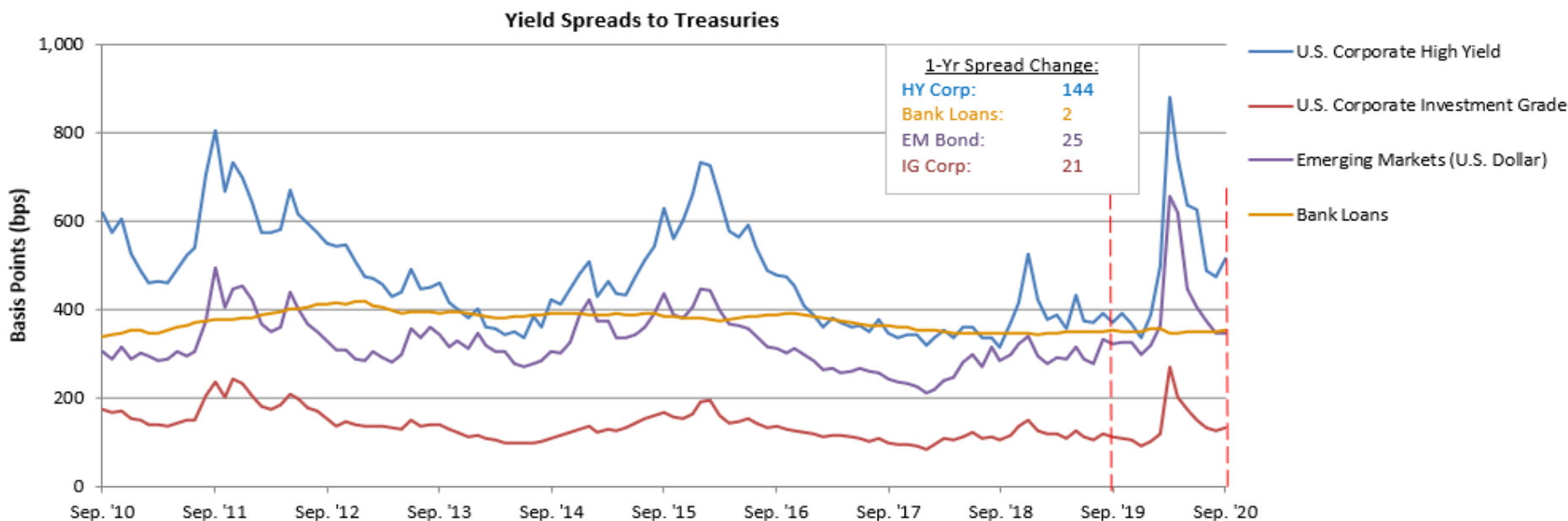
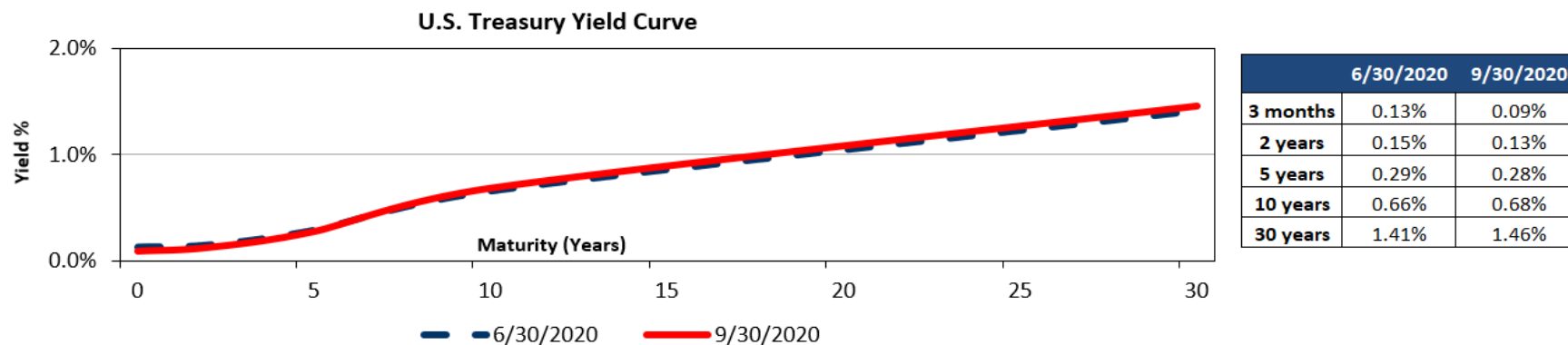


## CREDIT INDEX RETURNS



# MARKET SUMMARY

for the quarter ended September 30, 2020



Source: Bloomberg Barclays

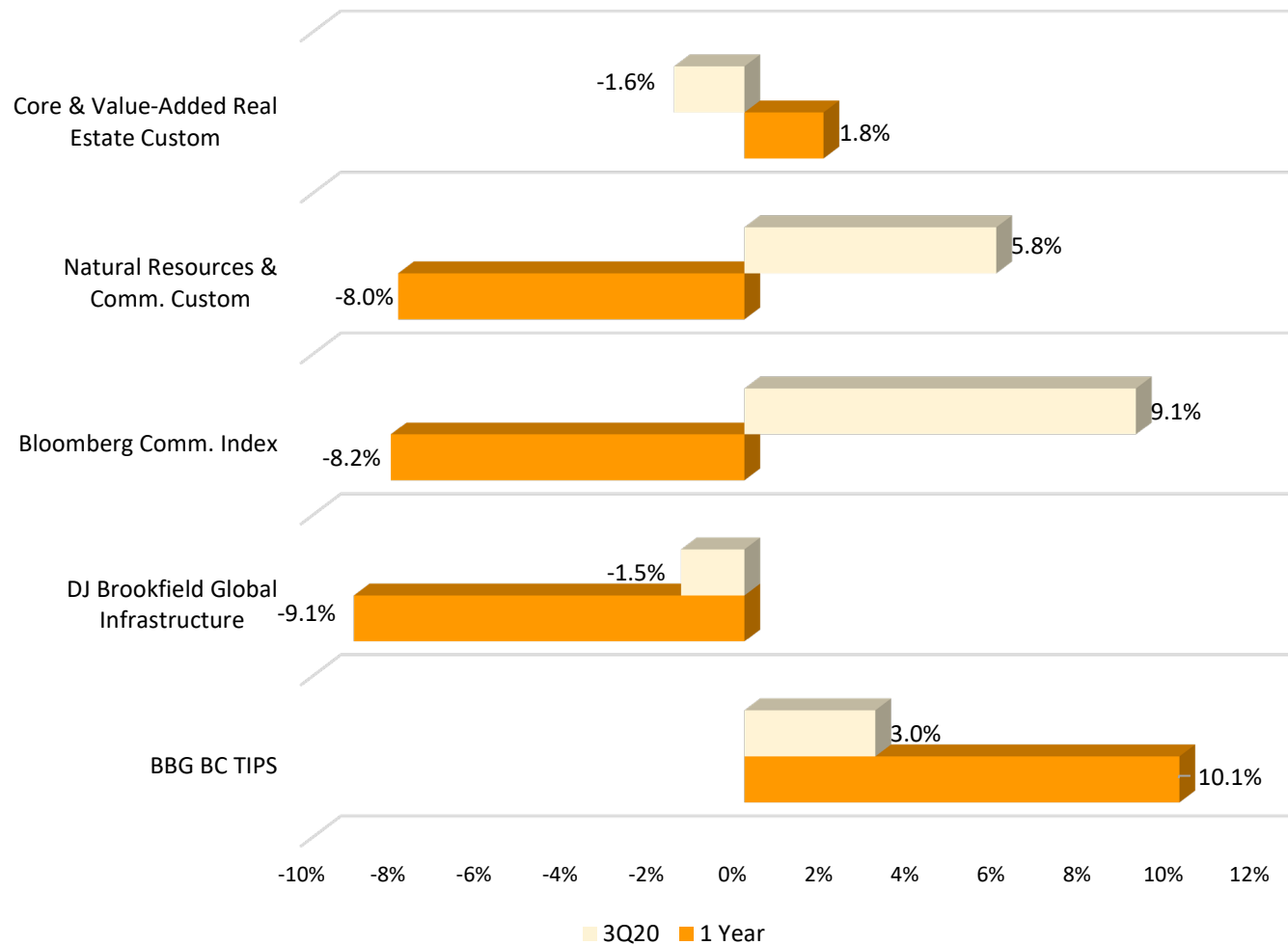
# MARKET SUMMARY

for the quarter ended September 30, 2020



## REAL ASSETS & INFLATION HEDGES

### INDEX RETURNS

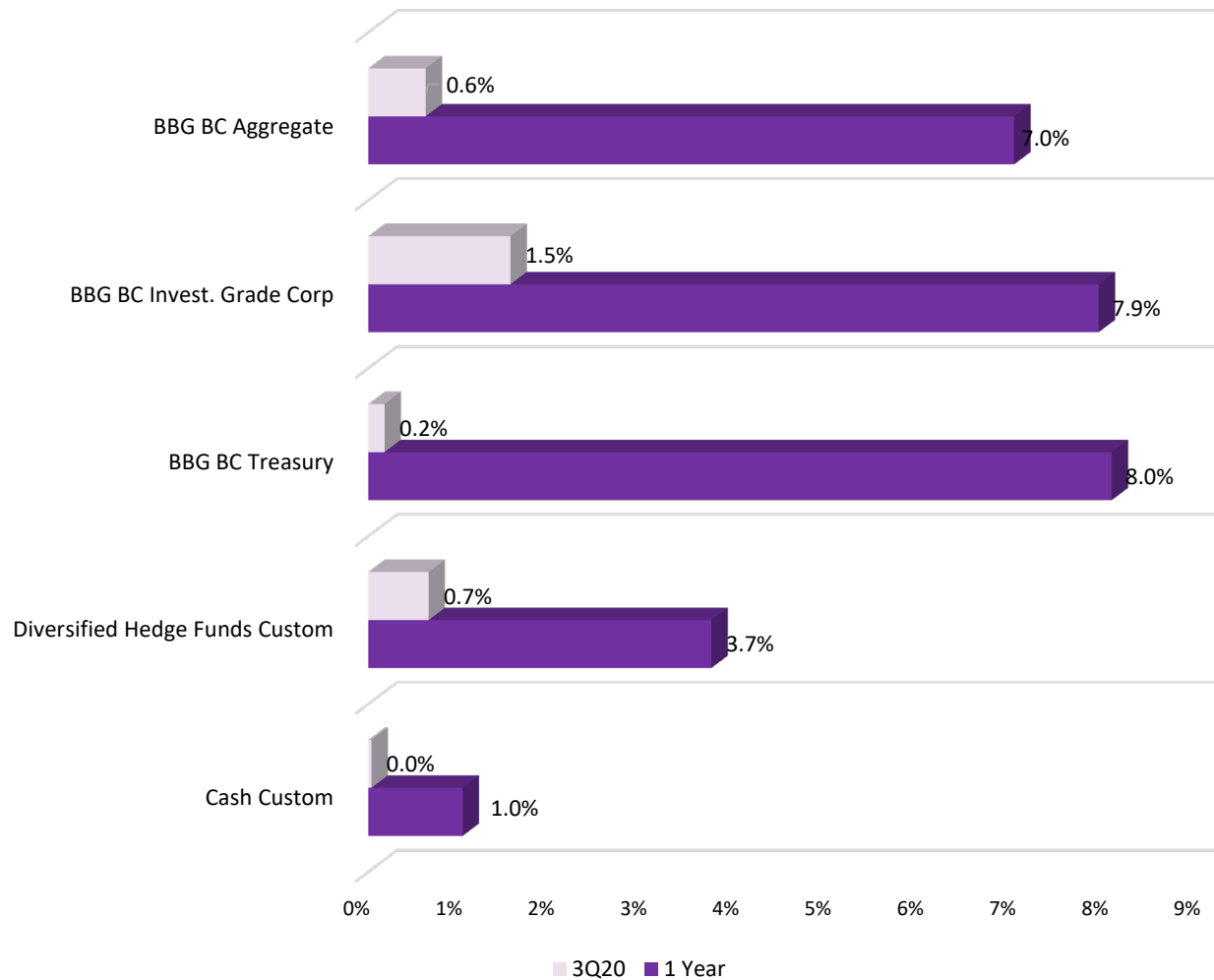


# MARKET SUMMARY

for the quarter ended September 30, 2020



## RISK REDUCTION & MITIGATION INDEX RETURNS





# TOTAL FUND

## ANNUALIZED & ANNUAL RETURNS

for the quarter ended September 30, 2020  
Net-of-Fees



	FUNCTIONAL (After 4/1/2019)				CLASSICAL (Before 3/31/2019)					
	1 Month	Qtr End	FYTD	1 Year	Qtr End	1 Year	3 Years	5 Years	10 Years	
<b>GROWTH</b>	-2.0	7.4	7.4	8.7	<b>GLOBAL EQUITY</b>	7.5	8.6			
Growth Custom BM	-1.6	10.3	10.3	9.2	Global Equity Custom BM	8.1	9.6			
<b>CREDIT</b>	0.1	4.8	4.8	1.1	<b>FIXED INCOME</b>	2.2	6.3	5.0	5.1	4.5
Credit Custom BM	-0.4	3.3	3.3	3.9	FI CUSTOM INDEX	1.0	6.7	5.1	4.5	3.9
					BBG BC U.S. Universal	1.0	6.7	5.1	4.5	3.9
<b>REAL ASSETS &amp; INFLATION HEDGES</b>	-2.4	1.0	1.0	-2.5	<b>COMMODITIES COMPOSITE</b>	9.7	-7.6	-3.7	-2.0	-4.8
Real Assets & Inflation Hedges Custom BM	-1.9	1.0	1.0	-0.5	Bloomberg Comm Index TR	9.1	-8.2	-4.2	-3.1	-6.0
<b>RISK REDUCTION &amp; MITIGATION</b>	0.2	1.5	1.5	6.9	<b>TOTAL HEDGE FUNDS**</b>	5.4	3.4	3.0	2.9	
Risk Reduction & Mitigation Custom BM	-0.0	0.6	0.6	6.2	CUSTOM HEDGE FUND BM	0.7	3.7	5.5	5.4	
					<b>TOTAL REAL ESTATE</b>	-1.7	0.1	4.7	5.9	7.8
					TOTAL REAL ESTATE BENCHMARK	-1.5	2.3	5.4	6.9	9.9
					<b>PRIVATE EQUITY COMPOSITE</b>	7.6	6.6	12.6	11.7	14.1
					TOTAL PRIVATE EQUITY BENCHMARK	20.1	3.2	14.5	13.7	12.7
					<b>CASH</b>	0.2	1.4	1.9	1.5	1.0
					Cash Custom BM	0.0	1.0	1.7	1.2	0.7

	Qtr End	1 Year	3 Years	5 Years	10 Years
<b>TOTAL FUND*</b>	4.6	5.8	6.0	7.9	7.8
Total Fund Custom BM	5.5	6.4	6.9	8.3	7.8
7% Annual Return	1.7	7.0	7.0	7.0	7.0

See Glossary for all custom benchmark definitions.

\* Historical Real Estate valuations are currently under review; Total Fund/Real Estate composite and benchmark returns are preliminary. Some Credit and Hedge Fund managers and their assigned benchmarks are reported with a one-month lag. Real Estate and their assigned benchmarks are reported with a three-month lag.

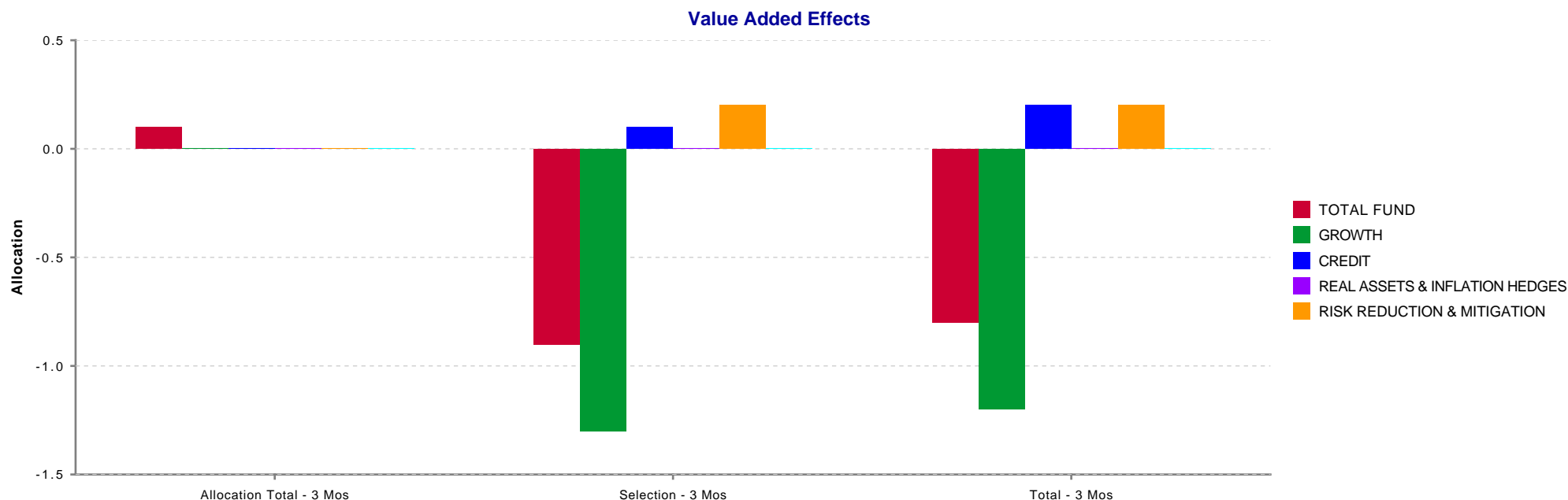
Private Equity and their assigned benchmarks are reported with a three-month lag and are adjusted for cash flows.

\*\*Hedge Fund returns are reported on a net of all fees basis.

# TOTAL FUND ATTRIBUTION

## TOTAL FUND vs. BENCHMARK

for the quarter ended September 30, 2020  
Net-of-Fees



	Fund Weight	Target Weight	Relative	Fund Return	Benchmark Return	Return Difference	Allocation Effect*	Selection Effect**	BM Impact	Residual	Total Value Add
TOTAL FUND	100.00	100.00	0.00	4.64	5.51	-0.87	0.08	-0.90	0.00	-0.01	-0.82
GROWTH	49.15	47.00	2.15	7.42	10.28	-2.86	0.04	-1.27	-	0.00	-1.23
CREDIT	10.64	12.00	-1.36	4.85	3.34	1.51	0.03	0.15	-	0.00	0.18
REAL ASSETS & INFLATION HEDGES	15.57	17.00	-1.43	0.97	1.00	-0.03	0.03	-0.00	-	0.00	0.03
RISK REDUCTION & MITIGATION	23.65	24.00	-0.35	1.51	0.60	0.91	-0.03	0.21	-	0.00	0.19
OVERLAY COMPOSITE	0.99	0.00									

Historical Real Estate valuations are currently under review; Total Fund/Real Estate composite and benchmark returns are preliminary.

\* Allocation effect reflects the asset class over or underweight (versus the policy weight) multiplied by the difference between the asset class benchmark and the Fund Policy benchmark return.

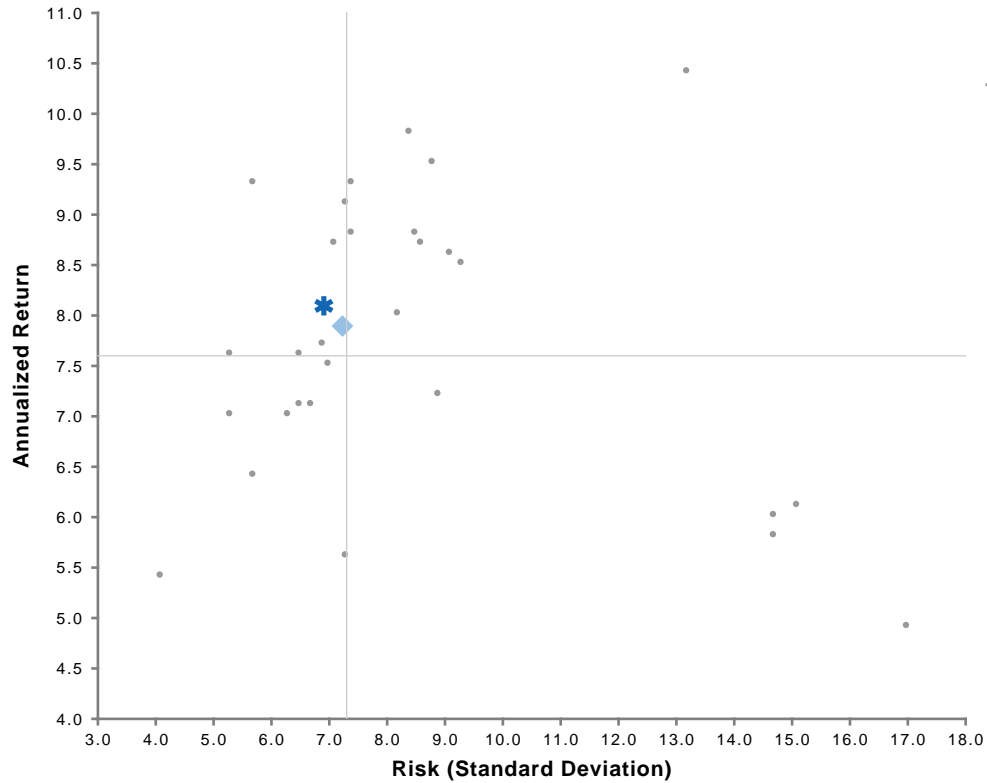
\*\* Selection effect reflects the Fund's asset class return minus the asset class benchmark return, multiplied by the asset class weight.

# TOTAL FUND RISK-ADJUSTED RETURN

for the quarter ended September 30, 2020  
Net-of-Fees



## 10 Year Risk vs Return



	Rate of Return 10 Years	Standard Deviation 10 Years
* <b>TOTAL FUND</b>	<b>8.0 44</b>	<b>6.7 32</b>
◆ <b>Total Fund Custom BM</b>	<b>7.8 47</b>	<b>7.0 40</b>
5th Percentile	10.2	4.4
25th Percentile	8.8	6.4
50th Percentile	7.6	7.3
75th Percentile	6.8	8.9
95th Percentile	5.2	15.6
Number of Observations	29	29

\* TOTAL FUND     
 ◆ Total Fund Custom BM

Rate of Return 10 Years

Standard Deviation 10 Years

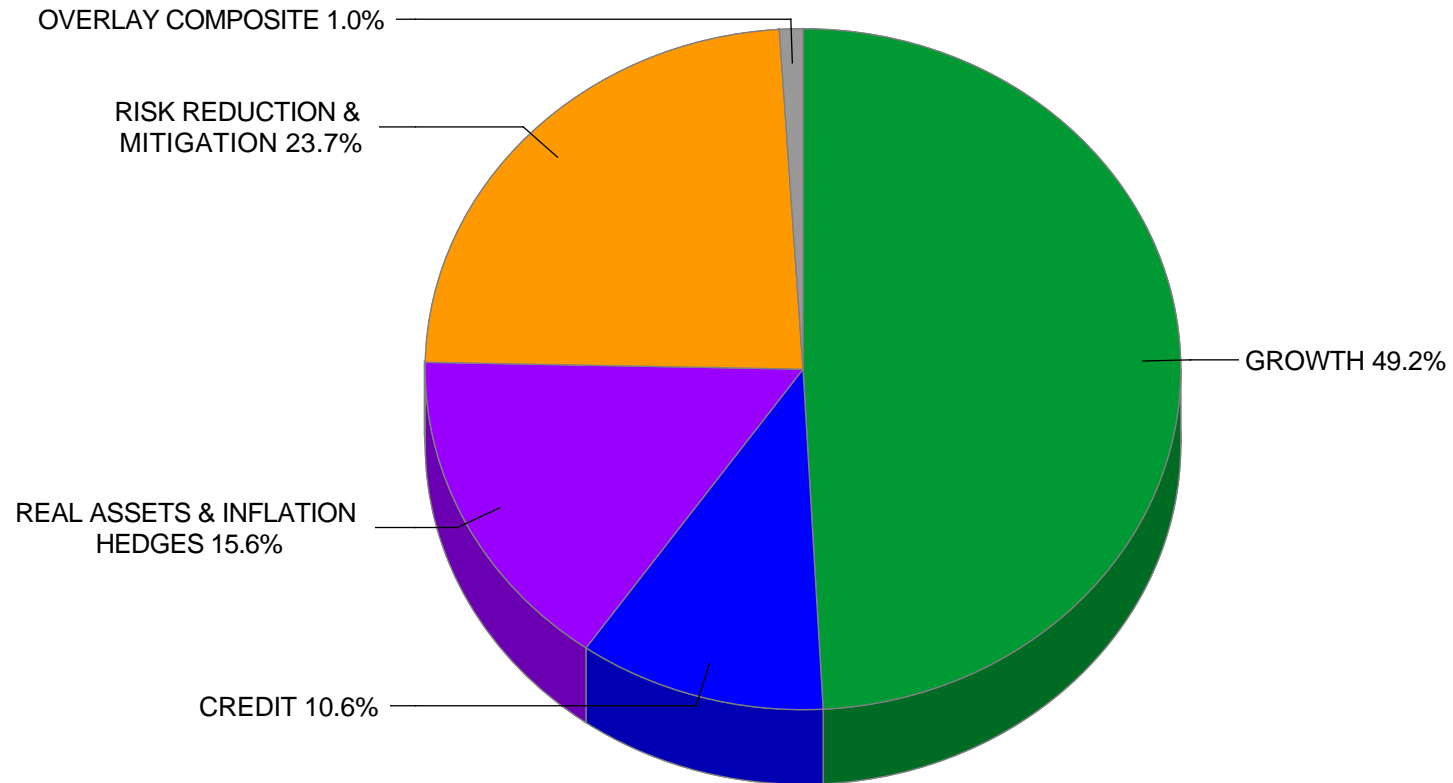
Tracking Error 10 Years

Public Funds (DB) > \$1 Billion

TOTAL FUND	8.0 44	6.7 32	5.0
Total Fund Custom BM	7.8 47	7.0 40	

# ASSET ALLOCATION TOTAL FUND

for the quarter ended September 30, 2020



# ASSET ALLOCATION GROWTH

for the quarter ended September 30, 2020



**September 30, 2020**

**June 30, 2020**

	Assets (\$ millions)	% of Composite		Assets (\$ millions)	% of Composite
<b>GLOBAL EQUITY</b>			<b>GLOBAL EQUITY</b>		
<b>PASSIVE</b>			<b>PASSIVE</b>		
BTC Russell 3000 Index	0.0	0.0	BTC Russell 3000 Index	2,117.4	7.6
SSGA MSCI ACWI IMI	13,230.0	44.5	SSGA MSCI ACWI IMI	12,660.3	45.5
<b>FACTOR-BASED</b>			<b>FACTOR-BASED</b>		
JPMAM STRATEGIC BETA NON-U.S.	901.7	3.0	JPMAM STRATEGIC BETA NON-US	1,043.9	7.6
JPMAM STRATEGIC BETA U.S.	4,012.4	13.5	JPMAM STRATEGIC BETA U.S.	2,043.9	15.7
<b>ACTIVE</b>			<b>ACTIVE</b>		
ACADIAN DEVELOPED MARKETS	487.1	1.6	ACADIAN DEVELOPED MARKETS	554.8	2.0
BTC EURO TILTS	546.7	1.8	BTC EURO TILTS	640.9	2.3
CAPITAL GROUP DEVELOPED MARKETS	386.4	1.3	CAPITAL GROUP DEVELOPED MARKETS	354.0	1.3
CEVIAN CAPITAL II - ACTIVIST	288.6	1.0	CEVIAN CAPITAL II - ACTIVIST	272.3	1.0
CORNERCAP US SC - EMP	51.0	0.2	CORNERCAP US SC - EMP	51.0	0.2
FRONTIER US SMID GROWTH	289.5	1.0	FRONTIER US SMID GROWTH	333.9	1.2
GENESIS EMERGING MARKETS	568.9	1.9	GENESIS EMERGING MARKETS	517.5	1.9
GLOBAL ALPHA IE SC - EMP	177.0	0.6	GLOBAL ALPHA IE SC - EMP	161.8	0.6
JANA JSI FUND V - ACTIVIST	83.3	0.3	JANA JSI FUND V - ACTIVIST	86.1	0.3
LAZARD EMERGING MARKETS	379.1	1.3	LAZARD EMERGING MARKETS	348.9	1.3

# ASSET ALLOCATION GROWTH

for the quarter ended September 30, 2020



## September 30, 2020

## June 30, 2020

	Assets (\$ millions)	% of Composite		Assets (\$ millions)	% of Composite
MATARIN US SC - EMP	79.5	0.3	MATARIN US SC - EMP	92.6	0.3
QMA US SMALL CAP CORE	187.3	0.6	QMA US SMALL CAP CORE	228.4	0.8
SYMPHONY FINANCIAL - ACTIVIST	209.6	0.7	SYMPHONY FINANCIAL - ACTIVIST	190.9	0.7
SYSTEMATIC US SMALL CAP VALUE	165.8	0.6	SYSTEMATIC US SMALL CAP VALUE	201.4	0.7
BTC PASSIVE CURRENCY HEDGING	-21.2	-0.1	BTC PASSIVE CURRENCY HEDGING	-61.6	-0.2
<b>TOTAL GLOBAL EQUITY</b>	<b>22,022.6</b>	<b>74.1</b>	<b>TOTAL GLOBAL EQUITY</b>	<b>20,799.4</b>	<b>74.7</b>

# ASSET ALLOCATION GROWTH

for the quarter ended September 30, 2020



	<i>September 30, 2020</i>		<i>June 30, 2020</i>	
	Assets (\$ millions)	% of Composite	Assets (\$ millions)	% of Composite
<b>PRIVATE EQUITY GROWTH</b>			<b>PRIVATE EQUITY GROWTH</b>	
PRIVATE EQUITY - GROWTH	6,978.1	23.5	PRIVATE EQUITY - GROWTH	6,361.4
				22.8
<b>OPPORTUNISTIC REAL ESTATE</b>			<b>OPPORTUNISTIC REAL ESTATE</b>	
OPPORTUNISTIC REAL ESTATE	715.6	2.4	OPPORTUNISTIC REAL ESTATE	687.7
				2.5
<b>TOTAL GROWTH</b>	<b>29,716.3</b>	<b>100.0</b>	<b>TOTAL GROWTH</b>	<b>27,848.5</b>
				100.0

# ASSET ALLOCATION CREDIT

for the quarter ended September 30, 2020



	<i>September 30, 2020</i>			<i>June 30, 2020</i>	
	Assets (\$ millions)	% of Composite		Assets (\$ millions)	% of Composite
<b>HIGH YIELD</b>			<b>HIGH YIELD</b>		
BEACH POINT	283.0	4.4	BEACH POINT	260.8	4.4
BLACKROCK HY ETF	1,132.7	17.6	BLACKROCK HY ETF	1,083.2	18.5
BRIGADE CAP MGMT	587.5	9.1	BRIGADE CAP MGMT	551.3	9.4
<b>TOTAL HIGH YIELD</b>	<b>2,003.4</b>	<b>31.1</b>	<b>TOTAL HIGH YIELD</b>	<b>1,895.5</b>	<b>32.3</b>
<b>BANK LOANS</b>			<b>BANK LOANS</b>		
BAIN CAPITAL CREDIT	375.0	5.8	BAIN CAPITAL CREDIT	359.3	6.1
CREDIT SUISSE BANK LOANS	1,071.1	16.7	CREDIT SUISSE BANK LOANS	817.5	13.9
CRESCENT CAPITAL	462.1	7.2	CRESCENT CAPITAL	439.7	7.5
TENNENBAUM CAPITAL	517.8	8.1	TENNENBAUM CAPITAL	493.9	8.4
<b>TOTAL BANK LOANS</b>	<b>2,426.1</b>	<b>37.7</b>	<b>TOTAL BANK LOANS</b>	<b>2,110.4</b>	<b>36.0</b>

Total High Yield includes residual balances of terminated managers.



# ASSET ALLOCATION CREDIT

for the quarter ended September 30, 2020



## September 30, 2020

	Assets (\$ millions)	% of Composite
<b>EMERGING MARKET DEBT</b>		
ABERDEEN ASSET MANAGEMENT	425.3	6.6
ASHMORE INVESTMENT MANAGEMENT	395.9	6.2
<b>TOTAL EMERGING MARKET DEBT</b>	<b>821.2</b>	<b>12.8</b>
<b>ILLIQUID CREDIT</b>		
BEACH POINT - FUND II	22.0	0.3
BEACH POINT - FUND III	192.5	3.0
GROSVENOR OPCRD 2 HFOF	165.2	2.6
MAGNETAR CREDIT FUND	59.4	0.9
NAPIER PARK	389.8	6.1
PRIVATE EQUITY - CREDIT	159.0	2.5
REAL ESTATE - CREDIT	191.0	3.0
<b>TOTAL ILLIQUID CREDIT</b>	<b>1,178.9</b>	<b>18.3</b>
<b>TOTAL CREDIT</b>	<b>6,431.8</b>	<b>100.0</b>

## June 30, 2020

	Assets (\$ millions)	% of Composite
<b>EMERGING MARKET DEBT</b>		
ABERDEEN ASSET MANAGEMENT	415.4	7.1
ASHMORE INVESTMENT MANAGEMENT	383.7	6.5
<b>TOTAL EMERGING MARKET DEBT</b>	<b>799.1</b>	<b>13.6</b>
<b>ILLIQUID CREDIT</b>		
BEACH POINT - FUND II	29.7	0.5
BEACH POINT - FUND III	175.4	3.0
GROSVENOR OPCRD 2 HFOF	206.8	3.5
MAGNETAR CREDIT FUND	Æ	Æ
NAPIER PARK	309.9	5.3
PRIVATE EQUITY - CREDIT	146.0	2.5
REAL ESTATE - CREDIT	189.4	3.2
<b>TOTAL ILLIQUID CREDIT</b>	<b>1,057.2</b>	<b>18.0</b>
<b>TOTAL CREDIT</b>	<b>5,864.3</b>	<b>100.0</b>

Total Credit includes Credit Transition account.

# ASSET ALLOCATION

## REAL ASSETS & INFLATION HEDGES

for the quarter ended September 30, 2020



**September 30, 2020**

**June 30, 2020**

	Assets (\$ millions)	% of Composite		Assets (\$ millions)	% of Composite
<b>CORE &amp; VALUE-ADDED REAL ESTATE</b>			<b>CORE &amp; VALUE-ADDED REAL ESTATE</b>		
CORE & VALUE-ADDED REAL ESTATE	4,392.7	46.7	CORE & VALUE-ADDED REAL ESTATE	4,688.4	49.3
<b>NATURAL RESOURCES &amp; COMMODITIES</b>			<b>NATURAL RESOURCES &amp; COMMODITIES</b>		
CREDIT SUISSE COMMODITY	377.2	4.0	CREDIT SUISSE COMMODITY	344.1	3.6
DWS NATURAL RESOURCES	1,040.9	11.1	DWS NATURAL RESOURCES	973.7	10.2
NEUBERGER BERMAN/GRESHAM	360.6	3.8	NEUBERGER BERMAN/GRESHAM	329.1	3.5
PIMCO COMMODITY PLUS	366.5	3.9	PIMCO COMMODITY PLUS	333.3	3.5
PRIVATE EQUITY - REAL ASSETS	71.9	0.8	PRIVATE EQUITY - REAL ASSETS	72.2	0.8
<b>TOTAL NATURAL RESOURCES &amp; COMMODITIES</b>	<b>2,217.0</b>	<b>23.6</b>	<b>TOTAL NATURAL RESOURCES &amp; COMMODITIES</b>	<b>2,052.4</b>	<b>21.6</b>
<b>INFRASTRUCTURE</b>			<b>INFRASTRUCTURE</b>		
DWS INFRASTRUCTURE	1,683.1	17.9	DWS INFRASTRUCTURE	1,674.5	17.6
<b>TOTAL INFRASTRUCTURE</b>	<b>1,683.1</b>	<b>17.9</b>	<b>TOTAL INFRASTRUCTURE</b>	<b>1,674.5</b>	<b>17.6</b>
<b>TIPS</b>			<b>TIPS</b>		
BLACKROCK TIPS	1,121.0	11.9	BLACKROCK TIPS	1,087.6	11.4
<b>TOTAL TIPS</b>	<b>1,121.0</b>	<b>11.9</b>	<b>TOTAL TIPS</b>	<b>1,087.6</b>	<b>11.4</b>
<b>TOTAL REAL ASSETS &amp; INFLATION HEDGES</b>	<b>9,413.8</b>	<b>100.0</b>	<b>TOTAL REAL ASSETS &amp; INFLATION HEDGES</b>	<b>9,503.0</b>	<b>100.0</b>

# ASSET ALLOCATION RISK REDUCTION & MITIGATION

for the quarter ended September 30, 2020



## September 30, 2020

	Assets (\$ millions)	% of Composite
<b>INVESTMENT GRADE BONDS</b>		
BTC US DEBT INDEX FUND	6,124.1	42.8
MHLP	19.9	0.1
PUGH CAPITAL MGMT	391.3	2.7
WELLS CAPITAL	1,711.3	12.0
<b>TOTAL CORE MANAGERS</b>	<b>8,246.6</b>	<b>57.7</b>
DODGE & COX	1,166.4	8.2
PIMCO	942.6	6.6
WESTERN ASSET MGMT.	1,012.0	7.1
<b>TOTAL CORE PLUS MANAGERS</b>	<b>3,121.0</b>	<b>21.8</b>
<b>TOTAL INVESTMENT GRADE BONDS</b>	<b>11,367.6</b>	<b>79.5</b>

## June 30, 2020

	Assets (\$ millions)	% of Composite
<b>INVESTMENT GRADE BONDS</b>		
BTC US DEBT INDEX FUND	6,380.5	44.2
MHLP	22.0	0.2
PUGH CAPITAL MGMT	388.6	2.7
WELLS CAPITAL	1,691.7	11.7
<b>TOTAL CORE MANAGERS</b>	<b>8,482.9</b>	<b>58.7</b>
DODGE & COX	1,148.1	7.9
PIMCO	926.3	6.4
WESTERN ASSET MGMT.	996.1	6.9
<b>TOTAL CORE PLUS MANAGERS</b>	<b>3,070.5</b>	<b>21.3</b>
<b>TOTAL INVESTMENT GRADE BONDS</b>	<b>11,553.4</b>	<b>80.0</b>

# ASSET ALLOCATION RISK REDUCTION & MITIGATION

for the quarter ended September 30, 2020



**September 30, 2020**

**June 30, 2020**

	Assets (\$ millions)	% of Composite		Assets (\$ millions)	% of Composite
<b>DIVERSIFIED HEDGE FUNDS</b>			<b>DIVERSIFIED HEDGE FUNDS</b>		
AQR LEAP	54.9	0.4	AQR LEAP	55.5	0.4
CAPULA GRV	395.0	2.8	CAPULA GRV	390.8	2.7
DK INSTITUTIONAL PARTNERS	214.3	1.5	DK INSTITUTIONAL PARTNERS	201.3	1.4
GROSVENOR HFOF	123.8	0.9	GROSVENOR HFOF	158.2	1.1
GSAM HFOF	39.1	0.3	GSAM HFOF	64.4	0.4
HBK MULTI-STRATEGY	265.9	1.9	HBK MULTI-STRATEGY	254.5	1.8
HUDSON BAY FUND	309.4	2.2	HUDSON BAY FUND	219.9	1.5
PIMCO TAC OPPS FUNDS	236.3	1.7	PIMCO TAC OPPS FUNDS	305.1	2.1
POLAR	338.9	2.4	POLAR	305.1	2.1
<b>TOTAL DIVERSIFIED HEDGE FUNDS</b>	<b>1,977.7</b>	<b>13.8</b>	<b>TOTAL DIVERSIFIED HEDGE FUNDS</b>	<b>1,949.6</b>	<b>13.5</b>
<b>CASH</b>			<b>CASH</b>		
CASH	955.4	6.7	CASH	943.5	6.5
<b>TOTAL RISK REDUCTION &amp; MITIGATION</b>	<b>14,300.6</b>	<b>100.0</b>	<b>TOTAL RISK REDUCTION &amp; MITIGATION</b>	<b>14,446.6</b>	<b>100.0</b>

# ANNUALIZED TOTAL RETURNS GROWTH

for the quarter ended September 30, 2020  
Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>GLOBAL EQUITY</b>						
<b>PASSIVE</b>						
SSGA MSCI ACWI IMI	13,230.0	8.2				
<b>FACTOR-BASED</b>						
JPMAM STRATEGIC BETA NON-U.S.*	901.7					
JPMAM STRATEGIC BETA U.S.	4,012.4	9.7				
<b>ACTIVE</b>						
ACADIAN DEVELOPED MARKETS	487.1	8.1	5.7	2.1	9.2	7.3
BTC EURO TILTS	546.7	4.9	0.8	-1.1	4.4	5.5
CAPITAL GROUP DEVELOPED MARKETS	386.4	9.2	17.9	9.3	12.2	8.0
CEVIAN CAPITAL II - ACTIVIST	288.6	6.0	-0.1	-0.4		
CORNERCAP US SC - EMP	51.0	0.0	-11.9			
FRONTIER US SMID GROWTH	289.5	6.8	0.1	1.8	8.9	10.7
GENESIS EMERGING MARKETS	568.9	9.8	7.7	4.4	9.8	3.9
GLOBAL ALPHA IE SC - EMP	177.0	9.4	3.4			
JANA JSI FUND V - ACTIVIST	83.3	6.7	7.2	8.6		
LAZARD EMERGING MARKETS	379.1	8.7	12.1	3.8	9.7	
MATARIN US SC - EMP	79.5	5.5	-10.4			
QMA US SMALL CAP CORE	187.3	1.6	-12.7			

Returns for terminated Gloabl Equity managers are not displayed.  
\* Returns for JPMAM Strategic Beta Non-U.S. are not displayed due to funding in August.

# ANNUALIZED TOTAL RETURNS GROWTH

for the quarter ended September 30, 2020

Net-of-Fees



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	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
SYMPHONY FINANCIAL - ACTIVIST	209.6	9.6	17.0	16.0		
SYSTEMATIC US SMALL CAP VALUE	165.8	2.2	-11.7			
BTC PASSIVE CURRENCY HEDGING	-21.2	-1.7	-1.7	0.9	0.4	1.0
<b>TOTAL GLOBAL EQUITY</b>	<b>22,022.6</b>	<b>7.5</b>	<b>8.6</b>			
Global Equity Custom BM		8.1	9.6			

# ANNUALIZED TOTAL RETURNS GROWTH

for the quarter ended September 30, 2020  
Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>PRIVATE EQUITY GROWTH</b>						
<b>PRIVATE EQUITY - GROWTH</b>	6,978.1	7.6	8.0			
Private Equity - Growth Custom BM		20.4	3.2			
<b>OPPORTUNISTIC REAL ESTATE</b>						
<b>OPPORTUNISTIC REAL ESTATE</b>	715.6	1.9	7.5	8.5	11.7	7.3
Opportunistic Real Estate Custom BM		-1.0	4.4	7.9	9.5	13.1
<b>TOTAL GROWTH</b>	29,716.3	7.4	8.7			
Growth Custom BM		10.3	9.2			

# ANNUALIZED TOTAL RETURNS

## CREDIT

for the quarter ended September 30, 2020

Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>HIGH YIELD</b>						
BEACH POINT	283.0	5.0	2.8	4.6	6.7	
BLACKROCK HY ETF	1,132.7	4.6				
BRIGADE CAP MGMT	587.5	6.6	0.6	1.8	5.3	6.2
<b>TOTAL HIGH YIELD</b>	<b>2,003.4</b>	<b>5.2</b>	<b>0.9</b>			
BBG BARC US Corp HY Idx		4.6	3.3			
<b>BANK LOANS</b>						
BAIN CAPITAL CREDIT	375.0	4.4	0.9	2.7	4.4	
CREDIT SUISSE BANK LOANS	1,071.1	3.1				
CRESCENT CAPITAL	462.1	5.1	3.7	3.6	4.6	
TENNENBAUM CAPITAL	517.8	4.9	4.0	6.4	7.0	
<b>TOTAL BANK LOANS</b>	<b>2,426.1</b>	<b>4.1</b>	<b>6.9</b>			
CS Leveraged Loan Index		4.1	0.8			

Total High Yield includes residual balances of terminated managers.



# ANNUALIZED TOTAL RETURNS

## CREDIT

for the quarter ended September 30, 2020  
Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>EMERGING MARKET DEBT</b>						
ABERDEEN ASSET MANAGEMENT	425.3	2.4	-0.5	1.5		
ASHMORE INVESTMENT MANAGEMENT	395.9	3.2	-5.0	-0.9		
<b>TOTAL EMERGING MARKET DEBT</b>	<b>821.2</b>	<b>2.8</b>	<b>-2.7</b>	<b>0.4</b>		
EMD Custom		2.0	1.5	3.0		
<b>ILLIQUID CREDIT</b>						
BEACH POINT - FUND II	22.0	6.8	14.8	9.1	9.2	
BEACH POINT - FUND III	192.5	9.8	1.8	5.5		
GROSVENOR OPCRD 2 HFOF*	165.2	6.2	-8.7	-1.3		
MAGNETAR CREDIT FUND* **	59.4					
NAPIER PARK*	389.8	8.3				
PRIVATE EQUITY - CREDIT	159.0	11.2	-13.6			
REAL ESTATE - CREDIT	191.0	2.6	9.4	9.3	8.9	
<b>TOTAL ILLIQUID CREDIT</b>	<b>1,178.9</b>	<b>7.1</b>	<b>4.2</b>			
Illiquid Credit Custom BM		1.9	9.1			
<b>TOTAL CREDIT</b>	<b>6,431.8</b>	<b>4.8</b>	<b>1.1</b>			
Credit Custom BM		3.3	3.9			

See Glossary for all custom benchmark definitions.  
Total Credit includes Credit Transition account.

\* Returns are reported on a net of all fees basis with a one month lag.

\*\* Returns for Magnetar Credit Fund are not displayed due to funding in August.

# ANNUALIZED TOTAL RETURNS

## REAL ASSETS & INFLATION HEDGES

for the quarter ended September 30, 2020

Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>CORE &amp; VALUE-ADDED REAL ESTATE</b>						
<b>CORE &amp; VALUE-ADDED REAL ESTATE</b>	4,392.7	-2.5	-1.6	3.9	4.8	7.5
Core & Value-Added Real Estate Custom BM		-1.6	1.8	5.2	6.9	10.3
<b>NATURAL RESOURCES &amp; COMMODITIES</b>						
CREDIT SUISSE COMMODITY	377.2	9.6	-5.8	-3.8	-2.3	
DWS NATURAL RESOURCES	1,040.9	5.9	-10.8			
NEUBERGER BERMAN/GRESHAM	360.6	9.6	-9.1	-3.8	-2.4	-4.6
PIMCO COMMODITY PLUS	366.5	9.9	-7.9	-3.8	-1.4	-4.7
PRIVATE EQUITY - REAL ASSETS	71.9	-0.4	-36.0			
<b>TOTAL NATURAL RESOURCES &amp; COMMODITIES</b>	<b>2,217.0</b>	<b>7.5</b>	<b>-10.4</b>	<b>-4.6</b>	<b>-2.5</b>	<b>-5.1</b>
Natural Resources & Comm Custom BM		5.8	-8.0	-4.3	-3.1	-6.1

# ANNUALIZED TOTAL RETURNS

## REAL ASSETS & INFLATION HEDGES

for the quarter ended September 30, 2020

Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>INFRASTRUCTURE</b>						
DWS INFRASTRUCTURE	1,683.1	1.1	-3.3			
<b>TOTAL INFRASTRUCTURE</b>	<b>1,683.1</b>	<b>1.1</b>	<b>-3.3</b>			
DJ BROOKFIELD GLOBAL INFRASTRUCTURE TR		-1.5	-9.1			
<b>TIPS</b>						
BLACKROCK TIPS	1,121.0	3.1	10.2			
<b>TOTAL TIPS</b>	<b>1,121.0</b>	<b>3.1</b>	<b>10.2</b>			
BBG BARC US Tsy TIPS Idx		3.0	10.1			
<b>TOTAL REAL ASSETS &amp; INFLATION HEDGES</b>	<b>9,413.8</b>	<b>1.0</b>	<b>-2.5</b>			
Real Assets & Inflation Hedges Custom BM		1.0	-0.5			

# ANNUALIZED TOTAL RETURNS

## RISK REDUCTION & MITIGATION

for the quarter ended September 30, 2020

Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>INVESTMENT GRADE BONDS</b>						
BTC US DEBT INDEX FUND	6,124.1	0.7	7.1	5.3	4.3	3.7
MHLP	19.9	1.3	5.4	9.3	6.7	5.2
PUGH CAPITAL MGMT	391.3	0.7	7.5	5.4	4.3	3.9
WELLS CAPITAL	1,711.3	1.2	8.3	5.7	4.6	4.4
<b>TOTAL CORE MANAGERS</b>	<b>8,246.6</b>	<b>0.8</b>	<b>7.4</b>	<b>5.5</b>	<b>4.7</b>	<b>4.2</b>
BBG BC Aggregate Bond Index		0.6	7.0	5.2	4.2	3.6
DODGE & COX	1,166.4	1.6	7.9	5.7	5.4	4.8
PIMCO	942.6	1.8	8.3	5.8	5.4	4.1
WESTERN ASSET MGMT.	1,012.0	1.6	7.3	5.4	5.3	4.9
<b>TOTAL CORE PLUS MANAGERS</b>	<b>3,121.0</b>	<b>1.6</b>	<b>7.8</b>	<b>5.6</b>	<b>5.3</b>	<b>4.5</b>
BBG BC Aggregate Bond Index		0.6	7.0	5.2	4.2	3.6
<b>TOTAL INVESTMENT GRADE BONDS</b>	<b>11,367.6</b>	<b>1.0</b>	<b>7.5</b>	<b>5.5</b>	<b>4.9</b>	<b>4.3</b>
BBG BC Aggregate Bond Index		0.6	7.0	5.2	4.2	3.6

# ANNUALIZED TOTAL RETURNS

## RISK REDUCTION & MITIGATION

for the quarter ended September 30, 2020  
Net-of-Fees



	<u>Mkt Value (\$Mil)</u>	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
<b>DIVERSIFIED HEDGE FUNDS*</b>						
AQR LEAP	54.9	-1.0	-17.8			
CAPULA GRV	395.0	1.1	8.2			
DK INSTITUTIONAL PARTNERS	214.3	6.5	4.9			
GROSVENOR HFOF	123.8	7.9	2.3	2.5	1.7	
GSAM HFOF	39.1	5.5	7.1	4.2	3.5	
HBK MULTI-STRATEGY	265.9	4.5	4.1			
HUDSON BAY FUND	309.4	3.1				
PIMCO TAC OPPS FUNDS	236.3	7.5	2.3			
POLAR	338.9	11.1				
<b>TOTAL DIVERSIFIED HEDGE FUNDS</b>	<b>1,977.7</b>	<b>5.3</b>	<b>5.2</b>			
Diversified Hedge Funds Custom BM		0.7	3.7			
<b>CASH</b>						
<b>CASH</b>	<b>955.4</b>	<b>0.2</b>	<b>1.4</b>	<b>1.9</b>	<b>1.5</b>	<b>1.0</b>
Cash Custom BM		0.0	1.0	1.7	1.2	0.7
<b>TOTAL RISK REDUCTION &amp; MITIGATION</b>	<b>14,300.6</b>	<b>1.5</b>	<b>6.9</b>			
Risk Reduction & Mitigation Custom BM		0.6	6.2			

See Glossary for all custom benchmark definitions.

\* Hedge fund returns are reported on a net of all fees basis with a one-month lag.

# GROWTH - GLOBAL EQUITY

## ACADIAN ASSET MANAGEMENT, LLC

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
ACADIAN DEVELOPED MARKETS	487.1	8.08	5.71	2.10	9.18
MSCI EAFE + Canada Net Index		4.92	0.16	0.62	5.32
Growth Custom BM		10.28	9.16		

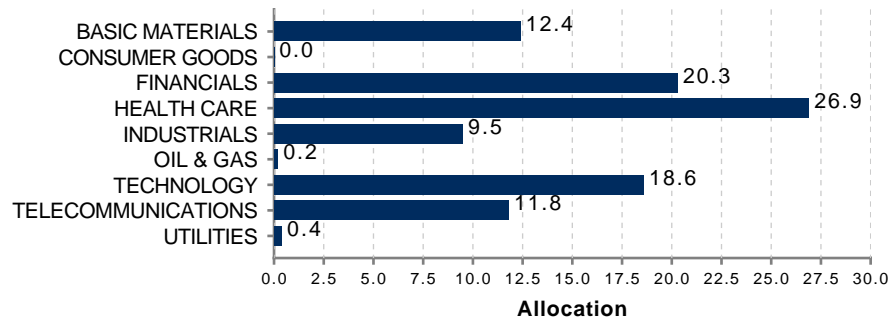
### Market Statistics

	ACADIAN DEV MKTS	MSCI EAFE PLUS CANADA
Market Cap Wtd Average	46,862.4	60,685.5
No. of Issues	419.0	-
Dividend Yield	3.5	3.3
Return on Equity	18.6	14.6
Price to Sales	2.7	4.6
Price to Book	3.9	4.2
PE Ratio	17.1	32.6

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Intl/Global Equity Funds - Core</b>				
ACADIAN DEVELOPED MARKETS	8.18 41	6.09 60	2.47 70	9.59 60
Median	7.99	7.43	6.82	10.64

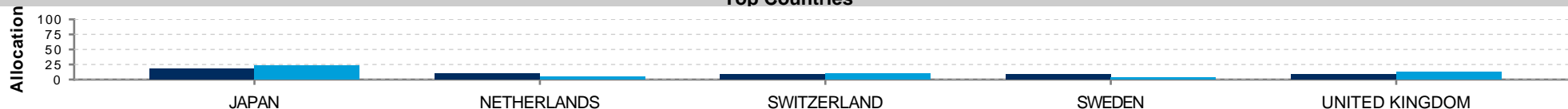
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
ROCHE HOLDING AG GENUSSSCHEIN	18,190,307	3.73
NOVARTIS AG REG	15,678,133	3.22
NTT DOCOMO INC	11,973,797	2.46
KONINKLIJKE AHOLD DELHAIZE N	11,697,516	2.40
NINTENDO CO LTD	11,193,670	2.30
NOVO NORDISK A/S B	11,176,414	2.29
FORTESCUE METALS GROUP LTD	10,930,188	2.24
WOLTERS KLUWER	10,350,810	2.13

### Top Countries



Universe data: International Equity Funds Core  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## BLACKROCK INSTITUTIONAL TRUST COMPANY, N.A.- EUROPE ALPHA TILTS

for the quarter ended September 30, 2020



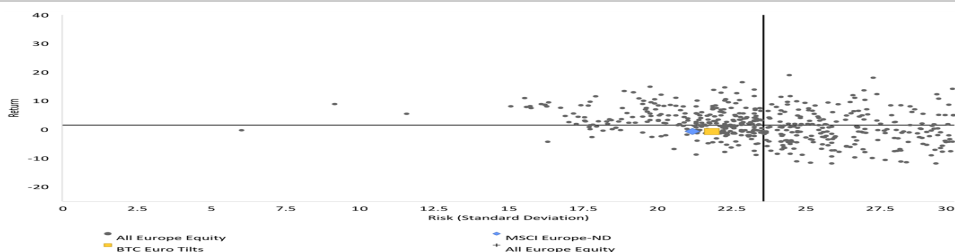
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
BTC EURO TILTS	546.7	4.95	0.83	-1.07	4.41	5.46
MSCI EUROPE (DAILY)		4.51	-0.79	-0.61	4.24	4.26
Growth Custom BM		10.28	9.16			

### Universe (Gross-of-Fees)

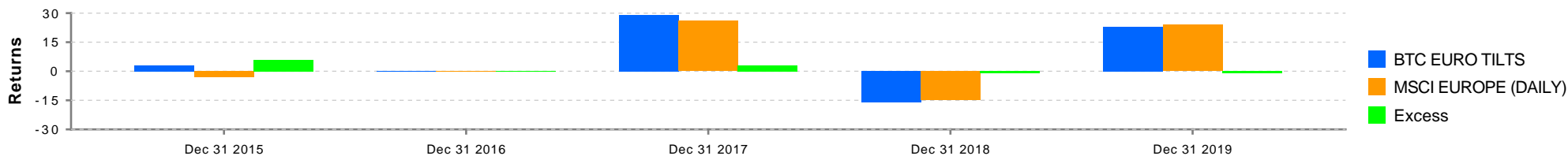
	1 Qtr	1 Year	3 Years	5 Years
<b>Intl Equity European Equity</b>				
BTC EURO TILTS	5.06	74	1.32	69
Median	7.45	7.22	1.56	6.64

### 3 Year Risk vs. Return



	3 Year Return	3 Year Standard Deviation
BTC EURO TILTS	-0.6 68	21.9 26
MSCI EUROPE (DAILY)	-0.6 67	21.2 19
5th Percentile	11.1	17.8
25th Percentile	5.3	21.8
50th Percentile	1.6	23.6
75th Percentile	-1.4	26.9
95th Percentile	-7.5	31.6

### Calendar Year Returns as of September 30, 2020



# GROWTH - GLOBAL EQUITY

## CAPITAL GUARDIAN TRUST COMPANY

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
CAPITAL GUARDIAN Non- U.S.	386.4	9.16	17.90	9.26	12.18
<b>EAFE CUSTOM INDEX</b>		<b>4.92</b>	<b>0.16</b>	<b>0.62</b>	<b>5.32</b>
Growth Custom BM		10.28	9.16		

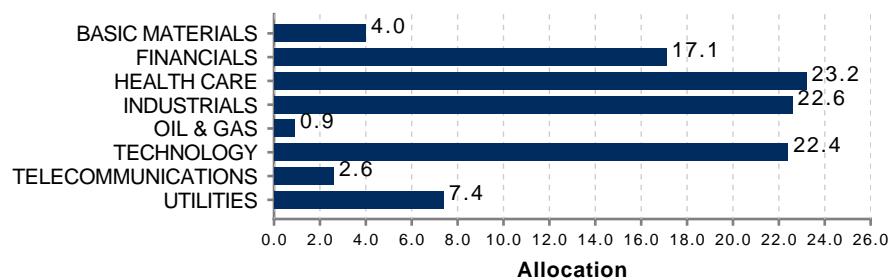
### Market Statistics

	CAPITAL GUARDIAN Non- U.S.	MSCI EAFE PLUS CANADA
Market Cap Wtd Average	64,545.4	60,685.5
No. of Issues	166.0	-
Dividend Yield	2.0	3.3
Return on Equity	13.6	14.6
Price to Sales	7.2	4.6
Price to Book	7.5	4.2
PE Ratio	37.8	32.6

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Intl/Global Equity Funds - Core</b>				
CAPITAL GUARDIAN Non- U.S.	9.25 26	18.31 7	9.64 10	12.57 18
Median	7.99	7.43	6.82	10.64

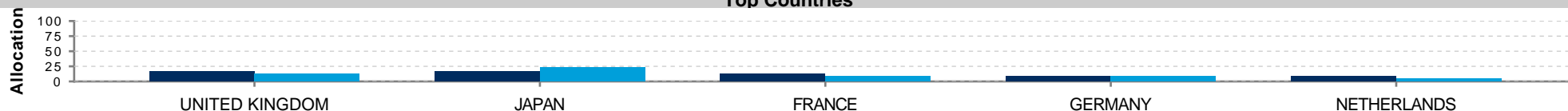
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
OCADO GROUP PLC	23,743,388	6.14
ASML HOLDING NV	12,735,281	3.30
SSC GOVERNMENT MM GVMXX	12,314,768	3.19
ENEL SPA	10,483,725	2.71
EVOLUTION GAMING GROUP	8,665,405	2.24
LONDON STOCK EXCHANGE GROUP	8,405,128	2.18
LVMH MOET HENNESSY LOUIS VUI	8,371,874	2.17

### Top Countries



Universe data: International Equity Funds Core  
Top Holdings exclude cash, cash equivalents, and derivatives



# GROWTH - GLOBAL EQUITY

## CEVIAN CAPITAL

for the quarter ended September 30, 2020



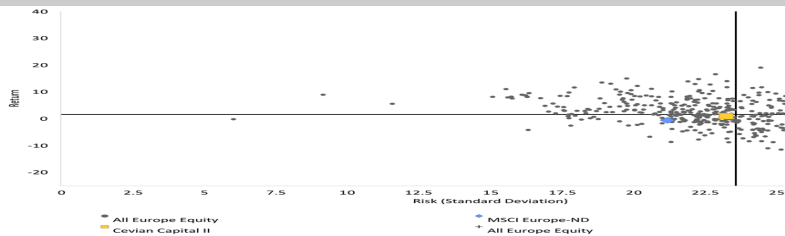
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
CEVIAN CAPITAL II - ACTIVIST	288.6	6.01	-0.10	-0.40		
MSCI EUROPE (DAILY)		4.51	-0.79	-0.61		
Growth Custom BM		10.28	9.16			

### Universe (Gross-of-Fees)

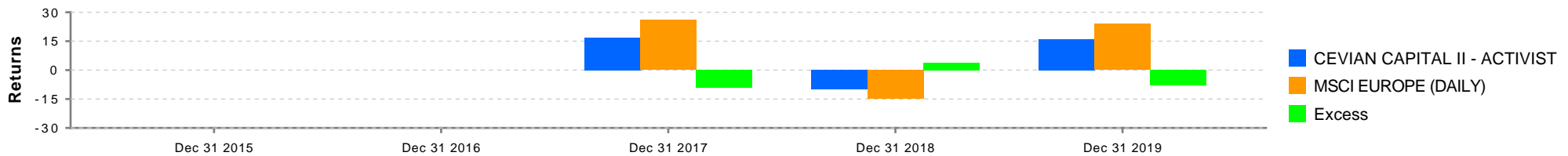
<u>Intl Equity European Equity</u>	<u>1 Qtr</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>
CEVIAN CAPITAL	6.28	61	0.93	56
Median	7.45	7.22	1.56	

### 3 Year Risk vs. Return



	3 Year Return	3 Year Standard Deviation
CEVIAN CAPITAL	0.9 56	23.2 44
MSCI EUROPE (DAILY)	-0.6 67	21.2 19
5th Percentile	11.1	17.8
25th Percentile	5.3	21.8
50th Percentile	1.6	23.6
75th Percentile	-1.4	26.9
95th Percentile	-7.5	31.6

### Calendar Year Returns as of September 30, 2020



# GROWTH - GLOBAL EQUITY

## CORNERCAP INVESTMENT COUNSEL

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
CORNERCAP	51.0	0.03	-11.86			
<b>RUSSELL 2000 (DAILY)</b>		<b>4.93</b>	<b>0.39</b>			
Growth Custom BM		10.28	9.16			

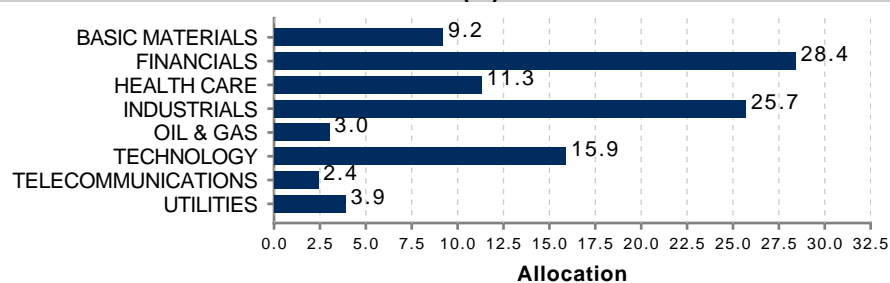
### Market Statistics

	CORNERCAP	Russell 2000
Market Cap Wtd Average	2,096.8	2,485.0
No. of Issues	280.0	-
Dividend Yield	2.4	1.6
Return on Equity	12.6	7.0
Price to Sales	1.9	10.3
Price to Book	2.5	4.5
PE Ratio	17.1	-194.1

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Equity Funds - Small Cap</b>				
CORNERCAP	0.16 94	-11.38 56		
Median	4.67	-9.55	-1.44	6.28

### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
SYNNEX CORP	317,936	0.63
CHARLES RIVER LABORATORIES	306,387	0.61
ENSIGN GROUP INC/THE	300,341	0.60
STEWART INFORMATION SERVICES	294,215	0.59
AGCO CORP	292,178	0.58
PROVIDENCE SERVICE CORP	289,322	0.58
FLAGSTAR BANCORP INC	273,929	0.55

### Top Countries



Universe data: U.S. Equities Small Cap  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## FRONTIER CAPITAL MANAGEMENT COMPANY, LLC

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
FRONTIER US SMID GROWTH	289.5	6.82	0.11	1.78	8.90
RUSSELL 2500 (DAILY)		5.88	2.22	4.45	8.97
Growth Custom BM		10.28	9.16		

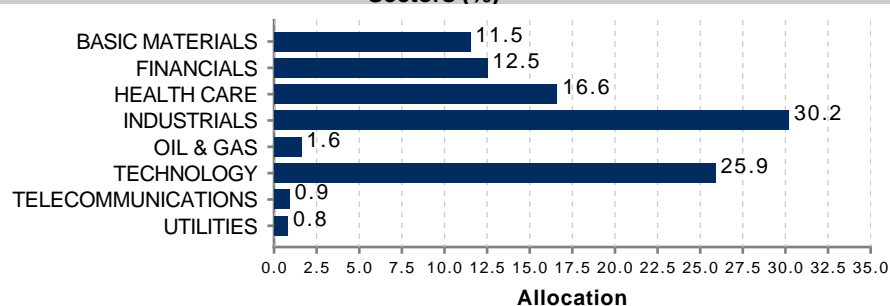
### Market Statistics

	FRONTIER US SMID GROWTH	Russell 2500 Index
Market Cap Wtd Average	6,269.5	5,430.9
No. of Issues	149.0	-
Dividend Yield	0.8	1.7
Return on Equity	9.4	9.5
Price to Sales	4.8	8.9
Price to Book	5.2	5.4
PE Ratio	327.7	149.6

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Equity Funds - SMID</b>				
FRONTIER US SMID GROWTH	7.00 16	0.85 20	2.55 32	9.71 17
Median	4.33	-8.90	-0.80	7.22

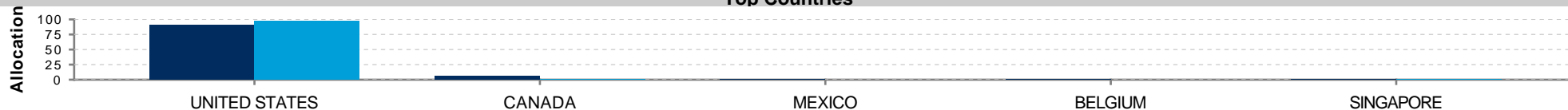
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
PAN AMERICAN SILVER CORP	8,521,229	2.94
INSULET CORP	7,871,586	2.72
TUTOR PERINI CORP	5,878,755	2.03
TREX COMPANY INC	5,643,655	1.95
FMC CORP	5,624,426	1.94
MONOLITHIC POWER SYSTEMS INC	5,466,347	1.89
COOPER COS INC/THE	5,171,421	1.79

### Top Countries



Universe data: U.S. Equity Funds-SMID  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## GENESIS INVESTMENT MANAGEMENT, LLP

for the quarter ended September 30, 2020



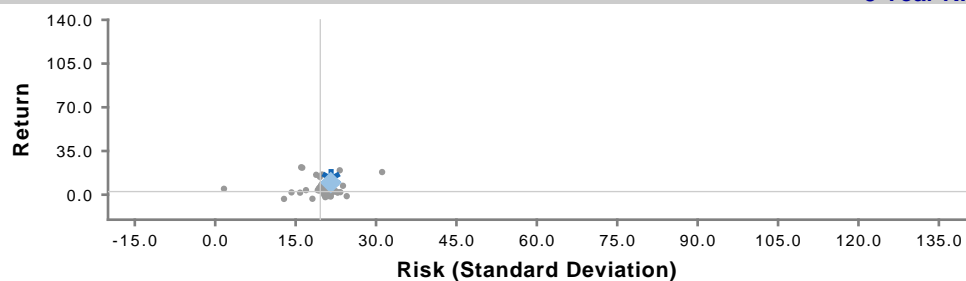
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
GENESIS EMERGING MARKETS	568.9	9.79	7.71	4.36	9.79	3.92
MSCI EM IMI CUSTOM INDEX		9.79	10.14	2.03	8.43	2.34
Growth Custom BM		10.28	9.16			

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Intl Equity Emerging Mkt Funds</b>				
GENESIS EMERGING MARKETS	10.11 47	8.61 56	5.15 26	10.60 31
Median	9.94	10.05	2.48	8.94

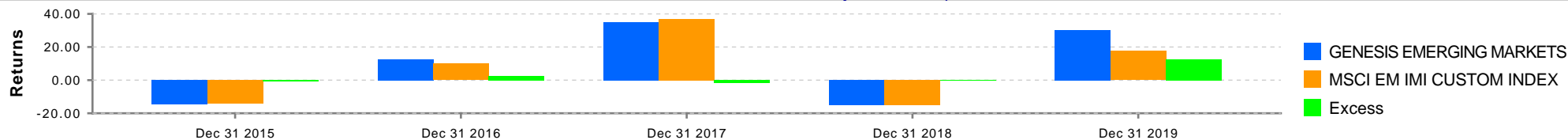
### 3 Year Risk vs Return



	3 Year Return	3 Year Standard Deviation
GENESIS EMERGING MARKETS	5.1 26	19.4 43
MSCI EM IMI CUSTOM INDEX	2.0 57	19.1 27
5th Percentile	13.5	15.2
25th Percentile	5.2	19.1
50th Percentile	2.5	19.6
75th Percentile	0.0	20.7
95th Percentile	-4.0	22.5

GENESIS EMERGING MARKETS MSCI EM IMI CUSTOM INDEX

### Calendar Year Returns as of September 30, 2020



# GROWTH - GLOBAL EQUITY

## GLOBAL ALPHA CAPITAL MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
GLOBAL ALPHA	177.0	9.40	3.40		
MSCI EAFE SMALL CAP NET		10.25	6.83		
Growth Custom BM		10.28	9.16		

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
GLOBAL ALPHA	9.57	25.42		
Median	7.99	7.43	6.82	10.64

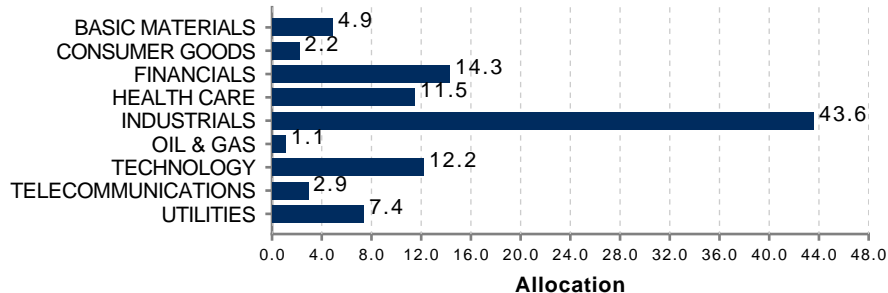
### Intl/Global Equity Funds - Core

GLOBAL ALPHA	9.57	25.42		
Median	7.99	7.43	6.82	10.64

### Market Statistics

	GLOBAL ALPHA	MSCI EAFE SMALL CAP NET
Market Cap Wtd Average	2,147.9	2,605.8
No. of Issues	66.0	-
Dividend Yield	2.3	3.2
Return on Equity	14.5	11.4
Price to Sales	2.5	5.2
Price to Book	3.2	3.5
PE Ratio	38.1	45.1

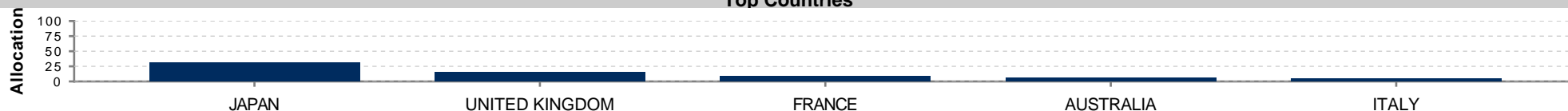
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
KERRY LOGISTICS NETWORK LTD	6,479,243	3.66
ROTHSCHILD + CO	5,291,954	2.99
INTERNET INITIATIVE JAPAN	5,013,419	2.83
L OCCITANE INTERNATIONAL SA	4,668,823	2.64
DE LONGHI SPA	4,536,368	2.56
SOPRA STERIA GROUP	4,497,797	2.54
BIFFA PLC	4,477,022	2.53

### Top Countries



Universe data: International Equity Funds Core  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## JANA PARTNERS LLC

for the quarter ended September 30, 2020



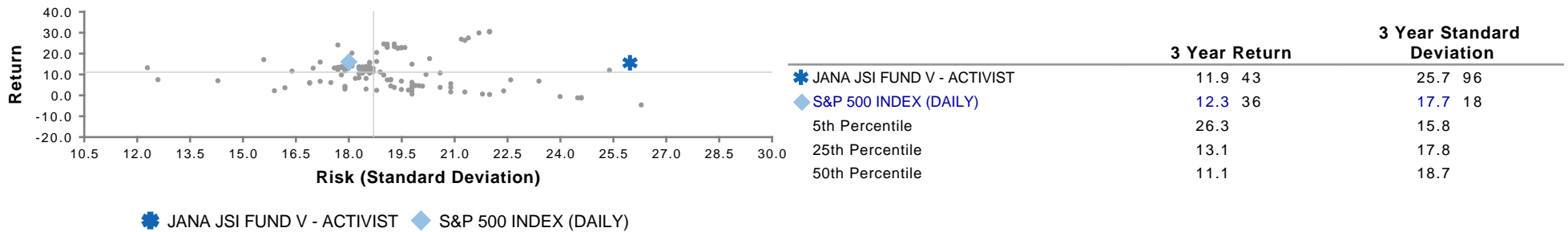
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
JANA JSI FUND V - ACTIVIST	83.3	6.69	7.18	8.59		
S&P 500 INDEX (DAILY)		8.93	15.15	12.28		
Growth Custom BM		10.28	9.16			

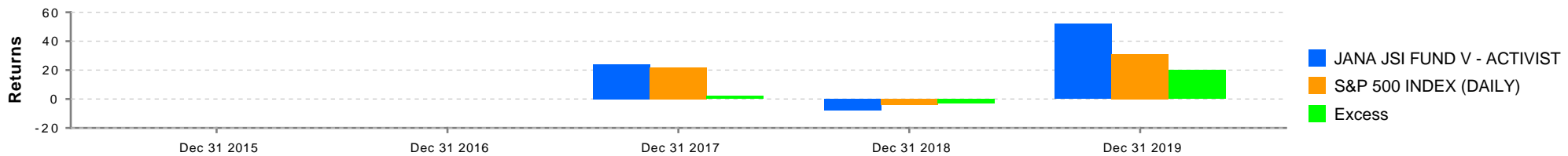
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Equity Funds - Large Cap</b>				
JANA JSI FUND V - ACTIVIST	7.72 56	11.03 56	11.89 43	
Median	8.14	13.64	11.06	13.61

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



# GROWTH - GLOBAL EQUITY

## JPM STRATEGIC BETA U.S.

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
JPMAM STRATEGIC BETA U.S.	4,012.4	9.72			
MSCI USA IMI Gross		9.23			
Growth Custom BM		10.28	9.16		

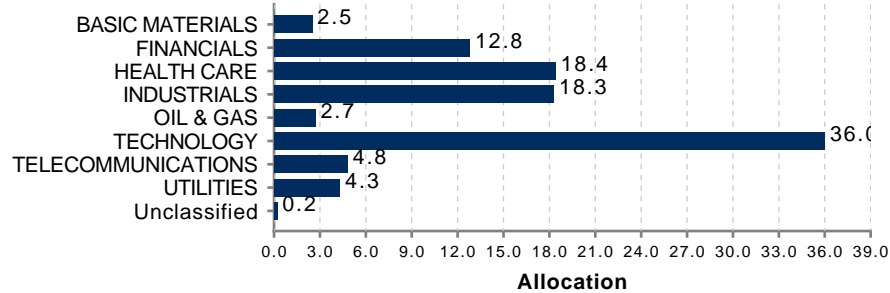
### Market Statistics

	JPMAM STRATEGIC BETA U.S.
Market Cap Wtd Average	373,132.7
No. of Issues	773.0
Dividend Yield	1.8
Return on Equity	24.6
Price to Sales	7.6
Price to Book	9.2
PE Ratio	32.4

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Equity Funds - Large Cap</b>				
JPMAM STRATEGIC BETA U.S.	9.79	27		
Median	8.14	13.65	11.06	13.66

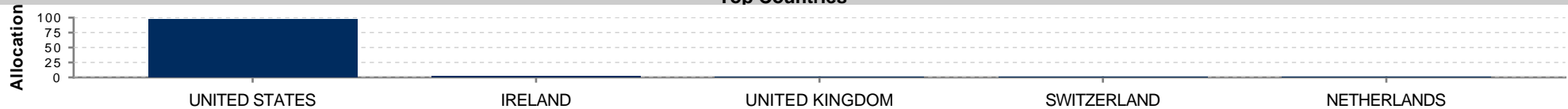
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
APPLE INC	242,220,784	6.04
MICROSOFT CORP	182,799,065	4.56
AMAZON.COM INC	161,038,647	4.01
FACEBOOK INC CLASS A	75,989,761	1.89
ALPHABET INC CL C	53,725,637	1.34
ALPHABET INC CL A	53,067,910	1.32
JOHNSON + JOHNSON	47,389,546	1.18

### Top Countries



Universe data: U.S. Equities Total Large Cap  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## LAZARD ASSET MANAGEMENT, LLC

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
LAZARD EMERGING MARKETS	379.1	8.66	12.13	3.82	9.70
MSCI EMERGING MARKETS		9.56	10.54	2.42	8.97
Growth Custom BM		10.28	9.16		

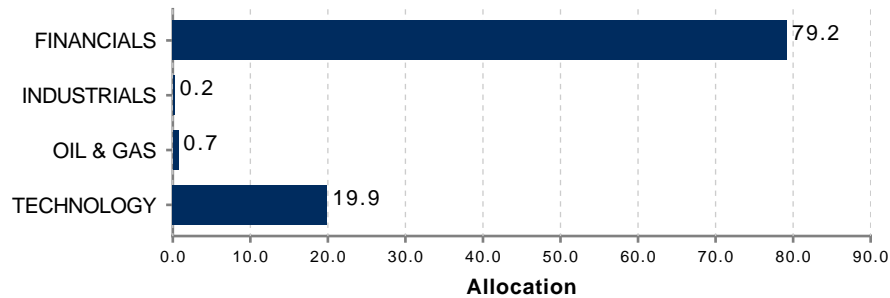
### Market Statistics

	LAZARD EMERGING MARKETS	MSCI Emerging Markets
Market Cap Wtd Average	16,979.7	178,753.0
No. of Issues	55.0	-
Dividend Yield	2.7	2.5
Return on Equity	3.8	15.6
Price to Sales	13.6	6.0
Price to Book	1.5	4.5
PE Ratio	-23.1	19.8

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Intl Equity Emerging Mkt Funds</b>				
LAZARD EMERGING MARKETS	8.84 65	12.85 26	4.55 30	10.50 31
Median	9.94	10.05	2.48	8.94

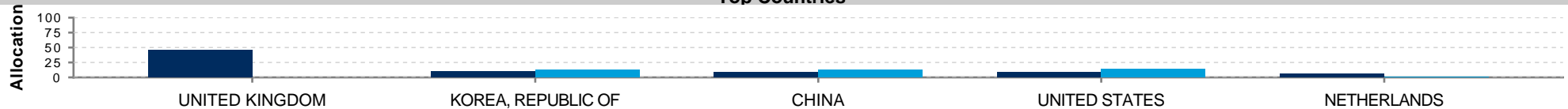
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
FIDELITY CHINA SPECIAL SITUATI	34,822,987	9.19
JPMORGAN EMERGING MARKETS INVE	26,718,811	7.05
TEMPLETON EMERGING MARKETS INV	22,567,781	5.95
SAMSUNG ELECTRONICS PREF	22,258,647	5.87
PROSUS NV	22,097,526	5.83
NASPERS LTD N SHS	21,554,763	5.69
CITIC SECURITIES CO LTD H	15,546,883	4.10

### Top Countries



Universe data: International Equity Funds Emerging Markets  
Top Holdings exclude cash, cash equivalents, and derivatives



# GROWTH - GLOBAL EQUITY

## MATARIN CAPITAL MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
MATARIN	79.5	5.45	-10.35			
<b>RUSSELL 2000 (DAILY)</b>		<b>4.93</b>	<b>0.39</b>			
Growth Custom BM		10.28	9.16			

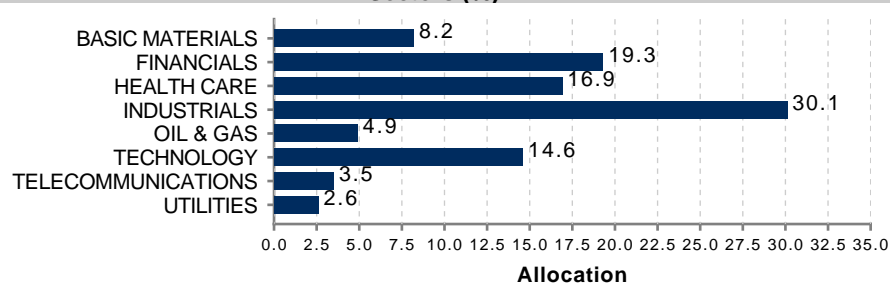
### Market Statistics

	MATARIN	Russell 2000
Market Cap Wtd Average	1,817.5	2,485.0
No. of Issues	175.0	-
Dividend Yield	1.7	1.6
Return on Equity	12.2	7.0
Price to Sales	1.6	10.3
Price to Book	2.3	4.5
PE Ratio	23.3	-194.1

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Equity Funds - Small Cap</b>				
MATARIN	5.64 37	-9.67 51		
Median	4.67	-9.55	-1.44	6.28

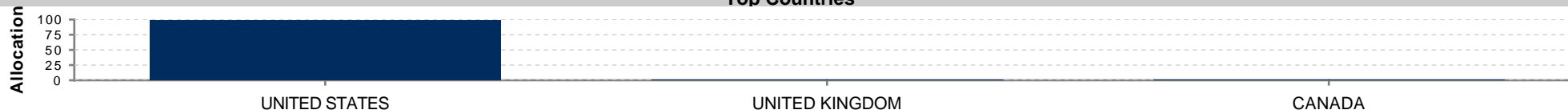
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
RENEWABLE ENERGY GROUP INC	1,399,925	1.76
CORCEPT THERAPEUTICS INC	1,365,666	1.72
ATLAS AIR WORLDWIDE HOLDINGS	1,359,775	1.71
EVERTEC INC	1,334,773	1.68
INSTALLED BUILDING PRODUCTS	1,252,237	1.58
ALARM.COM HOLDINGS INC	1,236,661	1.56
PROVIDENCE SERVICE CORP	1,229,199	1.55

### Top Countries



Universe data: U.S. Equities Small Cap  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## QUANTITATIVE MANAGEMENT ASSOCIATES

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
QMA	187.3	1.64	-12.71			
<b>RUSSELL 2000 (DAILY)</b>		<b>4.93</b>	<b>0.39</b>			
Growth Custom BM		10.28	9.16			

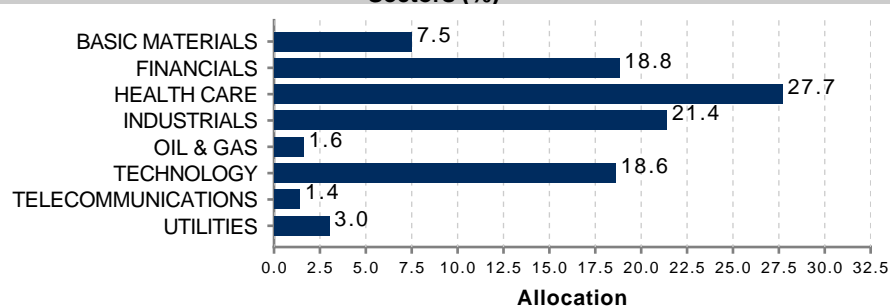
### Market Statistics

	QMA	Russell 2000
Market Cap Wtd Average	2,248.9	2,485.0
No. of Issues	325.0	-
Dividend Yield	1.7	1.6
Return on Equity	8.9	7.0
Price to Sales	3.8	10.3
Price to Book	2.8	4.5
PE Ratio	34.9	-194.1

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Equity Funds - Small Cap</b>				
QMA	1.77 80	-12.24 60		
Median	4.67	-9.55	-1.44	6.28

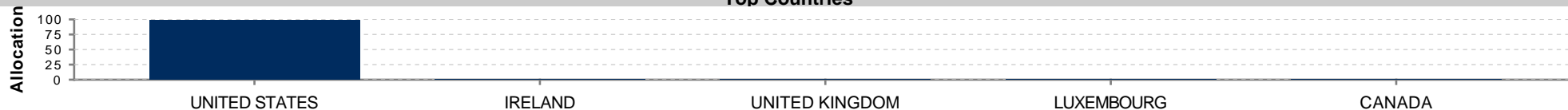
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
DECKERS OUTDOOR CORP	2,046,093	1.13
NATERA INC	1,914,360	1.06
DARLING INGREDIENTS INC	1,862,751	1.03
MERITAGE HOMES CORP	1,843,513	1.02
UFP INDUSTRIES INC	1,712,253	0.94
EMCOR GROUP INC	1,706,292	0.94
STAMPS.COM INC	1,686,650	0.93

### Top Countries



Universe data: U.S. Equities Small Cap  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## SSGA MSCI ACWI IMI

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
SSGA MSCI ACWI IMI	13,230.0	8.15				
MSCI ACWI IMI Net (DAILY)		8.11				
Growth Custom BM		10.28	9.16			

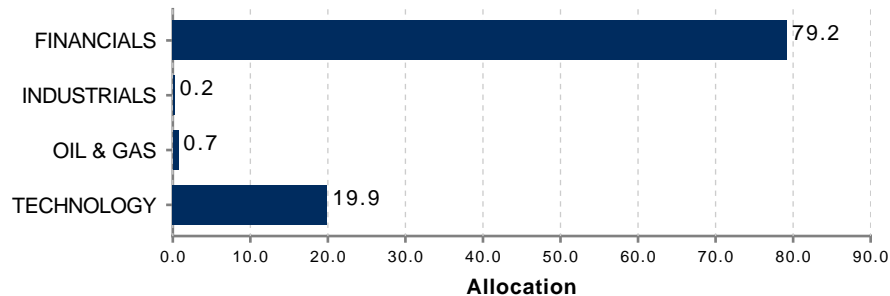
### Market Statistics

	SSGA MSCI ACWI IMI	MSCI ACWI IMI Net (DAILY)
Market Cap Wtd Average	254,761.5	251,273.0
No. of Issues	6,791.0	-
Dividend Yield	2.3	2.3
Return on Equity	19.9	19.6
Price to Sales	6.6	6.7
Price to Book	7.2	7.1
PE Ratio	31.1	32.4

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Global Equity Funds</b>				
SSGA MSCI ACWI IMI	8.15	29		
Median	6.28	4.06	4.80	8.56

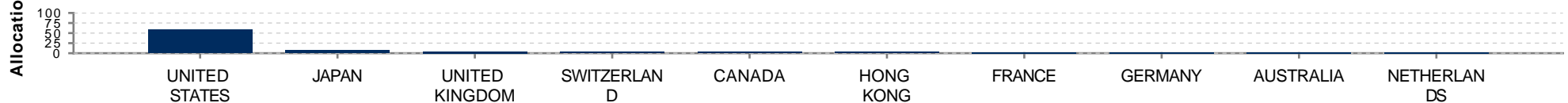
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
APPLE INC	462,425,624	3.50
MICROSOFT CORP	355,037,671	2.68
AMAZON.COM INC	304,397,175	2.30
ISHARES MSCI TAIWAN ETF	160,994,518	1.22
FACEBOOK INC CLASS A	143,911,169	1.09
ALIBABA GROUP HOLDING SP ADR	126,822,678	0.96
ALPHABET INC CL C	102,620,698	0.78

### Top Countries



Universe data: Global Equity Funds  
Top Holdings exclude cash, cash equivalents, and derivatives

# GROWTH - GLOBAL EQUITY

## SYMPHONY FINANCIAL PARTNERS PTE. LTD.

for the quarter ended September 30, 2020



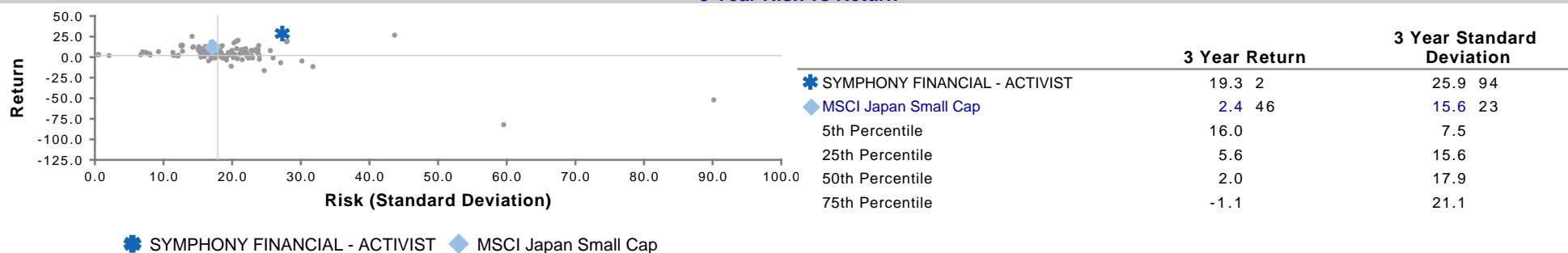
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
SYMPHONY FINANCIAL - ACTIVIST	209.6	9.56	16.96	16.05		
MSCI Japan Small Cap		9.52	6.56	2.41		
Growth Custom BM		10.28	9.16			

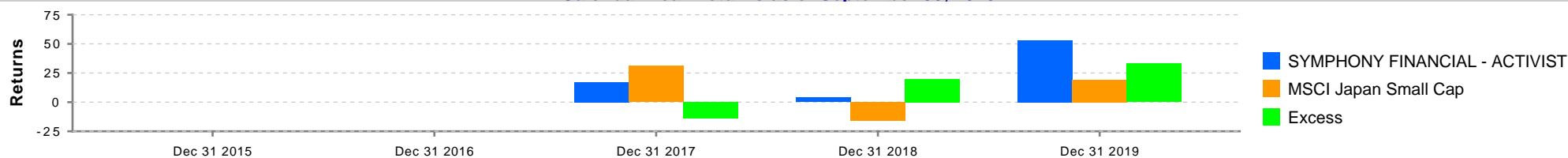
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Intl Equity Developed Mkt Funds (Active)</b>				
SYMPHONY FINANCIAL - ACTIVIST	9.75 17	23.17 8	19.30 2	
Median	6.93	3.98	1.99	6.65

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



# GROWTH - GLOBAL EQUITY

## SYSTEMATIC FINANCIAL MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
SYSTEMATIC	165.8	2.20	-11.67			
RUSSELL 2000 (DAILY)		4.93	0.39			
Growth Custom BM		10.28	9.16			

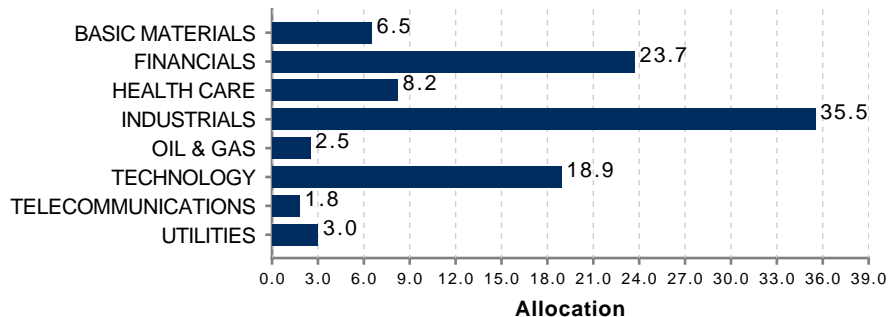
### Market Statistics

	SYSTEMATIC	Russell 2000
Market Cap Wtd Average	2,737.8	2,485.0
No. of Issues	155.0	-
Dividend Yield	2.0	1.6
Return on Equity	11.1	7.0
Price to Sales	2.0	10.3
Price to Book	2.1	4.5
PE Ratio	45.8	-194.1

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Equity Funds - Small Cap</b>				
SYSTEMATIC	2.34 71	-11.17 56		
Median	4.67	-9.55	-1.44	6.28

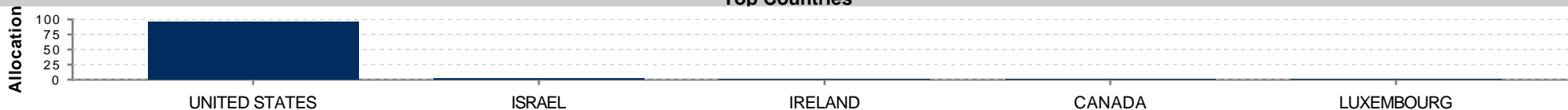
### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
NORTHWESTERN CORP	2,991,360	1.83
FIRST CITIZENS BCSHS CL A	2,617,276	1.60
COMFORT SYSTEMS USA INC	2,459,603	1.51
QORVO INC	2,277,027	1.40
SILICON MOTION TECHNOL ADR	2,191,240	1.34
AMERICAN EAGLE OUTFITTERS	2,191,140	1.34
MAGNACHIP SEMICONDUCT	2,146,790	1.32
REGAL BELOIT CORP	2,118,825	1.30

### Top Countries



Universe data: U.S. Equities Small Cap  
Top Holdings exclude cash, cash equivalents, and derivatives

# CREDIT - HIGH YIELD

## BEACH POINT CAPITAL

for the quarter ended September 30, 2020



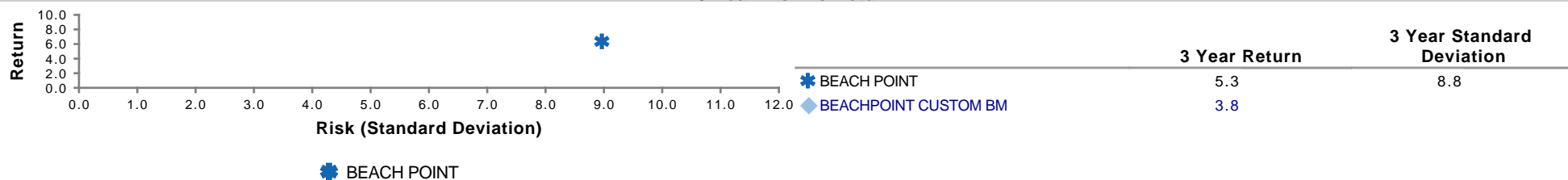
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
BEACH POINT	283.0	5.01	2.85	4.61	6.75	
BEACHPOINT CUSTOM BM		4.60	2.49	3.84	5.51	
Credit Custom BM		3.34	3.86			

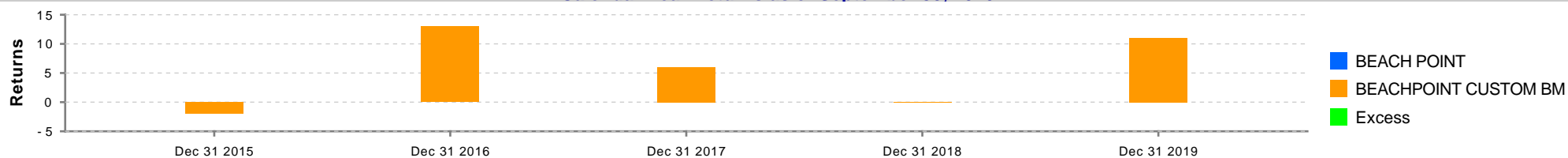
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
BEACH POINT	5.09	3.43	5.27	7.43

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



# CREDIT - HIGH YIELD

## BLACKROCK HIGH YIELD ETF

for the quarter ended September 30, 2020



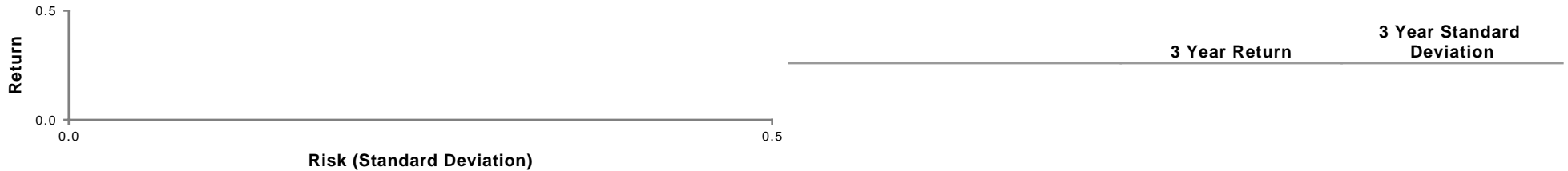
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
BlackRock HY ETF	1,132.7	4.57				
BBG BARC US Corp HY Idx		4.60				
Credit Custom BM		3.34	3.86			

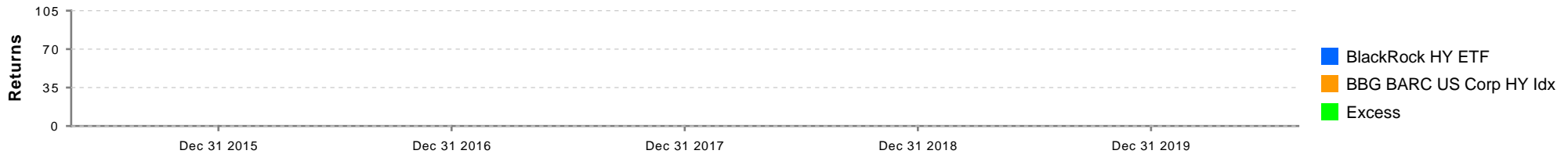
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
BlackRock HY ETF	4.57			

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



# CREDIT - HIGH YIELD

## BRIGADE CAPITAL MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
BRIGADE CAP MGMT	587.5	6.56	0.57	1.75	5.31	6.16
Brigade Custom Index		4.60	3.20	4.25	5.55	5.54
Credit Custom BM		3.34	3.86			

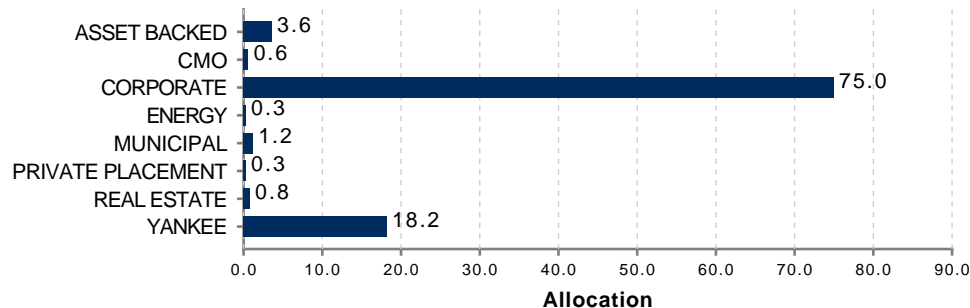
### Market Statistics

	BRIGADE CAP MGMT
No. of Issues	328.0
Duration - Modified	2.5
Convexity	-0.2
Coupon Rate	6.5
Yield to Maturity	11.9
Current Yield	8.4
Rating - Moody's	B-3
Rating - S & P	B-

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
BRIGADE CAP MGMT	6.78	1.33	2.52	6.11

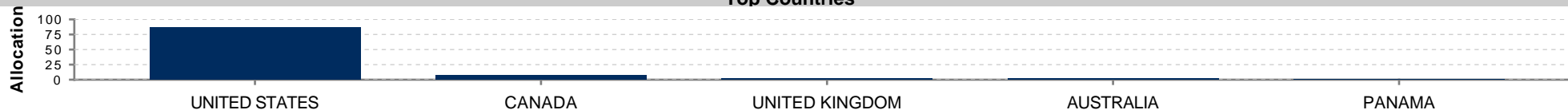
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
LIFESCAN GLOBAL CORP	9,110,930	1.57
PATTERSON MEDICAL HOLDINGS INC	8,796,765	1.52
MASHANTUCKET ( WESTERN ) PEQU	8,741,608	1.51
BAFFINLAND IRON CORP/LP	8,686,592	1.50
FREEDOM MORTGAGE CORP	8,637,155	1.49
FIRST QUANTUM MINERALS L	8,469,533	1.46
LSB INDUSTRIES	8,201,637	1.42
URBAN ONE INC	7,920,524	1.37

### Top Countries



Universe data: U.S. Fixed Income Funds High Yield  
Top Holdings exclude cash, cash equivalents, and derivatives



# CREDIT - BANK LOANS

## BAIN CAPITAL CREDIT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
BAIN CAPITAL CREDIT	375.0	4.38	0.91	2.66	4.38	
Bank Loans Custom Index		4.13	1.60	3.54	5.32	
Credit Custom BM		3.34	3.86			

### Market Statistics

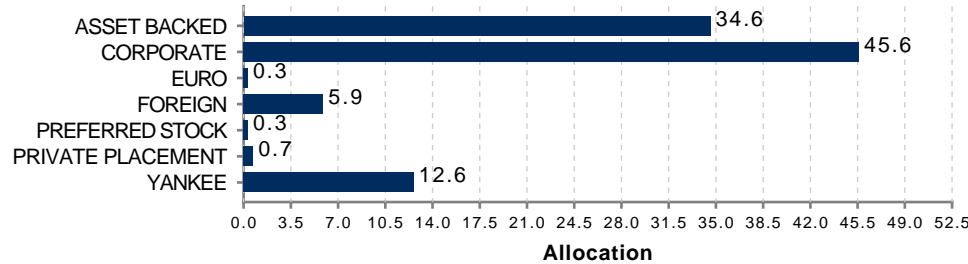
#### BAIN CAPITAL CREDIT

No. of Issues	475.0
Duration - Modified	0.5
Convexity	-0.1
Coupon Rate	3.5
Yield to Maturity	4.6
Current Yield	3.7
Rating - Moody's	B-2
Rating - S & P	B

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
BAIN CAPITAL CREDIT	4.58	1.59	3.34	5.16

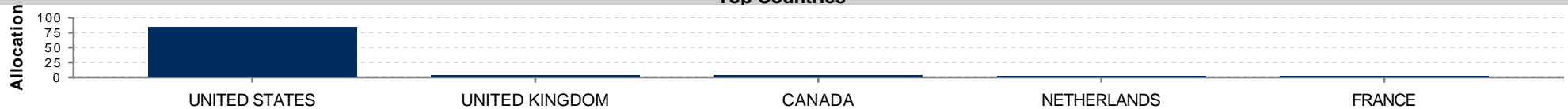
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
FFI HLDGS 1 CORP	2,721,429	0.77
CSC HOLDINGS, LLC	2,720,052	0.77
ASCEND PRFRMCE MTLs OPRtNS LLC	2,589,260	0.73
BAUSCH HEALTH COMPANIES INC.	2,532,745	0.71
ASCENA RETAIL GROUP INC	2,435,639	0.69
TEI HOLDINGS INC	2,415,811	0.68
HIGHTOWER HOLDINGS LLC	2,413,303	0.68

### Top Countries



# CREDIT - BANK LOANS

## CREDIT SUISSE BANK LOANS

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
Credit Suisse Bank Loans	1,071.1	3.09				
CS Leveraged Loan Index		4.13				
Credit Custom BM		3.34	3.86			

### Market Statistics

	Credit Suisse Bank Loans
No. of Issues	375.0
Duration - Modified	0.3
Convexity	-0.2
Coupon Rate	3.2
Yield to Maturity	3.8
Current Yield	3.2
Rating - Moody's	B-1
Rating - S & P	B

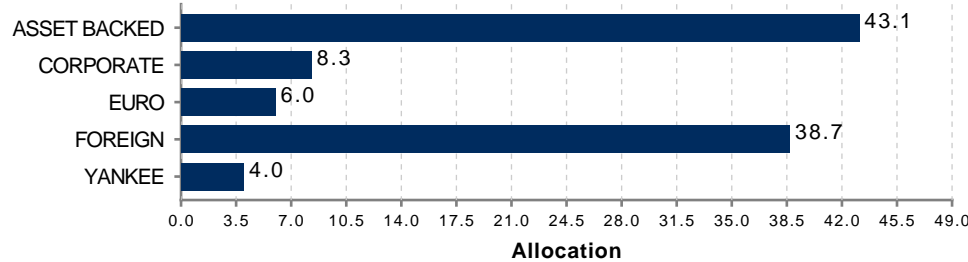
### Universe (Gross-of-Fees)

1 Qtr      1 Year      3 Years      5 Years

#### US Fixed Income Funds - High Yield

Credit Suisse Bank Loans      3.14

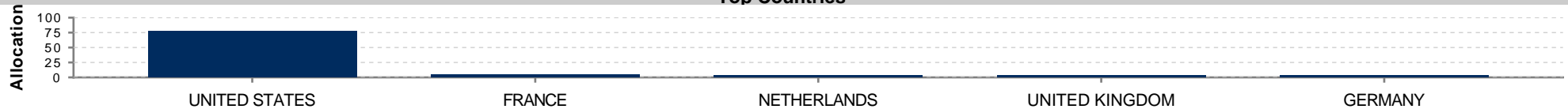
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
HUDSON RIVER TRADING LLC	8,707,294	0.90
FINASTRA USA, INC.	8,020,910	0.83
VERISURE MIDHOLDING AB	7,994,336	0.83
EPICOR SOFTWARE CORPORATION	7,565,736	0.79
ATHENAHEALTH INC	7,313,067	0.76
LBM BORROWER LLC	7,150,371	0.74
LEVEL 3 FINANCING INC	7,113,404	0.74

### Top Countries



# CREDIT - BANK LOANS

## CRESCENT CAPITAL GROUP LP

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
CRESCENT CAPITAL	462.1	5.10	3.66	3.57	4.64	
Bank Loans Custom Index		4.13	1.60	3.54	5.32	
Credit Custom BM		3.34	3.86			

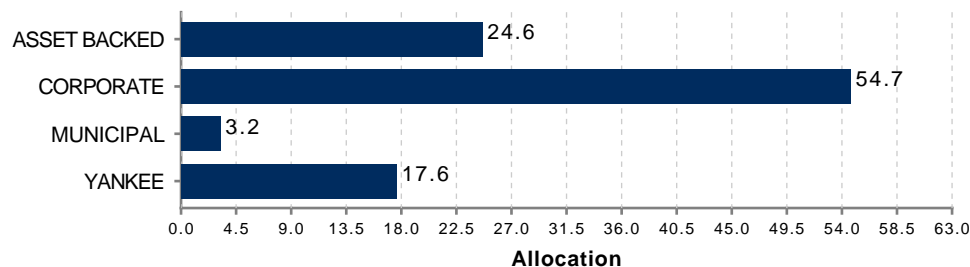
### Market Statistics

	CRESCENT CAPITAL
No. of Issues	156.0
Duration - Modified	0.4
Convexity	-0.1
Coupon Rate	4.5
Yield to Maturity	6.0
Current Yield	4.7
Rating - Moody's	B-2
Rating - S & P	B

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
CRESCENT CAPITAL	5.23	4.21	4.13	5.22

### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
KESTRA ADVISOR SERVICES	8,815,407	2.01
KAMC HOLDINGS INC	8,697,236	1.98
COREL CORPORATION	8,439,251	1.92
API TECHNOLOGIES CORP	7,773,106	1.77
MHI HOLDINGS LLC	7,725,506	1.76
WEDDINGWIRE	7,696,173	1.75
MAGNOLIA ENERGY L.P.	7,407,067	1.69

### Top Countries



Universe data: U.S. Fixed Income Funds High Yield  
Top Holdings exclude cash, cash equivalents, and derivatives

# CREDIT - BANK LOANS

## TENNENBAUM CAPITAL PARTNERS INC.

for the quarter ended September 30, 2020



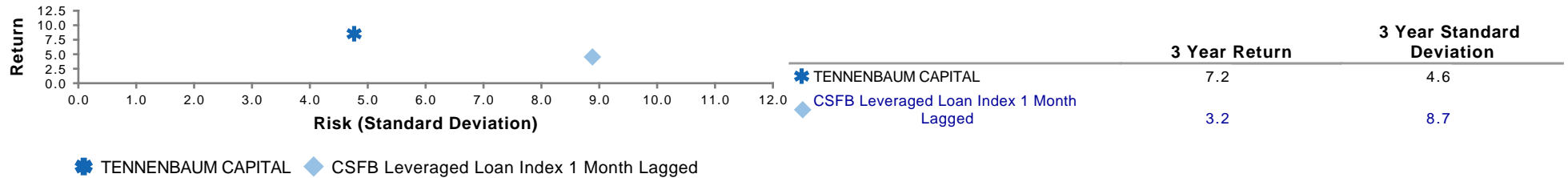
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
TENNENBAUM CAPITAL	517.8	4.87	3.96	6.38	7.03	
CSFB Leveraged Loan Index 1 Month Lagged		4.81	0.57	3.16	3.81	
Credit Custom BM		3.34	3.86			

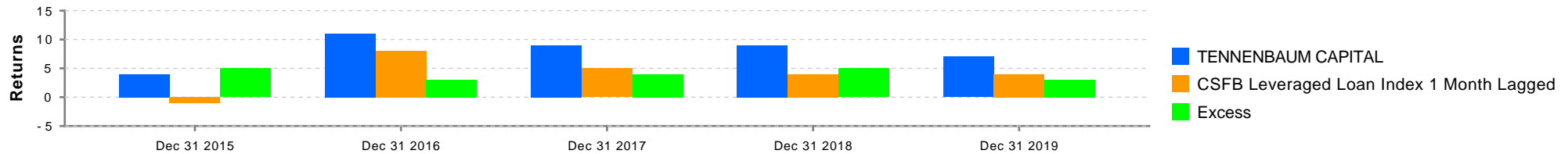
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
TENNENBAUM CAPITAL	5.05	4.69	7.20	7.93

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



# CREDIT - EMERGING MARKET DEBT

## ABERDEEN ASSET MANAGEMENT INC.

for the quarter ended September 30, 2020



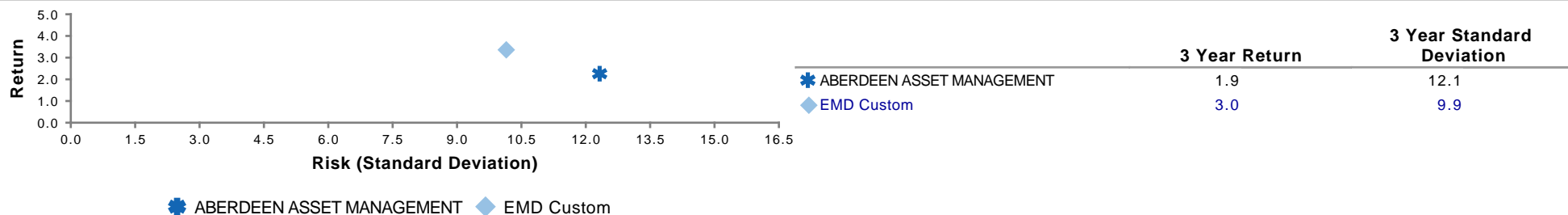
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
ABERDEEN ASSET MANAGEMENT	425.3	2.39	-0.50	1.55		
EMD Custom		2.00	1.54	3.02		
Credit Custom BM		3.34	3.86			

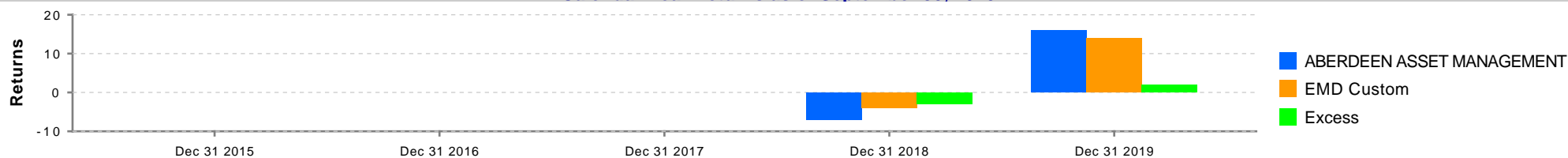
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
ABERDEEN ASSET MANAGEMENT	2.49	-0.10	1.94	

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



# CREDIT - EMERGING MARKET DEBT

## ASHMORE INVESTMENT MANAGEMENT LIMITED

for the quarter ended September 30, 2020



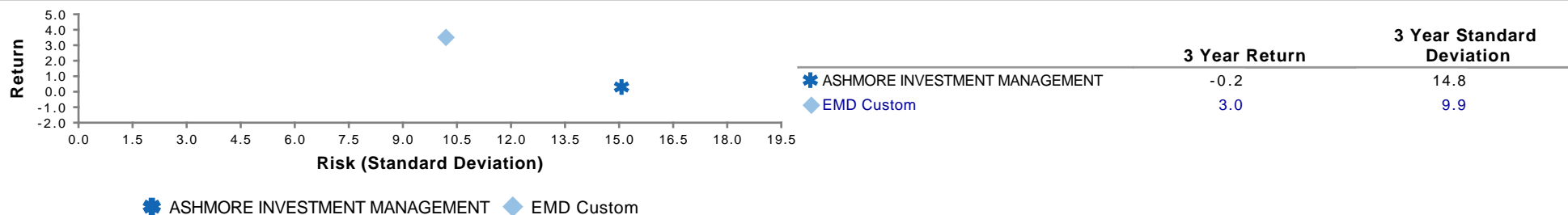
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
ASHMORE INVESTMENT MANAGEMENT	395.9	3.19	-5.03	-0.88		
EMD Custom		2.00	1.54	3.02		
Credit Custom BM		3.34	3.86			

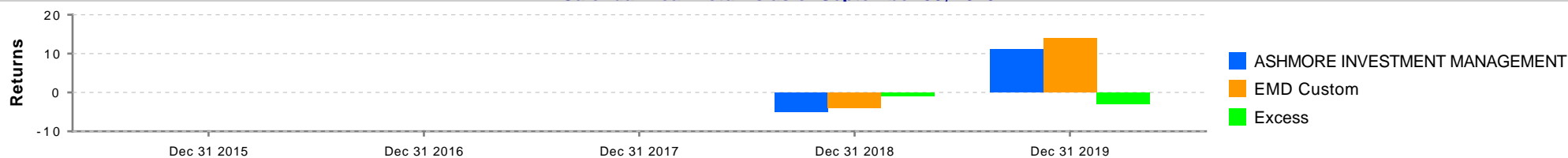
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - High Yield</b>				
ASHMORE INVESTMENT MANAGEMENT	3.36	-4.40	-0.19	

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



# REAL ASSETS & INFLATION HEDGES- NAT. RESOURCES & COM.

## CREDIT SUISSE ASSET MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
CREDIT SUISSE COMMODITY	377.2	9.62	-5.77	-3.77	-2.34
Bloomberg Comm Index TR		9.07	-8.20	-4.18	-3.09
Real Assets & Inflation Hedges Custom BM		1.00	-0.53		

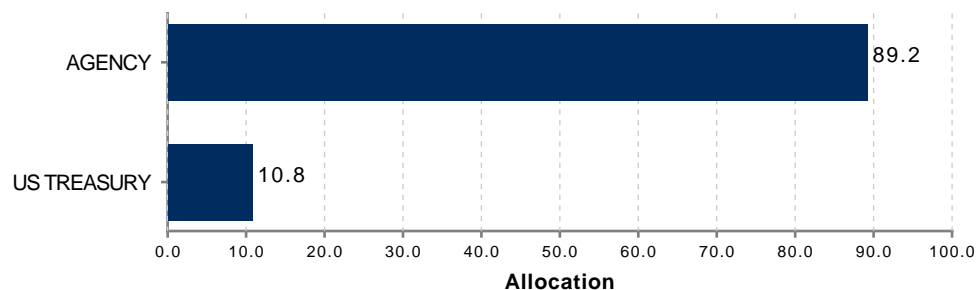
### Market Statistics

	CREDIT SUISSE	BLOOMBERG COMMODITY INDEX
No. of Issues	31.0	-
Agriculture % of Total	31%	31%
Energy % of Total	24%	24%
Livestock % of Total	5%	5%
Metals % of Total	40%	40%

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Commodity Funds</b>				
CREDIT SUISSE COMMODITY	9.68 47	-5.52 79	-3.51 83	-2.08
Median	9.19	4.35	6.78	

### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
GOLD 100 OZ FUTR DEC20	63,309,700	16.78
FEDERAL FARM CREDIT BANK	37,860,997	10.04
NATURAL GAS FUTR NOV20	36,085,560	9.57
COPPER FUTURE DEC20	29,187,813	7.74
US TREASURY FRN	26,035,128	6.90
FANNIE MAE	25,959,652	6.88
FEDERAL FARM CREDIT BANK	23,409,946	6.21

### Top Countries



Universe data: Commodities Funds  
Asset Type, Top Holdings, and Top Countries sections predominately represent the collateral

# REAL ASSETS & INFLATION HEDGES - NAT. RESOURCES & COM. DWS



for the quarter ended September 30, 2020

## Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years
DWS Natural Resources	1,040.9	5.86	-10.80	
S&P Glb LargeMidCap Commod & Resources		2.65	-8.63	
Real Assets & Inflation Hedges Custom BM		1.00	-0.53	

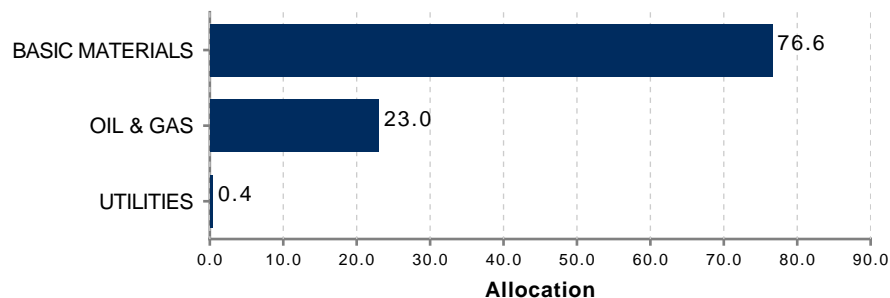
## Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Commodity Funds</b>				
DWS Natural Resources	5.91 64	-10.62 86		
Median	9.19	4.35	6.78	

## Market Statistics

	<u>DWS NATURAL RESOURCES</u>	<u>S&amp;P GLOBAL LARGEMIDCAP COMMODITY &amp; RESOURCES INDEX</u>
Market Cap Wtd Average	37,283.7	57,219.9
No. of Issues	62.0	-
Beta	1.0	1.0
Dividend Yield	3.7	4.4
Return on Equity	11.0	10.6
Price to Sales	3.0	3.8
Price to Book	2.3	2.0
PE Ratio	33.4	32.3

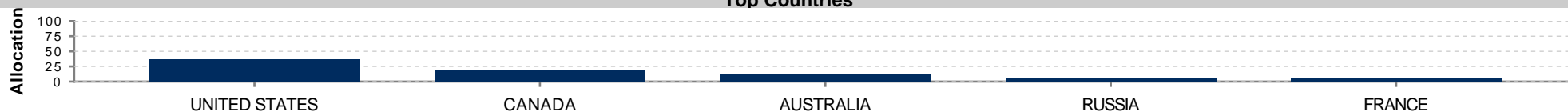
## Sectors (%)



## Top Holdings

Security Name	Ending Market Value	% of Portfolio
NUTRIEN LTD	77,777,932	7.47
ARCHER DANIELS MIDLAND CO	73,751,225	7.09
CORTEVA INC	62,903,754	6.04
BHP GROUP LTD	62,527,931	6.01
FMC CORP	50,669,394	4.87
TOTAL SE	49,687,600	4.77
NEWMONT CORP	47,549,430	4.57

## Top Countries



Universe data: Commodities Funds  
Top Holdings exclude cash, cash equivalents, and derivatives



# REAL ASSETS & INFLATION HEDGES- NAT. RESOURCES & COM.

## NEUBERGER BERMAN ALTERNATIVE FUND MANAGEMENT LLC/GRESHAM

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
NEUBERGER BERMAN/GRESHAM	360.6	9.58	-9.08	-3.76	-2.36
Bloomberg Comm Index TR		9.07	-8.20	-4.18	-3.09
Real Assets & Inflation Hedges Custom BM		1.00	-0.53		

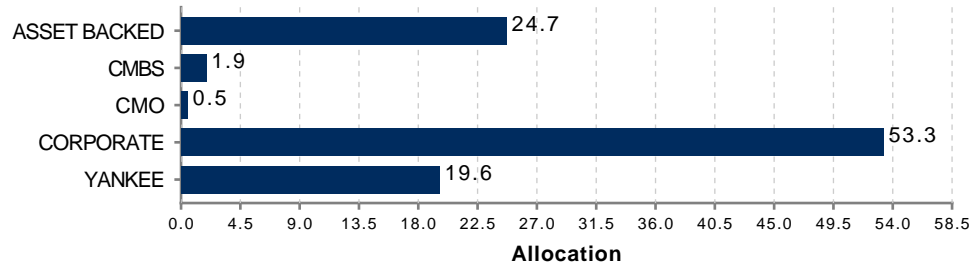
### Market Statistics

	NEUBERGER/GRESHAM	BLOOMBERG COMMODITY INDEX
No. of Issues	65.0	-
Agriculture % of Total	29%	31%
Energy % of Total	24%	24%
Livestock % of Total	8%	5%
Metals % of Total	39%	40%

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Commodity Funds</b>				
NEUBERGER BERMAN/GRESHAM	9.67 47	-8.75 86	-3.40 83	-2.00
Median	9.19	4.35	6.78	

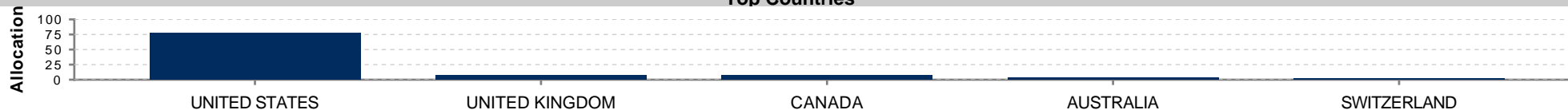
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
GOLD 100 OZ FUTR DEC20	59,329,150	16.45
US DOLLAR	38,056,986	10.55
NATURAL GAS FUTR NOV20	25,674,320	7.12
SOYBEAN FUTURE MAR21	15,366,050	4.26
BRENT CRUDE FUTR JAN21	13,722,750	3.81
LIVE CATTLE FUTR FEB21	10,289,700	2.85
CORN FUTURE DEC20	10,233,000	2.84

### Top Countries



Universe data: Commodities Funds  
Asset Type, Top Holdings, and Top Countries sections predominately represent the collateral

# REAL ASSETS & INFLATION HEDGES- NAT. RESOURCES & COM. PACIFIC INVESTMENT MANAGEMENT COMPANY



for the quarter ended September 30, 2020

## Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
PIMCO COMMODITY PLUS	366.5	9.94	-7.88	-3.79	-1.40
Bloomberg Comm Index TR		9.07	-8.20	-4.18	-3.09
Real Assets & Inflation Hedges Custom BM		1.00	-0.53		

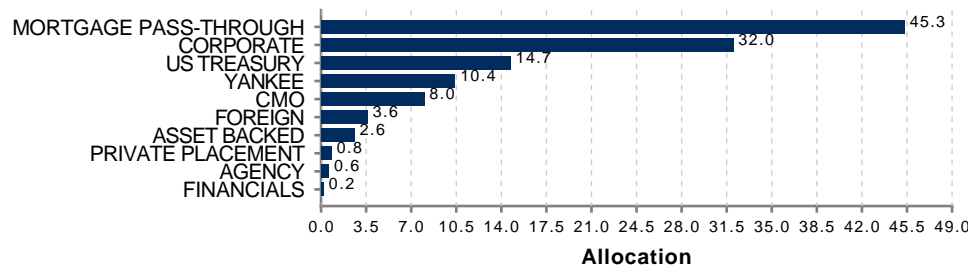
## Market Statistics

	PIMCO	BLOOMBERG COMMODITY INDEX
No. of Issues	691.0	-
Agriculture % of Total	30%	31%
Energy % of Total	23%	24%
Livestock % of Total	5%	5%
Metals % of Total	42%	40%

## Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Commodity Funds</b>				
PIMCO COMMODITY PLUS	10.03 41	-7.59 83	-3.45 83	-1.03
Median	9.19	4.35	6.78	

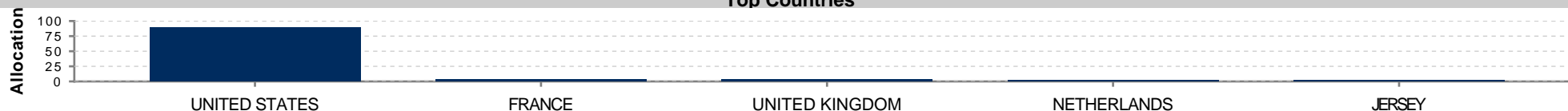
## Asset Type (%)



## Top Holdings

Security Name	Ending Market Value	% of Portfolio
SWU0NH098 TRS USD R E	36,135,789	9.86
SWU0NH203 TRS USD R E	34,602,190	9.44
SWU0NH260 TRS USD R E	34,380,415	9.38
SWU0NH245 TRS USD R E	30,816,300	8.40
SWU0NH435 TRS USD R E	24,795,061	6.76
GOLD 100 OZ FUTR FEB21	23,592,240	6.43
FNMA POOL FM4126	23,395,461	6.38

## Top Countries



Universe data: Commodities Funds  
Asset Type, Top Holdings, and Top Countries sections predominately represent the collateral

# REAL ASSETS & INFLATION HEDGES - INFRASTRUCTURE

DWS

for the quarter ended September 30, 2020



## Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year
DWS INFRASTRUCTURE	1,683.1	1.10	-3.31
DJ BROOKFIELD GLOBAL INFRASTRUCTURE TR		-1.47	-9.05
Real Assets & Inflation Hedges Custom BM		1.00	-0.53

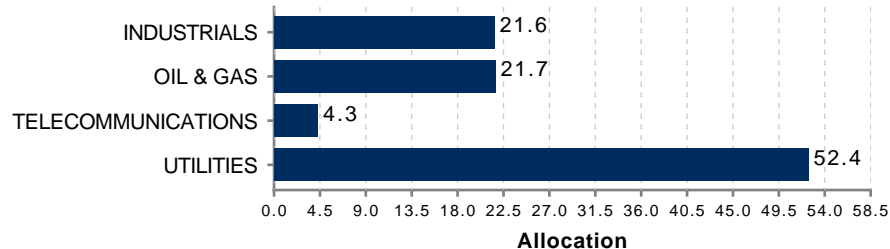
## Market Statistics

	DWS INFRASTRUCTURE	DJ BROOKFIELD GLOBAL INFRASTRUCTURE
Market Cap Wtd Average	40,084.9	35,768.1
No. of Issues	50.0	-
Beta	1.0	1.0
Dividend Yield	3.2	4.0
Return on Equity	13.8	12.2
Price to Sales	6.2	6.1
Price to Book	7.0	5.9
PE Ratio	56.3	54.4

## Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Infrastructure</b>				
DWS INFRASTRUCTURE	1.15	-3.12		

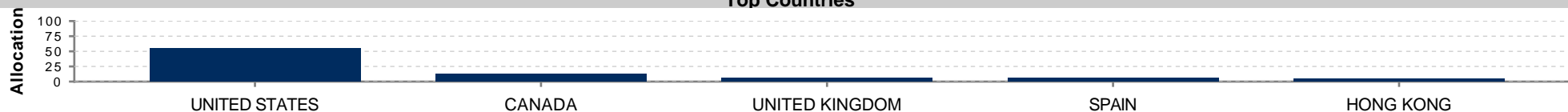
## Sectors (%)



## Top Holdings

Security Name	Ending Market Value	% of Portfolio
AMERICAN TOWER CORP	153,165,966	9.10
TC ENERGY CORP	108,237,536	6.43
CROWN CASTLE INTL CORP	107,738,987	6.40
SEMPRA ENERGY	90,163,910	5.36
EVERSOURCE ENERGY	77,835,180	4.62
WILLIAMS COS INC	76,742,446	4.56

## Top Countries



# REAL ASSETS & INFLATION HEDGES - TIPS

## BLACKROCK

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years
BLACKROCK TIPS	1,121.0	3.07	10.19	
BBG BARC US Tsy TIPS Idx		3.03	10.08	
Real Assets & Inflation Hedges Custom BM		1.00	-0.53	

### Market Statistics

	BLACKROCK TIPS	BBG BC TIPS
No. of Issues	42.0	-
Duration - Modified	7.9	7.9
Convexity	1.2	1.2
Coupon Rate	0.6	0.7
Yield to Maturity	0.5	0.5
Current Yield	0.5	0.6
Rating - Moody's	Aaa	Aaa
Rating - S & P	AA+	AA+

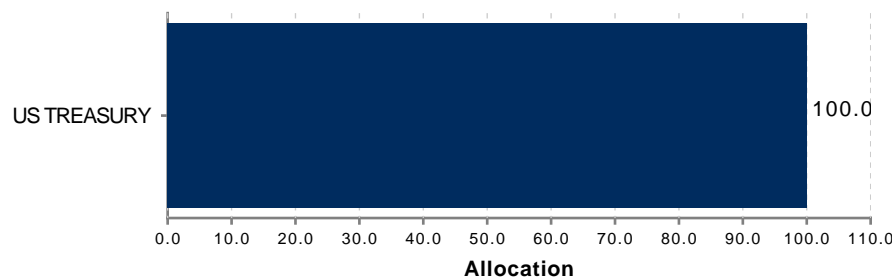
### Universe (Gross-of-Fees)

1 Qtr      1 Year      3 Years      5 Years

#### Inflation Linked Bond Funds

BLACKROCK TIPS	3.07	10.20		
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### Sectors (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
TSY INFL IX N/B	59,423,528	5.30
TSY INFL IX N/B	57,996,167	5.17
TSY INFL IX N/B	57,331,452	5.11
TSY INFL IX N/B	49,868,140	4.45
TSY INFL IX N/B	49,138,409	4.38
TSY INFL IX N/B	48,420,887	4.32
TSY INFL IX N/B	45,331,820	4.04

### Top Countries



Universe data: Inflation Linked Funds  
Top Holdings exclude cash, cash equivalents, and derivatives

# RISK REDUCTION & MITIGATION - INVESTMENT GRADE BONDS

## DODGE & COX

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
DODGE & COX	1,166.4	1.60	7.91	5.73	5.44
BBG BC Aggregate Bond Index		0.62	6.98	5.24	4.18
Risk Reduction & Mitigation Custom BM		0.60	6.19		

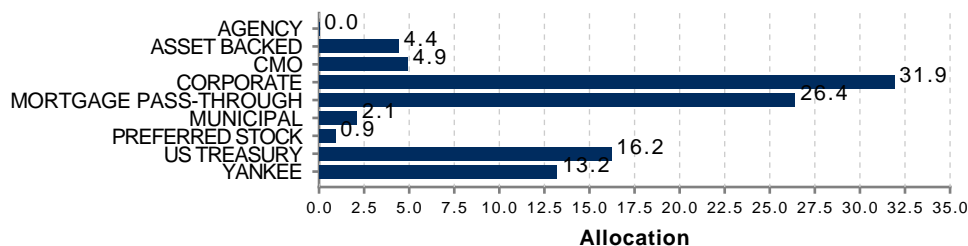
### Market Statistics

	DODGE & COX	BBG BC Aggregate Bond Index
No. of Issues	286.0	-
Duration - Modified	5.3	6.4
Convexity	0.1	0.6
Coupon Rate	3.7	3.0
Yield to Maturity	2.6	1.5
Current Yield	3.3	2.7
Rating - Moody's	A-1	AA-2
Rating - S & P	A+	AA-

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - Core Plus</b>				
DODGE & COX	1.62 23	8.02 33	5.83 35	5.54 29
Median	0.74	7.70	5.56	4.29

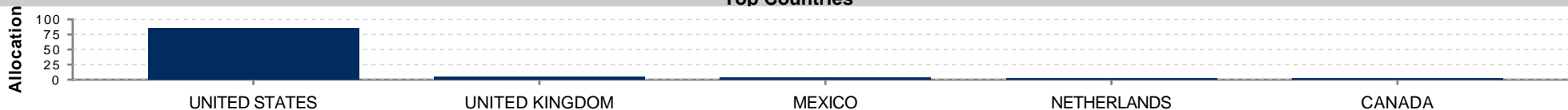
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
US TREASURY N/B	77,280,520	6.63
US TREASURY N/B	47,631,283	4.08
US TREASURY N/B	43,079,155	3.69
NAVIENT STUDENT LOAN TRUST	34,572,874	2.96
FED HM LN PC POOL RA3019	31,934,315	2.74
FNMA POOL CA6320	24,484,981	2.10

### Top Countries



Universe data: U.S. Fixed Income Funds Core Plus  
Top Holdings exclude cash, cash equivalents, and derivatives

# RISK REDUCTION & MITIGATION - INVESTMENT GRADE BONDS

## PACIFIC INVESTMENT MANAGEMENT COMPANY



for the quarter ended September 30, 2020

### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
PIMCO	942.6	1.76	8.28	5.84	5.38
BBG BC Aggregate Bond Index		0.62	6.98	5.24	4.18
Risk Reduction & Mitigation Custom BM		0.60	6.19		

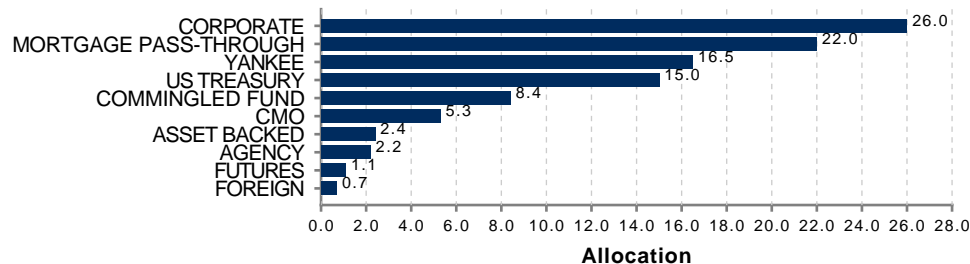
### Market Statistics

	PIMCO	BBG BC Aggregate Bond Index
No. of Issues	810.0	0.0
Duration - Modified	5.5	6.4
Convexity	0.2	0.6
Coupon Rate	2.8	3.0
Yield to Maturity	1.9	1.5
Current Yield	2.6	2.7
Rating - Moody's	A-1	AA-2
Rating - S & P	A	AA-

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - Core Plus</b>				
PIMCO	1.81 22	8.50 27	6.06 26	5.60 28
Median	0.74	7.70	5.56	4.29

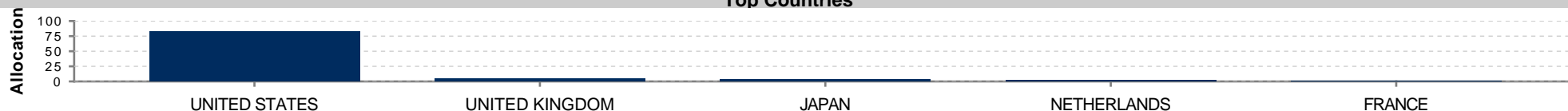
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
PIMCO FDS PAC INVT MGMT SER	84,836,287	9.06
FNMA TBA 30 YR 3	61,607,929	6.53
FNMA TBA 30 YR 3.5	50,970,937	5.40
FNMA TBA 30 YR 2.5	42,867,543	4.54
STRIP PRINC	41,930,615	4.44
STRIP PRINC	31,613,425	3.35
US TREASURY N/B	27,713,446	2.94

### Top Countries



Universe data: U.S. Fixed Income Funds Core Plus  
Top Holdings exclude cash, cash equivalents, and derivatives

# RISK REDUCTION & MITIGATION - INVESTMENT GRADE BONDS

## PUGH MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
PUGH CAPITAL MGMT	391.3	0.69	7.47	5.39	4.28
BBG BC Aggregate Bond Index		0.62	6.98	5.24	4.18
Risk Reduction & Mitigation Custom BM		0.60	6.19		

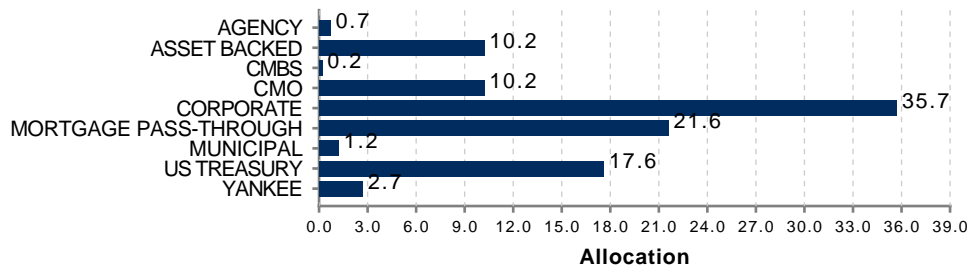
### Market Statistics

	PUGH CAPITAL MGMT	BBG BC Aggregate Bond Index
No. of Issues	248.0	-
Duration - Modified	6.2	6.4
Convexity	0.2	0.6
Coupon Rate	3.1	3.0
Yield to Maturity	1.7	1.5
Current Yield	2.7	2.7
Rating - Moody's	AA-3	AA-2
Rating - S & P	A+	AA-

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - Core</b>				
PUGH CAPITAL MGMT	0.73 88	7.64 63	5.57 64	4.48 74
Median	1.06	7.86	5.70	4.84

### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
US TREASURY N/B	15,376,265	3.95
US TREASURY N/B	13,832,747	3.55
US TREASURY N/B	9,768,419	2.51
GNMA II POOL MA3873	8,559,339	2.20
US TREASURY N/B	6,756,212	1.74
US TREASURY N/B	6,180,815	1.59
FED HM LN PC POOL QA0127	6,177,566	1.59

### Top Countries



Universe data: U.S. Fixed Income Funds Core  
Top Holdings exclude cash, cash equivalents, and derivatives

# RISK REDUCTION & MITIGATION - INVESTMENT GRADE BONDS

## WELLS CAPITAL MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
WELLS CAPITAL	1,711.3	1.16	8.33	5.69	4.63
BBG BC Aggregate Bond Index		0.62	6.98	5.24	4.18
Risk Reduction & Mitigation Custom BM		0.60	6.19		

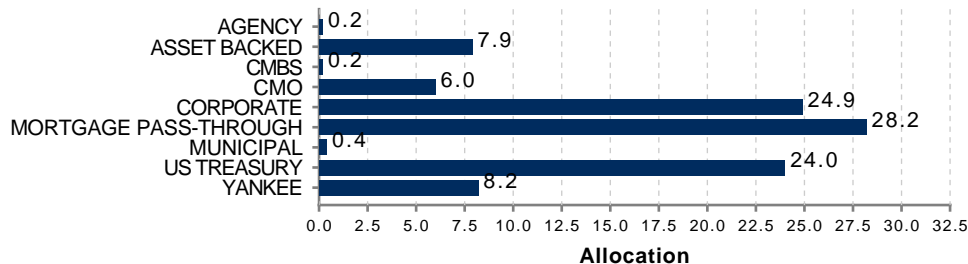
### Market Statistics

	WELLS CAPITAL	BBG BC Aggregate Bond Index
No. of Issues	955.0	-
Duration - Modified	5.8	6.4
Convexity	0.5	0.6
Coupon Rate	2.6	3.0
Yield to Maturity	1.8	1.5
Current Yield	2.4	2.7
Rating - Moody's	AA-2	AA-2
Rating - S & P	AA-	AA-

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - Core</b>				
WELLS CAPITAL	1.18 47	8.43 27	5.80 43	4.75 55
Median	1.06	7.86	5.70	4.84

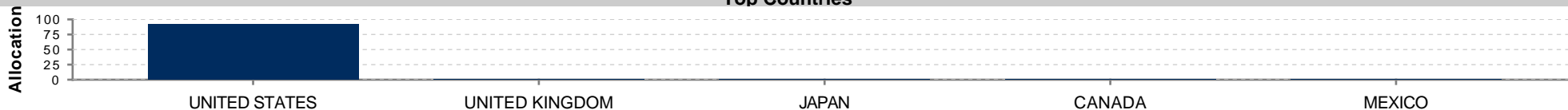
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
GNMA II TBA 30 YR 2	50,855,875	4.06
US TREASURY N/B	42,587,726	3.40
FNMA TBA 30 YR 2	37,426,001	2.99
US TREASURY N/B	31,255,891	2.50
US TREASURY N/B	29,571,805	2.36
US TREASURY N/B	28,013,904	2.24
US TREASURY N/B	27,457,804	2.19

### Top Countries



Universe data: U.S. Fixed Income Funds Core  
Top Holdings exclude cash, cash equivalents, and derivatives



# RISK REDUCTION & MITIGATION - INVESTMENT GRADE BONDS

## WESTERN ASSET MANAGEMENT

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
WESTERN ASSET MGMT.	1,012.0	1.60	7.28	5.44	5.31
BBG BC Aggregate Bond Index		0.62	6.98	5.24	4.18
Risk Reduction & Mitigation Custom BM		0.60	6.19		

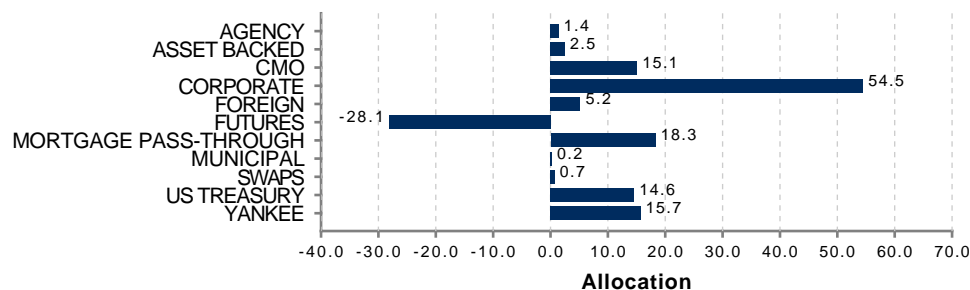
### Market Statistics

	WESTERN ASSET MGMT.	BBG BC Aggregate Bond Index
No. of Issues	1,050.0	-
Duration - Modified	7.8	6.4
Convexity	1.1	0.6
Coupon Rate	3.6	3.0
Yield to Maturity	3.1	1.5
Current Yield	3.3	2.7
Rating - Moody's	A-2	AA-2
Rating - S & P	A	AA-

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>US Fixed Income Funds - Core Plus</b>				
WESTERN ASSET MGMT.	1.63 23	7.43 53	5.58 43	5.45 30
Median	0.74	7.70	5.56	4.29

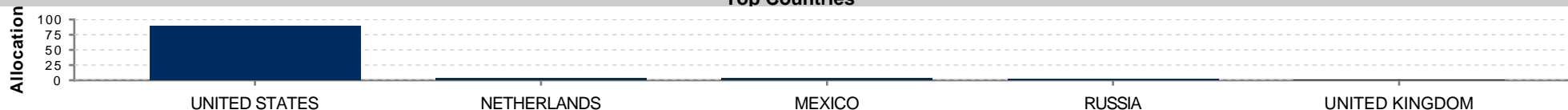
### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
W90000014 WA OPP LOC MKT DEBT	30,619,346	3.02
US TREASURY N/B	18,390,419	1.81
US HIGH YIELD SEC PORT L	17,235,277	1.70
TREASURY BILL	16,181,736	1.59
TSY INFL IX N/B	15,984,605	1.57
TREASURY BILL	14,538,685	1.43
FNMA TBA 30 YR 2	14,371,297	1.42

### Top Countries



Universe data: U.S. Fixed Income Funds Core Plus  
Top Holdings exclude cash, cash equivalents, and derivatives

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS

## AQR LEAP



for the quarter ended September 30, 2020

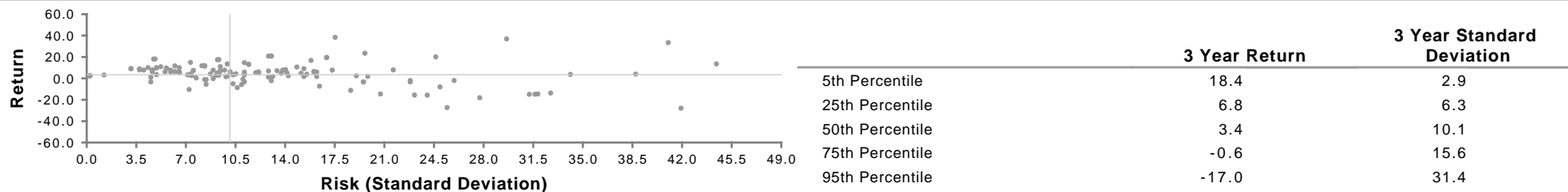
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
AQR LEAP	54.9	-0.98	-17.80			
CUSTOM HEDGE FUND BM		0.65	3.71			
Risk Reduction & Mitigation Custom BM		0.60	6.19			

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Hedge Funds</b>				
AQR LEAP	-0.98 86	-17.80 88		
Median	3.00	1.61	3.44	4.41

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS

## CAPULA GRV



for the quarter ended September 30, 2020

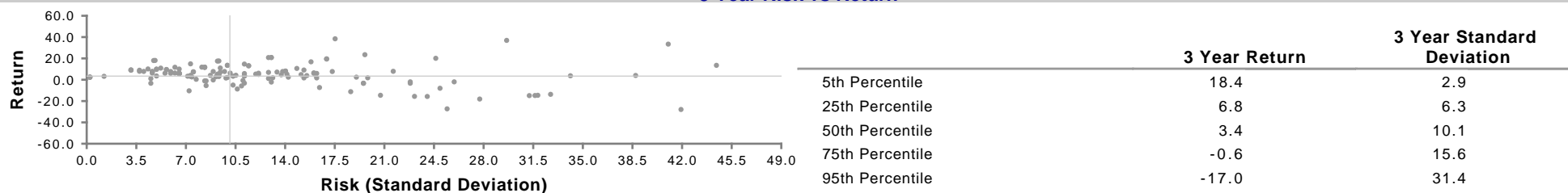
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
CAPULA GRV	395.0	1.09	8.24			
CUSTOM HEDGE FUND BM		0.65	3.71			
Risk Reduction & Mitigation Custom BM		0.60	6.19			

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Hedge Funds</b>				
CAPULA GRV	1.09 63	8.24 26		
Median	3.00	1.61	3.44	4.41

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS

## DK INSTITUTIONAL PARTNERS

for the quarter ended September 30, 2020



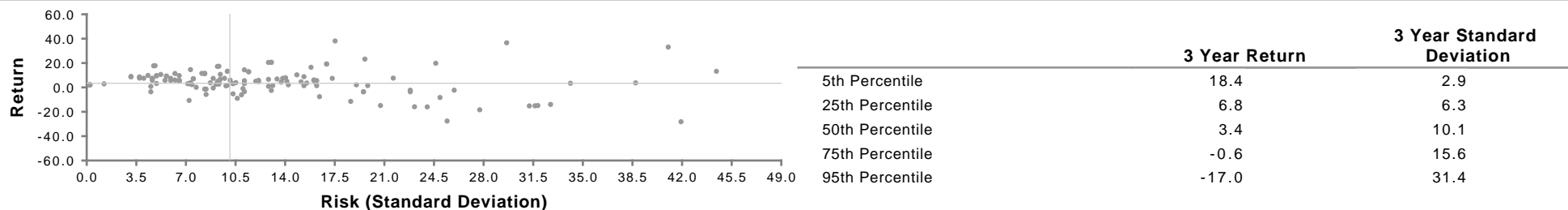
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
DK INSTITUTIONAL PARTNERS	214.3	6.45	4.91			
CUSTOM HEDGE FUND BM		0.65	3.71			
Risk Reduction & Mitigation Custom BM		0.60	6.19			

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Hedge Funds</b>				
DK INSTITUTIONAL PARTNERS	6.45 23	4.91 33		
Median	3.00	1.61	3.44	4.41

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS

## GROSVENOR HFOF



for the quarter ended September 30, 2020

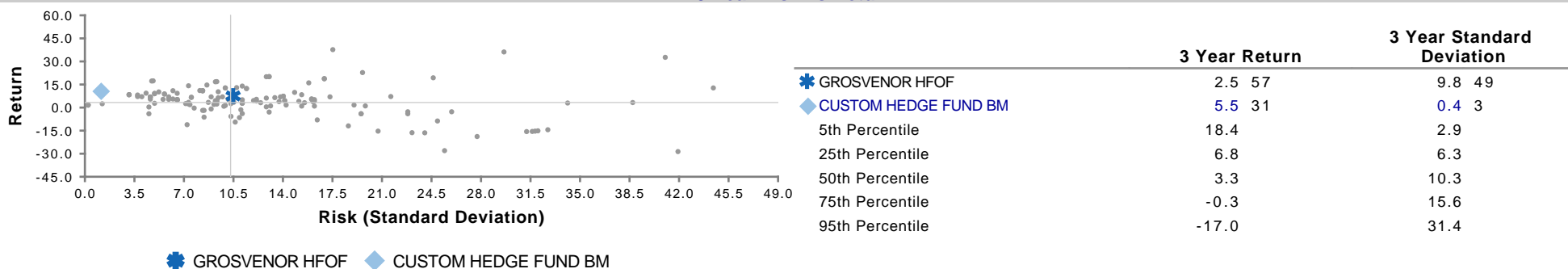
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
GROSVENOR HFOF	123.8	7.92	2.33	2.45	1.67	
CUSTOM HEDGE FUND BM		0.65	3.71	5.47	5.44	
Risk Reduction & Mitigation Custom BM		0.60	6.19			

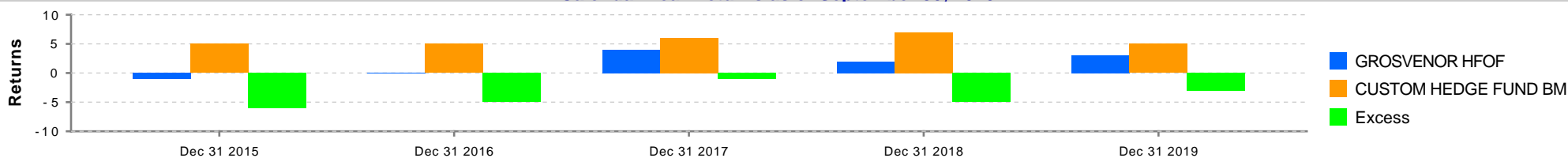
### Universe (Gross-of-Fees)

Hedge Funds	1 Qtr	1 Year	3 Years	5 Years
GROSVENOR HFOF	7.92 18	2.33 49	2.45 57	1.67 70
Median	3.00	2.05	3.33	4.63

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS

## GSAM HFOF

for the quarter ended September 30, 2020



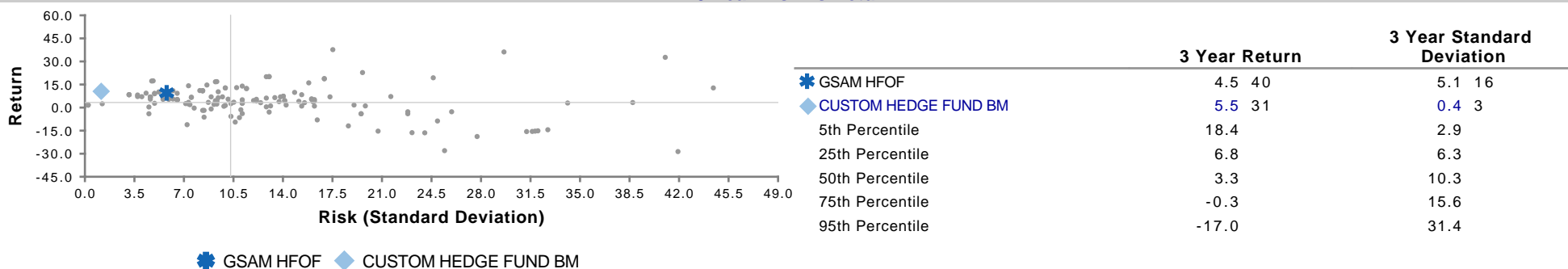
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
GSAM HFOF	39.1	5.51	7.17	4.20	3.55	
CUSTOM HEDGE FUND BM		0.65	3.71	5.47	5.44	
Risk Reduction & Mitigation Custom BM		0.60	6.19			

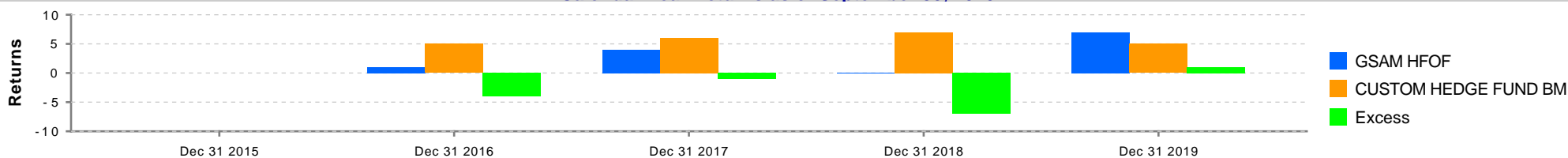
### Universe (Gross-of-Fees)

Hedge Funds	1 Qtr	1 Year	3 Years	5 Years
GSAM HFOF	5.51 29	7.14 29	4.46 40	3.87 61
Median	3.00	2.05	3.33	4.63

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS

## HBK MULTI-STRATEGY

for the quarter ended September 30, 2020



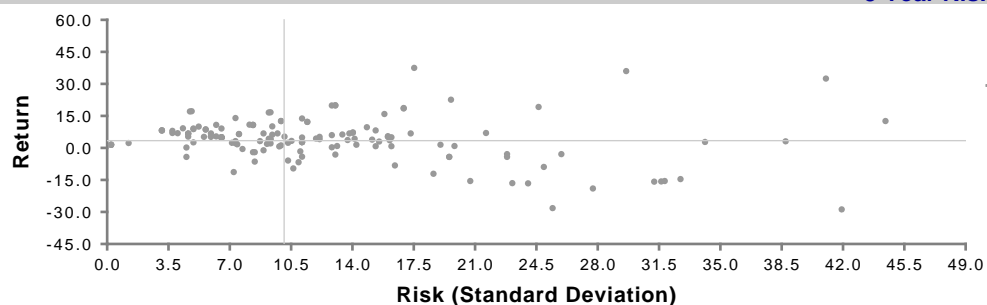
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
HBK MULTI-STRATEGY	265.9	4.47	4.10			
CUSTOM HEDGE FUND BM		0.65	3.71			
Risk Reduction & Mitigation Custom BM		0.60	6.19			

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Hedge Funds</b>				
HBK MULTI-STRATEGY	4.47 39	4.10 37		
Median	3.00	1.61	3.44	4.41

### 3 Year Risk vs Return



	3 Year Return	3 Year Standard Deviation
5th Percentile	18.4	2.9
25th Percentile	6.8	6.3
50th Percentile	3.4	10.1
75th Percentile	-0.6	15.6
95th Percentile	-17.0	31.4

### Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS HUDSON BAY



for the quarter ended September 30, 2020

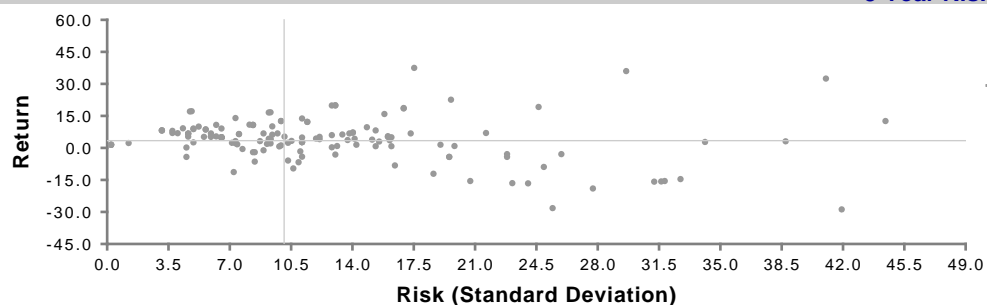
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
HUDSON BAY FUND	309.4	3.12				
CUSTOM HEDGE FUND BM		0.65				
Risk Reduction & Mitigation Custom BM		0.60	6.19			

## Universe (Gross-of-Fees)

Hedge Funds	1 Qtr	1 Year	3 Years	5 Years
HUDSON BAY FUND	3.12	4.9		
Median	3.00	1.61	3.44	4.41

## 3 Year Risk vs Return



	3 Year Return	3 Year Standard Deviation
5th Percentile	18.4	2.9
25th Percentile	6.8	6.3
50th Percentile	3.4	10.1
75th Percentile	-0.6	15.6
95th Percentile	-17.0	31.4

## Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag



# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS

## PIMCO TAC OPPS FUND

for the quarter ended September 30, 2020



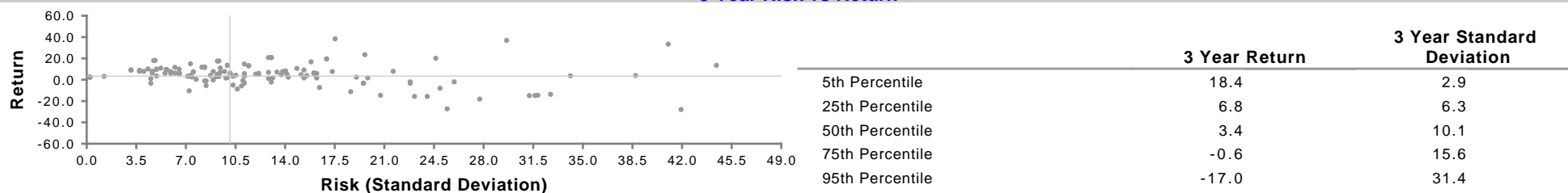
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
PIMCO TAC OPPS FUNDS	236.3	7.46	2.27			
PIMCO Tac Opps Custom BM		0.65	3.71			
Risk Reduction & Mitigation Custom BM		0.60	6.19			

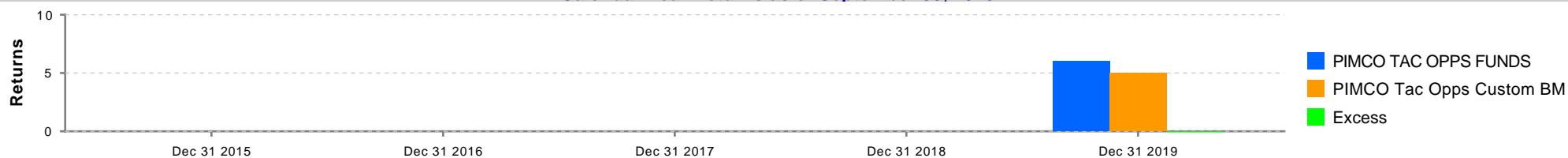
### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Hedge Funds</b>				
PIMCO TAC OPPS FUNDS	7.46 19	2.27 48		
Median	3.00	1.61	3.44	4.41

### 3 Year Risk vs Return



### Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - DIVERSIFIED HEDGE FUNDS POLAR



for the quarter ended September 30, 2020

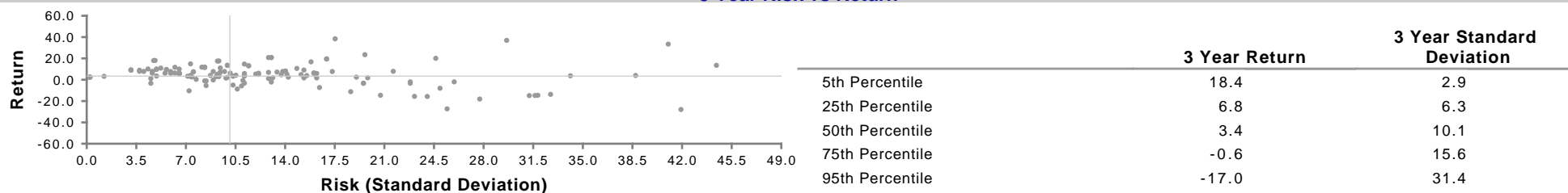
Manager vs. Benchmark: Return through September 30, 2020  
(not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years	10 Years
POLAR	338.9	11.09				
CUSTOM HEDGE FUND BM		0.65				
Risk Reduction & Mitigation Custom BM		0.60	6.19			

## Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Hedge Funds</b>				
POLAR	11.09 12			
Median	3.00	1.61	3.44	4.41

## 3 Year Risk vs Return



## Calendar Year Returns as of September 30, 2020



Universe data: Hedge Funds  
Hedge fund returns are reported on a net of all fees basis with a one-month lag

# RISK REDUCTION & MITIGATION - CASH

## SSGA CASH

for the quarter ended September 30, 2020



### Manager vs. Benchmark: Return through September 30, 2020 (not annualized if less than 1 year)

	Ending Mkt Val (\$mil)	1 Quarter	1 Year	3 Years	5 Years
SSGA CASH	789.8				
Cash Custom BM					
Risk Reduction & Mitigation Custom BM		0.60	6.19		

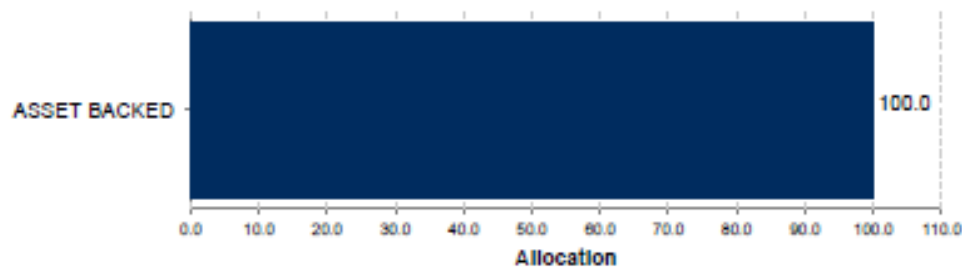
### Market Statistics

	SSGA CASH
No. of Issues	50.0
Yield %	0.08
Weighted Average Maturity (days)	25.0
Weighted Average Life (days)	25.0

### Universe (Gross-of-Fees)

	1 Qtr	1 Year	3 Years	5 Years
<b>Cash Funds</b>				
Median	0.04	0.96	1.77	1.39

### Asset Type (%)



### Top Holdings

Security Name	Ending Market Value	% of Portfolio
CALYON TRIPARTY A REPO	62,101,104	7.86
MERRILL LYNCH TRI PARTY D REPO	45,000,100	5.70
TD SECURITIES USA TRI PARTY	45,000,100	5.70
SOCIETE GEN TRI PARTY D REPO	45,000,100	5.70
MITSUBISHI UFJ SEC. USA INC	45,000,075	5.70
NOMURA TRIPARTY A	45,000,075	5.70
STANNY TRI PARTY REPO A	45,000,075	5.70

### Top Countries



# EMERGING MANAGER PROGRAM

## ANNUALIZED TOTAL RETURNS

for the quarter ended September 30, 2020



	<i>Net-of-fees</i>				
	Market Value (\$Mil)	<u>Qtr</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>
<b>GROWTH</b>					
<b>GLOBAL EQUITY*</b>					
CORNERCAP	51.0	0.0	-11.9		
GLOBAL ALPHA	177.0	9.4	3.4		
MATARIN	79.5	5.5	-10.4		
Global Equity Custom BM		8.1	9.6		
<b>PRIVATE EQUITY**</b>					
<i>Private Equity performance is calculated using IRR</i>					
J.P. MORGAN EMERGING MANAGERS PROGRAM	115.7	5.2	3.7	17.4	18.3
J.P. MORGAN EMERGING MANAGERS PROGRAM II	110.4	5.2	-11.9	16.8	36.2
J.P.MORGAN EMERGING MANAGERS PROGRAM III	88.3	12.0	23.2	22.7	
J.P. MORGAN EMERGING MANAGERS PROGRAM IV	40.3	3.3	-15.0		
Total Private Equity Benchmark		20.0	3.2	14.5	13.7
<b>OPPORTUNISTIC REAL ESTATE**</b>					
CITYVIEW BAY AREA FUND II	86.5	0.2	-5.8	5.4	9.2
CITYVIEW SOUTHERN CALIFORNIA FUND II	23.9	-6.3	-9.1	6.8	12.2
CITYVIEW WESTERN FUND I, L.P.	125.8	-2.8	5.2	7.1	
CVBAF II UNION CITY CO-INVEST	22.7	-7.2	-21.3	-4.1	
Opportunistic Real Estate Custom BM		-1.0	4.4	7.9	9.5
<b>REAL ASSETS &amp; INFLATION HEDGES</b>					
<b>CORE &amp; VALUE-ADDED REAL ESTATE**</b>					
CITYVIEW CORE I.M.A.	175.3	-10.2	-8.3	4.1	2.5
Core & Value-Added Real Estate Custom BM		-1.6	1.8	5.2	6.9

\* Global Equity managers have their own specific style benchmarks

\*\* Private Equity and Real Estate values are as of 6/30/2020

# ESTIMATED PUBLIC MARKETS MANAGER FEES<sup>1</sup>

for the quarter ended September 30, 2020



## GROWTH

Global Equity	Average Market Value (Millions)	Fees	Annualized Effective Rate (bps)
<b>Active</b>			
Acadian Asset Mgmt.	\$483.9	\$460,934	38.1
BTC Europe Alpha Tilts	\$552.9	\$486,473	35.2
Capital Guardian	\$363.5	\$323,760	35.6
Cevian Capital	\$292.8	\$732,493	100.1
CornerCap	\$51.9	\$70,507	54.3
Frontier Capital Mgmt.	\$310.7	\$582,579	75.0
Genesis Investment Mgmt.	\$569.1	\$1,007,463	70.8
Global Alpha	\$174.2	\$310,566	71.3
JANA Partners <sup>2</sup>	\$120.0	\$300,000	100.0
Lazard Asset Mgmt.	\$381.1	\$609,193	63.9
Matarin	\$80.4	\$135,988	67.6
QMA	\$191.4	\$258,669	54.0
Symphony Financial	\$175.3	\$328,707	75.0
Systematic	\$168.3	\$231,471	55.0
<b>Subtotal:</b>	<b>\$3,915.7</b>	<b>\$5,838,800</b>	<b>59.6</b>
<b>Factor-Based</b>			
JPMAM Strategic Beta Global	\$5,247.2	\$405,142	3.1
<b>Subtotal:</b>	<b>\$5,247.2</b>	<b>\$405,142</b>	<b>3.1</b>
<b>Passive</b>			
SSGA MSCI ACWI IMI	\$13,488.5	\$271,803	0.8
<b>Subtotal:<sup>3</sup></b>	<b>\$15,685.8</b>	<b>\$279,968</b>	<b>0.7</b>
<b>Currency Hedge</b>			
50% Developed Mkt. Currency Hedge	\$6,455.3	\$240,751	1.5
<b>Subtotal:</b>	<b>\$6,455.3</b>	<b>\$240,750.8</b>	<b>1.5</b>

<sup>1</sup> Estimations may not match net-of-fee returns on "Annualized Total Returns" pages; reflects investment management fee only.

<sup>2</sup> Based on committed capital of \$120 million.

<sup>3</sup> Includes BTC Russell 3000 Index.

# ESTIMATED PUBLIC MARKETS MANAGER FEES<sup>1</sup>

for the quarter ended September 30, 2020



## CREDIT

Credit	Average Market Value (Millions)	Fees	Annualized Effective Rate (bps)
<b>High Yield<sup>2</sup></b>			
Beach Point Capital	\$280.2	\$315,265	45.0
Brigade Capital Mgmt.	\$582.6	\$603,524	41.4
<b>Subtotal:</b>	<b>\$862.8</b>	<b>\$918,789</b>	<b>42.6</b>
<b>Bank Loans</b>			
Bain Capital	\$375.0	\$609,439	65.0
Crescent Capital Group	\$456.9	\$538,159	47.1
Tennenbaum Capital Partners	\$514.5	\$993,147	77.2
Credit Suisse Bank Loan	\$998.6	\$499,390	20.0
<b>Subtotal:</b>	<b>\$2,345.1</b>	<b>\$2,640,136</b>	<b>45.0</b>
<b>Emerging Market Debt</b>			
Aberdeen Standard Investments	\$431.3	\$425,331	39.4
Ashmore Investment Mgmt.	\$400.2	\$668,273	66.8
<b>Subtotal:</b>	<b>\$831.5</b>	<b>\$1,093,604</b>	<b>52.6</b>
<b>Illiquid Credit</b>			
Beach Point Capital - Fund II	\$24.6	\$146,220	237.6
Beach Point Capital - Fund III	\$191.2	\$577,888	120.9
<b>Subtotal:<sup>3</sup></b>	<b>\$598.2</b>	<b>\$724,109</b>	<b>48.4</b>

<sup>1</sup> Estimations may not match net-of-fee returns on "Annualized Total Returns" pages; reflects investment management fee only.

<sup>2</sup> BlackRock High Yield ETF fees are deducted directly from the fund by the manager.

<sup>3</sup> Napier Park market value is included in the subtotal, but the fees are deducted directly from the fund by the manager.

# ESTIMATED PUBLIC MARKETS MANAGER FEES<sup>1</sup>

for the quarter ended September 30, 2020



## REAL ASSETS & INFLATION HEDGES

Real Assets & Inflation Hedges	Average Market Value (Millions)	Fees	Annualized Effective Rate (bps)
<b>Natural Resources &amp; Commodities</b>			
Credit Suisse	\$376.7	\$248,532	26.4
DWS Natural Resources	\$1,061.9	\$497,041	18.7
Neuberger Berman/Gresham	\$353.6	\$333,783	37.8
PIMCO	\$366.6	\$315,501	34.4
<b>Subtotal:</b>	<b>\$2,158.8</b>	<b>\$1,394,857</b>	<b>25.8</b>
<b>Infrastructure</b>			
DWS Infrastructure	\$1,706.1	\$798,541	18.7
<b>Subtotal:</b>	<b>\$1,706.1</b>	<b>\$798,541</b>	<b>18.7</b>
<b>Treasury Inflation-Protected Securities</b>			
BlackRock TIPS	\$1,118.6	\$28,118	1.0
<b>Subtotal:</b>	<b>\$1,118.6</b>	<b>\$28,118</b>	<b>1.0</b>

<sup>1</sup> Estimations may not match net-of-fee returns on "Annualized Total Returns" pages; reflects investment management fee only.

# ESTIMATED PUBLIC MARKETS MANAGER FEES<sup>1</sup>

for the quarter ended September 30, 2020



## RISK REDUCTION & MITIGATION

Risk Reduction & Mitigation	Average Market Value (Millions)	Fees	Annualized Effective Rate (bps)
<b>Investment Grade Bonds</b>			
Dodge & Cox	\$1,163.3	\$292,029	10.0
PIMCO	\$942.4	\$491,071	20.8
Pugh Capital Mgmt.	\$392.7	\$141,932	14.5
Wells Capital Mgmt.	\$1,714.1	\$391,759	9.1
Western Asset Mgmt.	\$1,016.8	\$352,098	13.9
<b>Subtotal:<sup>2</sup></b>	<b>\$11,371.5</b>	<b>\$1,800,126</b>	<b>6.3</b>
<b>Cash</b>			
SSGA Cash	\$789.3	\$78,927	4.0
<b>Subtotal:</b>	<b>\$789.3</b>	<b>\$78,927</b>	<b>4.0</b>

<sup>1</sup> Estimations may not match net-of-fee returns on "Annualized Total Returns" pages; reflects investment management fee only.

<sup>2</sup> Includes BTC US Debt Index.



# ALLOCATION RANGES

for the quarter ended September 30, 2020



## STRATEGIC vs. ACTUAL

	Strategic Allocation Range	Actual Allocation <sup>1</sup>
<b>GROWTH:</b>	<b>40-54%</b>	<b>49.2%</b>
Global Equity	28-42%	36.4%
Private Equity - Growth	7-13%	11.5%
Opportunistic Real Estate	0-3%	1.2%
<b>CREDIT:</b>	<b>9-15%</b>	<b>10.6%</b>
High Yield	0-6%	3.3%
Bank Loans	0-6%	4.0%
Emerging Market Debt	0-4%	1.4%
Illiquid Credit	0-5%	1.9%
<b>REAL ASSETS &amp; INFLATION HEDGES:</b>	<b>14-20%</b>	<b>15.6%</b>
Core & Value Added Real Estate	4-10%	7.3%
Natural Resources & Commodities	2-6%	3.7%
Infrastructure	0-4%	2.8%
Treasury Inflation-Protected Securities	0-5%	1.9%
<b>RISK REDUCTION &amp; MITIGATION</b>	<b>18-30%</b>	<b>23.7%</b>
Investment Grade Bonds	13-25%	18.8%
Diversified Hedge Funds	0-6%	3.3%
Cash	0-3%	1.6%

<sup>1</sup> Totals may not add up due to rounding.

# Glossary

## A

**ANNUAL RETURN:** The total return of a security over a specified period, expressed as an annual rate of interest.

**ANNUALIZED:** A figure (as in a percentage) calculated by a formula to find the "average" performance per year for a period greater than one year.

## B

**BASIS POINTS (BPS):** One one-hundredth of one percent. One hundred basis points equal one percent.

**BETA:** A measure of the volatility of a stock relative to the overall market. A beta of less than one indicates lower risk than the market; a beta of more than one indicates higher risk than the market.

**BLOOMBERG COMMODITY INDEX TOTAL RETURN:** The Bloomberg Commodity Index Total Return is composed of futures contracts on physical commodities.

**BRIGADE CUSTOM INDEX:** Inception – 3/31/20 50% Bloomberg Barclays Ba to B U.S. High Yield; 50% Credit Suisse Leveraged Loan Index; 4/1/20 – Present Bloomberg Barclays U.S. Corporate High Yield.

## C

**CASH CUSTOM BM:** Inception – 3/31/19 Citigroup/FTSE 6-Month U.S. T-Bill Index; 4/1/19 – Present FTSE 3-Month U.S. T-Bill Index.

**CORE & VALUE-ADDED REAL ESTATE CUSTOM BM:** NFI ODCE + 50 bps (3-month lag).

**CREDIT CUSTOM BM:** 25% Bloomberg Barclays Ba to B U.S. High Yield; 33% Credit Suisse Leveraged Loan Index; 17% Emerging Markets Debt Custom BM; 25% Illiquid Credit Custom BM.

**CUSTOM HEDGE FUND BM:** Inception – 3/31/19 Citigroup/FTSE 3-Month U.S. T-Bill Index + 500 bps (1-month lag); 4/1/19 – Present FTSE 3-Month U.S. T-Bill Index plus 250 bps (1-month lag)

## D

**DIVERSIFIED HEDGE FUNDS CUSTOM INDEX:** FTSE 3-Month U.S. T-Bill Index plus 250 bps (1-month lag).

**DURATION:** A measure of the price sensitivity of a bond portfolio to changes in interest rates. It is calculated as the weighted average time to receive a bond's coupon and principal payments. The closer the coupon and principal payments, the shorter the duration. The more distant the coupon and principal payments, the longer the duration. Portfolios with longer maturity

bonds will normally have longer duration and will, therefore, have greater price sensitivities to changes in interest rates.

## E

**EAFE CUSTOM INDEX:** Inception - 6/30/06 MSCI EAFE (Net); 6/30/06 - Present MSCI EAFE + Canada (Net).

**EMERGING MARKET DEBT (EMD) CUSTOM INDEX:** 50% JP Morgan EMBI Global Diversified; 25% JP Morgan GBI-EM GD; 25% JP Morgan CEMBI BD.

## F

**FIXED INCOME (FI) CUSTOM INDEX:**

Inception - 3/31/09: A combination of the Barclays US Aggregate Bond Index and the Barclays US High Yield Ba/B Index. The weights have varied over time, but as of 9/30/06, the mix was 93% Aggregate and 7% high yield. 3/31/09 - Present : 100% Barclays U.S. Universal.

**FUTURES CONTRACT:** Agreement to buy or sell a specific amount of a commodity or financial instrument at a particular price and a stipulated future date.

## G

**GLOBAL EQUITY CUSTOM BM:** 4/1/2019 – 6/31/2019 80% MSCI ACWI IMI Net; 20% MSCI WORLD IMI ex U.S. (100% Currency Hedged); 7/1/2019 – Present MSCI ACWI IMI Net.

**GROWTH CUSTOM BM:** Based on sub-asset market value: 74% Global Equity Custom BM; 21% Private Equity - Growth Custom BM; 4% Opportunistic Real Estate Custom BM.

## H

**HEDGING:** The temporary purchase or sale of a contract calling for future delivery of a specific security at an agreed upon price to offset a present or anticipated position in the cash market.

**HIGH YIELD BOND:** A bond with a low investment quality and credit worthiness, usually with a rating of BB or less.

## I

**ILLIQUID CREDIT CUSTOM BM:** Bloomberg Barclays U.S. Aggregate Index + 250 bps (1-month lag).

**INDEX:** A statistical yardstick composed of a basket of securities with a set of characteristics. An example of this would

include the "S&P 500" which is an index of 500 stocks.

**INFORMATION RATIO:** The information ratio is the excess return (alpha) per unit of active risk (tracking error). It is measured by dividing alpha by the tracking error.

**INTERNAL RATE OF RETURN:** The Internal rate of return is a total rate of return that gives full weight to the size and time of cash flows over the period measured and fully reflects unrealized gains and losses in addition to realized gains and losses, interest and dividend income.

## M

**MARKET CAPITALIZATION:** The market value of all outstanding shares of common stock of a company. Derived by multiplying the number of shares outstanding at month-end by the month-end closing price of the security.

**MSCI EM IMI CUSTOM INDEX:**  
Inception – 12/31/00 MSCI EM (Gross);  
12/31/00 – 8/31/08 MSCI EM (Net);  
8/31/08 – Present MSCI EM IMI (Net).

## N

**NATURAL RESOURCES & COMMODITIES CUSTOM BM:** 50% Bloomberg Commodity Index; 50% S&P Global Large MidCap Commodity and Resources Index.

## O

**OPPORTUNISTIC REAL ESTATE CUSTOM BM:** NFI ODCE + 300 bps (3-month lag).

## P

**PRIVATE EQUITY – CREDIT CUSTOM BM:** Bloomberg Barclays U.S. Aggregate + 250 bps (3-month lag).

**PRIVATE EQUITY – GROWTH CUSTOM BM:** MSCI ACWI IMI Net Index + 200 bps (3-month lag).

**PRIVATE EQUITY – REAL ASSETS CUSTOM BM:** S&P Global Large MidCap Commodity and Resources Index (3-month lag).

## R

**REAL ASSETS & INFLATION HEDGES CUSTOM BM:** Based on sub-asset market value: 41% Core & Value-Added Real Estate Custom BM; 24% Natural Resources & Commodities Custom BM; 18% DJ Brookfield Global Infrastructure; 18% Bloomberg Barclays U.S. TSY TIPS.

**RETURN CORRELATION:** The relationship between the returns on investments. A negative return correlation between two investments means that most of the time when investment A has a positive return, investment B will have a negative return.

**RISK REDUCTION & MITIGATION CUSTOM BM:**

Based on sub-asset market value: 79% Bloomberg Barclays Aggregate; 17% Diversified Hedge Funds Custom BM; 4% FTSE 3-month Treasury Bill.

**RUSSELL 3000 INDEX:** The Russell 3000 Index measures the performance of the largest 3000 U.S. companies representing approximately 98% of the investable U.S. equity market.

**S**

**STANDARD DEVIATION:** Statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution. The greater the degree of dispersion, the greater the risk.

**T****TIME-WEIGHTED RATE OF RETURN:**

The “time-weighted” rate of return is the investment performance (return), measured from beginning market value, of a unit of assets held continuously for the entire time period measured. This rate provides a standard for comparing the performance of different funds in which the size and timing of contributions and payouts could vary considerably. Consequently, the time-weighted rate of return is a mathematical measure that eliminates the effects of fund cash flows.

**TIPS:** Inflation-indexed securities issued by the U.S. Treasury Department (commonly known as Treasury Inflation-Protection Securities). TIPS have been issued in the U.S. since January 1997. These securities adjust both their principal and coupon payments upward with any rise in inflation. Like all Treasuries, they enjoy the full guarantee of the U.S. government.

**TOTAL FUND CUSTOM BENCHMARK:** Uses the Board approved Total Fund Target Policy asset allocation.

**TOTAL PRIVATE EQUITY BENCHMARK:** Inception – 3/31/19 Private Equity Target (Russell 3000 rolling 10 year + 500 bps); 3/31/19 – Present Composite weighted blend of Private Equity-Growth Custom BM, Private Equity-Credit Custom BM, and Private Equity-Real Assets Custom BM.

**TOTAL REAL ESTATE BENCHMARK:**

Inception – 3/31/19 Real Estate Target (NCREIF ODCE Net + 40 bps); 3/31/19 – Present Composite weighted blend of Opportunistic Real Estate Custom BM, NPI Income Lagged, and Core & Value-Added Real Estate Custom BM.

**TOTAL RETURN:** The aggregate increase or decrease in the value of the portfolio resulting from the net appreciation or depreciation of the principal of the fund, plus or minus the net income or loss experienced by the fund during the period.

**TRACKING ERROR:** Tracking error is the volatility of a manager’s excess return. It is measured by subtracting the benchmark return from the manager’s return and calculating the standard deviation.

**U**

**UNIVERSE DATA SOURCE:** State Street utilizing Wilshire Associates’ TUCS Universe Data.

**Y**

**YIELD:** The rate of annual income return on an investment expressed as a percentage. Income yield is obtained by dividing the current dollar income by the current market price of the security.

**YIELD TO MATURITY:** The return a bond earns on the price at which it was purchased if it were held to maturity. It assumes that coupon payments can be reinvested at the yield to maturity.

SOURCE: [www.nasdaq.com](http://www.nasdaq.com) & [www.investopedia.com](http://www.investopedia.com)

Last updated: 9/30/20

#### Disclosure

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# PUBLIC MARKETS MANAGER SCORECARD

3rd Quarter 2020

			Performance <i>1 to 5 (with 5 the best)</i>		Organization & Operations <i>S+, S, or S- (with S+ the best)</i>	ESG <i>1 to 5 (with 5 the best)</i>	Partnership <i>A, B, or C (with A the best)</i>	Fees & Terms <i>1 to 5 (with 5 the best)</i>	
			SCORE	ER	SCORE	SCORE	SCORE	SCORE	
Manager	Market Value (in \$ millions)	% of Total Fund	Risk-Adjusted Return						
GROWTH	<b>GLOBAL EQUITY</b>								
	ACADIAN DEVELOPED MARKETS	487.1	0.8%	5	●	S-	4	B	3
	BTC EURO TILTS	546.7	0.9%	5	●	S+	4	A	3
	CAPITAL GROUP DEVELOPED MARKETS	386.4	0.6%	5	●	S	2	B	3
	CEVIAN CAPITAL II - ACTIVIST	288.6	0.5%	3	●	S+	4	B	1
	CORNERCAP US SC - EMP	51.0	0.1%	*	●	S	1	A	3
	FRONTIER US SMID GROWTH	289.5	0.5%	4	●	S-	2	B	1
	GENESIS EMERGING MARKETS	568.9	0.9%	4	●	S+	4	A	1
	GLOBAL ALPHA IE SC - EMP	177.0	0.3%	*	●	S	4	A	3
	JANA JSI FUND V - ACTIVIST	83.3	0.1%	3	●	S-	2	A	1
	JPMAM STRATEGIC BETA NON-U.S.	901.7	1.5%	*	●	S	+	B	3
	JPMAM STRATEGIC BETA U.S.	4,012.4	6.6%	*	●	S	+	B	3
	LAZARD EMERGING MARKETS	379.1	0.6%	4	●	S	4	B	3
	MATARIN US SC - EMP	79.5	0.1%	*	●	S-	3	B	3
QMA US SMALL CAP CORE	187.3	0.3%	*	●	S-	3	A	3	
SSGA MSCI ACWI IMI	13,230.0	21.9%	*	●	S+	—	A	5	
SYMPHONY FINANCIAL - ACTIVIST	209.6	0.3%	4	●	S	2	A	3	
SYSTEMATIC US SMALL CAP VALUE	165.8	0.3%	*	●	S-	2	A	3	
CREDIT	<b>HIGH YIELD</b>								
	BEACH POINT	283.0	0.5%	5	●	S+	1	A	1
	BLACKROCK HY ETF	1,132.7	1.9%	*	●	S+	—	C	5
	BRIGADE CAP MGMT	587.5	1.0%	4	●	S	1	B	3
	<b>BANK LOANS</b>								
	BAIN CAPITAL CREDIT	375.0	0.6%	1	●	S	2	A	1
	CREDIT SUISSE BANK LOANS	1,071.1	1.8%	*	●	S	+	B	5
	CRESCENT CAPITAL	462.1	0.8%	3	●	S	2	B	1
	TENNENBAUM CAPITAL	517.8	0.9%	5	●	S+	2	C	1
	<b>EMERGING MARKET DEBT</b>								
ABERDEEN ASSET MANAGEMENT	425.3	0.7%	2	●	S	4	B	3	
ASHMORE INVESTMENT MANAGEMENT	395.9	0.7%	1	●	S	4	B	1	
REAL ASSETS & INFLATION HEDGES	<b>NATURAL RESOURCES &amp; COMMODITIES</b>								
	CREDIT SUISSE COMMODITY	377.2	0.6%	4	●	S	+	B	3
	DWS NATURAL RESOURCES	1,040.9	1.7%	*	●	S	+	A	5
	NEUBERGER BERMAN/GRESHAM	360.6	0.6%	3	●	S	+	B	1
	PIMCO COMMODITY PLUS	366.5	0.6%	3	●	S	+	B	3
	<b>INFRASTRUCTURE</b>								
	DWS INFRASTRUCTURE	1,683.1	2.8%	*	●	S	+	A	5
	<b>TIPS</b>								
BLACKROCK TIPS	1,121.0	1.9%	*	●	S+	+	C	5	



## PUBLIC MARKETS MANAGER SCORECARD

3rd Quarter 2020

			Performance 1 to 5 (with 5 the best)	Organization & Operations S+, S, or S- (with S+ the best)	ESG 1 to 5 (with 5 the best)	Partnership A, B, or C (with A the best)	Fees & Terms 1 to 5 (with 5 the best)		
			SCORE	SCORE	SCORE	SCORE	SCORE		
Manager	Market Value (in \$ millions)	% of Total Fund	Risk-Adjusted Return	ER					
<b>RISK REDUCTION &amp; MITIGATION</b>	<b>INVESTMENT GRADE BONDS</b>								
	BTC US DEBT INDEX FUND	6,124.1	10.1%	4	●	S+	—	B	5
	DODGE & COX	1,166.4	1.9%	4	●	S	3	B	5
	PIMCO	942.6	1.6%	1	●	S	4	B	3
	PUGH CAPITAL MGMT	391.3	0.6%	1	●	S	1	B	1
	WELLS CAPITAL	1,711.3	2.8%	5	●	S+	4	B	5
	WESTERN ASSET MGMT	1,012.0	1.7%	2	●	S	3	B	5
	<b>CASH</b>								
SSGA CASH	789.8	1.3%	* 3	●	S	—	A	5	

●	Exceeds 3-Year Net Excess Return
●	Meets 3-Year Net Excess Return
●	Below 3-Year Net Excess Return

### Footnotes

- Pillar methodologies in refinement and may evolve over time

### Category Descriptions

#### Performance

- Quarterly score based on Sharpe and Information Ratios, which provide insight into a manager's risk-adjusted performance and performance relative to its benchmark, respectively
- '\*' denotes a manager with an inception date of less than 3 years, resulting in a neutral score of 3
- Circle icons reflect trailing 3-year net excess returns against the manager's benchmark above or below a specified range

#### Organization & Operations

- Includes factors such as organization, professional staff, diversity & inclusion, investment philosophy & process, risk management, legal & compliance framework
- 'S' stands for Satisfactory

#### ESG

- Evaluates the extent to which material ESG factors are identified, assessed, and incorporated into risk/return analysis and portfolio construction
- '—' denotes passive index funds and cash where ESG scores are not relevant and/or reflect strategies that do not incorporate active decisions, including ESG considerations, in portfolio construction
- '+-' denotes mandates where ESG scores are currently under review

#### Partnership

- Blended score based on:
  - Value added services – e.g., providing education, distributing research, and performing analytics on portfolio
  - Client service - e.g., responsiveness, timeliness, competency, and approach
  - Size of LACERA's investment relative to the firm's assets under management

#### Fees & Terms

- Compared to a benchmark of median fees by asset category and/or investment structure



## PRIVATE MARKETS MANAGER SCORECARD

3rd Quarter 2020

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
<b>GLOBAL/LARGE BUYOUT</b>							
Advent International Group	28.5	0.0%	*	S+	3	C	4
Blackstone Management	225.6	0.4%	1	S-	+	C	5
CVC Capital Partners	244.9	0.4%	4	S+	4	A	4
Green Equity Investors	160.4	0.3%	1	S+	3	B	4
Hellman & Friedman	205.4	0.3%	3	S+	+	B	4
MBK	179.2	0.3%	2	S	4	A	2
Silver Lake Partners	299.7	0.5%	5	S+	3	B	5
Thoma Bravo LLC	0.0	0.0%	*	S+	3	B	3
Vista Equity Partners	629.4	1.0%	5	S-	3	A	2
<b>MID-MARKET BUYOUT</b>							
Accel-KKR Capital Partners	25.6	0.0%	*	S	3	A	2
BlackFin Capital Partners	1.9	0.0%	*	S	3	B	2
Carlyle Group	301.0	0.5%	1	S+	4	A	4
Clearlake Capital	270.9	0.4%	5	S+	4	A	4
Gilde Partners	59.3	0.1%	4	S-	2	C	4
Harvest Partners	87.9	0.1%	2	S	1	C	2
Marlin Equity	38.9	0.1%	2	S-	2	C	3
Onex Partners	160.0	0.3%	4	S	4	A	4
PAI	21.0	0.0%	*	S-	2	B	4
Riverside Capital	67.5	0.1%	3	S+	4	A	3
Siris Capital Group	99.3	0.2%	3	S+	2	A	4
Sterling Partners	74.3	0.1%	5	S	3	A	4
Triton	25.4	0.0%	*	S-	3	B	4
Vinci Partners	12.9	0.0%	*	S	4	A	5
Wynnchurch Capital	1.6	0.0%	*	S+	3	B	3
<b>SMALL BUYOUT</b>							
AE Industrial Partners	31.4	0.1%	*	S+	3	A	3
Atlantic Street Capital	9.5	0.0%	*	S	3	A	3
Clarion	7.7	0.0%	*	S	2	B	4
Excellere Partners	66.0	0.1%	5	S	+	A	3
Incline Equity Partners	29.1	0.0%	3	S	2	C	4
Insignia Capital Partners	122.7	0.2%	3	S	+	B	5
Juggernaut Capital Partners	236.0	0.4%	4	S	3	A	4
Lightyear Capital	167.6	0.3%	5	S	2	A	5
Livingbridge	39.1	0.1%	1	S+	4	A	3
Montefiore Investment	0.8	0.0%	*	S	4	B	4
One Rock Capital Partners	70.6	0.1%	2	S	3	A	4
Palladium Equity Partners	71.6	0.1%	1	S-	4	C	2

PRIVATE EQUITY





## PRIVATE MARKETS MANAGER SCORECARD

3rd Quarter 2020

PRIVATE EQUITY  
(continued)

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
<b>GROWTH</b>							
Australis Partners	93.6	0.2%	1	S	4	A	5
JMI Equity	25.3	0.0%	3	S	3	C	2
RedBird Capital Partners	72.1	0.1%	*	S	4	A	4
Summit Partners	55.4	0.1%	4	S+	3	A	4
TA Associates	11.1	0.0%	2	S+	4	B	4
Technology Crossover Ventures	39.9	0.1%	5	S	2	B	3
<b>VENTURE CAPITAL</b>							
BlueRun Ventures	30.7	0.1%	1	S	2	A	2
Canaan Partners	36.8	0.1%	5	S+	3	A	4
GGV Capital	393.6	0.7%	3	S	3	A	3
Institutional Venture Partners	182.2	0.3%	2	S	1	C	5
Joy Capital	36.3	0.1%	*	S	2	A	4
Lilly Asia Ventures	109.1	0.2%	5	S	1	B	2
Sinovation Ventures	24.9	0.0%	*	S	2	B	2
Storm Ventures LLC	66.5	0.1%	1	S	3	A	4
Union Square	87.3	0.1%	4	S+	3	B	5
<b>SPECIAL SITUATIONS</b>							
Alchemy Partners	3.2	0.0%	*	S	3	B	4
Black Diamond	104.9	0.2%	1	S	3	C	4
Centerbridge	86.3	0.1%	5	S	4	A	2
<b>FUND OF FUNDS</b>							
Gateway	596.3	1.0%	3	S	3	B	4
MS GTB Capital Partners	246.4	0.4%	1	S	4	A	2
J.P. Morgan	353.9	0.6%	5	S+	+	B	4



## PRIVATE MARKETS MANAGER SCORECARD

3rd Quarter 2020

			Performance	Organization & Operations	ESG	Partnership	Fees & Terms
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
			SCORE	SCORE	SCORE	SCORE	SCORE
Manager	Market Value (in \$ millions)	% of Total Fund					
<b>COMMINGLED FUNDS</b>							
AERMONT Real Estate Fund IV	2.5	0.0%	*	S	4	B	3
AEW Value Investors Asia III	44.7	0.1%	*	S+	4	A	4
AG Asia Realty Fund IV	36.6	0.1%	*	S	3	A	3
AG Europe Realty Fund II	45.9	0.1%	*	S	3	B	3
Bain Capital Real Estate Fund I	32.7	0.1%	*	S	2	A	3
CapMan Nordic Real Estate Fund II	38.9	0.1%	*	S	3	A	3
Capri Urban Investors	34.6	0.1%	3	S-	1	B	3
CityView Bay Area Fund II	86.5	0.1%	1	S	2	A	3
CityView Southern California Fund II	23.9	0.0%	3	S	2	A	3
CityView Western Fund I, L.P.	125.8	0.2%	3	S	2	A	3
Core Property Index Fund	100.5	0.2%	*	S	2	B	5
Europa Fund IV	25.5	0.0%	2	S	3	A	2
Heitman Asia-Pacific Property Investors	24.1	0.0%	*	S	4	B	4
Invesco Real Estate Asia Fund	143.9	0.2%	5	S	4	B	5
Prologis European Logistics Fund (PELF)	165.5	0.3%	*	S	4	A	1
RREEF Core Plus Industrial Fund L.P.	176.7	0.3%	5	S	4	A	5
Starwood Capital Hospitality Fund	17.6	0.0%	1	S	2	A	3
TPG Real Estate Partners III	7.9	0.0%	*	S	3	B	3
<b>SEPARATE ACCOUNTS</b>							
Cityview Core I.M.A.	175.3	0.3%	1	S	2	A	1
Clarion I.M.A.	247.1	0.4%	4	S	4	A	4
Clarion Takeover Value IMA	59.3	0.1%	*	S	4	A	3
Heitman I.M.A.	510.1	0.8%	3	S	4	A	4
Invesco I.M.A.	508.8	0.8%	1	S	4	B	4
RREEF Core/High Return I.M.A. III	825.0	1.4%	2	S	4	A	5
RREEF Takeover I.M.A.	802.6	1.3%	*	S	4	A	4
Stockbridge I.M.A.	576.3	1.0%	4	S	3	A	4
TA Associates I.M.A.	120.2	0.2%	5	S	3	B	4

REAL ESTATE



## PRIVATE MARKETS MANAGER SCORECARD

3rd Quarter 2020

			Performance 1 to 5 (with 5 the best)	Organization & Operations S+, S, or S- (with S+ the best)	ESG 1 to 5 (with 5 the best)	Partnership A, B, or C (with A the best)	Fees & Terms 1 to 5 (with 5 the best)
Manager	Market Value (in \$ millions)	% of Total Fund	SCORE	SCORE	SCORE	SCORE	SCORE
<b>HEDGE FUNDS</b>							
Capula GRV	390.8	0.6%	4	S	1	B	3
DK Institutional Partners	201.3	0.3%	2	S-	1	B	3
HBK Multistrategy	254.5	0.4%	1	S	1	B	3
Hudson Bay	311.8	0.5%	5	S	1	A	3
PIMCO Tac Opps	219.9	0.4%	2	S	3	B	5
Polar	305.1	0.5%	3	S+	2	A	4
<b>ILLIQUID CREDIT</b>							
Barings	107.9	0.2%	5	S-	3	A	5
Beach Point	175.4	0.3%	4	S+	1	A	3
Glendon	88.1	0.1%	1	S	1	B	2
Magentar	59.4	0.1%	*	S	2	A	4
Napier Park	309.9	0.5%	*	S	2	B	4
Oaktree	74.0	0.1%	2	S	2	B	2
Quadrant	83.2	0.1%	3	S	1	A	5

### Footnotes

- Pillar methodologies in refinement and may evolve over time

### Category Descriptions

#### Performance

- Quarterly score based on risk-adjusted performance metrics over time
- '\*' denotes a manager with an inception date of less than 3 years

#### Organization & Operations

- Includes factors such as organization, professional staff, investment philosophy & process, risk management, legal & compliance framework, diversity & inclusion
- 'S' stands for Satisfactory

#### ESG

- Evaluates the extent to which material ESG factors are identified, assessed, and incorporated into risk/return analysis and portfolio construction
- '+' denotes mandates where ESG scores are currently under review

#### Partnership

- Assesses the quality of investment manager relationships both quantitatively and qualitatively

#### Fees & Terms

- Compares various fees and terms within each asset category, strategy and/or investment structure

# Total Plan Analytics Board Report

Prepared for LACERA

30 September 2020

Total Plan Asset Allocation & Analytics

30-Sep-2020

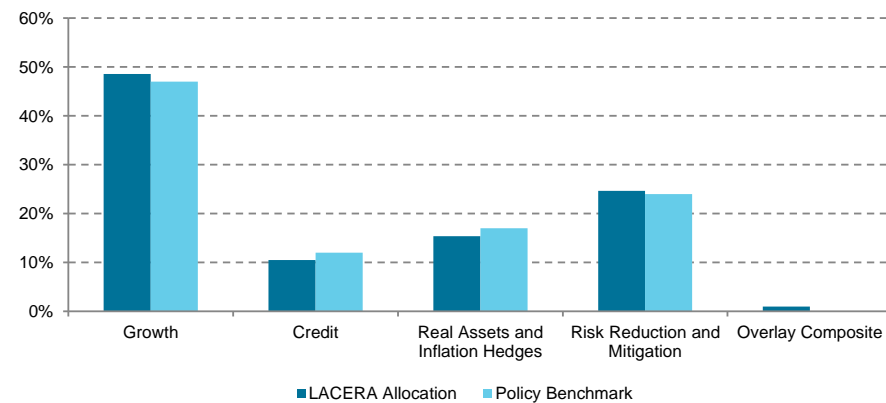
LACERA

Reporting Currency: USD

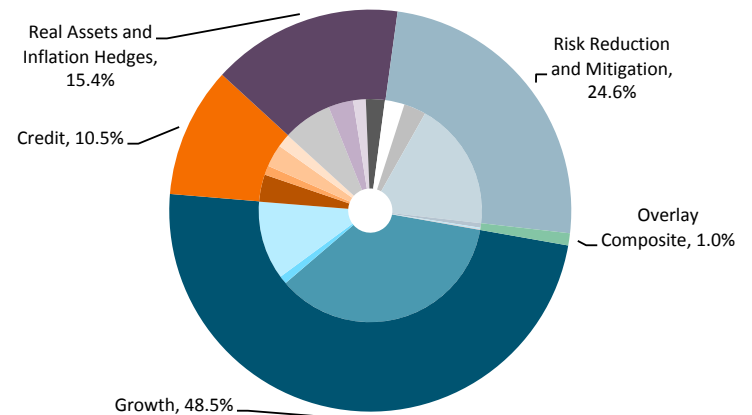
Total Plan Allocation vs Policy Benchmark

	Market Value (Millions) <sup>1</sup>	Allocation (%)	Policy Benchmark (%)	Benchmark	Relative (%)
Growth	29,741	48.5%	47.0%	Growth Composite	1.5%
Credit	6,426	10.5%	12.0%	Credit Composite	-1.5%
Real Assets and Inflation Hedges	9,414	15.4%	17.0%	RA & Infl. Hedges Composite	-1.6%
Risk Reduction and Mitigation	15,089	24.6%	24.0%	Risk Red. & Mit. Composite	0.6%
<b>TOTAL</b>	<b>60,669</b>	<b>99.0%</b>	<b>100.0%</b>		<b>-1.0%</b>
Overlay Composite	597	1.0%	0.0%		1.0%
<b>TOTAL plus Overlay Composite</b>	<b>61,266</b>	<b>100.0%</b>	<b>100.0%</b>		<b>-0.0%</b>

Total Plan Allocation vs Policy Benchmark



Asset Class Detail



<sup>1</sup>: Currency Hedge is excluded from Growth Market Value  
Information Classification: Limited Access

Total Plan Analytics, Volatility & Tracking Error

30-Sep-2020

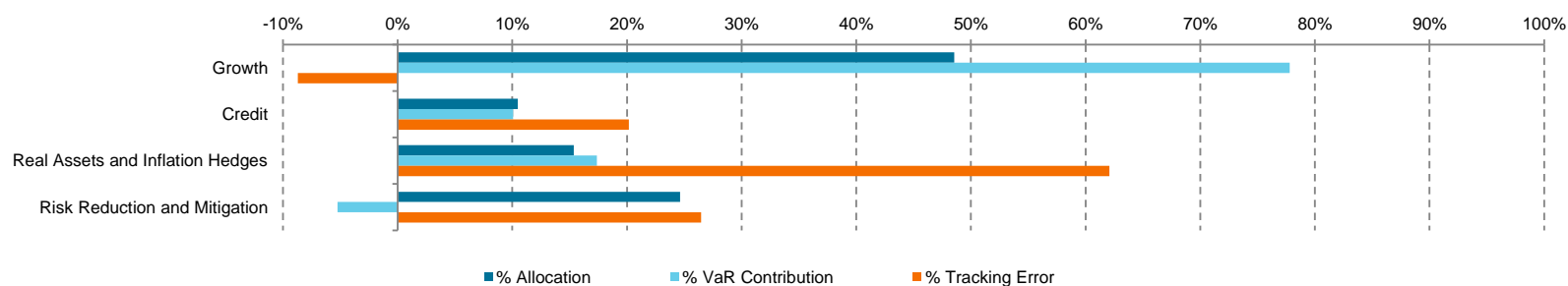
LACERA

Reporting Currency: USD

Total Plan Risk Measures

	Benchmark	Market Value (Millions) <sup>1</sup>	Allocation (%)	Volatility (% per annum) <sup>2</sup>	Standalone VaR (% of MV) <sup>3</sup>	Total VaR Contribution (% of Total MV) <sup>4</sup>	Tracking Error Contribution (% of Total MV) <sup>5</sup>
Growth	Growth Composite	29,741	48.5%	15.10%	17.10%	8.60%	-0.14%
Credit	Credit Composite	6,426	10.5%	9.96%	8.95%	1.11%	0.33%
Real Assets and Inflation Hedges	RA & Infl. Hedges Composite	9,414	15.4%	13.39%	13.45%	1.92%	1.01%
Risk Reduction and Mitigation	Risk Red. & Mit. Composite	15,089	24.6%	3.82%	5.37%	-0.58%	0.43%
<b>TOTAL</b>		<b>60,669</b>	<b>99.0%</b>	<b>10.91%</b>	<b>11.05%</b>	<b>11.05%</b>	<b>1.63%</b>
<b>Benchmark</b>	<i>Weighted Average Benchmark<sup>6</sup></i> <b>Policy Benchmark</b>			<i>9.69%</i> <b>9.55%</b>	<i>9.06%</i> <b>8.89%</b>	<i>9.06%</i> <b>8.89%</b>	<b>1.71%</b>
					<i>Aggregate Benchmark Structural Risk<sup>7</sup></i>		<b>0.08%</b>
Overlay Composite		597	1.0%	13.26%	17.22%	0.01%	0.00%
<b>TOTAL plus Overlay Composite</b>		<b>61,266</b>	<b>100.0%</b>	<b>10.93%</b>	<b>11.06%</b>	<b>11.06%</b>	<b>1.63%</b>

Dollar vs Risk Allocation



1: Currency Hedge is excluded from Growth Market Value

2: Volatility at the asset class level is calculated using parametric VaR at 84th percentile, annualized and expressed as a percentage of the market value of each asset class.

3: Standalone VaR is the annualized Value-at-Risk at the 95th percentile expressed as a percentage of the market value of each asset class.

4: Total VaR Contribution is calculated using historic VaR at 95th percentile, 1 month horizon, annualized excluding the mean, and expressed as a percentage of the total plan assets.

5: Tracking Error is calculated using relative parametric VaR at 84th percentile (assets less benchmark), annualized and expressed as a percentage of the total plan assets.

6: Weighted average benchmark is the market value weighted average of the asset class benchmarks.

7: Aggregate Benchmark Structural Risk = [Tracking Error of the Total Plan to the policy benchmark] - [Tracking Error of the Total Plan to the weighted average of asset class benchmarks]

Total Plan Analytics, Volatility & Tracking Error

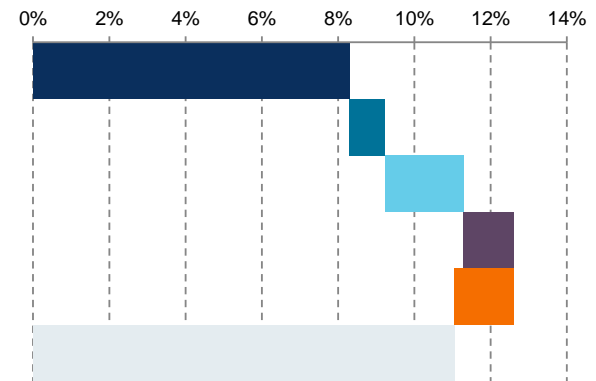
30-Sep-2020

LACERA

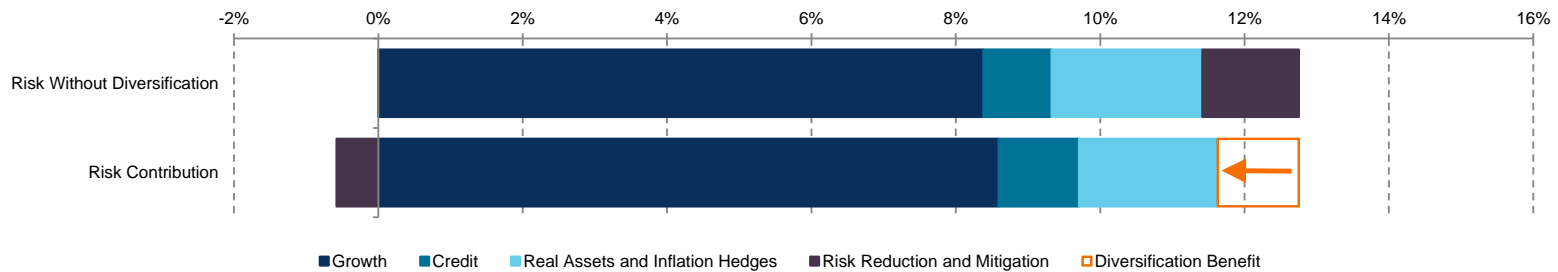
Reporting Currency: USD

Total Plan Risk & Diversification

	Allocation (%)	Weighted Standalone VaR (% of Total MV) <sup>1</sup>	
		Monthly	Annual
Growth	48.5%	2.4%	8.4%
Credit	10.5%	0.3%	0.9%
Real Assets and Inflation Hedges	15.4%	0.6%	2.1%
Risk Reduction and Mitigation	24.6%	0.4%	1.3%
Diversification Benefit <sup>2</sup>	-	-0.5%	-1.7%
<b>TOTAL</b>	<b>99.0%</b>	<b>3.2%</b>	<b>11.0%</b>
Overlay Composite	1.0%	0.0%	0.2%



Risk Contribution and Diversification



1: Standalone risk (historical VaR 95) of each asset class is weighted and expressed as a percent of total plan assets, i.e. contribution to risk without diversification benefit.

2: Diversification benefit is calculated as the sum of the standalone VaR at 95th percentile for each asset class less the total plan VaR.

3: 'Risk Without Diversification' is the sum of the standalone VaRs of each asset class. The 'Risk Contribution' displays the VaR 95 at the Total plan level and the contribution of each asset class. Due to the correlation affect between asset classes, the contribution of the asset classes to the VaR 95 at the Total plan level will not necessary be equal to their respective standalone VaR 95.

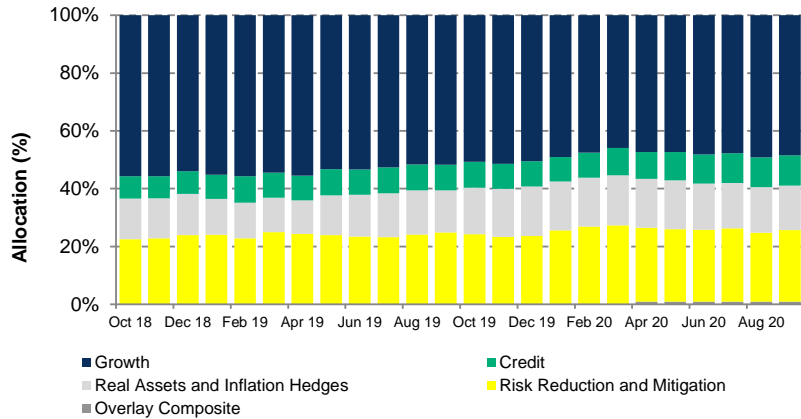
Total Plan Analytics, Volatility & Tracking Error

30-Sep-2020

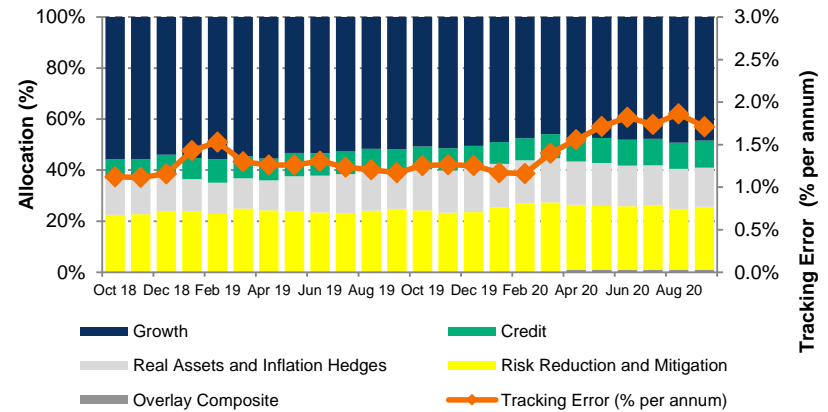
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Reporting Currency: USD

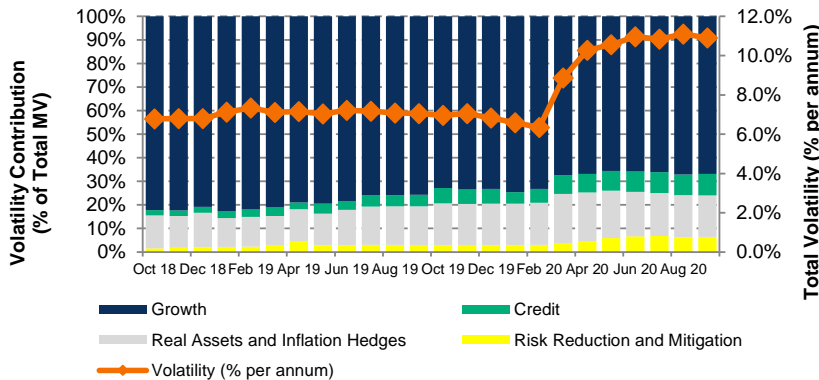
Total Plan Allocation Trend



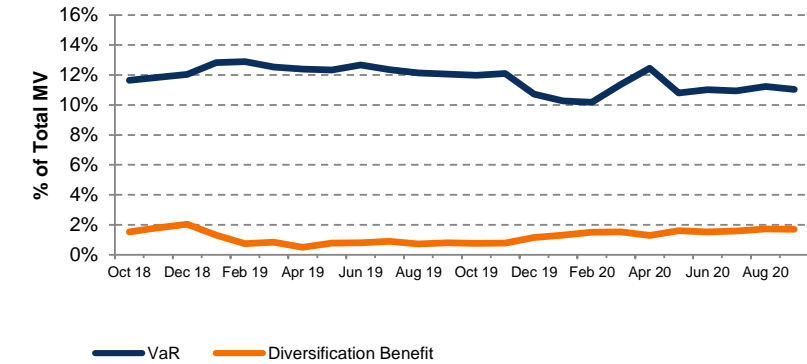
Total Plan Allocation & Tracking Error Trend<sup>1</sup>



Total Plan Volatility & Contribution to Volatility Trend<sup>2</sup>



Total Plan Risk & Diversification Trend<sup>3</sup>



1: Tracking Error is calculated using relative parametric VaR at 84th percentile (assets less benchmark), annualized and expressed as a percentage of the total plan assets.

2: Volatility at the asset class level is calculated using parametric VaR at 84th percentile, annualized and expressed as a percentage of the market value of each asset class.

3: Diversification benefit is calculated as the sum of the standalone VaR at 95th percentile for each asset class less the total plan VaR.



Total Plan Stress Testing

30-Sep-2020

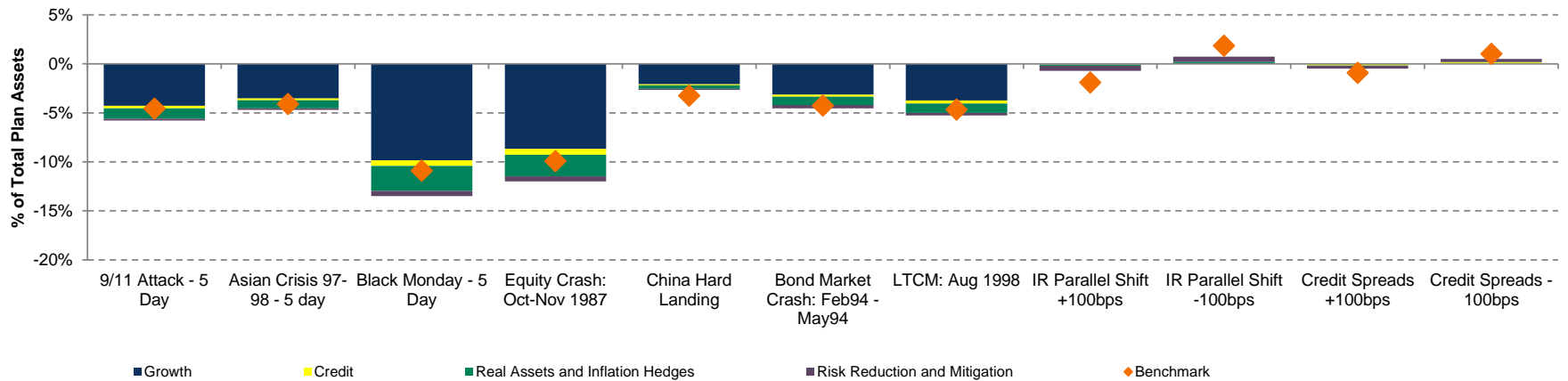
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Reporting Currency: USD

Stress Test - % of Total Plan Assets

	Allocation (%)	9/11 Attack - 5 Day	Asian Crisis 97- 98 - 5 day	Black Monday - 5 Day	Equity Crash: Oct-Nov 1987	China Hard Landing	Bond Market Crash: Feb94 - May94	LTCM: Aug 1998	IR Parallel Shift +100bps	IR Parallel Shift -100bps	Credit Spreads +100bps	Credit Spreads - 100bps
Growth	48.5%	-4.3%	-3.5%	-9.8%	-8.7%	-2.1%	-3.1%	-3.8%	0.0%	-0.0%	-0.0%	0.0%
Credit	10.5%	-0.2%	-0.2%	-0.6%	-0.6%	-0.1%	-0.2%	-0.3%	-0.1%	0.1%	-0.2%	0.2%
Real Assets and Inflation Hedges	15.4%	-1.1%	-0.8%	-2.6%	-2.2%	-0.4%	-0.8%	-1.0%	-0.1%	0.2%	-0.0%	0.0%
Risk Reduction and Mitigation	24.6%	-0.2%	-0.1%	-0.5%	-0.5%	-0.1%	-0.3%	-0.2%	-0.5%	0.5%	-0.3%	0.3%
Overlay Composite	1.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.0%	-0.1%	-0.1%	-0.1%	0.1%	0.0%	0.0%
<b>TOTAL</b>		<b>-5.9%</b>	<b>-4.8%</b>	<b>-13.7%</b>	<b>-12.2%</b>	<b>-2.7%</b>	<b>-4.6%</b>	<b>-5.3%</b>	<b>-0.8%</b>	<b>0.8%</b>	<b>-0.5%</b>	<b>0.5%</b>
<b>Benchmark</b>		<b>-4.6%</b>	<b>-4.1%</b>	<b>-10.9%</b>	<b>-9.9%</b>	<b>-3.3%</b>	<b>-4.3%</b>	<b>-4.7%</b>	<b>-1.9%</b>	<b>1.9%</b>	<b>-0.9%</b>	<b>1.0%</b>

Stress Test Chart



# Glossary

## Appendix - Glossary

LACERA

30-Sep-2020

Reporting Currency: USD

## Terms and Definitions

**Analytics**

Value-at-Risk 95% (VaR)	Value-at-risk or VaR quantifies the potential loss in a portfolio at a certain level of confidence. VaR 95th percentile means there is a 5% chance of losing more than X%. Alternatively, it can be expressed as there is a 1 in 20 chance of losing more than X% in the next month (or year if it is an annual measure).
Volatility	Volatility is another measure quantifying the potential variability in a portfolio's asset value. Volatility means there is a 1 in 3 chance the portfolio will change in value by +/- X% in 1 year. Alternatively, it can be expressed that 1 year in 3 years, the portfolio will change in value by +/- X% per annum.
Tracking Error	An ex-ante (forward looking, or before the event) measure of how closely a portfolio follows the index to which it is compared. It measures the standard deviation of the difference between the portfolio and benchmark scenario returns.
Aggregate Benchmark Structural Risk	Aggregate Benchmark Structural Risk = [Tracking Error of the Total Plan to the policy benchmark] - [Tracking Error of the Total Plan to the weighted average of asset class benchmarks]. This can equally be applied to strategy level benchmarks, compared to the aggregate of the underlying managers' benchmarks.
Diversification Benefit	Diversification benefit is calculated as the sum of the standalone VaR at 95th percentile for each asset class/strategy less the total plan VaR, 1 month horizon, annualized. This measures the reduction of risk due to the benefits of diversification.
Duration	The sensitivity of a bond's price to changes in the interest rate usually measured in years. The higher the duration, the more sensitive the portfolio is to changes in interest rates.
Expected Yield	This measures the projected annual yield on the portfolio adjusting for option-adjusted probabilities.
Beta	Beta estimates the risk of the portfolio to a single market risk factor, i.e. systematic risk.

**Stress Tests**

9/11 Attack - 5 Day	Historic stress scenario observed from 9/17/2001 to 9/21/2001 where the US faced an act of terrorism. Trading was suspended on the NYSE and only resumed on 9/17/2001. The US stock market (S&P 500) declined 12%.
Asian Crisis 97-98 - 5 day	Historic stress scenario observed from 10/21/1997 to 10/27/1997 where the Bank of Thailand abandons the Baht's peg to the Dollar and the currency fell 18%. US equity markets fell 7% on the realization that the crisis was no longer localized. Asian currencies were the hardest struck, such as the South Korean Won fell 47.5% and Indonesian Rupiah fell 56%.
Black Monday - 5 Day	Historic stress scenario observed from 10/13/1987 to 10/19/1987 where the US stock market (DJIA) declined 31% with the world market following the decline.
Equity Crash: Oct-Nov 1987	Historic stress scenario observed from 10/5/1987 to 11/02/1987 where the world equity markets feared another Great Depression.
China Hard Landing	This is a macro-economic stress test, developed by State Street Global Exchange's <sup>SM</sup> research team. The stress test aims to estimate the potential impact, if China's economy and economic growth were to experience a "hard landing".
Bond Market Crash: Feb94 - May94	Historic stress scenario observed from 2/1/1994 to 9/15/1994 where the FED raised rates by approx. 250 basis points (against market expectations). 1994 became the year of the worst bond market loss in history. The Fed hiked interest rates in 1994 also precipitated a year-long correction in the stock market.
LTCM: Aug 1998	Historic stress scenario observed from 08/03/1998 to 08/31/1998 where LTCM's failure triggered a wide spread concern of potential catastrophic losses throughout the financial system.
IR Parallel Shift +100bps	All interest rate curves are shifted up 100bps, and the portfolio is revalued to assess the impact in dollar terms.
IR Parallel Shift -100bps	All interest rate curves are shifted down 100bps, and the portfolio is revalued to assess the impact in dollar terms.
Credit Spreads +100bps	All credit spread curves are shifted up 100bps, and the portfolio is revalued to assess the impact in dollar terms.
Credit Spreads -100bps	All credit spread curves are shifted down 100bps, and the portfolio is revalued to assess the impact in dollar terms.
FX +5%	All exchange rate curves are shifted up 5%, and the portfolio is revalued to assess the impact in dollar terms.
FX -5%	All exchange rate curves are shifted down 5%, and the portfolio is revalued to assess the impact in dollar terms.

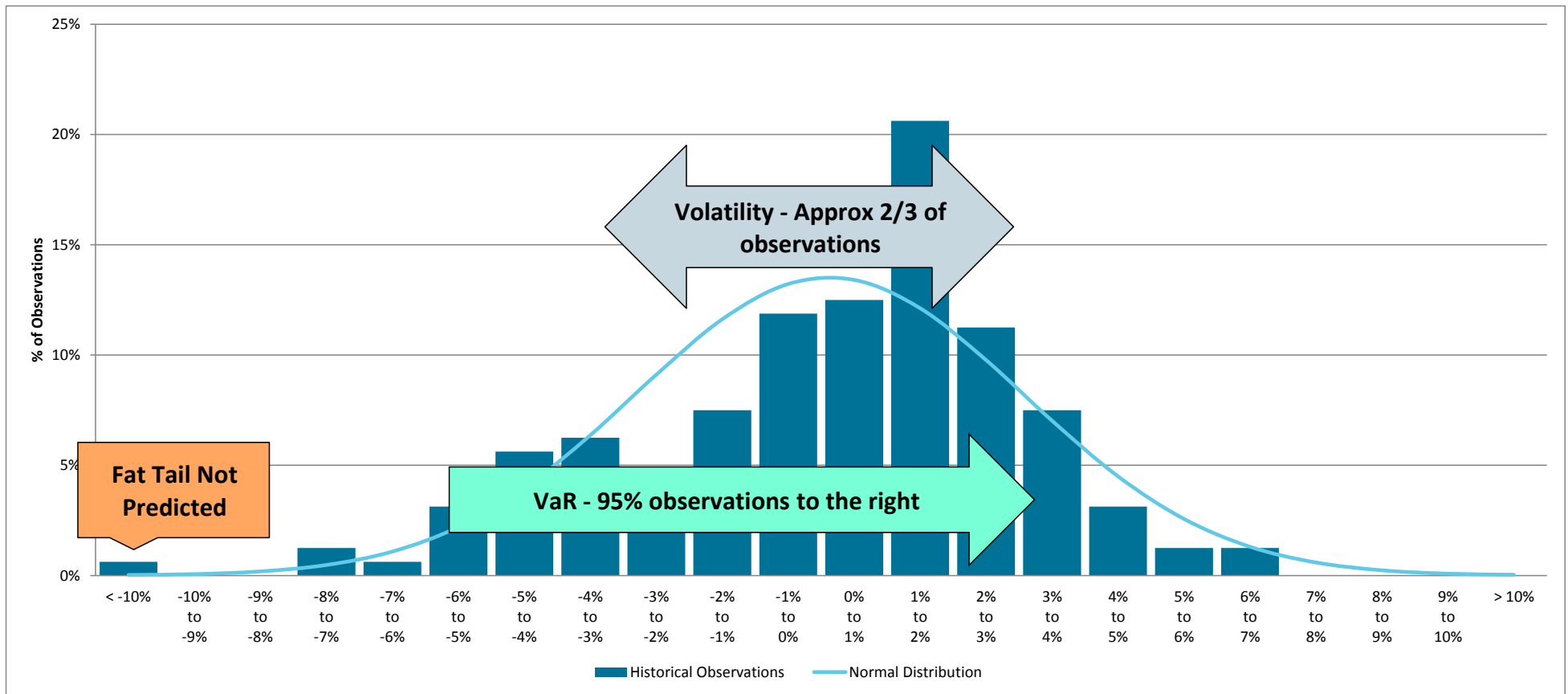
VaR and Volatility

Example Illustration of VaR and Volatility

VaR = 5.6%

Volatility = 2.9%

Mean = 0.1%



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**LOS ANGELES COUNTY EMPLOYEES  
RETIREMENT ASSOCIATION**

**LACERA HEDGE FUND  
PERFORMANCE REVIEW**



**2020 Third Quarter**



**December 9, 2020**

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# Plan Allocation Status

As of September 30, 2020

LACERA Assets	\$60,459.5 mm
Diversified Hedge Funds Program Target Allocation at 4% of Total Fund	\$2,418.4 mm
<hr/>	
Grosvenor Diversified (San Gabriel) Portfolio Market Value <sup>1,2</sup>	\$98.4 mm
<b>Total GCM Grosvenor Hedge Fund Program Market Value</b>	<b>\$98.4 mm</b>
<hr/>	
Goldman Diversified Hedge Fund Portfolio Market Value <sup>1,3</sup>	\$12.4 mm
<b>Total GSAM Goldman Sachs Hedge Fund Program Market Value</b>	<b>\$12.4 mm</b>
<hr/>	
Direct Hedge Fund Portfolio Market Value <sup>1</sup>	\$1,831.9 mm
<b>Total Direct Hedge Fund Portfolio Market Value</b>	<b>\$1,831.9 mm</b>
<hr/>	
<b>Total Hedge Fund Program Market Value<sup>1</sup></b>	<b>\$1,942.7 mm</b>

1 - Reflects State Street Bank's reported market values which incorporate cashflows through 10/31/20 resulting from subscriptions and redemptions.

2 - The Grosvenor Diversified (San Gabriel) portfolio represents a portfolio that is in the process of being liquidated.

3 - The Goldman Sachs Asset Management portfolio is no longer being managed by Goldman and represents a portfolio that is in the process of being liquidated.



# Portfolio Returns

As of September 30, 2020

Diversified Hedge Funds Composite						
	Q3 2020	YTD	1 Year	3 Year	5 Year	ITD <sup>3</sup>
Diversified Hedge Funds Aggregate Portfolio <sup>1,2</sup>	3.77%	3.93%	6.19%	N/A	N/A	5.53%
Diversified Hedge Funds Benchmark <sup>4</sup>	0.65%	2.43%	3.54%	N/A	N/A	4.06%

Grosvenor Diversified Portfolio						
	Q3 2020	YTD	1 Year	3 Year	5 Year	ITD <sup>5</sup>
San Gabriel Fund, L.P. <sup>1</sup> (Diversified)	5.55%	0.80%	4.50%	2.93%	2.44%	3.38%
Diversified Hedge Funds Benchmark <sup>4</sup>	0.65%	2.43%	3.54%	5.38%	5.40%	5.24%

Goldman Sachs Diversified Portfolio						
	Q3 2020	YTD	1 Year	3 Year	5 Year	ITD <sup>6</sup>
Goldman Sachs Hedge Fund of Fund <sup>1</sup>	10.86%	12.42%	14.45%	6.44%	5.20%	4.53%
Diversified Hedge Funds Benchmark <sup>4</sup>	0.65%	2.43%	3.54%	5.38%	5.40%	5.37%

Direct Hedge Fund Portfolio						
	Q3 2020	YTD	1 Year	3 Year	5 Year	ITD <sup>7</sup>
Direct Hedge Fund Portfolio <sup>1</sup>	3.61%	4.45%	6.16%	N/A	N/A	2.96%
Diversified Hedge Funds Benchmark <sup>4</sup>	0.65%	2.43%	3.54%	N/A	N/A	5.19%

1 Portfolio returns are net of all fees and expenses.

2 Returns prior to 5/1/2015 are that of San Gabriel Fund, L.P. (Grosvenor Diversified Portfolio) only.

3 ITD returns for the Diversified Hedge Funds Composite and benchmarks commence on 3/1/2019 (the inception date of the Composite).

4 Reflects hedge funds benchmark which is 90-Day U.S. T-Bills plus 250 basis points annually beginning 3/1/2019 and 90-Day U.S. T-Bills plus 500 basis points annually for periods prior to 3/1/2019.

5 ITD returns for San Gabriel Fund, L.P. and benchmarks commence on 10/1/2011 (the inception date of the Fund).

6 ITD returns for Goldman Sachs and benchmarks commence on 5/1/2015 (the inception date of the Fund).

7 ITD returns for Direct Hedge Fund Portfolio. and benchmarks commence on 4/1/2018 (the inception date of the Portfolio).

**Past performance is not necessarily indicative of future results, and the performance of the portfolio could be volatile.**

# Portfolio Risk and Return Statistics

Program Inception Through September 30, 2020

## LACERA Diversified Hedge Funds Portfolios

	Return <sup>1</sup>	Standard Deviation	Sharpe Ratio	Beta to MSCI ACWI	Inception
<b>Total Diversified Hedge Funds Program<sup>2</sup></b>	3.86%	3.30%	0.97	0.17	10/1/2011
<b>Grosvenor Diversified (San Gabriel)</b>	3.38%	6.03%	0.45	0.28	10/1/2011
<b>Goldman Sachs Diversified</b>	4.53%	5.22%	0.66	0.19	5/1/2015
<b>Direct Portfolio</b>	2.96%	4.20%	0.30	0.15	4/1/2018

## LACERA Custom Composites With and Without Hedge Funds <sup>3</sup>

	Return <sup>1</sup>	Standard Deviation	Sharpe Ratio	Beta to MSCI ACWI	Inception
<b>Total Public Equities, Fixed Income, Commodities and Cash</b>	7.44%	8.48%	0.80	0.64	10/1/2011

- Returns are net of all fees and expenses and annualized for periods greater than one year.
- The Diversified Hedge Funds composite began on 3/1/2019. For the purposes of calculating the return statistics of LACERA's Hedge Fund Program, the Hedge Funds Program's returns prior to 3/1/2019 were calculated as the weighted return of GSAM, HF Direct and San Gabriel Portfolio.

# Portfolio Upside and Downside Capture

Program Inception Through September 30, 2020

## LACERA Hedge Fund Portfolio Upside and Downside Capture Since October 2011 Inception

Relative to *MSCI ACWI IMI TR Net* :

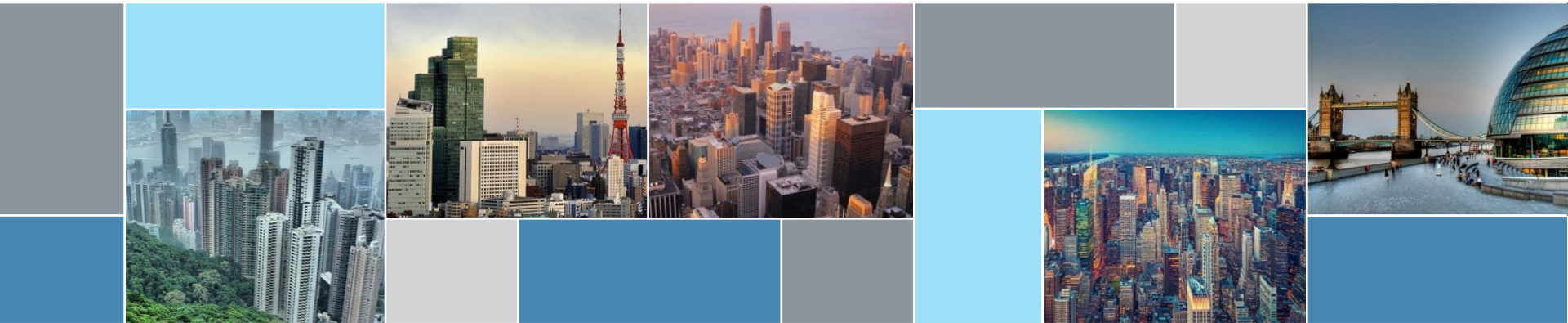
	Upside Capture	Downside Capture	Up / Down Spread
<b>Total Diversified Hedge Fund Program<sup>1</sup></b>	20.5%	14.1%	6.5%

# Grosvenor Capital Management

## Portfolio Fund Summary

# Los Angeles County Employees Retirement Association

November 2020



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# Hedge Fund Program Summary

Los Angeles County Employees Retirement Association – San Gabriel Fund, L.P. (September 30, 2020)

Fund Name	Fund Category	QTD ending balance	% of NAV (as of 9/30/20)	Start date of investment	End date of investment	Cumulative returns			Annualized returns		
						3Q20	YTD	1 Year	3 Year	5 Year	ITD <sup>1</sup>
Fund 1	Credit	\$19,871,604	15.79%	2/1/2014	Present	3.81%	-5.27%	-3.80%	2.43%	4.72%	4.74%
Fund 2	Credit	\$7,570,037	6.02%	5/1/2015	Present	6.96%	-1.68%	-2.36%	2.40%	3.86%	2.92%
Fund 3	Credit	\$15,935,949	12.66%	10/1/2011	Present	4.64%	3.01%	3.74%	5.11%	5.12%	7.53%
Fund 4	Credit	\$7,945,481	6.31%	7/1/2014	Present	13.23%	10.99%	11.62%	2.21%	3.01%	-1.05%
Fund 5	Credit	\$22,372,806	17.78%	12/1/2018	Present	2.57%	-5.44%	-1.77%	-	-	2.62%
Fund 6	Multi-Strategy	\$18,045,246	14.34%	4/1/2017	Present	6.12%	24.17%	22.74%	6.59%	-	6.75%
Terminated Fund 73	Credit	-	-	4/1/2013	10/1/2020	4.57%	-10.50%	-8.05%	1.24%	4.26%	4.42%
Terminated Fund 74	Credit	-	-	6/1/2019	10/1/2020	5.71%	-11.55%	-11.17%	-	-	-9.73%
Terminated Fund 75	Equities	-	-	9/1/2019	10/1/2020	6.44%	5.96%	8.37%	-	-	6.12%
Terminated Fund 76	Equities	-	-	11/1/2015	10/1/2020	5.26%	12.27%	31.62%	13.86%	-	14.56%
APPA	APPA <sup>2</sup>	\$17,820	0.01%	-	-	-	-	-	-	-	-
Other	Other <sup>3</sup>	\$1,335,988	1.06%	-	-	1.86%	-16.19%	-	-	-	-
Total Uninvested	Uninvested <sup>4</sup>	\$32,753,660	26.03%	-	-	-	-	-	-	-	-
<b>Net asset value</b>	<b>Totals</b>	<b>\$125,848,591</b>	<b>100.00%</b>			<b>4.66%</b>	<b>0.83%</b>	<b>3.40%</b>	<b>2.57%</b>	<b>2.22%</b>	<b>3.26%</b>

1 ITD return for the portfolio commenced 10/1/2011.

Individual fund returns are over the period indicated by the Start date of investment and End date of investment columns in the table. Returns for funds for a period of 12 months or less are not annualized.

2 Aggregated Prior Period Adjustment.

3 "Other" may include: residual positions with underlying funds from which the Fund has redeemed and general trades.

4 "Uninvested" may include: cash, expenses, management fees, and net receivables/payables.

**Past performance is not necessarily indicative of future results.**

# Allocation Report – San Gabriel Fund, L.P.

# GABRIEL - San Gabriel Fund, L.P.

Fund	September 2020						October 1, 2020				Quarter-to-Date			Year-to-Date		
	Opening Balance	Alloc	Gain/Loss	Ending Balance	ROR	CTR	Net Activity	Alloc Change	Opening Balance	Alloc	Net Activity	ROR	CTR	Net Activity	ROR	CTR
<b>Credit</b>																
<b>Fundamental Credit</b>																
Terminated Fund 73	4,397,478	3.55%	48,461	4,445,939	1.10%	0.04%	-4,445,939	-3.53%	0	0.00%	-4,251,701	4.57%	0.15%	-12,893,326	-10.50%	-1.02%
Fund 1	19,855,821	16.04%	15,783	19,871,604	0.08%	0.01%	0	0.00%	19,871,604	15.79%	-4,785,424	3.81%	0.52%	-10,031,208	-5.27%	-0.46%
Fund 2	9,727,020	7.86%	152,097	9,879,117	1.56%	0.12%	-2,309,080	-1.83%	7,570,037	6.02%	-2,309,080	6.96%	0.47%	-8,971,160	-1.68%	-0.19%
Terminated Fund 74	5,163,169	4.17%	74,306	5,237,475	1.44%	0.06%	-5,237,475	-4.16%	0	0.00%	-4,954,601	5.71%	0.21%	-15,956,416	-11.55%	-1.31%
<b>Total Fundamental Credit</b>	<b>39,143,488</b>	<b>31.61%</b>	<b>290,648</b>	<b>39,434,135</b>	<b>0.74%</b>	<b>0.23%</b>	<b>-11,992,494</b>	<b>-9.53%</b>	<b>27,441,641</b>	<b>21.81%</b>	<b>-16,300,806</b>	<b>4.92%</b>	<b>1.35%</b>	<b>-47,852,111</b>	<b>-7.47%</b>	<b>-2.97%</b>
<b>Structured Credit</b>																
Fund 3	17,621,301	14.23%	591,212	18,212,513	3.36%	0.48%	-2,276,564	-1.81%	15,935,949	12.66%	-2,486,336	4.64%	0.67%	-8,342,647	3.01%	0.48%
<b>Total Structured Credit</b>	<b>17,621,301</b>	<b>14.23%</b>	<b>591,212</b>	<b>18,212,513</b>	<b>3.36%</b>	<b>0.48%</b>	<b>-2,276,564</b>	<b>-1.81%</b>	<b>15,935,949</b>	<b>12.66%</b>	<b>-2,486,336</b>	<b>4.64%</b>	<b>0.67%</b>	<b>-8,342,647</b>	<b>3.01%</b>	<b>0.48%</b>
<b>Long/Short Credit</b>																
Terminated Fund 72*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	-6,477,321	---	---	-16,107,834	-1.65%	-0.20%
<b>Total Long/Short Credit</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>-6,477,321</b>	<b>---</b>	<b>---</b>	<b>-16,107,834</b>	<b>-1.65%</b>	<b>-0.20%</b>
<b>Emerging Market Credit</b>																
Terminated Fund 63*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-2,347,513	---	---
<b>Total Emerging Market Credit</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-2,347,513</b>	<b>---</b>	<b>---</b>
<b>Specialist Credit</b>																
Fund 4	8,431,258	6.81%	233,461	8,664,719	2.77%	0.19%	-719,238	-0.57%	7,945,481	6.31%	-1,093,228	13.23%	0.70%	-3,476,919	10.99%	0.56%
Fund 5	22,306,653	18.01%	66,153	22,372,806	0.30%	0.05%	0	0.00%	22,372,806	17.78%	0	2.57%	0.41%	0	-5.44%	-0.42%
<b>Total Specialist Credit</b>	<b>30,737,911</b>	<b>24.82%</b>	<b>299,614</b>	<b>31,037,525</b>	<b>0.97%</b>	<b>0.24%</b>	<b>-719,238</b>	<b>-0.57%</b>	<b>30,318,287</b>	<b>24.09%</b>	<b>-1,093,228</b>	<b>5.34%</b>	<b>1.11%</b>	<b>-3,476,919</b>	<b>-1.74%</b>	<b>0.14%</b>
<b>Total Credit</b>	<b>87,502,700</b>	<b>70.67%</b>	<b>1,181,474</b>	<b>88,684,173</b>	<b>1.35%</b>	<b>0.95%</b>	<b>-14,988,296</b>	<b>-11.91%</b>	<b>73,695,877</b>	<b>58.56%</b>	<b>-26,357,691</b>	<b>5.01%</b>	<b>3.13%</b>	<b>-78,127,023</b>	<b>-3.52%</b>	<b>-2.56%</b>
<b>Equities</b>																
<b>Directional Equity</b>																
Terminated Fund 75	3,928,515	3.17%	-9,038	3,919,477	-0.23%	-0.01%	-3,919,477	-3.11%	0	0.00%	-3,682,493	6.44%	0.17%	-10,902,525	5.96%	0.05%
<b>Total Directional Equity</b>	<b>3,928,515</b>	<b>3.17%</b>	<b>-9,038</b>	<b>3,919,477</b>	<b>-0.23%</b>	<b>-0.01%</b>	<b>-3,919,477</b>	<b>-3.11%</b>	<b>0</b>	<b>0.00%</b>	<b>-3,682,493</b>	<b>6.44%</b>	<b>0.17%</b>	<b>-10,902,525</b>	<b>5.96%</b>	<b>0.05%</b>



# GABRIEL - San Gabriel Fund, L.P.

Fund	September 2020						October 1, 2020				Quarter-to-Date			Year-to-Date		
	Opening Balance	Alloc	Gain/Loss	Ending Balance	ROR	CTR	Net Activity	Alloc Change	Opening Balance	Alloc	Net Activity	ROR	CTR	Net Activity	ROR	CTR
<b>Equities</b>																
<b>Fundamental Market Neutral Equity</b>																
Terminated Fund 65*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-12,819,432	---	---
<b>Total Fundamental Market Neutral Equity</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-12,819,432</b>	<b>---</b>	<b>---</b>
<b>Specialist Equity</b>																
Terminated Fund 64*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-19,360,680	---	---
Terminated Fund 76	8,812,775	7.12%	483,784	9,296,559	5.49%	0.39%	-9,296,559	-7.39%	0	0.00%	-7,858,189	5.26%	0.47%	-23,574,568	12.27%	1.04%
<b>Total Specialist Equity</b>	<b>8,812,775</b>	<b>7.12%</b>	<b>483,784</b>	<b>9,296,559</b>	<b>5.49%</b>	<b>0.39%</b>	<b>-9,296,559</b>	<b>-7.39%</b>	<b>0</b>	<b>0.00%</b>	<b>-7,858,189</b>	<b>5.26%</b>	<b>0.47%</b>	<b>-42,935,248</b>	<b>12.27%</b>	<b>1.04%</b>
<b>Total Equities</b>	<b>12,741,290</b>	<b>10.29%</b>	<b>474,746</b>	<b>13,216,036</b>	<b>3.73%</b>	<b>0.38%</b>	<b>-13,216,036</b>	<b>-10.50%</b>	<b>0</b>	<b>0.00%</b>	<b>-11,540,682</b>	<b>5.60%</b>	<b>0.64%</b>	<b>-66,657,205</b>	<b>10.24%</b>	<b>1.09%</b>
<b>Quantitative</b>																
<b>Non-Directional Quantitative</b>																
Terminated Fund 66*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-26,698,592	---	---
<b>Total Non-Directional Quantitative</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-26,698,592</b>	<b>---</b>	<b>---</b>
<b>Total Quantitative</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-26,698,592</b>	<b>---</b>	<b>---</b>
<b>Macro</b>																
<b>Diversified Macro</b>																
Terminated Fund 67*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-33,499,952	---	---
<b>Total Diversified Macro</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-33,499,952</b>	<b>---</b>	<b>---</b>
<b>Total Macro</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-33,499,952</b>	<b>---</b>	<b>---</b>

# GABRIEL - San Gabriel Fund, L.P.

Fund	September 2020						October 1, 2020				Quarter-to-Date			Year-to-Date		
	Opening Balance	Alloc	Gain/Loss	Ending Balance	ROR	CTR	Net Activity	Alloc Change	Opening Balance	Alloc	Net Activity	ROR	CTR	Net Activity	ROR	CTR
<b>Relative Value</b>																
<b>Diversified Relative Value</b>																
Terminated Fund 68*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-11,573,042	---	---
Terminated Fund 69*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-32,062,019	---	---
<b>Total Diversified Relative Value</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-43,635,061</b>	<b>---</b>	<b>---</b>
<b>Total Relative Value</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>---</b>	<b>---</b>	<b>-43,635,061</b>	<b>---</b>	<b>---</b>
<b>Multi-Strategy</b>																
<b>Diversified Multi-Strategy</b>																
Fund 6	17,697,915	14.29%	347,331	18,045,246	1.96%	0.28%	0	0.00%	18,045,246	14.34%	-4,036,401	6.12%	0.93%	-14,692,257	24.17%	2.83%
Terminated Fund 70*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-26,243,354	---	---
Terminated Fund 71*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-22,327,930	---	---
<b>Total Diversified Multi-Strategy</b>	<b>17,697,915</b>	<b>14.29%</b>	<b>347,331</b>	<b>18,045,246</b>	<b>1.96%</b>	<b>0.28%</b>	<b>0</b>	<b>0.00%</b>	<b>18,045,246</b>	<b>14.34%</b>	<b>-4,036,401</b>	<b>6.12%</b>	<b>0.93%</b>	<b>-63,263,541</b>	<b>24.17%</b>	<b>2.83%</b>
<b>Total Multi-Strategy</b>	<b>17,697,915</b>	<b>14.29%</b>	<b>347,331</b>	<b>18,045,246</b>	<b>1.96%</b>	<b>0.28%</b>	<b>0</b>	<b>0.00%</b>	<b>18,045,246</b>	<b>14.34%</b>	<b>-4,036,401</b>	<b>6.12%</b>	<b>0.93%</b>	<b>-63,263,541</b>	<b>24.17%</b>	<b>2.83%</b>
<b>Aggregated Prior Period Adjustment</b>																
<b>Multi-Manager</b>																
APPA USD	-116,825	-0.09%	134,645	17,820	---	0.11%	0	0.00%	17,820	0.01%	0	---	0.16%	0	---	0.14%
<b>Total Multi-Manager</b>	<b>-116,825</b>	<b>-0.09%</b>	<b>134,645</b>	<b>17,820</b>	<b>---</b>	<b>0.11%</b>	<b>0</b>	<b>0.00%</b>	<b>17,820</b>	<b>0.01%</b>	<b>0</b>	<b>---</b>	<b>0.16%</b>	<b>0</b>	<b>---</b>	<b>0.14%</b>
<b>Total Aggregated Prior Period Adjustment</b>	<b>-116,825</b>	<b>-0.09%</b>	<b>134,645</b>	<b>17,820</b>	<b>---</b>	<b>0.11%</b>	<b>0</b>	<b>0.00%</b>	<b>17,820</b>	<b>0.01%</b>	<b>0</b>	<b>---</b>	<b>0.16%</b>	<b>0</b>	<b>---</b>	<b>0.14%</b>

# Performance Attribution Report

Expressed in USD | As of September 30, 2020



## GABRIEL - San Gabriel Fund, L.P.

Fund	September 2020						October 1, 2020				Quarter-to-Date			Year-to-Date		
	Opening Balance	Alloc	Gain/Loss	Ending Balance	ROR	CTR	Net Activity	Alloc Change	Opening Balance	Alloc	Net Activity	ROR	CTR	Net Activity	ROR	CTR
<b>Other</b>																
Terminated Fund 51 Other	343,527	0.28%	2,265	345,791	0.66%	0.00%	0	0.00%	345,791	0.27%	0	0.09%	0.00%	-412,382	-6.97%	-0.02%
Terminated Fund 25 Other*	0	0.00%	0	0	---	---	0	0.00%	0	0.00%	0	---	---	-1,132	-5.82%	0.00%
Terminated Fund 50 Other	564,615	0.46%	-32,635	531,981	-5.78%	-0.03%	0	0.00%	531,981	0.42%	0	2.04%	0.00%	0	-32.32%	-0.10%
Terminated Fund 32 Other	81,383	0.07%	7,061	88,444	8.68%	0.01%	-16,075	-0.01%	72,369	0.06%	-9,893	8.68%	0.01%	-44,130	-7.18%	0.00%
Terminated Fund 46 Other	302,646	0.24%	-3,136	299,510	-1.04%	0.00%	0	0.00%	299,510	0.24%	-83,616	2.27%	0.00%	-262,200	-0.30%	0.00%
Terminated Fund 4 Other	86,337	0.07%	0	86,337	0.00%	0.00%	0	0.00%	86,337	0.07%	0	0.00%	0.00%	0	1.46%	0.00%
<b>Total Other</b>	<b>1,378,508</b>	<b>1.11%</b>	<b>-26,444</b>	<b>1,352,063</b>	<b>-1.92%</b>	<b>-0.02%</b>	<b>-16,075</b>	<b>-0.01%</b>	<b>1,335,988</b>	<b>1.06%</b>	<b>-93,509</b>	<b>1.86%</b>	<b>0.01%</b>	<b>-719,844</b>	<b>-16.19%</b>	<b>-0.12%</b>
<b>TOTAL INVESTMENTS</b>	<b>119,203,587</b>	<b>96.27%</b>	<b>2,111,752</b>	<b>121,315,339</b>	<b>1.77%</b>	<b>1.71%</b>	<b>-28,220,408</b>	<b>---</b>	<b>93,094,931</b>	<b>73.97%</b>	<b>-42,028,283</b>	<b>5.40%</b>	<b>4.87%</b>	<b>-312,601,218</b>	<b>2.26%</b>	<b>1.38%</b>
<b>Uninvested</b>																
Cash	4,455,244	3.60%	27	4,455,270	---	0.00%	-4,174,455	-3.32%	280,815	0.22%	3,964,654	---	0.00%	1,218,002	---	0.01%
Expenses	-250,065	-0.20%	-16,307	-266,372	---	-0.01%	360	0.00%	-266,012	-0.21%	53,189	---	-0.04%	224,006	---	-0.09%
Management Fees	71,816	0.06%	-69,905	1,911	---	-0.06%	180,206	0.14%	182,117	0.14%	234,082	---	-0.17%	1,014,894	---	-0.49%
Net Rec/(Pay)	342,443	0.28%	0	342,443	---	0.00%	32,214,297	25.60%	32,556,740	25.87%	-6,026,556	---	0.00%	-2,328,293	---	0.02%
<b>TOTAL UNINVESTED</b>	<b>4,619,438</b>	<b>3.73%</b>	<b>-86,185</b>	<b>4,533,252</b>	<b>---</b>	<b>-0.07%</b>	<b>28,220,408</b>	<b>22.42%</b>	<b>32,753,660</b>	<b>26.03%</b>	<b>-1,774,631</b>	<b>---</b>	<b>-0.21%</b>	<b>128,608</b>	<b>---</b>	<b>-0.55%</b>
<b>NET ASSET VALUE</b>	<b>123,823,024</b>	<b>100.00%</b>	<b>2,025,567</b>	<b>125,848,591</b>	<b>1.64%</b>	<b>1.64%</b>	<b>0</b>	<b>---</b>	<b>125,848,591</b>	<b>100.00%</b>	<b>-43,802,914</b>	<b>4.66%</b>	<b>4.66%</b>	<b>-312,472,610</b>	<b>0.83%</b>	<b>0.83%</b>

# GABRIEL - San Gabriel Fund, L.P.

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## GABRIEL - San Gabriel Fund, L.P.

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## GABRIEL - San Gabriel Fund, L.P.

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**Asset  
Management**

# Goldman Sachs Asset Management

## Portfolio Fund Summary

Hedge Fund Category	Inception Date	End Date	QTD Opening Balance of 06/30/2019)	(as	QTD Subscriptions/ (Redemptions)	QTD Gain/(Loss)	QTD Ending Balance of 09/30/2020)	(as	%NAV (as of 09/30/2020) <sup>2</sup>	Cumulative Returns			Annualized Returns		
										3Q2020 <sup>1</sup>	YTD	1 Year	3 Year	1TD	
Deep Basin Long-Short Fund LP	11/1/2017	4/30/2020	-	-	-	-	-	-	-	15.56%	7.52%	5.94%	4.73%		
Kintbury Equity Fund LP Class F (NIE)	5/1/2015	9/30/2019	-	-	-	-	-	-	-	-	4.28%	2.04%	2.71%		
Lakewood Capital Partners LP (NIE)	5/1/2015	1/31/2020	-	-	-	-	-	-	-	-	25.83%	5.32%	6.17%		
Palestra Capital Part LP (Ser 3 Int 1.5/20)(NIE)	6/1/2015	1/31/2020	-	-	-	-	-	-	-	-	23.92%	11.97%	11.23%		
PFM Therapeutics Fund, L.P. Class B (NIE)	7/1/2018	1/31/2020	-	-	-	-	-	-	-	-	2.19%	-	-18.78%		
Rubric Capital Partners LP Series F1 Interests NIE	3/1/2017	9/30/2019	-	-	-	-	-	-	-	-	2.57%	0.85%	6.48%		
The BosValen US Feeder Fund Class F (NIE)	8/1/2018	1/31/2020	-	-	-	-	-	-	-	-	2.68%	3.02%	2.14%		
Equity Long/Short			-	-	-	-	-	-	-	15.56%	23.65%	10.41%	7.60%		
Empyrean Capital Fund LP (Class 2 Ser N - NIE)	7/1/2015	-	13,026,514.00	(6,513,256.73)	313,546.73	6,826,804.00	16.10%	4.81%	0.97%	-0.17%	1.84%	3.87%			
HG Vora Special Opportunities Fd LP Series 1 (NIE)	10/1/2017	-	13,803,704.00	(6,901,852.00)	592,618.00	7,494,470.00	17.67%	8.59%	2.92%	6.59%	6.24%	6.24%			
Manikay Onshore Fund LP Class A3 NIE	6/1/2018	9/30/2019	-	-	-	-	-	-	-	-	9.49%	-	9.03%		
Palmetto Catastrophe Fund LP, Class H - NV	6/1/2018	1/31/2020	-	-	-	-	-	-	-	-	3.23%	-	-1.24%		
Palmetto Catastrophe Fd LP Q4 2018 Dev CI H-SP	1/1/2019	-	1,115,544.00	(464.00)	(464.00)	1,115,080.00	2.63%	-0.04%	14.11%	10.89%	-	-	6.38%		
Palmetto Catastrophe Fund LP ( Dev. Class H Q4 2019)	1/1/2019	-	212,446.00	-	14,334.00	226,780.00	0.53%	6.75%	16.62%	-	-	-	16.62%		
Taconic Opportunity Fund LP (CL AA, Non Lockup)	3/1/2018	5/31/2020	-	-	-	-	-	-	0.35%	1.26%	-	-	3.38%		
Warlander Partners, LP Class W (NIE)	2/1/2016	3/31/2019	-	-	-	-	-	-	-	9.00%	-1.88%	-1.86%			
Event Driven			28,158,208.00	(13,415,108.73)	920,034.73	15,663,134.00	36.94%	6.24%	2.52%	3.21%	4.19%	3.31%			
Arrowstreet Cap Brattle US Fdr II LP CIA Interests	9/1/2019	10/31/2019	-	-	-	-	-	-	-	-1.44%	-	-	-0.76%		
D.E. Shaw Valence Fund, LLC (NIE)	2/1/2016	1/31/2020	-	-	-	-	-	-	-	-	5.44%	9.53%	10.18%		
ExodusPoint Partners Fund LP Class C (NIE)	8/1/2018	-	10,480,172.00	(5,240,086.36)	104,381.36	5,344,467.00	12.60%	1.99%	10.08%	12.64%	-	-	7.41%		
Holocene Advisors Fund LP Class AI-A LP Int (NIE)	5/1/2017	-	26,231,144.73	(8,743,714.91)	1,215,502.12	18,702,931.94	44.10%	6.95%	13.43%	16.73%	-	-	11.36%	12.52%	
Relative Value			36,711,316.73	(13,983,801.27)	1,319,883.48	24,047,398.94	56.71%	5.81%	12.67%	13.65%	8.18%	6.24%			
Altreaus Fund, LP Class F	6/1/2017	2/28/2019	-	-	-	-	-	-	-	-2.06%	-	-	-2.03%		
Bridgewater Pure Alpha Major Markets II, LLC	5/1/2015	1/31/2020	-	-	-	-	-	-	-	-8.86%	-1.92%	0.02%			
Crabel Fund, L.P. (Class A, Fee Option 1 GS, 2/20)	7/1/2015	10/31/2019	-	-	-	-	-	-	-	-7.12%	5.65%	5.26%			
Dymon Asia Macro (US) Fund Class P (NIE)	6/1/2015	3/31/2019	-	-	-	-	-	-	-	-4.10%	0.60%	-1.26%			
Edgestream Sumatra Fund LP	7/1/2015	11/30/2019	-	-	-	-	-	-	-	0.47%	2.68%	3.99%			
EMSO Saguaro Ltd Class A-NV	2/1/2018	11/30/2019	-	-	-	-	-	-	-	5.61%	-	-	0.04%		
Glen Point Macro Fund LP CI A NV USD Shares (NIE)	10/1/2017	11/30/2019	-	-	-	-	-	-	-	-3.87%	-	-	-5.59%		
Stone Milliner Macro Fd Delaware LP CI N (NIE)	1/1/2018	11/30/2019	-	-	-	-	-	-	-	0.65%	-	-	1.54%		
The Winton Fund (US) LP	9/1/2016	10/31/2019	-	-	-	-	-	-	-	-	3.00%	4.10%	2.70%		
Tactical Trading			-	-	-	-	-	-	-	-	2.33%	-0.36%	0.49%		
<b>Total Assets and Liabilities not Allocated to Underlying Managers of Los Angeles County Employees Retirement Association*</b>						2,696,063.00	6.36%								
<b>Net Asset Value</b>						42,406,595.94	100.00%								

1. The LACERA Portfolio inception on May 1, 2015. Returns less than 12 months are cumulative, not annualized. Past performance does not guarantee future results, which may vary.  
2. Based on the end equity value of the Fund. Managers terminated prior to the current year are excluded. For ease of presentation, active and terminated managers are shown for the current year only.

\*Total Holdbacks.



# LACERA Direct Portfolio

## Portfolio Fund Summary

**LACERA Direct Portfolio Summary (September 30, 2020)**

Investment Manager and Fund	Inception Date	QTD Opening Balance	QTD Subscriptions / (Redemptions)	QTD Gain / (Loss)	QTD Ending Balance	% of Direct HF Program 09/30/ 2020	Direct Portfolio Returns <sup>1,2</sup>					
							3Q 2020	YTD	1 Year	3 Year	ITD	
<b>Multi-Strategy</b>												
AQR Liquid Enhanced Alternative Premia Fund, L.P.	4/1/2018	54,384,578	0	99,637	54,484,215	3.0%	0.18%	-14.66%	-19.03%	N/A	-12.00%	
Davidson Kempner Institutional Partners, L.P.	4/1/2018	207,198,452	0	9,261,460	216,459,912	11.8%	4.47%	2.31%	4.17%	N/A	4.00%	
HBK Multi-Strategy Fund L.P.	5/1/2018	260,964,511	0	7,620,104	268,584,615	14.7%	2.92%	3.38%	4.74%	N/A	4.07%	
Polar Multi-Strategy Fund	5/1/2020	319,934,755	0	25,976,006	345,910,761	18.9%	8.12%	15.31%	N/A	N/A	15.31%	
<b>Multi-Strategy Total</b>		<b>842,482,296</b>	<b>0</b>	<b>42,957,207</b>	<b>885,439,503</b>	<b>48.3%</b>	<b>5.10%</b>	<b>3.46%</b>	<b>3.99%</b>	<b>N/A</b>	<b>1.76%</b>	
<b>Relative Value</b>												
PIMCO Tactical Opportunities Fund L.P.	11/1/2018	226,501,629	0	12,955,295	239,456,924	13.1%	5.72%	-0.82%	1.65%	N/A	3.06%	
Capula Global Relative Value Fund L.P.	12/1/2018	392,828,647	0	2,361,969	395,190,616	21.6%	0.60%	5.79%	9.46%	N/A	7.84%	
Hudson Bay Fund LP	6/1/2020	306,275,231	0	5,489,491	311,764,722	17.0%	1.79%	3.92%	N/A	N/A	3.92%	
<b>Relative Value Total</b>		<b>925,605,507</b>	<b>0</b>	<b>20,806,755</b>	<b>946,412,261</b>	<b>51.7%</b>	<b>2.25%</b>	<b>1.44%</b>	<b>4.50%</b>	<b>N/A</b>	<b>4.79%</b>	
<b>Total Direct Portfolio</b>		<b>1,768,087,803</b>	<b>0</b>	<b>63,763,962</b>	<b>1,831,851,764</b>	<b>100.0%</b>	<b>3.61%</b>	<b>2.23%</b>	<b>3.92%</b>	<b>N/A</b>	<b>2.05%</b>	

<sup>1</sup> Does not include the impact of cash movements (subscriptions and redemptions) on portfolio returns. State Street Bank, LACERA's official book of record, calculated a one-year return of the direct portfolio of 6.16%. State Street Bank includes the impact of cash movements in their performance calculation each month, in which the fund returns are lagged by one month, which accounts for the difference in performance.

<sup>2</sup> Returns beyond 12 months are annualized

# LACERA - DIRECT PORTFOLIO

## Investment Guidelines Summary (as of September 30, 2020)

Performance Objectives	Investment Guidelines	LACERA Direct Portfolio	Measurement Period	In Compliance?
•Target annualized return				
–Absolute: 3-month T-Bills + 250 bps <sup>1</sup>	5.4%	2.0%	ITD	n/a
–Relative: HFRX Global Hedge Fund Index	1.6%	2.0%	ITD	n/a
•Target range of annualized volatility	3.0% – 7.0%	n/a	3 year rolling	n/a
•Beta to equity markets referencing MSCI ACWI	< 0.2	n/a	3 year rolling	n/a
<b>Capital Allocation Constraints</b>				
•Number of investment managers	~10	7	Quarterly	n/a
•Maximum percentage ownership of a single fund	35%	10%	Quarterly	Yes
<b>Side Pockets</b>				
•Allowed with reasonable expectation that no side pocket would last beyond 5 years	< 5 years	in compliance	n/a	Yes
<b>Liquidity</b>				
•Capital redeemable with 5 years	100%	100.0%	Quarterly	Yes
•Capital redeemable with 3 years	> 50%	100.0%	Quarterly	Yes
<b>Leverage</b>				
•Hedge fund program leverage	not permitted	0.0	Quarterly	Yes
•Total program level leverage (rolled up at the individual fund level)	< 10x	5.2	Quarterly	Yes

<sup>1</sup> Reflects hedge funds benchmark which is 90-Day U.S. T-Bills plus 250 basis points annually beginning March 1, 2019 and 90-Day U.S. T-Bills plus 500 basis points annually for periods prior to March 1, 2019.



LACERA Annual Board Presentation  
Private Equity Portfolio Update

December 2020



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All data is as of June 30, 2020 unless otherwise noted.

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# Overview

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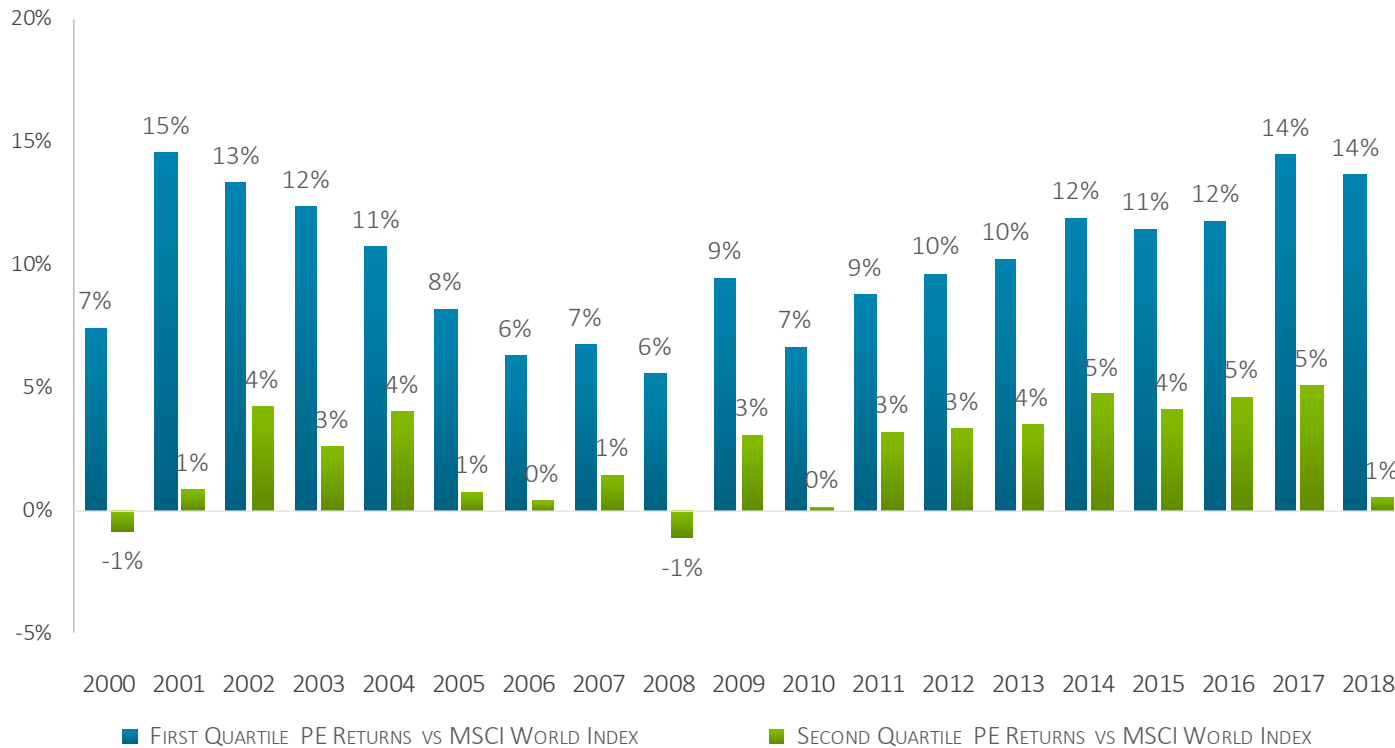


- I. Private Equity Market Update
- II. LACERA's Private Equity Investment Process
- III. Private Equity Portfolio Review
- IV. 2021 Strategic Planning

# I. Private Equity Market Update

## PRIVATE EQUITY HAS DELIVERED ALPHA RELATIVE TO THE PUBLIC MARKETS

### PRIVATE EQUITY DIRECT ALPHA



2010-15 ARITHMETIC AVERAGE		
AS OF	TOP Q	MEDIAN Q
2Q20	9.8%	3.2%
2Q19	9.2%	2.6%
Change in bps:	60 bps	52 bps

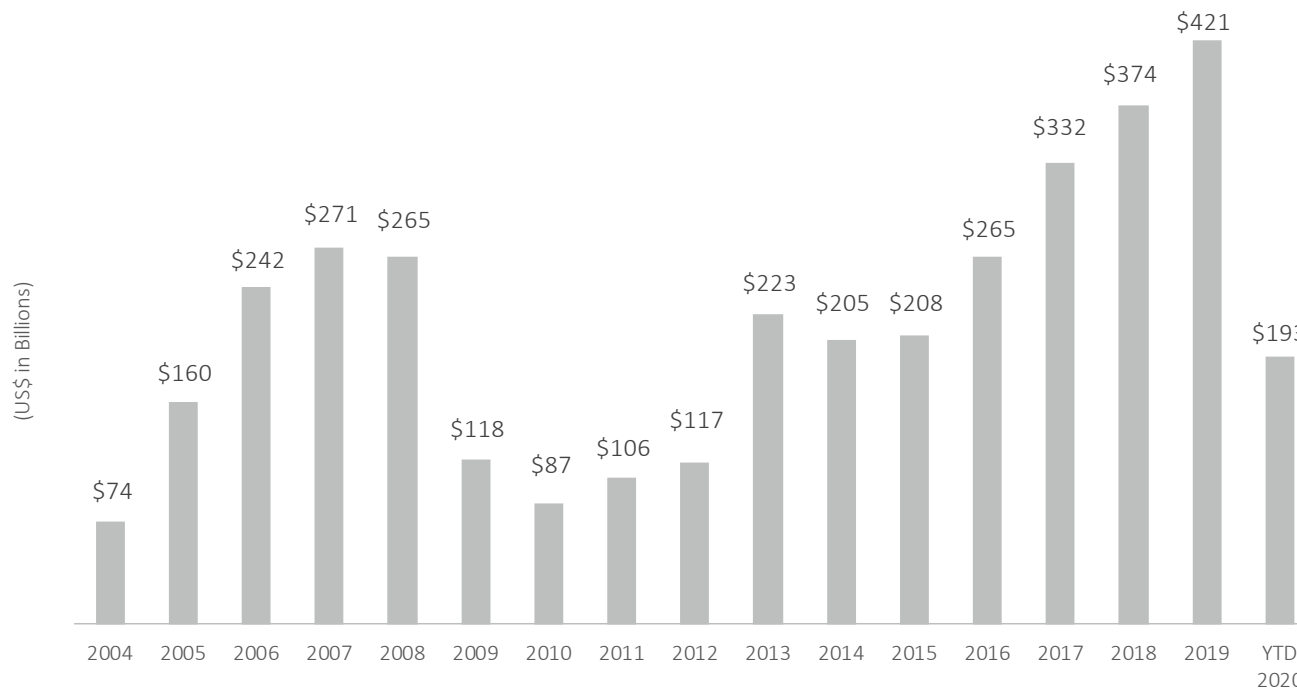
- Historically, Top Quartile private equity has outperformed public equities in each of the past 19 vintage years for which returns are meaningful.
- Median private equity returns from 2010-2015 have performed well relative to public markets averaging 52 bps above the public market.
- Institutional investors continue to include private markets as part of their allocation to diversify as well as to enhance overall returns.

Private IQ, as of 6/30/20; PE Returns includes Generalists, Equity, and Distressed Funds. The Direct Alpha method formalizes the calculation of the exact alpha (in a continuous time log-return sense) that a PE portfolio has generated relative to the chosen reference benchmark; Data for 2019-2020 not considered relevant given early nature of those vintage years; The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.



PE BUYOUT FUNDRAISING TOPPED \$300 BILLION FOR THREE STRAIGHT YEARS BUT 2020 IS ON PACE TO END THAT STREAK

## GLOBAL PRIVATE EQUITY BUYOUT FUNDRAISING

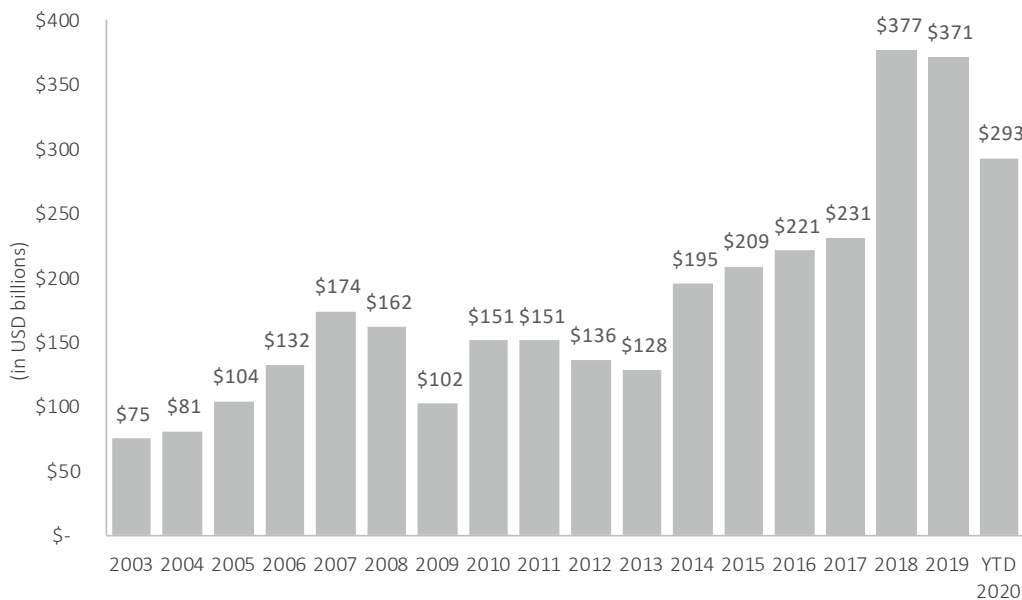


- Global PE Buyout has raised nearly \$193 billion through late October, on pace for ~\$230 billion.
- Despite the turmoil in the economy, sponsors have continued to push GP-favorable fund terms.
- This trend has also been apparent in other private market sub-sectors.

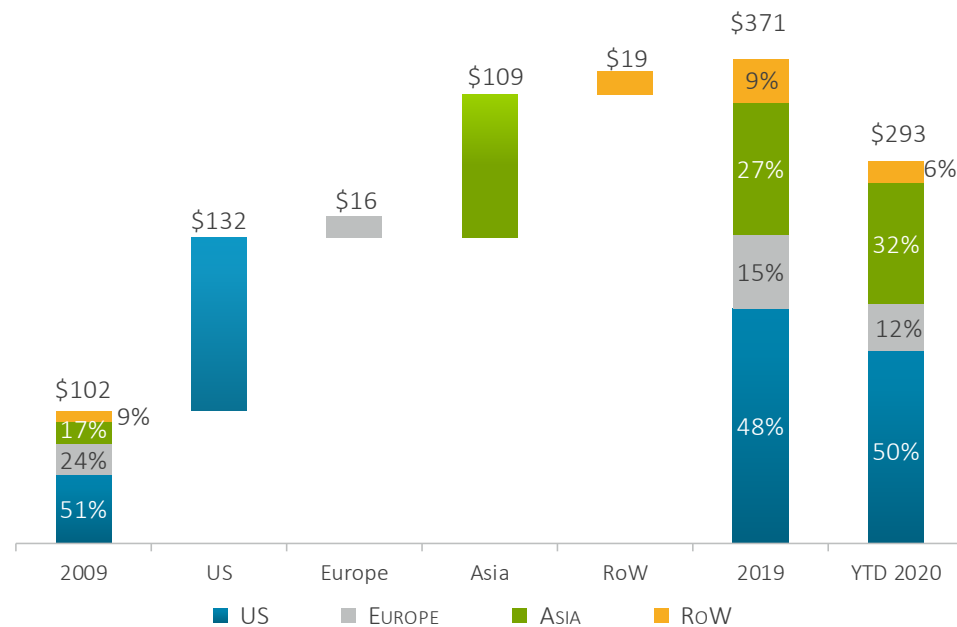
# Market Overview

2018 & 2019 WERE RECORD INVESTMENT YEARS AND 2020 IS ON PACE TO SURPASS \$300 BILLION AS WELL

GLOBAL EQUITY INVESTED BY YEAR



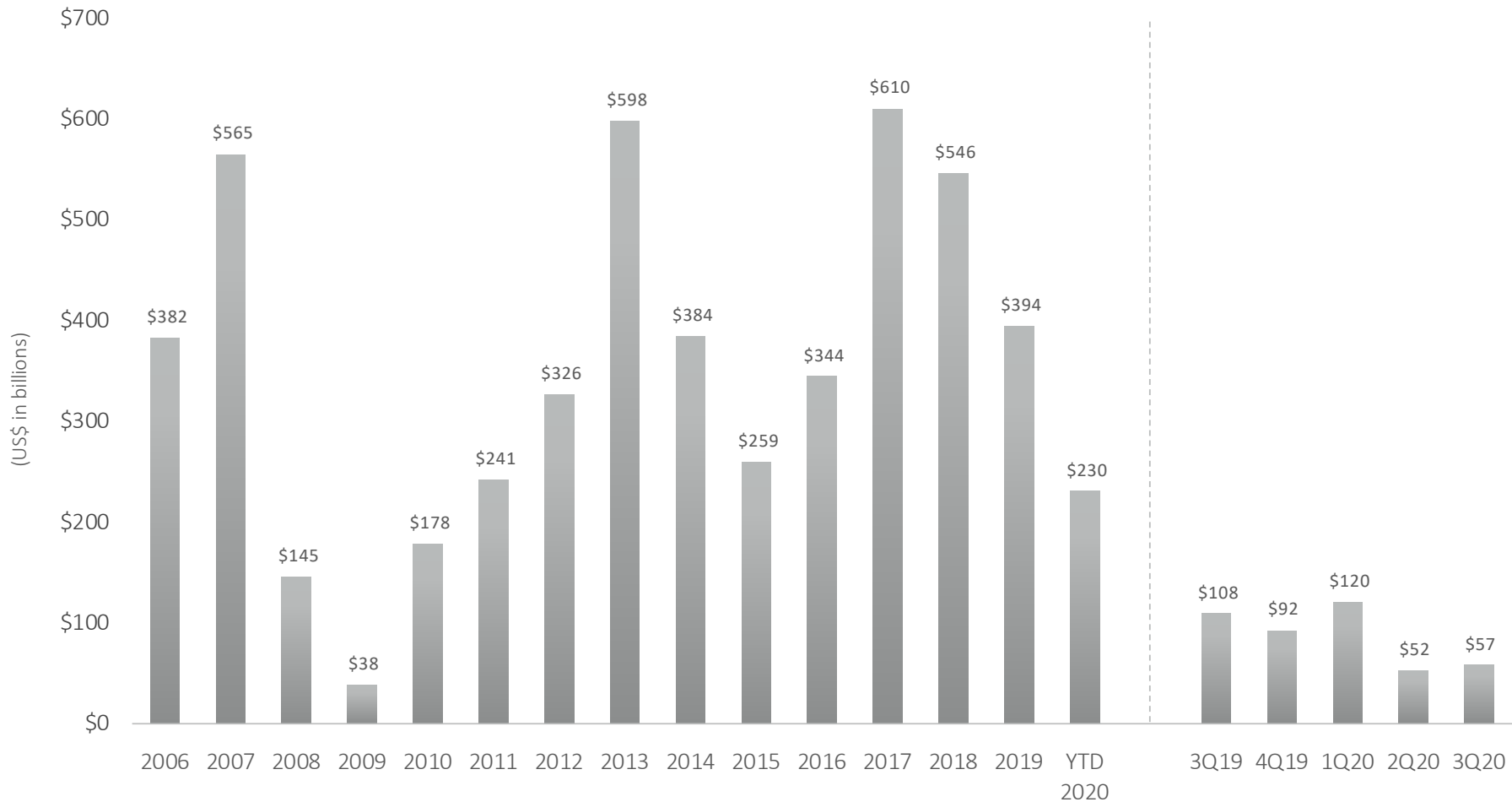
EQUITY INVESTED BY REGION BRIDGE



# Transaction Volume

U.S. TRANSACTION VOLUME HAS COME DOWN MEANINGFULLY SINCE 2017-2018

## U.S. SPONSORED TRANSACTION VOLUME BY YEAR

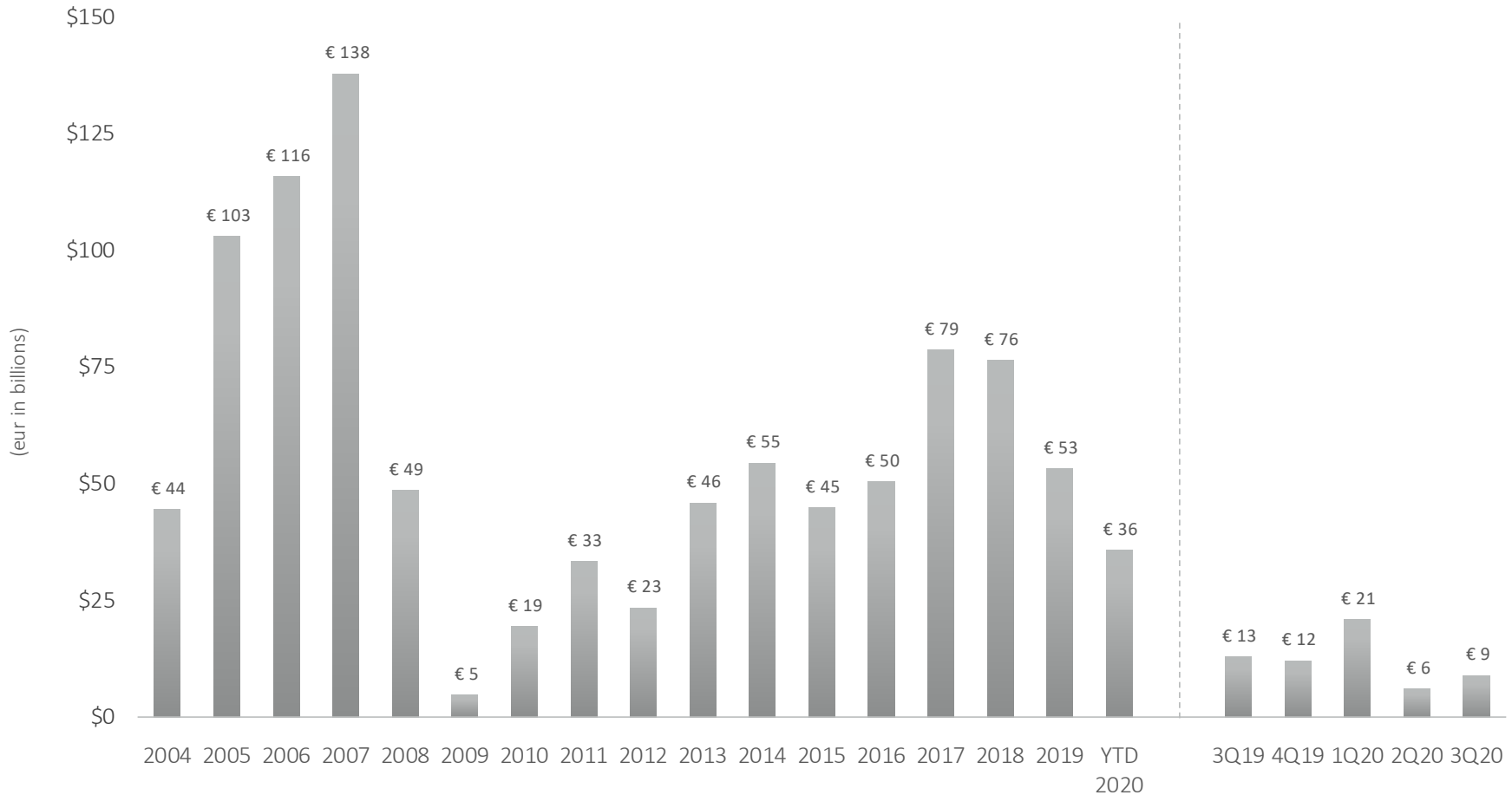


- Some of the data from S&P conflicts with Thomson data; StepStone has not been able to reconcile the different figures.

# Transaction Volume

EUROPEAN TRANSACTION VOLUME WAS GROWING, BUT 2019 CAME IN WELL BELOW 2017-2018 AND STEPSTONE EXPECTS 2020 TO ALSO COME IN LOWER THAN 2017-2018

## EUROPEAN SPONSORED TRANSACTION VOLUME BY YEAR

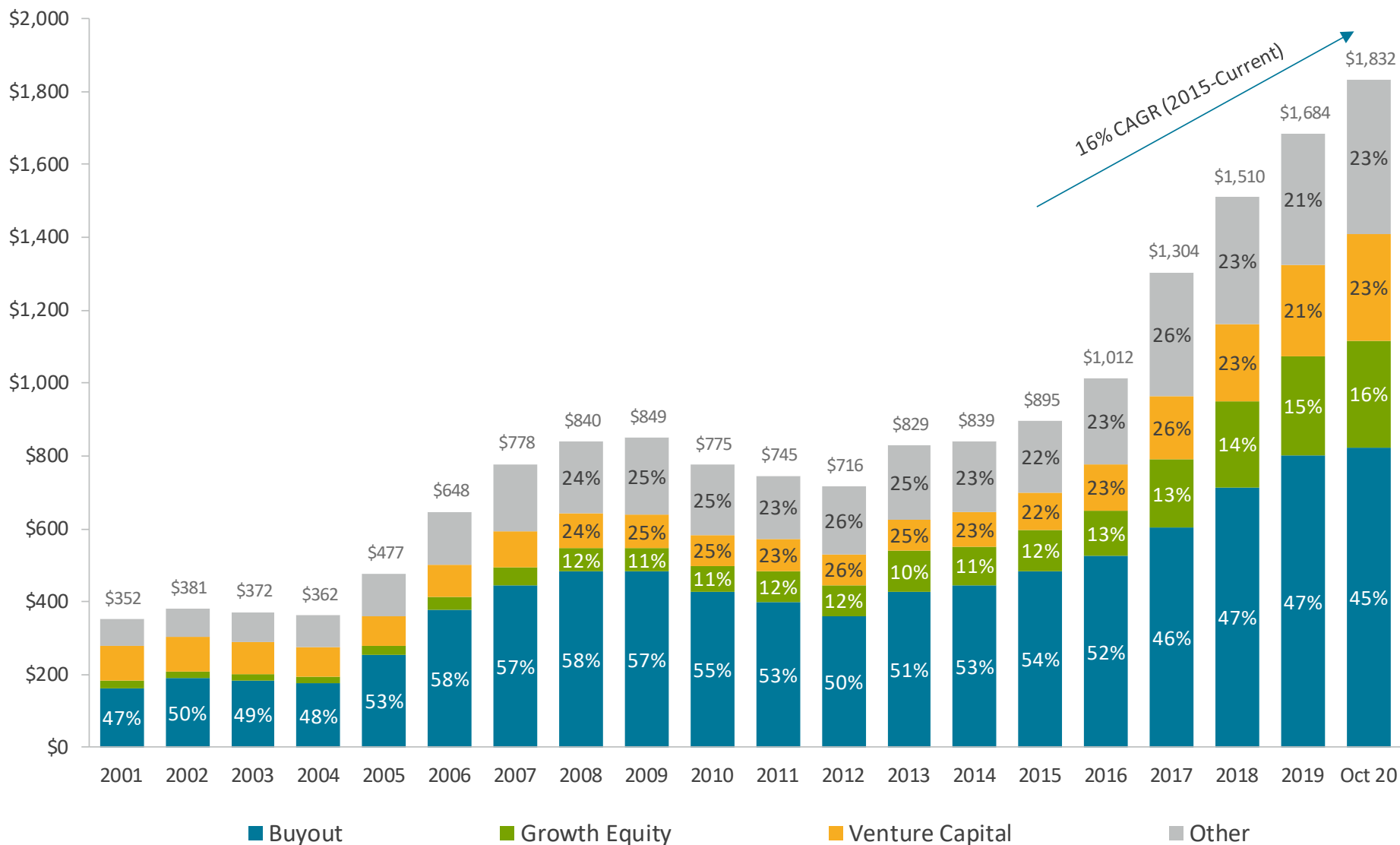


- Low growth expectations are making it hard for LBO firms to identify attractive opportunities, thereby increasing competition – and prices – for quality assets.
- Some of the data from S&P conflicts with the Thomson data; StepStone has not been able to reconcile the different figures.

# Dry Powder

DRY POWDER HAS INCREASED OVER 100% SINCE YEAR-END 2015

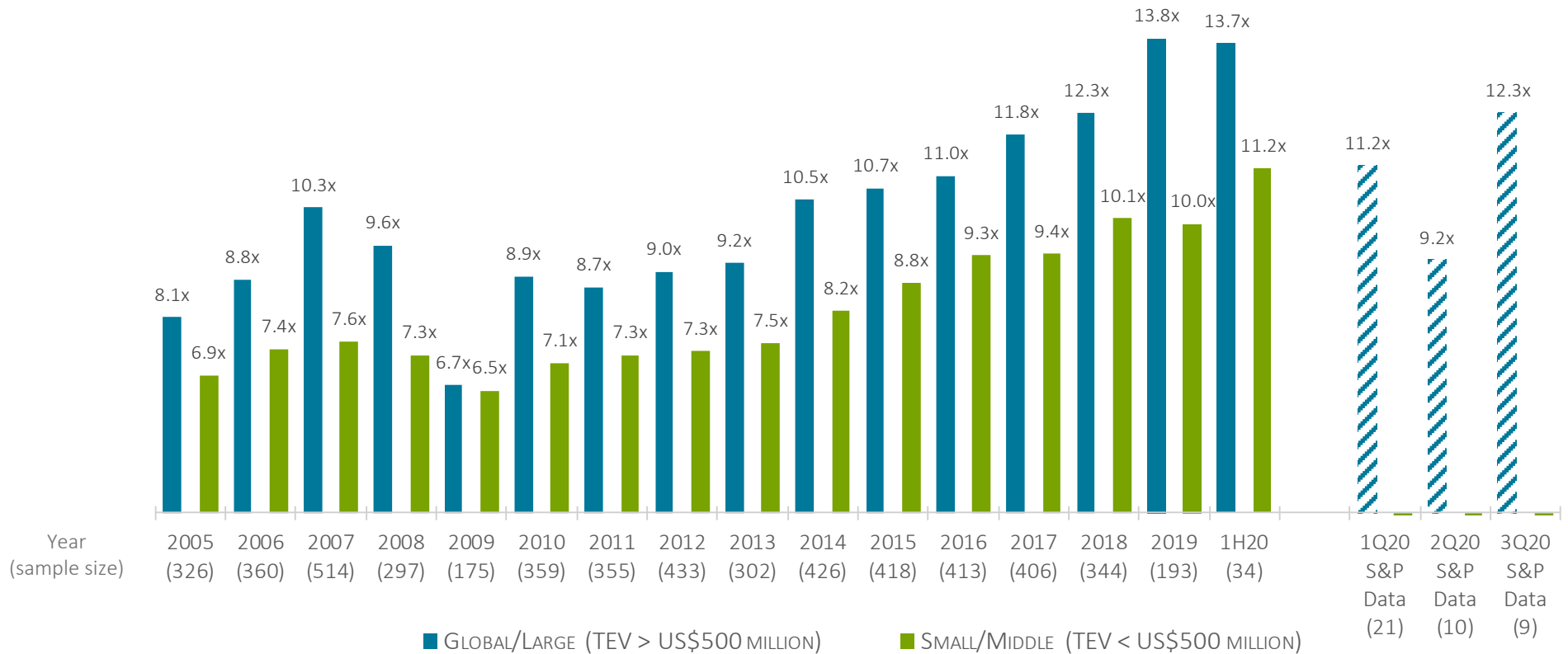
## PRIVATE EQUITY DRY POWDER – BY STRATEGY



# Purchase Price Multiples

IN THE U.S., PRICES REMAINED NEAR HISTORICALLY HIGH LEVELS IN Q2 2020, AND S&P DATA SHOWS Q3 MULTIPLES HAVE INCREASED FROM Q2

## U.S. PURCHASE PRICE MULTIPLES

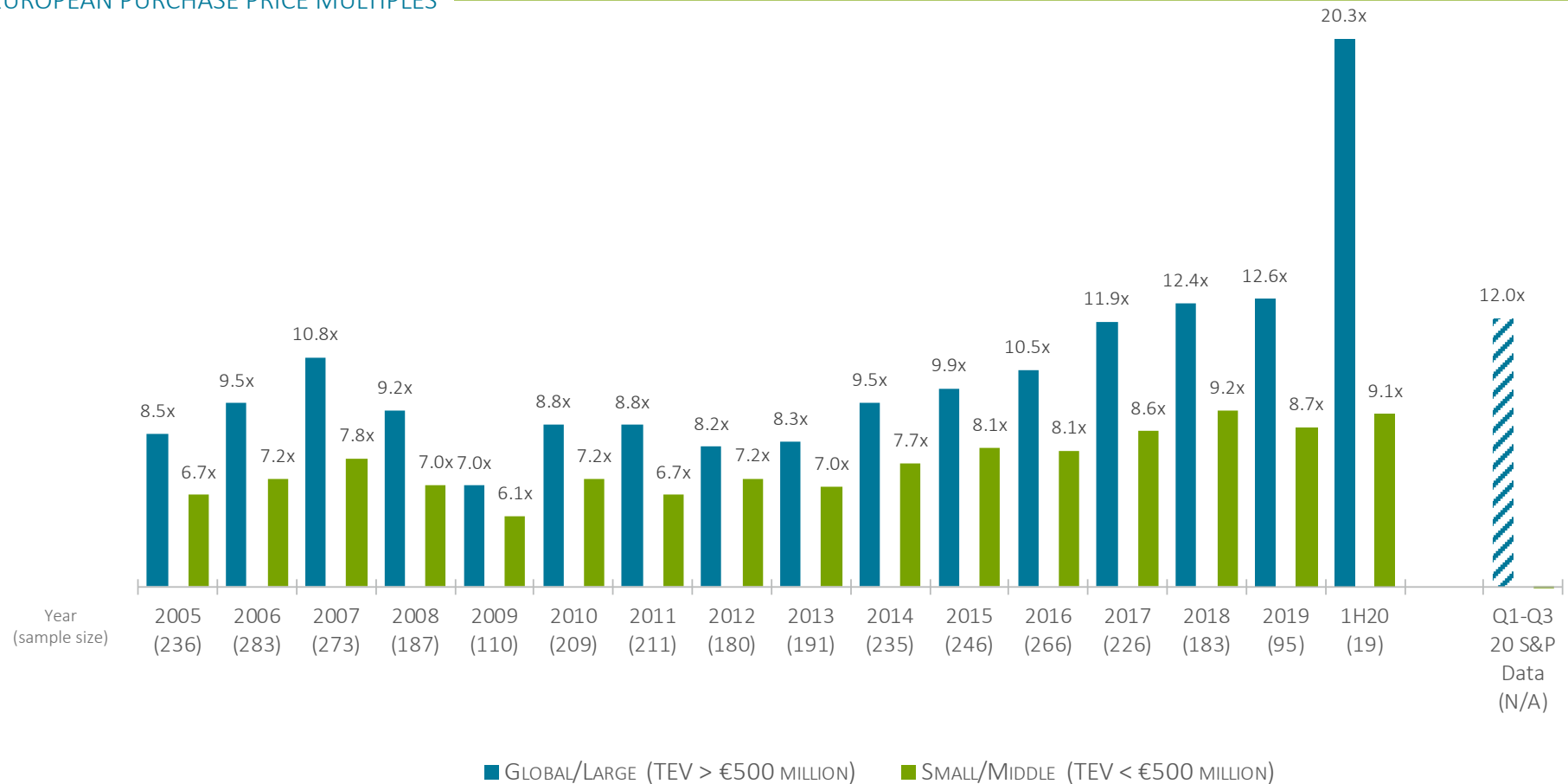


- Low interest rates and high growth expectations explain the high prices.
- For S&P Data, no sample has been registered for Small/Middle deals in 2020.

# Purchase Price Multiples

PURCHASE PRICES IN EUROPE HAVE EXHIBITED THE SAME BEHAVIOR AS IN NORTH AMERICA

## EUROPEAN PURCHASE PRICE MULTIPLES

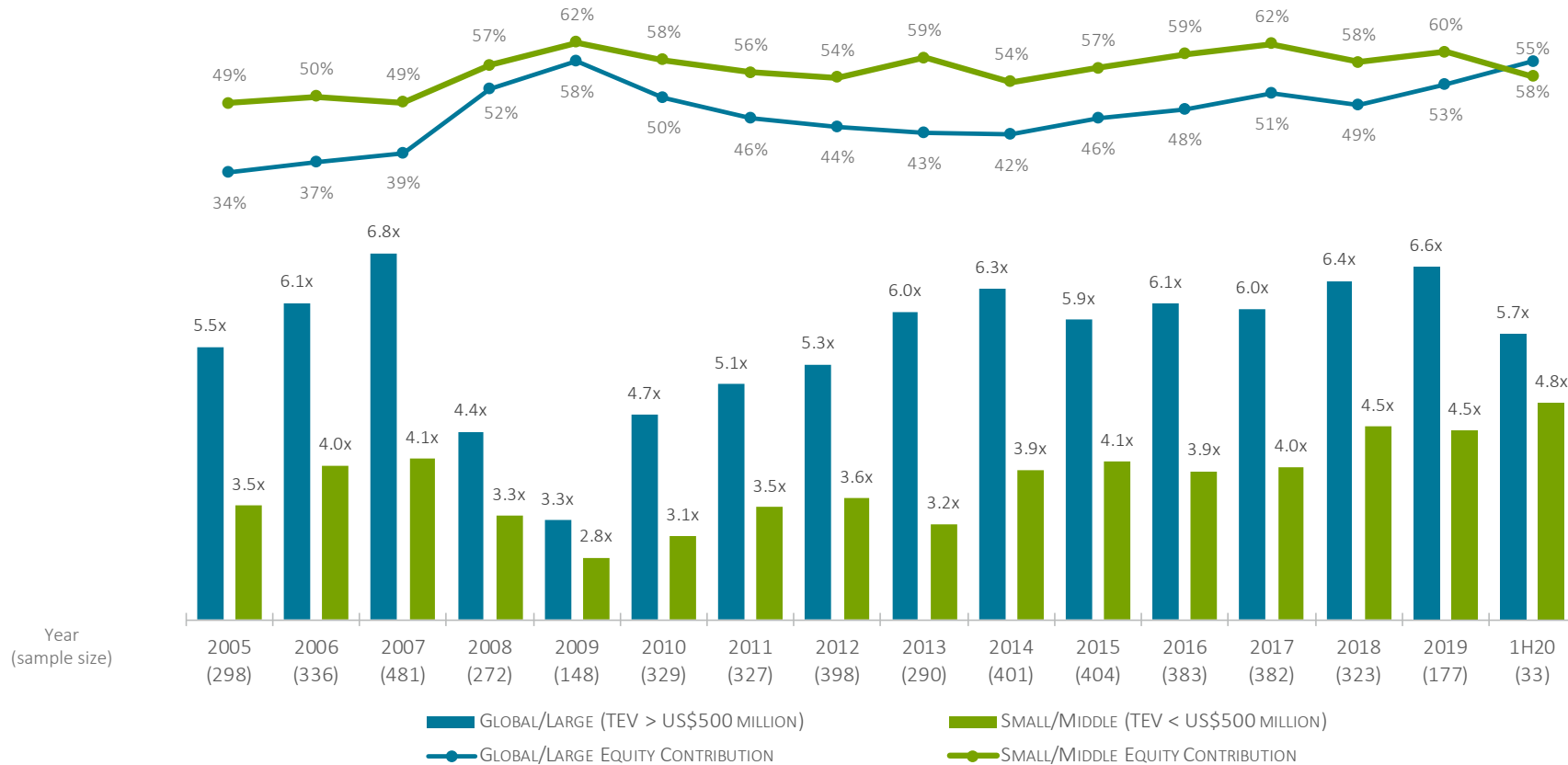


- The spike in prices for 1H20 could be due to the small sample size of 19.
- S&P does not provide a sample size but has a multiple of 12.0x for Q1-Q3 2020, which is more in-line with StepStone’s expectations.

# Leverage Multiples

EQUITY CONTRIBUTIONS HAVE REMAINED WELL ABOVE PRE-GFC LEVELS AS PRICES HAVE INCREASED

## U.S. LEVERAGE MULTIPLES



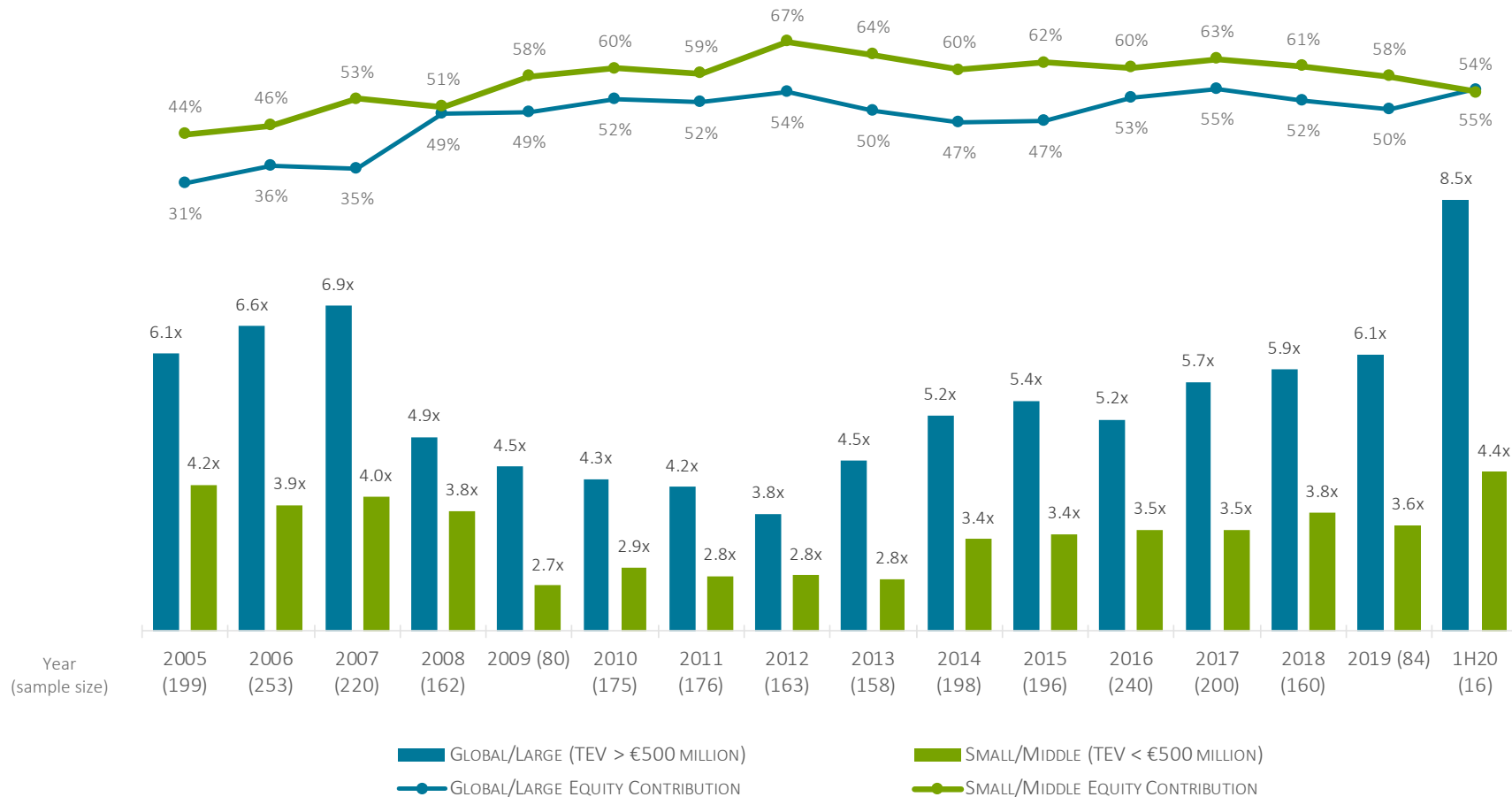
- Leverage multiples in the Global/Large market dipped below 6x in 1H20.
- Prices are high, but capital structures should be more durable as the equity contributions continue to remain at a healthier level than pre-GFC.



# Leverage Multiples

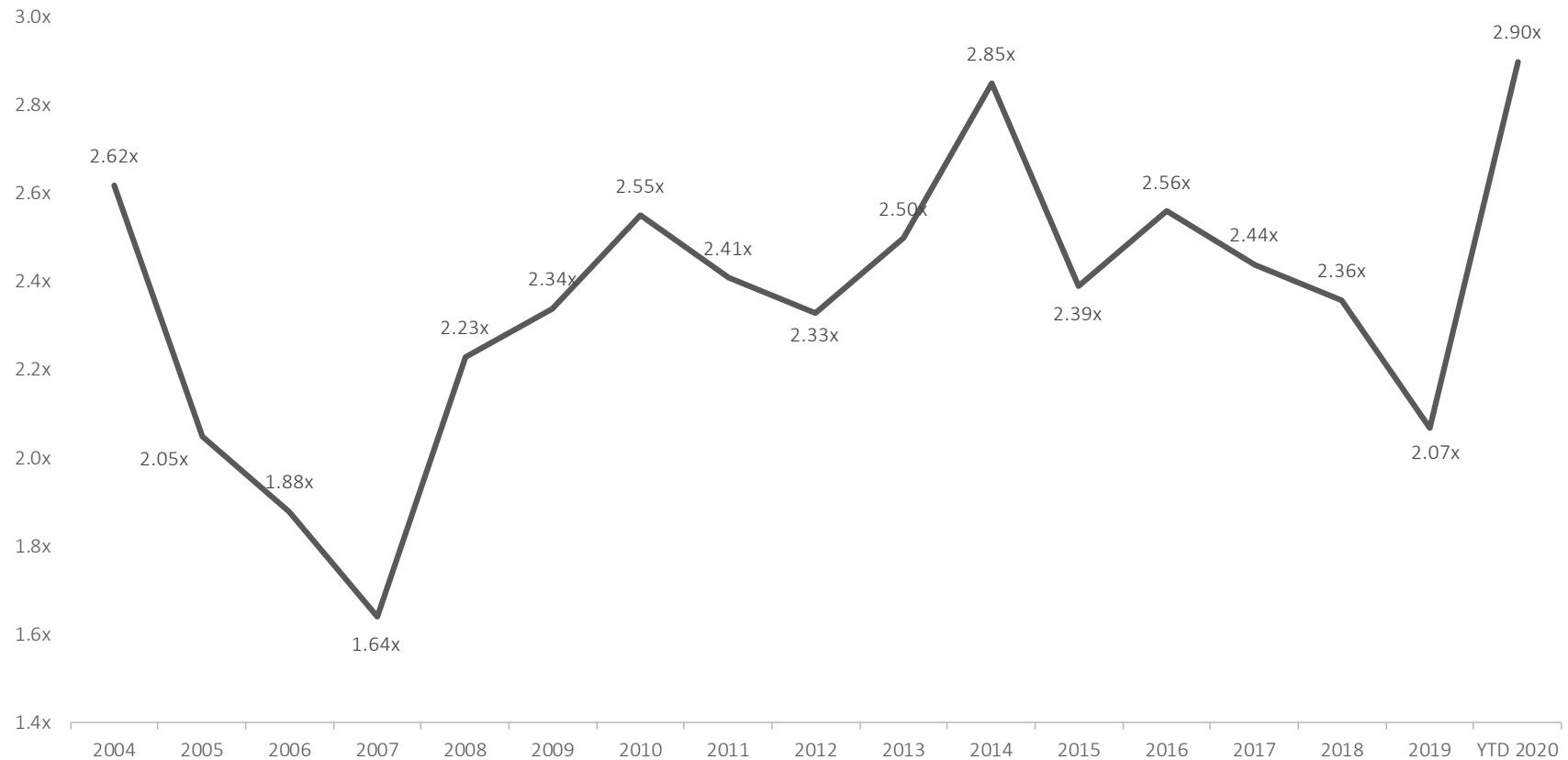
IN EUROPE, LEVERAGE MULTIPLES REMAINED BELOW 2005-2007 THROUGH 2019; THE LARGE SPIKE IN 1H20 IS CONCERNING BUT COULD BE ATTRIBUTED TO THE SMALL SAMPLE SIZE OF 16.

## EUROPEAN LEVERAGE MULTIPLES



INTEREST COVERAGE DIPPED TO A 10+ YEAR LOW IN 2019; BUT FOR YTD 2020, IT'S AT AN ALL-TIME HIGH

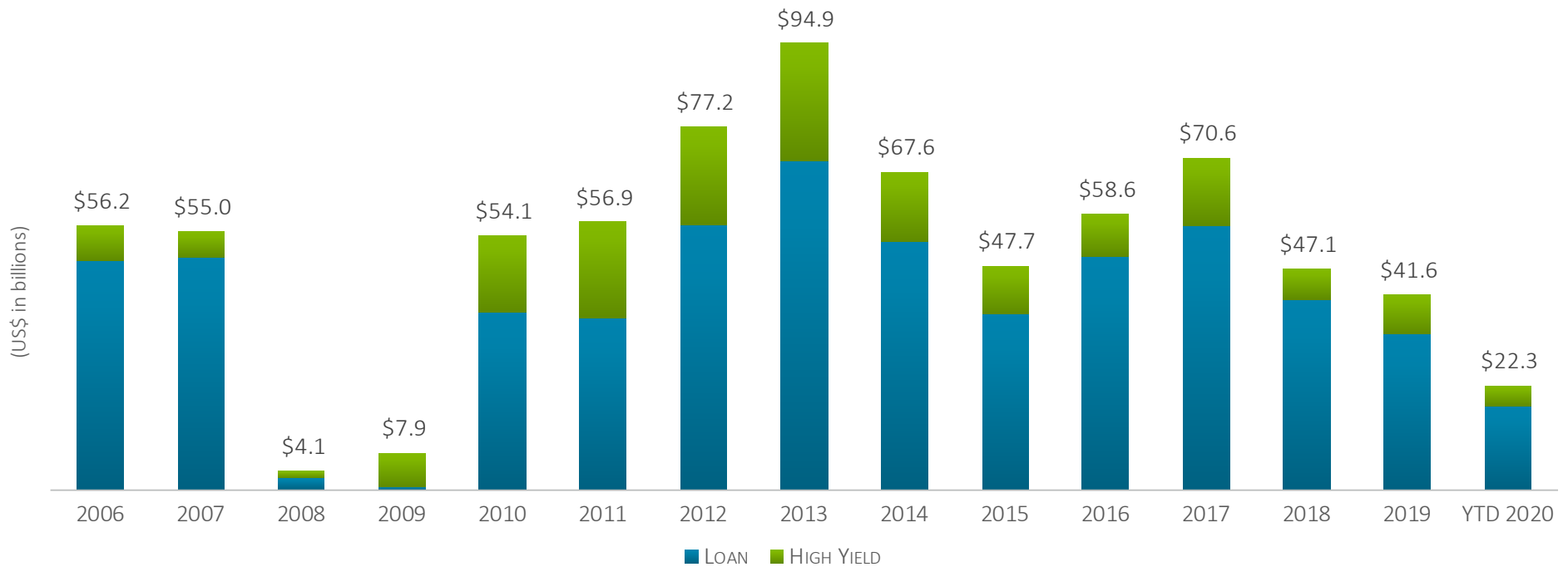
## INTEREST COVERAGE RATIO FOR U.S. LARGE CORPORATE LBOs



- There has been a pullback in credit markets, with smaller sample sizes and higher quality deals getting done.

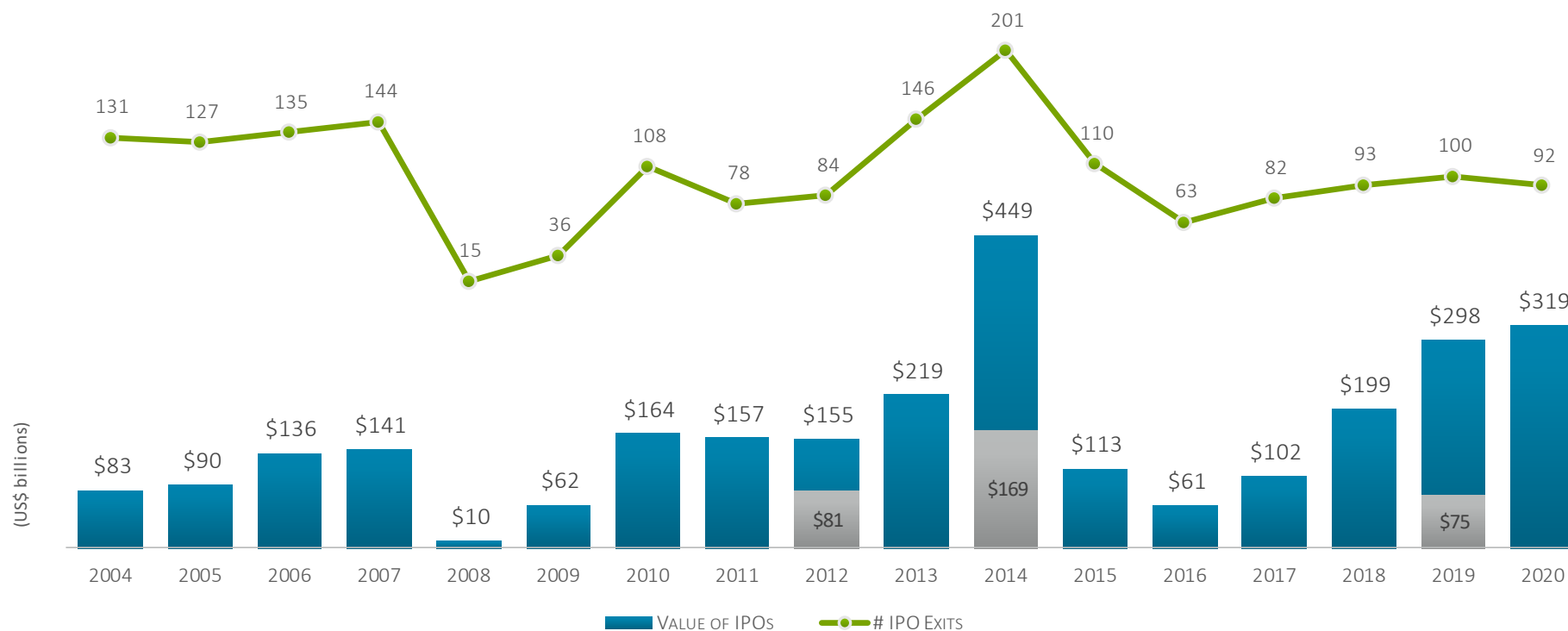
DIVIDEND ACTIVITY HAS BEEN MUTED BUT PICKED UP SUBSTANTIALLY IN Q3 2020 WITH \$20.2 BILLION IN VOLUME

## DIVIDEND/STOCK REPURCHASE VOLUME



## 2020 IS THE SECOND BEST YEAR ON RECORD FOR IPOs

### NYSE AND NASDAQ IPO ACTIVITY BY YEAR

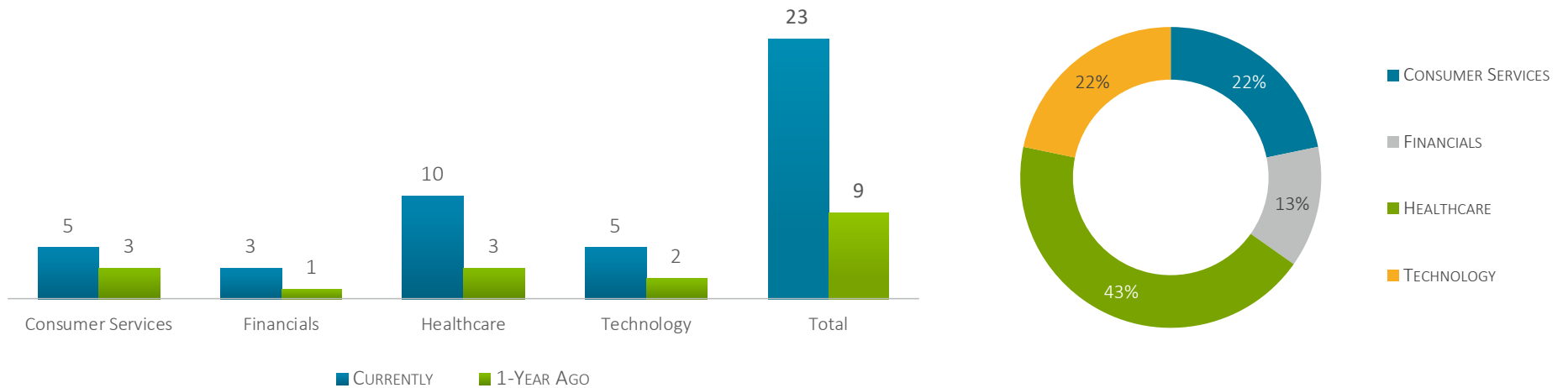


- The largest IPOs during Q3 2020 were KE Holdings (\$69.8b), Snowflake (\$33.5b), and Li Auto (\$20.3b).
- Q1 had 16 IPOs and a total value of \$33b. Q2 had 25 IPOs with a total value of \$62b. Q3 had 51 IPOs with a total value of \$224b.

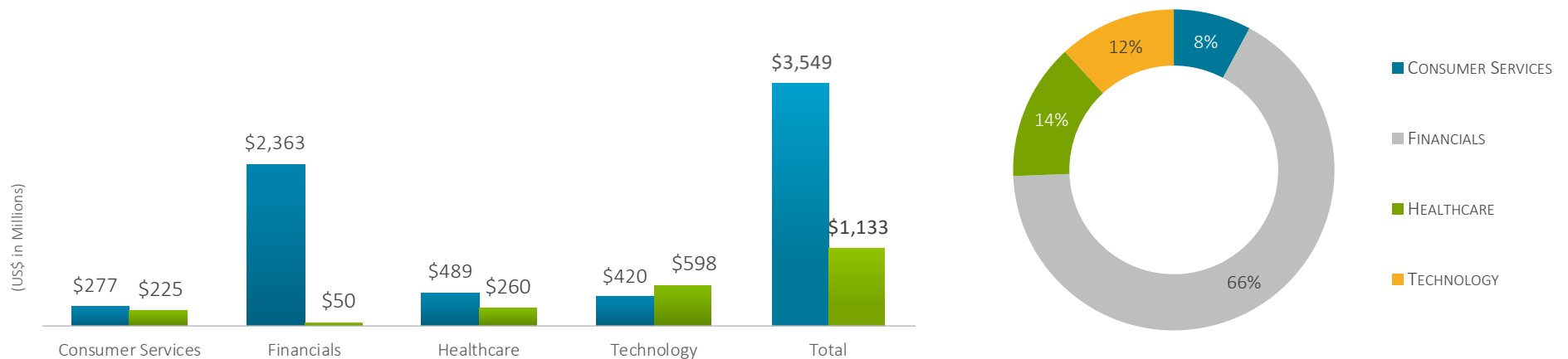
Source: ThomsonOne as of Q3 2020; StepStone Analysis  
 In 2012, the grey bar represents the IPO of Facebook (NASDAQ: FB)  
 In 2014, the grey bar represents the IPO of Alibaba (NYSE: BABA)  
 In 2019, the grey bar represents the IPO of Uber (NYSE: UBER)

## IPO BACKLOG

### NUMBER OF PROPOSED DEALS BY SECTOR



### VALUE OF PROPOSED DEALS BY SECTOR

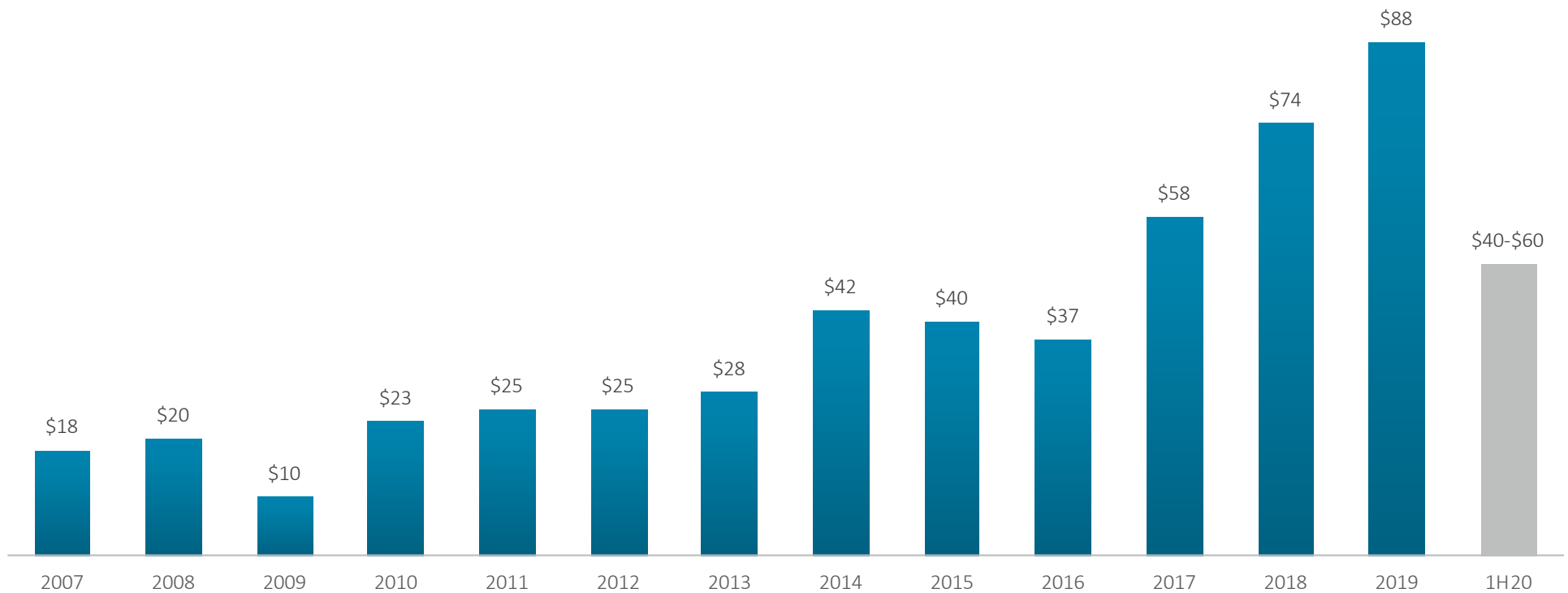


# Secondary Market Overview

## CURRENT INVESTMENT ENVIROMENT

- Secondary market activity has decreased as buyers are focused on their own portfolios and the bid-ask spread is beginning to widen.
- Greenhill is projecting \$40-\$60 billion volume in 2020, roughly half of the 2019's record volume. Evercore recorded \$18 billion of secondary volume in H1 2020.
- Evercore estimates that current dry powder in secondary market is \$115 billion, with 50% of that belonging to the six largest secondary buyers in the market.

## MARKET TRANSACTION VOLUME

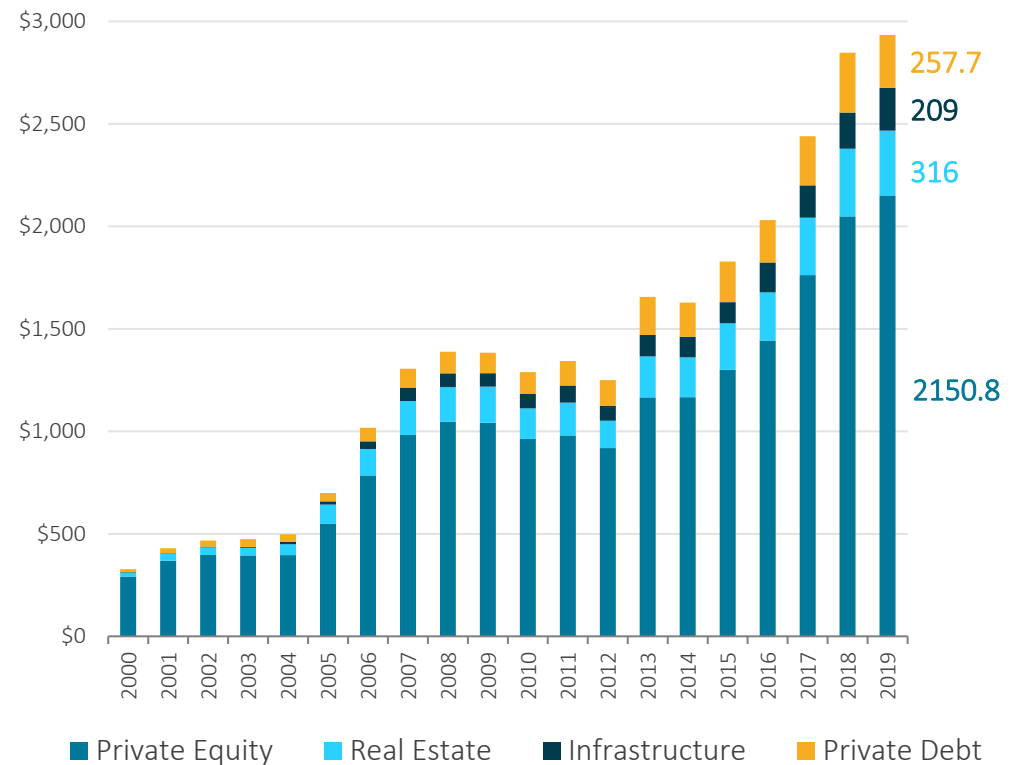


# COVID Private Markets Outlook Excerpt

## THE NATURE OF THE DISLOCATION IS LIKELY TO SHOW PRIVATE MARKETS IN THEIR BEST LIGHT

- General partners are sitting on more than US\$2.9 trillion of dry powder—enabling them to provide support to sound investments needing capital to get through this massive stop in economic activity
- Direct Lending funds have flexibility to renegotiate and support borrowers because they are not levered the way banks are
- Patient capital creates flexibility for more investments to survive the downturn
- However, many funds won't have the capital to support their investments; GPs will need to get creative

PRIVATE MARKETS DRY POWDER (\$B)





## LIQUIDITY / PRICING

- Plenty of companies and asset managers will seek to boost liquidity (draw revolvers, switch to PIK interest, owners putting in equity, lenders providing more debt, a combination of these, etc.)
- Compared to the GFC, both private lenders and traditional banks are in a better position to provide liquidity today
- Price of debt liquidity will reflect the situation and may range from almost no incremental pricing to 1,000bp+ all-in costs, while equity infusions will be substantially more expensive
- Equity owners are moving aggressively to negotiate deferrals with lenders, landlords/tenants; defer capex; take advantage of government programs; and cut costs to preserve liquidity

## COVENANT BREACHES

- Likely to be plentiful; borrowers are in close contact with lenders. So far everybody is interested in finding solutions and addressing them early.
- Lenders that are in control of the facilities (sole or majority lender) will generally have better negotiating position than members of clubs, but the businesses situation will be primary determinant of split of pain between equity and debt
- Equity owners will want to provide support to keep good assets through an unprecedented crisis

## DEFAULTS & LOSS RATES

- Loss rates are expected to spike beyond the long-term average
- Lenders will likely mark down loans early to indicate the increased number of covenant breaches and defaults
- Borrowers will work to preserve equity value, but may need to triage portfolios in older funds, driving opportunity for rescue financing

## 1. MILD UNDERPERFORMANCE

- In a case of mild borrower underperformance leading to an eventual **covenant breach** without any concerns as to the borrower's liquidity or the viability of its business model going forward, the process usually **focuses on a covenant reset** in return for an amendment/ waiver fee.
- These are typically negotiated between the lender, sponsor and/or borrower/ non-sponsored owner.
- In the 3-Month V Scenario, this situation will be the most common, and many assets will avoid even this

## 2. LIQUIDITY ISSUES

- Lenders asking the sponsor or non-sponsored owner to **inject fresh cash equity**
- Asset owners are already enacting most of the following measures to reduce potential equity needs:
  - **Reduce capex** to the minimum required
  - **Optimize working capital**: reduce inventories, extend payables, collect receivables
  - Take out **flexible costs**
  - Reduce certain **fixed costs** like e.g. re-negotiating lease agreements
  - Access **government support** programs for smaller businesses, e.g. the SBA

## 3. FULL RESTRUCTURING

- Senior lenders shut off/defer
  - Any **distributions** e.g., management fees to the equity sponsor/owner
  - Any **contractual cash interest** to subordinated debt providers
- Borrowers ask for/lenders provide:
  - **Deferral/ holiday** of contractual first lien **amortization** payments, **extension of maturities**, or conversion into “payment-in-kind”
- Senior lenders provide **RCF availability** past a borrower default, or business seeks out debtor-in-possession to inject **additional debt**
- In return for leniency, lenders will demand lender friendly amendments to **credit documentation** to reduce possible cash leakage
- New equity or debt/equity swap with debtholders
- Discounted payoffs negotiated with lenders

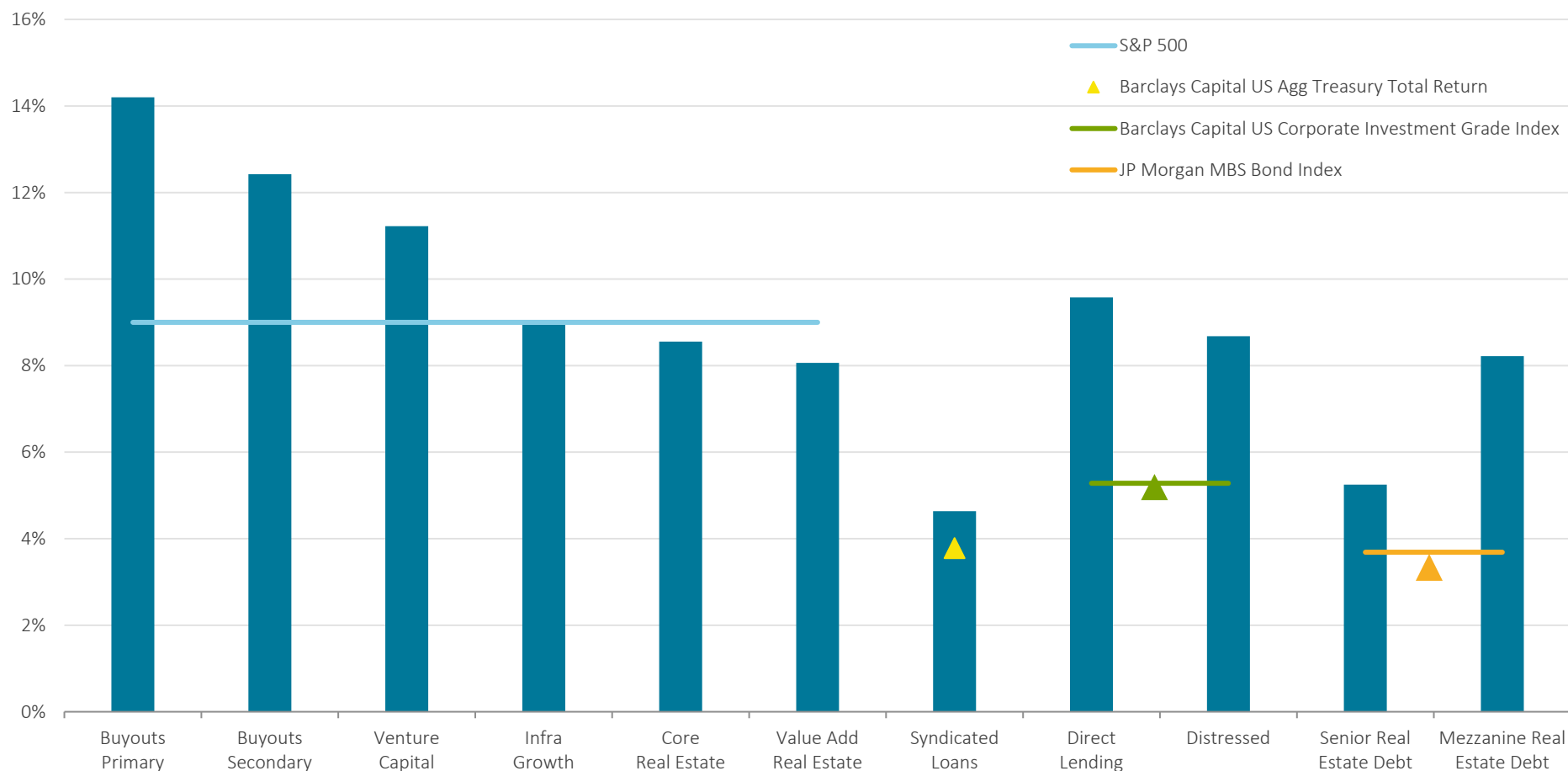
StepStone's advice during the crisis is similar to the advice we gave at the top of the cycle: it is difficult to time markets, especially private markets; but pockets of relative value do exist

- Stay the course—situations like this are why you invest in private markets in the first place
  - Private markets lend stability to a portfolio in an otherwise volatile time
  - GPs have dry powder ready to take advantage of attractive opportunities, in existing assets as well as in new investments
- Lean into the dislocation—seek out opportunities in each phase of the crisis
  - Syndicated loans / CLOs
  - LP Secondaries
  - Asset recapitalizations
  - Distressed / deep value opportunities as cycle progresses
- There will be opportunities in both private and public markets during this crisis; maintain flexibility, and leverage the relationships you have been building through the cycle

## PRIVATE MARKETS HAVE OUTPERFORMED THROUGH THE CYCLE – MAINTAIN DISCIPLINED EXPOSURE

### HISTORICAL PRIVATE vs PUBLIC MARKET RETURNS

ANNUALIZED RETURNS 9/30/2004–9/30/2019)



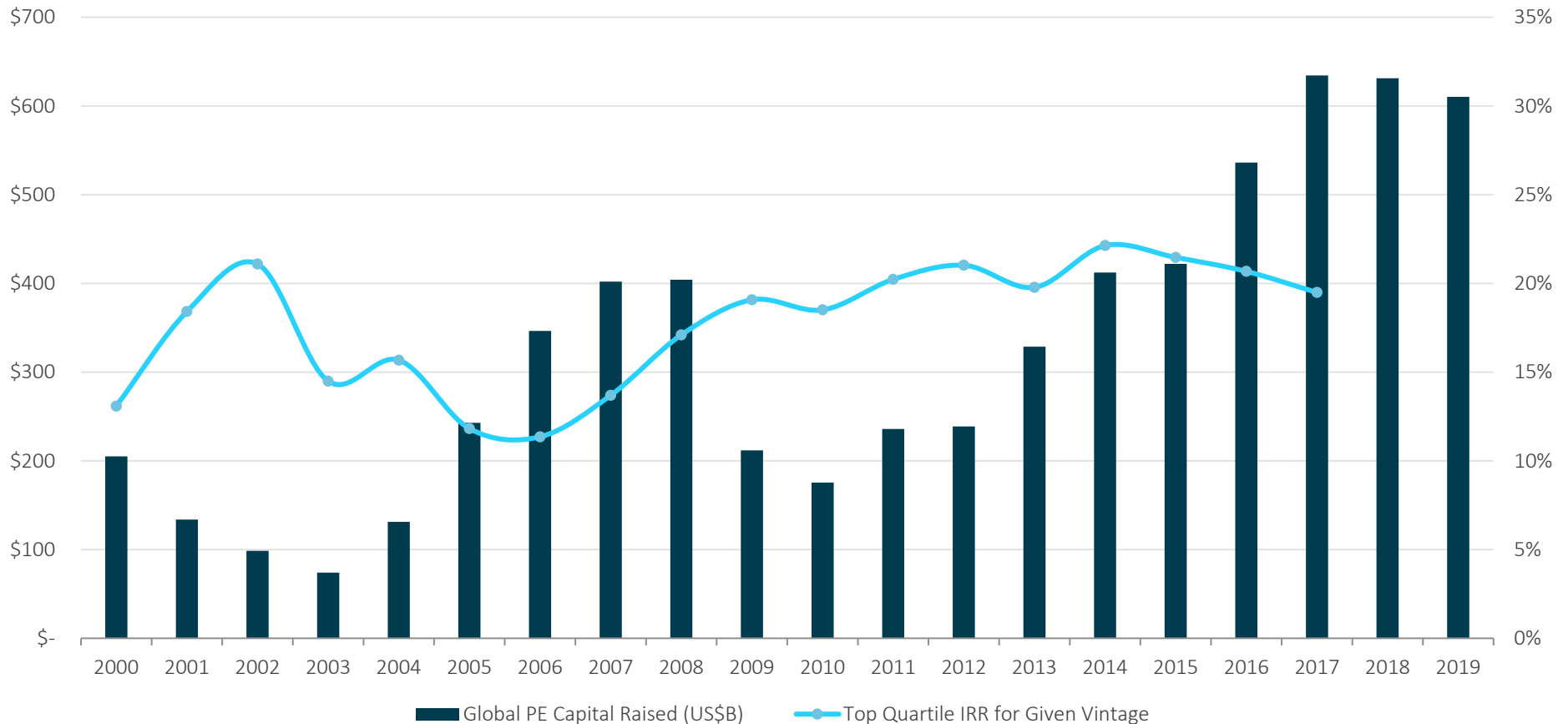
Source: StepStone, Burgiss Private IQ. Note: As of September 30, 2019. The referenced indices/benchmarks are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented. **Past performance is not indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.** For illustrative purposes only. Historic annualized returns from September 30, 2004 – September 30, 2019.

# Resist the Temptation to Time Private Markets

Every asset class will tout its returns coming out of recession; Private Markets perform best when fundraising is low—but so do other assets

Fully invested funds may see returns moderate in the near term and will not be able to capitalize on the current dislocation

## NEGATIVE CORRELATION BETWEEN LP COMMITMENTS & VINTAGE YEAR RETURNS



Source: IRRs are based on the StepStone Portfolio Analytics & Reporting (SPAR) Universe Global All Private Equity benchmark as of September 30, 2019. Post-2017 vintages are deemed to be too immature for the benchmark to provide meaningful Results; Fundraising from Preqin as of April 2020. Data are continuously updated; historical values subject to change.

# Phases of the Downturn

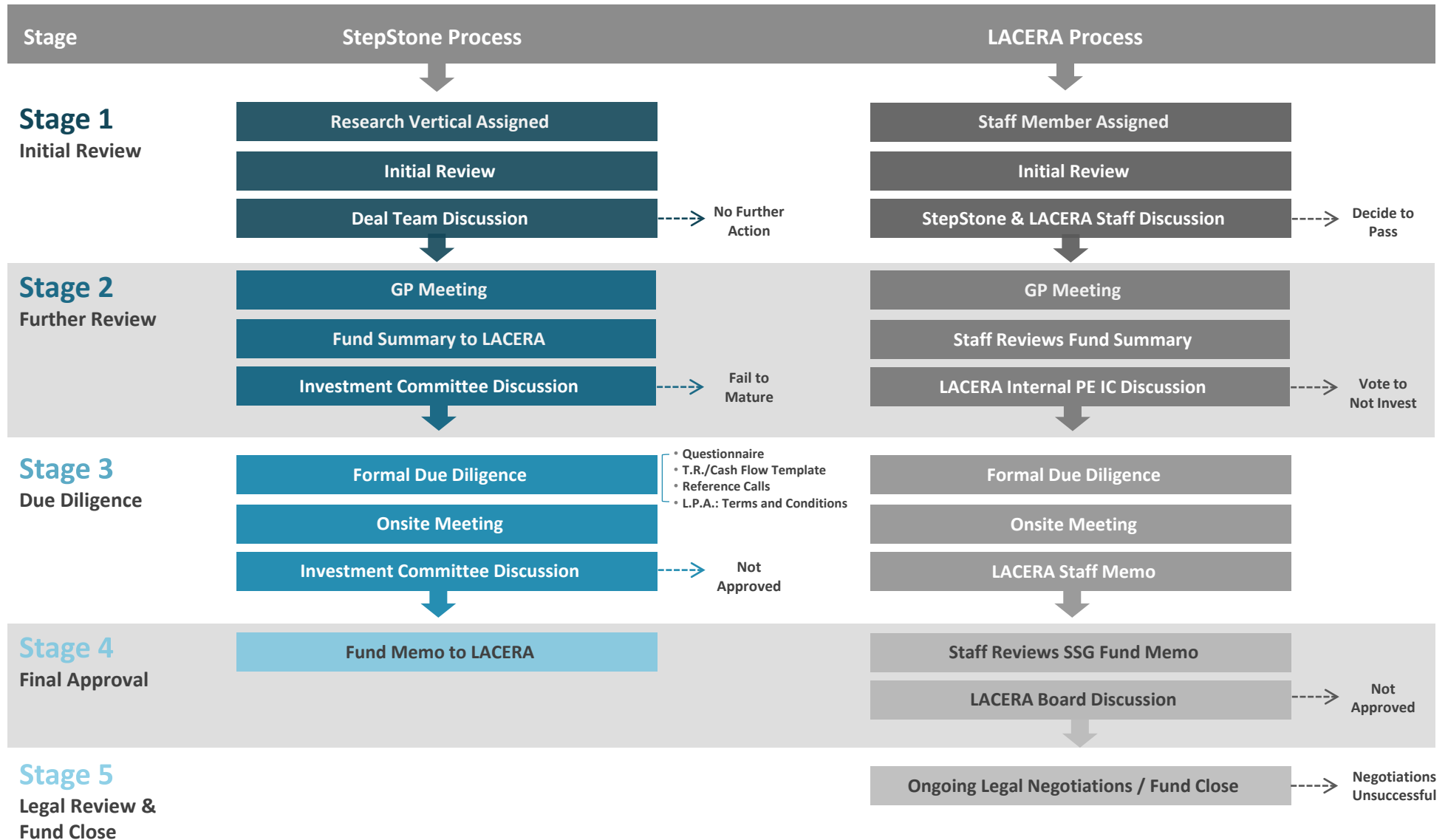
The timing of opportunities will potentially shift through 3 broad phases, but the transitions between phases will be different for each sector

	PHASE 1	PHASE 2	PHASE 3
<b>TIME FROM START OF DISLOCATION</b>	1–6 months	3–12 months	9–24 months
<b>MARKET ENVIRONMENT</b>	<ul style="list-style-type: none"> <li>• High uncertainty drives spike in listed market volatility</li> <li>• Liquidity flows out of markets generally</li> <li>• Wide bid-ask spread leads to significant decline in transaction volume</li> <li>• Markets uncertain about magnitude &amp; length of dislocation</li> </ul>	<ul style="list-style-type: none"> <li>• Listed market volatility moderates, but is still elevated due to lingering uncertainty</li> <li>• Markets develop understanding of magnitude &amp; length of dislocation</li> <li>• Most impacted assets start to capitulate</li> <li>• Bid-ask spread persists for good assets</li> </ul>	<ul style="list-style-type: none"> <li>• Visibility to recovery starts to emerge, further reducing public market volatility</li> <li>• Sellers holding out for tranquil market multiples/cap rates begin to adjust price expectations</li> <li>• Liquidity begins to flow back into risk assets</li> </ul>
<b>SAMPLE OPPORTUNITIES</b>	<ul style="list-style-type: none"> <li>• Focus on high-quality assets</li> <li>• Formerly liquid assets being abandoned by flight to quality</li> <li>• Senior CLO/CMBS tranches</li> <li>• Performing Senior Syndicated loans</li> <li>• Long/short credit</li> </ul>	<ul style="list-style-type: none"> <li>• LP Secondaries: distressed sellers raising capital by selling high-quality assets</li> <li>• Rescue financing/opportunistic credit</li> <li>• Distressed non-control</li> <li>• Junior CLO tranches</li> <li>• Recaps: help Real Estate vehicles restructure balance sheets</li> </ul>	<ul style="list-style-type: none"> <li>• LP Secondaries: broad based rebalancing leads to increased volume of wide variety of assets</li> <li>• Distressed control &amp; restructuring</li> <li>• Recaps for good assets with tired investors/bad capital structure</li> <li>• Turnaround restructuring of mismanaged, deep value assets</li> </ul>

## II. LACERA's Private Equity Investment Process

# Private Equity Investment Process

PROVIDED BELOW IS THE ALTERNATIVES INVESTMENT PROCESS, LEVERAGING STEPSTONE AND LACERA'S RESOURCES





## III. Private Equity Portfolio Review

*Reported data provided by State Street Global Services, and as such are not independently verified by StepStone.*

# Private Equity Portfolio Review



## Executive Summary

- Private Equity portfolio represents \$6.9 billion of Net Asset Value (“NAV”), or 11.8% of LACERA’s total portfolio market value, as of June 30, 2020. This is above LACERA’s target allocation of 10%.
- Since inception, the portfolio has generated a net IRR of 16.0%
- Over the LTM, the portfolio invested \$1.5 billion and received distributions of \$0.8 billion, resulting in net cash outflow of \$551.6 million. The portfolio generated an aggregate net IRR of 7.9%, producing second quartile performance
- LACERA’s Private Equity portfolio is well diversified by strategy, geography, industry, manager and vintage year

LACERA PE Portfolio (US\$ in millions)			
	As of June '20	As of June '19	Yearly Change
Total Commitment	18,756.3	16,636.6	2,119.7
Total Contributions	14,660.9	13,200.3	1,460.6
Unfunded	5,017.4	4,213.0	804.4
Total Distributions	17,089.4	16,180.5	908.9
Market Value	6,895.3	5,859.9	1,035.4
<b>Total Value</b>	<b>23,984.7</b>	<b>22,040.4</b>	<b>1,944.3</b>
<i>Gain/Loss (%)</i>	<i>63.6%</i>	<i>67.0%</i>	<i>-3.4%</i>
<i>Gain/Loss</i>	<i>9,323.8</i>	<i>8,840.0</i>	<i>483.8</i>
TVM	1.6x	1.7x	(0.0x)
DPI	1.2x	1.2x	(0.1x)
Net IRR	16.0%	16.1%	-0.1%

Note: Reported data provided by State Street Global Services, and as such are not independently verified by StepStone.

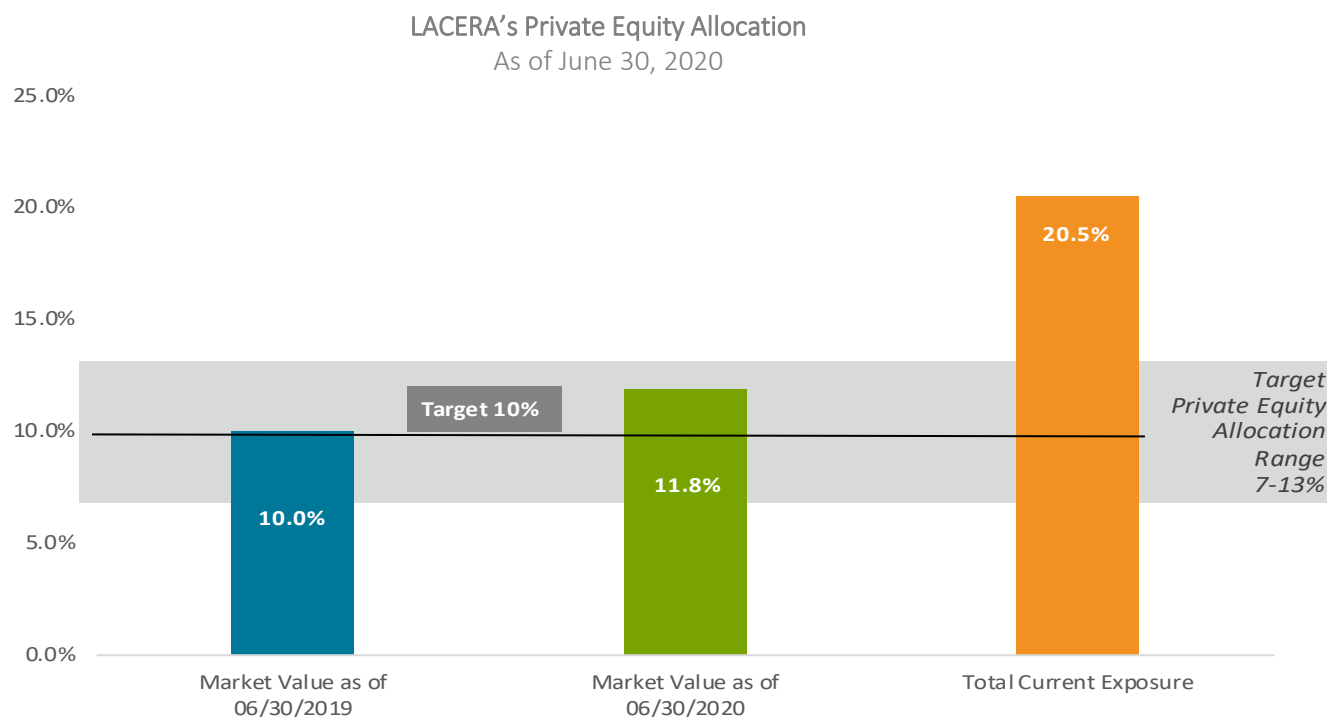
## StepStone Recommendations

- ✓ Continue building a more concentrated portfolio, emphasizing core manager relationships
- ✓ Employ a consistent investment pacing plan incorporating cash flow and liquidity requirements

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

# Private Equity Allocation

- LACERA targets an allocation of 10% for Private Equity investments, with a target range of 7%-13%
- The Private Equity portfolio represents 11.8% of LACERA’s total portfolio by market value, as of June 30, 2020
  - LACERA’s exposure to private equity is within the target range
- LACERA’s Private Equity market value as a percent of total plan increased by ~186 bps year-over-year
- LACERA’s Private Equity exposure as a percent of total plan increased ~330 bps year-over-year
  - Higher exposure due to increased market value and unfunded commitments



**Notes:**

Source: Target Allocations provided in LACERA’s 2020 Private Equity Investment Plan

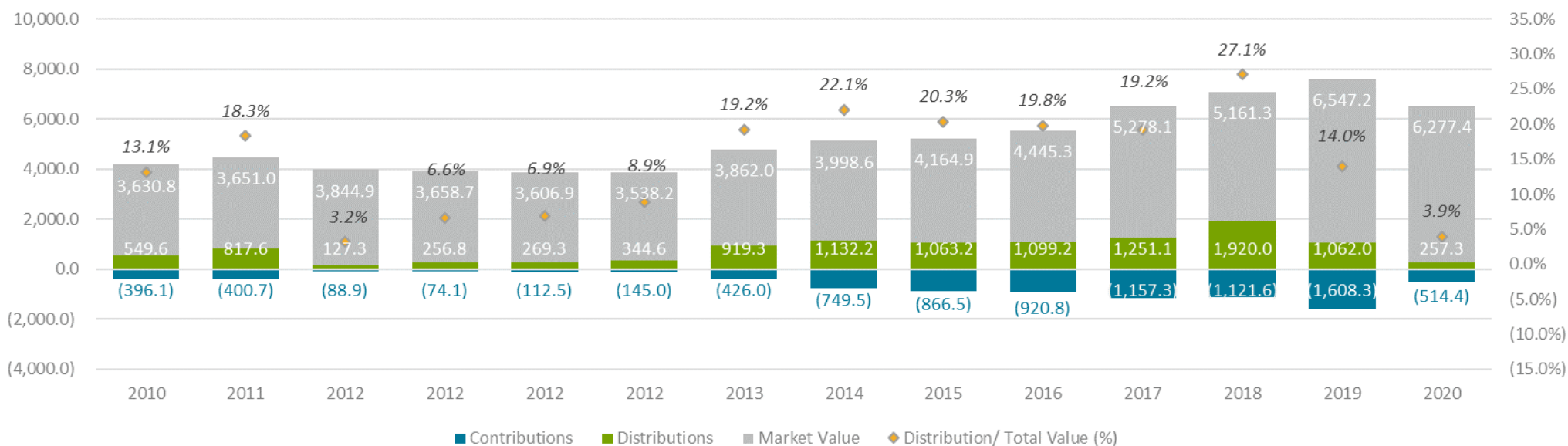
LACERA’s Total Plan Assets of \$58.2 billion as of June 30, 2020 and \$58.6 billion as of June 30, 2019, as provided by LACERA

LACERA Total Current Exposure (Net Asset Value (Market Value) + Unfunded Commitments) is \$11.9 billion as of June 30, 2020

# Annual Cash Flow

- Over the past 10 years, LACERA’s PE Portfolio has recorded a total of \$8.9 billion in contributions and \$11.1 billion in distributions, resulting in a total positive net cash flow of \$2.5 billion
- The portfolio has recorded strong distributions since 2013, receiving an average of approximately 20% of ending NAV in distributions annually
- For the first half of 2020, LACERA has received \$257.3 million in distributions, representing ~4% of total NAV of \$6.3 billion

Annual Contributions and Distributions (USD in millions) As of June 30, 2019

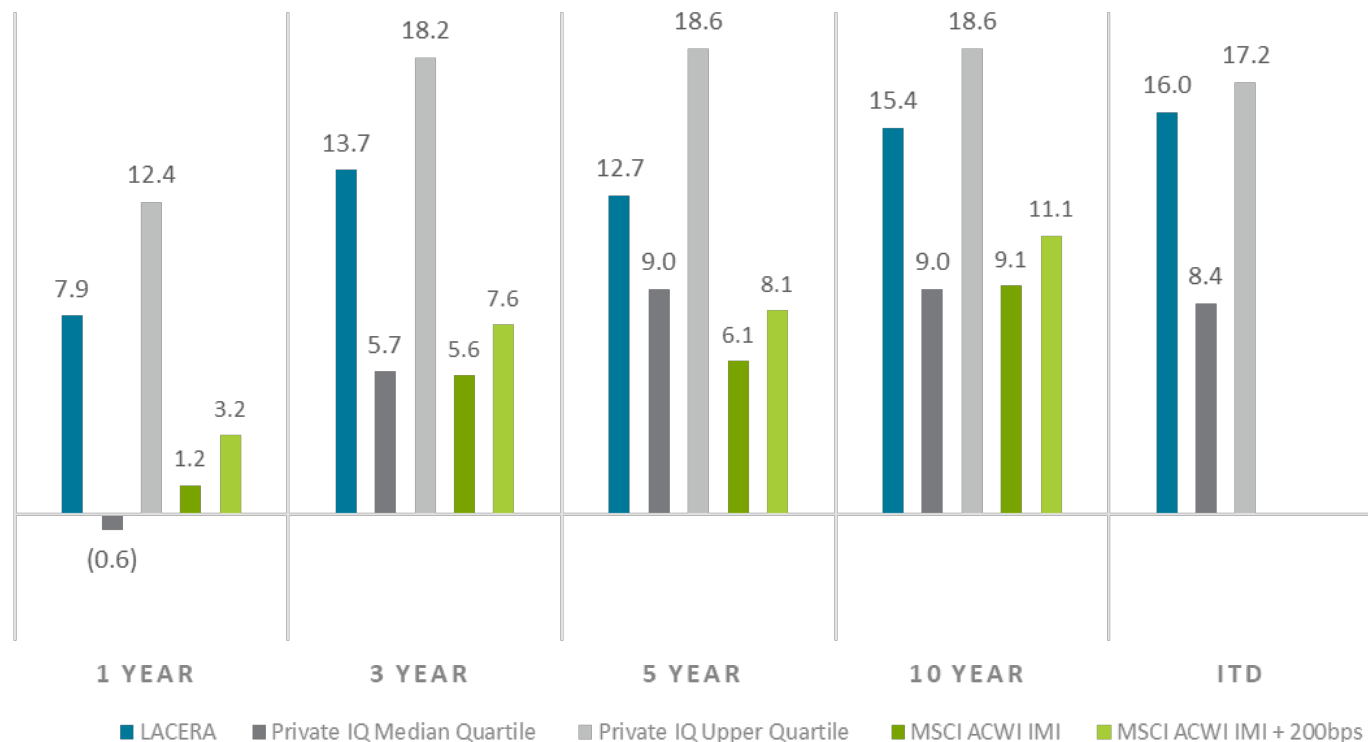


**Notes:**

Annual Contributions and Distributions combines cash flow activity between calendar years of 2010-2020  
 2018 Distributions include cash distributions from secondary sales  
 Reported data provided by State Street Global Services, and as such are not independently verified by StepStone  
 Contributions and distribution data reflect cash flow activity within the given calendar year  
 Market Value data above reflects LACERA’s Year-End Total Market Value for the fiscal year

# Private Equity Performance

Benchmark Comparison as of June 30, 2020



- Over the last 12 months, the portfolio produced a second quartile return, generating a net IRR of 7.9%. The portfolio outperformed the MSCI ACWI IMI index by 6.2%
- As of June 30, 2020, LACERA's 10-year net performance of 15.4% outperformed the MSCI ACWI IMI by 5.7%
- LACERA's ITD net IRR of 16.0% places the Private Equity portfolio in the second quartile relative to Private IQ benchmarks
- Since inception, LACERA's portfolio has underperformed the Private IQ Upper Quartile index by 1.2%

Benchmark (%) Comparison					
	1 Year	3 Year	5 Year	10 Year	ITD
<b>LACERA</b>	<b>7.9</b>	<b>13.7</b>	<b>12.7</b>	<b>15.4</b>	<b>16.0</b>
Private IQ Median Quartile	(0.6)	5.7	9.0	9.0	8.4
Private IQ Upper Quartile	12.4	18.2	18.6	18.6	17.2
MSCI ACWI IMI	1.2	5.6	6.1	9.1	NA
MSCI ACWI IMI + 200bps	3.2	7.6	8.1	11.1	NA

<sup>1</sup> Private IQ benchmarks are provided by The Burgiss Group and reflect All Global Private Equity Funds as of June 30, 2020 in USD currency. Total Portfolio benchmarks reflect vintage years 1986 through 1988, 1990, 1992 through 2008, and 2010 through 2020. Note: Benchmark data is continuously updated by The Burgiss Group and may be subject to change.

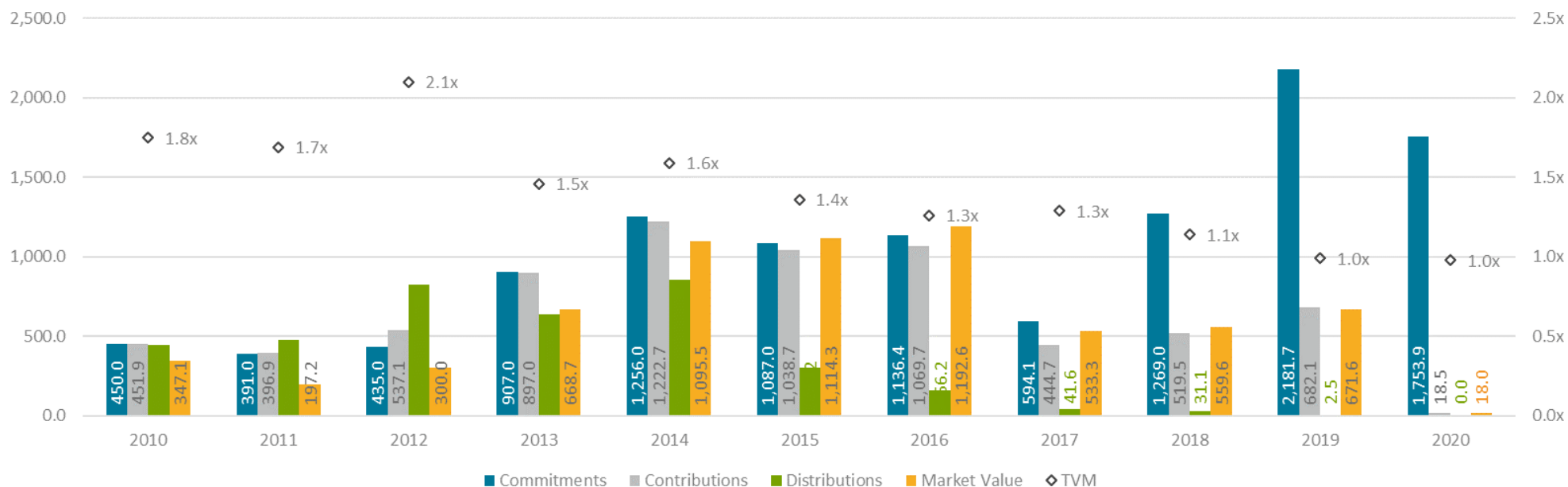
Notes: These index comparisons are being provided solely for informational purposes as an indication of returns that could be earned by investors by making similar investments in the MSCWI ACWI and should not be relied upon for any purpose

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

# Private Equity Commitments by Vintage Year

- Since 2010, LACERA has committed \$11.5 billion to 119 investments <sup>1</sup>
  - As of June 30, 2020, these commitments have drawn down \$7.3 billion, distributed \$3.8 billion, and have a reported market value of \$6.7 billion
  - Investments made since 2010 have generated a total net return of 1.4x TVM
- Vintage 2012 funds have produced the highest return over the last 10 years, generating a total return of 2.1x TVM
  - Clearlake, Summit and Lightyear are the best performing 2012 funds and account for the majority of value creation

Portfolio Metrics by Vintage Year  
(USD in millions)  
As of June 30, 2020



<sup>1</sup>Underlying investments managed by the J.P Morgan Emerging Managers Program have been aggregated in the investment count.

Notes:

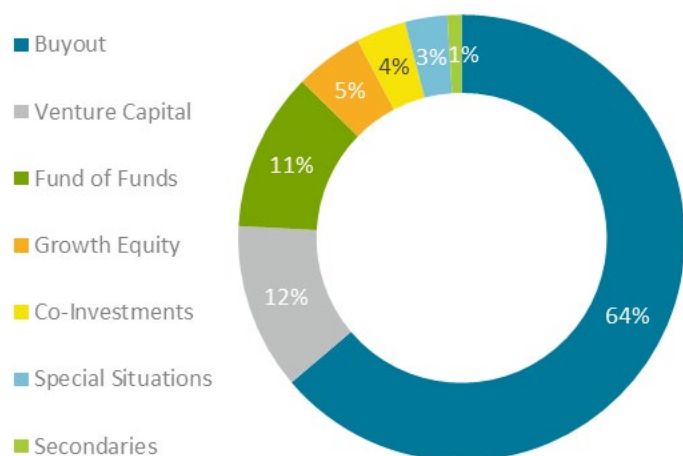
Portfolio Metrics by Vintage Year includes data for vintage years 2010-2020. Vintage year reflects LACERA's first cashflow, which may be different from the fund's vintage year (defined as fund's first cash flow).

Contribution and Distribution data above reflects contributions and distributions attributable to investments with a given vintage year.

Market Value data above reflect total market value for investments with a given vintage year; this is different from LACERA's year-end total private equity portfolio value.

# Performance by Strategy

## Total Exposure by Strategy (US\$11.9 billion)



- Buyout funds represent the largest strategy in LACERA's portfolio, representing 64% of the aggregate exposure as of June 30, 2020
- Since inception, 182 Buyout funds generated a 1.6x TVM and have realized a 1.2x DPI as of June 30, 2020
  - Over half are first or second quartile: 48 Buyout funds are first quartile funds and 61 are second quartile
- Growth Equity funds have produced the strongest returns. 18 Growth Equity funds generated a 2.1x TVM
  - 15 of the 18 Growth Equity funds are first and second quartile funds
  - Commitments in Summit Partners, Technology Crossover Venture, and JMI Equity account for 56% of all commitments in Growth Equity investments

As of June 30, 2020 (USD in millions)

STRATEGY	NO. OF INV <sup>1</sup>	EXPOSURE	COMM	MARKET VALUE	IRR	1 YR	3 YR	5 YR	TVM	DPI	NO. OF FUNDS BY TVPI QUARTILES <sup>2</sup>			
											First	Second	Third	Fourth
Buyout	182	7,598.4	12,359.8	4,011.8	13.6	5.7	12.4	13.0	1.6x	1.2x	48	61	47	26
Venture Capital	99	1,437.9	1,990.4	986.0	21.7	16.8	18.8	11.4	1.9x	1.3x	29	23	28	19
Fund of Funds	12	1,369.2	1,426.4	952.2	11.9	7.5	18.2	17.7	1.6x	0.8x	18	26	15	8
Growth Equity	18	588.9	943.3	309.0	86.8	5.2	17.0	18.2	2.1x	1.7x	8	7	1	2
Co-Investments	9	430.8	753.4	299.2	17.9	13.4	8.8	7.7	1.6x	1.2x	4	3	2	
Special Situations	21	365.0	1,023.2	233.3	8.5	4.8	6.0	1.9	1.3x	1.1x	2	10	3	6
Secondaries	11	122.6	259.7	103.9	17.3	29.1	26.3	18.7	1.4x	1.0x	3	4	4	
<b>Total</b>	<b>352</b>	<b>11,912.7</b>	<b>18,756.3</b>	<b>6,895.3</b>	<b>16.0</b>	<b>7.9</b>	<b>13.7</b>	<b>12.7</b>	<b>1.6x</b>	<b>1.2x</b>	<b>112</b>	<b>131</b>	<b>101</b>	<b>63</b>

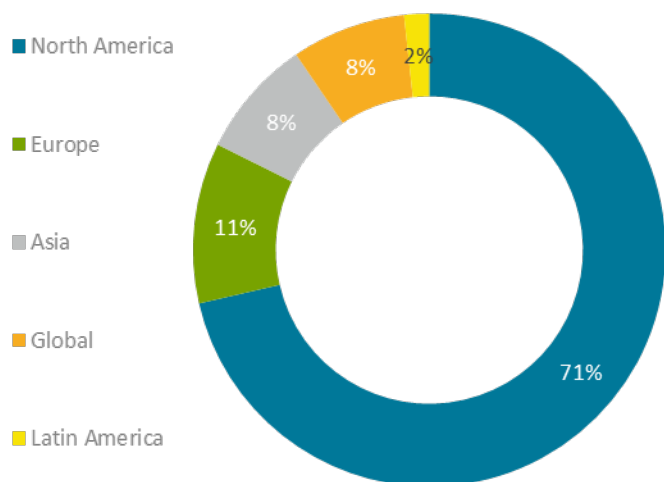
<sup>1</sup>Underlying investments managed by the J.P Morgan Emerging Managers Program have been aggregated in the count of investments.

<sup>2</sup>Private iQ benchmarks are provided by The Burgiss Group and reflect 25th percentile/Lower, 50th percentile/Median, and 75th percentile/Upper TVPI at June 30, 2020 in USD currency. Each Fund was benchmarked by the attributable vintage year of All Global Private Equity Funds. Fund's vintage year reflects LACERA's first cashflow, which may be different from the fund's vintage year (defined as fund's first cash flow). Underlying investments in J.P Morgan Emerging Managers Program have been benchmarked as individual funds.

Note: Benchmark data is continuously updated by The Burgiss Group and may be subject to change.

# Performance by Geography

## Total Exposure by Geography (US\$11.9 billion)



- LACERA's largest exposure is North America
  - 292 North American funds represent \$14.2 billion of commitments since inception and \$5.3 billion of market value as of June 30, 2020
  - 206 funds (or 61% of funds) rank in the first and second quartile
    - Represents an increase of ~700 bps year-over-year
- Asian funds have generated the strongest returns
  - 12 funds generated a net TVM and IRR of 1.8x and 19.3%, respectively<sup>1</sup>
- Two Latin America funds with fourth quartile performance are recent vintages
  - Australis I, a 2016 vintage, has generated a net TVM/IRR of 1.1x/4%
  - Vinci III, a 2019 vintage, has generated a net TVM/IRR of 0.8x/-24%

As of June 30, 2020 ( USD in millions)

GEOGRAPHY	NO. OF INV	EXPSOURE	COMM	MARKET VALUE	IRR	1 YR	3 YR	5 YR	TVM	DPI	NO. OF FUNDS BY TVPI QUARTILES <sup>2</sup>			
											First	Second	Third	Fourth
North America	292	8,502.3	14,193.6	5,274.3	16.1	8.3	14.1	12.9	1.7x	1.2x	93	113	85	49
Europe	32	1,308.9	2,420.5	401.4	15.0	(3.1)	9.2	12.4	1.5x	1.3x	8	8	9	8
Asia	12	967.1	733.0	706.6	19.3	14.0	20.6	16.5	1.8x	0.3x	6	4	6	1
Global	14	931.1	1,209.3	406.5	15.9	4.1	2.3	4.5	1.5x	0.9x	5	6	1	3
Latin America	2	203.2	200.0	106.5	1.4	1.6	3.0		1.0x	0.0x		2		
<b>Total</b>	<b>352</b>	<b>11,912.7</b>	<b>18,756.3</b>	<b>6,895.3</b>	<b>16.0</b>	<b>7.9</b>	<b>13.7</b>	<b>12.7</b>	<b>1.6x</b>	<b>1.2x</b>	<b>112</b>	<b>131</b>	<b>101</b>	<b>63</b>

<sup>1</sup>Underlying investments managed by the J.P Morgan Emerging Managers Program have been aggregated in the count of investments

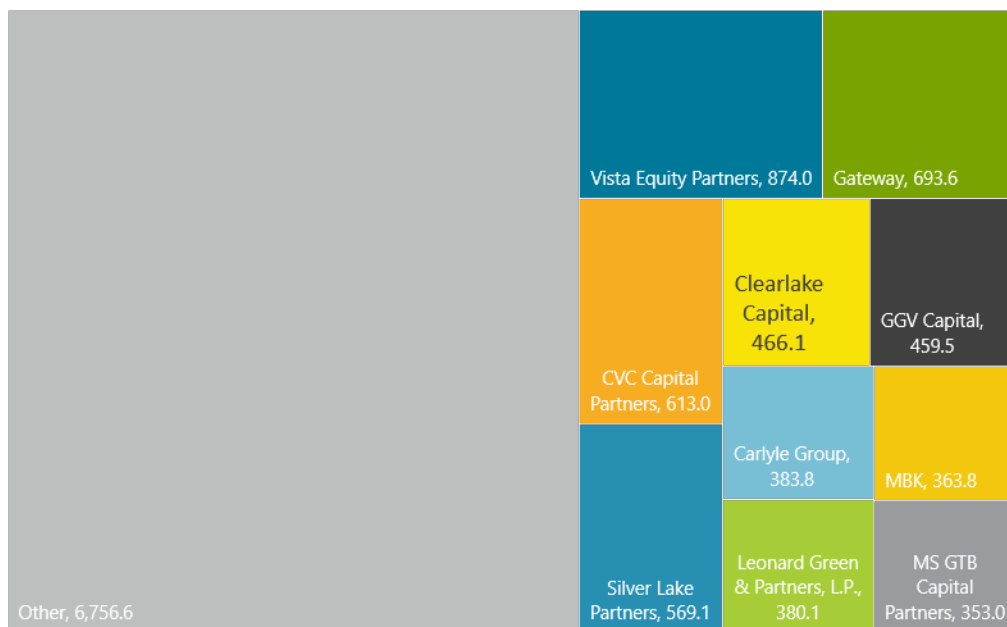
<sup>2</sup>Private iQ benchmarks are provided by The Burgiss Group and reflect 25th percentile/Lower, 50th percentile/Median, and 75th percentile/Upper TVPI at June 30, 2020 in USD currency. Each Fund was benchmarked by the attributable vintage year of All Global Private Equity Funds. Fund's vintage year reflects LACERA's first cashflow, which may be different from the fund's vintage year (defined as fund's first cash flow). Underlying investments in J.P Morgan Emerging Managers Program have been benchmarked as individual funds.

Note: Benchmark data is continuously updated by The Burgiss Group and may be subject to change.



# Portfolio Exposure by Manager

Total Exposure by Manager (US\$11.9 billion)

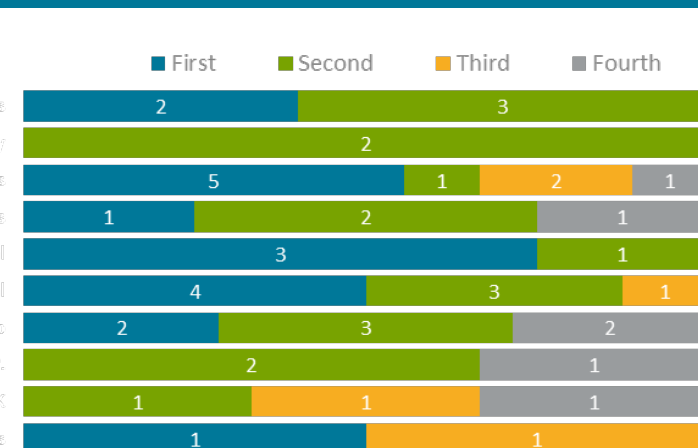


- The grid depicts LACERA's current exposure by underlying manager
- As of June 30, 2020, the ten largest managers account for 43% of total exposure, or \$5.0 billion out of \$11.9 billion
- Vista represents the largest relationship for LACERA, representing \$750.0 million of commitments and \$874.0 million of exposure.
- Commitments to five Vista funds have generated an aggregate net TVM/IRR of 1.7x/20.9%

As of June 30, 2020 (USD in millions)

MANAGER	NO. OF INV	EXPOSURE	COMM	MARKET VALUE	Net IRR	TVM	DPI
Vista Equity Partners	5	874.0	750.0	629.4	20.9	1.7x	0.8x
Gateway	2	693.6	600.0	596.3	14.5	1.6x	0.5x
CVC Capital Partners	9	613.0	862.6	244.9	20.8	1.7x	1.3x
Silver Lake Partners	4	569.1	545.0	299.7	19.4	1.6x	0.7x
Clearlake Capital	4	466.1	412.0	270.9	37.4	1.8x	1.0x
GGV Capital	8	459.5	275.0	393.6	22.2	2.2x	0.3x
Carlyle Group	7	383.8	557.9	301.0	18.1	1.5x	1.0x
Leonard Green & Partners	3	380.1	350.0	160.4	12.6	1.2x	0.0x
MBK	3	363.8	370.0	179.2	10.2	1.3x	0.4x
MS GTB Capital Partners	2	353.0	650.0	246.4	11.4	1.6x	1.2x

NO. OF FUNDS IN TVPI QUARTILE <sup>1</sup>



<sup>1</sup>Private iQ benchmarks are provided by The Burgiss Group and reflect 25th percentile/Lower, 50th percentile/Median, and 75th percentile/Upper TVPI as of June 30, 2020 in USD currency. Each fund was benchmarked by the attributable vintage year of All Global Private Equity Funds'. Fund's vintage year reflects LACERA's first cashflow, which may be different from the fund's vintage year (defined as fund's first cash flow).

Note: Benchmark data is continuously updated by The Burgiss Group and may be subject to change.

# Returns by Vintage Year



As of June 30, 2020 (USD in millions)

Vintage Year	No. of Funds <sup>1</sup>	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Total Value	DPI	TVPI	Net IRR	IRR Quartile	Private IQ Benchmark <sup>2</sup>		
											Upper IRR	Median IRR	Lower IRR
1986	3	80.0	80.0	267.5	-	267.5	3.3x	3.3x	15.7	First	12.9	7.6	5.4
1987	1	25.0	25.0	40.3	-	40.3	1.6x	1.6x	7.2	Third	19.5	12.5	4.1
1988	2	200.0	216.6	466.9	-	466.9	2.2x	2.2x	15.5	Second	19.9	11.2	6.5
1990	1	7.5	7.5	16.7	-	16.7	2.2x	2.2x	13.0	Third	23.7	16.6	8.5
1992	10	116.0	111.0	242.5	-	242.5	2.2x	2.2x	29.0	First	27.2	17.6	5.8
1993	8	68.0	64.8	239.5	-	239.5	3.7x	3.7x	39.7	First	38.6	17.8	10.1
1994	5	56.9	58.8	237.6	-	237.6	4.0x	4.0x	54.1	First	35.4	18.7	6.8
1995	7	100.5	102.3	362.6	-	362.6	3.5x	3.5x	43.1	First	34.4	14.1	3.2
1996	12	222.9	225.2	608.8	-	608.8	2.7x	2.7x	37.4	First	31.6	9.3	0.9
1997	11	397.5	410.4	606.4	-	606.4	1.5x	1.5x	7.7	Third	24.3	8.1	0.5
1998	22	644.4	655.2	943.6	2.4	946.0	1.4x	1.4x	7.3	Third	16.5	7.9	-1.7
1999	21	360.9	369.7	436.4	0.4	436.7	1.2x	1.2x	3.4	Second	9.8	-0.5	-9.1
2000	25	376.5	387.3	574.8	0.2	575.1	1.5x	1.5x	8.7	Second	13.3	4.1	-5.1
2001	15	416.7	442.3	833.4	3.8	837.2	1.9x	1.9x	21.7	First	21.2	8.0	-0.2
2002	8	220.4	230.3	537.4	-	537.4	2.3x	2.3x	19.0	Second	22.9	13.3	4.0
2003	8	315.6	338.4	699.2	2.0	701.1	2.1x	2.1x	21.3	First	21.1	10.7	3.4
2004	7	373.5	392.2	741.9	7.3	749.2	1.9x	1.9x	19.5	First	15.4	8.4	-0.9
2005	15	534.1	506.1	1,037.3	3.3	1,040.5	2.1x	2.1x	13.3	First	12.1	6.5	0.2
2006	28	1,572.6	1,603.8	2,520.3	65.4	2,585.7	1.6x	1.6x	8.9	Second	11.8	5.5	0.0
2007	11	523.5	459.1	758.1	36.6	794.7	1.7x	1.7x	11.3	Second	13.6	8.6	2.1
2008	10	682.6	696.3	1,148.5	75.9	1,224.4	1.7x	1.8x	13.1	Second	15.3	8.1	1.2
2010	20	450.0	451.9	443.8	347.1	790.9	1.0x	1.8x	14.9	Second	17.7	10.9	4.3
2011	7	391.0	396.9	474.0	197.2	671.3	1.2x	1.7x	13.9	Second	20.2	12.9	5.8
2012	7	435.0	537.1	825.3	300.0	1,125.3	1.5x	2.1x	23.3	First	18.9	12.3	6.4
2013	10	907.0	897.0	640.0	668.7	1,308.7	0.7x	1.5x	12.5	Second	19.5	11.9	5.8
2014	26	1,256.0	1,222.7	852.3	1,095.5	1,947.8	0.7x	1.6x	16.3	Second	20.6	12.4	6.2
2015	10	1,087.0	1,038.7	303.2	1,114.3	1,417.5	0.3x	1.4x	13.4	Second	19.5	11.6	5.6
2016	12	1,136.4	1,069.7	156.2	1,192.6	1,348.8	0.2x	1.3x	12.5	Second	19.2	10.5	4.7
2017	22	594.1	444.7	41.6	533.3	574.9	0.1x	1.3x	16.5	Second	20.0	9.9	2.4
2018	17	1,269.0	519.5	31.1	559.6	590.7	0.1x	1.1x	13.0	Second	15.3	5.0	-7.6
2019	30	2,181.7	682.1	2.5	671.6	674.1	0.0x	1.0x	(1.7)	Second	6.4	-7.8	-24.5
2020	16	1,753.9	18.5	0.0	18.0	18.0	0.0x	1.0x	(4.6)	Second	-2.0	-10.8	-21.2
<b>Total</b>	<b>407</b>	<b>18,756.3</b>	<b>14,660.9</b>	<b>17,089.4</b>	<b>6,895.3</b>	<b>23,984.7</b>	<b>1.2x</b>	<b>1.6x</b>	<b>16.0</b>	<b>Second</b>	<b>17.2</b>	<b>8.4</b>	<b>-0.5</b>

<sup>1</sup> Underlying investments in J.P Morgan Emerging Managers Program are counted as individual funds.

<sup>2</sup> Private IQ benchmarks are provided by The Burgiss Group and reflect All Global Private Equity Funds' 25th percentile/Lower, 50th percentile/Median, and 75th percentile/Upper IRRs as of June 30, 2020 in USD currency. Total Portfolio benchmarks reflect vintage years 1986 through 1988, 1990, 1992 through 2008, and 2010 through 2019. Note: Benchmark data is continuously updated by The Burgiss Group and may be subject to change.

Note: Returns by Vintage Year reflect LACERA's total portfolio, including exited investments. Commitment data above reflects commitments made to funds with a given vintage year; this is different from the year in which a fund is approved by LACERA's board.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses. The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

# 2020 Portfolio Summary



- Year to date, LACERA approved \$1.6 billion of commitments, compared to the target commitments of \$1.6 billion (+/- 20%)
- A summary of commitments by strategy and sector as of December 2020 is provided below:

Investments	Investment Strategy	Investment Sub-Strategy	Industry Focus	Commitment ( USD in millions)
Montefiore Investment V S.L.P.	Buyout	Small Buyout	Generalist	45
Clearlake Capital Partners VI	Buyout	Large Buyout	Generalist	160
Summit Partners Europe Growth Equity Fund III, SCSP	Growth Equity	Medium Growth Equity	Generalist	38
One Rock Capital Partners III, LP	Buyout	Middle Buyout	Industrial	150
Co-invest #1	Co-Investment	N/A	N/A	30
Thoma Bravo Discover Fund III, LP	Buyout	Small Buyout	Technology	50
Thoma Bravo Fund XIV, LP	Buyout	Large Buyout	Technology	100
Canaan XII L.P.	Venture Capital	Early Stage	Technology	100
Silver Lake Partners VI, L.P.	Buyout	Global Buyout	Technology	200
CVC Capital Partners VIII, L.P.	Buyout	Global Buyout	Generalist	218
Co-invest #2	Co-Investment	N/A	N/A	20
STG VI, L.P.	Buyout	Middle Buyout	Technology	100
Centerbridge IV, L.P.	Buyout	Equity Turnaround	Generalist	150
GGV VIII / Plus / Discovery 1	Venture Capital	Balanced	Technology	120
Co-invest #3	Co-Investment	N/A	N/A	20
Ampersand CF	Secondary	Small Buyout	Healthcare	70
<b>TOTAL</b>				<b>1,571</b>

## IV. 2021 Strategic Planning

# 2021 Considerations

Existing managers that are in market or likely to fundraise in the next 12-18 months, categorized by strategy

LACERA Relationships			
Buyout		Growth Equity / Venture Capital	Secondary Funds
<ul style="list-style-type: none"> <li>• AE Industrial</li> <li>• Accel-KKR Growth</li> <li>• Alchemy Special Opportunities</li> <li>• BDCM</li> <li>• Excellere</li> <li>• Harvest Partners*</li> <li>• Hellman &amp; Friedman</li> <li>• Insignia</li> </ul>	<ul style="list-style-type: none"> <li>• Lightyear</li> <li>• Llivingbridge</li> <li>• Marlin*</li> <li>• Onex</li> <li>• Palladium*</li> <li>• Riverside Microcap</li> <li>• Siris</li> <li>• TA Associates</li> <li>• Vista</li> </ul>	<ul style="list-style-type: none"> <li>• IVP*</li> <li>• JMI*</li> <li>• Joy Capital</li> <li>• Lilly Asia</li> <li>• Sinovation</li> </ul>	<ul style="list-style-type: none"> <li>• Lexington Partners*</li> <li>• Morgan Stanley*</li> </ul>

\*LACERA did not commit to the most recent fund.

Note: Excludes underlying managers in the J.P. Morgan Emerging Managers Program

There can be no assurance made that StepStone will find any opportunities relating to the Managers or that they will achieve their objectives or avoid significant losses.

# Risks and Other Considerations



**Risks Associated with Investments.** Identifying attractive investment opportunities and the right underlying fund managers is difficult and involves a high degree of uncertainty. There is no assurance that the investments will be profitable and there is a substantial risk that losses and expenses will exceed income and gains.

**Restrictions on Transfer and Withdrawal; Illiquidity of Interests; Interests Not Registered.** The investment is highly illiquid and subject to transfer restrictions and should only be acquired by an investor able to commit its funds for a significant period of time and to bear the risk inherent in such investment, with no certainty of return. Interests in the investment have not been and will not be registered under the laws of any jurisdiction. Investment has not been recommended by any securities commission or regulatory authority. Furthermore, the aforementioned authorities have not confirmed the accuracy or determined the adequacy of this document.

**Limited Diversification of Investments.** The investment opportunity does not have fixed guidelines for diversification and may make a limited number of investments.

**Reliance on Third Parties.** StepStone will require, and rely upon, the services of a variety of third parties, including but not limited to attorneys, accountants, brokers, custodians, consultants and other agents and failure by any of these third parties to perform their duties could have a material adverse effect on the investment.

**Reliance on Managers.** The investment will be highly dependent on the capabilities of the managers.

**Risk Associated with Portfolio Companies.** The environment in which the investors directly or indirectly invest will sometimes involve a high degree of business and financial risk. StepStone generally will not seek control over the management of the portfolio companies in which investments are made, and the success of each investment generally will depend on the ability and success of the management of the portfolio company.

**Taxation.** An investment involves numerous tax risks. Please consult with your independent tax advisor.

**Conflicts of Interest.** Conflicts of interest may arise between StepStone and investors. Certain potential conflicts of interest are described below; however, they are by no means exhaustive. There can be no assurance that any particular conflict of interest will be resolved in favor of an investor.

**Allocation of Investment Opportunities.** StepStone currently makes investments, and in the future will make investments, for separate accounts having overlapping investment objectives. In making investments for separate accounts, these accounts may be in competition for investment opportunities.

**Existing Relationships.** StepStone and its principals have long-term relationships with many private equity managers. StepStone clients may seek to invest in the pooled investment vehicles and/or the portfolio companies managed by those managers.

**Carried Interest.** In those instances where StepStone and/or the underlying portfolio fund managers receive carried interest over and above their basic management fees, receipt of carried interest could create an incentive for StepStone and the portfolio fund managers to make investments that are riskier or more speculative than would otherwise be the case. StepStone does not receive any carried interest with respect to advice provided to, or investments made on behalf, of its advisory clients.

**Other Activities.** Employees of StepStone are not required to devote all of their time to the investment and may spend a substantial portion of their time on matters other than the investment.

**Material, Non-Public Information.** From time to time, StepStone may come into possession of material, non-public information that would limit their ability to buy and sell investments.

# Global Offices



## BEIJING

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Level 15 Nexxus Building  
41 Connaught Road Central  
Central, Hong Kong

## NEW YORK

450 Lexington Ave, 31st Floor  
New York, NY 10017

## SEOUL

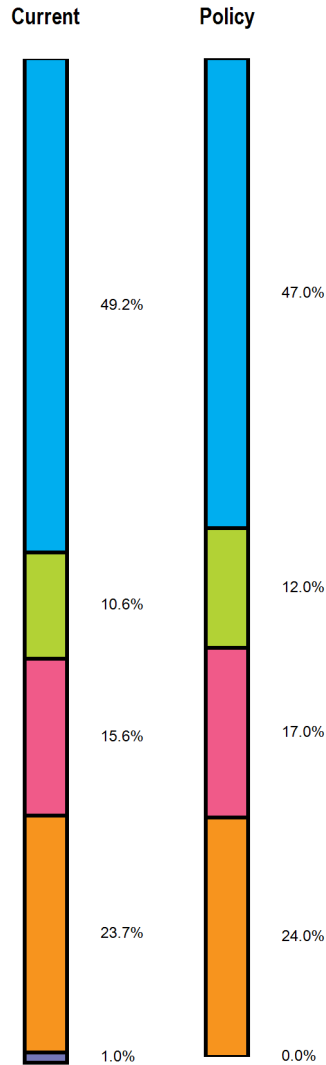
Three IFC Level 43  
10 Gukjegeumyung-ro  
Yeoungdeungpo-gu,  
Seoul 07326 Korea

Los Angeles County Employees  
Retirement Association

September 30, 2020

Fund Evaluation Report





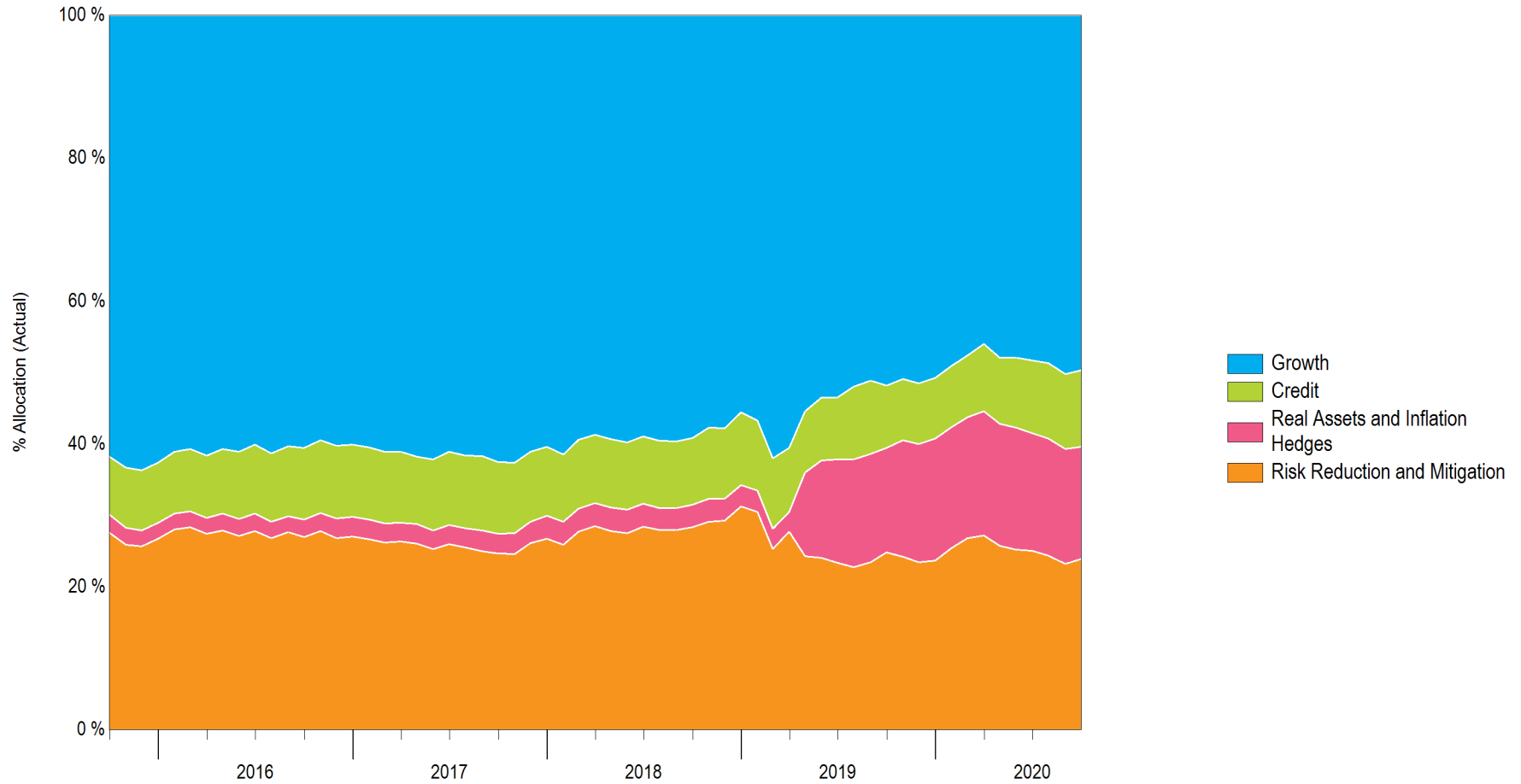
Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
<b>Growth</b>	<b>\$29,716,250,850</b>	<b>49.2%</b>	<b>47.0%</b>	<b>2.2%</b>	<b>40.0% - 54.0%</b>	<b>Yes</b>
Global Equity	\$22,022,551,172	36.4%	35.0%	1.4%	28.0% - 42.0%	Yes
Private Equity	\$6,978,053,578	11.5%	10.0%	1.5%	7.0% - 13.0%	Yes
Opportunistic Real Estate	\$715,646,100	1.2%	2.0%	-0.8%	0.0% - 3.0%	Yes
<b>Credit</b>	<b>\$6,431,831,857</b>	<b>10.6%</b>	<b>12.0%</b>	<b>-1.4%</b>	<b>9.0% - 15.0%</b>	<b>Yes</b>
High Yield	\$2,003,411,474	3.3%	3.0%	0.3%	0.0% - 6.0%	Yes
Bank Loans	\$2,426,108,446	4.0%	4.0%	0.0%	0.0% - 6.0%	Yes
EM Debt	\$821,198,536	1.4%	2.0%	-0.6%	0.0% - 4.0%	Yes
Illiquid Credit <sup>1</sup>	\$1,178,887,856	1.9%	3.0%	-1.1%	0.0% - 5.0%	Yes
<b>Real Assets and Inflation Hedges</b>	<b>\$9,413,812,322</b>	<b>15.6%</b>	<b>17.0%</b>	<b>-1.4%</b>	<b>14.0% - 20.0%</b>	<b>Yes</b>
Core and Value-Added Real Estate	\$4,392,714,183	7.3%	7.0%	0.3%	4.0% - 10.0%	Yes
Natural Resources and Commodities	\$2,216,982,353	3.7%	4.0%	-0.3%	2.0% - 6.0%	Yes
Infrastructure	\$1,683,116,171	2.8%	3.0%	-0.2%	0.0% - 4.0%	Yes
TIPS	\$1,120,999,616	1.9%	3.0%	-1.1%	0.0% - 5.0%	Yes
<b>Risk Reduction and Mitigation</b>	<b>\$14,300,619,658</b>	<b>23.7%</b>	<b>24.0%</b>	<b>-0.3%</b>	<b>18.0% - 30.0%</b>	<b>Yes</b>
Investment Grade Bonds	\$11,367,573,961	18.8%	19.0%	-0.2%	13.0% - 25.0%	Yes
Diversified Hedge Fund Portfolio	\$1,977,681,731	3.3%	4.0%	-0.7%	0.0% - 6.0%	Yes
Cash	\$955,363,965	1.6%	1.0%	0.6%	0.0% - 3.0%	Yes
<b>Overlay</b>	<b>\$596,977,700</b>	<b>1.0%</b>	<b>0.0%</b>	<b>1.0%</b>		
<b>Total<sup>2</sup></b>	<b>\$60,459,492,387</b>	<b>100.0%</b>	<b>100.0%</b>			

<sup>1</sup> Illiquid Credit contains credit hedge funds, real estate debt, private debt strategies and private equity-related debt.

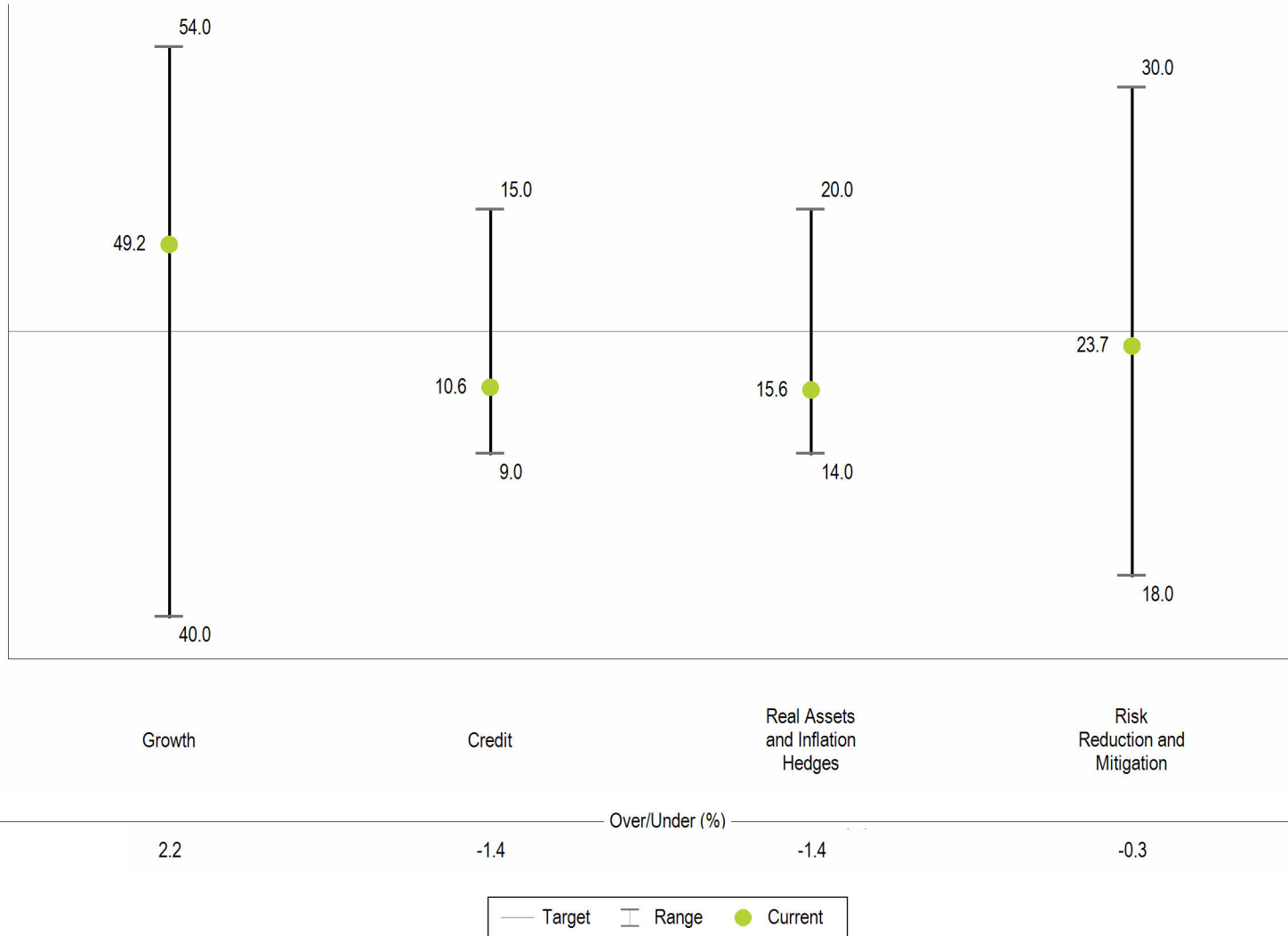
<sup>2</sup> Totals may not add up due to rounding.

\* The Functional Framework became effective April 1, 2019.

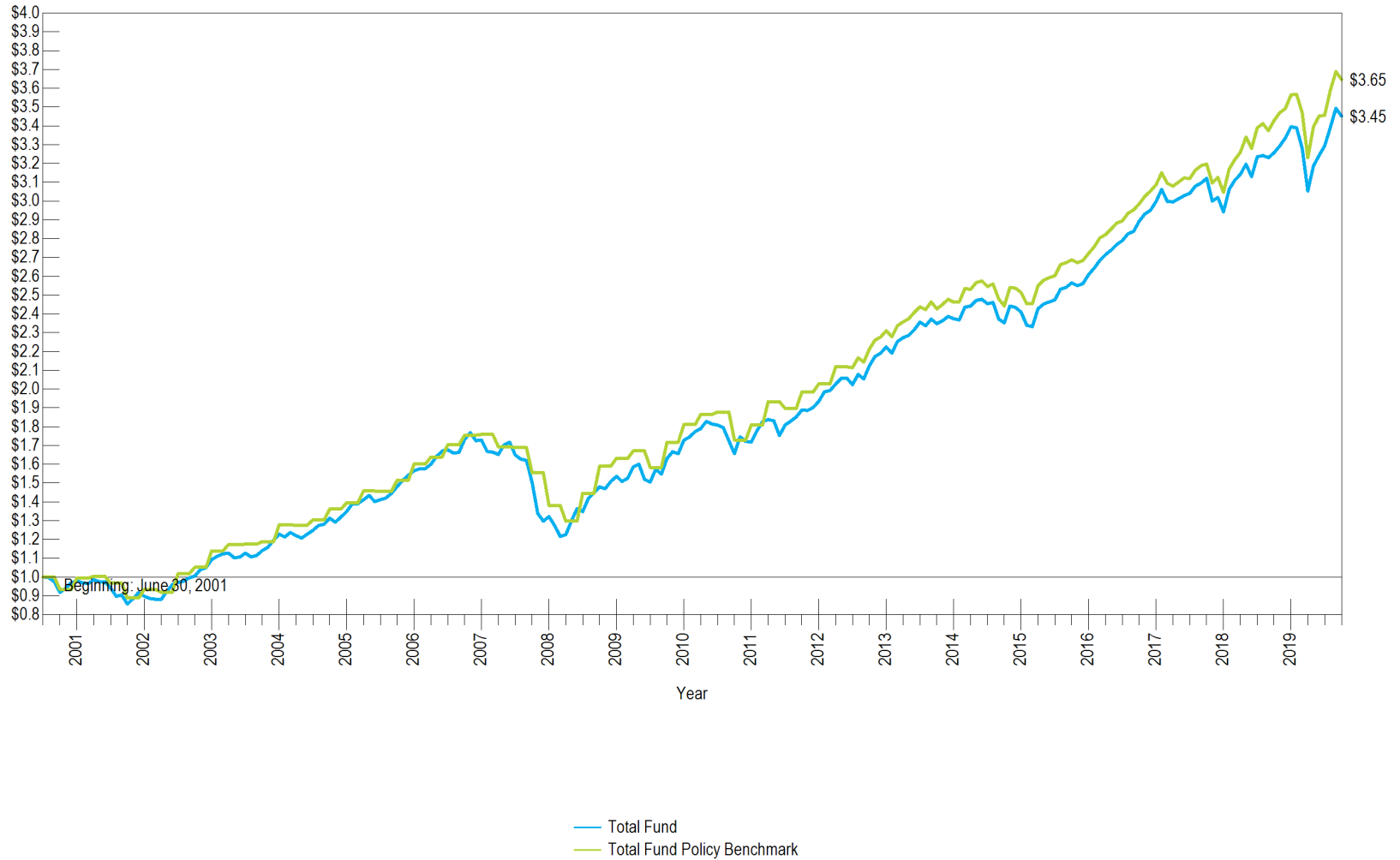
Asset Allocation History  
5 Years Ending September 30, 2020



#### Actual vs. Target



#### Growth of a Dollar



Asset Class Performance Summary (Net)									
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD <sup>1</sup> (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total Fund (Net)</b>	<b>60,459,492,387</b>	<b>100.0</b>	<b>-1.3</b>	<b>4.6</b>	<b>4.6</b>	<b>5.8</b>	<b>6.0</b>	<b>7.9</b>	<b>7.8</b>
<i>Total Fund Policy Benchmark</i>			<i>-1.1</i>	<i>5.5</i>	<i>5.5</i>	<i>6.4</i>	<i>6.9</i>	<i>8.3</i>	<i>7.8</i>
Excess Return			-0.2	-0.9	-0.9	-0.6	-0.9	-0.4	0.0
<b>Growth (Net)</b>	<b>29,716,250,850</b>	<b>49.2</b>	<b>-2.0</b>	<b>7.4</b>	<b>7.4</b>	<b>8.7</b>	--	--	--
<i>Growth Custom Blended Benchmark</i>			<i>-1.6</i>	<i>10.3</i>	<i>10.3</i>	<i>9.2</i>	--	--	--
Excess Return			-0.4	-2.9	-2.9	-0.5			
<b>Credit (Net)</b>	<b>6,431,831,857</b>	<b>10.6</b>	<b>0.1</b>	<b>4.9</b>	<b>4.9</b>	<b>1.1</b>	--	--	--
<i>Credit Custom Blended Benchmark</i>			<i>-0.4</i>	<i>3.3</i>	<i>3.3</i>	<i>3.9</i>	--	--	--
Excess Return			0.5	1.6	1.6	-2.8			
<b>Real Assets and Inflation Hedges (Net)</b>	<b>9,413,812,322</b>	<b>15.6</b>	<b>-2.4</b>	<b>1.0</b>	<b>1.0</b>	<b>-2.5</b>	--	--	--
<i>Real Assets and Inflation Hedges Custom Blended Benchmark</i>			<i>-1.9</i>	<i>1.0</i>	<i>1.0</i>	<i>-0.5</i>	--	--	--
Excess Return			-0.5	0.0	0.0	-2.0			
<b>Risk Reduction and Mitigation (Net)</b>	<b>14,300,619,658</b>	<b>23.7</b>	<b>0.2</b>	<b>1.5</b>	<b>1.5</b>	<b>6.9</b>	--	--	--
<i>Risk Reduction and Mitigation Custom Blended Benchmark</i>			<i>0.0</i>	<i>0.6</i>	<i>0.6</i>	<i>6.2</i>	--	--	--
Excess Return			0.2	0.9	0.9	0.7			
<b>Parametric Overlay (Net)</b>	<b>596,977,700</b>	<b>1.0</b>							

<sup>1</sup> Fiscal Year begins July 1.

\* See Glossary for all custom index definitions.

Trailing Performance									
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total Fund (Net)</b>	<b>60,459,492,387</b>	<b>100.0</b>	<b>-1.3</b>	<b>4.6</b>	<b>4.6</b>	<b>5.8</b>	<b>6.0</b>	<b>7.9</b>	<b>7.8</b>
<b>Total Fund (Gross)</b>			<b>-1.3</b>	<b>4.7</b>	<b>4.7</b>	<b>6.1</b>	<b>6.3</b>	<b>8.2</b>	<b>8.0</b>
<i>Total Fund Policy Benchmark</i>			<i>-1.1</i>	<i>5.5</i>	<i>5.5</i>	<i>6.4</i>	<i>6.9</i>	<i>8.3</i>	<i>7.8</i>
Excess Return (vs. Net)			-0.2	-0.9	-0.9	-0.6	-0.9	-0.4	0.0
<b>Growth (Net)<sup>1</sup></b>	<b>29,716,250,850</b>	<b>49.2</b>	<b>-2.0</b>	<b>7.4</b>	<b>7.4</b>	<b>8.7</b>	--	--	--
<b>Growth (Gross)</b>			<b>-2.0</b>	<b>7.5</b>	<b>7.5</b>	<b>8.9</b>	--	--	--
<i>Growth Custom Blended Benchmark</i>			<i>-1.6</i>	<i>10.3</i>	<i>10.3</i>	<i>9.2</i>	--	--	--
Excess Return (vs. Net)			-0.4	-2.9	-2.9	-0.5			
<b>Global Equity (Net)</b>	<b>22,022,551,172</b>	<b>36.4</b>	<b>-2.6</b>	<b>7.5</b>	<b>7.5</b>	<b>8.6</b>	--	--	--
<b>Global Equity (Gross)</b>			<b>-2.6</b>	<b>7.6</b>	<b>7.6</b>	<b>8.8</b>	--	--	--
<i>Global Equity Custom BM</i>			<i>-3.1</i>	<i>8.1</i>	<i>8.1</i>	<i>9.6</i>	--	--	--
Excess Return (vs. Net)			0.5	-0.6	-0.6	-1.0			
SSGA MSCI ACWI IMI (Net)	13,229,973,910	21.9	-3.1	8.2	8.2	--	--	--	--
SSGA MSCI ACWI IMI (Gross)			-3.1	8.2	8.2	--	--	--	--
<i>MSCI ACWI IMI Net (DAILY)</i>			<i>-3.1</i>	<i>8.1</i>	<i>8.1</i>	--	--	--	--
Excess Return (vs. Net)			0.0	0.1	0.1				

<sup>1</sup> Includes accounts that are lagged by 3-months and latest available adjusted for cash flows.

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
JPMAM Strategic BETA U.S. (Net)	4,012,414,127	6.6	-3.6	9.7	9.7	--	--	--	--
JPMAM Strategic BETA U.S. (Gross)			-3.6	9.8	9.8	--	--	--	--
<i>MSCI USA IMI Gross</i>			<u>-3.7</u>	<u>9.2</u>	<u>9.2</u>	--	--	--	--
Excess Return (vs. Net)			0.1	0.5	0.5				
JPMAM Strategic BETA NON-U.S. (Net)	901,745,540	1.5	-2.3	--	--	--	--	--	--
JPMAM Strategic BETA NON-U.S. (Gross)			-2.3	--	--	--	--	--	--
<i>MSCI ACWI ex USA IMI</i>			<u>-2.3</u>	--	--	--	--	--	--
Excess Return (vs. Net)			0.0						
Genesis (Net)	568,853,619	0.9	-1.6	9.8	9.8	7.7	4.4	9.8	3.9
Genesis (Gross)			-1.5	10.1	10.1	8.6	5.2	10.6	4.7
<i>MSCI EM IMI Custom Index</i>			<u>-1.6</u>	<u>9.8</u>	<u>9.8</u>	<u>10.1</u>	<u>2.0</u>	<u>8.4</u>	<u>2.3</u>
Excess Return (vs. Net)			0.0	0.0	0.0	-2.4	2.4	1.4	1.6
BTC Euro Tilts (Net)	546,699,762	0.9	-3.2	5.0	5.0	0.8	-1.1	4.4	5.5
BTC Euro Tilts (Gross)			-3.1	5.1	5.1	1.3	-0.7	4.8	5.9
<i>MSCI EUROPE</i>			<u>-3.3</u>	<u>4.5</u>	<u>4.5</u>	<u>-0.8</u>	<u>-0.6</u>	<u>4.2</u>	<u>4.3</u>
Excess Return (vs. Net)			0.1	0.5	0.5	1.6	-0.5	0.2	1.2
Acadian Developed Markets (Net)	487,060,017	0.8	-1.0	8.1	8.1	5.7	2.1	9.2	7.3
Acadian Developed Markets (Gross)			-1.0	8.2	8.2	6.1	2.5	9.6	7.7
<i>EAFE Custom Benchmark</i>			<u>-2.8</u>	<u>4.9</u>	<u>4.9</u>	<u>0.2</u>	<u>0.6</u>	<u>5.3</u>	<u>4.4</u>
Excess Return (vs. Net)			1.8	3.2	3.2	5.5	1.5	3.9	2.9

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Capital Guardian (Net)	386,391,258	0.6	-1.5	9.2	9.2	17.9	9.3	12.2	8.0
Capital Guardian (Gross)			-1.4	9.3	9.3	18.3	9.6	12.6	8.4
<i>EAFE Custom Benchmark</i>			<u>-2.8</u>	<u>4.9</u>	<u>4.9</u>	<u>0.2</u>	<u>0.6</u>	<u>5.3</u>	<u>4.4</u>
Excess Return (vs. Net)			1.3	4.3	4.3	17.7	8.7	6.9	3.6
Lazard Emerging Markets (Net)	379,071,054	0.6	-2.7	8.7	8.7	12.1	3.8	9.7	--
Lazard Emerging Markets (Gross)			-2.6	8.8	8.8	12.9	4.6	10.5	--
<i>MSCI Emerging Markets</i>			<u>-1.6</u>	<u>9.6</u>	<u>9.6</u>	<u>10.5</u>	<u>2.4</u>	<u>9.0</u>	--
Excess Return (vs. Net)			-1.1	-0.9	-0.9	1.6	1.4	0.7	
Frontier Capital Management (Net)	289,504,110	0.5	-3.1	6.8	6.8	0.1	1.8	8.9	10.7
Frontier Capital Management (Gross)			-3.1	7.0	7.0	0.9	2.6	9.7	11.6
<i>Russell 2500</i>			<u>-2.6</u>	<u>5.9</u>	<u>5.9</u>	<u>2.2</u>	<u>4.5</u>	<u>9.0</u>	<u>10.8</u>
Excess Return (vs. Net)			-0.5	0.9	0.9	-2.1	-2.7	-0.1	-0.1
Cevian Capital (Net)	288,645,358	0.5	-3.9	6.0	6.0	-0.1	-0.4	--	--
Cevian Capital (Gross)			-3.8	6.3	6.3	0.9	0.9	--	--
<i>MSCI EUROPE</i>			<u>-3.3</u>	<u>4.5</u>	<u>4.5</u>	<u>-0.8</u>	<u>-0.6</u>	--	--
Excess Return (vs. Net)			-0.6	1.5	1.5	0.7	0.2		
Symphony Financial Partners (Net)	209,551,924	0.3	14.4	9.6	9.6	17.0	16.1	--	--
Symphony Financial Partners (Gross)			14.5	9.8	9.8	23.2	19.3	--	--
<i>MSCI Japan Small Cap NR USD</i>			<u>4.3</u>	<u>9.5</u>	<u>9.5</u>	<u>6.6</u>	<u>2.4</u>	--	--
Excess Return (vs. Net)			10.1	0.1	0.1	10.4	13.7		



	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Quantitative Management Associates (Net)	187,274,921	0.3	-4.5	1.6	1.6	-12.7	--	--	--
Quantitative Management Associates (Gross)			-4.4	1.8	1.8	-12.2	--	--	--
<i>Russell 2000</i>			<u>-3.3</u>	<u>4.9</u>	<u>4.9</u>	<u>0.4</u>	--	--	--
Excess Return (vs. Net)			-1.2	-3.3	-3.3	-13.1			
Global Alpha IE EMP (Net)	176,987,272	0.3	-0.3	9.4	9.4	3.4	--	--	--
Global Alpha IE EMP (Gross)			-0.3	9.6	9.6	4.2	--	--	--
<i>MSCI EAFE Small Cap</i>			<u>-0.8</u>	<u>10.3</u>	<u>10.3</u>	<u>6.8</u>	--	--	--
Excess Return (vs. Net)			0.5	-0.9	-0.9	-3.4			
Systematic Financial Management (Net)	165,791,386	0.3	-3.5	2.2	2.2	-11.7	--	--	--
Systematic Financial Management (Gross)			-3.5	2.3	2.3	-11.2	--	--	--
<i>Russell 2000</i>			<u>-3.3</u>	<u>4.9</u>	<u>4.9</u>	<u>0.4</u>	--	--	--
Excess Return (vs. Net)			-0.2	-2.7	-2.7	-12.1			
Jana Partners (Net)	83,284,841	0.1	-2.7	6.7	6.7	7.2	8.6	--	--
Jana Partners (Gross)			-2.2	7.7	7.7	11.0	11.9	--	--
<i>S&amp;P 500</i>			<u>-3.8</u>	<u>8.9</u>	<u>8.9</u>	<u>15.2</u>	<u>12.3</u>	--	--
Excess Return (vs. Net)			1.1	-2.2	-2.2	-8.0	-3.7		
Matarin (Net)	79,496,853	0.1	-3.7	5.5	5.5	-10.4	--	--	--
Matarin (Gross)			-3.7	5.6	5.6	-9.7	--	--	--
<i>Russell 2000</i>			<u>-3.3</u>	<u>4.9</u>	<u>4.9</u>	<u>0.4</u>	--	--	--
Excess Return (vs. Net)			-0.4	0.6	0.6	-10.8			

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
CornerCap (Net)	50,971,580	0.1	-4.3	0.0	0.0	-11.9	--	--	--
CornerCap (Gross)			-4.3	0.2	0.2	-11.4	--	--	--
<i>Russell 2000</i>			<u>-3.3</u>	<u>4.9</u>	<u>4.9</u>	<u>0.4</u>	--	--	--
Excess Return (vs. Net)			-1.0	-4.9	-4.9	-12.3			
BTC Passive Currency Hedge (Net)	-21,197,542	0.0	0.9	-1.7	-1.7	-1.7	0.9	0.4	1.0
BTC Passive Currency Hedge (Gross)			0.9	-1.7	-1.7	-1.7	0.9	0.4	1.0
<i>50% FX Hedge Index</i>			<u>0.9</u>	<u>-1.7</u>	<u>-1.7</u>	<u>-1.9</u>	<u>0.9</u>	<u>0.4</u>	<u>1.0</u>
Excess Return (vs. Net)			0.0	0.0	0.0	0.2	0.0	0.0	0.0
<b>Private Equity - Growth (Net)</b>	<b>6,978,053,578</b>	<b>11.5</b>	<b>-0.2</b>	<b>7.6</b>	<b>7.6</b>	<b>8.0</b>	--	--	--
<b>Private Equity - Growth (Gross)</b>			<b>-0.1</b>	<b>7.7</b>	<b>7.7</b>	<b>8.3</b>	--	--	--
<i>Private Equity - Growth Custom BM</i>			<u>3.4</u>	<u>20.4</u>	<u>20.4</u>	<u>3.2</u>	--	--	--
Excess Return (vs. Net)			-3.6	-12.8	-12.8	4.8			
<b>Opportunistic Real Estate (Net)</b>	<b>715,646,100</b>	<b>1.2</b>	<b>1.9</b>	<b>1.9</b>	<b>1.9</b>	<b>7.5</b>	<b>8.5</b>	<b>11.7</b>	<b>7.3</b>
<b>Opportunistic Real Estate (Gross)</b>			<b>1.6</b>	<b>1.6</b>	<b>1.6</b>	<b>8.4</b>	<b>10.2</b>	<b>13.7</b>	<b>10.0</b>
<i>Opportunistic Real Estate Custom BM</i>			<u>-0.3</u>	<u>-1.0</u>	<u>-1.0</u>	<u>4.4</u>	<u>7.9</u>	<u>9.5</u>	<u>13.1</u>
Excess Return (vs. Net)			2.2	2.9	2.9	3.1	0.6	2.2	-5.8

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Credit (Net)<sup>1</sup></b>	<b>6,431,831,857</b>	<b>10.6</b>	<b>0.1</b>	<b>4.9</b>	<b>4.9</b>	<b>1.1</b>	--	--	--
<b>Credit (Gross)</b>			<b>0.2</b>	<b>5.0</b>	<b>5.0</b>	<b>1.5</b>	--	--	--
<i>Credit Custom Blended Benchmark</i>			<u>-0.4</u>	<u>3.3</u>	<u>3.3</u>	<u>3.9</u>	--	--	--
Excess Return (vs. Net)			0.5	1.6	1.6	-2.8			
<b>High Yield (Net)</b>	<b>2,003,411,474</b>	<b>3.3</b>	<b>-0.5</b>	<b>5.2</b>	<b>5.2</b>	<b>0.9</b>	--	--	--
<b>High Yield (Gross)</b>			<b>-0.5</b>	<b>5.3</b>	<b>5.3</b>	<b>1.3</b>	--	--	--
<i>BBG BARC US Corp HY Idx</i>			<u>-1.0</u>	<u>4.6</u>	<u>4.6</u>	<u>3.3</u>	--	--	--
Excess Return (vs. Net)			0.5	0.6	0.6	-2.4			
BlackRock HY ETF (Net)	1,132,713,986	1.9	-0.9	4.6	4.6	--	--	--	--
BlackRock HY ETF (Gross)			-0.9	4.6	4.6	--	--	--	--
<i>BBG BARC US Corp HY Idx</i>			<u>-1.0</u>	<u>4.6</u>	<u>4.6</u>	--	--	--	--
Excess Return (vs. Net)			0.1	0.0	0.0				
Brigade Capital Management (Net)	587,497,487	1.0	0.2	6.6	6.6	0.6	1.8	5.3	6.2
Brigade Capital Management (Gross)			0.2	6.8	6.8	1.3	2.5	6.1	7.0
<i>Brigade Custom Index</i>			<u>-1.0</u>	<u>4.6</u>	<u>4.6</u>	<u>3.2</u>	<u>4.3</u>	<u>5.6</u>	<u>5.5</u>
Excess Return (vs. Net)			1.2	2.0	2.0	-2.6	-2.5	-0.3	0.7
Beach Point (Net)	282,988,157	0.5	-0.5	5.0	5.0	2.9	4.6	6.8	--
Beach Point (Gross)			-0.5	5.1	5.1	3.4	5.3	7.4	--
<i>Beach Point Custom BM</i>			<u>-1.0</u>	<u>4.6</u>	<u>4.6</u>	<u>2.5</u>	<u>3.8</u>	<u>5.5</u>	--
Excess Return (vs. Net)			0.5	0.4	0.4	0.4	0.8	1.3	

<sup>1</sup> Includes accounts that are lagged by 1-month, 3-months, and latest available adjusted for cash flows.

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Bank Loans (Net)</b>	<b>2,426,108,446</b>	<b>4.0</b>	<b>0.7</b>	<b>4.1</b>	<b>4.1</b>	<b>6.9</b>	--	--	--
<b>Bank Loans (Gross)</b>			<b>0.7</b>	<b>4.2</b>	<b>4.2</b>	<b>7.5</b>	--	--	--
<i>CS Leveraged Loan Index</i>			<u>0.7</u>	<u>4.1</u>	<u>4.1</u>	<u>0.8</u>	--	--	--
Excess Return (vs. Net)			0.0	0.0	0.0	6.1			
Credit Suisse Bank Loans (Net)	1,071,109,690	1.8	0.3	3.1	3.1	--	--	--	--
Credit Suisse Bank Loans (Gross)			0.3	3.1	3.1	--	--	--	--
<i>CS Leveraged Loan Index</i>			<u>0.7</u>	<u>4.1</u>	<u>4.1</u>	--	--	--	--
Excess Return (vs. Net)			-0.4	-1.0	-1.0				
Tennenbaum Capital (Net)	517,809,281	0.9	0.7	4.9	4.9	4.0	6.4	7.0	--
Tennenbaum Capital (Gross)			0.7	5.1	5.1	4.7	7.2	7.9	--
<i>Credit Suisse Leveraged Loan (1 month lagged)</i>			<u>1.5</u>	<u>4.8</u>	<u>4.8</u>	<u>0.6</u>	<u>3.2</u>	<u>3.8</u>	--
Excess Return (vs. Net)			-0.8	0.1	0.1	3.4	3.2	3.2	
Crescent Capital Group (Net)	462,149,841	0.8	1.2	5.1	5.1	3.7	3.6	4.6	--
Crescent Capital Group (Gross)			1.2	5.2	5.2	4.2	4.1	5.2	--
<i>Bank Loans Custom Index</i>			<u>0.7</u>	<u>4.1</u>	<u>4.1</u>	<u>1.6</u>	<u>3.5</u>	<u>5.3</u>	--
Excess Return (vs. Net)			0.5	1.0	1.0	2.1	0.1	-0.7	
Bain Capital (Net)	375,039,634	0.6	1.3	4.4	4.4	0.9	2.7	4.4	--
Bain Capital (Gross)			1.4	4.6	4.6	1.6	3.3	5.2	--
<i>Bank Loans Custom Index</i>			<u>0.7</u>	<u>4.1</u>	<u>4.1</u>	<u>1.6</u>	<u>3.5</u>	<u>5.3</u>	--
Excess Return (vs. Net)			0.6	0.3	0.3	-0.7	-0.8	-0.9	

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>EM Debt (Net)</b>	<b>821,198,536</b>	<b>1.4</b>	<b>-2.3</b>	<b>2.8</b>	<b>2.8</b>	<b>-2.7</b>	<b>0.4</b>	--	--
<b>EM Debt (Gross)</b>			<b>-2.2</b>	<b>2.9</b>	<b>2.9</b>	<b>-2.2</b>	<b>0.9</b>	--	--
<i>EMD Custom</i>			<u>-1.6</u>	<u>2.0</u>	<u>2.0</u>	<u>1.5</u>	<u>3.0</u>	--	--
Excess Return (vs. Net)			-0.7	0.8	0.8	-4.2	-2.6		
Aberdeen Asset Management (Net)	425,298,126	0.7	-2.3	2.4	2.4	-0.5	1.6	--	--
Aberdeen Asset Management (Gross)			-2.2	2.5	2.5	-0.1	1.9	--	--
<i>EMD Custom</i>			<u>-1.6</u>	<u>2.0</u>	<u>2.0</u>	<u>1.5</u>	<u>3.0</u>	--	--
Excess Return (vs. Net)			-0.7	0.4	0.4	-2.0	-1.4		
Ashmore Investment Management (Net)	395,900,409	0.7	-2.3	3.2	3.2	-5.0	-0.9	--	--
Ashmore Investment Management (Gross)			-2.3	3.4	3.4	-4.4	-0.2	--	--
<i>EMD Custom</i>			<u>-1.6</u>	<u>2.0</u>	<u>2.0</u>	<u>1.5</u>	<u>3.0</u>	--	--
Excess Return (vs. Net)			-0.7	1.2	1.2	-6.5	-3.9		
<b>Illiquid Credit (Net)</b>	<b>1,178,887,856</b>	<b>1.9</b>	<b>1.9</b>	<b>7.1</b>	<b>7.1</b>	<b>4.2</b>	--	--	--
<b>Illiquid Credit (Gross)</b>			<b>2.0</b>	<b>7.4</b>	<b>7.4</b>	<b>4.3</b>	--	--	--
<i>Illiquid Credit Custom BM</i>			<u>-0.6</u>	<u>1.9</u>	<u>1.9</u>	<u>9.1</u>	--	--	--
Excess Return (vs. Net)			2.5	5.2	5.2	-4.9			
Napier Park (Net)	389,814,068	0.6	2.4	8.3	8.3	--	--	--	--
Napier Park (Gross)			2.4	8.3	8.3	--	--	--	--
<i>Illiquid Credit Custom BM</i>			<u>-0.6</u>	<u>1.9</u>	<u>1.9</u>	--	--	--	--
Excess Return (vs. Net)			3.0	6.4	6.4				

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Beach Point - Fund III (Net)	192,467,942	0.3	3.0	9.8	9.8	1.8	5.5	--	--
Beach Point - Fund III (Gross)			3.0	10.2	10.2	0.9	8.0	--	--
<i>Opportunistic Custom Index 1 Month Lag</i>			<u>1.2</u>	<u>5.8</u>	<u>5.8</u>	<u>2.6</u>	<u>4.0</u>	--	--
Excess Return (vs. Net)			1.8	4.0	4.0	-0.8	1.5		
Real Estate - Credit (Net)	191,036,947	0.3	2.6	2.6	2.6	9.4	9.3	8.9	--
Real Estate - Credit (Gross)			2.8	2.8	2.8	10.4	10.2	10.0	--
<i>NPI Income Lagged</i>			<u>0.3</u>	<u>1.0</u>	<u>1.0</u>	<u>4.4</u>	<u>4.5</u>	<u>4.6</u>	--
Excess Return (vs. Net)			2.3	1.6	1.6	5.0	4.8	4.3	
Grosvenor OPCRD 2 HFOF (Net)	165,228,307	0.3	1.3	6.2	6.2	-8.7	-1.3	--	--
Grosvenor OPCRD 2 HFOF (Gross)			1.3	6.2	6.2	-8.7	-1.3	--	--
<i>Grosvenor Custom Benchmark</i>			<u>-0.6</u>	<u>1.9</u>	<u>1.9</u>	<u>9.1</u>	<u>9.6</u>	--	--
Excess Return (vs. Net)			1.9	4.3	4.3	-17.8	-10.9		
Private Equity - Credit (Net)	158,955,493	0.3	0.0	11.3	11.3	-13.6	--	--	--
Private Equity - Credit (Gross)			0.0	11.3	11.3	-13.6	--	--	--
<i>PE-Credit Custom Benchmark</i>			<u>0.8</u>	<u>3.5</u>	<u>3.5</u>	<u>11.4</u>	--	--	--
Excess Return (vs. Net)			-0.8	7.8	7.8	-25.0			
Magnetar Credit Fund (Net)	59,368,430	0.1	0.6	--	--	--	--	--	--
Magnetar Credit Fund (Gross)			0.6	--	--	--	--	--	--
<i>Illiquid Credit Custom BM</i>			<u>-0.6</u>	--	--	--	--	--	--
Excess Return (vs. Net)			1.2						

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Beach Point - Fund II (Net)	22,016,668	0.0	0.7	6.8	6.8	14.8	9.1	9.2	--
Beach Point - Fund II (Gross)			0.7	11.8	11.8	13.9	7.8	9.9	--
<i>Opportunistic Custom Index 1 Month Lag</i>			<u>1.2</u>	<u>5.8</u>	<u>5.8</u>	<u>2.6</u>	<u>4.0</u>	<u>5.1</u>	--
Excess Return (vs. Net)			-0.5	1.0	1.0	12.2	5.1	4.1	
<b>Real Assets and Inflation Hedges (Net)<sup>1</sup></b>	<b>9,413,812,322</b>	<b>15.6</b>	<b>-2.4</b>	<b>1.0</b>	<b>1.0</b>	<b>-2.5</b>	--	--	--
<b>Real Assets and Inflation Hedges (Gross)</b>			<b>-2.4</b>	<b>1.0</b>	<b>1.0</b>	<b>-2.1</b>	--	--	--
<i>Real Assets and Inflation Hedges Custom Blended Benchmark</i>			<u>-1.9</u>	<u>1.0</u>	<u>1.0</u>	<u>-0.5</u>	--	--	--
Excess Return (vs. Net)			-0.5	0.0	0.0	-2.0			
<b>Core and Value-Added Real Estate (Net)</b>	<b>4,392,714,183</b>	<b>7.3</b>	<b>-2.5</b>	<b>-2.5</b>	<b>-2.5</b>	<b>-1.6</b>	<b>3.9</b>	<b>4.8</b>	<b>7.5</b>
<b>Core and Value-Added Real Estate (Gross)</b>			<b>-2.4</b>	<b>-2.4</b>	<b>-2.4</b>	<b>-1.0</b>	<b>4.5</b>	<b>5.4</b>	<b>8.1</b>
<i>Core &amp; Value-Added Real Estate Custom BM</i>			<u>-0.6</u>	<u>-1.6</u>	<u>-1.6</u>	<u>1.8</u>	<u>5.2</u>	<u>6.9</u>	<u>10.3</u>
Excess Return (vs. Net)			-1.9	-0.9	-0.9	-3.4	-1.3	-2.1	-2.8
<b>Natural Resources and Commodities (Net)</b>	<b>2,216,982,353</b>	<b>3.7</b>	<b>-3.6</b>	<b>7.5</b>	<b>7.5</b>	<b>-10.4</b>	<b>-4.7</b>	<b>-2.6</b>	<b>-5.1</b>
<b>Natural Resources and Commodities (Gross)</b>			<b>-3.6</b>	<b>7.6</b>	<b>7.6</b>	<b>-10.2</b>	<b>-4.4</b>	<b>-2.2</b>	<b>-4.7</b>
<i>Natural Resources &amp; Commodities Custom BM</i>			<u>-4.5</u>	<u>5.8</u>	<u>5.8</u>	<u>-8.0</u>	<u>-4.3</u>	<u>-3.2</u>	<u>-6.1</u>
Excess Return (vs. Net)			0.9	1.7	1.7	-2.4	-0.4	0.6	1.0
DWS Natural Resources (Net)	1,040,863,065	1.7	-4.5	5.9	5.9	-10.8	--	--	--
DWS Natural Resources (Gross)			-4.5	5.9	5.9	-10.6	--	--	--
<i>S&amp;P Global Large/MidCap Commodities &amp; Resources</i>			<u>-5.7</u>	<u>2.7</u>	<u>2.7</u>	<u>-8.6</u>	--	--	--
Excess Return (vs. Net)			1.2	3.2	3.2	-2.2			

<sup>1</sup> Includes accounts that are lagged by 3-months and latest available adjusted for cash flows.

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Credit Suisse Commodity (Net)	377,236,806	0.6	-2.9	9.6	9.6	-5.8	-3.8	-2.3	--
Credit Suisse Commodity (Gross)			-2.9	9.7	9.7	-5.5	-3.5	-2.1	--
<i>Bloomberg Commodity Index TR USD</i>			<u>-3.4</u>	<u>9.1</u>	<u>9.1</u>	<u>-8.2</u>	<u>-4.2</u>	<u>-3.1</u>	--
Excess Return (vs. Net)			0.5	0.5	0.5	2.4	0.4	0.8	
PIMCO Commodities (Net)	366,451,239	0.6	-3.4	9.9	9.9	-7.9	-3.8	-1.4	-4.8
PIMCO Commodities (Gross)			-3.3	10.0	10.0	-7.6	-3.5	-1.0	-4.3
<i>Bloomberg Commodity Index TR USD</i>			<u>-3.4</u>	<u>9.1</u>	<u>9.1</u>	<u>-8.2</u>	<u>-4.2</u>	<u>-3.1</u>	<u>-6.0</u>
Excess Return (vs. Net)			0.0	0.8	0.8	0.3	0.4	1.7	1.2
Neuberger Berman/ Gresham (Net)	360,563,598	0.6	-2.3	9.6	9.6	-9.1	-3.8	-2.4	-4.6
Neuberger Berman/ Gresham (Gross)			-2.3	9.7	9.7	-8.8	-3.4	-2.0	-4.2
<i>Bloomberg Commodity Index TR USD</i>			<u>-3.4</u>	<u>9.1</u>	<u>9.1</u>	<u>-8.2</u>	<u>-4.2</u>	<u>-3.1</u>	<u>-6.0</u>
Excess Return (vs. Net)			1.1	0.5	0.5	-0.9	0.4	0.7	1.4
PE - Real Assets & Inflation Hedges (Net)	71,867,645	0.1	0.0	-0.4	-0.4	-36.0	--	--	--
PE - Real Assets & Inflation Hedges (Gross)			0.0	-0.4	-0.4	-35.8	--	--	--
<i>PE - Real Assets Custom BM</i>			<u>7.1</u>	<u>27.1</u>	<u>27.1</u>	<u>-12.3</u>	--	--	--
Excess Return (vs. Net)			-7.1	-27.5	-27.5	-23.7			



	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Infrastructure (Net)</b>	<b>1,683,116,171</b>	<b>2.8</b>	<b>-2.2</b>	<b>1.1</b>	<b>1.1</b>	<b>-3.3</b>	--	--	--
<b>Infrastructure (Gross)</b>			<b>-2.2</b>	<b>1.2</b>	<b>1.2</b>	<b>-3.1</b>	--	--	--
<i>Dow Jones Brookfield Global Infrastructure Index</i>			<u>-3.1</u>	<u>-1.5</u>	<u>-1.5</u>	<u>-9.1</u>	--	--	--
Excess Return (vs. Net)			0.9	2.6	2.6	5.8			
DWS Infrastructure (Net)	1,683,116,171	2.8	-2.2	1.1	1.1	-3.3	--	--	--
DWS Infrastructure (Gross)			-2.2	1.2	1.2	-3.1	--	--	--
<i>Dow Jones Brookfield Global Infrastructure Index</i>			<u>-3.1</u>	<u>-1.5</u>	<u>-1.5</u>	<u>-9.1</u>	--	--	--
Excess Return (vs. Net)			0.9	2.6	2.6	5.8			
<b>TIPS (Net)</b>	<b>1,120,999,616</b>	<b>1.9</b>	<b>-0.1</b>	<b>3.1</b>	<b>3.1</b>	<b>10.2</b>	--	--	--
<b>TIPS (Gross)</b>			<b>-0.1</b>	<b>3.1</b>	<b>3.1</b>	<b>10.2</b>	--	--	--
<i>Bloomberg Barclays U.S. TIPS Index</i>			<u>-0.4</u>	<u>3.0</u>	<u>3.0</u>	<u>10.1</u>	--	--	--
Excess Return (vs. Net)			0.3	0.1	0.1	0.1			
Blackrock TIPS (Net)	1,120,999,616	1.9	-0.1	3.1	3.1	10.2	--	--	--
Blackrock TIPS (Gross)			-0.1	3.1	3.1	10.2	--	--	--
<i>Bloomberg Barclays U.S. TIPS Index</i>			<u>-0.4</u>	<u>3.0</u>	<u>3.0</u>	<u>10.1</u>	--	--	--
Excess Return (vs. Net)			0.3	0.1	0.1	0.1			

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Risk Reduction and Mitigation (Net)<sup>1</sup></b>	<b>14,300,619,658</b>	<b>23.7</b>	<b>0.2</b>	<b>1.5</b>	<b>1.5</b>	<b>6.9</b>	--	--	--
<b>Risk Reduction and Mitigation (Gross)</b>			<b>0.2</b>	<b>1.5</b>	<b>1.5</b>	<b>7.0</b>	--	--	--
<i>Risk Reduction and Mitigation Custom Blended Benchmark</i>			<u>0.0</u>	<u>0.6</u>	<u>0.6</u>	<u>6.2</u>	--	--	--
Excess Return (vs. Net)			0.2	0.9	0.9	0.7			
<b>Investment Grade Bonds (Net)</b>	<b>11,367,573,961</b>	<b>18.8</b>	<b>-0.1</b>	<b>1.0</b>	<b>1.0</b>	<b>7.5</b>	<b>5.5</b>	<b>4.9</b>	<b>4.3</b>
<b>Investment Grade Bonds (Gross)</b>			<b>-0.1</b>	<b>1.0</b>	<b>1.0</b>	<b>7.6</b>	<b>5.6</b>	<b>5.0</b>	<b>4.5</b>
<i>BBgBarc US Aggregate TR</i>			<u>-0.1</u>	<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	<u>5.2</u>	<u>4.2</u>	<u>3.6</u>
Excess Return (vs. Net)			0.0	0.4	0.4	0.5	0.3	0.7	0.7
BTC US Debt Index (Net)	6,124,054,817	10.1	0.0	0.7	0.7	7.1	5.3	4.3	3.7
BTC US Debt Index (Gross)			0.0	0.7	0.7	7.1	5.3	4.3	3.8
<i>BBgBarc US Aggregate TR</i>			<u>-0.1</u>	<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	<u>5.2</u>	<u>4.2</u>	<u>3.6</u>
Excess Return (vs. Net)			0.1	0.1	0.1	0.1	0.1	0.1	0.1
Wells Capital Management (Net)	1,711,341,698	2.8	0.0	1.2	1.2	8.3	5.7	4.6	4.4
Wells Capital Management (Gross)			0.1	1.2	1.2	8.4	5.8	4.8	4.5
<i>BBgBarc US Aggregate TR</i>			<u>-0.1</u>	<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	<u>5.2</u>	<u>4.2</u>	<u>3.6</u>
Excess Return (vs. Net)			0.1	0.6	0.6	1.3	0.5	0.4	0.8
Dodge & Cox (Net)	1,166,416,894	1.9	-0.3	1.6	1.6	7.9	5.7	5.4	4.8
Dodge & Cox (Gross)			-0.3	1.6	1.6	8.0	5.8	5.5	4.9
<i>BBgBarc US Aggregate TR</i>			<u>-0.1</u>	<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	<u>5.2</u>	<u>4.2</u>	<u>3.6</u>
Excess Return (vs. Net)			-0.2	1.0	1.0	0.9	0.5	1.2	1.2

<sup>1</sup> Includes accounts that are lagged by 1-month.

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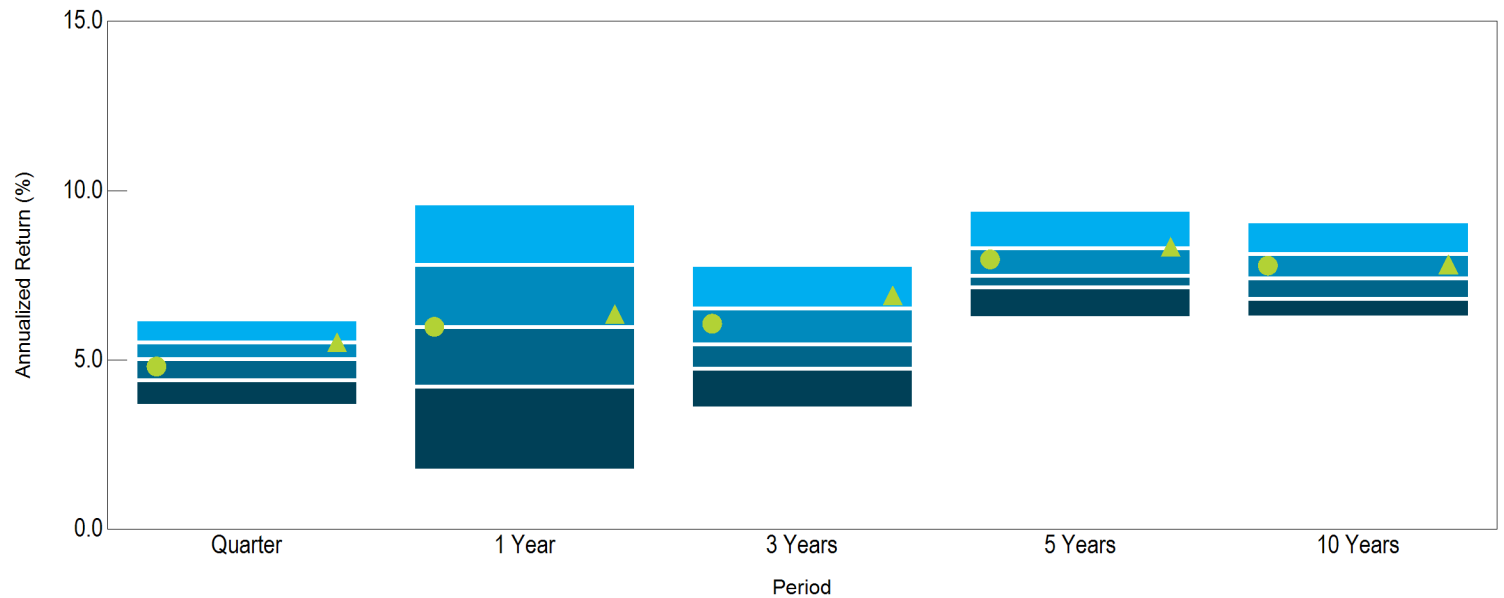
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Western Asset Management (Net)	1,012,042,198	1.7	-0.3	1.6	1.6	7.3	5.4	5.3	4.9
Western Asset Management (Gross)			-0.3	1.6	1.6	7.4	5.6	5.5	5.1
<i>BBgBarc US Aggregate TR</i>			<u>-0.1</u>	<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	<u>5.2</u>	<u>4.2</u>	<u>3.6</u>
Excess Return (vs. Net)			-0.2	1.0	1.0	0.3	0.2	1.1	1.3
PIMCO (Net)	942,557,463	1.6	0.1	1.8	1.8	8.3	5.8	5.4	4.1
PIMCO (Gross)			0.1	1.8	1.8	8.5	6.1	5.6	4.3
<i>BBgBarc US Aggregate TR</i>			<u>-0.1</u>	<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	<u>5.2</u>	<u>4.2</u>	<u>3.6</u>
Excess Return (vs. Net)			0.2	1.2	1.2	1.3	0.6	1.2	0.5
Pugh Capital Management (Net)	391,254,904	0.6	-0.1	0.7	0.7	7.5	5.4	4.3	3.9
Pugh Capital Management (Gross)			-0.1	0.7	0.7	7.6	5.6	4.5	4.1
<i>BBgBarc US Aggregate TR</i>			<u>-0.1</u>	<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	<u>5.2</u>	<u>4.2</u>	<u>3.6</u>
Excess Return (vs. Net)			0.0	0.1	0.1	0.5	0.2	0.1	0.3
Member Home Loan Program (MHLP) (Net)	19,905,988	0.0	0.5	1.3	1.3	5.4	9.3	6.7	5.2
Member Home Loan Program (MHLP) (Gross)			0.5	1.4	1.4	5.7	9.6	7.0	5.5

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Diversified Hedge Fund Portfolio (Net)</b>	<b>1,977,681,731</b>	<b>3.3</b>	<b>1.5</b>	<b>5.3</b>	<b>5.3</b>	<b>5.2</b>	--	--	--
<b>Diversified Hedge Fund Portfolio (Gross)</b>			<b>1.5</b>	<b>5.3</b>	<b>5.3</b>	<b>5.3</b>	--	--	--
<i>Diversified Hedge Funds Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	--	--	--
Excess Return (vs. Net)			1.3	4.6	4.6	1.5			
Grosvenor OPCRD HFOF Mirror Account (Net)	123,839,789	0.2	2.0	7.9	7.9	2.3	2.5	1.7	--
Grosvenor OPCRD HFOF Mirror Account (Gross)			2.0	7.9	7.9	2.3	2.5	1.7	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	<u>5.5</u>	<u>5.4</u>	--
Excess Return (vs. Net)			1.8	7.2	7.2	-1.4	-3.0	-3.7	
GSAM HFOF (Net)	39,098,614	0.1	2.0	5.5	5.5	7.1	4.2	3.5	--
GSAM HFOF (Gross)			2.0	5.5	5.5	7.1	4.5	3.9	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	<u>5.5</u>	<u>5.4</u>	--
Excess Return (vs. Net)			1.8	4.8	4.8	3.4	-1.3	-1.9	
AQR Leap (Net)	54,945,011	0.1	0.7	-1.0	-1.0	-17.8	--	--	--
AQR Leap (Gross)			0.7	-1.0	-1.0	-17.8	--	--	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	--	--	--
Excess Return (vs. Net)			0.5	-1.7	-1.7	-21.5			
Capula GRV (Net)	395,044,156	0.7	0.5	1.1	1.1	8.2	--	--	--
Capula GRV (Gross)			0.5	1.1	1.1	8.2	--	--	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	--	--	--
Excess Return (vs. Net)			0.3	0.4	0.4	4.5			

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
DK Institutional Partners (Net)	214,267,924	0.4	1.7	6.5	6.5	4.9	--	--	--
DK Institutional Partners (Gross)			1.7	6.5	6.5	4.9	--	--	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	--	--	--
Excess Return (vs. Net)			1.5	5.8	5.8	1.2			
HBK Multistrategy (Net)	265,915,391	0.4	0.9	4.5	4.5	4.1	--	--	--
HBK Multistrategy (Gross)			0.9	4.5	4.5	4.1	--	--	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	--	--	--
Excess Return (vs. Net)			0.7	3.8	3.8	0.4			
Pimco TAC OPPS Funds (Net)	236,315,761	0.4	2.1	7.5	7.5	2.3	--	--	--
Pimco TAC OPPS Funds (Gross)			2.1	7.5	7.5	2.3	--	--	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	<u>3.7</u>	--	--	--
Excess Return (vs. Net)			1.9	6.8	6.8	-1.4			
Hudson Bay Fund (Net)	309,359,185	0.5	1.3	3.1	3.1	--	--	--	--
Hudson Bay Fund (Gross)			1.3	3.1	3.1	--	--	--	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	--	--	--	--
Excess Return (vs. Net)			1.1	2.4	2.4				
Polar (Net)	338,895,896	0.6	2.7	11.1	11.1	--	--	--	--
Polar (Gross)			2.7	11.1	11.1	--	--	--	--
<i>Hedge Fund Custom BM</i>			<u>0.2</u>	<u>0.7</u>	<u>0.7</u>	--	--	--	--
Excess Return (vs. Net)			2.5	10.4	10.4				

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Cash (Net)</b>	<b>955,363,965</b>	<b>1.6</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>1.4</b>	<b>1.9</b>	<b>1.5</b>	<b>1.0</b>
<b>Cash (Gross)</b>			<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>1.5</b>	<b>2.0</b>	<b>1.6</b>	<b>1.0</b>
<i>Cash Custom BM</i>			<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1.0</u>	<u>1.7</u>	<u>1.2</u>	<u>0.7</u>
Excess Return (vs. Net)			0.1	0.2	0.2	0.4	0.2	0.3	0.3
SSGA Cash (Net)			0.0	--	--	--	--	--	--
SSGA Cash (Gross)			0.0	--	--	--	--	--	--
<i>Cash Custom BM</i>			<u>0.0</u>	--	--	--	--	--	--
Excess Return (vs. Net)			0.0						
<b>Parametric Overlay (Net)</b>	<b>596,977,700</b>	<b>1.0</b>							
<b>Parametric Overlay (Gross)</b>									

InvMetrics Public DB > \$1B Net Return Comparison  
Ending September 30, 2020



	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
5th Percentile	6.2		9.6		7.8		9.4		9.1	
25th Percentile	5.5		7.8		6.5		8.3		8.1	
Median	5.0		6.0		5.5		7.5		7.4	
75th Percentile	4.4		4.2		4.8		7.2		6.8	
95th Percentile	3.7		1.7		3.6		6.2		6.3	
# of Portfolios	77		77		77		75		69	
● Total Fund	4.8	(59)	6.0	(49)	6.1	(35)	8.0	(40)	7.8	(40)
▲ Total Fund Policy Benchmark	5.5	(27)	6.4	(46)	6.9	(17)	8.3	(25)	7.8	(37)

### Benchmark History

As of September 30, 2020

Total Fund		
10/1/2019	Present	35% Global Equity Custom BM / 10% PE-Credit Custom Benchmark / 2% Opportunistic Real Estate Custom BM / 3% Bloomberg Barclays U.S. High Yield / 4% Credit Suisse Leveraged Loans / 2% EMD Custom / 3% Illiquid Credit Custom BM / 7% Core & Value-Added Real Estate Custom BM / 4% Natural Resources & Commodities Custom BM / 3% Dow Jones Brookfield Global Infrastructure Index / 3% Bloomberg Barclays U.S. TIPS Index / 19% BBgBarc US Aggregate TR / 4% Diversified Hedge Funds Custom BM / 1% Citigroup 3-Month U.S. Treasury Bill Index
1/1/2019	9/30/2019	41% Global Equity Custom BM / 10% PE-Credit Custom Benchmark / 1% Opportunistic Real Estate Custom BM / 4% Bloomberg Barclays U.S. High Yield / 3% Credit Suisse Leveraged Loans / 1% EMD Custom / 2% Illiquid Credit Custom BM / 8% Core & Value-Added Real Estate Custom BM / 3% Natural Resources & Commodities Custom BM / 2% Dow Jones Brookfield Global Infrastructure Index / 2% Bloomberg Barclays U.S. TIPS Index / 19% BBgBarc US Aggregate TR / 3% Diversified Hedge Funds Custom BM / 1% Citigroup 3-Month U.S. Treasury Bill Index
10/1/2018	12/31/2018	22.7% Russell 3000 / 18.7% Custom MSCI ACWI IMI Net 50% Hedge / 27.8% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 5.0% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
7/1/2018	9/30/2018	23.1% Russell 3000 / 20.3% Custom MSCI ACWI IMI Net 50% Hedge / 26.6% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 4.2% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
1/1/2018	6/30/2018	22.4% Russell 3000 / 21.0% Custom MSCI ACWI IMI Net 50% Hedge / 26.6% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 4.2% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
10/1/2017	12/31/2017	23.5% Russell 3000 / 21.9% Custom MSCI ACWI IMI Net 50% Hedge / 25.4% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 3.4% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
7/1/2017	9/30/2017	23.7% Russell 3000 / 21.7% Custom MSCI ACWI IMI Net 50% Hedge / 25.4% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 3.4% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
4/1/2017	6/30/2017	24.1% Russell 3000 / 21.3% Custom MSCI ACWI IMI Net 50% Hedge / 25.4% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 3.4% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
1/1/2017	3/31/2017	24.4% Russell 3000 / 21.0% Custom MSCI ACWI IMI Net 50% Hedge / 25.4% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 3.4% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
10/1/2016	12/31/2016	23.8% Russell 3000 / 21.6% Custom MSCI ACWI IMI Net 50% Hedge / 25.4% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 3.4% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
7/1/2016	9/30/2016	24.5% Russell 3000 / 21.4% Custom MSCI ACWI IMI Net 50% Hedge / 25.1% BBgBarc US Universal TR / 10% Private Equity Target / 11% Real Estate Target / 3.2% Hedge Fund Custom Index / 2.8% Bloomberg Commodity Index TR USD / 2% FTSE T-Bill 6 Months TR
10/1/2015	6/30/2016	3% Bloomberg Commodity Index TR USD / 25.5% Russell 3000 / 10% Real Estate Target / 2% FTSE T-Bill 6 Months TR / 22.5% BBgBarc US Universal TR / 11% Private Equity Target / 23% Custom MSCI ACWI IMI Net 50% Hedge / 3% 3-month U.S. T-Bill Index + 5% (1M-lag)
4/1/2015	9/30/2015	3% Bloomberg Commodity Index TR USD / 25% Russell 3000 / 10% Real Estate Target / 2% FTSE T-Bill 6 Months TR / 22.5% BBgBarc US Universal TR / 11% Private Equity Target / 23.5% Custom MSCI ACWI IMI Net 50% Hedge / 3% 3-month U.S. T-Bill Index + 5% (1M-lag)



## Los Angeles County Employees Retirement Association | September 30, 2020

1/1/2015	3/31/2015	3% Bloomberg Commodity Index TR USD / 25.5% Russell 3000 / 10% Real Estate Target / 2% FTSE T-Bill 6 Months TR / 22.5% BBgBarc US Universal TR / 11% Private Equity Target / 23% Custom MSCI ACWI IMI Net 50% Hedge / 3% 3-month U.S. T-Bill Index + 5% (1M-lag)
10/1/2014	12/31/2014	3% Bloomberg Commodity Index TR USD / 25% Russell 3000 / 10% Real Estate Target / 2% FTSE T-Bill 6 Months TR / 23% BBgBarc US Universal TR / 11% Private Equity Target / 24% Custom MSCI ACWI IMI Net 50% Hedge / 2% 3-month U.S. T-Bill Index + 5% (1M-lag)
1/1/2014	9/30/2014	3% Bloomberg Commodity Index TR USD / 24% Russell 3000 / 10% Real Estate Target / 2% FTSE T-Bill 6 Months TR / 23% BBgBarc US Universal TR / 11% Private Equity Target / 25% Custom MSCI ACWI IMI Net 50% Hedge / 2% 3-month U.S. T-Bill Index + 5% (1M-lag)
10/1/2013	12/31/2013	3% Bloomberg Commodity Index TR USD / 24% Russell 3000 / 10% Real Estate Target / 2% FTSE T-Bill 6 Months TR / 24% BBgBarc US Universal TR / 10% Private Equity Target / 26% Custom MSCI ACWI IMI Net 50% Hedge / 1% 3-month U.S. T-Bill Index + 5% (1M-lag)
4/1/2013	9/30/2013	3% Bloomberg Commodity Index TR USD / 24% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 24% BBgBarc US Universal TR / 10% Private Equity Target / 26% Custom MSCI ACWI IMI Net 50% Hedge / 1% 3-month U.S. T-Bill Index + 5% (1M-lag)
1/1/2013	3/31/2013	3% Bloomberg Commodity Index TR USD / 23% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 24% BBgBarc US Universal TR / 10% Private Equity Target / 27% Custom MSCI ACWI IMI Net 50% Hedge / 1% 3-month U.S. T-Bill Index + 5% (1M-lag)
10/1/2012	12/31/2012	3% Bloomberg Commodity Index TR USD / 24% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 24% BBgBarc US Universal TR / 10% Private Equity Target / 26% Custom MSCI ACWI IMI Net 50% Hedge / 1% 3-month U.S. T-Bill Index + 5% (1M-lag)
1/1/2012	9/30/2012	3% Bloomberg Commodity Index TR USD / 24% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 27% Custom MSCI ACWI IMI Net 50% Hedge / 1% 3-month U.S. T-Bill Index + 5% (1M-lag)
10/1/2011	12/31/2011	3% Bloomberg Commodity Index TR USD / 23% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 28% Custom MSCI ACWI IMI Net 50% Hedge / 1% 3-month U.S. T-Bill Index + 5% (1M-lag)
4/1/2011	9/30/2011	3% Bloomberg Commodity Index TR USD / 23% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 29% Custom MSCI ACWI IMI Net 50% Hedge
1/1/2011	3/31/2011	3% Bloomberg Commodity Index TR USD / 22% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 30% Custom MSCI ACWI IMI Net 50% Hedge
10/1/2010	12/31/2010	3% Bloomberg Commodity Index TR USD / 23% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 29% Custom MSCI ACWI IMI Net 50% Hedge
7/1/2010	9/30/2010	3% Bloomberg Commodity Index TR USD / 26% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 26% Custom MSCI ACWI IMI Net 50% Hedge
4/1/2010	6/30/2010	3% Bloomberg Commodity Index TR USD / 26% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 26% MSCI ACWI ex USA IMI
1/1/2010	3/31/2010	3% Bloomberg Commodity Index TR USD / 29% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 26% BBgBarc US Universal TR / 7% Private Equity Target / 23% MSCI ACWI ex USA IMI
4/1/2009	12/31/2009	2% Bloomberg Commodity Index TR USD / 30% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 28% BBgBarc US Universal TR / 7% Private Equity Target / 21% MSCI ACWI ex USA IMI
10/1/2008	3/31/2009	2% Bloomberg Commodity Index TR USD / 30% Russell 3000 / 10% NCREIF Property Index - 25 bps / 2% FTSE T-Bill 6 Months TR / 1.96% BBgBarc US High Yield BA/B TR / 26.04% BBgBarc US Aggregate TR / 7% Private Equity Target / 21% MSCI ACWI ex USA IMI
3/1/2001	9/30/2008	100% LACERA TF Blended Benchmark

**Bank Loans Custom Index:** Credit Suisse Leveraged Loan Index.

**Beach Point Custom BM:** BBg Barc US Corporate High Yield Index

**Brigade Custom Index:** BBg Barc US Corporate High Yield Index.

**Cash Custom BM:** FTSE 3-month Treasury Bill.

**Core & Value-Added Real Estate Custom BM:** NFI ODCE + 50 bps (3-month lag).

**Credit Custom Blended BM:** ~25% BBg Barc US High Yield Ba/B / 33.3% Credit Suisse Leveraged Loan Index / 25% Illiquid Credit Custom BM / 16.7% EMD Custom BM.

**Diversified Hedge Funds Custom BM:** FTSE 3-Month U.S. Treasury Bill Index + 250 bps (1-month lag).

**EAFE Custom Index:** MSCI EAFE + Canada (Net).

**EMD Custom:** 50% JP Morgan EMBI + 25% JP Morgan GBI-EM GD + 25% JP Morgan CEMBI BD.

**Global Equity Custom BM:** MSCI ACWI IMI Index

**Grosvenor Custom BM:** 100% Illiquid Credit Custom BM.

**Growth Custom Blended BM:** ~74.5% Global Equity Custom BM/ 21.3% Private Equity- Growth Custom BM/ 4.3% Opportunistic Real Estate Custom BM.

**Hedge Fund Custom Index:** 100% Diversified Hedge Funds Custom BM.

**Illiquid Credit Custom BM:** BBg Barc US Aggregate Index + 250 bps (1-month lag).

**MSCI EM IMI Custom Index:** MSCI EM IMI (Net)

**Natural Resources & Commodities Custom BM:** 50% Bloomberg Commodity Index / 50% S&P Global Large MidCap Commodity and Resources Index.

**Opportunistic Real Estate Custom BM:** NFI ODCE + 300 bps (3-month lag).

**PE – Credit Custom Benchmark:** BBgBarc US Agg Index + 250bps with a (3-month lag).

**Private Equity - Growth Custom BM:** MSCI ACWI IMI Index + 200 bps (3-month lag).

**PE – Real Assets Custom BM:** S&P Global LargeMidCap Commodity and Resources (3-month lag).

**Real Assets and Inflation Hedges Custom Blended BM:** ~41.2% Core & Value-Added Real Estate Custom BM/ 23.5% Natural Resources & Commodities Custom BM / 17.6% DJ Brookfield Global Infrastructure / 17.6% BBg Barc US TSY TIPS.

**Risk Reduction and Mitigation Custom Blended BM:** ~79.2% BBg Barc Agg / 16.7% Diversified Hedge Funds Custom BM / 4.2% FTSE 3-month Treasury Bill.

**Securitized Custom Index:** Barclays Securitized Bond Index + 400 bps.

**Opportunistic Custom Index 1-Month Lag:** 50% Barclays U.S. High Yield Index / 50% Credit Suisse Leveraged Loan Index (1-month lag).

**50% FX Hedge Index:** 50% MSCI World ex US IMI FX Hedged index 50% Zero Return.

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.


CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

**FOR INFORMATION ONLY**

November 25, 2020

TO: Trustees - Board of Investments


FROM: Jude Pérez   
Principal Investment Officer

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: **OPEB QUARTERLY PERFORMANCE BOOK**

Attached is the OPEB Master Trust quarterly performance book as of September 30, 2020.

Noted and Reviewed

  
Jonathan Grabel  
Chief Investment Officer

Attachments  
EdB:JP

# **PERFORMANCE** *REVIEW*

**OPEB Master Trust**  
**AS OF SEPTEMBER 30, 2020**



# OPEB MASTER TRUST

for the quarter ended September 30, 2020

## COMMENTARY

The OPEB Master Trust (OPEB Trust) is comprised of three separate trusts: 1) Los Angeles County, 2) LACERA, and 3) Superior Court. The third quarter net-of-fee performance was 5.6% for all three plans. As a reminder, longer-term return differences between the trusts may result due to distinct contribution and rebalancing activity within each plan.

The OPEB Trust consists of four functional categories: Growth, Credit, Real Assets and Inflation Hedges, and Risk Reduction and Mitigation. The balance of this report will review the net-of-fee quarter performance of these categories.

Growth is comprised of a global equity MSCI All Country World IMI fund. Growth posted a positive return of 8.2%.

Credit consists of three funds: High yield bonds, bank loans, and emerging markets debt (local currency). Credit returned 3.3% with positive performance from all three underlying funds. High yield gained 4.7%, bank loans rose 3.6%, and emerging market debt rose slightly by 0.4%.

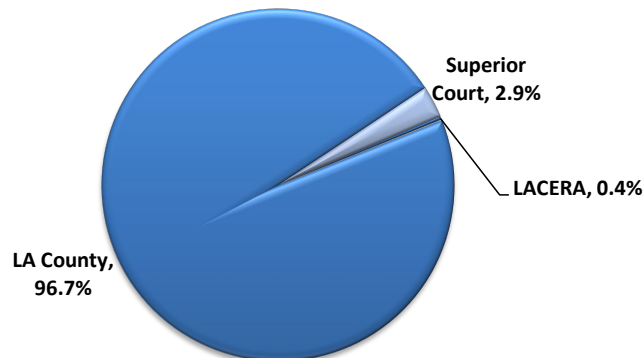
Real Assets and Inflation Hedges gained 3.3% in the quarter. As in Credit, all three components posted positive absolute returns: Real estate investment trusts (REITs) rose 0.8%, treasury inflation protected securities (TIPS) returned 3.1%, and commodities had a significant gain of 9.1%.

The Risk Reduction and Mitigation composite returned 0.6% for the quarter. The investment grade bond fund rose 0.7%, and the cash account was flat for the quarter.

Fund Name	Inception Date	Market Value (millions)	Trust Ownership	Qtr	FYTD	1 Yr	3 Yrs	5 Yrs
<b>Los Angeles County</b>	Feb-2013	\$1,598.7	96.7%					
Gross				5.6	5.6	4.5	5.6	8.5
Net				5.6	5.6	4.5	5.5	8.5
Net All <sup>1</sup>				5.6	5.6	4.4	5.5	8.4
<b>LACERA</b>	Feb-2013	\$6.3	0.4%					
Gross				5.6	5.6	4.5	5.6	8.6
Net				5.6	5.6	4.5	5.5	8.5
Net All <sup>1</sup>				5.5	5.5	4.2	5.1	8.0
<b>Superior Court</b>	Jul-2016	\$47.7	2.9%					
Gross				5.4	5.4	4.1	5.4	----
Net				5.4	5.4	4.0	5.3	----
Net All <sup>1</sup>				5.4	5.4	3.9	5.2	----
<b>TRUST OWNERSHIP TOTAL:</b>		<b>\$1,652.7</b>	<b>100.0%</b>					

<sup>1</sup> Includes Custody & Administrative Fees.

Trust Ownership



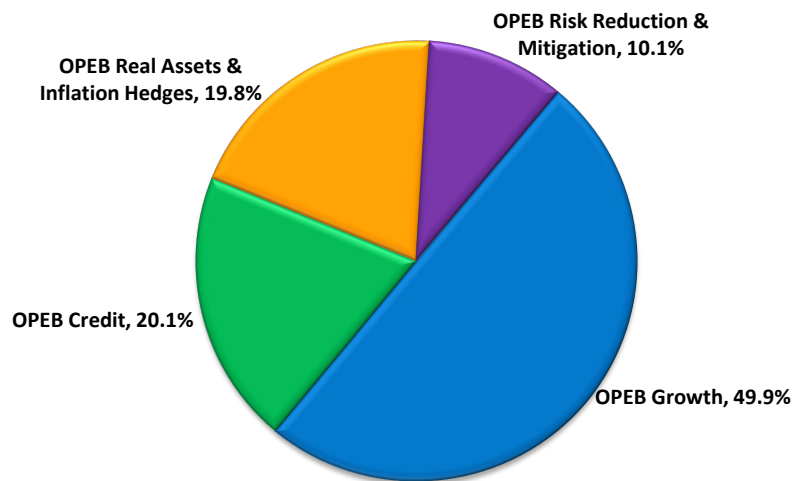


# OPEB MASTER TRUST

for the quarter ended September 30, 2020

Fund Name	Inception Date	Market Value (millions)	Trust Ownership	Qtr	FYTD	1 Yr	3 Yrs	5 Yrs
<b>OPEB Growth</b>	Jul-2016	\$825.1	49.9%					
Gross				8.2	8.2	9.9	6.8	----
Net				8.2	8.2	9.9	6.8	----
Net All				8.2	8.2	9.9	6.8	----
<b>OPEB Credit</b>	Jul-2018	\$332.2	20.1%					
Gross				3.3	3.3	0.7	----	----
Net				3.3	3.3	0.6	----	----
Net All				3.3	3.3	0.6	----	----
<b>OPEB Real Assets &amp; Inflation Hedges</b>	Jul-2018	\$327.7	19.8%					
Gross				3.3	3.3	-9.5	----	----
Net				3.3	3.3	-9.6	----	----
Net All				3.3	3.3	-9.6	----	----
<b>OPEB Risk Reduction &amp; Mitigation</b>	Jul-2016	\$167.4	10.1%					
Gross				0.6	0.6	6.1	5.4	----
Net				0.6	0.6	6.0	5.4	----
Net All				0.6	0.6	6.0	5.4	----
<b>Uninvested Cash</b>		\$0.3	0.0%	----	----	----	----	----
<b>TRUST OWNERSHIP TOTAL:</b>		<b>\$1,652.7</b>	<b>100.0%</b>					

Differences in MV between the Sub-Trusts and Functional composites are due to operational cash and accruals





# OPEB MASTER TRUST

for the quarter ended September 30, 2020

Allocation	Inception Date	Market Value (millions)	Allocation %	Qtr	FYTD	1 Yr	3 Yrs	5 Yrs
<b>OPEB Growth</b>								
<b>OPEB Global Equity</b>	Mar-2014	\$825.1	49.9%					
Gross				8.2	8.2	9.9	6.8	10.3
Net				8.2	8.2	9.9	6.8	10.3
Benchmark: MSCI ACWI IMI Net (DAILY)				8.1	8.1	9.6	6.5	10.0
<b>Excess Return (Net - Benchmark)</b>				<b>0.1</b>	<b>0.1</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>
<b>OPEB Credit</b>								
<b>OPEB BTC High Yield Bonds</b>	Jul-2018	\$99.9	6.0%					
Gross				4.7	4.7	2.1	---	---
Net				4.7	4.7	2.0	---	---
Benchmark: BBG BARC US Corp HY Idx				4.6	4.6	3.3	---	---
<b>Excess Return (Net - Benchmark)</b>				<b>0.1</b>	<b>0.1</b>	<b>-1.3</b>	---	---
<b>OPEB BlackRock Bank Loans</b>	Jul-2018	\$166.5	10.1%					
Gross				3.6	3.6	0.8	---	---
Net				3.6	3.6	0.8	---	---
Benchmark: S&P/LSTA Leverage Loan Index				4.1	4.1	1.1	---	---
<b>Excess Return (Net - Benchmark)</b>				<b>-0.5</b>	<b>-0.5</b>	<b>-0.3</b>	---	---
<b>OPEB BTC EM Debt LC</b>	Jul-2018	\$65.8	4.0%					
Gross				0.5	0.5	-1.9	---	---
Net				0.4	0.4	-2.1	---	---
Benchmark: JPM GBI-EM Global Diversified Index				0.6	0.6	-1.4	---	---
<b>Excess Return (Net - Benchmark)</b>				<b>-0.2</b>	<b>-0.2</b>	<b>-0.6</b>	---	---
<b>OPEB Real Assets &amp; Inflation Hedges</b>								
<b>OPEB BTC REITs</b>	Jul-2018	\$161.1	9.7%					
Gross				0.8	0.8	-22.3	---	---
Net				0.8	0.8	-22.6	---	---
Benchmark: DJ US SELECT REAL ESTATE SECURITIES INDEX				0.8	0.8	-22.3	---	---
<b>Excess Return (Net - Benchmark)</b>				<b>0.0</b>	<b>0.0</b>	<b>-0.3</b>	---	---
<b>OPEB BTC Commodities</b>	Jul-2018	\$66.2	4.0%					
Gross				9.1	9.1	-8.0	---	---
Net				9.1	9.1	-8.2	---	---
Benchmark: Bloomberg Comm Index TR				9.1	9.1	-8.2	---	---
<b>Excess Return (Net - Benchmark)</b>				<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	---	---
<b>OPEB BTC TIPS</b>	Jul-2018	\$100.3	6.1%					
Gross				3.1	3.1	10.3	---	---
Net				3.1	3.1	10.3	---	---
Benchmark: BBG BARC US Tsy TIPS Idx				3.0	3.0	10.1	---	---
<b>Excess Return (Net - Benchmark)</b>				<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	---	---
<b>OPEB Risk Reduction &amp; Mitigation</b>								
<b>OPEB BTC Inv. Grade Bonds</b>	Jul-2018	\$133.4	8.1%					
Gross				0.7	0.7	7.1	---	---
Net				0.7	0.7	7.1	---	---
Benchmark: BBG BC Aggregate Bond Index				0.6	0.6	7.0	---	---
<b>Excess Return (Net - Benchmark)</b>				<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	---	---
<b>OPEB Cash</b>	Feb-2013	\$34.0	2.1%					
Gross				0.0	0.0	1.8	2.3	1.8
Net				0.0	0.0	1.7	2.2	1.7
Benchmark: FTSE 6 M Treasury Bill Index				0.1	0.1	1.3	1.8	1.3
<b>Excess Return (Net - Benchmark)</b>				<b>-0.1</b>	<b>-0.1</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>



# Master Trust OPEB Analytics Report

Prepared for LACERA

30 September 2020

## Master Trust OPEB Asset Allocation &amp; Analytics

LACERA

30-Sep-2020

Reporting Currency: USD

## Master Trust OPEB Allocation vs Policy Benchmark

	Market Value (Millions) <sup>1</sup>	Allocation (%)	Policy Benchmark (%)	Benchmark	Relative (%)
Growth	825.09	49.9%	50.0%	OPEB Growth Blend	-0.1%
Credit	332.19	20.1%	20.0%	OPEB Credit Blend	0.1%
Real Assets & Inflation Hedges	327.66	19.8%	20.0%	OPEB Real Assets & Inflation Hedges Blend	-0.2%
Risk Reduction and Mitigation	167.44	10.1%	10.0%	OPEB Risk Reduc Blend	0.1%
Operational Cash	0.29	0.0%	0.0%		0.0%
<b>TOTAL</b>	<b>1,652.67</b>	<b>100.0%</b>	<b>100.0%</b>		<b>0.0%</b>

1: Total market value does not include all cash at participant level

## OPEB Asset Allocation &amp; Analytics

LACERA

30-Sep-2020

Reporting Currency: USD

## OPEB Allocation vs Policy Benchmark

	Market Value (Millions)	Allocation (%)	Policy Benchmark (%)	Benchmark	Relative (%)
<b>LA County</b>					
Growth	798.17	49.9%	50.0%	OPEB Growth Blend	-0.1%
Credit	321.37	20.1%	20.0%	OPEB Credit Blend	0.1%
Real Assets & Inflation Hedges	316.96	19.8%	20.0%	OPEB Real Assets & Inflation Hedges Blend	-0.2%
Risk Reduction and Mitigation	162.00	10.1%	10.0%	OPEB Risk Reduc Blend	0.1%
Operational Cash	0.20	0.0%	0.0%		0.0%
<b>TOTAL</b>	<b>1,598.70</b>	<b>100.0%</b>	<b>100.0%</b>		<b>0.0%</b>
<b>LACERA OPEB</b>					
Growth	3.13	49.8%	50.0%	OPEB Growth Blend	-0.2%
Credit	1.26	20.0%	20.0%	OPEB Credit Blend	-0.0%
Real Assets & Inflation Hedges	1.25	19.8%	20.0%	OPEB Real Assets & Inflation Hedges Blend	-0.2%
Risk Reduction and Mitigation	0.63	10.0%	10.0%	OPEB Risk Reduc Blend	0.0%
Operational Cash	0.02	0.4%	0.0%		0.4%
<b>TOTAL</b>	<b>6.29</b>	<b>100.0%</b>	<b>100.0%</b>		<b>0.0%</b>
<b>Superior Court</b>					
Growth	23.79	49.9%	50.0%	OPEB Growth Blend	-0.1%
Credit	9.57	20.1%	20.0%	OPEB Credit Blend	0.1%
Real Assets & Inflation Hedges	9.45	19.8%	20.0%	OPEB Real Assets & Inflation Hedges Blend	-0.2%
Risk Reduction and Mitigation	4.81	10.1%	10.0%	OPEB Risk Reduc Blend	0.1%
Operational Cash	0.08	0.2%	0.0%		0.2%
<b>TOTAL</b>	<b>47.70</b>	<b>100.0%</b>	<b>100.0%</b>		<b>0.0%</b>

OPEB Analytics, Volatility & Tracking Error

LACERA

30-Sep-2020

Reporting Currency: USD

OPEB Analytics

	Benchmark	Market Value (Millions)	Allocation (%)	Volatility (% per annum) <sup>1</sup>	Standalone VaR (% of MV) <sup>2</sup>	Total VaR Contribution (% of Total MV) <sup>3</sup>	Tracking Error Contribution (% of Total MV) <sup>4</sup>
<b>LA County</b>							
Growth	OPEB Growth Blend	798.17	49.9%	16.85%	18.38%	9.38%	0.01%
Credit	OPEB Credit Blend	321.37	20.1%	9.17%	7.17%	0.89%	0.00%
Real Assets & Inflation Hedges	OPEB Real Assets & Inflation Hedges Blend	316.96	19.8%	11.81%	12.54%	1.08%	0.03%
Risk Reduction and Mitigation	OPEB Risk Reduc Blend	162.00	10.1%	3.13%	4.21%	-0.03%	0.00%
Operational Cash		0.20	0.0%	0.00%	0.00%	0.00%	0.00%
<b>TOTAL</b>		<b>1,598.49</b>	<b>100.0%</b>	<b>12.03%</b>	<b>11.32%</b>	<b>11.32%</b>	<b>0.04%</b>
		<i>Weighted Average Benchmark<sup>5</sup></i>		12.04%	11.31%	11.31%	
<b>Benchmark</b>	<b>Policy Benchmark</b>			<b>12.08%</b>	<b>11.35%</b>	<b>11.35%</b>	<b>0.06%</b>
					<i>Aggregate Benchmark Structural Risk<sup>6</sup></i>		<b>0.02%</b>
<b>LACERA</b>							
Growth	OPEB Growth Blend	3.13	50.0%	16.85%	18.38%	9.36%	0.01%
Credit	OPEB Credit Blend	1.26	20.1%	9.17%	7.17%	0.89%	0.00%
Real Assets & Inflation Hedges	OPEB Real Assets & Inflation Hedges Blend	1.25	19.9%	11.81%	12.54%	1.08%	0.03%
Risk Reduction and Mitigation	OPEB Risk Reduc Blend	0.63	10.1%	3.13%	4.21%	-0.03%	0.00%
Operational Cash		0.02	0.4%	0.00%	0.00%	0.00%	0.00%
<b>TOTAL</b>		<b>6.26</b>	<b>100.0%</b>	<b>12.00%</b>	<b>11.29%</b>	<b>11.29%</b>	<b>0.04%</b>
		<i>Weighted Average Benchmark<sup>5</sup></i>		12.05%	11.32%	11.32%	
<b>Benchmark</b>	<b>Policy Benchmark</b>			<b>12.08%</b>	<b>11.35%</b>	<b>11.35%</b>	<b>0.09%</b>
					<i>Aggregate Benchmark Structural Risk<sup>6</sup></i>		<b>0.05%</b>
<b>Superior Court</b>							
Growth	OPEB Growth Blend	23.79	50.0%	16.85%	18.38%	9.37%	0.01%
Credit	OPEB Credit Blend	9.57	20.1%	9.17%	7.17%	0.89%	0.00%
Real Assets & Inflation Hedges	OPEB Real Assets & Inflation Hedges Blend	9.45	19.8%	11.81%	12.54%	1.07%	0.03%
Risk Reduction and Mitigation	OPEB Risk Reduc Blend	4.81	10.1%	3.13%	4.21%	-0.03%	0.00%
Operational Cash		0.08	0.2%	0.00%	0.00%	0.00%	0.00%
<b>TOTAL</b>		<b>47.62</b>	<b>100.0%</b>	<b>12.02%</b>	<b>11.31%</b>	<b>11.31%</b>	<b>0.04%</b>
		<i>Weighted Average Benchmark<sup>5</sup></i>		12.05%	11.32%	11.32%	
<b>Benchmark</b>	<b>Policy Benchmark</b>			<b>12.08%</b>	<b>11.35%</b>	<b>11.35%</b>	<b>0.07%</b>
					<i>Aggregate Benchmark Structural Risk<sup>6</sup></i>		<b>0.03%</b>
<b>Master Trust OPEB</b>							
<b>TOTAL</b>		<b>1,652.38</b>	<b>100.0%</b>	<b>12.03%</b>	<b>11.32%</b>	<b>11.32%</b>	<b>0.04%</b>
<b>Benchmark</b>	<b>Policy Benchmark</b>			<b>12.08%</b>	<b>11.35%</b>	<b>11.35%</b>	

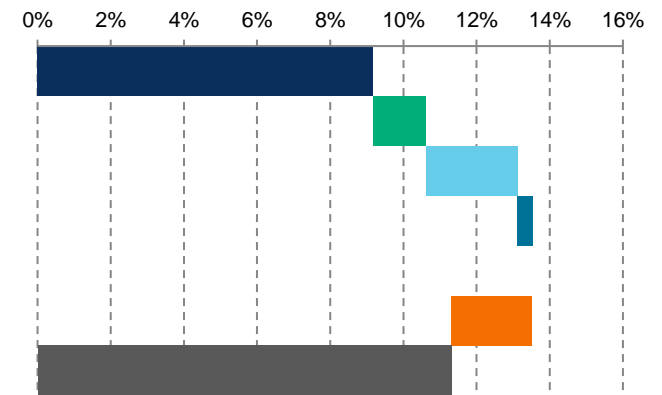
1: Volatility at the asset class level is calculated using parametric VaR at 84th percentile, annualized and expressed as a percentage of the market value of each asset class.  
 2: Standalone VaR is the annualized Value-at-Risk at the 95th percentile expressed as a percentage of the market value of each asset class.  
 3: Total VaR Contribution is calculated using historic VaR at 95th percentile, 1 month horizon, annualized excluding the mean, and expressed as a percentage of the total plan assets.  
 4: Tracking Error is calculated using relative parametric VaR at 84th percentile (assets less benchmark), annualized and expressed as a percentage of the total plan assets.  
 5: Weighted average benchmark is the market value weighted average of the asset class benchmarks.  
 6: Aggregate Benchmark Structural Risk = [Tracking Error of the Total Plan to the policy benchmark] - [Tracking Error of the Total Plan to the weighted average of asset class benchmarks]

Master Trust OPEB Asset Allocation & Analytics  
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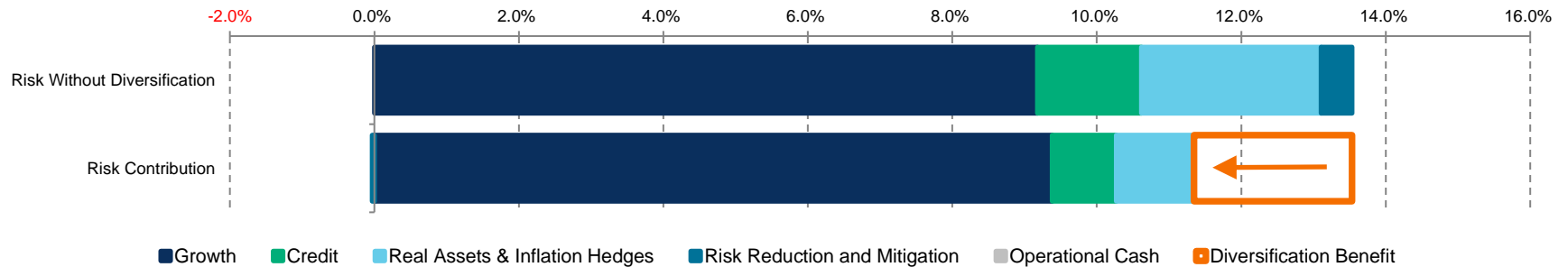
30-Sep-2020  
Reporting Currency: USD

Master Trust OPEB Risk & Diversification

	Allocation (%)	Weighted Standalone VaR (% of Total MV) <sup>1</sup>	
		Monthly	Annual
Growth	49.9%	2.6%	9.2%
Credit	20.1%	0.4%	1.4%
Real Assets & Inflation Hedges	19.8%	0.7%	2.5%
Risk Reduction and Mitigation	10.1%	0.1%	0.4%
Operational Cash	0.0%	0.0%	0.0%
Diversification Benefit <sup>2</sup>	-	-0.6%	-2.2%
<b>TOTAL</b>	<b>100.0%</b>	<b>3.3%</b>	<b>11.3%</b>



Risk Contribution and Diversification

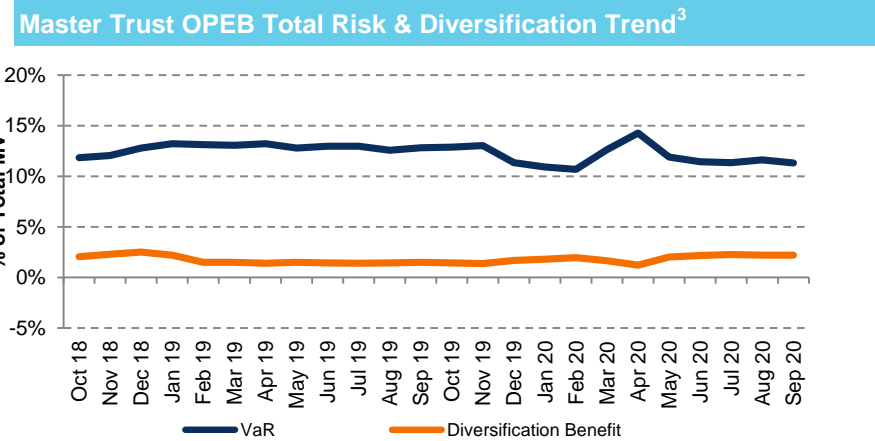
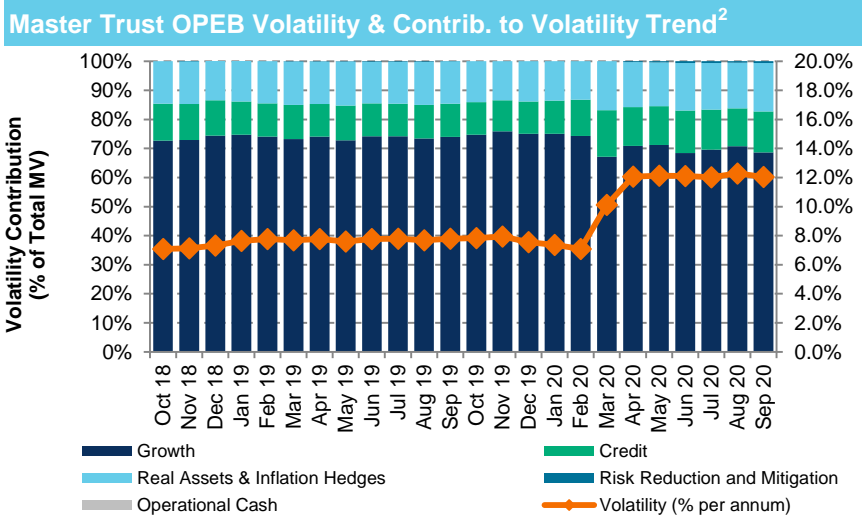
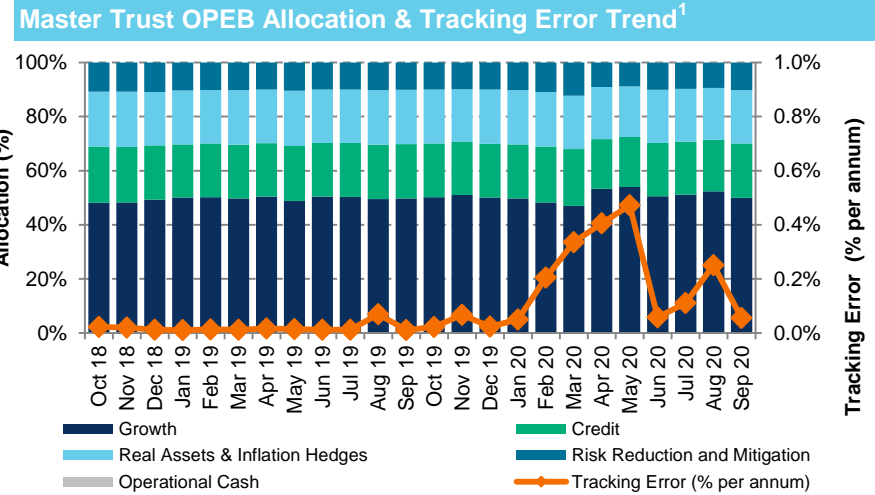
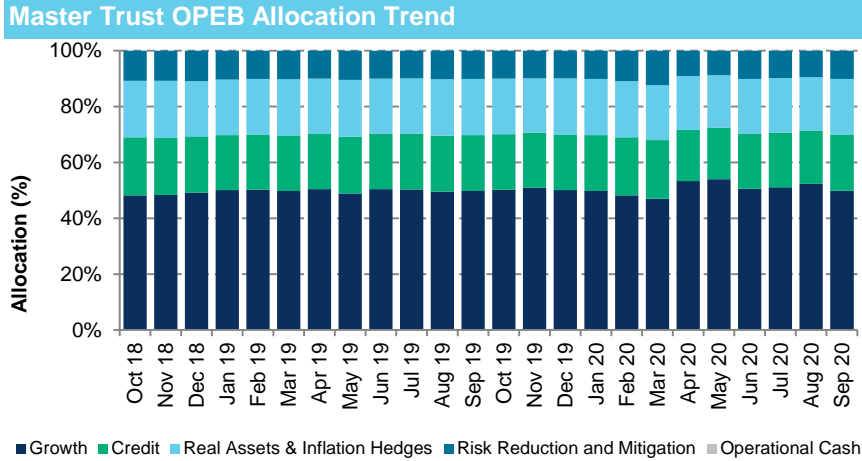


1: Standalone risk (historical VaR 95) of each asset class is weighted and expressed as a percent of total plan assets, i.e. contribution to risk without diversification benefit.  
 2: Diversification benefit is calculated as the sum of the standalone VaR at 95th percentile for each asset class less the total plan VaR.  
 3: 'Risk Without Diversification' is the sum of the standalone VaRs of each asset class. The 'Risk Contribution' displays the VaR 95 at the Total plan level and the contribution of each asset class. Due to the correlation affect between asset classes, the contribution of the asset classes to the VaR 95 at the Total plan level will not necessary be equal to their respective standalone VaR 95.

Master Trust OPEB Analytics, Volatility & Tracking Error

LACERA

30-Sep-2020  
Reporting Currency: USD



1: Tracking Error is calculated using relative parametric VaR at 84th percentile (assets less benchmark), annualized and expressed as a percentage of the total plan assets.  
 2: Volatility at the asset class level is calculated using parametric VaR at 84th percentile, annualized and expressed as a percentage of the market value of each asset class.  
 3: Diversification benefit is calculated as the sum of the standalone VaR at 95th percentile for each asset class less the total plan VaR.

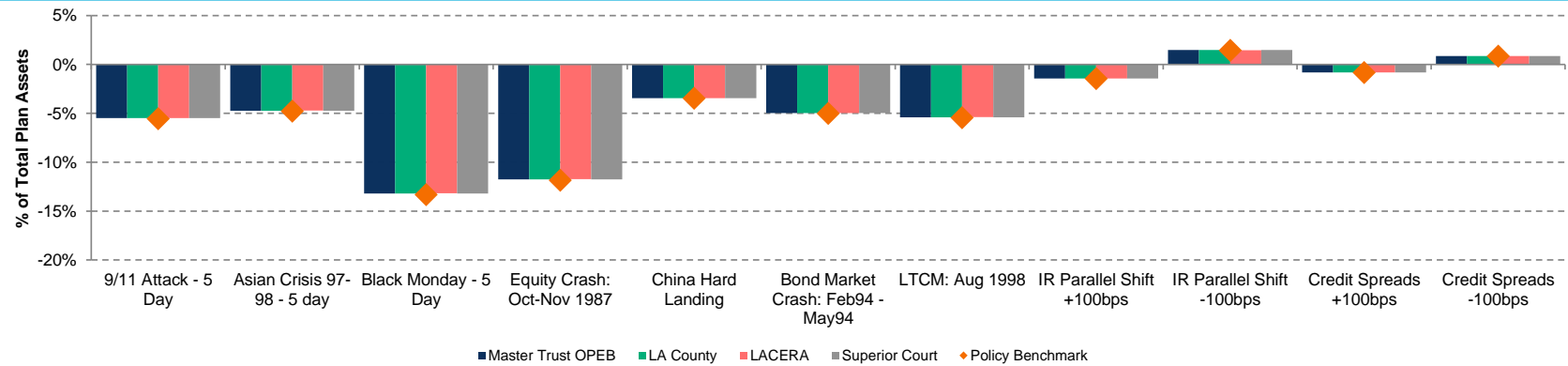
Master Trust OPEB Stress Testing  
LACERA

30-Sep-2020  
Reporting Currency: USD

Stress Test - % of Market Value

	Allocation (%)	9/11 Attack - 5 Day	Asian Crisis 97-98 - 5 day	Black Monday - 5 Day	Equity Crash: Oct-Nov 1987	China Hard Landing	Bond Market Crash: Feb94 - May94	LTCM: Aug 1998	IR Parallel Shift +100bps	IR Parallel Shift -100bps	Credit Spreads +100bps	Credit Spreads -100bps
Growth	49.9%	-4.7%	-4.1%	-10.8%	-9.4%	-3.1%	-3.5%	-4.3%	0.0%	-0.0%	0.0%	0.0%
Credit	20.1%	0.2%	0.1%	0.1%	-0.3%	-0.1%	-0.5%	-0.3%	-0.5%	0.5%	-0.6%	0.6%
Real Assets & Inflation Hedges	19.8%	-1.0%	-0.7%	-2.5%	-2.0%	-0.2%	-0.8%	-0.8%	-0.4%	0.5%	-0.0%	0.0%
Risk Reduction and Mitigation	10.1%	0.0%	0.0%	0.0%	-0.0%	-0.0%	-0.2%	-0.0%	-0.5%	0.5%	-0.2%	0.2%
Operational Cash	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Master Trust OPEB</b>	<b>100.0%</b>	<b>-5.5%</b>	<b>-4.7%</b>	<b>-13.2%</b>	<b>-11.8%</b>	<b>-3.4%</b>	<b>-5.0%</b>	<b>-5.4%</b>	<b>-1.4%</b>	<b>1.5%</b>	<b>-0.8%</b>	<b>0.9%</b>
<i>Benchmark</i>		-5.5%	-4.8%	-13.3%	-11.8%	-3.5%	-5.0%	-5.4%	-1.4%	1.5%	-0.8%	0.9%
<b>LA County</b>		<b>-5.5%</b>	<b>-4.7%</b>	<b>-13.2%</b>	<b>-11.8%</b>	<b>-3.4%</b>	<b>-5.0%</b>	<b>-5.4%</b>	<b>-1.4%</b>	<b>1.5%</b>	<b>-0.8%</b>	<b>0.9%</b>
<i>Benchmark</i>		-5.5%	-4.8%	-13.3%	-11.8%	-3.5%	-5.0%	-5.4%	-1.4%	1.5%	-0.8%	0.9%
<b>LACERA</b>		<b>-5.5%</b>	<b>-4.7%</b>	<b>-13.2%</b>	<b>-11.7%</b>	<b>-3.4%</b>	<b>-5.0%</b>	<b>-5.4%</b>	<b>-1.4%</b>	<b>1.5%</b>	<b>-0.8%</b>	<b>0.9%</b>
<i>Benchmark</i>		-5.5%	-4.8%	-13.3%	-11.8%	-3.5%	-5.0%	-5.4%	-1.4%	1.5%	-0.8%	0.9%
<b>Superior Court</b>		<b>-5.5%</b>	<b>-4.7%</b>	<b>-13.2%</b>	<b>-11.8%</b>	<b>-3.4%</b>	<b>-5.0%</b>	<b>-5.4%</b>	<b>-1.4%</b>	<b>1.5%</b>	<b>-0.8%</b>	<b>0.9%</b>
<i>Benchmark</i>		-5.5%	-4.8%	-13.3%	-11.8%	-3.5%	-5.0%	-5.4%	-1.4%	1.5%	-0.8%	0.9%

Stress Test Chart



# Glossary



## Appendix - Glossary

LACERA

30-Sep-2020

Reporting Currency: USD

## Terms and Definitions

**Analytics**

Value-at-Risk 95%	Value-at-risk quantifies the potential loss in a portfolio at a certain level of confidence. Value-at-Risk 95th percentile means there is a 5% chance of losing more than X%. Alternatively, it can be expressed as there is a 1 in 20 chance of losing more than X% in the next month (or year if it is an annual measure).
Volatility	Volatility is another measure quantifying the potential variability in a portfolio's asset value. Volatility means there is a 1 in 3 chance the portfolio will change in value by +/- X% in 1 year. Alternatively, it can be expressed that 1 year in 3 years, the portfolio will change in value by +/- X% per annum.
Tracking Error	An ex-ante (forward looking, or before the event) measure of how closely a portfolio follows the index to which it is compared. It measures the standard deviation of the difference between the portfolio and benchmark scenario returns.
Aggregate Benchmark Structural Risk	Aggregate Benchmark Structural Risk = [Tracking Error of the Total Plan to the policy benchmark] - [Tracking Error of the Total Plan to the weighted average of asset class benchmarks]. This can equally be applied to strategy level benchmarks, compared to the aggregate of the underlying managers' benchmarks.
Diversification Benefit	Diversification benefit is calculated as the sum of the standalone Value-at Risk at 95th percentile for each asset class/strategy less the total plan Value-at Risk, 1 month horizon, annualized. This measures the reduction of risk due to the benefits of diversification.
Duration	The sensitivity of a bond's price to changes in the interest rate usually measured in years. The higher the duration, the more sensitive the portfolio is to changes in interest rates.
Expected Yield	This measures the projected annual yield on the portfolio adjusting for option-adjusted probabilities.
Beta	Beta estimates the risk of the portfolio to a single market risk factor, i.e. systematic risk.

**Stress Tests**

9/11 Attack - 5 Day	Historic stress scenario observed from 9/17/2001 to 9/21/2001 where the US faced an act of terrorism. Trading was suspended on the NYSE and only resumed on 9/17/2001. The US stock market (S&P 500) declined 12%.
Asian Crisis 97-98 - 5 day	Historic stress scenario observed from 10/21/1997 to 10/27/1997 where the Bank of Thailand abandons the Baht's peg to the Dollar and the currency fell 18%. US equity markets fell 7% on the realization that the crisis was no longer localized. Asian currencies were the hardest struck, such as the South Korean Won fell 47.5% and Indonesian Rupiah fell 56%.
Black Monday - 5 Day	Historic stress scenario observed from 10/13/1987 to 10/19/1987 where the US stock market (DJIA) declined 31% with the world market following the decline.
Equity Crash: Oct-Nov 1987	Historic stress scenario observed from 10/5/1987 to 11/02/1987 where the world equity markets feared another Great Depression.
China Hard Landing	This is a macro-economic stress test, developed by State Street Global Exchange's <sup>SM</sup> research team. The stress test aims to estimate the potential impact, if China's economy and economic growth were to experience a "hard landing".
Bond Market Crash: Feb94 - May94	Historic stress scenario observed from 2/1/1994 to 9/15/1994 where the FED raised rates by approx. 250 basis points (against market expectations). 1994 became the year of the worst bond market loss in history. The Fed hiked interest rates in 1994 also precipitated a year-long correction in the stock market.
LTCM: Aug 1998	Historic stress scenario observed from 08/03/1998 to 08/31/1998 where LTCM's failure triggered a wide spread concern of potential catastrophic losses throughout the financial system.
IR Parallel Shift +100bps	All interest rate curves are shifted up 100bps, and the portfolio is revalued to assess the impact in dollar terms.
IR Parallel Shift -100bps	All interest rate curves are shifted down 100bps, and the portfolio is revalued to assess the impact in dollar terms.
Credit Spreads +100bps	All credit spread curves are shifted up 100bps, and the portfolio is revalued to assess the impact in dollar terms.
Credit Spreads -100bps	All credit spread curves are shifted down 100bps, and the portfolio is revalued to assess the impact in dollar terms.
FX +5%	All exchange rate curves are shifted up 5%, and the portfolio is revalued to assess the impact in dollar terms.
FX -5%	All exchange rate curves are shifted down 5%, and the portfolio is revalued to assess the impact in dollar terms.

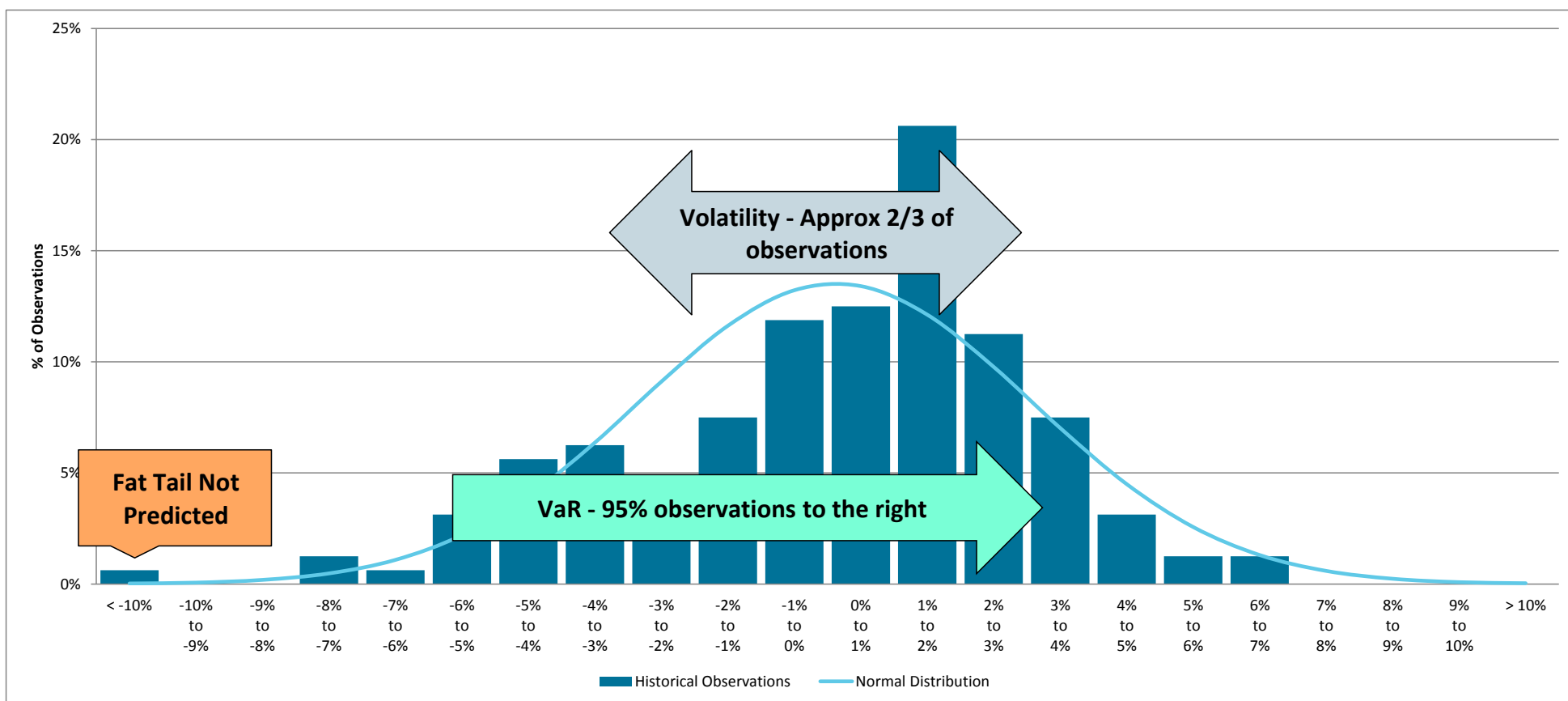
VaR and Volatility

Example Illustration of VaR and Volatility

VaR = 5.6%

Volatility = 2.9%

Mean = 0.1%



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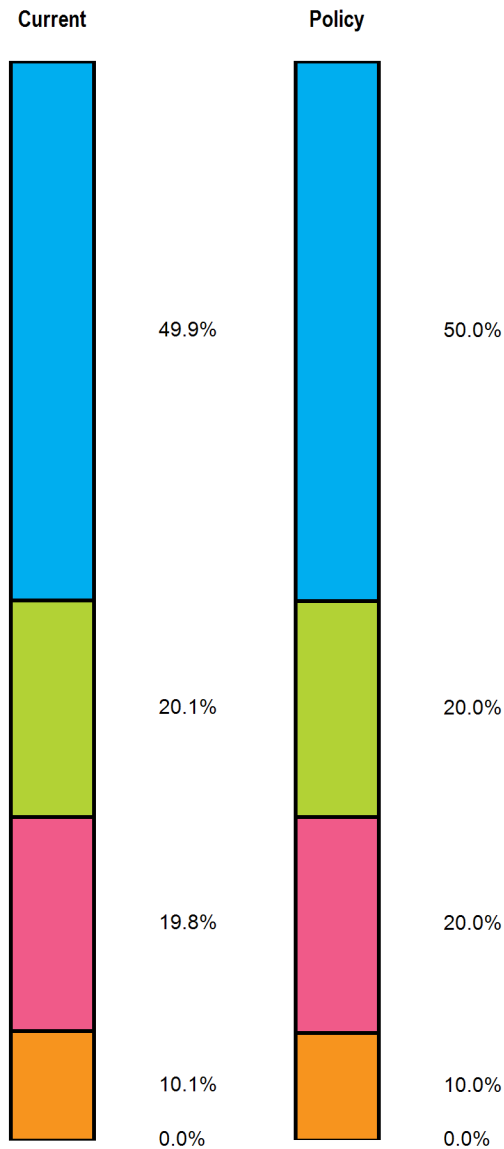
# LACERA: OPEB Master Trust

September 30, 2020

## Fund Evaluation Report

# Los Angeles County OPEB Master Trust

Total Fund | As of September 30, 2020



Allocation vs. Target					
	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
<b>Growth</b>	<b>\$825,089,423</b>	<b>49.9%</b>	<b>50.0%</b>	<b>40.0% - 60.0%</b>	<b>Yes</b>
Global Equity	\$825,089,423	49.9%	50.0%		
<b>Credit</b>	<b>\$332,188,488</b>	<b>20.1%</b>	<b>20.0%</b>	<b>15.0% - 25.0%</b>	<b>Yes</b>
High Yield Bonds	\$99,941,455	6.0%	6.0%		
Bank Loans	\$166,463,884	10.1%	10.0%		
Emerging Market Debt	\$65,783,149	4.0%	4.0%		
<b>Real Assets and Inflation Hedges</b>	<b>\$327,656,727</b>	<b>19.8%</b>	<b>20.0%</b>	<b>15.0% - 25.0%</b>	<b>Yes</b>
REITs	\$161,111,870	9.7%	10.0%		
Commodities	\$66,212,485	4.0%	4.0%		
TIPS	\$100,332,372	6.1%	6.0%		
<b>Risk Reduction &amp; Mitigation</b>	<b>\$167,441,042</b>	<b>10.1%</b>	<b>10.0%</b>	<b>5.0% - 15.0%</b>	<b>Yes</b>
Investment Grade Bonds	\$133,422,250	8.1%	8.0%		
Cash Equivalents	\$34,016,770	2.1%	2.0%		
<b>Uninvested Cash<sup>2</sup></b>	<b>\$292,279</b>	<b>0.0%</b>	<b>0.0%</b>		
<b>Total<sup>1</sup></b>	<b>\$1,652,666,548</b>	<b>100.0%</b>	<b>100.0%</b>		

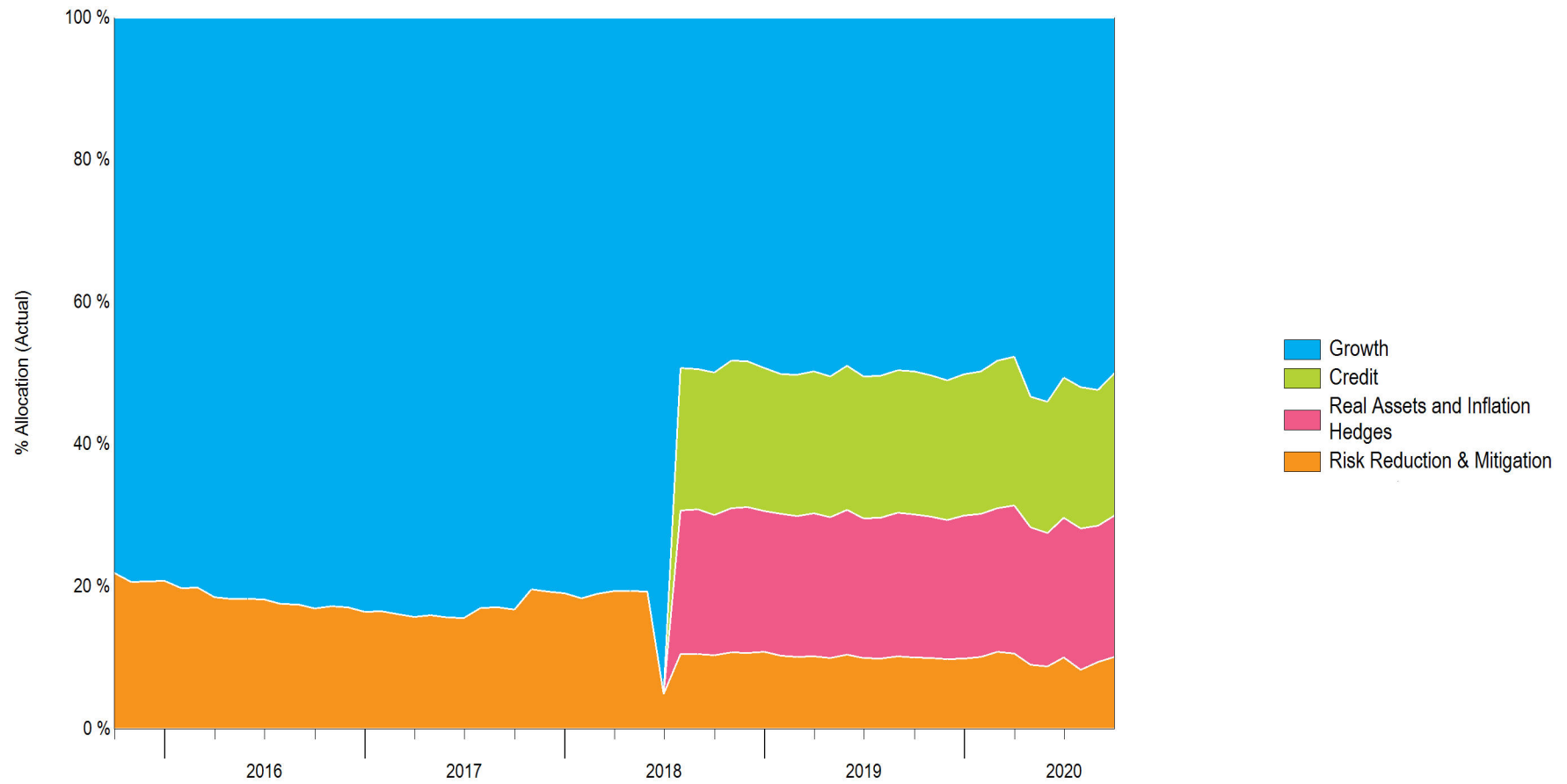
<sup>1</sup>Total market value includes cash held at the participant level.

<sup>2</sup> includes unsettled trade activity.

# Los Angeles County OPEB Master Trust

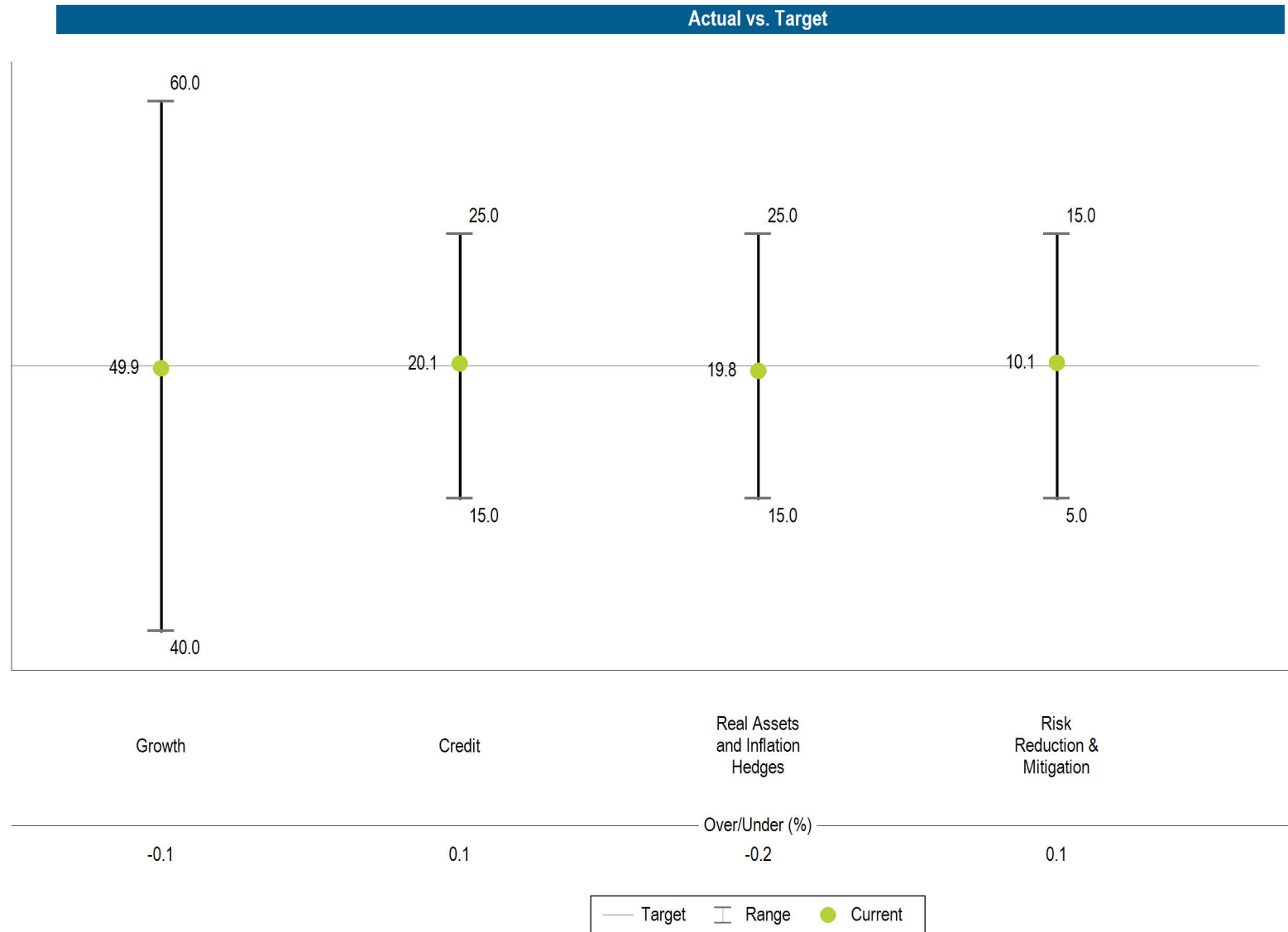
Total Fund | As of September 30, 2020

Asset Allocation History  
5 Years Ending September 30, 2020



# Los Angeles County OPEB Master Trust

Total Fund | As of September 30, 2020



# Los Angeles County OPEB Master Trust

Total Fund | As of September 30, 2020

## Trailing Net Performance

	Market Value <sup>1</sup> (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
<b>Total Fund (Net)</b>	<b>1,652,666,548</b>	<b>100.0</b>	<b>5.6</b>	<b>5.6</b>	<b>4.5</b>	<b>5.5</b>	<b>9.5</b>
<b>Total Fund (Gross)</b>			<b>5.6</b>	<b>5.6</b>	<b>4.5</b>	<b>5.5</b>	<b>9.5</b>
<i>Custom OPEB Master Trust BM</i>			<u>5.5</u>	<u>5.5</u>	<u>3.7</u>	<u>4.9</u>	<u>7.9</u>
Excess Return (vs. Net)			0.1	0.1	0.8	0.6	1.6
<b>Growth (Net)</b>	<b>825,089,423</b>	<b>49.9</b>	<b>8.2</b>	<b>8.2</b>	<b>9.9</b>	<b>6.8</b>	--
<b>Growth (Gross)</b>			<b>8.2</b>	<b>8.2</b>	<b>9.9</b>	<b>6.8</b>	--
OPEB Global Equity (Net)	825,089,423	49.9	8.2	8.2	9.9	6.8	10.3
OPEB Global Equity (Gross)			8.2	8.2	9.9	6.8	10.3
<i>MSCI ACWI IMI Net (DAILY)</i>			<u>8.1</u>	<u>8.1</u>	<u>9.6</u>	<u>6.5</u>	<u>10.0</u>
Excess Return (vs. Net)			0.1	0.1	0.3	0.3	0.3
<b>Credit (Net)</b>	<b>332,188,488</b>	<b>20.1</b>	<b>3.3</b>	<b>3.3</b>	<b>0.6</b>	--	--
<b>Credit (Gross)</b>			<b>3.3</b>	<b>3.3</b>	<b>0.7</b>	--	--
OPEB BTC High Yield Bonds (Net)	99,941,455	6.0	4.7	4.7	2.0	--	--
OPEB BTC High Yield Bonds (Gross)			4.7	4.7	2.1	--	--
<i>BBgBarc US High Yield TR</i>			<u>4.6</u>	<u>4.6</u>	<u>3.3</u>	--	--
Excess Return (vs. Net)			0.1	0.1	-1.3		
OPEB BTC Bank Loans (Net)	166,463,884	10.1	3.6	3.6	0.8	--	--
OPEB BTC Bank Loans (Gross)			3.6	3.6	0.8	--	--
<i>S&amp;P/LSTA Leveraged Loan TR</i>			<u>4.1</u>	<u>4.1</u>	<u>1.1</u>	--	--
Excess Return (vs. Net)			-0.5	-0.5	-0.3		

Fiscal Year begins July 1.

<sup>1</sup>Total market value includes cash held at the participant level.

The OPEB Master Trust started on 7/1/2018



# Los Angeles County OPEB Master Trust

Total Fund | As of September 30, 2020

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
OPEB BTC EM Debt LC (Net)	65,783,149	4.0	0.4	0.4	-2.1	--	--
OPEB BTC EM Debt LC (Gross)			0.5	0.5	-2.0	--	--
<i>JPM GBI-EM Global Diversified Index</i>			<u>0.6</u>	<u>0.6</u>	<u>-1.5</u>	--	--
Excess Return (vs. Net)			-0.2	-0.2	-0.6		
<b>Real Assets &amp; Inflation Hedges (Net)</b>	<b>327,656,727</b>	<b>19.8</b>	<b>3.3</b>	<b>3.3</b>	<b>-9.6</b>	<b>--</b>	<b>--</b>
<b>Real Assets &amp; Inflation Hedges (Gross)</b>			<b>3.3</b>	<b>3.3</b>	<b>-9.5</b>	<b>--</b>	<b>--</b>
OPEB BTC REITs (Net)	161,111,870	9.7	0.8	0.8	-22.6	--	--
OPEB BTC REITs (Gross)			0.8	0.8	-22.3	--	--
<i>DJ US Select REIT TR USD</i>			<u>0.8</u>	<u>0.8</u>	<u>-22.3</u>	--	--
Excess Return (vs. Net)			0.0	0.0	-0.3		
OPEB BTC Commodities (Net)	66,212,485	4.0	9.1	9.1	-8.2	--	--
OPEB BTC Commodities (Gross)			9.1	9.1	-8.0	--	--
<i>Bloomberg Commodity Index TR USD</i>			<u>9.1</u>	<u>9.1</u>	<u>-8.2</u>	--	--
Excess Return (vs. Net)			0.0	0.0	0.0		
OPEB BTC TIPS (Net)	100,332,372	6.1	3.1	3.1	10.3	--	--
OPEB BTC TIPS (Gross)			3.1	3.1	10.3	--	--
<i>BBgBarc US TIPS TR</i>			<u>3.0</u>	<u>3.0</u>	<u>10.1</u>	--	--
Excess Return (vs. Net)			0.1	0.1	0.2		
<b>Risk Reduction &amp; Mitigation (Net)</b>	<b>167,441,042</b>	<b>10.1</b>	<b>0.6</b>	<b>0.6</b>	<b>6.1</b>	<b>5.4</b>	<b>--</b>
<b>Risk Reduction &amp; Mitigation (Gross)</b>			<b>0.6</b>	<b>0.6</b>	<b>6.1</b>	<b>5.5</b>	<b>--</b>
OPEB BTC Investment Grade Bonds (Net)	133,422,250	8.1	0.7	0.7	7.1	--	--
OPEB BTC Investment Grade Bonds (Gross)			0.7	0.7	7.1	--	--
<i>BBgBarc US Aggregate TR</i>			<u>0.6</u>	<u>0.6</u>	<u>7.0</u>	--	--
Excess Return (vs. Net)			0.1	0.1	0.1		

# Los Angeles County OPEB Master Trust

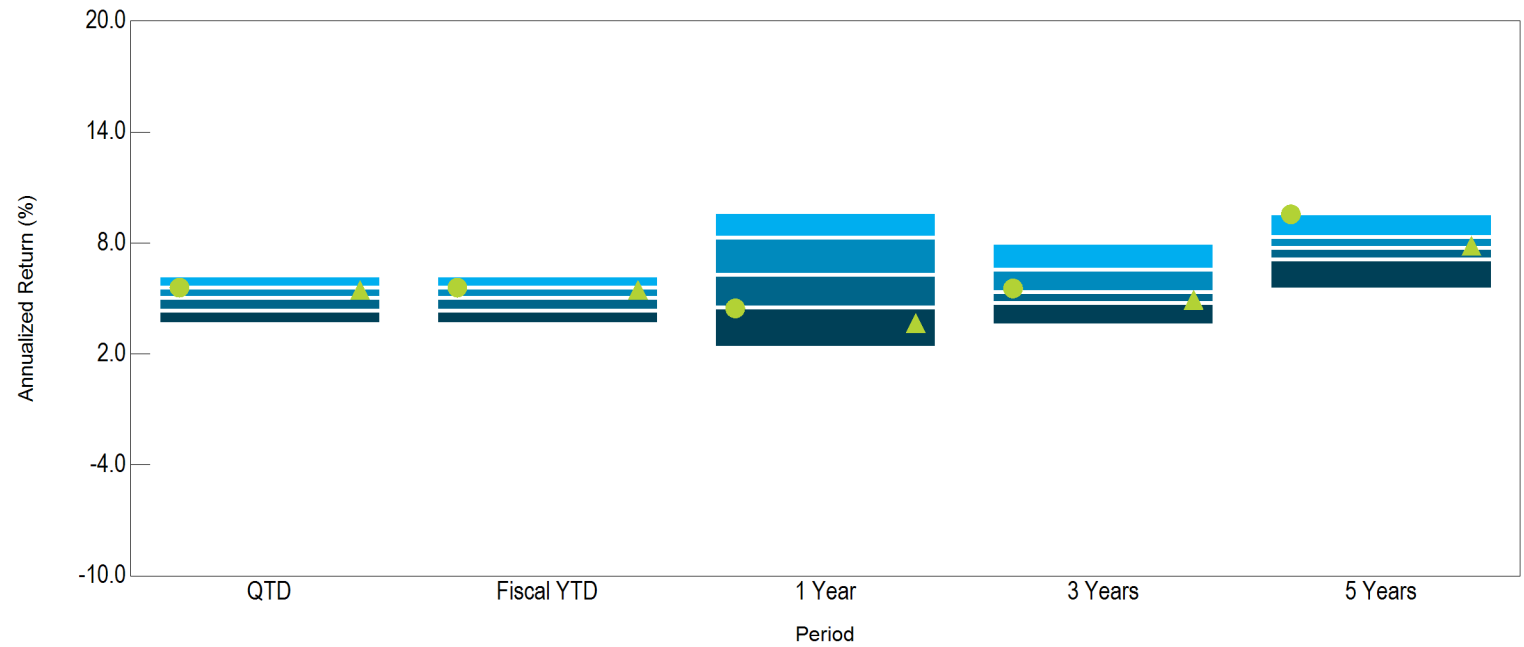
Total Fund | As of September 30, 2020

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
OPEB Cash (Net)	34,016,770	2.1	0.0	0.0	1.7	2.2	1.7
OPEB Cash (Gross)			0.0	0.0	1.8	2.3	1.8
<i>FTSE 6 Month T-Bill</i>			<u>0.1</u>	<u>0.1</u>	<u>1.3</u>	<u>1.8</u>	<u>1.3</u>
Excess Return (vs. Net)			-0.1	-0.1	0.4	0.4	0.4
<b>Uninvested Cash (Net)</b>	<b>292,279</b>	<b>0.0</b>					
<b>Uninvested Cash (Gross)</b>							

# Los Angeles County OPEB Master Trust

Total Fund | As of September 30, 2020

## InvMetrics Public DB \$1B - \$5B Gross Return Comparison



	Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)		Return (Rank)	
	QTD	Fiscal YTD	1 Year	3 Years	5 Years	QTD	Fiscal YTD	1 Year	3 Years	5 Years
5th Percentile	6.2	6.2	9.7	8.0	9.6					
25th Percentile	5.6	5.6	8.3	6.6	8.3					
Median	5.0	5.0	6.3	5.4	7.7					
75th Percentile	4.4	4.4	4.5	4.8	7.1					
95th Percentile	3.6	3.6	2.4	3.5	5.5					
# of Portfolios	58	58	58	58	58					
● Total Fund	5.6	5.6	4.5	5.5	9.5	(29)	(29)	(76)	(47)	(6)
▲ Custom OPEB Master Trust BM	5.5	5.5	3.7	4.9	7.9	(32)	(32)	(87)	(71)	(41)

# Los Angeles County OPEB Master Trust

Total Fund | As of September 30, 2020

## Benchmark History

As of September 30, 2020

### Total Fund

7/01/2018	Present	Custom OPEB Master Trust BM
2/01/2014	6/30/2018	80% MSCI ACWI IMI Net / 20% FTSE 6M T-Bill Index
2/01/2013	1/31/2014	FTSE 6M T-Bill Index

Custom OPEB Total Fund:50% MSCI ACWI IMI Net/ 6% BBgBarc High Yield/ 10% S&P/ LSTA Leveraged Loan/ 4% JPM GBI-Em/ 2%FTSE6-Month Treasury Bill/  
8% BBgBarc US Agg/ 6% BBgBarc US Tsy TIPS/ 10% DJ US Select Real Estate/ 4% Bloomberg Commodity Total Return

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**FOR INFORMATION ONLY**

November 24, 2020

TO: Trustees - Board of Investments

FROM: Christine Roseland *CR*  
Senior Staff Counsel

FOR: Board of Investments Meeting of December 9, 2020

**SUBJECT: Real Estate Recoveries Report**

This memo provides an update on the ongoing efforts by the Legal Office to manage the special purpose entities holding LACERA's real estate equity assets and legal costs related to LACERA's separate account real estate investment program.

**Separate Account Real Estate Program**

LACERA's Real Estate Program consists of, among other things, separate account equity positions that cover a broad array of property types diversified throughout the U.S., including office buildings, industrial properties, multi-family apartments, retail centers, and development projects. LACERA acquires and sells properties utilizing private real estate advisory firms which are under contract to LACERA as fiduciaries. The properties are held through tax exempt title holding companies (THCs) formed as corporations, limited liability companies, or limited partnerships.

The Legal Office handles the documentation relating to the transactions involving the acquisition, disposition, and leveraging of these properties as well as the formation, maintenance, management, and dissolution of the THCs. The Legal Office's management of the THCs includes tax exemption filings, refunds relating to property tax reassessments, reclaiming unclaimed property, and refunds of state and local transfer, income, and franchise taxes and withholdings as well as annual state registration fees.

Through these efforts, LACERA recovered \$646,875.39 in tax and unclaimed property related proceeds in calendar year 2019 and \$1,115,201.62 so far in 2020. This brings the total amount recovered on behalf of the fund to over \$4 million since 2014. The following is a breakdown of the amounts recovered on an annual basis:

<b>Year</b>	<b>Recovery</b>
2014	\$ 447,579.38
2015	\$ 6,681.82
2016	\$ 748,771.65
2017	\$ 280,020.77
2018	\$ 768,403.15
2019	\$ 646,875.39
2020	\$ 1,115,201.62 <sup>1</sup>
<b>Total</b>	<b>\$ 4,013,533.78</b>

<sup>1</sup> This amount is current through October 30, 2020 and includes a refund check in the amount of \$383,119.65 which is pending receipt.

In addition, many of the separate account real estate transactions are handled by LACERA's outside counsel, who are in turn overseen by the Legal Office. LACERA has saved over \$600,000 between 2014 and 2020 by negotiating fee breaks and discounts with outside counsel to be deducted from the final invoiced total. These amounts are in addition to discounted rates negotiated at the inception of an outside counsel relationship and result from staff's monitoring of the efficiency and value provided by outside counsel on a particular real estate transaction. The following is a breakdown of the amounts saved off invoice amounts on an annual basis since 2014:

<b>Year</b>	<b>Legal Fee Savings</b>
2014	\$ 21,786.40
2015	\$ 110,692.80
2016	\$ 40,409.27
2017	\$ 53,784.84
2018	\$ 165,127.31
2019	\$ 195,480.22
<u>2020</u>	<u>\$ 25,033.13</u>
<b>Total</b>	<b>\$ 612,313.97</b>

Fee savings, which are not included here because this memo focuses on the separate account Real Estate Program, are also negotiated with outside counsel providing representation in other asset classes.

### **Background**

The Transactions Team within the Legal Division oversees all legal aspects of investment transactions including the Real Estate Program. That team is responsible for handling the transactions as well as the management of the THCs. LACERA currently maintains about 116 THCs holding approximately 78 assets for the separate account equity Real Estate Program. Among other things related to the management of the THCs, the team is responsible for (1) filing all tax exemption applications for each THC with the federal and applicable state governments (when such exemption is available), (2) recovering taxes for each THC, at the federal, state, or local levels, to the extent taxes were paid when there was an exemption available, (3) monitoring and processing property tax refunds for each THC, (4) researching and applying for unclaimed property in various states when discovered, (5) managing state registrations for each THC, (6) monitoring income tax filings and withholdings, including applying for refunds when applicable, and (7) selecting, supervising, and monitoring outside counsel.

LACERA typically negotiates a discounted hourly rate with its panel of outside counsel engaged in connection with investment transactions. These discounts are typically 10 to 20% off regular rates. In addition to this rate discount, the Legal Office often negotiates an additional discount on final invoices of outside counsel in connection with individual transactions. Reasons for these discounts include, among other things, (1) exceeding the budgeted amount due to unanticipated issues or out of scope work, (2) reasonableness of the total amount in light of the circumstances, including value and efficiency of services provided, (3) volume discounts, (4) a hard not to exceed fee cap in

situations where the hourly fees could eat up any gains (such as a tax refund or settlement), and (5) fairness in situations where multiple firms bid on the same transaction.

As noted above, efforts on tax and unclaimed property claims have resulted in the recovery by the fund of \$646,875.39 in 2019 and \$1,115,201.62 so far in 2020, and over \$4 million in total proceeds since 2014, plus an additional \$612,313.97 in legal fee savings. These recoveries have a combined grand total of \$4,625,847.75 since 2014. Because most of these recoveries were handled internally, offsetting fees or costs incurred to collect these amounts are negligible. Accordingly, these real estate recoveries add directly to the fund's bottom line assets.

Reviewed and Approved:

A handwritten signature in blue ink that reads "Steven P. Rice". The signature is written in a cursive style and is positioned above a horizontal line.

Steven P. Rice  
Chief Counsel

cc: Santos H. Kreimann  
JJ Popowich  
Jonathan Grabel  
Ted Granger  
Richard Bendall  
John McClelland



**FOR INFORMATION ONLY**

November 23, 2020

TO: Each Trustee  
Board of Retirement  
Board of Investments

FROM: Barry W. Lew *BW*  
Legislative Affairs Officer

FOR: December 2, 2020 Board of Retirement Meeting  
December 9, 2020 Board of Investments Meeting

SUBJECT: **2020 Year-End Legislative Report**

**INTRODUCTION**

This report presents a year-end summary of bills on which LACERA took a position and of enacted bills that may require implementation by LACERA. Also attached is a year-end election update from the State Association of County Retirement Systems' (SACRS) legislative advocates.

The California Legislature adjourned on August 31, 2020. Any bills that were passed by the Legislature before adjournment are dead and would not carry over to the next legislative session since 2020 is the second year of the 2019-20 two-year session. September 30, 2020 was the last day for the Governor to sign or veto bills. Unless otherwise noted, the bills signed into law become effective January 1, 2021.

The 2nd session of the 116th Congress (2019-20) is not expected to conclude until January 3, 2021, and staff will continue monitoring the federal legislation in this report.

**POSITIONS**

The BOR reviewed and took positions on 10 bills during the 2019-20 legislative session. The BOI did not take any positions. Staff worked with LACERA's legislative advocates to send position letters during the legislative cycle.

Support – 8	AB 287, AB 2937, HR 141, HR 3934, HR 4540, HR 6436, S 521, SJR 3
Oppose – 2	AB 199, AB 664

## I. California Legislation

### ***AB 199 (Calderon): California Online Notary Act of 2019***

Summary: Would allow a notary public to register with the Secretary of State to be an online notary public. Would authorize an online notary public to perform notarial acts by means of audio-video communications and establish various requirements applicable to an online notary public.

Status: In ASSEMBLY. Died pursuant to Art. IV, Sec. 10(c) of the Constitution. (02/03/2020)

BOR Position: Oppose.

### ***AB 287 (Voepel): Public Employees' Retirement: Annual Audits***

Summary: Would require each state and local pension or retirement system to post a concise annual audit of the investments and earnings of the system on that system's internet website no later than the ninetieth day following the audit's completion.

Status: In ASSEMBLY. Died pursuant to Art. IV, Sec. 10(c) of the Constitution. (02/03/2020)

BOR Position: Support.

### ***AB 664 (Cooper): County Employees' Retirement: Permanent Incapacity***

Summary: Would require for purposes of determining permanent incapacity of certain members employed as peace officers in the County of Sacramento that those members be evaluated by the retirement system to determine if they can perform all the usual and customary duties of a peace officer. Would also require the board of retirement to develop a method of tracking the costs of providing permanent disability retirement to members who become eligible for disability retirement pursuant to the bill's provisions. Would repeal these provisions on December 31, 2024.

Status: Ordered to inactive file by unanimous consent. (09/01/2020)

BOR Position: Oppose.

Note: LACERA's opposition was on the version of the bill that provided for the determination of permanent incapacity for purposes of disability retirement. The bill was subsequently amended to a different subject matter to provide for a COVID-19 presumption for purposes of workers' compensation, which LACERA did not take a position on.

***AB 2937 (Fong): CERL: Nonservice-connected Disability Retirement.***

Summary: Would create an optional provision, to be elected by a county board of supervisors by resolution adopted by majority vote, that would remove the retirement board's assessment regarding the intemperate use of alcoholic liquor or drugs as a condition on the purchase of a disability retirement pension by county or district contributions.

Status: To ASSEMBLY Committee on PUBLIC EMPLOYMENT AND RETIRMENT. (03/05/2020)

BOR Position: Support.

Note: A more detailed update regarding the disposition of this item is provided under separate cover since the bill is based on a proposal submitted by LACERA to SACRS for sponsorship.

***SJR 3 (Wilk): Social Security***

Summary: Would request the Congress of the United States to enact, and the President to sign, legislation that would repeal the government pension offset and the windfall elimination provision from the Social Security Act.

Status: Chaptered by Secretary of State. (08/19/2019)

BOR Position: Support.

## **II. Federal Legislation**

***HR 141 (Davis): Social Security Fairness Act of 2019***

Summary: Repeals provisions that reduce Social Security benefits for individual receiving pension benefits from a state or local government. Eliminates the windfall elimination provision and government pension offset.

Status: Referred to Subcommittee on Social Security. (01/31/2019)

BOR Position: Support.

***HR 3934 (Brady): Equal Treatment of Public Servants Act of 2019***

Summary: Replaces the windfall elimination provision with a formula equalizing benefits for certain individuals with noncovered employment.

Status: Referred to Subcommittee on Social Security. (07/24/2019)

BOR Position: Support.

***HR 4540 (Neal): Public Servants Protection and Fairness Act***

Summary: Provides an equitable Social Security formula for individuals with noncovered employment and provides relief for individuals currently affected by the windfall elimination provision.

Status: Referred to the Subcommittee on Social Security. (09/27/2019)

BOR Position: Support.

***HR 6436 (Chabot): Police and Fire Health Care Protection Act of 2020***

Summary: Would revise provisions relating to distributions from accident or health plans or qualified long-term care insurance contracts of retired public safety officers. Would eliminate the requirement that payment of plan premiums must be made directly to plan providers in order for plan distributions to be excludible from employee gross income.

Status: Referred to Subcommittee on Health. (04/30/2020)

BOR Position: Support.

***S 521 (Brown): Social Security Fairness Act***

Summary: Repeals provisions that reduce Social Security benefits for individual receiving pension benefits from a state or local government. Eliminates the windfall elimination provision and government pension offset.

Status: Read twice and referred to the Committee on Finance. (02/14/2019)

BOR Position: Support.

**BALLOT MEASURES**

The November 3, 2020 election also had a number of statewide ballot measures. Although none of the ballot measures proposed any changes to pension benefits, some of them contained subject matter related to programs administered by LACERA such as commercial real estate, health care, privacy and government employment and contracting.

<i>Propositions</i>	<i>Result</i>
<u>Proposition 14: Medical Research</u> This measure would authorize state general obligation bonds to continue funding stem cell and other medical research on diseases such as	Passed

<i>Propositions</i>	<i>Result</i>
Alzheimer's, Parkinson's, stroke, epilepsy, and other central nervous system diseases.	
<u>Proposition 15: Commercial Property Taxes</u> This measure would increase funding for public schools, community colleges, and local governments by requiring that commercial and industrial real property be taxed based on current market value.	Defeated
<u>Proposition 16: Repeal of Proposition 209</u> This measure would repeal the provisions in the California Constitution enacted by Proposition 209 in 1996, which prohibited the state from discriminating against, or granting preferential treatment to, any individual or group on the basis of race, sex, color, ethnicity, or national origin in the operation of public employment, public education, or public contracting.	Defeated
<u>Proposition 23: Regulation of Kidney Dialysis Clinics</u> This measure would authorize state regulation of kidney dialysis clinics and establishes minimum staffing and other requirements such as data reporting of infection rates, state approval for clinics to close or reduce services, and prohibiting clinics from discriminating against patients based on payment sources for care.	Defeated
<u>Proposition 24: Consumer Privacy</u> The measure would permit consumers to prevent businesses from sharing personal information, correct inaccurate personal information, and limit businesses' use of "sensitive personal information" such as geolocation, race, ethnicity, religion, genetic data, union membership, private communications, and certain sexual orientation, health, and biometric information. It would also establish criteria for business compliance, prohibit retention of personal information that is longer than necessary by businesses, and provide penalties for violations.	Passed

**ENACTED LEGISLATION: OPTIONAL IMPLEMENTATION**

AB 2101 (Committee on Public Employment and Retirement) is an omnibus bill that made several technical changes to the County Employees Retirement Law of 1937. Two notable provisions provide for optional implementation.

- Parental leave: A member who returns from an uncompensated leave of absence on account of parental leave may receive service credit for the absence upon

payment of member and employee contributions plus interest. This provision becomes operative upon adoption by the board of supervisors.

- **Service Retirement Application Window:** A member who files for a service retirement must set forth an effective date that is not more than 60 days after the application date. This is an arbitrary timeline, and AB 2101 provides flexibility for a board of retirement to set a different number of days.

AB 2101 was sponsored by the State Association of County Retirement Systems (SACRS), and its Legislative Committee is developing a number of items for an omnibus bill for the 2021-22 state legislative session.

### **CONCLUSION**

Next year the new 2021-22 legislative session begins. Staff will keep the Boards apprised through the regular monthly legislative status reports. Staff is reviewing the current format for the monthly reports and contemplates modifying the format of the reports through the use of categories and subject matter to make the reports more informative.

**Reviewed and Approved:**



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**Steven P. Rice, Chief Counsel**

### **Attachments**

LACERA Legislative Report Index  
LACERA Legislative Report  
SACRS Legislative Update

cc: LACERA Division Managers  
Santos H. Kreimann  
JJ Popowich  
Steven P. Rice  
Anthony J. Roda, Williams & Jensen  
Joe Ackler, Ackler & Associates

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AB 196.....	Workers' Compensation: Coronavirus.....	Failed - Adjourned.....		9
AB 664.....	Workers' Compensation: Injury: Communicable Disease.....	Failed - Adjourned.....	Oppose 06/05/2019...	9
AB 685.....	COVID 19: Imminent Hazard to Employees: Exposure.....	Enacted.....		10
AB 992.....	Open Meetings: Local Agencies: Social Media.....	Enacted.....		7
AB 1107.....	Proclaimed State Emergencies.....	Failed - Adjourned.....		10
AB 1839.....	Coronavirus Recovery Deal.....	Failed - Adjourned.....		10
AB 1945.....	Emergency Services: First Responders.....	Enacted.....		7
AB 2101.....	Public Employees Retirement.....	Enacted.....		1
AB 2438.....	Public Records Act: Conforming Revisions.....	Failed - Adjourned.....		7
AB 2452.....	State Auditor: Audits: High Risk Local Government.....	Failed - Adjourned.....		8
AB 2473.....	Public Investment Funds.....	Failed - Adjourned.....		8
AB 2496.....	Income Taxes: Credits: Cleaning Supplies: Coronavirus.....	Failed - Adjourned.....		11
AB 2780.....	Public Employee Retirement Systems: Investments.....	Failed - Adjourned.....		8
AB 2887.....	Statewide Emergencies: Mitigation.....	Failed - Adjourned.....		11
AB 2937.....	CERL: Non-Service-Connected Disability Retirement.....	Failed - Adjourned.....	Support 04/09/2020....	1
AB 3216.....	Unemployment: Rehiring and Retention: Emergency.....	Vetoed.....		11
AB 3249.....	Public Retirement: Controller: Annual Report.....	Failed - Adjourned.....		8
AB 3329.....	Unemployment Insurance: Coronavirus Pandemic.....	Failed - Adjourned.....		11
ACA 5.....	Government Preferences.....	Adopted.....		8

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SB 89.....	Budget Act.....	Enacted.....		12
SB 117.....	Education Finance.....	Enacted.....		12
SB 430.....	Public Employees Retirement Benefits: Judges.....	Failed - Adjourned.....		1
SB 783.....	County Employees Retirement Law of 1937.....	Failed - Adjourned.....		1
SB 893.....	Workers' Compensation: Hospital Employees.....	Failed - Adjourned.....		12
SB 931.....	Local Government Meetings: Agenda and Documents.....	Failed - Adjourned.....		9
SB 939.....	Emergencies: Coronavirus: Evictions.....	Failed - Adjourned.....		12
SB 943.....	Paid Family Leave: Coronavirus.....	Failed - Adjourned.....		12
SB 1159.....	Workers Compensation: Coronavirus: Critical Workers.....	Enacted.....		13
SB 1297.....	Public Employees' Retirement.....	Failed - Adjourned.....		2
SB 1322.....	Remote Online Notarization Act.....	Failed - Adjourned.....		13
SB 1371.....	Maintenance of the Codes.....	Enacted.....		2

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N-62-20.....	Coronavirus and Workers' Compensation Benefits.....			13
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HR 266.....	Paycheck Protection Program and Health Care Enhancement.....	Enacted.....		2
HR 748.....	CARES Act.....	Enacted.....		2
HR 3934.....	Windfall Elimination Provision Replacement.....	Pending.....	Support 02/05/2020....	6
HR 4540.....	Non Covered Employment Social Security Provision.....	Pending.....	Support 02/05/2020....	6
HR 4897.....	Governmental Retirement Plans Income.....	Pending.....		6
HR 6074.....	Coronavirus Preparedness and Response Appropriations.....	Enacted.....		3
HR 6201.....	Families First Coronavirus Response Act.....	Enacted.....		3
HR 6436.....	Health Plans Direct Payment Requirement.....	Pending.....	Support 07/01/2020....	6
HR 6800.....	HEROES Act.....	Pending.....		3
HR 8567.....	Mandatory Retirement Distributions Age Increase.....	Pending.....		6

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S 3608.....	CARES Act Funds Flexibility.....	Pending.....		3
S 3752.....	Coronavirus Local Community Stabilization Fund.....	Pending.....		3
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S 4319.....	Supporting Americas Restaurant Workers Act.....	Pending.....		4
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S 4324.....	Critical Supply Chains and Intellectual Property Act.....	Pending.....	5



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File name: CERL-PEPRA-2020

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CA AB 2101	<b>AUTHOR:</b> <b>TITLE:</b> <b>INTRODUCED:</b> <b>LAST AMEND:</b> <b>DISPOSITION:</b> <b>SUMMARY:</b>	Public Employment and Retirement Cmt Public Employees Retirement 02/06/2020 08/07/2020 Enacted Amends existing law relating to the State Teachers' Retirement System. Removes the requirement that the election for continued defined benefit coverage be filed with the other public retirement system. Includes as creditable service activities performed for an employer by an audiometrist who holds a certificate of registration issued by the State Department of Health Care Services. Defines leave of absence.
CA AB 2937	<b>AUTHOR:</b> <b>TITLE:</b> <b>INTRODUCED:</b> <b>DISPOSITION:</b> <b>SUMMARY:</b>	Fong [R] CERL: Non-Service-Connected Disability Retirement 02/21/2020 Failed - Adjourned Creates an optional provision, to be elected by a county board of supervisors by resolution adopted by majority vote, that would remove the retirement board's assessment regarding the intemperate use of alcoholic liquor or drugs as a condition on the purchase of a disability retirement pension by county or district contributions.
	<b>Comments:</b> <b>BOR_Position:</b> <b>Staff_Recommendation:</b>	SACRS-sponsored bill based on LACERA's proposal. Support 04/09/2020 Support
CA SB 430	<b>AUTHOR:</b> <b>TITLE:</b> <b>INTRODUCED:</b> <b>LAST AMEND:</b> <b>DISPOSITION:</b> <b>SUMMARY:</b>	Wieckowski [D] Public Employees Retirement Benefits: Judges 02/21/2019 05/17/2019 Failed - Adjourned Relates to the State Public Employees' Pension Reform Act of 2013. Grants a judge who was elected to office in a specific year the option of making a one-time, irrevocable election to have a membership status prior to a certain date in the Judges' Retirement System II for service accrued after a certain date.
	<b>Staff_Action:</b>	Monitoring
CA SB 783	<b>AUTHOR:</b> <b>TITLE:</b> <b>INTRODUCED:</b> <b>DISPOSITION:</b> <b>SUMMARY:</b>	Labor, Public Employment & Retirement Cmt County Employees Retirement Law of 1937 03/07/2019 Failed - Adjourned Corrects several erroneous and obsolete cross references within the County Employees Retirement Law of 1937.
	<b>Comments:</b>	SB 783 was folded into AB 2101 to create a combined clean-up bill with

CalPERS and CalSTRS.  
**Staff\_Action:** Monitoring

CA SB 1297 **AUTHOR:** Moorlach [R]  
**TITLE:** Public Employees' Retirement  
**INTRODUCED:** 02/21/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**

Relates to the Public Employees' Retirement System, the State Teachers' Retirement System, the Judges' Retirement System, the Judges' Retirement System II, county and district retirement systems created pursuant to the County Employees' Retirement Law of 1937. Revises the provision of pension and other benefits to members of all state or local public retirement systems, among others.

**Staff\_Action:** Monitoring

CA SB 1371 **AUTHOR:** Judiciary Cmt  
**TITLE:** Maintenance of the Codes  
**INTRODUCED:** 02/21/2020  
**DISPOSITION:** Enacted  
**SUMMARY:**

Makes nonsubstantive changes in various provisions relative to directing the Legislative Counsel to advise the Legislature from time to time as to legislation necessary to maintain the Codes.

**Comments:**

Makes nonsubstantive change to CERL Section 31631.5 per Legislative Counsel's recommendation.

**Staff\_Action:** Monitoring

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File name: FEDERAL-Covid-19

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US HR 266 **SPONSOR:** McCollum [D]  
**TITLE:** Paycheck Protection Program and Health Care Enhancement  
**INTRODUCED:** 01/08/2019  
**LAST AMEND:** 04/21/2020  
**DISPOSITION:** Enacted  
**SUMMARY:**

Makes amendments to the Paycheck Protection Program, economic injury disaster loans, and emergency grants pursuant to the Coronavirus Aid, Relief, and Economic Security Act; relates to small business programs; makes additional emergency appropriations for coronavirus response.

**Comments:**

Additional funds appropriated for Paycheck Protection Program.

US HR 748 **SPONSOR:** Courtney [D]  
**TITLE:** CARES Act  
**INTRODUCED:** 01/24/2019  
**LAST AMEND:** 03/25/2020  
**DISPOSITION:** Enacted  
**SUMMARY:**

Enacts the Coronavirus Aid, Relief, and Economic Security, or CARES, Act; provides emergency assistance and health care response for individuals, families, and businesses affected by the 2020 coronavirus pandemic.

US HR 6074	<p><b>SPONSOR:</b> Lowey [D]  <b>TITLE:</b> Coronavirus Preparedness and Response Appropriations  <b>INTRODUCED:</b> 03/04/2020  <b>DISPOSITION:</b> Enacted  <b>SUMMARY:</b>  Establishes the Coronavirus Preparedness and Response Supplemental Appropriations Act; makes emergency supplemental appropriations in response to the outbreak of the Coronavirus.</p>
US HR 6201	<p><b>SPONSOR:</b> Lowey [D]  <b>TITLE:</b> Families First Coronavirus Response Act  <b>INTRODUCED:</b> 03/11/2020  <b>LAST AMEND:</b> 03/14/2020  <b>DISPOSITION:</b> Enacted  <b>SUMMARY:</b>  Provides for the Families First Coronavirus Response Act; provides specified supplement appropriations.</p>
US HR 6800	<p><b>SPONSOR:</b> Lowey [D]  <b>TITLE:</b> HEROES Act  <b>INTRODUCED:</b> 05/12/2020  <b>DISPOSITION:</b> Pending  <b>SUMMARY:</b>  Provides for the HEROES Act.</p>
US S 3607	<p><b>SPONSOR:</b> Grassley [R]  <b>TITLE:</b> Public Safety Officer Death Benefits  <b>INTRODUCED:</b> 05/05/2020  <b>LAST AMEND:</b> 05/14/2020  <b>DISPOSITION:</b> Enacted  <b>SUMMARY:</b>  Extends public safety officer death benefits to public safety officers whose death is caused by COVID-19.  <b>Staff_Action:</b> Monitoring</p>
US S 3608	<p><b>SPONSOR:</b> Kennedy [R]  <b>TITLE:</b> CARES Act Funds Flexibility  <b>INTRODUCED:</b> 05/05/2020  <b>DISPOSITION:</b> Pending  <b>SUMMARY:</b>  Amends the CARES Act; provides flexibility in use of funds by states, Indian Tribes, and municipalities.  <b>Comments:</b>  Would prohibit any federal aid to be provided directly to state pension funds.  <b>Staff_Action:</b> Monitoring</p>
US S 3752	<p><b>SPONSOR:</b> Menendez [D]  <b>TITLE:</b> Coronavirus Local Community Stabilization Fund  <b>INTRODUCED:</b> 05/18/2020  <b>DISPOSITION:</b> Pending  <b>SUMMARY:</b>  Amends Title VI of the Social Security Act; establishes a Coronavirus Local Community Stabilization Fund.</p>

**Comments:**

Would prohibit use of federal funds authorized by this bill by states for pension funds.

**Staff\_Action:** Monitoring

US S 4317

**SPONSOR:** Cornyn [R]  
**TITLE:** SAFE TO WORK Act  
**INTRODUCED:** 07/27/2020  
**DISPOSITION:** Pending  
**SUMMARY:**

Provides for the SAFE TO WORK Act.

**Comments:**

One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).

**Staff\_Action:** Monitoring

US S 4318

**SPONSOR:** Grassley [R]  
**TITLE:** American Workers Families and Employers Assistance Act  
**INTRODUCED:** 07/27/2020  
**DISPOSITION:** Pending  
**SUMMARY:**

Provides for the American Workers, Families, and Employers Assistance Act.

**Comments:**

One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).

**Staff\_Action:** Monitoring

US S 4319

**SPONSOR:** Scott T [R]  
**TITLE:** Supporting Americas Restaurant Workers Act  
**INTRODUCED:** 07/27/2020  
**DISPOSITION:** Pending  
**SUMMARY:**

Provides for the Supporting America's Restaurant Workers Act.

**Comments:**

One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).

**Staff\_Action:** Monitoring

US S 4320

**SPONSOR:** Shelby [R]  
**TITLE:** Coronavirus Response Supplemental Appropriations  
**INTRODUCED:** 07/27/2020  
**DISPOSITION:** Pending  
**SUMMARY:**

Provides for the Coronavirus Response Additional Supplemental Appropriations Act, 2020.

**Comments:**

One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).

**Staff\_Action:** Monitoring

US S 4321

**SPONSOR:** Rubio [R]  
**TITLE:** Continuing Small Business Recovery  
**INTRODUCED:** 07/27/2020

**DISPOSITION:** Pending  
**SUMMARY:**  
Provides for the Continuing Small Business Recovery and Paycheck Protection Program Act.  
**Comments:**  
One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).  
**Staff\_Action:** Monitoring

US S 4322 **SPONSOR:** Alexander L [R]  
**TITLE:** Safely Back to School and Back to Work Act  
**INTRODUCED:** 07/27/2020  
**DISPOSITION:** Pending  
**SUMMARY:**  
Provides for the Safely Back to School and Back to Work Act.  
**Comments:**  
One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).  
**Staff\_Action:** Monitoring

US S 4323 **SPONSOR:** Romney [R]  
**TITLE:** TRUST Act of 2020  
**INTRODUCED:** 07/27/2020  
**DISPOSITION:** Pending  
**SUMMARY:**  
Provides for the TRUST Act of 2020.  
**Comments:**  
One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).  
**Staff\_Action:** Monitoring

US S 4324 **SPONSOR:** Graham [R]  
**TITLE:** Critical Supply Chains and Intellectual Property Act  
**INTRODUCED:** 07/27/2020  
**DISPOSITION:** Pending  
**SUMMARY:**  
Provides for the Restoring Critical Supply Chains and Intellectual Property Act.  
**Comments:**  
One of eight individual bills that is part of the Health, Economic Assistance, Liability Protection and Schools Act (HEALS Act).  
**Staff\_Action:** Monitoring

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File name: Federal-2020

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US HR 141 **SPONSOR:** Davis R [R]  
**TITLE:** Government Pension Offset Repeal  
**INTRODUCED:** 01/03/2019  
**DISPOSITION:** Pending  
**SUMMARY:**  
Amends Title II of the Social Security Act; repeals the Government pension offset and windfall elimination provisions.  
**BOR\_Position:** Support 04/11/2019  
**IBLC\_Recommendation:** Support 03/14/2019  
**Staff\_Recommendation:** Support

US HR 3934      **SPONSOR:**                Brady K [R]  
**TITLE:**                        Windfall Elimination Provision Replacement  
**INTRODUCED:**                07/24/2019  
**DISPOSITION:**                Pending  
**SUMMARY:**  
Amends Title II of the Social Security Act; replaces the windfall elimination provision with a formula equalizing benefits for certain individuals with non-covered employment.  
**BOR\_Position:**                Support 02/05/2020  
**IBLC\_Recommendation:** Watch 01/09/2020  
**Staff\_Recommendation:** Watch

US HR 4540      **SPONSOR:**                Neal [D]  
**TITLE:**                        Non Covered Employment Social Security Provision  
**INTRODUCED:**                09/27/2019  
**DISPOSITION:**                Pending  
**SUMMARY:**  
Provides an equitable Social Security formula for individuals with non covered employment; provides relief for individuals currently affected by the Windfall Elimination Provision.  
**BOR\_Position:**                Support 02/05/2020  
**IBLC\_Recommendation:** Watch 01/09/2020  
**Staff\_Recommendation:** Watch

US HR 4897      **SPONSOR:**                Lipinski [D]  
**TITLE:**                        Governmental Retirement Plans Income  
**INTRODUCED:**                10/29/2019  
**DISPOSITION:**                Pending  
**SUMMARY:**  
Amends the Internal Revenue Code; increases the amount excluded from gross income by reason of distributions from governmental retirement plans for health and long term care insurance for public safety officers.  
**Comments:**  
Would increase the current Public Safety Officer tax exclusion from \$3,000 to \$6,000.  
**Staff\_Action:**                Monitoring

US HR 6436      **SPONSOR:**                Chabot [R]  
**TITLE:**                        Health Plans Direct Payment Requirement  
**INTRODUCED:**                04/03/2020  
**DISPOSITION:**                Pending  
**SUMMARY:**  
Amends the Internal Revenue Code; repeals the direct payment requirement on the exclusion from gross income of distributions from governmental plans for health and long term care insurance.  
**BOR\_Position:**                Support 07/01/2020  
**IBLC\_Position:**                Support 06/11/2020  
**Staff\_Recommendation:** Support

US HR 8567      **SPONSOR:**                Murphy S [D]  
**TITLE:**                        Mandatory Retirement Distributions Age Increase  
**INTRODUCED:**                10/09/2020

**DISPOSITION:** Pending

**SUMMARY:**

Amends the Internal Revenue Code of 1986; increases to 75 the required beginning date age for mandatory retirement distributions; exempts from such distribution rules individuals with lower account balances.

US S 521

**SPONSOR:** Brown S [D]

**TITLE:** Government Pension Offset Repeal

**INTRODUCED:** 02/14/2019

**DISPOSITION:** Pending

**SUMMARY:**

Amends Title II of the Social Security Act; repeals the Government pension offset and windfall elimination provisions.

**BOR\_Position:** Support 04/11/2019

**IBLC\_Recommendation:** Support 03/14/2019

**Staff\_Recommendation:** Support

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File name: Other-2020

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CA AB 992

**AUTHOR:** Mullin [D]

**TITLE:** Open Meetings: Local Agencies: Social Media

**INTRODUCED:** 02/21/2019

**LAST AMEND:** 07/31/2020

**DISPOSITION:** Enacted

**SUMMARY:**

Allows a member to engage in separate conversations or communications outside of a meeting authorized by the Ralph M. Brown Act with any other person using an internet based social media platform to answer questions, provide information to the public, or to solicit information from the public regarding a matter that is within the subject matter jurisdiction of the legislative body.

**Staff\_Action:** Monitoring

CA AB 1945

**AUTHOR:** Salas [D]

**TITLE:** Emergency Services: First Responders

**INTRODUCED:** 01/17/2020

**LAST AMEND:** 06/29/2020

**DISPOSITION:** Enacted

**SUMMARY:**

Defines first responder, for purposes of the California Emergency Services Act, to include certain personnel. Provides that the definition of first responder does not confer a right to an employee to obtain a retirement benefit formula for an employment classification that is not included in, or is expressly excluded from, that formula.

**Staff\_Action:** Monitoring

CA AB 2438

**AUTHOR:** Chau [D]

**TITLE:** Public Records Act: Conforming Revisions

**INTRODUCED:** 02/19/2020

**DISPOSITION:** Failed - Adjourned

**SUMMARY:**

Enacts various conforming and technical changes related to another bill that recodifies and reorganizes the Public Records Act. Becomes operative only if the related bill recodifying the act is enacted and becomes operative on January 1,

2022.

**Comments:**

Proposed conforming change to Section 7514.7.

- CA AB 2452      **AUTHOR:** Garcia [D]  
**TITLE:** State Auditor: Audits: High Risk Local Government  
**INTRODUCED:** 02/19/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**  
Authorizes the State Auditor to include in the high risk local government agency audit program any local agency or district association that the State Auditor identifies as being at high risk for the potential of waste, fraud, abuse, or mismanagement or that has major challenges associated with its economy, efficiency, or effectiveness.  
**Staff\_Action:** Monitoring
- CA AB 2473      **AUTHOR:** Cooper [D]  
**TITLE:** Public Investment Funds  
**INTRODUCED:** 02/19/2020  
**LAST AMEND:** 07/28/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**  
Exempts from disclosure under California Public Records Act specified records regarding an internally managed private loan made directly by a public investment fund, including quarterly and annual financial statements of the borrower or its constituent owners, unless the information has already been publicly released by the keeper of the information. Makes nonsubstantive changes to certain other provisions. Defines terms.  
**Staff\_Action:** Monitoring
- CA AB 2780      **AUTHOR:** Holden [D]  
**TITLE:** Public Employee Retirement Systems: Investments  
**INTRODUCED:** 02/20/2020  
**LAST AMEND:** 05/04/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**  
Prohibits the boards of specified public pension or retirement systems from making additional or new investments or renew existing investments of public employee retirement funds in any investment vehicle that is issued or owned by the government of Azerbaijan or Turkey, upon the passage of a federal law imposing sanctions on the government of Turkey for imposing an economic blockade of Armenia.
- CA AB 3249      **AUTHOR:** Fong [R]  
**TITLE:** Public Retirement: Controller: Annual Report  
**INTRODUCED:** 02/21/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**  
Requires the Controller to post the report on the financial condition of all state and local public retirement systems on the Controller's internet website.  
**Staff\_Action:** Monitoring
- CA ACA 5      **AUTHOR:** Weber [D]



**TITLE:** Government Preferences  
**INTRODUCED:** 01/18/2019  
**LAST AMEND:** 05/04/2020  
**DISPOSITION:** Adopted  
**SUMMARY:**

Proposes an amendment to the state Constitution to repeal provisions enacted by the initiative Proposition 209 which prohibits the state from discriminating against, or granting preferential treatment to, any individual or group on the basis of race, sex, color, ethnicity, or national origin, in the operation of public employment, public education, or public contracting.

**Comments:**

On the Nov. 3, 2020 ballot as Proposition 16.

**Staff\_Action:** Monitoring

CA SB 931

**AUTHOR:** Wieckowski [D]  
**TITLE:** Local Government Meetings: Agenda and Documents  
**INTRODUCED:** 02/05/2020  
**LAST AMEND:** 04/02/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**

Requires, if the local agency has an internet website to deliver by email the agendas and documents for local government meetings. Require, where the local agency determines it is technologically infeasible to send a copy of all documents constituting the agenda packet or a website link containing the documents by electronic mail or by other electronic means.

**Staff\_Action:** Monitoring

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File name: STATE-Covid-19

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CA AB 196

**AUTHOR:** Gonzalez [D]  
**TITLE:** Workers' Compensation: Coronavirus  
**INTRODUCED:** 01/10/2019  
**LAST AMEND:** 08/25/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**

Defines injury for certain employees who are employed in an occupation or industry deemed essential except as specified, or who are subsequently deemed essential, to include coronavirus disease that develops or manifests itself during a period of employment of those persons in the essential occupation or industry. Creates a disputable presumption that the injury arose out of and in the course of the employment. Shortens the investigatory timeframe.

**Staff\_Action:** Monitoring

CA AB 664

**AUTHOR:** Cooper [D]  
**TITLE:** Workers' Compensation: Injury: Communicable Disease  
**INTRODUCED:** 02/15/2019  
**LAST AMEND:** 08/25/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**

Defines injury, for certain state and local firefighting personnel, peace officers, correctional and law enforcement personnel, health care employees who provide direct patient care at an acute care hospital, and fire and rescue services coordinators who work for the Office of Emergency Services to include illness or death resulting from COVID 19 that is diagnosed on or after a specified date, if

certain circumstances apply.

**Comments:**

As amended on 4/17/2020, the bill no longer relates to disability retirement and relates to a presumption under workers' compensation.

**BOR\_Position:** Oppose 06/05/2019, Support 05/01/2019

**IBLC\_Recommendation:** Support 04/11/2019

**Staff\_Action:** Monitoring

**Staff\_Recommendation:** Watch

CA AB 685

**AUTHOR:** Reyes [D]

**TITLE:** COVID 19: Imminent Hazard to Employees: Exposure

**INTRODUCED:** 02/15/2019

**LAST AMEND:** 08/25/2020

**DISPOSITION:** Enacted

**SUMMARY:**

Authorizes the Division of Occupational Safety and Health, when, in its opinion, a place of employment, operation, or process, or any part thereof, exposes workers to the risk of infection with severe acute respiratory syndrome, also known as coronavirus, so as to constitute an imminent hazard to employees, to prohibit the performance of that operation or process, or entry into that place of employment.

CA AB 1107

**AUTHOR:** Chu [D]

**TITLE:** Proclaimed State Emergencies

**INTRODUCED:** 02/21/2019

**LAST AMEND:** 08/07/2020

**DISPOSITION:** Failed - Adjourned

**SUMMARY:**

Requires all proclamations, materials, and announcements made by the Governor or issued by a state agency related to a duly proclaimed state of emergency to be made available statewide in all the threshold languages spoken limited English proficient speakers. Defines the term threshold languages spoken by limited English proficient speakers to mean all MediCal threshold languages spoken by any threshold population group without limitation to county specific thresholds.

**Staff\_Action:** Monitoring

CA AB 1839

**AUTHOR:** Bonta [D]

**TITLE:** Coronavirus Recovery Deal

**INTRODUCED:** 01/06/2020

**LAST AMEND:** 05/07/2020

**DISPOSITION:** Failed - Adjourned

**SUMMARY:**

Enacts the Coronavirus Recovery Deal. Makes a series of legislative findings and declarations pertaining to the coronavirus pandemic and various economic, environmental, and social conditions in the state. States the intent of the Legislature that the state adopt a policy framework with principles and goals committed to accomplish specified economic, environmental, and social objectives and priorities as part of the coronavirus recovery spending.

**Comments:**

Would support the inclusion of pensions among other benefits that should be included in new employment opportunities for workers in all sectors who have lost jobs or income as a result of the pandemic.

	<b>Staff_Action:</b>	Monitoring
CA AB 2496	<b>AUTHOR:</b>	Choi [R]
	<b>TITLE:</b>	Income Taxes: Credits: Cleaning Supplies: Coronavirus
	<b>INTRODUCED:</b>	02/19/2020
	<b>LAST AMEND:</b>	05/04/2020
	<b>DISPOSITION:</b>	Failed - Adjourned
	<b>SUMMARY:</b>	Allows a credit against income taxes to a taxpayer that is a business with a physical location in the state in an amount equal to the costs paid or incurred by the qualified taxpayer during the taxable year for the purchase of cleaning and sanitizing supplies used at business locations in the state to prevent the transmission of the novel coronavirus.
CA AB 2887	<b>AUTHOR:</b>	Bonta [D]
	<b>TITLE:</b>	Statewide Emergencies: Mitigation
	<b>INTRODUCED:</b>	02/21/2020
	<b>LAST AMEND:</b>	03/16/2020
	<b>DISPOSITION:</b>	Failed - Adjourned
	<b>SUMMARY:</b>	Adds provisions relating to states of emergency, including the coronavirus pandemic. Provides for school meal distribution. Provides a moratorium on rent collection from small businesses. Requires zero interest rate loans for small businesses and nonprofit organizations. Provides paid sick leave for all employees regardless of term of employment. Prohibits the termination of utility service for certain nonpayment after the declaration of a state of emergency.
	<b>Staff_Action:</b>	Monitoring
CA AB 3216	<b>AUTHOR:</b>	Kalra [D]
	<b>TITLE:</b>	Unemployment: Rehiring and Retention: Emergency
	<b>INTRODUCED:</b>	02/21/2020
	<b>LAST AMEND:</b>	08/20/2020
	<b>DISPOSITION:</b>	Vetoed
	<b>SUMMARY:</b>	Requires an employer to offer its laid off employees specified information about job positions that become available for which the laid off employees are qualified, and to offer positions to those employees based on a preference system. Defines the term laid off employee. Authorizes an employee to enforce violations by filing an action with the Division of Labor Standards.
	<b>Staff_Action:</b>	Monitoring
CA AB 3329	<b>AUTHOR:</b>	Daly [D]
	<b>TITLE:</b>	Unemployment Insurance: Coronavirus Pandemic
	<b>INTRODUCED:</b>	02/21/2020
	<b>LAST AMEND:</b>	05/04/2020
	<b>DISPOSITION:</b>	Failed - Adjourned
	<b>SUMMARY:</b>	Provides that following the termination of the Federal Pandemic Unemployment Compensation amount provided pursuant to the CARES Act, or any other federal supplemental unemployment compensation payments for unemployment due to the coronavirus pandemic, that an individual's weekly benefit amount be increased by a specified amount for the remainder of the duration of time the individual is entitled to receive benefits.

CA SB 89	<p><b>AUTHOR:</b> Budget and Fiscal Review Cmt</p> <p><b>TITLE:</b> Budget Act</p> <p><b>INTRODUCED:</b> 01/10/2019</p> <p><b>LAST AMEND:</b> 03/16/2020</p> <p><b>DISPOSITION:</b> Enacted</p> <p><b>SUMMARY:</b></p> <p>Amends the Budget Act to make appropriations for any purpose related to the proclamation of a state of emergency upon order of the Director of Finance; provides that the Administration will work with stakeholders, including members of the Legislature and staff, in developing strategies to be considered for inclusion to assist individuals, nonprofit organizations, and small businesses experiencing economic hardships to the impacts.</p>
CA SB 117	<p><b>AUTHOR:</b> Budget and Fiscal Review Cmt</p> <p><b>TITLE:</b> Education Finance</p> <p><b>INTRODUCED:</b> 01/10/2019</p> <p><b>LAST AMEND:</b> 03/16/2020</p> <p><b>DISPOSITION:</b> Enacted</p> <p><b>SUMMARY:</b></p> <p>Provides that due to the coronavirus, the instructional days and minutes requirements will be deemed to have been met during the period of time the school is closed. Extends the deadline to conduct the English learner assessment, unless otherwise determined by the Superintendent.</p>
CA SB 893	<p><b>AUTHOR:</b> Caballero [D]</p> <p><b>TITLE:</b> Workers' Compensation: Hospital Employees</p> <p><b>INTRODUCED:</b> 01/28/2020</p> <p><b>LAST AMEND:</b> 04/29/2020</p> <p><b>DISPOSITION:</b> Failed - Adjourned</p> <p><b>SUMMARY:</b></p> <p>Defines injury, for a hospital employee who provides direct patient care in an acute care hospital, to include infectious diseases, musculoskeletal injuries, and respiratory diseases. Creates rebuttable presumptions that these injuries that develop or manifest in a hospital employee who provides direct patient care in an acute care hospital arose out of and in the course of employment.</p> <p><b>Staff_Action:</b> Monitoring</p>
CA SB 939	<p><b>AUTHOR:</b> Wiener [D]</p> <p><b>TITLE:</b> Emergencies: Coronavirus: Evictions</p> <p><b>INTRODUCED:</b> 02/06/2020</p> <p><b>LAST AMEND:</b> 05/29/2020</p> <p><b>DISPOSITION:</b> Failed - Adjourned</p> <p><b>SUMMARY:</b></p> <p>Prohibits a commercial landlord from serving a specified notice of eviction on a commercial tenant under a certain number of days after the state of emergency proclaimed by the Governor on March 4, 2020, is lifted and if specified criteria apply. Defines eligible COVID 19 impacted commercial tenant. Provides that specified notices of eviction served on commercial tenants are void under specified circumstances.</p> <p><b>Staff_Action:</b> Monitoring</p>
CA SB 943	<p><b>AUTHOR:</b> Chang [R]</p>

**TITLE:** Paid Family Leave: Coronavirus  
**INTRODUCED:** 02/10/2020  
**LAST AMEND:** 05/19/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**

Authorizes wage replacement benefits to specified workers who take time off work to care for a child or other family member, including a child with disabilities, for whom the employee is responsible for providing care, if that person's school or place of care has been closed, or the care provider of that person is unavailable, due to the coronavirus outbreak.

**Staff\_Action:** Monitoring

CA SB 1159

**AUTHOR:** Hill [D]  
**TITLE:** Workers Compensation: Coronavirus: Critical Workers  
**INTRODUCED:** 02/20/2020  
**LAST AMEND:** 08/30/2020  
**DISPOSITION:** Enacted  
**SUMMARY:**

Amends existing law relating to the workers' compensation system. Defines injury for an employee to include illness or death resulting from coronavirus disease. Allows for a presumption of injury for all employees whose fellow employees at their place of employment experience specified levels of positive testing, and whose employer has five or more employees. Requires the Commission on Health and Safety and Worker's Compensation to conduct a COVID 19 impact study.

**Staff\_Action:** Monitoring

CA SB 1322

**AUTHOR:** Rubio [D]  
**TITLE:** Remote Online Notarization Act  
**INTRODUCED:** 02/21/2020  
**LAST AMEND:** 04/03/2020  
**DISPOSITION:** Failed - Adjourned  
**SUMMARY:**

Relates to Remote Online Notarization Act. Authorizes a notary public to apply for registration with the Secretary of State to be a remote online notary public. Provides that the act shall remain in effect only while there is a declaration of a state of emergency by the Governor related to the coronavirus in effect.

**Staff\_Action:** Monitoring

CA 40 2020

**Executive Order**  
**TITLE:** Coronavirus and Workers' Compensation Benefits  
**ORDERED:** 05/06/2020  
**SUMMARY:**

Provides that any coronavirus related illness of an employee shall be presumed to arise out of and in the course of employment for purposes of awarding workers' compensation benefits if the employee tested positive for or was diagnosed with coronavirus within fourteen days after a day that the employee performed labor or services at the employee's place of employment at the employer's direction after a specified date.

**Comments:**

Governor's Executive Order providing a presumption for workers' compensation benefits due to Covid-19. The order was subsequently codified in SB 1159 (Hill).



November 5, 2020

TO: State Association of County Retirement Systems

FROM: Mike Robson, Trent Smith, and Bridget McGowan, Edelstein Gilbert Robson & Smith, LLC

RE: **Legislative Update – November 2020**

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### **California Election Update**

California experienced what appears to be record voter turnout, with high early votes from Democrats and high day-of voting by Republicans. In past elections, late-mailed ballots and provisional ballots trended to the Democrats. It remains to be seen how many late ballots have yet to be counted and many races are too close and will be decided by these ballots.

### **State Senate**

The State Senate is currently comprised of 29 Democrats and 11 Republicans. The Democrats mounted well-funded challenges to four seats currently held by Republicans. It is likely the Republicans will lose at least two of these seats and maybe all four.

**SD 29 Senator Ling Ling Chang (R) vs. Josh Newman (D)** -- Newman ahead by 10,000 votes.

**SD 37 – Senator John Moorlach (R) vs. Dave Min (D)** – Min ahead by 11,000 votes.

**SD 23 – Rosilicie Ochoa Bogh (R) vs Abigail Medina (D)** –Medina ahead by 241 votes.

**SD21 – Senator Scott Wilk (R) vs. Kipp Mueller (D)** – Wilk up by 553 votes.

### **Assembly**

The Assembly is currently comprised of 61 Democrats, 17 Republicans, a vacancy and an independent.

The Assembly Democrats were defending three seats won from Republicans in 2018 and going after four seats held by Republicans. The Republicans picked up a Democratic seat when the Dems failed to place a candidate in the General Election.

It is highly likely the Democrats will succeed in defending their 2018 wins:

**AD 74 – Assemblymember Cottie Petrie-Norris (D) vs. Diane Dixon (R).**

**AD 76 – Assemblymember Tasha Boerner-Horvath (D) vs. Melanie Burkholder (R).**

**AD 77 – Assemblymember Brian Maienschein (D) vs. June Yang-Cutter (R).**

**AD 38 Suzette Valladares (R)** – Won. Pick up from Democrats.

At this moment the Republicans appear to be defending their seats:

**Assembly District 68 – Assemblymember Steven Choi (R) vs. Melissa Fox (D).** Choi is up by about 10,000 votes.

**Assembly District 72 – Janet Nguyen (R) vs. Deidre Nguyen (D).** Janet Nguyen is up by about 11,000 votes.

**Assembly District 55 – Assemblymember Phil Chen (R) vs. Andrew Rodriguez (D)** Phil Chen is up by about 14,000 votes.

**Assembly District 35 – Assemblymember Jordan Cunningham (R) vs. Dawn Addis (D)** Cunningham is up by about 13,000 votes.

### **Ballot Initiatives**

There were a dozen ballot initiatives on the statewide ballot.

Of particular interest to many members of SACRS is the still to-be-determined outcome of **Proposition 15** to increase property tax on commercial property. If passed, increased property taxes would bring an additional \$10-\$12 billion in new revenue to local governments and schools. Right now, this initiative is behind by about 400,000 votes and is still too close to call.

A common theme among the ballot fights is that the side that spent the most money prevailed. That was the case with **Proposition 22** put on the ballot by Uber, Lyft and other Gig economy businesses who spent at least \$250 million to pass this initiative. Similarly, dialysis clinics outspent the healthcare unions to defeat **Proposition 23**. Realtors and firefighters raised over \$45 million and are currently ahead in the effort to pass **Proposition 19**. While former Governor Brown and criminal justice reform advocates spent \$22 million to defeat **Proposition 20** to increase criminal penalties for certain crimes. Finally, property owners and landlords spent \$134 million to defeat **Proposition 21** which would have created a California rent-control law.

Interestingly, voters appear to be rejecting two measures placed on the ballot by their elected representatives and a third measure is passing that will overturning a law created by the Legislature. **Proposition 16** to overturn the ban on affirmative action programs in university admissions and government hiring and contracting is currently behind 44% to 56%.and will likely fail. **Proposition 18** to allow 17-year-olds to vote in primaries will also lose. Finally, **Proposition 25** is a referendum on a law passed by the Legislature that ended cash bail. With voters rejecting the Proposition 25, this law will be overturned.

### **Congress**

The Congressional Democrats were defending six seats won in 2018 and seeking an additional Republican seat.. Currently, many races are still too close to call.

CD 10 -- Harder (D) v Howze – Harder won

CD 21 -- Cox (D) 48.6% v Valadao 51.4% -- Too close to call

CD 25 -- Smith (D) 50.5% v. Garcia 49.5% – Too close to call  
CD 39 -- Cisneros (D) 49.8% v Kim 50.2% – Too close to call  
CD 45 -- Porter (D) v Raths – Porter won  
CD 48 -- Rouda (D) 49.7% v Steele 50.3% – Too close to call  
CD 49 -- Levin (D) v. Maryott – Levin won



**FOR INFORMATION ONLY**

November 30, 2020

TO: Trustees,  
Board of Investments

FROM: Steven P. Rice *SPR*  
Chief Counsel

FOR: December 9, 2020 Board of Investments Meeting

SUBJECT: Monthly Status Report on Board of Investments Legal Projects

Attached is the monthly report on the status of Board-directed investment-related projects handled by the Legal Division as of December 1, 2020.

Attachment

c: Santos H. Kreimann  
Jonathan Grabel  
JJ Popowich  
Vache Mahseredjian  
John McClelland  
Christopher Wagner  
Ted Wright  
Jim Rice  
Jude Perez  
Christine Roseland  
John Harrington  
Soo Park  
Margo McCabe  
Lisa Garcia



LACERA Legal Division  
Board of Investments Projects  
Monthly Status Report - Pending as of December 1, 2020



	Project/ Investment	Description	Amount	Board Approval Date	Completion Status	% Complete	Notes
PRIVATE EQUITY	Centerbridge Capital Partners IV, L.P.	Subscription	\$150,000,000.00	November 5, 2020	Completed	100%	Completed.

**FOR INFORMATION ONLY**

November 18, 2020

TO: Each Trustee  
Board of Retirement  
Board of Investments

FROM: Ted Granger   
Interim Chief Financial Officer

FOR: December 2, 2020 Board of Retirement Meeting  
December 9, 2020 Board of Investments Meeting

SUBJECT: **MONTHLY EDUCATION & TRAVEL REPORTS – OCTOBER 2020**

Attached, for your review, are the Board and Staff Education & Travel Reports as of October 2020. These reports include travel (i.e., completed and canceled) during Fiscal Year 2020-2021.

REVIEWED AND APPROVED:



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Santos H. Kreimann  
Chief Executive Officer

TG/EW/krh

**Attachments**

c: J. Popowich  
J. Grabel  
S. Rice  
K. Hines

**BOARD EDUCATION AND TRAVEL REPORT  
FOR FISCAL YEAR 2020 - 2021  
OCTOBER 2020**

<b>Attendee</b>	<b>Purpose of Travel - Location</b>	<b>Event Dates</b>	<b>Travel Status</b>
<b>Alan Bernstein</b>			
B	- Edu - 2020 Milken Institute Virtual Global Conference - VIRTUAL	10/12/2020 - 10/21/2020	Attended
<b>Elizabeth Ginsberg</b>			
B	- Edu - CALAPRS Principles for Trustees - VIRTUAL	08/18/2020 - 08/26/2020	Attended
<b>Vivian Gray</b>			
B	- Edu - SACRS Public Pension Investment Management Program 2020 - VIRTUAL	07/28/2020 - 08/13/2020	Attended
	- Edu - Koried Black Directors' Virtual Workshop - VIRTUAL	10/15/2020 - 10/15/2020	Attended
<b>David Green</b>			
B	- Edu - PPI 2020 Summer Roundtable - Los Angeles CA	07/14/2020 - 07/16/2020	Attended
	- Edu - Pacific Council - "Beyond the Horizon" Summit - VIRTUAL	07/20/2020 - 07/24/2020	Attended
<b>Elizabeth Greenwood</b>			
B	- Edu - 2020 Milken Institute Virtual Global Conference - VIRTUAL	10/12/2020 - 10/21/2020	Attended
	- Edu - PPI 2020 Asia Pacific Roundtable - VIRTUAL	10/20/2020 - 10/22/2020	Attended
<b>James Harris</b>			
B	- Edu - SACRS Sexual Harassment Prevention Training - VIRTUAL	07/15/2020 - 07/15/2020	Attended
	- Edu - SACRS Public Pension Investment Management Program 2020 - VIRTUAL	07/28/2020 - 08/13/2020	Attended
<b>Shawn Kehoe</b>			
B	- Edu - PPI 2020 Asia Pacific Roundtable - VIRTUAL	10/20/2020 - 10/22/2020	Attended
<b>Keith Knox</b>			
B	- Edu - PPI 2020 Summer Roundtable - Los Angeles CA	07/14/2020 - 07/16/2020	Attended
	- Edu - SACRS Public Pension Investment Management Program 2020 - VIRTUAL	07/28/2020 - 08/13/2020	Attended
	- Edu - CII & NYU Corporate Governance Bootcamp - VIRTUAL	09/23/2020 - 09/25/2020	Attended
	- Edu - 2020 Milken Institute Virtual Global Conference - VIRTUAL	10/12/2020 - 10/21/2020	Attended
	- Edu - CALAPRS Virtual Trustees Round Table - VIRTUAL	10/23/2020 - 10/23/2020	Attended
<b>Gina Sanchez</b>			
B	- Edu - SACRS Sexual Harassment Prevention Training - VIRTUAL	07/15/2020 - 07/15/2020	Attended
	- Edu - 2020 Milken Institute Virtual Global Conference - VIRTUAL	10/12/2020 - 10/21/2020	Attended
	- Edu - 2020 Virtual NACD Summit - VIRTUAL	10/12/2020 - 10/13/2020	Attended
	- Edu - CALAPRS Virtual Trustees Round Table - VIRTUAL	10/23/2020 - 10/23/2020	Attended



**BOARD EDUCATION AND TRAVEL REPORT  
FOR FISCAL YEAR 2020 - 2021  
OCTOBER 2020**

Attendee	Purpose of Travel - Location	Event Dates	Travel Status
<b>Herman Santos</b>			
B	- Edu- LAVCA's Annual Investor Meeting - VIRTUAL	09/14/2020 - 09/17/2020	Attended
	- Edu- PPI Virtual Equity, Diversity, and Inclusion Conversation - VIRTUAL	09/24/2020 - 09/24/2020	Attended
	- Edu - Nossaman's 2020 Public Pensions and Investments Fiduciaries' Forum - VIRTUAL	10/01/2020 - 10/01/2020	Attended

Category Legend:

A - Pre-Approved/Board Approved

B - Educational Conferences and Administrative Meetings in CA where total cost is no more than \$2,000 or international prerequisite conferences per 705.00 A. 8.

C - Second of two conferences and/or meetings counted as one conference per Section 705.00.A.1 in the Travel Policy

X - Canceled events for which expenses have been incurred.

Z - Trip was Canceled - Balance of \$0.00



**STAFF EDUCATION AND TRAVEL REPORT  
FOR FISCAL YEAR 2020 - 2021  
OCTOBER 2020**

<b>Attendee</b>	<b>Purpose of Travel - Location</b>	<b>Event Dates</b>	<b>Travel Status</b>
<b>Systems</b>			
Celso Templo	1 Admin - Conduct Site Visit of Mesa, AZ Facility - Mesa AZ	10/09/2020 - 10/09/2020	Attended



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**Documents not attached are exempt from disclosure under the California Public Records Act and other legal authority.**

**For further information, contact:  
LACERA  
Attention: Public Records Act Requests  
300 N. Lake Ave., Suite 620  
Pasadena, CA 91101**

**FOR INFORMATION ONLY**

November 18, 2020

TO: Trustees  
Board of Retirement  
Board of Investments

FROM: Ted Granger   
Interim Chief Financial Officer

FOR: December 2, 2020 Board of Retirement Meeting  
December 9, 2020 Board of Investments Meeting

**SUBJECT: 1ST QUARTER EDUCATION & TRAVEL EXPENDITURE REPORTS**

Attached, for your review, are the Board and Staff Education & Travel Reports and the Board Cancellation & Credit Expenditures Report as of September 2020. These include expenses paid or submitted for reimbursement for travel completed through the first quarter of Fiscal Year 2020-2021.

REVIEWED AND APPROVED:



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Santos H. Kreimann  
Chief Executive Officer

TG/EW/krh

Attachments

c: J. Popowich  
J. Grabel  
S. Rice  
K. Hines





**1ST QUATER BOARD**  
**EDUCATION AND TRAVEL EXPENDITURE REPORT**  
**FOR FISCAL YEAR 2021**  
**FOR TRAVEL DURING JULY 2020 - SEPTEMBER 2020**

Cat	Purpose of Travel - Location - Travel Dates	Travel Status	Total Expense	Registration	Lodging	Airfare	Ground Transp.	Mileage	Porterage	Parking	Meals	Per Diem	Misc.
<b>Elizabeth Ginsberg</b>													
B -	Edu - CALAPRS Principles for Trustees - VIRTUAL - 08/18/2020 - 08/26/2020	Attended	\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Totals for Elizabeth Ginsberg:</b>			\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Vivian Gray</b>													
B -	Edu - SACRS Public Pension Investment Management Program 2020 - VIRTUAL - 07/28/2020 - 08/13/2020	Attended	\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Totals for Vivian Gray:</b>			\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>David Green</b>													
B -	Edu - PPI 2020 Summer Roundtable - Los Angeles CA - 07/14/2020 - 07/16/2020	Attended	\$175.00	\$175.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
-	Edu - Pacific Council - "Beyond the Horizon" Summit - VIRTUAL - 07/20/2020 - 07/24/2020	Attended	\$150.00	\$150.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Totals for David Green:</b>			\$325.00	\$325.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>James Harris</b>													
B -	Edu - SACRS Public Pension Investment Management Program 2020 - VIRTUAL - 07/28/2020 - 08/13/2020	Attended	\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Totals for James Harris:</b>			\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00



**1ST QUATER BOARD  
EDUCATION AND TRAVEL EXPENDITURE REPORT  
FOR FISCAL YEAR 2021  
FOR TRAVEL DURING JULY 2020 - SEPTEMBER 2020**

Cat	Purpose of Travel - Location - Travel Dates	Travel Status	Total Expense	Registration	Lodging	Airfare	Ground Transp.	Mileage	Porterage	Parking	Meals	Per Diem	Misc.
<b>Keith Knox</b>													
B -	Edu - PPI 2020 Summer Roundtable - Los Angeles CA - 07/14/2020 - 07/16/2020	Attended	\$175.00	\$175.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
-	Edu - SACRS Public Pension Investment Management Program 2020 - VIRTUAL - 07/28/2020 - 08/13/2020	Attended	\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
-	Edu - CII & NYU Corporate Governance Bootcamp - VIRTUAL - 09/23/2020 - 09/25/2020	Attended	\$945.00	\$945.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Totals for Keith Knox:</b>			\$1,620.00	\$1,620.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Herman Santos</b>													
B -	Edu- LAVCA's Annual Investor Meeting - VIRTUAL - 09/14/2020 - 09/17/2020	Attended	\$595.00	\$595.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Totals for Herman Santos:</b>			\$595.00	\$595.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Cnt: 0</b>			<b>Grand Totals:</b>		\$4,040.00	\$4,040.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Category Legend:

- A - Pre-Approved/Board Approved
- B - Educational Conferences and Administrative Meetings in CA where total cost is no more than \$2,000 or international prerequisite conferences per 705.00 A. 8.
- C - Second of two conferences and/or meetings counted as one conference per Section 705.00.A.1 in the Travel Policy
- X - Canceled events for which expenses have been incurred.
- Z - Trip was Canceled - Balance of \$0.00



**1ST QUARTER STAFF  
EDUCATION AND TRAVEL EXPENDITURE REPORT  
FOR FISCAL YEAR 2021  
FOR TRAVEL DURING JULY 2020 - SEPTEMBER 2020**

<b>Attendee</b>	<b>Purpose of Travel - Location - Travel Dates</b>	<b>Travel Status</b>	<b>Total Expense</b>	<b>Registration</b>	<b>Lodging</b>	<b>Airfare</b>	<b>Ground Transp.</b>	<b>Mileage</b>	<b>Porterage</b>	<b>Parking</b>	<b>Meals</b>	<b>Per Diem</b>	<b>Misc.</b>
<b>Cnt: 0</b>													
		<b>Grand Totals:</b>											

No reportable travel incurred this period.



**BOARD CANCELLATION AND CREDIT EXPENDITURES REPORT  
FOR FISCAL YEAR 2020  
FOR TRAVEL DURING JULY 2020 - JUNE 2021**

Purpose of Travel - Location - Date - Travel Status	Category	Total Expense	Registration (Reg.)	Lodging	Airfare	Other Misc. Travel Exp.	Chair Pardon	Reg. Credit	Reg. Credit Expiration Date	Airfare Credit	Airfare Credit Expiration Date	Refund Pending
<b>Alan Bernstein</b>												
Edu - IFEBP 66th Annual Employee Benefits Conference - Honolulu HI - 11/15/2020 - 11/18/2020 - Host Canceled	X	\$3,675.00	\$3,675.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$3,675.00
<b>Attendee Totals:</b>		\$3,675.00	\$3,675.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$3,675.00
<b>Shawn Kehoe</b>												
Edu - IFEBP 66th Annual Employee Benefits Conference - Honolulu HI - 11/15/2020 - 11/18/2020 - Host Canceled	X	\$2,125.00	\$1,625.00	\$500.00	\$0.00	\$0.00		\$0.00		\$0.00		\$2,125.00
<b>Attendee Totals:</b>		\$2,125.00	\$1,625.00	\$500.00	\$0.00	\$0.00		\$0.00		\$0.00		\$2,125.00
<b>Les Robbins</b>												
Edu - IFEBP 66th Annual Employee Benefits Conference - Honolulu HI - 11/15/2020 - 11/18/2020 - Host Canceled	X	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$500.00	11/30/2021	\$0.00		\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$500.00		\$0.00		\$0.00
<b>Grand Totals:</b>		\$5,800.00	\$5,300.00	\$500.00	\$0.00	\$0.00		\$500.00		\$0.00		\$5,800.00

Category Legend:

- A - Pre-Approved/Board Approved
- B - Educational Conferences and Administrative Meetings in CA where total cost is no more than \$2,000 or international prerequisite conferences per 705.00 A. 8.
- C - Second of two conferences and/or meetings counted as one conference per Section 705.00.A.1 in the Travel Policy
- X - Canceled events for which expenses have been incurred.
- Z - Trip was Canceled - Balance of \$0.00



**BOARD CANCELLATION AND CREDIT EXPENDITURES REPORT  
FOR FISCAL YEAR 2020  
FOR TRAVEL THROUGH THE 4TH QUARTER OF FY19-20**

Purpose of Travel - Location - Date - Travel Status	Category	Total Expense	Register	Lodging	Airfare	Other Misc Travel Exp.	Chair Pardon	Register Credit (1802)	Register Credit Expiration Date	Airfare Credit (1803)	Airfare Credit Expiration Date	Refund Pending
<b>Vivian Gray</b>												
Admin - SACRS Program Committee and SACRS Board of Directors Meeting - Sacramento CA - 07/15/2019 - 07/19/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Admin - SACRS Legislative Committee - Sacramento CA - 07/19/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Admin - SACRS Program Committee and SACRS Board of Directors Meeting - Sacramento CA - 09/16/2019 - 09/17/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Admin - SACRS Legislative Committee - Sacramento CA - 09/20/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Admin - SACRS Legislative Committee - Sacramento CA - 10/19/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - KACALP Annual Conference - Los Angeles CA - 10/29/2019 - 10/30/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - NASP 2020 "Day of Education in Private Equity" - Los Angeles CA - 03/26/2020 - 03/26/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - TBI Med Legal Conference - San Diego CA - 04/02/2020 - 04/04/2020 - Host Canceled	X	\$299.00	\$299.00	\$0.00	\$0.00	\$0.00	Yes	\$0.00		\$0.00		\$299.00
Edu - Trustee Leadership Forum (TLF) Trustee Forum - Boston MA - 06/08/2020 - 06/10/2020 - Host Canceled	X	\$275.00	\$0.00	\$0.00	\$275.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$574.00	\$299.00	\$0.00	\$275.00	\$0.00		\$0.00		\$0.00		\$299.00
<b>David Green</b>												
Edu - 2019 Fortune Brainstorm Tech Conference - Aspen CO - 07/15/2019 - 07/17/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>James Harris</b>												
Edu - CALAPRS Advanced Principles of Pension Management for Trustees - Los Angeles CA - 03/30/2020 - 04/01/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00



**BOARD CANCELLATION AND CREDIT EXPENDITURES REPORT  
FOR FISCAL YEAR 2020  
FOR TRAVEL THROUGH THE 4TH QUARTER OF FY19-20**

Purpose of Travel - Location - Date - Travel Status	Category	Total Expense	Register	Lodging	Airfare	Other Misc Travel Exp.	Chair Pardon	Register Credit (1802)	Register Credit Expiration Date	Airfare Credit (1803)	Airfare Credit Expiration Date	Refund Pending
<b>Shawn Kehoe</b>												
Edu - National Association of Corporate Directors - Global Board Leaders' Summit - Washington D.C. MD - 09/21/2019 - 09/24/2019 - Canceled	X	\$500.00	\$500.00	\$0.00	\$0.00	\$0.00	Yes	\$4,265.50	10/31/2021	\$0.00		\$0.00
Edu - 2019 Pacific Pension Institute Executive Seminar and Asia Roundtable - Shanghai, China; Hong Kong, China - 11/03/2019 - 11/08/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - IAFCI 2020 Cyber Fraud Summit - Austin TX - 04/15/2020 - 04/16/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$500.00	\$500.00	\$0.00	\$0.00	\$0.00		\$4,265.50		\$0.00		\$0.00
<b>Joseph Kelly</b>												
Edu - PPI 2019 Summer Roundtable - Chicago IL - 07/10/2019 - 07/12/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Keith Knox</b>												
Edu - CII's Trustee Training Course for California Public Fund Trustees - Berkeley CA - 10/4/2019 - 10/4/2019 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - NASP 2020 "Day of Education in Private Equity" - Los Angeles CA - 03/26/2020 - 03/26/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - IFEBP Wharton Portfolio Concepts and Management - Philadelphia PA - 04/20/2020 - 04/23/2020 - Host Canceled	X	\$5,495.00	\$5,495.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$5,495.00
Edu - SACRS: Don't Stop Thinking About Tomorrow; China A-Share Market & Opportunities - Webinar - 05/13/2020 - 05/13/2020 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - SACRS: Private Markets Today Vs. The Global Financial Crisis - Webinar - 05/14/2020 - 05/14/2020 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - SACRS: Cash Flows & Investment Management in the Time of COVID-19 - Webinar - 05/15/2020 - 05/15/2020 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - SACRS: Private Market Investing in a Late-Cycle Market or Private Market Investing in the 8th Inning - Webinar - 05/20/2020 - 05/20/2020 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - SACRS: Litigation 101 & Current Cases - Webinar - 05/20/2020 - 05/20/2020 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$5,495.00	\$5,495.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$5,495.00



**BOARD CANCELLATION AND CREDIT EXPENDITURES REPORT  
FOR FISCAL YEAR 2020  
FOR TRAVEL THROUGH THE 4TH QUARTER OF FY19-20**

Purpose of Travel - Location - Date - Travel Status	Category	Total Expense	Register	Lodging	Airfare	Other Misc Travel Exp.	Chair Pardon	Register Credit (1802)	Register Credit Expiration Date	Airfare Credit (1803)	Airfare Credit Expiration Date	Refund Pending
<b>Wayne Moore</b>												
Edu - CII's Trustee Training Course for California Public Fund Trustees - Berkeley CA - 10/4/2019 - 10/4/2019 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu- CII Spring 2020 Conference and 35th Anniversary Celebration - Washington D.C. MD - 03/09/2020 - 03/11/2020 - Canceled	X	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$1,776.08	2/28/2021	\$0.00
Edu - NASP 2020 "Day of Education in Private Equity" - Los Angeles CA - 03/26/2020 - 03/26/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$1,776.08		\$0.00
<b>David Muir</b>												
Edu- CII Spring 2020 Conference and 35th Anniversary Celebration - Washington D.C. MD - 03/09/2020 - 03/11/2020 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>William Pryor</b>												
Edu - NCPERS 2019 Public Safety Conference - New Orleans LA - 10/27/2019 - 10/30/2019 - Canceled	X	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$522.30	11/3/2020	\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$522.30		\$0.00
<b>Les Robbins</b>												
Edu - CRCEA Fall 2019 Conference - Rohnert Park CA - 10/28/2019 - 10/30/2019 - Host Canceled	X	\$291.95	\$0.00	\$0.00	\$291.95	\$0.00	Yes	\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$291.95	\$0.00	\$0.00	\$291.95	\$0.00		\$0.00		\$0.00		\$0.00
<b>Gina Sanchez</b>												
Edu - NACI Engage - Oakland CA - 03/24/2020 - 03/25/2020 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - NASP 2020 "Day of Education in Private Equity" - Los Angeles CA - 03/26/2020 - 03/26/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - Pomerantz Roundtable Event - Beverly Hills CA - 06/16/2020 - 06/16/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
<b>Attendee Totals:</b>		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00



**BOARD CANCELLATION AND CREDIT EXPENDITURES REPORT  
FOR FISCAL YEAR 2020  
FOR TRAVEL THROUGH THE 4TH QUARTER OF FY19-20**

Purpose of Travel - Location - Date - Travel Status	Category	Total Expense	Register	Lodging	Airfare	Other Misc Travel Exp.	Chair Pardon	Register Credit (1802)	Register Credit Expiration Date	Airfare Credit (1803)	Airfare Credit Expiration Date	Refund Pending
<b>Herman Santos</b>												
Edu - INCA Investments Latin American Investments Conference - Buenos Aires, Argentina - 10/16/2019 - 10/17/2019 - Canceled	X	\$1,858.15	\$0.00	\$1,579.75	\$278.40	\$0.00	Yes	\$0.00		\$0.00		\$0.00
Edu - 2020 ICGN Seoul Conference - Seoul, South Korea - 02/25/2020 - 02/28/2020 - Host Canceled	X	\$45.08	\$23.48	\$0.00	\$21.60	\$0.00		\$0.00		\$0.00		\$0.00
Edu - CII Spring 2020 Conference and 35th Anniversary Celebration - Washington D.C. MD - 03/09/2020 - 03/11/2020 - Canceled	X	\$362.20	\$0.00	\$0.00	\$362.20	\$0.00	Yes	\$0.00		\$719.60	2/28/2021	\$0.00
Edu - NASP 2020 "Day of Education in Private Equity" - Los Angeles CA - 03/26/2020 - 03/26/2020 - Host Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - TBI Med Legal Conference - San Diego CA - 04/02/2020 - 04/04/2020 - Host Canceled	X	\$299.00	\$299.00	\$0.00	\$0.00	\$0.00	Yes	\$0.00		\$0.00		\$299.00
<b>Attendee Totals:</b>		\$2,564.43	\$322.48	\$1,579.75	\$662.20	\$0.00		\$0.00		\$719.60		\$299.00
<b>Gina Zapanta</b>												
Edu - IFEBP 65th Employee Benefits Conference - San Diego CA - 10/20/2019 - 10/23/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - NCPERS 2019 Public Safety Conference - New Orleans LA - 10/27/2019 - 10/30/2019 - Canceled	Z	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$0.00
Edu - TBI Med Legal Conference - San Diego CA - 04/02/2020 - 04/04/2020 - Host Canceled	X	\$299.00	\$299.00	\$0.00	\$0.00	\$0.00	Yes	\$0.00		\$0.00		\$299.00
<b>Attendee Totals:</b>		\$299.00	\$299.00	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00		\$299.00
<b>Grand Totals:</b>		\$9,724.38	\$6,915.48	\$1,579.75	\$1,229.15	\$0.00		\$4,265.50		\$3,017.98		\$6,392.00

Category Legend:

- X - Canceled events for which expenses have been incurred
- Z - Canceled events for which no expenses have been incurred





**Documents not attached are exempt from disclosure under the California Public Records Act and other legal authority.**

**For further information, contact:  
LACERA  
Attention: Public Records Act Requests  
300 N. Lake Ave., Suite 620  
Pasadena, CA 91101**



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