

Executive Team

Dominic D. Brown, CPA, CFE
Chief Executive Officer

Daryn Miller, CFA
Chief Investment Officer

Jennifer Zahry, JD
Chief Legal Officer

Matthew Henry, CFE
Chief Operations Officer



Board of Retirement

Tyler Whitezell, Chair
Phil Franey, Vice-Chair
David Couch
Juan Gonzalez
Joseph D. Hughes
Jordan Kaufman
Rick Kratt
John Sanders
Dustin Contreras, Alternate
Chase Nunneley, Alternate
Robb Seibly, Alternate
3rd Member (Vacant)

December 7, 2023

Members, Board of Retirement
Employee Bargaining Units
Requesting News Media
Other Interested Parties

Subject: Meeting of the Kern County Employees' Retirement Association
Board of Retirement

Ladies and Gentlemen:

A meeting of the Kern County Employees' Retirement Association Board of Retirement will be held on Wednesday, December 13, 2023 at 8:30 a.m. in the KCERA Boardroom, 11125 River Run Boulevard, Bakersfield, California, 93311.

How to Participate: Listen to or View the Board Meeting

To listen to the live audio of the Board meeting, please dial one of the following numbers (*landline recommended for best audio*) and enter ID# 882 2649 5569:

- (669) 900-9128; U.S. Toll-free: (888) 788-0099 or (877) 853-5247

To access live audio and video of the Board meeting, please use the following:

- <https://us02web.zoom.us/j/88226495569?pwd=SE54Wk1wYTlVtkJObWZxb0xrVDR4dz09>
- Passcode: 907990

Items of business will be limited to the matters shown on the attached agenda. If you have any questions or require additional service, please contact KCERA at (661) 381-7700 or send an email to administration@kcera.org.

Sincerely,

Dominic D. Brown
Chief Executive Officer

Attachments

AGENDA:

All agenda item supporting documentation is available for public review on KCERA's website at www.kcera.org following the posting of the agenda. Any supporting documentation that relates to an agenda item for an open session of any regular meeting that is distributed after the agenda is posted and prior to the meeting will also be available for review at the same location.

**AMERICANS WITH DISABILITIES ACT
(Government Code §54953.2)**

Disabled individuals who need special assistance to listen to and/or participate in the meeting of the Board of Retirement may request assistance by calling (661) 381-7700 or sending an email to administration@kcera.org. Every effort will be made to reasonably accommodate individuals with disabilities by making meeting materials and access available in alternative formats. Requests for assistance should be made at least two (2) days in advance of a meeting whenever possible.

CALL TO ORDER

ROLL CALL (IN PERSON)

SALUTE TO FLAG

MOMENT OF SILENCE

AB 2449 REMOTE APPEARANCE(S)

Items 1 and/or 2 withdrawn from agenda if no trustees will have a need to appear via teleconference:

The first two items on the agenda are reserved for trustees who have a need to appear via teleconference due to a "just cause" need or an "emergency circumstance." Trustees who have notified this Board before agenda-posting will be called upon and will provide a general description of their need to attend via teleconference as allowed by law. Trustees who were not able to notify the Board in advance of posting and have a need to attend via teleconference will state their notification or request when called upon to do so. All trustees appearing via teleconference will need to disclose any adult person(s) present in the room of their remote location and their relationship to such person(s). Trustees appearing remotely are reminded to keep their cameras on throughout the meeting.

1. JUST CAUSE CIRCUMSTANCE(S):

a) The following Trustee(s) have notified the Board of a "Just Cause" to attend this meeting via teleconference. (See Government Code § 54953).

- NONE

- b) Call for Trustee(s) who wish to notify the Board of a “Just Cause” to attend this meeting via teleconference. (See Government Code § 54953).
2. EMERGENCY CIRCUMSTANCE(S):
- a) The following Trustee(s) have requested the Board approve their attendance of this meeting via teleconference due to an “Emergency Circumstance.” (See Government Code § 54953).
- NONE
- b) Call for Trustee(s) requesting the Board approve their attendance of this meeting via teleconference due to an “Emergency Circumstance”. (See Government Code § 54953).

TAKE ACTION ON REQUEST(S) FOR REMOTE APPEARANCE

CONSENT MATTERS

All items listed with an asterisk (*) are considered to be routine and non-controversial by staff and will be approved by one motion if no member of the Board or public wishes to comment or ask questions. If comment or discussion is desired by anyone, the item will be removed from the consent agenda and will be considered in the listed sequence with an opportunity for any member of the public to address the Board concerning the item before action is taken. Staff recommendations are shown in caps after each item.

- *3. [Summary of proceedings of the following meetings:](#)
- November 1, 2023 Board of Retirement
 - November 1, 2023 Nominating Committee

RECEIVE AND FILE

- *4. [Report from the KCERA office on members retired from service for the month of November 2023 – RATIFY](#)
- *5. [Report from the KCERA office on deceased retirees for the month of November 2023 – RECEIVE AND FILE](#)
- *6. [Report of current disability retirement applications and appeals of KCERA Board decisions for the period ending November 30, 2023 – RECEIVE AND FILE](#)
- *7. [KCERA asset allocation, cash flow position, investment fees cash flow, and operating expense budget status reports for the month of October 2023 – RECEIVE AND FILE](#)
- *8. [Service provider evaluation period initiated pursuant to Evaluation Period Policy – RATIFY](#)

- *9. [Annual Fee Disclosure Report FY 2022-23 – RECEIVE AND FILE](#)
- *10. [Annual On-Site Due Diligence Schedule FY 2022-23 – RECEIVE AND FILE](#)
- *11. [Annual Investment Manager Compliance Report FY 2022-2023 – RECEIVE AND FILE](#)
- *12. [Amended Verus Quarterly Investment Performance Reports for FY 2022-2023 and restatement explanation – RECEIVE AND FILE](#)
- *13. [Invitation from State Association of County Retirement Systems \(SACRS\) to Board of Directors to attend the SACRS Board of Directors Meeting January 22-23, 2024, in Riverside, California – APPROVE ATTENDANCE OF TRUSTEE JORDAN KAUFMAN](#)

PUBLIC COMMENTS

- 14. The public is provided the opportunity to comment on agenda items at the time those agenda items are discussed by the Board. This portion of the meeting is reserved for persons to address the Board on any matter not on this agenda but under the jurisdiction of the Board. Board members may respond briefly to statements made or questions posed. They may ask a question for clarification and, through the Chair, make a referral to staff for factual information or request staff to report back to the Board at a later meeting. Speakers are limited to two minutes. Please state your name for the record prior to making a presentation.

INVESTMENT MATTERS

- 15. [Discussion and appropriate action on private market fund recommendation](#) presented by Keirsten Lawton, Managing Director, Cambridge Associates¹, and Senior Investment Officer Geoff Nolan – RECOMMEND THE BOARD OF RETIREMENT APPROVE UP TO \$25MM COMMITMENT TO BLUE OWL STRATEGIC EQUITY PARTNERS; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW
- 16. [Discussion and appropriate action on private market fund recommendation](#) presented by Keirsten Lawton, Managing Director, Cambridge Associates², and Senior Investment Officer Geoff Nolan – RECOMMEND THE BOARD OF RETIREMENT APPROVE UP TO \$25MM COMMITMENT TO OAK HILL STRUCTURED PRODUCTS FUND III; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

1 Written materials and investment recommendations from the consultants, fund managers and KCERA investment staff relating to alternative investments are exempt from public disclosure pursuant to California Government Code § 7928.710, § 7922.000, and §54957.5.

2 Written materials and investment recommendations from the consultants, fund managers and KCERA investment staff relating to alternative investments are exempt from public disclosure pursuant to California Government Code § 7928.710, § 7922.000, and §54957.5.

17. [Discussion and appropriate action on real estate fund recommendation presented by Scott Whalen, CFA, and Claudia Schloss, CFA, Verus³, and Senior Investment Officer Geoff Nolan – RECOMMEND THE BOARD OF RETIREMENT APPROVE UP TO \\$75MM COMMITMENT TO OAK STREET REAL ESTATE CAPITAL FUND VI; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW](#)
18. [Presentation on the Private Markets Performance Report as of June 30, 2023](#) presented by Andrea Auerbach, Investment Managing Director, Keirsten Lawton, Investment Managing Director, Kelly Jensen, Senior Investment Director, Maria Surina, Senior Investment Director, Cambridge Associates⁴, and Chief Investment Officer Daryn Miller, CFA – RECEIVE AND FILE
19. [Presentation on the 3rd Quarter Investment Performance Review period ending September 30, 2023](#) presented by Claudia Schloss, CFA, and John Wanock, Verus – RECEIVE AND FILE
20. [Presentation on the 3rd Quarter 2023 Portfolio Review presented by Spencer Edge, Albourne America⁵](#) – RECEIVE AND FILE

FINANCIAL MATTERS

21. [Discussion and appropriate action on the auditor's report to management and the draft Annual Comprehensive Financial Report \(ACFR\) for the fiscal year ending June 30, 2023, presented by Auditors Tim Rawal and Jason Ostroski, UHY LLP – APPROVE AUDITOR REPORTS AND ANNUAL COMPREHENSIVE FINANCIAL REPORT \(ACFR\) FOR THE FISCAL YEAR ENDED JUNE 30, 2023](#)
22. [Discussion and appropriate action on review of the actuarial valuation as of June 30, 2023, recommended employer and employee contribution rates for fiscal year 2024-2025, and related reports presented by Actuaries Paul Angelo and Molly Calcagno, Segal – RECEIVE AND FILE; APPROVE THE ACTUARIAL VALUATION, EMPLOYER AND EMPLOYEE CONTRIBUTION RATES, AND RELATED REPORTS FOR FISCAL YEAR 2024-25 RECOMMENDED BY ACTUARY; SEND TO PLAN SPONSORS FOR ADOPTION](#)

ADMINISTRATIVE MATTERS

23. [Presentation on KCERA SWOT Analysis and Results presented by Communications Manager Jeremy Rowell – HEAR PRESENTATION](#)

³ Written materials and investment recommendations from the consultants, fund managers and KCERA investment staff relating to alternative investments are exempt from public disclosure pursuant to California Government Code § 7928.710, § 7922.000, and §54957.5.

⁴ Written materials and investment recommendations from the consultants, fund managers and KCERA investment staff relating to alternative investments are exempt from public disclosure pursuant to California Government Code § 7928.710, § 7922.000, and §54957.5.

⁵ Written materials and investment recommendations from the consultants, fund managers and KCERA investment staff relating to alternative investments are exempt from public disclosure pursuant to California Government Code § 7928.710, § 7922.000, and §54957.5.

24. [Slate of nominees for Chair and Vice-Chair for the calendar year 2024 presented by Nominating Committee Chair – ELECT 2024 BOARD OF RETIREMENT CHAIR AND VICE-CHAIR](#)
25. [Presentation of plaque honoring Tyler Whitezell for his service to the Kern County Employees' Retirement Association Board of Retirement as 2023 Chair – MAKE PRESENTATION](#)

STAFF REPORTS

26. [Report from Chief Executive Officer](#)
27. [Report from Chief Investment Officer](#)
28. [Report from Chief Legal Officer](#)

COMMITTEE REPORTS

29. Report from Committee Chairs:
 - a. Administrative Committee: Gonzalez
 - b. Finance Committee: Contreras
 - c. Investment Committee: Kratt

CALL FOR PUBLIC COMMENT ON EXECUTIVE SESSION ITEM(S)

EXECUTIVE SESSION

30. CONFERENCE WITH LABOR NEGOTIATORS REGARDING UNREPRESENTED EMPLOYEE (pursuant to Government Code §54957.6(a))

Agency Designated Representatives: Juan Gonzalez and Joseph D. Hughes;
Unrepresented Employee: Chief Executive Officer
31. PUBLIC EMPLOYEE PERFORMANCE EVALUATION (pursuant to GOVERNMENT CODE §54957): Title: Chief Executive Officer

RETURN TO PUBLIC SESSION

ROLL CALL TO CONFIRM QUORUM

REPORT OF EXECUTIVE SESSION ACTIONS, IF APPLICABLE

REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS

32. On their own initiative, Board members may make a brief announcement, refer matters to staff, subject to KCERA's rules and procedures, or make a brief report on their own activities.

NEW BUSINESS

33. Consider, discuss, and take possible action to agendize one or more items for future meetings of the Board of Retirement – CONSIDER, DISCUSS, AND TAKE ACTION ON WHETHER TO AGENDIZE PROPOSED ITEMS, IF ANY, FOR A FUTURE MEETING
34. Adjournment

**KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION (KCERA)
BOARD OF RETIREMENT**

11125 River Run Boulevard, Bakersfield, California

SUMMARY OF PROCEEDINGS

**Board of Retirement Meeting
November 1, 2023**

8:33 A.M.

Board Members: Contreras (Alternate), Couch, Vice-Chair Franey, Gonzalez, Hughes, Kaufman, Kratt, Nunneley (Alternate), Sanders, Seibly (Alternate), Chair Whitezell

ROLL CALL

Present: Contreras, Couch, Gonzalez, Hughes, Kratt, Nunneley, Sanders, Seibly, Whitezell

Absent: Franey, Kaufman

SALUTE TO FLAG – CHAIR WHITEZELL

MOMENT OF SILENCE

NOTE: The vote is displayed in bold below each item. For example, Couch-Kaufman denotes Trustee David Couch made the motion and Trustee Jordan Kaufman seconded the motion.

AB 2449 REMOTE APPEARANCE(S)

Items 1 and 2 withdrawn from agenda. No trustees appeared via teleconference.

CONSENT MATTERS

All consent matter items listed below with an asterisk () were considered to be routine and non-controversial by staff and approved by one motion, unless otherwise noted.*

TRUSTEE PHIL FRANNEY ARRIVED AT 8:34 A.M.

- *3. Application for service-connected disability pension benefits for Jacob Yohn, Sheriff (Safety) – **ADOPTED RECOMMENDATION OF SDAG TO GRANT SERVICE-CONNECTED DISABILITY PENSION**

Kratt-Gonzalez – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

*4. Summary of proceedings of the following meetings:

- October 11, 2023 Board of Retirement
- October 18, 2023 Investment Committee

RECEIVED AND FILED

Kratt-Gonzalez – 9 Ayes

*Trustee Dustin Contreras voted due to vacant 3rd seat
Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

*5. Report from the KCERA office on members retired from service for the month of October 2023 – RATIFIED

Kratt-Gonzalez – 9 Ayes

*Trustee Dustin Contreras voted due to vacant 3rd seat
Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

*6. Report from the KCERA office on deceased retirees for the month of October 2023 – RECEIVED AND FILED

Kratt-Gonzalez – 9 Ayes

*Trustee Dustin Contreras voted due to vacant 3rd seat
Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

*7. Report of current disability retirement applications and appeals of KCERA Board decisions for the period ending October 31, 2023 – RECEIVED AND FILED

Kratt-Gonzalez – 9 Ayes

*Trustee Dustin Contreras voted due to vacant 3rd seat
Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

*8. KCERA asset allocation, cash flow position, investment fees cash flow, and operating expense budget status reports for the month of September 2023 – RECEIVED AND FILED

Kratt-Gonzalez – 9 Ayes

*Trustee Dustin Contreras voted due to vacant 3rd seat
Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

*9. The KCERA Class Action Proceeds Report from July 1 through September 30, 2023 for the Northern Trust Company – RECEIVED AND FILED

Kratt-Gonzalez – 9 Ayes

*Trustee Dustin Contreras voted due to vacant 3rd seat
Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- *10. Public Pension Standards Award for Funding and Administration 2023 received from the Public Pension Coordinating Council (PPCC) – RECEIVED AND FILED

Kratt-Gonzalez – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

- *11. Service provider evaluation period initiated pursuant to Evaluation Period Policy – RATIFIED

Kratt-Gonzalez – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

PUBLIC COMMENTS

12. The public is provided the opportunity to comment on agenda items at the time those agenda items are discussed by the Board. This portion of the meeting is reserved for persons to address the Board on any matter not on this agenda but under the jurisdiction of the Board. Board members may respond briefly to statements made or questions posed. They may ask a question for clarification and, through the Chair, make a referral to staff for factual information or request staff to report back to the Board at a later meeting. Speakers are limited to two minutes. Please state your name for the record prior to making a presentation – NONE

INVESTMENT MATTERS

13. Discussion and appropriate action on private market fund recommendation presented by Keirsten Lawton, Managing Director, Cambridge Associates¹, Senior Investment Officer Geoff Nolan, and the Investment Committee – KEIRSTEN LAWTON, CAMBRIDGE ASSOCIATES, HEARD; TRUSTEES JUAN GONZALEZ AND RICK KRATT HEARD; SENIOR INVESTMENT OFFICER GEOFF NOLAN HEARD

APPROVED UP TO \$40MM COMMITMENT TO ITE RAIL FUND L.P.; AUTHORIZED CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

Couch-Kratt – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

¹ Written materials and investment recommendations from the consultants, fund managers and KCERA investment staff relating to alternative investments are exempt from public disclosure pursuant to California Government Code § 7928.710, § 7922.000, and §54957.5.

14. Discussion and appropriate action on termination recommendation for AB Emerging Markets Strategic Core Equity presented by Scott Whalen, CFA, Chief Investment Officer Daryn Miller, CFA, Senior Investment Analyst Jack Bowman, Investment Analyst II Rafael Jimenez, and the Investment Committee – SCOTT WHALEN, CFA, VERUS, HEARD; CHIEF INVESTMENT OFFICER DARYN MILLER, CFA, HEARD; SENIOR INVESTMENT ANALYST JACK BOWMAN HEARD; INVESTMENT ANALYST II RAFAEL JIMENEZ HEARD

TERMINATED AB EMERGING MARKET STRATEGIC CORE EQUITY FUND

Couch-Kratt – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

15. Trustee education regarding the Life Cycle of an Investment presented by Chief Executive Officer Dominic Brown, Chief Investment Officer Daryn Miller, CFA, and the Investment Team, Chief Legal Officer Jennifer Zahry and the Legal Team, and Chief Financial Officer Angela Kruger and the Accounting and Reporting Team – TRUSTEES DAVID COUCH, RICK KRATT, AND ROBB SEIBLY HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF INVESTMENT OFFICER DARYN MILLER, CFA, HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD; CHIEF FINANCIAL OFFICER ANGELA KRUGER HEARD; SENIOR INVESTMENT OFFICER GEOFF NOLAN HEARD; DEPUTY CHIEF FINANCIAL OFFICER MARITZA RODRIGUEZ HEARD; SENIOR INVESTMENT ANALYST JACK BOWMAN HEARD; SENIOR PARALEGAL MAGGIE PERALTA-LEE HEARD; SENIOR PARALEGAL IRMA CHAVEZ HEARD

RECEIVED EDUCATIONAL TRAINING (1 HOUR OF TRUSTEE EDUCATION CREDIT)

16. Trustee education regarding Fiduciary Training Update presented by Governance Consultants Julie Becker and Benita Falls Harper, Aon – BENITA FALLS HARPER, AON, HEARD

TRUSTEE JOHN SANDERS LEFT AT 10:08 A.M.

RECEIVED EDUCATIONAL TRAINING (21 MINUTES TRUSTEE EDUCATION CREDIT)

TRUSTEE JOSEPH D. HUGHES LEFT AT 10:30 A.M.

17. Presentation on referral regarding Delegation of Investment Duties presented by Chief Executive Officer Dominic Brown and Governance Consultants Julie Becker, Benita Falls Harper, and David Forman, Aon – JULIE BECKER AND DAVID FORMAN, AON, HEARD; SCOTT WHALEN, CFA, VERUS, HEARD; CHAIR TYLER WHITEZELL HEARD; VICE-CHAIR PHIL FRANEY HEARD; TRUSTEES DAVID COUCH, JUAN GONZALEZ, AND RICK KRATT HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF INVESTMENT OFFICER DARYN MILLER, CFA, HEARD

REFERRED MATTER TO INVESTMENT COMMITTEE FOR FURTHER DEVELOPMENT AND OPTIONS FOR IMPLEMENTATION; BRING BACK TO THE BOARD OF RETIREMENT

TRUSTEE JOHN SANDERS RETURNED AT 10:32 A.M.

TRUSTEE JOSEPH D. HUGHES RETURNED AT 10:40 A.M.

Kratt-Couch – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

ADMINISTRATIVE MATTERS

18. Discussion and appropriate action regarding a special Board of Retirement election to fill the vacancy of the Third Member (General) seat due to the resignation of Trustee Jeanine Adams – CHAIR TYLER WHITEZELL HEARD; TRUSTEES DAVID COUCH AND ROBB SEIBLY HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD

DIRECTED STAFF TO INITIATE ELECTION TO FILL VACANCY OF THIRD MEMBER SEAT

Franey-Couch – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

19. SACRS Fall Conference Business Meeting Packet 2023 for SACRS business meeting on November 10, 2023 in Rancho Mirage, California – CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD

RECEIVED AND FILED

Couch-Kratt – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

20. Presentation on SACRS Legislative Proposals for 2024 concerning Use of Prepaid Cards and Payment to Accounts Included in Living Trust, Post-Retirement Employment, and Removal of "Return Receipt Requested" requirement, presented by Chief Legal Officer Jennifer Zahry – CHAIR TYLER WHITEZELL HEARD; TRUSTEES DUSTIN CONTRERAS, DAVID COUCH, JUAN GONZALEZ, RICK KRATT AND JOHN SANDERS HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD

BASED ON DISCUSSION, DIRECT DELEGATE TO VOTE IN APPROVAL OF TWO PROPOSALS AND OPPOSE ONE IF MATTERS CAN BE SEPERATED; REDESIGNATED CHIEF OPERATIONS OFFICER MATTHEW HENRY AS NEW ALTERNATE SACRS VOTING DELEGATE

Couch-Kratt – 9 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

21. Trustee education regarding an *Alameda* Administrative Appeals Orientation presented by Chief Legal Officer Jennifer Zahry – TRUSTEE RICK KRATT HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD

HEARD PRESENTATION; RECEIVED EDUCATIONAL TRAINING (15 MINUTES TRUSTEE EDUCATION CREDIT)

STAFF REPORTS

22. Report from Chief Executive Officer

CHIEF OPERATIONS OFFICER MATTHEW HENRY REPORTED THE FOLLOWING:

- STAFFING UPDATE
- RECRUITING UPDATE
- MEMBER OUTREACH
- DISABILITY UPDATE
- RECEIVED 2023 PPCC AWARD
- OPERATIONS ACTIVITY
- UPCOMING MEETINGS AND EVENTS

CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD

23. Report from Chief Investment Officer

CHIEF INVESTMENT OFFICER DARYN MILLER, CFA, REPORTED THE FOLLOWING:

- REBALANCING – OCTOBER ACTIVITY
- POSITIONING – ACTUAL VS. POLICY TARGET
- KEY INITIATIVES
- INVESTMENT COMMITTEE MEETINGS

24. Report from Chief Legal Officer:

CHIEF LEGAL OFFICER JENNIFER ZAHRY REPORTED THE FOLLOWING:

- LEGISLATIVE UPDATES
- NOVEMBER CALENDAR
- Q3 2023 METRICS

COMMITTEE REPORTS

25. Report from Committee Chairs:

- a. Administrative Committee: GONZALEZ – NONE
- b. Finance Committee: CONTRERAS – NONE
- c. Investment Committee: KRATT – MEETING TO BE SCHEDULED

CHIEF OPERATIONS OFFICER MATTHEW HENRY HEARD

REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS

26. On their own initiative, Board members may make a brief announcement, refer matters to staff (subject to KCERA's rules and procedures), or make a brief report on their own activities – CHAIR TYLER WHITEZELL HEARD; TRUSTEE JEANINE ADAMS HEARD

NEW BUSINESS

27. Consider, discuss, and take possible action to agendaize one or more items for future meetings of the Board of Retirement – NONE

RECESS UNTIL 1:30 P.M.

TRUSTEE JOSEPH D. HUGHES LEFT AT 12:58 P.M.

BOARD OF RETIREMENT RECONVENED AT 1:43 P.M.

ROLL CALL

To establish quorum present upon resuming public session

Present: Contreras, Couch, Franey, Gonzalez, Kratt, Nunneley, Sanders, Seibly, Whitezell

Absent: Hughes, Kaufman

ADMINISTRATIVE MATTERS (Continued)

28. Administrative Appeal of Tracy Wolfe regarding Objection to Pay Code Designation pursuant to *Alameda* Implementation – JACOB KALINSKI, ATTORNEY FOR TRACY WOLFE, HEARD; TRACY WOLFE HEARD; FIDUCIARY COUNSEL ASHLEY DUNNING, NOSSAMAN, HEARD; CHAIR TYLER WHITEZELL HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD

HEARD STATEMENTS; RECEIVED ADMINISTRATIVE RECORD

EXECUTIVE SESSION

CONFERENCE WITH LEGAL COUNSEL – PENDING LITIGATION

Paragraph (2) of subdivision (d) of Section 54956.9). Administrative Appeal submitted by Tracy Wolfe

TRUSTEE DAVID COUCH LEFT AT 2:38

RETURN TO PUBLIC SESSION

BOARD OF RETIREMENT RECONVENED IN PUBLIC SESSION AT 2:50 P.M.

ACTION ON MEMBER'S OBJECTION TO KCERA'S DECISION TO EXCLUDE AVAILABILITY PAY FROM HER COMPENSATION EARNABLE CALCULATION AND TO COLLECT THE OVERPAYMENT OF BENEFITS FROM AUGUST 2020 THROUGH NOVEMBER 2020

AFFIRMED KCERA'S DECISION TO TAKE ACTION ON MEMBER'S OBJECTION TO KCERA'S DECISION TO EXCLUDE AVAILABILITY PAY FROM HER COMPENSATION EARNABLE CALCULATION AND TO COLLECT THE OVERPAYMENT OF BENEFITS FROM AUGUST 2020 THROUGH NOVEMBER 2020

CHAIR TYLER WHITEZELL HEARD; TRUSTEE PHIL FRANNEY HEARD

Franey-Sanders – 7 Ayes

Trustee Dustin Contreras voted due to vacant 3rd seat

Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman

28. ADJOURNED – 2:53 P.M.

Secretary, Board of Retirement

Chair, Board of Retirement

**KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION (KCERA)
BOARD OF RETIREMENT**

11125 River Run Boulevard, Bakersfield, California

SUMMARY OF PROCEEDINGS

**Nominating Committee
November 1, 2023**

1:01 p.m.

Committee Members: Couch, Contreras, Chair Franey, Gonzalez

ROLL CALL

Present: Couch, Contreras, Franey, Gonzalez

Absent: None

NOTE: The vote is displayed in bold below each item. For example, Couch-Gonzalez denotes Trustee David Couch made the motion and Trustee Juan Gonzalez seconded the motion.

AB 2449 REMOTE APPEARANCE(S)

Items 1 and 2 withdrawn from agenda. No trustees appeared via teleconference.

3. Discussion and appropriate action regarding nominations of trustees for Chair and Vice-Chair of the Board of Retirement for calendar year 2024 – CHAIR PHIL FRANEY HEARD; TRUSTEES DAVID COUCH, DUSTIN CONTRERAS, AND JUAN GONZALEZ HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD

NOMINATED TRUSTEE PHIL FRANEY AS CHAIR CANDIDATE AND TRUSTEE DAVID COUCH AS VICE-CHAIR CANDIDATE FOR 2024 SLATE FOR PRESENTATION TO THE BOARD OF RETIREMENT

PUBLIC COMMENT: JEANINE ADAMS HEARD

Gonzalez-Contreras – 4 Ayes

PUBLIC COMMENTS

4. The public is provided the opportunity to comment on agenda items at the time those agenda items are discussed by the Committee. This portion of the meeting is reserved for persons to address the Committee on any matter not on this agenda but under the jurisdiction of the Committee. Committee members may respond briefly to statements made or questions posed. They may ask a question for clarification and, through the Chair, make a referral to staff for factual information or request staff to report back to the Committee at a later meeting. Speakers are limited to two minutes. Please state your name for the record prior to making a presentation – NONE

REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS

5. On their own initiative, Committee members may make a brief announcement refer matters to staff, subject to KCERA's rules and procedures, or make a brief report on their own activities – NONE
6. ADJOURNED – 1:18 P.M.

Secretary, Board of Retirement

Chair, Nominating Committee



**Kern County Employees' Retirement Association New
Retirees - November 1, 2023 to November 30, 2023**

Employer Name: County Of Kern

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Adams	Jeanine	10/18/2023	General Tier II	1130 - Assessor
Amble	Denis	09/29/2023	Safety Tier I	2340S - Probation-Safety
Beyeler	Shawn	09/23/2023	General Tier I	8954 - Public Works-Public Ways
Bonner	Irene	10/29/2022	General Tier I	5120 - Depart Of Human Services
Clark	Casey	10/05/2023	General Tier I	2415 - Fire
Craig	Darcy	09/23/2023	General Tier I	4110 - Depart Of Public Health
Daniel	Debra	10/17/2023	General Tier II PEPRA	4120 - Behavioral Health & Reco
Dickerson	Bessie	10/07/2023	General Tier I	5120 - Depart Of Human Services
Eddy	Heather	10/07/2023	General Tier I	6210 - Library
Flores	Sylvia	10/07/2023	General Tier I	5120 - Depart Of Human Services
Harbour	Leslie	09/25/2023	Safety Tier I	2210S - Sheriff
Harrison	Kari	09/23/2023	General Tier II	4122 - Environ Health Serv Div
Johnson	Michelle	09/14/2023	General Tier II	2183 - Dept Of Child Support Svc
Naveiras	Zenaida	10/07/2023	General Tier I	4120 - Behavioral Health & Reco
Robison	Michael	10/07/2023	Safety Tier I	2340S - Probation-Safety
Waldrop	Janet	10/21/2023	General Tier II PEPRA	2750 - Planning & Community Devl
Williams	Lucille	09/01/2023	General Tier I	4300B - Calif Children Svcs Adm
Yarbrough	Tammy	09/23/2023	General Tier I	2210 - Sheriff



**Kern County Employees' Retirement Association New
Retirees - November 1, 2023 to November 30, 2023**

Employer Name: KC Superior Court

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Carter	Leslie	10/04/2023	General Tier I	9410 - Superior Court

Employer Name: Kern County Hospital Authority

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Crow	James	10/07/2023	General Tier I	9460 - Kern County Hospital Authority
Link	Elsie	10/07/2023	General Tier I	9460 - Kern County Hospital Authority
Ragnetti	Laura	09/23/2023	General Tier I	9460 - Kern County Hospital Authority
Scott	Corinne	10/07/2023	General Tier I	9460 - Kern County Hospital Authority

Employer Name: San Joaquin Valley APCD

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Ramirez	Homero	10/07/2023	General Tier I	0959 - San Joaquin Valley Air Pollution Control District
Reed	Cherie	09/23/2023	General Tier I	0959 - San Joaquin Valley Air Pollution Control District



**Kern County Employees' Retirement Association
Decedents - November 1, 2023 to November 30,
2023**

Pre-Retirement Deaths

Last Name	First Name	Membership Type	Employer Name
Aldana	Larry	General	County Of Kern

Post-Retirement Deaths

Last Name	First Name	Membership Type	Employer Name
Asche	Jacqueline	General	County Of Kern
Barnett	Ann	General	County Of Kern
Berry	Darrell	General	County Of Kern
Bovee	Robert	General	County Of Kern
Corbell	Constance	General	County Of Kern
Jarrett	Richard	General	County Of Kern
Julkowski	Margaret	General	County Of Kern
Lahuillier	Robert	Safety	County Of Kern
Lugo	Rudy	General	KC Superior Court
Markey	Norma	General	County Of Kern
Peterson	Marilyn	General	County Of Kern
Thompson	Raymond	Safety	County Of Kern
Towse	Karyl	General	County Of Kern

**KCERA
STATUS OF DISABILITY RETIREMENT APPLICATIONS
AS OF NOVEMBER 30, 2023**

NAME	PLAN SPONSOR/ DEPARTMENT	DATE FILED	DATE OF LAST CONTACT
Harbour, Leslie	SHERIFF	11/13/2023	11/21/2023
Brazeau, Bradley	FIRE	10/23/2023	11/21/2023
Lindley, Jeffrey	FIRE	9/27/2023	10/26/2023
De La Rosa, Alfred	SHERIFF	9/18/2023	10/12/2023
NAME	PLAN SPONSOR/ DEPARTMENT	DATE FILED	MMRO ASSIGNED
Rickels, Adam	SHERIFF	8/11/2023	10/11/2023
Stephan, Daren	PUBLIC WORKS	7/7/2023	9/15/2023
Norris, David	SHERIFF	5/26/2023	8/11/2023
Meeks, Sandra	BEHAVIORAL HEALTH & RECOVERY SERVICES	5/1/2023	7/18/2023
Fulmer, Evon	DEPARTMENT OF HUMAN SERVICES	4/28/2023	7/18/2023
Muniz, Linda	BEHAVIORAL HEALTH & RECOVERY SERVICES	4/6/2023	6/26/2023
Romero, Anthony	FIRE	3/10/2023	6/19/2023
Gonzalez-Lopez, Rebecca	DEPARTMENT OF HUMAN SERVICES	3/9/2023	6/19/2023
Guivas Smith, Loida	AGING AND ADULT SERVICES	3/8/2023	6/19/2023
Allen, Paul	SHERIFF	2/22/2023	4/25/2023
Miarta, Richard	SHERIFF	2/10/2023	4/25/2023
Harbour, Leslie	SHERIFF	2/9/2023	4/25/2023
Ramirez, Edward	SHERIFF	2/7/2023	4/25/2023
Lock, Ranna	SHERIFF	2/1/2023	4/25/2023
Inman Ferguson, Jill	KERN COUNTY SUPERIOR COURT	1/24/2023	4/10/2023
Monahan, Laura	KERN COUNTY WATER AGENCY	1/3/2023	4/6/2023
Kimbrell, Tamara	SHERIFF	11/29/2022	3/23/2023
Dunlap, James	SHERIFF	11/1/2022	2/8/2023
Perez, Manuelita	PROBATION	10/27/2022	1/17/2023
Schmidt, Mark	FIRE	10/26/2022	3/23/2023
Yanez, Alfred	SHERIFF	10/3/2022	2/10/2022
Morrison, James	SHERIFF	9/14/2022	12/19/2022
Gregory, Dolores	SHERIFF	8/16/2022	12/19/2022
Smith, Clifton	FIRE	8/15/2022	12/19/2022
Cockrell, June	DEPARTMENT OF HUMAN SERVICES	8/11/2022	10/18/2022
Gaetzman, Travis	SHERIFF	8/10/2022	11/22/2022
Hartley-Anders, Kim	KERN COUNTY SUPERIOR COURT	8/9/2022	11/22/2022
Hudson, Richard	SHERIFF	8/8/2022	11/22/2022
Carrillo, Aaron	SHERIFF	7/15/2022	9/30/2022
Rice, Jerry	FIRE	7/7/2022	11/22/2022
Roden, Jim	SHERIFF	6/22/2022	9/30/2022

**KCERA
STATUS OF DISABILITY RETIREMENT APPLICATIONS
AS OF NOVEMBER 30, 2023**

NAME	PLAN SPONSOR/ DEPARTMENT	DATE FILED	MMRO ASSIGNED
Rodriguez, Mark	FIRE	6/21/2022	9/1/2022
Fecke, Daniel	KERN COUNTY HOSPITAL AUTHORITY	6/15/2022	9/30/2022
Pena, Armando	PROBATION	5/27/2022	9/19/2022
Hill, Sheldon	SHERIFF	5/27/2022	8/19/2022
Gomez, Armando	INFORMATION TECHNOLOGY SERVICES	4/29/2022	10/14/2022
Cano, Emma	BEHAVIORAL HEALTH AND RECOVERY SERVICES	3/17/2022	8/19/2022
Fussel, Kathy	KERN COUNTY HOSPITAL AUTHORITY	11/3/2021	2/24/2022
Guandique, Sandra	RISK MANAGEMENT	10/15/2021	3/14/2022
Kauffman, Stephen	DISTRICT ATTORNEY	8/16/2021	4/25/2022
Brannan, Derek	SHERIFF	7/14/2021	11/22/2021
Leon, Theresa	DEPARTMENT OF HUMAN SERVICES	7/7/2021	10/18/2021
Patton, Eric	SHERIFF	6/30/2021	11/22/2021
Candelaria, Valerie	DEPARTMENT OF HUMAN SERVICES	6/23/2021	9/15/2021
Introini, Jessica	SHERIFF	6/18/2021	11/22/2021
Williams, Theron	GENERAL SERVICES	5/12/2021	9/15/2021
Smith, Thomas Jr.	SHERIFF	3/16/2021	11/8/2021
Sanders-Stubblefield, Misty	AGING AND ADULT SERVICES	2/25/2021	8/20/2021
McAdoo, John	SHERIFF	2/24/2021	8/20/2021
Bankston, Josh	SHERIFF	2/9/2021	8/19/2021
Cushman, Harris	SHERIFF	12/22/2020	8/19/2021
Burchfield, James	PUBLIC WORKS	11/17/2020	7/16/2021
Fleeman, Justin	SHERIFF	9/17/2020	2/8/2021

**KCERA
STATUS OF DISABILITY RETIREMENT APPLICATIONS
AS OF NOVEMBER 30, 2023**

COMPLETED IN 2023			
NAME	DEPARTMENT	FILED	DATE COMPLETED
Carvel, Scott	DISTRICT ATTORNEY	1/27/2017	8/9/2023
Rodriquez, Ted	SHERIFF	6/22/2017	4/12/2023
Coletti, John	SHERIFF	01/30/18	3/8/2023
Hulsey, Jonathan	PROBATION	4/18/2018	6/14/2023
Champlin, Timothy	PROBATION	4/25/2018	8/9/2023
Terry, Leann	SHERIFF	10/17/2019	5/3/2023
Brown, Michael	SHERIFF	4/14/2020	4/12/2023
Diffenbaugh, Anthony	FIRE	6/9/2020	8/9/2023
Tisinger, Douglas	KERN COUNTY WATER AGENCY	10/5/2020	4/12/2023
Carrillo, Mabelle	ANIMAL CONTROL	11/18/2020	6/14/2023
Bravo, Enrique	SHERIFF	3/1/2021	8/9/2023
Brandon, Bradly	SHERIFF	3/4/2021	8/9/2023
Garcia, Judy	KERN COUNTY HOSPITAL AUTHORITY	3/29/2021	10/11/2023
Gardner, Stephen	FIRE	7/19/2021	4/12/2023
Yohn, Jacob	SHERIFF	11/30/2021	11/1/2023
Barnes, Mark	SHERIFF	12/3/2021	5/3/2023

**KCERA
DISABILITY RETIREMENT APPLICATION APPEALS PENDING
AS OF NOVEMBER 30, 2023**

ADMINISTRATIVE HEARING	DEPARTMENT	DATE FILED	SDAG RECOMMENDATION	APPEAL RECEIVED	HEARING OFFICER ASSIGNED	STATUS
Baker, Breanne	DEPARTMENT OF HUMAN SERVICES	4/2/2020	SDAG to deny SCD	9/14/2023	10/3/2023	With Hearing Officer
Martinez de Moore, Brenda	BEHAVIORAL HEALTH AND RECOVERY SERVICES	12/10/2018	SDAG to deny SCD	9/15/2023	10/3/2023	With Hearing Officer

WRIT OF MANDATE	DEPARTMENT	DATE FILED	BOARD DECISION	PETITION FOR WRIT FILED	STATUS
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COURT OF APPEAL	DEPARTMENT	DATE FILED	BOARD DECISION	PETITION FOR WRIT FILED	JUDGMENT ON WRIT	NOTICE OF APPEAL RECEIVED	STATUS
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HEARINGS COMPLETED IN 2023			
NAME	DEPARTMENT	DATE FILED	DATE COMPLETED
Morgan, Gloria	SHERIFF	03/26/15	02/24/23
Ashley, Mark	SHERIFF	09/03/15	03/10/23

KCERA ASSET ALLOCATION*
10/31/2023

Manager Name	Type	\$(000)	Current Allocation	Target Percentage	Variance Over Target (Under Target)	Variance Over Target (Under Target) \$(000)
AllianceBernstein	Small Cap Value	77,833	1.5%			
Geneva Capital	Small Cap Growth	46,158	0.9%			
Mellon Capital Management EB DV	Large Cap Passive	507,489	9.7%			
PIMCO StockPlus	Large Cap Enhanced	110,198	2.1%			
Total Domestic Equity		\$741,678	14.2%	12 - 28%	14.2%	\$741,678
American Century	International Small	65,976	1.3%			
Cevian Capital II LP	International Large	37,740	0.7%			
Dalton Japan Long Only	International Small	50,000	1.0%			
Mellon Capital Management-EB DV	International Large Passive	445,589	8.5%			
Total International Developed Equity		\$599,305	11.5%	5 - 18%	11.5%	\$599,305
AB Emerging Markets Strategic Core	Emerging Markets	50,779	1.0%			
DFA Emerging Markets Value Portfolio	Emerging Markets	78,186	1.5%			
Mellon Emerging Markets	Emerging Markets	78,635	1.5%			
Total Emerging Market Equity		\$207,600	4.0%	0 - 9%	4.0%	\$207,600
TOTAL EQUITY		\$1,548,583	29.7%	33.0%	(3.3%)	(\$173,703)
Mellon Capital Management Ag Bond	Core	153,365	2.9%			
PIMCO CP	Core Plus	156,721	3.0%			
Western Asset Management - CP	Core Plus	114,834	2.2%			
Total Core		\$424,920	8.1%	15.0%	(6.9%)	(\$357,937)
TCW Securitized Opportunities LP	Securitized Opportunities	89,659	1.7%			
Western Asset Management - HY	High Yield	159,992	3.1%			
PIMCO EM Beta	Emerging Markets	142,325	2.7%			
Stone Harbor Global Funds	Emerging Markets	37,863	0.7%			
Total Credit		\$429,839	8.2%	10.0%	(1.8%)	(\$92,066)
TOTAL FIXED INCOME		\$854,759	16.4%	25.0%	(8.6%)	(\$450,003)
Gresham Commodity Builder Fund	Active	36,129	0.7%			
Wellington Trust Company (WTC)	Active	174,057	3.3%			
TOTAL COMMODITIES		\$210,186	4.0%	4.0%	0.0%	\$1,424
Aristeia International Ltd	Hedge Fund - Direct	72,369	1.4%			
Brevan Howard Fund Limited	Hedge Fund - Direct	55,577	1.1%			
D.E. Shaw Composite Fund	Hedge Fund - Direct	63,965	1.2%			
HBK Multi-Strategy Fund	Hedge Fund - Direct	48,208	0.9%			
Hudson Bay Enhanced Fund LP	Hedge Fund - Direct	85,365	1.6%			
Indus Pacific Opportunities Fund	Hedge Fund - Direct	45,604	0.9%			
PIMCO Commodity Alpha Fund LLC	Hedge Fund - Direct	75,125	1.4%			
Pharo Macro Fund LTD	Hedge Fund - Direct	61,981	1.2%			
Sculptor Enhanced LP (Formerly OZ Domestic)	Hedge Fund - Direct	45,599	0.9%			
TOTAL HEDGE FUND		\$553,793	10.6%	10.0%	0.6%	\$31,888
ASB Capital Management	Core	156,822	3.0%			
JPIMCB Strategic Property Fund	Core	132,252	2.5%			
TOTAL CORE REAL ESTATE		\$289,074	5.5%	5.0%	0.5%	\$28,122
Davidson Kempner	Hedge Fund - Direct	56,240	1.1%			
Garda Fixed Income	Hedge Fund - Direct	61,537	1.2%			
HBK Multi-Strategy Fund	Hedge Fund - Direct	43,335	0.8%			
Hudson Bay Enhanced Fund LP	Hedge Fund - Direct	60,845	1.2%			
TOTAL CE ALPHA POOL		\$221,957	4.3%	8.0%	(3.7%)	(\$195,567)
Harvest Midstream	Midstream	140,945	2.7%			
PIMCO Midstream	Midstream	149,917	2.9%			
TOTAL MIDSTREAM ENERGY		\$290,862	5.6%	5.0%	0.6%	\$29,910
Aristeia Select Opportunities II LP	Opportunistic	45,182	0.9%			
DB Investor's Fund IV	Opportunistic	21,438	0.4%			
River Birch International Ltd	Opportunistic	5,353	0.1%			
Sixth Street TAO Partners (D)	Opportunistic	93,502	1.8%			
TOTAL OPPORTUNISTIC		\$165,475	3.2%	0.0%	3.2%	\$165,475
Abbott Capital Funds	Private Equity Fund of Funds	16,921	0.3%			
Brighton Park Capital Fund I	Private Equity	36,864	0.7%			
Brighton Park Capital Fund II	Private Equity	3,299	0.1%			
Level Equity Growth Partners	Private Equity	13,306	0.3%			
LGT Crown Global	Private Equity	29,293	0.6%			
Linden Capital Partners	Private Equity	17,334	0.3%			
Pantheon Funds	Private Equity Fund of Funds	8,155	0.2%			
Peak Rock	Private Equity	13,294	0.3%			
OrbiMed Private Investments IX	Private Equity	970	0.0%			
Rubicon Technology Partners IV	Private Equity	3,124	0.1%			
Vista Foundation Fund IV	Private Equity	18,685	0.4%			
Warren Equity Partners Fund III and Fund IV	Private Equity	43,008	0.8%			
TOTAL PRIVATE EQUITY		\$204,253	3.9%	5.0%	(1.1%)	(\$56,699)
Blue Torch Credit Opportunites II	Private Credit	14,799	0.3%			
Blue Torch Credit Opportunites Fund III	Private Credit	5,119	0.1%			
Brookfield Real Estate Finance Fund V	Private Credit	15,496	0.3%			
Carberus Levered Loan Opportunites Fund V LP	Private Credit	11,141	0.2%			
Colony Distressed Credit Fund	Private Credit	18,893	0.4%			
Fortress Credit Opportunites Fund V	Private Credit	16,435	0.3%			
Fortress Lending Fund II (A)	Private Credit	26,695	0.5%			
Fortress Lending Fund III (A)	Private Credit	23,392	0.4%			
H.I.G Bayside Loan Opportunity Fund	Private Credit	46,214	0.9%			
Magnetar Constellation Fund V	Private Credit	26,897	0.5%			
OrbiMed Royalty & Credit Opportunites IV	Private Credit	5,129	0.1%			
Silver Point Specialty Credit Fund III	Private Credit	8,766	0.2%			
Sixth Street TAO Partners (B)	Private Credit	39,585	0.8%			
WEP IV TS Co-Investment LP	Private Credit	6,925	0.1%			
TOTAL PRIVATE CREDIT		\$265,486	5.1%	8.0%	(2.9%)	(\$152,038)
Covenant Apartment Fund X	Private Real Estate	29,084	0.6%			
Covenant Apartment Fund XI	Private Real Estate	14,988	0.3%			
Invesco Real Estate Funds III & IV	Private Real Estate	1,018	0.0%			
KSL Capital Partners VI, LP and ITS Parallel Fund	Private Real Estate	2,092	0.0%			
LBA Logistics Value Fund IX	Private Real Estate	13,104	0.3%			
Landmark Real Estate Partners VIII	Private Real Estate	31,309	0.6%			
Long Wharf Real Estate Partners VI	Private Real Estate	34,122	0.7%			
Singerman Real Estate Opportunity Fund IV	Private Real Estate	12,206	0.2%			
TOTAL PRIVATE REAL ESTATE		\$137,923	2.6%	5.0%	(2.4%)	(\$123,030)
Northern Trust STIF	Short Term	173,954	3.3%			
BlackRock Short Duration	Short Term	234,234	4.5%			
Parametric	Overlay	62,277	1.2%			
Treasurers Pooled Cash	Short Term	4,308	0.1%			
Wells Fargo Bank	Short Term	1,630	0.0%			
TOTAL CASH AND OVERLAY		\$476,403	9.1%	-8.0%	17.1%	\$893,927
Transition Accounts	Liquidation	294	0.0%			
Other		\$294	0.0%	0.0%	0.0%	\$294
As Allocated to Managers **		\$5,219,048	100.0%	100.0%	0.0%	\$0

*This report reflects the strategic asset allocation policy adopted by the Board of Retirement September 2023.

**Physical securities market value only. Does not include notional market values of the overlay or capital efficiency program

KCERA
CASH FLOW POSITION
OCTOBER, 2023
TREASURERS POOLED CASH

Beginning Cash Balance:		\$	1,674,919
Employer Contributions	28,117,977		
Employee Contributions	4,137,418		
Service Purchases	71,039		
Miscellaneous	615,119		
Total Receipts:			32,941,554
Operating Expenses	(645,006)		
Investment Expenses	(1,163,025)		
Transfers-out	(28,500,000)		
Total Disbursements:			<u>(30,308,030)</u>
Ending Cash Balance:			<u><u>4,308,443</u></u>

NORTHERN TRUST

Beginning Cash Balance:		\$	136,532,190
Private Markets - Distributions	6,510,341		
Commingled Funds - Distributions	3,239,241		
Hedge Funds - Distributions	759,651		
Redemption Harvest	10,000,000		
Redemption Gresham	15,000,000		
Redemption Stone Harbor	25,000,000		
Dividend and Interest Income	1,296,357		
Interest	655,520		
Securities Lending Earnings (NET)			
Total Receipts:			62,461,111
Capital Calls Singerman	(131,250)		
Capital Calls KSL Capital	(526,756)		
Capital Calls Silver Point	(8,766,351)		
Contribution Dalton Japan	(50,000,000)		
Other Expenses	(11,681)		
Transfers-out	(7,500,000)		
Total Disbursements:			<u>(66,936,038)</u>
Ending Cash Balance:		\$	<u><u>132,057,262</u></u>

**KCERA
CASH FLOW POSITION
OCTOBER, 2023**

WELLS FARGO BANK

Beginning Cash Balance		\$ 1,218,942
Transfer In Northern Trust	7,500,000	
Transfer In TPC - County	28,500,000	
ACH Returns / Deletes	47,001	
Total Receipts:		36,047,001
ACH Benefit Payments	(31,090,813)	
Total Checks Paid	(127,384)	
Taxes Withholding Deposits	(4,417,044)	
Bank Services	(599)	
Total Disbursements:		(35,635,841)
WFB ending Balance		<u>\$ 1,630,103</u>


**KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
INVESTMENT FEES CASH FLOW REPORT
FOR THE MONTH ENDED OCTOBER, 2023**

Description	July	August	September	October	Total
Investment Base Fees:					
Domestic Equity:					
AllianceBernstein				145,101.55	145,101.55
Henderson Geneva Capital		95,077.00			95,077.00
Mellon Capital					0.00
International Equity:					
BlackRock			90,670.26		90,670.26
Fixed Income:					
Mellon Capital (Ag Bond)					0.00
Pacific Investment Management Company		275,622.93			275,622.93
Western Asset Management				165,649.45	165,649.45
Commodities:					
Wellington Trust Company		312,457.14		350,207.54	662,664.68
Real Estate:					
ASB Capital Management		319,553.46			319,553.46
Midstream Energy:					
Harvest Midstream				301,649.30	301,649.30
Overlay					
Parametric		74,523.00			74,523.00
Subtotal	0.00	1,077,233.53	90,670.26	962,607.84	2,130,511.63
Investment Professional Fees:					
Consulting:					
Abel Noser			7,875.00		7,875.00
Albourne America LLC		33,333.33	33,333.33	33,333.33	99,999.99
Cambridge Associates			187,500.00		187,500.00
Glass, Lewis & Co.	7,950.00				7,950.00
Two Sigma		11,250.00		11,250.00	22,500.00
Verus		34,166.67	34,166.67	34,166.67	102,500.01
Consulting - Other Expenses					0.00
Custodial:					
The Northern Trust Co.				121,666.67	121,666.67
Legal:					
Foley & Lardner LLP					0.00
Hanson Bridgett LLP					0.00
Nossaman LLP		8,983.50	82,779.00		91,762.50
Due Diligence / Investment-Related Travel:					
Subtotal	7,950.00	87,733.50	345,654.00	200,416.67	641,754.17
Total Investment Fees	7,950.00	1,164,967.03	436,324.26	1,163,024.51	2,772,265.80

KCERA
Operating Expense Budget Status Report
For the Month Ended October 31, 2023

Expense Type	Budget FY 2023/24	Expenses	Over (Under)
Staffing			
Salaries	4,215,888.00	1,153,009.13	(3,062,878.87)
Benefits	2,655,190.00	643,586.02	(2,011,603.98)
Staffing Total	6,871,078.00	1,796,595.15	(5,074,482.85)
Staff Development			
Education & Professional Development	120,000.00	14,211.64	(105,788.36)
Staff Appreciation	4,000.00	237.13	(3,762.87)
Staff Development Total	124,000.00	14,448.77	(109,551.23)
Professional Fees			
Actuarial fees	100,000.00	77,592.00	(22,408.00)
Audit fees	98,275.00	-	(98,275.00)
Consultant fees	115,000.00	57,145.90	(57,854.10)
Legal fees	70,000.00	\$786.00	(69,214.00)
Professional Fees Total	383,275.00	135,523.90	(247,751.10)
Office Expenses			
Building expenses	124,000.00	30,125.21	(93,874.79)
Communications	84,062.00	11,854.19	(72,207.81)
Equipment lease	12,000.00	3,811.42	(8,188.58)
Equipment maintenance	10,100.00	6,898.66	(3,201.34)
Memberships	20,000.00	5,215.00	(14,785.00)
Office supplies & misc. admin.	80,000.00	14,915.88	(65,084.12)
Payroll & accounts payable fees	25,000.00	-	(25,000.00)
Other Services - Kern County	40,000.00	28,676.00	(11,324.00)
Postage	20,000.00	2,277.39	(17,722.61)
Subscriptions	15,000.00	3,798.03	(11,201.97)
Utilities	30,000.00	16,798.73	(13,201.27)
Office Expense Total	460,162.00	124,370.51	(335,791.49)
Insurance	173,384.00	166,928.27	(6,455.73)
Member Services			
Disability - administration MMRO	200,000.00	24,825.00	(175,175.00)
Member communications	-	-	-
Member Services Total	200,000.00	24,825.00	(175,175.00)
Systems			
Audit – security & vulnerability scan	15,000.00	9,670.00	(5,330.00)
Business continuity expenses	16,050.00	9,176.92	(6,873.08)
Hardware	37,420.00	7,649.21	(29,770.79)
Licensing & support	140,780.00	121,643.72	(19,136.28)
Software	217,600.00	68,286.63	(149,313.37)
Website design & hosting	13,200.00	5,500.00	(7,700.00)
Systems Total	440,050.00	221,926.48	(218,123.52)
Board of Retirement			
Board compensation	12,000.00	1,700.00	(10,300.00)
Board conferences & training	50,000.00	4,114.33	(45,885.67)
Board elections	-	-	-
Board meetings	8,500.00	895.04	(7,604.96)
Board of Retirement Total	70,500.00	6,709.37	(63,790.63)
Depreciation / Amortization	42,651.00	18,646.90	(24,004.10)
Total Operating Expenses	8,765,100.00	2,509,974.35	(6,255,125.65)



Date: December 13, 2023
To: Trustees, Board of Retirement
From: Dominic D. Brown, Chief Executive Officer 
Subject: **Initiation of Service Provider Evaluation Period**

The Board of Retirement's Evaluation Period Policy was established to help ensure that decisions involving the selection, retention, or termination of KCERA service providers are consistent with fiduciary standards of conduct, and that service providers being considered by KCERA are treated fairly.

An "evaluation period" may be initiated by the Chief Executive Officer ("CEO") in the following situations:

- a) when a request for proposals (RFP) has been issued by KCERA or a short list of candidate firms has been identified for consideration by KCERA, or
- b) the Board otherwise deems it to be in the best interest of KCERA and its members and beneficiaries to do so.

The CEO has exercised his discretion and initiated the evaluation period for the following providers:

- 1) OHA Structured Products Fund III, L.P.
- 2) Blue Owl Strategic Equity Fund
- 3) Oak Street Real Estate Capital Fund VI

Trustees are required to comply with the evaluation period restrictions upon receipt of this notification. (See Board Communications Policy).

During evaluation periods, trustees shall not communicate with the specified service providers, except during board meetings, committee meetings, or KCERA-authorized due diligence visits; nor shall they accept meals, travel, hotel, or other types of gifts from the specified service providers. Notwithstanding the above, Trustees who need to communicate with such service providers for reasons unrelated to KCERA business agree to disclose such need to the Board beforehand. If circumstances do not permit timely disclosure to the Board, the trustee shall provide disclosure of the intended communication to the CEO and to the Chair or Vice-Chair.

Initiation of Service Provider Evaluation Period

December 13, 2023

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Service providers that breach this policy may be terminated by KCERA or disqualified from consideration in a search process. Board members who breach this policy may be sanctioned in accordance with the KCERA Code of Conduct.

(See Evaluation Period Policy).

Pursuant to the aforementioned policies, staff recommends your Board ratify the evaluation period instituted by Chief Executive Officer Dominic Brown and delivered to the Board on December 6, 2023.



KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Memorandum from the
Office of the Chief Investment Officer
Daryn Miller

Date: December 13, 2023
To: Trustees, Board of Retirement
From: Daryn Miller, CFA, Chief Investment Officer
Subject: **Annual Fee Disclosure Report FY 2022-2023**

The following report provides fee disclosure information for the Kern County Employees' Retirement Association alternative investments for the 2022-2023 fiscal year, and fulfills the reporting requirement under California Government Code Section ("Section") 7514.7.

As background, on September 14, 2016, Assembly Bill 2833 was signed into law, and went into effect on January 1, 2017, as Section 7514.7. The purpose of the law was to increase fee transparency of alternative investments for public pension plans. The law requires that at least annually public pension plans disclose the fees and expenses paid to alternative investment managers for new alternative investment contracts or new capital commitments made after January 1, 2017. In addition, investment information per Section 7928.710 which was previously disclosable, is to be reported in the annual fee disclosure.

The report in Appendix A is the fiscal year 2022-2023 annual fee disclosure report for the Kern County Employees' Retirement Association.

Annual Fee Disclosure Report FY 2022-2023
 December 13, 2023
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Appendix A

Kern County Employees' Retirement Association
 Alternative Investment Fees and Expenses
 Fiscal Year 2022-2023

Investment Name	Address
57928.710(c)(1)	57928.710(c)(1)
Abbott Capital Private Equity Fund V	640 Fifth Avenue,7th Floor,New York,NY,10019,United States
Abbott Capital Private Equity Fund VI	640 Fifth Avenue,7th Floor,New York,NY,10019,United States
Aristeia International Limited	1 Greenwich Plaza,Third Floor,Greenwich,CT,06830,United States
Aristeia Select Opportunities II LP	1 Greenwich Plaza,Third Floor,Greenwich,CT,06830,United States
Blue Torch Credit Opportunities Fund II	430 Park Avenue,Suite 1202,New York,NY,10022,United States
Blue Torch Credit Opportunities Fund III	430 Park Avenue,Suite 1202,New York,NY,10022,United States
Brevan Howard Fund Limited	1345 Avenue of the Americas,28th Floor,New York,NY,10105,United States
Brighton Park Capital Fund 1 LP	330 Railroad Avenue,Suite 200,Greenwich,CT,06830,United States
Brighton Park Capital Fund II	330 Railroad Avenue,Suite 200,Greenwich,CT,06830,United States
Brookfield Real Estate Finance Fund V	250 Vesey Street,15th Floor,New York,NY,10281,United States
Cevian Capital Fund II LP	4 Bond Street,Saint Helier,Jersey
Colony Distressed Credit and Special Situations Fund IV	590 Madison Avenue,34th Floor,New York,NY,10022,United States
Covenant Apartment Fund X	4515 Harding Road,Suite 210,Nashville,TN,37205,United States
Covenant Apartment Fund XI	4515 Harding Road,Suite 210,Nashville,TN,37205,United States
Crown Global Secondaries V	Segrave House,Herbert Street,Third Floor,Dublin,2,Ireland
Davidson Kempner Inst Partners LP	520 Madison Avenue,30th Floor,NY,10022,United States
DB Investors Fund IV LP	655 Third Avenue,11th Floor,NY,10017,United States
DE Shaw Composite Fund LLC	1166 Avenue of the Americas,Ninth Floor,NY,10036,United States
Fortress Credit Opportunities Fund V Expansion	1345 Avenue of the Americas,46th Floor,New York,NY,10105,United States
Fortress Lending Fund II	1345 Avenue of the Americas,46th Floor,New York,NY,10105,United States
Fortress Lending Fund III (A)	1345 Avenue of the Americas,46th Floor,New York,NY,10105,United States
Garda Fixed Income Relative Value Opportunity Fund	305 Lake Street East,Wayzata,MN,55391,United States
HBK Multi-Strategy Fund LP	2300 North Filed Street,Suite 2200,Dallas,TX,75201,United States
HBK Opportunities Platform LP	2300 North Filed Street,Suite 2200,Dallas,TX,75201,United States
HIG Bayside Loan Opportunity Fund V (Europe)	1450 Brickell Avenue,31st Floor,Miami,FL,33131,United States
Hudson Bay Cap Structure Arbitrage	777 Third Avenue, 35th Floor,New York,NY,10017,United States
Indus Pacific Opportunities Fund LP	888 Seventh Avenue,26th Floor,New York,NY,10019,United States
Invesco Real Estate Fund IV	2001 Ross Avenue,Suite 3400,Dallas,TX,75201,United States
KSL Capital Partners VI	100 Fillmore Street Suite 600,Denver,CO,80206,United States
Landmark Real Estate Fund IX	10 Mill Pond Lane Simsbury,Connecticut,CT,06070,United States
Landmark Real Estate Fund VIII	10 Mill Pond Lane Simsbury,Connecticut,CT,06070,United States
LBA Logistics Value Fund IX	3347 Michelson Drive ,Suite 200,Irvine,CA,92612,United States
Level Equity Growth Partners V	140 East 45th Street,42nd Floor,New York,NY,10017,United States
Level Equity Opportunities Fund 2021	140 East 45th Street,42nd Floor,New York,NY,10017,United States
Linden Capital Partners V	111 S. Wacker Drive,Suite 3350,Chicago,IL,60606,United States
Linden Co-Investment V	111 S. Wacker Drive,Suite 3350,Chicago,IL,60606,United States
Long Wharf Real Estate Partners VI	One Federal Street,26th Floor,Boston,MA,02110,United States
Magnetar Constellation Fund V	1603 Orrington Avenue,13th Floor,Evanston,IL,60201,United States
Magnetar Structured Credit Fund LP	1603 Orrington Avenue,13th Floor,Evanston,IL,60201,United States
OrbiMed Private Investments IX	601 Lexington Avenue,54th Floor,New York,NY,10022,United States
OrbiMed Royalty & Credit Opportunities IV	601 Lexington Avenue,54th Floor,New York,NY,10022,United States
Pantheon Global Secondary Fund III	10 Finsbury Square, 4th Floor,London,EC2A 1AF,United Kingdom
Pantheon USA Fund III	10 Finsbury Square, 4th Floor,London,EC2A 1AF,United Kingdom
Pantheon USA Fund V	10 Finsbury Square, 4th Floor,London,EC2A 1AF,United Kingdom
Pantheon USA Fund VI	10 Finsbury Square, 4th Floor,London,EC2A 1AF,United Kingdom
Pantheon USA Fund VII	10 Finsbury Square, 4th Floor,London,EC2A 1AF,United Kingdom
Peak Rock Capital Fund III	13413 Galleria Circle,Suite Q-300,Austin,TX,78738,United States
Pharo Macro Fund	1370 Avenue of the Americas,Floor 26,New York,NY,10019,United States
PIMCO Commodity Alpha Fund LLC	650 Newport Center Drive,Newport Beach,CA,92660,United States
River Birch International Ltd	1114 Avenue of the Americas,41st Floor,New York,NY,10036,United States
Rubicon Technology Partners IV	1911 11th St,Suite 400,Boulder,CO,80302,United States
Sculptor Domestic Partners II LP	9 West 57th Street,39th Floor,New York,NY,10019, United States
Singerman Real Estate Opportunity Fund IV	980 N. Michigan Avenue,Suite 1660,Chicago,IL,60611,United States
TSSP Adjacent Opportunities Partners [B]	345 California Street,Suite 3300,San Francisco,CA,94104,United States
TSSP Adjacent Opportunities Partners [D]	345 California Street,Suite 3300,San Francisco,CA,94104,United States
Vista Foundation Fund IV	401 Congress Avenue,Suite 3100,Austin,TX,78701,United States
Warren Equity Partners Fund III	5555 Gate Parkway,Suite 150,Jacksonville,FL,32256,United States
Warren Equity Partners Fund IV	5555 Gate Parkway,Suite 150,Jacksonville,FL,32256,United States

Includes data calculated by KCERA or a third party.

Annual Fee Disclosure Report FY 2022-2023

December 13, 2023

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Appendix A, continued

Kern County Employees' Retirement Association
 Alternative Investment Fees and Expenses
 Fiscal Year 2022-2023

Investment Name	Vintage Year	Commitment	Contributions	Distributions	Distributions & remaining value
			since inception	fiscal year	
\$7928.710(c)(1)	\$7928.710(c)(1)	\$7928.710(c)(2)	\$7928.710(c)(3)	\$7928.710(c)(4)	\$7928.710(c)(5)
Abbott Capital Private Equity Fund V	2005	65,000,000	62,790,000	-2,869,228	92,230,723
Abbott Capital Private Equity Fund VI	2009	50,000,000	49,750,000	-2,245,490	96,016,601
Aristeia International Limited	2014	47,000,002	47,000,002	0	70,900,266
Aristeia Select Opportunities II LP	2021	50,000,000	50,000,000	0	48,350,031
Blue Torch Credit Opportunities Fund II	2020	20,000,000	16,613,092	-2,603,784	21,204,915
Blue Torch Credit Opportunities Fund III	2022	40,000,000	7,200,000	0	8,118,904
Brevan Howard Fund Limited	2015	50,361,120	50,361,120	-19,024,594	77,729,493
Brighton Park Capital Fund 1 LP	2019	30,000,000	30,649,121	-2,26,760	38,729,647
Brighton Park Capital Fund II	2022	30,000,000	5,083,834	-252	3,299,594
Brookfield Real Estate Finance Fund V	2016	50,000,000	40,103,549	-3,957,959	46,985,932
Cevian Capital Fund II LP	2015	21,000,000	21,000,000	0	38,875,436
Colony Distressed Credit and Special Situations Fund IV	2015	60,000,000	73,340,099	-16,326,988	59,223,511
Covenant Apartment Fund X	2020	30,000,000	28,500,000	-5,161,474	39,830,874
Covenant Apartment Fund XI	2022	30,000,000	10,200,000	0	9,743,937
Crown Global Secondaries V	2021	50,000,000	20,000,000	-2,050,000	28,568,244
Davidson Kempner Inst Partners LP	2020	50,000,000	50,000,000	0	55,433,498
DB Investors Fund IV LP	2020	20,000,000	20,000,000	0	23,394,069
DE Shaw Composite Fund LLC	2013	22,500,000	22,500,000	-4,120,886	78,780,889
Fortress Credit Opportunities Fund V Expansion	2020	40,000,000	17,723,526	-1,626,386	19,999,136
Fortress Lending Fund II	2020	40,000,000	34,000,000	-4,762,178	37,661,606
Fortress Lending Fund III (A)	2022	385,600,000	25,600,000	-2,175,812	27,316,272
Garda Fixed Income Relative Value Opportunity Fund	2021	50,000,000	50,000,000	0	59,714,728
HBK Multi-Strategy Fund LP	2013	92,400,000	92,400,000	-28,889,229	117,250,461
HBK Opportunities Platform L.P.	2021	50,000,000	50,000,000	-40,576,431	50,985,548
HIG Bayside Loan Opportunity Fund V (Europe)	2018	60,000,000	48,347,653	-6,307,930	63,152,444
Hudson Bay Cap Structure Arbitrage	2019	120,000,000	120,000,000	0	144,584,311
Indus Pacific Opportunities Fund LP	2014	32,000,000	32,000,000	0	46,377,701
Invesco Real Estate Fund IV	2014	50,000,000	43,637,717	-1,234,491	57,740,303
KSL Capital Partners VI	2022	30,000,000	1,951,548	0	1,208,988
Landmark Real Estate Fund IX	2022	40,000,000	0	0	-319,683
Landmark Real Estate Fund VIII	2017	60,000,000	41,940,156	-3,662,459	58,078,858
LBA Logistics Value Fund IX	2021	30,000,000	11,153,846	0	10,027,384
Level Equity Growth Partners V	2021	1,500,000	6,715,768	0	6,864,460
Level Equity Opportunities Fund 2021	2021	1,500,000	5,529,388	0	5,898,520
Linden Capital Partners V	2021	22,500,000	7,885,783	0	8,387,522
Linden Co-Investment V	2021	7,500,000	3,565,219	0	4,040,952
Long Wharf Real Estate Partners VI	2019	50,000,000	49,405,352	-11,100,099	60,194,246
Magnetar Constellation Fund V	2017	60,000,000	61,898,469	-6,506,059	73,892,672
Magnetar Structured Credit Fund LP	2014	17,000,000	17,000,000	-2,197,250	26,706,728
OrbiMed Private Investments IX	2022	10,000,000	500,000	0	429,757
OrbiMed Royalty & Credit Opportunities IV	2022	30,000,000	6,000,000	0	6,352,055
Pantheon Global Secondary Fund III	2006	50,000,000	47,300,000	0	52,548,661
Pantheon USA Fund III	1998	7,500,000	7,335,000	0	8,242,945
Pantheon USA Fund V	2002	25,000,000	24,350,000	0	38,325,348
Pantheon USA Fund VI	2004	35,000,000	33,075,000	0	50,953,877
Pantheon USA Fund VII	2006	50,000,000	46,600,000	-1,999,999	87,480,039
Peak Rock Capital Fund III	2020	30,000,000	11,087,620	-582,931	15,119,651
Pharo Macro Fund	2020	62,000,000	62,000,000	0	62,959,707
PIMCO Commodity Alpha Fund LLC	2016	50,000,000	50,000,000	-5,000,000	98,393,658
River Birch International Ltd	2015	33,052,244	33,052,244	-5,312,609	37,704,192
Rubicon Technology Partners IV	2023	30,000,000	3,901,160	0	3,124,027
Sculptor Domestic Partners II LP	2018	42,542,726	42,542,726	0	52,851,693
Singerman Real Estate Opportunity Fund IV	2020	35,000,000	7,700,000	0	9,384,839
TSSP Adjacent Opportunities Partners [B]	2014	50,000,000	84,519,176	-9,768,721	100,695,404
TSSP Adjacent Opportunities Partners [D]	2014	150,000,000	131,066,721	-28,103,644	157,277,192
Vista Foundation Fund IV	2020	25,000,000	18,724,321	0	18,435,482
Warren Equity Partners Fund III	2020	32,500,000	23,771,208	0	30,248,893
Warren Equity Partners Fund IV	2022	32,500,000	8,083,382	-84,611	7,076,176

Includes data calculated by KCERA or a third party.

Annual Fee Disclosure Report FY 2022-2023
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Appendix A, continued

Kern County Employees' Retirement Association
 Alternative Investment Fees and Expenses
 Fiscal Year 2022-2023

Investment Name	Cash profit received	Investment multiple %	Net IRR	Gross IRR	Net management fees
	<i>fiscal year</i>	<i>since inception</i>	<i>since inception</i>	<i>since inception</i>	<i>fiscal year</i>
§7928.710(c)(1)	§7928.710(c)(9)	§7928.710(c)(7)	§7928.710(c)(6) §7514.7(b)	§7514.7(b)	§7928.710(c)(8) §7514.7(a)(1)
Abbott Capital Private Equity Fund V	-15,368	146.9%	6.7%	8.0%	1,736
Abbott Capital Private Equity Fund VI	-417,960	193.0%	12.8%	14.9%	174,981
Aristeia International Limited	3,664,713	150.9%	5.3%	7.7%	700,103
Aristeia Select Opportunities II LP	-3,749,847	96.7%	-1.7%	-1.5%	0
Blue Torch Credit Opportunities Fund II	2,382,778	127.6%	13.9%	18.6%	259,306
Blue Torch Credit Opportunities Fund III	915,330	112.8%	18.1%	25.0%	85,064
Brevan Howard Fund Limited	529,185	154.3%	7.3%	18.5%	1,347,261
Brighton Park Capital Fund 1 LP	1,465,689	126.4%	13.8%	19.7%	279,107
Brighton Park Capital Fund II	-197,520	64.9%	-47.0%	-9.3%	477,154
Brookfield Real Estate Finance Fund V	330,167	117.2%	6.8%	9.4%	310,272
Cevian Capital Fund II LP	7,852,401	185.1%	7.8%	13.6%	389,029
Colony Distressed Credit and Special Situations Fund IV	1,906,718	80.8%	0.0%	0.0%	351,030
Covenant Apartment Fund X	4,204,927	139.8%	23.2%	31.9%	375,000
Covenant Apartment Fund XI	-456,063	95.5%	0.0%	0.0%	328,125
Crown Global Secondaries V	2,369,835	142.8%	29.7%	27.8%	448,333
Davids on Kempner Inst Partners LP	2,356,449	110.9%	4.1%	6.7%	808,397
DB Investors Fund IV LP	-2,118,135	117.0%	4.6%	6.3%	0
DE Shaw Composite Fund LLC	6,334,479	350.1%	14.3%	22.8%	1,880,505
Fortress Credit Opportunities Fund V Expansion	438,233	112.8%	10.4%	21.2%	150,634
Fortress Lending Fund II	2,723,981	110.8%	10.0%	14.1%	367,893
Fortress Lending Fund III (A)	2,321,284	106.7%	11.8%	16.2%	149,936
Garda Fixed Income Relative Value Opportunity Fund	6,802,750	119.4%	10.7%	15.6%	1,150,462
HBK Multi-Strategy Fund LP	8,063,080	126.9%	4.4%	9.1%	1,344,517
HBK Opportunities Platform L.P	1,039,681	102.0%	3.0%	8.4%	101,534
HIG Bayside Loan Opportunity Fund V (Europe)	4,764,513	130.6%	17.4%	18.2%	653,755
Hudson Bay Cap Structure Arbitrage	10,389,977	120.5%	11.3%	17.2%	1,410,944
Indus Pacific Opportunities Fund LP	-521,544	144.9%	6.7%	10.0%	608,886
Invesco Real Estate Fund IV	-1,881,205	132.3%	10.1%	12.5%	50,378
KSL Capital Partners VI	-742,560	62.0%	0.0%	0.0%	552,685
Landmark Real Estate Fund IX	-319,683	N/A	N/A	N/A	608,696
Landmark Real Estate Fund VIII	1,056,368	138.5%	15.5%	22.7%	443,954
LBA Logistics Value Fund IX	-785,769	89.9%	-11.9%	-11.9%	405,000
Level Equity Growth Partners V	591,872	102.2%	2.6%	22.3%	307,141
Level Equity Opportunities Fund 2021	648,168	106.7%	12.9%	26.0%	0
Linden Capital Partners V	625,993	106.4%	10.3%	15.9%	183,992
Linden Co-Investment V	412,192	113.3%	32.7%	18.6%	0
Long Wharf Real Estate Partners VI	1,631,628	121.8%	19.5%	29.8%	658,804
Magnetar Constellation Fund V	-683,417	119.4%	5.9%	7.6%	401,949
Magnetar Structured Credit Fund LP	320,803	157.1%	7.6%	10.5%	97,751
OrbiMed Private Investments IX	-70,243	86.0%	-21.1%	40.8%	171,739
OrbiMed Royalty & Credit Opportunities IV	352,055	105.9%	11.5%	14.6%	394,973
Pantheon Global Secondary Fund III	-14,530	111.1%	1.9%	4.3%	0
Pantheon USA Fund III	-2,869	112.4%	1.9%	3.7%	0
Pantheon USA Fund V	-38,788	157.4%	9.0%	11.4%	0
Pantheon USA Fund VI	-24,918	154.1%	6.7%	8.4%	0
Pantheon USA Fund VII	-46,040	187.7%	10.1%	12.3%	0
Peak Rock Capital Fund III	2,773,722	136.4%	25.3%	33.6%	167,123
Pharo Macro Fund	1,777,385	101.5%	-0.3%	2.5%	1,242,244
PIMCO Commodity Alpha Fund LLC	11,099,404	196.8%	11.5%	15.8%	999,255
River Birch International Ltd	2,486,229	114.1%	6.6%	9.0%	39,011
Rubicon Technology Partners IV	-777,133	80.1%	-69.4%	N/A	662,748
Sculptor Domestic Partners II LP	3,795,208	124.2%	5.0%	8.1%	870,850
Singerman Real Estate Opportunity Fund IV	1,465,967	121.9%	N/A	21.3%	479,359
TSSP Adjacent Opportunities Partners [B]	2,870,503	119.1%	10.4%	16.0%	604,674
TSSP Adjacent Opportunities Partners [D]	11,241,080	120.0%	14.8%	21.8%	1,334,604
Vista Foundation Fund IV	-86,694	98.5%	-1.0%	5.9%	500,000
Warren Equity Partners Fund III	4,528,565	127.3%	17.0%	23.4%	275,140
Warren Equity Partners Fund IV	-1,007,206	87.5%	-8.2%	0.0%	521,253

Includes data calculated by KCERA or a third party.

Annual Fee Disclosure Report FY 2022-2023
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Appendix A, continued

Kern County Employees' Retirement Association
 Alternative Investment Fees and Expenses
 Fiscal Year 2022-2023

Investment Name	Fund expenses	Profit sharing	Fund-level fees and expenses paid to manager	Inv-level fees and expenses paid to manager
	<i>fiscal year</i>	<i>fiscal year</i>	<i>fiscal year</i>	<i>fiscal year</i>
57928.710(c)(1)	57928.710(c)(8)	57514.7(a)(3)	57514.7(a)(4)	57514.7(a)(4)
	57514.7(a)(2)			
Abbott Capital Private Equity Fund V	7,906	324	1,736	0
Abbott Capital Private Equity Fund VI	8,184	4,556	174,981	0
Aristeia International Limited	152,571	150,941	0	0
Aristeia Select Opportunities II LP	41,242	0	0	0
Blue Torch Credit Opportunities Fund II	160,746	0	259,306	0
Blue Torch Credit Opportunities Fund III	79,696	0	85,064	0
Brevan Howard Fund Limited	1,541,504	3,231,248	0	0
Brighton Park Capital Fund 1 LP	276,946	0	402,713	0
Brighton Park Capital Fund II	10,117	0	600,000	0
Brookfield Real Estate Finance Fund V	58,622	0	310,272	0
Cevian Capital Fund II LP	15,018	1,386,670	0	0
Colony Distressed Credit and Special Situations Fund IV	98,690	0	351,030	0
Covenant Apartment Fund X	52,380	0	375,000	0
Covenant Apartment Fund XI	92,989	0	328,125	0
Crown Global Secondaries V	319,064	0	448,333	0
Davidson Kempner Inst Partners LP	330,119	0	0	0
DB Investors Fund IV LP	126,600	0	0	0
DE Shaw Composite Fund LLC	137,157	5,473,773	0	0
Fortress Credit Opportunities Fund V Expansion	109,455	270,466	150,634	0
Fortress Lending Fund II	327,645	0	367,893	0
Fortress Lending Fund III (A)	184,542	0	149,936	0
Garda Fixed Income Relative Value Opportunity Fund	228,704	1,540,009	0	0
HBK Multi-Strategy Fund LP	490,558	782,500	0	0
HBK Opportunities Platform L.P	77,432	79,284	0	0
HIG Bayside Loan Opportunity Fund V (Europe)	231,180	291,690	653,755	0
Hudson Bay Cap Structure Arbitrage	1,240,184	5,186,984	0	0
Indus Pacific Opportunities Fund LP	78,033	0	0	0
Invesco Real Estate Fund IV	53,220	0	50,378	0
KSL Capital Partners VI	30,357	0	633,719	0
Landmark Real Estate Fund IX	70,718	0	608,696	0
Landmark Real Estate Fund VIII	20,204	0	443,954	0
LBA Logistics Value Fund IX	0	0	405,000	0
Level Equity Growth Partners V	54,030	0	374,229	0
Level Equity Opportunities Fund 2021	15,430	0	41,126	0
Linden Capital Partners V	36,230	0	404,476	0
Linden Co-Investment V	9,963	0	20,015	0
Long Wharf Real Estate Partners VI	96,080	0	658,804	0
Magnetar Constellation Fund V	133,006	137,857	401,949	0
Magnetar Structured Credit Fund LP	27,406	0	0	0
OrbiMed Private Investments IX	8,916	0	171,739	0
OrbiMed Royalty & Credit Opportunities IV	64,524	0	394,973	0
Pantheon Global Secondary Fund III	16,713	0	0	0
Pantheon USA Fund III	2,869	0	0	0
Pantheon USA Fund V	9,535	0	0	0
Pantheon USA Fund VI	11,956	0	0	0
Pantheon USA Fund VII	28,469	13,189	0	0
Peak Rock Capital Fund III	442,813	0	167,123	0
Pharo Macro Fund	67,538	0	0	0
PIMCO Commodity Alpha Fund LLC	134,288	559,534	0	0
River Birch International Ltd	-402,291	0	0	0
Rubicon Technology Partners IV	106,470	0	741,418	0
Sculptor Domestic Partners II LP	379,481	0	0	0
Singerman Real Estate Opportunity Fund IV	41,212	0	525,000	0
TSSP Adjacent Opportunities Partners [B]	111,711	308,224	614,569	0
TSSP Adjacent Opportunities Partners [D]	245,386	593,050	1,386,945	0
Vista Foundation Fund IV	70,146	0	500,000	0
Warren Equity Partners Fund III	106,663	0	296,384	0
Warren Equity Partners Fund IV	282,721	0	753,186	0

Includes data calculated by KCERA or a third party.



KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Memorandum from the
Office of the Chief Investment Officer
Daryn Miller

Date: December 13, 2023
To: Trustees, Board of Retirement
From: Daryn Miller, CFA, Chief Investment Officer
Subject: **Annual On-Site Due Diligence Schedule**

The KCERA Due Diligence & Service Provider Selection Policy requires that “Staff shall annually provide the Board with a three-year calendar of scheduled on-site due diligence visits, and shall ensure the Board is provided a summary report on the results of each such visit.” Due Diligence & Service Provider Selection Policy, page 2, item 9.

Per the policy, on-site due diligence is required for investment consultants every five years, and for “other service providers--as deemed necessary by Staff or the Board”.


The Plan currently has three investment consultants, Albourne America (hedge funds), Cambridge Associates (private markets), and Verus Advisory (general investment consultant).

Investment Consultant	Planned On-Site Due Diligence	Location
Albourne America	2026 calendar year	San Francisco
Cambridge Associates	2024 calendar year	Boston or San Francisco
Verus Advisory	2026 calendar year	Los Angeles or Seattle



KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Memorandum from the
Office of the Chief Investment Officer
Daryn Miller

Date: December 13, 2023
To: Trustees, Board of Retirement
From: Daryn Miller, CFA, Chief Investment Officer 
Subject: **Annual Investment Manager Compliance Report FY 2022-2023**

The KCERA Monitoring and Reporting Policy requires that on an annual basis the Plan's investment managers which oversee separately managed accounts, affirm they are "investing the plan assets in accordance with their mandate, investment management agreement, and regulatory requirements." Monitoring and Reporting Policy, page 2, item 8.

As of June 30, 2023, the Plan had 11 active separately managed accounts, managed by 8 investment managers. They include:

Investment Manager	Mandate
Alliance Bernstein	US Small Cap Value
BlackRock Financial Management	Short Duration
Geneva Capital Management	US Small Cap Growth
Harvest Fund Advisors (Blackstone)	Midstream
Pacific Investment Management Company	Core Plus
Pacific Investment Management Company	Emerging Market Debt
Pacific Investment Management Company	Midstream
Parametric Portfolio Associates	Overlay and Capital Efficiency
Wellington Management Company	WTC-CTF Commodities
Western Asset Management Company	Core Plus Portfolio
Western Asset Management Company	US High Yield Portfolio

Each of the firms above provided a letter certifying compliance for the 2022-2023 fiscal year. For reference, the letters are included in the Appendix. The letters may include instances where the account was not in compliance and provides the rationale for those situations.

APPENDIX



ALLIANCEBERNSTEIN®

1345 6th Avenue
New York, NY 10101
www.AllianceBernstein.com
T (212) 969-1168

Kern County Employees' Retirement Association
Board of Retirement
11125 River Run Blvd.
Bakersfield, CA 93311

November 15, 2023

Dear KCERA Board of Retirement,

AllianceBernstein L.P., as investment manager to the KCERA US Small Cap Value Separately Managed Account and Emerging Markets Strategic Core Equity Collective Investment Trust, hereby certifies the accounts were in compliance with their mandates, investment management agreements, and regulatory requirements during the period July 1, 2022 through June 30, 2023.

Best Regards,

Kyle DiGangi
Senior Vice President, Chief Compliance Officer and Counsel

BLACKROCK

July 7, 2023

Kern County Employees' Retirement Association

RE: Kern County Employees' Retirement Association Short Duration (KERN-SD), (the "Portfolio")

This letter confirms that, unless otherwise noted below, throughout the period July 1, 2022, to June 30, 2023, the Portfolio has been in compliance, in all material respects, with the investment guidelines applicable to the Portfolio.

BlackRock

By:

A rectangular box containing a handwritten signature in black ink. The signature is cursive and appears to read "Spencer Fleming".

Spencer Fleming
Managing Director



November 14, 2023

Kern County Employees' Retirement Association
Board of Retirement
1 1125 River Run Blvd.
Bakersfield, CA 93311

Compliance Certification

Dear Board of Retirement:

Please accept this certification as confirmation that Geneva Capital Management invested the plan assets it manages for the Kern County Employees' Retirement Association in compliance with the Association's investment mandate, investment management agreement, and regulatory requirements during the fiscal year July 1, 2022 through June 30, 2023.

Please feel free to contact me if you have any questions

Best regards,

A handwritten signature in blue ink, appearing to read "Stephen J. Shenkenberg".

Stephen J. Shenkenberg
Principal, General Counsel and Chief Compliance Officer

Cc Daryn Miller, CFA
Chief Investment Officer
Kern County Employees' Retirement Association

Matthew Pistorio, CFA
Principal, Client Portfolio Manager
Geneva Capital Management LLC

July 19, 2023

Kern County Employees' Retirement Association
Board of Retirement
11125 River Run Boulevard
Bakersfield, CA 93311

Re: Investment Manager Compliance – Annual Affirmation

To Whom It May Concern:

I am writing in connection with the September 18, 2020 Discretionary Advisory Agreement for Publicly Traded Midstream Energy investments as between the Kern County Employees' Retirement Association (hereinafter "KCERA") and Harvest Fund Advisors LLC (hereinafter "Harvest").

Please let this letter serve as formal affirmation that during the 2022-23 fiscal year (July 1, 2022 to June 30, 2023), Harvest invested KCERA assets in accordance with the mandate, the Discretionary Advisory Agreement, and applicable regulatory requirements.

Do not hesitate to contact me if you have any questions regarding this Affirmation.

Best regards,



Anthony Merhige
Senior Managing Director, COO

P I M C O

November 24, 2023

To: Kern County Employees' Retirement Association, Board of Retirement

Re: Kern County Employees' Retirement Association PIMCO Accounts #7350, #11148, #11178, #19135, #4450

For the 2022-2023 fiscal year (the period from 7/1/22 to 6/30/23), the accounts managed by PIMCO on behalf of the Kern County Employees' Retirement Association were invested in accordance with the mandate, IMA and regulatory requirements.

Sincerely,



Matt Clark

SVP, Account Manager

Pacific Investment Management Company LLC



**Kern County Employees Retirement Association
Annual Statement of Compliance Year Ended June 30, 2023**

Parametric Portfolio Associates LLC hereby certifies that to the best of its knowledge the investment portfolio(s) managed on behalf of Kern County Employees Retirement Association are in compliance with all investment guidelines in place for the year ending June 30, 2023.

A handwritten signature in black ink that reads "Meghann Clark".

Dated: November 14, 2023

Meghann Clark
Parametric Portfolio Associates LLC
Director, Portfolio Surveillance

WELLINGTON MANAGEMENT COMPANY LLP
280 Congress Street, Boston, MA 02210 USA

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www.wellington.com

WELLINGTON
MANAGEMENT®

November 15, 2023

To Whom It May Concern
Kern County Employees' Retirement Association
11125 River Run Blvd
Bakersfield, CA 93311

Re: Guideline Compliance: Year ending June 30, 2023
Portfolio Reference: Commodities

Dear Sir/Madam,

With regard to the investment of assets in the above referenced portfolio, we hereby certify that the account was in compliance with their mandate, investment management agreement, and regulatory requirements for the year ending June 30, 2023.

Yours sincerely,



Stephen Crisan
Mgr, Client Service Management
Wellington Management Company LLP



November 14, 2023

Kern County Employees' Retirement Association
11125 River Run Blvd.
Bakersfield, CA 93311

Re: Kern County ERA (1464)

To: Kern County Employees' Retirement Association, Board of Retirement

This letter is to certify that, to the best of our knowledge, the investment portfolio managed on behalf of the Kern County Employees' Retirement Association was in compliance with the stated mandate, investment management agreement, and regulatory requirements during 2022-23 fiscal year (07/01/2022 to 06/30/2023).

Please contact your Client Service Representative if you have any further questions.

Sincerely,

Vivian Lin
Compliance Officer



November 14, 2023

Kern County Employees' Retirement Association
11125 River Run Blvd.
Bakersfield, CA 93311

Re: Kern County High Yield (1669)

To: Kern County Employees' Retirement Association, Board of Retirement

This letter is to certify that, to the best of our knowledge, the investment portfolio managed on behalf of Kern County (High Yield) was in compliance with the stated mandate, investment management agreement, and regulatory requirements during 2022-23 fiscal year (07/01/2022 to 06/30/2023).

Please contact your Client Service Representative if you have any further questions.

Sincerely,

Vivian Lin
Compliance Officer

Memorandum

To: Investment Committee, Kern County Employees' Retirement Association
Cc: Daryn Miller, CFA, Chief Investment Officer
From: Scott J. Whalen, CFA, CAIA, Executive Managing Director | Senior Consultant
Date: December 11th, 2023
RE: Fiscal Year 2023 Performance Reporting Adjustment

Executive Summary

As part of our review and reconciliation of performance for the KCERA's Fiscal 2023 Annual Consolidated Financial Report ("ACFR"), we identified an inadvertent change to the total fund performance calculation methodology. This change was fundamentally caused by a switch in Verus' third-party performance reporting platform following the acquisition of InvestorForce (our legacy platform) by Investment Metrics. This change led to an underreporting of KCERA's fiscal year 2022 net-of-fee returns by 51 basis points (0.51%). This memo describes the cause of the unintended methodology change, why the original methodology is more appropriate, and what the impact was throughout the fiscal year.

Background

There are two primary time-weighted return calculations used for institutional investor performance reporting (i.e., Modified-Dietz and Weighted-Average Return). In 2017, the Institutional Consultants Cooperative, an industry organization of which Verus was a founding member, made the collective decision to utilize the Weighted-Average return calculation methodology as the default methodology for all members clients. This led to a composite-level (i.e., total fund) calculation methodology that was easily explained and understood and one that provided comparable data for performance universe construction purposes.

In most cases, the Weighted-Average Approach was identical (or very similar) to the Modified-Dietz approach, the difference being during periods of large cash flows relative to total portfolio value and/or if a fund used portfolio-level leverage. One can imagine a negative cash balance would change the weights of the asset classes used to calculate the total fund return, the level of impact depending on the level of leverage used. In this case, the Modified-Dietz approach is the more accurate.

Explanation

As KCERA began to use portfolio-level leverage in support of its Capital Efficiency program, we changed from the default Weighted-Average calculation to the more appropriate Modified-Dietz calculation to accurately account for the negative cash. Over this same time period, our third-party performance reporting provider was acquired by another provider, and the new provider began transitioning all its new clients to its proprietary platform. KCERA transitioned to the new platform during the second quarter of 2022, and its first report on the new platform was issued in August of 2022.

As part of this transition, the calculation methodology was automatically and inadvertently switched back to the default Weighted-Average calculation methodology, and we didn't realize this change had taken place until we separately calculated the return for the 2022 ACFR, using Modified-Dietz. After we discovered the change and conducted a root cause investigation to understand what happened, we brought the error to the attention of KCERA's Investment Staff and Administrative Staff. After a thorough debrief, it was decided to have us recalculate and restate quarterly performance for all of fiscal year 2022.

Performance Impact

The aggregate net-of-fee performance impact on the total fund for the full fiscal year is 51 basis points or 0.51%. The table below shows the impact of the calculation methodology change on a month-by-month basis.

Month	Modified-Dietz	Weighted-Average
Jun-2023	2.2580	1.8979
May-2023	-1.2989	-1.0928
Apr-2023	0.9747	0.8124
Mar-2023	0.8452	0.7248
Feb-2023	-1.6124	-1.3571
Jan-2023	3.9219	3.3980
Dec-2022	-1.6442	-1.3489
Nov-2022	3.4175	2.9606
Oct-2022	2.7081	2.3253
Sep-2022	-5.1682	-4.1343
Aug-2022	-1.5507	-1.3187
Jul-2022	3.7930	3.1605
FYTD	6.3819	5.8739

Past performance is no guarantee of future results. This document is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and is not intended for retail investors. Nothing herein constitutes investment, legal, accounting or tax investment vehicle or any trading strategy. This document may include or imply estimates, outlooks, projections and other "forward-looking statements." No assurance can be given that future results described or implied by any forward-looking information will be achieved. Investing entails risks, including possible loss of principal. Verus – also known as Verus Advisory™.

Kern County Employees' Retirement Association

Investment Performance Review

Period Ending: September 30, 2022



VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

Total Fund
Portfolio Reconciliation

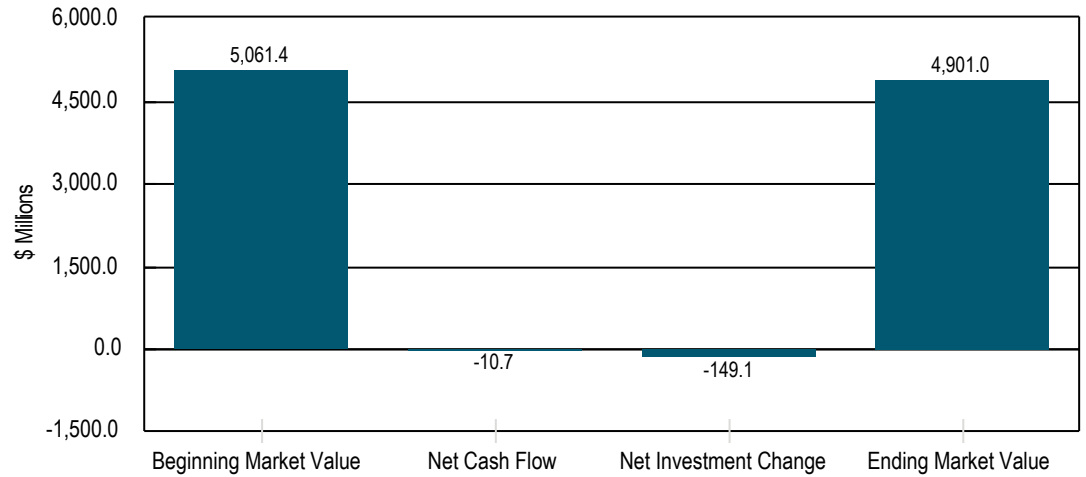
Kern County Employees' Retirement Association
Period Ending: September 30, 2022

Portfolio Reconciliation

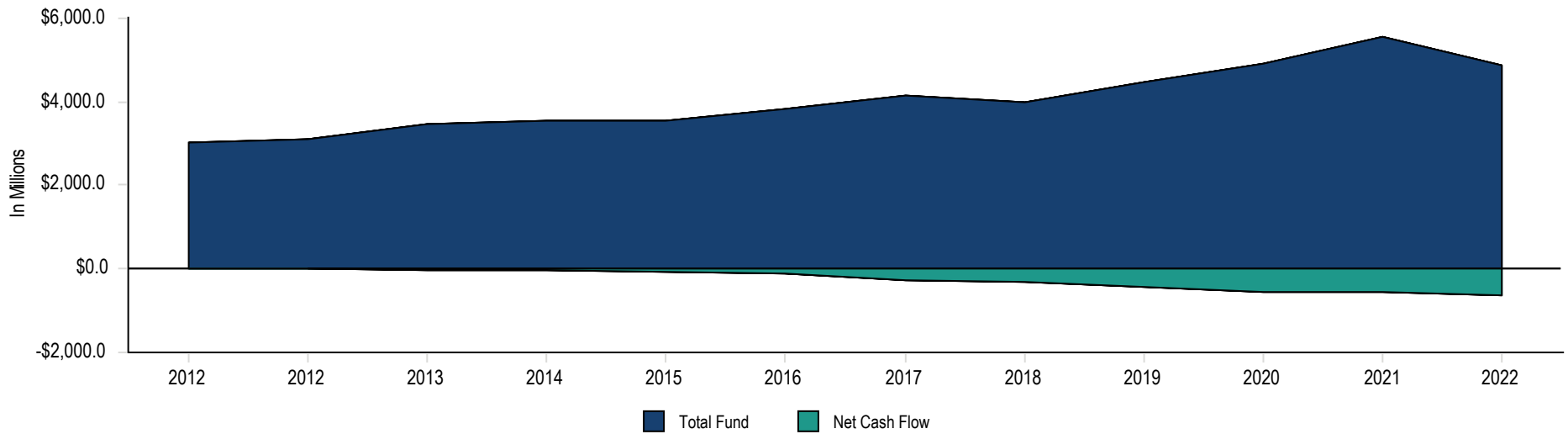
Last Three
Months

Beginning Market Value	\$5,061,358,140
Net Cash Flows	-\$10,688,094
Net Investment Change	-\$149,121,038
Ending Market Value	\$4,901,023,930

Change in Market Value
Last Three Months



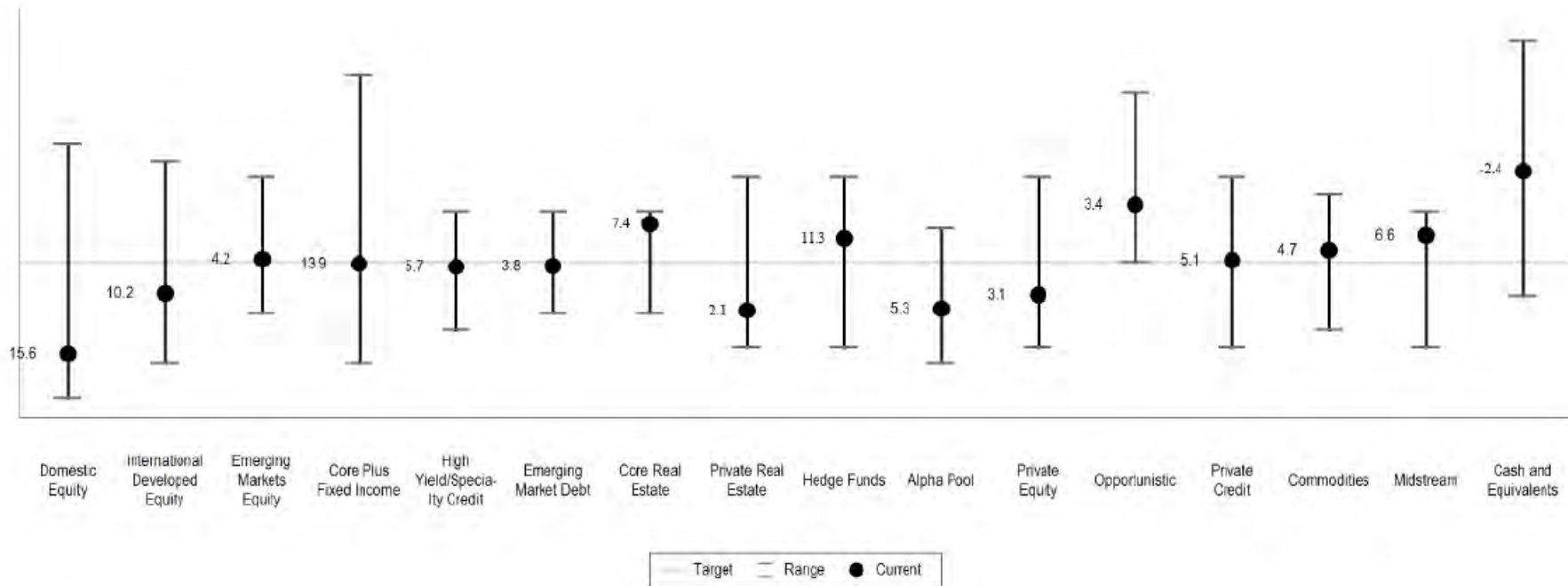
Market Value History



Total Fund
Asset Allocation vs. Policy

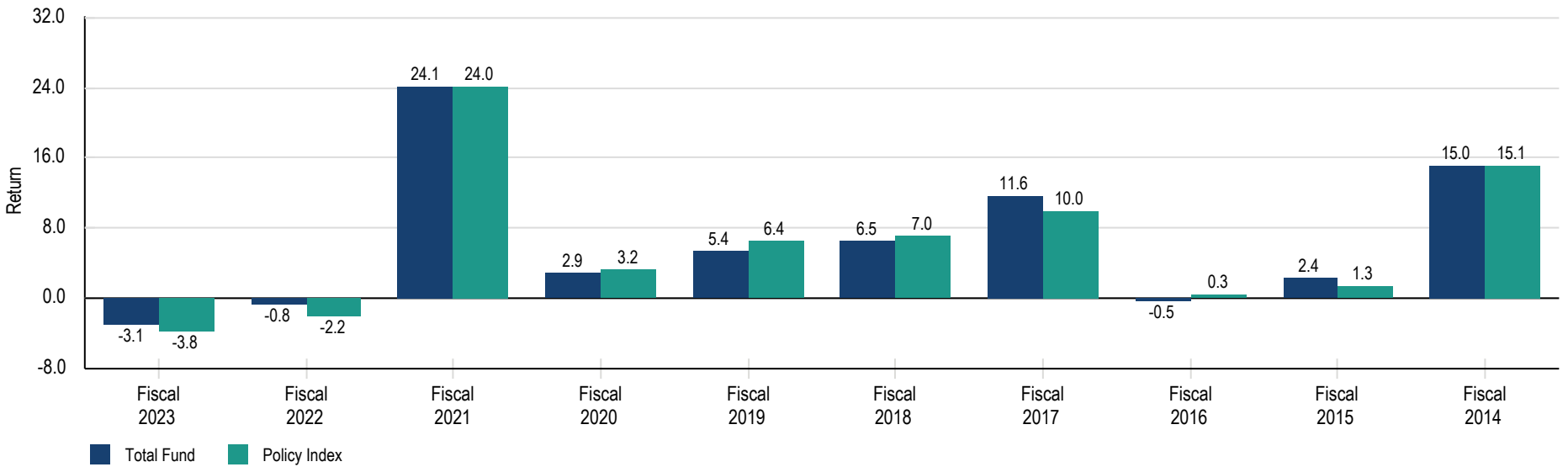
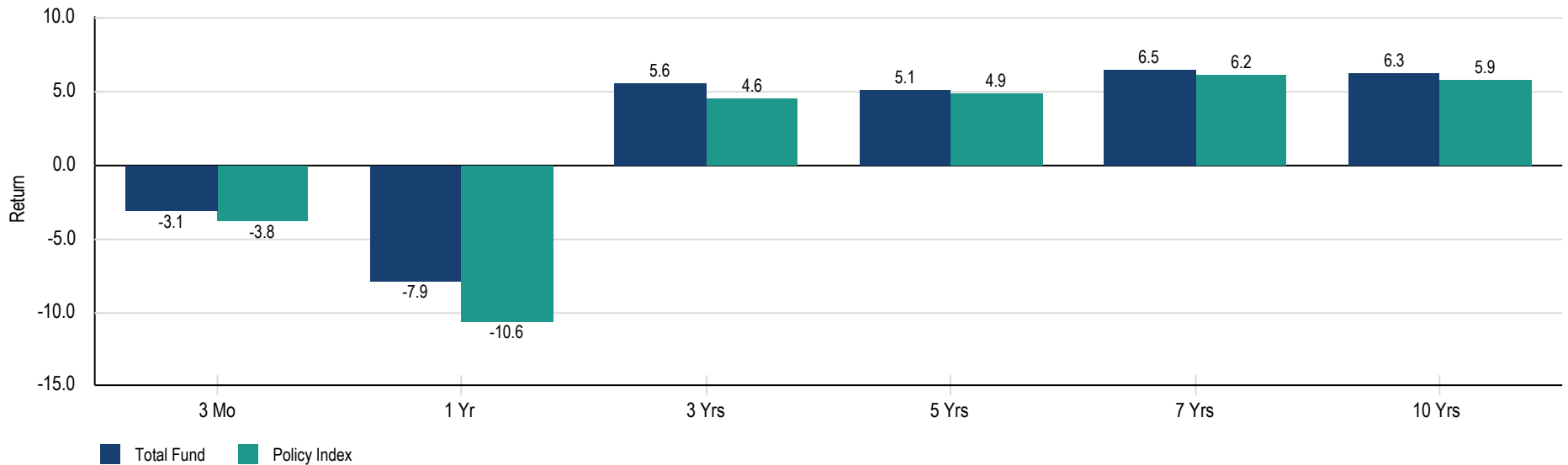
Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Equity	\$1,469,296,073	30.0%	37.0%	-\$341,923,574	26.0% - 48.0%	Yes
Fixed Income	\$1,149,208,297	23.4%	24.0%	-\$26,347,293	14.0% - 34.0%	Yes
Core Real Estate	\$360,386,343	7.4%	5.0%	\$111,259,403	2.0% - 8.0%	Yes
Hedge Funds	\$555,236,603	11.3%	10.0%	\$69,278,445	5.0% - 15.0%	Yes
Alpha Pool	\$257,700,699	5.3%	8.0%	-\$133,509,010	2.0% - 10.0%	Yes
Private Equity	\$150,085,053	3.1%	5.0%	-\$93,029,623	0.0% - 10.0%	Yes
Private Credit	\$248,609,851	5.1%	5.0%	\$6,477,519	0.0% - 10.0%	Yes
Private Real Estate	\$104,997,988	2.1%	5.0%	-\$138,602,873	0.0% - 10.0%	Yes
Commodities	\$231,611,569	4.7%	4.0%	\$35,804,040	0.0% - 8.0%	Yes
Opportunistic	\$168,102,976	3.4%	0.0%	\$168,102,976	0.0% - 10.0%	Yes
Midstream Energy	\$322,797,858	6.6%	5.0%	\$78,038,446	0.0% - 8.0%	Yes
Cash and Equivalents	-\$117,009,383	-2.4%	-8.0%	\$264,451,544	-10.0% - 5.0%	Yes
Total	\$4,901,023,930	100.0%	100.0%			



Total Fund
Performance vs. Policy (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022



Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Total Fund	4,901,023,930	100.0	-3.0	-3.0	-7.6	6.0	5.5	6.7	-4.2	24.4	3.2	5.7	6.8
<i>Policy Index</i>			<i>-3.8</i>	<i>-3.8</i>	<i>-10.6</i>	<i>4.6</i>	<i>4.9</i>	<i>5.9</i>	<i>-6.5</i>	<i>24.0</i>	<i>3.2</i>	<i>6.4</i>	<i>7.0</i>
<i>InvMetrics Public DB > \$1B Rank</i>			<i>11</i>	<i>11</i>	<i>16</i>	<i>29</i>	<i>48</i>	<i>70</i>	<i>32</i>	<i>88</i>	<i>20</i>	<i>63</i>	<i>97</i>
Equity	1,469,296,073	30.0	-6.8	-6.8	-20.0	4.2	4.8	8.5	-14.9	41.2	0.7	5.3	12.4
<i>MSCI AC World IMI (Net)</i>			<i>-6.6</i>	<i>-6.6</i>	<i>-21.2</i>	<i>3.6</i>	<i>4.2</i>	<i>7.2</i>	<i>-16.5</i>	<i>40.9</i>	<i>1.2</i>	<i>4.6</i>	<i>11.1</i>
Domestic Equity	764,916,807	15.6	-4.9	-4.9	-16.7	8.0	9.0	-	-12.0	43.6	6.3	9.2	16.1
<i>MSCI USA IMI</i>			<i>-4.4</i>	<i>-4.4</i>	<i>-17.6</i>	<i>7.9</i>	<i>8.8</i>	<i>-</i>	<i>-13.7</i>	<i>44.4</i>	<i>6.7</i>	<i>9.0</i>	<i>14.9</i>
International Developed Equity	498,570,161	10.2	-8.3	-8.3	-23.9	0.0	0.2	-	-17.2	37.0	-5.5	-0.6	9.1
<i>MSCI World ex U.S. IMI Index (Net)</i>			<i>-9.2</i>	<i>-9.2</i>	<i>-25.0</i>	<i>-1.2</i>	<i>-0.5</i>	<i>-</i>	<i>-17.7</i>	<i>34.8</i>	<i>-5.1</i>	<i>0.2</i>	<i>7.7</i>
Emerging Markets Equity	205,808,369	4.2	-10.8	-10.8	-24.1	-2.7	-2.9	-	-21.4	40.6	-10.9	0.4	4.0
<i>MSCI Emerging Markets IMI (Net)</i>			<i>-10.8</i>	<i>-10.8</i>	<i>-27.5</i>	<i>-1.2</i>	<i>-1.4</i>	<i>-</i>	<i>-24.8</i>	<i>43.2</i>	<i>-4.0</i>	<i>0.5</i>	<i>7.9</i>
Fixed Income	1,149,208,298	23.4	-3.1	-3.1	-15.4	-2.2	0.2	1.5	-12.7	5.4	6.6	7.9	0.2
<i>Fixed Income Custom Benchmark</i>			<i>-3.9</i>	<i>-3.9</i>	<i>-15.1</i>	<i>-2.9</i>	<i>-0.2</i>	<i>1.4</i>	<i>-11.6</i>	<i>4.0</i>	<i>5.2</i>	<i>8.4</i>	<i>-0.1</i>
Core Plus Fixed Income	682,281,732	13.9	-4.4	-4.4	-15.3	-2.8	0.1	-	-11.2	1.0	9.5	8.0	0.0
<i>Bloomberg U.S. Aggregate Index</i>			<i>-4.8</i>	<i>-4.8</i>	<i>-14.6</i>	<i>-3.3</i>	<i>-0.3</i>	<i>-</i>	<i>-10.3</i>	<i>-0.3</i>	<i>8.7</i>	<i>7.9</i>	<i>-0.4</i>
High Yield/ Specialty Credit	281,200,553	5.7	0.2	0.2	-10.3	0.5	2.3	-	-9.5	13.6	0.0	7.5	3.3
<i>ICE BofA U.S. High Yield Index</i>			<i>-0.7</i>	<i>-0.7</i>	<i>-14.1</i>	<i>-0.7</i>	<i>1.4</i>	<i>-</i>	<i>-12.7</i>	<i>15.6</i>	<i>-1.1</i>	<i>7.6</i>	<i>2.5</i>
Emerging Market Debt	185,624,755	3.8	-4.1	-4.1	-21.5	-5.3	-3.4	-	-19.6	9.4	-1.2	8.5	-3.6
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			<i>-4.6</i>	<i>-4.6</i>	<i>-22.5</i>	<i>-7.1</i>	<i>-3.2</i>	<i>-</i>	<i>-20.2</i>	<i>7.1</i>	<i>-1.1</i>	<i>10.8</i>	<i>-1.9</i>
Commodities	231,611,569	4.7	-7.1	-7.1	8.8	13.4	7.8	-	20.1	43.5	-10.7	-6.2	13.7
<i>Bloomberg Commodity Index Total Return</i>			<i>-4.1</i>	<i>-4.1</i>	<i>11.8</i>	<i>13.5</i>	<i>7.0</i>	<i>-</i>	<i>24.3</i>	<i>45.6</i>	<i>-17.4</i>	<i>-6.8</i>	<i>7.3</i>
Hedge Funds	555,236,603	11.3	1.7	1.7	3.1	9.5	7.0	6.5	2.8	16.3	7.3	2.6	7.6
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI IMI</i>			<i>-0.5</i>	<i>-0.5</i>	<i>-1.9</i>	<i>4.8</i>	<i>5.4</i>	<i>5.6</i>	<i>-0.9</i>	<i>12.3</i>	<i>5.1</i>	<i>6.6</i>	<i>7.0</i>
Alpha Pool	257,700,699	5.3	0.8	0.8	1.6	-	-	-	1.5	14.5	-	-	-
<i>3 Month T-Bill +4%</i>			<i>1.5</i>	<i>1.5</i>	<i>4.6</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>4.2</i>	<i>4.1</i>	<i>-</i>	<i>-</i>	<i>-</i>
Midstream Energy	322,797,858	6.6	5.0	5.0	15.5	-	-	-	9.6	-	-	-	-
<i>Alerian Midstream Energy Index</i>			<i>-1.0</i>	<i>-1.0</i>	<i>11.7</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>11.4</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Core Real Estate	360,386,343	7.4	0.6	0.6	19.5	11.3	9.2	-	25.6	6.6	2.3	6.1	7.4
<i>NCREIF ODCE</i>			<i>0.5</i>	<i>0.5</i>	<i>22.1</i>	<i>12.4</i>	<i>10.2</i>	<i>10.9</i>	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.4</i>
Private Real Estate	104,997,989	2.1	3.2	3.2	27.1	17.2	11.9	13.2	31.3	12.1	4.4	9.0	5.4
			<i>3.2</i>	<i>3.2</i>	<i>27.1</i>	<i>17.2</i>	<i>11.9</i>	<i>13.2</i>	<i>31.3</i>	<i>12.1</i>	<i>4.4</i>	<i>9.0</i>	<i>5.4</i>
Private Equity	150,085,053	3.1	-3.6	-3.6	8.1	14.1	12.0	11.7	23.0	41.7	-10.5	10.9	7.8
			<i>-3.6</i>	<i>-3.6</i>	<i>8.1</i>	<i>14.1</i>	<i>12.0</i>	<i>11.7</i>	<i>23.0</i>	<i>41.7</i>	<i>-10.5</i>	<i>10.9</i>	<i>7.8</i>
Private Credit	248,609,852	5.1	-1.2	-1.2	-3.1	3.0	5.4	-	1.2	4.8	5.5	9.7	9.3
			<i>-1.2</i>	<i>-1.2</i>	<i>-3.1</i>	<i>3.0</i>	<i>5.4</i>	<i>-</i>	<i>1.2</i>	<i>4.8</i>	<i>5.5</i>	<i>9.7</i>	<i>9.3</i>

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-Bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Opportunistic	168,102,976	3.4	-3.1	-3.1	-7.8	-	-	-	-5.4	59.9	-	-	-
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>1.8</i>	<i>7.2</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>7.2</i>	<i>7.2</i>	<i>-</i>	<i>-</i>	<i>-</i>
Cash	-117,009,383	-2.4	0.2	0.2	0.0	0.2	1.1	1.3	-0.2	0.1	1.0	2.0	3.2
<i>3 Month T-Bill</i>			<i>0.5</i>	<i>0.5</i>	<i>0.6</i>	<i>0.6</i>	<i>1.1</i>	<i>0.7</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>	<i>1.4</i>

Performance and Attribution

Total Fund Performance (Net of Fees)

Kern County Employees' Retirement Association Period Ending: September 30, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Total Fund	4,901,023,930	100.0	-3.1	-3.1	-7.9	5.6	5.1	6.3	-4.5	24.1	2.9	5.4	6.5	6.0	Jun-11
Policy Index			-3.8	-3.8	-10.6	4.6	4.9	5.9	-6.5	24.0	3.2	6.4	7.0	5.6	
Equity	1,469,296,073	30.0	-6.9	-6.9	-20.1	3.9	4.4	8.1	-15.1	40.7	0.3	4.8	11.8	7.3	Jun-11
MSCI AC World IMI (Net)			-6.6	-6.6	-21.2	3.6	4.2	7.2	-16.5	40.9	1.2	4.6	11.1	6.5	
Domestic Equity	764,916,807	15.6	-5.0	-5.0	-16.8	7.7	8.6	-	-12.2	43.2	6.0	8.8	15.5	9.5	Jul-14
MSCI USA IMI			-4.4	-4.4	-17.6	7.9	8.8	-	-13.7	44.4	6.7	9.0	14.9	9.2	
Equity Beta Exposure	124,611,900	2.5	-4.9	-4.9	-15.8	-	-	-	-11.0	-	-	-	-	5.5	Aug-20
S&P 500 Index			-4.9	-4.9	-15.5	-	-	-	-10.6	-	-	-	-	5.9	
Mellon DB SL Stock Index Fund	426,205,824	8.7	-4.9	-4.9	-15.5	8.1	-	-	-10.6	40.8	7.5	10.4	-	9.0	Oct-17
S&P 500 Index			-4.9	-4.9	-15.5	8.2	-	-	-10.6	40.8	7.5	10.4	-	8.9	
PIMCO StocksPLUS	92,550,537	1.9	-5.5	-5.5	-18.0	7.4	8.7	11.8	-12.8	41.7	7.7	10.6	14.1	9.8	Jul-03
S&P 500 Index			-4.9	-4.9	-15.5	8.2	9.2	11.7	-10.6	40.8	7.5	10.4	14.4	9.0	
AB US Small Cap Value Equity	78,127,226	1.6	-5.2	-5.2	-20.1	4.7	2.7	-	-16.1	77.5	-19.4	-6.9	13.2	5.6	Jul-15
Russell 2000 Value Index			-4.6	-4.6	-17.7	4.7	2.9	-	-16.3	73.3	-17.5	-6.2	13.1	5.6	
Geneva Capital Small Cap Growth	43,421,320	0.9	-4.6	-4.6	-24.2	4.6	7.0	-	-22.1	37.6	9.3	8.6	22.7	8.3	Jul-15
Russell 2000 Growth Index			0.2	0.2	-29.3	2.9	3.6	-	-33.4	51.4	3.5	-0.5	21.9	4.7	
International Developed Equity	498,570,161	10.2	-8.3	-8.3	-23.9	-0.2	0.0	-	-17.3	36.7	-5.7	-0.9	8.7	1.7	Jul-14
MSCI World ex U.S. IMI Index (Net)			-9.2	-9.2	-25.0	-1.2	-0.5	-	-17.7	34.8	-5.1	0.2	7.7	0.8	
Mellon DB SL World ex-US Index Fund	405,985,897	8.3	-9.0	-9.0	-23.1	-0.6	-	-	-16.1	35.6	-5.5	-	-	-0.3	Jul-18
MSCI World ex U.S. IMI Index (Net)			-9.2	-9.2	-25.0	-1.2	-	-	-17.7	34.8	-5.1	0.2	-	-1.3	
Cevian Capital II	31,433,651	0.6	1.3	1.3	-6.9	8.8	4.2	-	-8.2	46.8	-8.2	-5.0	2.9	5.3	Dec-14
MSCI Europe (Net)			-10.1	-10.1	-24.8	-1.7	-1.2	-	-17.6	35.1	-6.8	1.9	5.3	1.4	
American Century Non-US Small Cap	60,918,029	1.2	-7.8	-7.8	-34.9	-	-	-	-27.4	-	-	-	-	-13.4	Dec-20
MSCI World ex U.S. Small Cap Growth Index (Net)			-8.8	-8.8	-35.7	-	-	-	-28.6	-	-	-	-	-16.0	
Emerging Markets Equity	205,808,369	4.2	-11.0	-11.0	-24.7	-3.5	-3.8	-	-21.9	39.5	-11.8	-0.6	2.9	-0.9	Jul-14
MSCI Emerging Markets IMI (Net)			-10.8	-10.8	-27.5	-1.2	-1.4	-	-24.8	43.2	-4.0	0.5	7.9	0.4	
DFA Emerging Markets Value I	68,160,210	1.4	-9.8	-9.8	-18.7	0.8	-0.5	-	-12.9	47.6	-17.7	2.0	5.7	2.0	Mar-14
MSCI Emerging Markets Value (Net)			-11.0	-11.0	-23.6	-2.6	-2.1	-	-18.6	41.6	-15.7	5.0	4.3	0.1	
AB Emerging Markets Strategic Core Equity Collective Trust	64,396,359	1.3	-11.1	-11.1	-25.6	-4.7	-4.8	-	-25.2	33.6	-5.1	-2.6	1.2	-0.3	Dec-16
MSCI Emerging Markets (Net)			-11.6	-11.6	-28.1	-2.1	-1.8	-	-25.3	40.9	-3.4	1.2	8.2	2.7	
Mellon Emerging Markets Stock Index Fund	73,251,800	1.5	-11.7	-11.7	-28.5	-	-	-	-25.5	41.1	-	-	-	-3.3	Jun-20
MSCI Emerging Markets (Net)			-11.6	-11.6	-28.1	-	-	-	-25.3	40.9	-	-	-	0.0	
Fixed Income	1,149,208,298	23.4	-3.2	-3.2	-15.7	-2.5	0.0	1.3	-13.0	5.1	6.3	7.6	-0.1	2.8	Jun-10
Fixed Income Custom Benchmark			-3.9	-3.9	-15.1	-2.9	-0.2	1.4	-11.6	4.0	5.2	8.4	-0.1	2.6	
Core Plus Fixed Income	682,281,732	13.9	-4.4	-4.4	-15.4	-3.0	-0.1	-	-11.4	0.8	9.3	7.9	-0.2	1.1	Jul-14
Bloomberg U.S. Aggregate Index			-4.8	-4.8	-14.6	-3.3	-0.3	-	-10.3	-0.3	8.7	7.9	-0.4	0.8	
Fixed Income Beta Exposure	254,923,009	5.2	-4.4	-4.4	-	-	-	-	-	-	-	-	-	-2.2	Jun-22
Bloomberg U.S. Aggregate Index			-4.8	-4.8	-	-	-	-	-	-	-	-	-	-6.2	
Mellon DB SL Aggregate Bond Index Fund	154,776,570	3.2	-4.8	-4.8	-14.7	-3.3	-0.3	0.8	-10.4	-0.4	8.8	7.9	-0.4	1.7	Jan-11
Bloomberg U.S. Aggregate Index			-4.8	-4.8	-14.6	-3.3	-0.3	0.9	-10.3	-0.3	8.7	7.9	-0.4	1.8	

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
PIMCO Core Plus	157,443,885	3.2	-4.7	-4.7	-14.3	-2.5	0.0	1.0	-9.9	1.1	8.7	6.3	1.0	2.0	Feb-11
Bloomberg U.S. Aggregate Index			-4.8	-4.8	-14.6	-3.3	-0.3	0.9	-10.3	-0.3	8.7	7.9	-0.4	1.7	
Western Asset Core Plus	115,138,268	2.3	-4.6	-4.6	-18.7	-3.8	-0.4	1.5	-14.5	2.4	9.3	9.4	-0.4	3.5	Jun-04
Bloomberg U.S. Aggregate Index			-4.8	-4.8	-14.6	-3.3	-0.3	0.9	-10.3	-0.3	8.7	7.9	-0.4	3.1	
High Yield/ Specialty Credit	281,200,553	5.7	0.1	0.1	-10.8	0.0	1.8	-	-10.0	13.1	-0.5	7.0	2.8	1.9	Jul-14
ICE BofA U.S. High Yield Index			-0.7	-0.7	-14.1	-0.7	1.4	-	-12.7	15.6	-1.1	7.6	2.5	2.7	
Western Asset High Yield Fixed Income	183,575,160	3.7	-0.2	-0.2	-15.0	-1.2	1.2	3.6	-14.1	16.5	-2.2	8.3	2.2	5.4	Jun-05
Bloomberg US HY Ba/B 2% Cap TR			-0.7	-0.7	-13.8	-0.4	1.8	3.9	-12.4	13.4	2.1	8.8	1.8	5.7	
TCW Securitized Opportunities	97,625,393	2.0	0.7	0.7	-4.3	1.2	2.6	-	-4.0	6.4	2.2	5.2	4.3	3.2	Feb-16
Bloomberg U.S. High Yield - 2% Issuer Cap			-0.6	-0.6	-14.1	-0.5	1.6	-	-12.8	15.3	0.0	7.5	2.6	4.9	
Emerging Market Debt	185,624,755	3.8	-4.2	-4.2	-21.8	-5.6	-3.8	-	-19.9	9.1	-1.7	7.9	-4.2	-1.5	Jul-14
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			-4.6	-4.6	-22.5	-7.1	-3.2	-	-20.2	7.1	-1.1	10.8	-1.9	-1.1	
Stone Harbor Emerging Markets Debt Blend Portfolio	59,118,869	1.2	-4.0	-4.0	-22.8	-6.3	-3.8	-1.6	-20.9	9.5	-1.8	8.2	-3.1	-1.5	Aug-12
50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx			-4.4	-4.4	-21.7	-6.6	-2.9	-0.5	-19.5	7.2	-0.8	10.6	-1.7	-0.3	
PIMCO EMD	126,505,886	2.6	-4.4	-4.4	-21.2	-	-	-	-19.2	8.7	-	-	-	-7.8	Feb-20
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			-4.6	-4.6	-22.5	-	-	-	-20.2	7.1	-	-	-	-9.1	
Commodities	231,611,569	4.7	-7.3	-7.3	8.2	12.6	7.2	-	19.4	42.5	-11.3	-6.7	13.3	-0.5	Jul-13
Bloomberg Commodity Index Total Return			-4.1	-4.1	11.8	13.5	7.0	-	24.3	45.6	-17.4	-6.8	7.3	-0.4	
Gresham MTAP Commodity Builder Fund	78,689,436	1.6	-5.1	-5.1	13.3	14.2	7.5	-	24.7	46.8	-16.3	-9.0	12.4	-0.2	Oct-13
Bloomberg Commodity Index Total Return			-4.1	-4.1	11.8	13.5	7.0	-	24.3	45.6	-17.4	-6.8	7.3	-0.5	
Wellington Commodities	152,922,133	3.1	-8.2	-8.2	6.2	12.4	7.4	-	17.2	40.2	-7.5	-5.4	14.2	-0.1	Sep-13
S&P GSCI Commodity Equal Weighted			-7.2	-7.2	8.6	11.5	7.2	-	19.0	40.9	-12.4	-3.5	12.6	0.3	
Hedge Funds	555,236,603	11.3	1.5	1.5	3.0	9.3	6.9	5.9	2.8	16.1	7.0	2.5	7.6	5.8	Sep-10
75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)			-0.5	-0.5	-1.9	4.8	5.4	5.6	-0.9	12.3	5.1	6.6	7.0	5.5	
Aristeia International Limited	68,735,073	1.4	2.2	2.2	3.5	11.0	9.5	-	1.8	21.6	8.7	9.2	2.6	5.4	May-14
Brevan Howard Fund	76,508,122	1.6	5.0	5.0	20.1	16.3	13.4	-	15.2	6.1	20.5	12.7	7.8	8.5	Sep-13
D.E. Shaw Composite Fund	61,196,084	1.2	3.6	3.6	27.8	20.9	17.0	-	29.0	19.0	15.6	11.5	11.3	14.6	Jul-13
HBK Fund II	56,515,419	1.2	1.5	1.5	1.8	5.5	4.9	-	2.3	11.0	1.5	5.5	3.0	4.2	Nov-13
Hudson Bay Cap Structure Arbitrage Enhanced Fund	78,368,295	1.6	3.5	3.5	9.2	12.9	-	-	7.7	14.2	16.2	-	-	12.7	Jun-19
Indus Pacific Opportunities Fund	37,249,096	0.8	0.9	0.9	-7.7	16.5	5.2	-	-8.2	38.0	15.8	-19.2	15.8	7.5	Jul-14
Pharo Macro Fund	61,133,696	1.2	-1.7	-1.7	-11.7	-	-	-	-11.1	3.5	-	-	-	-2.5	Dec-19
PIMCO Commodity Alpha Fund	63,623,535	1.3	-2.6	-2.6	2.7	8.6	7.1	-	8.6	14.2	4.8	5.2	10.4	9.1	Jun-16
Sculptor Domestic Partners II LP	43,747,759	0.9	-0.7	-0.7	-21.8	1.7	-	-	-19.9	16.8	6.5	-	-	3.6	Feb-19
Alpha Pool	257,700,699	5.3	0.8	0.8	1.6	-	-	-	1.5	14.5	-	-	-	7.3	Jul-20
3 Month T-Bill +4%			1.5	1.5	4.6	-	-	-	4.2	4.1	-	-	-	4.3	
Hudson Bay	60,533,289	1.2	2.8	2.8	7.5	-	-	-	6.7	-	-	-	-	10.1	Aug-20
Davidson Kempner Institutional Partners	53,269,455	1.1	-0.4	-0.4	-3.5	-	-	-	-3.4	-	-	-	-	2.4	Dec-20
HBK Fund II	54,349,773	1.1	0.8	0.8	0.3	-	-	-	1.3	-	-	-	-	3.9	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	53,548,672	1.1	0.5	0.5	5.7	-	-	-	-	-	-	-	-	5.7	Sep-21
HBK Opportunities Platform – SPAC Series	35,999,510	0.7	-0.2	-0.2	-2.0	-	-	-	-2.5	-	-	-	-	2.9	Nov-20

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Midstream Energy	322,797,858	6.6	4.8	4.8	15.0	-	-	-	9.3	-	-	-	-	31.2	Sep-20
Alerian Midstream Energy Index			-1.0	-1.0	11.7	-	-	-	11.4	-	-	-	-	27.9	
Harvest Midstream	185,889,047	3.8	6.7	6.7	23.4	-	-	-	15.3	-	-	-	-	40.0	Aug-20
Alerian Midstream Energy Index			-1.0	-1.0	11.7	-	-	-	11.4	-	-	-	-	26.8	
PIMCO Midstream	136,908,811	2.8	2.2	2.2	4.7	-	-	-	2.2	-	-	-	-	23.2	Sep-20
50/25/25 Alerian Midstream/ ICE BofA US Pipeline/ ICE BofA US HY Midstream			-1.3	-1.3	-1.8	-	-	-	-0.7	-	-	-	-	-	
Core Real Estate	360,386,343	7.4	0.5	0.5	18.7	10.5	8.6	-	24.8	5.6	1.4	5.9	7.4	9.0	Oct-14
NCREIF ODCE			0.5	0.5	22.1	12.4	10.2	-	29.5	8.0	2.2	6.4	8.4	10.5	
ASB Allegiance Real Estate Fund	199,291,186	4.1	2.2	2.2	19.7	10.7	8.9	-	23.0	5.4	1.5	6.8	7.1	9.1	Sep-13
NCREIF ODCE			0.5	0.5	22.1	12.4	10.2	-	29.5	8.0	2.2	6.4	8.4	10.7	
JPMCB Strategic Property Fund	161,095,157	3.3	-1.6	-1.6	18.1	10.4	8.4	-	27.9	5.9	1.3	5.0	7.6	8.9	Jul-14
NCREIF ODCE			0.5	0.5	22.1	12.4	10.2	-	29.5	8.0	2.2	6.4	8.4	10.6	
Private Real Estate	104,997,989	2.1	3.2	3.2	27.1	17.2	11.9	12.7	31.3	12.1	4.4	9.0	5.4	12.9	Mar-11
			3.2	3.2	27.1	17.2	11.9	13.2	31.3	12.1	4.4	9.0	5.4	12.9	
Private Equity	150,085,053	3.1	-3.6	-3.6	8.1	14.1	12.0	11.2	22.9	41.7	-10.5	10.9	7.8	11.1	Sep-10
			-3.6	-3.6	8.1	14.1	12.0	11.7	23.0	41.7	-10.5	10.9	7.8	11.3	
Private Credit	248,609,852	5.1	-1.2	-1.2	-3.1	3.0	5.4	-	1.2	4.8	5.5	9.7	9.3	-25.9	Dec-15
			-1.2	-1.2	-3.1	3.0	5.4	-	1.2	4.8	5.5	9.7	9.3	7.0	
Opportunistic	168,102,976	3.4	-3.2	-3.2	-7.8	-	-	-	-5.4	59.9	-	-	-	11.3	Jan-20
Assumed Rate of Return +3%			1.8	1.8	7.2	-	-	-	7.2	7.2	-	-	-	7.2	
River Birch International	8,154,365	0.2	6.4	6.4	-	-	-	-	-	-	-	-	-	16.8	Jun-22
Assumed Rate of Return +3%			1.8	1.8	-	-	-	-	-	-	-	-	-	1.8	
DB Investors Fund IV	22,582,102	0.5	-11.5	-11.5	-42.9	-	-	-	-34.4	95.1	-	-	-	4.5	Dec-19
Assumed Rate of Return +3%			1.8	1.8	7.2	-	-	-	7.2	7.2	-	-	-	7.2	
Sixth Street TAO Partners (D)	84,455,252	1.7	-4.7	-4.7	4.7	-	-	-	9.6	39.6	-	-	-	16.3	Mar-20
Assumed Rate of Return +3%			1.8	1.8	7.2	-	-	-	7.2	7.2	-	-	-	7.2	
Aristeia Select Opportunities II	52,911,257	1.1	1.6	1.6	9.9	-	-	-	-	-	-	-	-	5.1	Jul-21
Assumed Rate of Return +3%			1.8	1.8	7.2	-	-	-	7.2	-	-	-	-	7.2	
Cash	-117,009,383	-2.4	0.1	0.1	-0.1	0.2	1.1	1.3	-0.2	0.1	1.0	2.0	3.2	1.2	Apr-11
3 Month T-Bill			0.5	0.5	0.6	0.6	1.1	0.7	0.2	0.1	1.6	2.3	1.4	0.6	

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Total Private Equity

Kern County Employees' Retirement
Period Ending: September 30, 2022

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value as of 9/30/2022	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Equity												
2005	Abbott Capital PE V	\$3,100,331	\$65,000,000	\$62,790,000	97%	\$2,210,000	\$78,095,564	\$22,959,156	1.24x	1.29x	6.9%	12/31/21
2008	Abbott Capital PE VI	\$22,959,156	\$50,000,000	\$49,750,000	100%	\$250,000	\$78,095,564	\$22,959,156	1.57x	2.03x	13.2%	06/30/22
2006	Pantheon Global III	\$567,222	\$50,000,000	\$47,300,000	95%	\$2,700,000	\$52,000,000	\$553,872	1.10x	1.11x	1.9%	06/30/22
1998	Pantheon USA III	\$49,712	\$7,500,000	\$7,335,000	98%	\$165,000	\$8,197,500	\$47,064	1.12x	1.12x	1.9%	06/30/22
2002	Pantheon USA V	\$414,136	\$25,000,000	\$24,350,000	97%	\$650,000	\$37,950,000	\$411,492	1.56x	1.58x	9.0%	06/30/22
2004	Pantheon USA VI	\$354,968	\$35,000,000	\$33,075,000	95%	\$1,925,000	\$50,623,827	\$346,190	1.53x	1.54x	6.7%	06/30/22
2006	Pantheon USA VII	\$8,101,079	\$50,000,000	\$46,600,000	93%	\$3,400,000	\$80,124,999	\$7,894,161	1.72x	1.89x	10.1%	06/30/22
2020	Vista Foundation Fund IV	\$13,958,460	\$25,000,000	\$14,189,855	57%	\$10,810,145	\$30,252	\$13,821,190	0.00x	0.99x	-1.7%	06/30/22
2021	Crown Global Secondaries V Master S.C.Sp	\$21,065,609	\$50,000,000	\$16,750,000	34%	\$33,250,000	\$1,550,000	\$24,982,600	0.09x	1.35x	47.0%	06/30/22
2021	Brighton Park Capital Fund I	\$34,670,679	\$30,000,000	\$32,509,766	108%	\$0	\$1,325,801	\$37,910,214	0.04x	1.11x	22.6%	06/30/22
2021	Warren Equity Partners Fund III	\$24,410,915	\$32,500,000	\$22,969,862	71%	\$9,530,138	\$508,290	N/A	0.02x	1.08x	N/A	N/A
2021	Peak Rock Capital Fund III	\$9,273,982	\$30,000,000	\$9,683,186	32%	\$20,316,814	\$1,879,477	\$10,755,627	0.19x	1.15x	22.8%	06/30/22
2021	Level Equity Growth Partners V	\$2,872,189	\$15,000,000	\$3,315,369	22%	\$11,684,631	\$0	N/A	N/A	N/A	N/A	N/A
2021	Level Equity Opportunities Fund 2021	\$1,371,903	\$15,000,000	\$1,650,936	11%	\$13,349,064	\$0	N/A	N/A	N/A	N/A	N/A
2022	Linden Capital Partners V LP	\$5,145,635	\$22,500,000	\$5,145,635	23%	\$17,354,365	\$0	N/A	N/A	N/A	N/A	N/A
2022	Linden Co-Investment V LP	\$1,769,077	\$7,500,000	\$1,769,077	24%	\$5,730,923	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Equity		\$150,085,053	\$510,000,000	\$379,183,686	74%	\$133,326,080	\$390,381,275	\$142,640,722	1.03x	1.43x		
% of Portfolio (Market Value)		3.1%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Total Fund
Total Private Credit

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value 9/30/2022	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Credit												
2015	DC Value Recovery Fund IV ⁴	\$33,313,661	\$60,000,000	\$73,340,099	122%	-\$13,340,099	\$24,003,132	\$34,822,903	0.33x	0.78x	N/A	6/30/22
2017	Sixth Street TAO Partners (B)	\$37,760,184	\$50,000,000	\$66,777,561	134%	-\$16,777,561	\$41,444,279	\$38,346,022	0.62x	1.19x	9.7%	6/30/22
2017	Brookfield Real Estate Finance Fund V	\$19,766,051	\$50,000,000	\$35,882,954	72%	\$14,117,046	\$25,823,610	\$19,481,686	0.72x	1.27x	6.8%	6/30/22
2018	Magnetar Constellation Fund V	\$31,448,946	\$60,000,000	\$65,536,888	109%	-\$5,536,888	\$39,505,702	\$37,069,321	0.60x	1.08x	5.9%	6/30/22
2019	H.I.G Bayside Loan Opportunity Fund V	\$40,257,660	\$60,000,000	\$33,496,503	56%	\$26,503,497	\$11,244,389	\$44,209,221	0.34x	1.54x	17.4%	6/30/22
2020	Blue Torch Credit Opportunities Fund II	\$16,754,007	\$20,000,000	\$16,613,092	83%	\$3,386,908	\$1,836,476	\$16,765,419	0.11x	1.12x	14.2%	6/30/22
2020	Fortress Credit Opportunites Fund V Expansion	\$12,998,162	\$40,000,000	\$11,647,375	29%	\$28,352,625	\$468,590	\$15,507,751	0.04x	1.16x	21.2%	6/30/22
2021	Fortress Lending Fund II	\$30,712,727	\$40,000,000	\$32,137,851	80%	\$7,862,149	\$3,268,302	\$28,566,610	0.10x	1.06x	10.0%	6/30/22
2022	Blue Torch Credit Opportunities Fund III	\$7,203,466	\$40,000,000	\$7,199,891	18%	\$32,800,109	\$0	N/A	N/A	N/A	N/A	N/A
2022	Fortress Lending Fund III	\$15,394,988	\$40,000,000	\$16,000,000	40%	\$24,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2022	OrbiMed Royalty & Credit Opportunities IV	\$3,000,000	\$30,000,000	\$3,000,000	10%	\$27,000,000	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Credit		\$248,609,852	\$490,000,000	\$361,632,213	74%	\$128,367,787	\$147,594,480	\$234,768,933	0.41x	1.10x		
% of Portfolio (Market Value)		5.1%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

⁴Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

Total Fund
Total Private Real Estate

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value 9/30/2022	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Real Estate												
2014	Invesco Real Estate Value-Add Fund IV	\$4,031,249	\$50,000,000	\$43,637,717	87%	\$6,362,283	\$55,590,259	\$945,682	1.27x	1.37x	11.7%	06/30/22
2017	Landmark Real Estate Partners VIII	\$28,646,936	\$60,000,000	\$36,127,951	60%	\$23,872,049	\$22,058,205	\$31,009,306	0.61x	1.40x	20.4%	06/30/22
2018	Long Wharf Real Estate Partners VI	\$33,209,484	\$50,000,000	\$41,704,658	83%	\$8,295,342	\$16,451,932	\$34,525,266	0.39x	1.19x	28.2%	06/30/22
2020	Covenant Apartment Fund X	\$27,939,711	\$30,000,000	\$22,807,333	76%	\$7,192,667	\$5,646,691	\$33,947,463	0.25x	1.47x	30.7%	06/30/22
2021	Singerman Real Estate Opportunity Fund IV	\$3,850,122	\$35,000,000	\$3,815,000	11%	\$31,185,000	\$0	N/A	N/A	N/A	N/A	N/A
2022	LBA Logistics Value Fund IX, L.P.	\$5,813,153	\$40,000,000	\$6,153,846	15%	\$33,846,154	\$0	N/A	N/A	N/A	N/A	N/A
2022	Covenant Apartment Fund XI	\$1,507,333	\$30,000,000	\$3,300,000	11%	\$38,076,924	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Real Estate		\$104,997,989	\$295,000,000	\$157,546,505	53%	\$148,830,419	\$99,747,088	\$100,427,717	0.63x	1.30x		
% of Portfolio (Market Value)		2.1%										

¹(DPI) is equal to (capital returned / capital called)

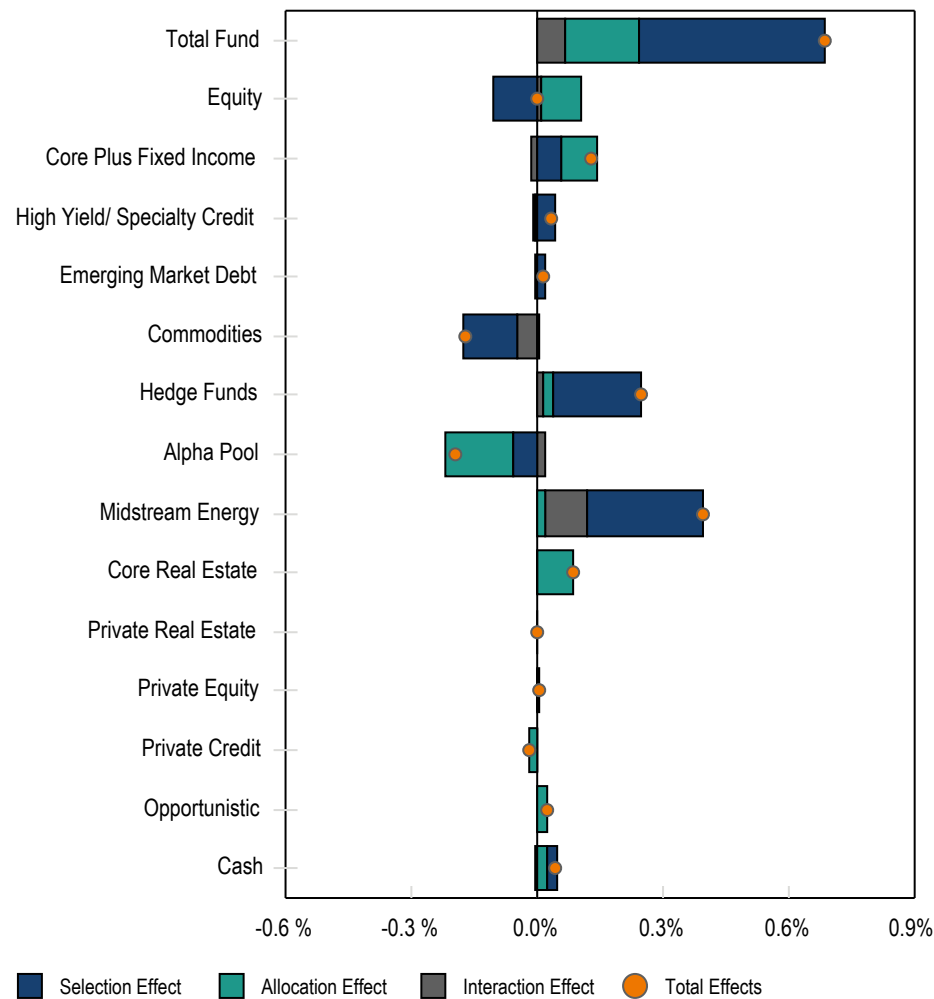
²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Total Fund Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

Attribution Effects
Last Three Months



Performance Attribution

	Last Three Months
Wtd. Actual Return	-3.1
Wtd. Index Return	-3.8
Excess Return	0.7
Selection Effect	0.4
Allocation Effect	0.2
Interaction Effect	0.1

Attribution Summary
Last Three Months

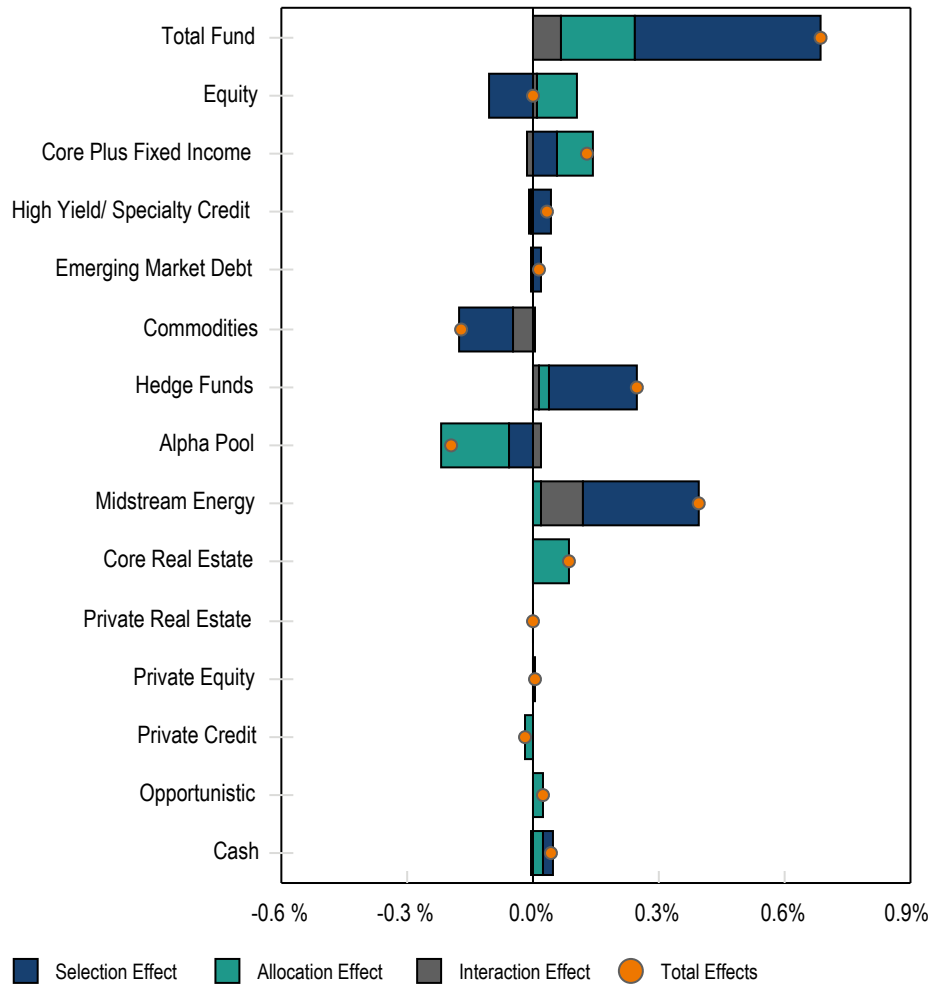
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	-6.9	-6.6	-0.2	-0.1	0.1	0.0	0.0
Core Plus Fixed Income	-4.4	-4.8	0.3	0.1	0.1	0.0	0.1
High Yield/ Specialty Credit	0.1	-0.7	0.8	0.1	0.0	0.0	0.0
Emerging Market Debt	-4.2	-4.6	0.4	0.0	0.0	0.0	0.0
Commodities	-7.3	-4.1	-3.1	-0.1	0.0	0.0	-0.2
Hedge Funds	1.5	-0.5	2.0	0.2	0.0	0.0	0.2
Alpha Pool	0.8	1.5	-0.7	0.0	-0.2	0.0	-0.2
Midstream Energy	4.8	-1.0	5.8	0.3	0.0	0.1	0.4
Core Real Estate	0.5	0.5	0.0	0.0	0.1	0.0	0.1
Private Real Estate	3.2	3.2	0.0	0.0	0.0	0.0	0.0
Private Equity	-3.6	-3.6	0.0	0.0	0.0	0.0	0.0
Private Credit	-1.2	-1.2	0.0	0.0	0.0	0.0	0.0
Opportunistic	-3.2	1.8	-4.9	0.0	0.0	0.0	0.0
Cash	0.1	0.5	-0.3	0.0	0.0	0.0	0.0
Total Fund	-3.1	-3.8	0.7	0.4	0.2	0.1	0.7

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Total Fund
Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

Attribution Effects
Fiscal YTD



Performance Attribution

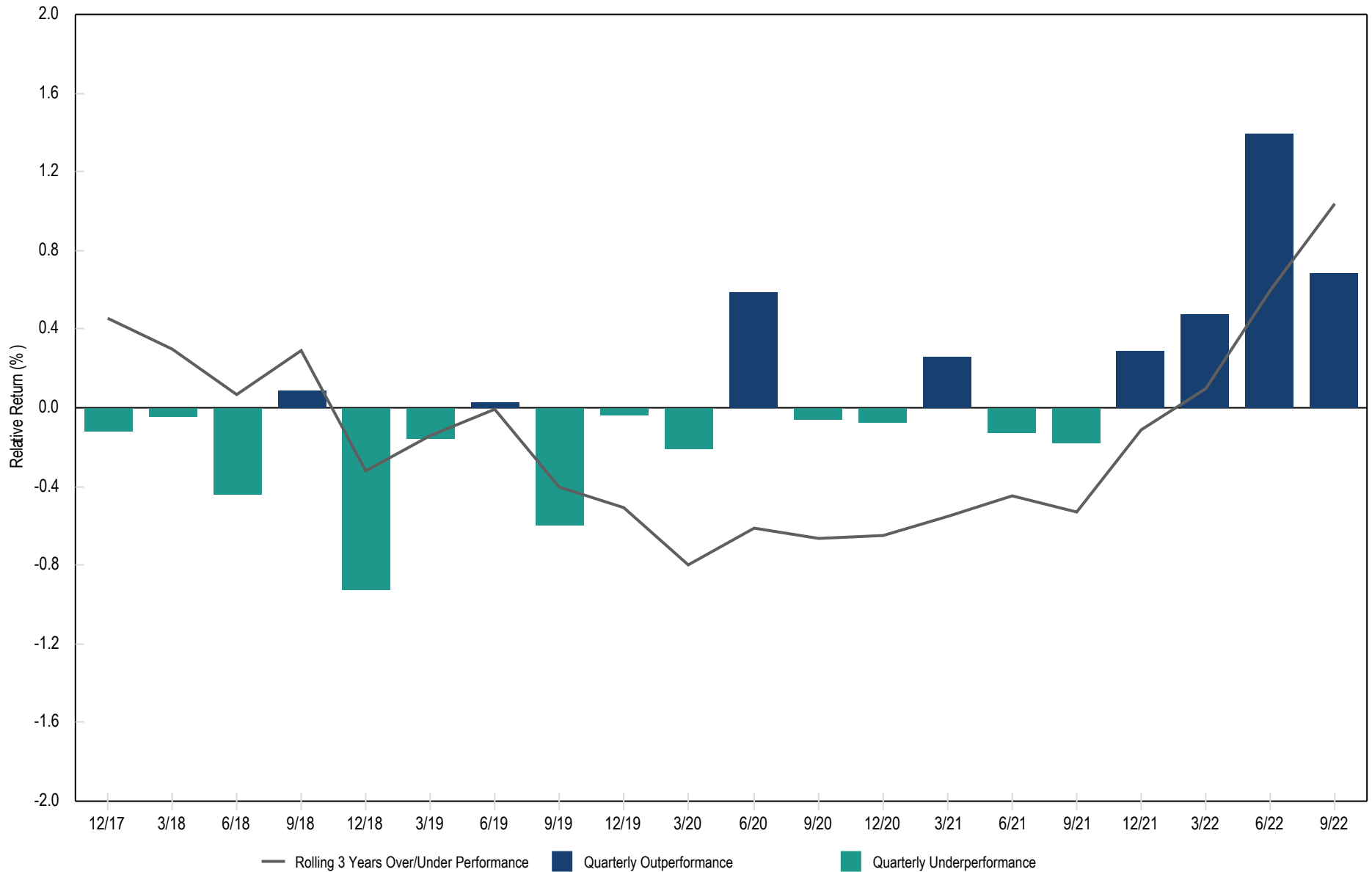
	Fiscal YTD
Wtd. Actual Return	-3.1
Wtd. Index Return	-3.8
Excess Return	0.7
Selection Effect	0.4
Allocation Effect	0.2
Interaction Effect	0.1

Attribution Summary
Fiscal YTD

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	-6.9	-6.6	-0.2	-0.1	0.1	0.0	0.0
Core Plus Fixed Income	-4.4	-4.8	0.3	0.1	0.1	0.0	0.1
High Yield/ Specialty Credit	0.1	-0.7	0.8	0.1	0.0	0.0	0.0
Emerging Market Debt	-4.2	-4.6	0.4	0.0	0.0	0.0	0.0
Commodities	-7.3	-4.1	-3.1	-0.1	0.0	0.0	-0.2
Hedge Funds	1.5	-0.5	2.0	0.2	0.0	0.0	0.2
Alpha Pool	0.8	1.5	-0.7	0.0	-0.2	0.0	-0.2
Midstream Energy	4.8	-1.0	5.8	0.3	0.0	0.1	0.4
Core Real Estate	0.5	0.5	0.0	0.0	0.1	0.0	0.1
Private Real Estate	3.2	3.2	0.0	0.0	0.0	0.0	0.0
Private Equity	-3.6	-3.6	0.0	0.0	0.0	0.0	0.0
Private Credit	-1.2	-1.2	0.0	0.0	0.0	0.0	0.0
Opportunistic	-3.2	1.8	-4.9	0.0	0.0	0.0	0.0
Cash	0.1	0.5	-0.3	0.0	0.0	0.0	0.0
Total Fund	-3.1	-3.8	0.7	0.4	0.2	0.1	0.7

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

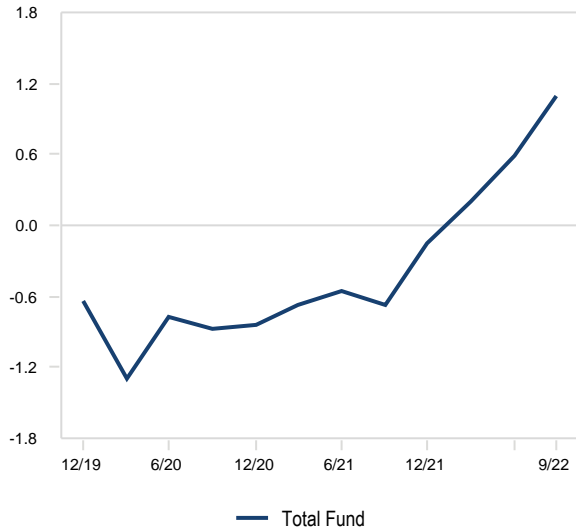
Rolling 3 Year Annualized Excess Performance



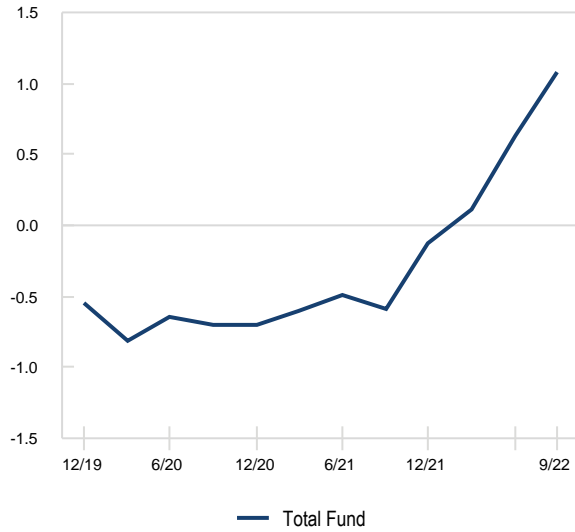
Total Fund
Rolling Risk Statistics: 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

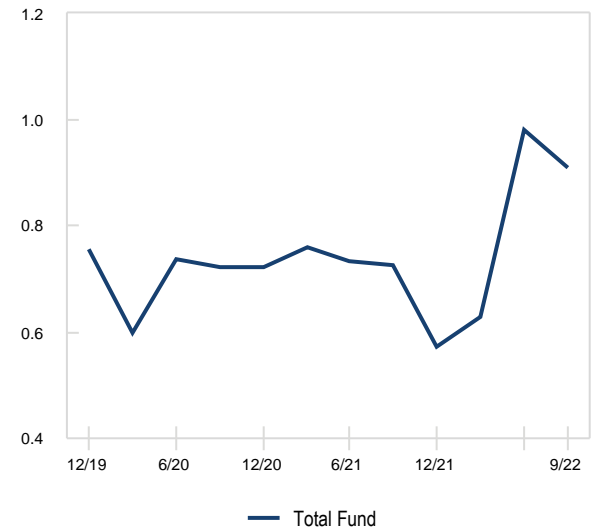
Rolling Information Ratio



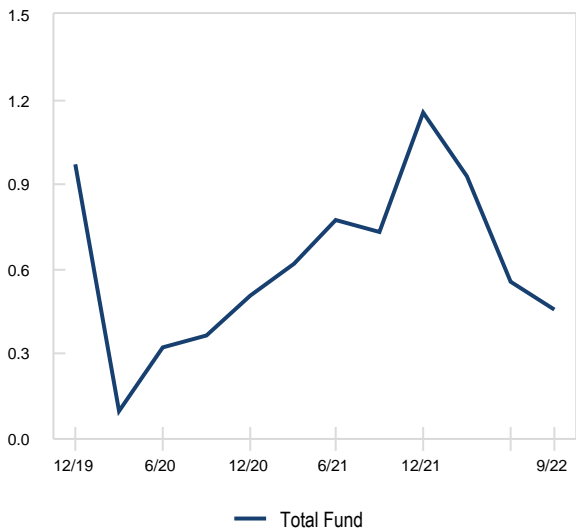
Rolling Annual Excess Benchmark Return



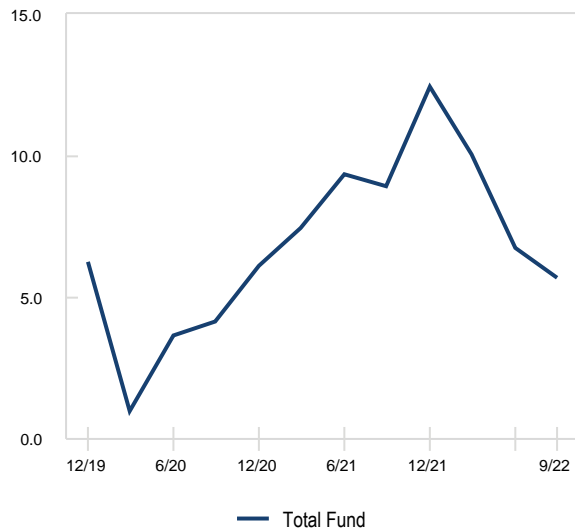
Rolling Tracking Error



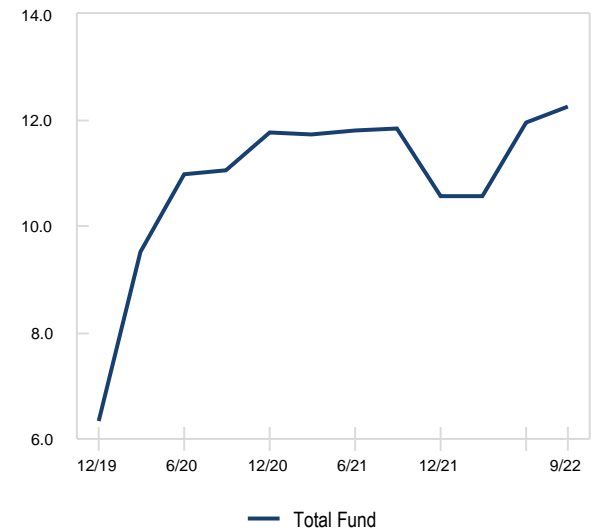
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



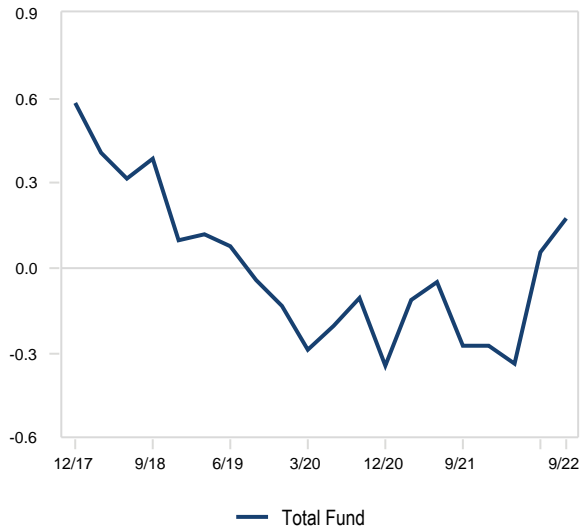
Rolling Annualized Standard Deviation



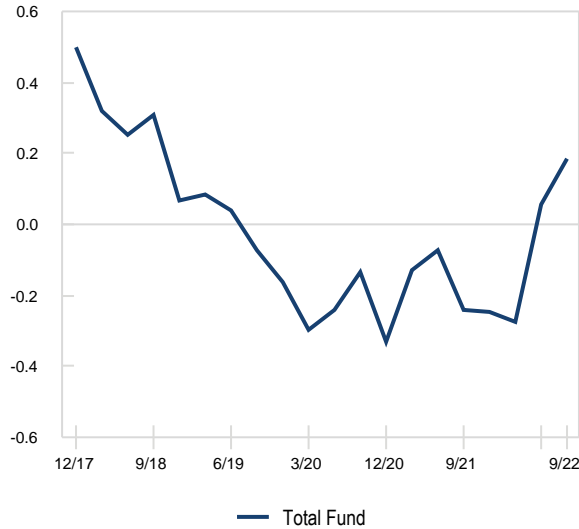
Total Fund
Rolling Risk Statistics: 5 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

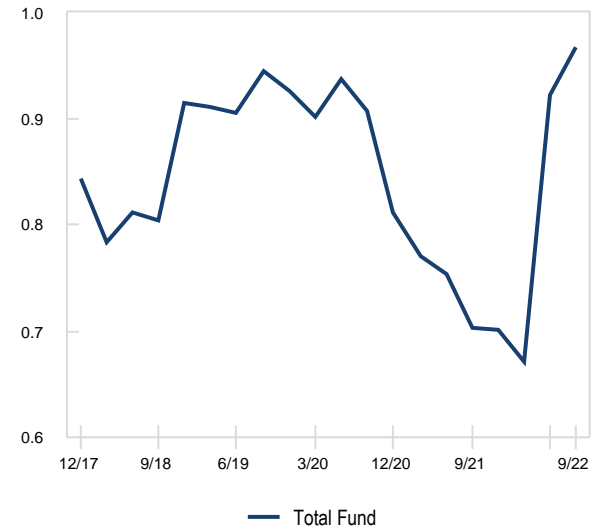
Rolling Information Ratio



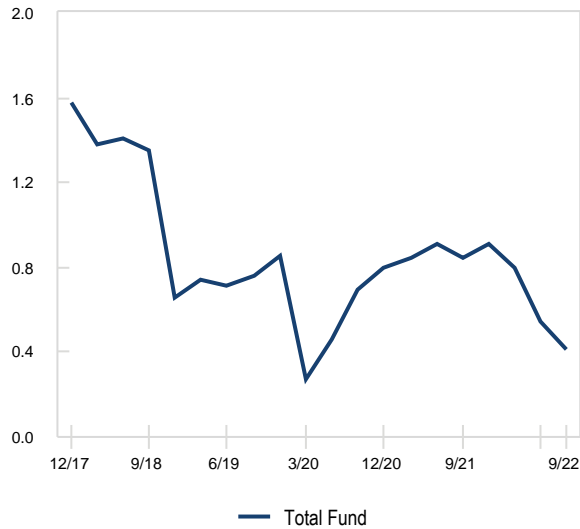
Rolling Annual Excess Benchmark Return



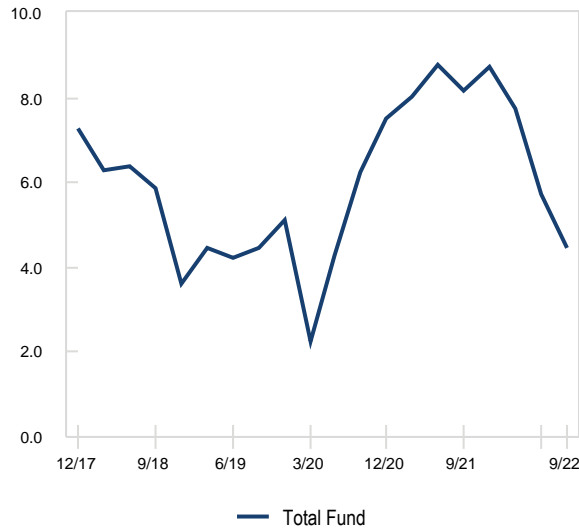
Rolling Tracking Error



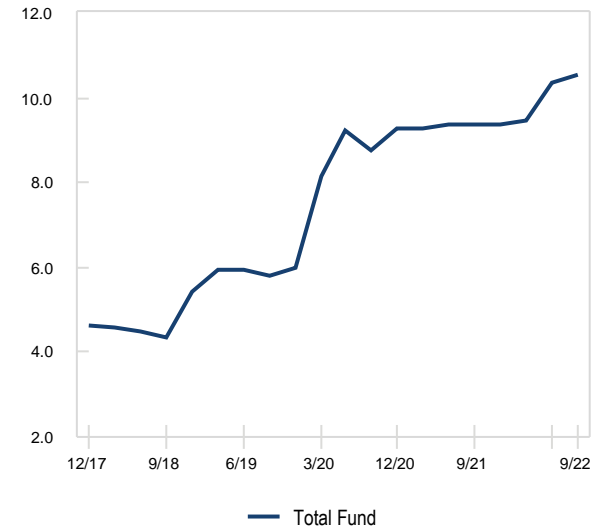
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Equity	1,760,498,263	2,078,160	-312,842,442		134,123,500	-114,561,408	1,469,296,073
Equity Beta Exposure	425,371,375	2,021,306	-299,593,167		-876,500	-2,311,114	124,611,900
Mellon DB SL Stock Index Fund	280,796,486				175,000,000	-29,590,662	426,205,824
PIMCO StocksPLUS	97,925,248					-5,374,711	92,550,537
AB US Small Cap Value Equity	82,210,920					-4,083,694	78,127,226
Geneva Capital Small Cap Growth	45,419,386					-1,998,066	43,421,320
Mellon DB SL World ex-US Index Fund	471,376,354				-25,000,000	-40,390,457	405,985,897
Cevian Capital II	31,023,988					409,663	31,433,651
American Century Non-US Small Cap	66,087,970					-5,169,941	60,918,029
DFA Emerging Markets Value I	75,568,224					-7,408,014	68,160,210
AB Emerging Markets Strategic Core Equity Collective Trust	87,939,424				-15,000,000	-8,543,065	64,396,359
Mellon Emerging Markets Stock Index Fund	82,952,809					-9,701,009	73,251,800
Transition Equity	733					3	736
Fidelity Non-US Small Cap Equity	246,745					-14,161	232,584
Russell 2000 Overlay	13,578,600	56,854	-13,249,275			-386,179	
Fixed Income	1,130,869,301	214,959,813	-3,124,403	-62,325	-151,006,600	-42,427,489	1,149,208,298
Fixed Income Beta Exposure	51,180,364	214,959,813	-1,335,792		-1,006,600	-8,874,776	254,923,009
Mellon DB SL Aggregate Bond Index Fund	162,487,098					-7,710,528	154,776,570
PIMCO Core Plus	190,694,370				-25,000,000	-8,250,485	157,443,885
Western Asset Core Plus	197,945,711				-75,000,000	-7,807,443	115,138,268
Western Asset High Yield Fixed Income	183,851,907					-276,747	183,575,160
TCW Securitized Opportunities	125,463,906		-1,788,611	-62,325	-25,000,000	-987,577	97,625,393
Stone Harbor Emerging Markets Debt Blend Portfolio	86,965,794				-25,000,000	-2,846,925	59,118,869
PIMCO EMD	132,174,077					-5,668,191	126,505,886
Transition Fixed Income	106,074					-4,816	101,258
Commodities	269,362,016			-34,203	-20,000,000	-17,716,243	231,611,569
Gresham MTAP Commodity Builder Fund	82,876,151			-34,203		-4,152,511	78,689,436
Wellington Commodities	186,485,865				-20,000,000	-13,563,732	152,922,133
Hedge Funds	545,852,599			-62,618		9,446,622	555,236,603
Aristeia International Limited	67,235,553					1,499,520	68,735,073
Brevan Howard Fund	72,840,227					3,667,895	76,508,122
D.E. Shaw Composite Fund	59,052,533					2,143,551	61,196,084
HBK Fund II	55,719,468			-62,618		858,569	56,515,419

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Hudson Bay Cap Structure Arbitrage Enhanced Fund	75,712,464					2,655,831	78,368,295
Indus Pacific Opportunities Fund	36,899,245					349,851	37,249,096
Pharo Macro Fund	61,182,322					-48,626	61,133,696
PIMCO Commodity Alpha Fund	65,294,254					-1,670,718	63,623,535
Sculptor Domestic Partners II LP	44,056,485					-308,725	43,747,759
Magnetar Structured Credit Fund	7,860,049					299,475	8,159,524
Alpha Pool	257,534,903				-1,864,180	2,029,976	257,700,699
Hudson Bay	58,481,870				434,699	1,616,720	60,533,289
Davidson Kempner Institutional Partners	53,077,049				388,412	-196,006	53,269,455
HBK Fund II	53,527,255				394,597	427,921	54,349,773
Garda Fixed Income Relative Value Opportunity Fund	52,911,979				387,990	248,704	53,548,672
HBK Opportunities Platform – SPAC Series	39,536,750				-3,469,878	-67,362	35,999,510
Midstream Energy	318,886,871	614,978			-12,606,719	15,902,728	322,797,858
Harvest Midstream	185,157,607	614,978			-12,606,719	12,723,181	185,889,047
PIMCO Midstream	133,729,264					3,179,547	136,908,811
Core Real Estate	358,380,234			-288,894		2,295,002	360,386,343
ASB Allegiance Real Estate Fund	194,923,658					4,367,528	199,291,186
JPMCB Strategic Property Fund	163,456,576			-288,894		-2,072,526	161,095,157
Private Real Estate	94,350,728				7,620,339	3,026,921	104,997,989
Invesco Real Estate Value-Add Fund IV	4,235,230					-203,981	4,031,249
Landmark Real Estate Partners VIII	30,330,286				-672,441	-1,010,909	28,646,936
Long Wharf Real Estate	27,660,734				4,370,664	1,178,086	33,209,484
Covenant Apartment Fund X	24,357,028				360,456	3,222,227	27,939,711
Singerman Real Estate Opportunity Fund IV	3,770,201				131,250	-51,329	3,850,122
LBA Logistics Value Fund IX, L.P.	3,997,249				1,923,077	-107,173	5,813,153
Covenant Apartment Fund XI, LP					1,507,333		1,507,333
Private Equity	139,122,536				11,240,890	-278,373	150,085,053
Abbott VI	21,952,850					1,006,306	22,959,156
Pantheon Secondary III	567,222						567,222
Pantheon III	49,712						49,712
Pantheon V	425,173					-11,037	414,136
Pantheon VI	361,594					-6,626	354,968

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Pantheon VII	8,333,247				-999,999	767,831	8,101,079
Vista Foundation Fund IV	14,049,020					-90,560	13,958,460
Crown Global Secondaries V Master S.C.Sp	19,198,409				2,000,000	-132,800	21,065,609
Brighton Park Capital Fund I	36,257,961				584,211	-2,171,493	34,670,679
Warren Equity Partners Fund III	21,033,189				2,809,034	568,692	24,410,915
Peak Rock Capital Fund III	8,979,016				12,358	282,608	9,273,982
Level Equity Growth Partners V	3,105,937					-233,748	2,872,189
Level Equity Opportunities Fund 2021	1,629,450					-257,547	1,371,903
Linden Co-Investment V LP	79,426				1,689,651		1,769,077
Abbott V	3,100,331						3,100,331
Private Credit	247,247,651				4,493,205	-3,131,004	248,609,852
DC Value Recovery Fund IV	34,822,903					-1,509,242	33,313,661
Sixth Street TAO Partners (B)	38,346,022				623,038	-1,208,876	37,760,184
Brookfield Real Estate Finance Fund V	19,481,686					284,365	19,766,051
Magnetar Constellation Fund V	35,302,607				-4,428,232	574,571	31,448,946
H.I.G. Bayside Loan Opportunity Fund V	44,209,221				-2,739,576	-1,211,985	40,257,660
Blue Torch Credit Opportunities Fund II	16,765,419				-256,363	244,951	16,754,007
Fortress Credit Opportunites Fund V Expansion	12,983,908					14,254	12,998,162
Fortress Lending Fund II	29,374,059				1,094,447	244,221	30,712,727
Blue Torch Credit Opportunities Fund III	2,000,000				5,199,891	3,575	7,203,466
Fortress Lending Fund III	13,961,826				2,000,000	-566,838	15,394,988
OrbiMed Royalty & Credit Opportunities IV					3,000,000		3,000,000
Opportunistic	165,964,751			-55,993	7,962,265	-5,768,047	168,102,976
DB Investors Fund IV	25,512,204					-2,930,102	22,582,102
Sixth Street TAO Partners (D)	80,379,385				7,962,265	-3,886,398	84,455,252
Aristeia Select Opportunities II	52,099,878			-55,993		867,371	52,911,257
River Birch International - Opportunistic Investment	7,973,283					181,082	8,154,365

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Cash	-226,711,713	711,549,103	-623,923,303	-21,045	20,037,300	2,060,276	-117,009,383
Short Term Investment Funds	60,450,901	35,798,854	-44,582,482	-21,045	20,037,300	578,434	72,261,961
Parametric Cash Overlay	62,317,076	165,764,944	-182,006,834				46,075,185
Goldman Sachs Cash Account	-4,585,549	188,415,618	-158,204,092				25,625,978
Futures Offset	-489,842,116	321,569,687	-212,119,895			857,415	-379,534,909
Collateral Cash	27,010,000		-27,010,000				
BlackRock Short Duration Fund	117,937,974					624,427	118,562,401

Total Fund
Cash Flow History

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	5,061,358,140	5,061,358,140	5,426,278,401	4,335,652,653	4,073,797,446	3,033,121,908
Contributions	1,404,869,386	1,404,869,386	3,556,437,191	9,928,819,802	12,068,397,673	17,793,115,680
Withdrawals	-1,415,557,480	-1,415,557,480	-3,668,471,528	-10,149,748,702	-12,419,729,702	-18,421,437,989
Fees	-525,078	-525,078	-14,077,535	-43,106,547	-69,370,273	-126,188,358
Net Cash Flows	-10,688,094	-10,688,094	-112,034,337	-220,928,900	-351,332,029	-628,322,309
Net Investment Change	-149,646,116	-149,646,116	-413,220,134	786,300,177	1,178,558,514	2,496,224,331
Ending Market Value	4,901,023,930	4,901,023,930	4,901,023,930	4,901,023,930	4,901,023,930	4,901,023,930
Net Change \$	-160,334,210	-160,334,210	-525,254,471	565,371,277	827,226,484	1,867,902,022

Contribution and withdrawals include transfers in and out of accounts. Ending market value is net of fees. Market value and flows do not include the Short Term Cash Account balance.

Risk Metrics

Total Fund
Actual Correlation Matrix

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

Correlation Matrix
3 Years Ending September 30, 2022

	A	B	C	D	E	F	G	H	I	J	K	L
A	1.00											
B	0.99	1.00										
C	0.96	0.99	1.00									
D	0.97	0.98	0.94	1.00								
E	0.89	0.87	0.81	0.86	1.00							
F	0.84	0.80	0.80	0.77	0.74	1.00						
G	0.62	0.61	0.62	0.55	0.51	0.92	1.00					
H	0.90	0.86	0.84	0.83	0.82	0.89	0.67	1.00				
I	0.87	0.83	0.78	0.82	0.84	0.89	0.65	0.89	1.00			
J	0.70	0.63	0.56	0.68	0.67	0.40	0.11	0.60	0.59	1.00		
K	0.77	0.75	0.70	0.73	0.81	0.64	0.39	0.80	0.77	0.57	1.00	
L	-0.20	-0.19	-0.17	-0.19	-0.24	-0.36	-0.36	-0.26	-0.29	0.00	-0.24	1.00

- A = Total Fund
- B = Equity
- C = Domestic Equity
- D = International Developed Equity
- E = Emerging Markets Equity
- F = Fixed Income
- G = Core Plus Fixed Income
- H = High Yield/ Specialty Credit
- I = Emerging Market Debt
- J = Commodities
- K = Hedge Funds
- L = Core Real Estate

- Low Interaction
- Moderate Interaction
- Moderate to High Interaction
- High Interaction

Total Fund
Risk Analysis - 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	Alpha	Beta	R-Squared	Return	Information Ratio	Excess Performance	Tracking Error	Sharpe Ratio	Excess Return	Standard Deviation	Sortino Ratio	Up Capture	Down Capture
Total Fund	1.3	0.9	1.0	5.6	0.8	1.1	1.2	0.5	5.4	10.1	0.8	98.7	90.1
Equity	0.3	1.0	1.0	3.9	0.2	0.3	1.0	0.3	5.1	19.4	0.4	99.6	98.7
Domestic Equity	0.0	1.0	1.0	7.7	-0.2	-0.1	1.1	0.4	9.0	20.4	0.6	98.6	98.8
International Developed Equity	1.1	1.0	1.0	-0.2	1.1	1.1	0.9	0.1	1.2	19.5	0.1	103.1	99.1
Emerging Markets Equity	-2.4	1.0	1.0	-3.5	-0.8	-2.3	3.0	-0.1	-2.3	18.5	-0.2	87.3	96.8
Fixed Income	0.6	1.1	1.0	-2.5	0.5	0.5	1.0	-0.4	-2.9	6.8	-0.5	111.6	103.2
Core Plus Fixed Income	0.6	1.1	1.0	-3.0	0.3	0.3	1.2	-0.6	-3.4	5.8	-0.7	120.1	108.6
High Yield/ Specialty Credit	0.5	0.8	1.0	0.0	0.2	0.7	2.6	0.0	-0.2	8.9	0.0	78.1	74.2
Emerging Market Debt	2.1	1.1	1.0	-5.6	1.1	1.5	1.6	-0.4	-5.5	12.7	-0.5	109.7	97.2
Commodities	0.4	0.9	0.9	12.6	-0.2	-0.8	5.7	0.7	13.0	17.8	1.1	91.8	90.3
Hedge Funds	5.4	0.8	0.5	9.3	1.2	4.5	3.7	1.6	8.5	5.1	2.7	106.0	21.1
Core Real Estate	3.6	0.5	0.9	10.5	-0.5	-1.9	3.9	2.1	9.5	4.5	12.5	83.6	74.9
Private Real Estate	0.0	1.0	1.0	17.2	-	0.0	0.0	1.8	15.8	8.7	5.4	100.0	100.0
Private Equity	0.0	1.0	1.0	14.1	-0.6	0.0	0.0	1.0	13.6	13.7	2.0	100.0	100.1
Private Credit	0.0	1.0	1.0	3.0	-0.6	0.0	0.0	0.5	2.4	4.7	0.9	99.9	100.0

Data not available for time periods less than 3 years (Alpha Pool, Midstream, & Opportunistic added in 2020)

Risk Return Statistics: Last Three Years

Period Ending: September 30, 2022

	Equity	MSCI AC World IMI (Net)	Core Plus Fixed Income	Bloomberg U.S. Aggregate Index	High Yield/ Specialty Credit	ICE BofA U.S. High Yield Index	Emerging Market Debt	3 Years 50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)	Core Real Estate	NCREIF ODCE-monthly
RETURN SUMMARY STATISTICS														
Up Market Periods	22	22	16	16	24	24	17	17	25	25	24	24	35	35
Down Market Periods	14	14	20	20	12	12	19	19	11	11	12	12	1	1
Maximum Return	12.43	12.66	2.64	2.44	4.80	6.02	6.74	5.62	8.01	8.78	3.99	3.34	5.39	7.97
Minimum Return	-14.74	-14.39	-4.27	-4.32	-10.52	-11.76	-13.80	-12.46	-12.65	-12.81	-5.24	-3.02	-1.17	-1.56
Return	3.89	3.64	-2.96	-3.26	0.02	-0.67	-5.61	-7.07	12.64	13.45	9.30	4.79	10.46	12.37
Excess Return	5.14	4.93	-3.43	-3.76	-0.16	-0.65	-5.52	-7.17	12.97	13.85	8.46	4.20	9.49	11.41
Excess Performance	0.25	0.00	0.29	0.00	0.69	0.00	1.45	0.00	-0.82	0.00	4.51	0.00	-1.92	0.00
RISK SUMMARY STATISTICS														
Beta	0.99	1.00	1.08	1.00	0.80	1.00	1.06	1.00	0.91	1.00	0.79	1.00	0.54	1.00
Upside Risk	13.62	13.72	3.25	2.77	5.12	6.54	6.73	6.11	13.81	13.84	4.81	4.00	5.32	8.36
Downside Risk	13.86	14.01	4.89	4.59	7.34	8.82	10.86	10.35	11.86	12.96	3.11	2.87	0.71	0.90
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	19.36	19.55	5.81	5.29	8.95	10.98	12.69	11.87	17.78	18.50	5.09	4.73	4.51	7.66
Alpha	0.27	0.00	0.58	0.00	0.48	0.00	2.09	0.00	0.35	0.00	5.42	0.00	3.61	0.00
Sharpe Ratio	0.26	0.25	-0.58	-0.70	-0.02	-0.06	-0.43	-0.60	0.72	0.74	1.62	0.87	2.09	1.48
Excess Risk	19.49	19.67	5.88	5.33	9.09	11.12	12.81	11.98	17.92	18.64	5.22	4.85	4.55	7.70
Tracking Error	1.04	0.00	1.23	0.00	2.60	0.00	1.55	0.00	5.66	0.00	3.63	0.00	3.90	0.00
Information Ratio	0.20	-	0.27	-	0.19	-	1.07	-	-0.15	-	1.17	-	-0.49	-
CORRELATION STATISTICS														
R-Squared	1.00	1.00	0.96	1.00	0.97	1.00	0.99	1.00	0.91	1.00	0.53	1.00	0.85	1.00
Actual Correlation	1.00	1.00	0.98	1.00	0.99	1.00	0.99	1.00	0.95	1.00	0.73	1.00	0.92	1.00

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

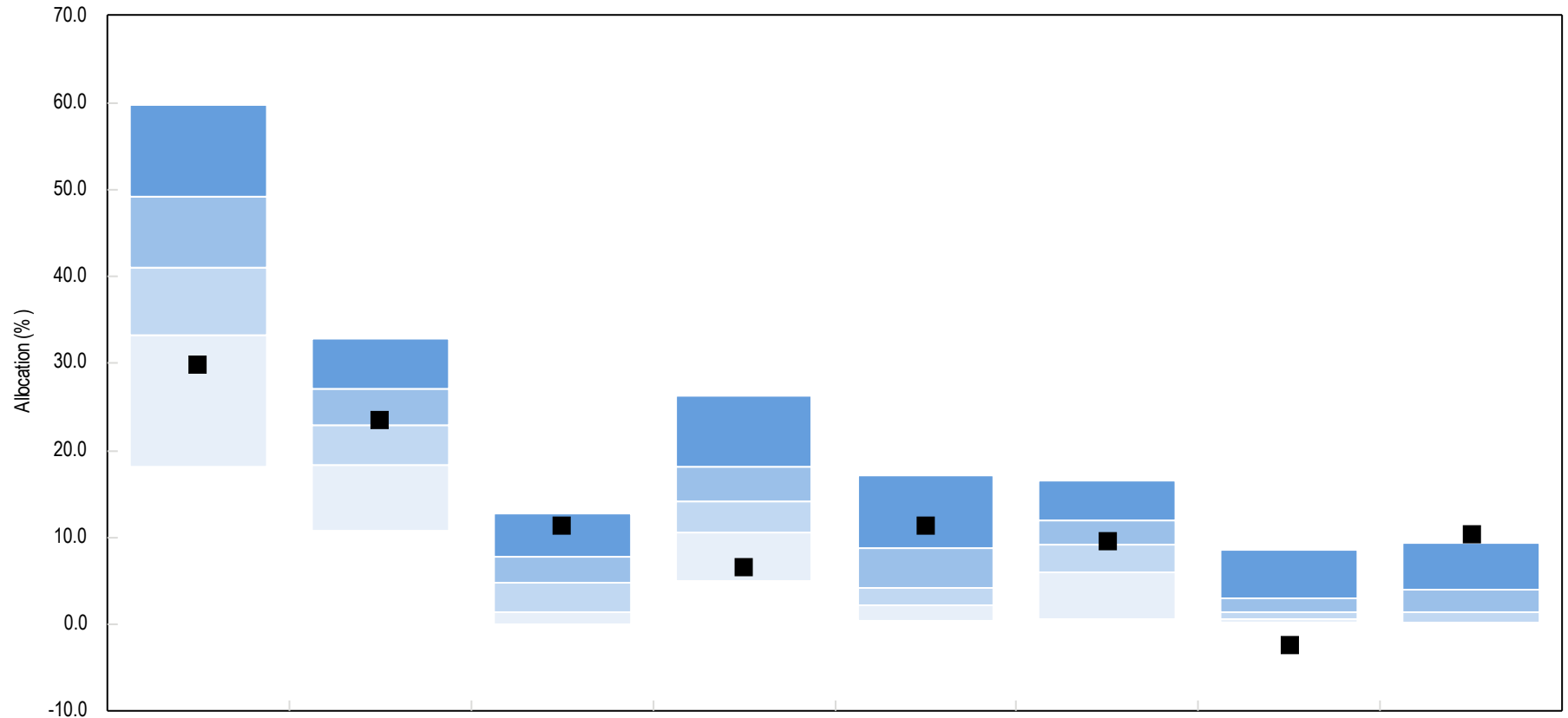
Risk Return Statistics: Last Two Years

	Midstream Energy	Alerian Midstream Energy Index	2 Yrs Opportunistic	Assumed Rate of Return +3%
RETURN SUMMARY STATISTICS				
Up Market Periods	17	17	24	24
Down Market Periods	7	7	0	0
Maximum Return	16.45	18.94	19.65	0.58
Minimum Return	-11.84	-12.21	-4.04	0.58
Return	34.58	36.56	16.18	7.25
Excess Return	31.68	33.87	16.08	6.68
Excess Performance	-1.98	0.00	8.93	0.00
RISK SUMMARY STATISTICS				
Beta	0.85	1.00	-	-
Upside Risk	19.05	21.76	16.78	2.03
Downside Risk	10.79	12.61	5.38	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	19.85	23.13	16.97	0.00
Alpha	3.14	0.00	-	-
Sharpe Ratio	1.59	1.46	0.94	33.74
Excess Risk	19.91	23.20	17.03	0.20
Tracking Error	4.94	0.00	16.97	0.00
Information Ratio	-0.44	-	0.55	-
CORRELATION STATISTICS				
R-Squared	0.97	1.00	-	-
Actual Correlation	0.99	1.00	-	-

Data for unavailable for positions held for less than two years.

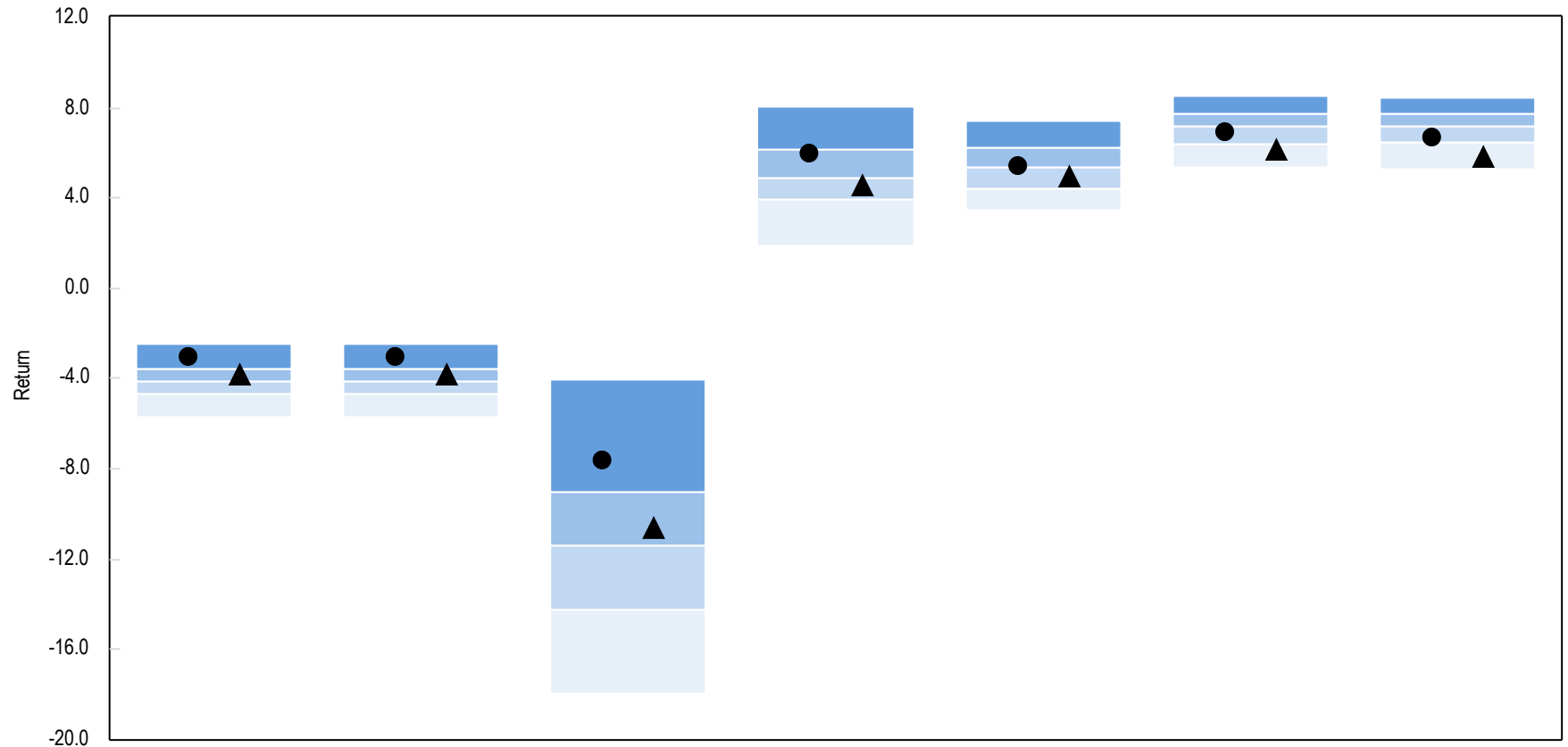
Peer Comparison

Total Plan Allocation vs. InvMetrics Public DB > \$1B
As of September 30, 2022



	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Real Assets/Commod	Real Estate - Private	Cash & Equivalents	Other
■ Total Fund	30.0 (85)	23.4 (48)	11.3 (12)	6.5 (92)	11.3 (19)	9.5 (47)	-2.4	10.3 (1)
5th Percentile	59.8	32.9	12.7	26.3	17.2	16.6	8.5	9.4
1st Quartile	49.3	27.0	7.7	18.1	8.7	11.9	3.1	4.0
Median	41.1	23.0	4.8	14.1	4.1	9.1	1.4	1.4
3rd Quartile	33.2	18.3	1.4	10.6	2.3	6.0	0.6	0.2
95th Percentile	18.0	10.7	0.0	5.1	0.3	0.7	0.2	0.1
Population	129	133	61	97	65	90	99	16

Total Fund vs. InvMetrics Public DB > \$1B

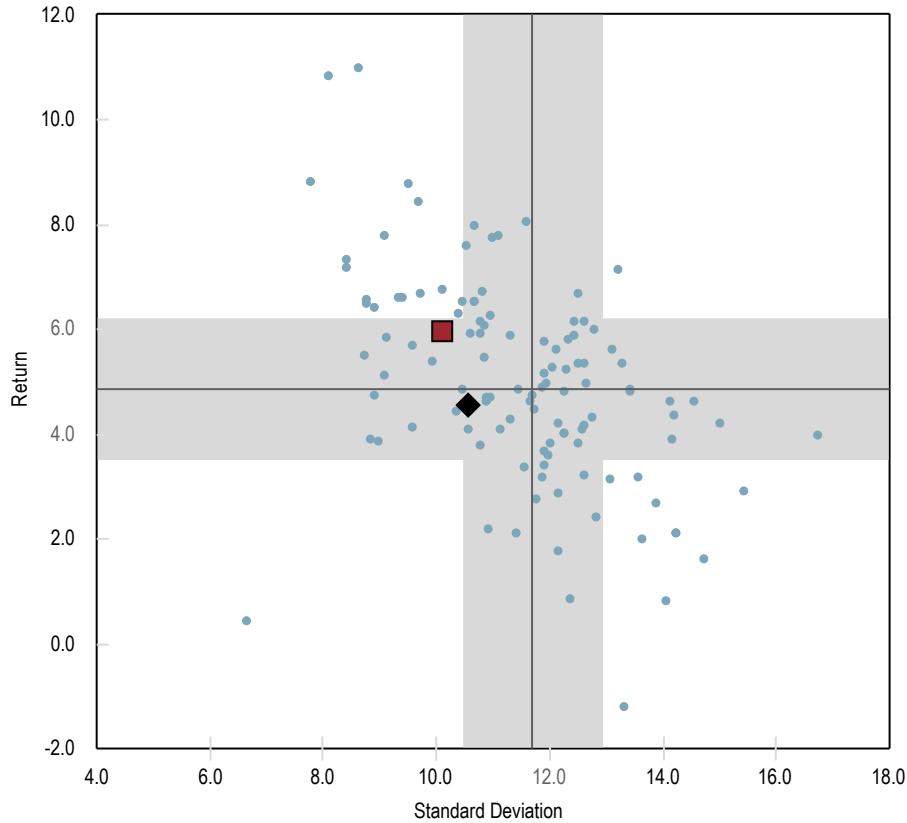


	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	-3.0 (11)	-3.0 (11)	-7.6 (16)	6.0 (29)	5.5 (48)	6.9 (58)	6.7 (70)
▲ Policy Index	-3.8 (36)	-3.8 (36)	-10.6 (47)	4.6 (61)	4.9 (62)	6.2 (79)	5.9 (85)
5th Percentile	-2.4	-2.4	-4.1	8.0	7.4	8.5	8.5
1st Quartile	-3.5	-3.5	-9.0	6.2	6.2	7.7	7.7
Median	-4.1	-4.1	-11.4	4.9	5.4	7.1	7.2
3rd Quartile	-4.7	-4.7	-14.2	3.9	4.4	6.4	6.5
95th Percentile	-5.7	-5.7	-18.0	1.9	3.4	5.4	5.3
Population	130	130	119	114	111	108	103

Total Fund
Risk Analysis - 3 & 5 Year (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

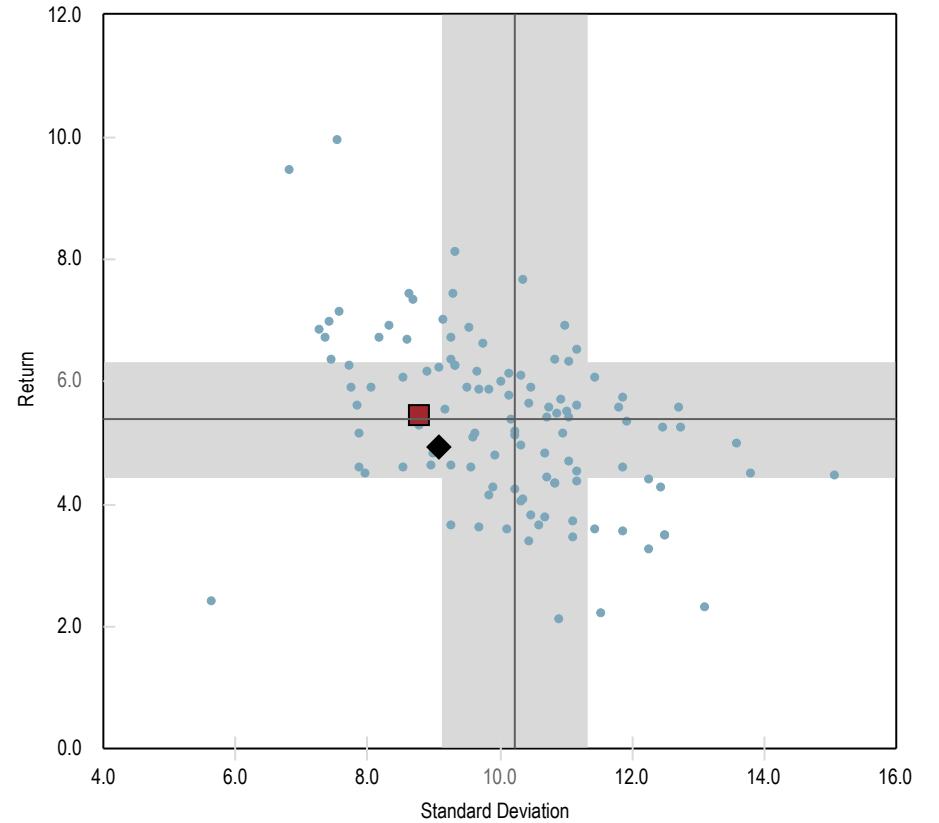
Annualized Return vs. Annualized Standard Deviation
3 Years Ending September 30, 2022



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	5.98	10.09
◆ Policy Index	4.56	10.58
— Median	4.87	11.70
Population	114	114

Annualized Return vs. Annualized Standard Deviation
5 Years Ending September 30, 2022



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	5.46	8.76
◆ Policy Index	4.94	9.07
— Median	5.38	10.22
Population	111	111

Other

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association Period Ending: September 30, 2022

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Equity Beta Exposure	Equity	■	-	-	-	-	-	-	-	-	✓
Russell 2000 Overlay	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Mellon DB SL Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	✓
PIMCO StocksPLUS	Equity	■	✓	Ⓜ	Ⓜ	✓	Ⓜ	✓	Ⓜ	-	-
AB US Small Cap Value Equity	Equity	■	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	-	-
Geneva Capital Small Cap Growth	Equity	■	✓	✓	✓	Ⓜ	✓	Ⓜ	✓	-	-
Mellon DB SL World ex-US Index Fund	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Fidelity Non-US Small Cap Equity	Equity	■	Ⓜ	✓	✓	✓	✓	✓	✓	-	-
Cevian Capital II	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
American Century Non-US Small Cap	Equity	■	✓	✓	✓	-	-	-	-	-	-
DFA Emerging Markets Value I	Equity	■	Ⓜ	✓	✓	✓	✓	✓	✓	-	-
AB Emerging Markets Strategic Core Equity Collective Trust	Equity	■	✓	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	-	-
Mellon Emerging Markets Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Mellon DB SL Aggregate Bond Index Fund	Fixed Income	■	-	-	-	-	-	-	-	-	✓
PIMCO Core Plus	Fixed Income	■	✓	✓	✓	✓	✓	Ⓜ	✓	P	-
Western Asset Core Plus	Fixed Income	■	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	-	-
Western Asset High Yield Fixed Income	Fixed Income	■	✓	✓	Ⓜ	✓	Ⓜ	✓	Ⓜ	-	-
TCW Securitized Opportunities	Fixed Income	■	✓	✓	✓	✓	✓	✓	✓	-	-
Stone Harbor Emerging Markets Debt Blend Portfolio	Fixed Income	■	✓	✓	Ⓜ	Ⓜ	✓	Ⓜ	Ⓜ	P	-
PIMCO EMD	Fixed Income	■	✓	✓	✓	-	-	-	-	-	-
Gresham MTAP Commodity Builder Fund	Commodities	■	✓	✓	✓	Ⓜ	✓	Ⓜ	✓	-	-
Wellington Commodities	Commodities	■	✓	Ⓜ	Ⓜ	Ⓜ	✓	Ⓜ	✓	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	Ⓜ

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association Period Ending: September 30, 2022

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Aristeia International Limited	Hedge Funds	■	-	-	⚠	-	✓	-	✓	-	-
Brevan Howard Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
D.E. Shaw Composite Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
HBK Fund II	Hedge Funds	■	-	-	⚠	-	⚠	-	⚠	-	-
Hudson Bay Cap Structure Arbitrage Enhanced Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
Indus Pacific Opportunities Fund	Hedge Funds	■	-	-	⚠	-	✓	-	⚠	-	-
Magnetar Structured Credit Fund	Hedge Funds	■	-	-	⚠	-	✓	-	✓	-	-
PIMCO Commodity Alpha Fund	Hedge Funds	■	✓	⚠	⚠	⚠	⚠	⚠	✓	-	-
River Birch International	Opportunistic	■	-	-	✓	-	⚠	-	⚠	-	-
Sculptor Domestic Partners II LP	Hedge Funds	■	-	-	⚠	-	✓	-	-	-	-
Harvest Midstream	Midstream	■	✓	✓	✓	-	-	-	-	-	-
PIMCO Midstream	Midstream	■	✓	✓	⚠	-	-	-	-	-	-
ASB Allegiance Real Estate Fund	Core Real Estate	■	-	-	⚠	-	⚠	-	⚠	-	-
JPMCB Strategic Property Fund	Core Real Estate	■	-	-	⚠	-	⚠	-	⚠	-	-
Invesco Real Estate Value-Add Fund IV	Private Real Estate	■	-	-	⚠	-	⚠	-	⚠	-	-
Landmark Real Estate Partners VIII	Private Real Estate	■	-	-	-	-	-	-	-	-	⚠
DB Investors Fund IV	Opportunistic	■	-	-	⚠	-	-	-	-	-	-
Sixth Street TAO Partners (D)	Opportunistic	■	-	-	⚠	-	-	-	-	-	-
Aristeia Select Opportunities II	Opportunistic	■	-	-	⚠	-	-	-	-	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	⚠

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund
Quarterly Historical Returns (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2022

	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3	2020 Q2	2020 Q1	2019 Q4
Total Fund	-3.1	-7.5	-0.8	3.6	0.5	5.5	3.5	8.8	4.4	10.7	-11.3	4.6
Policy Index	-3.8	-8.9	-1.3	3.3	0.7	5.7	3.3	8.8	4.5	10.1	-11.1	4.6

	2019 Q3	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3	2017 Q2	2017 Q1	2016 Q4
Total Fund	0.2	3.1	6.8	-6.4	2.3	0.3	-0.1	3.0	3.2	2.7	4.2	0.8
Policy Index	0.8	3.0	7.0	-5.5	2.2	0.7	-0.1	3.2	3.1	2.8	3.5	0.5

	2016 Q3	2016 Q2	2016 Q1	2015 Q4	2015 Q3	2015 Q2	2015 Q1	2014 Q4	2014 Q3	2014 Q2	2014 Q1	2013 Q4
Total Fund	3.5	1.9	1.1	2.2	-5.4	0.7	2.4	0.8	-1.5	3.6	2.1	4.1
Policy Index	2.9	2.2	1.8	1.4	-4.9	0.4	2.0	0.4	-1.4	3.4	2.4	4.0

Performance Return Calculations

Performance is calculated using a Time Weighted Rates of Return (TWRR) methodology. Monthly returns are linked geometrically and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>
AB Emerging Markets Strategic Core	11/3/2016	Northern Trust	Linden Co-Investment V LP	6/30/2022	Linden
AB US Small Cap Value Equity	7/7/2015	Northern Trust	Long Wharf Real Estate	6/27/2019	Long Wharf
Abbott Capital PE VI	3/31/2008	Abbott Capital	Magnetar Constellation	11/14/2018	Magnetar
American Century Non-US Small Cap	12/15/2020	American Century	Magnetar Structured Credit	5/1/2014	Magnetar
Aristeia International Limited	5/1/2014	Northern Trust	Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
ASB Real Estate	9/30/2013	ASB	Mellon EB DV Stock Index	10/18/2017	Mellon
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric	Mellon EB DV World ex-US Index	8/1/2018	Mellon
BlackRock Short Duration Fund	9/8/2021	BlackRock	Myriad Opportunities Offshore	5/19/2016	Northern Trust
Blue Torch Credit Opportunities	7/24/2020	Blue Torch	OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
Brevan Howard	11/1/2013	Northern Trust	Pantheon Global III	6/30/2000	Pantheon
Brighton Private Equity	3/28/2021	Brighton	Pantheon USA III	3/31/2007	Pantheon
Brighton Park Capital Fund II, L.P.	9/30/2022	Brighton	Pantheon USA V	6/30/2005	Pantheon
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust	Pantheon USA VI	3/31/2005	Pantheon
Cevian Capital II	12/30/2014	Northern Trust	Pantheon USA VII	3/31/2005	Pantheon
DC Value Recovery fund IV	12/28/2015	Colony	Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Covenant Apartment Fund X	10/29/2020	Covenant	Peak Rock Capital Fund III	7/13/2021	Peak Rock
DB Investors Fund IV	1/29/2020	DB	PIMCO Commodity Alpha	5/4/2016	PIMCO
D.E. Shaw	6/30/2013	Northern Trust	PIMCO Core Plus	1/21/2011	Northern Trust
DFA Emerging Markets Value I	3/7/2014	Northern Trust	PIMCO EMD	2/29/2020	Northern Trust
Fortress Credit Opportunities	12/17/2020	Fortress	PIMCO Midstream	10/9/2020	PIMCO
Fortress Lending Fund II	3/15/2021	Fortress	PIMCO StocksPLUS	7/14/2003	PIMCO
Garda Fixed Income Relative Value Opp	9/30/2021	Garda	Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
Geneva Capital Small Cap Growth	7/22/2015	Geneva	River Birch	8/3/2015	Northern Trust
Gresham MTAP Commodity	9/3/2013	Gresham	Rubicon Technology Partners IV LP	11/30/2022	Rubicon
Harvest Midstream	9/28/2020	Harvest Midstream	Singerman Real Estate Opportunity Fund IV	10/27/2021	Singerman
HBK Fund II	11/1/2013	Northern Trust	Sculptor Enhanced Domestic Partners	3/26/2019	Sculptor
Henderson Smallcap Growth	7/22/2015	Northern Trust	Short Term Cash Account	12/31/2000	Northern Trust
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital	Short Term Investment Funds	6/30/2000	Northern Trust
Hudson Bay	6/7/2019	Northern Trust	Stone Harbor Emerging Markets Debt	8/8/2012	Stone Harbor
Indus Pacific Opportunities	6/30/2014	Northern Trust	TAO Contingent	4/16/2020	TPG Sixth Street
Invesco Real Estate III	6/30/2013	Invesco	TCW Securitized Opportunities	2/3/2016	TCW
Invesco Real Estate IV	12/18/2015	Invesco	Transition Equity	9/30/2010	Northern Trust
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan	Transition Fixed Income	9/30/2010	Northern Trust
KSL Capital Partners VI	4/26/2023	KSL Capital	TSSP Adjacent Opportunities Partners	11/17/2017	TPG Sixth Street
Landmark Real Estate Partners VIII	4/29/2018	Landmark	Vista Equity Partners	7/24/2020	Vista Equity
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA	Warren Equity III	4/1/2021	Warren
Level Equity Growth Partners V	11/1/2021	Level Equity	Warren Equity IV	1/1/2023	Warren
Level Equity Opportunities Fund 2021	11/1/2021	Level Equity	Wellington Alternative Investments	2/9/2023	Wellington
LGT Crown	2/1/2021	LGT	Western Asset Core Plus	5/31/2004	Northern Trust
Linden Capital Partners V LP	7/19/2022	Linden	Western Asset High Yield Fixed income	5/31/2005	Northern Trust

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Association Period Ending: September 30, 2022

Policy & Custom Index Composition	
Policy Index: 4/1/2022-Present	37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill.
Policy Index: 7/1/2021-4/1/2022	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 1/1/2021-6/30/2021	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 7/1/2020-12/31/2020	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 1% Alerian Midstream, 4% Bloomberg US Aggregate
Policy Index: 4/1/2020-6/30/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 1/1/2020-3/31/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2019-12/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2019-9/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 4/1/2019-6/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 1/1/2019-3/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2018-12/31/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2018-9/30/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 3% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 2% MSCI ACWI*, 7% Bloomberg US Aggregate*
Policy Index: 1/1/2017- 6/30/2018	19% Russell 3000 Index, 18% MSCI ACWI ex US, 29% Bloomberg US Aggregate, 10% NCREIF-ODCE, 4% Bloomberg Commodity Index, 7.5% 91-day T-bills + 400bps, 2.5% MSCI ACWI, 5% Russell 3000 Index + 300 bps, 5% ICE BofA ML High Yield + 200 bps.
Policy Index: 4/1/2014-12/31/2016	23% Russell 3000 Index, 29% Bloomberg US Aggregate, 22% MSCI ACWI ex US.

Other Disclosures

*Private Asset actual weights, rounded to 1%, and actual time-weighted returns of Private Equity, Private Credit, Private Real Estate used in policy with the difference in weight versus target allocated to private market's public market "equivalent". Private Equity to Global Equity, Private Credit and Private Real Estate to Core Plus.

All data prior to 2Q 2011 has been provided by the investment managers.

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment manager fees will be included in the gross of fee return calculation. Fiscal year end: 6/30.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: $\text{excess return} / \text{tracking error}$.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

Disclaimer

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Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.

Kern County Employees' Retirement Association

Investment Performance Review
Period Ending: December 31, 2022



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SAN FRANCISCO 415.362.3484

Total Fund Portfolio Reconciliation

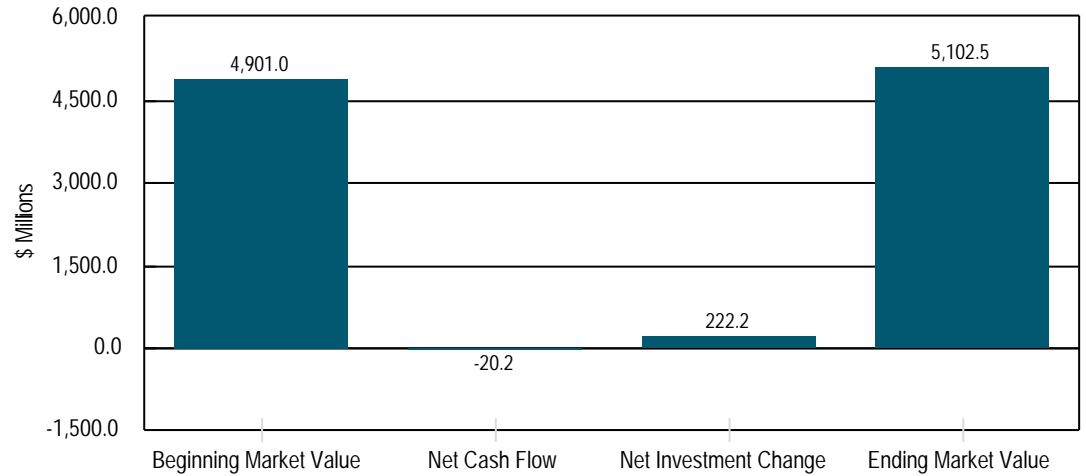
Kern County Employees' Retirement Association
Period Ending: December 31, 2022

Portfolio Reconciliation

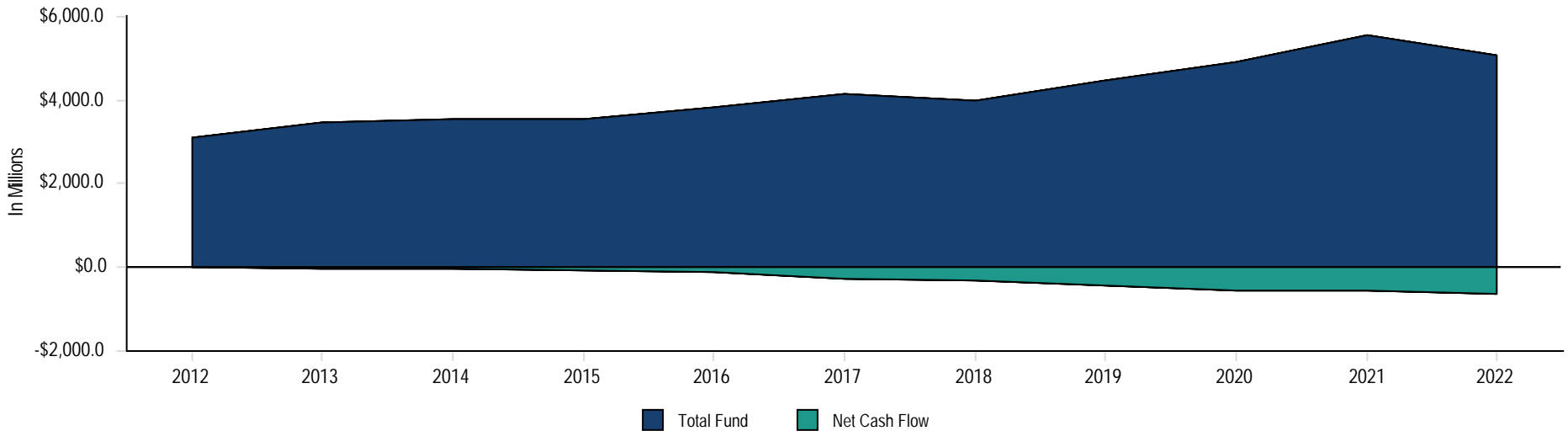
Last Three
Months

Beginning Market Value	\$4,901,023,930
Net Cash Flows	-\$20,176,030
Net Investment Change	\$222,188,502
Ending Market Value	\$5,102,522,000

Change in Market Value Last Three Months



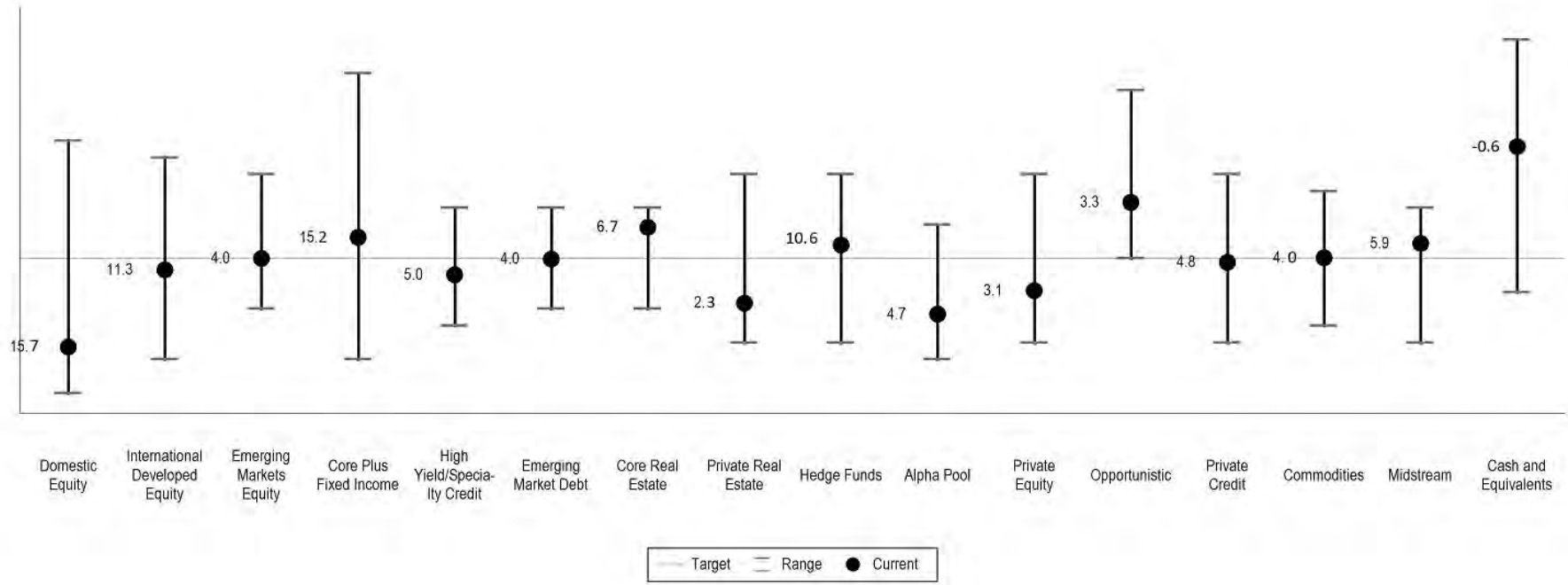
Market Value History



Total Fund
Asset Allocation vs. Policy

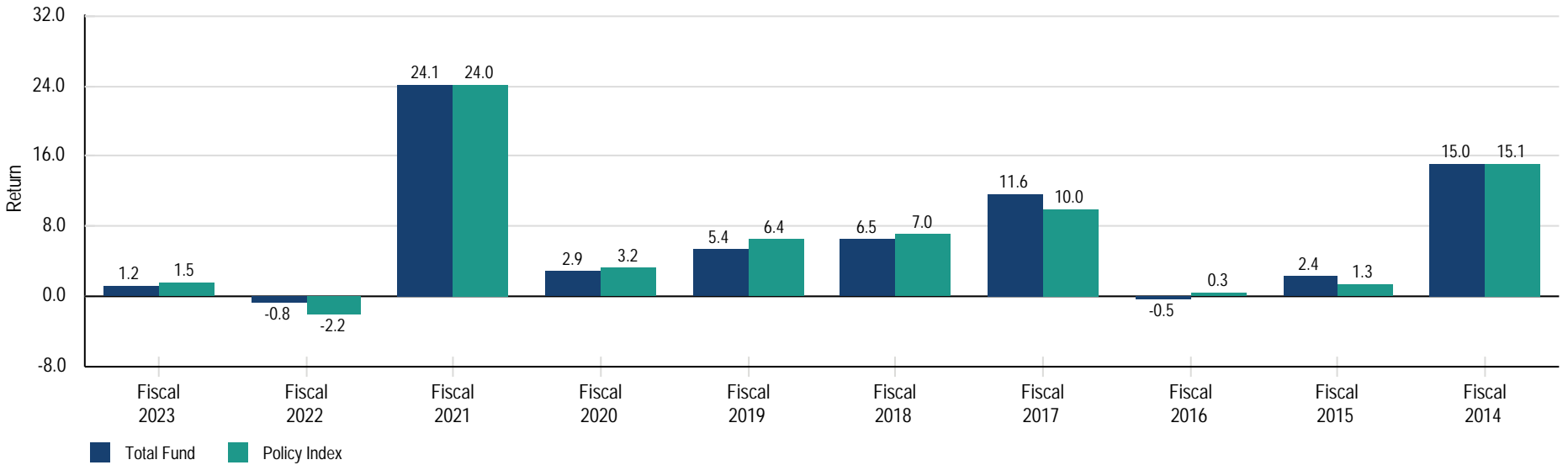
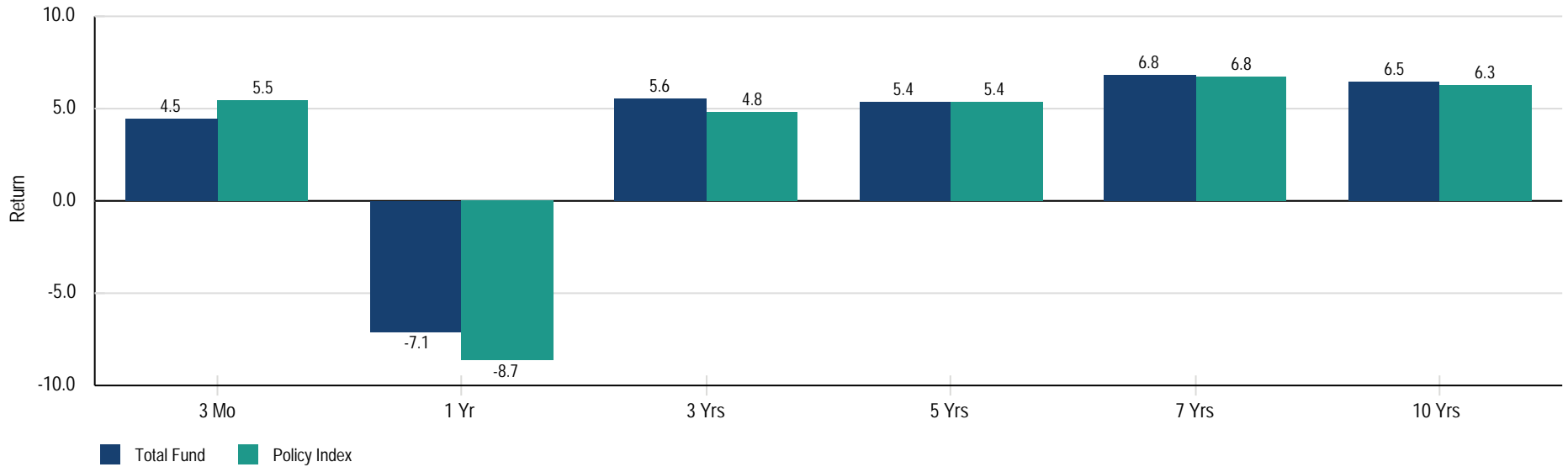
Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Equity	\$1,577,575,704	30.9%	37.0%	-\$299,088,853	26.0% - 48.0%	Yes
Fixed Income	\$1,232,206,332	24.1%	24.0%	\$14,910,403	14.0% - 34.0%	Yes
Core Real Estate	\$340,306,581	6.7%	5.0%	\$94,624,380	2.0% - 8.0%	Yes
Hedge Funds	\$543,309,200	10.6%	10.0%	\$41,408,649	5.0% - 15.0%	Yes
Alpha Pool	\$239,505,576	4.7%	8.0%	-\$167,190,866	2.0% - 10.0%	Yes
Private Equity	\$161,282,661	3.1%	5.0%	-\$96,410,346	0.0% - 10.0%	Yes
Private Credit	\$243,377,473	4.8%	5.0%	-\$10,823,656	0.0% - 10.0%	Yes
Private Real Estate	\$119,647,273	2.3%	5.0%	-\$133,956,045	0.0% - 10.0%	Yes
Commodities	\$205,801,777	4.0%	4.0%	\$2,919,122	0.0% - 8.0%	Yes
Opportunistic	\$168,840,683	3.3%	0.0%	\$169,805,558	0.0% - 10.0%	Yes
Midstream	\$299,392,352	5.9%	5.0%	\$45,789,033	0.0% - 8.0%	Yes
Cash and Equivalents	-\$28,723,612	-0.6%	-8.0%	\$338,012,622	-10.0% - 5.0%	Yes
Total	\$5,102,522,000	100.0%	100.0%			



Total Fund
Performance vs. Policy (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022



Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Total Fund	5,102,522,000	100.0	4.6	1.4	-6.8	5.9	5.8	6.9	-4.2	24.4	3.2	5.7	6.8
<i>Policy Index</i>			5.5	1.5	-8.7	4.8	5.4	6.3	-6.5	24.0	3.2	6.4	7.0
<i>InvMetrics Public DB > \$1B Rank</i>			73	30	17	31	51	72	32	88	20	63	97
Equity	1,577,575,704	30.9	10.6	3.0	-17.2	4.7	5.7	9.3	-14.9	41.2	0.7	5.3	12.4
<i>MSCI AC World IMI (Net)</i>			9.8	2.6	-18.4	3.9	5.0	7.9	-16.5	40.9	1.2	4.6	11.1
Domestic Equity	798,916,006	15.7	7.7	2.4	-18.6	7.6	9.3	-	-12.0	43.6	6.3	9.2	16.1
<i>MSCI USA IMI</i>			7.2	2.4	-19.2	7.3	8.9	-	-13.7	44.4	6.7	9.0	14.9
International Developed Equity	574,955,091	11.3	15.3	5.8	-15.0	2.0	2.1	-	-17.2	37.0	-5.5	-0.6	9.1
<i>MSCI World ex U.S. IMI Index (Net)</i>			16.0	5.3	-15.3	1.0	1.6	-	-17.7	34.8	-5.1	0.2	7.7
Emerging Markets Equity	203,703,762	4.0	9.4	-2.4	-18.0	-2.6	-2.1	-	-21.4	40.6	-10.9	0.4	4.0
<i>MSCI Emerging Markets IMI (Net)</i>			9.5	-2.3	-19.8	-1.8	-1.1	-	-24.8	43.2	-4.0	0.5	7.9
Fixed Income	1,232,206,332	24.1	3.1	-0.2	-12.6	-1.6	0.7	1.7	-12.7	5.4	6.6	7.9	0.2
<i>Fixed Income Custom Benchmark</i>			3.0	-1.0	-12.6	-2.4	0.4	1.6	-11.6	4.0	5.2	8.4	-0.1
Core Plus Fixed Income	774,514,623	15.2	1.7	-2.8	-13.8	-2.4	0.3	-	-11.2	1.0	9.5	8.0	0.0
<i>Bloomberg U.S. Aggregate Index</i>			1.9	-3.0	-13.0	-2.7	0.0	-	-10.3	-0.3	8.7	7.9	-0.4
High Yield/ Specialty Credit	255,740,719	5.0	2.4	2.6	-8.9	0.7	2.6	-	-9.5	13.6	0.0	7.5	3.3
<i>ICE BofA U.S. High Yield Index</i>			4.0	3.3	-11.2	-0.2	2.1	-	-12.7	15.6	-1.1	7.6	2.5
Emerging Market Debt	201,843,943	4.0	9.2	4.7	-12.8	-3.8	-1.8	-	-19.6	9.4	-1.2	8.5	-3.6
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			8.3	3.3	-14.8	-5.7	-1.9	-	-20.2	7.1	-1.1	10.8	-1.9
Commodities	205,801,777	4.0	5.3	-2.2	12.5	13.4	7.4	-	20.1	43.5	-10.7	-6.2	13.7
<i>Bloomberg Commodity Index Total Return</i>			2.2	-2.0	16.1	12.7	6.4	-	24.3	45.6	-17.4	-6.8	7.3
Hedge Funds	543,309,200	10.6	2.4	4.1	4.8	9.2	7.1	6.5	2.8	16.3	7.3	2.6	7.6
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI IMI</i>			3.9	3.4	-0.6	5.0	5.7	5.9	-0.9	12.3	5.1	6.6	7.0
Alpha Pool	239,505,576	4.7	0.2	0.9	1.0	-	-	-	1.5	14.5	-	-	-
<i>3 Month T-Bill +4%</i>			1.8	3.3	5.5	-	-	-	4.2	4.1	-	-	-
Midstream Energy	299,392,352	5.9	7.7	13.1	22.8	-	-	-	9.6	-	-	-	-
<i>Alerian Midstream Energy Index</i>			8.4	7.3	21.5	-	-	-	11.4	-	-	-	-
Core Real Estate	340,306,582	6.7	-4.4	-3.8	8.0	8.9	7.8	-	25.6	6.6	2.3	6.1	7.4
<i>NCREIF ODCE</i>			-5.0	-4.5	7.5	9.9	8.7	-	29.5	8.0	2.2	6.4	8.4
Private Real Estate	119,647,273	2.3	2.0	5.2	17.2	17.4	12.2	13.2	31.3	12.1	4.4	9.0	5.4
			2.0	5.2	17.2	17.4	12.2	13.2	31.3	12.1	4.4	9.0	5.4
Private Equity	161,282,661	3.2	-0.8	-4.3	0.8	13.5	11.5	11.4	23.0	41.7	-10.5	10.9	7.8
			-0.8	-4.3	0.8	13.5	11.5	11.4	23.0	41.7	-10.5	10.9	7.8
Private Credit	243,377,473	4.8	0.4	-0.8	-1.0	2.6	4.8	-	1.2	4.8	5.5	9.7	9.3
			0.4	-0.8	-1.0	2.6	4.8	-	1.2	4.8	5.5	9.7	9.3

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-Bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Opportunistic	168,840,683	3.3	-1.4	-4.5	-14.8	9.5	-	-	-5.4	59.9	-	-	-
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>3.6</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-
Cash	-28,723,613	-0.6	1.1	1.2	1.0	0.5	1.2	1.4	-0.2	0.1	1.0	2.0	3.2
<i>3 Month T-Bill</i>			<i>0.8</i>	<i>1.3</i>	<i>1.5</i>	<i>0.7</i>	<i>1.3</i>	<i>0.8</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>	<i>1.4</i>

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-Bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-QDCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Performance and Attribution

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Total Fund	5,102,522,000	100.0	4.5	1.2	-7.1	5.6	5.4	6.5	-4.5	24.1	2.9	5.4	6.5	6.2	Jun-11
<i>Policy Index</i>			5.5	1.5	-8.7	4.8	5.4	6.3	-6.5	24.0	3.2	6.4	7.0	6.0	
Equity	1,577,575,704	30.9	10.5	2.9	-17.4	4.4	5.4	8.9	-15.1	40.7	0.3	4.8	11.8	8.1	Jun-11
<i>MSCI AC World IMI (Net)</i>			9.8	2.6	-18.4	3.9	5.0	7.9	-16.5	40.9	1.2	4.6	11.1	7.2	
Domestic Equity	798,916,006	15.7	7.7	2.3	-18.7	7.3	9.0	-	-12.2	43.2	6.0	8.8	15.5	10.1	Jul-14
<i>MSCI USA IMI</i>			7.2	2.4	-19.2	7.3	8.9	-	-13.7	44.4	6.7	9.0	14.9	9.8	
Equity Beta Exposure	108,880,200	2.1	7.3	2.0	-18.6	-	-	-	-11.0	-	-	-	-	8.0	Aug-20
<i>S&P 500 Index</i>			7.6	2.3	-18.1	-	-	-	-10.6	-	-	-	-	8.5	
Mellon DB SL Stock Index Fund	458,436,087	9.0	7.6	2.3	-18.1	7.6	9.4	-	-10.6	40.8	7.5	10.4	-	10.1	Oct-17
<i>S&P 500 Index</i>			7.6	2.3	-18.1	7.7	9.4	-	-10.6	40.8	7.5	10.4	-	10.0	
PIMCO StocksPLUS	99,467,229	1.9	7.5	1.6	-20.4	6.8	8.9	12.6	-12.8	41.7	7.7	10.6	14.1	10.0	Jul-03
<i>S&P 500 Index</i>			7.6	2.3	-18.1	7.7	9.4	12.6	-10.6	40.8	7.5	10.4	14.4	9.3	
AB US Small Cap Value Equity	86,111,927	1.7	10.0	4.3	-16.6	5.5	3.8	-	-16.1	77.5	-19.4	-6.9	13.2	6.7	Jul-15
<i>Russell 2000 Value Index</i>			8.4	3.4	-14.5	4.7	4.1	-	-16.3	73.3	-17.5	-6.2	13.1	6.5	
Geneva Capital Small Cap Growth	46,020,563	0.9	5.8	0.9	-24.4	4.2	7.5	-	-22.1	37.6	9.3	8.6	22.7	8.9	Jul-15
<i>Russell 2000 Growth Index</i>			4.1	4.4	-26.4	0.6	3.5	-	-33.4	51.4	3.5	-0.5	21.9	5.1	
International Developed Equity	574,955,091	11.3	15.3	5.7	-15.0	1.8	1.9	-	-17.3	36.7	-5.7	-0.9	8.7	3.3	Jul-14
<i>MSCI World ex U.S. IMI Index (Net)</i>			16.0	5.3	-15.3	1.0	1.6	-	-17.7	34.8	-5.1	0.2	7.7	2.5	
Mellon DB SL World ex-US Index Fund	471,377,465	9.2	16.1	5.6	-13.6	2.1	-	-	-16.1	35.6	-5.5	-	-	3.1	Jul-18
<i>MSCI World ex U.S. IMI Index (Net)</i>			16.0	5.3	-15.3	1.0	-	-	-17.7	34.8	-5.1	-	-	2.2	
Cevian Capital II	34,435,773	0.7	9.6	11.0	-3.8	8.5	5.2	-	-8.2	46.8	-8.2	-5.0	2.9	6.4	Dec-14
<i>MSCI Europe (Net)</i>			19.3	7.2	-15.1	1.3	1.9	-	-17.6	35.1	-6.8	1.9	5.3	3.6	
American Century Non-US Small Cap	68,889,933	1.4	13.1	4.2	-27.6	-	-	-	-27.4	-	-	-	-	-6.4	Dec-20
<i>MSCI World ex U.S. Small Cap Growth Index (Net)</i>			13.6	3.6	-27.0	-	-	-	-28.6	-	-	-	-	-8.6	
Emerging Markets Equity	203,703,762	4.0	9.3	-2.7	-18.5	-3.3	-2.9	-	-21.9	39.5	-11.8	-0.6	2.9	0.1	Jul-14
<i>MSCI Emerging Markets IMI (Net)</i>			9.5	-2.3	-19.8	-1.8	-1.1	-	-24.8	43.2	-4.0	0.5	7.9	1.4	
DFA Emerging Markets Value I	75,158,678	1.5	10.3	-0.5	-10.7	1.0	-0.1	-	-12.9	47.6	-17.7	2.0	5.7	3.1	Mar-14
<i>MSCI Emerging Markets Value (Net)</i>			9.8	-2.3	-15.8	-2.6	-1.6	-	-18.6	41.6	-15.7	5.0	4.3	1.2	
AB Emerging Markets Strategic Core Equity Collective Trust	48,185,996	0.9	7.1	-4.8	-23.2	-4.9	-4.1	-	-25.2	33.6	-5.1	-2.6	1.2	0.8	Dec-16
<i>MSCI Emerging Markets (Net)</i>			9.7	-3.0	-20.1	-2.7	-1.4	-	-25.3	40.9	-3.4	1.2	8.2	4.2	
Mellon Emerging Markets Stock Index Fund	80,359,088	1.6	9.7	-3.1	-20.5	-	-	-	-25.5	41.1	-	-	-	0.6	Jun-20
<i>MSCI Emerging Markets (Net)</i>			9.7	-3.0	-20.1	-	-	-	-25.3	40.9	-	-	-	3.6	
Fixed Income	1,232,206,332	24.1	3.0	-0.3	-12.9	-1.9	0.4	1.4	-13.0	5.1	6.3	7.6	-0.1	3.0	Jun-10
<i>Fixed Income Custom Benchmark</i>			3.0	-1.0	-12.6	-2.4	0.4	1.6	-11.6	4.0	5.2	8.4	-0.1	2.7	
Core Plus Fixed Income	774,514,623	15.2	1.6	-2.8	-14.0	-2.6	0.1	-	-11.4	0.8	9.3	7.9	-0.2	1.2	Jul-14
<i>Bloomberg U.S. Aggregate Index</i>			1.9	-3.0	-13.0	-2.7	0.0	-	-10.3	-0.3	8.7	7.9	-0.4	1.0	
Fixed Income Beta Exposure	337,322,663	6.6	0.6	-3.8	-	-	-	-	-	-	-	-	-	-1.6	Jun-22
<i>Bloomberg U.S. Aggregate Index</i>			1.9	-3.0	-	-	-	-	-	-	-	-	-	-4.5	
Mellon DB SL Aggregate Bond Index Fund	157,713,715	3.1	1.9	-3.0	-13.1	-2.8	0.0	1.0	-10.4	-0.4	8.8	7.9	-0.4	1.8	Jan-11
<i>Bloomberg U.S. Aggregate Index</i>			1.9	-3.0	-13.0	-2.7	0.0	1.1	-10.3	-0.3	8.7	7.9	-0.4	1.9	

Policy Index: 3.7% MSCI ACWI IMI (Net), 1.4% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 20 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
PIMCO Core Plus	160,665,585	3.1	2.0	-2.9	-12.8	-2.0	0.3	1.1	-9.9	1.1	8.7	6.3	1.0	2.1	Feb-11
<i>Bloomberg U.S. Aggregate Index</i>			1.9	-3.0	-13.0	-2.7	0.0	1.1	-10.3	-0.3	8.7	7.9	-0.4	1.9	
Western Asset Core Plus	118,812,660	2.3	3.1	-1.7	-15.9	-3.2	0.1	1.7	-14.5	2.4	9.3	9.4	-0.4	3.7	Jun-04
<i>Bloomberg U.S. Aggregate Index</i>			1.9	-3.0	-13.0	-2.7	0.0	1.1	-10.3	-0.3	8.7	7.9	-0.4	3.7	
High Yield/ Specialty Credit	255,740,719	5.0	2.3	2.4	-9.3	0.2	2.1	-	-10.0	13.1	-0.5	7.0	2.8	2.1	Jul-14
<i>ICE BofA U.S. High Yield Index</i>			4.0	3.3	-11.2	-0.2	2.1	-	-12.7	15.6	-1.1	7.6	2.5	3.1	
Western Asset High Yield Fixed Income	161,987,205	3.2	3.9	3.7	-12.4	-0.9	1.8	3.6	-14.1	16.5	-2.2	8.3	2.2	5.6	Jun-05
<i>Bloomberg US HY Ba/B 2% Cap TR</i>			4.6	3.8	-10.6	0.3	2.6	4.0	-12.4	13.4	2.1	8.8	1.8	5.8	
TCW Securitized Opportunities	93,753,514	1.8	-0.2	0.5	-5.0	1.2	2.3	-	-4.0	6.4	2.2	5.2	4.3	3.1	Feb-16
<i>Bloomberg U.S. High Yield - 2% Issuer Cap</i>			4.2	3.5	-11.2	0.0	2.3	-	-12.8	15.3	0.0	7.5	2.6	5.3	
Emerging Market Debt	201,843,943	4.0	9.1	4.4	-13.2	-4.1	-2.2	-	-19.9	9.1	-1.7	7.9	-4.2	-0.5	Jul-14
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			8.3	3.3	-14.8	-5.7	-1.9	-	-20.2	7.1	-1.1	10.8	-1.9	-0.2	
Stone Harbor Emerging Markets Debt Blend Portfolio	63,666,940	1.2	9.1	4.7	-14.3	-4.9	-2.2	-1.0	-20.9	9.5	-1.8	8.2	-3.1	-0.6	Aug-12
<i>50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx</i>			7.9	3.1	-14.2	-5.3	-1.6	-0.1	-19.5	7.2	-0.8	10.6	-1.7	0.5	
PIMCO EMD	138,177,003	2.7	9.1	4.3	-12.4	-	-	-	-19.2	8.7	-	-	-	-4.4	Feb-20
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			8.3	3.3	-14.8	-	-	-	-20.2	7.1	-	-	-	-5.9	
Commodities	205,801,777	4.0	5.1	-2.5	11.8	12.7	6.8	-	19.4	42.5	-11.3	-6.7	13.3	0.1	Jul-13
<i>Bloomberg Commodity Index Total Return</i>			2.2	-2.0	16.1	12.7	6.4	-	24.3	45.6	-17.4	-6.8	7.3	-0.2	
Gresham MTAP Commodity Builder Fund	52,497,584	1.0	1.4	-3.7	16.7	12.8	6.4	-	24.7	46.8	-16.3	-9.0	12.4	-0.1	Oct-13
<i>Bloomberg Commodity Index Total Return</i>			2.2	-2.0	16.1	12.7	6.4	-	24.3	45.6	-17.4	-6.8	7.3	-0.3	
Wellington Commodities	153,304,193	3.0	6.8	-1.9	9.9	13.2	7.2	-	17.2	40.2	-7.5	-5.4	14.2	0.7	Sep-13
<i>S&P GSCI Commodity Equal Weighted</i>			6.9	-0.7	12.0	12.1	7.3	-	19.0	40.9	-12.4	-3.5	12.6	1.0	
Hedge Funds	543,309,200	10.6	2.2	3.7	4.4	9.0	7.0	5.9	2.8	16.1	7.0	2.5	7.6	5.9	Sep-10
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)</i>			3.9	3.3	-0.6	5.0	5.7	5.9	-0.9	12.3	5.1	6.6	7.0	5.8	
Aristeia International Limited	68,181,409	1.3	-0.8	1.4	0.9	10.0	8.8	-	1.8	21.6	8.7	9.2	2.6	5.1	May-14
Brevan Howard Fund	76,763,840	1.5	0.3	5.4	19.8	16.1	13.9	-	15.2	6.1	20.5	12.7	7.8	8.3	Sep-13
D.E. Shaw Composite Fund	58,856,929	1.2	2.9	6.6	25.4	21.7	17.3	-	29.0	19.0	15.6	11.5	11.3	14.6	Jul-13
HBK Fund II	44,169,126	0.9	4.2	5.8	2.9	6.5	5.5	-	2.3	11.0	1.5	5.5	3.0	4.5	Nov-13
Hudson Bay Cap Structure Arbitrage Enhanced Fund	80,091,097	1.6	2.2	5.8	9.3	12.9	-	-	7.7	14.2	16.2	-	-	12.4	Jun-19
Indus Pacific Opportunities Fund	37,237,546	0.7	0.0	0.9	-0.6	13.1	4.0	-	-8.2	38.0	15.8	-19.2	15.8	7.3	Jul-14
Pharo Macro Fund	62,281,994	1.2	1.9	0.2	-7.5	-1.7	-	-	-11.1	3.5	-	-	-	-1.7	Dec-19
PIMCO Commodity Alpha Fund	63,025,840	1.2	7.2	4.4	2.1	9.4	8.1	-	8.6	14.2	4.8	5.2	10.4	9.9	Jun-16
Sculptor Domestic Partners II LP	44,404,229	0.9	1.5	0.8	-15.9	-0.7	-	-	-19.9	16.8	6.5	-	-	3.7	Feb-19
Magnetar Structured Credit Fund	8,297,190	0.2	1.7	2.2	0.6	12.1	9.4	-	1.1	38.1	-0.2	5.4	7.7	7.8	May-14
Alpha Pool	239,505,576	4.7	0.2	0.9	1.0	-	-	-	1.5	14.5	-	-	-	6.6	Jul-20
<i>3 Month T-Bill +4%</i>			1.8	3.3	5.5	-	-	-	4.2	4.1	-	-	-	4.7	
Hudson Bay	61,864,015	1.2	-0.8	1.9	4.7	-	-	-	6.7	-	-	-	-	8.6	Aug-20
Davidson Kempner Institutional Partners	54,247,004	1.1	-1.2	-1.5	-4.5	-	-	-	-3.4	-	-	-	-	1.6	Dec-20
HBK Fund II	42,476,585	0.8	1.1	1.9	-1.4	-	-	-	1.3	-	-	-	-	4.0	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	56,160,036	1.1	1.8	2.3	8.5	-	-	-	-	-	-	-	-	6.0	Sep-21
HBK Opportunities Platform – SPAC Series	24,757,936	0.5	-0.4	-0.6	-2.2	-	-	-	-2.5	-	-	-	-	2.3	Nov-20

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Midstream Energy	299,392,352	5.9	7.5	12.7	22.1	-	-	-	9.3	-	-	-	-	31.5	Sep-20
<i>Alerian Midstream Energy Index</i>			<i>8.4</i>	<i>7.3</i>	<i>21.5</i>	-	-	-	<i>11.4</i>	-	-	-	-	<i>28.9</i>	
Harvest Midstream	152,077,589	3.0	6.9	14.0	30.1	-	-	-	15.3	-	-	-	-	38.9	Aug-20
<i>Alerian Midstream Energy Index</i>			<i>8.4</i>	<i>7.3</i>	<i>21.5</i>	-	-	-	<i>11.4</i>	-	-	-	-	<i>27.9</i>	
PIMCO Midstream	147,314,763	2.9	8.2	10.6	12.0	-	-	-	2.2	-	-	-	-	24.6	Sep-20
<i>50/25/25 Alerian Midstream/ICE BofA US Pipeline/ICE BofA US HY Midstream</i>			<i>6.5</i>	<i>5.1</i>	<i>4.2</i>	-	-	-	<i>-0.7</i>	-	-	-	-	-	
Core Real Estate	340,306,582	6.7	-4.5	-4.0	7.4	8.1	7.2	-	24.8	5.6	1.4	5.9	7.4	8.1	Oct-14
<i>NCREIF ODCE</i>			<i>-5.0</i>	<i>-4.5</i>	<i>7.5</i>	<i>9.9</i>	<i>8.7</i>	-	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.4</i>	<i>9.5</i>	
ASB Allegiance Real Estate Fund	189,419,041	3.7	-4.1	-2.0	10.5	8.6	7.5	-	23.0	5.4	1.5	6.8	7.1	8.4	Sep-13
<i>NCREIF ODCE</i>			<i>-5.0</i>	<i>-4.5</i>	<i>7.5</i>	<i>9.9</i>	<i>8.7</i>	-	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.4</i>	<i>9.8</i>	
JPMCB Strategic Property Fund	150,887,540	3.0	-5.2	-6.7	3.8	7.7	6.9	-	27.9	5.9	1.3	5.0	7.6	7.9	Jul-14
<i>NCREIF ODCE</i>			<i>-5.0</i>	<i>-4.5</i>	<i>7.5</i>	<i>9.9</i>	<i>8.7</i>	-	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.4</i>	<i>9.6</i>	
Private Real Estate	119,647,273	2.3	2.0	5.2	17.2	17.4	12.2	12.7	31.3	12.1	4.4	9.0	5.4	12.8	Mar-11
			<i>2.0</i>	<i>5.2</i>	<i>17.2</i>	<i>17.4</i>	<i>12.2</i>	<i>13.2</i>	<i>31.3</i>	<i>12.1</i>	<i>4.4</i>	<i>9.0</i>	<i>5.4</i>	<i>12.8</i>	
Private Equity	161,282,661	3.2	-0.8	-4.3	0.7	13.5	11.5	10.9	22.9	41.7	-10.5	10.9	7.8	10.8	Sep-10
			<i>-0.8</i>	<i>-4.3</i>	<i>0.8</i>	<i>13.5</i>	<i>11.5</i>	<i>11.4</i>	<i>23.0</i>	<i>41.7</i>	<i>-10.5</i>	<i>10.9</i>	<i>7.8</i>	<i>10.9</i>	
Private Credit	243,377,473	4.8	0.4	-0.8	-1.0	2.6	4.8	-	1.2	4.8	5.5	9.7	9.3	-25.1	Dec-15
			<i>0.4</i>	<i>-0.8</i>	<i>-1.0</i>	<i>2.6</i>	<i>4.8</i>	-	<i>1.2</i>	<i>4.8</i>	<i>5.5</i>	<i>9.7</i>	<i>9.3</i>	<i>6.8</i>	
Opportunistic	168,840,683	3.3	-1.4	-4.5	-14.9	9.5	-	-	-5.4	59.9	-	-	-	9.8	Jan-20
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>3.6</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	
River Birch International	7,537,076	0.1	1.8	8.4	-	-	-	-	-	-	-	-	-	18.9	Jun-22
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>3.6</i>	-	-	-	-	-	-	-	-	-	<i>3.6</i>	
DB Investors Fund IV	21,705,376	0.4	-3.9	-14.9	-50.5	2.8	-	-	-34.4	95.1	-	-	-	2.8	Dec-19
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>3.6</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	
Sixth Street TAO Partners (D)	90,905,157	1.8	3.1	-1.8	3.6	-	-	-	9.6	39.6	-	-	-	16.0	Mar-20
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>3.6</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	
Aristeia Select Opportunities II	48,693,074	1.0	-8.0	-6.5	-5.5	-	-	-	-	-	-	-	-	-1.4	Jul-21
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>3.6</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	-	-	-	-	<i>7.2</i>	
Cash	-28,723,613	-0.6	1.1	1.2	1.0	0.5	1.2	1.4	-0.2	0.1	1.0	2.0	3.2	1.3	Apr-11
<i>3 Month T-Bill</i>			<i>0.8</i>	<i>1.3</i>	<i>1.5</i>	<i>0.7</i>	<i>1.3</i>	<i>0.8</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>	<i>1.4</i>	<i>0.7</i>	

Policy Index: 3.7% MSCI ACWI IMI (Net), 1.4% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Total Private Equity

Kern County Employees' Retirement
Period Ending: December 31, 2022

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value as of 9/30/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Equity												
2008	Abbott Capital PE VI	\$16,921,054	\$50,000,000	\$49,750,000	100%	\$250,000	\$79,095,564	\$17,231,430	1.59x	1.93x	12.8%	03/31/23
2006	Pantheon Global III	\$548,661	\$50,000,000	\$47,300,000	95%	\$2,700,000	\$52,000,000	\$544,562	1.10x	1.11x	1.9%	03/31/23
1998	Pantheon USA III	\$45,445	\$7,500,000	\$7,335,000	98%	\$165,000	\$8,197,500	\$47,064	1.12x	1.12x	1.9%	12/31/22
2002	Pantheon USA V	\$375,348	\$25,000,000	\$24,350,000	97%	\$650,000	\$37,950,000	\$392,019	1.56x	1.57x	9.0%	03/31/23
2004	Pantheon USA VI	\$330,050	\$35,000,000	\$33,075,000	95%	\$1,925,000	\$50,823,827	\$357,185	1.53x	1.54x	6.7%	03/31/23
2006	Pantheon USA VII	\$6,855,040	\$50,000,000	\$46,600,000	93%	\$3,400,000	\$80,624,998	\$6,715,424	1.73x	1.88x	10.1%	03/31/23
2020	Vista Foundation Fund IV	\$18,784,419	\$25,000,000	\$19,102,508	76%	\$5,897,492	\$30,252	\$17,834,565	0.00x	0.98x	-2.9%	03/31/23
2021	Crown Global Secondaries V Master S.C.Sp	\$32,029,559	\$50,000,000	\$23,700,000	47%	\$26,300,000	\$1,550,000	\$28,138,412	0.07x	1.42x	31.2%	03/31/23
2021	Brighton Park Capital Fund I	\$36,863,716	\$30,000,000	\$28,783,190	96%	\$1,216,810	\$1,325,801	\$35,655,157	0.05x	1.33x	14.9%	03/31/23
2021	Warren Equity Partners Fund III	\$30,248,893	\$32,500,000	\$24,279,276	75%	\$8,220,724	\$508,290	\$29,397,592	0.02x	1.27x	20.5%	06/30/23
2021	Peak Rock Capital Fund III	\$13,544,451	\$30,000,000	\$12,295,016	41%	\$17,704,984	\$2,566,358	\$11,921,302	0.21x	1.31x	25.3%	06/30/23
2021	Level Equity Growth Partners V	\$6,864,460	\$15,000,000	\$6,715,768	45%	\$8,284,232	\$0	\$6,697,065	0.00x	1.02x	2.6%	06/30/23
2021	Level Equity Opportunities Fund 2021	\$5,898,520	\$15,000,000	\$5,529,385	37%	\$9,470,615	\$0	\$5,529,388	0.00x	1.07x	12.9%	06/30/23
2022	Linden Capital Partners V LP	\$12,638,351	\$22,500,000	\$12,011,178	53%	\$10,488,822	\$0	\$7,984,801	N/A	N/A	10.3%	06/30/23
2022	Rubicon Technology Partners IV LP	\$3,124,027	\$30,000,000	\$3,895,697	13%	\$26,104,303	\$0	\$3,214,080	N/A	N/A	-69.4%	12/31/22
2022	OrbiMed Private Investments IX, LP	\$1,129,757	\$10,000,000	\$1,200,000	12%	\$8,800,000	\$0	\$320,186	N/A	N/A	32.0%	06/30/23
2022	Brighton Park Capital Fund II	\$3,299,342	\$30,000,000	\$4,174,920	14%	\$25,825,080	\$0	N/A	N/A	N/A	N/A	N/A
2022	Linden Co-Investment V LP	\$4,159,884	\$7,500,000	\$7,499,177	100%	\$823	\$0	\$1,846,267	N/A	N/A	21.8%	12/31/22
2022	Warren Equity Partners Fund IV	\$11,784,379	\$32,500,000	\$7,612,883	23%	\$24,887,117	\$0	N/A	N/A	N/A	N/A	N/A
2023	WEP Co-Invest IV	\$7,297,419	\$10,000,000	\$7,470,589	75%	\$2,529,411	\$173,170	N/A	N/A	N/A	N/A	N/A
2022	Accel-KKR Capital Partners VII	\$0	\$25,000,000	\$0	0%	\$25,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	LGT Crown Global Secondaries Fund VI	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	Parthenon Investors VII	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A

Total Private Equity	\$212,742,776	\$642,500,000	\$372,679,588	58%	\$269,820,412	\$314,645,761	\$173,826,499	0.84x	1.42x
% of Portfolio (Market Value)	4.0%								

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Total Fund
Total Private Credit

Kern County Employees' Retirement
Period Ending: December 31, 2022

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value 9/30/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib/ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Credit												
2015	DC Value Recovery Fund IV ⁴	\$18,893,391	\$74,360,749	\$73,340,099	99%	\$1,020,650	\$40,330,120	\$20,781,309	0.55x	0.81x	N/A	3/31/23
2017	Sixth Street TAO Partners (B)	\$41,877,567	\$108,035,958	\$84,519,175	78%	\$23,516,783	\$44,061,451	\$39,800,921	0.52x	1.02x	9.7%	3/31/23
2017	Brookfield Real Estate Finance Fund V	\$16,771,893	\$50,000,000	\$36,019,917	72%	\$13,980,083	\$27,359,025	\$16,752,621	0.76x	1.23x	6.8%	6/30/23
2018	Magnetar Constellation Fund V	\$26,896,537	\$60,000,000	\$56,445,318	94%	\$3,554,682	\$42,783,179	\$28,113,131	0.76x	1.23x	5.9%	6/30/23
2019	H.I.G Bayside Loan Opportunity Fund V	\$45,153,751	\$60,000,000	\$35,821,497	60%	\$24,178,503	\$13,437,805	\$43,519,452	0.38x	1.64x	17.4%	6/30/23
2020	Blue Torch Credit Opportunities Fund II	\$16,189,364	\$20,000,000	\$16,613,092	83%	\$3,386,908	\$4,252,640	\$17,526,212	0.26x	1.23x	14.2%	3/31/23
2020	Fortress Credit Opportunitis Fund V Expansion	\$16,911,033	\$40,000,000	\$15,122,013	38%	\$24,877,987	\$468,590	\$15,507,751	0.03x	1.15x	21.2%	6/30/23
2021	Fortress Lending Fund II	\$28,165,127	\$40,000,000	\$33,337,851	83%	\$6,662,149	\$8,834,329	\$28,566,610	0.26x	1.11x	10.0%	6/30/23
2022	Blue Torch Credit Opportunities Fund III	\$5,094,132	\$40,000,000	\$7,199,891	18%	\$32,800,109	\$5,108,700	\$7,625,106	0.71x	1.42x	20.1%	3/31/23
2022	Fortress Lending Fund III	\$24,367,938	\$40,000,000	\$23,232,701	58%	\$16,767,299	\$2,948,334	\$23,889,989	0.13x	1.18x	11.8%	6/30/23
2022	OrbiMed Royalty & Credit Opportunities IV	\$5,262,466	\$30,000,000	\$5,983,980	20%	\$24,016,020	\$1,089,589	\$4,560,873	0.18x	1.06x	11.9%	3/31/23
2023	Cerberus Business Finance V	\$10,291,962	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Ares Senior Direct Lending III	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Ares Pathfinder II	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Silver Point – Specialty Credit Fund III	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
Total Private Credit		\$255,875,161	\$562,396,707	\$387,635,533	69%	\$174,761,174	\$190,673,763	\$246,643,975	0.49x	1.15x		
% of Portfolio (Market Value)		4.8%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

⁴Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

Total Fund
Total Private Real Estate

Kern County Employees' Retirement
Period Ending: December 31, 2022

IRR Analysis as of IRR date												
Vintage	Estimated Market Value	Total	Capital	%	Remaining	Capital		Distrib./	Tot. Value/	Net IRR		
Year	9/30/2023	Commitment	Called	Called	Commitment	Returned	Market Value as of IRR date	Paid-In (DPI) ¹	Paid-In (TVPI) ²	Since Inception ³	IRR	Date
Manager/Fund												
Private Real Estate												
2014	Invesco Real Estate Value-Add Fund IV	\$930,593	\$50,000,000	\$43,637,717	87%	\$6,362,283	\$56,824,750	\$945,682	1.30x	1.32x	10.5%	06/30/23
2017	Landmark Real Estate Partners VIII	\$30,989,708	\$60,000,000	\$41,358,951	69%	\$18,641,049	\$25,196,880	\$31,009,306	0.61x	1.36x	18.5%	03/31/23
2018	Long Wharf Real Estate Partners VI	\$34,107,846	\$50,000,000	\$50,000,000	100%	\$0	\$24,281,467	\$34,525,266	0.49x	1.17x	19.5%	06/30/23
2020	Covenant Apartment Fund X	\$31,836,365	\$30,000,000	\$24,607,333	82%	\$5,392,667	\$6,567,324	\$33,947,463	0.27x	1.56x	23.2%	06/30/23
2021	Singerman Real Estate Opportunity Fund IV	\$12,316,089	\$35,000,000	\$10,946,250	31%	\$24,053,750	\$0	\$8,944,617	0.00x	1.13x	17.6%	06/30/23
2022	LBA Logistics Value Fund IX, L.P.	\$13,104,308	\$40,000,000	\$11,153,846	28%	\$28,846,154	\$0	\$10,287,850	0.00x	1.17x	-11.9%	06/30/23
2022	Covenant Apartment Fund XI	\$14,543,938	\$30,000,000	\$11,100,000	37%	\$38,076,924	\$3,112	N/A	N/A	N/A	N/A	N/A
2022	KSL Capital Partners VI	\$1,944,774	\$30,000,000	\$2,752,026	9%	\$27,247,974	\$64,806	N/A	N/A	N/A	N/A	N/A
2022	Landmark Real Estate Partners IX	\$0	\$40,000,000	\$0	0%	\$40,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	Merit Hill V	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Real Estate		\$139,773,620	\$395,000,000	\$195,556,123	50%	\$218,620,801	\$112,938,339	\$119,660,184	0.58x	1.29x		
% of Portfolio (Market Value)		2.6%										

¹(DPI) is equal to (capital returned / capital called)

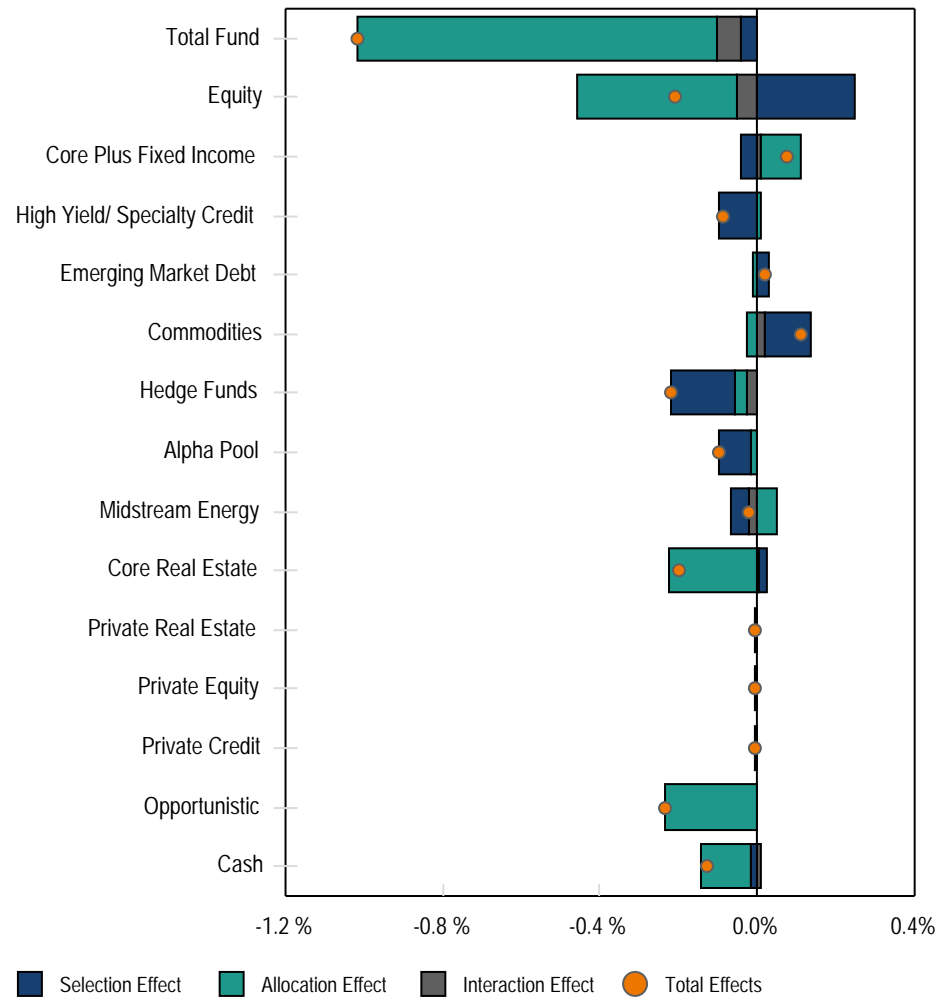
²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Total Fund Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

Attribution Effects
Last Three Months



Performance Attribution

	Last Three Months
Wtd. Actual Return	4.5
Wtd. Index Return	5.5
Excess Return	-1.0
Selection Effect	0.0
Allocation Effect	-0.9
Interaction Effect	-0.1

Attribution Summary
Last Three Months

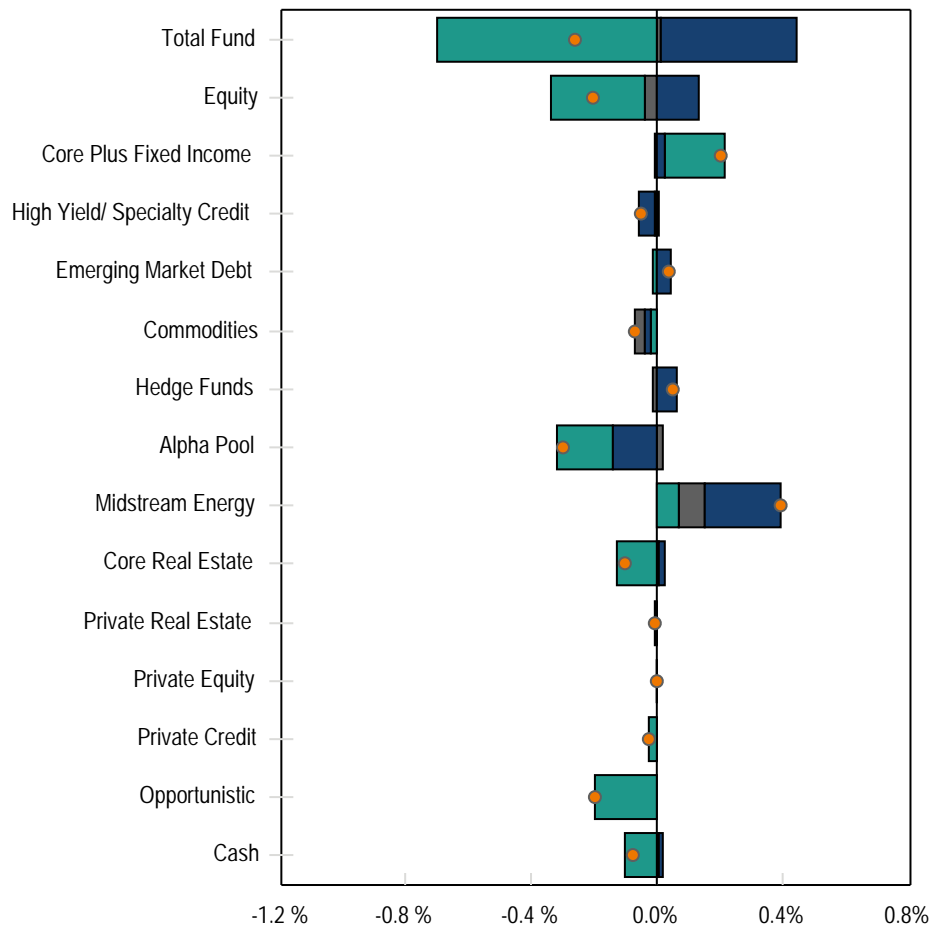
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	10.5	9.8	0.7	0.2	-0.4	-0.1	-0.2
Core Plus Fixed Income	1.6	1.9	-0.2	0.0	0.1	0.0	0.1
High Yield/ Specialty Credit	2.3	4.0	-1.6	-0.1	0.0	0.0	-0.1
Emerging Market Debt	9.1	8.3	0.8	0.0	0.0	0.0	0.0
Commodities	5.1	2.2	2.9	0.1	0.0	0.0	0.1
Hedge Funds	2.2	3.9	-1.7	-0.2	0.0	0.0	-0.2
Alpha Pool	0.2	1.8	-1.7	-0.1	0.0	0.0	-0.1
Midstream Energy	7.5	8.4	-0.9	0.0	0.0	0.0	0.0
Core Real Estate	-4.5	-5.0	0.4	0.0	-0.2	0.0	-0.2
Private Real Estate	2.0	2.0	0.0	0.0	0.0	0.0	0.0
Private Equity	-0.8	-0.8	0.0	0.0	0.0	0.0	0.0
Private Credit	0.4	0.4	0.0	0.0	0.0	0.0	0.0
Opportunistic	-1.4	1.8	-3.1	0.0	-0.2	0.0	-0.2
Cash	1.1	0.8	0.2	0.0	-0.1	0.0	-0.1
Total Fund	4.5	5.5	-1.0	0.0	-0.9	-0.1	-1.0

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Total Fund Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

Attribution Effects
Fiscal YTD



Performance Attribution

	Fiscal YTD
Wtd. Actual Return	1.2
Wtd. Index Return	1.5
Excess Return	-0.3
Selection Effect	0.4
Allocation Effect	-0.7
Interaction Effect	0.0

Attribution Summary
Fiscal YTD

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	2.9	2.6	0.3	0.2	-0.3	0.0	-0.2
Core Plus Fixed Income	-2.8	-3.0	0.1	0.0	0.2	0.0	0.2
High Yield/ Specialty Credit	2.4	3.3	-0.9	0.0	0.0	0.0	0.0
Emerging Market Debt	4.4	3.3	1.2	0.0	0.0	0.0	0.0
Commodities	-2.5	-2.0	-0.6	0.0	0.0	0.0	-0.1
Hedge Funds	3.7	3.3	0.4	0.1	0.0	0.0	0.0
Alpha Pool	0.9	3.3	-2.4	-0.1	-0.2	0.0	-0.3
Midstream Energy	12.7	7.3	5.4	0.3	0.1	0.1	0.4
Core Real Estate	-4.0	-4.5	0.4	0.0	-0.1	0.0	-0.1
Private Real Estate	5.2	5.2	0.0	0.0	0.0	0.0	0.0
Private Equity	-4.3	-4.3	0.0	0.0	0.0	0.0	0.0
Private Credit	-0.8	-0.8	0.0	0.0	0.0	0.0	0.0
Opportunistic	-4.5	3.6	-8.1	0.0	-0.2	0.0	-0.2
Cash	1.2	1.3	-0.1	0.0	-0.1	0.0	-0.1
Total Fund	1.2	1.5	-0.3	0.4	-0.7	0.0	-0.3

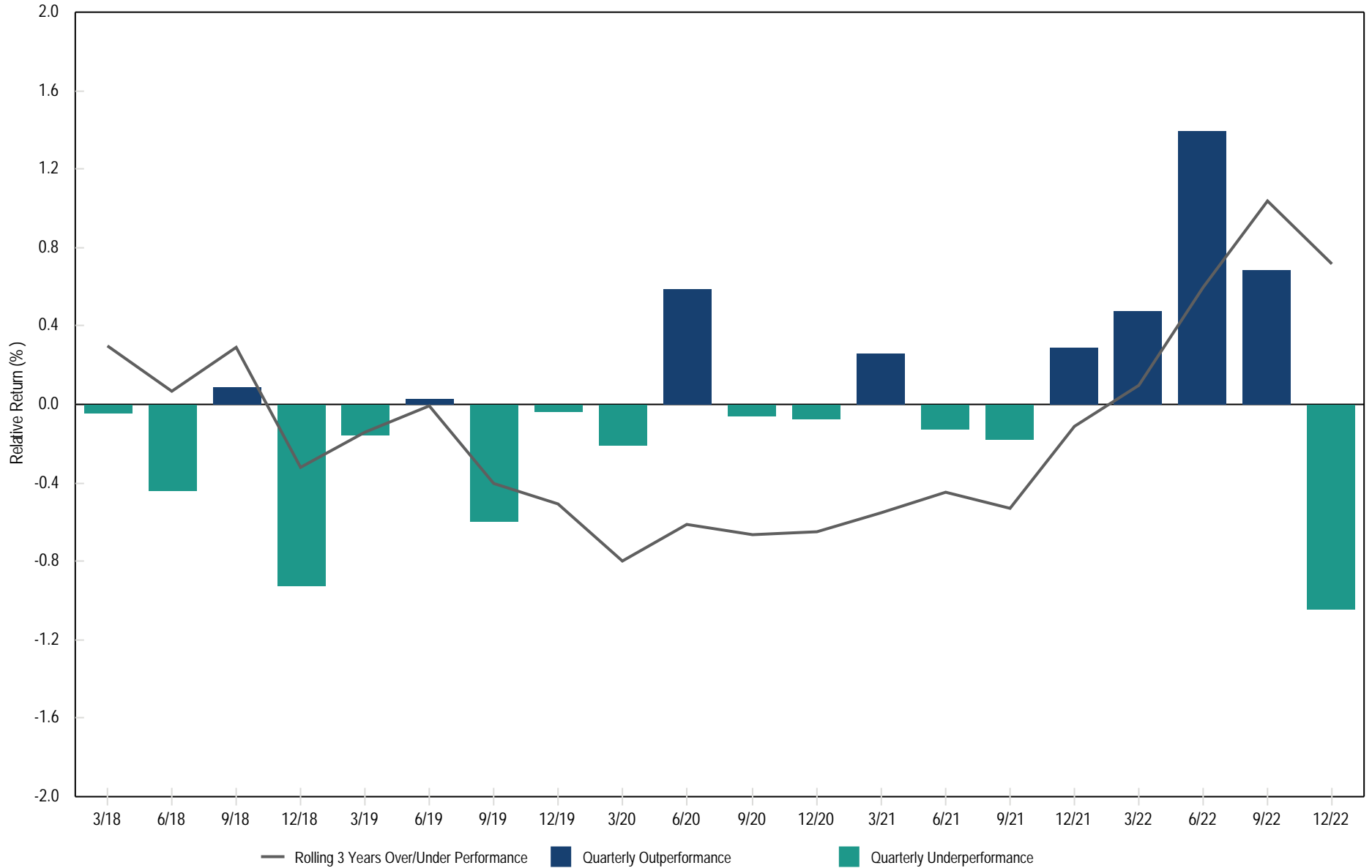
■ Selection Effect ■ Allocation Effect ■ Interaction Effect ● Total Effects

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Total Fund
Rolling Return Analysis (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

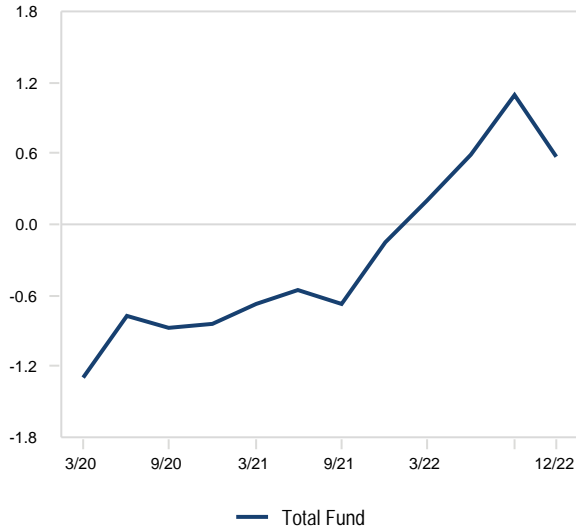
Rolling 3 Year Annualized Excess Performance



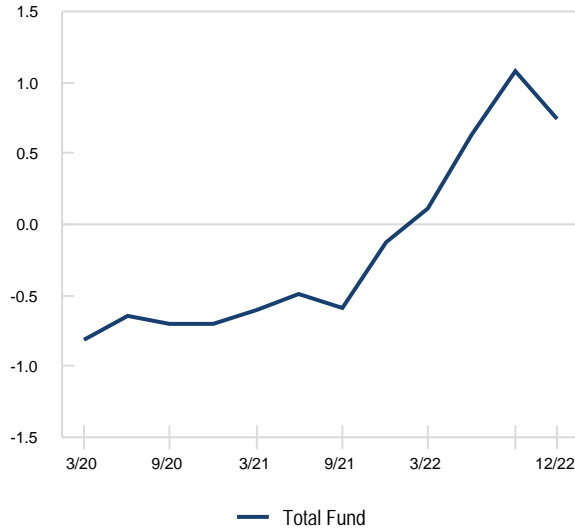
Total Fund
Rolling Risk Statistics: 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

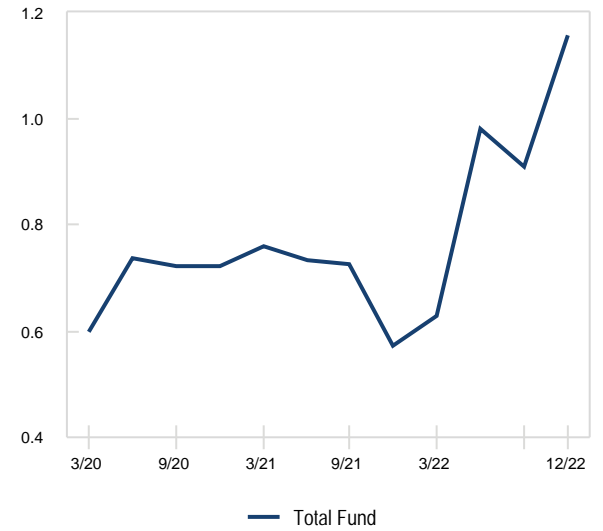
Rolling Information Ratio



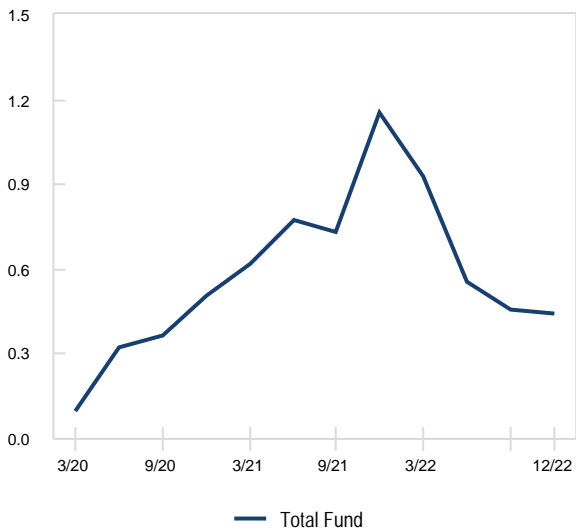
Rolling Annual Excess Benchmark Return



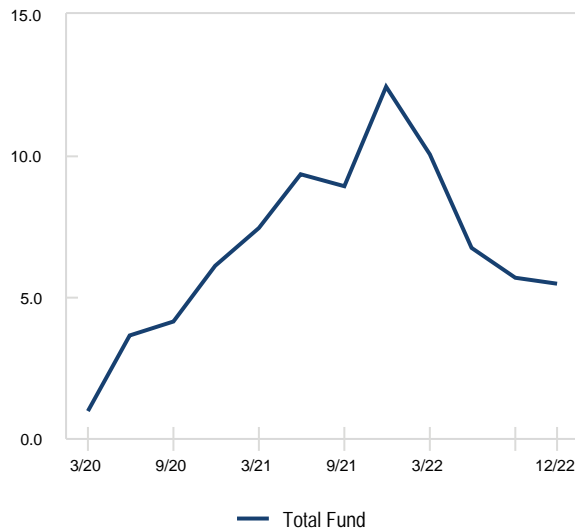
Rolling Tracking Error



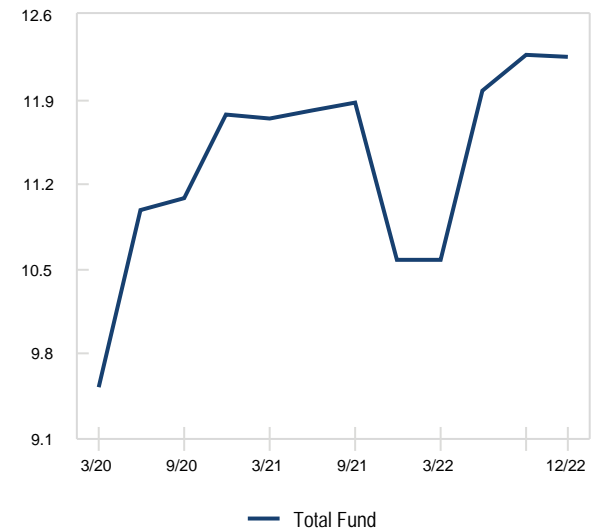
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



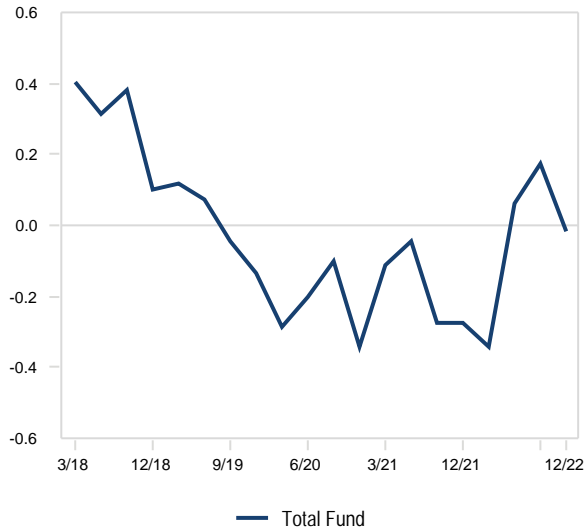
Rolling Annualized Standard Deviation



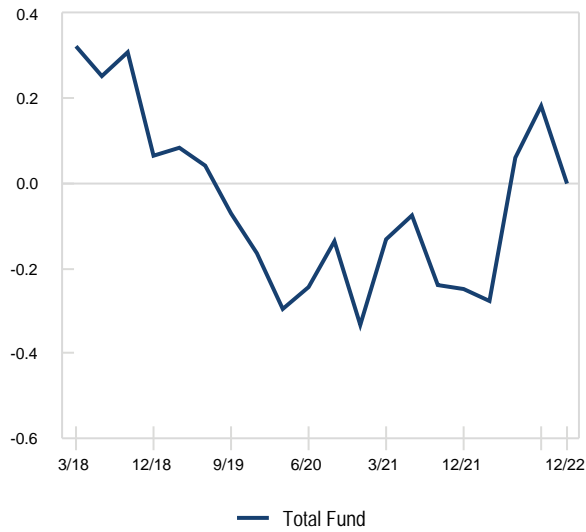
Total Fund
Rolling Risk Statistics: 5 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

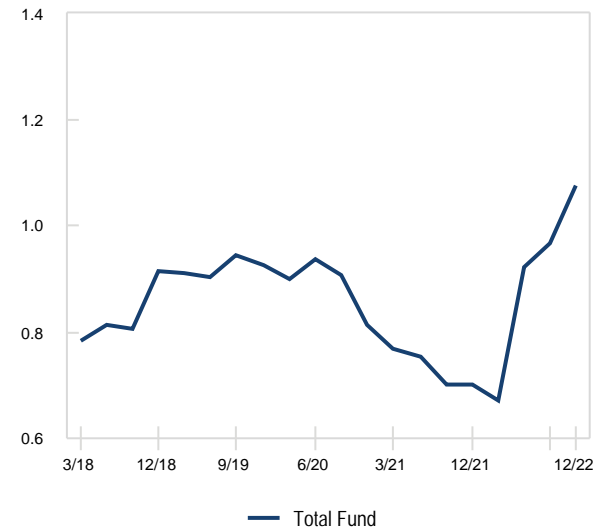
Rolling Information Ratio



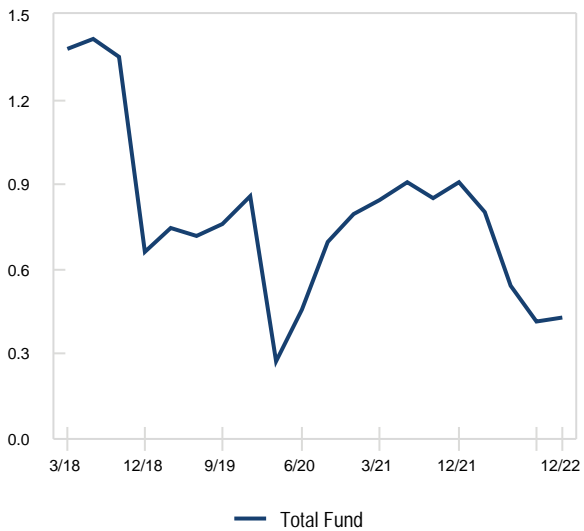
Rolling Annual Excess Benchmark Return



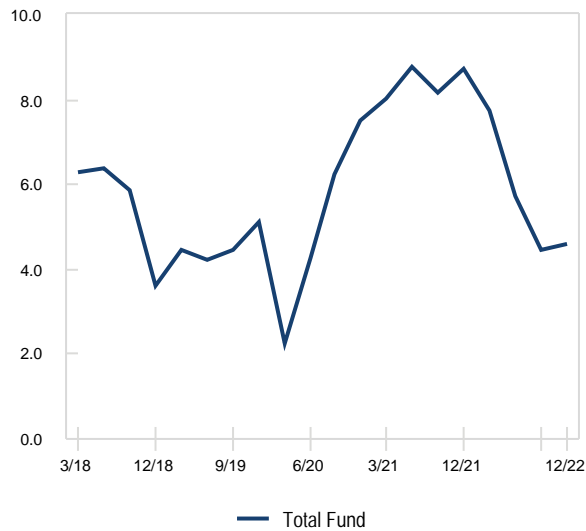
Rolling Tracking Error



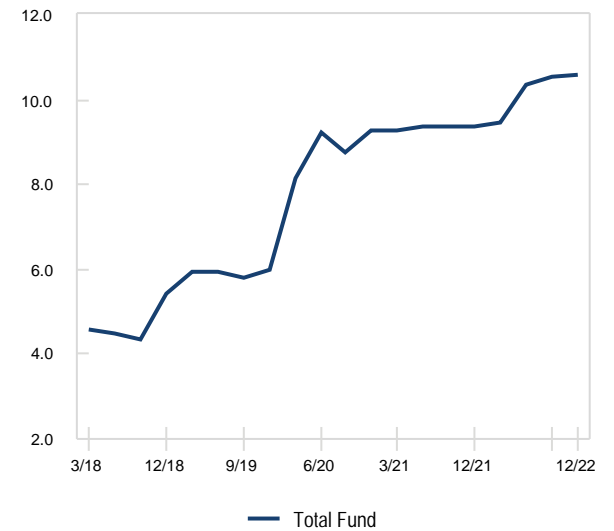
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Equity	1,469,296,073		-25,383,666		-20,304,420	153,967,716	1,577,575,704
Equity Beta Exposure	124,611,900		-25,383,511		-304,400	9,956,211	108,880,200
Mellon DB SL Stock Index Fund	426,205,824					32,230,263	458,436,087
PIMCO StocksPLUS	92,550,537					6,916,692	99,467,229
AB US Small Cap Value Equity	78,127,226					7,984,701	86,111,927
Geneva Capital Small Cap Growth	43,421,320		-156			2,599,399	46,020,563
Mellon DB SL World ex-US Index Fund	405,985,897					65,391,568	471,377,465
Cevian Capital II	31,433,651					3,002,123	34,435,773
American Century Non-US Small Cap	60,918,029				-20	7,971,923	68,889,933
DFA Emerging Markets Value I	68,160,210					6,998,468	75,158,678
AB Emerging Markets Strategic Core Equity Collective Trust	64,396,359				-20,000,000	3,789,637	48,185,996
Mellon Emerging Markets Stock Index Fund	73,251,800					7,107,288	80,359,088
Transition Equity	736					109	845
Fidelity Non-US Small Cap Equity	232,584					19,336	251,920
Fixed Income	1,149,208,298	84,055,182	-1,196,373	-120,385	-33,301,748	33,561,358	1,232,206,332
Fixed Income Beta Exposure	254,923,009	84,055,182	-393,421		-1,525,100	262,992	337,322,663
Mellon DB SL Aggregate Bond Index Fund	154,776,570					2,937,145	157,713,715
PIMCO Core Plus	157,443,885					3,221,700	160,665,585
Western Asset Core Plus	115,138,268					3,674,392	118,812,660
Western Asset High Yield Fixed Income	183,575,160				-28,154,988	6,567,033	161,987,205
TCW Securitized Opportunities	97,625,393			-120,385	-3,621,660	-129,835	93,753,514
Stone Harbor Emerging Markets Debt Blend Portfolio	59,118,869		-802,952			5,351,023	63,666,940
PIMCO EMD	126,505,886					11,671,117	138,177,003
Transition Fixed Income	101,258					5,790	107,047
Commodities	231,611,569			-28,714	-37,000,000	11,218,921	205,801,777
Gresham MTAP Commodity Builder Fund	78,689,436			-28,714	-27,000,000	836,861	52,497,584
Wellington Commodities	152,922,133				-10,000,000	10,382,060	153,304,193
Hedge Funds	555,236,603				-23,847,662	11,920,259	543,309,200
Aristeia International Limited	68,735,073					-553,664	68,181,409
Brevan Howard Fund	76,508,122					255,718	76,763,840
D.E. Shaw Composite Fund	61,196,084				-4,120,886	1,781,731	58,856,929
HBK Fund II	56,515,419				-14,726,776	2,380,483	44,169,126
Hudson Bay Cap Structure Arbitrage Enhanced Fund	78,368,295					1,722,802	80,091,097

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Indus Pacific Opportunities Fund	37,249,096					-11,550	37,237,546
Magnetar Structured Credit Fund	8,159,524					137,666	8,297,190
Pharo Macro Fund	61,133,696					1,148,298	62,281,994
PIMCO Commodity Alpha Fund	63,623,535				-5,000,000	4,402,305	63,025,840
Sculptor Domestic Partners II LP	43,747,759					656,470	44,404,229
Alpha Pool	257,700,699	5,725,985			-24,324,244	403,136	239,505,576
Hudson Bay	60,533,289	1,369,871			437,556	-476,701	61,864,015
Davidson Kempner Institutional Partners	53,269,455	1,207,361			382,310	-612,122	54,247,004
HBK Fund II	54,349,773	1,260,019			-13,761,622	628,414	42,476,585
HBK Opportunities Platform – SPAC Series	35,999,510	646,228			-11,774,038	-113,764	24,757,936
Garda Fixed Income Relative Value Opportunity Fund	53,548,672	1,242,506			391,550	977,308	56,160,036
Midstream Energy	322,797,858				-48,890,841	25,485,335	299,392,352
Harvest Midstream	185,889,047				-47,789,638	13,978,180	152,077,589
PIMCO Midstream	136,908,811				-1,101,202	11,507,154	147,314,763
Core Real Estate	360,386,343			-338,981	-3,926,267	-15,814,512	340,306,582
ASB Allegiance Real Estate Fund	199,291,186				-1,951,028	-7,921,116	189,419,041
JPMCB Strategic Property Fund	161,095,157			-338,981	-1,975,239	-7,893,396	150,887,540
Private Real Estate	104,997,989				12,462,751	2,186,534	119,647,273
Invesco Real Estate Value-Add Fund IV	4,031,249					-1,371,795	2,659,454
Landmark Real Estate Partners VIII	28,646,936				2,020,382	1,056,828	31,724,146
Long Wharf Real Estate	33,209,484				1,268,583	338,544	34,816,611
Covenant Apartment Fund X	27,939,711				-380,540	2,345,935	29,905,106
Singerman Real Estate Opportunity Fund IV	3,850,122				4,331,250	33,455	8,214,827
LBA Logistics Value Fund IX, L.P.	5,813,153				1,923,077	-162,225	7,574,005
Covenant Apartment Fund XI, LP	1,507,333				3,300,000	-54,208	4,753,125
Private Equity	150,085,053	1,592,275			10,660,667	-1,055,334	161,282,661
Abbott VI	22,959,156				-1,245,490	-2,773,347	18,940,319
Pantheon Secondary III	567,222					-13,350	553,872
Pantheon III	49,712					-2,648	47,064
Pantheon V	414,136					-2,644	411,492
Pantheon VI	354,968					-8,778	346,190

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Pantheon VII	8,101,079					-206,918	7,894,161
Vista Foundation Fund IV	13,958,460					-137,270	13,821,190
Crown Global Secondaries V Master S.C.Sp	21,065,609				2,500,000	1,416,991	24,982,600
Brighton Park Capital Fund I	34,670,679				-158,002	-283,570	34,229,107
Warren Equity Partners Fund III	24,410,915					1,250,721	25,661,636
Peak Rock Capital Fund III	9,273,982				998,647	482,998	10,755,627
Level Equity Growth Partners V	2,872,189				1,443,646	-278,632	4,037,203
Level Equity Opportunities Fund 2021	1,371,903				2,022,817	-181,872	3,212,848
Linden Capital Partners V LP	5,145,635				477,975	-162,582	5,461,028
Linden Co-Investment V LP	1,769,077					77,190	1,846,267
Abbott V	3,100,331					-231,623	2,868,708
Private Credit	248,609,852				-6,167,405	935,026	243,377,473
DC Value Recovery Fund IV	33,313,661				-13,622,353	-868,894	18,822,414
Sixth Street TAO Partners (B)	37,760,184				325,471	588,808	38,674,463
Brookfield Real Estate Finance Fund V	19,766,051				-918,105	770,155	19,618,101
Magnetar Constellation Fund V	31,448,946				-1,900,729	977,526	30,525,743
H.I.G. Bayside Loan Opportunity Fund V	40,257,660					-185,517	40,072,143
Blue Torch Credit Opportunities Fund II	16,754,007				-262,540	597,813	17,089,280
Fortress Credit Opportunites Fund V Expansion	12,998,162				1,041,074	-19,414	14,019,822
Fortress Lending Fund II	30,712,727				-1,130,223	-983,400	28,599,104
Fortress Lending Fund III	15,394,988				8,800,000	-188,338	24,006,650
OrbiMed Royalty & Credit Opportunities IV	3,000,000				1,500,000	60,332	4,560,332
Blue Torch Credit Opportunities Fund III	7,203,466					185,955	7,389,421
Opportunistic	168,102,976				3,050,766	-2,313,059	168,840,683
DB Investors Fund IV	22,582,102					-876,726	21,705,376
Sixth Street TAO Partners (D)	84,455,252				3,814,422	2,635,483	90,905,157
Aristeia Select Opportunities II	52,911,257					-4,218,183	48,693,074
River Birch International	8,154,365				-763,656	146,367	7,537,076

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Cash	-117,009,383	140,606,102	-225,575,534	-26,323	171,588,402	1,693,123	-28,723,613
Short Term Investment Funds	72,261,961	684,002	-20,875,908	-26,323	141,588,402	1,355,295	194,987,429
Parametric Cash Overlay	46,075,185	62,148,890	-40,652,380				67,571,696
Goldman Sachs Cash Account	25,625,978	40,797,305	-62,038,791				4,384,492
Futures Offset	-379,534,909	36,975,905	-102,008,455			-1,635,404	-446,202,863
Collateral Cash							
BlackRock Short Duration Fund	118,562,401				30,000,000	1,973,232	150,535,633

Total Fund
Cash Flow History

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	4,901,023,930	5,061,358,140	5,558,278,973	4,502,865,481	4,181,030,655	3,102,407,361
Contributions	521,842,704	1,926,712,090	3,438,566,790	10,258,584,522	12,322,983,985	18,243,788,644
Withdrawals	-542,018,734	-1,957,576,214	-3,508,001,409	-10,475,977,814	-12,673,850,000	-18,892,032,494
Fees	-514,402	-1,039,480	-10,754,518	-39,922,553	-66,658,458	-126,702,760
Net Cash Flows	-20,176,030	-30,864,123	-69,434,618	-217,393,292	-350,866,015	-648,243,851
Net Investment Change	221,674,100	72,027,984	-386,322,354	817,049,811	1,272,357,361	2,648,358,490
Ending Market Value	5,102,522,000	5,102,522,000	5,102,522,000	5,102,522,000	5,102,522,000	5,102,522,000
Net Change \$	201,498,070	41,163,860	-455,756,972	599,656,519	921,491,346	2,000,114,639

Contribution and withdrawals include transfers in and out of accounts. Ending market value is net of fees. Market value and flows do not include the Short Term Cash Account balance.

Risk Metrics

Total Fund
Actual Correlation Matrix

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

Correlation Matrix
3 Years Ending December 31, 2022

	A	B	C	D	E	F	G	H	I	J	K	L
A	1.00											
B	0.99	1.00										
C	0.96	0.98	1.00									
D	0.96	0.98	0.93	1.00								
E	0.85	0.84	0.75	0.84	1.00							
F	0.82	0.79	0.75	0.77	0.77	1.00						
G	0.61	0.60	0.58	0.56	0.58	0.92	1.00					
H	0.90	0.85	0.82	0.82	0.79	0.87	0.66	1.00				
I	0.84	0.81	0.73	0.82	0.85	0.90	0.69	0.87	1.00			
J	0.71	0.63	0.56	0.67	0.62	0.38	0.11	0.60	0.56	1.00		
K	0.73	0.69	0.65	0.67	0.70	0.58	0.33	0.77	0.70	0.57	1.00	
L	-0.16	-0.17	-0.10	-0.21	-0.25	-0.36	-0.34	-0.25	-0.34	-0.01	-0.22	1.00

- A = Total Fund
- B = Equity
- C = Domestic Equity
- D = International Developed Equity
- E = Emerging Markets Equity
- F = Fixed Income
- G = Core Plus Fixed Income
- H = High Yield/ Specialty Credit
- I = Emerging Market Debt
- J = Commodities
- K = Hedge Funds
- L = Core Real Estate

- Low Interaction
- Moderate Interaction
- Moderate to High Interaction
- High Interaction

Total Fund
Risk Analysis - 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	Alpha	Beta	R-Squared	Return	Information Ratio	Excess Performance	Tracking Error	Sharpe Ratio	Excess Return	Standard Deviation	Sortino Ratio	Up Capture	Down Capture
Total Fund	1.0	0.9	1.0	5.6	0.4	0.7	1.5	0.5	5.3	10.3	0.7	95.9	89.3
Equity	0.5	1.0	1.0	4.4	0.4	0.5	1.0	0.3	5.6	20.1	0.4	100.2	98.4
Domestic Equity	0.1	1.0	1.0	7.3	0.0	0.1	1.2	0.4	8.7	21.3	0.6	99.2	98.9
International Developed Equity	0.8	1.0	1.0	1.8	0.7	0.8	1.1	0.2	3.2	20.4	0.2	102.2	99.7
Emerging Markets Equity	-1.6	1.0	1.0	-3.3	-0.5	-1.5	2.9	-0.1	-2.1	20.0	-0.1	91.1	97.2
Fixed Income	0.7	1.1	1.0	-1.9	0.5	0.5	1.0	-0.3	-2.4	7.1	-0.4	111.8	103.8
Core Plus Fixed Income	0.3	1.1	1.0	-2.6	0.1	0.1	1.2	-0.5	-3.2	6.2	-0.6	114.3	108.6
High Yield/ Specialty Credit	0.3	0.8	1.0	0.2	0.1	0.4	2.9	0.0	-0.1	9.0	0.0	75.9	73.5
Emerging Market Debt	2.1	1.1	1.0	-4.1	1.1	1.6	1.5	-0.3	-4.0	13.3	-0.4	109.6	97.3
Commodities	1.1	0.9	0.9	12.7	0.0	0.0	5.8	0.7	12.8	17.6	1.1	92.8	88.6
Hedge Funds	5.4	0.7	0.4	9.0	0.9	4.0	4.1	1.5	8.0	5.1	2.5	95.5	13.0
Core Real Estate	2.3	0.6	0.9	8.1	-0.5	-1.8	4.0	1.4	7.3	5.2	3.3	78.8	69.3
Private Real Estate	0.0	1.0	1.0	17.4	-	0.0	0.0	1.8	15.8	8.7	5.4	100.0	100.0
Private Equity	0.0	1.0	1.0	13.5	-0.6	0.0	0.0	0.9	12.9	13.7	1.8	100.0	100.1
Private Credit	0.0	1.0	1.0	2.6	-0.6	0.0	0.0	0.4	2.0	4.7	0.7	99.9	100.0

Data not available for time periods less than 3 years (Alpha Pool, Midstream, & Opportunistic added in 2020)

Risk Return Statistics: Last Three Years

	Equity	MSCI AC World IMI (Net)	Core Plus Fixed Income	Bloomberg U.S. Aggregate Index	High Yield/ Specialty Credit	ICE BofA U.S. High Yield Index	Emerging Market Debt	3 Years 50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)	Core Real Estate	NCREIF ODCE-monthly
RETURN SUMMARY STATISTICS														
Up Market Periods	21	21	16	16	23	23	17	17	25	25	23	23	34	34
Down Market Periods	15	15	20	20	13	13	19	19	11	11	13	13	2	2
Maximum Return	12.43	12.66	3.41	3.68	4.80	6.02	7.56	7.35	8.01	8.78	3.99	3.34	5.39	7.97
Minimum Return	-14.74	-14.39	-4.27	-4.32	-10.52	-11.76	-13.80	-12.46	-12.65	-12.81	-5.24	-3.02	-3.35	-4.97
Return	4.41	3.89	-2.60	-2.71	0.19	-0.23	-4.11	-5.66	12.66	12.65	8.97	4.99	8.13	9.93
Excess Return	5.65	5.18	-3.16	-3.30	-0.11	-0.32	-3.99	-5.73	12.84	12.98	8.04	4.28	7.25	9.13
Excess Performance	0.51	0.00	0.12	0.00	0.43	0.00	1.56	0.00	0.01	0.00	3.99	0.00	-1.80	0.00
RISK SUMMARY STATISTICS														
Beta	0.99	1.00	1.05	1.00	0.79	1.00	1.06	1.00	0.91	1.00	0.70	1.00	0.58	1.00
Upside Risk	14.52	14.54	3.79	3.48	5.19	6.72	7.81	7.20	13.64	13.62	4.77	4.24	5.27	8.32
Downside Risk	14.02	14.18	4.95	4.66	7.34	8.83	10.85	10.33	11.83	12.95	3.11	2.89	2.15	3.00
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	20.10	20.24	6.19	5.77	8.99	11.10	13.33	12.51	17.63	18.38	5.10	4.92	5.20	8.37
Alpha	0.52	0.00	0.28	0.00	0.29	0.00	2.06	0.00	1.09	0.00	5.40	0.00	2.32	0.00
Sharpe Ratio	0.28	0.25	-0.51	-0.57	-0.01	-0.03	-0.30	-0.46	0.72	0.70	1.53	0.85	1.36	1.07
Excess Risk	20.22	20.36	6.22	5.78	9.12	11.22	13.39	12.56	17.78	18.54	5.24	5.03	5.35	8.49
Tracking Error	1.05	0.00	1.23	0.00	2.86	0.00	1.54	0.00	5.77	0.00	4.06	0.00	4.05	0.00
Information Ratio	0.45	-	0.12	-	0.07	-	1.13	-	-0.02	-	0.93	-	-0.46	-
CORRELATION STATISTICS														
R-Squared	1.00	1.00	0.96	1.00	0.96	1.00	0.99	1.00	0.90	1.00	0.45	1.00	0.86	1.00
Actual Correlation	1.00	1.00	0.98	1.00	0.98	1.00	0.99	1.00	0.95	1.00	0.67	1.00	0.93	1.00

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

Risk Return Statistics: Last Two Years

	Midstream Energy	Alerian Midstream Energy Index	2 Yrs Opportunistic	Assumed Rate of Return +3%
RETURN SUMMARY STATISTICS				
Up Market Periods	16	16	24	24
Down Market Periods	8	8	0	0
Maximum Return	11.14	11.05	19.65	0.58
Minimum Return	-11.84	-12.21	-4.04	0.58
Return	28.12	29.70	13.39	7.25
Excess Return	26.08	27.93	13.22	6.27
Excess Performance	-1.59	0.00	6.14	0.00
RISK SUMMARY STATISTICS				
Beta	0.85	1.00	-	-
Upside Risk	16.90	19.04	16.64	2.03
Downside Risk	11.39	13.31	5.44	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	18.85	21.70	17.04	0.00
Alpha	2.36	0.00	-	-
Sharpe Ratio	1.38	1.28	0.77	17.27
Excess Risk	18.95	21.80	17.13	0.36
Tracking Error	4.68	0.00	17.04	0.00
Information Ratio	-0.39	-	0.41	-
CORRELATION STATISTICS				
R-Squared	0.97	1.00	-	-
Actual Correlation	0.98	1.00	-	-

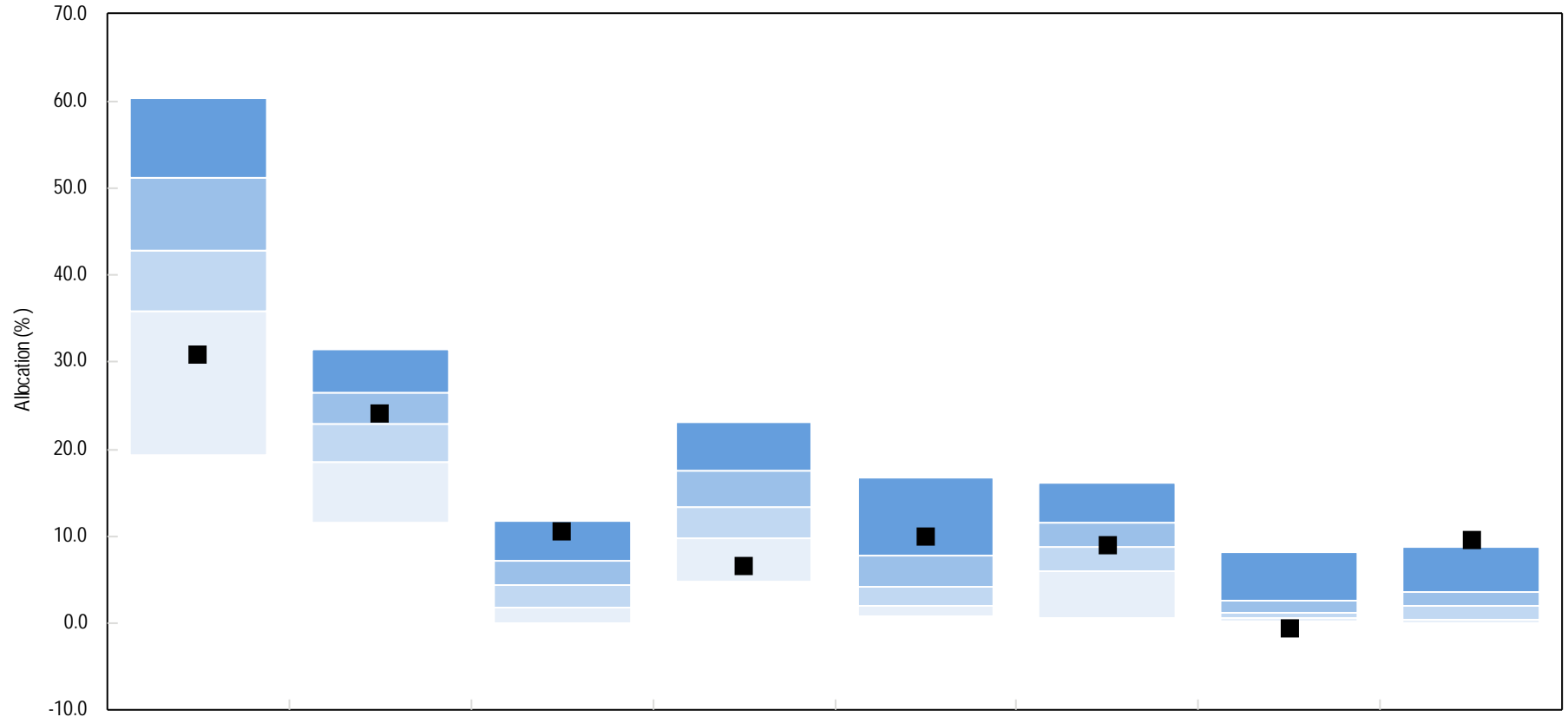
Data for unavailable for positions held for less than two years.

Peer Comparison

Total Fund
Peer Universe Comparison: Asset Allocation

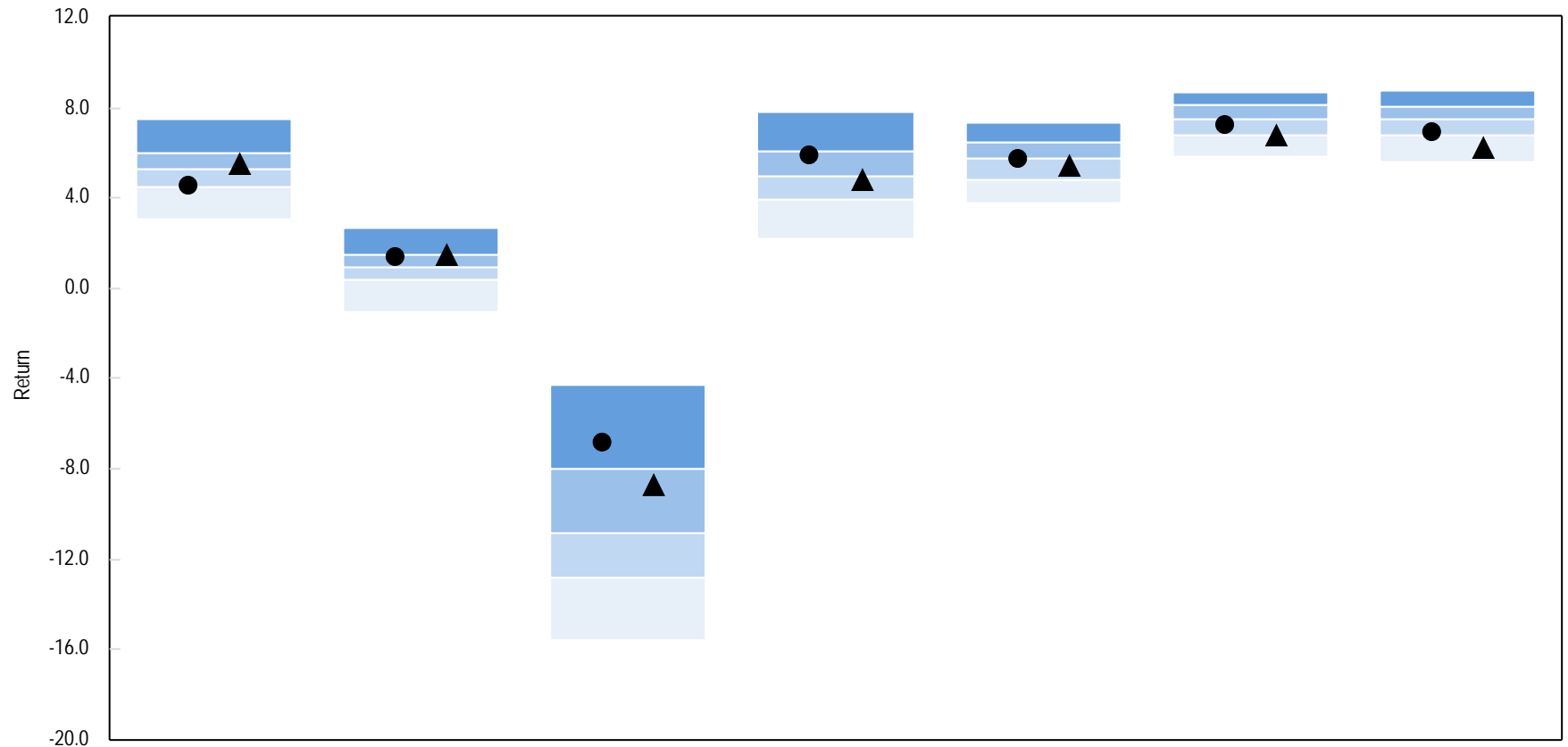
Kern County Employees' Retirement Association
Period Ending: December 31, 2022

Total Plan Allocation vs. InvMetrics Public DB > \$1B
As of December 31, 2022



	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Real Assets/Commod	Real Estate - Private	Cash & Equivalents	Other
■ Total Fund	30.9 (86)	24.1 (40)	10.6 (10)	6.6 (92)	9.9 (21)	8.9 (48)	-0.6	9.5 (1)
5th Percentile	60.4	31.5	11.8	23.2	16.7	16.1	8.2	8.7
1st Quartile	51.2	26.6	7.1	17.4	7.8	11.6	2.6	3.6
Median	42.9	22.9	4.4	13.3	4.2	8.9	1.2	1.9
3rd Quartile	35.9	18.5	1.7	9.8	2.0	5.9	0.6	0.4
95th Percentile	19.3	11.5	0.1	4.7	0.7	0.5	0.1	0.1
Population	133	135	66	106	69	96	108	19

Total Fund vs. InvMetrics Public DB > \$1B

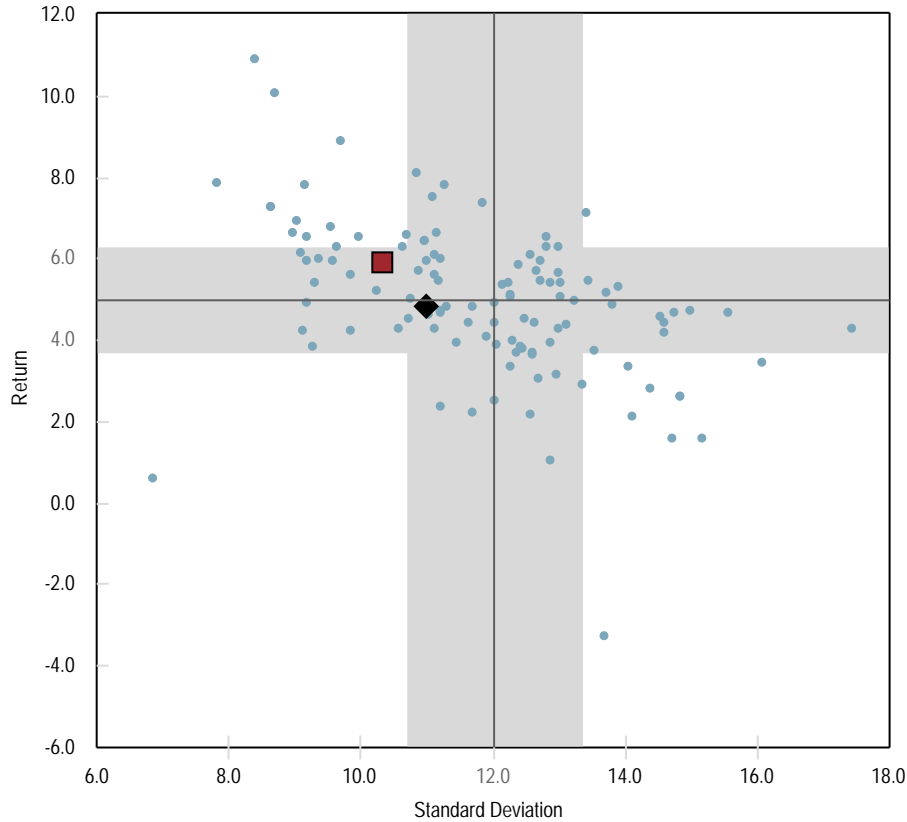


	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	4.6 (73)	1.4 (30)	-6.8 (17)	5.9 (31)	5.8 (51)	7.2 (57)	6.9 (72)
▲ Policy Index	5.5 (44)	1.5 (23)	-8.7 (29)	4.8 (54)	5.4 (60)	6.8 (75)	6.3 (85)
5th Percentile	7.5	2.7	-4.3	7.8	7.4	8.7	8.8
1st Quartile	6.0	1.5	-8.0	6.1	6.4	8.1	8.0
Median	5.3	1.0	-10.8	5.0	5.8	7.5	7.5
3rd Quartile	4.5	0.4	-12.8	4.0	4.8	6.8	6.8
95th Percentile	3.0	-1.1	-15.6	2.2	3.8	5.8	5.6
Population	132	130	121	115	112	112	104

Total Fund
Risk Analysis - 3 & 5 Year (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

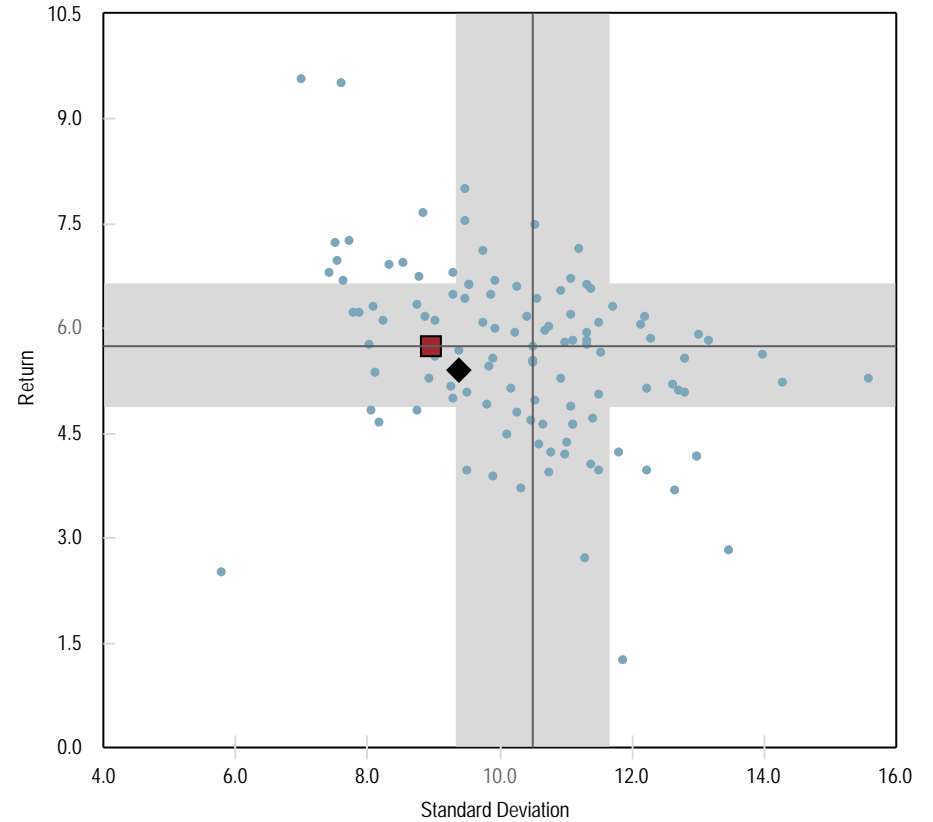
Annualized Return vs. Annualized Standard Deviation
3 Years Ending December 31, 2022



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	5.93	10.33
◆ Policy Index	4.85	11.00
— Median	4.98	12.03
Population	115	115

Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2022



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	5.75	8.96
◆ Policy Index	5.42	9.40
— Median	5.76	10.50
Population	112	112

Other

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association Period Ending: December 31, 2022

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Equity Beta Exposure	Equity	■	-	-	-	-	-	-	-	-	✓
Russell 2000 Overlay	Equity	■	-	-	-	-	-	-	-	-	-
Mellon DB SL Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	✓
PIMCO StocksPLUS	Equity	■	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	✓	Ⓜ	-	-
AB US Small Cap Value Equity	Equity	■	✓	Ⓜ	Ⓜ	Ⓜ	✓	Ⓜ	Ⓜ	-	-
Geneva Capital Small Cap Growth	Equity	■	✓	✓	✓	Ⓜ	✓	Ⓜ	✓	-	-
Mellon DB SL World ex-US Index Fund	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Fidelity Non-US Small Cap Equity	Equity	■	Ⓜ	✓	✓	✓	✓	✓	✓	-	-
Cevian Capital II	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
American Century Non-US Small Cap	Equity	■	✓	✓	Ⓜ	-	-	-	-	-	-
DFA Emerging Markets Value I	Equity	■	Ⓜ	✓	✓	✓	✓	✓	✓	-	-
AB Emerging Markets Strategic Core Equity Collective Trust	Equity	■	✓	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	-	-
Mellon Emerging Markets Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Mellon DB SL Aggregate Bond Index Fund	Fixed Income	■	-	-	-	-	-	-	-	-	✓
PIMCO Core Plus	Fixed Income	■	✓	✓	✓	✓	✓	Ⓜ	✓	P	-
Western Asset Core Plus	Fixed Income	■	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	✓	-	-
Western Asset High Yield Fixed Income	Fixed Income	■	✓	✓	Ⓜ	✓	Ⓜ	✓	Ⓜ	-	-
TCW Securitized Opportunities	Fixed Income	■	✓	✓	✓	✓	✓	✓	Ⓜ	-	-
Stone Harbor Emerging Markets Debt Blend Portfolio	Fixed Income	■	✓	✓	Ⓜ	Ⓜ	✓	Ⓜ	Ⓜ	P	-
PIMCO EMD	Fixed Income	■	✓	✓	✓	-	-	-	-	-	-
Gresham MTAP Commodity Builder Fund	Commodities	■	✓	✓	✓	Ⓜ	✓	Ⓜ	Ⓜ	-	-
Wellington Commodities	Commodities	■	✓	Ⓜ	Ⓜ	Ⓜ	✓	Ⓜ	Ⓜ	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	Ⓜ

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association Period Ending: December 31, 2022

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Aristeia International Limited	Hedge Funds	■	-	-	⚠	-	✓	-	✓	-	-
Brevan Howard Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
D.E. Shaw Composite Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
HBK Fund II	Hedge Funds	■	-	-	⚠	-	✓	-	⚠	-	-
Hudson Bay Cap Structure Arbitrage Enhanced Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
Indus Pacific Opportunities Fund	Hedge Funds	■	-	-	⚠	-	✓	-	⚠	-	-
Magnetar Structured Credit Fund	Hedge Funds	■	-	-	⚠	-	✓	-	✓	-	-
PIMCO Commodity Alpha Fund	Hedge Funds	■	✓	⚠	⚠	⚠	⚠	✓	⚠	-	-
River Birch International	Opportunistic	■	-	-	✓	-	⚠	-	⚠	-	-
Sculptor Domestic Partners II LP	Hedge Funds	■	-	-	⚠	-	⚠	-	-	-	-
Harvest Midstream	Midstream	■	✓	✓	✓	-	-	-	-	-	-
PIMCO Midstream	Midstream	■	✓	✓	⚠	-	-	-	-	-	-
ASB Allegiance Real Estate Fund	Core Real Estate	■	-	-	✓	-	⚠	-	⚠	-	-
JPMCB Strategic Property Fund	Core Real Estate	■	-	-	⚠	-	⚠	-	⚠	-	-
Invesco Real Estate Value-Add Fund IV	Private Real Estate	■	-	-	⚠	-	⚠	-	⚠	-	-
Landmark Real Estate Partners VIII	Private Real Estate	■	-	-	-	-	-	-	-	-	⚠
DB Investors Fund IV	Opportunistic	■	-	-	⚠	-	⚠	-	-	-	-
Sixth Street TAO Partners (D)	Opportunistic	■	-	-	⚠	-	-	-	-	-	-
Aristeia Select Opportunities II	Opportunistic	■	-	-	⚠	-	-	-	-	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	⚠

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund
Quarterly Historical Returns (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: December 31, 2022

	2022 Q4	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3	2020 Q2	2020 Q1
Total Fund	4.5	-3.1	-7.5	-0.8	3.6	0.5	5.5	3.5	8.8	4.4	10.7	-11.3
<i>Policy Index</i>	5.5	-3.8	-8.9	-1.3	3.3	0.7	5.7	3.3	8.8	4.5	10.1	-11.1

	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3	2017 Q2	2017 Q1
Total Fund	4.6	0.2	3.1	6.8	-6.4	2.3	0.3	-0.1	3.0	3.2	2.7	4.2
<i>Policy Index</i>	4.6	0.8	3.0	7.0	-5.5	2.2	0.7	-0.1	3.2	3.1	2.8	3.5

	2016 Q4	2016 Q3	2016 Q2	2016 Q1	2015 Q4	2015 Q3	2015 Q2	2015 Q1	2014 Q4	2014 Q3	2014 Q2	2014 Q1
Total Fund	0.8	3.5	1.9	1.1	2.2	-5.4	0.7	2.4	0.8	-1.5	3.6	2.1
<i>Policy Index</i>	0.5	2.9	2.2	1.8	1.4	-4.9	0.4	2.0	0.4	-1.4	3.4	2.4

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Association Period Ending: December 31, 2022

Performance Return Calculations

Performance is calculated using a Time Weighted Rates of Return (TWRR) methodology. Monthly returns are linked geometrically and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>
AB Emerging Markets Strategic Core	11/3/2016	Northern Trust	Linden Co-Investment V LP	6/30/2022	Linden
AB US Small Cap Value Equity	7/7/2015	Northern Trust	Long Wharf Real Estate	6/27/2019	Long Wharf
Abbott Capital PE VI	3/31/2008	Abbott Capital	Magnetar Constellation	11/14/2018	Magnetar
American Century Non-US Small Cap	12/15/2020	American Century	Magnetar Structured Credit	5/1/2014	Magnetar
Aristeia International Limited	5/1/2014	Northern Trust	Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
ASB Real Estate	9/30/2013	ASB	Mellon EB DV Stock Index	10/18/2017	Mellon
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric	Mellon EB DV World ex-US Index	8/1/2018	Mellon
BlackRock Short Duration Fund	9/8/2021	BlackRock	Myriad Opportunities Offshore	5/19/2016	Northern Trust
Blue Torch Credit Opportunities	7/24/2020	Blue Torch	OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
Brevan Howard	11/1/2013	Northern Trust	Pantheon Global III	6/30/2000	Pantheon
Brighton Private Equity	3/29/2021	Brighton	Pantheon USA III	3/31/2007	Pantheon
Brighton Park Capital Fund II, L.P.	9/30/2022	Brighton	Pantheon USA V	6/30/2005	Pantheon
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust	Pantheon USA VI	3/31/2005	Pantheon
Cevian Capital II	12/30/2014	Northern Trust	Pantheon USA VII	3/31/2005	Pantheon
DC Value Recovery fund IV	12/28/2015	Colony	Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Covenant Apartment Fund X	10/29/2020	Covenant	Peak Rock Capital Fund III	7/13/2021	Peak Rock
DB Investors Fund IV	1/29/2020	DB	PIMCO Commodity Alpha	5/4/2016	PIMCO
D.E. Shaw	6/30/2013	Northern Trust	PIMCO Core Plus	1/21/2011	Northern Trust
DFA Emerging Markets Value I	3/7/2014	Northern Trust	PIMCO EMD	2/29/2020	Northern Trust
Fortress Credit Opportunities	12/17/2020	Fortress	PIMCO Midstream	10/9/2020	PIMCO
Fortress Lending Fund II	3/15/2021	Fortress	PIMCO StocksPLUS	7/14/2003	PIMCO
Garda Fixed Income Relative Value Opp	9/30/2021	Garda	Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
Geneva Capital Small Cap Growth	7/22/2015	Geneva	River Birch	8/3/2015	Northern Trust
Gresham MTAP Commodity	9/3/2013	Gresham	Rubicon Technology Partners IV LP	11/30/2022	Rubicon
Harvest Midstream	9/28/2020	Harvest Midstream	Singerman Real Estate Opportunity Fund IV	10/27/2021	Singerman
HBK Fund II	11/1/2013	Northern Trust	Sculptor Enhanced Domestic Partners	3/26/2019	Sculptor
Henderson Smallcap Growth	7/22/2015	Northern Trust	Short Term Cash Account	12/31/2000	Northern Trust
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital	Short Term Investment Funds	6/30/2000	Northern Trust
Hudson Bay	6/7/2019	Northern Trust	Stone Harbor Emerging Markets Debt	8/8/2012	Stone Harbor
Indus Pacific Opportunities	6/30/2014	Northern Trust	TAO Contingent	4/16/2020	TPG Sixth Street
Invesco Real Estate III	6/30/2013	Invesco	TCW Securitized Opportunities	2/3/2016	TCW
Invesco Real Estate IV	12/18/2015	Invesco	Transition Equity	9/30/2010	Northern Trust
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan	Transition Fixed Income	9/30/2010	Northern Trust
KSL Capital Partners VI	4/26/2023	KSL Capital	TSSP Adjacent Opportunities Partners	11/17/2017	TPG Sixth Street
Landmark Real Estate Partners VIII	4/29/2018	Landmark	Vista Equity Partners	7/24/2020	Vista Equity
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA	Warren Equity III	4/1/2021	Warren
Level Equity Growth Partners V	11/1/2021	Level Equity	Warren Equity IV	1/1/2023	Warren
Level Equity Opportunities Fund 2021	11/1/2021	Level Equity	Wellington Alternative Investments	2/9/2023	Wellington
LGT Crown	2/1/2021	LGT	Western Asset Core Plus	5/31/2004	Northern Trust
Linden Capital Partners V LP	7/19/2022	Linden	Western Asset High Yield Fixed income	5/31/2005	Northern Trust

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Association Period Ending: December 31, 2022

Policy & Custom Index Composition	
Policy Index: 4/1/2022-Present	37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill.
Policy Index: 7/1/2021-4/1/2022	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 1/1/2021-6/30/2021	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 7/1/2020-12/31/2020	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 1% Alerian Midstream, 4% Bloomberg US Aggregate
Policy Index: 4/1/2020-6/30/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 1/1/2020-3/31/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2019-12/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2019-9/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 4/1/2019-6/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 1/1/2019-3/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2018-12/31/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2018-9/30/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 3% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 2% MSCI ACWI*, 7% Bloomberg US Aggregate*
Policy Index: 1/1/2017- 6/30/2018	19% Russell 3000 Index, 18% MSCI ACWI ex US, 29% Bloomberg US Aggregate, 10% NCREIF-ODCE, 4% Bloomberg Commodity Index, 7.5% 91-day T-bills + 400bps, 2.5% MSCI ACWI, 5% Russell 3000 Index + 300 bps, 5% ICE BofA ML High Yield + 200 bps.
Policy Index: 4/1/2014-12/31/2016	23% Russell 3000 Index, 29% Bloomberg US Aggregate, 22% MSCI ACWI ex US.

Other Disclosures

*Private Asset actual weights, rounded to 1%, and actual time-weighted returns of Private Equity, Private Credit, Private Real Estate used in policy with the difference in weight versus target allocated to private market's public market "equivalent". Private Equity to Global Equity, Private Credit and Private Real Estate to Core Plus.

All data prior to 2Q 2011 has been provided by the investment managers.

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment manager fees will be included in the gross of fee return calculation. Fiscal year end: 6/30.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: $\text{excess return} / \text{tracking error}$.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management, (c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.

Kern County Employees' Retirement Association

Investment Performance Review

Period Ending: March 31, 2023



VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

Total Fund
Portfolio Reconciliation

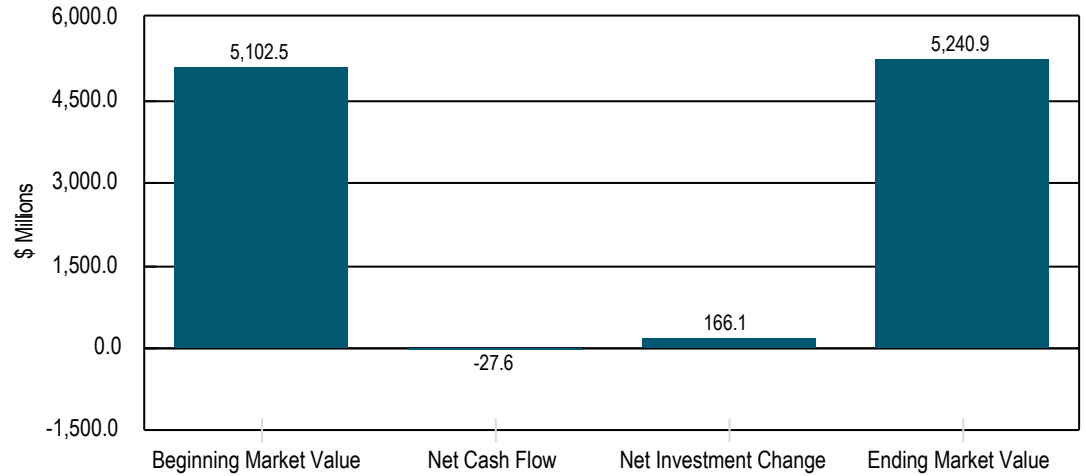
Kern County Employees' Retirement Association
Period Ending: March 31, 2023

Portfolio Reconciliation

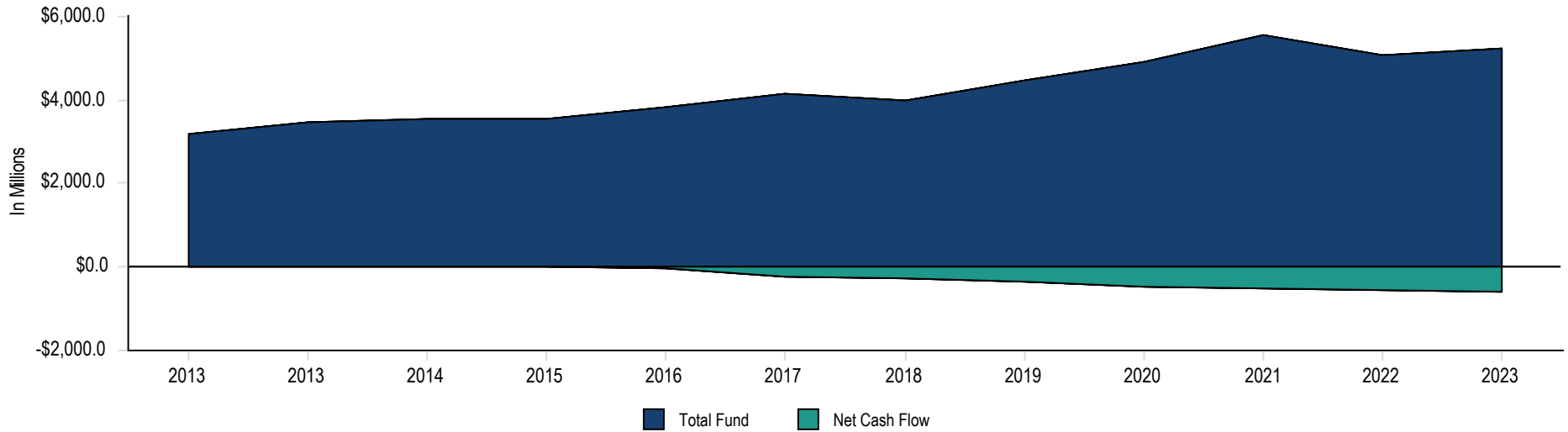
Last Three
Months

Beginning Market Value	\$5,102,522,000
Net Cash Flows	-\$27,584,265
Net Investment Change	\$166,119,670
Ending Market Value	\$5,240,888,799

Change in Market Value
Last Three Months



Market Value History



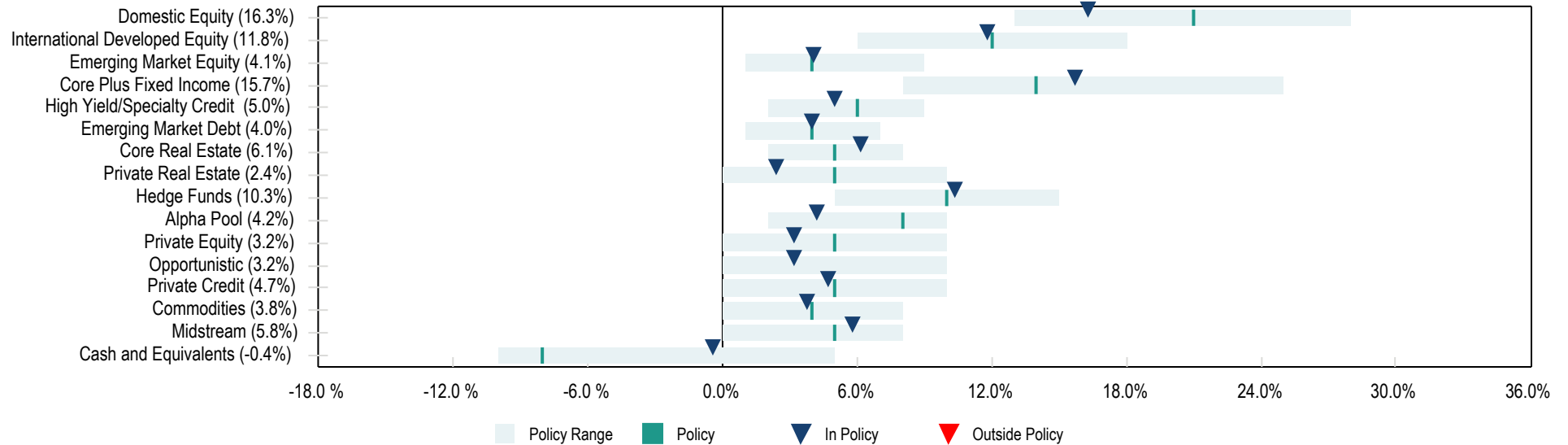
Total Fund

Asset Allocation vs. Policy

Kern County Employees' Retirement Association
 Period Ending: March 31, 2023

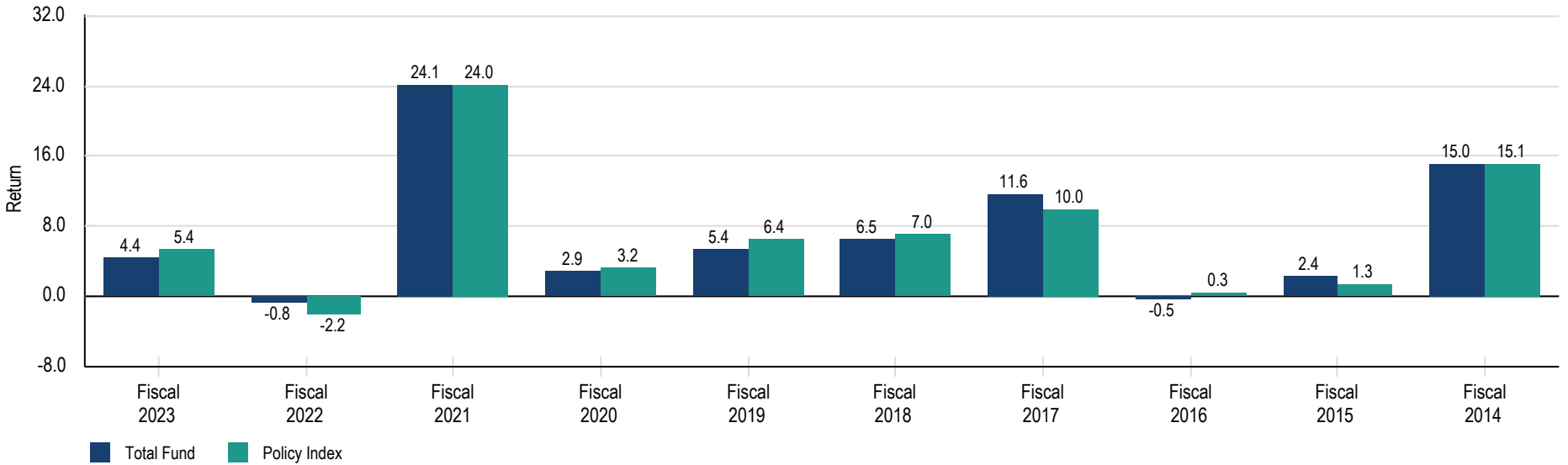
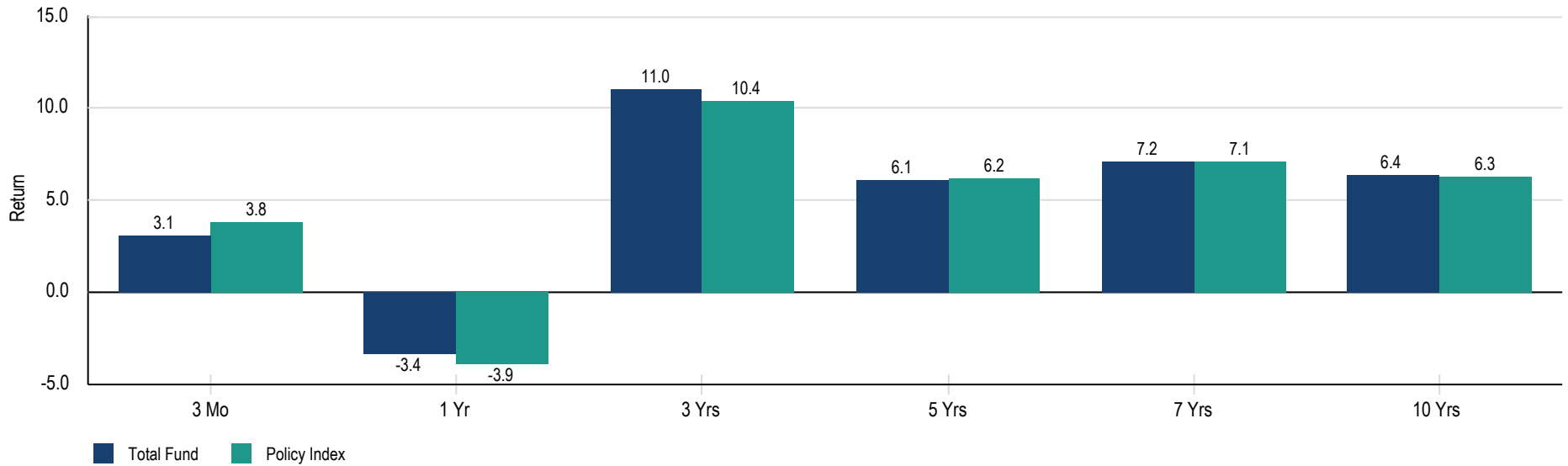
	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Excess Allocation (%)	Policy Range (%)	Within IPS Range?
Equity	1,684,531,735	32.1	37.0	-4.9	26.0 - 48.0	Yes
Fixed Income	1,293,165,405	24.7	24.0	0.7	14.0 - 34.0	Yes
Core Real Estate	321,881,000	6.1	5.0	1.1	2.0 - 8.0	Yes
Hedge Funds	540,806,896	10.3	10.0	0.3	5.0 - 15.0	Yes
Alpha Pool	219,047,320	4.2	8.0	-3.8	2.0 - 10.0	Yes
Private Equity	165,827,721	3.2	5.0	-1.8	0.0 - 10.0	Yes
Private Credit	245,458,300	4.7	5.0	-0.3	0.0 - 10.0	Yes
Private Real Estate	123,608,804	2.4	5.0	-2.6	0.0 - 10.0	Yes
Commodities	197,553,350	3.8	4.0	-0.2	0.0 - 8.0	Yes
Opportunistic	167,025,043	3.2	0.0	3.2	0.0 - 10.0	Yes
Midstream	303,662,302	5.8	5.0	0.8	0.0 - 8.0	Yes
Cash and Equivalents	-21,679,077	-0.4	-8.0	7.6	-10.0 - 5.0	Yes
Total	5,240,888,799	100.0	100.0	0.0		

Executive Summary



Total Fund
Performance vs. Policy (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023



Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Total Fund	5,240,888,799	100.0	3.2	4.6	-3.1	11.4	6.4	6.8	-4.2	24.4	3.2	5.7	6.8
<i>Policy Index</i>			3.8	5.4	-3.9	10.4	6.2	6.3	-6.5	24.0	3.2	6.4	7.0
<i>InvMetrics Public DB > \$1B Rank</i>			80	60	26	45	43	61	32	88	20	63	97
Equity	1,684,531,735	32.1	6.9	10.1	-6.3	16.6	7.2	9.2	-14.9	41.2	0.7	5.3	12.4
<i>MSCI AC World IMI (Net)</i>			6.9	9.7	-7.7	15.6	6.6	7.9	-16.5	40.9	1.2	4.6	11.1
Domestic Equity	852,361,067	16.3	6.8	9.3	-8.3	18.8	10.8	-	-12.0	43.6	6.3	9.2	16.1
<i>MSCI USA IMI</i>			7.3	10.0	-8.5	18.8	10.6	-	-13.7	44.4	6.7	9.0	14.9
International Developed Equity	619,134,174	11.8	7.8	14.0	-2.6	14.8	3.8	-	-17.2	37.0	-5.5	-0.6	9.1
<i>MSCI World ex U.S. IMI Index (Net)</i>			7.6	13.3	-3.9	13.5	3.5	-	-17.7	34.8	-5.1	0.2	7.7
Emerging Markets Equity	213,035,817	4.1	4.7	2.2	-9.2	9.6	-1.7	-	-21.4	40.6	-10.9	0.4	4.0
<i>MSCI Emerging Markets IMI (Net)</i>			3.9	1.5	-10.7	9.2	-0.6	-	-24.8	43.2	-4.0	0.5	7.9
Fixed Income	1,293,165,405	24.7	3.2	3.0	-4.3	0.4	1.5	2.0	-12.7	5.4	6.6	7.9	0.2
<i>Fixed Income Custom Benchmark</i>			3.1	2.0	-4.5	-0.4	1.2	1.9	-11.6	4.0	5.2	8.4	-0.1
Core Plus Fixed Income	823,458,691	15.7	3.0	0.2	-5.0	-2.0	1.1	-	-11.2	1.0	9.5	8.0	0.0
<i>Bloomberg U.S. Aggregate Index</i>			3.0	-0.1	-4.8	-2.8	0.9	-	-10.3	-0.3	8.7	7.9	-0.4
High Yield/ Specialty Credit	260,844,746	5.0	3.3	6.0	-2.7	5.6	3.5	-	-9.5	13.6	0.0	7.5	3.3
<i>ICE BofA U.S. High Yield Index</i>			3.7	7.1	-3.6	5.8	3.1	-	-12.7	15.6	-1.1	7.6	2.5
Emerging Market Debt	208,560,566	4.0	3.8	8.7	-2.6	2.6	-1.3	-	-19.6	9.4	-1.2	8.5	-3.6
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			3.5	6.9	-3.8	0.5	-1.4	-	-20.2	7.1	-1.1	10.8	-1.9
Commodities	197,553,350	3.8	-1.7	-3.8	-10.3	22.6	7.1	-	20.1	43.5	-10.7	-6.2	13.7
<i>Bloomberg Commodity Index Total Return</i>			-5.4	-7.2	-12.5	20.8	5.4	-	24.3	45.6	-17.4	-6.8	7.3
Hedge Funds	540,806,896	10.3	1.5	5.7	5.9	11.3	7.0	6.2	2.8	16.3	7.3	2.6	7.6
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI IMI</i>			3.3	6.8	3.3	7.8	6.2	6.0	-0.9	12.3	5.1	6.6	7.0
Alpha Pool	219,047,320	4.2	-0.4	0.5	-0.2	-	-	-	1.5	14.5	-	-	-
<i>3 Month T-Bill +4%</i>			2.1	5.5	6.6	-	-	-	4.2	4.1	-	-	-
Midstream Energy	303,662,302	5.8	2.9	16.4	6.1	-	-	-	9.6	-	-	-	-
<i>Alerian Midstream Energy Index</i>			0.8	8.1	-1.2	-	-	-	11.4	-	-	-	-
Core Real Estate	321,881,000	6.1	-4.4	-8.1	-3.8	6.7	6.4	-	25.6	6.6	2.3	6.1	7.4
<i>NCREIF ODCE</i>			-3.2	-7.5	-3.1	8.4	7.5	-	29.5	8.0	2.2	6.4	8.4
Private Real Estate	123,608,804	2.4	3.5	8.9	12.5	16.5	12.8	13.1	31.3	12.1	4.4	9.0	5.4
			3.5	8.9	12.5	16.5	12.8	13.1	31.3	12.1	4.4	9.0	5.4
Private Equity	165,827,721	3.2	0.9	-3.5	-2.8	14.3	11.2	11.2	23.0	41.7	-10.5	10.9	7.8
			0.9	-3.5	-2.8	14.3	11.2	11.2	23.0	41.7	-10.5	10.9	7.8
Private Credit	245,458,300	4.7	1.3	0.5	1.6	1.3	4.7	-	1.2	4.8	5.5	9.7	9.3
			1.3	0.5	1.6	1.3	4.7	-	1.2	4.8	5.5	9.7	9.3

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-Bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Opportunistic	167,025,043	3.2	4.2	-0.4	-10.3	18.4	-	-	-5.4	59.9	-	-	-
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>5.4</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-
Cash	-21,679,077	-0.4	0.5	1.8	1.7	0.6	1.2	1.4	-0.2	0.1	1.0	2.0	3.2
<i>3 Month T-Bill</i>			<i>1.1</i>	<i>2.4</i>	<i>2.5</i>	<i>0.9</i>	<i>1.4</i>	<i>0.9</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>	<i>1.4</i>

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-Bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-QDCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Performance and Attribution

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Total Fund	5,240,888,799	100.0	3.1	4.4	-3.4	11.0	6.1	6.4	-4.5	24.1	2.9	5.4	6.5	6.4	Jun-11
Policy Index			3.8	5.4	-3.9	10.4	6.2	6.3	-6.5	24.0	3.2	6.4	7.0	6.2	
Equity	1,684,531,735	32.1	6.8	9.9	-6.5	16.3	6.8	8.8	-15.1	40.7	0.3	4.8	11.8	8.5	Jun-11
MSCI AC World IMI (Net)			6.9	9.7	-7.7	15.6	6.6	7.9	-16.5	40.9	1.2	4.6	11.1	7.7	
Domestic Equity	852,361,067	16.3	6.7	9.2	-8.4	18.6	10.5	-	-12.2	43.2	6.0	8.8	15.5	10.7	Jul-14
MSCI USA IMI			7.3	10.0	-8.5	18.8	10.6	-	-13.7	44.4	6.7	9.0	14.9	10.4	
Equity Beta Exposure	116,684,550	2.2	7.5	9.7	-8.3	-	-	-	-11.0	-	-	-	-	10.2	Aug-20
S&P 500 Index			7.5	10.0	-7.7	-	-	-	-10.6	-	-	-	-	10.7	
Mellon DB SL Stock Index Fund	492,812,772	9.4	7.5	10.0	-7.7	18.6	11.2	-	-10.6	40.8	7.5	10.4	-	11.1	Oct-17
S&P 500 Index			7.5	10.0	-7.7	18.6	11.2	-	-10.6	40.8	7.5	10.4	-	11.0	
PIMCO StocksPLUS	106,968,573	2.0	7.5	9.2	-9.5	18.4	10.7	12.1	-12.8	41.7	7.7	10.6	14.1	10.3	Jul-03
S&P 500 Index			7.5	10.0	-7.7	18.6	11.2	12.2	-10.6	40.8	7.5	10.4	14.4	9.6	
AB US Small Cap Value Equity	85,933,985	1.6	-0.4	3.9	-12.2	23.3	4.2	-	-16.1	77.5	-19.4	-6.9	13.2	6.4	Jul-15
Russell 2000 Value Index			-0.7	2.7	-13.0	21.0	4.5	-	-16.3	73.3	-17.5	-6.2	13.1	6.2	
Geneva Capital Small Cap Growth	49,961,187	1.0	8.4	9.4	-4.8	15.0	8.1	-	-22.1	37.6	9.3	8.6	22.7	9.7	Jul-15
Russell 2000 Growth Index			6.1	10.7	-10.6	13.4	4.3	-	-33.4	51.4	3.5	-0.5	21.9	5.7	
International Developed Equity	619,134,174	11.8	7.8	13.9	-2.7	14.6	3.6	-	-17.3	36.7	-5.7	-0.9	8.7	4.1	Jul-14
MSCI World ex U.S. IMI Index (Net)			7.6	13.3	-3.9	13.5	3.5	-	-17.7	34.8	-5.1	0.2	7.7	3.3	
Mellon DB SL World ex-US Index Fund	509,554,780	9.7	8.1	14.2	-2.4	14.8	-	-	-16.1	35.6	-5.5	-	-	4.6	Jul-18
MSCI World ex U.S. IMI Index (Net)			7.6	13.3	-3.9	13.5	-	-	-17.7	34.8	-5.1	-	-	3.7	
Cevian Capital II	37,835,395	0.7	9.9	22.0	11.3	25.4	8.5	-	-8.2	46.8	-8.2	-5.0	2.9	7.4	Dec-14
MSCI Europe (Net)			10.6	18.6	1.4	15.0	4.4	-	-17.6	35.1	-6.8	1.9	5.3	4.8	
American Century Non-US Small Cap	71,741,628	1.4	4.6	9.0	-10.2	-	-	-	-27.4	-	-	-	-	-3.9	Dec-20
MSCI World ex U.S. Small Cap Growth Index (Net)			5.4	9.2	-13.0	-	-	-	-28.6	-	-	-	-	-5.6	
Emerging Markets Equity	213,035,817	4.1	4.6	1.8	-9.8	8.8	-2.5	-	-21.9	39.5	-11.8	-0.6	2.9	0.6	Jul-14
MSCI Emerging Markets IMI (Net)			3.9	1.5	-10.7	9.2	-0.6	-	-24.8	43.2	-4.0	0.5	7.9	1.9	
DFA Emerging Markets Value I	77,971,643	1.5	3.7	3.2	-7.9	16.2	0.2	-	-12.9	47.6	-17.7	2.0	5.7	3.4	Mar-14
MSCI Emerging Markets Value (Net)			3.9	1.6	-9.4	10.0	-1.2	-	-18.6	41.6	-15.7	5.0	4.3	1.6	
AB Emerging Markets Strategic Core Equity Collective Trust	51,359,657	1.0	6.6	1.5	-10.3	5.1	-3.2	-	-25.2	33.6	-5.1	-2.6	1.2	1.8	Dec-16
MSCI Emerging Markets (Net)			4.0	0.8	-10.7	7.8	-0.9	-	-25.3	40.9	-3.4	1.2	8.2	4.6	
Mellon Emerging Markets Stock Index Fund	83,704,518	1.6	4.2	0.9	-11.0	-	-	-	-25.5	41.1	-	-	-	2.0	Jun-20
MSCI Emerging Markets (Net)			4.0	0.8	-10.7	-	-	-	-25.3	40.9	-	-	-	4.7	
Fixed Income	1,293,165,405	24.7	3.1	2.8	-4.6	0.1	1.3	1.7	-13.0	5.1	6.3	7.6	-0.1	3.2	Jun-10
Fixed Income Custom Benchmark			3.1	2.0	-4.5	-0.4	1.2	1.9	-11.6	4.0	5.2	8.4	-0.1	2.9	
Core Plus Fixed Income	823,458,691	15.7	3.0	0.1	-5.2	-2.1	1.0	-	-11.4	0.8	9.3	7.9	-0.2	1.5	Jul-14
Bloomberg U.S. Aggregate Index			3.0	-0.1	-4.8	-2.8	0.9	-	-10.3	-0.3	8.7	7.9	-0.4	1.3	
Fixed Income Beta Exposure	373,052,129	7.1	2.9	-1.0	-	-	-	-	-	-	-	-	-	1.3	Jun-22
Bloomberg U.S. Aggregate Index			3.0	-0.1	-	-	-	-	-	-	-	-	-	-1.7	
Mellon DB SL Aggregate Bond Index Fund	162,415,284	3.1	3.0	-0.1	-4.9	-2.8	0.9	1.3	-10.4	-0.4	8.8	7.9	-0.4	2.0	Jan-11
Bloomberg U.S. Aggregate Index			3.0	-0.1	-4.8	-2.8	0.9	1.4	-10.3	-0.3	8.7	7.9	-0.4	2.1	

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Total Fund
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	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
PIMCO Core Plus	165,702,164	3.2	3.1	0.1	-4.9	-1.8	1.1	1.4	-9.9	1.1	8.7	6.3	1.0	2.3	Feb-11
Bloomberg U.S. Aggregate Index			3.0	-0.1	-4.8	-2.8	0.9	1.4	-10.3	-0.3	8.7	7.9	-0.4	2.1	
Western Asset Core Plus	122,289,114	2.3	2.9	1.1	-5.6	-1.6	0.9	1.9	-14.5	2.4	9.3	9.4	-0.4	3.8	Jun-04
Bloomberg U.S. Aggregate Index			3.0	-0.1	-4.8	-2.8	0.9	1.4	-10.3	-0.3	8.7	7.9	-0.4	3.3	
High Yield/ Specialty Credit	260,844,746	5.0	3.2	5.7	-3.2	5.1	3.0	-	-10.0	13.1	-0.5	7.0	2.8	2.4	Jul-14
ICE BofA U.S. High Yield Index			3.7	7.1	-3.6	5.8	3.1	-	-12.7	15.6	-1.1	7.6	2.5	3.5	
Western Asset High Yield Fixed Income	164,707,494	3.1	3.5	7.3	-5.1	5.5	2.9	3.5	-14.1	16.5	-2.2	8.3	2.2	5.7	Jun-05
Bloomberg US HY Ba/B 2% Cap TR			3.4	7.4	-2.7	5.6	3.6	4.1	-12.4	13.4	2.1	8.8	1.8	6.0	
TCW Securitized Opportunities	96,137,252	1.8	2.5	3.0	-0.4	3.6	2.7	-	-4.0	6.4	2.2	5.2	4.3	3.3	Feb-16
Bloomberg U.S. High Yield - 2% Issuer Cap			3.6	7.2	-3.4	5.9	3.2	-	-12.8	15.3	0.0	7.5	2.6	5.7	
Emerging Market Debt	208,560,566	4.0	3.7	8.3	-3.1	2.2	-1.7	-	-19.9	9.1	-1.7	7.9	-4.2	0.0	Jul-14
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			3.5	6.9	-3.8	0.5	-1.4	-	-20.2	7.1	-1.1	10.8	-1.9	0.2	
Stone Harbor Emerging Markets Debt Blend Portfolio	64,653,539	1.2	2.9	7.7	-4.0	2.3	-2.1	-0.7	-20.9	9.5	-1.8	8.2	-3.1	-0.3	Aug-12
50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx			3.6	6.8	-3.3	0.7	-1.2	0.4	-19.5	7.2	-0.8	10.6	-1.7	0.8	
PIMCO EMD	143,907,027	2.7	4.0	8.5	-2.8	2.0	-	-	-19.2	8.7	-	-	-	-2.8	Feb-20
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			3.5	6.9	-3.8	0.5	-	-	-20.2	7.1	-	-	-	-4.4	
Commodities	197,553,350	3.8	-1.8	-4.3	-10.8	21.8	6.5	-	19.4	42.5	-11.3	-6.7	13.3	-0.1	Jul-13
Bloomberg Commodity Index Total Return			-5.4	-7.2	-12.5	20.8	5.4	-	24.3	45.6	-17.4	-6.8	7.3	-0.8	
Gresham MTAP Commodity Builder Fund	49,142,121	0.9	-6.4	-9.9	-12.2	21.5	5.0	-	24.7	46.8	-16.3	-9.0	12.4	-0.8	Oct-13
Bloomberg Commodity Index Total Return			-5.4	-7.2	-12.5	20.8	5.4	-	24.3	45.6	-17.4	-6.8	7.3	-0.8	
Wellington Commodities	148,411,229	2.8	-0.3	-2.2	-10.4	21.9	7.3	-	17.2	40.2	-7.5	-5.4	14.2	0.6	Sep-13
S&P GSCI Commodity Equal Weighted			-0.3	-1.0	-8.4	22.1	7.4	-	19.0	40.9	-12.4	-3.5	12.6	0.9	
Hedge Funds	540,806,896	10.3	1.4	5.2	5.6	11.0	6.8	5.6	2.8	16.1	7.0	2.5	7.6	5.9	Sep-10
75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)			3.4	6.8	3.4	7.8	6.2	6.0	-0.9	12.3	5.1	6.6	7.0	5.9	
Aristeia International Limited	69,959,516	1.3	2.6	4.1	4.1	12.3	9.0	-	1.8	21.6	8.7	9.2	2.6	5.3	May-14
Brevan Howard Fund	55,851,429	1.1	-3.4	1.8	6.5	7.1	12.7	-	15.2	6.1	20.5	12.7	7.8	7.7	Sep-13
D.E. Shaw Composite Fund	59,530,214	1.1	1.1	7.9	14.1	21.4	16.9	-	29.0	19.0	15.6	11.5	11.3	14.3	Jul-13
HBK Fund II	44,737,059	0.9	1.3	7.2	5.2	10.2	5.1	-	2.3	11.0	1.5	5.5	3.0	4.5	Nov-13
Hudson Bay Cap Structure Arbitrage Enhanced Fund	80,735,699	1.5	0.8	6.6	8.4	12.3	-	-	7.7	14.2	16.2	-	-	11.8	Jun-19
Indus Pacific Opportunities Fund	47,650,356	0.9	1.4	2.3	0.8	15.9	4.5	-	-8.2	38.0	15.8	-19.2	15.8	7.3	Jul-14
Pharo Macro Fund	61,359,040	1.2	-1.5	-1.3	-4.1	-0.7	-	-	-11.1	3.5	-	-	-	-2.0	Dec-19
PIMCO Commodity Alpha Fund	67,115,042	1.3	6.5	11.2	16.5	17.8	9.0	-	8.6	14.2	4.8	5.2	10.4	10.5	Jun-16
Sculptor Domestic Partners II LP	46,540,997	0.9	4.8	5.6	-9.2	3.5	-	-	-19.9	16.8	6.5	-	-	4.7	Feb-19
Magnetar Structured Credit Fund	7,327,545	0.1	0.9	3.1	2.7	16.8	9.0	-	1.1	38.1	-0.2	5.4	7.7	7.7	May-14
Alpha Pool	219,047,320	4.2	-0.4	0.5	-0.2	-	-	-	1.5	14.5	-	-	-	5.8	Jul-20
3 Month T-Bill +4%			2.1	5.5	6.6	-	-	-	4.2	4.1	-	-	-	5.0	
Hudson Bay	62,361,920	1.2	-1.5	0.4	1.6	-	-	-	6.7	-	-	-	-	7.2	Aug-20
Davidson Kempner Institutional Partners	54,896,123	1.0	-1.1	-2.6	-5.5	-	-	-	-3.4	-	-	-	-	0.9	Dec-20
HBK Fund II	43,022,754	0.8	-1.0	0.9	-1.3	-	-	-	1.3	-	-	-	-	3.1	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	58,583,027	1.1	2.0	4.3	6.3	-	-	-	-	-	-	-	-	6.3	Sep-21
HBK Opportunities Platform – SPAC Series	183,496	0.0	-0.8	-1.3	-2.5	-	-	-	-2.5	-	-	-	-	1.7	Nov-20

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Midstream Energy	303,662,302	5.8	2.8	15.8	5.3	-	-	-	9.3	-	-	-	-	29.4	Sep-20
Alerian Midstream Energy Index			0.8	8.1	-1.2	-	-	-	11.4	-	-	-	-	26.2	
Harvest Midstream	155,726,602	3.0	3.7	18.3	8.3	-	-	-	15.3	-	-	-	-	36.6	Aug-20
Alerian Midstream Energy Index			0.8	8.1	-1.2	-	-	-	11.4	-	-	-	-	25.3	
PIMCO Midstream	147,935,700	2.8	1.8	12.6	1.4	-	-	-	2.2	-	-	-	-	22.8	Sep-20
50/25/25 Alerian Midstream/ ICE BofA US Pipeline/ ICE BofA US HY Midstream			2.4	7.6	-1.5	-	-	-	-0.7	-	-	-	-	-	
Core Real Estate	321,881,000	6.1	-4.6	-8.4	-4.3	6.0	5.7	-	24.8	5.6	1.4	5.9	7.4	7.3	Oct-14
NCREIF ODCE			-3.2	-7.5	-3.1	8.4	7.5	-	29.5	8.0	2.2	6.4	8.4	8.8	
ASB Allegiance Real Estate Fund	177,580,755	3.4	-5.6	-7.5	-3.3	6.0	5.8	-	23.0	5.4	1.5	6.8	7.1	7.5	Sep-13
NCREIF ODCE			-3.2	-7.5	-3.1	8.4	7.5	-	29.5	8.0	2.2	6.4	8.4	9.1	
JPMCB Strategic Property Fund	144,300,244	2.8	-3.2	-9.8	-5.5	6.1	5.8	-	27.9	5.9	1.3	5.0	7.6	7.3	Jul-14
NCREIF ODCE			-3.2	-7.5	-3.1	8.4	7.5	-	29.5	8.0	2.2	6.4	8.4	8.9	
Private Real Estate	123,608,804	2.4	3.4	8.8	12.4	16.5	12.8	12.6	31.3	12.1	4.4	9.0	5.4	12.8	Mar-11
			3.5	8.9	12.5	16.5	12.8	13.1	31.3	12.1	4.4	9.0	5.4	12.9	
Private Equity	165,827,721	3.2	0.9	-3.5	-2.9	14.3	11.2	10.7	22.9	41.7	-10.5	10.9	7.8	10.6	Sep-10
			0.9	-3.5	-2.8	14.3	11.2	11.2	23.0	41.7	-10.5	10.9	7.8	10.8	
Private Credit	245,458,300	4.7	1.2	0.4	1.6	1.3	4.7	-	1.2	4.8	5.5	9.7	9.3	-24.2	Dec-15
			1.3	0.5	1.6	1.3	4.7	-	1.2	4.8	5.5	9.7	9.3	6.8	
Opportunistic	167,025,043	3.2	4.2	-0.5	-10.3	18.4	-	-	-5.4	59.9	-	-	-	10.4	Jan-20
Assumed Rate of Return +3%			1.8	5.4	7.2	7.2	-	-	7.2	7.2	-	-	-	7.2	
River Birch International	5,961,528	0.1	15.4	25.1	-	-	-	-	-	-	-	-	-	37.3	Jun-22
Assumed Rate of Return +3%			1.8	5.4	-	-	-	-	-	-	-	-	-	5.4	
DB Investors Fund IV	25,576,934	0.5	17.8	0.3	-35.9	15.8	-	-	-34.4	95.1	-	-	-	7.9	Dec-19
Assumed Rate of Return +3%			1.8	5.4	7.2	7.2	-	-	7.2	7.2	-	-	-	7.2	
Sixth Street TAO Partners (D)	85,955,709	1.6	1.3	-0.5	2.2	15.1	-	-	9.6	39.6	-	-	-	15.1	Mar-20
Assumed Rate of Return +3%			1.8	5.4	7.2	7.2	-	-	7.2	7.2	-	-	-	7.2	
Aristeia Select Opportunities II	49,530,872	0.9	1.7	-4.9	-4.4	-	-	-	-	-	-	-	-	-0.2	Jul-21
Assumed Rate of Return +3%			1.8	5.4	7.2	-	-	-	7.2	-	-	-	-	7.2	
Cash	-21,679,077	-0.4	0.5	1.7	1.6	0.6	1.1	1.4	-0.2	0.1	1.0	2.0	3.2	1.3	Apr-11
3 Month T-Bill			1.1	2.4	2.5	0.9	1.4	0.9	0.2	0.1	1.6	2.3	1.4	0.7	

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Total Private Equity

Kern County Employees' Retirement
Period Ending: March 31, 2023

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value as of 3/31/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Equity												
2008	Abbott Capital PE VI	\$17,231,430	\$50,000,000	\$49,750,000	100%	\$250,000	\$78,095,564	\$22,959,156	1.57x	1.92x	13.0%	09/30/22
2006	Pantheon Global III	\$544,562	\$50,000,000	\$47,300,000	95%	\$2,700,000	\$52,000,000	\$553,872	1.10x	1.11x	1.9%	12/31/22
1998	Pantheon USA III	\$45,445	\$7,500,000	\$7,335,000	98%	\$165,000	\$8,197,500	\$47,064	1.12x	1.12x	1.9%	12/31/22
2002	Pantheon USA V	\$392,019	\$25,000,000	\$24,350,000	97%	\$650,000	\$37,950,000	\$411,492	1.56x	1.57x	9.0%	12/31/22
2004	Pantheon USA VI	\$357,185	\$35,000,000	\$33,075,000	95%	\$1,925,000	\$50,823,827	\$346,190	1.53x	1.54x	6.7%	12/31/22
2006	Pantheon USA VII	\$6,715,424	\$50,000,000	\$48,800,000	93%	\$3,400,000	\$80,124,999	\$7,894,161	1.72x	1.86x	10.1%	12/31/22
2020	Vista Foundation Fund IV	\$17,834,585	\$25,000,000	\$18,753,571	75%	\$6,246,429	\$30,252	\$13,821,190	0.00x	0.95x	-9.8%	12/31/22
2021	Crown Global Secondaries V Master S.C.Sp	\$28,138,412	\$50,000,000	\$21,250,000	43%	\$28,750,000	\$1,550,000	\$24,982,600	0.07x	1.40x	34.7%	12/31/22
2021	Brighton Park Capital Fund I	\$35,655,157	\$30,000,000	\$33,619,644	112%	-\$3,619,644	\$1,325,801	\$37,910,214	0.04x	1.10x	17.3%	09/30/22
2021	Warren Equity Partners Fund III	\$27,303,165	\$32,500,000	\$22,969,962	71%	\$9,530,138	\$508,290	\$24,410,915	0.02x	1.21x	23.8%	09/30/22
2021	Peak Rock Capital Fund III	\$11,225,621	\$30,000,000	\$11,109,034	37%	\$18,890,966	\$1,879,477	\$10,755,827	0.17x	1.18x	22.7%	12/31/22
2021	Level Equity Growth Partners V	\$4,543,921	\$15,000,000	\$5,139,531	34%	\$9,860,469	\$0	N/A	N/A	N/A	N/A	N/A
2021	Level Equity Opportunities Fund 2021	\$3,253,568	\$15,000,000	\$3,673,753	24%	\$11,326,247	\$0	N/A	N/A	N/A	N/A	N/A
2022	Linden Capital Partners V LP	\$5,472,902	\$22,500,000	\$5,623,610	25%	\$16,876,390	\$0	\$5,481,028	N/A	N/A	-8.7%	12/31/22
2022	Rubicon Technology Partners IV LP	\$2,681,880	\$30,000,000	\$3,214,080	11%	\$26,785,920	\$0	\$3,214,080	N/A	N/A	-69.4%	12/31/22
2022	OrbiMed Private Investments IX, LP	\$366,875	\$10,000,000	\$500,000	5%	\$9,500,000	\$0	\$366,875	N/A	N/A	27.6%	03/31/23
2022	Brighton Park Capital Fund II	\$2,249,052	\$30,000,000	\$3,239,535	11%	\$26,760,465	\$0	N/A	N/A	N/A	N/A	N/A
2022	Linden Co-Investment V LP	\$1,816,540	\$7,500,000	\$5,623,610	75%	\$1,876,390	\$0	\$1,846,267	N/A	N/A	21.8%	12/31/22
2022	Warren Equity Partners Fund IV	\$0	\$32,500,000	\$0	0%	\$32,500,000	\$0	N/A	N/A	N/A	N/A	N/A
2022	Accel-KKR Capital Partners VII	\$0	\$25,000,000	\$0	0%	\$25,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	LGT Crown Global Secondaries Fund VI	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	Parthenon Investors VII	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Equity		\$165,827,721	\$632,500,000	\$343,126,229	54%	\$289,373,771	\$312,285,711	\$154,980,731	0.91x	1.39x		
% of Portfolio (Market Value)		3.2%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Total Fund
Total Private Credit

Kern County Employees' Retirement
Period Ending: March 31, 2023

IRR Analysis as of IRR date												
Vintage		Estimated Market Value	Total	Capital	%	Remaining	Capital		Distrib./	Tot. Value/	Net IRR	IRR
Year	Manager/Fund	3/31/2023	Commitment	Called	Called	Commitment	Returned	Market Value as of IRR date	Paid-In (DPI) ¹	Paid-In (TVPI) ²	Since Inception ³	Date
Private Credit												
2015	DC Value Recovery Fund IV ⁴	\$20,781,309	\$60,000,000	\$73,340,099	122%	-\$5,500,870	\$37,625,485	\$18,822,414	0.51x	0.80x	9.0%	12/31/22
2017	Sixth Street TAO Partners (B)	\$39,800,921	\$50,000,000	\$67,850,097	136%	-\$17,850,097	\$42,191,344	\$38,674,463	0.62x	1.21x	9.5%	12/31/22
2017	Brookfield Real Estate Finance Fund V	\$17,621,779	\$50,000,000	\$36,019,917	72%	\$13,980,083	\$26,878,678	\$19,618,101	0.75x	1.24x	7.7%	12/31/22
2018	Magnetar Constellation Fund V	\$28,836,480	\$60,000,000	\$64,905,493	108%	-\$4,905,493	\$41,583,529	\$28,836,480	0.64x	1.08x	6.3%	3/31/23
2019	H.I.G Bayside Loan Opportunity Fund V	\$42,185,573	\$60,000,000	\$35,821,497	60%	\$24,178,503	\$11,999,612	\$42,185,573	0.33x	1.51x	17.9%	3/31/23
2020	Blue Torch Credit Opportunities Fund II	\$17,526,212	\$20,000,000	\$16,613,092	83%	\$3,386,908	\$1,836,476	\$17,089,280	0.11x	1.17x	14.2%	12/31/22
2020	Fortress Credit Opportunites Fund V Expansion	\$13,938,158	\$40,000,000	\$12,688,449	32%	\$27,311,551	\$468,590	\$14,019,822	0.04x	1.14x	23.4%	12/31/22
2021	Fortress Lending Fund II	\$29,190,818	\$40,000,000	\$33,337,851	83%	\$6,662,149	\$5,527,900	\$28,599,104	0.17x	1.04x	2.9%	12/31/22
2022	Blue Torch Credit Opportunities Fund III	\$7,625,106	\$40,000,000	\$7,199,891	18%	\$32,800,109	\$0	N/A	0.00x	1.06x	N/A	N/A
2022	Fortress Lending Fund III	\$23,391,071	\$40,000,000	\$23,232,701	58%	\$16,767,299	\$1,416,992	\$24,006,650	N/A	N/A	-5.9%	12/31/22
2022	OrbiMed Royalty & Credit Opportunities IV	\$4,560,873	\$30,000,000	\$4,500,000	15%	\$25,500,000	\$0	\$4,560,873	0.00x	1.01x	11.9%	3/31/23
Total Private Credit		\$245,458,300	\$490,000,000	\$375,509,086	77%	\$122,330,143	\$169,528,608	\$236,412,760	0.45x	1.11x		
% of Portfolio (Market Value)		4.7%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

⁴Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

Total Fund
Total Private Real Estate

Kern County Employees' Retirement
Period Ending: March 31, 2023

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value 3/31/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Real Estate												
2014	Invesco Real Estate Value-Add Fund IV	\$1,394,290	\$50,000,000	\$43,837,717	87%	\$6,362,283	\$56,824,750	\$2,659,454	1.30x	1.33x	12.3%	12/31/22
2017	Landmark Real Estate Partners VIII	\$31,009,306	\$60,000,000	\$38,464,357	64%	\$21,535,643	\$22,374,230	\$28,646,936	0.58x	1.39x	21.8%	09/30/22
2018	Long Wharf Real Estate Partners VI	\$34,044,975	\$50,000,000	\$48,196,234	96%	\$1,803,766	\$22,497,522	\$34,044,975	0.47x	1.17x	22.0%	03/31/23
2020	Covenant Apartment Fund X	\$33,907,055	\$30,000,000	\$24,007,333	80%	\$5,992,667	\$6,027,231	\$29,905,106	0.25x	1.66x	29.9%	12/31/22
2021	Singerman Real Estate Opportunity Fund IV	\$6,958,995	\$35,000,000	\$8,146,250	23%	\$26,853,750	\$0	\$8,851,934	0.00x	0.85x	21.0%	03/31/23
2022	LBA Logistics Value Fund IX, L.P.	\$8,851,934	\$40,000,000	\$8,076,923	20%	\$31,923,077	\$0	N/A	N/A	N/A	N/A	N/A
2022	Covenant Apartment Fund XI	\$7,442,250	\$30,000,000	\$3,300,000	105%	\$38,076,924	\$0	N/A	N/A	N/A	N/A	N/A
2022	KSL Capital Partners VI	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Real Estate		\$123,608,804	\$325,000,000	\$173,828,814	53%	\$162,548,110	\$107,723,734	\$104,108,405	0.62x	1.33x		
% of Portfolio (Market Value)		2.4%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

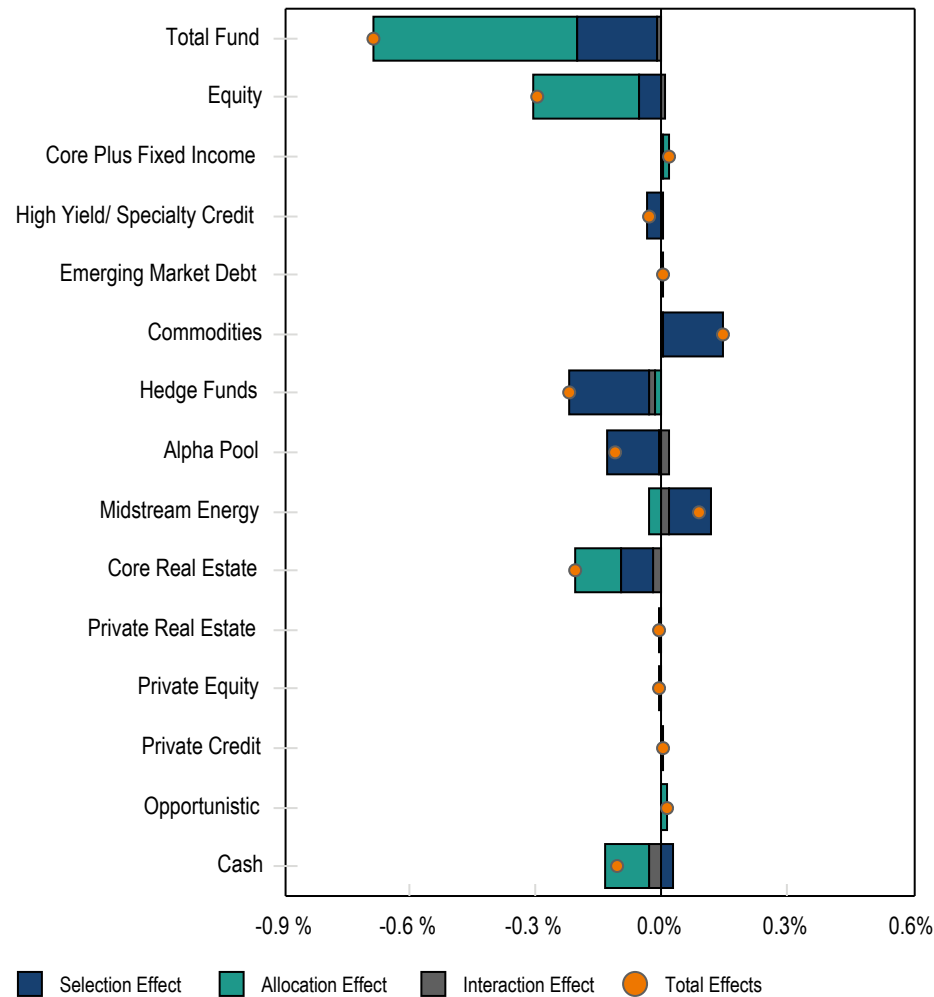
³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

KSL Capital Partners VI funded in Q2

Total Fund
Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

Attribution Effects
Last Three Months



Performance Attribution

	Last Three Months
Wtd. Actual Return	3.1
Wtd. Index Return	3.8
Excess Return	-0.7
Selection Effect	-0.2
Allocation Effect	-0.5
Interaction Effect	0.0

Attribution Summary
Last Three Months

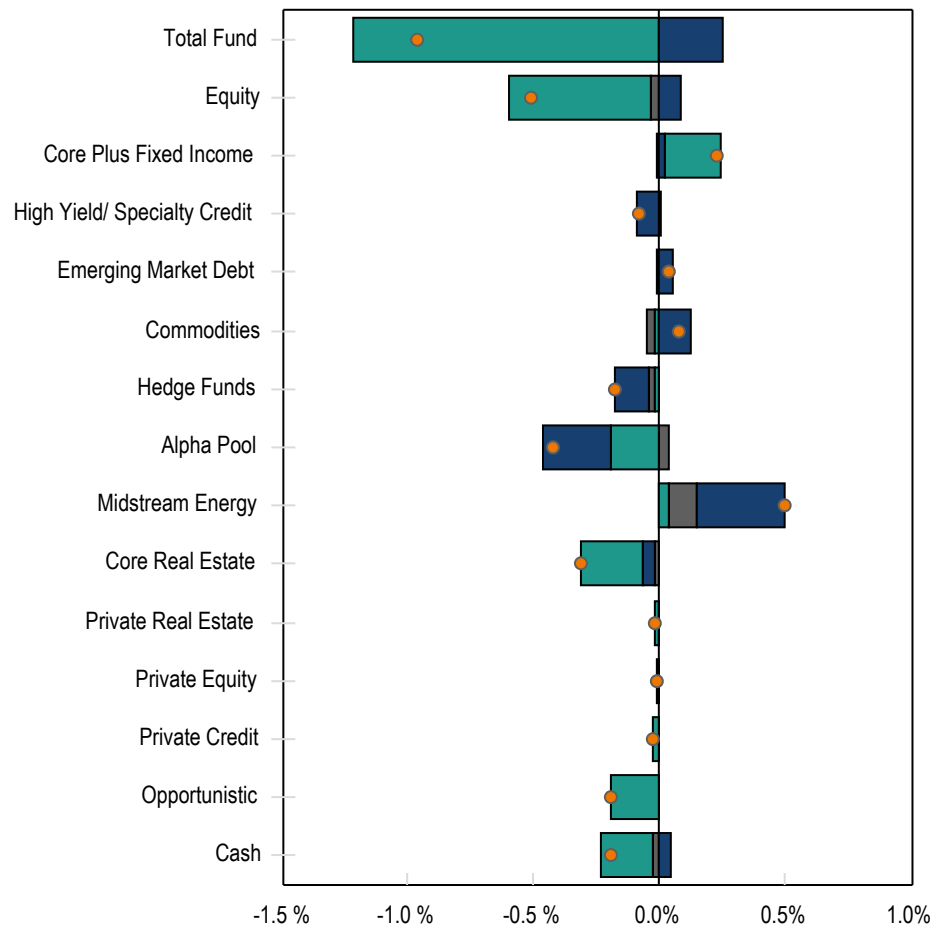
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	6.8	6.9	-0.1	0.0	-0.3	0.0	-0.3
Core Plus Fixed Income	3.0	3.0	0.0	0.0	0.0	0.0	0.0
High Yield/ Specialty Credit	3.2	3.7	-0.6	0.0	0.0	0.0	0.0
Emerging Market Debt	3.7	3.5	0.2	0.0	0.0	0.0	0.0
Commodities	-1.8	-5.4	3.5	0.1	0.0	0.0	0.1
Hedge Funds	1.4	3.4	-2.0	-0.2	0.0	0.0	-0.2
Alpha Pool	-0.4	2.1	-2.5	-0.1	0.0	0.0	-0.1
Midstream Energy	2.8	0.8	2.0	0.1	0.0	0.0	0.1
Core Real Estate	-4.6	-3.2	-1.4	-0.1	-0.1	0.0	-0.2
Private Real Estate	3.4	3.5	-0.1	0.0	0.0	0.0	0.0
Private Equity	0.9	0.9	0.0	0.0	0.0	0.0	0.0
Private Credit	1.2	1.3	0.0	0.0	0.0	0.0	0.0
Opportunistic	4.2	1.8	2.4	0.0	0.0	0.0	0.0
Cash	0.5	1.1	-0.6	0.0	-0.1	0.0	-0.1
Total Fund	3.1	3.8	-0.7	-0.2	-0.5	0.0	-0.7

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Total Fund
Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

Attribution Effects
Fiscal YTD



Performance Attribution

	Fiscal YTD
Wtd. Actual Return	4.4
Wtd. Index Return	5.4
Excess Return	-1.0
Selection Effect	0.3
Allocation Effect	-1.2
Interaction Effect	0.0

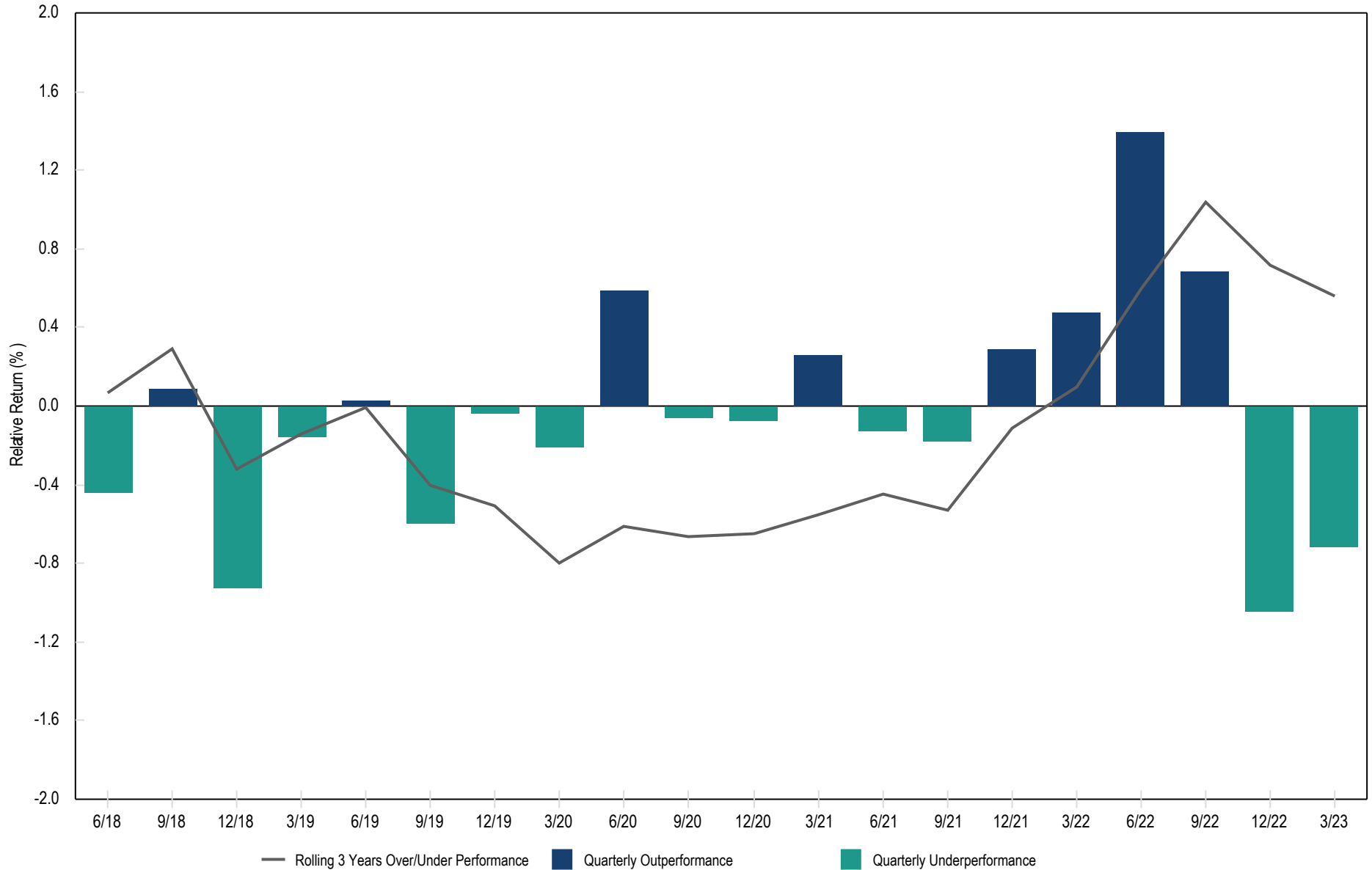
Attribution Summary
Fiscal YTD

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	9.9	9.7	0.2	0.1	-0.6	0.0	-0.5
Core Plus Fixed Income	0.1	-0.1	0.1	0.0	0.2	0.0	0.2
High Yield/ Specialty Credit	5.7	7.1	-1.4	-0.1	0.0	0.0	-0.1
Emerging Market Debt	8.3	6.9	1.4	0.1	0.0	0.0	0.0
Commodities	-4.3	-7.2	2.9	0.1	0.0	0.0	0.1
Hedge Funds	5.2	6.8	-1.7	-0.1	0.0	0.0	-0.2
Alpha Pool	0.5	5.5	-4.9	-0.3	-0.2	0.0	-0.4
Midstream Energy	15.8	8.1	7.7	0.4	0.0	0.1	0.5
Core Real Estate	-8.4	-7.5	-0.9	0.0	-0.2	0.0	-0.3
Private Real Estate	8.8	8.9	-0.1	0.0	0.0	0.0	0.0
Private Equity	-3.5	-3.5	0.0	0.0	0.0	0.0	0.0
Private Credit	0.4	0.5	0.0	0.0	0.0	0.0	0.0
Opportunistic	-0.5	5.4	-5.9	0.0	-0.2	0.0	-0.2
Cash	1.7	2.4	-0.7	0.0	-0.2	0.0	-0.2
Total Fund	4.4	5.4	-1.0	0.3	-1.2	0.0	-1.0

■ Selection Effect ■ Allocation Effect ■ Interaction Effect ● Total Effects

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

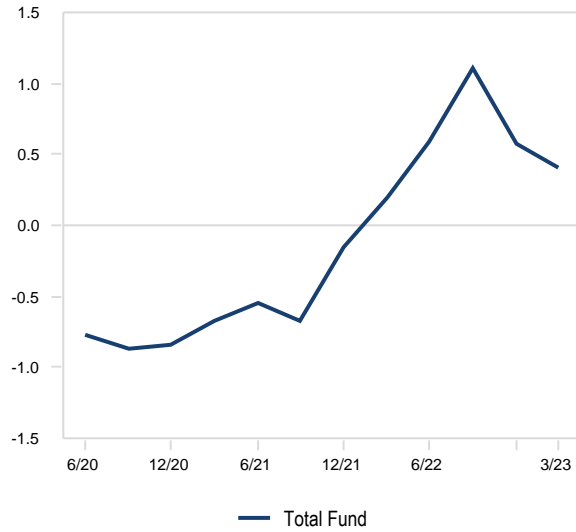
Rolling 3 Year Annualized Excess Performance



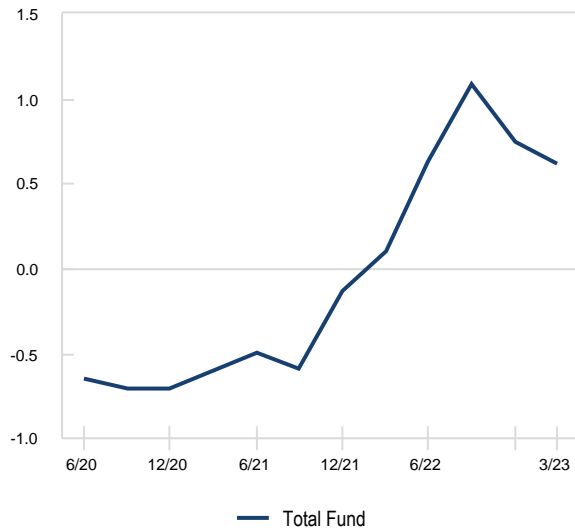
Total Fund
Rolling Risk Statistics: 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

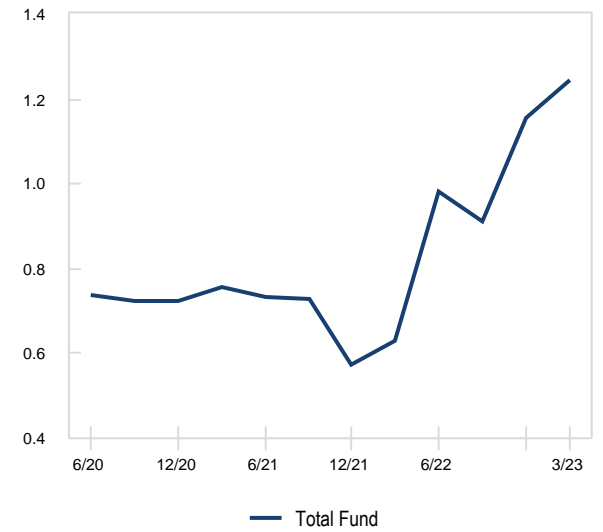
Rolling Information Ratio



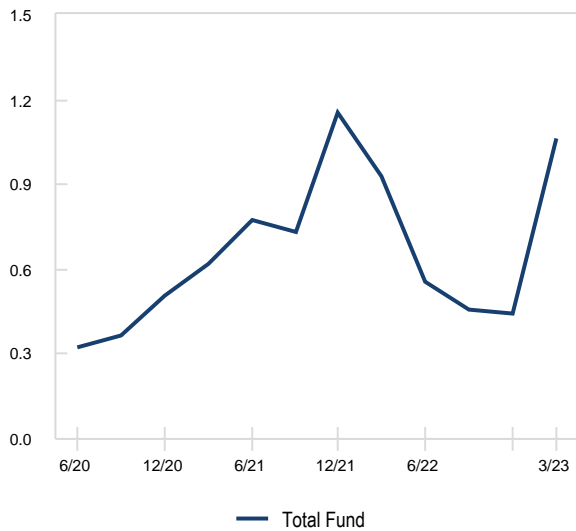
Rolling Annual Excess Benchmark Return



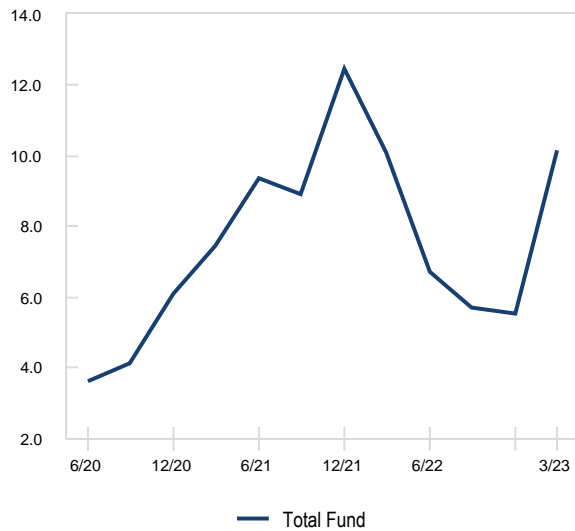
Rolling Tracking Error



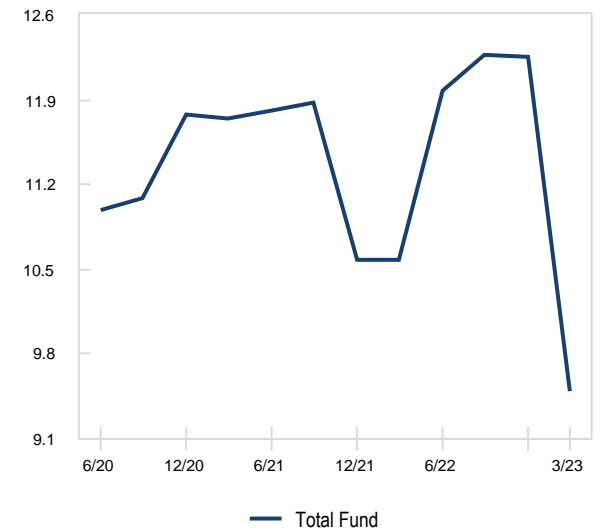
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



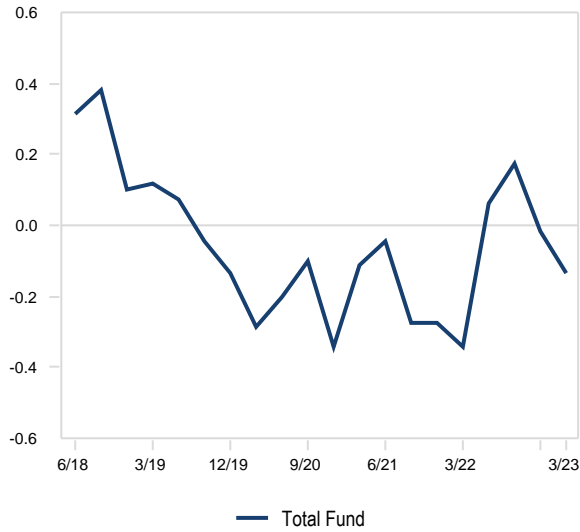
Rolling Annualized Standard Deviation



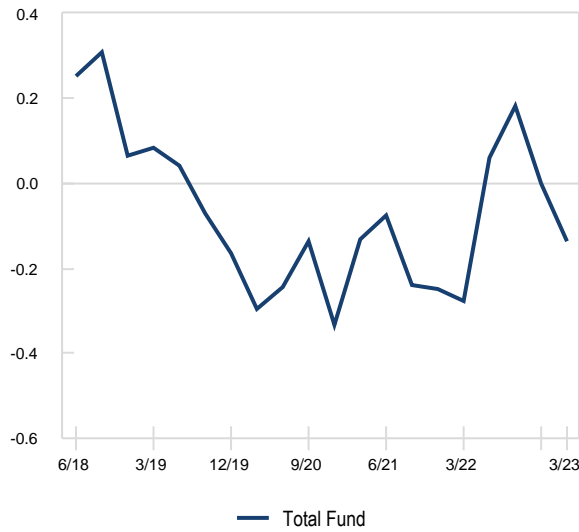
Total Fund
Rolling Risk Statistics: 5 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

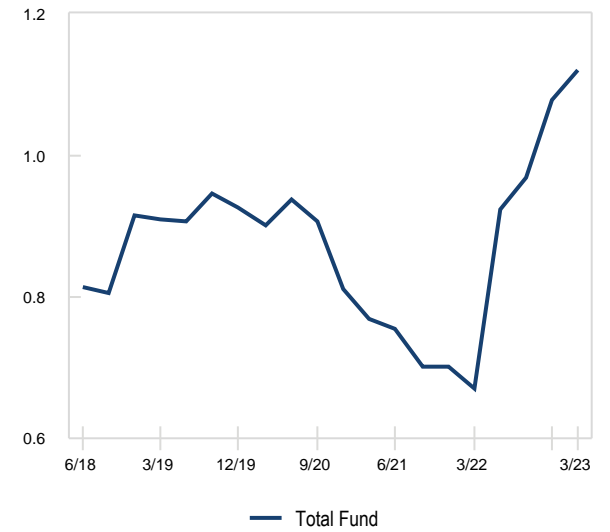
Rolling Information Ratio



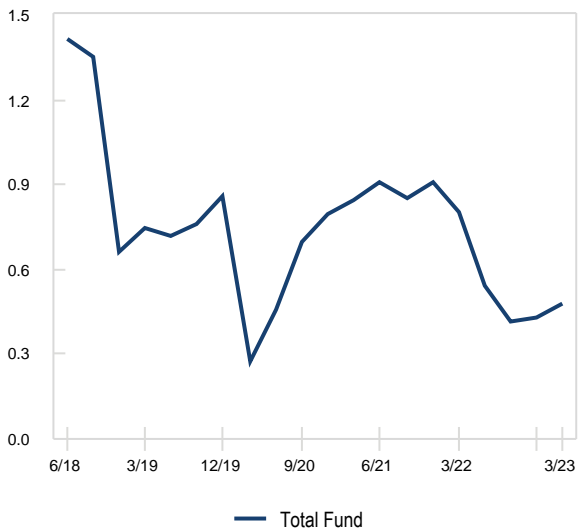
Rolling Annual Excess Benchmark Return



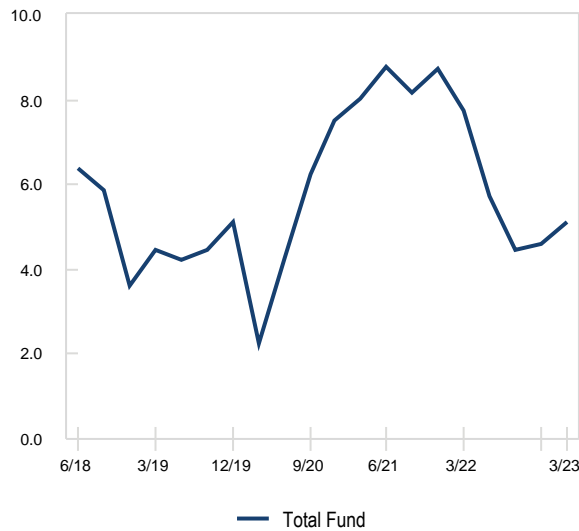
Rolling Tracking Error



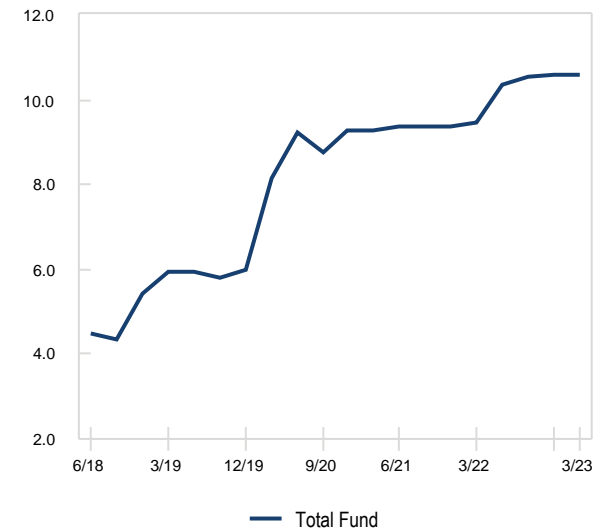
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Equity	1,577,575,704	1,004,648	-995,580		-1,106,789	108,053,752	1,684,531,735
Equity Beta Exposure	108,880,200	1,004,648	-491,032		-1,063,800	8,354,534	116,684,550
Mellon DB SL Stock Index Fund	458,436,087					34,376,685	492,812,772
PIMCO StocksPLUS	99,467,229					7,501,344	106,968,573
AB US Small Cap Value Equity	86,111,927		-74			-177,868	85,933,985
Geneva Capital Small Cap Growth	46,020,563					3,940,624	49,961,187
Mellon DB SL World ex-US Index Fund	471,377,465					38,177,316	509,554,780
Cevian Capital II	34,435,773					3,399,622	37,835,395
American Century Non-US Small Cap	68,889,933		-295,160			3,146,856	71,741,628
DFA Emerging Markets Value I	75,158,678					2,812,965	77,971,643
AB Emerging Markets Strategic Core Equity Collective Trust	48,185,996					3,173,660	51,359,657
Mellon Emerging Markets Stock Index Fund	80,359,088					3,345,430	83,704,518
Transition Equity	845		-247			78	676
Fidelity Non-US Small Cap Equity	251,920		-209,067		-42,989	2,506	2,371
Fixed Income	1,232,206,332	30,829,590	-520,702		-8,696,949	39,347,134	1,293,165,405
Fixed Income Beta Exposure	337,322,663	29,800,000	-520,702		-3,949,900	10,400,068	373,052,129
Mellon DB SL Aggregate Bond Index Fund	157,713,715					4,701,569	162,415,284
PIMCO Core Plus	160,665,585					5,036,579	165,702,164
Western Asset Core Plus	118,812,660					3,476,454	122,289,114
Western Asset High Yield Fixed Income	161,987,205				-3,069,882	5,790,171	164,707,494
TCW Securitized Opportunities	93,753,514					2,383,739	96,137,252
Stone Harbor Emerging Markets Debt Blend Portfolio	63,666,940	825,292			-1,654,683	1,815,991	64,653,539
PIMCO EMD	138,177,003					5,730,024	143,907,027
Transition Fixed Income	107,047	204,299			-22,484	12,539	301,401
Commodities	205,801,777			-91,422	-4,655,786	-3,501,219	197,553,350
Gresham MTAP Commodity Builder Fund	52,497,584			-21,422		-3,334,041	49,142,121
Wellington Commodities	153,304,193			-70,000	-4,655,786	-167,178	148,411,229
Hedge Funds	543,309,200				-10,039,496	7,537,193	540,806,896
Aristeia International Limited	68,181,409					1,778,107	69,959,516
Brevan Howard Fund	76,763,840				-19,002,348	-1,910,064	55,851,429
D.E. Shaw Composite Fund	58,856,929					673,285	59,530,214
HBK Fund II	44,169,126					567,933	44,737,059
Hudson Bay Cap Structure Arbitrage Enhanced Fund	80,091,097					644,602	80,735,699

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Indus Pacific Opportunities Fund	37,237,546				10,000,000	412,810	47,650,356
Pharo Macro Fund	62,281,994					-922,954	61,359,040
PIMCO Commodity Alpha Fund	63,025,840					4,089,202	67,115,042
Sculptor Domestic Partners II LP	44,404,229					2,136,768	46,540,997
Magnetar Structured Credit Fund	8,297,190				-1,037,149	67,504	7,327,545
Alpha Pool	239,505,576				-19,640,563	-817,693	219,047,320
Hudson Bay	61,864,015				1,411,534	-913,629	62,361,920
Davidson Kempner Institutional Partners	54,247,004				1,249,538	-600,419	54,896,123
HBK Fund II	42,476,585				971,185	-425,016	43,022,754
Garda Fixed Income Relative Value Opportunity Fund	56,160,036				1,321,109	1,101,882	58,583,027
HBK Opportunities Platform – SPAC Series	24,757,936				-24,593,929	19,489	183,496
Midstream Energy	299,392,352				-4,511,703	8,781,653	303,662,302
Harvest Midstream	152,077,589				-2,322,632	5,971,645	155,726,602
PIMCO Midstream	147,314,763				-2,189,071	2,810,008	147,935,700
Core Real Estate	340,306,582	38,414	-332,061		-3,298,243	-14,833,693	321,881,000
ASB Allegiance Real Estate Fund	189,419,041				-1,455,254	-10,383,032	177,580,755
JPMCB Strategic Property Fund	150,887,540	38,414	-332,061		-1,842,989	-4,450,661	144,300,244
Private Real Estate	119,647,273				19,913	3,941,618	123,608,804
Invesco Real Estate Value-Add Fund IV	2,659,454				-1,234,491	-30,673	1,394,290
Landmark Real Estate Partners VIII	31,724,146				-466,609	-248,231	31,009,306
Long Wharf Real Estate	34,816,611				-822,597	50,961	34,044,975
Covenant Apartment Fund X	29,905,106				12,360	3,989,589	33,907,055
Singerman Real Estate Opportunity Fund IV	8,214,827				131,250	505,857	8,851,934
LBA Logistics Value Fund IX, L.P.	7,574,005					-131,755	7,442,250
Covenant Apartment Fund XI, LP	4,753,125				2,400,000	-194,130	6,958,995
Private Equity	161,282,661	520			2,127,887	2,416,653	165,827,721
Abbott VI	18,940,319				-1,000,000	-708,889	17,231,430
Pantheon Secondary III	553,872					-9,310	544,562
Pantheon III	47,064					-1,619	45,445
Pantheon V	411,492					-19,473	392,019

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Pantheon VI	346,190					10,995	357,185
Pantheon VII	7,894,161				-700,000	-478,737	6,715,424
Vista Foundation Fund IV	13,821,190				4,563,716	-550,341	17,834,565
Crown Global Secondaries V Master S.C.Sp	24,982,600				1,550,000	1,605,812	28,138,412
Brighton Park Capital Fund I	34,229,107				202,883	1,223,167	35,655,157
Warren Equity Partners Fund III	25,661,636					1,641,529	27,303,165
Peak Rock Capital Fund III	10,755,627					469,994	11,225,621
Level Equity Growth Partners V	4,037,203				380,516	126,202	4,543,921
Level Equity Opportunities Fund 2021	3,212,848					40,718	3,253,566
Linden Capital Partners V LP	5,461,028					11,874	5,472,902
Rubicon Technology Partners IV L.P.	3,214,080					-532,200	2,681,880
OrbiMed Private Investments IX, LP	500,000					-133,125	366,875
Brighton Park Capital Fund II, L.P	2,499,270					-250,218	2,249,052
Linden Co-Investment V LP	1,846,267					-29,727	1,816,540
Abbott V	2,868,708	520			-2,869,228		
Private Credit	243,377,473				-976,841	3,057,668	245,458,300
DC Value Recovery Fund IV	18,822,414					1,958,895	20,781,309
Sixth Street TAO Partners (B)	38,674,463				738,742	387,716	39,800,921
Brookfield Real Estate Finance Fund V	19,618,101				-1,925,871	-70,451	17,621,779
Magnetar Constellation Fund V	30,525,743				-177,098	-1,512,165	28,836,480
H.I.G. Bayside Loan Opportunity Fund V	40,072,143				1,569,770	543,660	42,185,573
Blue Torch Credit Opportunities Fund II	17,089,280				-268,717	705,649	17,526,212
Fortress Credit Opportunites Fund V Expansion	14,019,822					-81,664	13,938,158
Fortress Lending Fund II	28,599,104				70,625	521,089	29,190,818
Blue Torch Credit Opportunities Fund III	7,389,421					235,685	7,625,106
Fortress Lending Fund III	24,006,650				-984,292	368,713	23,391,071
OrbiMed Royalty & Credit Opportunities IV	4,560,332					541	4,560,873
Opportunistic	168,840,683			-34,806	-8,873,186	7,092,352	167,025,043
DB Investors Fund IV	21,705,376					3,871,558	25,576,934
Sixth Street TAO Partners (D)	90,905,157				-6,136,758	1,187,310	85,955,709
Aristeia Select Opportunities II	48,693,074			-34,806		872,604	49,530,872
River Birch International - Opportunistic Investment	7,537,076				-2,736,428	1,160,880	5,961,528

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Cash	-28,723,613	178,245,642	-230,708,688	-42,379	54,505,709	5,044,253	-21,679,077
Short Term Investment Funds	194,987,429	18,010,154	-24,182,254	-42,379	29,505,709	2,432,653	220,711,312
Parametric Cash Overlay	67,571,696	87,390,808	-72,705,891				82,256,613
Goldman Sachs Cash Account	4,384,492	47,076,842	-65,015,906				-13,554,572
Futures Offset	-446,202,863	12,461,837	-56,333,637			337,984	-489,736,679
Collateral Cash		13,306,000	-12,471,000				835,000
BlackRock Short Duration Fund	150,535,633				25,000,000	2,273,616	177,809,249

Total Fund
Cash Flow History

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	5,102,522,000	5,061,358,140	5,489,310,251	3,953,802,126	4,178,770,638	3,174,973,937
Contributions	659,354,796	2,586,066,886	3,390,375,002	10,085,869,374	12,751,576,025	18,722,926,308
Withdrawals	-686,939,061	-2,644,515,274	-3,462,383,890	-10,283,305,572	-13,129,385,545	-19,336,010,080
Fees	-168,607	-1,208,087	-4,522,912	-36,697,355	-63,446,303	-126,871,367
Net Cash Flows	-27,584,265	-58,448,388	-72,008,888	-197,436,198	-377,809,519	-613,083,772
Net Investment Change	165,951,064	237,979,047	-176,412,564	1,484,522,871	1,439,927,680	2,678,998,634
Ending Market Value	5,240,888,799	5,240,888,799	5,240,888,799	5,240,888,799	5,240,888,799	5,240,888,799
Net Change \$	138,366,799	179,530,659	-248,421,452	1,287,086,674	1,062,118,161	2,065,914,862

Contribution and withdrawals include transfers in and out of accounts. Ending market value is net of fees. Market value and flows do not include the Short Term Cash Account balance.

Risk Metrics

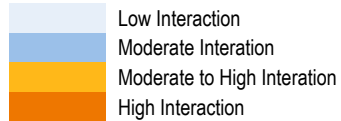
Total Fund
Actual Correlation Matrix

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

Correlation Matrix
3 Years Ending March 31, 2023

	A	B	C	D	E	F	G	H	I	J	K	L
A	1.00											
B	0.98	1.00										
C	0.96	0.98	1.00									
D	0.96	0.97	0.91	1.00								
E	0.81	0.81	0.70	0.80	1.00							
F	0.83	0.82	0.77	0.81	0.82	1.00						
G	0.71	0.72	0.67	0.69	0.73	0.96	1.00					
H	0.89	0.86	0.84	0.83	0.73	0.90	0.79	1.00				
I	0.80	0.78	0.70	0.81	0.83	0.91	0.80	0.80	1.00			
J	0.61	0.50	0.45	0.55	0.45	0.34	0.18	0.46	0.43	1.00		
K	0.60	0.59	0.56	0.56	0.52	0.40	0.26	0.56	0.46	0.39	1.00	
L	-0.15	-0.17	-0.10	-0.23	-0.27	-0.38	-0.37	-0.26	-0.38	0.04	-0.12	1.00

- A = Total Fund
- B = Equity
- C = Domestic Equity
- D = International Developed Equity
- E = Emerging Markets Equity
- F = Fixed Income
- G = Core Plus Fixed Income
- H = High Yield/ Specialty Credit
- I = Emerging Market Debt
- J = Commodities
- K = Hedge Funds
- L = Core Real Estate



Total Fund
Risk Analysis - 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	Alpha	Beta	R-Squared	Return	Information Ratio	Excess Performance	Tracking Error	Sharpe Ratio	Excess Return	Standard Deviation	Sortino Ratio	Up Capture	Down Capture
Total Fund	1.6	0.9	1.0	11.0	0.3	0.6	1.5	1.1	10.0	8.9	1.9	94.3	83.7
Equity	0.8	1.0	1.0	16.3	0.5	0.7	1.0	0.9	15.9	17.7	1.5	99.9	96.8
Domestic Equity	0.0	1.0	1.0	18.6	-0.2	-0.2	1.2	0.9	18.1	19.1	1.6	98.8	98.6
International Developed Equity	1.2	1.0	1.0	14.6	1.0	1.2	1.0	0.8	14.4	17.8	1.4	101.8	97.8
Emerging Markets Equity	0.2	0.9	1.0	8.8	-0.2	-0.3	2.7	0.5	9.1	17.1	0.9	92.0	90.4
Fixed Income	0.6	1.0	1.0	0.1	0.6	0.6	1.0	-0.1	-0.5	6.9	-0.1	108.7	102.0
Core Plus Fixed Income	0.8	1.0	1.0	-2.1	0.7	0.6	0.9	-0.4	-2.8	6.5	-0.5	113.9	103.1
High Yield/ Specialty Credit	0.7	0.7	0.9	5.1	-0.3	-0.7	2.7	0.6	4.3	6.8	1.0	75.5	68.3
Emerging Market Debt	1.8	1.0	1.0	2.2	1.5	1.8	1.2	0.2	2.0	11.2	0.3	108.1	95.9
Commodities	3.2	0.9	0.9	21.8	0.1	1.0	6.0	1.3	20.1	14.9	2.4	92.8	77.1
Hedge Funds	7.1	0.5	0.3	11.0	0.8	3.3	3.9	2.5	9.7	3.8	10.5	86.0	-32.5
Core Real Estate	0.8	0.6	0.8	6.0	-0.6	-2.4	4.0	0.8	5.1	5.8	1.6	74.6	85.4
Private Real Estate	0.0	1.0	1.0	16.5	-1.0	0.0	0.0	1.8	14.8	8.4	5.0	99.8	100.0
Private Equity	0.0	1.0	1.0	14.3	-0.6	0.0	0.0	1.0	13.5	13.7	1.9	100.0	100.1
Private Credit	0.0	1.0	1.0	1.3	-1.0	0.0	0.0	0.1	0.5	3.9	0.2	99.8	100.1

Data not available for time periods less than 3 years (Alpha Pool, Midstream, & Opportunistic added in 2020)

Risk Return Statistics: Last Three Years

Period Ending: March 31, 2023

	Equity	MSCI AC World IMI (Net)	Core Plus Fixed Income	Bloomberg U.S. Aggregate Index	High Yield/ Specialty Credit	ICE BofA U.S. High Yield Index	Emerging Market Debt	3 Years 50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)	Core Real Estate	NCREIF ODCE-monthly
RETURN SUMMARY STATISTICS														
Up Market Periods	23	23	16	16	24	24	18	18	25	25	24	24	33	33
Down Market Periods	13	13	20	20	12	12	18	18	11	11	12	12	3	3
Maximum Return	12.43	12.66	3.41	3.68	4.80	6.02	7.56	7.35	8.01	8.78	3.99	3.34	5.39	7.97
Minimum Return	-9.42	-9.65	-4.27	-4.32	-5.04	-6.81	-5.99	-5.81	-8.90	-10.77	-0.75	-1.96	-3.77	-4.97
Return	16.33	15.64	-2.12	-2.77	5.10	5.84	2.24	0.46	21.80	20.82	11.02	7.84	5.95	8.40
Excess Return	15.88	15.33	-2.82	-3.50	4.33	5.20	1.95	0.14	20.11	19.42	9.68	6.78	5.08	7.58
Excess Performance	0.69	0.00	0.65	0.00	-0.74	0.00	1.78	0.00	0.98	0.00	3.18	0.00	-2.45	0.00
RISK SUMMARY STATISTICS														
Beta	0.98	1.00	1.04	1.00	0.75	1.00	1.04	1.00	0.88	1.00	0.49	1.00	0.62	1.00
Upside Risk	15.18	15.22	4.18	3.89	5.63	7.12	8.29	7.66	13.70	13.62	4.84	4.50	5.23	8.30
Downside Risk	10.22	10.57	5.04	4.88	4.14	5.63	7.51	7.47	8.42	9.69	0.81	2.09	3.08	3.52
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	17.65	17.93	6.52	6.20	6.82	8.90	11.15	10.69	14.89	15.66	3.84	4.44	5.82	8.68
Alpha	0.83	0.00	0.80	0.00	0.67	0.00	1.78	0.00	3.18	0.00	7.05	0.00	0.76	0.00
Sharpe Ratio	0.90	0.85	-0.43	-0.57	0.63	0.58	0.18	0.01	1.34	1.23	2.45	1.52	0.84	0.86
Excess Risk	17.68	17.96	6.49	6.15	6.85	8.93	11.10	10.63	15.02	15.82	3.95	4.46	6.07	8.86
Tracking Error	1.02	0.00	0.94	0.00	2.74	0.00	1.23	0.00	5.96	0.00	3.90	0.00	4.05	0.00
Information Ratio	0.54	-	0.73	-	-0.32	-	1.47	-	0.12	-	0.74	-	-0.62	-
CORRELATION STATISTICS														
R-Squared	1.00	1.00	0.98	1.00	0.95	1.00	0.99	1.00	0.86	1.00	0.32	1.00	0.84	1.00
Actual Correlation	1.00	1.00	0.99	1.00	0.97	1.00	0.99	1.00	0.93	1.00	0.56	1.00	0.92	1.00

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

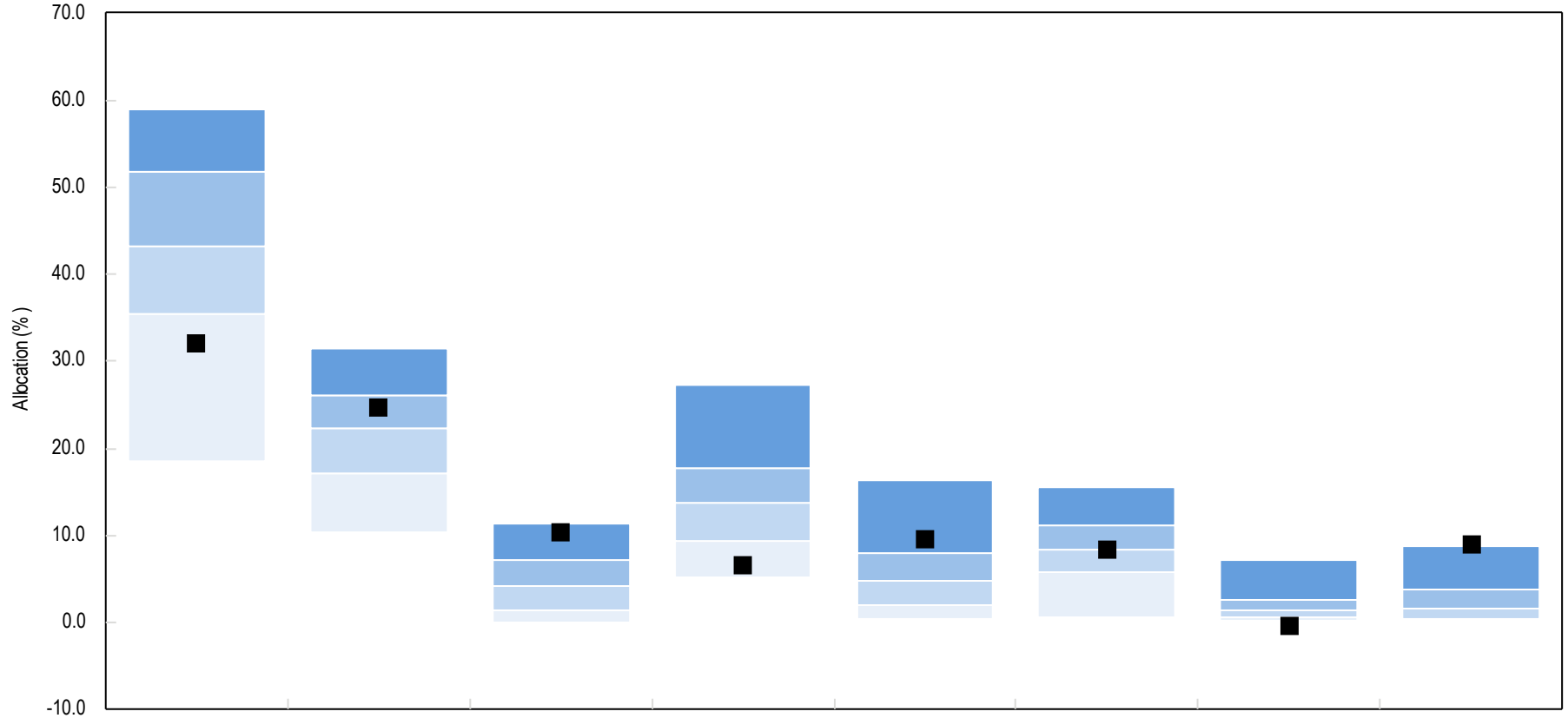
Risk Return Statistics: Last Two Years

	Midstream Energy	Alerian Midstream Energy Index	2 Yrs Opportunistic	Assumed Rate of Return +3%
RETURN SUMMARY STATISTICS				
Up Market Periods	14	14	24	24
Down Market Periods	10	10	0	0
Maximum Return	11.14	11.05	7.60	0.58
Minimum Return	-11.84	-12.21	-4.04	0.58
Return	21.03	18.42	2.18	7.25
Excess Return	19.76	18.09	1.33	5.75
Excess Performance	2.61	0.00	-5.07	0.00
RISK SUMMARY STATISTICS				
Beta	0.87	1.00	-	-
Upside Risk	16.17	17.57	7.78	2.03
Downside Risk	11.48	13.57	5.45	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	18.88	21.49	9.46	0.00
Alpha	4.36	0.00	-	-
Sharpe Ratio	1.04	0.84	0.14	11.77
Excess Risk	18.98	21.60	9.53	0.49
Tracking Error	4.36	0.00	9.46	0.00
Information Ratio	0.38	-	-0.47	-
CORRELATION STATISTICS				
R-Squared	0.97	1.00	-	-
Actual Correlation	0.98	1.00	-	-

Data for unavailable for positions held for less than two years.

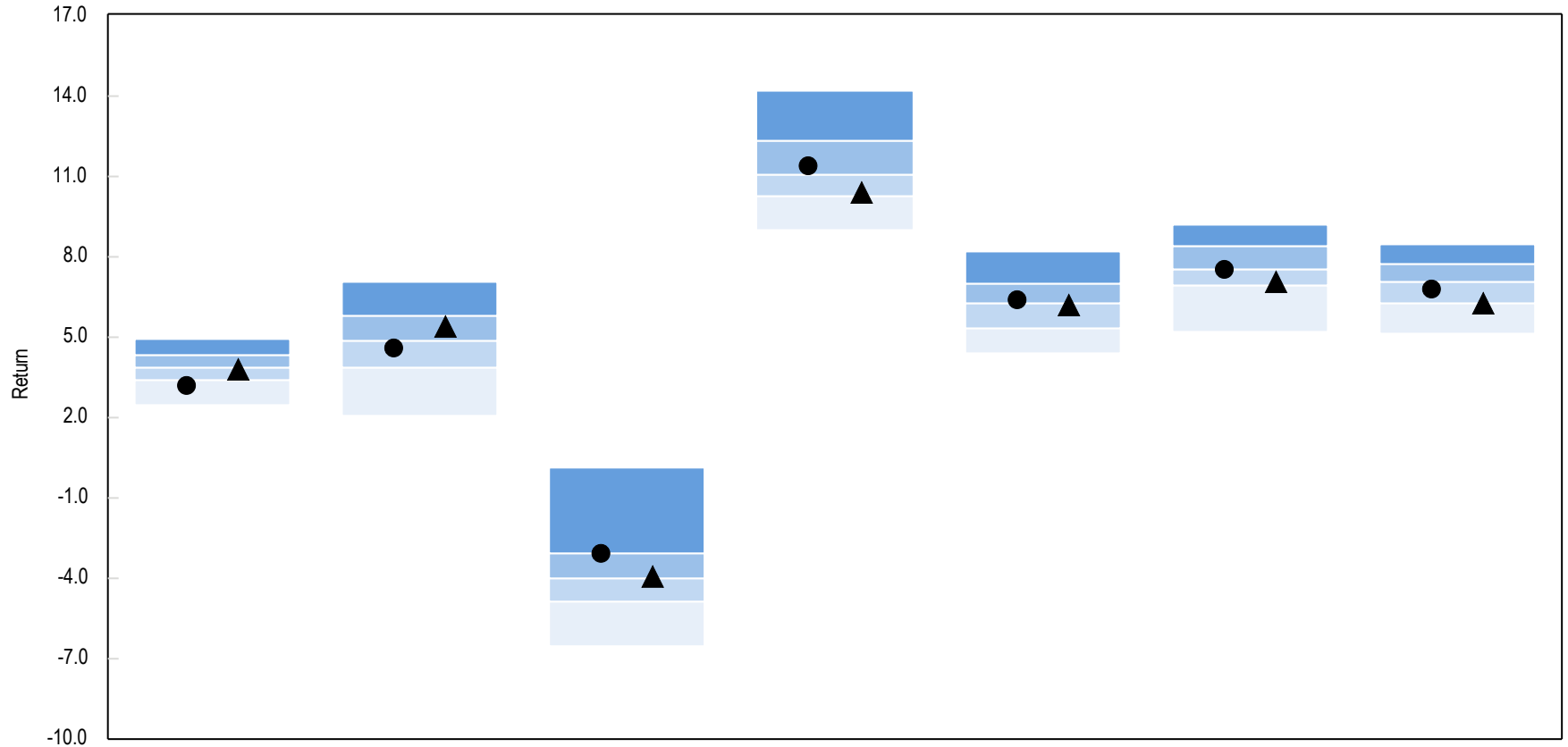
Peer Comparison

Total Plan Allocation vs. InvMetrics Public DB > \$1B
As of March 31, 2023



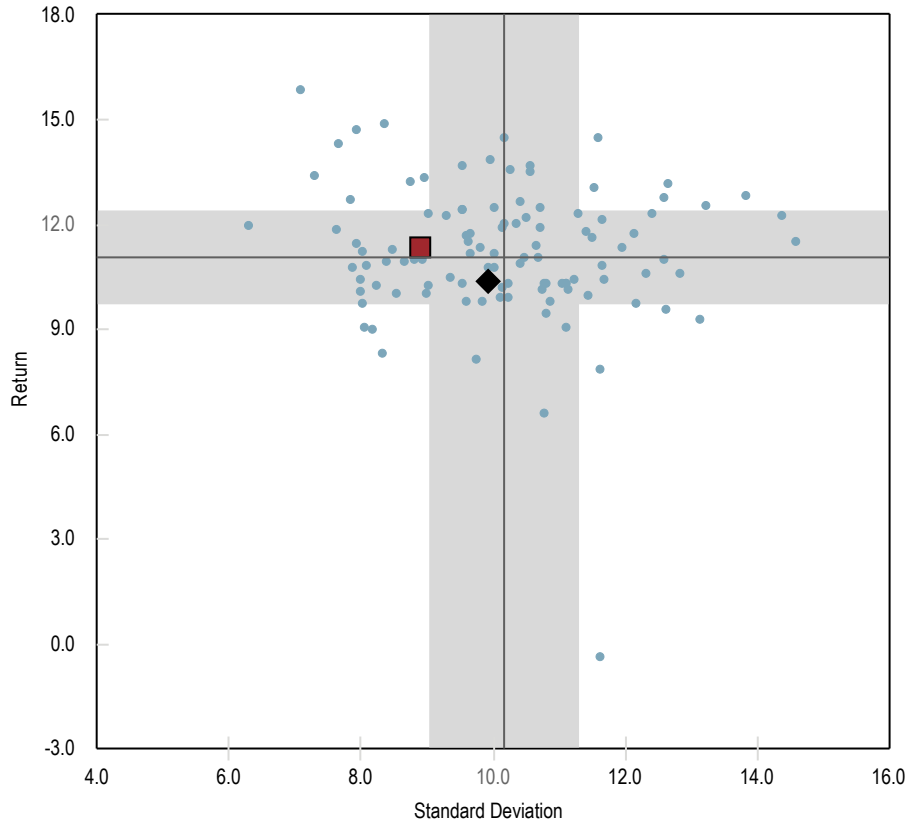
	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Real Assets/Commod	Real Estate - Private	Cash & Equivalents	Other
■ Total Fund	32.1 (83)	24.7 (36)	10.3 (11)	6.5 (92)	9.6 (21)	8.4 (51)	-0.4	8.9 (1)
5th Percentile	59.1	31.4	11.4	27.4	16.3	15.5	7.1	8.7
1st Quartile	51.9	26.1	7.1	17.8	8.1	11.2	2.5	3.7
Median	43.3	22.3	4.2	13.8	4.7	8.4	1.3	1.6
3rd Quartile	35.4	17.1	1.3	9.3	2.0	5.7	0.5	0.3
95th Percentile	18.6	10.4	0.1	5.1	0.4	0.6	0.1	0.2
Population	120	121	61	98	65	87	99	18

Total Fund vs. InvMetrics Public DB > \$1B



	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	3.2 (80)	4.6 (60)	-3.1 (26)	11.4 (45)	6.4 (43)	7.5 (49)	6.8 (61)
▲ Policy Index	3.8 (54)	5.4 (31)	-3.9 (48)	10.4 (68)	6.2 (52)	7.1 (67)	6.3 (74)
5th Percentile	4.9	7.1	0.1	14.2	8.2	9.2	8.5
1st Quartile	4.3	5.8	-3.1	12.3	7.0	8.4	7.7
Median	3.8	4.9	-4.0	11.1	6.2	7.5	7.0
3rd Quartile	3.4	3.9	-4.9	10.3	5.3	6.9	6.2
95th Percentile	2.4	2.1	-6.5	9.0	4.4	5.2	5.1
Population	126	120	112	107	104	103	95

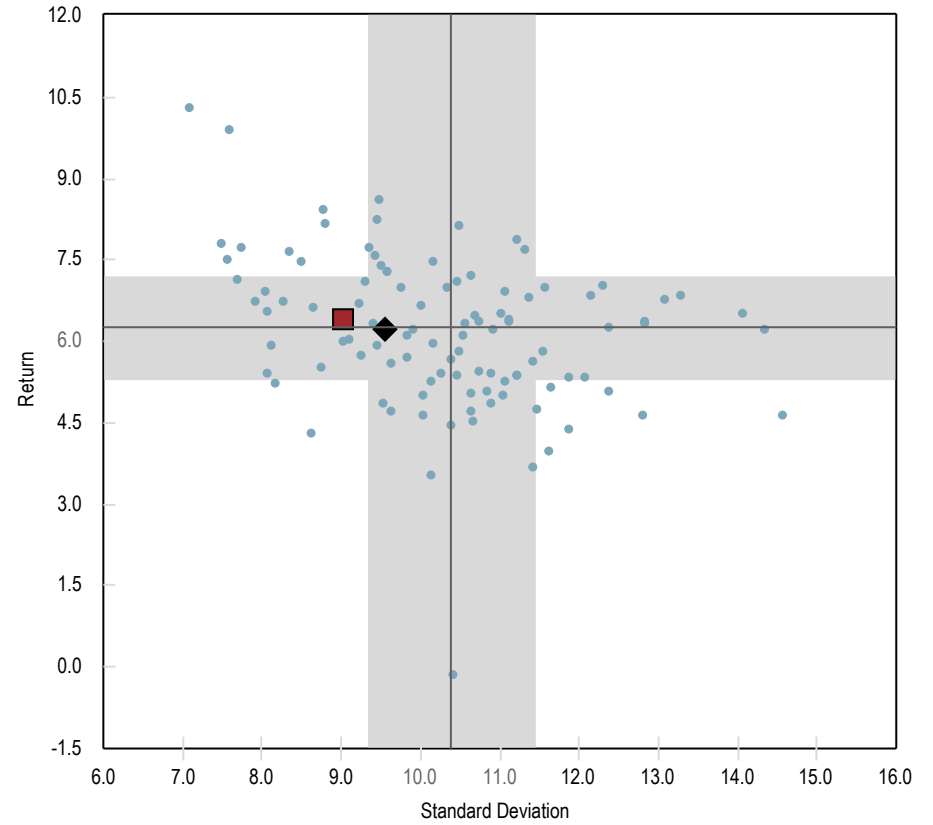
Annualized Return vs. Annualized Standard Deviation
3 Years Ending March 31, 2023



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	11.38	8.90
◆ Policy Index	10.41	9.93
— Median	11.07	10.16
Population	107	107

Annualized Return vs. Annualized Standard Deviation
5 Years Ending March 31, 2023



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	6.42	9.02
◆ Policy Index	6.23	9.55
— Median	6.25	10.39
Population	104	104

Other

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association Period Ending: March 31, 2023

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Equity Beta Exposure	Equity	■	-	-	-	-	-	-	-	-	✓
Russell 2000 Overlay	Equity	■	-	-	-	-	-	-	-	-	-
Mellon DB SL Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	✓
PIMCO StocksPLUS	Equity	■	✓	Ⓜ	Ⓜ	✓	Ⓜ	✓	Ⓜ	-	-
AB US Small Cap Value Equity	Equity	■	✓	Ⓜ	✓	✓	✓	Ⓜ	Ⓜ	-	-
Geneva Capital Small Cap Growth	Equity	■	✓	✓	✓	Ⓜ	✓	Ⓜ	✓	-	-
Mellon DB SL World ex-US Index Fund	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Fidelity Non-US Small Cap Equity	Equity	■	Ⓜ	✓	✓	✓	✓	✓	✓	-	-
Cevian Capital II	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
American Century Non-US Small Cap	Equity	■	✓	✓	✓	-	-	-	-	-	-
DFA Emerging Markets Value I	Equity	■	✓	✓	✓	✓	✓	✓	✓	-	-
AB Emerging Markets Strategic Core Equity Collective Trust	Equity	■	✓	✓	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	-	-
Mellon Emerging Markets Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Mellon DB SL Aggregate Bond Index Fund	Fixed Income	■	-	-	-	-	-	-	-	-	✓
PIMCO Core Plus	Fixed Income	■	✓	✓	Ⓜ	Ⓜ	✓	Ⓜ	✓	P	-
Western Asset Core Plus	Fixed Income	■	✓	Ⓜ	Ⓜ	Ⓜ	✓	Ⓜ	Ⓜ	-	-
Western Asset High Yield Fixed Income	Fixed Income	■	✓	Ⓜ	Ⓜ	✓	Ⓜ	✓	Ⓜ	-	-
TCW Securitized Opportunities	Fixed Income	■	✓	✓	✓	✓	Ⓜ	✓	Ⓜ	-	-
Stone Harbor Emerging Markets Debt Blend Portfolio	Fixed Income	■	✓	✓	Ⓜ	✓	✓	Ⓜ	Ⓜ	P	-
PIMCO EMD	Fixed Income	■	✓	✓	✓	Ⓜ	✓	-	-	-	-
Gresham MTAP Commodity Builder Fund	Commodities	■	✓	✓	✓	Ⓜ	✓	Ⓜ	Ⓜ	-	-
Wellington Commodities	Commodities	■	✓	✓	Ⓜ	Ⓜ	Ⓜ	✓	Ⓜ	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	Ⓜ

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association Period Ending: March 31, 2023

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Aristeia International Limited	Hedge Funds	■	-	-	Ⓟ	-	✓	-	✓	-	-
Brevan Howard Fund	Hedge Funds	■	-	-	Ⓟ	-	✓	-	✓	-	-
D.E. Shaw Composite Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
HBK Fund II	Hedge Funds	■	-	-	Ⓟ	-	✓	-	Ⓟ	-	-
Hudson Bay Cap Structure Arbitrage Enhanced Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
Indus Pacific Opportunities Fund	Hedge Funds	■	-	-	Ⓟ	-	✓	-	Ⓟ	-	-
Magnetar Structured Credit Fund	Hedge Funds	■	-	-	Ⓟ	-	✓	-	✓	-	-
PIMCO Commodity Alpha Fund	Hedge Funds	■	Ⓟ	✓	✓	Ⓟ	✓	✓	✓	-	-
River Birch International	Opportunistic	■	-	-	✓	-	Ⓟ	-	Ⓟ	-	-
Sculptor Domestic Partners II LP	Hedge Funds	■	-	-	Ⓟ	-	✓	-	-	-	-
Harvest Midstream	Midstream	■	✓	✓	✓	-	-	-	-	-	-
PIMCO Midstream	Midstream	■	✓	✓	✓	-	-	-	-	-	-
ASB Allegiance Real Estate Fund	Core Real Estate	■	-	-	Ⓟ	-	Ⓟ	-	Ⓟ	-	-
JPMCB Strategic Property Fund	Core Real Estate	■	-	-	Ⓟ	-	Ⓟ	-	Ⓟ	-	-
Invesco Real Estate Value-Add Fund IV	Private Real Estate	■	-	-	Ⓟ	-	Ⓟ	-	Ⓟ	-	-
Landmark Real Estate Partners VIII	Private Real Estate	■	-	-	-	-	-	-	-	-	Ⓟ
DB Investors Fund IV	Opportunistic	■	-	-	Ⓟ	-	✓	-	-	-	-
Sixth Street TAO Partners (D)	Opportunistic	■	-	-	Ⓟ	-	✓	-	-	-	-
Aristeia Select Opportunities II	Opportunistic	■	-	-	Ⓟ	-	-	-	-	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	Ⓟ

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund
Quarterly Historical Returns (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2023

	2023 Q1	2022 Q4	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3	2020 Q2
Total Fund	3.1	4.5	-3.1	-7.5	-0.8	3.6	0.5	5.5	3.5	8.8	4.4	10.7
Policy Index	3.8	5.5	-3.8	-8.9	-1.3	3.3	0.7	5.7	3.3	8.8	4.5	10.1

	2020 Q1	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3	2017 Q2
Total Fund	-11.3	4.6	0.2	3.1	6.8	-6.4	2.3	0.3	-0.1	3.0	3.2	2.7
Policy Index	-11.1	4.6	0.8	3.0	7.0	-5.5	2.2	0.7	-0.1	3.2	3.1	2.8

	2017 Q1	2016 Q4	2016 Q3	2016 Q2	2016 Q1	2015 Q4	2015 Q3	2015 Q2	2015 Q1	2014 Q4	2014 Q3	2014 Q2
Total Fund	4.2	0.8	3.5	1.9	1.1	2.2	-5.4	0.7	2.4	0.8	-1.5	3.6
Policy Index	3.5	0.5	2.9	2.2	1.8	1.4	-4.9	0.4	2.0	0.4	-1.4	3.4

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Association Period Ending: March 31, 2023

Performance Return Calculations

Performance is calculated using a Time Weighted Rates of Return (TWRR) methodology. Monthly returns are linked geometrically and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>
AB Emerging Markets Strategic Core	11/3/2016	Northern Trust	Linden Co-Investment V LP	6/30/2022	Linden
AB US Small Cap Value Equity	7/7/2015	Northern Trust	Long Wharf Real Estate	6/27/2019	Long Wharf
Abbott Capital PE VI	3/31/2008	Abbott Capital	Magnetar Constellation	11/14/2018	Magnetar
American Century Non-US Small Cap	12/15/2020	American Century	Magnetar Structured Credit	5/1/2014	Magnetar
Aristeia International Limited	5/1/2014	Northern Trust	Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
ASB Real Estate	9/30/2013	ASB	Mellon EB DV Stock Index	10/18/2017	Mellon
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric	Mellon EB DV World ex-US Index	8/1/2018	Mellon
BlackRock Short Duration Fund	9/8/2021	BlackRock	Myriad Opportunities Offshore	5/19/2016	Northern Trust
Blue Torch Credit Opportunities	7/24/2020	Blue Torch	OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
Brevan Howard	11/1/2013	Northern Trust	Pantheon Global III	6/30/2000	Pantheon
Brighton Private Equity	3/28/2021	Brighton	Pantheon USA III	3/31/2007	Pantheon
Brighton Park Capital Fund II, L.P.	9/30/2022	Brighton	Pantheon USA V	6/30/2005	Pantheon
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust	Pantheon USA VI	3/31/2005	Pantheon
Cevian Capital II	12/30/2014	Northern Trust	Pantheon USA VII	3/31/2005	Pantheon
DC Value Recovery fund IV	12/28/2015	Colony	Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Covenant Apartment Fund X	10/29/2020	Covenant	Peak Rock Capital Fund III	7/13/2021	Peak Rock
DB Investors Fund IV	1/29/2020	DB	PIMCO Commodity Alpha	5/4/2016	PIMCO
D.E. Shaw	6/30/2013	Northern Trust	PIMCO Core Plus	1/21/2011	Northern Trust
DFA Emerging Markets Value I	3/7/2014	Northern Trust	PIMCO EMD	2/29/2020	Northern Trust
Fortress Credit Opportunities	12/17/2020	Fortress	PIMCO Midstream	10/9/2020	PIMCO
Fortress Lending Fund II	3/15/2021	Fortress	PIMCO StocksPLUS	7/14/2003	PIMCO
Garda Fixed Income Relative Value Opp	9/30/2021	Garda	Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
Geneva Capital Small Cap Growth	7/22/2015	Geneva	River Birch	8/3/2015	Northern Trust
Gresham MTAP Commodity	9/3/2013	Gresham	Rubicon Technology Partners IV LP	11/30/2022	Rubicon
Harvest Midstream	9/28/2020	Harvest Midstream	Singerman Real Estate Opportunity Fund IV	10/27/2021	Singerman
HBK Fund II	11/1/2013	Northern Trust	Sculptor Enhanced Domestic Partners	3/26/2019	Sculptor
Henderson Smallcap Growth	7/22/2015	Northern Trust	Short Term Cash Account	12/31/2000	Northern Trust
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital	Short Term Investment Funds	6/30/2000	Northern Trust
Hudson Bay	6/7/2019	Northern Trust	Stone Harbor Emerging Markets Debt	8/8/2012	Stone Harbor
Indus Pacific Opportunities	6/30/2014	Northern Trust	TAO Contingent	4/16/2020	TPG Sixth Street
Invesco Real Estate III	6/30/2013	Invesco	TCW Securitized Opportunities	2/3/2016	TCW
Invesco Real Estate IV	12/18/2015	Invesco	Transition Equity	9/30/2010	Northern Trust
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan	Transition Fixed Income	9/30/2010	Northern Trust
KSL Capital Partners VI	4/26/2023	KSL Capital	TSSP Adjacent Opportunities Partners	11/17/2017	TPG Sixth Street
Landmark Real Estate Partners VIII	4/29/2018	Landmark	Vista Equity Partners	7/24/2020	Vista Equity
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA	Warren Equity III	4/1/2021	Warren
Level Equity Growth Partners V	11/1/2021	Level Equity	Warren Equity IV	1/1/2023	Warren
Level Equity Opportunities Fund 2021	11/1/2021	Level Equity	Wellington Alternative Investments	2/9/2023	Wellington
LGT Crown	2/1/2021	LGT	Western Asset Core Plus	5/31/2004	Northern Trust
Linden Capital Partners V LP	7/19/2022	Linden	Western Asset High Yield Fixed income	5/31/2005	Northern Trust

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Association Period Ending: March 31, 2023

Policy & Custom Index Composition	
Policy Index: 4/1/2022-Present	37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill.
Policy Index: 7/1/2021-4/1/2022	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 1/1/2021-6/30/2021	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 7/1/2020-12/31/2020	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 1% Alerian Midstream, 4% Bloomberg US Aggregate
Policy Index: 4/1/2020-6/30/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 1/1/2020-3/31/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2019-12/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2019-9/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 4/1/2019-6/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 1/1/2019-3/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2018-12/31/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2018-9/30/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 3% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 2% MSCI ACWI*, 7% Bloomberg US Aggregate*
Policy Index: 1/1/2017- 6/30/2018	19% Russell 3000 Index, 18% MSCI ACWI ex US, 29% Bloomberg US Aggregate, 10% NCREIF-ODCE, 4% Bloomberg Commodity Index, 7.5% 91-day T-bills + 400bps, 2.5% MSCI ACWI, 5% Russell 3000 Index + 300 bps, 5% ICE BofA ML High Yield + 200 bps.
Policy Index: 4/1/2014-12/31/2016	23% Russell 3000 Index, 29% Bloomberg US Aggregate, 22% MSCI ACWI ex US.

Other Disclosures

*Private Asset actual weights, rounded to 1%, and actual time-weighted returns of Private Equity, Private Credit, Private Real Estate used in policy with the difference in weight versus target allocated to private market's public market "equivalent". Private Equity to Global Equity, Private Credit and Private Real Estate to Core Plus.

All data prior to 2Q 2011 has been provided by the investment managers.

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment manager fees will be included in the gross of fee return calculation. Fiscal year end: 6/30.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management, (c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

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Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.

Kern County Employees' Retirement Association

Investment Performance Review

Period Ending: June 30, 2023



VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

Total Fund
Portfolio Reconciliation

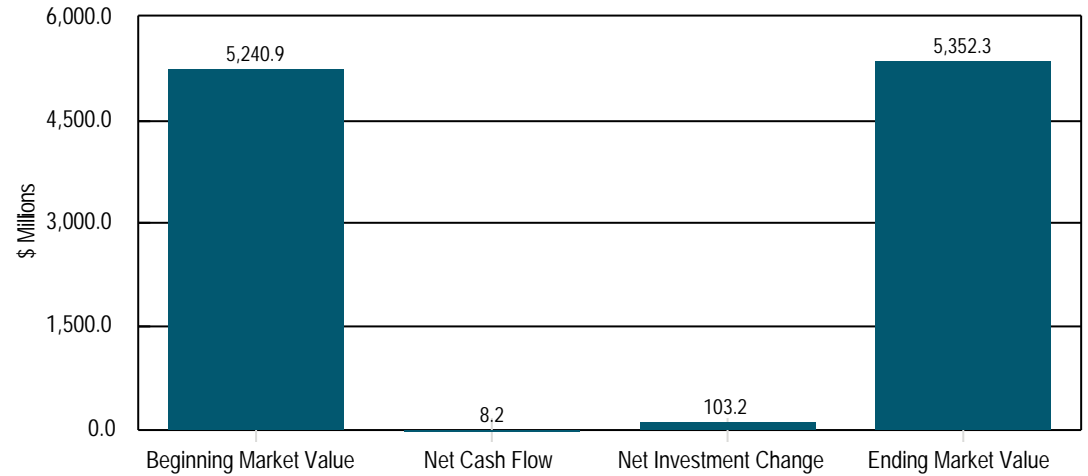
Kern County Employees' Retirement Association
Period Ending: June 30, 2023

Portfolio Reconciliation

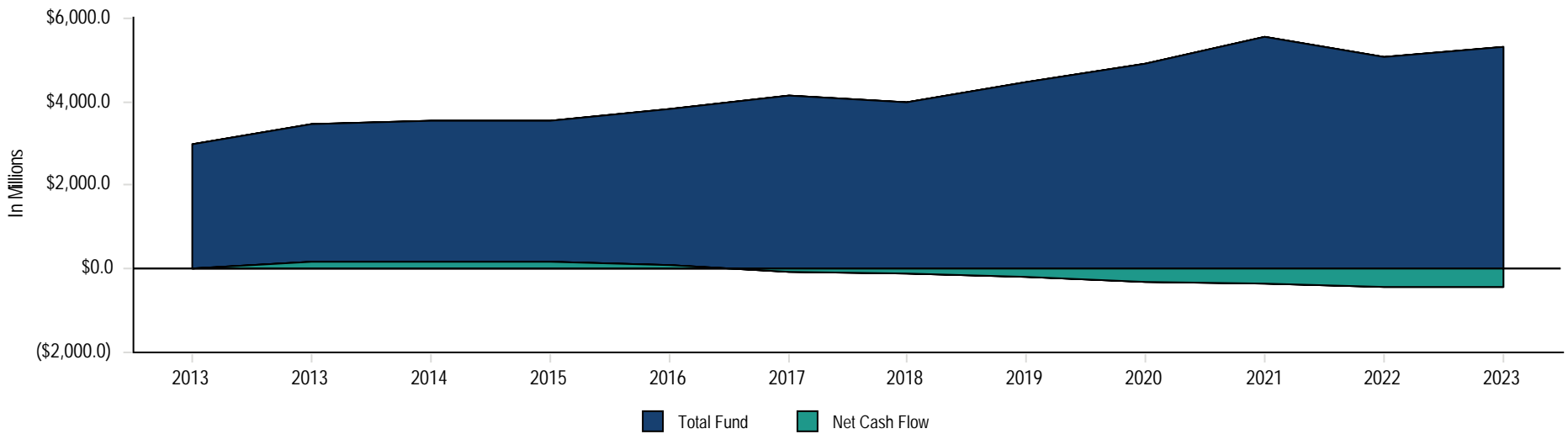
Last Three Months

Beginning Market Value	\$5,240,888,799
Net Cash Flows	\$8,186,646
Net Investment Change	\$103,191,295
Ending Market Value	\$5,352,263,309

Change in Market Value
Last Three Months



Market Value History



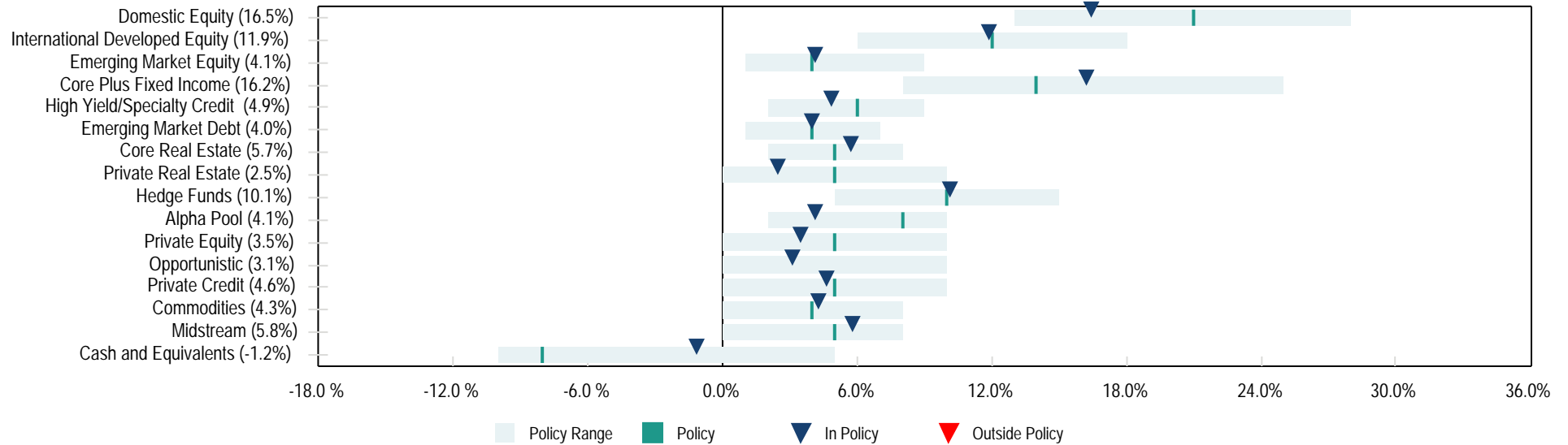
Total Fund

Asset Allocation vs. Policy

Kern County Employees' Retirement Association
 Period Ending: June 30, 2023

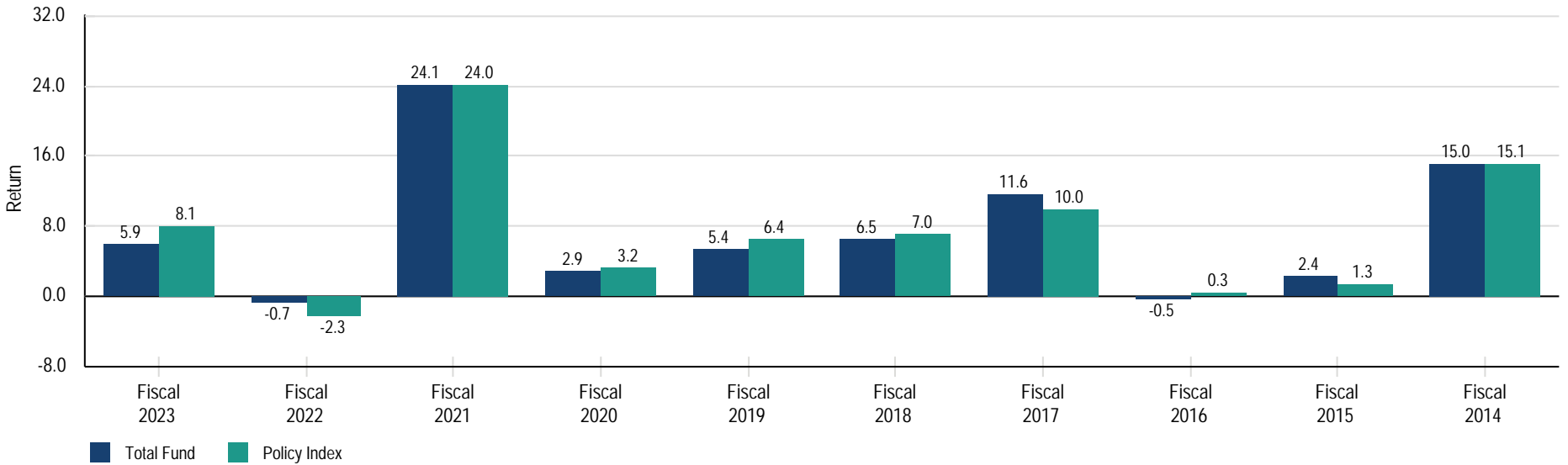
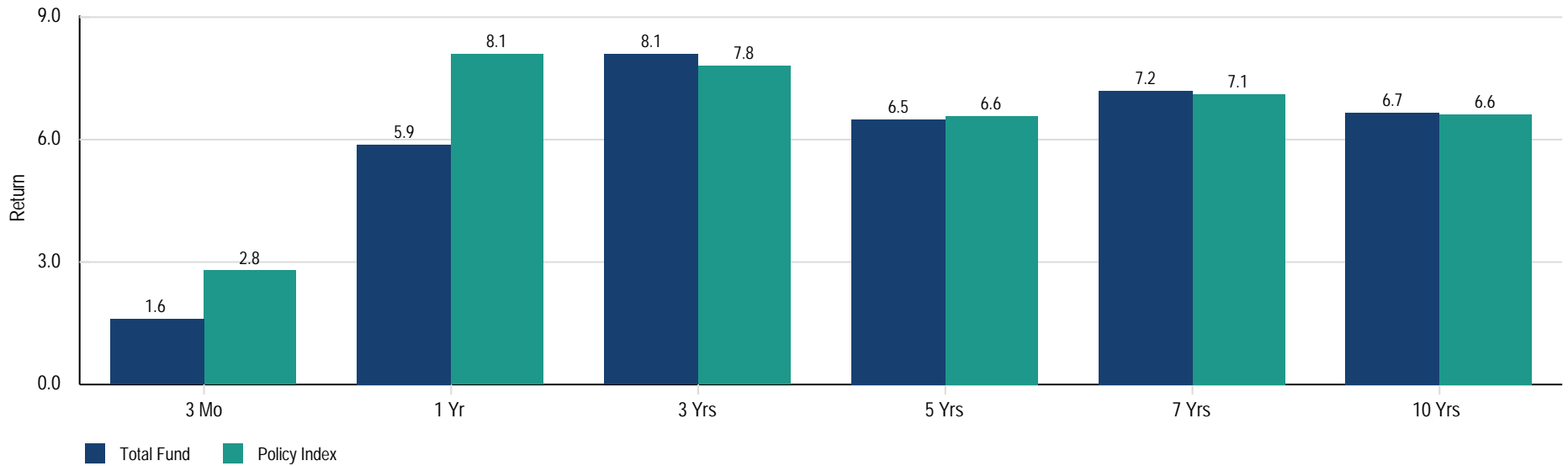
	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Excess Allocation (%)	Policy Range (%)	Within IPS Range?
Equity	1,735,774,667	32.4	37.0	-4.6	26.0 - 48.0	Yes
Fixed Income	1,340,709,034	25.0	24.0	1.0	14.0 - 34.0	Yes
Core Real Estate	305,434,791	5.7	5.0	0.7	2.0 - 8.0	Yes
Hedge Funds	541,710,718	10.1	10.0	0.1	5.0 - 15.0	Yes
Alpha Pool	221,475,636	4.1	8.0	-3.9	2.0 - 10.0	Yes
Private Equity	187,538,440	3.5	5.0	-1.5	0.0 - 10.0	Yes
Private Credit	246,629,415	4.6	5.0	-0.4	0.0 - 10.0	Yes
Private Real Estate	132,005,447	2.5	5.0	-2.5	0.0 - 10.0	Yes
Commodities	228,214,624	4.3	4.0	0.3	0.0 - 8.0	Yes
Opportunistic	167,584,245	3.1	0.0	3.1	0.0 - 10.0	Yes
Midstream	308,467,836	5.8	5.0	0.8	0.0 - 8.0	Yes
Cash and Equivalents	-63,281,544	-1.2	-8.0	6.8	-10.0 - 5.0	Yes
Total	5,352,263,309	100.0	100.0	0.0		

Executive Summary



Total Fund
Performance vs. Policy (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023



Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Total Fund	5,352,263,309	100.0	1.6	6.1	6.1	8.4	6.8	7.1	-3.5	24.4	3.2	5.7	6.8
<i>Policy Index</i>			2.8	8.1	8.1	7.8	6.6	6.6	-6.6	24.0	3.2	6.4	7.0
<i>InvMetrics Public DB > \$1B Rank</i>			92	82	82	57	46	67	25	89	20	62	97
Equity	1,735,774,667	32.4	5.3	15.9	15.9	11.7	8.1	9.7	-14.9	41.2	0.7	5.3	12.4
<i>MSCI AC World IMI (Net)</i>			5.9	16.1	16.1	11.0	7.6	8.6	-16.5	40.9	1.2	4.6	11.1
Domestic Equity	880,499,588	16.5	7.8	17.8	17.8	14.2	11.6	-	-12.0	43.6	6.3	9.2	16.1
<i>MSCI USA IMI</i>			8.4	19.2	19.2	14.1	11.5	-	-13.7	44.4	6.7	9.0	14.9
International Developed Equity	636,266,854	11.9	2.8	17.2	17.2	9.9	4.5	-	-17.2	37.0	-5.5	-0.6	9.1
<i>MSCI World ex U.S. IMI Index (Net)</i>			2.7	16.3	16.3	8.9	4.2	-	-17.7	34.8	-5.1	0.2	7.7
Emerging Markets Equity	219,007,388	4.1	2.9	5.3	5.3	5.2	0.8	-	-21.4	40.6	-10.9	0.4	4.0
<i>MSCI Emerging Markets IMI (Net)</i>			1.6	3.2	3.2	3.6	1.4	-	-24.8	43.2	-4.0	0.5	7.9
Fixed Income	1,340,709,034	25.0	0.1	3.1	3.1	-1.7	1.8	2.3	-12.7	5.4	6.6	7.9	0.2
<i>Fixed Income Custom Benchmark</i>			-0.1	1.9	1.9	-2.1	1.3	2.1	-11.6	4.0	5.2	8.4	-0.1
Core Plus Fixed Income	866,318,648	16.2	-1.1	-0.9	-0.9	-3.9	1.0	-	-11.2	1.0	9.5	8.0	0.0
<i>Bloomberg U.S. Aggregate Index</i>			-0.8	-0.9	-0.9	-4.0	0.8	-	-10.3	-0.3	8.7	7.9	-0.4
High Yield/ Specialty Credit	260,789,377	4.9	1.8	7.9	7.9	3.5	3.6	-	-9.5	13.6	0.0	7.5	3.3
<i>ICE BofA U.S. High Yield Index</i>			1.6	8.9	8.9	3.2	3.2	-	-12.7	15.6	-1.1	7.6	2.5
Emerging Market Debt	213,298,532	4.0	2.8	11.7	11.7	-0.6	1.0	-	-19.6	9.4	-1.2	8.5	-3.6
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			2.3	9.4	9.4	-2.2	0.5	-	-20.2	7.1	-1.1	10.8	-1.9
Commodities	228,214,624	4.3	-2.6	-6.3	-6.3	17.3	6.2	0.2	20.1	43.5	-10.7	-6.2	13.7
<i>Bloomberg Commodity Index Total Return</i>			-2.6	-9.6	-9.6	17.8	4.7	-1.0	24.3	45.6	-17.4	-6.8	7.3
Hedge Funds	541,710,718	10.1	1.7	7.5	7.5	8.7	7.2	6.2	2.8	16.3	7.3	2.6	7.6
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI IMI</i>			2.6	7.2	7.2	5.8	5.8	5.9	-1.7	12.3	5.1	6.6	7.0
Alpha Pool	221,475,636	4.1	-1.4	-0.9	-0.9	4.8	-	-	1.5	14.5	-	-	-
<i>3 Month T-Bill +4%</i>			1.9	6.7	6.7	4.3	-	-	3.2	3.1	-	-	-
Midstream Energy	308,467,836	5.8	3.2	20.1	20.1	-	-	-	9.6	-	-	-	-
<i>Alerian Midstream Energy Index</i>			3.7	12.2	12.2	-	-	-	11.4	-	-	-	-
Core Real Estate	305,434,791	5.7	-4.1	-11.9	-11.9	5.7	5.1	-	25.6	6.6	2.3	6.1	7.4
<i>NCREIF ODCE</i>			-2.7	-10.0	-10.0	8.0	6.5	-	29.5	8.0	2.2	6.4	8.4
Private Real Estate	132,005,447	2.5	-0.9	8.0	8.0	16.7	12.6	12.8	31.3	12.1	4.4	9.0	5.4
			-0.9	8.0	8.0	16.7	12.6	12.8	31.3	12.1	4.4	9.0	5.4
Private Equity	187,538,440	3.5	3.1	-0.5	-0.5	20.1	11.5	11.2	23.0	41.7	-10.5	10.9	7.8
			3.1	-0.5	-0.5	20.1	11.5	11.2	23.0	41.7	-10.5	10.9	7.8
Private Credit	246,629,415	4.6	2.3	2.8	2.8	2.9	4.8	-	1.2	4.8	5.5	9.7	9.3
			2.3	2.8	2.8	2.9	4.8	-	1.2	4.8	5.5	9.7	9.3

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-Bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Opportunistic	167,584,245	3.1	1.1	0.6	0.6	15.0	-	-	-5.4	59.9	-	-	-
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-
Cash	-63,281,544	-1.2	0.5	2.3	2.3	0.7	1.0	1.5	-0.2	0.1	1.0	2.0	3.2
<i>3 Month T-Bill</i>			<i>1.2</i>	<i>3.6</i>	<i>3.6</i>	<i>1.3</i>	<i>1.6</i>	<i>1.0</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>	<i>1.4</i>

Performance and Attribution

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Total Fund	5,352,263,309	100.0	1.6	5.9	5.9	8.1	6.5	6.7	-3.8	24.1	2.9	5.4	6.5	6.4	Jun-11
<i>Policy Index</i>			2.8	8.1	8.1	7.8	6.6	6.6	-6.6	24.0	3.2	6.4	7.0	6.3	
Equity	1,735,774,667	32.4	5.2	15.7	15.7	11.4	7.8	9.3	-15.1	40.7	0.3	4.8	11.8	8.8	Jun-11
<i>MSCI AC World IMI (Net)</i>			5.9	16.1	16.1	11.0	7.6	8.6	-16.5	40.9	1.2	4.6	11.1	8.0	
Domestic Equity	880,499,588	16.5	7.7	17.6	17.6	13.9	11.3	-	-12.2	43.2	6.0	8.8	15.5	11.3	Jul-14
<i>MSCI USA IMI</i>			8.4	19.2	19.2	14.1	11.5	-	-13.7	44.4	6.7	9.0	14.9	11.1	
Equity Beta Exposure	88,867,350	1.7	8.7	19.2	19.2	-	-	-	-11.0	-	-	-	-	12.5	Aug-20
<i>S&P 500 Index</i>			8.7	19.6	19.6	-	-	-	-10.6	-	-	-	-	12.9	
Mellon DB SL Stock Index Fund	535,890,546	10.0	8.7	19.6	19.6	14.6	12.3	-	-10.6	40.8	7.5	10.4	-	12.2	Oct-17
<i>S&P 500 Index</i>			8.7	19.6	19.6	14.6	12.3	-	-10.6	40.8	7.5	10.4	-	12.1	
PIMCO StocksPLUS	116,372,909	2.2	8.8	18.8	18.8	13.7	11.8	12.9	-12.8	41.7	7.7	10.6	14.1	10.6	Jul-03
<i>S&P 500 Index</i>			8.7	19.6	19.6	14.6	12.3	12.9	-10.6	40.8	7.5	10.4	14.4	9.9	
AB US Small Cap Value Equity	86,479,259	1.6	0.4	4.3	4.3	15.8	3.1	-	-16.1	77.5	-19.4	-6.9	13.2	6.3	Jul-15
<i>Russell 2000 Value Index</i>			3.2	6.0	6.0	15.4	3.5	-	-16.3	73.3	-17.5	-6.2	13.1	6.4	
Geneva Capital Small Cap Growth	52,889,523	1.0	5.7	15.6	15.6	7.4	8.0	-	-22.1	37.6	9.3	8.6	22.7	10.1	Jul-15
<i>Russell 2000 Growth Index</i>			7.1	18.5	18.5	6.1	4.2	-	-33.4	51.4	3.5	-0.5	21.9	6.4	
International Developed Equity	636,266,854	11.9	2.8	17.1	17.1	9.8	4.3	-	-17.3	36.7	-5.7	-0.9	8.7	4.3	Jul-14
<i>MSCI World ex U.S. IMI Index (Net)</i>			2.7	16.3	16.3	8.9	4.2	-	-17.7	34.8	-5.1	0.2	7.7	3.5	
Mellon DB SL World ex-US Index Fund	526,402,690	9.8	3.3	17.9	17.9	10.3	-	-	-16.1	35.6	-5.5	-	-	5.1	Jul-18
<i>MSCI World ex U.S. IMI Index (Net)</i>			2.7	16.3	16.3	8.9	4.2	-	-17.7	34.8	-5.1	0.2	-	4.0	
Cevian Capital II	38,875,436	0.7	2.7	25.3	25.3	19.1	8.1	-	-8.2	46.8	-8.2	-5.0	2.9	7.5	Dec-14
<i>MSCI Europe (Net)</i>			2.7	21.8	21.8	10.7	5.2	-	-17.6	35.1	-6.8	1.9	5.3	5.0	
American Century Non-US Small Cap	70,988,728	1.3	-1.0	7.9	7.9	-	-	-	-27.4	-	-	-	-	-3.9	Dec-20
<i>MSCI World ex U.S. Small Cap Growth Index (Net)</i>			0.3	9.5	9.5	-	-	-	-28.6	-	-	-	-	-4.9	
Emerging Markets Equity	219,007,388	4.1	2.8	4.6	4.6	4.4	0.0	-	-21.9	39.5	-11.8	-0.6	2.9	0.9	Jul-14
<i>MSCI Emerging Markets IMI (Net)</i>			1.6	3.2	3.2	3.6	1.4	-	-24.8	43.2	-4.0	0.5	7.9	2.0	
DFA Emerging Markets Value I	81,560,166	1.5	4.6	7.9	7.9	11.5	3.1	-	-12.9	47.6	-17.7	2.0	5.7	3.9	Mar-14
<i>MSCI Emerging Markets Value (Net)</i>			2.5	4.1	4.1	6.3	1.2	-	-18.6	41.6	-15.7	5.0	4.3	1.8	
AB Emerging Markets Strategic Core Equity Collective Trust	53,147,634	1.0	3.5	5.0	5.0	1.6	-0.6	-	-25.2	33.6	-5.1	-2.6	1.2	2.3	Dec-16
<i>MSCI Emerging Markets (Net)</i>			0.9	1.7	1.7	2.3	0.9	-	-25.3	40.9	-3.4	1.2	8.2	4.6	
Mellon Emerging Markets Stock Index Fund	84,299,588	1.6	0.7	1.6	1.6	2.2	-	-	-25.5	41.1	-	-	-	2.0	Jun-20
<i>MSCI Emerging Markets (Net)</i>			0.9	1.7	1.7	2.3	-	-	-25.3	40.9	-	-	-	4.6	
Fixed Income	1,340,709,034	25.0	0.0	2.9	2.9	-2.0	1.5	2.1	-13.0	5.1	6.3	7.6	-0.1	3.1	Jun-10
<i>Fixed Income Custom Benchmark</i>			-0.1	1.9	1.9	-2.1	1.3	2.1	-11.6	4.0	5.2	8.4	-0.1	2.9	
Core Plus Fixed Income	866,318,648	16.2	-1.1	-1.0	-1.0	-4.0	0.8	-	-11.4	0.8	9.3	7.9	-0.2	1.4	Jul-14
<i>Bloomberg U.S. Aggregate Index</i>			-0.8	-0.9	-0.9	-4.0	0.8	-	-10.3	-0.3	8.7	7.9	-0.4	1.2	
Fixed Income Beta Exposure	418,880,253	7.8	-1.5	-2.5	-2.5	-	-	-	-	-	-	-	-	-0.2	Jun-22
<i>Bloomberg U.S. Aggregate Index</i>			-0.8	-0.9	-0.9	-	-	-	-	-	-	-	-	-2.3	
Mellon DB SL Aggregate Bond Index Fund	161,044,998	3.0	-0.9	-0.9	-0.9	-4.0	0.7	1.5	-10.4	-0.4	8.8	7.9	-0.4	1.9	Jan-11
<i>Bloomberg U.S. Aggregate Index</i>			-0.8	-0.9	-0.9	-4.0	0.8	1.5	-10.3	-0.3	8.7	7.9	-0.4	2.0	

Policy Index: 3.7% MSCI ACWI IMI (Net), 1.4% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweight Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
PIMCO Core Plus	164,488,299	3.1	-0.8	-0.7	-0.7	-3.3	0.9	1.7	-9.9	1.1	8.7	6.3	1.0	2.2	Feb-11
<i>Bloomberg U.S. Aggregate Index</i>			<i>-0.8</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>	<i>1.5</i>	<i>-10.3</i>	<i>-0.3</i>	<i>8.7</i>	<i>7.9</i>	<i>-0.4</i>	<i>2.0</i>	
Western Asset Core Plus	121,905,098	2.3	-0.4	0.8	0.8	-4.1	1.1	2.2	-14.5	2.4	9.3	9.4	-0.4	3.7	Jun-04
<i>Bloomberg U.S. Aggregate Index</i>			<i>-0.8</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.0</i>	<i>0.8</i>	<i>1.5</i>	<i>-10.3</i>	<i>-0.3</i>	<i>8.7</i>	<i>7.9</i>	<i>-0.4</i>	<i>3.2</i>	
High Yield/ Specialty Credit	260,789,377	4.9	1.7	7.5	7.5	3.0	3.1	-	-10.0	13.1	-0.5	7.0	2.8	2.5	Jul-14
<i>ICE BofA U.S. High Yield Index</i>			<i>1.6</i>	<i>8.9</i>	<i>8.9</i>	<i>3.2</i>	<i>3.2</i>	<i>-</i>	<i>-12.7</i>	<i>15.6</i>	<i>-1.1</i>	<i>7.6</i>	<i>2.5</i>	<i>3.5</i>	
Western Asset High Yield Fixed Income	165,365,884	3.1	2.0	9.5	9.5	3.1	3.0	3.9	-14.1	16.5	-2.2	8.3	2.2	5.8	Jun-05
<i>Bloomberg US HY Ba/B 2% Cap TR</i>			<i>1.4</i>	<i>8.9</i>	<i>8.9</i>	<i>2.6</i>	<i>3.7</i>	<i>4.5</i>	<i>-12.4</i>	<i>13.4</i>	<i>2.1</i>	<i>8.8</i>	<i>1.8</i>	<i>6.0</i>	
TCW Securitized Opportunities	95,423,493	1.8	1.3	4.4	4.4	2.2	2.8	-	-4.0	6.4	2.2	5.2	4.3	3.4	Feb-16
<i>Bloomberg U.S. High Yield - 2% Issuer Cap</i>			<i>1.8</i>	<i>9.1</i>	<i>9.1</i>	<i>3.1</i>	<i>3.3</i>	<i>-</i>	<i>-12.8</i>	<i>15.3</i>	<i>0.0</i>	<i>7.5</i>	<i>2.6</i>	<i>5.7</i>	
Emerging Market Debt	213,298,532	4.0	2.7	11.2	11.2	-1.0	0.6	-	-19.9	9.1	-1.7	7.9	-4.2	0.3	Jul-14
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			<i>2.3</i>	<i>9.4</i>	<i>9.4</i>	<i>-2.2</i>	<i>0.5</i>	<i>-</i>	<i>-20.2</i>	<i>7.1</i>	<i>-1.1</i>	<i>10.8</i>	<i>-1.9</i>	<i>0.5</i>	
Stone Harbor Emerging Markets Debt Blend Portfolio	65,594,366	1.2	2.9	10.8	10.8	-1.4	0.4	0.4	-20.9	9.5	-1.8	8.2	-3.1	-0.1	Aug-12
<i>50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx</i>			<i>2.3</i>	<i>9.2</i>	<i>9.2</i>	<i>-2.0</i>	<i>0.7</i>	<i>1.3</i>	<i>-19.5</i>	<i>7.2</i>	<i>-0.8</i>	<i>10.6</i>	<i>-1.7</i>	<i>1.0</i>	
PIMCO EMD	147,704,166	2.8	2.6	11.3	11.3	-0.8	-	-	-19.2	8.7	-	-	-	-1.9	Feb-20
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			<i>2.3</i>	<i>9.4</i>	<i>9.4</i>	<i>-2.2</i>	<i>-</i>	<i>-</i>	<i>-20.2</i>	<i>7.1</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-3.4</i>	
Commodities	228,214,624	4.3	-2.8	-7.0	-7.0	16.5	5.5	-0.4	19.4	42.5	-11.3	-6.7	13.3	-0.4	Jul-13
<i>Bloomberg Commodity Index Total Return</i>			<i>-2.6</i>	<i>-9.6</i>	<i>-9.6</i>	<i>17.8</i>	<i>4.7</i>	<i>-1.0</i>	<i>24.3</i>	<i>45.6</i>	<i>-17.4</i>	<i>-6.8</i>	<i>7.3</i>	<i>-1.0</i>	
Gresham MTAP Commodity Builder Fund	48,242,779	0.9	-1.8	-11.5	-11.5	17.5	4.3	-	24.7	46.8	-16.3	-9.0	12.4	-0.9	Oct-13
<i>Bloomberg Commodity Index Total Return</i>			<i>-2.6</i>	<i>-9.6</i>	<i>-9.6</i>	<i>17.8</i>	<i>4.7</i>	<i>-</i>	<i>24.3</i>	<i>45.6</i>	<i>-17.4</i>	<i>-6.8</i>	<i>7.3</i>	<i>-1.1</i>	
Wellington Commodities	179,971,845	3.4	-3.0	-5.2	-5.2	15.9	6.4	-	17.2	40.2	-7.5	-5.4	14.2	0.3	Sep-13
<i>S&P GSCI Commodity Equal Weighted</i>			<i>-4.6</i>	<i>-5.5</i>	<i>-5.5</i>	<i>16.6</i>	<i>6.0</i>	<i>-</i>	<i>19.0</i>	<i>40.9</i>	<i>-12.4</i>	<i>-3.5</i>	<i>12.6</i>	<i>0.4</i>	
Hedge Funds	541,710,718	10.1	1.5	6.8	6.8	8.4	6.9	5.6	2.8	16.1	7.0	2.5	7.6	5.9	Sep-10
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)</i>			<i>2.5</i>	<i>7.2</i>	<i>7.2</i>	<i>5.8</i>	<i>5.8</i>	<i>5.9</i>	<i>-1.7</i>	<i>12.3</i>	<i>5.1</i>	<i>6.6</i>	<i>7.0</i>	<i>5.8</i>	
Aristeia International Limited	70,900,266	1.3	1.3	5.5	5.5	9.3	9.2	-	1.8	21.6	8.7	9.2	2.6	5.3	May-14
Brevan Howard Fund	54,344,819	1.0	-2.7	-1.0	-1.0	6.6	10.4	-	15.2	6.1	20.5	12.7	7.8	7.2	Sep-13
D.E. Shaw Composite Fund	61,264,742	1.1	2.9	11.0	11.0	19.4	17.0	14.3	29.0	19.0	15.6	11.5	11.3	14.3	Jul-13
HBK Fund II	45,043,642	0.8	0.6	7.8	7.8	7.0	5.5	-	2.3	11.0	1.5	5.5	3.0	4.5	Nov-13
Hudson Bay Cap Structure Arbitrage Enhanced Fund	81,574,491	1.5	1.0	7.7	7.7	9.9	-	-	7.7	14.2	16.2	-	-	11.3	Jun-19
Indus Pacific Opportunities Fund	46,377,701	0.9	-2.7	-0.4	-0.4	8.0	3.4	-	-8.2	38.0	15.8	-19.2	15.8	6.7	Jul-14
Pharo Macro Fund	62,959,707	1.2	2.6	1.2	1.2	-2.3	-	-	-11.1	3.5	-	-	-	-1.1	Dec-19
PIMCO Commodity Alpha Fund	71,393,658	1.3	6.4	18.3	18.3	13.6	10.1	-	8.6	14.2	4.8	5.2	10.4	11.1	Jun-16
Sculptor Domestic Partners II LP	47,851,693	0.9	3.0	8.8	8.8	0.6	-	-	-19.9	16.8	6.5	-	-	5.1	Feb-19
Alpha Pool	221,475,636	4.1	-1.4	-0.9	-0.9	4.8	-	-	1.5	14.5	-	-	-	4.8	Jul-20
<i>3 Month T-Bill +4%</i>			<i>1.9</i>	<i>6.7</i>	<i>6.7</i>	<i>4.3</i>	<i>-</i>	<i>-</i>	<i>3.2</i>	<i>3.1</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>4.3</i>	
Hudson Bay	63,009,820	1.2	-1.5	-1.1	-1.1	-	-	-	6.7	-	-	-	-	6.0	Aug-20
Davidson Kempner Institutional Partners	55,433,498	1.0	-1.6	-4.1	-4.1	-	-	-	-3.4	-	-	-	-	0.2	Dec-20
HBK Fund II	43,317,590	0.8	-1.9	-1.0	-1.0	-	-	-	1.3	-	-	-	-	2.1	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	59,714,728	1.1	-0.7	3.6	3.6	-	-	-	-	-	-	-	-	5.0	Sep-21

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Inception	Inception Date
Midstream Energy	308,467,836	5.8	3.0	19.3	19.3	-	-	-	9.3	-	-	-	-	27.8	Sep-20
<i>Alerian Midstream Energy Index</i>			<i>3.7</i>	<i>12.2</i>	<i>12.2</i>	-	-	-	<i>11.4</i>	-	-	-	-	<i>25.2</i>	
Harvest Midstream	156,842,353	2.9	2.2	20.9	20.9	-	-	-	15.3	-	-	-	-	33.9	Aug-20
<i>Alerian Midstream Energy Index</i>			<i>3.7</i>	<i>12.2</i>	<i>12.2</i>	-	-	-	<i>11.4</i>	-	-	-	-	<i>24.4</i>	
PIMCO Midstream	151,625,483	2.8	3.9	16.9	16.9	-	-	-	2.2	-	-	-	-	22.2	Sep-20
<i>50/25/25 Alerian Midstream/ICE BofA US Pipeline/ICE BofA US HY Midstream</i>			<i>2.3</i>	<i>10.1</i>	<i>10.1</i>	-	-	-	<i>-0.7</i>	-	-	-	-	-	
Core Real Estate	305,434,791	5.7	-4.2	-12.3	-12.3	4.9	4.4	-	24.8	5.6	1.4	5.9	7.4	6.6	Oct-14
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	-	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.4</i>	<i>8.2</i>	
ASB Allegiance Real Estate Fund	165,428,514	3.1	-6.2	-13.1	-13.1	4.1	4.1	-	23.0	5.4	1.5	6.8	7.1	6.6	Sep-13
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	-	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.4</i>	<i>8.6</i>	
JPMCB Strategic Property Fund	140,006,277	2.6	-1.8	-11.3	-11.3	6.3	5.0	-	27.9	5.9	1.3	5.0	7.6	6.8	Jul-14
<i>NCREIF ODCE</i>			<i>-2.7</i>	<i>-10.0</i>	<i>-10.0</i>	<i>8.0</i>	<i>6.5</i>	-	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.4</i>	<i>8.3</i>	
Private Real Estate	132,005,447	2.5	-0.9	7.9	7.9	16.7	12.6	12.3	31.3	12.1	4.4	9.0	5.4	12.5	Mar-11
			<i>-0.9</i>	<i>8.0</i>	<i>8.0</i>	<i>16.7</i>	<i>12.6</i>	<i>12.8</i>	<i>31.3</i>	<i>12.1</i>	<i>4.4</i>	<i>9.0</i>	<i>5.4</i>	<i>12.5</i>	
Private Equity	187,538,440	3.5	3.1	-0.5	-0.5	20.1	11.5	10.8	22.9	41.7	-10.5	10.9	7.8	10.7	Sep-10
			<i>3.1</i>	<i>-0.5</i>	<i>-0.5</i>	<i>20.1</i>	<i>11.5</i>	<i>11.2</i>	<i>23.0</i>	<i>41.7</i>	<i>-10.5</i>	<i>10.9</i>	<i>7.8</i>	<i>10.8</i>	
Private Credit	246,629,415	4.6	2.8	3.2	3.0	3.0	4.8	-	1.2	4.8	5.5	9.7	9.3	-23.3	Dec-15
			<i>2.3</i>	<i>2.8</i>	<i>2.8</i>	<i>2.9</i>	<i>4.8</i>	-	<i>1.2</i>	<i>4.8</i>	<i>5.5</i>	<i>9.7</i>	<i>9.3</i>	<i>6.9</i>	
Opportunistic	167,584,245	3.1	1.1	0.6	0.6	15.0	-	-	-5.4	59.9	-	-	-	9.9	Jan-20
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.3</i>	
River Birch International	5,106,669	0.1	16.1	46.1	46.1	-	-	-	-	-	-	-	-	60.2	Jun-22
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	-	-	-	-	-	-	-	-	<i>7.2</i>	
DB Investors Fund IV	23,394,069	0.4	-8.5	-8.3	-8.3	5.5	-	-	-34.4	95.1	-	-	-	4.6	Dec-19
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	
Sixth Street TAO Partners (D)	90,733,476	1.7	4.9	4.4	4.4	16.9	-	-	9.6	39.6	-	-	-	15.5	Mar-20
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	
Aristeia Select Opportunities II	48,350,031	0.9	-2.4	-7.2	-7.2	-	-	-	-	-	-	-	-	-1.4	Jul-21
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	-	-	-	-	<i>7.2</i>	
Cash	-63,281,544	-1.2	0.5	2.2	2.2	0.7	1.0	1.5	-0.2	0.1	1.0	2.0	3.2	1.3	Apr-11
<i>3 Month T-Bill</i>			<i>1.2</i>	<i>3.6</i>	<i>3.6</i>	<i>1.3</i>	<i>1.6</i>	<i>1.0</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>	<i>1.4</i>	<i>0.8</i>	

Policy Index: 3.7% MSCI ACWI IMI (Net), 1.4% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Total Private Equity

Kern County Employees' Retirement
Period Ending: June 30, 2023

IRR Analysis as of IRR date

Vintage Year	Manager/Fund	Estimated Market Value as of 6/30/2022	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Equity												
2008	Abbott Capital PE VI	\$17,490,181	\$50,000,000	\$49,750,000	100%	\$250,000	\$78,095,564	\$17,231,430	1.57x	1.92x	12.8%	03/31/23
2006	Pantheon Global III	\$553,189	\$50,000,000	\$47,300,000	95%	\$2,700,000	\$52,000,000	\$544,562	1.10x	1.11x	1.9%	03/31/23
1998	Pantheon USA III	\$45,445	\$7,500,000	\$7,335,000	98%	\$165,000	\$8,197,500	\$47,064	1.12x	1.12x	1.9%	12/31/22
2002	Pantheon USA V	\$383,462	\$25,000,000	\$24,350,000	97%	\$650,000	\$37,950,000	\$392,019	1.56x	1.57x	9.0%	03/31/23
2004	Pantheon USA VI	\$335,737	\$35,000,000	\$33,075,000	95%	\$1,925,000	\$50,623,827	\$357,185	1.53x	1.54x	6.7%	03/31/23
2006	Pantheon USA VII	\$6,907,588	\$50,000,000	\$46,600,000	93%	\$3,400,000	\$80,424,999	\$6,715,424	1.73x	1.87x	10.1%	03/31/23
2020	Vista Foundation Fund IV	\$18,058,075	\$25,000,000	\$18,753,571	75%	\$6,246,429	\$30,252	\$17,834,565	0.00x	0.96x	-2.9%	03/31/23
2021	Crown Global Secondaries V Master S.C.Sp	\$28,568,244	\$50,000,000	\$21,250,000	43%	\$28,750,000	\$1,550,000	\$28,138,412	0.07x	1.42x	31.2%	03/31/23
2021	Brighton Park Capital Fund I	\$36,029,946	\$30,000,000	\$28,421,941	95%	\$1,578,059	\$1,325,801	\$36,655,157	0.05x	1.31x	14.9%	03/31/23
2021	Warren Equity Partners Fund III	\$29,397,592	\$32,500,000	\$24,279,276	75%	\$8,220,724	\$508,290	\$29,397,592	0.02x	1.23x	20.5%	06/30/23
2021	Peak Rock Capital Fund III	\$11,921,302	\$30,000,000	\$11,319,783	38%	\$18,680,217	\$2,021,657	\$11,921,302	0.18x	1.23x	25.3%	06/30/23
2021	Level Equity Growth Partners V	\$6,697,065	\$15,000,000	\$6,715,768	45%	\$8,284,232	\$0	\$6,697,065	0.00x	1.00x	2.6%	06/30/23
2021	Level Equity Opportunities Fund 2021	\$5,529,388	\$15,000,000	\$5,529,385	37%	\$9,470,615	\$0	\$5,529,388	0.00x	1.00x	12.9%	06/30/23
2022	Linden Capital Partners V LP	\$7,984,801	\$22,500,000	\$7,885,783	35%	\$14,614,217	\$0	\$7,984,801	N/A	N/A	10.3%	06/30/23
2022	Rubicon Technology Partners IV LP	\$3,277,938	\$30,000,000	\$3,895,697	13%	\$26,104,303	\$0	\$3,214,080	N/A	N/A	-69.4%	12/31/22
2022	OrbiMed Private Investments IX, LP	\$320,186	\$10,000,000	\$500,000	5%	\$9,500,000	\$0	\$320,186	N/A	N/A	32.0%	06/30/23
2022	Brighton Park Capital Fund II	\$3,071,866	\$30,000,000	\$4,174,920	14%	\$25,825,080	\$0	N/A	N/A	N/A	N/A	N/A
2022	Linden Co-Investment V LP	\$3,910,712	\$7,500,000	\$7,499,177	100%	\$823	\$0	\$1,846,267	N/A	N/A	21.8%	12/31/22
2022	Warren Equity Partners Fund IV	\$7,055,723	\$32,500,000	\$2,820,089	9%	\$29,679,931	\$0	N/A	N/A	N/A	N/A	N/A
2022	Accel-KKR Capital Partners VII	\$0	\$25,000,000	\$0	0%	\$25,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	LGT Crown Global Secondaries Fund VI	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	Parthenon Investors VII	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	WEP Co-Invest IV	\$0	\$10,000,000	\$0	0%	\$10,000,000	\$0	N/A	N/A	N/A	N/A	N/A

Total Private Equity	\$187,538,440	\$842,500,000	\$351,455,371	55%	\$281,044,629	\$312,727,891	\$173,826,499	0.89x	1.42x
% of Portfolio (Market Value)	3.5%								

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Linden Co-Investment V LP and Brighton Park Capital Fund II, L.P added in Q1

Total Fund
Total Private Credit

Kern County Employees' Retirement
Period Ending: June 30, 2023

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value 6/30/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib/ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Credit												
2015	DC Value Recovery Fund IV ⁴	\$18,526,925	\$74,360,749	\$73,340,099	99%	\$1,020,650	\$40,330,120	\$20,781,309	0.55x	0.80x	N/A	3/31/23
2017	Sixth Street TAO Partners (B)	\$41,404,117	\$108,035,958	\$84,519,175	78%	\$23,516,783	\$43,279,572	\$39,800,921	0.51x	1.00x	9.7%	3/31/23
2017	Brookfield Real Estate Finance Fund V	\$16,752,621	\$50,000,000	\$36,019,917	72%	\$13,980,083	\$27,359,025	\$16,752,621	0.76x	1.22x	6.8%	6/30/23
2018	Magnetar Constellation Fund V	\$28,113,131	\$60,000,000	\$56,445,318	94%	\$3,554,682	\$41,583,529	\$28,113,131	0.74x	1.23x	5.9%	6/30/23
2019	H.I.G Bayside Loan Opportunity Fund V	\$43,519,452	\$60,000,000	\$35,821,497	60%	\$24,178,503	\$12,786,586	\$43,519,452	0.36x	1.57x	17.4%	6/30/23
2020	Blue Torch Credit Opportunities Fund II	\$16,313,371	\$20,000,000	\$16,613,092	83%	\$3,386,908	\$3,652,640	\$17,526,212	0.22x	1.20x	14.2%	3/31/23
2020	Fortress Credit Opportunites Fund V Expansion	\$15,507,751	\$40,000,000	\$13,968,710	35%	\$26,031,290	\$468,590	\$15,507,751	0.03x	1.14x	21.2%	6/30/23
2021	Fortress Lending Fund II	\$28,566,610	\$40,000,000	\$33,337,851	83%	\$6,662,149	\$7,124,926	\$28,566,610	0.21x	1.07x	10.0%	6/30/23
2022	Blue Torch Credit Opportunities Fund III	\$7,764,429	\$40,000,000	\$7,199,891	18%	\$32,800,109	\$83,928	\$7,625,106	0.01x	1.09x	20.1%	3/31/23
2022	Fortress Lending Fund III	\$23,889,989	\$40,000,000	\$23,232,701	58%	\$16,767,299	\$2,175,812	\$23,889,989	0.09x	1.12x	11.8%	6/30/23
2022	OrbiMed Royalty & Credit Opportunities IV	\$6,271,019	\$30,000,000	\$5,983,980	20%	\$24,016,020	\$0	\$4,560,873	0.00x	1.05x	11.9%	3/31/23
2023	Ares Senior Direct Lending III	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Cerberus Business Finance V	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Ares Pathfinder II	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Silver Point – Specialty Credit Fund III	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
Total Private Credit		\$246,629,415	\$562,396,707	\$386,482,230	69%	\$175,914,477	\$178,844,730	\$246,643,975	0.46x	1.10x		
% of Portfolio (Market Value)		4.6%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

⁴Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

IRR Analysis as of IRR date												
Vintage	Estimated Market Value	Total	Capital	%	Remaining	Capital		Distrib./	Tot. Value/	Net IRR		
Year	6/30/2023	Commitment	Called	Called	Commitment	Returned	Market Value as of IRR date	Paid-In (DPI) ¹	Paid-In (TVPI) ²	Since Inception ³	IRR	Date
Year	Manager/Fund											
Private Real Estate												
2014	Invesco Real Estate Value-Add Fund IV	\$945,682	\$50,000,000	\$43,637,717	87%	\$6,362,283	\$56,824,750	\$945,682	1.30x	1.32x	10.5%	06/30/23
2017	Landmark Real Estate Partners VIII	\$31,583,306	\$60,000,000	\$40,705,385	68%	\$19,294,615	\$23,327,214	\$31,009,306	0.57x	1.35x	18.5%	03/31/23
2018	Long Wharf Real Estate Partners VI	\$34,525,266	\$50,000,000	\$49,405,352	99%	\$594,648	\$22,893,954	\$34,525,266	0.46x	1.16x	19.5%	06/30/23
2020	Covenant Apartment Fund X	\$33,947,463	\$30,000,000	\$24,007,333	80%	\$5,992,667	\$6,380,981	\$33,947,463	0.27x	1.68x	23.2%	06/30/23
2021	Singerman Real Estate Opportunity Fund IV	\$8,944,617	\$35,000,000	\$8,146,250	23%	\$26,853,750	\$0	\$8,944,617	0.00x	1.10x	17.6%	06/30/23
2022	LBA Logistics Value Fund IX, L.P.	\$10,287,850	\$40,000,000	\$11,153,846	28%	\$28,846,154	\$0	\$10,287,850	0.00x	0.92x	-11.9%	06/30/23
2022	Covenant Apartment Fund XI	\$9,819,829	\$30,000,000	\$6,300,000	21%	\$38,076,924	\$3,112	N/A	N/A	N/A	N/A	N/A
2022	KSL Capital Partners VI	\$1,951,434	\$30,000,000	\$2,016,241	7%	\$27,983,759	\$64,806	N/A	N/A	N/A	N/A	N/A
2022	Landmark Real Estate Partners IX	\$0	\$40,000,000	\$0	0%	\$40,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	Merit Hill V	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Real Estate		\$132,005,447	\$395,000,000	\$185,372,124	47%	\$224,004,800	\$109,494,818	\$119,660,184	0.59x	1.30x		
% of Portfolio (Market Value)		2.5%										

¹(DPI) is equal to (capital returned / capital called)

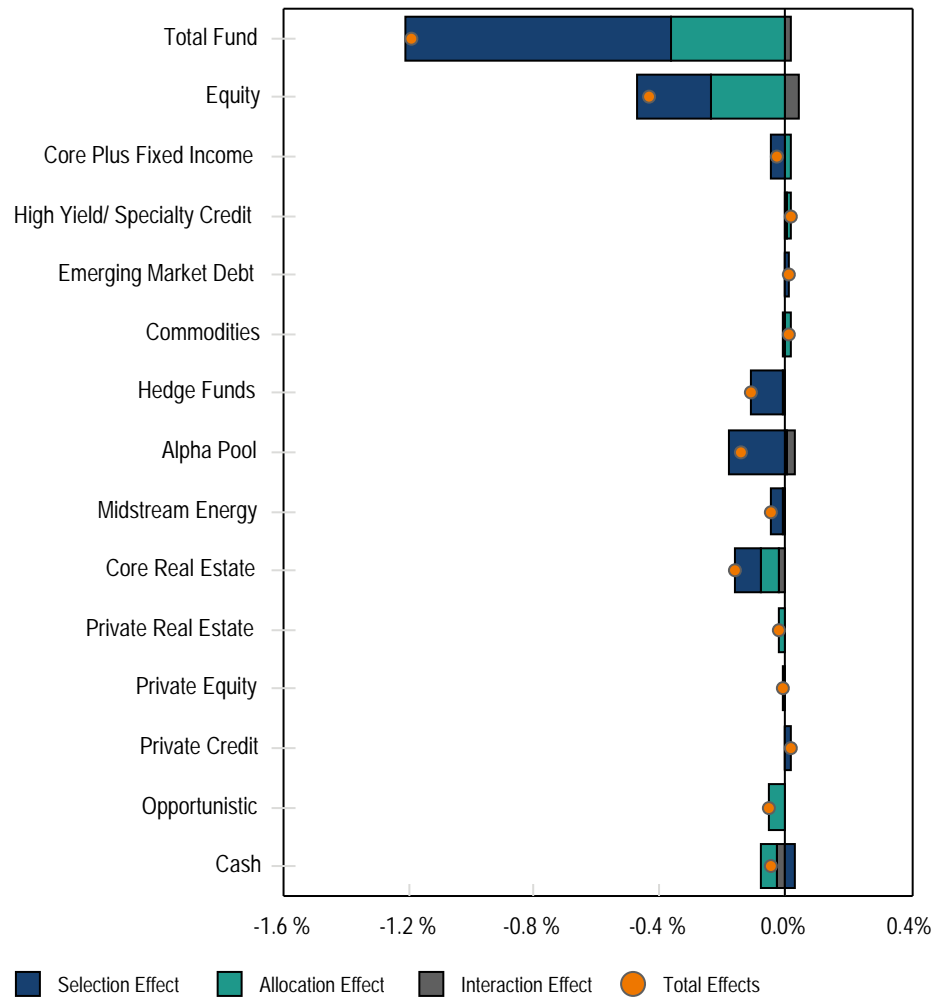
²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Total Fund
Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

Attribution Effects
Last Three Months



Performance Attribution

	Last Three Months
Wtd. Actual Return	1.6
Wtd. Index Return	2.8
Excess Return	-1.2
Selection Effect	-0.8
Allocation Effect	-0.4
Interaction Effect	0.0

Attribution Summary
Last Three Months

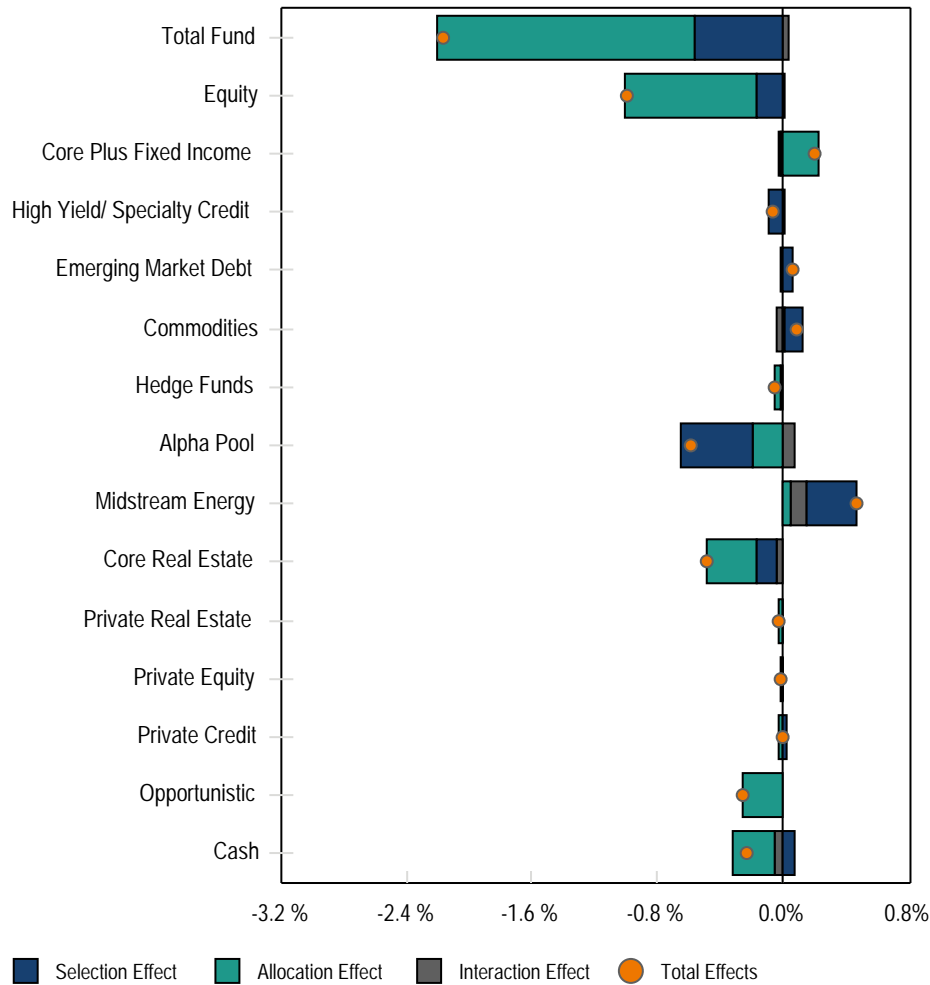
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	5.2	5.9	-0.6	-0.3	-0.2	0.0	-0.4
Core Plus Fixed Income	-1.1	-0.8	-0.2	-0.1	0.0	0.0	0.0
High Yield/ Specialty Credit	1.7	1.6	0.1	0.0	0.0	0.0	0.0
Emerging Market Debt	2.7	2.3	0.3	0.0	0.0	0.0	0.0
Commodities	-2.8	-2.6	-0.2	0.0	0.0	0.0	0.0
Hedge Funds	1.5	2.5	-1.0	-0.1	0.0	0.0	-0.1
Alpha Pool	-1.4	2.1	-3.5	-0.2	0.0	0.0	-0.1
Midstream Energy	3.0	3.7	-0.7	-0.1	0.0	0.0	0.0
Core Real Estate	-4.2	-2.7	-1.6	-0.1	-0.1	0.0	-0.2
Private Real Estate	-0.9	-0.9	0.0	0.0	0.0	0.0	0.0
Private Equity	3.1	3.1	0.0	0.0	0.0	0.0	0.0
Private Credit	2.8	2.3	0.4	0.0	0.0	0.0	0.0
Opportunistic	1.1	1.8	-0.7	0.0	-0.1	0.0	-0.1
Cash	0.5	1.2	-0.7	0.0	-0.1	0.0	0.0
Total Fund	1.6	2.8	-1.2	-0.8	-0.4	0.0	-1.2

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Total Fund
Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

Attribution Effects
Fiscal YTD



Performance Attribution

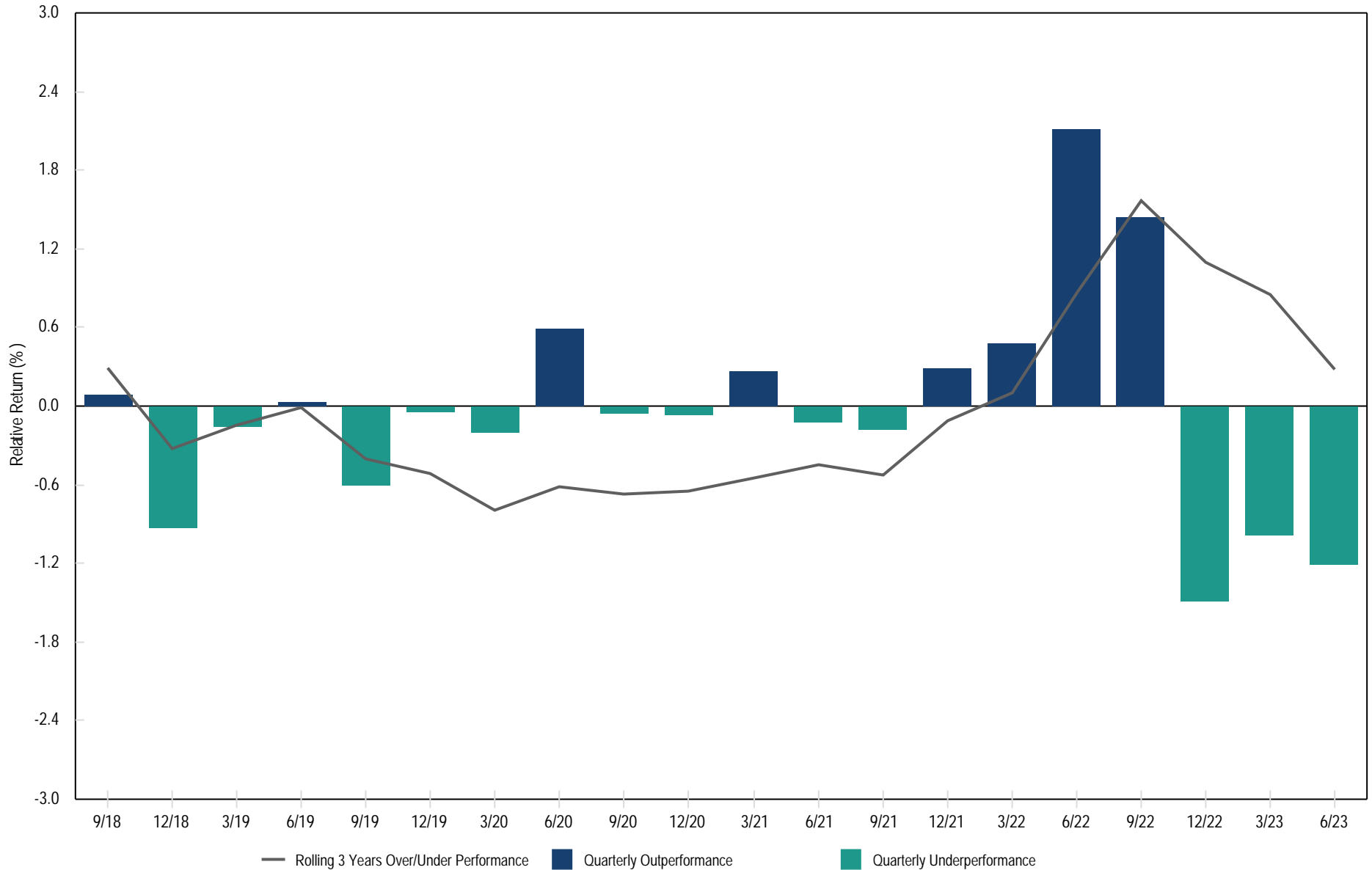
	Fiscal YTD
Wtd. Actual Return	5.9
Wtd. Index Return	8.1
Excess Return	-2.2
Selection Effect	-0.6
Allocation Effect	-1.6
Interaction Effect	0.0

Attribution Summary
Fiscal YTD

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	15.7	16.1	-0.4	-0.3	-0.8	0.0	-1.0
Core Plus Fixed Income	-1.0	-0.9	-0.1	-0.1	0.2	0.0	0.2
High Yield/ Specialty Credit	7.5	8.9	-1.4	-0.1	0.0	0.0	-0.1
Emerging Market Debt	11.2	9.4	1.8	0.1	0.0	0.0	0.1
Commodities	-7.0	-9.6	2.6	0.1	0.0	0.0	0.1
Hedge Funds	6.8	7.2	-0.4	0.0	0.0	0.0	-0.1
Alpha Pool	-0.9	7.7	-8.5	-0.5	-0.2	0.1	-0.6
Midstream Energy	19.3	12.2	7.1	0.3	0.0	0.1	0.5
Core Real Estate	-12.3	-10.0	-2.3	-0.2	-0.3	0.0	-0.5
Private Real Estate	7.9	8.0	-0.1	0.0	0.0	0.0	0.0
Private Equity	-0.5	-0.5	0.0	0.0	0.0	0.0	0.0
Private Credit	3.2	2.8	0.4	0.0	0.0	0.0	0.0
Opportunistic	0.6	7.2	-6.7	0.0	-0.2	0.0	-0.2
Cash	2.2	3.6	-1.3	0.1	-0.3	-0.1	-0.2
Total Fund	5.9	8.1	-2.2	-0.6	-1.6	0.0	-2.2

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

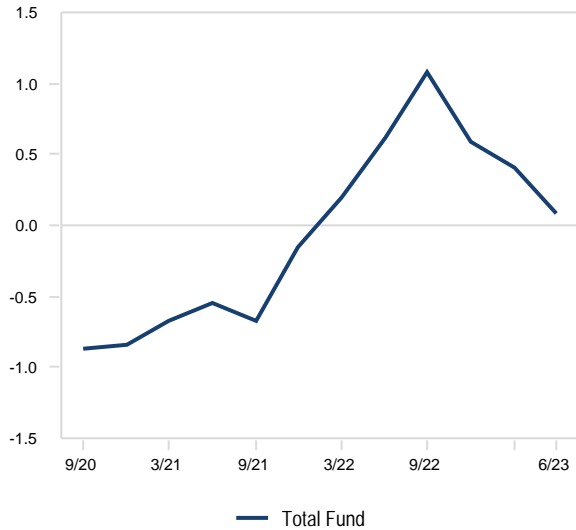
Rolling 3 Year Annualized Excess Performance



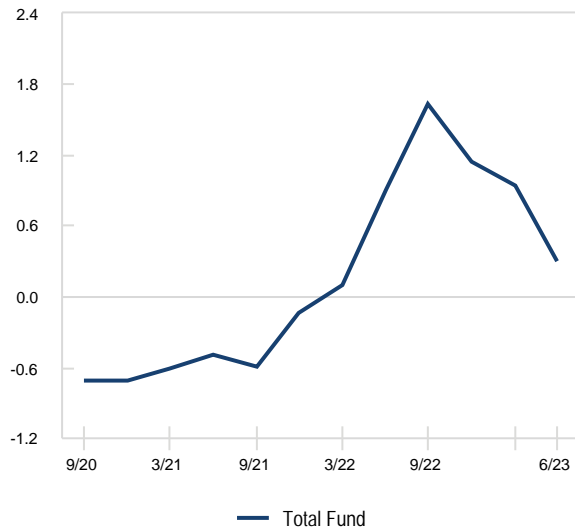
Total Fund
Rolling Risk Statistics: 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

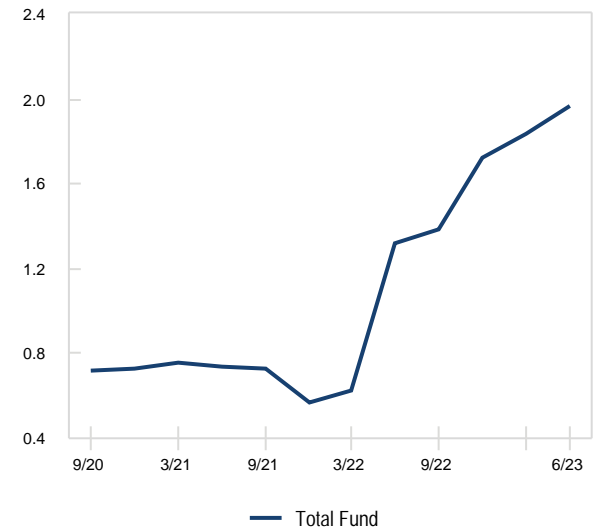
Rolling Information Ratio



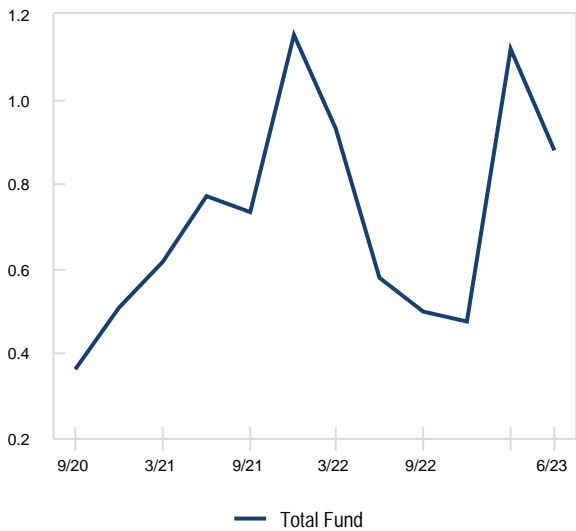
Rolling Annual Excess Benchmark Return



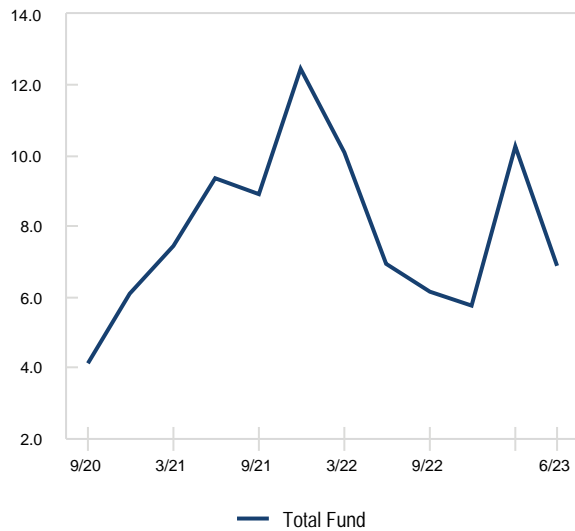
Rolling Tracking Error



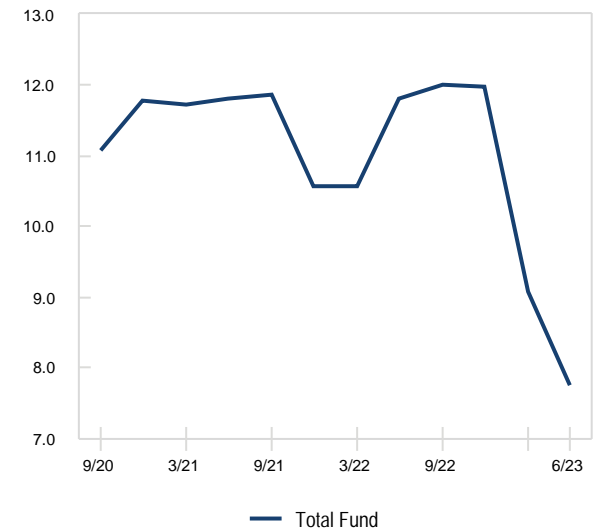
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



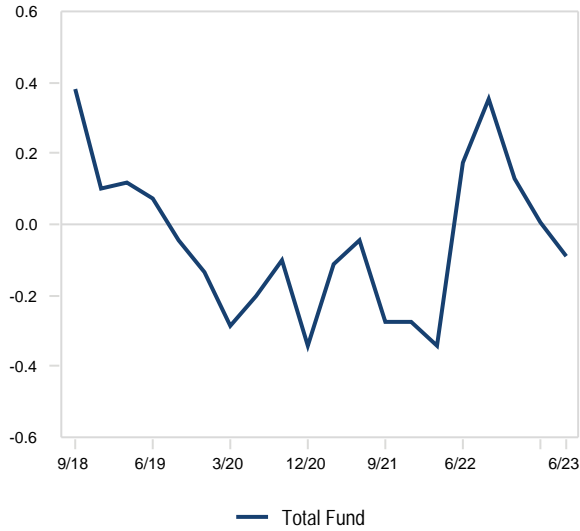
Rolling Annualized Standard Deviation



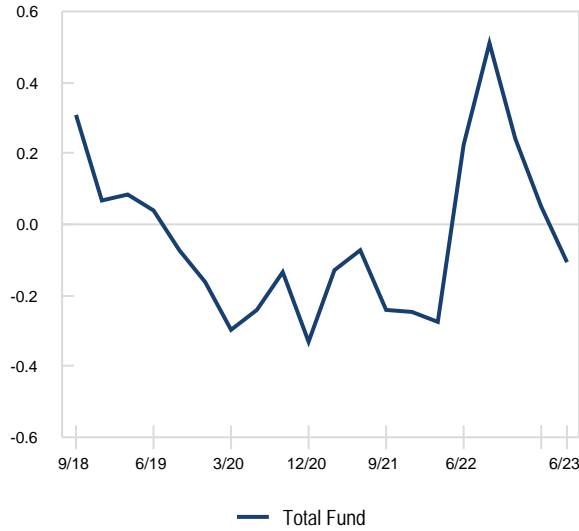
Total Fund
Rolling Risk Statistics: 5 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

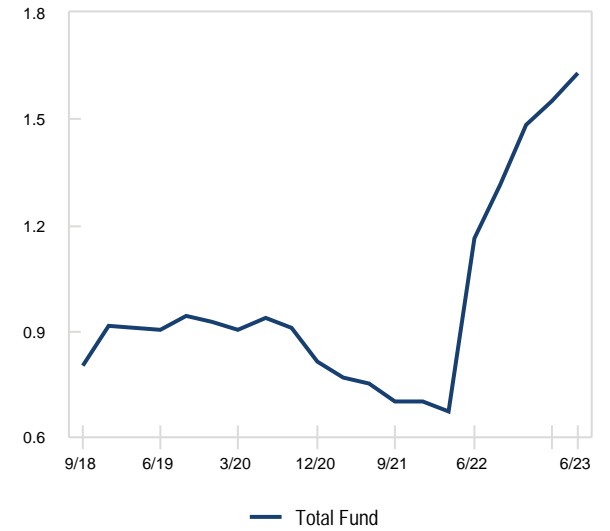
Rolling Information Ratio



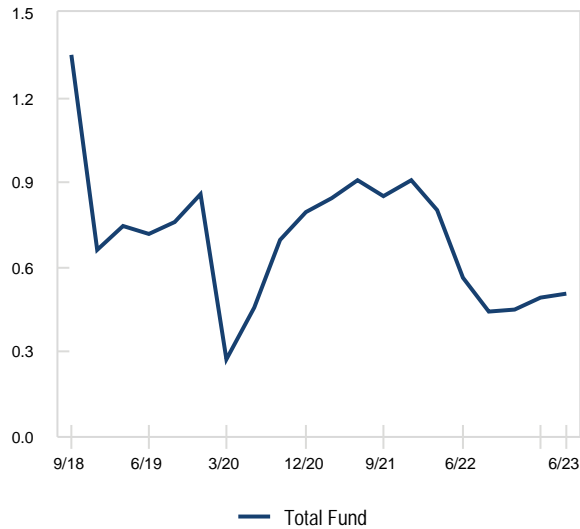
Rolling Annual Excess Benchmark Return



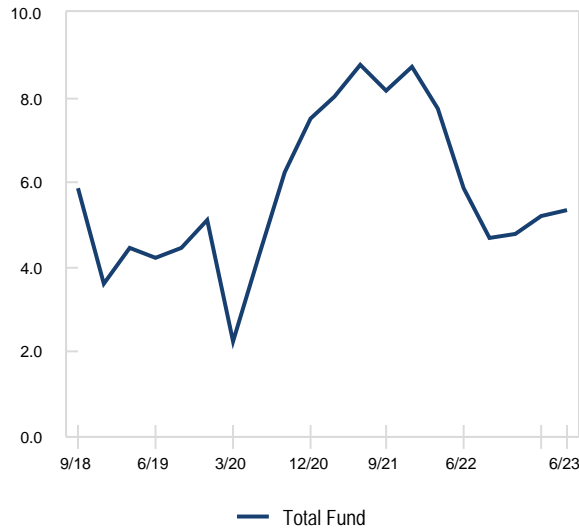
Rolling Tracking Error



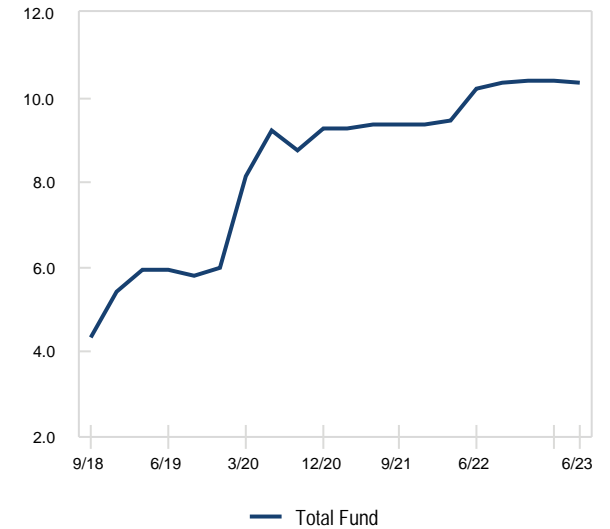
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Equity	1,684,531,735	874,180	-35,519,936		-1,357,464	87,246,151	1,735,774,667
Equity Beta Exposure	116,684,550	874,180	-35,519,436		-1,355,100	8,183,156	88,867,350
Mellon DB SL Stock Index Fund	492,812,772					43,077,775	535,890,546
PIMCO StocksPLUS	106,968,573					9,404,337	116,372,909
AB US Small Cap Value Equity	85,933,985		-129			545,403	86,479,259
Geneva Capital Small Cap Growth	49,961,187		-354			2,928,690	52,889,523
Mellon DB SL World ex-US Index Fund	509,554,780					16,847,909	526,402,690
Fidelity Non-US Small Cap Equity	2,371		-18		-2,364	10	
Cevian Capital II	37,835,395					1,040,041	38,875,436
American Century Non-US Small Cap	71,741,628					-752,900	70,988,728
DFA Emerging Markets Value I	77,971,643					3,588,524	81,560,166
AB Emerging Markets Strategic Core Equity Collective Trust	51,359,657					1,787,978	53,147,634
Mellon Emerging Markets Stock Index Fund	83,704,518					595,070	84,299,588
Transition Equity	676					160	837
Fixed Income	1,293,165,405	57,933,501	-1,611,356	126,904	-9,879,495	974,075	1,340,709,034
Fixed Income Beta Exposure	373,052,129	57,890,137	-1,611,356		-4,278,500	-6,172,158	418,880,253
Mellon DB SL Aggregate Bond Index Fund	162,415,284					-1,370,286	161,044,998
PIMCO Core Plus	165,702,164					-1,213,865	164,488,299
Western Asset Core Plus	122,289,114					-384,016	121,905,098
Western Asset High Yield Fixed Income	164,707,494				-2,652,752	3,311,142	165,365,884
TCW Securitized Opportunities	96,137,252			126,904	-1,963,554	1,122,891	95,423,493
Stone Harbor Emerging Markets Debt Blend Portfolio	64,653,539	43,364			-984,666	1,882,129	65,594,366
PIMCO EMD	143,907,027					3,797,139	147,704,166
Transition Fixed Income	301,401				-22	1,098	302,477
Commodities	197,553,350				35,000,000	-4,338,726	228,214,624
Gresham MTAP Commodity Builder Fund	49,142,121					-899,342	48,242,779
Wellington Commodities	148,411,229				35,000,000	-3,439,384	179,971,845
Hedge Funds	540,806,896	10,159		-96,708	-7,404,359	8,394,729	541,710,718
Aristeia International Limited	69,959,516					940,750	70,900,266
Brevan Howard Fund	55,851,429	10,159				-1,516,769	54,344,819
D.E. Shaw Composite Fund	59,530,214					1,734,528	61,264,742
HBK Fund II	44,737,059					306,583	45,043,642
Hudson Bay Cap Structure Arbitrage Enhanced Fund	80,735,699					838,792	81,574,491

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Indus Pacific Opportunities Fund	47,650,356					-1,272,655	46,377,701
Magnetar Structured Credit Fund	7,327,545				-7,404,359	76,814	
Pharo Macro Fund	61,359,040					1,600,667	62,959,707
PIMCO Commodity Alpha Fund	67,115,042			-96,708		4,375,324	71,393,658
Sculptor Domestic Partners II LP	46,540,997					1,310,695	47,851,693
Alpha Pool	219,047,320				5,450,104	-3,021,787	221,475,636
Hudson Bay	62,361,920				1,603,345	-955,445	63,009,820
Davidson Kempner Institutional Partners	54,896,123				1,406,304	-868,929	55,433,498
HBK Fund II	43,022,754				1,105,718	-810,882	43,317,590
HBK Opportunities Platform – SPAC Series	183,496				-183,496		
Garda Fixed Income Relative Value Opportunity Fund	58,583,027				1,518,232	-386,531	59,714,728
Midstream Energy	303,662,302				-4,724,373	9,529,907	308,467,836
Harvest Midstream	155,726,602				-2,563,685	3,679,436	156,842,353
PIMCO Midstream	147,935,700				-2,160,688	5,850,471	151,625,483
Core Real Estate	321,881,000		-312,521		-2,936,380	-13,197,308	305,434,791
ASB Allegiance Real Estate Fund	177,580,755				-1,187,888	-10,964,353	165,428,514
JPMCB Strategic Property Fund	144,300,244		-312,521		-1,748,492	-2,232,955	140,006,277
Private Real Estate	123,608,804				9,507,043	-1,110,400	132,005,447
Invesco Real Estate Value-Add Fund IV	1,394,290					-448,608	945,682
Landmark Real Estate Partners VIII	31,009,306				1,288,044	-714,044	31,583,306
Long Wharf Real Estate	34,044,975				416,254	64,037	34,525,266
Covenant Apartment Fund X	33,907,055				-353,750	394,158	33,947,463
Singerman Real Estate Opportunity Fund IV	8,851,934				131,250	-38,567	8,944,617
LBA Logistics Value Fund IX, L.P.	7,442,250				3,076,923	-231,323	10,287,850
Covenant Apartment Fund XI, LP	6,958,995				2,996,888	-136,054	9,819,829
KSL Capital Partners VI					1,951,434		1,951,434
Private Equity	165,827,721	4,235,654			12,305,881	5,169,184	187,538,440
Abbott VI	17,231,430					258,751	17,490,181
Pantheon Secondary III	544,562					8,627	553,189
Pantheon III	45,445						45,445
Pantheon V	392,019					-8,557	383,462

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Pantheon VI	357,185					-21,448	335,737
Pantheon VII	6,715,424				-300,000	492,164	6,907,588
Vista Foundation Fund IV	17,834,565					223,510	18,058,075
Crown Global Secondaries V Master S.C.Sp	28,138,412				-1,100,000	1,529,832	28,568,244
Brighton Park Capital Fund I	35,655,157				321,217	53,572	36,029,946
Warren Equity Partners Fund III	27,303,165				1,309,413	785,014	29,397,592
Peak Rock Capital Fund III	11,225,621				68,569	627,112	11,921,302
Level Equity Growth Partners V	4,543,921				1,576,237	576,907	6,697,065
Level Equity Opportunities Fund 2021	3,253,566				1,855,632	420,190	5,529,388
Linden Capital Partners V LP	5,472,902				2,262,173	249,726	7,984,801
Rubicon Technology Partners IV L.P.	2,681,880				681,618	-85,560	3,277,938
OrbiMed Private Investments IX, LP	366,875					-46,689	320,186
Brighton Park Capital Fund II, L.P	2,249,052				935,385	-112,571	3,071,866
Linden Co-Investment V LP	1,816,540				1,875,568	218,604	3,910,712
Warren Equity Partners Fund IV		4,235,654			2,820,069		7,055,723
Private Credit	245,458,300				-4,495,048	5,666,163	246,629,415
DC Value Recovery Fund IV	20,781,309				-2,704,635	450,251	18,526,925
Sixth Street TAO Partners (B)	39,800,921				968,605	634,591	41,404,117
Brookfield Real Estate Finance Fund V	17,621,779				-480,347	-388,811	16,752,621
Magnetar Constellation Fund V	28,836,480					-723,349	28,113,131
H.I.G. Bayside Loan Opportunity Fund V	42,185,573				-786,974	2,120,853	43,519,452
Blue Torch Credit Opportunities Fund II	17,526,212				-1,816,164	603,323	16,313,371
Fortress Credit Opportunitis Fund V Expansion	13,938,158				1,280,261	289,332	15,507,751
Fortress Lending Fund II	29,190,818				-1,597,026	972,818	28,566,610
Fortress Lending Fund III	23,391,071				-758,820	1,257,738	23,889,989
OrbiMed Royalty & Credit Opportunities IV	4,560,873				1,483,980	226,166	6,271,019
Blue Torch Credit Opportunities Fund III	7,625,106				-83,928	223,251	7,764,429
Opportunistic	167,025,043				-1,280,313	1,839,516	167,584,245
DB Investors Fund IV	25,576,934					-2,182,865	23,394,069
Sixth Street TAO Partners (D)	85,955,709				532,212	4,245,555	90,733,476
Aristeia Select Opportunities II	49,530,872					-1,180,841	48,350,031
River Birch International	5,961,528					-5,961,528	

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Cash	-21,679,077	199,593,102	-217,016,138	-33,627	-30,185,596	6,039,792	-63,281,544
Short Term Investment Funds	220,711,312	74,605,452	-85,305,638	-33,627	-30,185,596	2,526,112	182,318,015
Parametric Cash Overlay	82,256,613	34,743,563	-37,632,511				79,367,664
Goldman Sachs Cash Account	-13,554,572	49,411,195	-33,424,069				2,432,554
Futures Offset	-489,736,679	40,832,893	-59,818,920			975,104	-507,747,603
Collateral Cash	835,000		-835,000				
BlackRock Short Duration Fund	177,809,249					2,538,577	180,347,826

Total Fund
Cash Flow History

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	5,240,888,799	5,061,358,140	5,061,358,140	4,409,659,712	4,178,221,441	3,006,340,464
Contributions	368,758,185	2,959,971,119	2,959,971,119	9,979,430,928	13,039,142,389	19,012,108,878
Withdrawals	-360,571,539	-3,005,659,444	-3,005,659,444	-10,195,960,221	-13,390,239,667	-19,460,437,617
Fees	-3,431	-3,538,093	-3,538,093	-35,598,840	-62,450,330	-129,201,373
Net Cash Flows	8,186,646	-45,688,324	-45,688,324	-216,529,293	-351,097,278	-448,328,739
Net Investment Change	103,187,864	336,593,493	336,593,493	1,159,132,890	1,525,139,147	2,794,251,584
Ending Market Value	5,352,263,309	5,352,263,309	5,352,263,309	5,352,263,309	5,352,263,309	5,352,263,309
Net Change \$	111,374,510	290,905,169	290,905,169	942,603,597	1,174,041,869	2,345,922,845

Contribution and withdrawals include transfers in and out of accounts. Ending market value is net of fees. Market value and flows do not include the Short Term Cash Account balance.

Risk Metrics

Total Fund
Actual Correlation Matrix

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

Correlation Matrix
3 Years Ending June 30, 2023

	A	B	C	D	E	F	G	H	I	J	K	L
A	1.00											
B	0.98	1.00										
C	0.95	0.98	1.00									
D	0.95	0.97	0.90	1.00								
E	0.80	0.80	0.68	0.80	1.00							
F	0.79	0.80	0.74	0.79	0.81	1.00						
G	0.65	0.68	0.62	0.66	0.70	0.96	1.00					
H	0.86	0.85	0.82	0.82	0.73	0.89	0.77	1.00				
I	0.79	0.80	0.71	0.82	0.87	0.91	0.78	0.78	1.00			
J	0.66	0.56	0.50	0.59	0.52	0.33	0.18	0.47	0.41	1.00		
K	0.58	0.52	0.49	0.53	0.45	0.27	0.10	0.47	0.37	0.48	1.00	
L	-0.12	-0.19	-0.14	-0.22	-0.27	-0.34	-0.31	-0.25	-0.39	0.06	-0.05	1.00

- A = Total Fund
- B = Equity
- C = Domestic Equity
- D = International Developed Equity
- E = Emerging Markets Equity
- F = Fixed Income
- G = Core Plus Fixed Income
- H = High Yield/ Specialty Credit
- I = Emerging Market Debt
- J = Commodities
- K = Hedge Funds
- L = Core Real Estate

- Low Interaction
- Moderate Interaction
- Moderate to High Interaction
- High Interaction

Total Fund
Risk Analysis - 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	Alpha	Beta	R-Squared	Return	Information Ratio	Excess Performance	Tracking Error	Sharpe Ratio	Excess Return	Standard Deviation	Sortino Ratio	Up Capture	Down Capture
Total Fund	1.7	0.8	1.0	8.1	0.1	0.3	2.4	0.9	6.9	7.8	1.5	86.8	75.5
Equity	0.6	1.0	1.0	11.4	0.3	0.4	1.1	0.7	11.0	16.8	1.0	99.9	98.0
Domestic Equity	0.0	1.0	1.0	13.9	-0.1	-0.2	1.2	0.7	13.5	18.1	1.2	98.7	98.6
International Developed Equity	1.0	1.0	1.0	9.8	0.8	0.9	1.0	0.6	9.6	17.6	0.9	101.2	97.7
Emerging Markets Equity	1.0	0.9	1.0	4.4	0.3	0.8	2.5	0.3	4.4	16.4	0.4	94.2	89.4
Fixed Income	0.2	1.0	1.0	-2.0	0.2	0.1	0.8	-0.5	-3.1	6.5	-0.6	103.7	101.4
Core Plus Fixed Income	0.0	1.0	1.0	-4.0	-0.1	-0.1	0.7	-0.8	-5.2	6.2	-1.0	104.9	103.5
High Yield/ Specialty Credit	0.6	0.7	0.9	3.0	-0.1	-0.2	2.7	0.3	1.9	6.4	0.4	73.7	66.9
Emerging Market Debt	1.4	1.0	1.0	-1.0	1.2	1.3	1.1	-0.2	-1.7	10.4	-0.2	106.1	96.2
Commodities	0.9	0.9	0.9	16.5	-0.2	-1.3	5.5	1.0	15.3	15.0	1.7	87.5	81.5
Hedge Funds	5.8	0.4	0.2	8.4	0.3	1.4	3.9	2.1	6.9	3.1	7.1	68.6	-32.5
Core Real Estate	-0.2	0.6	0.8	4.9	-0.8	-3.0	4.1	0.6	3.8	6.2	1.0	73.6	99.2
Private Real Estate	0.0	1.0	1.0	16.7	-1.0	0.0	0.0	1.7	14.6	8.4	5.0	99.8	100.0
Private Equity	0.0	1.0	1.0	20.1	-0.6	0.0	0.0	1.5	17.8	11.5	7.3	100.0	100.3
Private Credit	0.1	1.0	1.0	3.0	0.7	0.1	0.2	0.5	1.8	3.4	1.0	99.9	94.1

Data not available for time periods less than 3 years (Alpha Pool, Midstream, & Opportunistic added in 2020)

Risk Return Statistics: Last Three Years

Period Ending: June 30, 2023

	Equity	MSCI AC World IMI (Net)	Core Plus Fixed Income	Bloomberg U.S. Aggregate Index	High Yield/ Specialty Credit	ICE BofA U.S. High Yield Index	Emerging Market Debt	3 Years 50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)	Core Real Estate	NCREIF ODCE-monthly
RETURN SUMMARY STATISTICS														
Up Market Periods	22	22	14	14	23	23	17	17	24	24	23	23	33	33
Down Market Periods	14	14	22	22	13	13	19	19	12	12	13	13	3	3
Maximum Return	12.43	12.66	3.41	3.68	4.80	6.02	7.56	7.35	7.67	8.78	3.26	3.34	5.39	7.97
Minimum Return	-9.42	-9.65	-4.27	-4.32	-5.04	-6.81	-5.99	-5.81	-8.90	-10.77	-0.75	-2.23	-3.77	-4.97
Return	11.40	10.97	-4.03	-3.97	3.03	3.21	-0.96	-2.24	16.54	17.82	8.42	5.77	4.95	7.99
Excess Return	10.99	10.65	-5.17	-5.12	1.93	2.25	-1.69	-3.01	15.26	16.56	6.89	4.45	3.76	6.82
Excess Performance	0.43	0.00	-0.06	0.00	-0.18	0.00	1.28	0.00	-1.28	0.00	2.65	0.00	-3.05	0.00
RISK SUMMARY STATISTICS														
Beta	0.98	1.00	1.02	1.00	0.74	1.00	1.02	1.00	0.87	1.00	0.37	1.00	0.64	1.00
Upside Risk	13.78	13.88	3.80	3.74	4.93	6.30	7.16	6.80	12.93	13.53	3.85	4.03	5.23	8.30
Downside Risk	10.28	10.59	5.08	4.93	4.15	5.66	7.54	7.49	9.00	10.20	0.81	2.38	3.66	3.74
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	16.82	17.12	6.24	6.09	6.38	8.41	10.40	10.11	15.02	16.14	3.15	4.38	6.22	8.80
Alpha	0.57	0.00	0.03	0.00	0.60	0.00	1.38	0.00	0.94	0.00	6.20	0.00	-0.18	0.00
Sharpe Ratio	0.65	0.62	-0.83	-0.85	0.30	0.27	-0.16	-0.30	1.01	1.01	2.11	1.02	0.57	0.75
Excess Risk	16.82	17.11	6.20	6.04	6.38	8.40	10.28	9.98	15.17	16.33	3.26	4.38	6.57	9.05
Tracking Error	1.08	0.00	0.67	0.00	2.66	0.00	1.09	0.00	5.50	0.00	3.84	0.00	4.05	0.00
Information Ratio	0.31	-	-0.08	-	-0.12	-	1.22	-	-0.24	-	0.64	-	-0.76	-
CORRELATION STATISTICS														
R-Squared	1.00	1.00	0.99	1.00	0.95	1.00	0.99	1.00	0.88	1.00	0.27	1.00	0.83	1.00
Actual Correlation	1.00	1.00	0.99	1.00	0.97	1.00	0.99	1.00	0.94	1.00	0.52	1.00	0.91	1.00

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

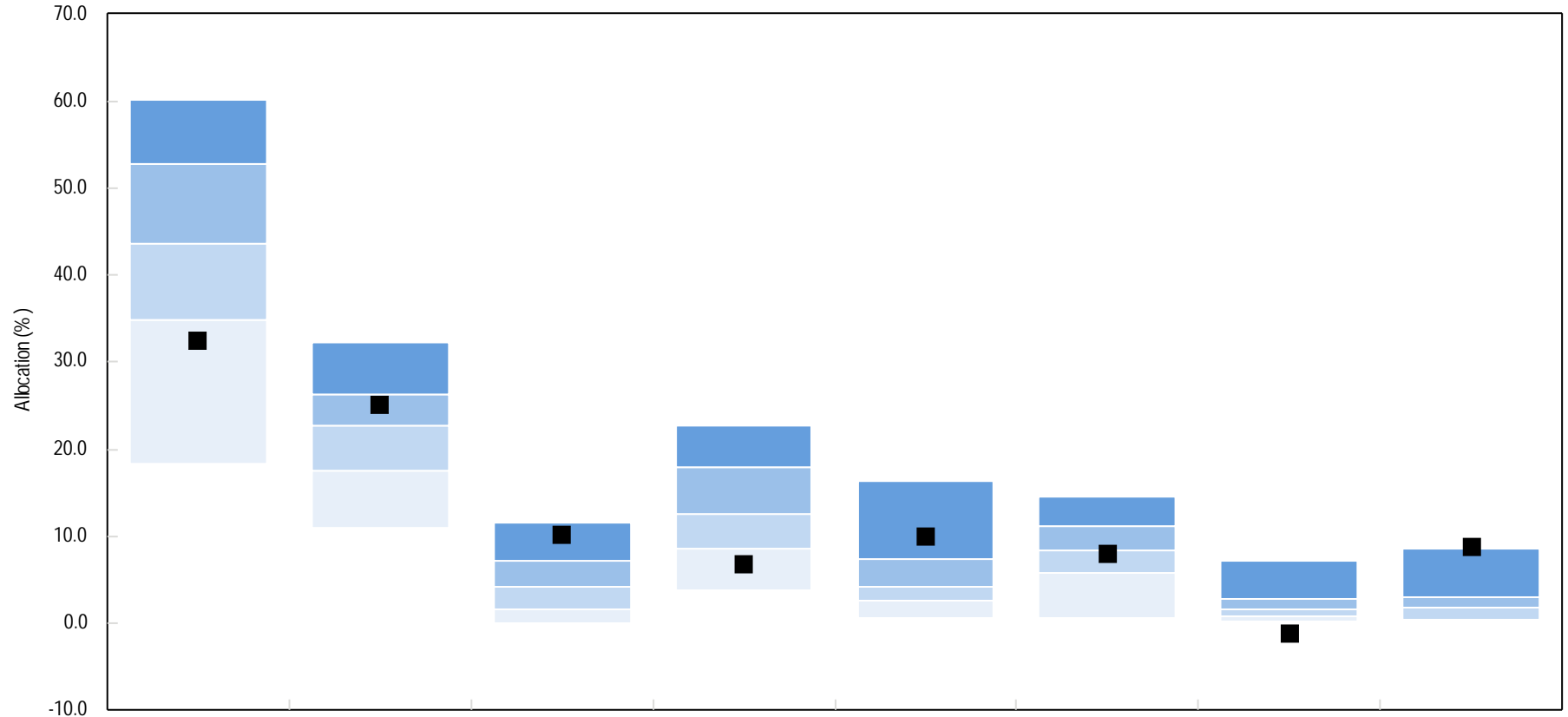
Risk Return Statistics: Last Two Years

	Midstream Energy	Alerian Midstream Energy Index	2 Yrs Opportunistic	Assumed Rate of Return +3%
RETURN SUMMARY STATISTICS				
Up Market Periods	13	13	24	24
Down Market Periods	11	11	0	0
Maximum Return	11.14	11.05	5.19	0.58
Minimum Return	-11.84	-12.21	-4.04	0.58
Return	14.20	11.79	-2.48	7.25
Excess Return	13.28	11.74	-4.06	5.17
Excess Performance	2.41	0.00	-9.73	0.00
RISK SUMMARY STATISTICS				
Beta	0.85	1.00	-	-
Upside Risk	15.41	17.12	1.60	2.03
Downside Risk	11.73	14.09	5.54	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	18.87	21.82	7.80	0.00
Alpha	3.64	0.00	-	-
Sharpe Ratio	0.70	0.54	-0.52	9.16
Excess Risk	18.94	21.90	7.80	0.56
Tracking Error	4.76	0.00	7.80	0.00
Information Ratio	0.32	-	-1.18	-
CORRELATION STATISTICS				
R-Squared	0.97	1.00	-	-
Actual Correlation	0.98	1.00	-	-

Data for unavailable for positions held for less than two years.

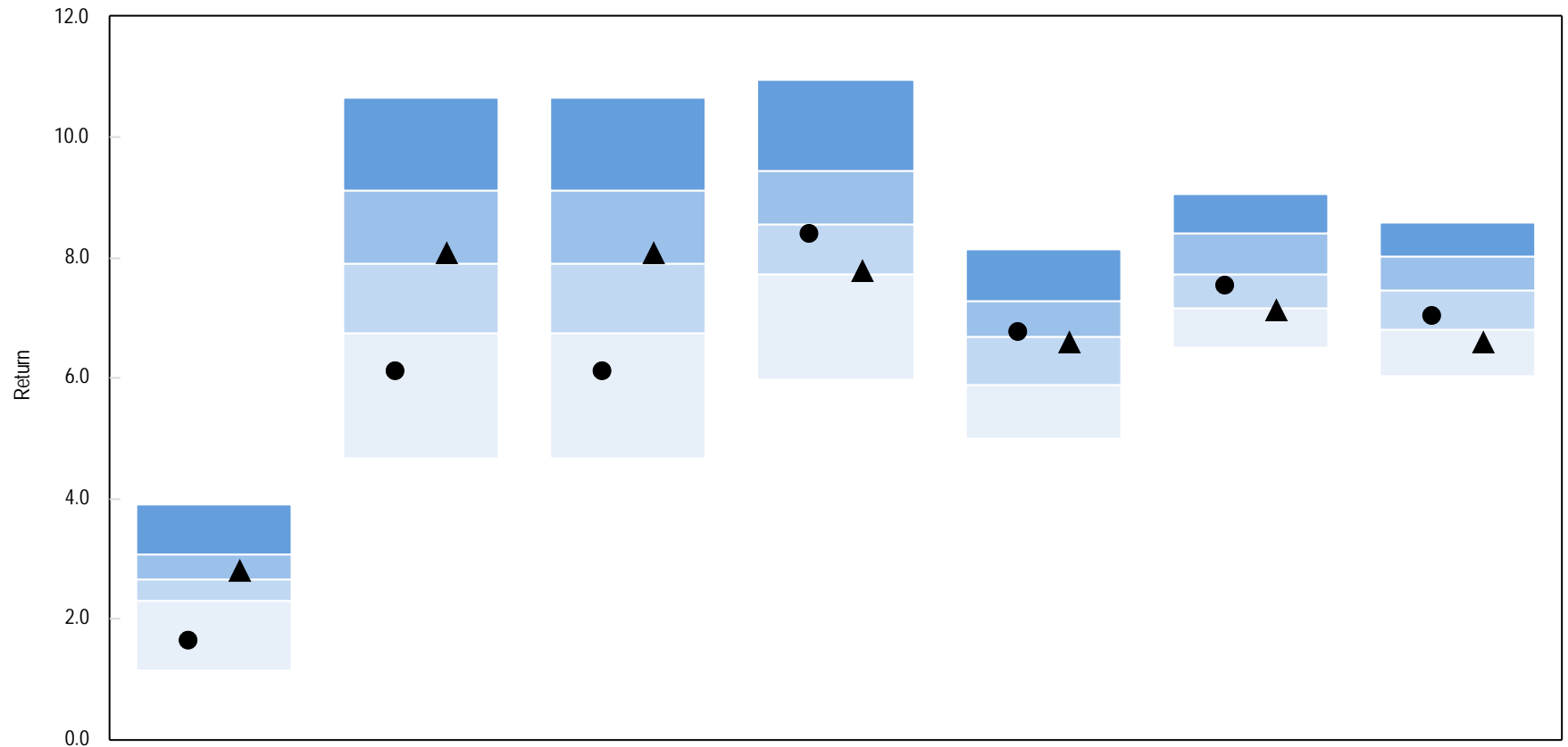
Peer Comparison

Total Plan Allocation vs. InvMetrics Public DB > \$1B
As of June 30, 2023



	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Real Assets/Commod	Real Estate - Private	Cash & Equivalents	Other
■ Total Fund	32.4 (83)	25.0 (32)	10.1 (12)	6.9 (90)	10.0 (15)	8.0 (61)	-1.2	8.7 (1)
5th Percentile	60.2	32.2	11.5	22.7	16.4	14.6	7.2	8.5
1st Quartile	52.9	26.3	7.1	17.9	7.4	11.1	2.7	2.9
Median	43.7	22.7	4.2	12.5	4.2	8.4	1.5	1.8
3rd Quartile	35.0	17.6	1.6	8.7	2.5	5.7	0.7	0.3
95th Percentile	18.3	11.0	0.0	3.7	0.5	0.5	0.2	0.2
Population	86	88	44	65	51	59	70	13

Total Fund vs. InvMetrics Public DB > \$1B

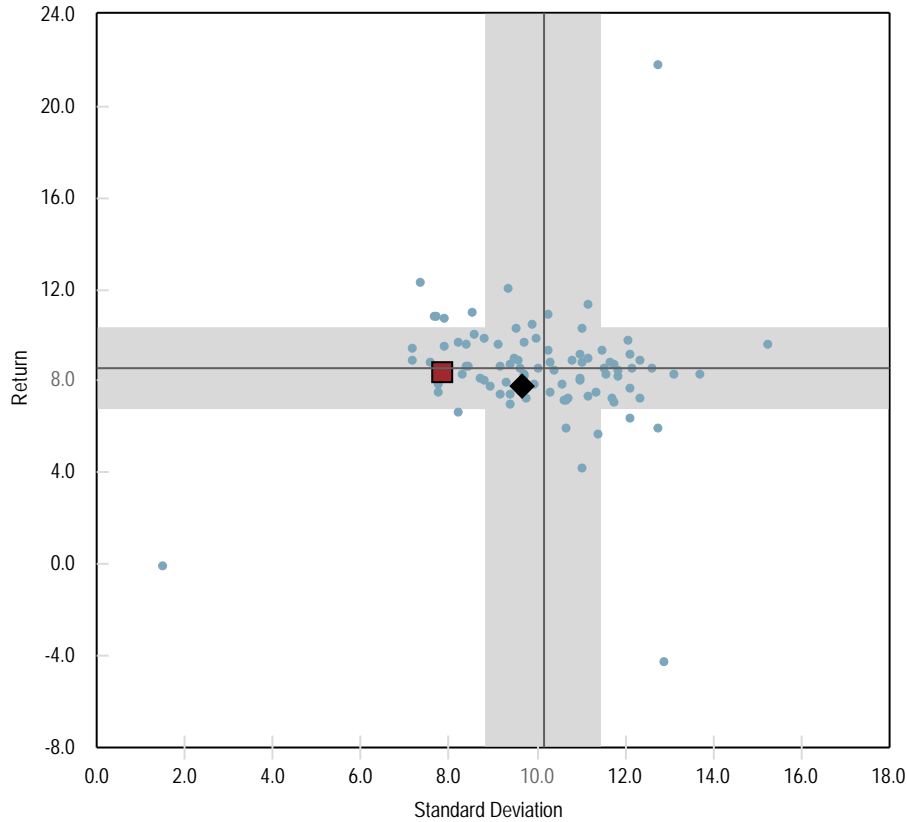


	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	1.6 (92)	6.1 (82)	6.1 (82)	8.4 (57)	6.8 (46)	7.5 (58)	7.1 (67)
▲ Policy Index	2.8 (39)	8.1 (47)	8.1 (47)	7.8 (74)	6.6 (58)	7.1 (78)	6.6 (86)
5th Percentile	3.9	10.7	10.7	11.0	8.2	9.1	8.6
1st Quartile	3.1	9.1	9.1	9.4	7.3	8.4	8.0
Median	2.7	7.9	7.9	8.6	6.7	7.7	7.5
3rd Quartile	2.3	6.8	6.8	7.7	5.9	7.2	6.8
95th Percentile	1.2	4.7	4.7	6.0	5.0	6.5	6.0
Population	104	100	100	90	89	88	84

Total Fund
Risk Analysis - 3 & 5 Year (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

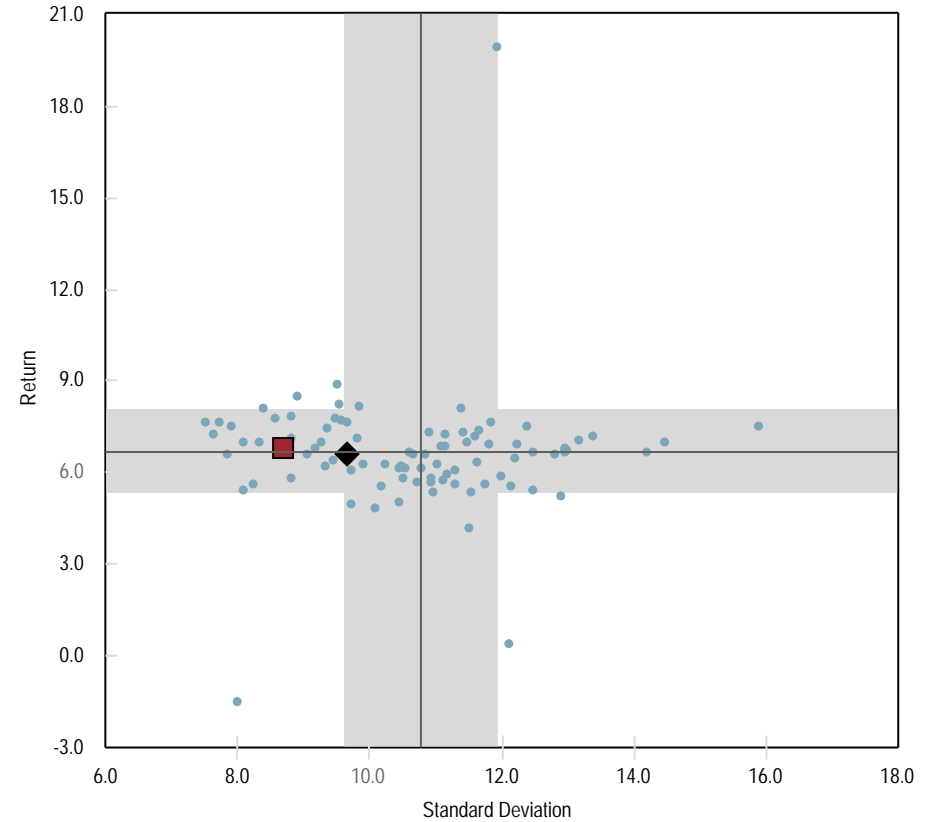
Annualized Return vs. Annualized Standard Deviation
3 Years Ending June 30, 2023



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	8.41	7.84
◆ Policy Index	7.81	9.67
— Median	8.56	10.14
Population	90	90

Annualized Return vs. Annualized Standard Deviation
5 Years Ending June 30, 2023



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	6.80	8.70
◆ Policy Index	6.59	9.64
— Median	6.70	10.78
Population	89	89

Other

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association Period Ending: June 30, 2023

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Equity Beta Exposure	Equity	■	-	-	-	-	-	-	-	-	✓
Russell 2000 Overlay	Equity	■	-	-	-	-	-	-	-	-	-
Mellon DB SL Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	✓
PIMCO StocksPLUS	Equity	■	✓	✓	Ⓜ	✓	Ⓜ	✓	Ⓜ	-	-
AB US Small Cap Value Equity	Equity	■	✓	Ⓜ	Ⓜ	Ⓜ	✓	Ⓜ	Ⓜ	-	-
Geneva Capital Small Cap Growth	Equity	■	✓	✓	Ⓜ	✓	✓	✓	✓	-	-
Mellon DB SL World ex-US Index Fund	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
Fidelity Non-US Small Cap Equity	Equity	■	Ⓜ	✓	✓	✓	✓	✓	✓	-	-
Cevian Capital II	Equity	■	-	-	-	-	-	-	-	-	Ⓜ
American Century Non-US Small Cap	Equity	■	✓	Ⓜ	Ⓜ	-	-	-	-	-	-
DFA Emerging Markets Value I	Equity	■	✓	✓	✓	✓	✓	✓	✓	-	-
AB Emerging Markets Strategic Core Equity Collective Trust	Equity	■	✓	✓	-	Ⓜ	-	Ⓜ	-	-	-
Mellon Emerging Markets Stock Index Fund	Equity	■	-	-	-	-	-	-	-	-	-
Mellon DB SL Aggregate Bond Index Fund	Fixed Income	■	-	-	-	-	-	-	-	-	✓
PIMCO Core Plus	Fixed Income	■	✓	Ⓜ	✓	Ⓜ	✓	Ⓜ	✓	P	-
Western Asset Core Plus	Fixed Income	■	✓	✓	✓	Ⓜ	Ⓜ	Ⓜ	✓	-	-
Western Asset High Yield Fixed Income	Fixed Income	■	✓	✓	✓	✓	✓	✓	Ⓜ	-	-
TCW Securitized Opportunities	Fixed Income	■	✓	✓	Ⓜ	✓	Ⓜ	✓	Ⓜ	-	-
Stone Harbor Emerging Markets Debt Blend Portfolio	Fixed Income	■	✓	✓	✓	Ⓜ	✓	Ⓜ	Ⓜ	P	-
PIMCO EMD	Fixed Income	■	✓	✓	✓	✓	✓	-	-	-	-
Gresham MTAP Commodity Builder Fund	Commodities	■	✓	✓	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	-	-
Wellington Commodities	Commodities	■	✓	✓	✓	Ⓜ	Ⓜ	✓	✓	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	Ⓜ

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund Watchlist (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

Fund Name	Allocation Group	Overall Status	Outperformed Universe 10th percentile (1yr)	Outperformed Universe 75th percentile (1yr)	Outperformed Index (1yr)	Outperformed Median Rank (3 yrs)	Outperformed Index (3yrs)	Outperformed Median Rank (5 yrs)	Outperformed Index (5yrs)	Concern	Index Fund Tracking Error over 0.25% (1yr)
Aristeia International Limited	Hedge Funds	■	-	-	Ⓟ	-	✓	-	✓	-	-
Brevan Howard Fund	Hedge Funds	■	-	-	Ⓟ	-	✓	-	✓	-	-
D.E. Shaw Composite Fund	Hedge Funds	■	-	-	✓	-	✓	-	✓	-	-
HBK Fund II	Hedge Funds	■	-	-	Ⓟ	-	✓	-	Ⓟ	-	-
Hudson Bay Cap Structure Arbitrage Enhanced Fund	Hedge Funds	■	-	-	Ⓟ	-	✓	-	✓	-	-
Indus Pacific Opportunities Fund	Hedge Funds	■	-	-	Ⓟ	-	✓	-	Ⓟ	-	-
Magnetar Structured Credit Fund	Hedge Funds	■	-	-	Ⓟ	-	✓	-	✓	-	-
PIMCO Commodity Alpha Fund	Hedge Funds	■	Ⓟ	✓	✓	Ⓟ	Ⓟ	✓	✓	-	-
River Birch International	Opportunistic	■	-	-	-	-	-	-	-	-	-
Sculptor Domestic Partners II LP	Hedge Funds	■	-	-	✓	-	Ⓟ	-	-	-	-
Harvest Midstream	Midstream	■	✓	✓	✓	-	-	-	-	-	-
PIMCO Midstream	Midstream	■	✓	✓	✓	-	-	-	-	-	-
ASB Allegiance Real Estate Fund	Core Real Estate	■	-	-	Ⓟ	-	Ⓟ	-	Ⓟ	-	-
JPMCB Strategic Property Fund	Core Real Estate	■	-	-	Ⓟ	-	Ⓟ	-	Ⓟ	-	-
Invesco Real Estate Value-Add Fund IV	Private Real Estate	■	-	-	Ⓟ	-	Ⓟ	-	Ⓟ	-	-
Landmark Real Estate Partners VIII	Private Real Estate	■	-	-	-	-	-	-	-	-	Ⓟ
DB Investors Fund IV	Opportunistic	■	-	-	Ⓟ	-	Ⓟ	-	-	-	-
Sixth Street TAO Partners (D)	Private Credit	■	-	-	Ⓟ	-	✓	-	-	-	-
Aristeia Select Opportunities II	Opportunistic	■	-	-	Ⓟ	-	-	-	-	-	-

Legend For Overall Status

No Issues	■
Watch	■
Terminate	■

Legend for Standards

Pass	✓
Fail	Ⓟ

Legend for Concern

Provisional	P
Restricted	R
No Issues	--

Total Fund
Quarterly Historical Returns (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: June 30, 2023

	2023 Q2	2023 Q1	2022 Q4	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3
Total Fund	1.6	2.7	3.9	-2.4	-6.8	-0.8	3.6	0.5	5.5	3.5	8.8	4.4
<i>Policy Index</i>	2.8	3.7	5.4	-3.9	-8.9	-1.3	3.3	0.7	5.7	3.3	8.8	4.5

	2020 Q2	2020 Q1	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3
Total Fund	10.7	-11.3	4.6	0.2	3.1	6.8	-6.4	2.3	0.3	-0.1	3.0	3.2
<i>Policy Index</i>	10.7	-11.7	4.6	0.8	3.0	7.0	-5.5	2.2	0.7	-0.1	3.2	3.7

	2017 Q2	2017 Q1	2016 Q4	2016 Q3	2016 Q2	2016 Q1	2015 Q4	2015 Q3	2015 Q2	2015 Q1	2014 Q4	2014 Q3
Total Fund	2.7	4.2	0.8	3.5	1.9	1.1	2.2	-5.4	0.7	2.4	0.8	-1.5
<i>Policy Index</i>	2.8	3.5	0.5	2.9	2.2	1.8	1.4	-4.9	0.4	2.0	0.4	-1.4

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Period Ending: June 30, 2023

Performance Return Calculations

Performance is calculated using a Time Weighted Rates of Return (TWRR) methodology. Monthly returns are linked geometrically and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>
AB Emerging Markets Strategic Core	11/3/2016	Northern Trust	Linden Co-Investment V LP	6/30/2022	Linden
AB US Small Cap Value Equity	7/7/2015	Northern Trust	Long Wharf Real Estate	6/27/2019	Long Wharf
Abbott Capital PE VI	3/31/2008	Abbott Capital	Magnetar Constellation	11/14/2018	Magnetar
American Century Non-US Small Cap	12/15/2020	American Century	Magnetar Structured Credit	5/1/2014	Magnetar
Aristeia International Limited	5/1/2014	Northern Trust	Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
ASB Real Estate	9/30/2013	ASB	Mellon EB DV Stock Index	10/18/2017	Mellon
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric	Mellon EB DV World ex-US Index	8/1/2018	Mellon
BlackRock Short Duration Fund	9/8/2021	BlackRock	Myriad Opportunities Offshore	5/19/2016	Northern Trust
Blue Torch Credit Opportunities	7/24/2020	Blue Torch	OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
Brevan Howard	11/1/2013	Northern Trust	Pantheon Global III	6/30/2000	Pantheon
Brighton Private Equity	3/29/2021	Brighton	Pantheon USA III	3/31/2007	Pantheon
Brighton Park Capital Fund II, L.P.	9/30/2022	Brighton	Pantheon USA V	6/30/2005	Pantheon
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust	Pantheon USA VI	3/31/2005	Pantheon
Cevian Capital II	12/30/2014	Northern Trust	Pantheon USA VII	3/31/2005	Pantheon
DC Value Recovery fund IV	12/28/2015	Colony	Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Covenant Apartment Fund X	10/29/2020	Covenant	Peak Rock Capital Fund III	7/13/2021	Peak Rock
DB Investors Fund IV	1/29/2020	DB	PIMCO Commodity Alpha	5/4/2016	PIMCO
D.E. Shaw	6/30/2013	Northern Trust	PIMCO Core Plus	1/21/2011	Northern Trust
DFA Emerging Markets Value I	3/7/2014	Northern Trust	PIMCO EMD	2/29/2020	Northern Trust
Fortress Credit Opportunities	12/17/2020	Fortress	PIMCO Midstream	10/9/2020	PIMCO
Fortress Lending Fund II	3/15/2021	Fortress	PIMCO StocksPLUS	7/14/2003	PIMCO
Garda Fixed Income Relative Value Opp	9/30/2021	Garda	Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
Geneva Capital Small Cap Growth	7/22/2015	Geneva	River Birch	8/3/2015	Northern Trust
Gresham MTAP Commodity	9/3/2013	Gresham	Rubicon Technology Partners IV LP	11/30/2022	Rubicon
Harvest Midstream	9/28/2020	Harvest Midstream	Singerman Real Estate Opportunity Fund IV	10/27/2021	Singerman
HBK Fund II	11/1/2013	Northern Trust	Sculptor Enhanced Domestic Partners	3/26/2019	Sculptor
Henderson Smallcap Growth	7/22/2015	Northern Trust	Short Term Cash Account	12/31/2000	Northern Trust
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital	Short Term Investment Funds	6/30/2000	Northern Trust
Hudson Bay	6/7/2019	Northern Trust	Stone Harbor Emerging Markets Debt	8/8/2012	Stone Harbor
Indus Pacific Opportunities	6/30/2014	Northern Trust	TAO Contingent	4/16/2020	TPG Sixth Street
Invesco Real Estate III	6/30/2013	Invesco	TCW Securitized Opportunities	2/3/2016	TCW
Invesco Real Estate IV	12/18/2015	Invesco	Transition Equity	9/30/2010	Northern Trust
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan	Transition Fixed Income	9/30/2010	Northern Trust
KSL Capital Partners VI	4/26/2023	KSL Capital	TSSP Adjacent Opportunities Partners	11/17/2017	TPG Sixth Street
Landmark Real Estate Partners VIII	4/29/2018	Landmark	Vista Equity Partners	7/24/2020	Vista Equity
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA	Warren Equity III	4/1/2021	Warren
Level Equity Growth Partners V	11/1/2021	Level Equity	Warren Equity IV	1/1/2023	Warren
Level Equity Opportunities Fund 2021	11/1/2021	Level Equity	Wellington Alternative Investments	2/9/2023	Wellington
LGT Crown	2/1/2021	LGT	Western Asset Core Plus	5/31/2004	Northern Trust
Linden Capital Partners V LP	7/19/2022	Linden	Western Asset High Yield Fixed income	5/31/2005	Northern Trust

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Period Ending: June 30, 2023

Policy & Custom Index Composition	
Policy Index: 4/1/2022-Present	37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill.
Policy Index: 7/1/2021-4/1/2022	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 1/1/2021-6/30/2021	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 7/1/2020-12/31/2020	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 1% Alerian Midstream, 4% Bloomberg US Aggregate
Policy Index: 4/1/2020-6/30/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 1/1/2020-3/31/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2019-12/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2019-9/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 4/1/2019-6/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 1/1/2019-3/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*
Policy Index: 10/1/2018-12/31/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*
Policy Index: 7/1/2018-9/30/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 3% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 2% MSCI ACWI*, 7% Bloomberg US Aggregate*
Policy Index: 1/1/2017- 6/30/2018	19% Russell 3000 Index, 18% MSCI ACWI ex US, 29% Bloomberg US Aggregate, 10% NCREIF-ODCE, 4% Bloomberg Commodity Index, 7.5% 91-day T-bills + 400bps, 2.5% MSCI ACWI, 5% Russell 3000 Index + 300 bps, 5% ICE BofA ML High Yield + 200 bps.
Policy Index: 4/1/2014-12/31/2016	23% Russell 3000 Index, 29% Bloomberg US Aggregate, 22% MSCI ACWI ex US.

Other Disclosures

*Private Asset actual weights, rounded to 1%, and actual time-weighted returns of Private Equity, Private Credit, Private Real Estate used in policy with the difference in weight versus target allocated to private market's public market "equivalent". Private Equity to Global Equity, Private Credit and Private Real Estate to Core Plus.

All data prior to 2Q 2011 has been provided by the investment managers.

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment manager fees will be included in the gross of fee return calculation. Fiscal year end: 6/30.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.



KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Memorandum from the
Office of the Chief Executive Officer
Dominic D. Brown

Date: December 13, 2023
To: Trustees, Board of Retirement
From: Dominic D. Brown, Chief Executive Officer 
Subject: **SACRS Board of Directors Meeting**
Riverside, California
January 22-23, 2024

In accordance with the Travel Policy approved by the Board of Retirement on April 13, 2022, I have attached information concerning the above-captioned meeting, as follows:

- Specific information as to whether staff or members of the Board will serve as a participant – Jordan Kaufman
- Specific information concerning the estimated total travel cost involved, including the estimated costs to be borne by KCERA and those costs borne by the meeting sponsor

The meeting topics are relevant to the administration of the retirement system. Accordingly, I recommend that the Board approve the attendance of Trustee Jordan Kaufman.

Attachment

Travel Subject	SACRS Board of Directors Meeting
Sponsor	SACRS
Date(s)	January 22-23, 2024
Location	Riverside, CA
Proposed Attendee(s)	Jordan Kaufman

Estimated Total Travel Cost **\$559.50**

Description	Computation	Kaufman	Totals	Borne By	
				KCERA	Sponsor
Registration fees	=	-	-	-	
Lodging expense	1 nights @ \$ 300.00 /night	= 300.00	300.00	300.00	
Per diem meals reimbursement:	1 days @ \$ 69.00 /day	= 69.00			
Less meals provided by sponsor	1 Breakfast, 1 Lunch, 0 Dinner = \$34.50	= (\$34.50)			\$34.50
Total meals expense	=		69.00	34.50	
Shuttle/taxicab expense	Taxi Estimate	=	-	-	
Airfare	\$0.00	= \$0.00	\$0.00	-	
Vehicle-related expenses:	=	-	-	-	
Parking	1 days @ 20.00 /day	= 20.00	20.00	20.00	
Mileage	miles @ /mile (Department Head)	= -	-	-	
	328 miles @ 0.625 /mile (Staff, Trustee)	= 205.00	205.00	205.00	
Rental car	=	-	-	-	
Rental car gasoline	=	-	-	-	
Totals	=	559.50	\$ 594.00	\$ 559.50	\$ 34.50

ALTERNATIVE INVESTMENTS RECORDS

EXEMPT FROM PUBLIC DISCLOSURE

(CA Gov. Code §7928.710)

(CA Gov. Code §7922.000)

(CA Gov. Code §54957.5)

DO NOT REPRODUCE

DO NOT DISTRIBUTE

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**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: SEPTEMBER 30, 2023

Investment Performance Review for

Kern County Employees' Retirement Association

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Investment Landscape

TAB I

Investment Performance
Review

TAB II

A large, semi-transparent geometric pattern of interconnected triangles in shades of blue and green is overlaid on the left side of the image. A prominent white triangle with a blue base is positioned to the left of the main text.

**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

4TH QUARTER 2023
Investment Landscape

Verus business update

Since our last Investment Landscape webinar:

- Verus retained four new clients across the U.S. expanding our coverage in the Pacific, Midwest, Southwest, and Southeast
- Shelly Heier, CFA, CAIA – *President*, was named one of Pensions & Investments' 2023 Influential Women in Institutional Investing
- Eileen Neill, CFA – *Managing Director | Senior Consultant*, was nominated as one of Chief Investment Officer's 2023 Knowledge Brokers
- Sneha Pendyala – *Public Markets Research Analyst* recently passed CFA level III. Christian Reed – *Private Markets Performance Analyst* and Jonah Coffee – *Performance Analyst* passed CFA level II
- Recent research, found at verusinvestments.com/research:
 - **2023 Private Equity Outlook**
 - **Hedge funds in 2023: How has the environment changed?**
 - **The rising rate environment's impact on real estate cap rates**
 - **Yield curve inversion: recession signal, but why?**
 - **Credit, distress, default & the long term**



Shelly Heier, CFA, CAIA
President



Eileen Neill, CFA
Managing Director |
Senior Consultant

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Other assets 38

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Recent Verus research

Visit: verusinvestments.com/research

Topics of interest

CREDIT, DISTRESS, DEFAULT & THE LONG TERM

As the environment for credit changes and the risks of defaults increase, investors would be well advised to assess their fixed income positioning. This includes considering other opportunities across the credit spectrum beyond traditional core vehicles.

THE RISING RATE ENVIRONMENT'S IMPACT ON REAL ESTATE CAP RATES

The quickly rising interest rate environment has changed the landscape for commercial real estate so much that investors are questioning how the appraised values of their private real estate assets might change in the future. Our latest whitepaper illuminates this question.

YIELD CURVE INVERSION: RECESSION SIGNAL, BUT WHY?

Predicting future market conditions is an incredibly difficult task. One signal that has been a historically accurate predictor preceding a U.S. recession is the yield curve inversion. We examine what drives curve inversion, allowing investors a framework regarding the implications of this type of event.

HEDGE FUNDS IN 2023: HOW HAS THE ENVIRONMENT CHANGED?

For those clients who are comfortable embracing the complexity of hedge funds, we continue to believe that these strategies can play an important role. Furthermore, the justifications for these strategies may be strengthening as we enter a much different market regime.

Annual research

2023 PRIVATE EQUITY OUTLOOK

In the 2023 Private Equity Outlook, we focus on the impact of a “higher rate for longer” scenario on the asset class. We also examine how the rising-rate environment has affected private markets so far.

3rd quarter summary

THE ECONOMIC CLIMATE

- Real GDP increased at a 2.9% pace from a year ago in Q3 (4.9% QoQ annualized rate). The large uptick was driven by consumption, which continues to show resiliency. A combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown.
- The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.

PORTFOLIO IMPACTS

- The U.S. consumer has shown resiliency, with ongoing moderate spending activity. However, personal savings rates are nearly the lowest on record. We believe depressed savings activity without a commensurate surge in spending, and very poor sentiment, suggests high inflation is squeezing household budgets.
- The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5 to end September. Market risk has been falling fairly consistently throughout the year, which may be at least partly attributed to the perception that certain risks, such as regional bank contagion and near-term recession, have eased.

THE INVESTMENT CLIMATE

- The 10-year U.S. Treasury yield increased during the quarter to 4.58%—a level not seen since 2007—likely supported by *higher for longer* interest rate expectations. This led to a flattening of the yield curve.
- U.S. headline inflation ticked up from 3.1% to 3.7% year-over-year. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September showing the largest rise since May, and along with rising energy prices have generated concerns of renewed inflation. A material weakening of the job market and U.S. economy will likely be needed to bring inflation down to a 2% level.

ASSET ALLOCATION ISSUES

- Nearly all asset classes produced materially negative performance during the quarter, including global equities (-3.4%), U.S. core fixed income (-3.2%) and U.S. Treasuries (-3.1%). Highly correlated markets created difficulties for investors, as diversification produced limited value. **p. 48**
- U.S. investors continue to face a difficult environment for style factor investing. Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance of growth stocks and large cap stocks. However, value investing has delivered exceptional results in international developed markets, outperforming growth stocks by 11.5%.

Nearly all asset classes produced materially negative performance during the quarter

A material weakening of the job market and/or U.S. economy will likely be needed to bring inflation down to a 2% level

What drove the market in Q3?

“Fed Signals Higher-for-Longer Rates with Hikes Almost Finished”

10-YEAR U.S. TREASURY YIELDS

Apr	May	June	July	Aug	Sep
3.42%	3.64%	3.84%	3.96%	4.11%	4.57%

Article Source: Bloomberg, September 20th, 2023

“U.S. Inflation Rises in August as Petrol Prices Jump”

WTI CRUDE OIL PRICES (PER BARREL)

Apr	May	June	July	Aug	Sep
\$76.78	\$68.09	\$70.64	\$81.80	\$83.63	\$90.79

Article Source: Financial Times, September 13th, 2023

“U.S. Growth Trimmed on Inventories; Retains Underlying Momentum”

FEDERAL RESERVE BANK OF ATLANTA Q3 2023 GDPNOW FORECAST

July 28 th	Aug 15 th	Aug 31 st	Sept 15 th	Sept 29 th	Oct 10 th
3.5%	5.0%	5.6%	4.9%	4.9%	5.1%

Article Source: Reuters, August 30th, 2023

“S&P 500 Q2 2023 Earnings Beat Wall Street Expectations”

S&P 500 YEAR-OVER-YEAR EARNINGS GROWTH (DECLINE)

Q1 22	Q2 22	Q3 22	Q4 22	Q1 23	Q2 23
9.0%	6.0%	2.4%	(4.9%)	(6.6%)	(4.1%)

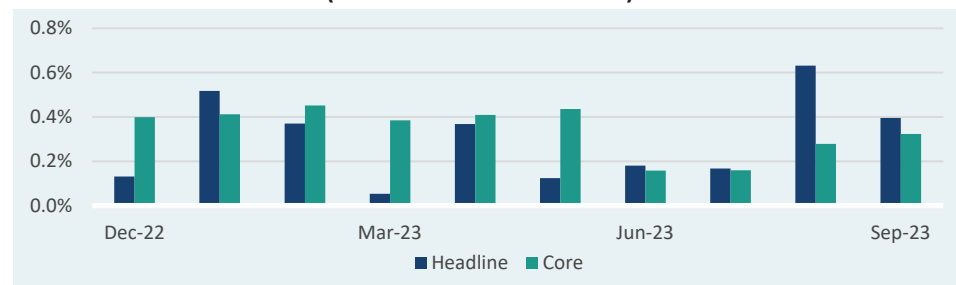
Article Source: Axios, August 18th, 2023

U.S. TREASURY YIELDS (YEAR-TO-DATE)



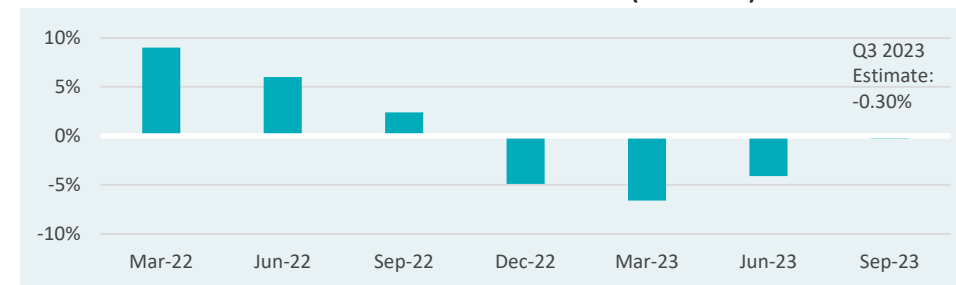
Source: Bloomberg, as of 9/30/23

HEADLINE VS. CORE CPI (MONTH-OVER-MONTH)



Source: BLS, as of 9/30/23

S&P 500 YEAR-OVER-YEAR EARNINGS GROWTH (DECLINE)



Source: FactSet, as of 9/30/23

Economic environment

U.S. economics summary

- Real GDP increased at a 2.9% pace from a year ago in the third quarter (4.9% quarter-over-quarter annualized rate). The large uptick was driven by consumption, which continues to show resiliency. While many investors have expected high inflation and weaker wage growth to impact spending, a combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown.
- U.S. headline inflation ticked up during the quarter, from 3.1% to 3.7% year-over-year in September. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September, which along with rising energy prices have generated fresh concerns of renewed inflation.
- The U.S. consumer has shown resiliency, with continued moderate spending levels. However, personal

savings rates are nearly the lowest on record. We believe depressed savings activity, along with mild household spending and very poor sentiment, suggests high inflation is squeezing household budgets.

- The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.
- Consumer sentiment readings were mixed during Q3 but remain poor. According to the Conference Board survey, the future outlook for income, business, and labor conditions fell very sharply and are now at levels that historically have signaled recession within a year.

	Most Recent	12 Months Prior
Real GDP (YoY)	2.9% 9/30/23	1.7% 9/30/22
Inflation (CPI YoY, Core)	4.1% 9/30/23	8.2% 9/30/22
Expected Inflation (5yr-5yr forward)	2.4% 9/30/23	2.1% 9/30/22
Fed Funds Target Range	5.25–5.50% 9/30/23	3.00–3.25% 9/30/22
10-Year Rate	4.58% 9/30/23	3.83% 9/30/22
U-3 Unemployment	3.8% 9/30/23	3.5% 9/30/22
U-6 Unemployment	7.0% 9/30/23	6.7% 9/30/22

Inflation

U.S. headline inflation ticked up during the quarter, from 3.1% to 3.7% year-over-year in September. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September showing the largest rise since May, which along with rising energy prices have generated concerns of renewed inflation. Oil in particular saw material gains over the quarter (+24.3% for Brent, +28.5% for WTI), largely driven by supply dynamics.

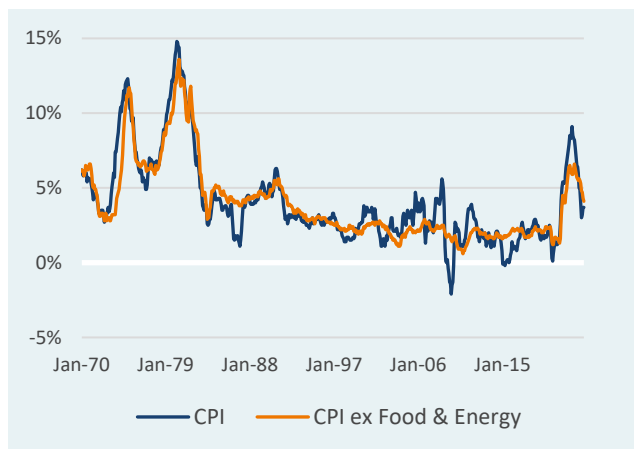
The attack of Hamas on Israel in early October led to upward movement in oil prices on the risk of escalation into a broader conflict involving Iran. Nearly one-fifth of global oil

supply is shipped through the Strait of Hormuz, on Iran's border, which means that a larger conflict would likely have major implications for inflation, and interest rates, and therefore the domestic economy.

Shorter-term inflation trends illustrate that the rate of inflation is still materially higher than the Federal Reserve's 2% target. Inflation appears to be stabilizing at a 3-4% range, and may not reach the Fed's 2% target without a material weakening of the job market and/or the U.S. economy.

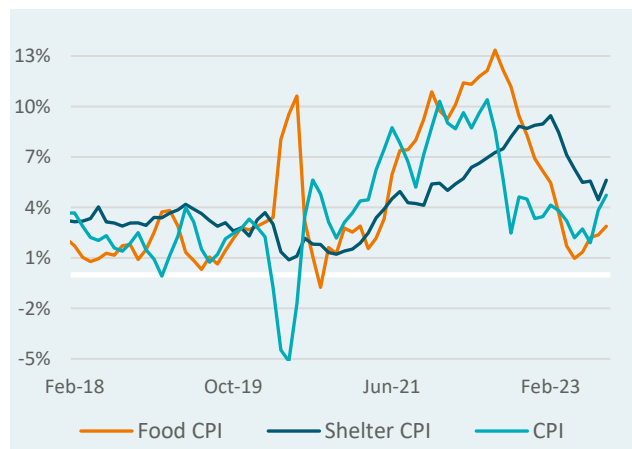
The recent jump in energy prices has reignited inflation concerns

U.S. CPI (YOY)



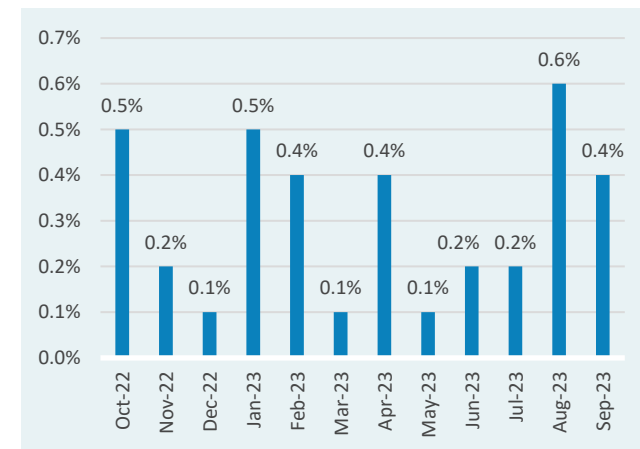
Source: BLS, as of 9/30/23

3-MONTH ANNUALIZED INFLATION RATE



Source: FRED, Verus, as of 9/30/23

MONTHLY PRICE MOVEMENT



Source: BLS, as of 9/30/23

GDP growth

Real GDP increased at a 2.9% pace from a year ago in the third quarter (4.9% quarter-over-quarter annualized rate). The large uptick was driven by consumption, which continues to show resiliency. While many investors have expected high inflation and weaker wage growth to impact spending, a combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown. Outside of consumption, all major categories, besides net exports, positively contributed to GDP growth.

A strong economy continues to support the *higher for longer*

interest rate narrative. This has also contributed to markets reacting negatively to positive economic news, as strong growth increases the likelihood of Federal Reserve hawkishness.

Despite healthy overall GDP growth, weakness is beginning to appear in the economy. Savings rates remain on the lower end of historical trends at 3.9%, while transitions into delinquency across credit card, auto, and mortgage lending has all moved higher. As savings and debt-driven consumption begins to recede, expectations are for weaker consumption in the fourth quarter.

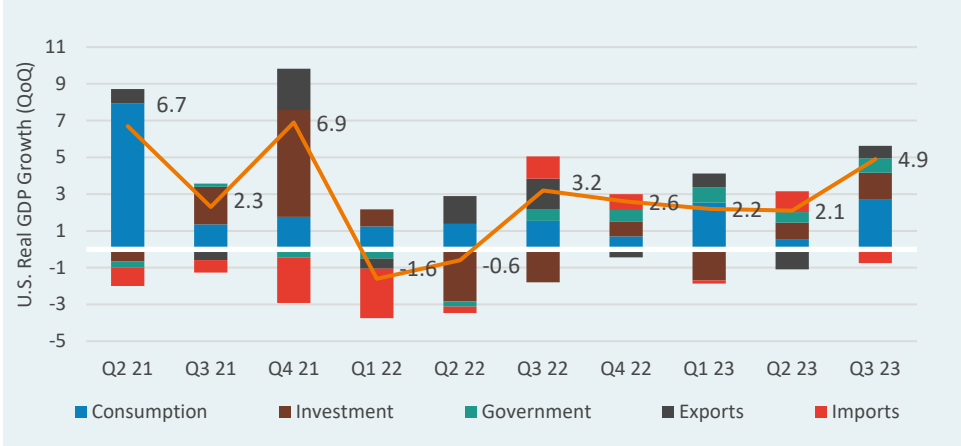
The U.S. economy continues to show resilience despite aggressive monetary tightening & low consumer confidence

U.S. REAL GROSS DOMESTIC PRODUCT



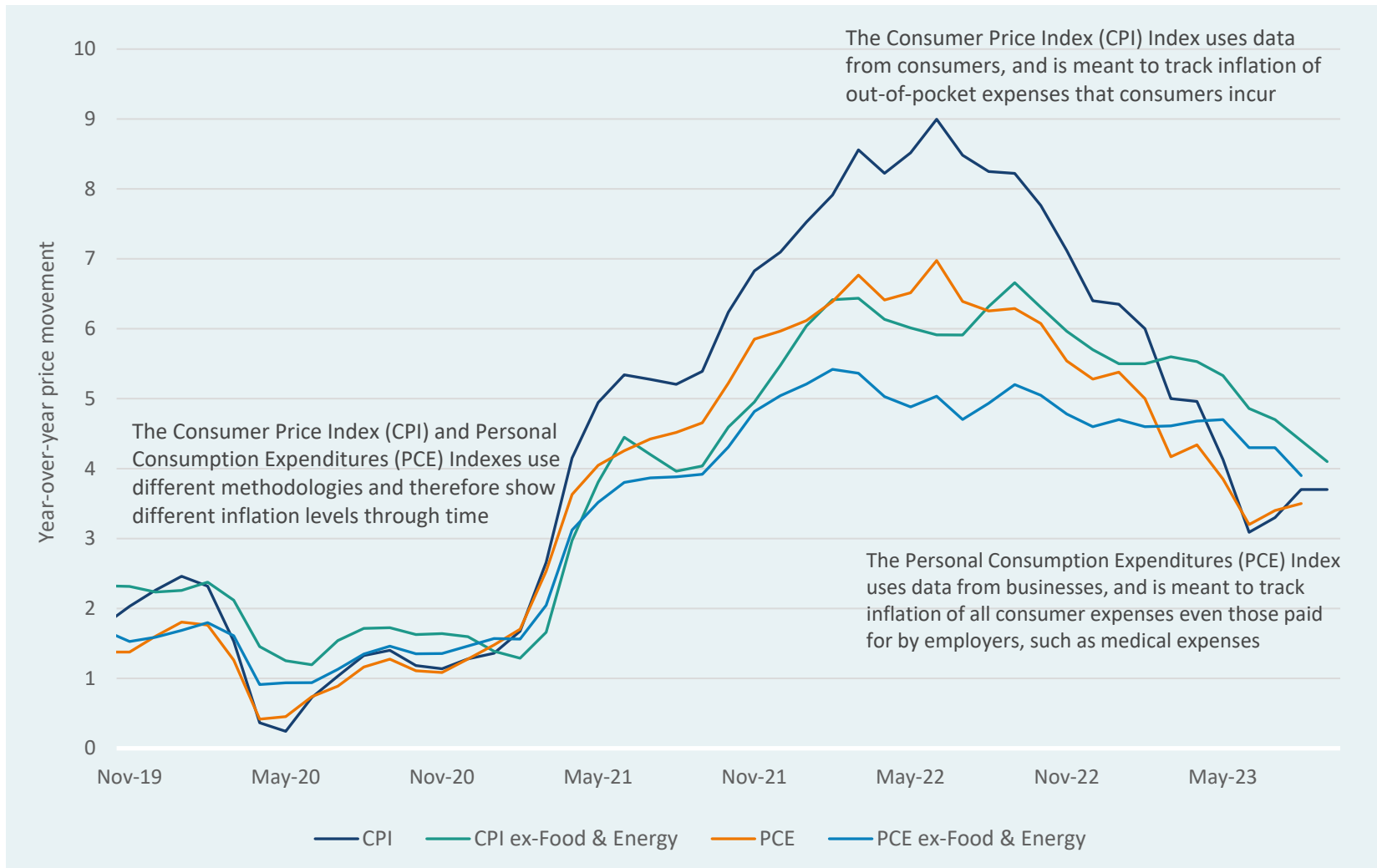
Source: FRED, as of 9/30/23

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 9/30/23

How are inflation conditions evolving?



U.S. inflation appears to be stabilizing at a 3-4% level, materially above the Fed's 2% target

The recent jump in energy prices has reignited inflation concerns

Source: FRED, Verus, PCE data as of 8/31/23, CPI data as of 9/30/23

Labor market

The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.

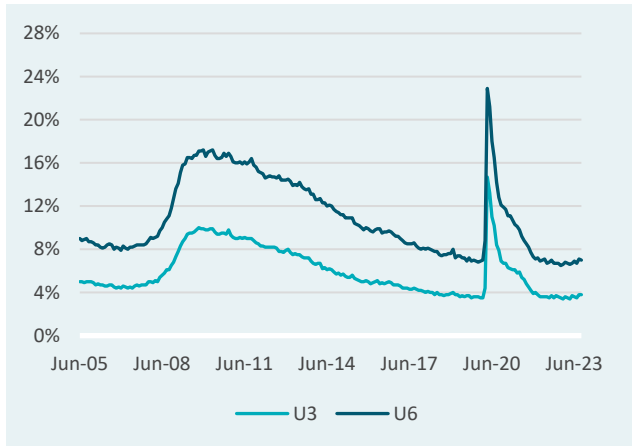
Rebalancing within the labor market continued, though there remains a mismatch between the number of *workers available* and the *available jobs*. The labor participation rate has improved across all age groups, while wage growth slowly receded—at 4.2% year-over-year in September—compared to ~3% pre-pandemic. Deceleration of wage growth is of course

not a welcome development for American workers, but should help to moderate inflation pressures, all else equal.

A short supply of workers relative to demand for staffing has placed more bargaining power with workers. Recent contract negotiations between employers and labor unions have been widely publicized and contentious at times. The United Auto Workers (UAW) strike against General Motors, Ford, and Stellantis serves as a recent example, affecting more than 400,000 workers. With households feeling the damaging effects of inflation on wages and budgets, and a large ongoing mismatch in the labor market regarding supply and demand, these disputes are likely to persist.

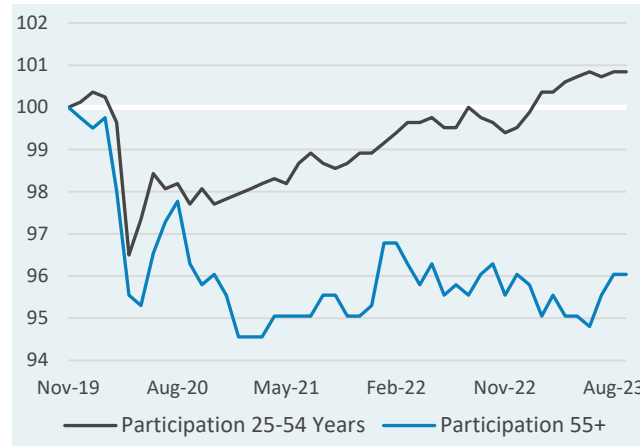
A short supply of workers relative to demand for staffing has placed more bargaining power with workers

U.S. UNEMPLOYMENT



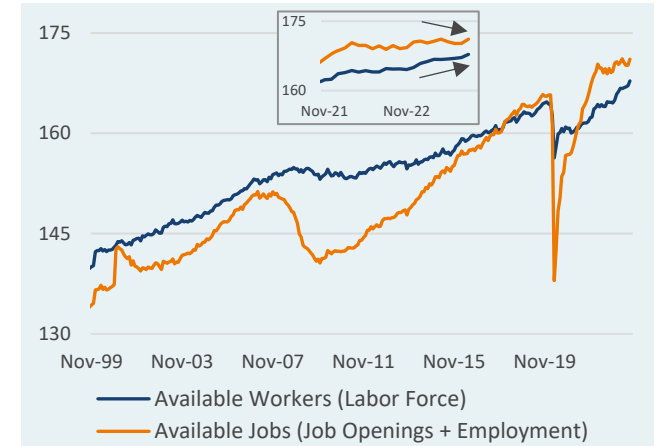
Source: FRED, as of 9/30/23

LABOR FORCE PARTICIPATION RATE BY AGE



Source: FRED, as of 9/30/23

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, Verus, as of 8/31/23

The consumer

The U.S. consumer has shown resiliency, with real (inflation-adjusted) personal consumption expenditures moving along at a moderate pace—coming in at 2.3% year-over-year in August. However, much of this resilience appears to have been possible through the spending down of household savings accumulated during the pandemic. Recent estimates seem to suggest that this *excess savings* has now been mostly (or all) spent, which could lead to a downturn in spending in future months.

Personal savings rates have deteriorated further—now at 3.9%—nearly half the pre-pandemic savings level and one of the lowest levels on record. We believe depressed savings activity without a commensurate surge in spending, and very

poor sentiment, suggests high inflation is squeezing household budgets.

As mentioned last quarter, tighter household budgets should be contrasted with the fact that Americans have experienced a vast boom in wealth and prosperity over the past decade, fueled by a substantial bull market in stocks and in residential real estate, among other assets. This wealth may serve as somewhat of a unique buffer against economic weakness. A large portion of this wealth was created by the housing boom during the pandemic, which suggests more economic sensitivity than usual to downward house and asset price moves.

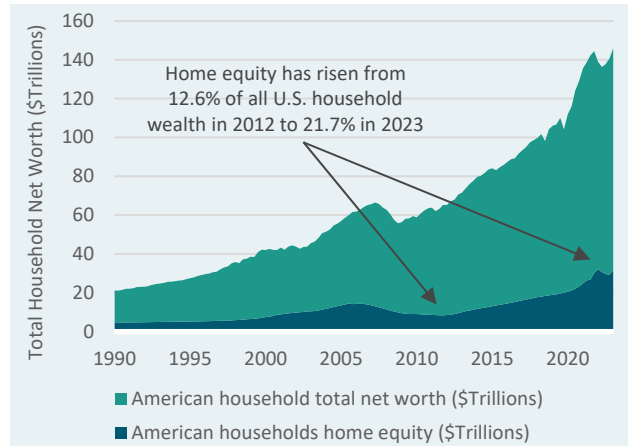
Higher home prices have played a major role in America's booming wealth over the past decade

REAL PERSONAL SPENDING



Source: FRED, as of 8/31/23

AVERAGE HOUSEHOLD NET WORTH



Source: FRED, Verus, as of 6/30/23

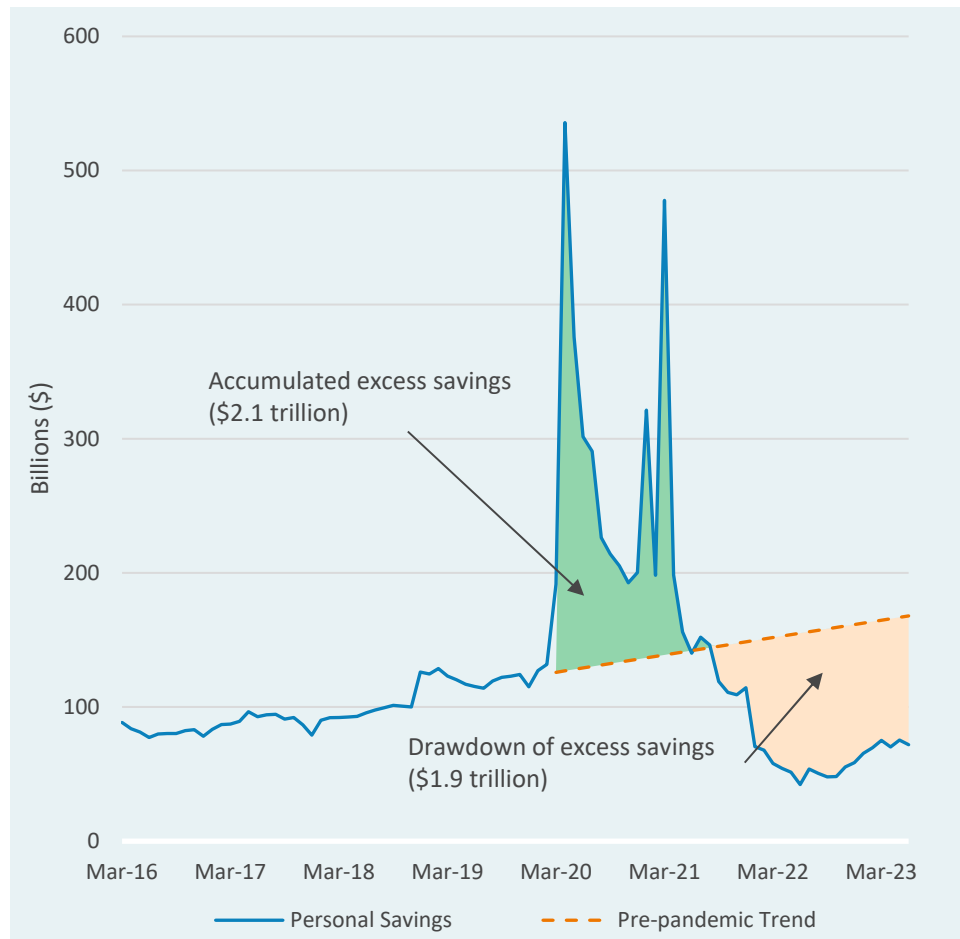
PERSONAL SAVINGS RATE



Source: BEA, as of 8/31/23

The consumer - excess savings wearing off

ACCUMULATED PERSONAL SAVINGS ABOVE PRE-PANDEMIC TREND



Source: BEA and San Francisco Federal Reserve, as of 8/16/23

The resilience of U.S. consumer spending has been driven at least partly by *excess household savings*, which accumulated during the pandemic as Americans were limited in their ability to spend (on vacations and dining, for example). While these excess savings have recently helped to fuel a stronger economy, savings drawdown rates across the past three, six, or even twelve months suggest that these excess savings were fully depleted by the end of Q3.

Above-average inflation continues to be a drag on the domestic consumer, which can be seen in economic data. Second quarter metrics from the New York Fed's Household Debt and Credit report show an uptick in credit delinquencies, which is likely to show an even higher rate at the Q3 2023 release on November 7th if the trend persists. Although delinquency rates have moved higher, these are at average levels relative to history.

Going forward, many expect consumer conditions to worsen, especially under a *higher for longer* interest rate environment. This would likely act as a headwind to future economic growth, and negatively impact markets in a variety of ways, ranging from corporate earnings to mortgage transactions.

Sentiment

Consumer sentiment readings were mixed in the third quarter but by most measures remain pessimistic.

The University of Michigan Consumer Sentiment survey improved, reporting that expectations around personal finances have weakened, though this was offset by better business conditions. Americans feel uncertain about the future of the economy.

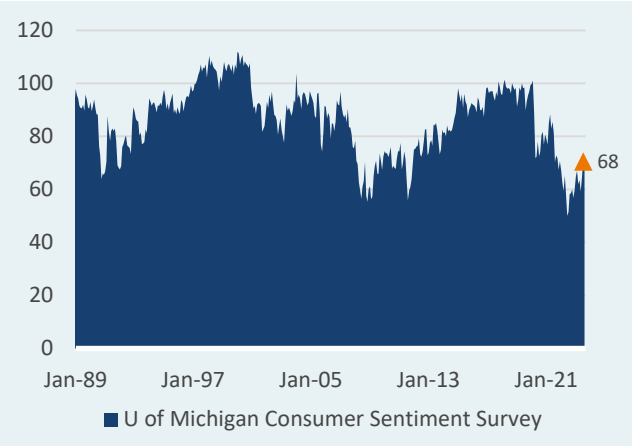
Consumer confidence as indicated by the Conference Board weakened. According to the Conference Board survey, current labor market and business conditions improved moderately,

while the future outlook for income, business, and labor conditions fell very sharply. Consumer expectations are depressed and at levels that historically have signaled recession within one year.

The NFIB Small Business Optimism index was stable during the quarter, but further indicated a dire outlook for business conditions. Sales growth has reportedly slowed, profit margins are being squeezed, inflation continues to be a major concern, and qualified employees are difficult to find. A majority of businesses plan to raise prices, though fewer businesses expect sales revenues to keep up with inflation.

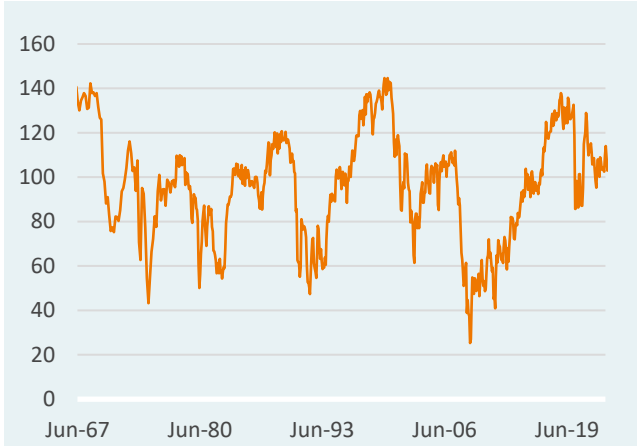
Sentiment was mixed during the quarter but remains poor by most measures

CONSUMER SENTIMENT



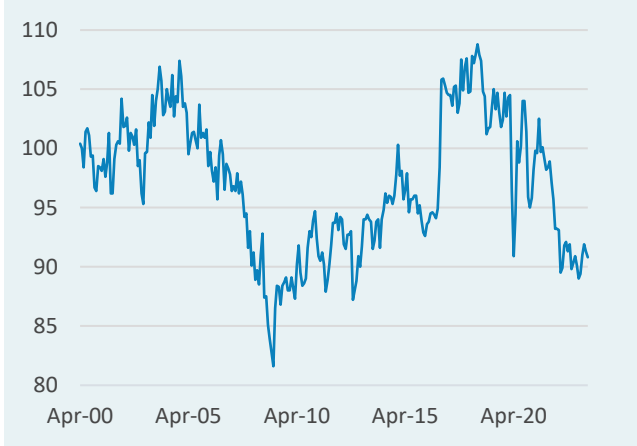
Source: University of Michigan, as of 9/30/23

CONFERENCE BOARD CONSUMER CONFIDENCE



Source: Conference Board, as of 9/30/23

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 9/30/23

Housing

Housing market conditions have deteriorated even further since last quarter. In late September mortgage rates climbed to a new 23-year high of 7.3%. Existing home sales have fallen -15.3% over the past year, as of August, while affordability remains the worst on record.

Despite higher mortgage rates and extremely poor affordability, home values have held up. This appears to be due to depressed housing inventories resulting from many years of underinvestment in new home construction following the 2000s U.S. housing bubble, an upward trend in U.S. homeownership, and an unwillingness of potential home sellers to sacrifice their existing low mortgage interest rates. Overall,

very low supply seems to be balancing low demand and, for now, providing an ongoing support to elevated prices.

Despite higher interest rates, existing homeowners in this environment are, on average, well-capitalized. Many homeowners refinanced at ultra-low mortgage interest rates in recent years or purchased their homes with a low rate. Mortgage delinquency levels of single-family homeowners were materially below-average at 1.7%, as of Q2. However, borrowers with variable-rate loans, which is a small portion of borrowers overall, may face difficulties in covering much larger monthly mortgage payments.

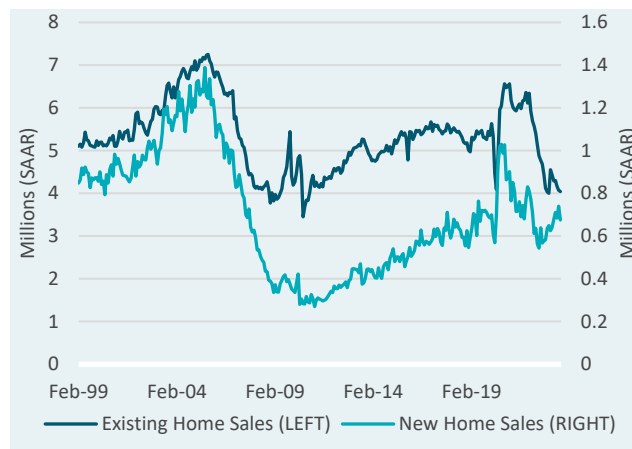
Home sales have slowed to a crawl as affordability is poor, and potential sellers don't want to lose their low interest rates

30-YEAR MORTGAGE RATE



Source: FRED, as of 9/30/23

HOME SALES: NEW & EXISTING (MILLIONS)



Source: FRED, as of 8/31/23

HOUSING AFFORDABILITY



Source: FRED, as of 6/30/23 – Housing affordability is calculated as the cost of a median priced single-family home at the current mortgage rate, as a percentage of the median family income

International economics summary

- Countries struggling to control inflation—primarily advanced economies—face a challenging path. Many central banks are grappling with high prices and slow growth, and the balancing act of fighting inflation but also trying to avoid recession. In contrast, most emerging economies are exceeding growth expectations, outside of China. Some of this strength has come from trade rotation as tensions remain between the U.S. and China and businesses rethink their trade partners.
- The IMF’s October World Economic Outlook was little changed from July Projections, as global growth is still expected to slow in 2024. Regional divergences remained an emphasis, as emerging economies are projected to drive global output. India is expected to outpace all other countries with growth forecasts above 6% for both 2023 and 2024.
- Inflation in the Eurozone and United Kingdom has remained sticky, with inflation in September coming in at 4.3% and 6.7% year-over-year, respectively. Monetary policy is expected to be tighter for both the ECB and BOE, although rate decisions diverged at their respective September meetings, as the ECB raised rates by another 25 bps, while the BOE voted 5-4 to maintain their bank rate at 5.25%.
- Japan was a bright spot amongst developed economies, driven by strong exports in the second quarter. While growth was positive, the potential for an early end to ultra loose Bank of Japan (BOJ) monetary policy presents a potential headwind. A weak Japanese Yen adds to this story, as the currency has been greatly devalued, largely due to the BOJ’s contrarian monetary policy relative to other major central banks.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.9% 9/30/23	3.7% 9/30/23	3.8% 9/30/23
Eurozone	0.5% 6/30/23	4.3% 9/30/23	6.4% 8/31/23
Japan	1.6% 6/30/23	2.8% 9/30/23	2.7% 8/31/23
BRICS Nations	6.1% 6/30/23	1.7% 9/30/23	4.8% 12/31/22
Brazil	3.4% 6/30/23	5.2% 9/30/23	7.8% 8/31/23
Russia	4.9% 6/30/23	6.0% 9/30/23	3.0% 8/31/23
India	7.8% 6/30/23	5.0% 9/30/23	7.1% 9/30/23
China	4.9% 9/30/23	0.0% 9/30/23	5.0% 9/30/23

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy. The Chinese unemployment rate represents the monthly surveyed urban unemployment rate in China.

International economics

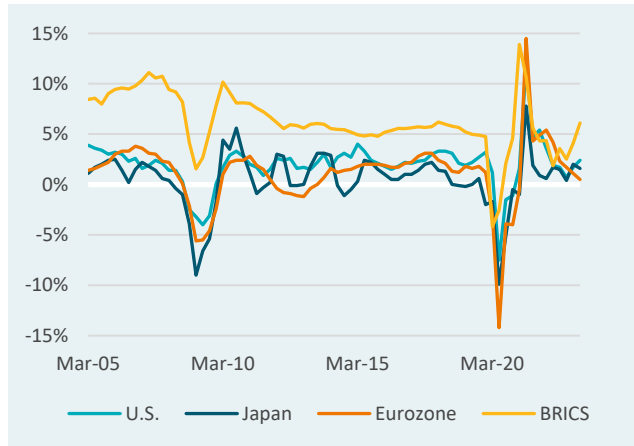
International economies showed signs of slowing during the third quarter. While growth decelerated, economies have shown greater resilience to inflation and higher interest rate headwinds than originally expected.

Countries struggling to control inflation—primarily advanced economies—face a challenging path. Many central banks are grappling with high prices and slow growth, and the balancing act of fighting inflation but also trying to avoid recession. In contrast, most emerging economies are exceeding growth expectations, outside of China. Some of this strength has come

from trade rotation as tensions remain between the U.S. and China and businesses rethink their trade partners.

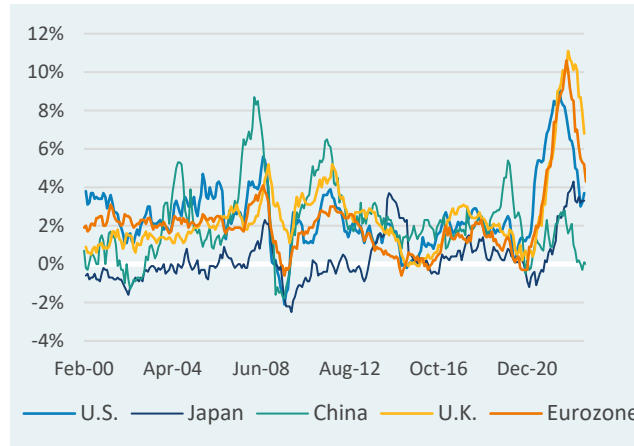
The outlook remains uncertain. Strong growth driven by services has started to wear off, while manufacturing activity remains depressed. Developed economies within the Eurozone and United Kingdom struggle with inflation, while China deals with its own domestic issues. Japan and India showed signs of strength, but are likely unable to buoy global economic growth, especially if the current issues plaguing larger nations persist.

REAL GDP GROWTH (YOY)



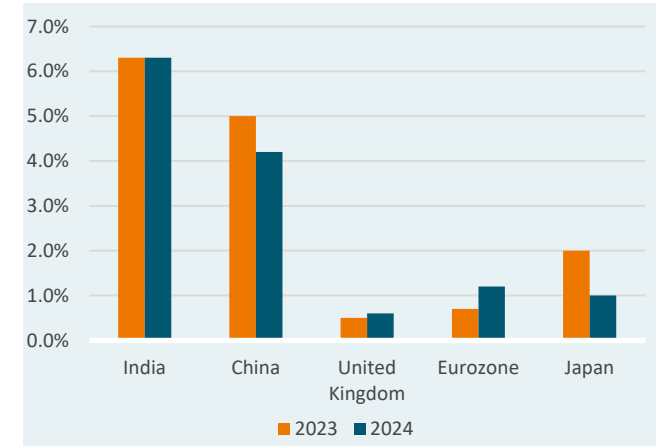
Source: Bloomberg, as of 6/30/23

INFLATION (CPI YOY)



Source: Bloomberg, as of 9/30/23 – or most recent release

IMF WEO REAL GROWTH FORECASTS



Source: IMF World Economic Outlook Oct. 2023, as of 10/10/23

International economics

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23
Manufacturing													
Global	50.3	49.8	49.4	48.8	48.7	49.1	49.9	49.6	49.6	49.5	48.7	48.6	49.0
Developed	50.2	50.1	48.8	47.8	47.3	48.0	48.1	48.4	48.5	47.6	46.3	47.1	46.8
US	52.9	51.0	50.0	49.0	48.4	47.4	47.7	46.3	47.1	46.9	46.0	46.4	47.6
UK	47.3	48.4	46.2	46.5	45.3	47.0	49.3	47.9	47.8	47.1	46.5	45.3	43.0
Eurozone	49.6	48.4	46.4	47.1	47.8	48.8	48.5	47.3	45.8	44.8	43.4	42.7	43.5
Germany	49.1	47.8	45.1	46.2	47.1	47.3	46.3	44.7	44.5	43.2	40.6	38.8	39.1
Japan	51.5	50.8	50.7	49.0	48.9	48.9	47.7	49.2	49.5	50.6	49.8	49.6	49.6
EM	50.2	49.3	49.8	49.7	49.8	49.9	51.6	50.7	50.5	51.4	51.1	50.2	51.4
Services													
Global	49.3	50.0	49.2	48.1	48.0	50.1	52.6	54.4	55.4	55.5	53.9	52.7	51.1
Developed	46.7	49.6	48.8	47.5	47.2	48.7	51.8	53.4	54.6	54.9	53.6	51.9	50.2
US	56.1	55.9	54.5	55.5	49.2	55.2	55.1	51.2	51.9	50.3	53.9	52.7	54.5
UK	50.9	50.0	48.8	48.8	49.9	48.7	53.5	52.9	55.9	55.2	53.7	51.5	49.5
Eurozone	49.8	48.8	48.6	48.5	49.8	50.8	52.7	55.0	56.2	55.1	52.0	50.9	47.9
Germany	47.7	45.0	46.5	46.1	49.2	50.7	50.9	53.7	56.0	57.2	54.1	52.3	47.3
Japan	49.5	52.2	53.2	50.3	51.1	52.3	54.0	55.0	55.4	55.9	54.0	53.8	54.3
EM	54.9	50.6	49.9	49.2	50.1	53.1	54.5	56.7	57.2	56.7	54.6	54.5	53.1

Service sectors – which have recently driven global strength – are now showing signs of moderation, while manufacturing sectors remains depressed

European markets seem to reflect the weakest future business conditions

Source: Bloomberg, as of 8/31/23 – The Purchasing Managers' Index (PMI) is an index based on a broad survey of supply chain managers across nineteen industries in each country. The survey gauges business sentiment, with a reading of below 50 indicating that businesses expect business conditions to worsen in the near-future. A reading of 50 indicates no expected change in business conditions. A reading above 50 indicates expectations for stronger (expanding) future business conditions.

Fixed income rates & credit

Fixed income environment

- The 10-year U.S. Treasury yield increased during the quarter from 3.81% to 4.58%—a level not seen since 2007—likely supported by *higher for longer* interest rate expectations. This has led to a flattening of the yield curve, though the curve remains inverted at -0.5% (defined as the 10-year Treasury yield minus 2-year Treasury yield).
- Rising interest rates combined with lower inflation have brought real (inflation-adjusted, based on the U.S. TIPS Inflation Breakeven Rate) 10- and 30-year Treasury yields to the highest levels in over a decade. Real yields for 10- and 30-year Treasuries finished the month at 2.24% and 2.33%, respectively. In March of 2022 these rates were negative.
- The Federal Reserve hiked interest rates by 0.25% in July but held rates steady at the September meeting as inflation moderated. Importantly, Chairman Powell signaled that additional rate hikes may be warranted if the economy remains strong and inflation above target.
- During Q3, higher quality bonds and U.S. Treasuries saw mild losses due primarily to their longer duration profile. Riskier credit performed well, with larger coupons and shorter duration contributing to positive performance.
- Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) performed very poorly, falling by -7.3% during the quarter as rising interest rates acted as a headwind.
- With inflation moderating during the quarter, investors expressed optimism that the Federal Reserve would soon pause interest rate hikes. However, interest rate volatility increased during the period as concerns related to the U.S. government's budget deficit and the amount of expected issuance contributed to higher long-term bond yields.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(3.2%)	0.6%
Core Plus Fixed Income (Bloomberg U.S. Universal)	(2.9%)	1.6%
U.S. Treasuries (Bloomberg U.S. Treasury)	(3.1%)	(0.8%)
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	(13.0%)	(10.7%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	0.5%	10.3%
Bank Loans (S&P/LSTA Leveraged Loan)	3.4%	13.0%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(3.3%)	13.1%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(2.2%)	10.0%
Mortgage-Backed Securities (Bloomberg MBS)	(4.1%)	(0.2%)

Source: Bloomberg, as of 9/30/23

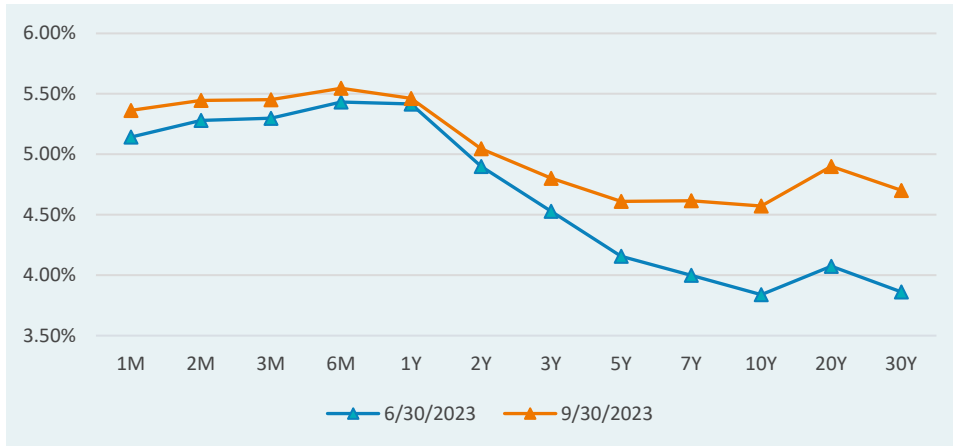
A higher for longer rate environment

The “higher for longer” narrative gained steam throughout the quarter, driven by better-than-expected economic and labor metrics, above target inflation, and rising energy costs. The bond market saw the largest impact, as yields on the 10-year Treasury rose from 3.84% to 4.57% throughout the quarter, resulting in a -13.0% loss for longer-term U.S. Treasuries (Bloomberg U.S. Treasury 20+ Year Index).

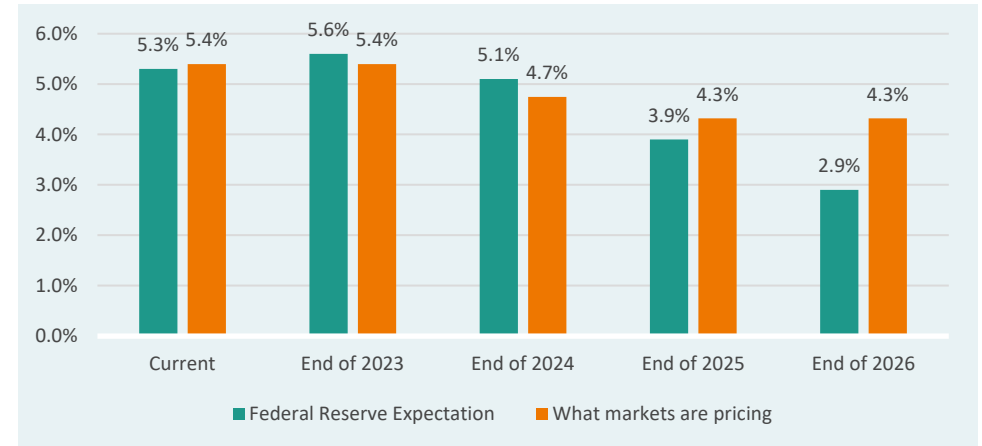
The yield of cash is expected to remain elevated for years into the future

A floor regarding how far inflation can fall, given price dynamics of certain goods and services, has set inflation expectations closer to levels around three to four percent, outpacing the Federal Reserve’s two-percent mandate. This has brought rates higher, while also extending the expected timeline for higher rates. Implied rates on Fed Funds Futures contracts show rates remaining above four percent throughout the start of 2025.

U.S. TREASURY YIELD CURVE – CHANGE THROUGH Q3 2023



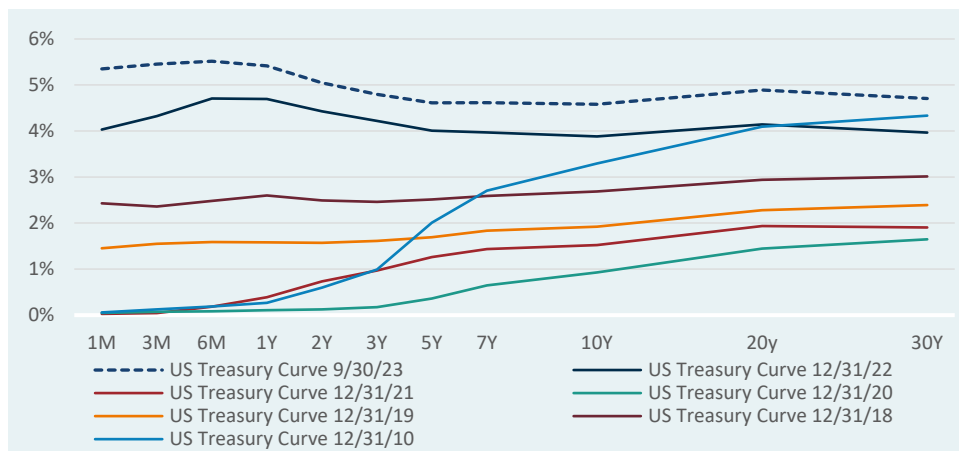
FUTURE EXPECTATIONS FOR THE % YIELD OF CASH



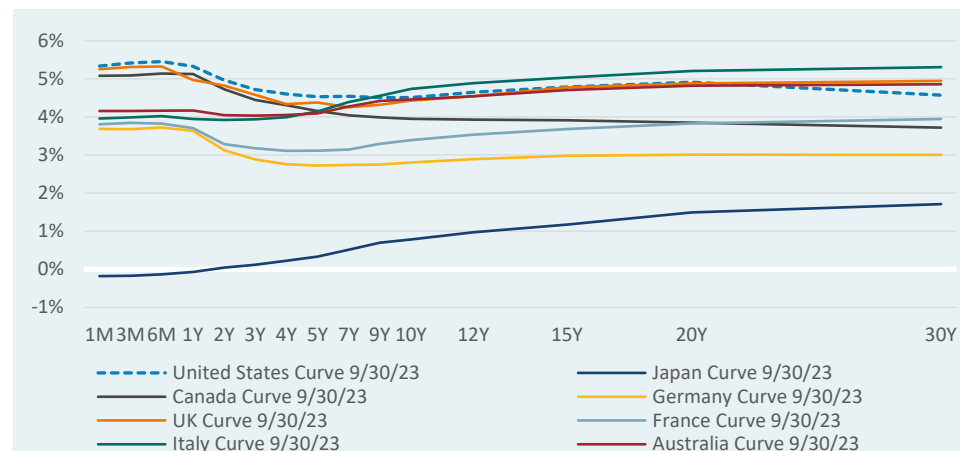
Source: Bloomberg, as of 9/30/23

Yield environment

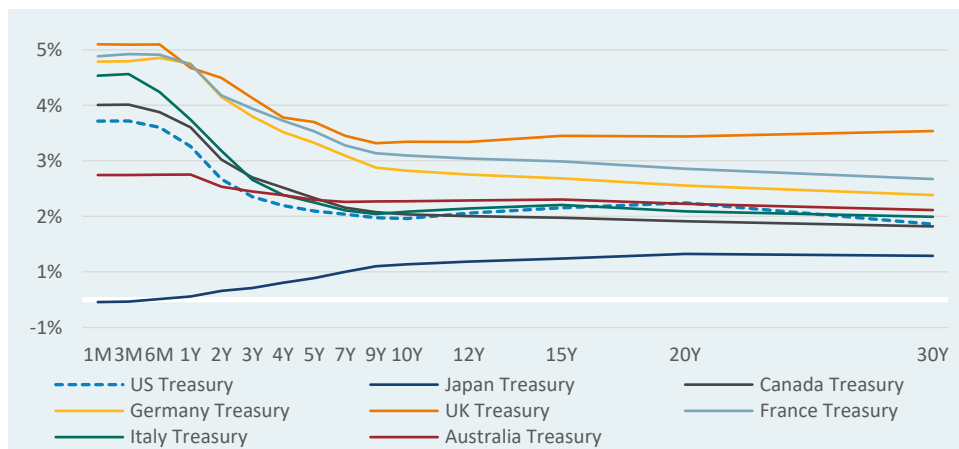
U.S. YIELD CURVE



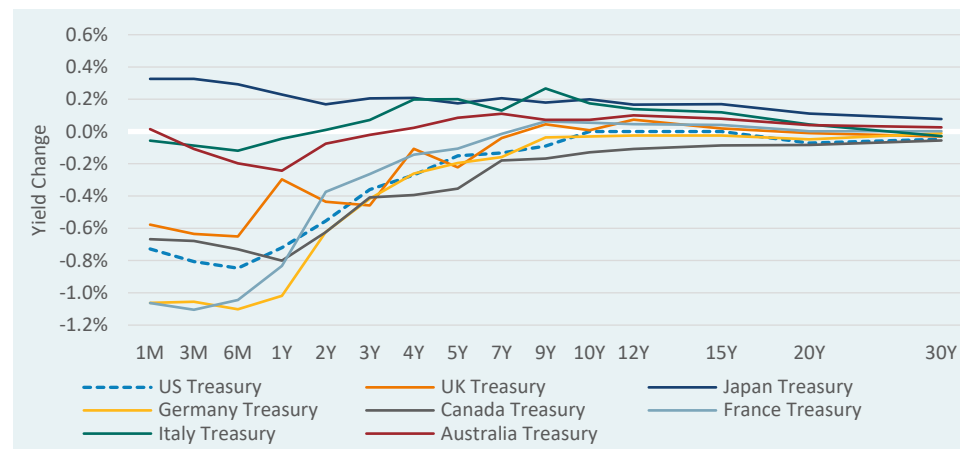
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/23

Credit environment

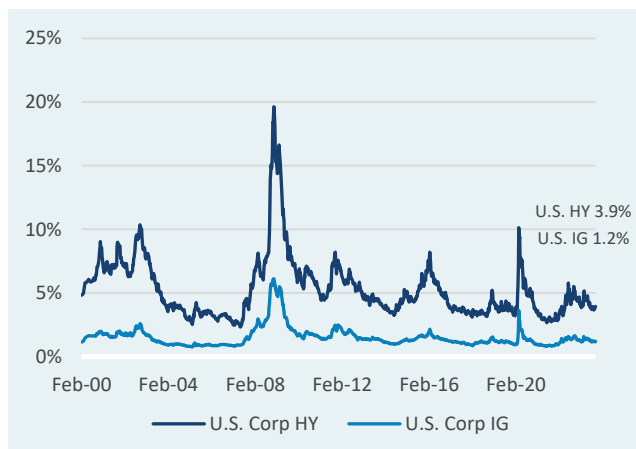
During the third quarter, fixed income markets delivered positive results with lower-quality credits such as high yield bonds and bank loans outperforming higher-quality credits. High yield bonds returned 0.5% (Bbg U.S. Corporate High Yield), while bank loans delivered a stronger 3.4% (CS Leveraged Loans), aided primarily by the lower duration of these bonds. Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) performed poorly, falling by -7.3% during the quarter as rising interest rates acted as a headwind.

Similar to Q2, lower quality CCC-rated bonds outperformed BB- and B-rated bonds during the period. CCC-rated bonds returned 2.8% for the quarter compared to 1.0% and -0.3% for B-rated and BB-rated bonds, respectively. Bank loans also delivered an impressive 3.4% return,

with rising interest rates providing a mild tailwind to performance (floating rate bonds reprice as rates are rising, improving returns).

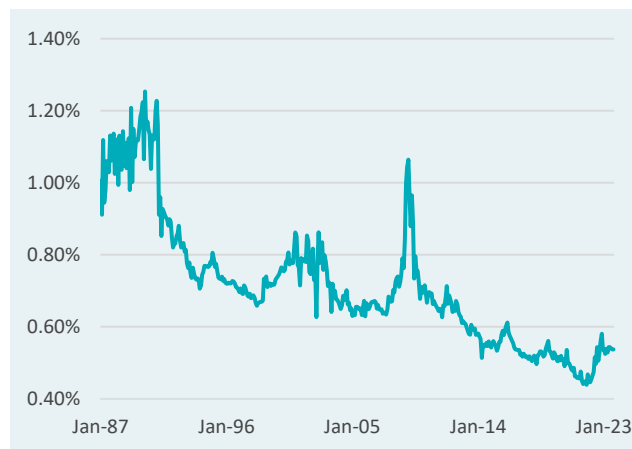
Credit spreads were broadly unchanged during the quarter despite concerns related to an economic slowdown, the potential for higher interest rates, increased credit stress, and lower equity prices. Lower-quality, CCC-rated high-yield bond spreads fell by 0.2% to 9.2%, while investment grade spreads decreased by roughly 0.1% to 1.3%. Broadly, spreads remain slightly below their long-term historical averages, which suggests that investors remain confident about the ability of those companies to service their debt. That said, should the U.S. economy begin to weaken, credit spreads could move higher as confidence fades.

SPREADS



Source: Barclays, Bloomberg, as of 9/30/23

HIGH YIELD BONDS MONTHLY INCOME RETURN



Source: Bloomberg, as of 9/30/23

CREDIT SPREAD (OAS)

Market	9/30/23	9/30/22
Long U.S. Corp	1.3%	2.0%
U.S. Inv Grade Corp	1.2%	1.6%
U.S. High Yield	3.9%	5.5%
U.S. Bank Loans*	5.2%	6.0%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/23

*Discount margin (4-year life)

Default & issuance

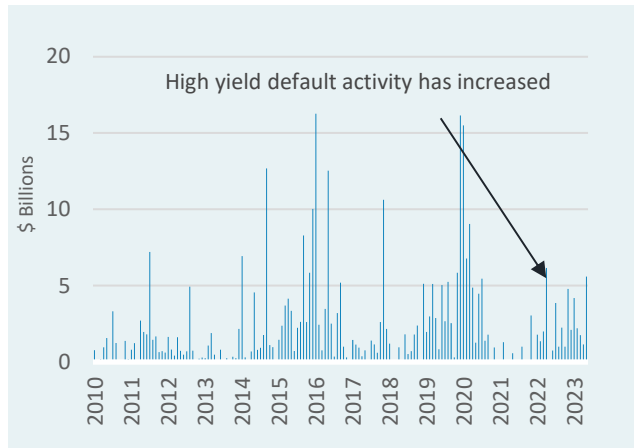
Default activity declined during Q3, to the lowest quarterly levels of 2023. Fourteen companies defaulted, which were concentrated in the Retail, Autos, Media, Technology, and Gaming sectors. A total of \$11.5 billion of bank loans and high yield bonds were affected by default or distressed exchanges, down from \$17.9 billion in the prior quarter. Notable company defaults included Carvana (Autos), Digital Media Solutions (Media), Exela Intermed (Technology), and Maverick (Gaming).

However, year-to-date default rates for both high-yield bonds and bank loans were higher than the first three quarters of 2022, totaling \$63 billion. High yield bond default rates have increased to roughly 2.5%, but are still below the long-term annual average of roughly 3.2%. High-yield

default recovery rates rose slightly to 35%, up from 33% during the previous quarter.

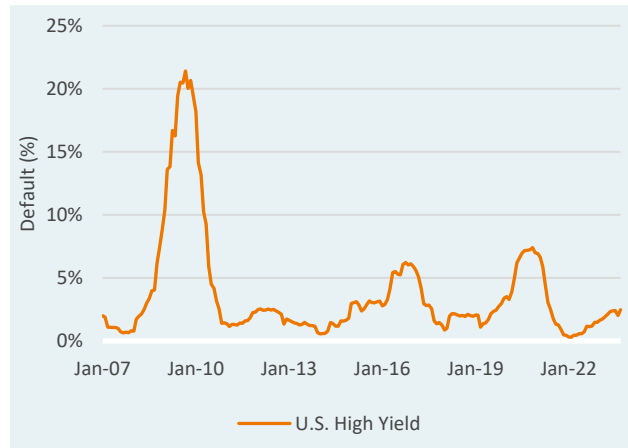
The issuance of investment-grade credit slowed from the prior quarter, down to roughly \$275 billion versus \$333 billion. Similarly, fewer lower quality companies issued new debt. High-yield bond issuance fell to \$40 billion, down from \$56 billion in Q2. As borrowing costs have jumped, the pace of both investment-grade and high yield issuance has been impacted. Although issuance overall remains dampened relative to history, high-yield issuance year-to-date is already greater than the total of 2022, and investment-grade bonds appear on track to match 2022 activity levels. It appears that a significant portion of issuance has moved into the private markets, creating opportunities for private allocations.

U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)



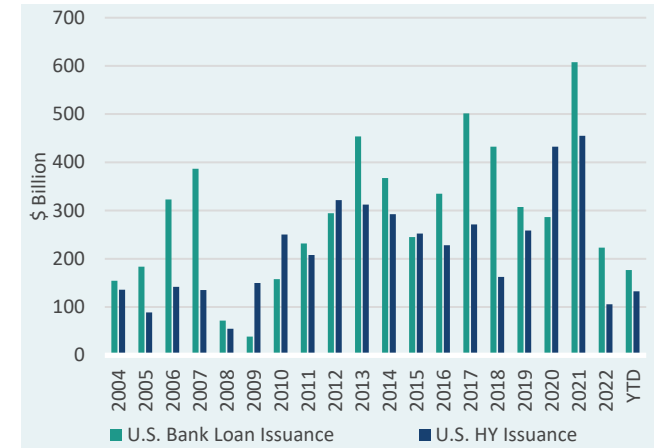
Source: BofA Merrill Lynch, as of 9/30/23

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 9/30/23 – par weighted

DEVELOPED MARKET ISSUANCE (\$ BILLIONS)



Source: BofA Merrill Lynch, all developed markets, as of 9/30/23

Equity

Equity environment

- Global equities delivered negative performance during the quarter (MSCI ACWI -3.4%). Weakness in markets was broad-based, with international developed (MSCI EAFE -4.1%) slightly underperforming domestic and emerging market equities (S&P 500 -3.3%, MSCI EM -2.9%).
- Over the quarter, the valuation gap between domestic and international equities grew even larger. An analysis of international developed Price/Earnings ratios shows that all sectors currently hold a valuation discount relative to U.S. shares, and that those discounts are generally much wider than the historical average.
- Currency movements dragged portfolio performance lower for investors with unhedged foreign currency exposure. Investors with unhedged international developed equity exposure saw losses of -

3.6% due to currency volatility during the quarter.

- U.S. investors continue to face a difficult environment for style factor investing. Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance of growth stocks and large cap stocks. However, value investing has delivered exceptional results in international developed markets, with value stocks outperforming growth by 11.5%.
- The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5% to end September. Market risk has been falling fairly consistently throughout the year.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(3.3%)		21.6%	
U.S. Small Cap (Russell 2000)	(5.1%)		8.9%	
U.S. Equity (Russell 3000)	(3.3%)		20.5%	
U.S. Large Value (Russell 1000 Value)	(3.2%)		14.4%	
US Large Growth (Russell 1000 Growth)	(3.1%)		27.7%	
Global Equity (MSCI ACWI)	(3.4%)	(2.3%)	20.8%	20.4%
International Large (MSCI EAFE)	(4.1%)	(0.5%)	25.6%	24.1%
Eurozone (EURO STOXX 50)	(7.7%)	(4.3%)	39.4%	33.0%
U.K. (FTSE 100)	(1.9%)	2.2%	25.3%	16.0%
Japan (TOPIX)	(1.0%)	4.0%	25.7%	36.6%
Emerging Markets (MSCI Emerging Markets)	(2.9%)	(1.3%)	11.7%	11.1%

Source: Russell Investments, MSCI, STOXX, FTSE, JPX, as of 9/30/23

Domestic equity

Domestic equities finished lower to end the quarter, breaking the previous three consecutive quarters of gains. The S&P 500 Index ended September down -3.3%, alongside losses across all other regional equity groups. Strong gains in July—influenced by better-than-expected earnings—were pared by losses in August and September as the *higher for longer* narrative raised recession fears while also helping to push Treasury yields significantly higher.

Early Q3 gains were driven by a continued rally across mega-cap technology names and better-than-expected earnings. Second quarter earnings marked the third straight quarter of year-over-year declines, yet the -4.1% fall was much better than the initially feared -7.0% projection

by FactSet. From a sector perspective, equity movements were less concentrated relative to the prior quarter. Energy was an outlier, where the sector’s +12.2% gain was a function of higher oil prices due primarily to supply related issues.

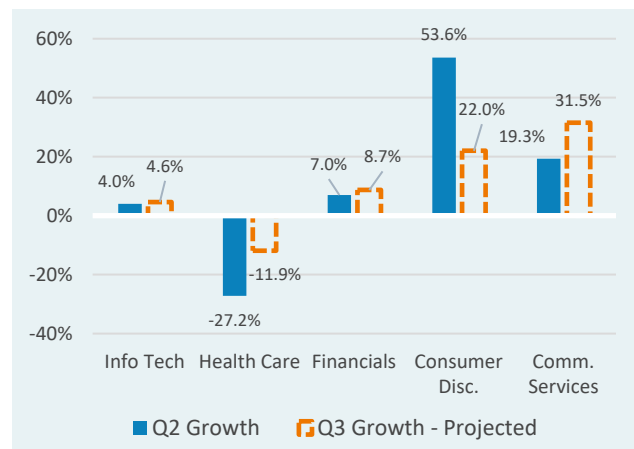
Going forward, domestic equities remain challenged on both the earnings and valuations front. Earnings growth is expected to decline for the fourth straight quarter, although stable expectations amongst the S&P 500’s largest sectors could provide an anchor. Earnings stability of some of the largest index names may also be contributing to higher valuations, which remain expensive relative to international developed and emerging market equities.

S&P 500 PRICE INDEX



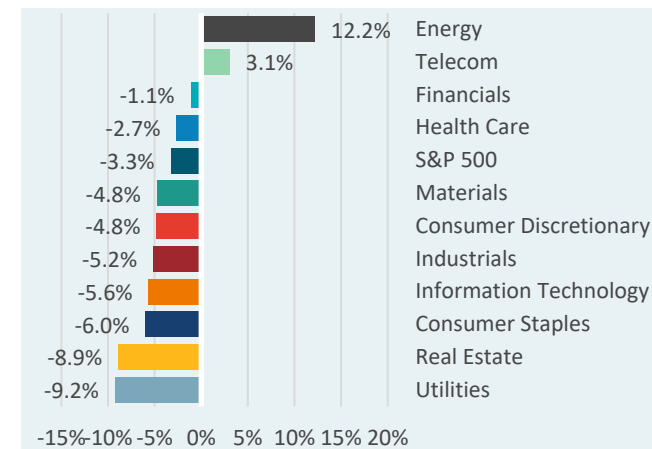
Source: Bloomberg, as of 9/30/23

FIVE LARGEST SECTORS EPS GROWTH YOY



Source: FactSet, as of 9/30/23

Q3 2023 SECTOR PERFORMANCE



Source: Morningstar, as of 9/30/23

Domestic equity size & style

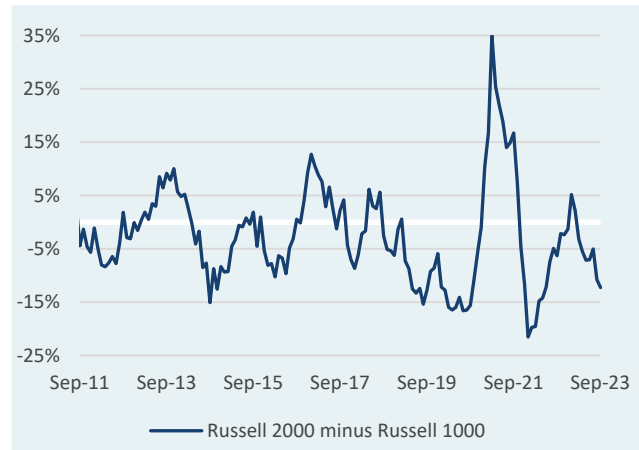
Investors continue to face a difficult environment for style factor investing. Value underperformed growth mildly during the quarter (-3.2% vs. -3.1%), with sector trends appearing to have had less of an impact on value vs. growth stocks during Q2. Small cap equities materially lagged large caps (-5.1% vs -3.3%). *Higher for longer* rate expectations likely contributed to a repricing of growth-focused assets that are more sensitive to interest rate fluctuations.

Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance

of growth stocks and large cap stocks. Many of these market-leading stocks are concentrated in the Information Technology and Telecom sectors, which have outperformed the overall index (+41.1% and 38.5%, respectively).

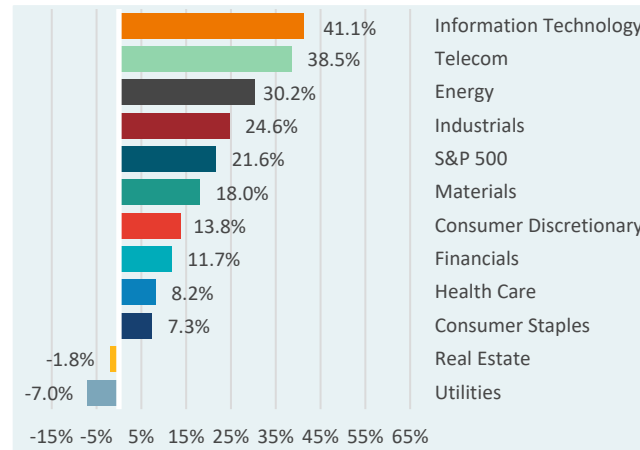
In recent years value stocks have been extremely cheap. Value has rarely been this discounted relative to growth, and during the few historical periods when this was the case, value outperformed significantly. However, value has failed to deliver similar outperformance during the current period.

SMALL CAP VS LARGE CAP (YOY)



Source: FTSE, as of 9/30/23

VALUE VS GROWTH (YOY)



Source: Morningstar, as of 9/30/23

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	14.4%	21.2%	27.7%
Mid Cap	11.0%	13.4%	17.5%
Small Cap	7.8%	8.9%	9.6%

Source: FTSE, as of 9/30/23

International developed equity

International developed shares fell -4.1% during Q3 in unhedged currency terms, underperforming U.S. and emerging markets. However, international developed equities in hedged currency terms were the best performing markets (returning -0.5%), as currency hedging would have avoided the U.S. dollar surge fueled by a *higher for longer* interest rate narrative.

Underperformance within the Eurozone dragged the overall index lower, with the STOXX 50 Index falling -7.7% over the quarter in unhedged terms—the worst performer across regional indices. The broader bloc continues to struggle to bring down inflation, while policymakers also deal with stagnant economic growth. In contrast to weakness seen from European

shares, Japanese equities delivered another quarter of positive performance in unhedged terms (TOPIX -1.0%), and significant outperformance in currency hedged terms (+4.0%). While a weaker Japanese Yen (JPY) hurt performance in U.S. dollar terms, the weak JPY has boosted local corporate earnings. These currency movements combined with meaningful inflation and equity reforms—meant to spark investment in wages, higher growth, and therefore shareholder value—have been a tailwind to strong year-over-year Japanese equity performance.

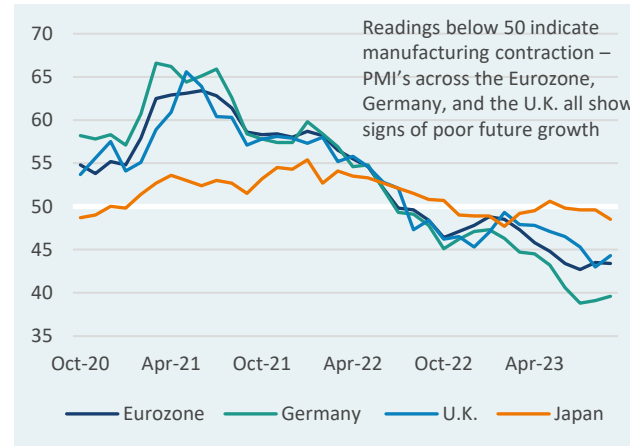
Overall, we believe international developed equities are less attractive in the near-term, specifically due to the economic headwinds facing the U.K. and broader Eurozone.

INTERNATIONAL DEVELOPED EQUITY



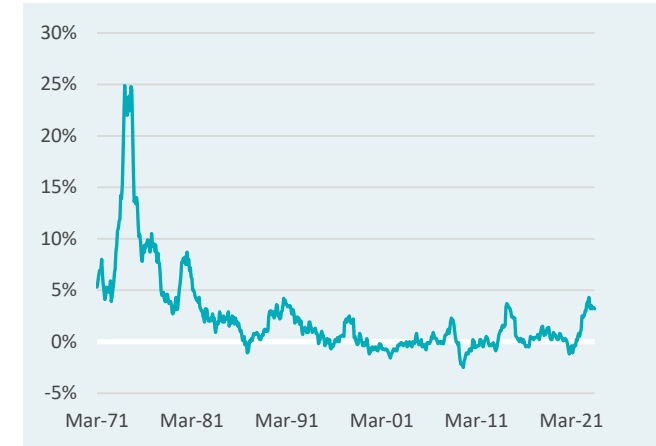
Source: MSCI, as of 9/30/23

MANUFACTURING PMI



Source: S&P Global, as of 9/30/23

JAPANESE CPI



Source: Japan MIC, as of 8/31/23

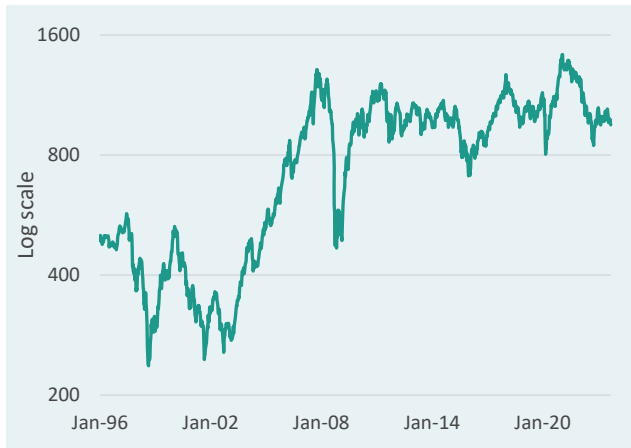
Emerging market equity

Emerging market equities outperformed domestic equities and international developed equities in Q3. The MSCI EM Index fell -2.9%, while the S&P 500 was -3.3% lower and the MSCI EAFE Index dropped -4.1%. Emerging markets have provided only a 2.1% annualized return over the past decade.

From an individual country perspective, the two largest weights in the index—China and India—outperformed, although Chinese equities were still -1.9% lower. This impact counterbalanced losses across other markets, since the combined weight of both countries makes up approximately 45% of the MSCI Emerging Markets Index.

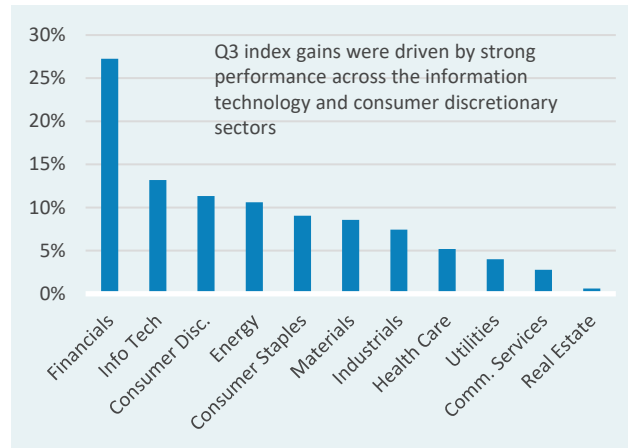
Emerging market equities continue to offer fairly cheap valuations, yet sentiment has grown negative, especially as concerns around China are now mainstream. Outside of geopolitical tensions, the Chinese economy continues to show signs of struggle despite some small government stimulus efforts. The property market remains a large pain point, evidenced by credit stress and falling contracted sales amongst large property developers such as Country Garden and Evergrande.

EMERGING MARKET EQUITY



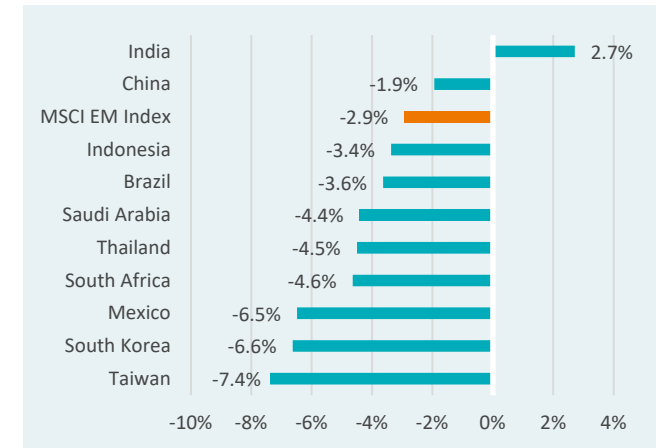
Source: MSCI, as of 9/30/23

MSCI INDIA SECTOR WEIGHTS



Source: MSCI, as of 9/30/23

Q3 2023 MSCI EM COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 9/30/23

Equity valuations

Equity valuation disparities have grown even wider. U.S. equities are now priced at more than a 60% valuation premium (Price/Earnings) over international developed, averaging 22.5 and 13.8, respectively, during the quarter. Some of this gap can be explained by the greater concentration of U.S. markets in the technology sector, which tends to command higher valuations. However, as we see on the next slide, nearly all sectors are materially more expensive in U.S. markets relative to international developed markets.

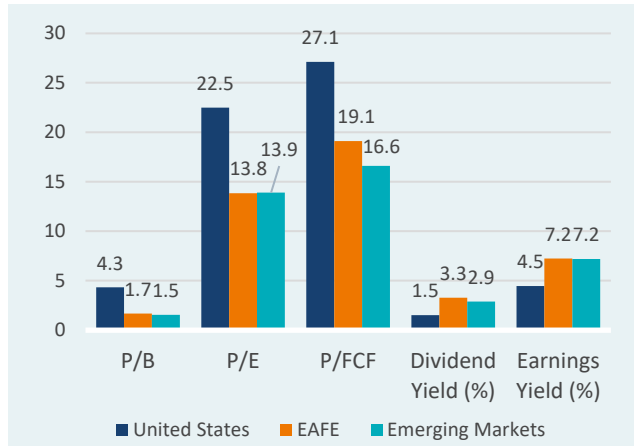
Despite very large valuation differences, we believe international developed equities currently provide lower

growth potential and unique challenges which may lead to further near-term underperformance relative to U.S. equities.

Core fixed income now offers a yield greater than U.S. equities for the first time in more than two decades. Quickly rising interest rates should have theoretically resulted in a sharp fall in equity valuations in order to maintain the “equity risk premium” of stock returns over bond returns. This effect has not yet occurred, which may lead many investors to view bonds as relatively attractive (and stocks relatively less attractive) in the current environment.

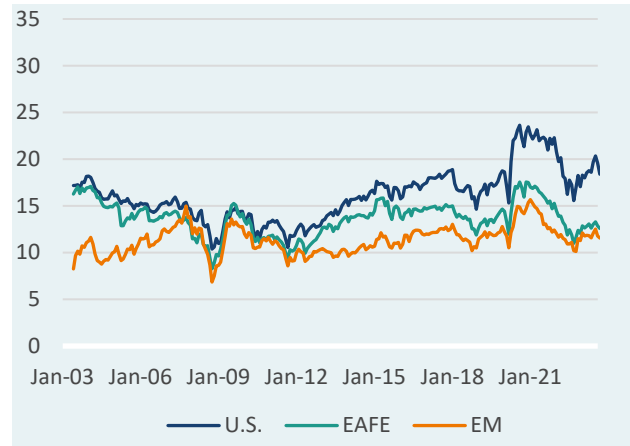
Core fixed income is yielding more than equities for the first time in two decades

MSCI VALUATION METRICS (3-MONTH AVG)



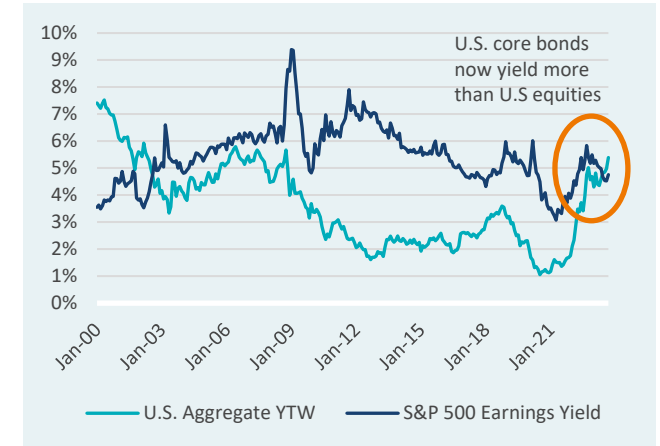
Source: Bloomberg, as of 9/30/23

FORWARD PRICE/EARNINGS RATIO



Source: MSCI, Bloomberg, as of 9/30/23

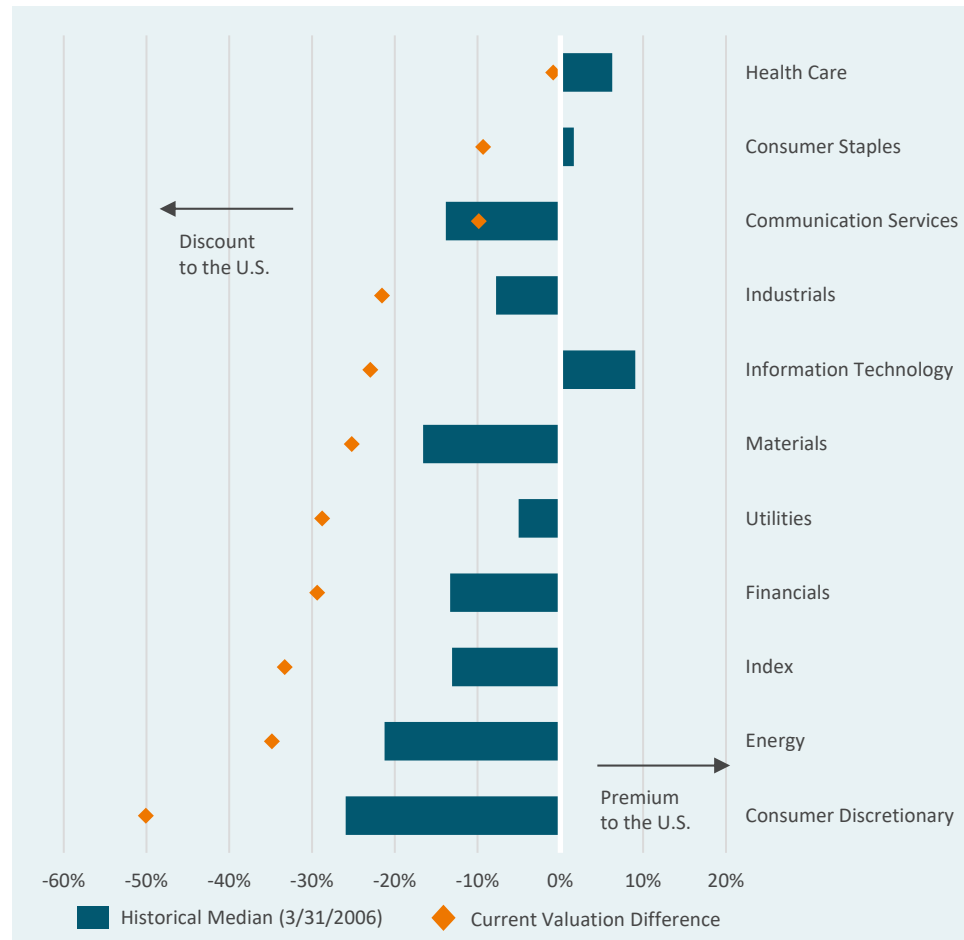
U.S. VALUATIONS: BONDS VS. STOCKS



Source: Bloomberg, Standard & Poor's, as of 9/30/23

International developed valuations

MSCI EAFE VALUATIONS RELATIVE TO U.S. VALUATIONS



Over the quarter, the valuation gap between domestic and international equities grew even larger. Sector weightings play a large role when evaluating the broader indices, as the U.S. holds a larger weight in growth-focused sectors such as Information Technology which tends to command a higher valuation.

The valuation disparity between U.S. and international developed equities has been a topic of interest recently, since historically these markets have shown a much smaller discount relative to one another.

An analysis of international developed Price/Earnings ratios shows that all sectors currently hold a valuation discount relative to U.S. shares, and that those discounts are generally much wider than the historical average.

Despite very large valuation differences, we believe international developed equities currently provide lower growth potential and unique challenges which may lead to further near-term underperformance relative to U.S. equities. Specifically, stagnant economic growth and higher inflation in the Eurozone and U.K. may result in headwinds.

Source: Bloomberg, MSCI, as of 9/30/23

Market volatility

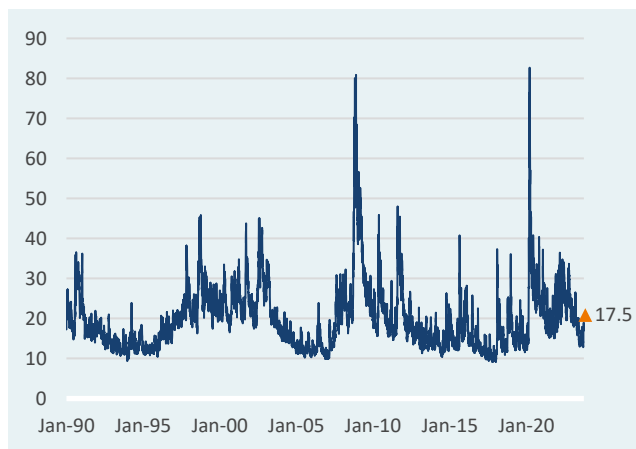
The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5 to end September. Market risk has been falling fairly consistently throughout the year, which may be at least partly attributed to the perception that certain risks, such as regional bank contagion and near-term recession, seem to have eased.

Realized volatility of global equity markets has moderated, and is around average on a one-year basis. Emerging markets are an exception, displaying persistent elevated volatility. In contrast to recent years when emerging market volatility was

lower than that of developed markets—an uncommon occurrence historically speaking—this trend has now reversed.

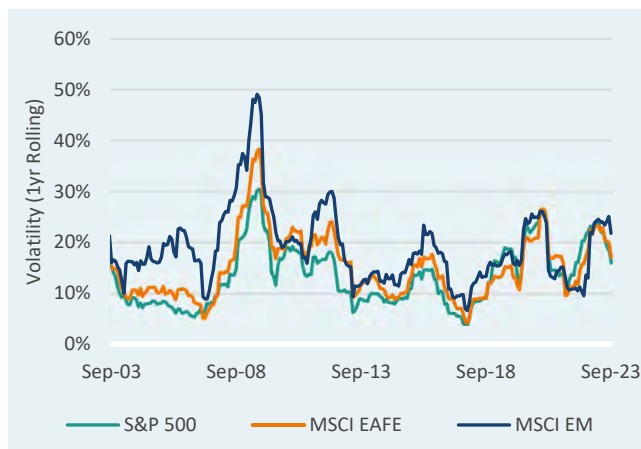
Bond markets have shown some shakiness, as indicated by the “MOVE” Index—which calculates the implied volatility of U.S. Treasury securities. This index has risen to levels not seen since the 2020 COVID-19 market selloff. Uncertainty around the Federal Reserve’s interest rate path, potential recession, and the worsening U.S. fiscal situation, are likely contributing to greater Treasury market volatility.

U.S. IMPLIED VOLATILITY (VIX)



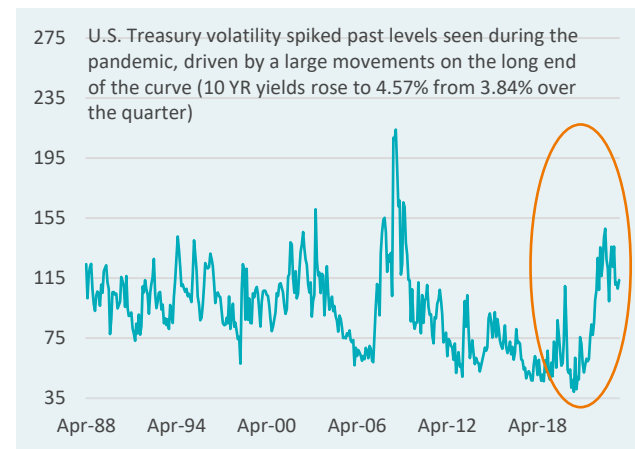
Source: Cboe, as of 9/30/23

REALIZED VOLATILITY



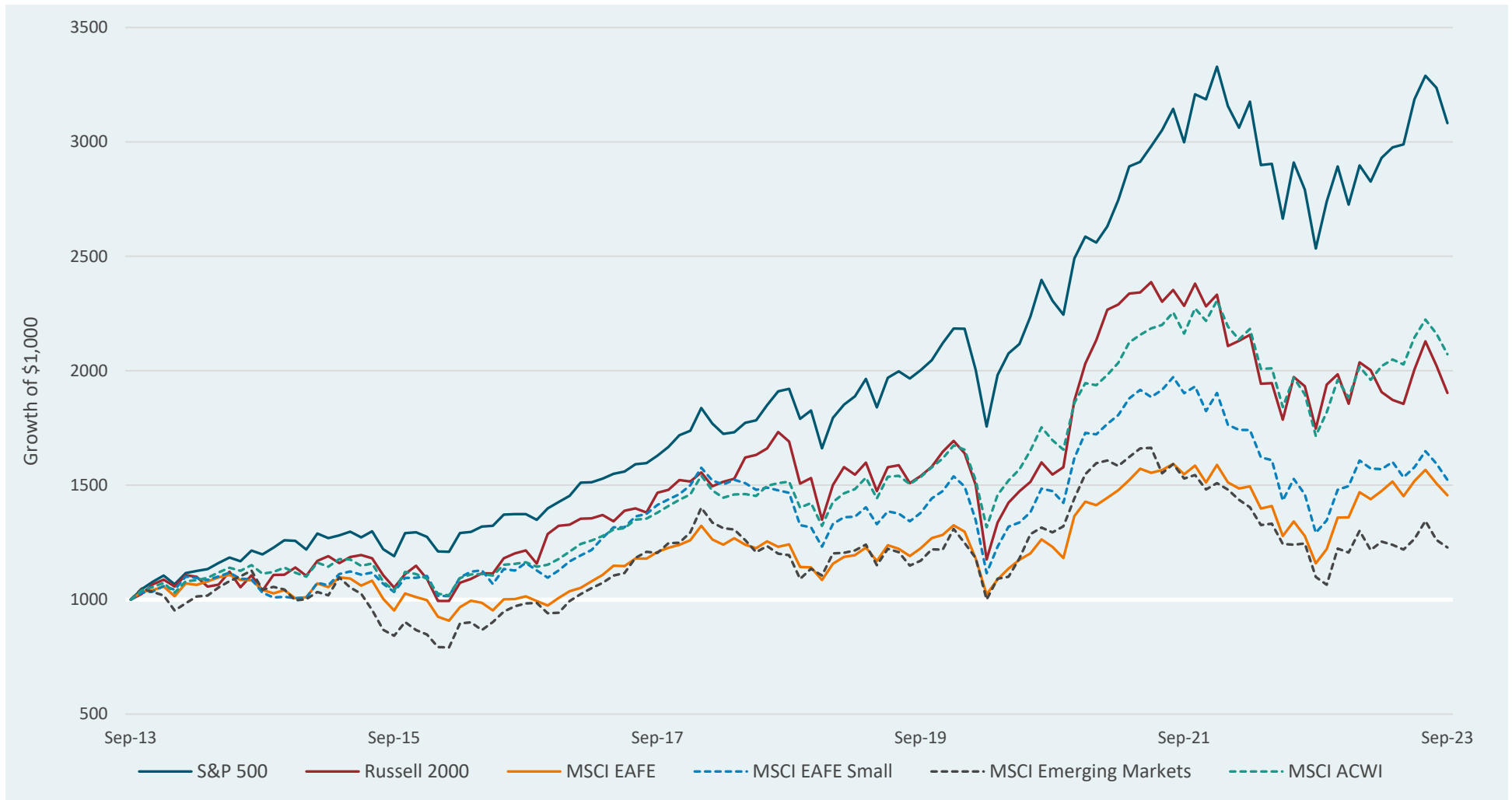
Source: S&P, MSCI, as of 9/30/23

U.S. TREASURY IMPLIED VOL (“MOVE” INDEX)



Source: Bloomberg, as of 9/30/23

Long-term equity performance



Source: MPI, as of 9/30/23

Other assets

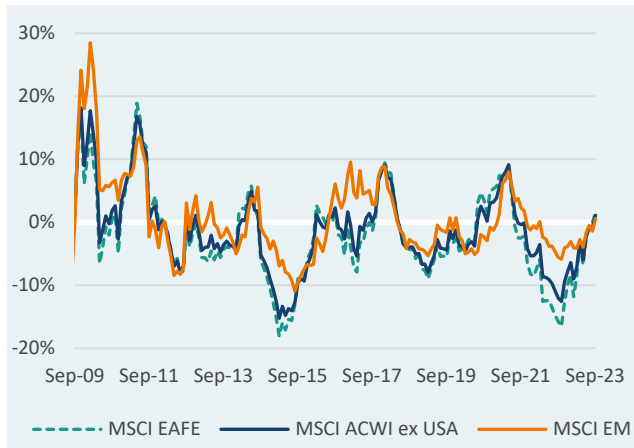
Currency

Currency movements dragged portfolio performance lower for investors with unhedged foreign exposure. On a trade-weighted basis, the value of the U.S. dollar shot higher as investors questioned the falling inflation story and bond yields rose on the *higher for longer* interest rate narrative.

Investors with unhedged international developed equity exposure saw losses of -3.6% due to currency movements in Q3. After recently experiencing deep losses over multiple years from unhedged foreign currency exposure, along with ongoing volatility, many investors may be interested in exploring more thoughtful approaches to currency. A currency hedging program can reduce the uncompensated risk of unhedged foreign

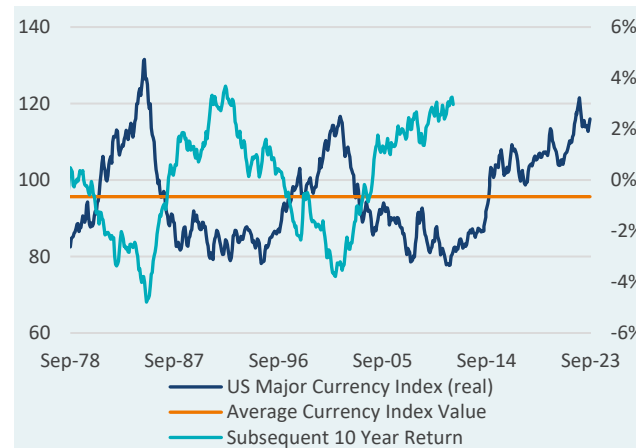
currency exposure (what we call “embedded currency” risk). Additionally, the MSCI Currency Factor Mix Index—a representation of a passive investment in the currency market, by investing in currencies with higher interest rates, currencies that are undervalued, and currencies that are showing positive price momentum—has shown a positive one-year rolling return over most periods with low volatility. This is an approach to thoughtfully gain exposure to the currency market with the objective of generating a moderate positive return. A currency hedging program along with a passive investment in the currency market may allow investors to reduce overall portfolio risk while moderately increasing total portfolio expected returns.

EFFECT OF CURRENCY (1-YEAR ROLLING)



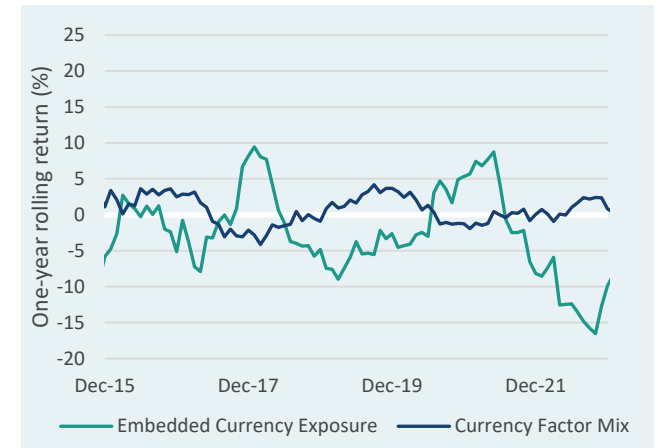
Source: MSCI, as of 9/30/23

BLOOMBERG DOLLAR SPOT INDEX



Source: Bloomberg, as of 9/30/23

EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: Bloomberg, MSCI, as of 9/30/23

Commodities

Data pointing towards resilient economic growth was widely viewed as the initial driver of the “higher for longer” rate environment. Adding to this narrative in the third quarter was a tick up in energy costs due to supply side dynamics. This brought an increased focus to energy prices, as the four-decade high inflation experienced during 2022 was partly fueled by a rapid spike in oil and natural gas prices. As inflation has moderated back to levels closer to target, energy price movements have raised concerns of another potential catalyst for higher inflation, and therefore higher rates.

Oil was the largest contributor, as WTI and Brent Crude prices rose 24.3% and 28.5%, respectively. These significant price increases were driven by a combination of supply cuts by Saudi Arabia and Russia. A slowing economic outlook provides little motivation for oil companies to increase production.

A large jump in energy prices – specifically oil – has raised concerns over potentially higher inflation

From a performance standpoint, the outsized gain of the Bloomberg Commodity Energy Index (+19.6%) lifted the broader index, with the Bloomberg Commodity Index finishing the quarter up 4.7%.

ENERGY YEAR-OVER-YEAR CPI CHANGES



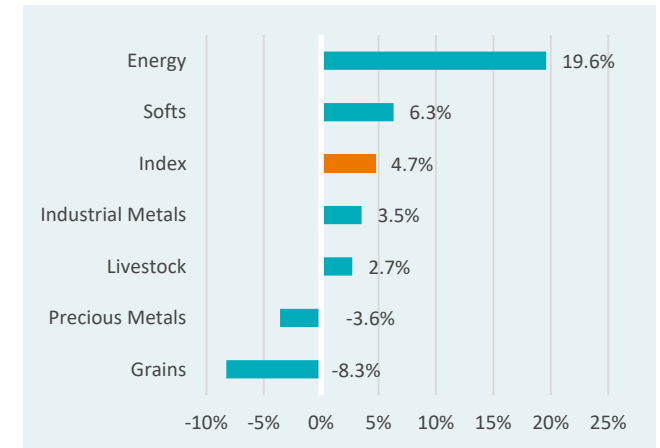
Source: BLS, as of 9/30/23

BRENT AND WTI CRUDE OIL PRICES



Source: Bloomberg, as of 9/30/23

BCOM SECTOR PERFORMANCE – Q3 2023



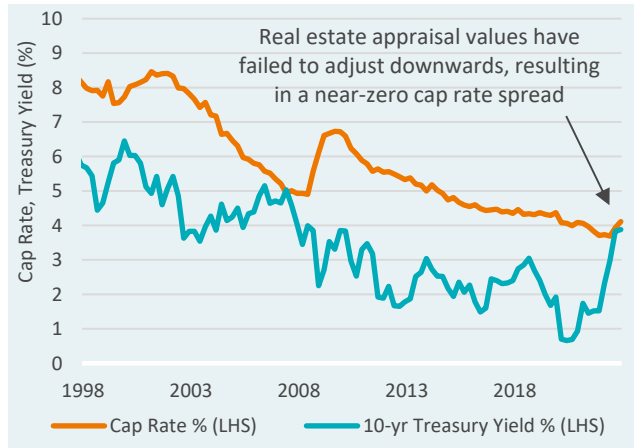
Source: Bloomberg, as of 9/30/23

Private real estate stalemate?

As summer ends, the real estate market looks much like it did as it began. Real estate transaction activity continues to be frozen, as buyers and sellers disagree about pricing, leading to a very large bid-ask spread. Private valuations remain higher than public, and write-downs should continue over the next several quarters. While movement has been slow thus far, opportunities may pick up as a wall of low interest rate loan maturities will be coming due and asset owners will need to either refinance at much higher rates, provide additional capital, and/or sell assets.

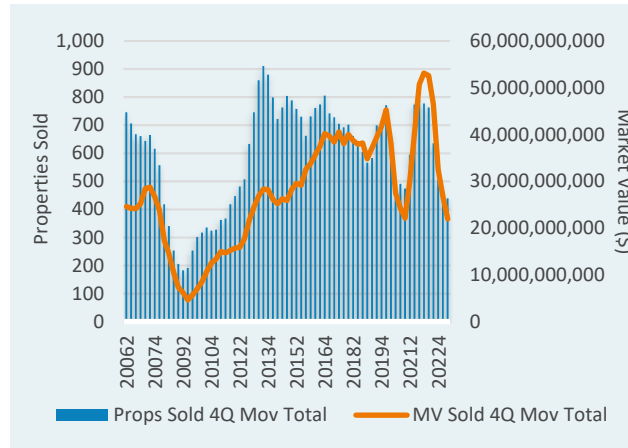
New capital should find a compelling environment to deploy in over the next several years at lower entry pricing. We are favoring managers experienced with investing in stressed and distressed environments and those with flexibility to invest across the debt and equity capital spectrum.

REAL ESTATE CAP RATE VS U.S. TREASURY YIELD



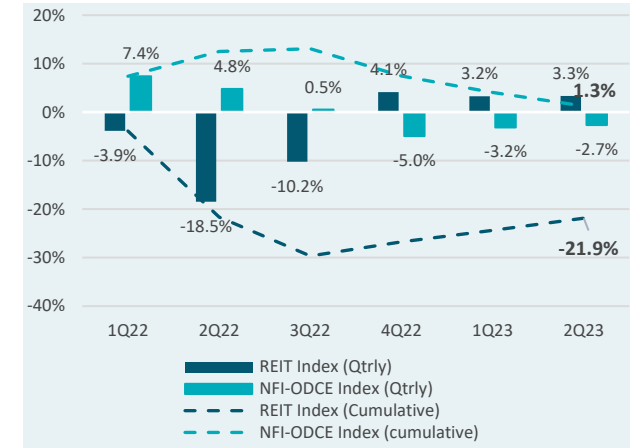
Source: NCREIF trends Report Q2

PROPERTY SALES (ANNUALIZED)



Source: NCREIF trends Report Q2 2023

PUBLIC VS PRIVATE REAL ESTATE PERFORMANCE



Source: NCREIF, Wilshire REIT Index

Hedge funds outperform, CTAs shine again

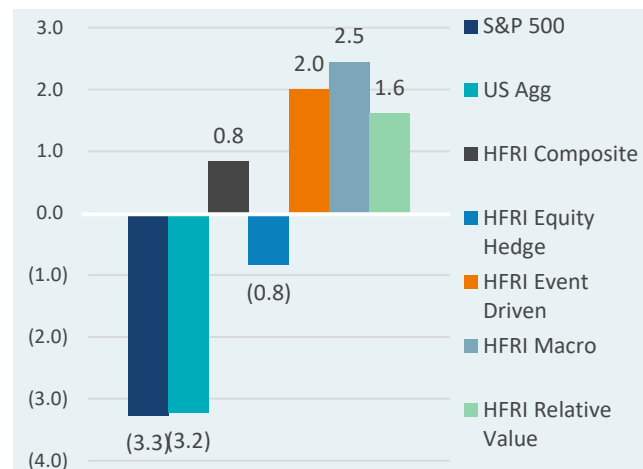
Hedge funds enjoyed broad outperformance vs markets in the third quarter as both stocks and bonds declined more than 3%. Most hedge fund strategies were actually positive on the quarter, reflected in the 0.8% return from the HFRI Composite Index.

Gains were led by Macro strategies while Event Driven was buoyed by a very strong quarter from Merger Arbitrage, rebounding after seeing spreads widen out earlier in the year. Popular Macro trades like short bonds and yield curve steepener paid off handsomely. Four of the last 7 quarters

have seen simultaneous declines in the S&P 500 and the Bloomberg US Aggregate – in all of those, including the most recent one, CTAs have been positive.

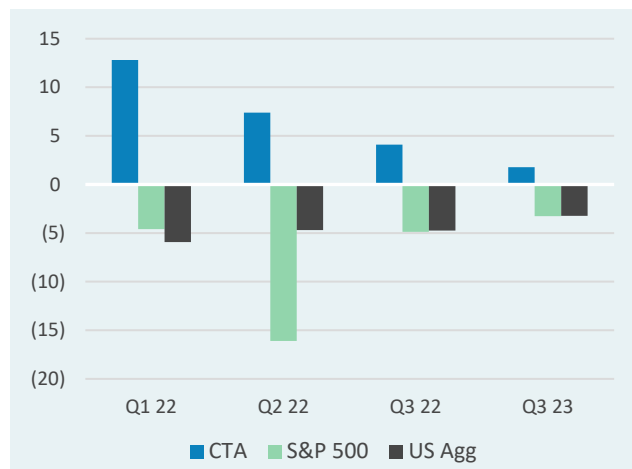
Credit-focused strategies also outperformed high yield as duration impacts were hedged and higher, typically floating rate coupons in areas like asset-backed offset any credit deterioration.

3Q 2023 QUARTERLY RETURNS



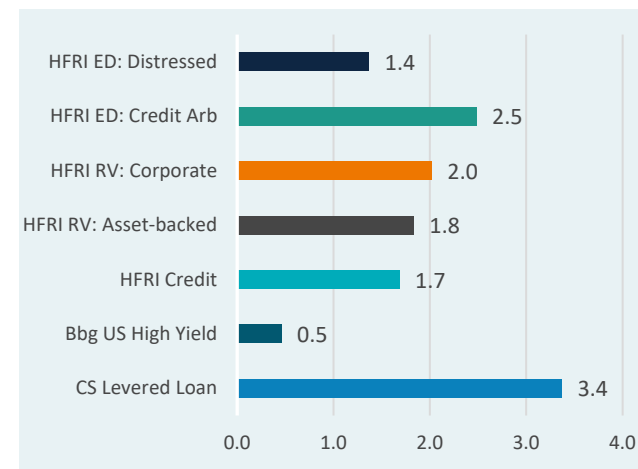
Source: HFR, MPI, as of 9/30/23

CTAS VS STOCKS/BONDS WHEN BOTH DECLINE



Source: MPI, SocGen. as of 9/30/23

3Q RETURNS FOR CREDIT STRATEGIES



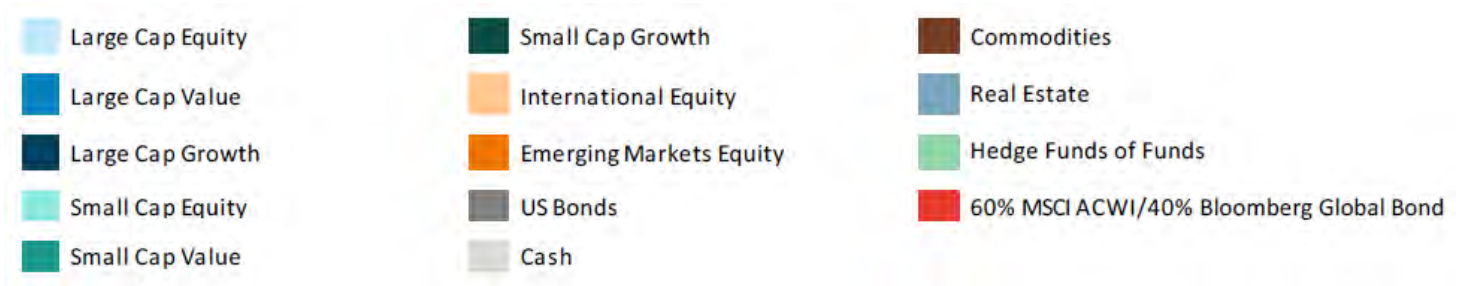
Source: HFR, MPI, as of 9/30/23

Appendix

Periodic table of returns

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	5-Year	10-Year
Large Cap Growth	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	25.0	12.4	14.5
Large Cap Equity	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	13.0	9.6	11.6
International Equity	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	1.5	7.1	6.2	8.4
Small Cap Growth	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-4.7	5.2	6.1	7.8
60/40 Global Portfolio	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-7.5	5.1	5.9	6.7
Cash	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.4	14.0	17.7	-13.0	3.6	3.5	6.6
Hedge Funds of Funds	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.0	10.3	14.8	-14.5	3.0	3.4	6.2
Small Cap Equity	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-14.5	2.5	3.2	4.5
Emerging Markets Equity	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-17.3	1.8	2.6	3.8
Large Cap Value	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-19.1	1.8	2.4	3.3
Small Cap Value	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-20.1	-0.5	1.6	2.1
US Bonds	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-20.4	-1.2	1.6	1.1
Commodities	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-26.4	-3.4	0.6	1.1
Real Estate	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-29.1	-3.8	0.1	-0.7

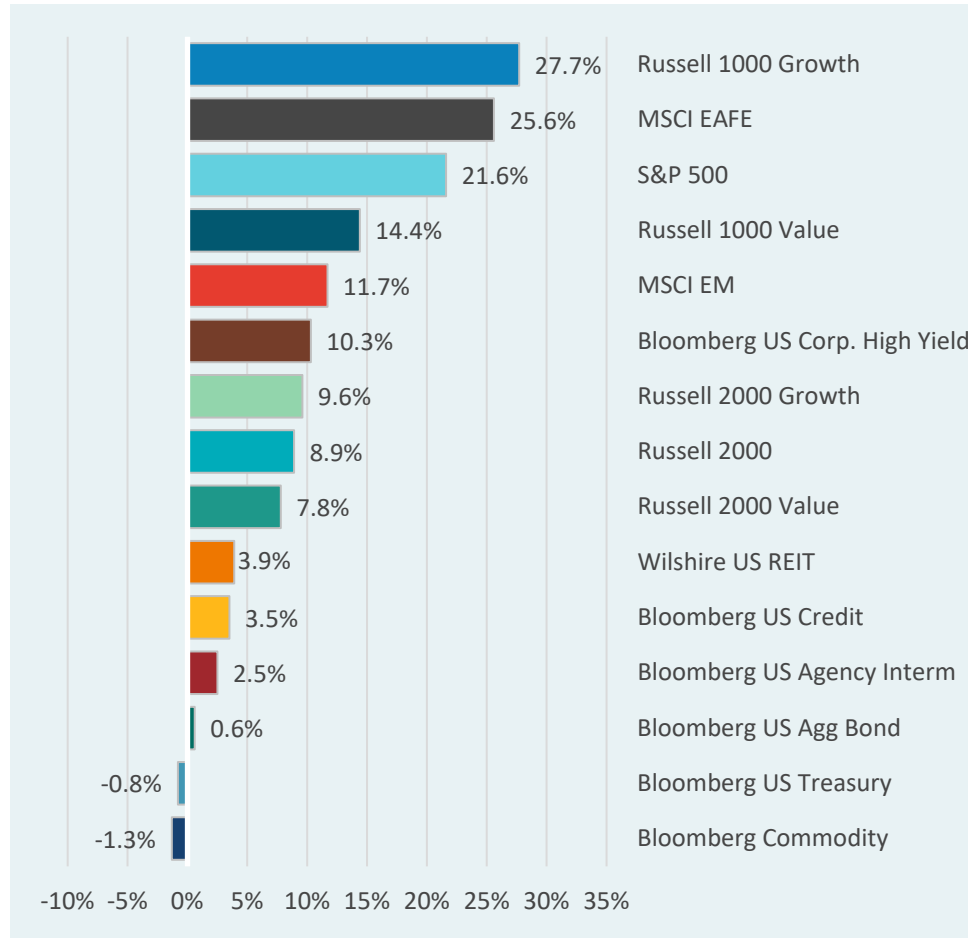
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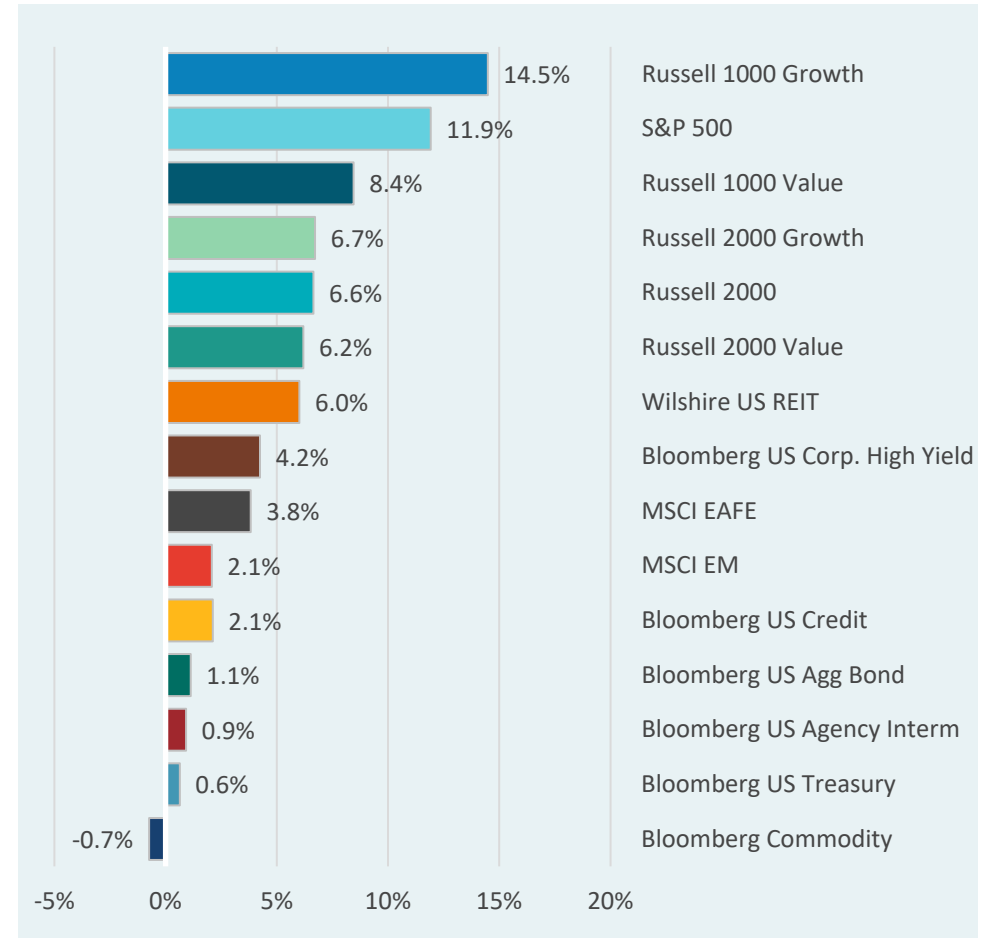
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 6/30/23.

Major asset class returns

ONE YEAR ENDING SEPTEMBER



TEN YEARS ENDING SEPTEMBER



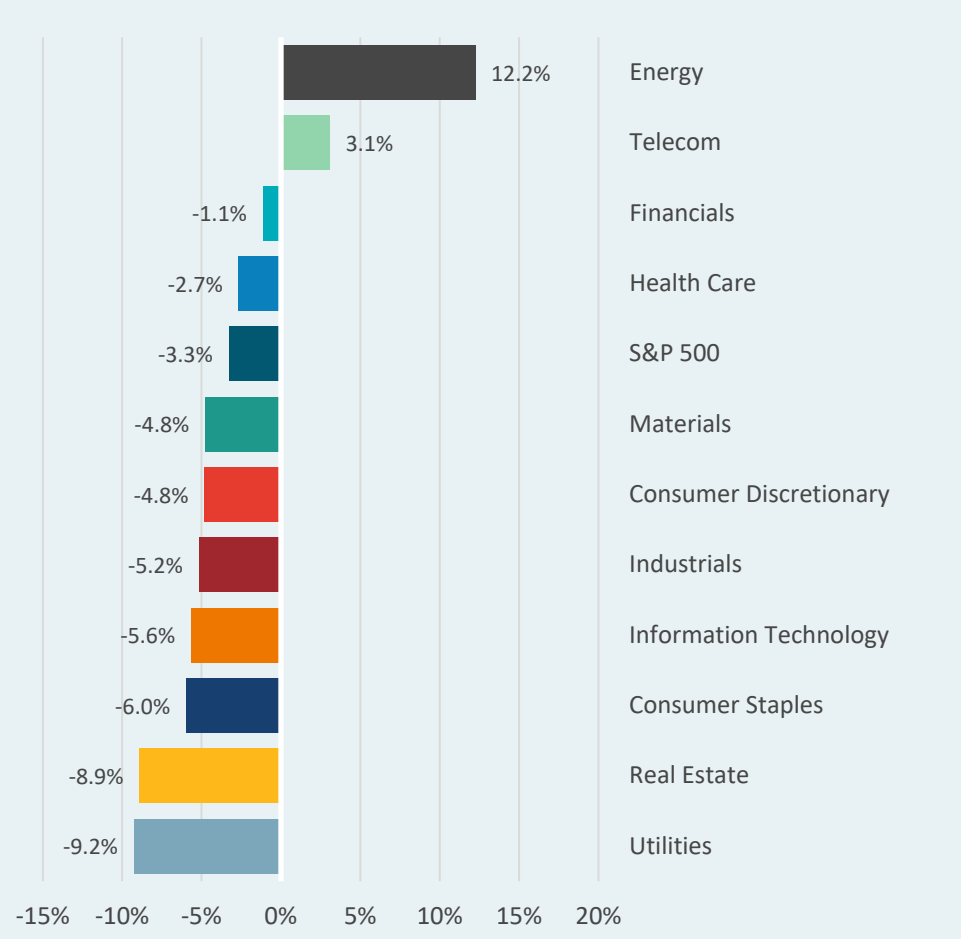
*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 9/30/23

Source: Morningstar, as of 9/30/23

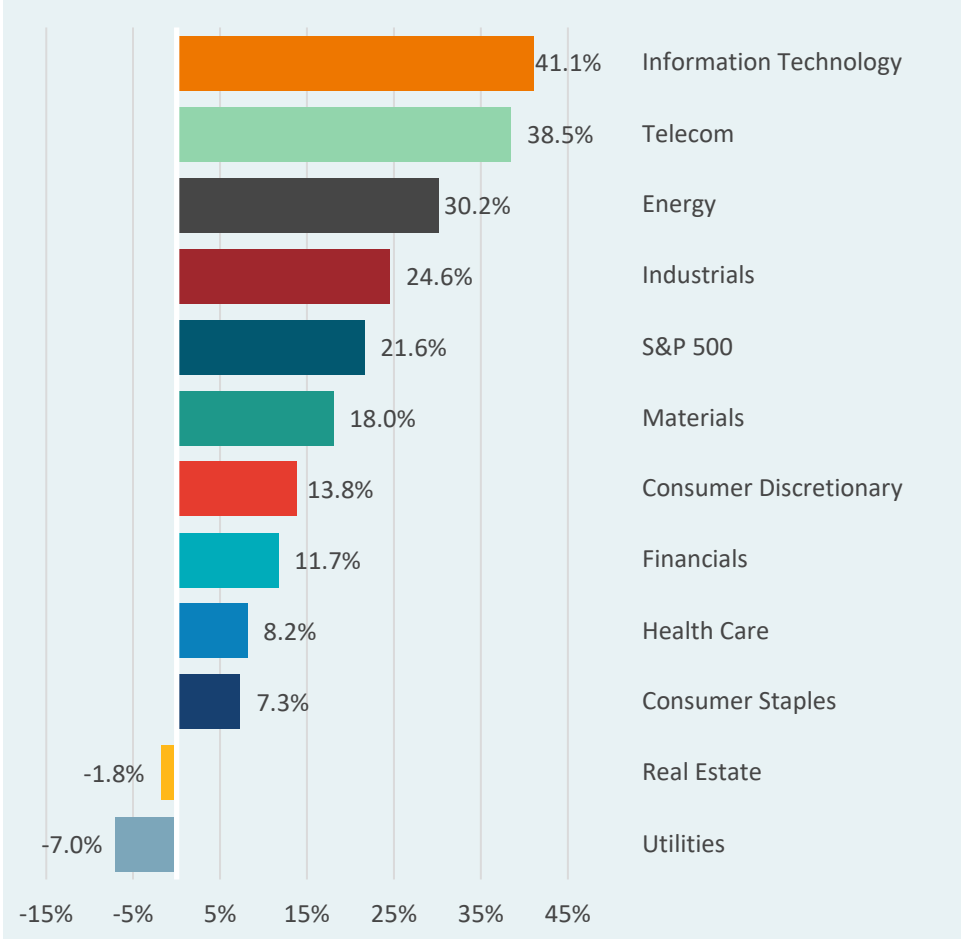
S&P 500 sector returns

QTD



Source: Morningstar, as of 9/30/23

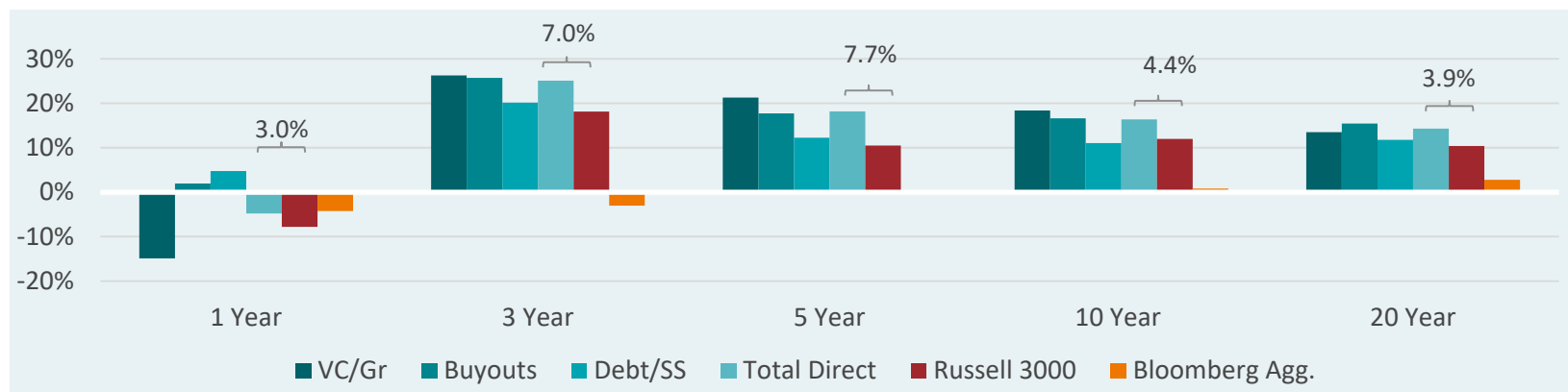
ONE YEAR ENDING AUGUST



Source: Morningstar, as of 9/30/23

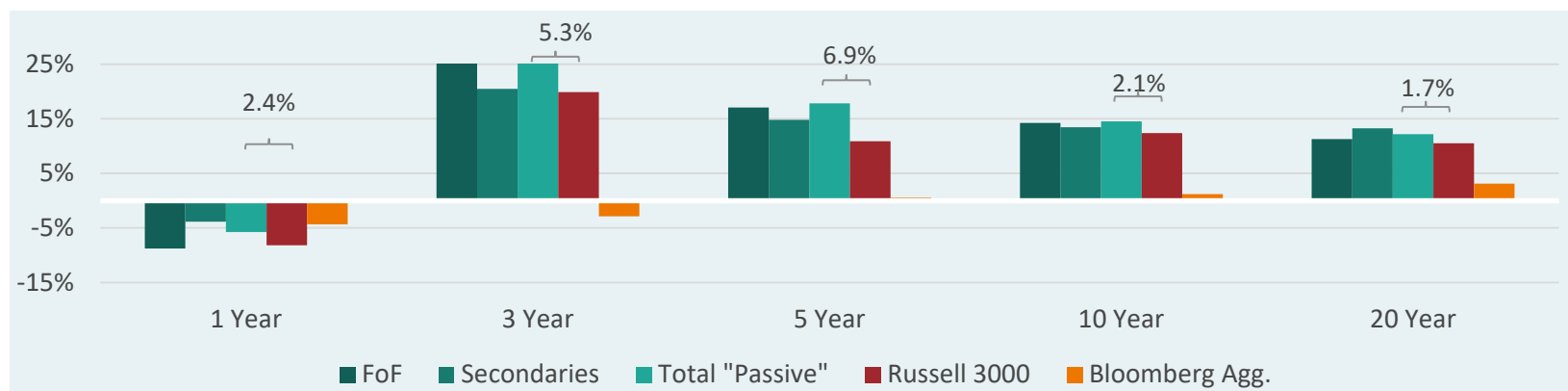
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed comparable public equities across all time periods.

“PASSIVE” STRATEGIES

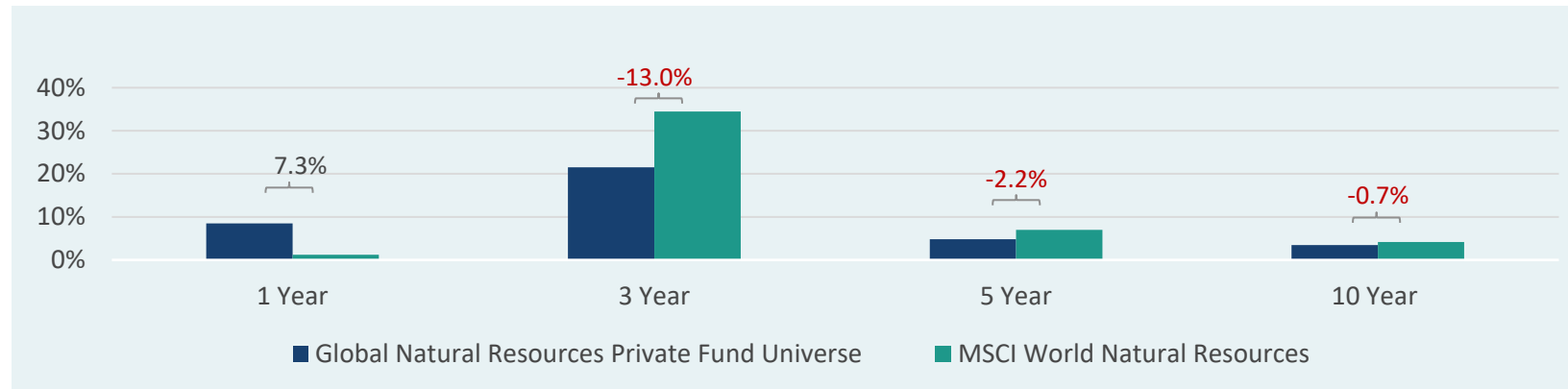


“Passive” strategies outperformed comparable public equities across all time periods.

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of March 31, 2023. Public Market Equivalent returns resulted from “Total Passive” and Total Direct’s identical cash flows invested into and distributed from respective traditional asset comparable.

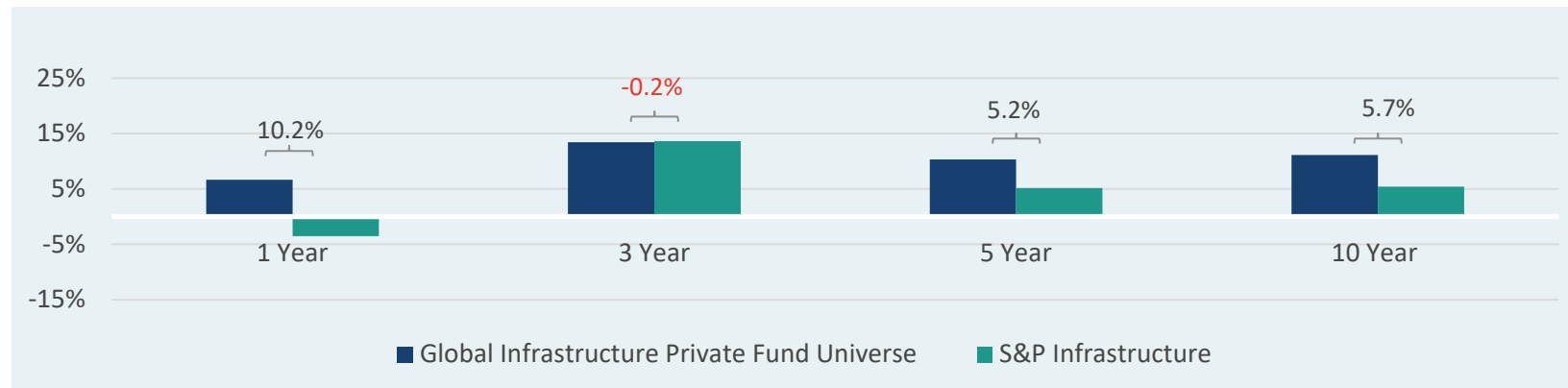
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds underperformed the MSCI World Natural Resources benchmark across all periods, aside the 1-year basis.

GLOBAL INFRASTRUCTURE FUNDS

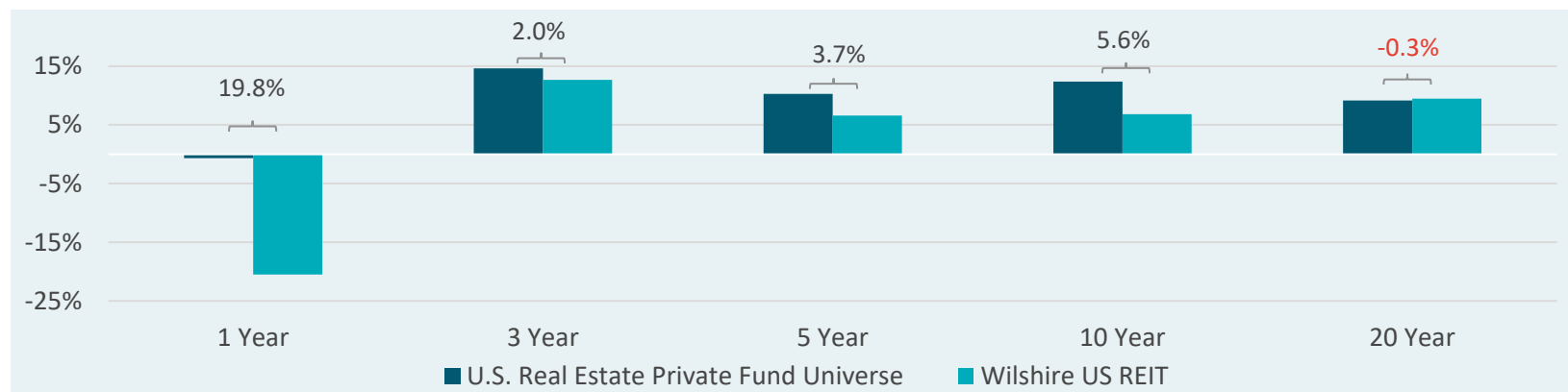


Infra. funds outperformed the S&P Infra. across all periods, aside the 3-year basis.

Sources: Refinitiv PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of March 31, 2023. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

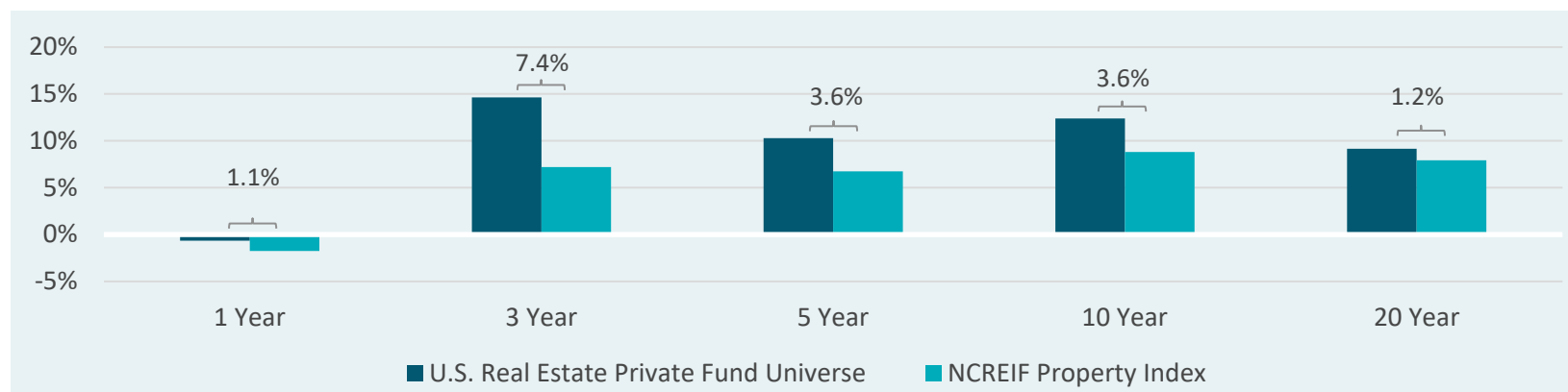
Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. Private R.E. funds have underperformed the Wilshire U.S. REIT Index over the past 20 years, but outperformed more recently

U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

Sources: Refinitiv PME: U.S. Real Estate universes as of March 31, 2023. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	(4.8)	(3.3)	13.1	21.6	10.2	9.9	11.9
S&P 500 Equal Weighted	(5.1)	(4.9)	1.8	13.6	11.4	8.0	10.2
DJ Industrial Average	(3.4)	(2.1)	2.7	19.2	8.6	7.1	10.8
Russell Top 200	(4.6)	(2.7)	16.3	23.9	10.0	10.8	12.6
Russell 1000	(4.7)	(3.1)	13.0	21.2	9.5	9.6	11.6
Russell 2000	(5.9)	(5.1)	2.5	8.9	7.2	2.4	6.6
Russell 3000	(4.8)	(3.3)	12.4	20.5	9.4	9.1	11.3
Russell Mid Cap	(5.0)	(4.7)	3.9	13.4	8.1	6.4	9.0
Style Index							
Russell 1000 Growth	(5.4)	(3.1)	25.0	27.7	8.0	12.4	14.5
Russell 1000 Value	(3.9)	(3.2)	1.8	14.4	11.1	6.2	8.4
Russell 2000 Growth	(6.6)	(7.3)	5.2	9.6	1.1	1.6	6.7
Russell 2000 Value	(5.2)	(3.0)	(0.5)	7.8	13.3	2.6	6.2

INTERNATIONAL EQUITY

Broad Index							
MSCI ACWI	(4.1)	(3.4)	10.1	20.8	6.9	6.5	7.6
MSCI ACWI ex US	(3.2)	(3.8)	5.3	20.4	3.7	2.6	3.3
MSCI EAFE	(3.4)	(4.1)	7.1	25.6	5.8	3.2	3.8
MSCI EM	(2.6)	(2.9)	1.8	11.7	(1.7)	0.6	2.1
MSCI EAFE Small Cap	(4.4)	(3.5)	1.8	17.9	1.1	0.8	4.3
Style Index							
MSCI EAFE Growth	(6.0)	(8.6)	4.3	20.0	0.4	3.2	4.4
MSCI EAFE Value	(0.8)	0.6	9.9	31.5	11.1	2.8	3.0
Regional Index							
MSCI UK	(0.8)	(1.5)	6.8	24.9	12.1	2.9	2.5
MSCI Japan	(2.1)	(1.6)	11.2	25.9	2.8	2.1	4.4
MSCI Euro	(5.4)	(7.5)	10.9	36.4	7.3	3.7	3.8
MSCI EM Asia	(2.6)	(2.9)	1.0	11.9	(3.5)	1.0	3.8
MSCI EM Latin American	(2.3)	(4.7)	12.9	19.4	15.1	2.8	0.2

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(1.8)	(2.6)	(0.8)	1.2	(2.0)	2.1	1.7
Bloomberg US Treasury Bills	0.4	1.3	3.6	4.6	1.7	1.7	1.1
Bloomberg US Agg Bond	(2.5)	(3.2)	(1.2)	0.6	(5.2)	0.1	1.1
Bloomberg US Universal	(2.4)	(2.9)	(0.6)	1.6	(4.7)	0.3	1.4
Duration							
Bloomberg US Treasury 1-3 Yr	(0.0)	0.7	1.7	2.4	(0.9)	1.0	0.8
Bloomberg US Treasury Long	(7.3)	(11.8)	(8.6)	(9.1)	(15.7)	(2.8)	0.8
Bloomberg US Treasury	(2.2)	(3.1)	(1.5)	(0.8)	(5.8)	(0.1)	0.6
Issuer							
Bloomberg US MBS	(3.2)	(4.1)	(2.3)	(0.2)	(5.1)	(0.8)	0.6
Bloomberg US Corp. High Yield	(1.2)	0.5	5.9	10.3	1.8	3.0	4.2
Bloomberg US Agency Interim	(0.3)	0.2	1.6	2.5	(2.0)	0.7	0.9
Bloomberg US Credit	(2.6)	(3.0)	0.0	3.5	(4.8)	0.9	2.1

OTHER

Index							
Bloomberg Commodity	(0.7)	4.7	(3.4)	(1.3)	16.2	6.1	(0.7)
Wilshire US REIT	(6.5)	(6.4)	(0.2)	3.9	5.7	2.9	6.0
CS Leveraged Loans	0.9	3.4	9.9	12.5	5.9	4.3	4.3
S&P Global Infrastructure	(4.7)	(7.3)	(3.7)	6.9	7.3	4.1	5.1
Alerian MLP	2.4	9.4	20.2	32.7	43.5	6.4	1.7
Regional Index							
JPM EMBI Global Div	(2.6)	(2.2)	1.8	10.0	(4.6)	(0.4)	2.5
JPM GBI-EM Global Div	(3.4)	(3.3)	4.3	13.1	(2.7)	(0.0)	(0.8)
Hedge Funds							
HFRI Composite	(0.2)	0.8	4.3	6.7	6.9	5.0	4.6
HFRI FOF Composite	(0.2)	0.7	3.0	4.8	3.8	3.4	3.3
Currency (Spot)							
Euro	(2.5)	(3.0)	(0.8)	8.1	(3.4)	(1.8)	(2.4)
Pound Sterling	(3.7)	(4.0)	1.5	9.3	(1.9)	(1.3)	(2.8)
Yen	(2.4)	(3.1)	(11.6)	(3.0)	(10.9)	(5.3)	(4.1)

Source: Morningstar, HFRI, as of 9/30/23.

Definitions

Bloomberg US Weekly Consumer Comfort Index - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.lanqerresearch.com)

University of Michigan Consumer Sentiment Index - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)

NFIB Small Business Outlook - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

NAHB Housing Market Index - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula $(\text{Good-Poor} + 100)/2$ to the present and future sales series and $(\text{High/Very High-Low/Very Low} + 100)/2$ to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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Kern County Employees' Retirement Association

Investment Performance Review

Period Ending: September 30, 2023



VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

Total Fund
Portfolio Reconciliation

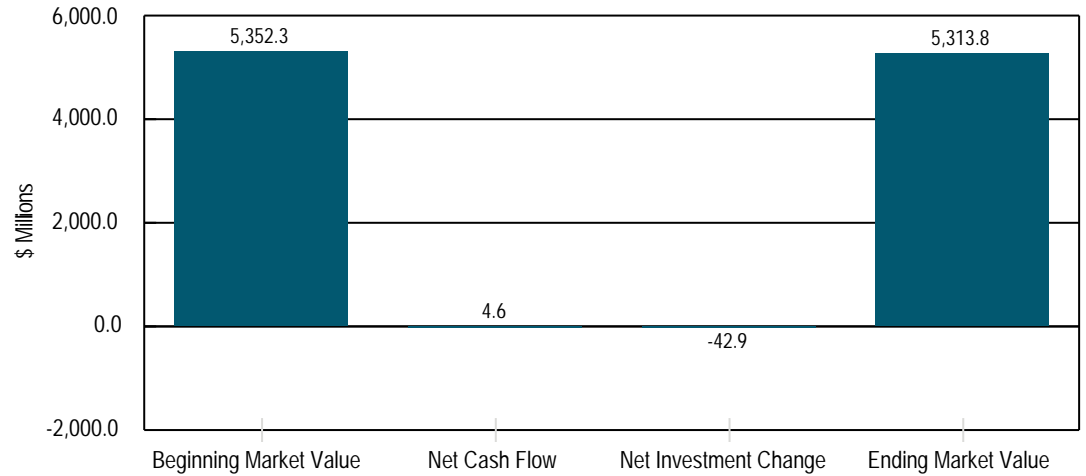
Kern County Employees' Retirement Association
Period Ending: September 30, 2023

Portfolio Reconciliation

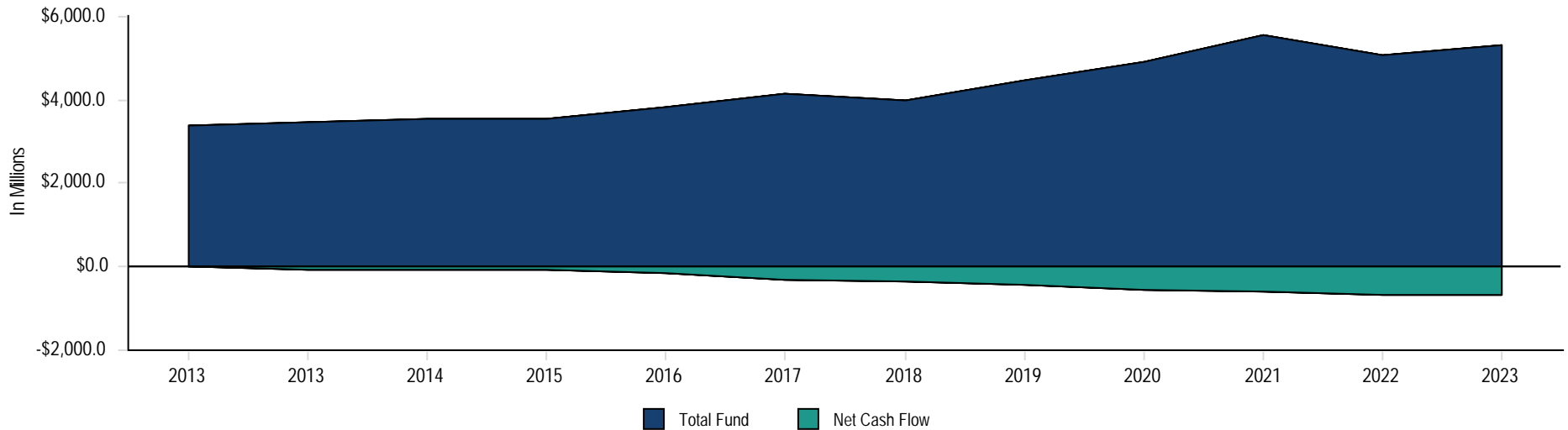
Last Three Months

Beginning Market Value	\$5,352,263,309
Net Cash Flows	\$4,561,995
Net Investment Change	-\$42,914,826
Ending Market Value	\$5,313,750,006

Change in Market Value
Last Three Months



Market Value History



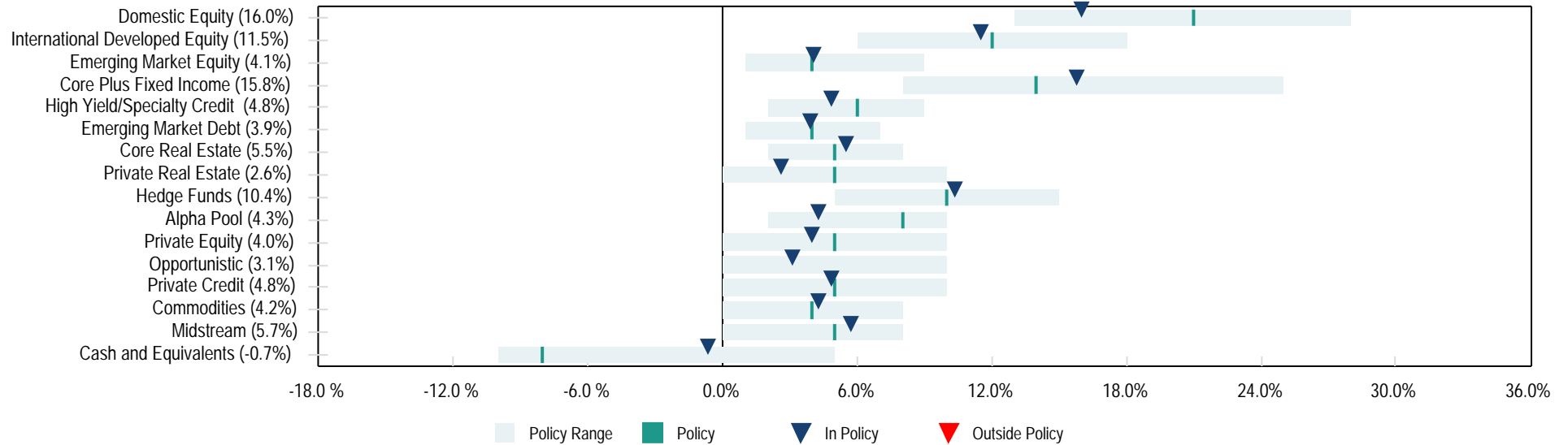
Total Fund

Asset Allocation vs. Policy

Kern County Employees' Retirement Association
 Period Ending: September 30, 2023

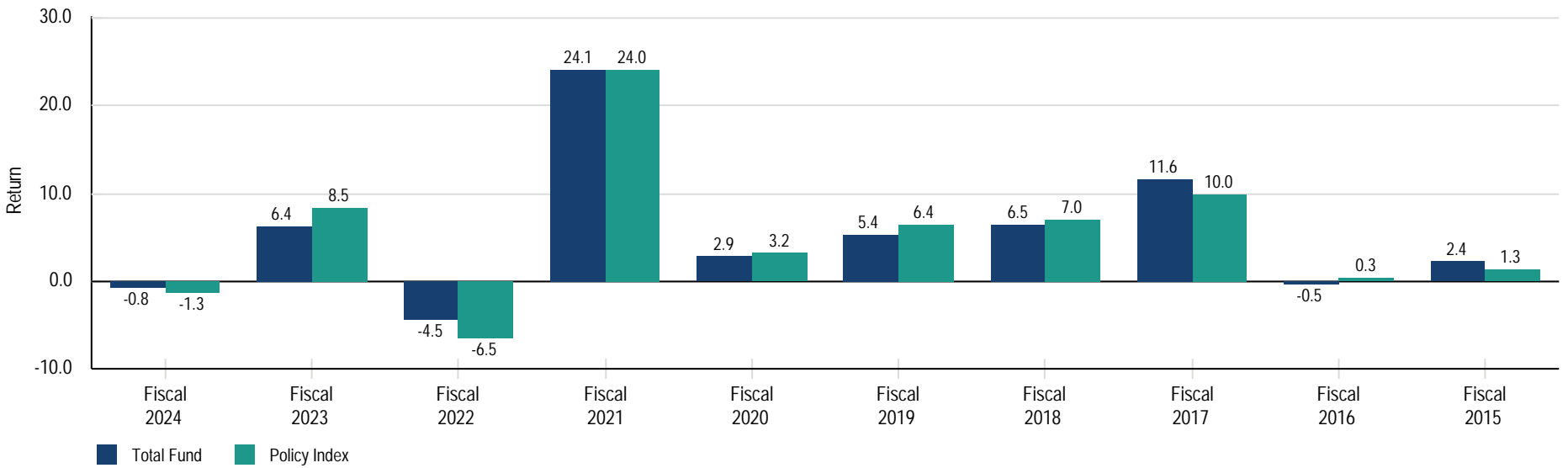
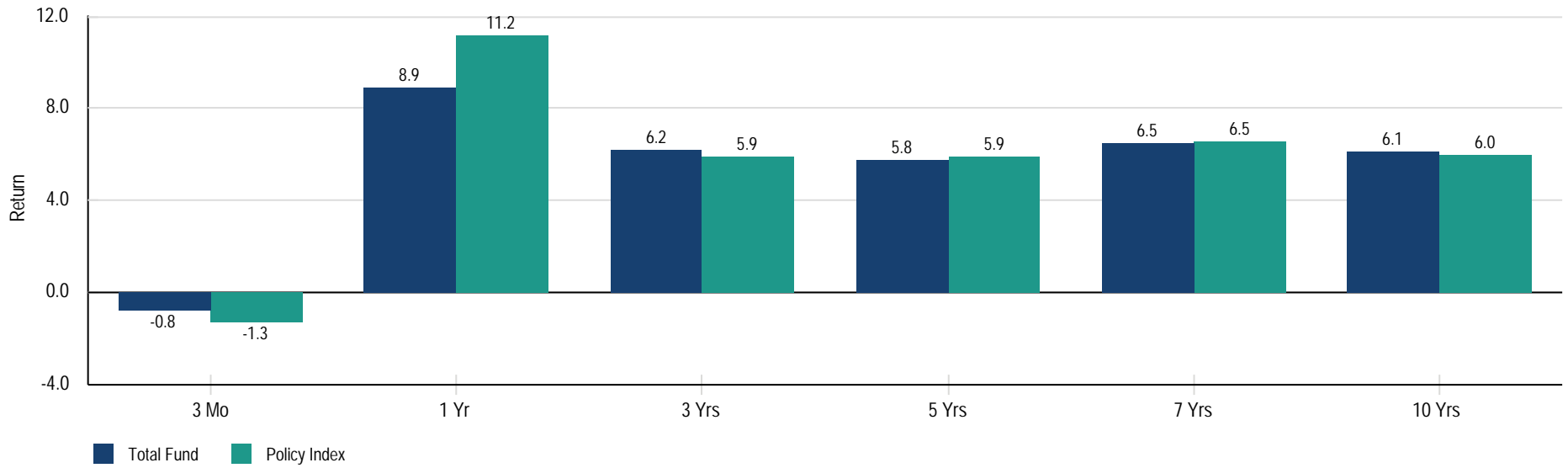
	Current Balance (\$)	Current Allocation (%)	Policy Allocation (%)	Excess Allocation (%)	Policy Range (%)	Within IPS Range?
Equity	1,676,406,460	31.5	37.0	-5.5	26.0 - 48.0	Yes
Fixed Income	1,303,214,455	24.5	24.0	0.5	14.0 - 34.0	Yes
Core Real Estate	291,668,466	5.5	5.0	0.5	2.0 - 8.0	Yes
Hedge Funds	551,764,758	10.4	10.0	0.4	5.0 - 15.0	Yes
Alpha Pool	226,723,166	4.3	8.0	-3.7	2.0 - 10.0	Yes
Private Equity	212,742,776	4.0	5.0	-1.0	0.0 - 10.0	Yes
Private Credit	255,875,161	4.8	5.0	-0.2	0.0 - 10.0	Yes
Private Real Estate	136,887,189	2.6	5.0	-2.4	0.0 - 10.0	Yes
Commodities	225,499,850	4.2	4.0	0.2	0.0 - 8.0	Yes
Opportunistic	165,626,876	3.1	0.0	3.1	0.0 - 10.0	Yes
Midstream	302,860,943	5.7	5.0	0.7	0.0 - 8.0	Yes
Cash and Equivalents	-35,520,094	-0.7	-8.0	7.3	-10.0 - 5.0	Yes
Total	5,313,750,006	100.0	100.0	0.0		

Executive Summary



Total Fund
Performance vs. Policy (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023



Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019
Total Fund	5,313,750,006	100.0	-0.7	-0.7	9.2	6.5	6.1	6.5	6.7	-4.2	24.4	3.2	5.7
<i>Policy Index</i>			-1.3	-1.3	11.2	5.9	5.9	6.0	8.5	-6.5	24.0	3.2	6.4
<i>InvMetrics Public DB > \$1B Rank</i>			11	11	72	37	33	52	75	32	88	20	63
Equity	1,676,406,460	31.5	-3.4	-3.4	20.2	7.8	6.5	8.4	15.9	-14.9	41.2	0.7	5.3
<i>MSCI AC World IMI (Net)</i>			-3.4	-3.4	20.2	6.9	6.1	7.4	16.1	-16.5	40.9	1.2	4.6
Domestic Equity	849,318,739	16.0	-3.5	-3.5	19.6	10.0	9.1	-	17.8	-12.0	43.6	6.3	9.2
<i>MSCI USA IMI</i>			-3.2	-3.2	20.7	9.6	9.3	-	19.2	-13.7	44.4	6.7	9.0
International Developed Equity	610,522,260	11.5	-4.0	-4.0	22.7	6.4	3.7	-	17.2	-17.2	37.0	-5.5	-0.6
<i>MSCI World ex U.S. IMI Index (Net)</i>			-4.0	-4.0	23.0	5.4	3.1	-	16.3	-17.7	34.8	-5.1	0.2
Emerging Markets Equity	216,564,575	4.1	-1.0	-1.0	16.8	1.8	0.4	-	5.3	-21.4	40.6	-10.9	0.4
<i>MSCI Emerging Markets IMI (Net)</i>			-2.1	-2.1	13.2	-0.3	1.3	-	3.2	-24.8	43.2	-4.0	0.5
Fixed Income	1,303,214,455	24.5	-2.4	-2.4	3.9	-3.2	1.1	2.0	3.1	-12.7	5.4	6.6	7.9
<i>Fixed Income Custom Benchmark</i>			-2.2	-2.2	3.6	-3.4	0.8	1.8	1.9	-11.6	4.0	5.2	8.4
Core Plus Fixed Income	839,456,132	15.8	-3.3	-3.3	0.2	-5.4	0.3	-	-0.9	-11.2	1.0	9.5	8.0
<i>Bloomberg U.S. Aggregate Index</i>			-3.2	-3.2	0.6	-5.2	0.1	-	-0.9	-10.3	-0.3	8.7	7.9
High Yield/ Specialty Credit	256,143,955	4.8	0.4	0.4	8.1	2.3	3.2	-	7.9	-9.5	13.6	0.0	7.5
<i>ICE BofA U.S. High Yield Index</i>			0.5	0.5	10.2	1.8	2.8	-	8.9	-12.7	15.6	-1.1	7.6
Emerging Market Debt	207,324,502	3.9	-2.3	-2.3	13.8	-2.0	0.4	-	11.7	-19.6	9.4	-1.2	8.5
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			-2.7	-2.7	11.6	-3.6	-0.1	-	9.4	-20.2	7.1	-1.1	10.8
Commodities	225,499,850	4.2	7.6	7.6	8.4	17.4	8.2	1.1	-6.3	20.1	43.5	-10.7	-6.2
<i>Bloomberg Commodity Index Total Return</i>			4.7	4.7	-1.3	16.2	6.1	-0.7	-9.6	24.3	45.6	-17.4	-6.8
Hedge Funds	551,764,758	10.4	2.0	2.0	7.9	7.8	7.6	6.3	7.5	2.8	16.3	7.3	2.6
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI IMI</i>			0.9	0.9	11.7	6.3	6.3	6.0	10.1	-0.9	12.3	5.1	6.6
Alpha Pool	226,723,166	4.3	0.3	0.3	-1.3	3.9	-	-	-0.9	1.5	14.5	-	-
<i>3 Month T-Bill +4%</i>			2.3	2.3	8.7	5.8	-	-	7.7	4.2	4.1	-	-
Midstream Energy	302,860,943	5.7	6.2	6.2	21.5	30.3	-	-	20.1	9.6	-	-	-
<i>Alerian Midstream Energy Index</i>			2.5	2.5	16.1	29.4	-	-	12.2	11.4	-	-	-
Core Real Estate	291,668,466	5.5	-3.5	-3.5	-15.5	4.4	4.0	-	-11.9	25.6	6.6	2.3	6.1
<i>NCREIF ODCE</i>			-1.9	-1.9	-12.1	7.1	5.7	-	-10.0	29.5	8.0	2.2	6.4
Private Real Estate	136,887,189	2.6	-1.6	-1.6	3.0	18.0	10.9	12.6	8.0	31.3	12.1	4.4	9.0
			-1.6	-1.6	3.0	18.0	10.9	12.6	8.0	31.3	12.1	4.4	9.0
Private Equity	212,742,776	4.0	3.1	3.1	6.4	16.8	10.8	11.2	-0.5	23.0	41.7	-10.5	10.9
			3.1	3.1	6.4	16.8	10.8	11.2	-0.5	23.0	41.7	-10.5	10.9
Private Credit	255,875,161	4.8	3.1	3.1	7.2	4.2	4.8	-	2.8	1.2	4.8	5.5	9.7
			3.1	3.1	7.2	4.2	4.8	-	2.8	1.2	4.8	5.5	9.7

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-Bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Total Fund
Executive Summary (Gross of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019
Opportunistic	165,626,876	3.1	-0.9	-0.9	2.9	11.6	-	-	0.6	-5.4	59.9	-	-
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-
Cash	-35,520,094	-0.7	0.5	0.5	2.7	0.9	1.0	1.5	2.3	-0.2	0.1	1.0	2.0
<i>3 Month T-Bill</i>			<i>1.3</i>	<i>1.3</i>	<i>4.5</i>	<i>1.7</i>	<i>1.7</i>	<i>1.1</i>	<i>3.6</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>

Performance and Attribution

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Inception	Inception Date
Total Fund	5,313,750,006	100.0	-0.8	-0.8	8.9	6.2	5.8	6.1	6.4	-4.5	24.1	2.9	5.4	6.2	Jun-11
<i>Policy Index</i>			-1.3	-1.3	11.2	5.9	5.9	6.0	8.5	-6.5	24.0	3.2	6.4	6.1	
Equity	1,676,406,460	31.5	-3.4	-3.4	20.0	7.6	6.1	8.0	15.7	-15.1	40.7	0.3	4.8	8.3	Jun-11
<i>MSCI AC World IMI (Net)</i>			-3.4	-3.4	20.2	6.9	6.1	7.4	16.1	-16.5	40.9	1.2	4.6	7.5	
Domestic Equity	849,318,739	16.0	-3.6	-3.6	19.3	9.8	8.9	-	17.6	-12.2	43.2	6.0	8.8	10.5	Jul-14
<i>MSCI USA IMI</i>			-3.2	-3.2	20.7	9.6	9.3	-	19.2	-13.7	44.4	6.7	9.0	10.4	
Equity Beta Exposure	85,644,900	1.6	-3.5	-3.5	21.0	9.7	-	-	19.2	-11.0	-	-	-	10.2	Aug-20
<i>S&P 500 Index</i>			-3.3	-3.3	21.6	10.2	-	-	19.6	-10.6	-	-	-	10.7	
Mellon DB SL Stock Index Fund	518,380,614	9.8	-3.3	-3.3	21.6	10.1	9.9	-	19.6	-10.6	40.8	7.5	10.4	11.0	Oct-17
<i>S&P 500 Index</i>			-3.3	-3.3	21.6	10.2	9.9	-	19.6	-10.6	40.8	7.5	10.4	11.0	
PIMCO StocksPLUS	112,716,197	2.1	-3.1	-3.1	21.8	9.1	9.4	11.8	18.8	-12.8	41.7	7.7	10.6	10.3	Jul-03
<i>S&P 500 Index</i>			-3.3	-3.3	21.6	10.2	9.9	11.9	19.6	-10.6	40.8	7.5	10.4	9.6	
AB US Small Cap Value Equity	82,918,002	1.6	-4.3	-4.3	5.2	13.5	2.0	-	4.3	-16.1	77.5	-19.4	-6.9	5.5	Jul-15
<i>Russell 2000 Value Index</i>			-3.0	-3.0	7.8	13.3	2.6	-	6.0	-16.3	73.3	-17.5	-6.2	5.8	
Geneva Capital Small Cap Growth	49,659,027	0.9	-6.2	-6.2	13.7	4.5	4.5	-	15.6	-22.1	37.6	9.3	8.6	9.0	Jul-15
<i>Russell 2000 Growth Index</i>			-7.3	-7.3	9.6	7.1	7.6	-	18.5	-33.4	51.4	3.5	-0.5	5.3	
International Developed Equity	610,522,260	11.5	-4.0	-4.0	22.6	6.3	3.5	-	17.1	-17.3	36.7	-5.7	-0.9	3.7	Jul-14
<i>MSCI World ex U.S. IMI Index (Net)</i>			-4.0	-4.0	23.0	5.4	3.1	-	16.3	-17.7	34.8	-5.1	0.2	3.0	
Mellon DB SL World ex-US Index Fund	505,255,789	9.5	-4.0	-4.0	24.5	7.1	4.2	-	17.9	-16.1	35.6	-5.5	-	4.0	Jul-18
<i>MSCI World ex U.S. IMI Index (Net)</i>			-4.0	-4.0	23.0	5.4	3.1	-	16.3	-17.7	34.8	-5.1	0.2	3.0	
Cevian Capital II	39,290,266	0.7	1.1	1.1	25.0	17.2	7.5	-	25.3	-8.2	46.8	-8.2	-5.0	7.4	Dec-14
<i>MSCI Europe (Net)</i>			-5.0	-5.0	28.8	7.2	4.0	-	21.8	-17.6	35.1	-6.8	1.9	4.2	
American Century Non-US Small Cap	65,976,206	1.2	-7.1	-7.1	8.7	-	-	-	7.9	-27.4	-	-	-	-6.1	Dec-20
<i>MSCI World ex U.S. Small Cap Growth Index (Net)</i>			-5.9	-5.9	13.0	-	-	-	9.5	-28.6	-	-	-	-6.6	
Emerging Markets Equity	216,564,575	4.1	-1.1	-1.1	16.2	1.1	-0.4	-	4.6	-21.9	39.5	-11.8	-0.6	0.8	Jul-14
<i>MSCI Emerging Markets IMI (Net)</i>			-2.1	-2.1	13.2	-0.3	1.3	-	3.2	-24.8	43.2	-4.0	0.5	1.7	
DFA Emerging Markets Value I	81,688,665	1.5	0.2	0.2	19.8	9.7	2.7	-	7.9	-12.9	47.6	-17.7	2.0	3.8	Mar-14
<i>MSCI Emerging Markets Value (Net)</i>			-0.8	-0.8	16.0	4.4	0.4	-	4.1	-18.6	41.6	-15.7	5.0	1.7	
AB Emerging Markets Strategic Core Equity Collective Trust	53,102,935	1.0	-0.1	-0.1	18.1	-2.2	-0.5	-	5.0	-25.2	33.6	-5.1	-2.6	2.2	Dec-16
<i>MSCI Emerging Markets (Net)</i>			-2.9	-2.9	17.7	-1.7	0.6	-	1.7	-25.3	40.9	-3.4	1.2	4.0	
Mellon Emerging Markets Stock Index Fund	81,772,975	1.5	-3.0	-3.0	11.6	-1.9	-	-	1.6	-25.5	41.1	-	-	1.0	Jun-20
<i>MSCI Emerging Markets (Net)</i>			-2.9	-2.9	11.7	-1.7	-	-	1.7	-25.3	40.9	-	-	3.4	
Fixed Income	1,303,214,455	24.5	-2.5	-2.5	3.7	-3.5	0.9	1.7	2.9	-13.0	5.1	6.3	7.6	2.8	Jun-10
<i>Fixed Income Custom Benchmark</i>			-2.2	-2.2	3.6	-3.4	0.8	1.8	1.9	-11.6	4.0	5.2	8.4	2.6	
Core Plus Fixed Income	839,456,132	15.8	-3.3	-3.3	0.1	-5.5	0.1	-	-1.0	-11.4	0.8	9.3	7.9	1.0	Jul-14
<i>Bloomberg U.S. Aggregate Index</i>			-3.2	-3.2	0.6	-5.2	0.1	-	-0.9	-10.3	-0.3	8.7	7.9	0.8	
Fixed Income Beta Exposure	406,910,741	7.7	-3.3	-3.3	-1.4	-	-	-	-2.5	-	-	-	-	-2.6	Jun-22
<i>Bloomberg U.S. Aggregate Index</i>			-3.2	-3.2	0.6	-	-	-	-0.9	-	-	-	-	-4.3	
Mellon DB SL Aggregate Bond Index Fund	155,840,026	2.9	-3.2	-3.2	0.7	-5.3	0.1	1.1	-0.9	-10.4	-0.4	8.8	7.9	1.6	Jan-11
<i>Bloomberg U.S. Aggregate Index</i>			-3.2	-3.2	0.6	-5.2	0.1	1.1	-0.9	-10.3	-0.3	8.7	7.9	1.7	

Policy Index: 3.7% MSCI ACWI IMI (Net), 1.4% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweight Private Equity Returns, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2Q 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Inception	Inception Date
PIMCO Core Plus	159,560,189	3.0	-3.1	-3.1	1.1	-4.6	0.2	1.3	-0.7	-9.9	1.1	8.7	6.3	1.9	Feb-11
<i>Bloomberg U.S. Aggregate Index</i>			-3.2	-3.2	0.6	-5.2	0.1	1.1	-0.9	-10.3	-0.3	8.7	7.9	1.7	
Western Asset Core Plus	117,145,176	2.2	-4.0	-4.0	1.5	-6.0	0.2	1.7	0.8	-14.5	2.4	9.3	9.4	3.4	Jun-04
<i>Bloomberg U.S. Aggregate Index</i>			-3.2	-3.2	0.6	-5.2	0.1	1.1	-0.9	-10.3	-0.3	8.7	7.9	2.9	
High Yield/ Specialty Credit	256,143,955	4.8	0.3	0.3	7.7	1.8	2.7	-	7.5	-10.0	13.1	-0.5	7.0	2.5	Jul-14
<i>ICE BofA U.S. High Yield Index</i>			0.5	0.5	10.2	1.8	2.8	-	8.9	-12.7	15.6	-1.1	7.6	3.5	
Western Asset High Yield Fixed Income	163,885,990	3.1	1.0	1.0	10.8	1.8	2.7	3.7	9.5	-14.1	16.5	-2.2	8.3	5.7	Jun-05
<i>Bloomberg US HY Ba/B 2% Cap TR</i>			0.2	0.2	9.8	1.3	3.3	4.3	8.9	-12.4	13.4	2.1	8.8	5.9	
TCW Securitized Opportunities	92,257,964	1.7	-1.0	-1.0	2.6	1.0	2.4	-	4.4	-4.0	6.4	2.2	5.2	3.1	Feb-16
<i>Bloomberg U.S. High Yield - 2% Issuer Cap</i>			0.5	0.5	10.3	1.8	2.9	-	9.1	-12.8	15.3	0.0	7.5	5.6	
Emerging Market Debt	207,324,502	3.9	-2.4	-2.4	13.3	-2.4	-0.1	-	11.2	-19.9	9.1	-1.7	7.9	0.0	Jul-14
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			-2.7	-2.7	11.6	-3.6	-0.1	-	9.4	-20.2	7.1	-1.1	10.8	0.2	
Stone Harbor Emerging Markets Debt Blend Portfolio	63,485,582	1.2	-1.7	-1.7	13.5	-2.6	0.2	0.2	10.8	-20.9	9.5	-1.8	8.2	-0.2	Aug-12
<i>50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx</i>			-2.5	-2.5	11.4	-3.3	0.1	1.0	9.2	-19.5	7.2	-0.8	10.6	0.7	
PIMCO EMD	143,838,920	2.7	-2.7	-2.7	13.3	-2.2	-	-	11.3	-19.2	8.7	-	-	-2.5	Feb-20
<i>50 JPM EMBI Global Div / 50 JPM GBI EM Global Div</i>			-2.7	-2.7	11.6	-3.6	-	-	9.4	-20.2	7.1	-	-	-3.9	
Commodities	225,499,850	4.2	7.4	7.4	7.7	16.6	7.5	0.5	-7.0	19.4	42.5	-11.3	-6.7	0.3	Jul-13
<i>Bloomberg Commodity Index Total Return</i>			4.7	4.7	-1.3	16.2	6.1	-0.7	-9.6	24.3	45.6	-17.4	-6.8	-0.5	
Gresham MTAP Commodity Builder Fund	50,660,377	1.0	5.0	5.0	-2.1	16.0	5.5	-	-11.5	24.7	46.8	-16.3	-9.0	-0.4	Oct-13
<i>Bloomberg Commodity Index Total Return</i>			4.7	4.7	-1.3	16.2	6.1	-0.7	-9.6	24.3	45.6	-17.4	-6.8	-0.6	
Wellington Commodities	174,839,473	3.3	8.0	8.0	11.5	16.7	8.8	1.2	-5.2	17.2	40.2	-7.5	-5.4	1.0	Sep-13
<i>S&P GSCI Commodity Equal Weighted</i>			5.2	5.2	6.5	15.9	7.6	0.9	-6.0	19.0	40.9	-12.4	-3.5	0.9	
Hedge Funds	551,764,758	10.4	1.9	1.9	7.2	7.5	7.3	5.8	6.8	2.8	16.1	7.0	2.5	5.9	Sep-10
<i>75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)</i>			0.9	0.9	11.8	6.4	6.3	6.0	10.2	-0.9	12.3	5.1	6.6	6.0	
Aristeia International Limited	72,368,832	1.4	2.1	2.1	5.3	7.7	8.6	-	5.5	1.8	21.6	8.7	9.2	5.4	May-14
Brevan Howard Fund	55,576,582	1.0	2.3	2.3	-3.6	6.9	10.7	7.3	-1.0	15.2	6.1	20.5	12.7	7.3	Sep-13
D.E. Shaw Composite Fund	63,964,747	1.2	4.4	4.4	11.9	19.6	17.7	14.9	11.0	29.0	19.0	15.6	11.5	14.4	Jul-13
HBK Fund II	46,665,480	0.9	3.6	3.6	10.1	7.2	6.4	-	7.9	2.3	11.0	1.5	5.5	4.7	Nov-13
Hudson Bay Cap Structure Arbitrage Enhanced Fund	82,491,514	1.6	1.1	1.1	5.3	8.7	-	-	7.7	7.7	14.2	16.2	-	10.9	Jun-19
Indus Pacific Opportunities Fund	45,773,642	0.9	-1.3	-1.3	-2.6	3.3	4.7	-	-0.4	-8.2	38.0	15.8	-19.2	6.4	Jul-14
Pharo Macro Fund	61,980,585	1.2	-1.6	-1.6	1.3	-3.5	-	-	1.2	-11.1	3.5	-	-	-1.5	Dec-19
PIMCO Commodity Alpha Fund	73,834,671	1.4	3.4	3.4	25.6	13.6	10.2	-	18.3	8.6	14.2	4.8	5.2	11.2	Jun-16
Sculptor Domestic Partners II LP	49,108,706	0.9	2.6	2.6	12.5	-0.7	-	-	8.8	-19.9	16.8	6.5	-	5.4	Feb-19
Alpha Pool	226,723,166	4.3	0.3	0.3	-1.3	3.9	-	-	-0.9	1.5	14.5	-	-	4.5	Jul-20
<i>3 Month T-Bill +4%</i>			2.3	2.3	8.7	5.8	-	-	7.7	4.2	4.1	-	-	5.6	
Hudson Bay	63,718,148	1.2	-0.9	-0.9	-4.6	4.5	-	-	-1.1	6.7	-	-	-	5.2	Aug-20
Davidson Kempner Institutional Partners	56,590,746	1.1	0.0	0.0	-3.7	-	-	-	-4.1	-3.4	-	-	-	0.2	Dec-20
HBK Fund II	44,877,280	0.8	1.5	1.5	-0.3	-	-	-	-1.0	1.3	-	-	-	2.4	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	61,536,992	1.2	1.0	1.0	4.1	-	-	-	3.6	-	-	-	-	4.9	Sep-21

Policy Index: 37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweight Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Inception	Inception Date
Midstream Energy	302,860,943	5.7	6.1	6.1	20.7	29.8	-	-	19.3	9.3	-	-	-	27.7	Sep-20
<i>Alerian Midstream Energy Index</i>			<i>2.5</i>	<i>2.5</i>	<i>16.1</i>	<i>29.4</i>	-	-	<i>12.2</i>	<i>11.4</i>	-	-	-	<i>23.9</i>	
Harvest Midstream	151,675,622	2.9	7.7	7.7	22.0	36.3	-	-	20.9	15.3	-	-	-	33.9	Aug-20
<i>Alerian Midstream Energy Index</i>			<i>2.5</i>	<i>2.5</i>	<i>16.1</i>	<i>29.4</i>	-	-	<i>12.2</i>	<i>11.4</i>	-	-	-	<i>23.2</i>	
PIMCO Midstream	151,185,321	2.8	4.4	4.4	19.4	-	-	-	16.9	2.2	-	-	-	22.1	Oct-20
<i>50/25/25 Alerian Midstream/ICE BofA US Pipeline/ICE BofA US HY Midstream</i>			<i>0.8</i>	<i>0.8</i>	<i>12.3</i>	-	-	-	<i>10.1</i>	<i>-0.7</i>	-	-	-	-	
Core Real Estate	291,668,466	5.5	-3.7	-3.7	-16.0	3.7	3.3	-	-12.3	24.8	5.6	1.4	5.9	5.9	Oct-14
<i>NCREIF ODCE</i>			<i>-1.9</i>	<i>-1.9</i>	<i>-12.1</i>	<i>7.1</i>	<i>5.7</i>	-	<i>-10.0</i>	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>7.7</i>	
ASB Allegiance Real Estate Fund	157,896,152	3.0	-3.9	-3.9	-18.5	2.6	2.8	6.0	-13.3	23.0	5.4	1.5	6.8	6.0	Sep-13
<i>NCREIF ODCE</i>			<i>-1.9</i>	<i>-1.9</i>	<i>-12.1</i>	<i>7.1</i>	<i>5.7</i>	<i>8.2</i>	<i>-10.0</i>	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>8.1</i>	
JPMCB Strategic Property Fund	133,772,313	2.5	-3.4	-3.4	-13.0	5.1	4.0	-	-11.4	27.9	5.9	1.3	5.0	6.3	Jul-14
<i>NCREIF ODCE</i>			<i>-1.9</i>	<i>-1.9</i>	<i>-12.1</i>	<i>7.1</i>	<i>5.7</i>	-	<i>-10.0</i>	<i>29.5</i>	<i>8.0</i>	<i>2.2</i>	<i>6.4</i>	<i>7.8</i>	
Private Real Estate	136,887,189	2.6	-1.6	-1.6	2.8	18.0	10.9	12.2	7.9	31.3	12.1	4.4	9.0	12.1	Mar-11
			<i>-1.6</i>	<i>-1.6</i>	<i>3.0</i>	<i>18.0</i>	<i>10.9</i>	<i>12.6</i>	<i>8.0</i>	<i>31.3</i>	<i>12.1</i>	<i>4.4</i>	<i>9.0</i>	<i>12.1</i>	
Private Equity	212,742,776	4.0	3.1	3.1	6.4	16.8	10.8	10.7	-0.5	22.9	41.7	-10.5	10.9	10.7	Sep-10
			<i>3.1</i>	<i>3.1</i>	<i>6.4</i>	<i>16.8</i>	<i>10.8</i>	<i>11.2</i>	<i>-0.5</i>	<i>23.0</i>	<i>41.7</i>	<i>-10.5</i>	<i>10.9</i>	<i>10.9</i>	
Private Credit	255,875,161	4.8	3.1	3.1	7.6	4.3	4.9	-	3.2	1.2	4.8	5.5	9.7	-22.3	Dec-15
			<i>3.1</i>	<i>3.1</i>	<i>7.2</i>	<i>4.2</i>	<i>4.8</i>	-	<i>2.8</i>	<i>1.2</i>	<i>4.8</i>	<i>5.5</i>	<i>9.7</i>	<i>7.1</i>	
Opportunistic	165,626,876	3.1	-0.9	-0.9	2.9	11.6	-	-	0.6	-5.4	59.9	-	-	9.0	Jan-20
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	
River Birch International	5,505,020	0.1	7.8	7.8	47.0	-	-	-	45.1	-	-	-	-	53.9	Jun-22
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>1.8</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	-	-	-	-	<i>7.2</i>	
DB Investors Fund IV	21,437,761	0.4	-8.4	-8.4	-5.1	-1.0	-	-	-8.3	-34.4	95.1	-	-	1.9	Dec-19
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	
Sixth Street TAO Partners (D)	93,502,490	1.8	3.5	3.5	13.5	16.0	-	-	4.4	9.6	39.6	-	-	15.5	Mar-20
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>1.8</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	<i>7.2</i>	<i>7.2</i>	-	-	<i>7.2</i>	
Aristeia Select Opportunities II	45,181,604	0.9	-6.6	-6.6	-14.6	-	-	-	-7.2	-	-	-	-	-4.2	Jul-21
<i>Assumed Rate of Return +3%</i>			<i>1.8</i>	<i>1.8</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	<i>7.2</i>	-	-	-	<i>7.2</i>	
Cash	-35,520,094	-0.7	0.5	0.5	2.6	0.8	1.0	1.5	2.2	-0.2	0.1	1.0	2.0	1.3	Apr-11
<i>3 Month T-Bill</i>			<i>1.3</i>	<i>1.3</i>	<i>4.5</i>	<i>1.7</i>	<i>1.7</i>	<i>1.1</i>	<i>3.6</i>	<i>0.2</i>	<i>0.1</i>	<i>1.6</i>	<i>2.3</i>	<i>0.9</i>	

Policy Index: 3.7% MSCI ACWI IMI (Net), 1.4% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill and actual weights and returns of private asset classes to nearest 1%. All data prior to 2011 has been provided by the investments managers. FY: 6/30. The Equity and Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.

Total Fund
Total Private Equity

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

IRR Analysis as of IRR date

Vintage Year	Manager/Fund	Estimated Market Value as of 9/30/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Equity												
2008	Abbott Capital PE VI	\$16,921,054	\$50,000,000	\$49,750,000	100%	\$250,000	\$79,095,564	\$17,231,430	1.59x	1.93x	12.8%	03/31/23
2006	Pantheon Global III	\$548,661	\$50,000,000	\$47,300,000	95%	\$2,700,000	\$52,000,000	\$553,189	1.10x	1.11x	1.9%	06/30/23
1998	Pantheon USA III	\$45,445	\$7,500,000	\$7,335,000	98%	\$165,000	\$8,197,500	\$45,445	1.12x	1.12x	1.9%	06/30/23
2002	Pantheon USA V	\$375,348	\$25,000,000	\$24,350,000	97%	\$650,000	\$37,950,000	\$383,462	1.56x	1.57x	9.0%	06/30/23
2004	Pantheon USA VI	\$330,050	\$35,000,000	\$33,075,000	95%	\$1,925,000	\$50,623,827	\$335,737	1.53x	1.54x	6.7%	06/30/23
2006	Pantheon USA VII	\$6,855,040	\$50,000,000	\$46,600,000	93%	\$3,400,000	\$80,624,998	\$6,907,588	1.73x	1.88x	10.1%	06/30/23
2020	Vista Foundation Fund IV	\$18,784,419	\$25,000,000	\$19,102,508	76%	\$5,897,492	\$30,252	\$18,058,075	0.00x	0.96x	28.2%	06/30/23
2021	Crown Global Secondaries V Master S.C.Sp	\$32,029,559	\$50,000,000	\$23,700,000	47%	\$26,300,000	\$1,550,000	\$28,568,244	0.07x	1.42x	27.8%	06/30/23
2021	Brighton Park Capital Fund I	\$36,863,716	\$30,000,000	\$28,783,190	96%	\$1,216,810	\$1,325,801	\$36,029,946	0.05x	1.33x	13.8%	06/30/23
2021	Warren Equity Partners Fund III	\$30,248,893	\$32,500,000	\$24,279,276	75%	\$8,220,724	\$508,290	\$29,397,592	0.02x	1.27x	15.4%	06/30/23
2021	Peak Rock Capital Fund III	\$13,544,451	\$30,000,000	\$12,295,016	41%	\$17,704,984	\$2,586,358	\$13,544,451	0.21x	1.31x	24.1%	09/30/23
2021	Level Equity Growth Partners V	\$6,864,460	\$15,000,000	\$6,715,768	45%	\$8,284,232	\$0	\$6,864,460	0.00x	1.02x	6.4%	09/30/23
2021	Level Equity Opportunities Fund 2021	\$5,898,520	\$15,000,000	\$5,529,385	37%	\$9,470,615	\$0	\$5,898,520	0.00x	1.07x	13.5%	09/30/23
2022	Linden Capital Partners V LP	\$12,638,351	\$22,500,000	\$12,011,178	53%	\$10,488,822	\$0	\$7,984,801	N/A	N/A	10.3%	06/30/23
2022	Rubicon Technology Partners IV LP	\$3,124,027	\$30,000,000	\$3,895,697	13%	\$26,104,303	\$0	\$3,214,080	N/A	N/A	-69.4%	12/31/22
2022	OrbiMed Private Investments IX, LP	\$1,129,757	\$10,000,000	\$1,200,000	12%	\$8,800,000	\$0	\$1,129,757	N/A	N/A	32.0%	09/30/23
2022	Brighton Park Capital Fund II	\$3,299,342	\$30,000,000	\$4,174,920	14%	\$25,825,080	\$0	\$3,071,866	N/A	N/A	-68.8%	06/30/23
2022	Linden Co-Investment V LP	\$4,159,884	\$7,500,000	\$7,499,177	100%	\$823	\$0	\$3,910,712	N/A	N/A	32.7%	06/30/23
2022	Warren Equity Partners Fund IV	\$11,784,379	\$32,500,000	\$7,612,883	23%	\$24,887,117	\$0	N/A	N/A	N/A	N/A	N/A
2023	WEP Co-Invest IV	\$7,297,419	\$10,000,000	\$7,470,589	75%	\$2,529,411	\$173,170	N/A	N/A	N/A	N/A	N/A
2022	Accel-KKR Capital Partners VII	\$0	\$25,000,000	\$0	0%	\$25,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	LGT Crown Global Secondaries Fund VI	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	Parthenon Investors VII	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A

Total Private Equity	\$212,742,776	\$642,500,000	\$372,679,588	58%	\$269,820,412	\$314,645,761	\$183,129,355	0.84x	1.42x
% of Portfolio (Market Value)	4.0%								

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Total Fund
Total Private Credit

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value 9/30/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib/ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Credit												
2015	DC Value Recovery Fund IV ⁴	\$18,893,391	\$74,360,749	\$73,340,099	99%	\$1,020,650	\$40,330,120	\$18,526,925	0.55x	0.81x	N/A	6/30/23
2017	Sixth Street TAO Partners (B)	\$41,877,567	\$108,035,958	\$84,519,175	78%	\$23,516,783	\$44,061,451	\$41,404,117	0.52x	1.02x	10.0%	6/30/23
2017	Brookfield Real Estate Finance Fund V	\$16,771,893	\$50,000,000	\$36,019,917	72%	\$13,980,083	\$27,359,025	\$16,752,621	0.76x	1.23x	6.8%	6/30/23
2018	Magnetar Constellation Fund V	\$26,896,537	\$60,000,000	\$56,445,318	94%	\$3,554,682	\$42,783,179	\$28,113,131	0.76x	1.23x	5.9%	6/30/23
2019	H.I.G Bayside Loan Opportunity Fund V	\$45,153,751	\$60,000,000	\$35,821,497	60%	\$24,178,503	\$13,437,805	\$43,519,452	0.38x	1.64x	19.0%	9/30/23
2020	Blue Torch Credit Opportunities Fund II	\$16,189,364	\$20,000,000	\$16,613,092	83%	\$3,386,908	\$4,252,640	\$16,313,371	0.26x	1.23x	13.9%	6/30/23
2020	Fortress Credit Opportunites Fund V Expansion	\$16,911,033	\$40,000,000	\$15,122,013	38%	\$24,877,987	\$468,590	\$15,507,751	0.03x	1.15x	21.2%	6/30/23
2021	Fortress Lending Fund II	\$28,165,127	\$40,000,000	\$33,337,851	83%	\$6,662,149	\$8,834,329	\$28,586,610	0.26x	1.11x	10.0%	6/30/23
2022	Blue Torch Credit Opportunities Fund III	\$5,094,132	\$40,000,000	\$7,199,891	18%	\$32,800,109	\$5,108,700	\$7,764,429	0.71x	1.42x	18.1%	6/30/23
2022	Fortress Lending Fund III	\$24,367,938	\$40,000,000	\$23,232,701	58%	\$16,767,299	\$2,948,334	\$23,889,989	0.13x	1.18x	11.8%	6/30/23
2022	OrbiMed Royalty & Credit Opportunities IV	\$5,262,466	\$30,000,000	\$5,983,980	20%	\$24,016,020	\$1,089,589	\$5,262,466	0.18x	1.06x	11.8%	9/30/23
2023	Cerberus Business Finance V	\$10,291,962	\$30,000,000	\$9,808,474	33%	\$20,191,526	\$0	\$10,291,962	0.00x	1.05x	13.6%	9/30/23
2023	Ares Senior Direct Lending III	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Ares Pathfinder II	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
2023	Silver Point – Specialty Credit Fund III	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	\$0	N/A	N/A	N/A	N/A
Total Private Credit		\$255,875,161	\$562,396,707	\$387,635,533	69%	\$174,761,174	\$190,673,783	\$255,912,824	0.49x	1.15x		
% of Portfolio (Market Value)		4.8%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

⁴Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

IRR Analysis as of IRR date												
Vintage Year	Manager/Fund	Estimated Market Value 9/30/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ³	IRR Date
Private Real Estate												
2014	Invesco Real Estate Value-Add Fund IV	\$930,593	\$50,000,000	\$43,637,717	87%	\$6,362,283	\$56,824,750	\$930,593	1.30x	1.32x	10.3%	09/30/23
2017	Landmark Real Estate Partners VIII	\$28,103,277	\$80,000,000	\$41,358,951	69%	\$18,641,049	\$25,196,880	\$31,583,306	0.61x	1.29x	17.0%	06/30/23
2018	Long Wharf Real Estate Partners VI	\$34,107,846	\$50,000,000	\$50,000,000	100%	\$0	\$24,281,467	\$34,107,846	0.49x	1.17x	17.9%	09/30/23
2020	Covenant Apartment Fund X	\$31,836,365	\$30,000,000	\$24,607,333	82%	\$5,392,667	\$6,567,324	\$31,836,365	0.27x	1.56x	17.6%	09/30/23
2021	Singerman Real Estate Opportunity Fund IV	\$12,316,089	\$35,000,000	\$10,946,250	31%	\$24,053,750	\$0	\$8,944,617	0.00x	1.13x	12.5%	06/30/23
2022	LBA Logistics Value Fund IX, L.P.	\$13,104,308	\$40,000,000	\$11,153,846	28%	\$28,846,154	\$0	\$10,287,850	0.00x	1.17x	-11.9%	06/30/23
2022	Covenant Apartment Fund XI	\$14,543,938	\$30,000,000	\$11,100,000	37%	\$38,076,924	\$3,112	N/A	N/A	N/A	N/A	N/A
2022	KSL Capital Partners VI	\$1,944,774	\$30,000,000	\$2,752,026	9%	\$27,247,974	\$64,806	N/A	N/A	N/A	N/A	N/A
2022	Landmark Real Estate Partners IX	\$0	\$40,000,000	\$0	0%	\$40,000,000	\$0	N/A	N/A	N/A	N/A	N/A
2023	Merit Hill V	\$0	\$30,000,000	\$0	0%	\$30,000,000	\$0	N/A	N/A	N/A	N/A	N/A
Total Private Real Estate		\$136,887,189	\$395,000,000	\$195,556,123	50%	\$218,620,801	\$112,938,339	\$117,690,577	0.58x	1.28x		
% of Portfolio (Market Value)		2.6%										

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

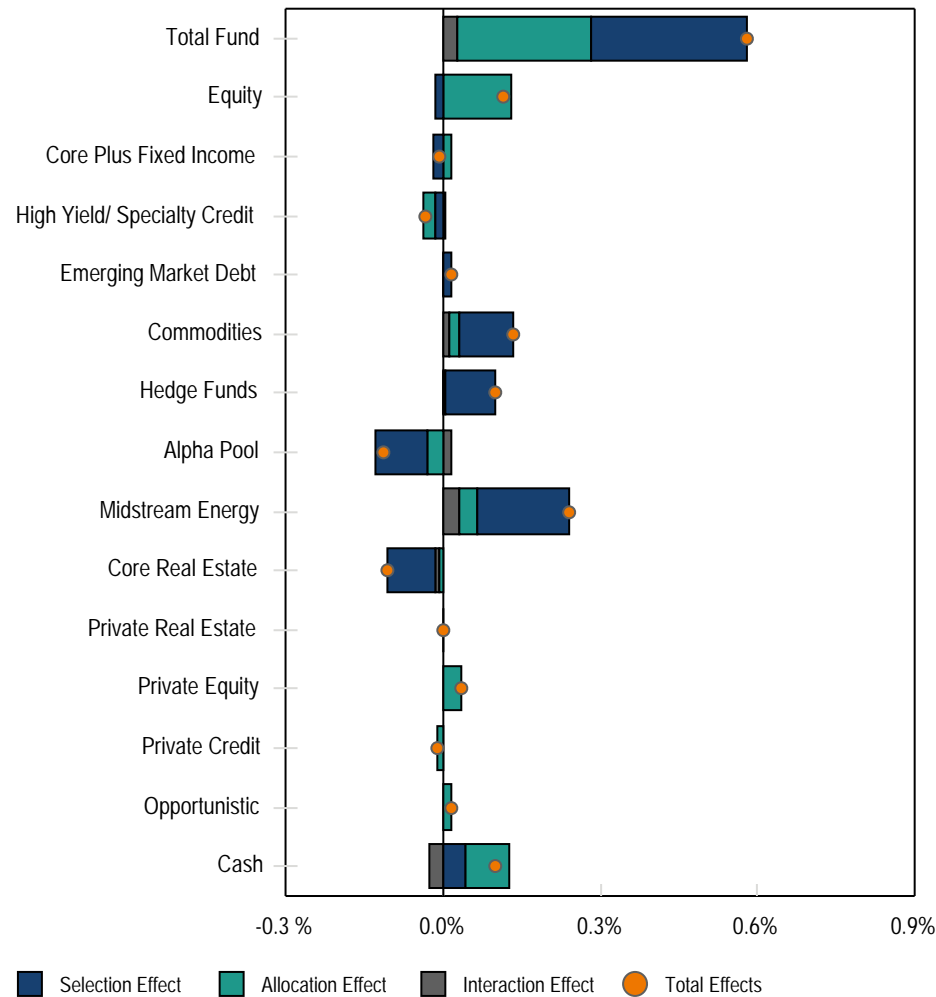
³Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

KSL Capital Partners VI funded in Q2

Total Fund Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

Attribution Effects
Last Three Months



Performance Attribution

	Last Three Months
Wtd. Actual Return	-0.8
Wtd. Index Return	-1.3
Excess Return	0.5
Selection Effect	0.3
Allocation Effect	0.2
Interaction Effect	0.0

Attribution Summary
Last Three Months

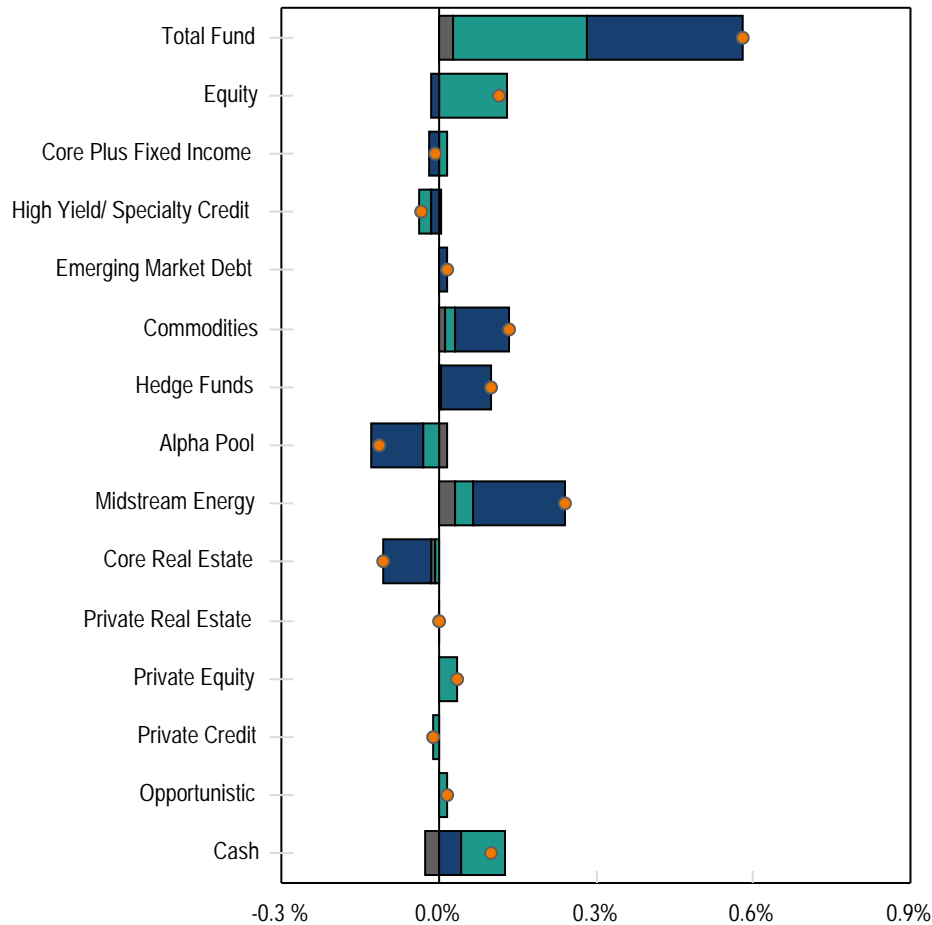
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	-3.4	-3.4	0.0	0.0	0.1	0.0	0.1
Core Plus Fixed Income	-3.3	-3.2	-0.1	0.0	0.0	0.0	0.0
High Yield/ Specialty Credit	0.3	0.5	-0.3	0.0	0.0	0.0	0.0
Emerging Market Debt	-2.4	-2.7	0.4	0.0	0.0	0.0	0.0
Commodities	7.4	4.7	2.6	0.1	0.0	0.0	0.1
Hedge Funds	1.9	0.9	1.0	0.1	0.0	0.0	0.1
Alpha Pool	0.3	2.3	-2.0	-0.1	0.0	0.0	-0.1
Midstream Energy	6.1	2.5	3.6	0.2	0.0	0.0	0.2
Core Real Estate	-3.7	-1.9	-1.8	-0.1	0.0	0.0	-0.1
Private Real Estate	-1.6	-1.6	0.0	0.0	0.0	0.0	0.0
Private Equity	3.1	3.1	0.0	0.0	0.0	0.0	0.0
Private Credit	3.1	3.1	0.0	0.0	0.0	0.0	0.0
Opportunistic	-0.9	1.8	-2.7	0.0	0.0	0.0	0.0
Cash	0.5	1.3	-0.8	0.0	0.1	0.0	0.1
Total Fund	-0.8	-1.3	0.5	0.3	0.2	0.0	0.5

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Total Fund
Attribution Analysis - Asset Class Level (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

Attribution Effects
Fiscal YTD



Performance Attribution

	Fiscal YTD
Wtd. Actual Return	-0.8
Wtd. Index Return	-1.3
Excess Return	0.5
Selection Effect	0.3
Allocation Effect	0.3
Interaction Effect	0.0

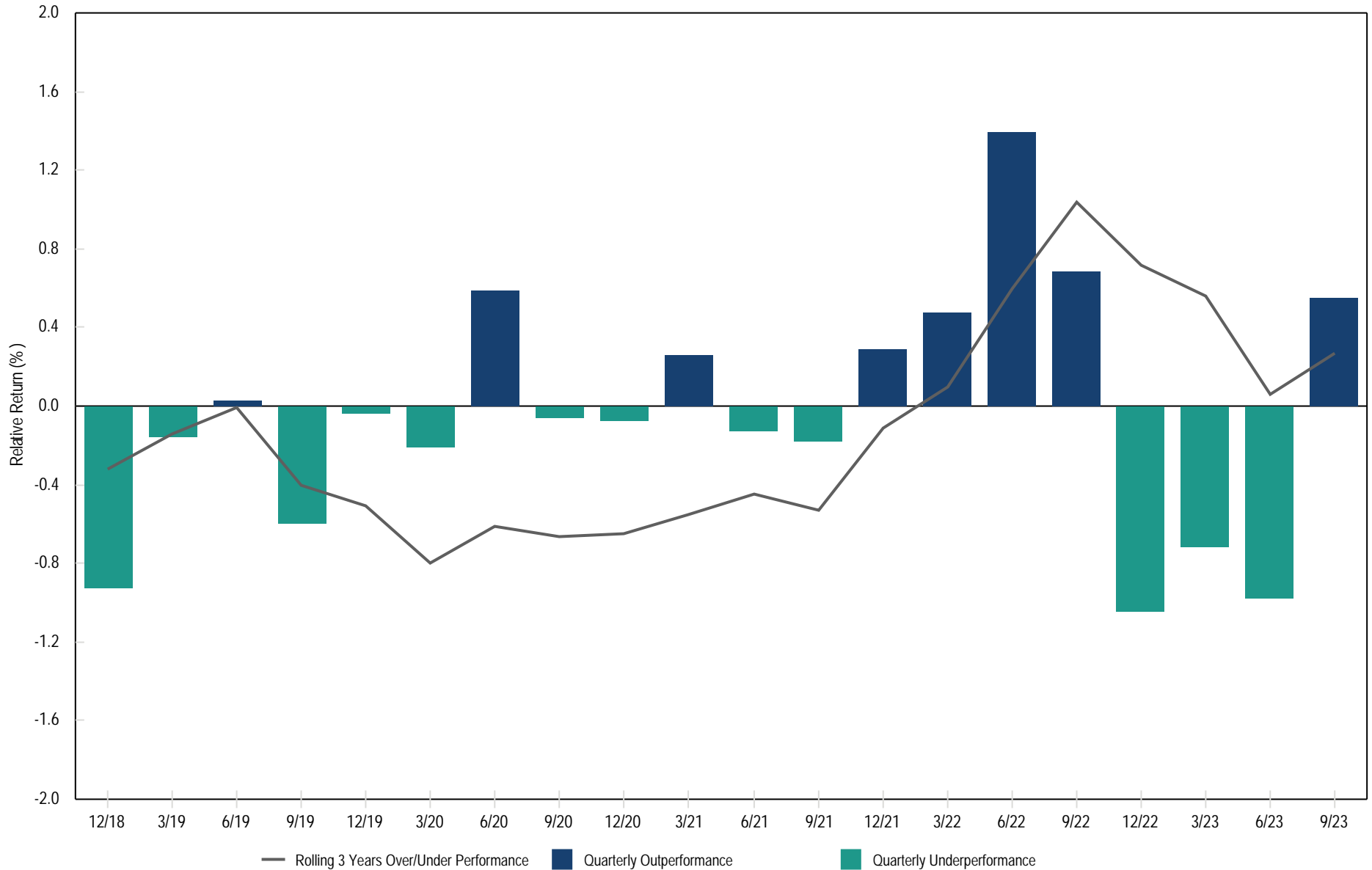
Attribution Summary
Fiscal YTD

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	-3.4	-3.4	0.0	0.0	0.1	0.0	0.1
Core Plus Fixed Income	-3.3	-3.2	-0.1	0.0	0.0	0.0	0.0
High Yield/ Specialty Credit	0.3	0.5	-0.3	0.0	0.0	0.0	0.0
Emerging Market Debt	-2.4	-2.7	0.4	0.0	0.0	0.0	0.0
Commodities	7.4	4.7	2.6	0.1	0.0	0.0	0.1
Hedge Funds	1.9	0.9	1.0	0.1	0.0	0.0	0.1
Alpha Pool	0.3	2.3	-2.0	-0.1	0.0	0.0	-0.1
Midstream Energy	6.1	2.5	3.6	0.2	0.0	0.0	0.2
Core Real Estate	-3.7	-1.9	-1.8	-0.1	0.0	0.0	-0.1
Private Real Estate	-1.6	-1.6	0.0	0.0	0.0	0.0	0.0
Private Equity	3.1	3.1	0.0	0.0	0.0	0.0	0.0
Private Credit	3.1	3.1	0.0	0.0	0.0	0.0	0.0
Opportunistic	-0.9	1.8	-2.7	0.0	0.0	0.0	0.0
Cash	0.5	1.3	-0.8	0.0	0.1	0.0	0.1
Total Fund	-0.8	-1.3	0.5	0.3	0.2	0.0	0.5

■ Selection Effect ■ Allocation Effect ■ Interaction Effect ● Total Effects

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

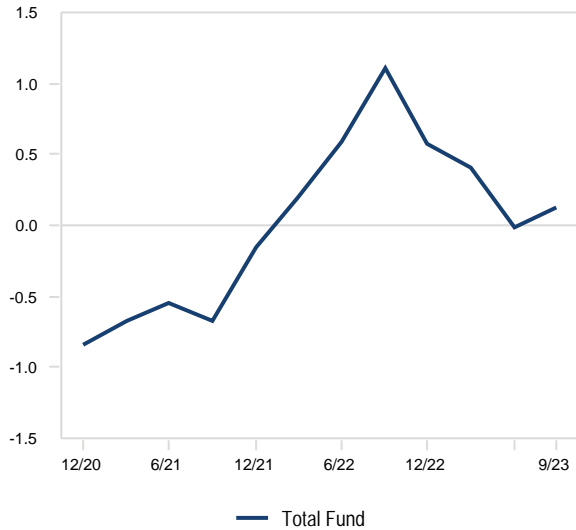
Rolling 3 Year Annualized Excess Performance



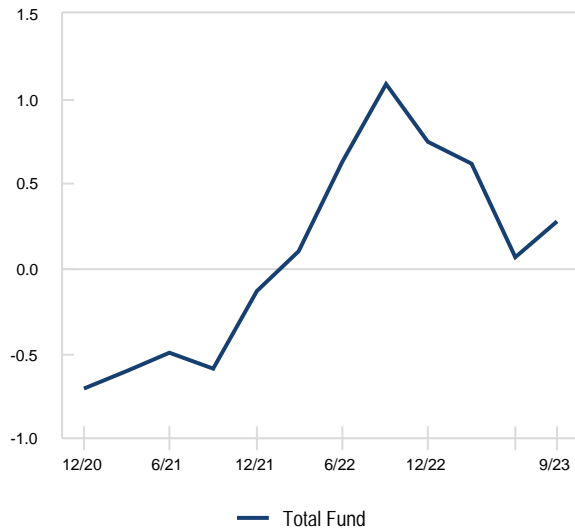
Total Fund
Rolling Risk Statistics: 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

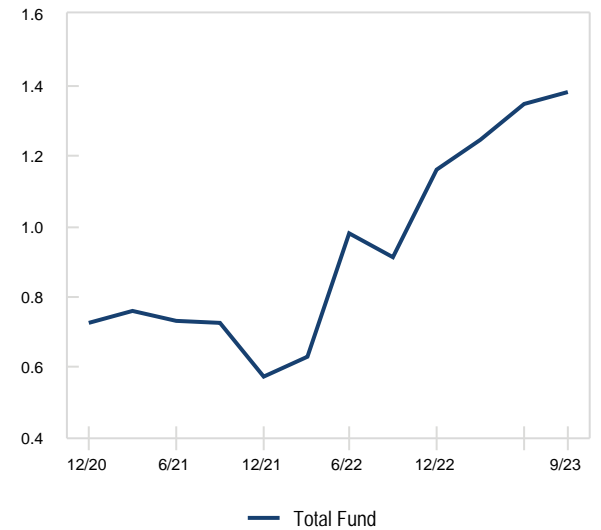
Rolling Information Ratio



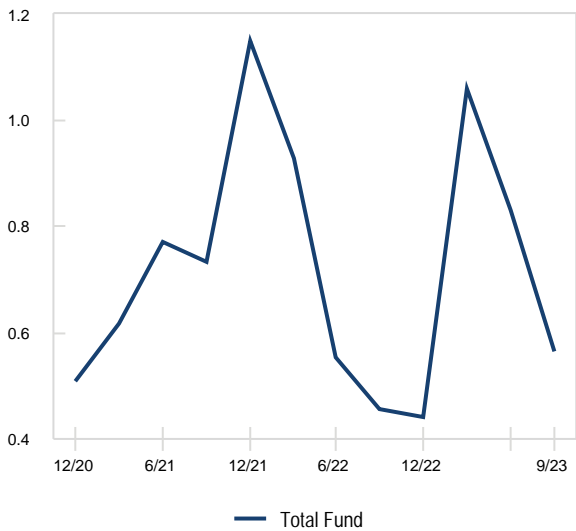
Rolling Annual Excess Benchmark Return



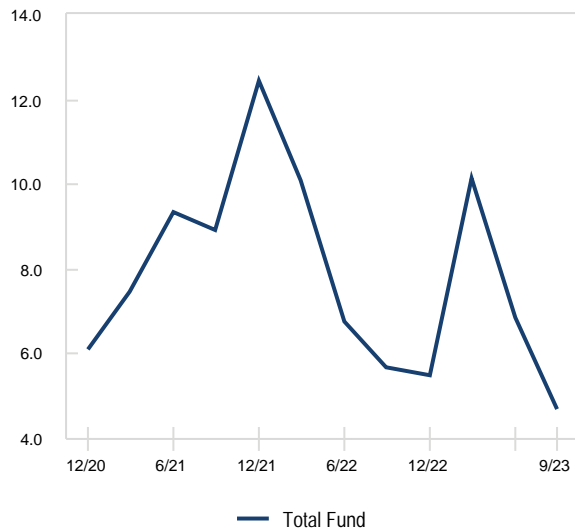
Rolling Tracking Error



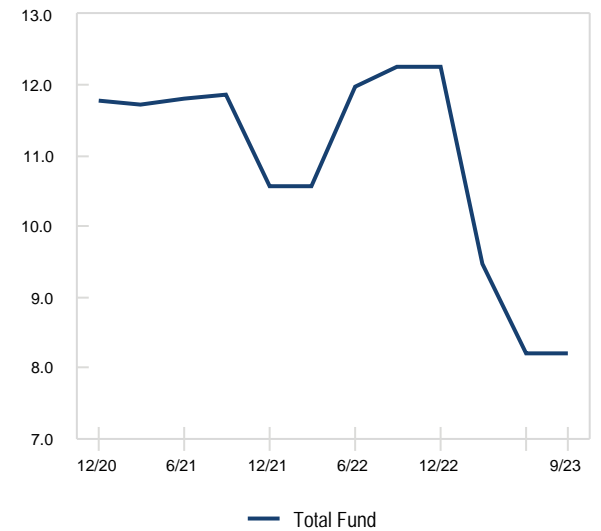
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



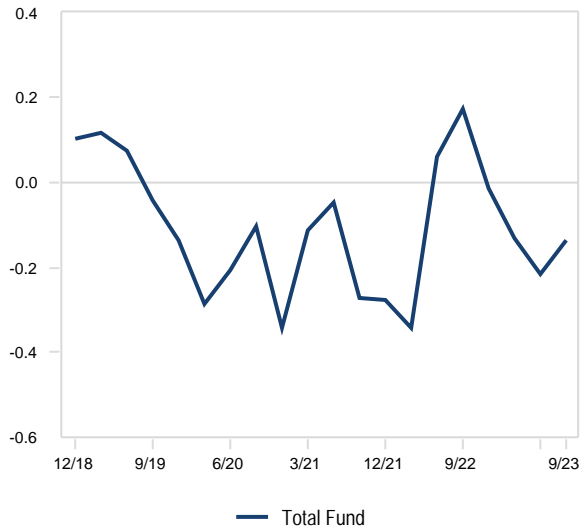
Rolling Annualized Standard Deviation



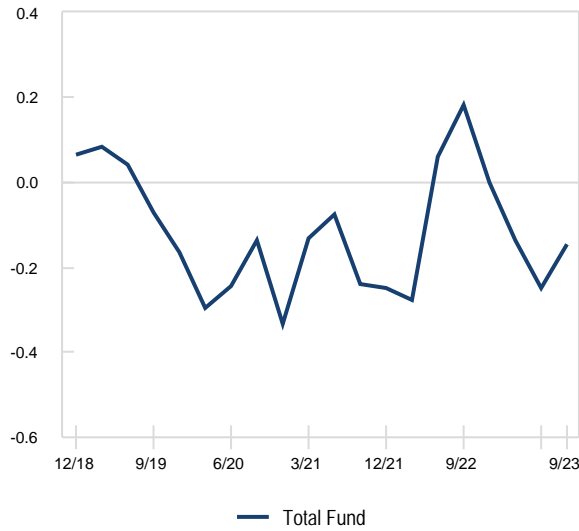
Total Fund
Rolling Risk Statistics: 5 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

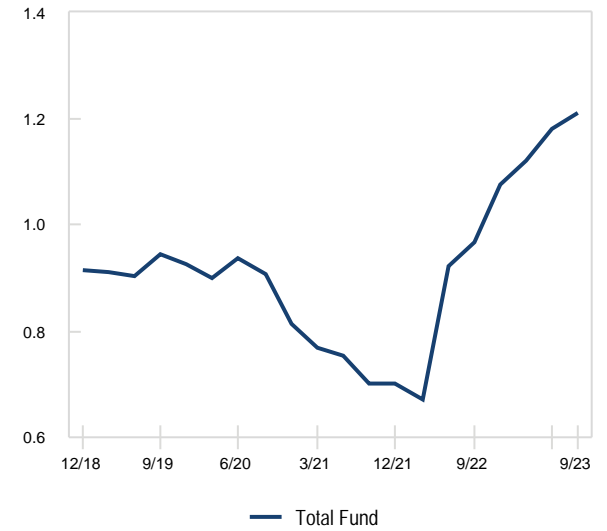
Rolling Information Ratio



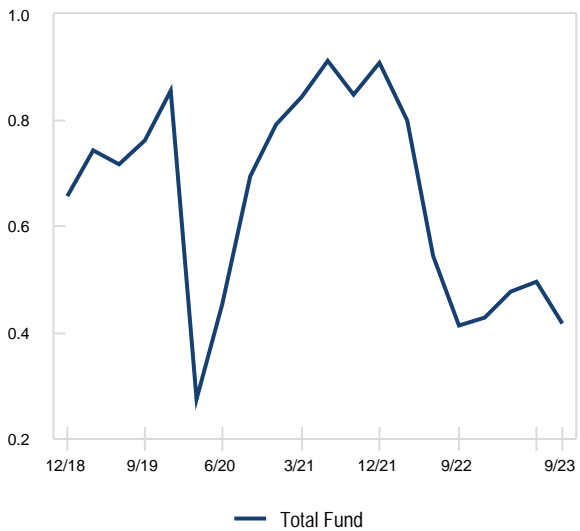
Rolling Annual Excess Benchmark Return



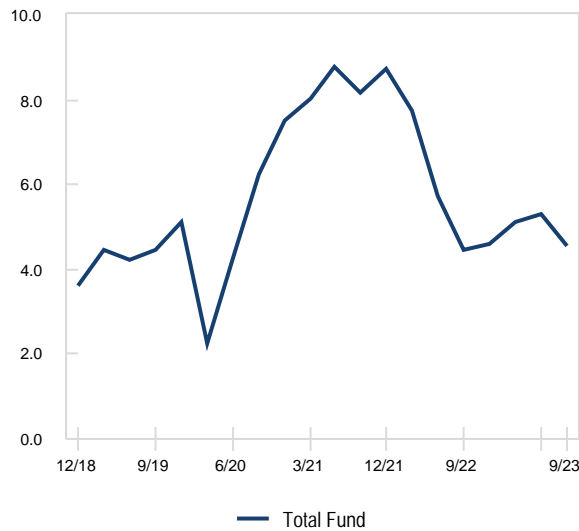
Rolling Tracking Error



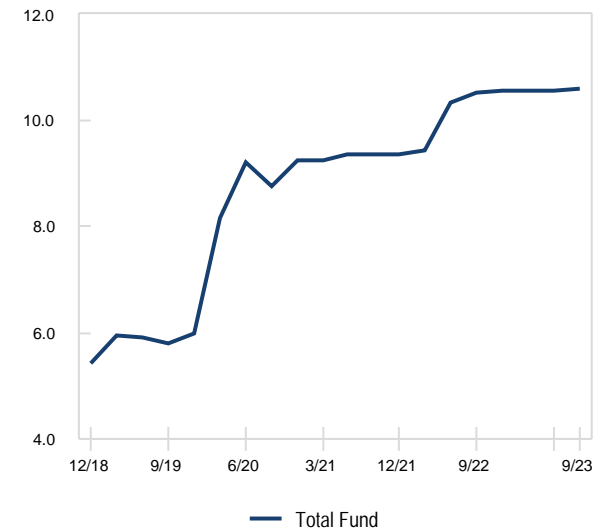
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Equity	1,735,774,667	971,631	-570,566	-95,177	-523,500	-59,150,595	1,676,406,460
Equity Beta Exposure	88,867,350	971,631	-570,281		-523,500	-3,100,300	85,644,900
Mellon DB SL Stock Index Fund	535,890,546					-17,509,932	518,380,614
PIMCO StocksPLUS	116,372,909					-3,656,713	112,716,197
AB US Small Cap Value Equity	86,479,259		-89			-3,561,169	82,918,002
Geneva Capital Small Cap Growth	52,889,523		-196	-95,177		-3,135,123	49,659,027
Mellon DB SL World ex-US Index Fund	526,402,690					-21,146,901	505,255,789
Cevian Capital II	38,875,436					414,830	39,290,266
American Century Non-US Small Cap	70,988,728					-5,012,522	65,976,206
DFA Emerging Markets Value I	81,560,166					128,499	81,688,665
AB Emerging Markets Strategic Core Equity Collective Trust	53,147,634					-44,699	53,102,935
Mellon Emerging Markets Stock Index Fund	84,299,588					-2,526,612	81,772,975
Transition Equity	837					49	886
Fixed Income	1,340,709,034	6,577,057	-535,307	-38,809	-10,437,800	-33,059,720	1,303,214,455
Fixed Income Beta Exposure	418,880,253	6,577,024	-535,107		-4,036,800	-13,974,629	406,910,741
Mellon DB SL Aggregate Bond Index Fund	161,044,998					-5,204,973	155,840,026
PIMCO Core Plus	164,488,299					-4,928,110	159,560,189
Western Asset Core Plus	121,905,098					-4,759,922	117,145,176
Western Asset High Yield Fixed Income	165,365,884		-200		-3,135,880	1,656,186	163,885,990
TCW Securitized Opportunities	95,423,493			-38,809	-2,238,615	-888,105	92,257,964
Stone Harbor Emerging Markets Debt Blend Portfolio	65,594,366				-1,021,731	-1,087,053	63,485,582
PIMCO EMD	147,704,166					-3,865,246	143,838,920
Transition Fixed Income	302,477	33			-4,774	-7,869	289,867
Commodities	228,214,624				-20,000,000	17,285,226	225,499,850
Gresham MTAP Commodity Builder Fund	48,242,779					2,417,598	50,660,377
Wellington Commodities	179,971,845				-20,000,000	14,867,628	174,839,473
Hedge Funds	541,710,718	63,064			-63,064	10,054,040	551,764,758
Aristeia International Limited	70,900,266					1,468,566	72,368,832
Brevan Howard Fund	54,344,819	63,064			-63,064	1,231,763	55,576,582
D.E. Shaw Composite Fund	61,264,742					2,700,005	63,964,747
HBK Fund II	45,043,642					1,621,838	46,665,480
Hudson Bay Cap Structure Arbitrage Enhanced Fund	81,574,491					917,023	82,491,514
Indus Pacific Opportunities Fund	46,377,701					-604,059	45,773,642

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Pharo Macro Fund	62,959,707					-979,122	61,980,585
PIMCO Commodity Alpha Fund	71,393,658					2,441,013	73,834,671
Sculptor Domestic Partners II LP	47,851,693					1,257,013	49,108,706
Alpha Pool	221,475,636				4,560,300	687,229	226,723,166
Hudson Bay	63,009,820				1,289,489	-581,161	63,718,148
Davidson Kempner Institutional Partners	55,433,498				1,131,837	25,411	56,590,746
HBK Fund II	43,317,590				901,209	658,481	44,877,280
Garda Fixed Income Relative Value Opportunity Fund	59,714,728				1,237,765	584,498	61,536,992
Midstream Energy	308,467,836				-24,783,634	19,176,741	302,860,943
Harvest Midstream	156,842,353				-17,531,655	12,364,924	151,675,622
PIMCO Midstream	151,625,483				-7,251,979	6,811,817	151,185,321
Core Real Estate	305,434,791		-302,126		-2,732,607	-10,731,592	291,668,466
ASB Allegiance Real Estate Fund	165,428,514				-1,094,178	-6,438,183	157,896,152
JPMCB Strategic Property Fund	140,006,277		-302,126		-1,638,429	-4,293,409	133,772,313
Private Real Estate	132,005,447				9,948,651	-5,066,910	136,887,189
Invesco Real Estate Value-Add Fund IV	945,682					-15,089	930,593
Landmark Real Estate Partners VIII	31,583,306				-1,216,100	-2,263,929	28,103,277
Long Wharf Real Estate	34,525,266				-792,864	375,444	34,107,846
Covenant Apartment Fund X	33,947,463				413,657	-2,524,755	31,836,365
Singerman Real Estate Opportunity Fund IV	8,944,617				2,931,250	440,222	12,316,089
LBA Logistics Value Fund IX, L.P.	10,287,850				3,076,923	-260,466	13,104,308
Covenant Apartment Fund XI, LP	9,819,829				4,800,000	-75,891	14,543,938
KSL Capital Partners VI	1,951,434				735,786	-742,446	1,944,774
Private Equity	187,538,440				19,306,347	5,897,989	212,742,776
Abbott VI	17,490,181				-1,000,000	430,873	16,921,054
Pantheon Secondary III	553,189					-4,528	548,661
Pantheon III	45,445						45,445
Pantheon V	383,462					-8,114	375,348
Pantheon VI	335,737					-5,687	330,050
Pantheon VII	6,907,588				-199,999	147,451	6,855,040
Vista Foundation Fund IV	18,058,075				348,937	377,407	18,784,419

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Crown Global Secondaries V Master S.C.Sp	28,568,244				2,450,000	1,011,315	32,029,559
Brighton Park Capital Fund I	36,029,946				361,249	472,521	36,863,716
Warren Equity Partners Fund III	29,397,592					851,301	30,248,893
Peak Rock Capital Fund III	11,921,302				430,532	1,192,617	13,544,451
Level Equity Growth Partners V	6,697,065					167,395	6,864,460
Level Equity Opportunities Fund 2021	5,529,388					369,132	5,898,520
Linden Capital Partners V LP	7,984,801				4,125,395	528,156	12,638,351
Rubicon Technology Partners IV L.P.	3,277,938					-153,911	3,124,027
OrbiMed Private Investments IX, LP	320,186				700,000	109,571	1,129,757
Brighton Park Capital Fund II, L.P.	3,071,866					227,476	3,299,342
Linden Co-Investment V LP	3,910,712					249,172	4,159,884
Warren Equity Partners Fund IV	7,055,723				4,792,814	-64,158	11,784,379
WEP IV TS Co-Investment, L.P.					7,297,419		7,297,419
Private Credit	246,629,415				1,616,232	7,629,514	255,875,161
DC Value Recovery Fund IV	18,526,925					366,466	18,893,391
Sixth Street TAO Partners (B)	41,404,117				-781,879	1,255,329	41,877,567
Brookfield Real Estate Finance Fund V	16,752,621					19,272	16,771,893
Magnetar Constellation Fund V	28,113,131				-1,199,650	-16,944	26,896,537
H.I.G. Bayside Loan Opportunity Fund V	43,519,452				-651,218	2,285,517	45,153,751
Blue Torch Credit Opportunities Fund II	16,313,371				-600,000	475,993	16,189,364
Fortress Credit Opportunites Fund V Expansion	15,507,751				1,153,303	249,979	16,911,033
Fortress Lending Fund II	28,566,610				-1,709,403	1,307,920	28,165,127
Blue Torch Credit Opportunities Fund III	7,764,429				-3,024,772	354,475	5,094,132
Fortress Lending Fund III	23,889,989				-772,522	1,250,471	24,367,938
OrbiMed Royalty & Credit Opportunities IV	6,271,019				-1,089,589	81,036	5,262,466
Cerberus Business Finance V					10,291,962		10,291,962
Opportunistic	167,584,245				-403,929	-1,553,441	165,626,876
DB Investors Fund IV	23,394,069					-1,956,308	21,437,761
Sixth Street TAO Partners (D)	90,733,476				-403,929	3,172,943	93,502,490
Aristeia Select Opportunities II	48,350,031					-3,168,426	45,181,604
River Birch International - Opportunistic Investment	5,106,669					398,351	5,505,020

Total Fund
Net Cash Flow: Last 1 Quarter

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Cash	-63,281,544	141,860,831	-143,502,589	-26,486	23,513,003	5,916,691	-35,520,094
Short Term Investment Funds	182,318,015	1,260	-16,194,233	-26,486	-26,486,997	2,130,785	141,742,344
Parametric Cash Overlay	79,367,664	47,442,615	-69,927,449				56,882,831
Goldman Sachs Cash Account	2,432,554	59,008,427	-49,832,252				11,608,728
Futures Offset	-507,747,603	21,648,529	-7,548,655			1,092,088	-492,555,641
Collateral Cash		13,760,000					13,760,000
BlackRock Short Duration Fund	180,347,826				50,000,000	2,693,818	233,041,644

Total Fund
Cash Flow History

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	5,352,263,309	5,352,263,309	4,901,023,930	4,580,444,416	4,263,323,052	3,394,442,211
Contributions	323,669,196	323,669,196	1,873,624,881	9,838,878,329	12,916,660,282	18,769,640,184
Withdrawals	-319,107,201	-319,107,201	-1,908,636,535	-10,041,362,472	-13,255,829,976	-19,463,651,328
Fees	-160,472	-160,472	-766,348	-29,889,531	-57,108,168	-126,954,706
Net Cash Flows	4,561,995	4,561,995	-35,011,654	-202,484,143	-339,169,694	-694,011,144
Net Investment Change	-43,075,298	-43,075,298	447,737,729	935,789,733	1,389,596,648	2,613,318,938
Ending Market Value	5,313,750,006	5,313,750,006	5,313,750,006	5,313,750,006	5,313,750,006	5,313,750,006
Net Change \$	-38,513,304	-38,513,304	412,726,076	733,305,590	1,050,426,954	1,919,307,795

Contribution and withdrawals include transfers in and out of accounts. Ending market value is net of fees. Market value and flows do not include the Short Term Cash Account balance.

Risk Metrics

Total Fund
Actual Correlation Matrix

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

Correlation Matrix
3 Years Ending September 30, 2023

	A	B	C	D	E	F	G	H	I	J	K	L
A	1.00											
B	0.98	1.00										
C	0.95	0.98	1.00									
D	0.96	0.97	0.90	1.00								
E	0.80	0.80	0.68	0.81	1.00							
F	0.82	0.82	0.76	0.81	0.79	1.00						
G	0.69	0.70	0.65	0.68	0.67	0.96	1.00					
H	0.88	0.86	0.83	0.83	0.70	0.88	0.76	1.00				
I	0.81	0.81	0.72	0.83	0.87	0.91	0.78	0.78	1.00			
J	0.64	0.54	0.47	0.57	0.52	0.32	0.17	0.44	0.41	1.00		
K	0.52	0.49	0.45	0.52	0.40	0.24	0.08	0.43	0.35	0.44	1.00	
L	-0.06	-0.12	-0.06	-0.15	-0.22	-0.26	-0.22	-0.20	-0.31	0.06	-0.01	1.00

- A = Total Fund
- B = Equity
- C = Domestic Equity
- D = International Developed Equity
- E = Emerging Markets Equity
- F = Fixed Income
- G = Core Plus Fixed Income
- H = High Yield/ Specialty Credit
- I = Emerging Market Debt
- J = Commodities
- K = Hedge Funds
- L = Core Real Estate

- Low Interaction
- Moderate Interaction
- Moderate to High Interaction
- High Interaction

Total Fund
Risk Analysis - 3 Years (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	Alpha	Beta	R-Squared	Return	Information Ratio	Excess Performance	Tracking Error	Sharpe Ratio	Excess Return	Standard Deviation	Sortino Ratio	Up Capture	Down Capture
Total Fund	1.0	0.9	1.0	6.2	0.1	0.3	1.6	0.5	4.7	8.5	0.9	91.0	84.4
Equity	0.7	1.0	1.0	7.6	0.6	0.7	1.0	0.4	7.0	16.7	0.7	100.5	97.9
Domestic Equity	0.2	1.0	1.0	9.8	0.1	0.2	1.1	0.5	9.3	17.9	0.8	99.4	98.3
International Developed Equity	0.9	1.0	1.0	6.3	0.8	0.9	1.0	0.3	6.0	17.6	0.5	101.0	97.7
Emerging Markets Equity	1.3	0.9	1.0	1.1	0.5	1.4	2.5	0.0	0.7	16.3	0.1	95.0	89.1
Fixed Income	-0.1	1.0	1.0	-3.5	-0.1	-0.1	0.8	-0.8	-5.0	6.5	-0.9	104.1	103.8
Core Plus Fixed Income	-0.2	1.0	1.0	-5.5	-0.5	-0.3	0.6	-1.1	-7.1	6.2	-1.3	103.0	104.3
High Yield/ Specialty Credit	0.4	0.7	0.9	1.8	-0.1	-0.1	2.5	0.0	0.3	6.1	0.1	73.2	69.0
Emerging Market Debt	1.4	1.0	1.0	-2.4	1.4	1.2	1.0	-0.3	-3.5	10.5	-0.4	107.4	97.6
Commodities	2.1	0.9	0.9	16.6	0.0	0.4	5.4	1.0	14.9	14.9	1.6	90.0	77.5
Hedge Funds	5.4	0.3	0.2	7.5	0.3	1.1	3.9	1.8	5.6	2.9	5.4	61.7	-38.1
Core Real Estate	-1.0	0.7	0.8	3.7	-0.8	-3.4	4.1	0.3	2.2	6.6	0.5	73.9	110.0
Private Real Estate	0.0	1.0	1.0	18.0	-1.0	0.0	0.0	1.9	15.2	7.8	11.3	99.8	100.0
Private Equity	0.0	1.0	1.0	16.8	-0.6	0.0	0.0	1.5	14.4	9.7	5.8	100.0	100.3
Private Credit	0.2	1.0	1.0	4.3	0.7	0.1	0.2	0.7	2.6	3.7	1.6	99.9	93.2

Data not available for time periods less than 3 years (Alpha Pool, Midstream, & Opportunistic added in 2020)

Risk Return Statistics: Last Three Years

Period Ending: September 30, 2023

	Equity	MSCI AC World IMI (Net)	Core Plus Fixed Income	Bloomberg U.S. Aggregate Index	High Yield/ Specialty Credit	ICE BofA U.S. High Yield Index	Emerging Market Debt	3 Years 50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)	Core Real Estate	NCREIF ODCE-monthly
RETURN SUMMARY STATISTICS														
Up Market Periods	21	21	13	13	23	23	16	16	23	23	23	23	32	32
Down Market Periods	15	15	23	23	13	13	20	20	13	13	13	13	4	4
Maximum Return	12.43	12.66	3.41	3.68	4.80	6.02	7.56	7.35	7.67	8.78	3.26	3.34	5.39	7.97
Minimum Return	-9.42	-9.65	-4.27	-4.32	-5.04	-6.81	-5.99	-5.81	-8.90	-10.77	-0.75	-1.96	-3.77	-4.97
Return	7.55	6.88	-5.50	-5.21	1.76	1.82	-2.38	-3.61	16.64	16.23	7.45	6.38	3.71	7.13
Excess Return	7.01	6.42	-7.14	-6.84	0.25	0.44	-3.54	-4.84	14.91	14.70	5.56	4.60	2.17	5.61
Excess Performance	0.67	0.00	-0.29	0.00	-0.05	0.00	1.23	0.00	0.41	0.00	1.07	0.00	-3.42	0.00
RISK SUMMARY STATISTICS														
Beta	0.98	1.00	1.01	1.00	0.75	1.00	1.03	1.00	0.89	1.00	0.32	1.00	0.67	1.00
Upside Risk	13.26	13.27	3.64	3.64	4.54	5.70	7.12	6.66	12.89	13.04	3.50	4.11	5.23	8.29
Downside Risk	10.51	10.85	5.30	5.13	4.18	5.67	7.78	7.70	8.84	10.03	0.81	2.08	4.12	3.89
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	16.74	16.98	6.23	6.12	6.15	8.01	10.53	10.15	14.88	15.75	2.93	4.23	6.56	8.92
Alpha	0.72	0.00	-0.23	0.00	0.36	0.00	1.42	0.00	2.07	0.00	5.37	0.00	-0.99	0.00
Sharpe Ratio	0.42	0.38	-1.15	-1.12	0.04	0.05	-0.34	-0.48	0.99	0.92	1.83	1.09	0.31	0.61
Excess Risk	16.77	17.01	6.22	6.10	6.14	8.00	10.44	10.05	15.02	15.94	3.04	4.22	6.99	9.22
Tracking Error	1.02	0.00	0.61	0.00	2.51	0.00	0.95	0.00	5.37	0.00	3.87	0.00	4.09	0.00
Information Ratio	0.57	-	-0.49	-	-0.07	-	1.37	-	0.04	-	0.25	-	-0.84	-
CORRELATION STATISTICS														
R-Squared	1.00	1.00	0.99	1.00	0.94	1.00	0.99	1.00	0.88	1.00	0.21	1.00	0.82	1.00
Actual Correlation	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.94	1.00	0.46	1.00	0.90	1.00

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

Risk Return Statistics: Last Two Years

	Midstream Energy	Alerian Midstream Energy Index	Opportunistic	Assumed Rate of Return +3%
2 Yrs				
RETURN SUMMARY STATISTICS				
Up Market Periods	13	13	24	24
Down Market Periods	11	11	0	0
Maximum Return	11.14	11.05	5.19	0.58
Minimum Return	-11.84	-12.21	-4.04	0.58
Return	17.82	13.89	-2.60	7.25
Excess Return	15.74	12.90	-4.81	4.52
Excess Performance	3.93	0.00	-9.85	0.00
RISK SUMMARY STATISTICS				
Beta	0.85	1.00	-	-
Upside Risk	15.49	17.03	1.66	2.03
Downside Risk	11.46	13.81	5.69	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	18.53	21.47	8.06	0.00
Alpha	5.33	0.00	-	-
Sharpe Ratio	0.85	0.60	-0.60	7.43
Excess Risk	18.62	21.58	8.07	0.61
Tracking Error	4.91	0.00	8.06	0.00
Information Ratio	0.58	-	-1.16	-
CORRELATION STATISTICS				
R-Squared	0.96	1.00	-	-
Actual Correlation	0.98	1.00	-	-

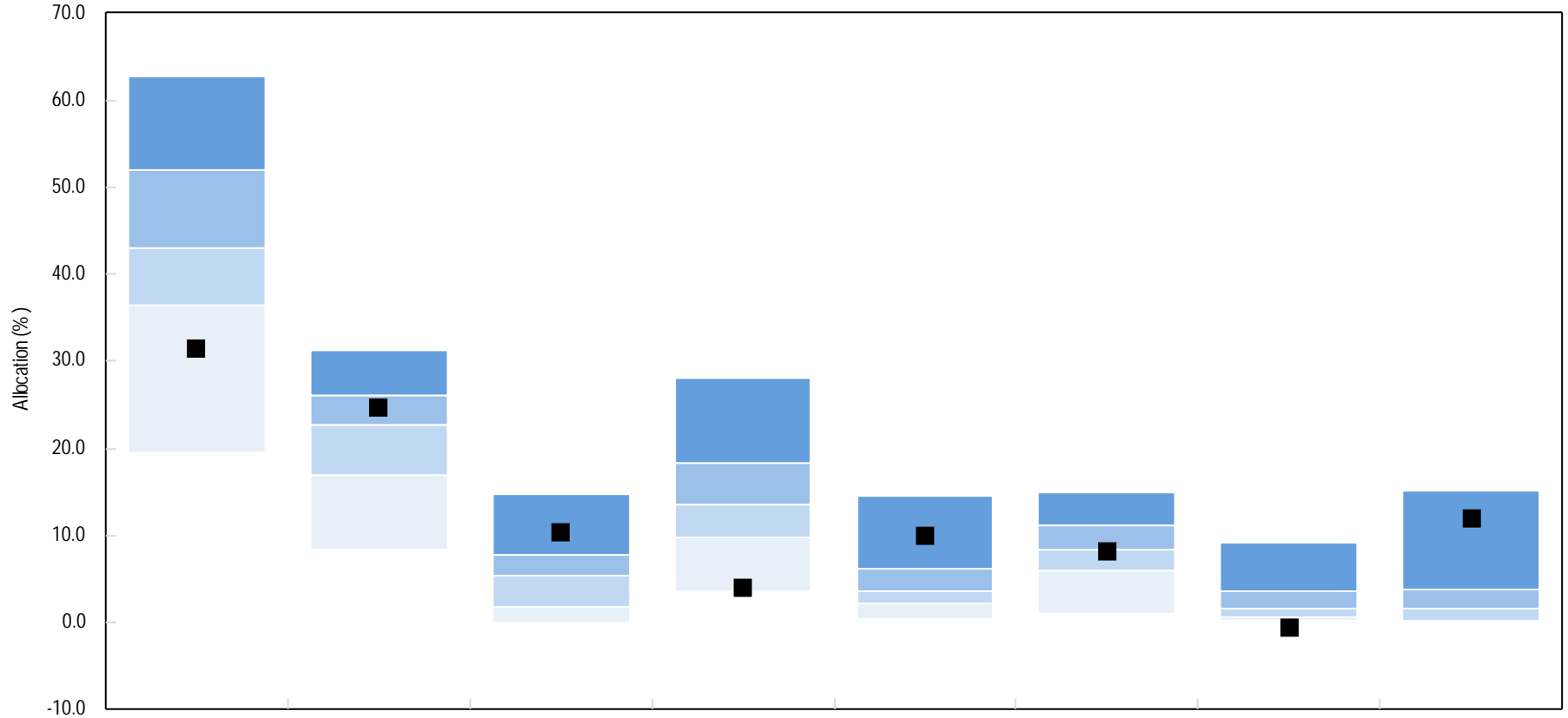
Data for unavailable for positions held for less than two years.

Peer Comparison

Total Fund
Peer Universe Comparison: Asset Allocation

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

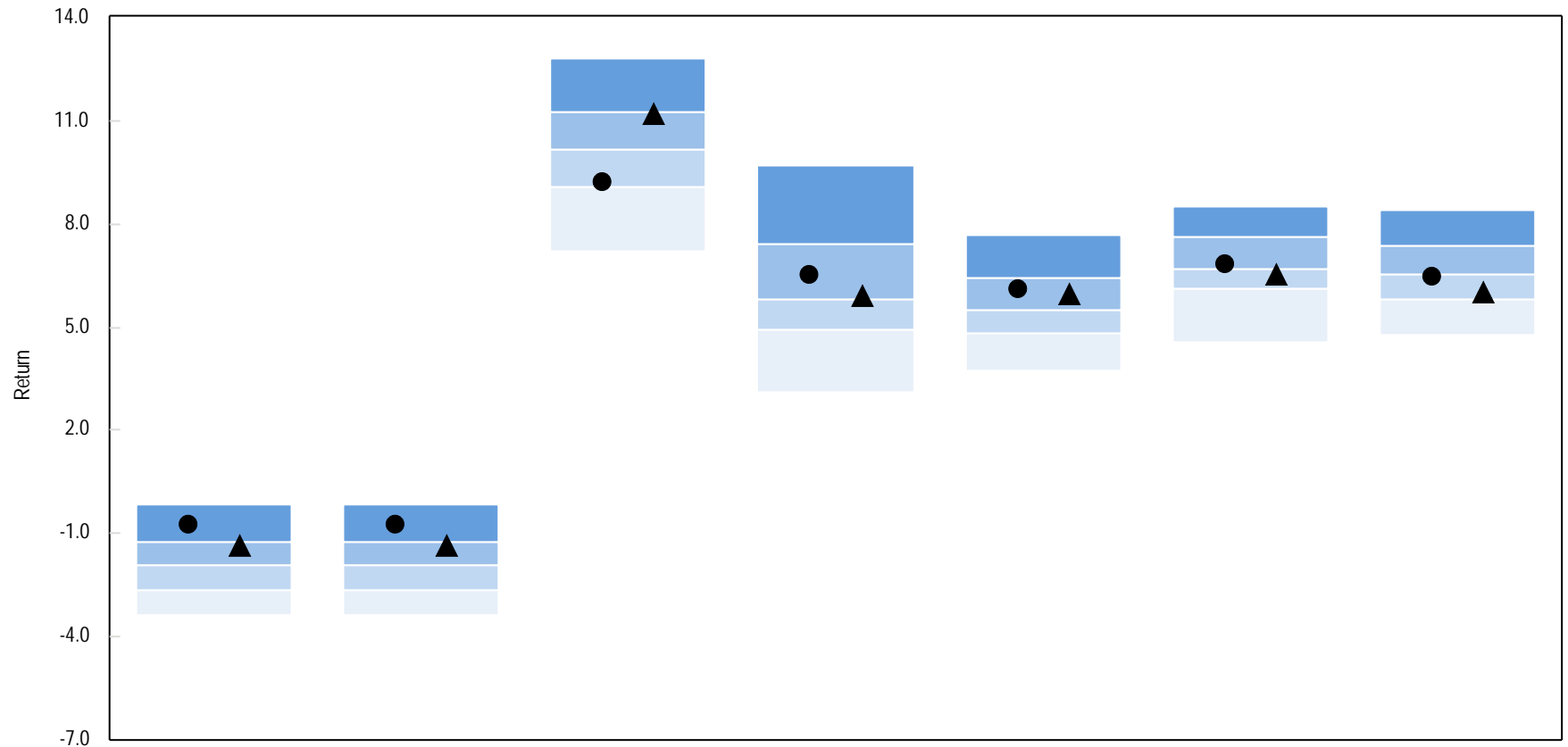
Total Plan Allocation vs. InvMetrics Public DB > \$1B
As of September 30, 2023



	Total Equity 31.5 (86)	Total Fixed Income 24.7 (34)	Hedge Funds 10.4 (15)	Private Equity 4.0 (94)	Real Assets/Commod 9.9 (15)	Real Estate - Private 8.1 (56)	Cash & Equivalents -0.7	Other 12.0 (7)
■ Total Fund								
5th Percentile	62.8	31.3	14.8	28.1	14.6	14.8	9.2	15.1
1st Quartile	52.1	26.2	7.7	18.3	6.1	11.2	3.6	3.8
Median	43.0	22.8	5.4	13.5	3.6	8.5	1.5	1.6
3rd Quartile	36.4	16.9	1.9	9.8	2.3	6.1	0.5	0.3
95th Percentile	19.6	8.3	0.1	3.6	0.4	0.9	0.1	0.1
Population	80	84	37	60	47	57	69	15

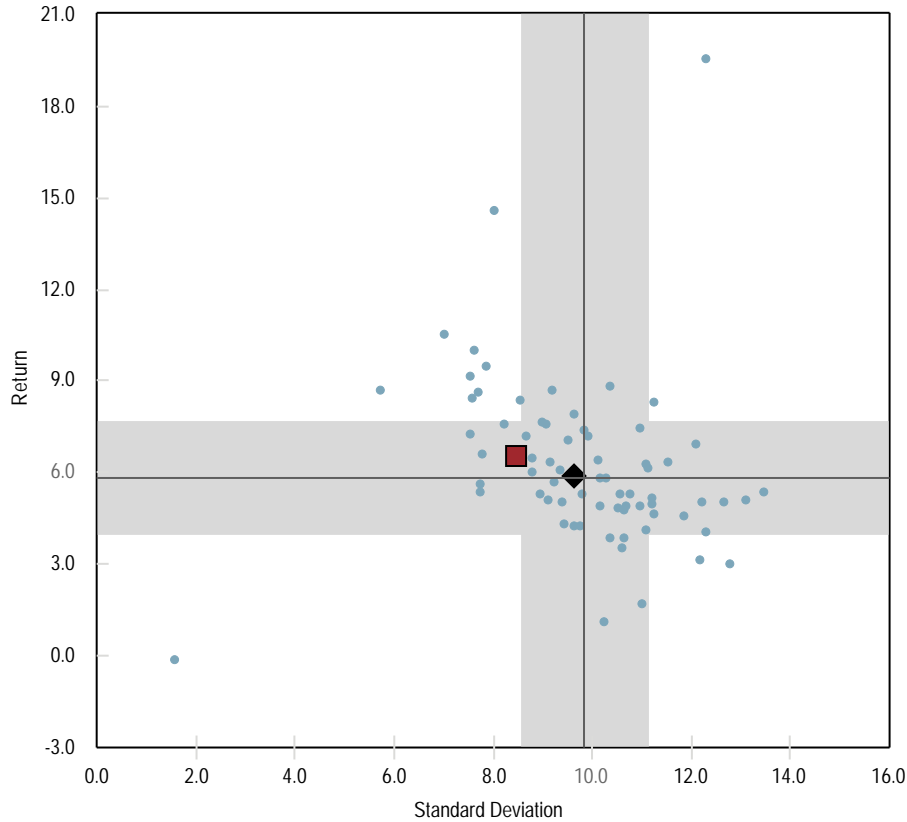
Parentheses contain percentile rankings. Other contains Alpha Pool, Opportunistic, and Private Credit. Real Estate contains Private and Core Real Estate. Real Assets contain Commodities and Midstream.

Total Fund vs. InvMetrics Public DB > \$1B



	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	-0.7 (11)	-0.7 (11)	9.2 (72)	6.5 (37)	6.1 (33)	6.9 (46)	6.5 (52)
▲ Policy Index	-1.3 (27)	-1.3 (27)	11.2 (27)	5.9 (50)	5.9 (35)	6.5 (55)	6.0 (71)
5th Percentile	-0.2	-0.2	12.8	9.7	7.7	8.5	8.4
1st Quartile	-1.3	-1.3	11.3	7.4	6.4	7.6	7.4
Median	-1.9	-1.9	10.2	5.8	5.5	6.7	6.5
3rd Quartile	-2.6	-2.6	9.1	4.9	4.8	6.1	5.8
95th Percentile	-3.4	-3.4	7.2	3.1	3.7	4.6	4.8
Population	90	90	82	73	71	70	65

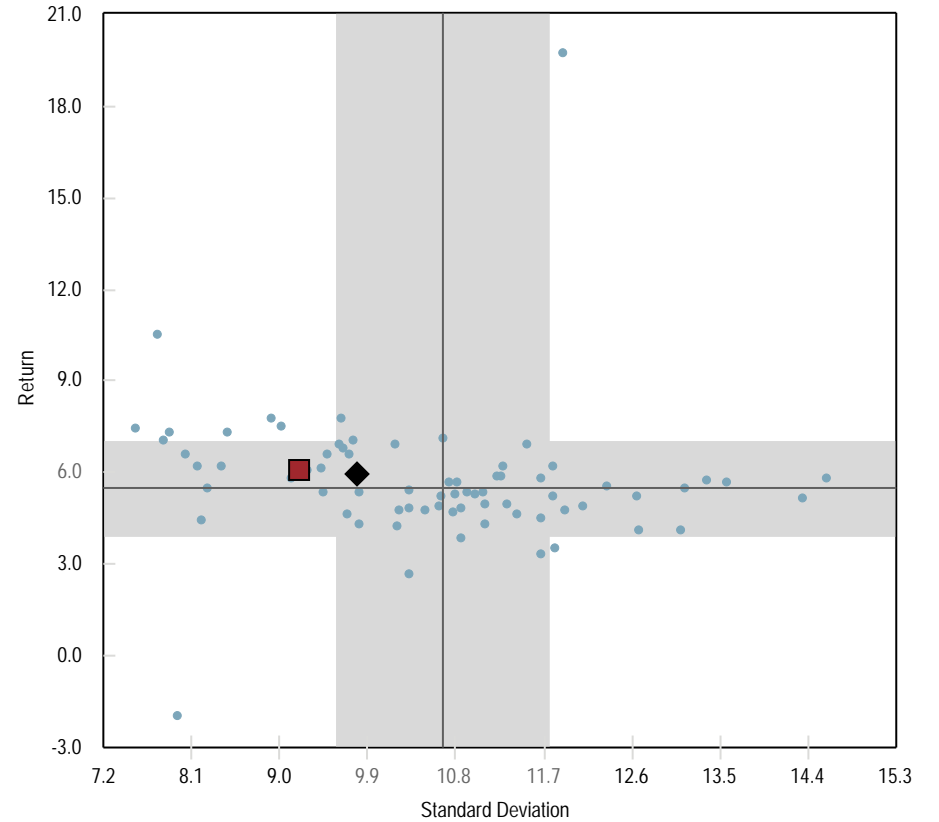
Annualized Return vs. Annualized Standard Deviation
3 Years Ending September 30, 2023



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	6.52	8.47
◆ Policy Index	5.92	9.64
— Median	5.82	9.85
Population	73	73

Annualized Return vs. Annualized Standard Deviation
5 Years Ending September 30, 2023



● InvMetrics Public DB > \$1B

	Return	Standard Deviation
■ Total Fund	6.12	9.20
◆ Policy Index	5.94	9.79
— Median	5.49	10.67
Population	71	71

Other

Total Fund
Quarterly Historical Returns (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: September 30, 2023

	2023 Q3	2023 Q2	2023 Q1	2022 Q4	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4
Total Fund	-0.8	1.9	3.1	4.5	-3.1	-7.5	-0.8	3.6	0.5	5.5	3.5	8.8
<i>Policy Index</i>	-1.3	2.9	3.8	5.5	-3.8	-8.9	-1.3	3.3	0.7	5.7	3.3	8.8

	2020 Q3	2020 Q2	2020 Q1	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4
Total Fund	4.4	10.7	-11.3	4.6	0.2	3.1	6.8	-6.4	2.3	0.3	-0.1	3.0
<i>Policy Index</i>	4.5	10.1	-11.1	4.6	0.8	3.0	7.0	-5.5	2.2	0.7	-0.1	3.2

	2017 Q3	2017 Q2	2017 Q1	2016 Q4	2016 Q3	2016 Q2	2016 Q1	2015 Q4	2015 Q3	2015 Q2	2015 Q1	2014 Q4
Total Fund	3.2	2.7	4.2	0.8	3.5	1.9	1.1	2.2	-5.4	0.7	2.4	0.8
<i>Policy Index</i>	3.1	2.8	3.5	0.5	2.9	2.2	1.8	1.4	-4.9	0.4	2.0	0.4

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Association Period Ending: September 30, 2023

Performance Return Calculations

Performance is calculated using a Time Weighted Rates of Return (TWRR) methodology. Monthly returns are linked geometrically and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>	<u>Investment Fund or Strategy</u>	<u>Fund Incepted</u>	<u>Data Source</u>
AB Emerging Markets Strategic Core	11/3/2016	Northern Trust	Linden Co-Investment V LP	6/30/2022	Linden
AB US Small Cap Value Equity	7/7/2015	Northern Trust	Long Wharf Real Estate	6/27/2019	Long Wharf
Abbott Capital PE VI	3/31/2008	Abbott Capital	Magnetar Constellation	11/14/2018	Magnetar
American Century Non-US Small Cap	12/15/2020	American Century	Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
Aristeia International Limited	5/1/2014	Northern Trust	Mellon EB DV Stock Index	10/18/2017	Mellon
ASB Real Estate	9/30/2013	ASB	Mellon EB DV World ex-US Index	8/1/2018	Mellon
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric	Myriad Opportunities Offshore	5/19/2016	Northern Trust
BlackRock Short Duration Fund	9/8/2021	BlackRock	OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
Blue Torch Credit Opportunities	7/24/2020	Blue Torch	Pantheon Global III	6/30/2000	Pantheon
Brevan Howard	11/1/2013	Northern Trust	Pantheon USA III	3/31/2007	Pantheon
Brighton Private Equity	3/28/2021	Brighton	Pantheon USA V	6/30/2005	Pantheon
Brighton Park Capital Fund II, L.P.	9/30/2022	Brighton	Pantheon USA VI	3/31/2005	Pantheon
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust	Pantheon USA VII	3/31/2005	Pantheon
Cerberus Business Finance V	8/25/2023	Cerberus	Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Cevian Capital II	12/30/2014	Northern Trust	Peak Rock Capital Fund III	7/13/2021	Peak Rock
DC Value Recovery fund IV	12/28/2015	Colony	PIMCO Commodity Alpha	5/4/2016	PIMCO
Covenant Apartment Fund X	10/29/2020	Covenant	PIMCO Core Plus	1/21/2011	Northern Trust
DB Investors Fund IV	1/29/2020	DB	PIMCO EMD	2/29/2020	Northern Trust
D.E. Shaw	6/30/2013	Northern Trust	PIMCO Midstream	10/9/2020	PIMCO
DFA Emerging Markets Value I	3/7/2014	Northern Trust	PIMCO StocksPLUS	7/14/2003	PIMCO
Fortress Credit Opportunities	12/17/2020	Fortress	Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
Fortress Lending Fund II	3/15/2021	Fortress	River Birch	8/3/2015	Northern Trust
Garda Fixed Income Relative Value Opp	9/30/2021	Garda	Rubicon Technology Partners IV LP	11/30/2022	Rubicon
Geneva Capital Small Cap Growth	7/22/2015	Geneva	Singerman Real Estate Opportunity Fund IV	10/27/2021	Singerman
Gresham MTAP Commodity	9/3/2013	Gresham	Sculptor Enhanced Domestic Partners	3/26/2019	Sculptor
Harvest Midstream	9/28/2020	Harvest Midstream	Short Term Cash Account	12/31/2000	Northern Trust
HBK Fund II	11/1/2013	Northern Trust	Short Term Investment Funds	6/30/2000	Northern Trust
Henderson Smallcap Growth	7/22/2015	Northern Trust	Stone Harbor Emerging Markets Debt	8/8/2012	Stone Harbor
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital	TAO Contingent	4/16/2020	TPG Sixth Street
Hudson Bay	6/7/2019	Northern Trust	TCW Securitized Opportunities	2/3/2016	TCW
Indus Pacific Opportunities	6/30/2014	Northern Trust	Transition Equity	9/30/2010	Northern Trust
Invesco Real Estate III	6/30/2013	Invesco	Transition Fixed Income	9/30/2010	Northern Trust
Invesco Real Estate IV	12/18/2015	Invesco	TSSP Adjacent Opportunities Partners	11/17/2017	TPG Sixth Street
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan	Vista Equity Partners	7/24/2020	Vista Equity
KSL Capital Partners VI	4/26/2023	KSL Capital	Warren Equity III	4/1/2021	Warren
Landmark Real Estate Partners VIII	4/29/2018	Landmark	Warren Equity IV	1/1/2023	Warren
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA	Wellington Alternative Investments	2/9/2023	Wellington
Level Equity Growth Partners V	11/1/2021	Level Equity	WEP IV TS Co-Investment, L.P.	8/14/2023	Wellington
Level Equity Opportunities Fund 2021	11/1/2021	Level Equity	Western Asset Core Plus	5/31/2004	Northern Trust
LGT Crown	2/1/2021	LGT	Western Asset High Yield Fixed income	5/31/2005	Northern Trust
Linden Capital Partners V LP	7/19/2022	Linden			

Total Fund Data Sources and Methodology

Kern County Employees' Retirement Association Period Ending: September 30, 2023

Policy & Custom Index Composition	
Policy Index: 4/1/2022-Present	37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill.
Policy Index: 7/1/2021-4/1/2022	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 1/1/2021-6/30/2021	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 7/1/2020-12/31/2020	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 1% Alerian Midstream, 4% Bloomberg US Aggregate
Policy Index: 4/1/2020-6/30/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 1/1/2020-3/31/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 10/1/2019-12/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 7/1/2019-9/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 4/1/2019-6/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 1/1/2019-3/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 10/1/2018-12/31/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 7/1/2018-9/30/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 3% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 2% MSCI ACWI*, 7% Bloomberg US Aggregate*.
Policy Index: 1/1/2017- 6/30/2018	19% Russell 3000 Index, 18% MSCI ACWI ex US, 29% Bloomberg US Aggregate, 10% NCREIF-ODCE, 4% Bloomberg Commodity Index, 7.5% 91-day T-bills + 400bps, 2.5% MSCI ACWI, 5% Russell 3000 Index + 300 bps, 5% ICE BofA ML High Yield + 200 bps.
Policy Index: 4/1/2014-12/31/2016	23% Russell 3000 Index, 29% Bloomberg US Aggregate, 22% MSCI ACWI ex US.

Other Disclosures

*Private Asset actual weights, rounded to 1%, and actual time-weighted returns of Private Equity, Private Credit, Private Real Estate used in policy with the difference in weight versus target allocated to private market's public market "equivalent". Private Equity to Global Equity, Private Credit and Private Real Estate to Core Plus.

All data prior to 2Q 2011 has been provided by the investment managers.

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, REITs) investment manager fees will be included in the gross of fee return calculation. Fiscal year end: 6/30.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

Disclaimer

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The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management, (c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.

ALTERNATIVE INVESTMENTS RECORDS

EXEMPT FROM PUBLIC DISCLOSURE

(CA Gov. Code §7928.710)

(CA Gov. Code §7922.000)

(CA Gov. Code §54957.5)

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2023 Annual Comprehensive Financial Report

Fiscal Years Ended June 30, 2023 and 2022

KERN COUNTY
EMPLOYEES' RETIREMENT
ASSOCIATION

KERN COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION

A defined benefit public pension plan (California)



KCERA's Vision:

To be a trusted pension partner, delivering financial security and accurate information through a commitment to expertise, innovation, and continual improvement.

2023 Annual Comprehensive Financial Report

For the Fiscal Years Ended June 30, 2023 and 2022

Issued By:

Dominic D. Brown, CPA, CFE

Chief Executive Officer

Angela Kruger

Chief Financial Officer



Kern County Employees' Retirement Association (KCERA)

11125 River Run Blvd, Bakersfield, CA 93311

Ph. (661) 381-7700 / www.kcera.org

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INTRODUCTORY SECTION



December XX, 2023

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, CA 93311

Dear Board Members:

We are pleased to present the Annual Comprehensive Financial Report (ACFR) for the years ended June 30, 2023 and 2022. This Letter of Transmittal is presented as a narrative introduction, overview and analysis in conjunction with the Management's Discussion and Analysis included in the Financial Section of the Annual Comprehensive Financial Report.

Kern County Employees' Retirement Association (KCERA) is a public employee retirement system that was established on January 1, 1945 by the County of Kern. The KCERA Plan provides retirement, disability, death, beneficiary, cost-of-living and supplemental retirement benefits. As of June 30, 2023, KCERA had 13,948 active and deferred-vested members and paid retirement benefits to 9,156 retirees and their beneficiaries.

KCERA AND ITS SERVICES

KCERA provides retirement allowances and other benefits to all permanent general and safety employees of the County of Kern and of participating special districts. As of June 30, 2023, fourteen districts participated in the retirement plan: Berrenda Mesa Water District, Buttonwillow Recreation and Park District, East Kern Cemetery District, Inyokern Community Services District, Kern County Hospital Authority, Kern County Superior Court, Kern County Water Agency, Kern Mosquito and Vector Control District, North of the River Sanitation District, San Joaquin Valley Air Pollution Control District, Shafter Recreation and Park District, West Side Cemetery District, West Side Mosquito and Vector Control District, and West Side Recreation and Park District.

The Plan is administered by the KCERA Board of Retirement (Board), which consists of nine members and three alternate members. The Board is responsible for establishing policies governing the administration of the retirement plan, determining benefit allowances and managing the investments of KCERA's assets. The Board oversees the Chief Executive Officer and the KCERA staff in the performance of their duties in accordance with the County Employees' Retirement Law of 1937 (CERL) and the regulations, procedures and policies adopted by the KCERA Board.

MAJOR INITIATIVES

KCERA Workplace Culture and Recruitments

KCERA is committed to a collaborative culture with an emphasis on teamwork. KCERA seeks to have a happy, engaged workforce who are empowered to serve our members and our community. This includes providing a safe and healthy workplace, and it also includes developing and delivering training on technical and personal growth areas. KCERA provides promotional growth opportunities within our organization and encourages staff to excel.

KCERA management continued the organizational growth that is allowing us to better accomplish the mission of the organization. As part of that growth, KCERA added a Communications Manager.

MAJOR INITIATIVES (CONT.)

SRBR Restructure

On September 14, 2022, the KCERA Board of Retirement unanimously voted to restructure the Supplemental Retiree Benefit Reserve (SRBR) Program. KCERA Staff worked with its actuaries to devise a process in which all members had their SRBR benefit calculated, on a one-time basis, under the new “Years of Service” benefit (\$1.80 per year of service) and the old SRBR 1-4 structure. Members then received whichever benefit calculation yielded a higher result. This is the member’s starting SRBR benefit under the Restructured SRBR (also referred to as the “floor” benefit). Eligible members will receive a 2.5% COLA on their SRBR benefit every year, so long as the SRBR remains adequately funded. Under the restructured SRBR, KCERA’s Board will consider benefit changes when the SRBR funding is above 115% funded or below 95% funded for two consecutive years. The change in benefit structure was effective July 1, 2022, and is now fully implemented.

Alameda Decision

On August 24th, 2020, the Board of Retirement approved a resolution to implement the Alameda California Supreme Court decision. The Alameda decision filed on July 30, 2020, concludes that all amendments to the definition of compensation earnable in Government Code section 31461, enacted as a result of the Public Employees’ Pension Reform Act of 2013 and related statutory changes to CERL (“PEPRA”), effective January 1, 2013 are constitutional, and that CERL retirement boards may not be contractually bound or estopped by settlement agreements, board resolutions, or other similar actions, from implementing those amendments. The Alameda Decision further determines that CERL retirement boards may not include items in retirement allowance calculations, either compensation earnable under section 31461, as amended, or pensionable compensation under section 7522.34, that the applicable statutes require them to exclude (“PEPRA Exclusions”).

FUNDING

KCERA’s funding objective is to meet long-term benefit obligations through level contributions to the Plan and the accrual and compounding of investment income. As of June 30, 2022, the funded ratio of the Plan was 69.2% using actuarial assets and actuarial liabilities of \$5,102,402,000 and \$7,372,653,000, respectively. The funded percentage increased 2.1% from June 30, 2021, due primarily to recognition of net deferred investment gains.

Pursuant to provisions in the County Employees’ Retirement Law of 1937, KCERA engages an independent actuarial consulting firm, Segal Consulting, to conduct annual actuarial valuations. Every three years, an experience study is performed to review all economic and demographic assumptions. The economic and demographic assumptions are updated at the time each triennial valuation is performed. Triennial valuations serve as the basis for changes in member and employer contribution rates necessary to properly fund the Plan. The last triennial analysis was performed as of June 30, 2022.

The triennial analysis covered several changes to economic and non-economic assumptions that were adopted by the Board of Retirement on June 14, 2023, for the June 30, 2023, actuarial valuation. The actuary recommended changes in the assumptions for inflation, promotional and merit salary increases, retirement rates, mortality rates, termination rates, and disability incidence rates. The major changes included lowering the inflation assumption from 2.75% to 2.50%, reducing the current inflationary salary increase assumption from 2.75% to 2.50%, real “across the board” salary increases will decrease from 3.25% to 3.00%, and maintaining the mortality tables follow Pub-2010 Amount Weighted Mortality Tables. These assumption changes resulted in the Board adopting a change in KCERA's assumed rate from 7.25% to 7.00%.

FINANCIAL INFORMATION

The ACFR for the years ended June 30, 2023 and 2022 was prepared by KCERA’s management, which is responsible for the accuracy, completeness, fair presentation of information and all disclosures in this

report. The report has been prepared in accordance with accounting principles generally accepted in the United States of America as promulgated by the Governmental Accounting Standards Board (GASB).

FINANCIAL INFORMATION (CONT.)

KCERA maintains an internal control system to provide reasonable assurance that assets are properly safeguarded from loss, theft or misuse, and the fair presentation of the financial statements and supporting schedules. Further, it should be recognized that there are inherent limitations in the effectiveness of any system of internal controls due to changes in conditions. Moreover, the concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits to be derived. The Board of Retirement has established a finance committee to oversee the financial reporting process and to review the scope and results of independent audits. The independent auditors have unrestricted access to the finance committee to discuss their related findings as to the integrity of the financial reporting and adequacy of internal controls.

KCERA's external auditor, UHY LLP, has conducted an audit of the basic financial statements in accordance with auditing standards generally accepted in the United States of America, performing such tests and other procedures as they deem necessary to express an opinion in their report to the Board of Retirement. The financial audit ensures that KCERA's financial statements are presented in conformity with accounting principles generally accepted in the United States of America and are free of material misstatements. Their opinion is that KCERA's financial statements present fairly, in all material respects, the Fiduciary Net Position of KCERA as of June 30, 2023 and 2022 and its Changes in Fiduciary Net Position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

INVESTMENTS

The Board of Retirement has exclusive control of all investments of KCERA and is responsible for establishing investment policies, objectives and strategies. The Board is authorized to invest in any form or type of investment deemed "prudent" in the informed opinion of the Board. The members of the Board serve as fiduciaries for the members and beneficiaries of the retirement association and are held to a high standard of care in all transactions.

The Board operates under a standard of care in California commonly known as the "prudent person" rule, which allows the Board to invest or delegate the authority to invest the assets of the Plan when prudent in the informed opinion of the Board. In addition, the rule requires the Board to diversify the investments of the Plan, unless it is clearly prudent not to do so under the circumstances. The Board therefore makes basic policy decisions with respect to the Plan, including, but not limited to, the allocation of assets to various investment classes. The Board delegates much discretion to professional investment advisors to execute investment policy subject only to policy and guidelines provided by the Board.

KCERA's assets are managed exclusively by external, professional investment managers. KCERA staff monitors the activity of these managers and assists the Board with the development and implementation of investment policies and long-term investment strategies. These policies and guidelines are outlined in KCERA's Investment Policy Statement, which states the investment philosophy, investment guidelines, performance objectives and asset allocation of the Plan. The Board employs the services of independent investment consultants Verus Investments, Albourne America, Cambridge Associates and Abel Noser to assist the Board in formulating policies, setting goals and manager guidelines, and selecting and monitoring the performance of the money managers.

For fiscal year 2023, the investments of the Plan returned 5.9%* (net of fees). KCERA's annualized rate of return, net of fees, was 8.1% in the past three years, 6.5% in the past five years, and 6.7% in the past ten years. The investment expenses of the fund are linked to the performance of the investment portfolio and other factors and therefore vary year to year.

* References in this document to KCERA's investment rate of return assume a time-weighted rate of return unless otherwise specified as a money-weighted rate of return, per GASB 67 guidelines.

PROFESSIONAL SERVICES

The Board retains professional consultants and investment managers to provide professional services essential to the effective and efficient operation of KCERA. These entities are included in the Schedule of Investment Fees on pages 78-81.

Opinions from the certified public accountant and the actuary for the Plan are included in this report. The consultants and investment managers retained by the Board are listed on pages 10 and 75, respectively, of this report.

CERTIFICATE OF ACHIEVEMENTS

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to KCERA for its Annual Comprehensive Financial Report for the fiscal year ended June 30, 2022. The Certificate of Achievement is a prestigious national award recognizing excellence in the preparation of state and local government financial reports.

In order to be awarded the Certificate of Achievement, a government unit must publish an easily readable and well-organized Annual Comprehensive Financial Report. This report must satisfy both accounting principles generally accepted in the United States of America and applicable legal requirements.

The Certificate of Achievement is valid for a period of one year only. We believe that our current Annual Comprehensive Financial Report continues to meet the Certificate of Achievement Program's requirements, and we will again submit it to the GFOA for appraisal.

KCERA also received the Public Pension Standards Award for Fund and Administration for the fiscal year ended June 30, 2022. The award is issued by the Public Pension Coordinating Council and is used to recognize KCERA meeting professional standards for plan funding and administration as set forth in the Public Pension Standards.

ACKNOWLEDGMENTS

The compilation of this report reflects the combined effort of the KCERA staff. This report is intended to provide complete information as a basis for management decisions, as a means for establishing compliance with legal requirements, and as a means for determining the responsible stewardship of the KCERA fund.

We wish to take this opportunity to thank the members of KCERA for their confidence in KCERA and to express our gratitude to the Board of Retirement for your support of the KCERA administration and the best interests of the beneficiaries of the Plan throughout the fiscal year. We also wish to thank the consultants and staff for their continued commitment to KCERA and their diligent work to ensure the successful administration of the Plan.

Respectfully submitted,



Dominic D. Brown, CPA, CFE
Chief Executive Officer



Angela Kruger
Chief Financial Officer



Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

**Kern County Employees' Retirement Association
California**

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

June 30, 2022

Christopher P. Morill

Executive Director/CEO



Public Pension Coordinating Council

**Public Pension Standards Award
For Funding and Administration
2023**

Presented to

Kern County Employees' Retirement Association

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

Members of the Board of Retirement As of June 30, 2023



Tyler Whitezell, Chair
Position: 9th Member
Appointed by:
Board of Supervisors
Term expires: Dec. 31, 2025



Phil Franey
Position: 8th Member
Elected by:
Retired Members
Term expires: Dec. 31, 2025



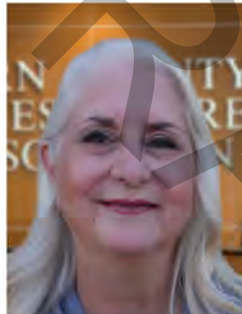
Jordan Kaufman
Position: 1st Member
Appointed by:
Statute



Chase Nunneley
Position: 1st Member (Alt)
Appointed by:
Statute



Juan Gonzalez
Position: 2nd Member
Elected by:
General Members
Term expires: Dec. 31, 2025



Janine Adams
Position: 3rd Member
Elected by:
General Members
Term expires: Dec. 31, 2025



David Couch
Position: 4th Member
Appointed by:
Board of Supervisors
Term expires: Dec. 31, 2024



Joseph D. Hughes
Position: 5th Member
Appointed by:
Board of Supervisors
Term expires: Dec. 31, 2025



John Sanders
Position: 6th Member
Appointed by:
Board of Supervisors
Term expires: Dec. 31, 2024



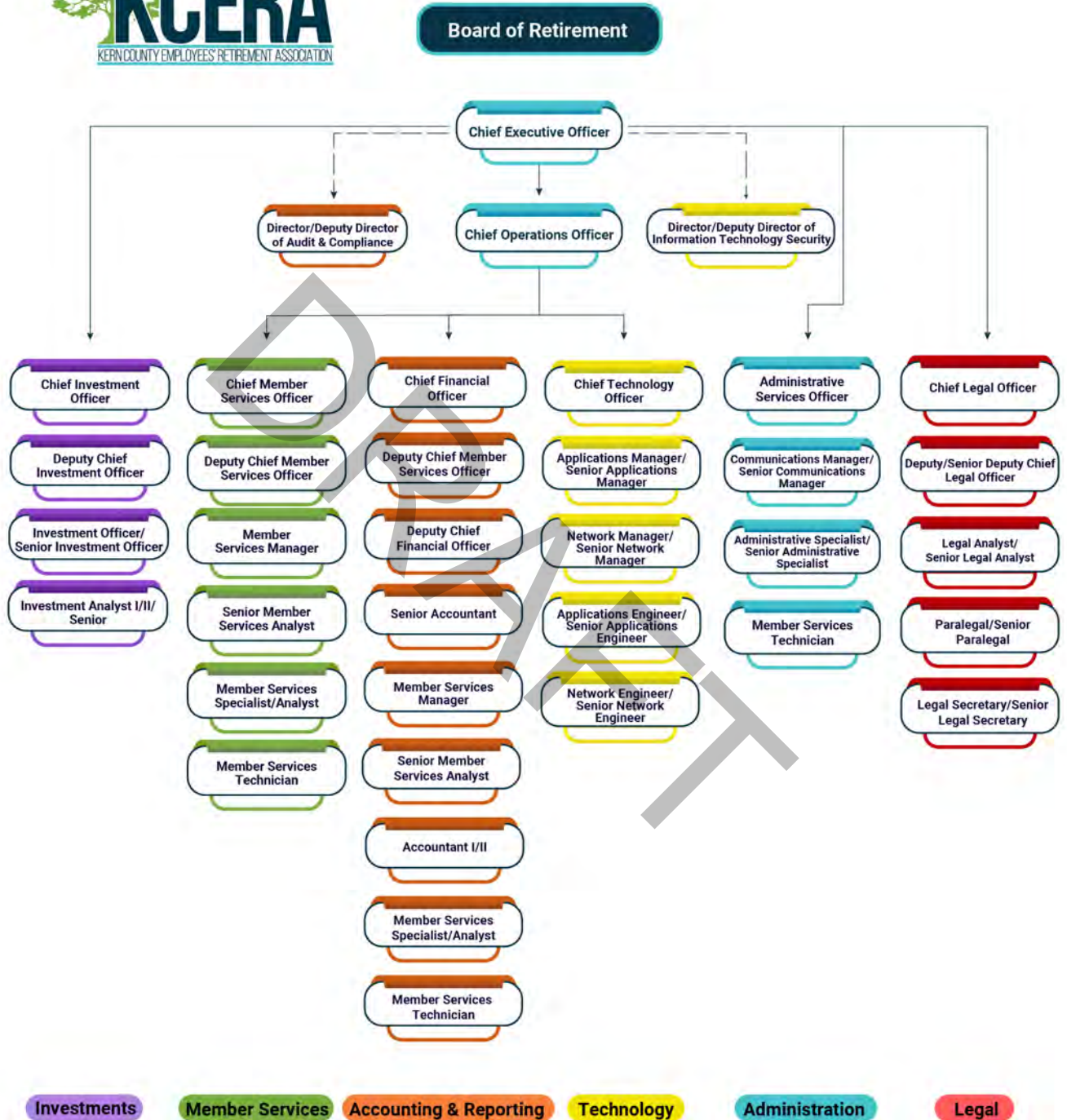
Rick Kratt
Position: 7th Member
Elected by:
Safety Members
Term expires: Dec. 31, 2024



Dustin Contreras
Position: 7th Member (Alt)
Elected by:
Safety Members
Term expires: Dec. 31, 2024



Robb Seibly
Position: 8th Member (Alt)
Elected by:
Retired Members
Term expires: Dec. 31, 2025



ACTUARY

The Segal Company, Inc.

AUDITORS

UHY, LLP

CUSTODIAN

The Northern Trust Company

INVESTMENT CONSULTANTS

Albourne America LLC
Cambridge Associates
Verus Investments

LEGAL

Foley & Lardner, LLP
Hanson Bridgett, LLP
Ice Miller, LLP
Nossaman, LLP
Reed Smith, LLP

OTHER SPECIALIZED SERVICES

Abel Noser
Agility Recovery Solutions
AON Consulting, Inc
Aurora Systems Consulting, Inc
Glass, Lewis & Co., LLC
Deutsche Bank

Refer to the Investment Section for a list of Investment Managers, pg 75 and the Schedule of Investment Management Fees pgs 78 - 81

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FINANCIAL SECTION

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Auditor's Report

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Auditor's Report

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Auditor's Report

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This section presents management's discussion and analysis of the Kern County Employees' Retirement Association's (KCERA) financial statements and the significant events and conditions that affected the operations and performance during the years ended June 30, 2023 and 2022. It is presented as a narrative overview and analysis in conjunction with the Executive Director's *Letter of Transmittal* included in the Introductory Section of the Annual Comprehensive Financial Report.

FINANCIAL HIGHLIGHTS

- KCERA's net position increased by \$255.5 million during the fiscal year ended June 30, 2023, a 5.0% increase from the last fiscal year. The increase was primarily the result of positive investment returns.
- Member contributions increased by \$5.0 million, or 9.2%, mainly as a result of a increase in covered payroll. Employer contributions increased by \$29.8 million, or 10.4%, which was primarily due to an increase in covered payroll. The average employer contribution rate decreased from 48.91% of payroll for fiscal year 2021-22 to 48.76% for fiscal year 2022-23.
- The total fund's investment performance did not meet the actuarial assumed rate of return for the fiscal year. The investment portfolio reported a total return of 5.9% (net of fees)* versus the actuarial assumed rate of return of 7.25% for the fiscal year ended June 30, 2022.
- Vested pension benefits increased by \$16.8 million, or 4.5%, over the prior year. The increase is attributable to a 1.6% increase in retired members and beneficiaries receiving pension benefits, and a 2.8% increase in the average monthly benefit, which rose to \$3,764 in the fiscal year. In 2022, the Board adopted a COLA increase of 2.5% for new pensioners. Pensioners with an accumulated COLA carry-over received up to the maximum 2.5% increase in April 2023.
- As of June 30, 2023, the date of the most recent actuarial funding valuation, the funded ratio for KCERA was 68.7% compared to the funded ratio of 69.2% as of June 30, 2022. The decrease in the ratio is due to recent changes to actuarial assumptions and an increase in salaries.

OVERVIEW OF BASIC FINANCIAL STATEMENTS AND ACCOMPANYING INFORMATION

- 1) **The Statement of Fiduciary Net Position** is the basic statement of position for a defined benefit pension plan. This statement presents asset and liability account balances at fiscal year-end. The difference between assets and liabilities represents the net position available for future payments to retirees and their beneficiaries. Assets and current liabilities of the Plan reflect full accruals. The statement reflects investments at fair value and accounting liabilities as distinct from actuarial liabilities.
- 2) **The Statement of Changes in Fiduciary Net Position** is the basic operating statement for a defined benefit pension plan. Changes in plan net position are recorded as additions or deductions from the Plan. All additions and deductions are reported on a full accrual basis.
- 3) **Notes to the Basic Financial Statements** are an integral part of the financial statements and provide important additional information.
- 4) **Required Supplementary Information** consists of three required schedules and their related notes: Schedule of Changes in Net Pension Liability and Related Ratios, Schedule of Employer Contributions, and Schedule of Money-Weighted Rates of Return.

* References in this document to KCERA's investment rate of return assume a time-weighted rate of return unless otherwise specified as a money-weighted rate of return, per GASB 67 guidelines.

OVERVIEW OF BASIC FINANCIAL STATEMENTS AND ACCOMPANYING INFORMATION (cont)

- 5) **Other Supplemental Information** includes schedules of administrative expenses, investment manager fees, other investment expenses, and payments to consultants.

The required financial statements and disclosures have been prepared in accordance with accounting principles generally accepted in the United States of America and are in compliance with Governmental Accounting Standards Board (GASB) Statements.

FINANCIAL ANALYSIS

FIDUCIARY NET POSITION RESTRICTED FOR PENSION BENEFITS

KCERA provides pension benefits to the employees and their beneficiaries of the County of Kern and other public agencies. KCERA's benefits are funded by member and employer contributions, and by investment income. KCERA's fiduciary net position restricted for pension benefits at June 30, 2023 was \$5.4 billion, an increase of \$255.5 million, or 5.0%, from June 30, 2022. KCERA's fiduciary net position-restricted for pension benefits at June 30, 2022 was \$5.1 billion, a decrease of \$286,384 million, or (5.3)%, from June 30, 2021. Key elements of the increase in net position are described below and in Tables 1 and 2 on pages 18 & 19.

CONTRIBUTIONS AND INVESTMENT INCOME

Additions to fiduciary net position include member and employer contributions and investment income. Member contributions were approximately \$59.5 million, \$54.5 million and \$53.8 million for the years ended June 30, 2023, 2022 and 2021, respectively.

Member contributions increased by \$5.0 million, or 9.2% in 2023 and increased by \$0.7 million, or 1.4% in 2022. The increase in member contributions in 2023 was primarily the result of increases in covered payroll.

Employer contributions were \$316.8 million, \$287.1 million and \$268.6 million for the years ended June 30, 2023, 2022 and 2021, respectively. Employer contributions increased approximately \$29.8 million, or 10.4% in 2023 and increased approximately \$18.5 million, or 6.9% in 2022. The increase in 2023 was due to an increase in covered payroll. The increase in 2022 was primarily due to an increase in covered payroll.

Net investment and securities lending income was \$304.2 million, \$(219.9) million and \$1,042 million for the years ended June 30, 2023, 2022 and 2021, respectively.

For the fiscal years ended June 30, 2023, 2022 and 2021, the KCERA portfolio returned (net of fees) 5.9%, (4.5)%, and 23.9%, respectively. More information on KCERA's investment portfolio is contained in the investment section of this report.

BENEFITS, REFUNDS AND EXPENSES

Deductions to plan fiduciary net position include pension benefits, lump sum payments, supplemental benefits, refunds of member contributions, and administrative expenses. The pension benefits (annuity, pension and cost-of-living allowances) were \$388.2 million, \$371.4 million and \$355.2 million for the years ended June 30, 2023, 2022 and 2021, respectively. Pension benefits increased by approximately \$16.8 million, or 4.5% in 2023 and \$16.2 million, or 4.6% in 2022.

These increases were mainly due to a consistently growing population of retired members and beneficiaries receiving pension benefits and an increase in the average monthly benefit, attributable to higher final average compensations, and the maximum 2.5% cost-of-living adjustment. Retired members and beneficiaries increased by 1.6% in 2023 and by 2.0% in 2022.

FINANCIAL ANALYSIS (CONT.)

BENEFITS, REFUNDS AND EXPENSES (CONT.)

KCERA previously adopted California Government Code Section 31618, which provides for the establishment of the Supplemental Retiree Benefit Reserve (SRBR). In fiscal year 2023, SRBR was restructured to include an annual 2.5% COLA on SRBR benefits, so long as SRBR remains adequately funded. SRBR also includes a \$5,000 death benefit. In addition to pension benefits, the supplemental retirement benefits paid were \$22.2 million, \$20.6 million and \$19.3 million for the years ended June 30, 2023, 2022 and 2021, respectively. Refunds of member contributions were \$7.4 million, \$9.4 million and \$6.5 million for the years ended June 30, 2023, 2022 and 2021, respectively.

KCERA's administrative expenses were \$7.3 million, \$6.7 million and \$6.1 million for the years ended June 30, 2023, 2022 and 2021, respectively.

Average aggregate monthly defined benefit payments, excluding SRBR benefits, AND total number of retirees and beneficiaries:

June 2023	June 2022	June 2021
\$32.1 million	\$30.7 million	\$29.4 million
9,156	9,015	8,835

STATEMENT OF FIDUCIARY NET POSITION

Table 1

(in thousands)

	2023	Increase (Decrease) Amount	2022	Increase (Decrease) Amount	2021
Assets					
Current Assets	\$ 719,437	\$ 322,694	\$ 396,743	\$ (96,366)	\$ 493,109
Investments	4,835,565	(32,182)	4,867,747	(133,237)	5,000,984
Securities Lending Collateral	—	(153,386)	153,386	(28,133)	181,519
Capital Assets	515	(562)	1,077	(615)	1,692
Total Assets	5,555,517	136,564	5,418,953	(258,351)	5,677,304
Liabilities					
Current Liabilities	168,936	34,498	134,438	56,166	78,272
Liabilities for Security Lending	—	(153,386)	153,386	(28,133)	181,519
Total Liabilities	168,936	(118,888)	287,824	28,033	259,791
Fiduciary Net Position - Restricted for Pension Benefits	\$ 5,386,581	\$ 255,452	\$ 5,131,129	\$ (286,384)	\$ 5,417,513

FINANCIAL ANALYSIS (CONT.)

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

Table 2

(in thousands)

	2023	Increase (Decrease) Amount	2022	Increase (Decrease) Amount	2021
Additions					
Employer Contributions*	\$ 316,838	\$ 29,775	\$ 287,063	\$ 18,438	\$ 268,625
Member Contributions*	59,521	5,007	54,514	725	53,789
Net Investment Income	304,208	524,155	(219,947)	(1,263,308)	1,043,361
Total Additions	680,567	558,937	121,630	(1,244,145)	1,365,775
Deductions					
Pension Benefits	388,231	16,881	371,350	16,153	355,197
Supplemental Retirement Benefits	22,185	1,595	20,590	1,304	19,286
Refunds of Member Contributions	7,439	(1,934)	9,373	2,860	6,513
Administrative Expenses	7,260	558	6,702	641	6,061
Total Deductions	425,115	17,100	408,015	20,958	387,057
Increase (Decrease) in Net Position	\$ 255,452	\$ 541,837	\$ (286,384)	\$ (1,265,103)	\$ 978,718
Fiduciary Net Position -					
Restricted for Pension Benefits					
At Beginning of Year	\$ 5,131,129	\$ (286,384)	\$ 5,417,513	\$ 978,718	\$ 4,438,795
At End of Year	\$ 5,386,581	\$ 255,452	\$ 5,131,129	\$ (286,385)	\$ 5,417,513

*Employer paid member contributions are classified as member contributions.

RESERVES

KCERA's reserves are established for the purpose of managing benefit operations in accordance with the County Employees Retirement Law of 1937 (CERL). The total amount of reserves equals KCERA's Fiduciary Net Position – Restricted for Pension Benefits at the end of the year.

Investments are stated at fair value instead of at cost and include the recognition of unrealized gains and losses. Unrealized gains and losses effect the reserves indirectly through an actuarial asset "smoothing" process and are held in the Market Stabilization Reserve with a portion allocated to all other reserves. KCERA uses a five-year smoothing methodology to recognize unrealized gains and losses. The five-year smoothing is calculated by subtracting the expected return of the actuarial assumed interest rate of 7.25% from the total Fund's actual return on net position. The Market Stabilization Reserve was \$(208.8) million, \$(220) million and \$429.1 million for the years ended June 30, 2023, 2022 and 2021, respectively.

Interest at the actuarial rate of 7.25%, or at the highest rate possible if net earnings are not sufficient to credit the full actuarial rate, is credited semiannually on December 31 and June 30. Interest is credited to all reserves, except the contingency reserve. KCERA credited the reserves 7.25% in fiscal year 2023 and 7.25% in fiscal year 2022. In addition, in fiscal year 2023, \$(92.9) million was credited to decrease the contingency reserve to a 0.46% of total fair value of assets, in accordance with the Board of Retirement's Interest Crediting Policy. As investment returns continue to improve, the Contingency Reserve will increase to 3% of fair value of assets.

RESERVES (CONT.)

(in thousands)

KCERA Reserves			
	2023	2022	2021
Member Reserve	601,611	547,558	505,907
Employer Reserve	1,471,085	1,294,007	1,169,530
Cost of Living Reserve	1,830,478	1,687,815	1,557,603
Retired Member Reserve	1,537,885	1,562,252	1,549,933
Supplemental Retiree Benefit Reserve	129,750	142,006	151,852
Contingency Reserve	24,619	117,544	53,624
Market Stabilization Reserve	(208,847)	(220,053)	429,064
Total	\$ 5,386,581	\$ 5,131,129	\$ 5,417,513

FIDUCIARY RESPONSIBILITIES

The Board of Retirement and management staff are fiduciaries of the pension trust fund. Under the California Pension Protection Act of 1992, the Board of Retirement has plenary authority and fiduciary responsibility for the investment of monies and for the administration of KCERA. The Board of Retirement has the sole and exclusive fiduciary responsibility over the assets of the Plan. The assets are held for the exclusive purpose of providing benefits to KCERA members and their survivors, as mandated.

REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of KCERA's finances and accountability for the plan sponsors and members. Questions concerning any of the information provided in this report or requests for additional information should be directed to Angela Kruger, KCERA's Chief Financial Officer, at angela.kruger@kcera.org or (661) 381-7700.

KCERA 2023 - Statements of Fiduciary Net Position

As of June 30, 2023 and 2022

	(In thousands)	
	2023	2022
Assets		
Cash in County Pool	\$ 15,830	\$ 16,415
Cash and Short-Term Investment Funds	<u>577,455</u>	<u>281,329</u>
Total Cash and Cash Equivalents	593,285	297,744
Receivables:		
Investments Sold	97,212	74,962
Interest and Dividends	10,336	8,804
Contributions and Other Receivables	<u>18,510</u>	<u>15,096</u>
Total Receivables	126,058	98,862
Investments at Fair Value:		
Short Duration Fixed Income	124,460	107,839
Domestic Fixed Income	735,517	890,184
International Fixed Income	193,983	326,337
Domestic Equities	788,494	503,917
International Equities	855,274	703,510
Commodities	50,780	306,656
Hedge Funds	589,539	637,028
Alpha Pool	174,680	139,591
Midstream	299,149	266,594
Core Real Estate	305,432	386,678
Private Real Estate	134,133	162,563
Private Equity	189,903	138,642
Private Credit	322,855	298,225
Opportunistic	102,634	178,176
Swaps/Options	(31,268)	(178,193)
Collateral Held for Securities Lending	—	153,386
Total Investments	<u>4,835,565</u>	<u>5,021,133</u>
Capital Assets:		
Computer Software	6,298	6,298
Equipment/Computers	740	846
Accumulated Depreciation	<u>(6,523)</u>	<u>(6,067)</u>
Total Capital Assets	515	1,077
Prepaid Expenses	94	137
Total Assets	<u>5,555,517</u>	<u>5,418,953</u>
Liabilities		
Securities Purchased	166,494	132,265
Collateral Held for Securities Lent	—	153,386
Other Liabilities	<u>2,442</u>	<u>2,173</u>
Total Liabilities	<u>168,936</u>	<u>287,824</u>
Fiduciary Net Position - Restricted for Pension Benefits	<u>\$ 5,386,581</u>	<u>\$ 5,131,129</u>

See accompanying notes to the financial statements.

KCERA 2023 - Statements of Changes in Fiduciary Net Position

For the years ended June 30, 2023 and 2022

	(In thousands)	
	2023	2022
Additions		
Contributions:		
Employer	\$ 316,838	\$ 287,063
Member	59,521	54,514
Total Contributions	376,359	341,577
Investment Income:		
Net Appreciation in Fair Value of Investments	236,974	(253,607)
Interest	45,860	30,603
Dividends	79,903	40,098
Real Estate Income	14,215	22,292
Total Investment Income	376,952	(160,614)
Less: Investment Expenses	73,283	59,814
Net Investment Income	303,669	(220,428)
Securities Lending Activity:		
Securities Lending Income	599	534
Less: Rebates & Bank Fees	60	53
Net Securities Lending Income	539	481
Total Additions	680,567	121,630
Deductions		
Retirement and Survivor Benefits	388,231	371,350
Supplemental Retirement Benefits	22,185	20,590
Refunds of Member Contributions	7,439	9,373
Administrative Expenses	7,260	6,702
Total Deductions	425,115	408,015
Net Increase	255,452	(286,384)
Fiduciary Net Position - Restricted for Pension At Beginning of Year	5,131,129	5,417,513
Fiduciary Net Position - Restricted for Pension At End of Year	\$ 5,386,581	\$ 5,131,129

See accompanying notes to the financial statements.

NOTE 1 – DESCRIPTION OF PLAN

The Kern County Employees’ Retirement Association (KCERA) was established on January 1, 1945 by the County of Kern Board of Supervisors under the provisions of the County Employees’ Retirement Law of 1937 (CERL). KCERA is a cost-sharing, multiple-employer defined benefit plan (the Plan) covering all permanent employees of the County of Kern, Berrenda Mesa Water District, Buttonwillow Recreation and Park District, East Kern Cemetery District, Inyokern Community Services District, Kern County Hospital Authority, Kern County Superior Court, Kern County Water Agency, Kern Mosquito and Vector Control District, North of the River Sanitation District, San Joaquin Valley Air Pollution Control District, Shafter Recreation and Park District, West Side Cemetery District, West Side Mosquito and Vector Control District, and West Side Recreation and Park District. The Plan is administered by the Kern County Board of Retirement, which consists of nine members and two alternate members.

As of June 30, 2023, employee membership data related to the pension plan was as follows:

	General	Safety	Total
Active – Vested	4,291	1,194	5,485
Active – Non-Vested	3,549	523	4,072
Total Active Members	7,840	1,717	9,557
Terminated – Deferred Vested	3,900	491	4,391
Retirees and Beneficiaries	6,937	2,219	9,156
Total Members	18,677	4,427	23,104

As of June 30, 2022, employee membership data related to the pension plan was as follows:

	General	Safety	Total
Active – Vested	4,226	1,206	5,432
Active – Non-Vested	3,149	495	3,644
Total Active Members	7,375	1,701	9,076
Terminated – Deferred Vested	3,550	465	4,015
Retirees and Beneficiaries	6,851	2,164	9,015
Total Members	17,776	4,330	22,106

BENEFIT PROVISIONS

KCERA provides service retirement, disability, death, survivor and supplemental benefits to eligible employees. All regular full-time employees of the County of Kern or contracting districts who work 50% or more of the regular standard hours required become members of KCERA effective on the first day of the payroll period following the date of hire. Safety membership includes those in active law enforcement, fire suppression, criminal investigation and probation officers. General members (excluding Tier III) are eligible to retire at age 70 regardless of service or at age 50 with 10 or more years of retirement service credit. A member with 30 years of service is eligible to retire regardless of age. General Tier III members are eligible to retire at age 70 regardless of service or at age 52 with five or more years of retirement service credit.

NOTE 1 – DESCRIPTION OF PLAN (CONT.)**BENEFIT PROVISIONS (CONT.)**

Safety members are eligible to retire at age 70 regardless of service or at age 50 with 10 or more years of retirement service credit. A member with 20 years of service is eligible to retire regardless of age.

The retirement benefit the member will receive is based on age at retirement, final average compensation (FAC), years of retirement service credit and retirement benefit tier.

General member benefits for Tier I and Tier II are calculated pursuant to California Gov. Code Sections 31676.17 and 31676.01, respectively. The monthly allowance is equal to 1/50th of FAC times years of accrued retirement service credit times age factor from Section 31676.17 (Tier I) or 1/90th of FAC times years of accrued retirement service credit times age factor from Section 31676.01 (Tier II). General Tier III member benefits are calculated pursuant to the provisions found in California Government Code Section 7522.20(a). The monthly allowance is equal to the FAC multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.20(a).

Safety member benefits for Tier I and Tier II are calculated pursuant to California Gov. Code Sections 31664.1 and 31664, respectively. The monthly allowance is equal to 3% of FAC times years of accrued retirement service credit times age factor from Section 31664.1 (Tier I) or 1/50th (2%) of FAC times years of accrued retirement service credit times age factor from Section 31664 (Tier II).

For members in Tier I or Tier II, the maximum monthly retirement allowance is 100% of FAC. There is no FAC limit on the maximum retirement benefit for General Tier III members.

The maximum amount of compensation earnable that can be taken into account for 2023 for members with membership dates on or after July 1, 1996 but before January 1, 2013 is \$345,000. The maximum amount of compensation earnable that was taken into account for 2022 was \$330,000. For General Tier III members enrolled in Social Security who joined on or after January 1, 2013, the maximum pensionable compensation for 2023 is \$151,446. The maximum pensionable compensation for 2022 was \$146,042. These limits are adjusted on an annual basis. Members are exempt from paying member contributions and employers are exempt from paying employer contributions on compensation in excess of the annual cap.

FAC consists of the highest 12 consecutive months of pay for a General Tier I or Tier IIA member or a Safety Tier I or Tier IIA member, and the highest 36 consecutive months of pay for a General Tier IIB or Tier III member or a Safety Tier IIB member.

The member may elect an unmodified retirement allowance or an optional retirement allowance. The unmodified option provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse or domestic partner. An eligible spouse or partner is one married to or registered with the member for at least one year prior to the effective retirement date. Certain surviving spouses or partners may also be eligible if marriage or partnership occurred at least two years prior to the date of death and the surviving spouse or partner is age 55 as of the date of death. There are also four optional retirement allowances the member may choose. Each option requires a reduction in the unmodified allowance to grant the member the ability to provide certain benefits to a surviving spouse, domestic partner or named beneficiary having an insurable interest in the life of the member.

NOTE 1 – DESCRIPTION OF PLAN (CONT.)

BENEFIT PROVISIONS (CONT.)

DEATH BENEFITS:

Death Before Retirement

An active member's beneficiary is entitled to receive death benefits, which consist of accumulated contributions and interest and one month of salary for each full year of service, up to a maximum of six months' salary.

If a member is vested and his/her death is not the result of job-caused injury or disease, the spouse or registered domestic partner will be entitled to receive, for life, a monthly allowance equal to 60% of the retirement allowance they would have been entitled to receive if they had retired for a non- service-connected disability on the date of their death. This same choice is given to their minor children under the age of 18 (continuing to age 22 if enrolled full time in an accredited school).

If a member dies in the performance of duty, his/her spouse or registered domestic partner receives, for life, a monthly allowance equal to at least 50% of the member's final average salary. This can also apply to minor children under age 18 (continuing to age 22 if enrolled full time in an accredited school).

Death After Retirement

If a member dies after retirement, a death benefit of \$5,000 is payable to his/her designated beneficiary or estate. If the retirement was for a nonservice-connected disability and the member chose the unmodified allowance option, the surviving spouse, registered domestic partner or minor children will receive a monthly continuance equal to 60% of the benefit. If the retirement was for a service-connected disability, the spouse, registered domestic partner or minor children will receive a 100% continuance of the member's benefit.

NOTE 1 – DESCRIPTION OF PLAN (CONT.)

BENEFIT PROVISIONS (CONT.)

DISABILITY BENEFIT:

A member with five years of service, regardless of age, who becomes permanently incapacitated for the performance of duty will be eligible for a nonservice-connected disability retirement. Any member who becomes permanently incapacitated for the performance of duty as a result of injury or disease arising out of and in the course of employment, is eligible for a service-connected disability, regardless of service length or age.

COST-OF-LIVING ADJUSTMENT:

An annual cost-of-living adjustment (COLA) of up to 2.0% was adopted for all retirees and continuance beneficiaries as of April 1, 1973. An additional 0.5% COLA was granted by the Ventura Settlement in April 1, 2002, resulting in a maximum COLA of 2.5%, depending on the rate of inflation.

SUPPLEMENTAL BENEFITS:

The Board of Retirement and the Board of Supervisors adopted Government Code Section 31618 on April 23, 1984, which provides for the establishment of the Supplemental Retiree Benefit Reserve (SRBR). The SRBR is used only for the benefit of future and current retired members and their beneficiaries. The supplemental benefit is not a guaranteed benefit. The distribution of the SRBR is determined by the Board of Retirement. In fiscal year 2023, SRBR provided a variable monthly benefit and a \$5,000 death benefit.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

REPORTING ENTITY

KCERA, with its own governing board, is an independent governmental entity separate and distinct from the County of Kern.

BASIS OF ACCOUNTING

KCERA follows Governmental Accounting Standards Board (GASB) accounting principles and reporting guidelines. The financial statements are prepared using the accrual basis of accounting and reflect the overall operations of KCERA. Employer and member contributions are recognized in the period in which the contributions are due, and benefits and refunds of prior contributions are recognized when due and payable in accordance with the terms of the Plan. Investment income is recognized as revenue when earned and is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. The net appreciation (depreciation) in the fair value of investments is recorded as an increase (decrease) to investment income based on investment valuations, which includes both realized and unrealized gains and losses on investments.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT.)

ADMINISTRATIVE EXPENSES

KCERA's Board annually adopts the operating budget for the administration of KCERA. Costs of administering the Plan are charged against the Plan's earnings. KCERA's administrative budget is calculated pursuant to Government Code Section 31580.2(a), which provides that the administrative expenses incurred in any year may not exceed the greater of either twenty-one hundredths of 1 percent (0.21%) of the actuarial accrued liability of the system or \$2,000,000, as adjusted annually by the amount of the annual cost-of-living adjustment computed in accordance with Article 16.5. Government Code Section 31580.2(b) provides that expenditures for computer software, hardware and computer technology consulting services in support of the computer products shall not be considered a cost of administrative expenses in the calculation.

CASH EQUIVALENTS

Cash equivalents are assets that are readily convertible into cash, such as short-term government bonds, short-term investment funds or Treasury bills and commercial paper. Cash equivalents are distinguished from other investments through their short-term existence; they mature within three months. A cash equivalent must also be an investment with an insignificant risk of change in value.

VALUATION OF INVESTMENTS

Fair value for investments are derived by various methods as indicated in the following table:

Publicly traded stocks	Most recent exchange closing price. International securities reflect currency exchange rates in effect at June 30, 2023 and 2022.
Short-term investments and bonds	Institutional evaluations or priced at par.
OTC securities	Evaluations based on good faith opinion as to what a buyer in the marketplace would pay for a security.
Commingled funds	Net asset value provided by the investment manager.
Alternative investments	Net asset value provided by the Fund manager based on the underlying financial statements and fair value of the Fund.
Real estate investments	Estimated based on price that would be received to sell an asset in an orderly transaction between marketplace participants at the measurement date. Investments without a public market are valued based on assumptions made and multiple valuation techniques or appraisals used by the investment manager. The KCERA property is valued based on an annual appraisal.
Commodities Swaps/Options	Listed market prices are used to report the fair values for derivative instruments, if available. If listed market prices are not available for derivative instruments, the price used may be from a vendor, an investment manager or a counterparty.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT.)

RISKS AND UNCERTAINTIES

KCERA invests in various investment securities, which are exposed to various risks, including interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the Statement of Fiduciary Net Position.

CAPITAL ASSETS

Assets shall be recorded at historical cost or, if that amount is not practicably determined, at estimated historical cost. Accumulated depreciation shall be summarized and reflected on KCERA's annual financial statements. Capital assets shall be depreciated over their estimated useful lives using the straight-line depreciation method. Intangible assets with limited useful lives (e.g., by legal or contractual provisions) should be amortized over their estimated useful lives. Amortization of computer software should begin when the program is placed into service.

Capitalization Thresholds and Useful Life

Capital Asset	Thresholds	Useful Life
Furniture	\$2,500	5-15 years
Equipment/Computers	\$5,000	3-10 years
Internally generated computer software	\$1,000,000	5-12 years
Computer software	\$100,000	3-10 years

INCOME TAXES

The Plan qualifies under Section 401(a) of the Internal Revenue Code and is therefore not subject to tax under present income tax laws. No provision for income taxes has been made in the accompanying financial statements, as the Plan is exempt from federal and state income taxes under the provisions of Internal Revenue Code, Section 501 and California Revenue and Taxation Code, Section 23701, respectively.

MANAGEMENT'S ESTIMATES

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions. These affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

RECLASSIFICATIONS OF PRIOR YEAR BALANCES

Certain prior year balances have been reclassified to conform to the current year presentation. Reclassifications did not have an effect on prior year fiduciary net position.

GASB PRONOUNCEMENTS

GASB Statement No. 96 (GASB 96) Subscription-Based Information Technology Arrangements (SBITA) will have an effect for reporting in the ACFR. A SBITA is defined as a contract that conveys control of the right to use another party's information technology software, alone or in combination with tangible capital assets, as specified in the contract for a period of time in an exchange or exchange-like transaction. The requirements for GASB 96 are effective for reporting periods beginning after June 15, 2022. KCERA does not have any SBITAs that have a material impact on the June 30, 2023 financial statements.

NOTE 3 – DEPOSITS AND INVESTMENTS

The Board of Retirement (the Board) has the fiduciary responsibility and authority to oversee the investment portfolio. The Board is governed by the County Employees' Retirement Law of 1937. It is also governed by California Government Code Sections 31594 and 31595, which provide for prudent person governance of the Plan. Under this law, the type and amount of plan investments as well as the quality of securities are not specifically delineated; rather, the investments made are assumed to be in the best interest of the Plan such that others with similar information would acquire similar investments. The Board is required to diversify the investments of the Plan so as to minimize the risk of loss and to maximize the rate of return, unless it is clearly prudent not to do so. The investments shall be made for the exclusive purpose of providing benefits to the participants and their beneficiaries and defraying reasonable expenses to the Plan.

The Board maintains a formal Investment Policy Statement, which addresses guidelines for the investment process. The primary investment objectives for KCERA's assets shall be:

1. Earn a long-term net of fees rate of return which is equal to or exceeds the assumed rate of return.
2. Earn a long-term net of fees rate of return which is equal to or exceeds the established benchmark.
3. Earn a long-term net of fees rate of return which exceeds the long-term rate of inflation.

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NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)

The asset allocation decision is a critical decision and involves complex analysis. KCERA’s policy regarding the allocation of assets is established and may be amended by the Board. It is the policy of the Board to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Board’s adopted asset allocation as of June 30, 2023:

Asset Class	Target	Range
Global Equity	37 %	26 - 48%
Domestic	19 %	16 - 27%
International Developed	13 %	8 - 18%
Emerging Market	5 %	1 - 9%
Fixed Income	24 %	14 - 34%
Core	14 %	12 - 25%
Credit	6 %	3 - 9%
Emerging Market Debt	4 %	1 - 7%
Commodities	4 %	0 - 8%
Hedge Funds	10 %	5 - 15%
Core Real Estate	5 %	2 - 8%
CE Alpha Pool	8 %	2 - 10%
Midstream Energy	5 %	0 - 8%
Opportunistic	0 %	0 - 10%
Private Equity	5 %	0 - 10%
Private Credit	5 %	0 - 10%
Private Real Estate	5 %	0 - 10%
Cash*	-8 %	-10 - 5%

* In fiscal year 2019-2020 the Board approved a new strategic long-term asset allocation which includes the new Capital Efficiency program. The Capital Efficiency program seeks to improve the returns of the Plan by using derivatives in place of physical securities, and then utilizing a portion of the unencumbered cash from the derivative position to fund investments in the CE Alpha Pool. As a result, as capital is invested in the CE Alpha Pool, the effective cash exposure for the Plan becomes negative.

For the year ended June 30, 2023 and 2022, the annual money-weighted rate of return on pension plan investments, net of pension investment expenses, was 6.7% and (4.2)%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

The Board retains a number of professional investment managers. Investment manager selection involves complex due diligence and the Board’s investment policy requires independent performance measurement of investment managers.

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)

DEPOSITS

Cash and cash equivalents are carried at cost plus accrued interest, which approximates fair value. All cash and cash equivalents are held as follows: by the County of Kern as part of Kern County’s treasury pool; by Wells Fargo Bank as cash for benefit payments and KCERA Property, Inc.; and by KCERA’s master global custodian, The Northern Trust Company. The County Treasury Oversight Committee is responsible for regulatory oversight of the Kern County Treasury Pool. Substantially all of the cash held at The Northern Trust Company is swept into collective, short-term investment funds.

Below is a summary of cash and cash equivalents as of June 30, 2023 and 2022:

(In thousands)

Held by	2023	2022
County of Kern	\$ 15,830	\$ 16,415
Wells Fargo	2,394	958
Northern Trust	576,904	282,265
Disbursements	(1,843)	(1,894)
Total	<u>\$ 593,285</u>	<u>\$ 297,744</u>

Custodial Credit Risk - Deposits

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the Plan will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. KCERA does not have a formal policy for custodial credit risk but limits custodial credit risk for deposits by maintaining cash in an external investment pool managed by the County of Kern and cash and cash equivalents managed by The Northern Trust Company. Deposits held at The Northern Trust Company that were uninsured and uncollateralized were \$0.2 million and \$2.2 million for the years ended June 30, 2023 and 2022, respectively.

INVESTMENTS

Investments of the Plan are reported at fair value. In fulfilling its responsibilities, the Board of Retirement has contracted with investment managers and a master global custodian. For the year ended June 30, 2023 and 2022, The Northern Trust Company is the global custodian for the majority of the investments of the Plan.

Credit Risk

Credit risk is the risk that an issuer or other counterparty to a debt investment will not fulfill its obligations. The KCERA investment policy’s minimum average credit quality rating for fixed income, with the exception of high yield, shall be at least A- and the minimum issue quality shall be B-rated. The minimum overall average credit quality for high yield shall be at least B.

At June 30, 2023 and 2022, KCERA’s assets consisted of securities with credit quality ratings issued by nationally recognized statistical rating organizations, as shown on the next page.

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)
INVESTMENTS (CONT.)
Standard & Poor's (S&P) Credit Quality by Investment Type

As of June 30, 2023

(In thousands)

Type of Investment	S&P Credit Quality						NR	U.S. Gov Guaranteed	Total
	AAA	AA	A	BBB-B	CCC-C	D			
Asset-Backed Securities	\$ 24,411	\$ 1,610	\$ 804	\$ 673	\$ 3,843	\$ 483	\$ 21,872	\$ —	\$ 53,696
Bank Deposits	—	—	—	—	—	—	900	—	900
Bank Loans	—	—	—	9,114	405	—	3,117	—	12,636
Commercial Mortgage-Backed Securities	2,201	—	—	690	—	—	14,996	—	17,887
Commercial Paper	—	—	—	—	—	—	3,526	—	3,526
Corporate Bonds	1,053	3,134	33,058	251,943	9,243	—	16,761	—	315,192
Corporate Convertible Bonds	—	—	—	911	223	—	1,378	—	2,512
Government Agencies	5,722	9,565	1,340	4,333	—	82	6,311	867	28,220
Government Bonds	—	2,415	5,716	59,289	2,457	1,452	44,222	53,606	169,157
Government Mortgage Backed Securities	—	—	—	696	—	—	792	119,850	121,338
Government-Issued Commercial Mortgage Backed Securities	—	—	—	—	—	—	—	1,283	1,283
Municipal / Provincial Bonds	186	—	2,559	391	596	—	281	—	4,013
U.S. Treasuries & Notes	—	—	—	47	—	—	16,699	59,595	76,341
Non-Government-Backed C.M.O.s	843	266	108	431	171	—	3,396	—	5,215
Repurchase Agreements	—	—	—	—	—	—	(1,544)	—	(1,544)
Sukuk	—	—	238	392	—	—	3,900	—	4,530
Collective / Commingled Funds	—	—	—	—	—	—	239,058	—	239,058
Total Fixed Income	\$ 34,416	\$ 16,990	\$ 43,823	\$328,910	\$16,938	\$ 2,017	\$375,665	\$ 235,201	\$ 1,053,960

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)
INVESTMENTS (CONT.)
Standard & Poor's (S&P) Credit Quality by Investment Type

As of June 30, 2022

(In thousands)

Type of Investment	S&P Credit Quality							U.S. Gov Guaranteed	Total
	AAA	AA	A	BBB-B	CCC-C	D	NR		
Asset-Backed Securities	\$ 14,793	\$ 1,537	\$ 1,007	\$ 1,986	\$ 5,863	\$ 487	\$ 16,374	\$ —	\$ 42,047
Bank Loans	—	—	—	14,981	677	—	4,649	—	20,307
Commercial Mortgage-Backed Securities	3,124	100	507	571	—	—	18,641	—	22,943
Commercial Paper	—	—	—	—	—	—	1,493	—	1,493
Corporate Bonds	1,526	5,855	43,753	274,331	14,540	—	17,763	—	357,768
Corporate Convertible Bonds	—	—	—	2,098	297	—	2,741	—	5,136
Government Agencies	473	1,851	1,439	4,133	518	—	5,212	1,413	15,039
Government Bonds	—	1,808	6,165	62,802	2,011	580	34,911	68,465	176,742
Government Mortgage Backed Securities	—	—	394	468	—	—	373	99,683	100,918
Government-Issued Commercial Mortgage Backed Securities	—	—	—	—	—	—	—	916	916
Municipal / Provincial Bonds	290	—	2,666	469	339	—	181	—	3,945
U.S. Treasuries & Notes	—	—	—	—	—	—	541	10,337	10,878
Non-Government-Backed C.M.O.s	1,427	380	133	362	204	—	4,196	—	6,702
Sukuk	—	—	248	598	—	—	1,875	—	2,721
Collective / Commingled Funds	—	—	—	—	—	—	556,805	—	556,805
Total Fixed Income	\$ 21,633	\$ 11,531	\$ 56,312	\$ 362,799	\$ 24,449	\$ 1,067	\$ 665,755	\$ 180,814	\$ 1,324,360

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)

INVESTMENTS (CONT.)

CUSTODIAL CREDIT RISK - INVESTMENTS

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the Plan will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party. KCERA does not have a formal policy for limiting custodial credit risk. As of June 30, 2023 and 2022, there were no investment securities exposed to custodial credit risk.

CONCENTRATION OF CREDIT RISK

The KCERA investment policy limits exposure to any single investment manager or product. The maximum allocation to a single active manager is up to 12% of the aggregate fair value of the Plan. The maximum allocation to a single active management product is 8%. This limitation applies to any non-index investment vehicle. With the exception of any sovereign entity (both U.S. and non-U.S.) U.S. agency-backed and U.S. agency issued mortgages, portfolios may not invest more than 5% per investment-grade issuer. Securities of a single noninvestment-grade issuer should not represent more than 2% of the fair value of the portfolio. KCERA's investment portfolio contained no investments in any one single investment-grade issuer greater than 5% of fiduciary net position as of June 30, 2023 and 2022 (other than the exceptions listed above).

INTEREST RATE RISK

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. KCERA's investment policy requires active managers to be within 20% of their benchmark. The overall Fund duration is expected to be within 20% of the Fund's benchmark duration. At June 30, 2023 and 2022, the segmented time distribution of the fixed income portfolio, by investment type, was as follows:

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)
INVESTMENTS (CONT.)

(In thousands)

Investment Type	Investment Maturities (in years) as of June 30, 2023					Maturity Not Determined
	Fair Value	Less Than 1	1-5	6-10	More Than 10	
Asset-Backed Securities	\$ 53,696	\$ 454	\$ 15,498	\$ 15,653	\$ 22,091	\$ —
Bank Deposits	900	900	—	—	—	—
Bank Loans	12,636	—	10,028	2,608	—	—
Commercial Mortgage-Backed Securities	17,887	—	934	852	16,101	—
Commercial Paper	3,526	3,526	—	—	—	—
Corporate Bonds	315,192	4,356	122,417	148,822	39,597	—
Corporate Convertible Bonds	2,512	267	1,334	—	911	—
Government Agencies	28,220	7,144	11,018	5,424	4,634	—
Government Bonds	169,157	6,487	46,089	34,340	82,241	—
Government Mortgage Backed Securities	121,338	58,622	204	1,699	60,813	—
Government-Issued Commercial Mortgage Backed Securities	1,283	—	180	458	645	—
Municipal / Provincial Bonds	4,013	1,088	391	281	2,253	—
US Treasuries & Notes	76,341	72,129	964	3,201	47	—
Non-Government-Backed C.M.O.s	5,215	—	200	143	4,872	—
Repurchase Agreements	(1,544)	(1,544)	—	—	—	—
Sukuk	4,530	—	1,613	1,746	1,171	—
Collective / Commingled Funds	239,058	—	—	—	—	239,058
Total	\$ 1,053,960	\$ 153,429	\$ 210,870	\$ 215,227	\$ 235,376	\$ 239,058

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)
INVESTMENTS (CONT.)

(In thousands)

Investment Type	Investment Maturities (in years) as of June 30, 2022					Maturity Not Determined
	Fair Value	Less than 1	1-5	6-10	More than 10	
Asset-Backed Securities	\$42,047	\$ —	\$ 5,270	\$ 12,859	\$ 23,918	—
Bank Loans	20,307	—	10,696	9,611	—	—
Commercial Mortgage-Backed Securities	22,943	—	272	1,055	21,616	—
Commercial Paper	1,493	1,493	—	—	—	—
Corporate Bonds	357,768	8,002	127,189	169,466	53,111	—
Corporate Convertible Bonds	5,136	—	1,967	380	2,789	—
Government Agencies	15,039	—	7,650	3,011	4,378	—
Government Bonds	176,742	24,624	37,065	33,114	81,939	—
Government Mortgage Backed Securities	100,918	43,660	151	2,896	54,211	—
Government-Issued Commercial Mortgage Backed Securities	916	—	42	396	478	—
Municipal / Provincial Bonds	3,945	—	1,286	650	2,009	—
US Treasuries & Notes	10,878	8,519	2,359	—	—	—
Non-Government-Backed C.M.O.s	6,702	—	227	206	6,269	—
Sukuk	2,721	—	981	1,508	232	—
Collective / Commingled Funds	556,805	—	—	—	—	556,805
Total	\$1,324,360	\$86,298	\$195,155	\$235,152	\$250,950	\$556,805

FOREIGN CURRENCY RISK

Foreign currency risk is the risk that changes in exchange rates will adversely affect the value of an investment.

The Board of Retirement considers the currency risk exposure when setting the asset allocation targets of the Plan. KCERA's investment policy permits an 18% allocation to non-U.S. equities and a 4% allocation to emerging market debt. In addition, the core fixed income and high yield managers invest in a diversified portfolio, which can include up to 10% in foreign currency exposure and 30% in non-dollar securities.

The direct holdings shown on the following page represent KCERA's foreign currency risk exposure as of June 30, 2023 and 2022.

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)

Foreign Currency		Fair Value					
		As of June 30, 2023				(In thousands)	
Foreign Currency	Equities	Fixed Income	Cash	Cash Collateral/ Variation Margin	Swaps/Options	Total	
Brazilian real	\$ —	\$ 11,338	\$ (3,372)	\$ —	\$ 51	\$ 8,017	
Canadian dollar	5,821	6,958	8,425	—	—	21,204	
Chilean peso	—	505	1,407	—	(96)	1,816	
Chinese yuan renminbi	—	—	2,896	—	16	2,912	
Colombian peso	—	4,697	1,015	—	—	5,712	
Czech koruna	—	1,872	2,475	77	(65)	4,359	
HK offshore Chinese yuan renminbi	—	7,853	(3,335)	—	—	4,518	
Hungarian forint	—	30	2,420	228	(223)	2,455	
Indonesian rupiah	—	7,913	(1,724)	—	—	6,189	
Malaysian ringgit	—	9,094	(1,564)	—	—	7,530	
Mexican peso	—	7,607	1,903	393	(332)	9,571	
New Romanian leu	—	3,237	(431)	—	—	2,806	
Peruvian nuevo sol	—	2,867	(1,338)	—	—	1,529	
Polish zloty	—	2,331	3,375	114	(90)	5,730	
South African rand	—	7,455	(1,196)	23	(4)	6,278	
Thai baht	—	7,806	(302)	—	—	7,504	
Other Currencies ¹	35	4,276	(864)	(121)	—	3,326	
Total	\$ 5,856	\$ 85,839	\$ 9,790	\$ 714	\$ (743)	\$ 101,456	

Foreign Currency		Fair Value					
		As of June 30, 2022				(In thousands)	
Foreign Currency	Equities	Fixed Income	Cash	Cash Collateral/ Variation Margin	Swaps/Options	Total	
Brazilian real	\$ —	\$ 10,023	\$ (2,967)	\$ —	\$ 51	\$ 7,107	
Canadian dollar	14,681	409	5,239	—	—	20,329	
Chinese yuan renminbi	—	—	2,839	—	(26)	2,813	
Colombian peso	—	11,598	(1,458)	—	251	10,391	
Czech koruna	—	1,609	1,847	75	(64)	3,467	
HK offshore Chinese yuan renminbi	—	3,475	355	—	—	3,830	
Hungarian forint	—	2,436	(512)	235	(221)	1,938	
Indonesian rupiah	—	7,986	(1,569)	—	—	6,417	
Malaysian ringgit	—	4,443	2,409	—	—	6,852	
Mexican peso	—	7,649	2,682	677	(632)	10,376	
New Romanian leu	—	1,085	1,031	—	—	2,116	
Polish zloty	—	1,395	3,013	470	(444)	4,434	
South African rand	—	7,173	(993)	7	12	6,199	
Thai baht	—	7,334	(626)	—	—	6,708	
Other Currencies ²	33	(3,339)	9,629	741	(508)	6,556	
Total	\$ 14,714	\$ 63,276	\$ 20,919	\$ 2,205	\$ (1,581)	\$ 99,533	

¹ Other currencies include (in thousands) \$2 of Argentine peso, \$(189) of Australian dollar, \$10 of British pound sterling, \$181 of Dominican peso, \$512 of Egyptian pound, \$(260) of Euro, \$1,452 of Japanese yen, \$45 of New Zealand dollar, \$91 of Philippine peso, \$758 of Russian ruble, \$5 of Swiss franc, \$695 of Turkish lira, \$23 of Uruguayan peso uruguayo

² Other currencies include (in thousands) \$4 of Argentine peso, \$(186) of Australian dollar, \$674 of British pound sterling, \$1,344 of Chilean peso, \$71 of Danish krone, \$96 of Dominican peso, \$1,057 of Egyptian pound, \$428 of Euro, \$140 of Japanese yen, \$(9) of New Israeli shekel, \$45 of New Zealand dollar, \$1,400 of Peruvian nuevo sol, \$89 of Philippine peso, \$871 of Russian ruble, \$5 of Swiss franc, \$432 of Turkish lira, \$96 of Uruguayan peso uruguayo

NOTE 3 – DEPOSITS AND INVESTMENTS (CONT.)

INVESTMENTS (CONT.)

HIGHLY SENSITIVE INVESTMENTS

KCERA utilizes investments that are highly sensitive to interest rate changes in its fixed income, separately managed investment accounts. Highly sensitive investments include mortgage-backed securities, asset-backed securities, collateralized mortgage obligations, and collateralized bond obligations (CBO). Mortgage-backed securities, collateralized mortgage obligations and asset-backed securities are created from pools of mortgages or other assets (receivables). A CBO is an investment-grade, asset-based security comprised of low-rated bonds that are transferred to a special purpose vehicle that manages the issue. Such securities are subject to credit and interest rate risks, including uncollectible mortgages or receivables backing a security, home mortgages that are prepaid at the option of the homeowner, and the duration and maturity of the issues.

Such securities are subject to credit and interest rate risks, including uncollectible mortgages or receivables backing a security, home mortgages that are prepaid at the option of the homeowner, and the duration and maturity of the issues.

Fair Value	<i>(In thousands)</i>	
	June 30, 2023	June 30, 2022
Mortgage-Backed Securities	\$ 140,508	\$ 124,777
Asset-Backed Securities	53,696	42,047
Collateralized Mortgage Obligation Securities	5,215	6,702
Total	<u>\$ 199,419</u>	<u>\$ 173,526</u>

NOTE 4 – FAIR VALUE MEASUREMENT

KCERA’s investments are measured and reported within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset’s fair value:

- Level 1 – Investments reflect prices quoted in active markets.
- Level 2 – Investments reflect prices that are based on a similar observable asset, either directly or indirectly, which may include inputs in markets that are not considered to be active.
- Level 3 – Investments reflect prices based on unobservable sources.

The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument and should not be perceived as the particular investment’s risk.

Debt, equities and investment derivatives classified in Level 1 of the fair value hierarchy are valued directly from a predetermined primary external pricing vendor. Assets classified in Level 2 are subject to pricing by an alternative pricing source due to lack of information available by the primary vendor. Assets classified in Level 3, due to lack of an independent pricing source, are valued using an internal fair value as provided by the investment manager.

NOTE 4 – FAIR VALUE MEASUREMENT (CONT.)
Investments Measured at Fair Value

(In thousands)

	June 30, 2023	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value				
Asset-Backed Securities	\$ 187,360	\$ —	\$ 186,725	\$ 635
Bank Loans	12,636	—	12,053	583
Bond Funds	6,389	—	6,389	—
Collateralized Debt Obligations	19,207	—	19,207	—
Corporate Debt Securities	317,704	—	317,280	424
Government Debt Securities	192,486	—	186,191	6,295
State & Local Government Debt Securities	1,758	—	1,758	—
Structured Debt	4,212	—	4,212	—
Sukuk	4,530	—	4,530	—
<i>Debt Securities:</i>	746,282	—	738,345	7,937
Common Stock	248,256	247,928	—	328
Commodity Funds	2,128	2,128	—	—
Equity Funds	130,856	130,856	—	—
Preferred Stock	801	—	801	—
<i>Equity Investments:</i>	382,041	380,912	801	328
Real Estate	4,629	4,629	—	—
<i>Real Assets:</i>	4,629	—	—	—
Investments Measured at the Net Asset Value (NAV)				
Alpha Pool	174,680			
Core Real Estate	305,432			
Hedge Funds	589,539			
Opportunistic	102,634			
Private Credit	322,855			
Private Equity	189,904			
Private Real Estate	134,133			
Commingled Commodity Funds	49,751			
Commingled Equity Funds	1,507,538			
Commingled Bond Funds	322,063			
<i>Net Asset Value (NAV)</i>	3,698,529			
Credit Contracts	(172)	—	(172)	
Interest Rate Contracts	652	24	628	—
Other	3,604	409	—	3,195
<i>Derivatives</i>	4,084	433	456	—
<i>Invested Securities Lending Collateral</i>	—	—	—	—
Total	\$ 4,835,565			

NOTE 4 – FAIR VALUE MEASUREMENT (CONT.)
Investments Measured at Fair Value

(In thousands)

	June 30, 2022	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value				
Asset-Backed Securities	\$ 265,374	\$ —	\$ 265,194	\$ 180
Bank Loans	20,307	—	19,707	600
Bond Funds	11,117	—	11,117	—
Collateralized Debt Obligations	17,239	—	17,239	—
Corporate Debt Securities	362,904	—	361,540	1,364
Government Debt Securities	194,172	—	192,809	1,363
State & Local Government Debt Securities	1,670	—	1,670	—
Structured Debt	2,359	—	2,359	—
Sukuk	2,721	—	2,721	—
<i>Debt Securities:</i>	877,863	—	874,356	3,507
Common Stock	255,133	254,976	—	157
Preferred Stock	86,966	86,966	—	—
Stapled Securities	753	—	753	—
<i>Equity Investments:</i>	342,852	341,942	753	157
Real Estate	5,394	—	—	—
<i>Real Assets:</i>	5,394	—	—	—
Investments Measured at the Net Asset Value (NAV)				
Real Estate Funds	456,626			
Hedge Funds	747,045			
Private Equity	386,425			
Commingled Commodity Funds	334,656			
Commingled Equity Funds	1,448,582			
Commingled Bond Funds	265,780			
<i>Net Asset Value (NAV)</i>	3,639,114			
Credit Contracts	(195)	—	(195)	—
Interest Rate Contracts	2,719	(188)	2,907	—
<i>Derivatives</i>	2,524	(188)	2,712	—
<i>Invested Securities Lending Collateral</i>	153,386	—	153,386	—
Total	\$ 5,021,133			

NOTE 4 – FAIR VALUE MEASUREMENT (CONT.)

The valuation method for investments measured at the net asset value (NAV) per share, or equivalent, is presented in the table below.

(In thousands)

Investments Measured at Net Asset Value (NAV)	6/30/2023	Redemption Frequency	Redemption Notice Period	Unfunded Commitments
Commingled Bond Funds (1)	\$ 322,063	Daily, Quarterly	1-30 Days	\$ —
Commingled Commodity Funds (1)	49,751	Daily	1 Day	—
Commingled Equity Fund Domestic (1)	861,783	Daily, Monthly	1-30 Days	—
Commingled Equity Fund Non-US (1)	645,755	Daily	1-90 Days	—
Hedge Funds				
<i>Diversified (2)</i>	147,375	Quarterly	90 Days	—
<i>Structured Credit (3)</i>	7,447	Quarterly	60 Days	—
<i>Long/Short (4)</i>	46,378	Quarterly	45 Days	—
<i>Event-Driven (5)</i>	107,838	Quarterly	30-90 Days	—
<i>Macro (6)</i>	116,298	Quarterly	30-90 Days	—
<i>Relative Value (7)</i>	441,517	Monthly, Quarterly	30-60-90 Days	—
Private Markets				
<i>Private Equity (8)</i>	189,904	N/A	N/A	281,045
<i>Private Credit (8)</i>	322,855	N/A	N/A	175,914
<i>Private Real Estate (8)</i>	439,565	Quarterly	30 Days	224,005
Total	\$ 3,698,529			\$ 680,964

(1) Commingled Bond Funds, Commodity Funds and Equity Funds: Two bond funds, three commodity funds and thirteen equity funds are considered to be commingled in nature. Each is valued at the net asset value (NAV) of units held at the end of the period based upon the fair value of the underlying investments.

(2) Diversified Hedge Fund: A hedge fund where the capital is deployed across multiple superstrategies; it is not concentrated in on broad area of strategies.

(3) Structured Credit Hedge Fund: This strategy invests in ABS securities and other structured credit instruments like CLOs.

(4) Long/Short Hedge Fund: Consisting of one fund utilizing both long and short strategies seeking risk-adjusted returns principally through investment in the Asian-Pacific region. The fund is valued at NAV.

(5) Event-Driven Hedge Funds: Consisting of three funds, this strategy seeks to gain an advantage from pricing inefficiencies that may occur in the onset or aftermath of a corporate action or related event. These investments are valued at NAV per share.

(6) Macro Hedge Funds: The investment decisions are based on a manager's top-down or macro views on the market.

(7) Relative Value Hedge Funds: Consisting of four funds, this strategy's main focus is to benefit from valuation discrepancies that may be present in related financial instruments by simultaneously purchasing or selling these instruments. The funds are valued at NAV.

(8) Private Equity and Real Estate Funds: KCERA's Private Asset portfolio consists of eighteen private equity funds with exposure to funds investing in buyouts, venture capital and special situations. An additional fifteen private credit funds and ten private real estate funds. The Core Real Estate portfolio, comprised of two funds, invest mainly in U.S. commercial real estate and utilizes a combination of Core open-end commingled funds and closed-end Value-Added funds. The open-end funds are eligible for redemption on a quarterly basis. Distributions are received from the closed-end funds as underlying investments within the funds are liquidated. Individual holdings contained in the funds are valued at NAV using a combination of the income, cost and sales comparison approaches.

NOTE 4 – FAIR VALUE MEASUREMENT (CONT)

The valuation method for investments measured at the net asset value (NAV) per share, or equivalent, is presented in the table below.

(In thousands)

Investments Measured at Net Asset Value (NAV)	6/30/2022	Redemption Frequency	Redemption Notice Period	Unfunded Commitments
Commingled Bond Funds (1)	\$ 265,780	Daily, Quarterly, None	2-30 Days	\$ —
Commingled Commodity Funds (1)	334,656	Daily, Monthly	1-30 Days	—
Commingled Equity Fund Domestic (1)	1,049,618	Daily, Quarterly	1-60 Days	—
Commingled Equity Fund Non-US (1)	398,964	Daily, Monthly	1-15 Days	—
Hedge Funds:				
<i>Diversified (2)</i>	103,261	Quarterly, Annually	30-75 Days	—
<i>Structured Credit (3)</i>	17,738	Quarterly	90 Days	—
<i>Long/Short (4)</i>	36,899	Quarterly	45 Days	—
<i>Event-Driven (5)</i>	236,863	Quarterly	65-90 Days	—
<i>Macro (6)</i>	133,416	Quarterly, Quarterly	30-90 Days	—
<i>Relative Value (7)</i>	166,546	Monthly, Quarterly	30-60-90 Days	—
<i>Arbitrage (8)</i>	52,322	Quarterly	60 Days	—
Real Estate Funds (9)	456,626	Quarterly, None	30-45 Days	128,724
Private Equity Funds (9)	386,425	N/A	N/A	237,646
Total	\$ 3,639,114			\$ 366,370

⁽¹⁾ Commingled Bond Funds, Commodity Funds and Equity Funds: Two bond funds, three commodity funds and thirteen equity funds are considered to be commingled in nature. Each is valued at the net asset value (NAV) of units held at the end of the period based upon the fair value of the underlying investments.

⁽²⁾ Diversified Hedge Fund: A hedge fund where the capital is deployed across multiple superstrategies; it is not concentrated in on broad area of strategies. The fund is valued at NAV.

⁽³⁾ Structured Credit Hedge Fund: This strategy invests in ABS securities and other structured credit instruments like CLOs. The fund in valued at NAV.

⁽⁴⁾ Long/Short Hedge Fund: Consisting of one fund utilizing both long and short strategies seeking risk-adjusted returns principally through investment in the Asian-Pacific region. The fund is valued at NAV.

⁽⁵⁾ Event-Driven Hedge Funds: Consisting of four funds, this strategy seeks to gain an advantage from pricing inefficiencies that may occur in the onset or aftermath of a corporate action or related event. These investments are valued at NAV per share.

⁽⁶⁾ Macro Hedge Funds: The investment decisions are based on a manager's top-down or macro views on the market. The fund is valued at NAV

⁽⁷⁾ Relative Value Hedge Funds: Consisting of three funds, this strategy's main focus is to benefit from valuation discrepancies that may be present in related financial instruments by simultaneously purchasing or selling these instruments. The funds are valued at NAV.

⁽⁸⁾ Arbitrage Hedge Funds: Managers take long and short positions in different markets in to take advantage of inefficiencies in the market.

⁽⁹⁾ Private Equity and Real Estate Funds: KCERA's Private Asset portfolio consists of twelve private equity funds with exposure to funds investing in buyouts, venture capital and special situations. An additional eight private credit funds and two opportunistic funds investing directly in distressed credit, special situations and real estate. The Real Estate portfolio, comprised of six funds, invests mainly in U.S. commercial real estate and utilizes a combination of Core open-end commingled funds and closed-end Value-Added funds. The open-end funds are eligible for redemption on a quarterly basis. Distributions are received from the closed-end funds as underlying investments within the funds are liquidated. Individual holdings contained in the funds are valued at NAV using a combination of the income, cost and sales comparison approaches.

NOTE 5 – SECURITIES LENDING

Under provisions of state statutes, the Board of Retirement permits KCERA to participate in a securities lending program, whereby securities are transferred to independent broker-dealers and other entities for collateral with a simultaneous agreement to return the collateral for the same securities plus a fee in the future. Deutsche Bank is KCERA’s agent for securities lending.

Deutsche Bank is authorized to lend U.S. government obligations, U.S. bonds and equities, and international bonds and equities that are being held in custody to various borrowers, such as banks and brokers. Securities are lent for collateral. KCERA does not have the ability to pledge or sell collateral securities absent a broker default. All securities loans can be terminated on demand by either KCERA or the borrower.

U.S. securities are loaned versus collateral valued at 102% of the fair value of the securities plus any accrued interest. Non-U.S. securities are loaned versus collateral valued at 110% of the fair value of the securities plus any accrued interest. Marking to market is performed every business day subject to de minimis rules of change in value; the borrower is required to deliver additional collateral when necessary so that the total collateral held by the agent will at least equal the fair value of the borrowed securities. Deutsche Bank invests cash collateral in repurchase agreements on an overnight and term basis collateralized by readily liquid and marketable securities at 102% or greater.

At June 30, 2022, KCERA had no credit risk exposure to borrowers due to the nature of the program’s collateralization of loans at 102% or 110% plus accrued interest. (KCERA's Securities Lending Program was temporarily suspended as of the June 30, 2023.)

The table below show the balances relating to securities lending transactions as of June 30, 2022.

As of June 30, 2022 *(In thousands)*

Security Type	Fair Value of Loaned Securities Securitized by Cash	Cash Collateral	Fair Value of Loaned Securities Securitized by Non-Cash Collateral	Non-Cash Collateral
Domestic Equities	\$ 60,103	\$ 61,572	\$ 2,480	\$ 2,348
Corporate Bonds	51,013	52,236	15,954	—
Corporate Bonds	923	946	—	—
Government Bonds	38,065	38,632	—	18,847
Total	\$ 150,104	\$ 153,386	\$ 18,434	\$ 37,694

NOTE 6 – DERIVATIVES**DESCRIPTION OF AND AUTHORITY FOR DERIVATIVE INVESTMENTS**

KCERA invests in derivative financial investments (i.e., instruments) as authorized by the Board of Retirement. Investment managers may use derivatives where guidelines permit. A derivative instrument is defined as a contract that derives its value, usefulness and marketability from an underlying instrument that represents a direct ownership of an asset or a direct obligation of an issuer. Derivative instruments include, but are not limited to, futures, options, forward contracts, and interest rate or commodity swap transactions. All derivatives are considered investments by KCERA.

Substitution and risk control are the two derivative strategies permitted. Substitution strategy is when the characteristics of the derivative sufficiently parallel that of the cash market instruments; the derivatives may be substituted on a short-term basis for the cash market instrument. Risk control strategy is when the characteristics of the derivative sufficiently parallel that of the cash instrument; an opposite position from the cash instrument could be taken in the derivative instrument to alter the exposure to or the risk of the cash instrument.

Portfolios may not sell securities short nor create leverage through the use of financial futures and options. Uncovered futures or options positions are prohibited.

Financial futures and options may only be used to hedge currency risk or to manage portfolio duration. Investment in structured notes is prohibited. KCERA may invest in the following:

FUTURES

Futures contracts are used to hedge against a possible increase in the price of currency. Futures contracts are classified by category of underlying instrument, such as equity, fixed income, commodity or cash equivalent. Derivative positions are tied to the performance of underlying securities. Futures contracts are priced “mark-to-market,” and daily settlements are recorded as investment gains or losses. Accounting for the daily mark-to-markets in this manner, the fair value of the futures contract at the end of the reporting period is the pending mark-to-market. For investment performance, risk and exposure purposes, KCERA’s custodian reports the notional fair values of futures contracts with corresponding offsets. When a futures contract is closed, futures are removed from the record with the final gain/loss equal to the fluctuation in value from the last mark-to-market to the closing value.

OPTIONS

Options are used to manage risk exposures in certain accounts as a result of asset allocation requirements or unusual flows of cash to or from such accounts. Purchased put/call options are reported as assets with cost equal to the premium amount paid at inception, and written put/call options are reported as liabilities with cost equal to the premium received at inception. During the term of the options contracts, options are revalued at the end of each reporting period. Unrealized gains and losses are reported as the difference between the premium (cost) and the current fair value. At expiration, sale, or exercise, options are removed from record, and realized gains and losses are generally recognized. Because of the nature of options transactions, notional values are not included in the Investment Derivatives Summary table on page 45.

NOTE 6 – DERIVATIVES (CONT.)**DESCRIPTION OF AND AUTHORITY FOR DERIVATIVE INVESTMENTS (CONT.)****SWAPS**

Swap transactions are used to preserve a return or spread on investments to protect against currency fluctuations as a duration management technique or to protect against any increase in the price of securities. Because the fair values of swaps can fluctuate, swaps are represented as assets (if fair value is greater than zero) and liabilities (if fair value is less than zero). If a premium is paid or received at inception of the swap, the premium amount is generally recorded as the cost of the swap. During the term of the swap agreement, the periodic cash flows as either income or expense associated with the swap agreement. At each reporting period, swaps are revalued and unrealized gains or losses are reported. KCERA's custodian generally obtains swap valuations from a pricing vendor, the investment manager or the counterparty. At closing, KCERA's custodian removes the swap assets and liabilities from the record. The difference between any closing premium exchanged and the cost basis is recognized as realized gain or loss.

FORWARD EXCHANGE CONTRACTS

Forward exchange contracts are used for the purpose of hedging against adverse movement in currency exchange rates and to facilitate settlement of transactions in foreign securities. KCERA's reporting methodology for foreign exchange (FX) contracts reflects payables and receivables for the currencies to be exchanged while the forward FX contracts are pending; the two pending cash flows are valued separately. The overall cost basis for a pending FX deal is zero (the net of the cost basis for the payable and receivable). Pending forward FX contracts are valued using the closing forward FX rate as of the report date. The difference between the forward rate (base fair value) at the reporting date and the contracted rate on trade date (base cost) of the forward FX contract is unrealized gain/loss. The difference between the spot rate applied at settlement date and the contracted rate on trade date is realized gain/loss at the settlement of the forward FX contract. KCERA does not discount the valuation of the anticipated cash flows associated with pending forward FX contracts.

SUMMARY OF DERIVATIVE INVESTMENTS

Investment derivative instruments are reported as investments (if fair value is greater than zero) or liabilities (if fair value is less than zero) as of fiscal year end on the Statement of Fiduciary Net Position. Listed market prices are used to report the fair values for derivative instruments, if available. If listed market prices are not available for derivative instruments, the price used may be from a vendor, an investment manager or a counterparty. All changes in fair value are reported in the Statement of Changes in Fiduciary Net Position as a component of investment income.

As of June 30, 2023 and 2022, KCERA has the following instruments outstanding with an objective to earn a rate of return consistent with KCERA's investment policies. Notional values listed that are positive (assets) or negative (liabilities) are aggregated for similar derivative types.

NOTE 6 – DERIVATIVES (CONT.)

Derivative Investment Summary

As of June 30, 2023 *(In thousands)*

Derivative Investment Type	Changes in Fair Value Gain (Loss)	Fair Value	Notional Value
Futures	\$ (11,613)	\$ —	\$ 684,231
Options	192	418	—
Swaps	3,798	482	—
Foreign Exchange Contracts	983	369	—
Total Value	\$ (6,640)	\$ 1,269	\$ 684,231

As of June 30, 2022 *(In thousands)*

Derivative Investment Type	Changes in Fair Value Gain (Loss)	Fair Value	Notional Value
Futures	\$ (54,504)	\$ —	\$ 627,215
Options	(43)	(210)	—
Swaps	1,734	2,733	—
Foreign Exchange Contracts	(2,603)	(49)	—
Rights/Warrants Equity Contracts	1	—	—
Total Value	\$ (55,415)	\$ 2,474	\$ 627,215

NOTE 7 – CONTRIBUTIONS

Following the establishment of KCERA on January 1, 1945, eligible employees and their beneficiaries became entitled to pension, disability and survivor benefits under the provisions of the CERL. As a condition of participation under the provisions of the CERL, members are required to pay a percentage of their salaries, depending on their entry age in the Plan, membership type and benefit tier.

The funding objective of the KCERA Board of Retirement is to provide sufficient assets to permit the payment of all regular benefits promised under KCERA while minimizing the volatility of contribution rates for participating employers from year to year as a percentage of covered payroll. There are three sources of funding for KCERA retirement benefits: employer contributions, member contributions and investment earnings.

Total contributions made during fiscal years 2023 and 2022, respectively, amounted to approximately \$376.3 million and \$341.6 million, of which \$316.8 million and \$287.1 million were contributed by employers, and \$59.5 million and \$54.5 million were contributed by members.

PENSION OBLIGATION BONDS

In 1995 and 2003, the County of Kern issued pension obligation bonds and contributed \$224.5 million and \$285.1 million to the Plan, respectively. Special districts did not participate in the funding provided by pension obligation bonds. Therefore, different employer contribution rates are required to fund the unfunded liabilities for each class of participation.

COST-OF-LIVING ADJUSTMENT

On April 1, 1973, an annual cost-of-living adjustment (COLA) of up to 2% for all retirees and continuance beneficiaries was adopted. The 2% COLA was funded entirely from the unreserved fund balance until February 5, 1983. After this date and prior to fiscal year 2003, funding of the 2% COLA was included in the employers' contributions. In fiscal year 2002, the County of Kern activated Government Code Section 31617, which provides that COLAs shall be funded first from excess earnings, to the extent of such excess, and thereafter from employer contributions. In fiscal year 2023, the Plan had no excess earnings; \$0 was reserved to fund the employer COLA contributions in fiscal year 2023.

EMPLOYER CONTRIBUTIONS

Each year, an actuarial valuation is performed for the purpose of determining the funded position of the retirement plan and the employer contributions necessary to pay benefits accruing to KCERA members not otherwise funded by member contributions or investment earnings. The employer contribution rates are actuarially determined by using the Entry Age Actuarial Cost Method. The Plan's employer rates provide for both "Normal Cost" and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. Contribution rates determined in each actuarial valuation (as of June 30) apply to the fiscal year beginning 12 months after the valuation date. Employer rates for fiscal year 2023 ranged from 36.03% to 76.91% of covered payroll, with a combined average of 48.76% for all employers.

NOTE 7 – CONTRIBUTIONS (CONT.)

DECLINING EMPLOYER CONTRIBUTIONS

In August 2019, the Board determined that a triggering event occurred during the 2019-20 fiscal year, resulting from two employers ceasing to enroll new hires and/or a material and expected long-lasting reduction in KCERA covered payroll. Based on KCERA’s Declining Employer Payroll Policy, KCERA’s actuary determined the Valuation Value of Assets (VVA), Actuarial Accrued Liability (AAL) and resulting Unfunded Actuarial Accrued Liability (UAAL). AS of June 30, 2023 the UAAL allocated to Inyokern Community Services District was \$128,000 and the UAAL allocated to Berrenda Mesa Water District was \$3,907,000. The District’s UAAL were amortized as a single layer over an 18-year period. Inyokern¹ and Berrenda² Mesa will be billed annually for the UAAL contributions.

MEMBER CONTRIBUTIONS

Member contributions are made through payroll deductions on a pre-tax basis, per IRS Code Section 414(h)(2). Member contribution rates for fiscal year 2023 ranged from 4.72% to 19.29% and were applied to the member’s base pay plus “pensionable” special pay; they were calculated based on the member’s KCERA entry age and actuarially calculated benefits. Members are required to contribute depending on the member’s tier, employer and bargaining unit. For certain safety bargaining units, a flat member contribution rate is applied. “New members,” as defined in PEPRA, hired on or after January 1, 2013 pay a flat member contribution rate: 50% of the total Normal Cost rate.

For members covered by Social Security, the member contribution rates above apply to monthly salaries over \$350. (A one-third reduction in the rates applies to the first \$350 of monthly salary.)

As a result of the 1997 Memorandum of Understanding (MOU), some members received an employer “pick up” of their contributions. General members hired after MOU-specified dates in 2004 or 2005 and safety members hired after MOU-specified dates in 2007 were required to pay 100% of the employees’ retirement contributions with the employer paying no part of the employees’ contributions. Effective in 2014, non-contributing County general and safety members were required to pay one-third of their employee contributions. Buttonwillow Recreation and Park District and San Joaquin Valley Air Pollution Control District did not elect the 1997 MOU. Buttonwillow employees continue to pay 50% of their full rates. San Joaquin’s Tier I members pay 50% of the Normal Cost rate as of June 30, 2018. Employees of the Kern County Superior Court are required to pay an additional 8% of base salary.

Interest is credited to member contributions semiannually on June 30 and December 31, in accordance with Article 5.5 of the CERL. Member contributions and credited interest are refundable upon termination of membership.

¹This annual UAAL contribution in dollars of \$13,000 for Inyokern is equal to the level dollar layered amortization of the \$124,000 in UAAL of \$13,000 plus \$0 in administrative expenses plus a \$0 adjustment due to the 12-month delay between the valuation date and the plan year beginning July 1, 2022.

² This annual UAAL contribution in dollars of \$431,000 for Berrenda Mesa is equal to the level dollar layered amortization of the \$4,195,000 in UAAL of \$437,000 plus \$1,000 in administrative expenses minus a \$7,000 adjustment due to the 12-month delay between the valuation date and the plan year beginning July 1, 2022.

NOTE 8 – RESERVE ACCOUNTS AND DESIGNATIONS OF NET POSITION

Member and employer contributions are allocated to various legally required reserve accounts based on actuarial determinations. Member, employer and retired members' reserves are fully funded. KCERA maintains the following reserve and designation accounts:

MEMBER'S DEPOSIT RESERVE – member contributions and interest allocation to fund member retirement benefits.

EMPLOYER'S ADVANCE RESERVE – employer contributions and interest allocation to fund member retirement benefits.

COST-OF-LIVING RESERVE– employer contributions and interest allocation to fund annual cost-of-living increases for retirees and their continuance beneficiaries.

RETIRED MEMBERS' RESERVE – transfers from members' deposit reserve and employers' advance reserve, and interest allocation for funding of retirees' and their beneficiaries' monthly annuity payments.

SUPPLEMENTAL RETIREE BENEFIT RESERVE – monies reserved for enhanced, non-vested benefits to current and future retired members and their beneficiaries.

COLA CONTRIBUTION RESERVE – monies reserved to credit future employer COLA contributions

CONTINGENCY RESERVE – excess income to supplement deficient earnings. The contingency reserve satisfies the Government Code Section 31616 requirement for KCERA to reserve at least 1% of assets, up to a maximum of 3% of assets. At fiscal year ended June 30, 2023, 0.46% of the Plan's fiduciary net position were in contingencies, according to the Board of Retirement's Interest Credit Policy.

Balances in these reserve accounts and designations of fiduciary net position available for pension and other benefits at June 30, 2023 and 2022 (under the five-year smoothed fair asset valuation method for actuarial valuation purposes) are as follows:

NOTE 8 – RESERVE ACCOUNTS AND DESIGNATIONS OF NET POSITION (CONT.)

Reserve Account	(In thousands)	
	2023	2022
Members' Deposit Reserve - General	\$ 352,124	\$ 325,743
Members' Deposit Reserve - Safety	188,128	171,943
Members' Deposit Reserve - Special District	41,584	37,373
Members' Deposit Reserve - Courts	5,411	3,925
Members' Deposit Reserve - Hospital Authority	14,364	8,574
Employers' Advance Reserve - General	572,762	489,657
Employers' Advance Reserve - Safety	687,514	628,132
Employers' Advance Reserve - Special Distict	68,728	56,700
Employers' Advance Reserve - Courts	30,057	28,945
Employers' Advance Reserve - Kern Medical	112,024	90,573
Cost-of-living Reserve - General	954,255	889,114
Cost-of-living Reserve - Safety	728,421	671,515
Cost-of-living Reserve - Special District	84,967	76,937
Cost-of-living Reserve - Courts	12,395	10,769
Cost-of-living Reserve - Kern Medical	50,440	39,480
Retired Members' Reserve - General	1,144,410	1,161,298
Retired Members' Reserve - Safety	393,475	400,954
Supplemental Retiree Benefit Reserve (SRBR)	133,698	131,236
SRBR allocated for 0.5% COLA	(3,948)	10,770
Contingency Reserve	24,619	117,544
Total reserves at five-year smoothed fair value actuarial valuation	5,595,428	5,351,182
Market Stabilization Reserve*	(208,847)	(220,053)
Total Fiduciary Net Position - Restricted for Pension Benefits	\$ 5,386,581	\$ 5,131,129

* The Market Stabilization Reserve represents the difference between the five-year smoothed fair value of the fund and the fair value as of the fiscal year end.

NOTE 9 - RELATED PARTY TRANSACTION

OFFICE LEASE

KCERA, as the sole shareholder, formed a title holding corporation, KCERA Property, Inc. (KPI) for the purpose of accommodating the administrative offices of the Plan. In October 2010, KCERA entered into a build-to-suit lease agreement with KPI to occupy 14,348 square feet. KCERA is required to pay a monthly rate of \$2.13 per square foot as well as taxes, insurance and operating costs as defined in the agreement. The base rent was subject to an automatic 10.4% increase beginning on the fifth anniversary of the commencement date, November 2015, and on each fifth year anniversary date thereafter during the lease term. The sum of payments due for fiscal year ended June 30, 2023 is \$367,239 for base rent and \$16,345 for HVAC, insurance and assessment fees. KCERA's base rent and other costs are abated from KPI's rental income.

On June 14, 2023 the KCERA Board of Retirement unanimously voted to transfer the KCERA property held by KCERA Property, Inc. to KCERA and dissolve KPI. KCERA transferred the KCERA property building at market value in the 3rd quarter of 2023, recorded the property as Gift-in-Kind income and a capital asset and began depreciating the asset using the straight-line method of depreciation over 30 years in accordance with GAAP.

NOTE 10 – NET PENSION LIABILITY

The components of the net pension liability are as follows:

Reserve Account	June 30, 2023	June 30, 2022
Total Pension Liability	\$7,902,924,528	\$7,510,905,541
Plan Fiduciary Net Position	(5,386,581,194)	(5,131,128,660)
Net Pension Liability	\$2,516,343,334	\$2,379,776,881
Plan Fiduciary Net Position as Percentage of Total Pension Liability	68.16%	68.32%

The Plan’s Fiduciary Net Position includes assets held for the Supplemental Retiree Benefit Reserve (SRBR). A split of the Total Pension Liability (TPL), Plan’s Fiduciary Net Position (FNP) and Net Pension Liability (NPL) by the regular benefits (non- SRBR) and the SRBR benefits as of June 30, 2023 and June 30, 2022 are shown in the tables below.

June 30, 2023	Regular Benefits (Non-SRBR)	SRBR Benefits	Total KCERA
Total Pension Liability	\$7,791,557,918	\$111,366,610	\$7,902,924,528
Plan Fiduciary Net Position	5,252,882,900	133,698,294	5,386,581,194
Net Pension Liability (Asset)	\$2,538,675,018	\$(22,331,684)	\$2,516,343,334

June 30, 2022	Regular Benefits (Non-SRBR)	SRBR Benefit	Total KCERA
Total Pension Liability	\$7,403,163,840	\$107,741,701	\$7,510,905,541
Plan Fiduciary Net Position	4,999,892,890	131,235,770	5,131,128,660
Net Pension Liability (Asset)	\$2,403,270,950	\$(23,494,069)	\$2,379,776,881

The Net Pension Liability (NPL) for the plan was measured as of June 30, 2023 and June 30, 2022. The Plan’s Fiduciary Net Position was valued as of the measurement dates while the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2022, and June 30, 2021, respectively, to the measurement date of June 30, 2023 and 2022, respectively.

PLAN PROVISIONS. The plan provisions used in the measurement of the net pension liability are the same as those used in the KCERA actuarial valuation as of June 30, 2023 and 2022, respectively. The TPL and the Plan’s Fiduciary Net Position include liabilities and assets held for the Supplemental Retiree Benefit Reserve (SRBR).

ACTUARIAL ASSUMPTIONS AND METHODS. The TPLs as of June 30, 2023 and 2022 that were measured by actuarial valuations as of June 30, 2022 and 2021, respectively, used the same actuarial assumptions and actuarial cost method as the June 30, 2022 and 2021 funding valuations. The actuarial assumptions used in the 2023 valuation were based on the results of an experience study for the period from July 1, 2019 through June 30, 2022. The assumptions used in the 2022 valuation were based on the results of an experience study for the period from July 1, 2016 through June 30, 2019. In particular, the following actuarial assumptions were applied to the periods included in the measurement.

NOTE 10 – NET PENSION LIABILITY (CONT.)

As of June 30, 2023	
<i>Inflation:</i>	2.50%
<i>Salary Increases:</i>	General: 3.70% to 8.00%. Safety: 4.00% to 10.00%. Varies by service, including inflation and real accross-the-board salary increase.
<i>Investment Rate of Return:</i>	7.00%, net of plan investment expenses, including inflation.
<i>Administrative Expenses:</i>	0.95% of payroll allocated to both the employer and the member based on the components of the total average contribution rate (before expenses) for the employer and the member.
<i>Real accross-the-board salary increase:</i>	0.50%
<i>Projected salary increases:</i>	General: 3.70% to 8.00% and Safety: 4.00% to 10.00%, varying by service, including inflation and real accross-the-board salary increase
<i>Cost of living adjustments (COLA):</i>	Retiree COLA increases due to CPI are assumed to be 2.50%
<i>Other Assumptions:</i>	Same as those used in the June 30, 2023 funding valuations. These assumptions were developed in the analysis of actuarial experience for the period July 1, 2019 through June 30, 2022.

As of June 30, 2022	
<i>Inflation:</i>	2.75%
<i>Salary Increases:</i>	General: 4.00% to 8.75%. Safety: 3.75% to 12.00%. Varies by service, including inflation.
<i>Investment Rate of Return:</i>	7.25%, net of plan investment expenses, including inflation.
<i>Administrative Expenses:</i>	0.90% of payroll allocated to both the employer and the member based on the components of the total average contribution rate (before expenses) for the employer and the member.
<i>Real accross-the-board salary increase:</i>	0.50%
<i>Projected salary increases:</i>	General: 4.00% to 8.75% and Safety: 3.75% to 12.00%, varying by service, including inflation and real accross-the-board salary increase
<i>Cost of living adjustments (COLA):</i>	Retiree COLA increases due to CPI are assumed to be 2.50%
<i>Other Assumptions:</i>	Same as those used in the June 30, 2022 funding valuation. These assumptions were developed in the analysis of actuarial experience for the period July 1, 2016 through June 30, 2019.

The Entry Age Actuarial Cost Method used in KCERA’s annual actuarial valuation has also been applied in measuring the Service Cost and TPL with one exception. For purposes of measuring the Service Cost and TPL, KCERA has reflected the same plan provisions used in determining the member’s Actuarial Present Value of Projected Benefits. This is different from the version of this method applied in KCERA’s annual funding valuation, where the Normal Cost and Actuarial Accrued Liability are determined as if the current benefit accrual rate had always been in effect.

The long-term expected rate of return on pension plan investments was determined using building block method in which expected future real rates of return (i.e., expected returns, net of pension plan investment expenses and inflation) are developed for each major asset class. This data is combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized on the next page.

NOTE 10 – NET PENSION LIABILITY (CONT.)

	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return	Weighted Average
Global Equity	37%	7.05%	2.60%
Core Fixed Income	14%	1.97%	0.28%
High Yield Corporate Credit	6%	4.63%	0.28%
Emerging Market Debt (Hard)	2%	4.72%	0.09%
Emerging Market Debt (Local)	2%	4.53%	0.09%
Commodities	4%	4.21%	0.17%
Core Real Estate	5%	3.86%	0.19%
Private Real Estate	5%	6.70%	0.34%
Midstream	5%	8.00%	0.40%
Capital Efficiency Alpha Pool	8%	3.10%	0.25%
Hedge Funds	10%	3.10%	0.31%
Private Equity	5%	10.27%	0.51%
Private Credit	5%	6.97%	0.35%
Cash	-8%	0.63%	-0.05%
Inflation			2.50%
Total	100%		8.31%

Discount rate. The discount rate used to measure the TPL was 7.00% and 7.25% as of June 30, 2023 and 2022, respectively. The projection of cash flows used to determine the discount rates assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2023 and 2022.

The discount rate assumptions have been developed without taking into consideration any impact of the 50/50 allocation of future excess earnings between the retirement and Supplement Retirement Benefit Reserve (SRBR) asset pools.

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of the KCERA as of June 30, 2023 and 2022, calculated using the discount rate of 7.00% and 7.25% respectively, as well as what the KCERA's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	(6.00%)	Current (7.00%)	(8.00%)
Net Pension Liability as of June 30, 2023	\$ 3,549,044,545	\$ 2,516,343,334	\$ 1,667,639,118
	(6.25%)	Current (7.25%)	(8.25%)
Net Pension Liability as of June 30, 2022	\$ 3,356,289,212	\$ 2,379,776,881	\$ 1,576,389,656

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
FOR FISCAL YEARS ENDED JUNE 30**

(In thousands)

	2023	2022	2021	2020	2019
<i>Total Pension Liability:</i>					
Service Cost	\$ 119,520	\$ 118,979	\$ 123,394	\$124,145.681	\$ 122,869
Interest	538,058	523,872	510,015	481,972.182	466,379
Change of Benefit Terms	—	30,438	(32,128,915.00)	—	—
Differences between Expected and Actual Experience	(33,520)	(69,170)	(16,282)	(23,990.792)	(48,814)
Changes in Assumptions	185,815	—	—	151,378.797	—
Benefit Payments, including Refunds	(417,855)	(400,108)	(378,799)	(361,094.367)	(341,812)
Net Change in Total Pension Liability	392,018	204,011	206,199	372,412	198,622
<i>Total Pension Liability: Beginning of Year</i>	7,510,906	7,306,895	7,100,696	6,728,284.463	6,529,662
Total Pension Liability: End of Year (a)	7,902,924	7,510,906	7,306,895	7,100,696	6,728,284
<i>Plan Fiduciary Net Position:</i>					
Contributions - Employer ¹	316,838	287,063	268,625	273,908.831	229,120
Contributions - Employee	59,521	54,514	53,789	57,862.386	50,132
Net Investment Income	304,208	(219,947)	1,043,361	127,861.224	214,244
Benefit Payments, including Refunds	(417,855)	(400,108)	(378,799)	(361,094.367)	(341,774)
Administrative Expense	(7,260)	(6,702)	(6,061)	(5,523.34)	(4,804)
Other ²	—	(1,204)	(2,197,087)	—	—
Net Change in Plan Fiduciary Net Position	255,452	(286,384)	978,718	93,015	146,918
<i>Plan Fiduciary Net Position:</i>					
<i>Beginning of Year</i>	5,131,129	5,417,513	4,438,795	4,345,780.06	4,198,862
Plan Fiduciary Net Position: End of Year (b)	5,386,581	5,131,129	5,417,513	4,438,795	4,345,780
Net Pension Liability: (a) - (b)	\$ 2,516,343	\$ 2,379,777	\$ 1,889,382	\$ 2,661,901	\$ 2,382,504
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	68.16 %	68.32 %	74.14 %	62.51 %	64.59 %
Covered Payroll ³	\$ 677,026	\$ 612,609	\$ 604,320	\$ 607,695	\$ 579,072
Plan Net Pension Liability as a Percentage of Covered Payroll	371.68 %	388.47 %	312.65 %	438.03 %	411.43 %

¹ See footnote (1) under Schedule of Employer Contributions.

² This represents the amount of recovery or refunds or benefits and/or member contributions previously paid in conjunction with pay items impacted by the implementation of the Alameda Decision.

³ Cover Payroll represents payroll on which contributions to the pension plan are based.

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
FOR FISCAL YEARS ENDED JUNE 30 (CONT.)**

(In thousands)

	2018	2017	2016	2015	2014
<i>Total Pension Liability:</i>					
Service Cost	\$ 123,407	\$ 122,184	\$ 123,181	\$ 125,161	\$ 125,118
Interest	450,172	438,385	427,646	415,820	400,559
Change of Benefit Terms	31,034	—	—	5,036	—
Differences between Expected and Actual Experience	(80,208)	(109,368)	(105,053)	(89,306)	(57,034)
Changes in Assumptions	—	196,259	—	—	205,038
Benefit Payments, including Refunds	(321,613)	(305,817)	(288,738)	(273,865)	(257,495)
Net Change in Total Pension Liability	202,792	341,643	157,036	182,846	416,186
<i>Total Pension Liability: Beginning of Year</i>	6,326,870	5,985,227	5,828,191	5,645,345	5,229,159
Total Pension Liability: End of Year (a)	6,529,662	6,326,870	5,985,227	5,828,191	5,645,345
<i>Plan Fiduciary Net Position:</i>					
Contributions - Employer ¹	242,534	224,351	234,713	215,477	220,393
Contributions - Employee	52,504	51,410	33,279	30,325	25,810
Net Investment Income	267,659	426,606	(27,535)	81,931	487,591
Benefit Payments, including Refunds	(321,613)	(305,817)	(288,738)	(273,864)	(257,495)
Administrative Expense	(5,117)	(5,243)	(5,224)	(4,887)	(4,958)
Other ²	—	—	—	—	—
Net Change in Plan Fiduciary Net Position	235,967	391,307	(53,505)	48,982	471,341
<i>Plan Fiduciary Net Position: Beginning of Year</i>	3,962,895	3,571,588	3,625,093	3,576,111	3,104,770
Plan Fiduciary Net Position: End of Year (b)	4,198,862	3,962,895	3,571,588	3,625,093	3,576,111
Net Pension Liability: (a) - (b)	\$ 2,330,800	\$ 2,363,975	\$ 2,413,639	\$ 2,203,098	\$ 2,069,234
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	64.30 %	62.64 %	59.67 %	62.20 %	63.35 %
Covered Payroll³	\$ 576,729	\$ 546,671	\$ 537,540	\$ 531,598	\$ 533,851
Plan Net Pension Liability as a Percentage of Covered Payroll	404.14 %	432.43 %	449.02 %	414.43 %	387.61 %

¹ See footnote (1) under Schedule of Employer Contributions.

² This represents the amount of recovery or refunds or benefits and/or member contributions previously paid in conjunction with PEPRA implementation and pay items impacted by the implementation of the Alameda Decision.

³ Cover Payroll represents payroll on which contributions to the pension plan are based.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contribution as % of Covered Payroll
2014	\$220,393,000	\$220,393,000	—	\$533,850,811	41.28%
2015	\$215,477,000	\$215,477,000	—	\$531,598,183	40.53%
2016	\$216,229,000	\$216,229,000	—	\$537,539,991	40.23%
2017	\$224,351,000	\$224,351,000	—	\$546,671,003	41.04%
2018	\$242,534,000	\$242,534,000	—	\$576,728,789	42.05%
2019	\$229,120,000	\$229,120,000	—	\$579,071,865	39.57%
2020	\$273,909,000	\$273,909,000	—	\$607,695,110	45.07%
2021	\$268,626,000	\$268,626,000	—	\$604,320,398	44.45%
2022	\$287,063,000	\$287,063,000	—	\$612,609,249	46.86%
2023	\$316,838,000	\$316,838,000	—	\$677,026,425	46.80%

See accompanying notes to this schedule on next page.

(1) All "Actuarially Determined Contributions" through June, 2014 were determined as the "Annual Required Contribution" under GAS 25 and 27. Starting from 2016, actuarially determined contributions exclude employer paid member contributions.

(2) Covered payroll represents payroll on which contributions to the pension plan are based.

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

METHODS AND ASSUMPTIONS USED TO ESTABLISH ACTUARILY DETERMINED CONTRIBUTION RATES:

- Valuation date:** Actuarially determined contribution rates are calculated as of June 30, two years prior to the fiscal year in which contributions are reported.
- Actuarial cost method** Entry Age Actuarial Cost Method
- Amortization method** Level percent of payroll for total unfunded liability
- Remaining amortization period:** 12.5 years as of June 30, 2023 for all UAAL as of June 30, 2011. Effective June 30, 2012, any changes in UAAL due to actuarial gains or losses or due to changes in actuarial assumptions or methods will be amortized over a 18-year closed period effective with each valuation. Any change in unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining 15-year period (with exception of a change due to retirement incentives, which is amortized over a declining period of up to 5 years).
- Asset valuation method** Market value of assets (MVA) less unrecognized returns in each of the last five years. Unrecognized returns are equal to the difference between the actual market return and the expected return on a market value basis and are recognized semi-annually over a five-year period. The Actuarial Value of Assets (AVA) cannot be less than 50% of MVA, nor greater than 150% of MVA. The AVA is reduced by the value of the non-valuation reserves.

	June 30, 2021 Valuation Date (used for the year ended June 30, 2023 ADC)	June 30, 2020 Valuation Date (used for the year ended June 30, 2022 ADC)
Actuarial Assumptions:		
Investment rate of return	7.25%, net of investment expenses, including inflation	7.25%, net of investment expenses, including inflation
Inflation rate	2.75%	2.75%
Real across-the-board salary increase	0.50%	0.50%
Projected salary increases*	General: 4.00% to 8.75% Safety: 3.75% to 12.00%	General: 4.00% to 8.75% Safety: 3.75% to 12.00%
Administrative expenses	0.90% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and the member	0.90% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and the member
Cost-of-living adjustments	2.5% (actual increases based on CPI increases with a 2.5% maximum)	2.5% (actual increases based on CPI increases with a 2.5% maximum)
Other assumptions	Same as those used in the June 30, 2021 funding actuarial valuation.	Same as those used in the June 30, 2020 funding actuarial valuation.

*Includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus merit and promotional increases that vary by service.

SCHEDULE OF MONEY WEIGHTED RATES OF RETURNS FOR LAST 10 FISCAL YEARS ENDED JUNE 30

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual Money-Weighted Rate of Return*	6.7%	-4.2%	24.3%	3.2%	5.6%	6.8%	12.0%	0.3%	3.0%	15.5%

*Net of investment expenses.

Data is provided only for those years for which information is available.

SCHEDULE ADMINISTRATIVE EXPENSES FOR THE YEARS ENDED JUNE 30, 2023 AND 2022

	2023	2022
<i>Staffing</i>		
Salaries	\$ 3,308,199	\$ 2,822,794
Benefits	1,908,335	1,834,721
Temporary staff	16,201	36,177
Staffing Total	5,232,735	4,693,692
<i>Staff Development</i>	90,708	45,705
<i>Professional Fees:</i>		
Actuarial fees	30,623	105,709
Audit fees ¹	48,480	53,500
Consultant fees	47,507	41,744
Legal fees	79,241	36,675
Professional Fees Total	205,851	237,628
<i>Office Expenses:</i>		
Building expenses	113,778	121,744
Communications	28,739	28,976
Equipment lease	9,712	10,086
Equipment maintenance	2,000	2,000
Memberships	13,720	12,749
Office supplies & misc. admin.	35,516	39,620
Payroll & accounts payable fees	26,932	25,797
Other Services - Kern County	—	37,851
Postage	19,688	21,522
Subscriptions	14,595	11,009
Utilities	50,321	42,080
Office Expenses Total	315,001	353,434
<i>Insurance</i>	162,795	148,495
<i>Member Services</i>		
Disability - legal	—	2,896
Disability - professional services	—	9,826
Disability - administration MMRO	158,351	106,200
Member communications	12,728	13,996
Member Services Total	\$ 171,079	\$ 132,918

See accompanying independent auditor's report. Schedule continued on next page.

¹ Includes periodic actuarial audit, see page 61.

SCHEDULE ADMINISTRATIVE EXPENSES FOR THE YEARS ENDED JUNE 30, 2023 AND 2022 (CONT.)

	2023	2022
<i>Systems:</i>		
Audit - security & vulnerability scan	\$ 13,750	\$ 2,290
Business continuity expense	16,934	8,740
Hardware	35,511	52,251
Licensing & support	166,895	125,005
Software	126,543	97,539
Website design	13,704	81,708
Systems Total	<u>373,337</u>	<u>367,533</u>
<i>Board of Retirement</i>		
Board compensation	7,100	10,640
Board conferences & training	37,458	20,492
Board elections	—	40,974
Board meetings	4,015	2,351
Board of Retirement Total	<u>48,573</u>	<u>74,457</u>
<i>Depreciation/Amortization</i>	<u>660,089</u>	<u>648,530</u>
Total Administrative Expenses	<u>\$ 7,260,168</u>	<u>\$ 6,702,392</u>

SCHEDULE OF INVESTMENT EXPENSES FOR THE YEARS ENDED JUNE 30, 2023 AND 2022

	2023	2022
<i>Investment manager Fees:</i>		
Equity	\$ 4,405,303	\$ 4,224,707
Fixed income	2,479,304	2,545,173
Commodities	1,542,888	2,078,697
Midstream Energy	1,924,734	1,791,459
Real estate	6,700,532	4,961,774
Opportunistic	4,452,170	4,515,578
Private equity/Credit funds	24,300,426	12,763,699
Hedge funds	24,485,566	24,032,903
Cash and Overlay	614,687	706,914
Total Investment Manager Fees	70,905,610	57,620,904
<i>Other Investment Expenses:</i>		
Custodian	500,708	363,646
Actuarial valuation	167,550	232,693
Investment consultants	1,588,459	1,406,361
Legal fees	68,846	141,008
Due Diligence	9,027	—
Real estate	43,077	49,799
Total Other Investment Expenses	2,377,667	2,193,507
Total Fees and Other Investment Expenses	73,283,277	59,814,411
<i>Securities Lending rebates and bank fees</i>	59,919	53,430
Total Investment Expenses	\$ 73,343,196	\$ 59,867,841

See accompanying independent auditor's report.

SCHEDULE OF PAYMENTS TO CONSULTANTS FOR THE YEARS ENDED JUNE 30, 2023 AND 2022

Individual or Firm	Nature of Service	Commission/Fee	
		2023	2022
Agility Recovery Solutions	Disaster recovery/audit	\$ 30,684	\$ 11,030
CliftonLarsonAllen	External auditors	42,000	53,500
Cortex Applied Research, Inc.	Policy consultants	35,000	51,500
Ice Miller	Legal counsel	1,775	13,673
Kenneth Irvin Robinson	Professional Services	12,507	—
Kern County Counsel	Legal counsel	2,320	3,450
Nossaman LLP	Legal counsel	42,863	20,904
Reed Smith LLP	Legal counsel	32,283	2,039
Segal Consulting	Actuarial services	30,623	105,709
Total Payments to Consultants		\$ 230,055	\$ 261,805

These payments were made to outside consultants other than investment professionals. A Schedule of Investment Fees is presented on pages 77-80 in the Investment Section.

See accompanying independent auditor's report.

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INVESTMENT SECTION

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September 29, 2023

Mr. Dominic Brown
Executive Director
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, CA 93311

Dear Mr. Brown,

Verus is pleased to have had the opportunity to serve the Kern County Employees' Retirement Association since July 2011 and to provide this investment review for the fiscal year ending June 30, 2023.

Verus independently calculated the Fund's fiscal year performance results utilizing a time-weighted annualized rate of return methodology (modified Dietz method) with data on market valuations and transactions provided by the Fund's custodian bank, the Northern Trust Company. For the fiscal year ended June 30, 2023, KCERA's retirement fund had an investment gain of 5.9% (net of fees) and ended the fiscal year with total assets of approximately \$5.4 billion.

All KCERA's investments are managed according to guidelines codified in KCERA's Statement of Investment Goals, Objectives, and Policies. This Statement is reviewed periodically to ensure best practices are employed in all aspects of our work and was last updated in April 2022.

Market Environment

2023 Summary

Risks assets delivered a strong start to 2023, building off the positive momentum seen towards the end of 2022. Year-to-date performance was positive across all major asset classes outside of commodities, as was performance on a one-year basis. Counter to the challenging outlook presented in our last letter and despite an end to massive economic stimulus introduced in response to the global pandemic, as well as rapidly rising interest rates, economic growth proved to be resilient. While earlier in the year many economists had forecast a U.S. recession in mid to late summer (especially after a series of regional bank failures, notably Silicon Valley Bank and First Republic), sentiment eased considerably as the prospect of a "soft-landing" was revived. Falling headline inflation, strong labor market data, and the first rate pause from the Federal Reserve all contributed to a more positive macroeconomic outlook.

However, challenges remain. Within the U.S., inflation is still a concern. The Federal Reserve continues to face difficult policy decisions as inflation, while lower, sits above the two-percent



target and economic and labor market strength persists. The FOMC paused rate hikes in June, but markets are pricing in as many as two additional hikes before the end of the current tightening cycle. Overseas, growth in advanced economies remains subdued as many central banks continue their battle against inflation. Within emerging markets, the loudest narrative has centered on China. Reopening after the pandemic provided a material boost to activity, though positive momentum faltered and has been overshadowed by mounting geopolitical tension, a lack of broader accommodative stimulus, and a severely challenged real estate market.

U.S. Equity

Shares in the U.S. outperformed relative to international developed and emerging markets across both the year-to-date and one-year periods. The S&P 500 index rose by 16.9% year-to-date and 19.6% over the trailing one-year period. Many expected a higher rate environment and slowing domestic consumer spending to put a ceiling on domestic equity prices, especially following a series of regional bank failures. This ceiling was quickly shattered as the prospect and development of artificial intelligence (AI) technology boosted prices in the technology-heavy S&P 500 index.

Following concerns over the stability of the broader U.S. financial system, a wave of AI developments fueled a rally in many U.S. technology shares. Some of the largest technology names, which have made significant investments in research and development over past several years, saw the biggest increases. Notable year-to-date movers include Nvidia (+189.5%), Meta (+138.5%), Apple (+49.3%), and Microsoft (+42.0%).

The significant movements of heavyweight technology names is apparent when looking at size and style factors. Large-cap equities significantly outperformed over the one-year, with the Russell 1000 index gaining 19.4% relative to a 12.3% increase in the Russell 2000 index. And growth handily outperformed value, with the Russell 1000 Growth index rising 27.1% from last year compared to an 11.5% gain from the Russell 1000 Value index.

While U.S. shares have outperformed, the earnings story remains uncertain. According to FactSet, S&P 500 companies are on track for their third straight quarter of year-over-year earnings decline. The expected decline of -7.0% in Q2 2023 reflects a volatile business environment. While earnings expectations are rosier going forward, recent gains seen from U.S. equities are by no means an indicator that the Federal Reserve has been successful in achieving a "soft-landing" for the economy.

International Equity

Despite underperformance relative to the U.S., both international developed and emerging market shares saw gains over the past year. While directionality was the same, performance



divergence was significant between the two. The MSCI EAFE index increased 18.8% year-over-year, but the MSCI EM index posted a meager 1.7% gain.

International developed shares rebounded in Q4 of 2022, and this momentum carried into 2023, driven by strength from both European and Japanese shares. The STOXX 50, which represents the 50 largest companies in Europe, rose 36.3% from the prior year. While Europe continues to face tighter central bank policies due to high inflation (June 2023 CPI came in at 5.5% year-over-year), resilience was much better than expected, especially in comparison to the negative sentiment following Russia's invasion of Ukraine. Japanese equities also saw strong performance due to a combination of positive economic growth, inflation (Japan has sought higher inflation for many years), and a potential shift in regard to foreign shareholder prioritization. The TOPIX index increased 25.9% year-to-date and the 31.2% over the past year.

China dominated the narrative in emerging markets, as emerging market shares initially outperformed on enthusiasm around the country's reopening. This reopening momentum turned out to be short-lived, as negative sentiment quickly overshadowed the move away from an almost three-year "zero-covid" policy. It appears that two primary factors contributed to losses for Chinese shares. The first was a smaller-than-expected reopening wave of economic activity, with no substantial monetary or fiscal stimulus used to accelerate the reopening. This contrasted sharply with the large amounts of stimulus used in the U.S. and Europe. This smaller-than-expected reopening wave provided no reprieve to the already struggling real estate market. The second factor was growing geopolitical tension with the United States. A series of events, including a spy balloon being shot down over U.S. airspace, continued to bolster negative relations between the two global leaders, which likely hurt foreign investor sentiment. The MSCI China index fell -5.5% over the year-to-date, contributing to -16.8% loss over the trailing one-year period.

Fixed Income

Inflation and Federal Reserve action continued to be the dominant driver of fixed income performance over the past year. With the bulk of Federal Reserve rate hikes occurring in the second half of 2022, bonds received the brunt of the pain over the 2022 calendar year (Bloomberg U.S. Aggregate down -13.0%). The Federal Reserve continued to increase rates in response to inflation in 2023 but at a considerably slower pace. The upper bound of the Fed's target rate moved from 4.50% to 5.25% over the first half of 2023. Smaller hikes were likely in response to strong signs of falling inflation, as headline CPI fell to 3.0% in June of 2023. While the FOMC decided to pause their rate hikes at the June meeting, commentary from Federal Reserve Chairman Powell was explicit that pausing was not a signal of the end of the tightening cycle. Fed funds futures (an indicator of investor expectations) are pricing in another 25-basis



point rate hike at the FOMC's July meeting, as the Federal Reserve will continue to watch the path of inflation, especially when looking at the core basket (4.8% year-over-year rise in June).

Positive performance in 2023 has helped to improve one-year performance for the fixed income complex. Core fixed income (Bloomberg U.S. Aggregate) saw a 2.1% gain over the year-to-date period, bringing the one-year loss to -0.9%. In terms of duration, short maturity U.S. treasuries outperformed, with the Bloomberg U.S. Treasury 1-3 Year index gaining 0.1% over the one-year, compared to -2.1% and -6.8% losses from the U.S. Treasury index and U.S. Treasury Long index, respectively.

Expectations for worsening credit conditions may have reached a peak earlier in the year following the failure of several regional banks, as many investors expected a material pull back in credit availability. While high-yield bond and leveraged loan default rates have reached a two-year high per J.P. Morgan, the broader credit spectrum has performed strongly over the one-year period. Emerging market debt in local currency (+11.4%) was the best performer, followed by leveraged loans (+10.1%), high-yield bonds (+9.1%), and hard currency emerging market debt (+7.4%). Credit spreads compressed over the year-to-date, with the average option-adjusted spread for high-yield and investment grade bonds sitting at 390 basis points and 123 basis points, respectively. It has been surprising to see credit spreads remain at low levels, despite recent rises in bond default activity and expectations that defaults will continue to rise into 2024.

Commodities

In 2022, there were two major stories in the commodities space. First, the rapid increase in energy and grain prices—much of this due to Russia's invasion of Ukraine—was an contributing factor for global inflation. The second story was commodity performance. Commodities were one of the few asset classes to post a positive return during the 2022 calendar year, and the asset dominated the narrative in 2022 with some market participants calling for a new booming commodity cycle. However, commodities ended up playing a much smaller role in 2023, as a combination of easing supply pressures and lower demand hurt price performance. The Bloomberg Commodity index fell -7.8% over the year-to-date, driving the -9.6% one-year loss.

Currency

The strong dollar theme which prevailed through the first three quarters of 2022 reversed quickly in the fourth. The dollar has continued to weaken through the first half of 2023, but the magnitude has been relatively small compared to the end of last year. Interest rates have played a material role. As inflation in the U.S. seems to be under control, this has led to lower rate expectations relative to other major currencies such as the Euro and the British Pound. During this period, the Japanese Yen saw a small surge on speculation of changing rate policy under



new Bank of Japan Governor Kazuo Ueda. However, this speculation proved to be fleeting, as the Yen weakened 8.7% against the dollar over the first half of the year. The Bloomberg Dollar index, a gauge of the U.S. dollar relative to major pairs, saw moderate losses over the past year, down -2.2%.

Outlook

Risk assets experienced a tailwind through the first half of the year, as inflation has shown signs of easing, real earnings growth has moved back into positive territory, and the labor market remains resilient. While strong asset performance has boosted sentiment, continued risks threaten the rebound enjoyed through the first half of the year, including regional banks fragility, commercial office real estate vacancy, and stubborn inflation. It is also important to remember that rising interest rates tend to impact the economy with a lag. We believe many effects of interest rate rises have yet to be felt and the economy and markets may feel some pain through the latter part of this year and into 2024.

Asset Allocation

At fiscal year-end, KCERA’s asset allocation was broadly in line with Investment Policy targets, as shown in the table below:

<i>Asset Class</i>	<i>Policy Target</i>	<i>Year-End Allocation*</i>
Equity	37%	32.4%
Fixed Income	24%	25.0%
Commodities	4%	4.3%
Hedge Funds (incl. Alpha Pool)	18%	14.2%
Midstream Energy MLPs	5%	5.8%
Core Real Estate	5%	5.7%
Private Equity	5%	3.5%
Private Credit	5%	4.6%
Private Real Estate	5%	2.5%
Opportunistic Investments	0%	3.1%
Cash	-8%	-1.2%

Investment Objectives

As stated in the Plan’s Investment Policy, the Plan’s primary investment objectives are as follows:

- Earn a long-term net of fees rate of return which is equal to or exceeds the assumed rate of return;
- Earn a long-term net of fees rate of return which is equal to or exceeds the established benchmark (“Policy Benchmark”); and



- Earn a long-term net of fees rate of return which exceeds the long-term rate of inflation.

Objectives / Performance	1-Year	3-Year	5-Year	10-Year
Assumed Rate of Return*	7.0%			
Policy Benchmark	8.1%	7.8%	6.6%	6.6%
Rate of Inflation	3.0%	5.8%	3.9%	2.7%
Net-of-Fee Performance	5.9%	8.1%	6.5%	6.7%

*The current actuarial assumed rate of return is used for comparison to investment performance across periods.

As always, Verus greatly appreciates the opportunity to assist the KCERA Board in meeting the Plan's long-term investment objectives. We look forward to continuing in our role of investment advisor and providing guidance to help navigate ever-changing capital market environments.

Sincerely,

Scott J. Whalen, CFA, CAIA
Executive Managing Director

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POLICIES ADOPTED BY THE BOARD OF RETIREMENT ON MARCH 9, 2016

GENERAL INFORMATION

The Board of Retirement (the Board) has exclusive control of the investments of the retirement fund and, therefore, establishes investment policies and implements investment decisions. The overall objective of KCERA's investment program is to prudently invest assets such as to offset some of the costs of the Plan in providing the retirement benefits required by the County Employees' retirement Law of 1937.

The Board is governed by Government Code Sections 31594 and 31595, which provide a standard of care commonly known as the "prudent expert rule," a rule that recognizes that special skill and knowledge may be necessary in order to invest the fund prudently. Accordingly, the Board retains a number of professional investment advisers and investment consultants. The Board is required to diversify the investments of the Plan so as to minimize the risk of loss and to maximize the rate of return, unless it is clearly prudent not to do so.

The Board consists of nine members and two alternate members. Four members of the Board are appointed by the Kern County Board of Supervisors; four members are elected by active and retired members of KCERA; and the County Treasurer-Tax Collector is a statutory member of the Board.

SUMMARY OF INVESTMENT GUIDELINES

The Board of Retirement has adopted an Investment Policy Statement to serve as the framework for investment policy making and investment objective setting within the context of applicable California laws. The Statement establishes investment guidelines, objectives and policies, and defines the responsibilities of the Board members in regard to KCERA's investments. The investment philosophy articulated in the Statement is outlined below:

- Protecting the corpus of the Fund;
- Managing the fund in a prudent manner, recognizing risk and return trade-offs;
- Earning adequate investment returns in order to protect and pay the benefits promised to the participants with a minimum amount of associated risk;
- Maintaining sufficient liquidity to fund expenses and benefit payments as they come due; and
- Complying with applicable law.

SUMMARY OF PROXY VOTING GUIDELINES

The Board has established the KCERA Proxy Voting Policy for dealing with proxies. This policy considers shareholder voting on corporate issues to represent assets of the Plan to be voted in the best interests of the beneficiaries of the Plan. The voting of proxies is delegated to a third party to vote on behalf of the Board according to the guidelines established in the policy. The Board is responsible to monitor proxy voting to see that its policies are implemented effectively.

ASSET ALLOCATION

The Board of Retirement periodically establishes an asset allocation policy aimed at achieving a long-term rate of return on the fund’s investments such as to prudently add income to the fund to help provide the benefits promised. The asset allocation statement provides a target allocation or weighting to each of the broad investment classes of assets along with allowable ranges of weightings around each target weight. The target weights are viewed as longer-term objectives to be funded in a manner consistent with efficiency and cost savings. The asset allocation policy provides the target level of diversification among asset classes anticipated for the future. Asset allocation is reviewed on an annual basis to ensure that the expectations and assumptions incorporated in the policy remain valid and appropriate. Investment performance is monitored on quarterly, annual and multi-year basis. The asset allocation of the fund is rebalanced, as needed, but also in view of the costs of such transactions.

The Board engages external professional investment advisers to invest various portions of the fund. The advisers are, however, constrained to invest as provided in KCERA’s investment policies and allocation guidelines. Investment advisers formally notice their compliance with such policies, and their portfolios are scrutinized for compliance at regular intervals. KCERA’s investment consultant and investment staff participate in policy formulation and new manager searches, as well as in the termination of existing managers failing to perform or maintain compliance with their investment mandates.

The Board of Retirement adopted the current asset allocation policy in April 2023. KCERA’s strategic target asset allocation and actual asset allocation as of June 30, 2023 are as follows:

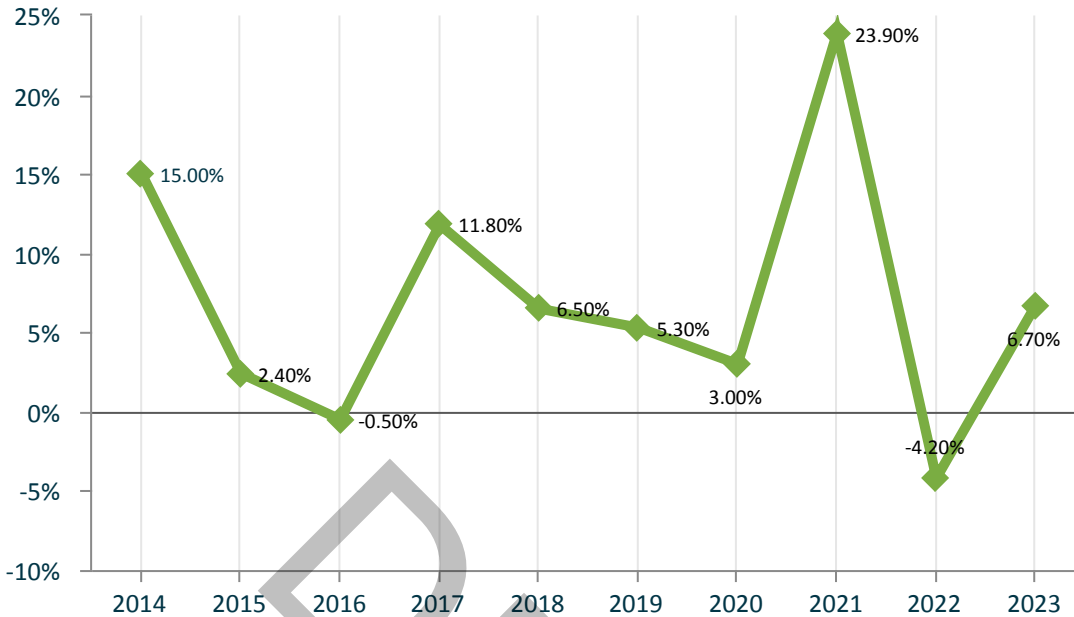
Asset Class	Actual	Target	Minimum	Maximum
Domestic Equity	16.5%	19.0%	16.0%	27.0%
International Developed Equity	11.8%	13.0%	8.0%	18.0%
Emerging Markets Equity	4.1%	5.0%	1.0%	9.0%
Domestic Fixed Income Core Plus	16.2%	14.0%	12.0%	25.0%
Domestic Fixed Income High Yield	4.9%	6.0%	3.0%	9.0%
Emerging Markets Fixed Income	4.0%	4.0%	1.0%	7.0%
Commodities	4.3%	4.0%	0.0%	8.0%
Hedge Funds	10.1%	10.0%	5.0%	15.0%
Capital Efficiency Alpha Pool	4.1%	8.0%	2.0%	10.0%
Midstream	5.8%	5.0%	0.0%	8.0%
Core Real Estate	5.7%	5.0%	2.0%	8.0%
Opportunistic	3.1%	0.0%	0.0%	10.0%
Private Equity	3.5%	5.0%	0.0%	10.0%
Private Credit	4.6%	5.0%	0.0%	10.0%
Private Real Estate	2.5%	5.0%	0.0%	10.0%
Cash and Equivalents	-1.2%	-8.0%	-10.0%	5.0%
Total	<u>100.0%</u>	<u>100.0%</u>		

KCERA 2023 - Investment Summary

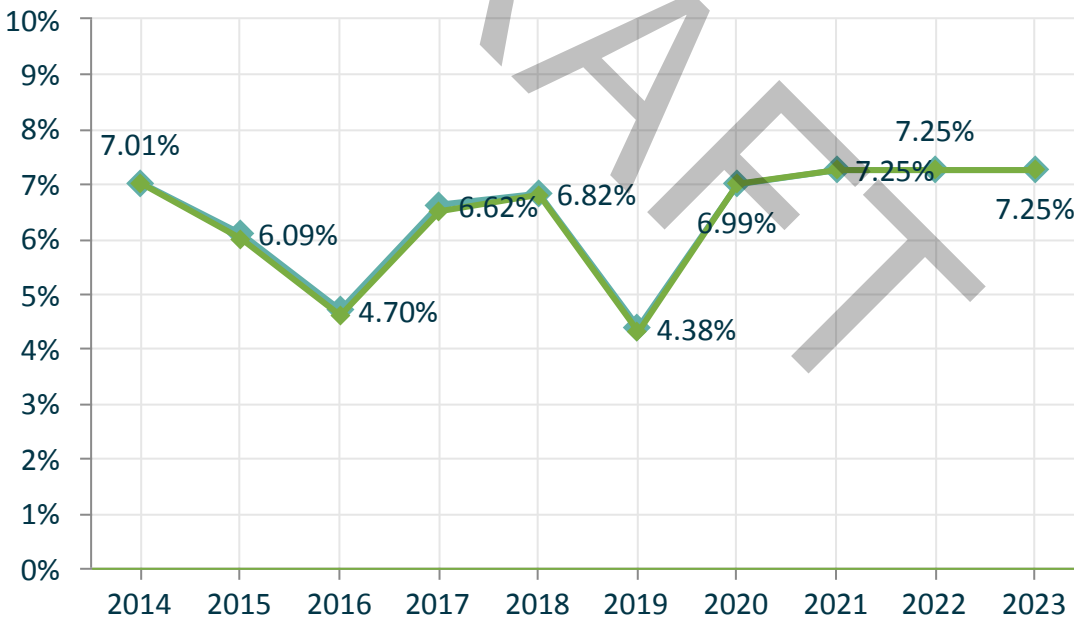
Type of Investment	Fair Value (In thousands)	% of Total Fair Value
<i>Domestic Equity:</i>		
All Cap Passive	\$ 535,891	9.87 %
Large Cap Enhanced	116,373	2.14 %
Small Cap Growth	50,512	0.93 %
Small Cap Value	85,475	1.57 %
Total Domestic Equities	788,251	14.51 %
<i>International /Global Equity</i>		
Large Cap	38,875	0.72 %
Global	526,645	9.70 %
Small Cap	70,989	1.31 %
Emerging Markets	219,008	4.03 %
Total International Equities	855,517	15.76 %
<i>Fixed Income</i>		
Core	161,045	2.97 %
Core Plus	272,201	5.01 %
Structured Debt	95,425	1.76 %
High Yield	161,355	2.97 %
Emerging Markets	208,206	3.84 %
Short Duration Fixed Income	124,460	2.29 %
Total Fixed Income	1,022,692	16.55 %
<i>Real Estate</i>		
Core	305,432	5.63 %
Private Real Estate	134,133	2.47 %
Total Real Estate	439,565	8.10 %
<i>Alternate Investments</i>		
Private Credit	322,855	5.95 %
Private Equities	189,903	3.50 %
Opportunistic	102,634	1.89 %
Hedge Funds	589,539	10.86 %
Midstream	299,149	5.51 %
Alpha Pool	174,680	3.22 %
Commodities	50,780	0.94 %
Total Alternative Investments	1,729,540	31.87 %
<i>Cash and Equivalents</i>	593,285	10.91 %
Total Investments	\$ 5,428,850	97.70 %
KCERA Capital Assets	609	
KCERA Receivables/Payables	(42,878)	
Fiduciary Net Position	\$ 5,386,581	

*Fair Value totals are inclusive of payables and receivables as of June 30.

ANNUAL RETURNS (NET OF FEES) FOR PERIODS ENDED JUNE 30



FIVE-YEAR SMOOTHED ASSET VALUATION FOR PERIODS ENDED JUNE 30



KCERA uses the five-year smoothed spread gain valuation method to allocate investment earnings greater than (or less than) the assumed investment return (i.e., actuarial assumption rate minus actual rate). The reserve account balances reflect the five-year smoothed asset valuation method for actuarial purposes. In accordance with KCERA’s Interest Crediting Policy, when investment returns would result in a negative five-year smoothed rate, KCERA sets the smoothed rate at 0.00% and credits the Contingency Reserve with the negative balance.

RETURNS FOR PERIODS ENDED JUNE 30

	Current Year	Annualized		
		3-Year	5-Year	10-Year
Total Fund:	5.9	8.1	6.5	6.7
Benchmark: Policy Index*	8.1	7.8	6.6	6.6
Domestic Equity:	17.6	13.9	11.3	—
Benchmark: MSCI USA IMI (Net)	19.2	14.1	11.5	—
International Developed Equity:	17.1	9.8	4.3	—
Benchmark: MSCI World ex USA IMI Index	16.3	8.9	4.2	—
Emerging Markets Equity:	4.6	4.4	—	—
Benchmark: MSCI EM IMI (Net)	3.2	3.6	1.4	—
Core Plus Fixed Income:	(1.0)	(4.0)	0.8	—
Benchmark: Barclays US Aggregate	(0.9)	(4.0)	0.8	—
High Yield/Specialty Credit	7.5	3.0	3.1	—
Benchmark: ICE BofAML High Yield Index	8.9	3.2	3.2	—
Emerging Market Debt:	11.2	(1.0)	0.6	—
Benchmark: **	9.4	(2.2)	0.5	—
Commodities:	(7.0)	16.5	5.5	-0.4
Benchmark: Bloomberg Comm. Index	(9.6)	17.8	4.7	-1.0
Hedge Funds	6.8	8.4	6.9	5.6
Benchmark: ***	7.2	5.8	5.8	5.9
Alpha Pool	(0.9)	4.8	—	—
Benchmark: 91-Day T-Bill +4%	6.7	4.3	—	—
Midstream Energy	19.3	—	—	—
Benchmark: Alerian Midstream Energy Index	12.2	—	—	—
Core Real Estate:	(12.3)	4.9	4.4	—
Benchmark: NCREIF-ODCE	(10.0)	8.0	6.5	—
Private Real Estate:	7.9	16.7	12.6	12.3
Private Equity:	(0.5)	20.1	11.5	10.8
Private Credit:	3.2	3.0	4.8	—
Opportunistic	0.6	15.0	—	—
Benchmark: Assumed Rate of Return +3%	7.2	7.2	—	—

* Total Fund:

37% MSCI ACWI IMI,
6% Ice BofA ML High Yield Master II Index
2% JPM Governmental Bond Index Emerging Markets
7.5% 3-Month T-Bill + 400 bps
2% Actual time-weighted Private Equity Returns
1% Actual time-weighted Private Real Estate Returns
4% Alerian Midstream 1% BBgBarc

14% Bloomberg US Aggregate
2% JPM Emerging Markets Bond Index Global Diversified
4% Bloomberg Commodities
2.5% MSCI ACWI 5% NCREIF-ODCE
4% Actual time-weighted Private Credit Returns
3% MSCI ACWI* 1% Bloomberg US Aggregate
5% Alerian Midstream 5% 3-Month T-Bill + 400bps, 91 Day T-Bills
(-)5%3-MonthT-Bill
8% 91 day T-Bill + 4%

** 50 JPM EMBI Global Div/50 JPM GBI EM

*** 75% 90Day TBills + 4% / 25% MSCI ACWI

Note: Return calculations were prepared, net of fees, using a time-weighted rate of return based on fair values.

Note: Return calculations were prepared, net of fees, using a time-weighted rate of return based on fair values.

INVESTMENT MANAGERS
<u>Domestic Equity</u>
AllianceBernstein
Geneva Capital
Mellon Capital Management EB DV
PIMCO StockPlus
<u>International Developed Equity</u>
American Century
Cevian Capital II LP
Mellon Capital Management-EB DV
<u>Emerging Market Equity</u>
AB Emerging Markets Strategic Core
DFA Emerging Markets Value Portfolio
Mellon Emerging Markets
<u>Core Fixed Income</u>
Mellon Capital Management Ag Bond
PIMCO
Western Asset Management - CP
<u>High Yield Fixed Income</u>
TCW Securitized Opportunities LP
Western Asset Management - HY
<u>Emerging Markets Debt</u>
PIMCO EM Beta
Stone Harbor Global Funds
<u>Commodities</u>
Gresham Commodity Builder Fund
Wellington Trust Company (WTC)
<u>Midstream Energy</u>
Harvest Midstream
PIMCO Midstream
<u>Core Real Estate</u>
ASB Capital Management
JPMCB Strategic Property Fund
<u>Private Equity</u>
Abbott Capital Funds
Brighton Park Capital Fund I
Brighton Park Capital Fund II
Level Equity Growth Partners
LGT Crown Global
Linden Capital Partners
Pantheon Funds
Peak Rock
OrbiMed Private Investments IX
Rubicon Technology Partners IV
Vista Foundation Fund IV
Warren Equity Partners Fund III and Fund IV

INVESTMENT MANAGERS (CONT.)
<u>Private Real Estate</u>
Covenant Apartment Fund X
Covenant Apartment Fund XI
Invesco Real Estate Funds III & IV
KCERA Property
KSL Capital Partners VI, LP
LBA Logistics Value Fund IX
Landmark Real Estate Partners VIII
Long Wharf Real Estate Partners VI
Singerman Real Estate Opportunity Fund IV
<u>Private Credit</u>
Blue Torch Credit Opportunites II
Blue Torch Credit Opportunities III
Brookfield Real Estate Finance Fund V
Colony Distressed Credit Fund
Fortress Credit Opportunities Fund V
Fortress Lending Fund II (A)
Fortress Lending Fund III (A)
H.I.G Bayside Loan Opportunity Fund
Magnetar Constellation Fund V
OrbiMed Royalty & Credit Opportunities IV
TSSP Adjacent Opportunities Partners (B)
<u>Opportunistic</u>
Aristeia Select Opportunities II LP
DB Investor's Fund IV
River Birch International Ltd
TSSP Adjacent Opportunities Partners (D)
<u>Hedge Funds</u>
Aristeia International Ltd
Brevan Howard Fund Limited
D.E. Shaw Composite Fund
HBK Multi-Strategy Fund
Hudson Bay Enhanced Fund LP
Indus Pacific Opportunities Fund
Magnetar Structured Credit Fund
PIMCO Commodity Alpha Fund LLC
Pharo Macro Fund LTD
Sculptor Enhanced LP (Formerly OZ Domestic)
<u>Alpha Pool</u>
Davidson Kempner
Garda Fixed Income
HBK Multi-Strategy Fund
Hudson Bay Enhanced Fund LP
<u>Alpha Pool</u>
BlackRock Short Duration
Parametric

LARGEST STOCK DIRECT HOLDINGS (FAIR VALUE)

Shares	Stocks	Fair Value
166,567	CHENIERE ENERGY INC COM NEW	25,378,148
1,959,381	MLP ENERGY TRANSFER LP COMMON UNITS REP	24,884,139
703,487	MLP MPLX LP COM UNIT REPSTG LTD PARTNER	23,876,349
543,234	MLP ENTERPRISE PRODS PARTNERS L P COM	14,314,216
169,810	TARGA RES CORP COM	12,922,541
483,539	WESTERN MIDSTREAM PARTNERS L P COM UNITS	12,823,454
155,598	MLP MAGELLAN MIDSTREAM PARTNERS LP COM	9,696,867
283,611	PEMBINA PIPELINE CORPORATION COMMON	8,916,730
198,819	KINDER MORGAN INC DEL COM	3,423,663
235,203	MLP PLAINS ALL AMERICAN PIPELINE L.P. UNIT	3,316,362

LARGEST BOND DIRECT HOLDINGS (FAIR VALUE)

Par	Bonds	Fair Value
20,000,000	FNMA SINGLE FAMILY MORTGAGE 4.5% 30 YEARS	19,237,500
9,500,000	FNMA SINGLE FAMILY MTG 5 30 YEARS SETTLES	9,312,969
9,500,000	FNMA SINGLE FAMILY MORTGAGE 2.5% 30 YEARS	8,066,836
8,740,000	UNITED STATES TREAS BDS 2% 11-15-2041	6,397,612
6,200,000	FNMA 30 YEAR PASS-THROUGHS 0% 30 YEARS	6,326,422
5,000,000	UNITED STATES TREASURY NTS USD 'BE-2024'	4,873,242
6,000,000	UNITED STATES TREAS BDS 2.25% 05-15-2041	4,620,938
6,000,000	CANADA HOUSING TST 2.35% GTD 15/09/2023 CAD	4,511,143
4,500,000	FNMA SINGLE FAMILY MORTGAGE 3% 30 YEARS	3,965,801
3,864,907	FEDERAL HOME LN MTG CORP POOL #SD8290	3,898,761

A complete list of portfolio holdings is available upon request.

FOR YEARS ENDED JUNE 30

(In thousands)

Asset Classes	Assets Under Management	
	2023	2022
Domestic Fixed Income	\$ 704,249	\$ 711,991
International Fixed Income	193,983	326,337
Short Duration Fixed Income	124,460	107,839
Domestic Equities	788,494	503,917
International Equities	855,274	703,510
Commodities	50,780	306,656
Hedge Funds	589,539	637,028
Alpha Pool	174,680	139,591
Midstream	299,149	266,594
Core Real Estate	305,432	386,678
Private Real Estate	134,133	162,563
Private Equity	189,903	138,642
Private Credit	322,855	298,225
Opportunistic	102,634	178,176
Investments at Fair Value	4,835,565	4,867,747
Cash & Short-Term Investments	593,285	297,744
Investments Sold / Purchased	(69,282)	(57,303)
Investment Income & Other Liabilities	28,846	23,900
Total Assets Under Management	5,388,414	5,132,088
KCERA Capital Assets	515	1,077
KCERA Prepaid Expenses	94	137
KCERA Accruals	(2,442)	(2,173)
Fiduciary Net Position	\$ 5,386,581	\$ 5,131,129

FOR YEARS ENDED JUNE 30

Investment Manager Fees	2023	2022
Domestic Equity		
AllianceBernstein Trust Company	\$ 589,130	\$ 774,407
Henderson Geneva Capital Management	366,697	406,751
Mellon Capital Management (Dynamic US Equity)	—	30,154
Mellon Capital Management (US Equity) Stock Index	54,541	46,122
PIMCO StocksPLUS #4450	188,901	363,761
Total Domestic Equity Managers	1,199,269	1,621,195
International / Global Equity		
American Century	126,999	149,940
BlackRock Institutional Trust Company	—	21,561
Cevian Capital II SP	1,517,015	1,175,334
Mellon Int'l (Canada Stock & Int'l Stock)	147,743	158,562
Total International Equity Managers	1,791,757	1,505,397
Emerging Markets Managers		
AllianceBernstein Trust Company	1,035,029	669,293
Dimensional Fund Advisors	339,063	381,240
MCM DB SL Emerging Markets Stock Index Fund	40,185	47,582
Total Emerging Markets Managers	1,414,277	1,098,115
Total Core		
Mellon Capital Management (Fixed Income) Agg Bond	44,024	50,572
Pacific Investment Management Company #7350	126,518	169,892
Western Asset Management Company	350,631	488,095
Total Core Managers	521,173	708,559
Total Credit		
TCW Securitized Opportunities	976,567	682,485
Western Asset Management Company	341,857	382,538
Total Credit Managers	1,318,424	1,065,023
Total Emerging Markets Debt		
PIMCO EB Beta	400,188	426,518
Stone Harbor Investment Partners	239,519	345,073
Total Emerging Markets Debt Managers	639,707	771,591

(Schedule of Investment Fees continued on next page)

FOR YEARS ENDED JUNE 30

Investment Manager Fees	2023	2022
Commodities		
Gresham Investment Management	323,560	473,255
Wellington Trust Company	1,219,328	1,605,442
Total Commodity Managers	1,542,888	2,078,697
Hedge Funds		
Aristeia International Ltd	1,266,246	1,065,956
Brevan Howard Multi-Strategy Fund	4,550,717	1,751,097
D.E. Shaw Composite Fund	2,172,109	7,111,064
HBK Multi-Strategy Fund	1,302,913	1,465,095
Hudson Bay Cap Structure Arbitrage	5,863,790	5,423,475
Indus Pacific Opportunities Fund	608,885	(222,964)
Magnetar Structured Credit Fund	97,751	186,830
Myriad Opportunities Offshore Fund	—	377,908
PIMCO Commodities #2580	1,134,468	1,076,352
Sculptor Capital (formerly OZ)	870,851	595,938
PMF (PHARO)	1,242,244	1,265,833
Total Hedge Fund Managers	19,109,974	20,096,584
Core Real Estate		
ASB Real Estate Investors	1,409,474	1,394,449
J.P. Morgan Chase Bank (Strategic Property Fund)	1,002,181	803,762
Total Core Real Estate Managers	2,411,655	2,198,211
CE Alpha Pool		
Davidson Kempner Institutional Partners	1,025,640	822,439
Garda Fixed Income	2,851,149	1,498,669
HBK Multi-Strategy fund - Alpha Pool	1,252,985	1,408,952
HBK SPAC Series	245,818	206,259
Total CE Alpha Pool Managers	5,129,774	3,730,060
Midstream Energy		
Harvest Midstream	1,270,163	1,196,495
PIMCO Midsream 11178	654,571	594,964
Total Midstream Energy Managers	1,924,734	1,791,459
Opportunistic		
Aristeia Select Opportunities II	(233,321)	233,320
River Birch International Ltd	39,013	13,487
Sixth Street TAO Partners (D)	4,646,478	4,268,771
Total Opportunistic Managers	4,452,170	4,515,578

(Schedule of Investment Fees continued on next page)

KCERA 2023 - Schedule of Investment Fees

FOR YEARS ENDED JUNE 30

Investment Manager Fees	2023	2022
Private Equity		
Abbott Capital Management (Fund V)	15,971	6,075
Abbott Capital Management (Fund VI)	369,185	410,207
Blue Torch Credit Opportunities Fund II	1,622,086	—
Blue Torch Credit Opportunities Fund III	684,099	—
Brighton Park Capital Fund I	321,799	620,231
Level Equity Opportunities fund 2021	241,871	85,089
Level Equity Growth Partners V	1,061,823	578,853
LGT Crown Global	1,439,668	1,164,591
Linden Capital Partners V	545,614	559,371
Linden Co-Investment Fund V	117,247	—
OrbiMed Private Investments IX	180,147	—
Pantheon Ventures, Inc. (Fund VII)	—	176,054
Peak Rock	167,123	74,997
Rubicon Technology Partners IV	750,000	—
Vista Equity Partners	500,000	499,918
Warren Equity Partners Fund III	391,196	1,243,474
Total Private Equity Managers	8,407,829	5,418,860
Private Credit		
Brookfield Real Estate Finance Fund V	310,272	434,204
Colony Capital Credit IV, LLC	449,720	637,781
Fortress Credit Opportunity Fund V	270,325	192,484
Fortress Lending Fund II (A) LP	3,483,322	1,518,206
Fortress Lending Fund III	1,966,360	289,243
HIG	6,390,441	2,040,288
Magnetar Constellation Fund V	401,948	526,859
Sixth Street TAO Partners (B)	1,848,812	1,705,774
OrbiMed Royalty & Credit Opportunities IV	771,397	—
Total Private Credit Managers	15,892,597	7,344,839
Private Real Estate		
Covenant Apartment Fund X	375,000	375,000
Covenant Apartment Fund XI	335,458	—
Invesco Real Estate (US Value-Add Fund IV)	50,379	148,674
KSL Capital Partners VI and ITS Parallel Fund	659,127	—
Landmark Real Estate Partners VIII	1,072,221	548,527
LBA Logistics Value Fund IX	405,000	303,750
Long Wharf Real Estate Partners (FREG Fund III)	866,692	924,093
Singerman Real Estate Opportunity Fund IV	525,000	463,519
Total Real Estate Managers	2,897,185	1,375,951
Cash and Overlay		
BlackRock Short Duration	329,032	232,553
Parametric Overlay	285,655	474,361
Total Overlay Managers	614,687	706,914
Total Investment Managers' Fees	\$ 70,905,610	\$ 57,620,904

(Schedule of Investment Fees continued on next page)

KCERA 2023 - Schedule of Investment Fees

FOR YEARS ENDED JUNE 30

Other Investment Expenses	2023	2022
Custodial Fees		
The Northern Trust Company	500,708	363,646
Actuarial Fees		
Segal Company	167,550	232,693
Investment Consultant Fees		
Abel Noser	30,750	30,000
Albourne America LLC	379,617	411,350
Glass, Lewis & Co.	7,950	8,511
Verus	410,000	410,000
Cambridge Associates	750,000	537,500
Investment Consulting - Other Expenses	10,142	9,000
Legal Fees		
Foley & Lardner LLP	—	3,684
Hanson Bridgett LLP	—	7,680
Nossaman LLP	68,846	129,644
Due Diligence		
Investment Related Expenses	9,027	—
Real Estate Expenses		
KCERA Property Inc.	43,077	49,799
Total Other Investment Expenses	2,377,667	2,193,507
Total Investment Expenses	73,283,277	59,814,411
Security Lending Bank Fees		
Deutsche Bank	59,919	53,430
Total Investment Fees and Services	\$ 73,343,196	\$ 59,867,841

DRAFT

ACTUARIAL SECTION

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DRAFT



180 Howard Street, Suite 1100
San Francisco, CA 94105-6147
segalco.com

Via Email

September 18, 2023

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association (KCERA)
June 30, 2022 Actuarial Valuation for Funding Purposes**

Dear Members of the Board:

Segal prepared the June 30, 2022 annual actuarial valuation of the Kern County Employees' Retirement Association (KCERA). We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices and KCERA's funding policy that was last reviewed with the Board in 2012. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice (ASOPs).

As part of the June 30, 2022 actuarial valuation, Segal conducted an examination of all participant data for reasonableness. However, the scope of this examination does not qualify as an audit. Summaries of the employee data used in performing the actuarial valuations over the past several years are provided in our valuation report. We did not audit the Association's financial statements. For actuarial valuation purposes, retirement plan assets are valued at Actuarial Value. Under this method, the assets used to determine employer contribution rates take into account market value by recognizing the differences between the total return at market value and the expected market investment return over 10 six-month periods. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 50% of the market value of assets.

One of the general goals of an actuarial valuation is to establish contribution rates, which, over time, will remain level as a percentage of payroll for each generation of active members. Actuarial funding is based on the Entry Age Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize any unfunded actuarial accrued liability (UAAL).

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Board of Retirement
 September 18, 2023
 Page 2

The UAAL as of June 30, 2011 is amortized as a level percentage of payroll over a 13.5-year closed period as of June 30, 2022. Effective June 30, 2012, any changes in UAAL due to actuarial gains or losses or due to changes in actuarial assumptions or methods will be amortized over an 18-year closed period effective with each valuation. Any change in UAAL that arises due to plan amendments is amortized over its own declining 15-year period (with exception of a change due to retirement incentives, which is amortized over a declining period of up to 5 years). The progress being made towards meeting the funding objective through June 30, 2022 is illustrated in the Schedule of Funding Progress.

A listing of supporting schedules Segal prepared for inclusion in the actuarial, statistical, and financial sections of the Association's Annual Comprehensive Financial Report (ACFR) is provided below. Unless otherwise stated, the schedules were prepared based on the results of the actuarial valuation as of June 30, 2022 for funding purposes. In particular, we have excluded the benefits, assets and liabilities associated with the Supplemental Retiree Benefit Reserve (SRBR) when preparing the schedules. The notes to the financial section and Required Supplementary Information were prepared by the Association based on the results of the Governmental Accounting Standards (GAS) 67 actuarial valuation as of June 30, 2023 prepared by Segal.

- Exhibit 1 Schedule of Active Member Valuation Data;
- Exhibit 2 Retirees and Beneficiaries Added to and Removed from Retiree Payroll;
- Exhibit 3 Schedule of Funded Liabilities by Type;
- Exhibit 4 Actuarial Analysis of Financial Experience; and
- Exhibit 5 Schedule of Funding Progress.

The valuation assumptions included in the Actuarial Section were adopted by the Retirement Board based on our recommendations following the June 30, 2019 Actuarial Experience Study.

As we disclosed in our June 30, 2022 funding valuation report, the 7.25% investment return assumption that the Board approved for determining the liabilities for funding purposes and used for establishing the employer and employee contribution rates was developed without considering the impact of any future 50/50 excess earnings allocation. This is based on our understanding that Article 5.5 of the Statute, which authorizes the allocation of 50% of excess earnings to the SRBR, does not allow for the use of a different investment return for funding than is used for interest crediting. This would appear in effect to preclude the prefunding of the SRBR through the use of an assumption lower than the market earnings assumption of 7.25%.

As indicated by the guidance found in Actuarial Standard of Practice (ASOP) No. 4 ("Measuring Pension Obligations and Determining Pension Plan Costs or Contributions"), we performed stochastic modeling to estimate the impact of the 50% allocation of future excess earnings to the SRBR. The results of our model indicated that the 50/50 allocation of future excess earnings would have about the same impact as an "outflow" (i.e., assets not available to fund the benefits included in the funding valuation) that would average approximately 0.3% of assets over time. **For informational purposes only**, when we applied the results of our stochastic model to this

Board of Retirement
September 18, 2023
Page 3

valuation, we estimated that such an annual outflow would increase the actuarial accrued liability (AAL) measured in this valuation using a 7.25% investment return assumption from \$7.37 billion to \$7.64 billion (for a difference of about \$268 million) and would increase the employer's contribution rate by about 4.1% of payroll.

It is our opinion that the assumptions used in the June 30, 2022 valuation produce results, which, in aggregate, reflect the future experience of the retirement plan. Actuarial valuations are performed on an annual basis. An experience analysis is performed every three years and was last performed as of June 30, 2019 with those assumptions first being implemented in the June 30, 2020 actuarial valuation.

In the June 30, 2022 valuation, the ratio of the valuation assets to actuarial accrued liabilities (funded percentage) increased from 67.1% to 69.2%. The aggregate employer contribution rate has decreased from 49.10% of payroll to 48.76% of payroll, while the aggregate employee rate has increased from 6.82% of payroll to 6.96% of payroll.

Under the asset smoothing method, the total unrecognized net investment losses are \$220 million as of June 30, 2022. These investment losses will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years.

The deferred losses of \$220 million represent about 4.3% of the market value of assets as of June 30, 2022. Unless offset by future investment gains or other favorable experience, the recognition of the \$220 million market losses is expected to have an impact on the Association's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows (without taking into consideration any possible impact of the 50/50 excess earnings allocation between the retirement and SRBR asset pools):

- If the deferred losses were recognized immediately in the valuation value of assets, the funded percentage would decrease from 69.2% to 66.2%.
- If the deferred losses were recognized immediately in the valuation value of assets, the aggregate employer rate would increase from 48.76% to 51.68% of payroll.

The actuarial calculations were directed under the supervision of Molly Calcagno, ASA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/hy
Enclosures

The methods and assumptions below were selected by the actuary as being appropriate for the Plan and were used in the latest actuarial valuation dated June 30, 2022. The most recently updated Summary of Actuarial Assumptions and Methods was adopted by the Board of Retirement on August 3, 2020.

Economic Assumptions

<i>Interest Rate of Return:</i>	7.25% per year, net of investment expenses
<i>Salary Increases:</i>	Rates vary by service as shown in Table 1 on page 89
<i>Inflation Assumption:</i>	2.75% per year
<i>Cost-of-Living Adjustments:</i>	2.50% (actual increases depend on CPI increases; 2.50% maximum)

Actuarial Methods

<i>Funding Method:</i>	Entry Age Funding Method. Costs are allocated as a level percent of salary.
<i>Actuarial Cost Method:</i>	Entry Age Actuarial Cost Method. The actuarial present value of the projected benefits of each member are allocated as a level percentage of the member's projected compensation between entry age and assumed exit (until maximum retirement age).
<i>Amortization Period:</i>	<p>The actuarial present value of benefits expected to be paid in the future is the Normal Cost. The difference between the Normal Cost and the actuarial present value of all future benefits for contributing members, former contributing members and their survivors is the Actuarial Accrued Liability (AAL). The difference between the AAL and the actuarial value of the assets is the Unfunded Actuarial Accrued Liability (UAAL).</p> <p>As of June 30, 2020, the remaining amortization period for all UAAL as of June 30, 2011 was 15.5 years. Effective June 30, 2012, any changes in UAAL due to actuarial gains or losses or due to changes in actuarial assumptions or methods will be amortized over an 18-year closed period, effective with each valuation. Any change in UAAL that arises due to plan amendments is amortized over its own declining 15-year period (with the exception of a change due to retirement incentives, which are amortized over a declining period of up to 5 years).</p>

Actuarial Methods (CONT.)

Amortization Period (CONT.): Beginning July 1, 2009, any liability attributable to golden handshakes is paid by one of two methods, as elected by the employer:

1. Payment in full in the first month of the fiscal year following the fiscal year in which the golden handshake(s) was granted; or
2. According to a 5-year amortization to be invoiced to the employer in the first month of the fiscal year following the fiscal year in which the golden handshake(s) was granted. The amortization schedule will be based upon the valuation interest rate used in the most recently completed valuation at the time that the amortization schedule is created. The employer may complete payment of the golden handshake(s) at any time during the 5-year amortization period.

Demographic Assumptions

Post-Retirement Mortality:

A) General Members and Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward one year for male and two years for female General Members and set back one year for male and female Safety members projected generationally with the two-dimensional MP-2016 projection scale.

B) Beneficiaries: Rates are the same as a General service retiree of the opposite sex.

C) Disability Retirement: Combined RP-2014 Healthy Annuitant Mortality Table set forward seven years for male and eight years for female General Members and set forward three years for male and female Safety Members projected generationally with the two-dimensional MP-2016 projection scale.

Proportion of Members with Spouse/Partner at Retirement: 70% of male active members and 60% of female active employees are assumed to have a spouse or registered domestic partner eligible for the 60% continuance at retirement. Females are assumed to be three years younger than their spouses.

Rate of Termination of Employment: Rates vary by years of service, as shown in Table 2 on page 90.

Reciprocal Agency: For current active members, the probability of joining a reciprocal agency immediately after terminating is 45% for General members and 60% for Safety members.

Deferred Retirement Age for Vested Termination: Age 57 for General members. Age 53 for Safety members.

Annual Rate of Compensation Increase

Years of Service	General Members	Safety Members
Less than 1	5.50	8.75
1 - 2	4.50	7.00
2 - 3	4.00	5.50
3 - 4	3.50	5.00
4 - 5	3.00	4.50
5 - 6	2.50	4.00
6 - 7	2.25	3.50
7 - 8	1.75	2.50
8 - 9	1.50	1.50
9 - 10	1.25	1.25
10 - 11	1.15	1.00
11 - 12	1.05	0.80
12 - 13	0.95	0.75
13 - 14	0.85	0.70
14 - 15	0.75	0.65
15 - 16	0.75	0.60
16 - 17	0.75	0.55
17 - 18	0.75	0.50
18 - 19	0.75	0.50
19 - 20	0.75	0.50
20 & Over	0.75	0.50

The chart above depicts annual increases in salary before wage inflation. Inflation is 2.75% per year, plus “across the board” real salary increases of 0.50% per year; plus the merit and promotion increases.

KCERA 2023 - Table 2: Probabilities of Separation from Active Service

Mortality Rates : Pre-Retirement				
Age	General		Safety	
	Male	Female	Male	Female
25	0.03	0.01	0.03	0.02
30	0.04	0.01	0.04	0.02
35	0.05	0.02	0.04	0.03
40	0.07	0.04	0.05	0.04
45	0.10	0.06	0.07	0.06
50	0.15	0.08	0.10	0.08
55	0.22	0.12	0.15	0.11
60	0.32	0.19	0.23	0.14
65	0.47	0.30	0.35	0.20

Disability Incidence Rates		
Age	General*	Safety*
20	0.02	0.05
25	0.03	0.07
30	0.04	0.10
35	0.07	0.19
40	0.09	0.28
45	0.13	0.39
50	0.18	1.08
55	0.26	2.55
60	0.36	3.70
65	0.40	4.00
70	0.00	0.00

Years of Service	Termination Rates		Electing a Refund upon Termination	
	General	Safety	General	Safety
Less than 1	17.00	9.00	100.00	100.00
1 - 2	13.00	8.00	100.00	100.00
2 - 3	10.00	7.00	100.00	100.00
3 - 4	9.00	6.00	100.00	100.00
4 - 5	8.50	5.00	100.00	100.00
5 - 6	8.00	4.00	36.00	44.00
6 - 7	7.00	3.50	34.00	40.00
7 - 8	6.00	3.25	32.00	38.00
8 - 9	5.00	3.00	30.00	32.00
9 - 10	4.00	2.60	28.00	30.00
10 - 11	3.75	2.20	26.00	26.00
11 - 12	3.50	1.80	25.00	25.00
12 - 13	3.25	1.60	24.00	21.00
13 - 14	3.00	1.40	23.00	18.00
14 - 15	2.75	1.20	22.00	15.00
15 - 16	2.50	1.00	21.00	12.00
16 - 17	2.30	0.90	18.00	10.00
17 - 18	2.10	0.75	16.00	8.00
18 - 19	1.90	0.75	14.00	6.00
19 - 20	1.70	0.75	13.00	4.00
20 - 21	1.50	0.00	12.00	0.00
21 - 22	1.30	0.00	11.00	0.00
22 - 23	1.10	0.00	10.00	0.00
23 - 30	1.00	0.00	<8.00	0.00
30 & Over	0.00	0.00	0.00	0.00

(Rates in percentages)

*Disability 50% of General member disabilities are assumed to be service-connected, and the other 50% are assumed to be nonservice-connected. Furthermore, 90% of Safety member disabilities are assumed to be service-connected.

KCERA 2023 - Table 2: Probabilities of Separation from Active Service

Retirement Rates							
Age	General Tier I		General Tiers IIA and IIB	General Tier III	Safety Tier I		Safety Tier IIA and IIB
	<25 Years of Service	>25 Years of Service			<25 Years of Service	>25 Years of Service	
45 - 48	0.00	0.00	0.00	0.00	5.00	5.00	0.00
49	0.00	0.00	0.00	0.00	25.00	25.00	0.00
50	10.00	10.00	5.00	0.00	10.00	30.00	3.00
51	6.00	6.00	3.00	0.00	8.00	24.00	3.00
52	6.00	12.00	3.00	3.00	8.00	24.00	3.00
53	6.00	12.00	3.00	3.00	8.00	24.00	5.00
54	6.00	12.00	3.50	3.50	12.00	24.00	11.00
55	6.00	12.00	4.00	4.00	14.00	28.00	13.00
56	6.00	14.00	4.50	4.50	14.00	28.00	12.00
57	6.00	16.00	5.00	5.00	8.00	28.00	12.00
58	9.00	18.00	6.50	6.50	8.00	28.00	12.00
59	16.00	24.00	11.00	11.00	14.00	28.00	12.00
60	20.00	35.00	12.00	12.00	25.00	28.00	12.00
61	16.00	28.00	13.00	13.00	25.00	50.00	12.00
62	20.00	35.00	20.00	20.00	25.00	50.00	25.00
63 - 64	20.00	30.00	20.00	20.00	25.00	50.00	25.00
65 - 68	35.00	35.00	35.00	35.00	100.00	100.00	100.00
69	40.00	40.00	40.00	40.00	100.00	100.00	100.00
70	100.00	100.00	100.00	100.00	100.00	100.00	100.00

(Rates in percentages)

KCERA 2023 - Schedule of Active Member Valuation Data

Valuation Date	Plan Type	Members	Annual Payroll	Annual Average Pay	Increase in Average Pay
6/30/2013	General	6,619	\$410,905,480	\$62,080	(0.7)%
	Safety	1,866	\$144,847,330	\$77,625	(0.7)%
	Total	8,485	\$555,752,810	\$65,498	(0.6)%
6/30/2014	General	6,629	\$410,350,884	\$61,902	(0.3)%
	Safety	1,883	\$145,284,147	\$77,156	(0.6)%
	Total	8,512	\$555,635,031	\$65,277	(0.3)%
6/30/2015	General	6,637	\$411,427,313	\$61,990	0.1 %
	Safety	1,844	\$145,396,935	\$78,849	2.2 %
	Total	8,481	\$556,824,248	\$65,655	0.6 %
6/30/2016	General	6,788	\$421,043,714	\$62,028	0.1 %
	Safety	1,839	\$146,217,425	\$79,509	0.8 %
	Total	8,627	\$567,261,139	\$65,754	0.2 %
6/30/2017	General	6,966	\$431,532,274	\$61,948	(0.1)%
	Safety	1,762	\$140,549,312	\$79,767	0.3 %
	Total	8,728	\$572,081,586	\$65,546	(0.3)%
6/30/2018	General	7,106	\$443,482,638	\$62,410	0.7 %
	Safety	1,761	\$140,698,321	\$79,897	0.2 %
	Total	8,867	\$584,180,959	\$65,883	0.5 %
6/30/2019	General	7,433	\$471,228,860	\$63,397	1.6 %
	Safety	1,764	\$141,048,417	\$79,959	0.1 %
	Total	9,197	\$612,277,277	\$66,574	1.0 %
6/30/2020	General	7,641	\$495,639,348	\$64,866	2.3 %
	Safety	1,685	\$138,930,289	\$82,451	3.1 %
	Total	9,326	\$634,569,637	\$68,043	2.2 %
6/30/2021	General	7,382	\$484,722,431	\$65,663	1.2 %
	Safety	1,690	\$138,571,654	\$81,995	(0.6)%
	Total	9,072	\$623,294,085	\$68,705	1.0 %
6/30/2022	General	7,375	\$490,017,034	\$66,443	1.2 %
	Safety	1,701	\$143,085,184	\$84,118	2.6 %
	Total	9,076	\$633,102,218	\$69,756	1.5 %

KCERA 2023 - Schedule of Retirees and Beneficiaries Added to and Removed from Payroll

Plan Year	At Beginning of Year	Added During Year	Removed During Year	At End of Year	Annual Allowance Added*	Annual Allowance Removed*	Retiree Payroll Ending*	% Increase in Retiree Allowance	Average Annual Allowance*
2013	6,890	468	187	7,171	\$22,305,618	\$3,825,313	\$244,822,020	8.2%	\$34,141
2014	7,171	442	216	7,397	\$19,663,621	\$4,173,211	\$260,312,430	3.1%	\$35,192
2015	7,397	440	238	7,599	\$20,734,025	\$5,817,539	\$275,229,096	5.7%	\$36,219
2016	7,599	454	206	7,847	\$20,236,339	\$5,034,075	\$290,431,360	5.5%	\$37,012
2017	7,847	501	255	8,093	\$22,566,737	\$6,358,810	\$306,639,287	5.6%	\$37,889
2018	8,093	426	218	8,301	\$22,799,714	\$6,125,093	\$323,313,908	5.4%	\$38,949
2019	8,301	402	208	8,495	\$25,086,184	\$5,533,123	\$342,866,969	6.0%	\$40,361
2020	8,495	405	233	8,667	\$24,009,780	\$6,538,327	\$360,338,422	5.1%	\$41,576
2021	8,667	468	300	8,835	\$26,956,474	\$9,582,527	\$377,712,369	4.8%	\$42,752
2022	8,835	494	314	9,015	\$29,403,970	\$10,973,763	\$396,142,576	4.9%	\$43,943

* Includes data adjustments and automatic cost-of-living adjustments granted on April 1st. Excludes SRBR amounts.

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KCERA 2023 - Schedule of Funded Liabilities by Type & Actuarial Analysis of Financial Experience

Schedule of Funded Liabilities by Type								
Valuation Date	Aggregate Accrued Liabilities				Portion of Accrued Liabilities Covered by Reported Assets			
	Active Member Contributions	Retired/Vested Members	Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	Active Member Contributions	Retired/Vested Members	Active Members (Employer Financed Portion)
6/30/2013	\$244,832	\$3,153,966	\$1,709,821	\$5,108.619	\$3,120,632	100%	91%	0%
6/30/2014	\$268,826	\$3,446,962	\$1,776,652	\$5,492.44	\$3,342,122	100%	89%	0%
6/30/2015	\$295,447	\$3,607,511	\$1,754,215	\$5,657.173	\$3,529,786	100%	90%	0%
6/30/2016	\$320,400	\$3,766,875	\$1,725,817	\$5,813.092	\$3,685,447	100%	89%	0%
6/30/2017	\$351,592	\$4,093,826	\$1,746,015	\$6,191.433	\$3,913,073	100%	87%	0%
6/30/2018	\$387,376	\$4,288,475	\$1,722,963	\$6,398.814	\$4,163,476	100%	88%	0%
6/30/2019	\$414,082	\$4,513,958	\$1,694,455	\$6,622.495	\$4,291,573	100%	86%	0%
6/30/2020	\$461,921	\$4,823,175	\$1,720,493	\$7,005.589	\$4,508,548	100%	84%	0%
6/30/2021	\$505,907	\$5,020,756	\$1,637,562	\$7,164.225	\$4,806,026	100%	86%	0%
6/30/2022	\$547,557	\$5,258,274	\$1,566,822	\$7,372.653	\$5,102,402	100%	87%	0%

Note: Includes actuarially funded liabilities and assets. The non-valuation reserves such as the SRBR are not included.

Actuarial Analysis of Financial Experience				(In thousands)
Investment Performance	June 30, 2022	June 30, 2021	June 30, 2020	
Asset Return Greater				
(Less) than Expected	\$ 9,678	\$ 30,447	\$ (65,123)	
Salary Increase Less				
(Greater) than Expected	\$ 6,599	\$ 39,749	\$ 13,666	
Other Experience				
Including Demographic Changes	\$ 16,560	\$ (6,980)	\$ (506)	
Change in Assumptions/Methodology	\$ —	\$ —	\$ (146,618)	
Plan Changes	\$ (1,246)	\$ 28,922	\$ —	
Composite Gain (or Loss) During Year	\$ 31,591	\$ 92,138	\$ (198,581)	

KCERA 2023 - Schedule of Funding Progress & Schedule of Employer Contributions

SCHEDULE OF FUNDING PROGRESS*							(In thousands)
Actuarial Valuation Date (1)	Actuarial Accrued Liability* (2)	Valuation Value of Assets** (3)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2) (4)	Funded Ratio (2) / (3) (5)	Annual Covered Payroll (6)	UAAL as % of Annual Payroll (4) / (6) (7)	
6/30/2013	\$5,108,619	\$3,120,632	\$1,987,987	61.1 %	\$555,752	357.7%	
6/30/2014	\$5,492,440	\$3,342,122	\$2,150,318	60.8 %	\$555,634	387.0%	
6/30/2015	\$5,657,173	\$3,529,786	\$2,127,387	62.4 %	\$556,824	382.1%	
6/30/2016	\$5,813,092	\$3,685,447	\$2,127,645	63.4 %	\$567,261	375.1%	
6/30/2017	\$6,191,433	\$3,913,073	\$2,278,360	63.2 %	\$572,081	398.3%	
6/30/2018	\$6,398,814	\$4,163,476	\$2,235,338	65.1 %	\$584,180	382.6%	
6/30/2019	\$6,622,495	\$4,291,573	\$2,330,992	64.8 %	\$612,277	380.7%	
6/30/2020	\$7,005,589	\$4,508,548	\$2,497,041	64.4 %	\$634,570	393.5%	
6/30/2021	\$7,164,255	\$4,806,026	\$2,358,199	67.1 %	\$623,295	378.3%	
6/30/2022	\$7,372,653	\$5,102,402	\$2,270,251	69.2 %	\$633,103	358.6%	

* Excludes liabilities held for SRBR Reserves Unallocated to 0.5% COLA benefits.

** Excludes assets for SRBR Reserves Unallocated to 0.5% COLA benefits and COLA Contribution Reserve.

** Excludes assets for Contingency Reserve (unless the Contingency Reserve is negative).

SCHEDULE OF EMPLOYER CONTRIBUTIONS			(In thousands)
Fiscal Year Ended June 30,	Annual Required Contribution	Percentage Contributed	
2013	\$211,677	100%	
2014	\$220,393	100%	
2015	\$215,477	100%	
2016	\$234,714	100%	
2017	\$224,351	100%	
2018	\$242,534	100%	
2019	\$229,120	100%	
2020	\$273,909	100%	
2021	\$268,626	100%	
2022	\$287,063	100%	

Briefly summarized below are the major provisions of the County Employees' Retirement Law of 1937, including Sections 31676.01, 31676.14, 31676.17, 31664, 31664.1 and 7522.20(a), as adopted by the County of Kern and special districts.

Membership

Membership is automatic upon appointment to a permanent position of 50% or more of the regular standard hours required. Retirement entry date is the first day of the first full biweekly payroll period following the date of employment.

All safety and general members hired by the County of Kern or a special district on or after January 1, 2013 are subject to the "new member" provisions found in Code Section 7522.20(a) of the Public Employees' Pension Reform Act of 2013 (PEPRA).

Final Average Salary

For non-PEPRA benefit tiers, "final average salary" is the highest 12 consecutive months of pensionable pay, including base salary and other pay elements includible as a result of the "Ventura" decision. "Pensionable compensation" for members subject to PEPRA is the highest 36 consecutive months of pensionable pay, including base salary and eligible special pay items defined in PEPRA.

Vesting

Members are considered vested in the Plan after obtaining five years of retirement service credit.

Member Contribution Rates

The basic contribution is computed on the member's base pay plus pensionable special pays, with the contribution rate being determined by the member's entry age into KCERA, the classification of the member, the Plan's economic assumptions and the member's life expectancy at the retirement age specified in the County Employees' Retirement Law of 1937.

The normal rates of contribution are such as to provide, for each year of service, an average annuity at age 55 of 1.0% of final compensation for General Tier I members, an average annuity at age 60 of 0.833% of final compensation for General Tier II members, an average annuity at age 50 of 1.5% of final compensation for Safety Tier I members, and an average annuity at age 50 of 1.0% of final compensation for Safety Tier II members, according to the tables adopted by the Board of Supervisors, for each year of service rendered after entering the Plan.

General and safety members subject to PEPRA provisions will pay 100% of their contributions until retirement. Their contribution rates will be 50% of the actuarially determined Normal Cost rate for each membership group. All other KCERA members will contribute based on their entry age or a flat average rate (i.e., for certain safety bargaining units).

Per IRS Code Section 414(h)(2), member contributions made through payroll deductions are pretax. Interest is credited to contribution balances on June 30 and December 31, per the County Employees' Retirement Law of 1937, Article 5.5.

Withdrawal Benefits

If a member resigns, his or her contributions plus interest can be refunded. Members with less than five years of service may elect to leave his or her contributions on deposit and receive interest. Any vested member may elect to leave his or her contributions on deposit and receive a deferred-vested benefit when eligible for retirement.

Compensation Limit

For members who joined KCERA on or after July 1, 1996 but before January 1, 2013, “compensation earnable” is limited by IRC Section 401(a)(17) and indexed annually for inflation. “Pensionable compensation” for General Tier III members enrolled in Social Security is capped at the Social Security limit and indexed annually for inflation.

Service Retirement Benefits

General members with at least 10 years of retirement service credit who are age 50 or older, have 30 years of service credit regardless of age, or are age 70 regardless of service credit are eligible for service retirement.

General Tier I provides 3.0% of final compensation for each year of service at age 60, multiplied by Government Code Section 31676.17 factors. General Tier II provides 1.62% of final compensation for each year of service at age 65, multiplied by Government Code Section 31676.01 factors.

Berrenda Mesa Water District and Inyokern Community Services District still have Government Code Section 31676.14 for service prior to January 1, 2005.

General Tier II applies to most general members hired by the County of Kern and Kern County Hospital Authority on or after October 27, 2007, or hired by the following special districts: Berrenda Mesa Water District on or after January 12, 2010; Buttonwillow Recreation and Park District and East Kern Cemetery District on or after December 17, 2012; Inyokern Community Services District on or after December 13, 2012; Kern County Water Agency on or after January 1, 2010; Kern Mosquito and Vector Control District on or after December 12, 2012; North of the River Sanitation District on or after October 29, 2007; San Joaquin Valley Air Pollution Control District on or after July 31, 2012; Shafter Recreation and Park District on or after December 19, 2012; West Side Cemetery District on or after December 18, 2012; West Side Mosquito and Vector Control District on or after November 15, 2012; and Kern County Superior Court on or after March 12, 2011.

General members hired by the West Side Recreation and Park District on or after January 1, 2013 are General Tier III members. Their benefit formula is 2.5% at age 67. They are eligible to retire at age 52 with 5 years of retirement service credit.

Safety members with at least 10 years of retirement service credit who are age 50 or older, or with 20 years of retirement service credit regardless of age, are eligible for service retirement.

Safety Tier I provides 3.0% of final compensation for each year of service at age 50, multiplied by Government Code Section 31664.1 factors. Safety Tier II provides 2.0% of final compensation for each year of service at age 50, multiplied by Government Code Section 31664 factors.

For members integrated with Social Security, benefits based on \$350 of monthly final average salary are reduced by one-third.

Disability Benefit

Members with five years of retirement service credit, regardless of age, are eligible for nonservice-connected disability. This benefit provides 20% to 40% of the member’s final average monthly compensation for life.

If the disability is service-connected, there is no minimum retirement service credit requirement. This benefit provides 50% of the member’s final average monthly compensation, tax-free, for life.

Death Benefit (Before Retirement)

A non-vested active member's beneficiary is entitled to receive the Basic Death Benefit, which consists of accumulated contributions plus interest and one month of salary for each full year of service, up to six months of salary.

The beneficiary (i.e., eligible spouse or registered domestic partner) of a vested active member who does not die in the performance of duty is entitled to either the Basic Death Benefit or a monthly benefit equal to 60% of the benefit payable if the member had retired with a nonservice-connected disability on his or her date of death. This also applies to minor children if there is no eligible spouse or partner.

If a member dies in the performance of duty, the eligible spouse, partner or minor children receives 50% of the member's final average salary.

Death Benefit (After Retirement)

A death benefit of \$5,000 is payable to the designated beneficiary or estate of a retiree upon the death of the retired member.

If a member retired for service or with a nonservice-connected disability and he or she chose the Unmodified Option, the eligible surviving spouse, registered domestic partner or minor children will receive a benefit equal to 60% of the member's retirement benefit. If the retirement was for a service-connected disability, the member's spouse, registered domestic partner or minor children will receive a 100% continuance of the benefit.

Supplemental Retirement Benefits (SRBR)

The Board of Retirement adopted California Government Code Section 31618 on April 23, 1984, which provided for the establishment of the Supplemental Retiree Benefit Reserve (SRBR). The SRBR may be used only for the benefit of retired members and their beneficiaries. The legacy distribution of the SRBR included Tier 1, Tier 2, Tier 3, Tier 4 (Floor Benefit). September 14, 2022 the Board of Retirement approved a Service SRBR benefit, based on the member's years of service at retirement multiplied by \$1.80 adjusted annually by a 2.5% fixed rate COLA (Service SRBR Benefit). Under the Restructured SRBR, KCERA's Board will consider benefit changes when the SRBR funding is above 115% funded or below 95% funded for two consecutive years.

Post-Retirement Cost-of-Living Benefits

Each April 1, retiree benefits are adjusted by the percentage change in the Consumer Price Index for the preceding calendar year (capped at 2.5%).

<p>Benefits Provided</p> <p>Restructured SRBR</p> <p>Death Benefit:</p>	<p>The SRBR currently provides two categories of benefits:</p> <p>The greater of either the “Floor Benefit” or the “Service SRBR Benefit”, payable monthly to retirees who were hired before July 1, 2022:</p> <p>The “Floor Benefit” is equal to the total current Legacy SRBR Benefit as of July 1, 2022 or the member’s future retirement date. The Legacy SRBR Benefits (Tier 1, Tier 2, Tier 3 and Tier 4) are shown below.</p> <p>The “Service SRBR Benefit” is equal to the member’s years of service at retirement multiplied by \$1.80 and adjusted by a 2.5% fixed rate COLA effective as of July 1, 2022 (without regard to retirement date) with the first increase applied July 1, 2023.</p> <p>The Restructured SRBR benefit will be adjusted annually to receive a 2.5% fixed rate COLA on July 1 each year, with the first increase applied on the latter of July 1, 2023 or the July 1st immediately following the date of retirement.</p> <p>Upon the death of the retired member, 60% of the Restructured SRBR benefit continues to the retired member’s beneficiary.</p> <p>A one-time payment of \$5,000 to a retired member’s beneficiary.</p>
<p>Provisions</p> <p>Tier 1:</p> <p>Tier 2:</p> <p>Tier 3:</p> <p>Tier 4:</p>	<p>On September 14, 2022, the Board adopted a Restructured SRBR benefit effective July 1, 2022 equal to \$1.80 per year of service, but no less than the member’s current SRBR benefit as of July 1, 2022. The Restructured SRBR benefit also includes a 2.5% COLA on the SRBR benefit, so long as the SRBR remains adequately funded. The legacy benefits are shown below:</p> <p>\$35.50 per month payable to retirees who were hired on or before July 1, 1994. Upon the death of the retired member, 60% of the Tier 1 SRBR benefit continues to the retired member’s beneficiary.</p> <p>Three additional monthly stipends payable to retirees:</p> <ul style="list-style-type: none"> • \$1.372 per year of service for members who retired prior to 1985. This was granted July 1, 1994. • \$5.470 per year of service for members who retired prior to 1985. This was granted July 1, 1996. • \$10.276 per year of service for members who retired prior to 1981. This was granted July 1, 1997. <p>Upon the death of the retired member, 60% of the Tier 2 SRBR benefit continues to the retired member’s beneficiary.</p> <p>Additional benefits to maintain 82% purchasing power protection. Upon death, this benefit continues to be paid to the retired member’s beneficiary based on the applicable continuation percentage under the member’s form of payment elected at retirement. Starting July 1, 2018, there is a cap on the maximum annual inflation used in the calculation of the SRBR Tier 3 benefits of 4%.</p> <p>\$21 per month granted starting July 1, 2018, payable to retirees who were hired prior to July 1, 2018. Upon the death of the retired member, 60% of the Tier 4 SRBR benefit continues to the retired member’s beneficiary.</p>
<p>Funding</p>	<p>Under the Restructured SRBR, KCERA’s Board will consider benefit changes when the SRBR funding is above 115% funded or below 95% funded for two consecutive years.</p>

STATISTICAL SECTION

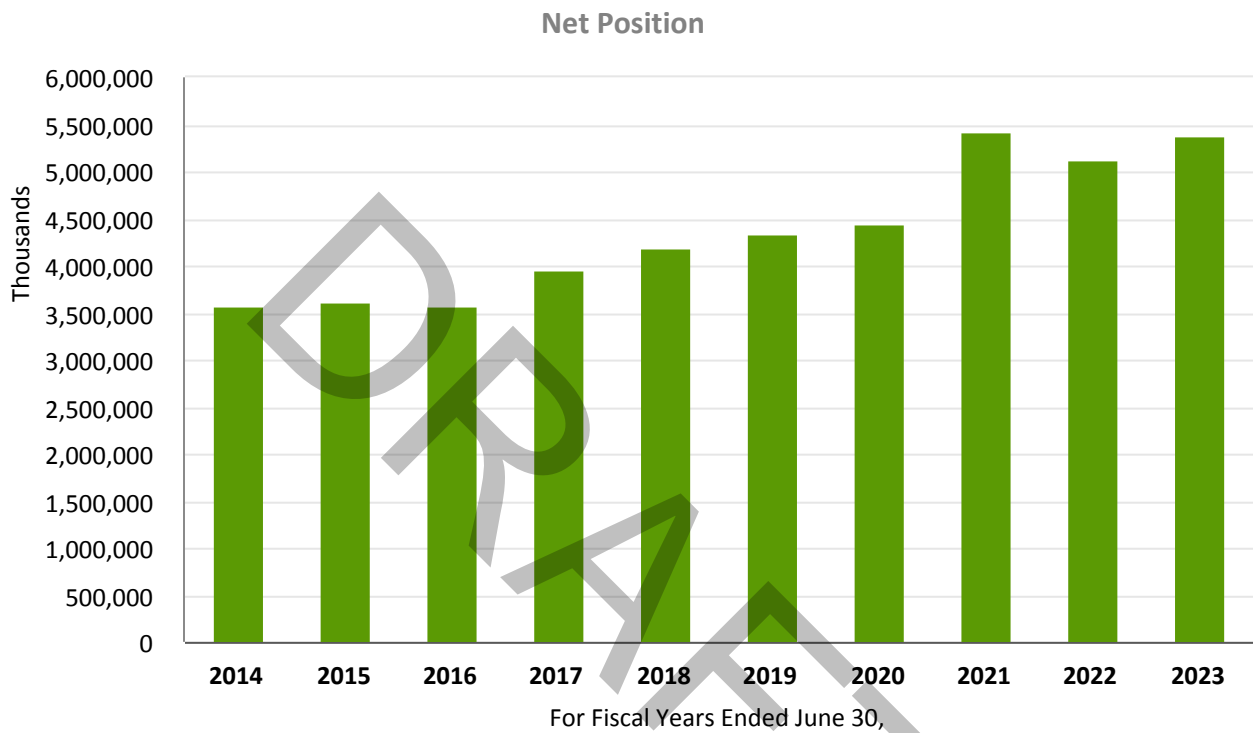
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The Statistical Section offers additional historical perspective and detail to provide a fuller understanding of this year’s financial statements, note disclosures and supplementary information. This section also provides 10 year trending of financial and operating information to supply a more comprehensive perspective on how KCERA’s financial position and performance have changed over time. Specifically, the financial and operating information provides contextual data for KCERA’s changes in net position, benefit expenses, retirement types, benefit payments and membership data. The financial and operating trend information is located on the following pages.

KCERA NET POSITION VALUE



KCERA 2023 - Schedule of Changes in Fiduciary Net Position

(In thousands)

	2014	2015	2016	2017	2018
Additions					
Employer Contributions	\$ 220,393	\$ 215,477	\$ 234,714	\$ 241,112	\$ 242,534
Member Contributions	25,810	30,325	33,278	34,649	52,503
Net Investment Income (Loss)	487,494	81,930	(27,535)	426,607	267,659
Total Additions	733,697	327,732	240,457	702,368	562,696
Deductions					
Total Benefit Expenses**	257,495	273,865	288,738	305,817	321,613
Administrative Expenses	4,860	4,886	5,225	5,243	5,116
Total Deductions	262,355	278,751	293,963	311,060	326,729
Change in Fiduciary Net Position	\$ 471,342	\$ 48,981	\$ (53,506)	\$ 391,308	\$ 235,967

(In thousands)

	2019	2020	2021	2022	2023
Additions					
Employer Contributions*	\$ 229,120	\$ 273,909	\$ 268,625	\$ 287,063	\$ 316,838
Member Contributions*	50,132	57,862	53,789	54,514	59,521
Net Investment Income (Loss)	214,244	127,861	1,043,361	(219,947)	304,208
Total Additions	493,496	459,632	1,365,775	121,630	680,567
Deductions					
Total Benefit Expenses**	341,774	361,094	380,996	401,313	417,855
Administrative Expenses	4,804	5,523	6,061	6,702	7,260
Total Deductions	346,578	366,617	387,057	408,015	425,115
Change in Fiduciary Position	\$ 146,918	\$ 93,015	\$ 978,718	\$ (286,384)	\$ 255,452

* The 2018, 2019, 2020, 2021, 2022 and 2023 fiscal year's financial statements reclassified employer paid member contributions as member contributions.

** See Schedule of Benefit Expenses by Type on next page.

KCERA 2023 - Schedule of Benefit Expenses by Type

(In thousands)

	2014	2015	2016	2017	2018
<i>Service Retirement Benefits</i>					
General	\$ 137,993	\$ 148,697	\$ 159,101	\$ 169,370	\$ 179,977
Safety	68,705	72,097	74,978	78,453	81,806
Total	206,698	220,794	234,079	247,823	261,783
<i>Service-Connected Disability (SCD) Benefits</i>					
General	8,331	8,422	8,260	8,411	8,647
Safety	20,565	21,222	21,676	22,207	22,842
Total	28,896	29,644	29,936	30,618	31,489
<i>Beneficiary Benefits</i>					
General	10,660	11,186	12,261	13,579	14,136
Safety	7,565	7,881	8,393	8,979	9,612
Total	18,225	19,067	20,654	22,558	23,748
<i>Lump Sum Death Benefits</i>	564	862	787	894	903
Total Benefit Payments	254,383	270,367	285,456	301,893	317,923
<i>Refunds</i>					
General	2,762	2,876	2,563	2,718	2,966
Safety	350	622	719	1,206	724
Total	3,112	3,498	3,282	3,924	3,690
Total Benefit Expenses	\$ 257,495	\$ 273,865	\$ 288,738	\$ 305,817	\$ 321,613

KCERA 2023 - Schedule of Benefit Expenses by Type

(In thousands)

	2019	2020	2021	2022	2023
<i>Service Retirement Benefits</i>					
General	\$ 193,308	\$ 206,802	\$ 217,511	\$ 225,207	\$ 235,805
Safety	86,007	91,880	96,306	99,934	105,098
Total	279,315	298,682	313,817	325,141	340,903
<i>Service-Connected Disability (SCD) Benefits</i>					
General	8,479	8,451	8,567	8,655	9,030
Safety	22,596	23,548	24,388	25,125	25,232
Total	31,075	31,999	32,955	33,780	34,262
<i>Beneficiary Benefits</i>					
General	14,903	14,818	15,944	18,161	19,205
Safety	10,719	10,046	10,757	13,484	14,829
Total	25,622	24,864	26,701	31,645	34,034
<i>Lump Sum Death Benefits</i>	1,025	1,097	1,010	1,374	1,217
Total Benefit Payments	\$ 337,037	\$ 356,642	\$ 374,483	\$ 391,940	\$ 410,416
<i>Refunds</i>					
General	3,519	3,126	5,206	7,151	5,085
Safety	1,218	1,326	1,307	2,222	2,354
Total	4,737	4,452	6,513	9,373	7,439
Total Benefit Expenses	\$ 341,774	\$ 361,094	\$ 380,996	\$ 401,313	\$ 417,855

KCERA 2023 - Schedule of Retired Members by Type of Benefit

Amount of Monthly Benefit	Number of Retirants	Type of Retirement									
		1	2	3	4	5	6	7	8	9	
\$1-500	368	252	4	0	0	50	7	0	5	50	
\$501-1,000	880	605	21	0	0	142	22	2	20	68	
\$1,001-1,500	885	644	51	17	0	102	20	0	12	39	
\$1,501-2,000	906	618	41	77	0	91	26	0	20	33	
\$2,001-3,000	1575	1,104	26	179	0	151	14	2	56	43	
\$3,001-4,000	1338	968	6	190	0	114	4	6	35	15	
\$4,001-5,000	816	664	4	67	0	62	0	0	10	9	
\$5,001-6,000	574	499	2	24	0	30	3	1	14	1	
Over \$6,000	1814	1,613	5	124	0	40	1	1	28	2	
Totals	9,156	6,967	160	678	0	782	97	12	200	260	

Amount of Monthly Benefit	Number of Retirants	Option Selected								
		Option 1	Option 2	Option 3	Option 4	Unmodified				
						A	B	C		
\$1-500	368	10	39	0	0	111	208	0		
\$501-1,000	880	6	63	5	0	322	484	0		
\$1,001-1,500	885	4	75	5	1	317	475	8		
\$1,501-2,000	906	6	53	3	0	331	471	42		
\$2,001-3,000	1575	9	83	12	3	592	764	112		
\$3,001-4,000	1338	7	62	3	6	514	604	142		
\$4,001-5,000	816	4	42	0	2	388	332	48		
\$5,001-6,000	574	2	39	5	2	303	209	14		
Over \$6,000	1814	3	89	8	5	1188	410	111		
Totals	9,156	51	545	41	19	4,066	3,957	477		

Type of Retirement

- 1 – Normal retirement for age and service
- 2 – NonService - connected disability retirement
- 3 – Service-connected disability retirement
- 4 – Former member with deferred future benefit
- 5 – Beneficiary payment – normal retirement
- 6 – Beneficiary payment – active member who died and was eligible for retirement
- 7 – Beneficiary payment – death in service
- 8 – Beneficiary payment – disability retirement
- 9 – Supplemental and ex-spouses

Option Selected

- Option 1** – Beneficiary receives lump sum of member’s unused contributions
- Option 2** – Beneficiary receives 100% of member’s reduced monthly allowance
- Option 3** – Beneficiary receives 50% of member’s reduced monthly allowance
- Option 4** – More than one beneficiary receives 100% of member’s reduced monthly allowance
- A** – Unmodified 60% continuance
- B** – Unmodified no continuance
- C** – Unmodified 100% continuance

KCERA 2023 - Schedule of Average Benefit Payment Amounts by Year of Retirement

	Years of Retirement Service Credit						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Fiscal Year 2014							
Average Annual Benefit (\$)	10,431	16,440	23,155	35,119	51,454	77,698	98,814
Average Monthly Benefit (\$)	869	1,370	1,930	2,927	4,288	6,475	8,234
Average Final Monthly Salary (\$)	9,119	5,439	4,964	5,257	5,938	6,788	7,351
Number of Active Retirants	15	26	63	38	46	63	44
Fiscal Year 2015							
Average Annual Benefit (\$)	5,097	16,401	26,189	38,462	48,992	67,614	102,023
Average Monthly Benefit (\$)	425	1,367	2,182	3,205	4,083	5,635	8,502
Average Final Monthly Salary (\$)	5,732	5,474	5,262	5,565	5,424	6,280	7,520
Number of Active Retirants	6	44	69	36	39	71	53
Fiscal Year 2016							
Average Annual Benefit (\$)	7,297	16,475	27,315	37,434	51,534	72,159	87,963
Average Monthly Benefit (\$)	608	1,373	2,276	3,120	4,295	6,013	7,330
Average Final Monthly Salary (\$)	7,213	5,340	5,886	5,637	5,957	6,722	7,086
Number of Active Retirants	23	44	69	40	44	77	52
Fiscal Year 2017							
Average Annual Benefit (\$)	8,321	16,995	28,136	42,138	54,056	71,223	93,319
Average Monthly Benefit (\$)	693	1,416	2,345	3,511	4,505	5,935	7,777
Average Final Monthly Salary (\$)	8,677	5,928	5,958	6,054	6,331	6,668	7,155
Number of Active Retirants	17	45	75	58	66	59	55
Fiscal Year 2018							
Average Annual Benefit (\$)	7,547	15,984	22,571	37,983	60,378	67,700	96,421
Average Monthly Benefit (\$)	629	1,332	1,881	3,165	5,032	5,642	8,035
Average Final Monthly Salary (\$)	8,584	6,086	5,457	5,963	7,266	6,583	7,493
Number of Active Retirants	14	49	59	55	55	55	41

KCERA 2023 - Schedule of Average Benefit Payment Amounts by Year of Retirement

	Years of Retirement Service Credit						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Fiscal Year 2019							
Average Annual Benefit (\$)	11,031	14,886	24,561	35,795	53,592	87,309	97,130
Average Monthly Benefit (\$)	919	1,240	2,047	2,983	4,466	7,276	8,094
Average Final Monthly Salary (\$)	9,659	5,228	5,834	5,622	6,772	8,362	7,856
Number of Active Retirants	18	34	64	45	58	52	52
Fiscal Year 2020							
Average Annual Benefit (\$)	10,306	12,823	25,605	37,831	45,657	70,809	86,362
Average Monthly Benefit (\$)	859	1,069	2,134	3,153	3,805	5,901	7,197
Average Final Monthly Salary (\$)	9,959	5,334	6,073	6,047	5,954	6,934	7,102
Number of Active Retirants	9	34	63	52	66	65	40
Fiscal Year 2021							
Average Annual Benefit (\$)	8,740	13,823	23,936	38,113	54,385	65,558	86,728
Average Monthly Benefit (\$)	728	1,152	1,995	3,176	4,532	5,463	7,227
Average Final Monthly Salary (\$)	9,741	6,648	6,412	6,301	7,236	6,754	7,434
Number of Active Retirants	15	36	50	43	85	50	48
Fiscal Year 2022							
Average Annual Benefit (\$)	6,688	11,310	21,780	36,973	52,834	76,469	81,722
Average Monthly Benefit (\$)	557	943	1,815	3,081	4,403	6,372	6,810
Average Final Monthly Salary (\$)	7,052	5,424	5,879	6,787	6,827	8,058	7,279
Number of Active Retirants	13	26	58	52	97	54	46
Fiscal Year 2023							
Average Annual Benefit (\$)	9,954	12,148	15,895	39,859	60,075	68,174	84,643
Average Monthly Benefit (\$)	829	1,012	1,325	3,322	5,006	5,681	7,054
Average Final Monthly Salary (\$)	7,748	6,644	5,862	6,871	8,366	7,257	7,450
Number of Active Retirants	14	31	58	46	65	51	33

KCERA 2023 - Participating Employers and Active Members

	2014	2015	2016	2017	2018
County of Kern					
General Members	5,833	5,827	5,937	4,720	4,818
Safety Members	1,886	1,847	1,840	1,767	1,771
Total	7,719	7,674	7,777	6,487	6,589
<i>Participating Agencies (General Membership):</i>					
Berrenda Mesa Water District	10	9	6	6	4
Buttonwillow Recreation and Park District	4	5	4	3	2
East Kern Cemetery District	1	1	2	2	2
Inyokern Community Services District	1	1	1	—	—
Kern County Hospital Authority	—	—	—	1,374	1,446
Kern County Water Agency	68	67	62	60	59
Kern Mosquito & Vector Control District	18	18	18	18	19
North of the River Sanitation District	12	13	13	13	18
San Joaquin Valley Air Pollution Control District	276	264	269	273	275
Shafter Recreation and Park District	—	—	—	1	3
West Side Cemetery District	6	6	6	6	6
West Side Mosquito & Vector Control Dist.	10	10	9	8	8
West Side Recreation and Park District	11	11	11	9	8
Kern County Superior Court	389	414	457	478	483
	806	819	858	2,251	2,333
Total Active Membership:					
General Members	6,639	6,645	6,795	6,971	7,151
Safety Members	1,886	1,847	1,840	1,767	1,771
Total	8,525	8,492	8,635	8,738	8,922

KCERA 2023 - Participating Employers and Active Members

	2019	2020	2021	2022	2023
County of Kern:					
General Members	5,014	5,091	4,891	4,900	5,190
Safety Members	1,773	1,685	1,690	1,701	1,717
Total	6,787	6,776	6,581	6,601	6,907
<i>Participating Agencies (General Membership):</i>					
Berrenda Mesa Water District	3	3	3	3	3
Burtonwillow Recreation and Park District	1	1	1	1	2
East Kern Cemetery District	2	2	2	2	2
Inyokern Community Services District	—	—	—	—	—
Kern County Hospital Authority	1,550	1,621	1,605	1,559	1,671
Kern County Water Agency	55	53	51	49	52
Kern Mosquito & Vector Control District	18	22	21	20	22
North of the River Sanitation District	18	20	17	19	19
San Joaquin Valley Air Pollution Control District	289	303	296	314	348
Shafter Recreation and Park District	2	4	4	3	4
West Side Cemetery District	6	5	4	3	3
West Side Mosquito & Vector Control Dist.	8	6	5	5	5
West Side Recreation and Park District	7	6	5	5	4
Kern County Superior Court	519	504	477	492	515
	2,478	2,550	2,491	2,475	2,650
Total Active Membership:					
General Members	7,492	7,641	7,382	7,375	7,840
Safety Members	1,773	1,685	1,690	1,701	1,717
Total	9,265	9,326	9,072	9,076	9,557

Kern County Employees' Retirement Association

Actuarial Valuation and Review

As of June 30, 2023



This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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December 6, 2023

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Blvd.
Bakersfield, CA 93311

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2023. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for July 1, 2024 to June 30, 2025.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement Association. The census information and financial information on which our calculations were based was prepared by the staff of the Association. That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Molly Calcagno, ASA, MAAA and Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Association and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

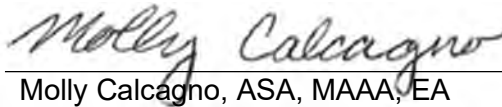
We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal



Paul Angelo, FSA, EA, MAAA, FCA
Senior Vice President and Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Kern County Employees' Retirement Association ("KCERA" or "the Association") as of June 30, 2023. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Association, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2023, provided by KCERA;
- The assets of the Association as of June 30, 2023, provided by KCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board of Retirement for the June 30, 2023 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board of Retirement for the June 30, 2023 valuation; and
- The funding policy adopted by the Board of Retirement.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the Association's liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association's liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Association's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both Normal Cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the funding policy last reviewed with the Board of Retirement in 2012. Details of the funding policy are provided in *Section 4, Exhibit 1* on pages 117 and 118.

Section 1: Actuarial Valuation Summary

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit H* starting on page 93. A graphical projection of the Unfunded Actuarial Accrued Liability (UAAL) amortization balances and payments has been included in *Section 3, Exhibit I* starting on page 102.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2024 through June 30, 2025.

Section 1: Actuarial Valuation Summary

Effect of Gain Sharing Provisions

The 7.00% investment return assumption used in this valuation has been developed without taking into consideration any impact of the 50/50 excess earnings allocation between the retirement and Supplemental Retiree Benefits Reserve (SRBR) asset pools. This is based on our understanding that Article 5.5 of the Statute, which authorizes the allocation of 50% allocation of excess earnings to the SRBR, does not allow for the use of a different investment return for funding than is used for interest crediting. This would appear in effect to preclude the prefunding of the SRBR through the use of an assumption lower than the market earnings assumption of 7.00%.

Actuarial Standard of Practice (ASOP) No. 4 (“Measuring Pension Obligations and Determining Pension Plan Costs or Contributions”) states that some plan provisions, including gain sharing provisions, “may create pension obligations that are difficult to appropriately measure using traditional valuation procedures.” ASOP No. 4 further states that “for such plan provisions, the actuary should consider using alternative valuation procedures, such as stochastic modeling ... to reflect the impact of variations in experience from year to year.”

Accordingly, we performed stochastic modeling to estimate the impact of the 50% allocation of future excess earnings to the SRBR. The results of our model indicated that the 50/50 allocation of future excess earnings would have about the same impact as an “outflow” (i.e., assets not available to fund the benefits included in this valuation) that would average approximately 0.3% of assets over time.

For informational purposes only, when we applied the results of our stochastic model to this valuation we have estimated that such an annual outflow would increase the Actuarial Accrued Liability measured in this valuation using a 7.00% investment return assumption from \$7.92 billion to \$8.21 billion (for a difference of about \$291 million) and would increase the employer’s contribution rate by about 4.8% of payroll.

Section 1: Actuarial Valuation Summary

Valuation Highlights

- Pg. 108 1. The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2023 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in *Section 4, Exhibit 1* of this report. The assumption changes resulted in an increase in the Actuarial Accrued Liability of \$185.4 million, or 2.4%, an increase in the average employer contribution rate of 3.07% of payroll, and an increase in the average member rate of 0.38% of payroll. This valuation also reflects a refinement in applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate, consistent with that used in the estimated cost impact results provided in the experience study report.
- Pgs. 28-30 2. The Market Value of Assets earned a return of 5.85% for the July 1, 2022 to June 30, 2023 plan year. The Actuarial Value of Assets earned a return of 5.49% for the same period due to the deferral of most of the current year investment losses and the recognition of prior investment gains and losses. While this is less than the assumed 7.25% assumed in the valuation as of June 30, 2022, the Contingency Reserve was reduced from \$117.5 million as of June 30, 2022 to \$25.1 million as of June 30, 2023, following the Board's Regular Interest and Excess Interest Crediting Policy. As a result, the Valuation Value of Assets earned a return of 7.39% for the same period, which resulted in an actuarial gain when measured against the assumed rate of return of 7.25% for the 2022-2023 plan year. This actuarial investment gain decreased the average employer contribution rate by 0.08% of payroll.
- Pgs. 57-58 3. The funded ratio (the ratio of the Valuation Value of Assets to Actuarial Accrued Liability) is 68.7%, compared to the prior year funded ratio of 69.2%. This ratio is one measure of funding status, and its history is a measure of funding progress. The funded ratio measured on a market value basis is 66.0%, compared to 66.2% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Association's benefit obligation or the need for or the amount of future contributions.
- Pg. 33 4. The Association's UAAL (which is based on the Valuation Value of Assets) has increased from \$2.27 billion to \$2.48 billion. The increase in UAAL is primarily due to changes in actuarial assumptions and higher than expected individual salary increases during 2022-2023, offset somewhat by contributions more than expected and investment return (after "smoothing") greater than the 7.25% return assumption. A complete reconciliation of the Association's UAAL is provided in *Section 2, Subsection E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit H*. A graphical projection of the UAAL amortization bases and payments has been provided in *Section 3, Exhibit I*.
- Pg. 27 5. The net actuarial loss of \$87.7 million, or 1.1% of the Actuarial Accrued Liability, is due to an investment gain of \$7.1 million, or 0.1% of the Actuarial Accrued Liability, and a net experience loss from sources other than investments of \$94.8 million, or 1.2% of the Actuarial Accrued Liability, prior to reflection of assumption changes. This net loss from sources other than investment experience was primarily due to individual salary increases greater than expected for actives.

Section 1: Actuarial Valuation Summary

- Pg. 36 6. The average recommended employer contribution rate calculated in this valuation increased from 48.76% of payroll to 48.80% of payroll.¹ This increase is primarily due to changes in actuarial assumptions and higher than expected individual salary increases during 2022-2023, offset by amortizing the prior year's UAAL over a larger than expected total payroll, changes in member demographics amongst the tiers, and investment return (after "smoothing") greater than the 7.25% return assumption. A complete reconciliation of the Association's average employer rate is provided in *Section 2, Subsection F*.
- Pg. 37 7. The average member rate calculated in this valuation has increased from 6.96% of payroll to 7.41% of payroll. This change is primarily due to changes in actuarial assumptions. A complete reconciliation of the Association's average member rate is provided in *Section 2, Subsection F*.
- Pgs. 40-41, 46 8. Consistent with recent years, this valuation reflects that members of the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) in Tier I and Tier IIA pay 50% of the total Normal Cost rate. There are different District Category III Tier I and Tier IIA employer contribution rates shown in this report for SJVAPCD and also for the Buttonwillow Recreation & Park District. Those employers should not use the combined District Category III employer contribution rate and instead should use their own Tier I and Tier IIA specific employer rates shown in the report along with the Tier IIB employer rate.
- Pgs. 47-48 9. Consistent with recent years, this valuation reflects the implementation of the Declining Employer Payroll Policy for Berrenda Mesa Water District and Inyokern Community Services District. Those employers were the only employers in District Category IV. They have been included in a "Declining Employers" category and should contribute based on the dollar contribution amounts (not rates) shown in this report. Unless otherwise noted, all results shown in this report include these declining employers.
- Pgs. 24-25 10. The total unrecognized net investment loss as of June 30, 2023 is about \$214 million as compared to an unrecognized net investment loss of \$220 million in the previous valuation. This deferred investment loss of \$214 million will be recognized in the determination of the Actuarial Value of Assets for funding purposes in the next few years as shown in *Section 2, Subsection B*.

The net deferred losses of \$214 million represent about 4.0% of the Market Value of Assets. Unless offset by future investment gains or other favorable experience, the recognition of the \$214 million market losses is expected to have an impact on the Association's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows (without taking into consideration any possible impact of the 50/50 excess earnings allocation between the retirement and SRBR asset pools):

- a. If the net deferred losses in this year's valuation were recognized immediately and entirely in the Valuation Value of Assets, the funded ratio would decrease from 68.7% to 66.0%.

For comparison purposes, if all the net deferred losses in the June 30, 2022 valuation had been recognized immediately in the June 30, 2022 valuation, the funded ratio in last year's valuation would have decreased from 69.2% to 66.2%.

¹ While the average recommended employer contribution rate calculated in this valuation increased by 0.04% of payroll from June 30, 2022 to June 30, 2023, the average recommended employer contribution rates for County General without Courts, Courts and All Districts decreased by 1.30% of payroll, 1.10% of payroll, and 1.44% of payroll respectively, while the average recommended employer contribution rate for County Safety increased by 6.80% of payroll. The average recommended employer contribution rate for All County with Courts increased by 0.14% of payroll from June 30, 2022 to June 30, 2023.

Section 1: Actuarial Valuation Summary

- b. If the net deferred losses in this year's valuation were recognized immediately and entirely in the Valuation Value of Assets, the average employer contribution rate would increase from 48.80% of payroll to 51.31% of payroll.

For comparison purposes, if all the net deferred losses in the June 30, 2022 valuation had been recognized immediately in the June 30, 2022 valuation, the average employer contribution rate in last year's valuation would have increased from 48.76% of payroll to 51.68% of payroll.

Pg. 91 11. During 2022-2023 there were no "excess earnings" credited to the valuation reserves or the SRBR, because the Actuarial Value of Assets earned a return less than the assumed 7.25% assumed in the June 30, 2022 valuation. For the same reason, at June 30, 2023, the COLA Contribution Reserve was zero and therefore not available to offset the 2% COLA contribution rate. The Contingency Reserve was reduced from \$117.5 million as of June 30, 2022 to \$25.1 million as of June 30, 2023. Because the Contingency Reserve is positive as of June 30, 2023, it is excluded from the Valuation Value of Assets per the Board's Interest Crediting Policy. A complete presentation of the Association's reserves is in *Section 3, Exhibit F*.

Pg. 62 12. Actuarial Standard of Practice No. 51 (ASOP 51) requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition". Examples of key risks listed that are particularly relevant to KCERA are asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

The actuary's initial assessment can be strictly a qualitative discussion about potential adverse experience and the possible effect on future results, but it may also include quantitative numerical demonstrations where informative. The actuary is also encouraged to consider a recommendation as to whether a more detailed assessment or risk report would be significantly beneficial for the intended user in order to examine particular financial risks. When making that recommendation, the actuary will take into account such factors as the plan's design, risk profile, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the Association. We were engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Association's future financial condition based on the June 30, 2018 actuarial valuation. That analysis can be found in our separate risk assessment report dated September 4, 2019.

The risk assessment for the June 30, 2023 actuarial valuation, which includes a discussion of key risks that may affect the Association, can be found in *Section 2, Subsection J*.

Pgs. 64-65 Note that this year the risk assessment section includes the disclosure of a "Low-Default-Risk Obligation Measure" (LDRM). This disclosure, along with commentary on the significance of the LDRM, is a new requirement under Actuarial Standard of Practice No. 4 (ASOP 4) for all pension funding actuarial valuation reports.

Section 1: Actuarial Valuation Summary

13. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2023. The Association's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2023 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.
14. Segal strongly recommends an actuarial funding policy that targets 100% funding of the Actuarial Accrued Liability. Generally, this implies payments that are ultimately at least enough to cover Normal Cost, interest on the UAAL and the principal balance. The funding policy adopted by the Board as described in *Section 4, Exhibit 1* meets this standard.
15. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the Association's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2023, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results

		June 30, 2023		June 30, 2022	
		Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
Employer Contribution Rates:²	• County General without Courts	38.52%	\$185,527	39.82%	\$166,404
	• Courts	38.64%	14,115	39.74%	12,967
	• County Safety	83.71%	129,206	76.91%	110,047
	• District Category I	50.54%	3,253	52.69%	3,145
	• District Category II	48.52%	1,292	50.12%	1,220
	• District Category III	45.47%	14,833	46.74%	13,696
	• District Category V	43.85%	662	44.74%	638
	• District Category VI	60.89%	124	61.36%	125
	• Declining Employers ³	253.02%	482	243.78%	451
All Categories Combined		48.80%	\$349,494	48.76%	\$308,693

¹ Based on projected annual compensation for each valuation date.

² In practice, these blended employer contribution rates for combined Tier I, Tier IIA, Tier IIB and Tier III (as applicable) are used for each category (with the exception of District Category III). See *Section 2, Subsection F* for the employer contribution rates for each tier separately for these categories.

³ The two employers that were previously in District Category IV are now declining employers. Those employers will contribute based on the dollar contribution amounts shown (not rates).

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2023		June 30, 2022	
		Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
Average Member Contribution Rates:	• County General Tier I without Courts	5.74%	\$7,235	5.44%	\$6,763
	• County General Tier IIA without Courts	6.94%	4,517	6.80%	4,300
	• County General Tier IIB without Courts	6.55%	19,027	6.25%	14,394
	• Courts Tier I	8.17%	998	8.17%	995
	• Courts Tier IIA	6.61%	224	6.64%	197
	• Courts Tier IIB	6.55%	1,371	6.25%	1,093
	• County Safety Tier I	7.83%	6,873	6.98%	6,145
	• County Safety Tier IIA	10.00%	794	9.35%	714
	• County Safety Tier IIB	14.18%	8,314	12.99%	6,158
	• District Category I Tier I	4.06%	141	3.28%	120
	• District Category I Tier IIA	6.31%	57	6.13%	49
	• District Category I Tier IIB	6.55%	135	6.25%	95
	• District Category II Tier I	7.07%	98	6.44%	91
	• District Category II Tier IIB	6.55%	84	6.25%	64
	• District Category II Tier III	7.83%	0	7.43%	0
	• District Category III Tier I (Buttonwillow)	3.83%	2	8.52%	3
	• District Category III Tier I (SJVAPCD)	12.49%	1,945	12.10%	1,922
	• District Category III Tier IIA (Buttonwillow)	6.55%	0	6.25%	0
	• District Category III Tier IIA (SJVAPCD)	7.01%	77	6.78%	67
	• District Category III Tier IIB	6.55%	1,041	6.25%	774
	• District Category V Tier I	0.00%	0	0.00%	0
	• District Category V Tier IIA	6.31%	28	6.23%	26
	• District Category V Tier IIB	6.55%	65	6.25%	58
	• District Category VI Tier I	0.00%	0	0.00%	0
	• District Category VI Tier IIB	6.55%	0	6.25%	0
	• Declining Employers Tier I	6.23%	12	6.06%	11
	• Declining Employers Tier IIB	6.55%	0	6.25%	0
	All Categories Combined	7.41%	\$53,038	6.96%	\$44,039

¹ Based on projected annual compensation for each valuation date.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2023 (\$ in '000s)	June 30, 2022 (\$ in '000s)
Actuarial Accrued Liability as of June 30:²	<ul style="list-style-type: none"> • Retired members and beneficiaries • Inactive vested members¹ • Active members • Total Actuarial Accrued Liability • Normal Cost for plan year beginning June 30 	\$5,283,115 305,150 <u>2,330,583</u> \$7,918,848 143,942	\$4,985,491 272,783 <u>2,114,379</u> \$7,372,653 123,617
Assets as of June 30:	<ul style="list-style-type: none"> • Market Value of Assets (MVA)^{3,4} • Valuation Value of Assets (VVA) 	\$5,222,466 5,436,078	\$4,882,350 5,102,402
Funded status as of June 30:	<ul style="list-style-type: none"> • Unfunded Actuarial Accrued Liability on Market Value of Assets basis • Funded percentage on MVA basis • Unfunded Actuarial Accrued Liability on Valuation Value of Assets basis • Funded percentage on VVA basis 	\$2,696,382 65.95% 2,482,770 68.65%	\$2,490,303 66.22% 2,270,251 69.21%
Key assumptions:	<ul style="list-style-type: none"> • Net investment return • Inflation rate • Real across-the-board salary increase • Payroll growth • Cost of living adjustments • Amortization period on VVA basis⁵ 	7.00% 2.50% 0.50% 3.00% 2.50% 18 years	7.25% 2.75% 0.50% 3.25% 2.50% 18 years

¹ Includes inactive members due a refund of member contributions.

² Excludes liabilities associated with benefits paid by the Supplemental Retiree Benefits Reserve. These liabilities are included in a separate valuation report.

³ Excludes non-valuation reserves.

⁴ This valuation is based on the preliminary market value of assets of \$5,381,286,859 provided in the unaudited financial statement provided by KCERA for this valuation. The final market value of assets is \$5,386,581,194, reflecting an increase of \$5,294,335, or about 0.1% of plan assets.

⁵ Changes in Unfunded Actuarial Accrued Liability as a result of gains or losses for each valuation are amortized over separate 18-year periods. Details of the funding policy are provided in *Section 4, Exhibit 1*.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2023	June 30, 2022	Change From Prior Year
Demographic data as of June 30:	Active Members:			
	• Number of members	9,557	9,076	5.3%
	• Average age	41.6	41.9	-0.3
	• Average service	9.2	9.5	-0.3
	• Total projected compensation	\$716,116,083	\$633,102,218	13.1%
	• Average projected compensation	\$74,931	\$69,756	7.4%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	6,967	6,848	1.7%
	– Disability retired	838	845	-0.8%
	– Beneficiaries	<u>1,351</u>	<u>1,322</u>	2.2%
	– Total	9,156	9,015	1.6%
	• Average age	69.9	69.7	0.2
• Average monthly benefit ¹	\$3,764	\$3,662	2.8%	
Inactive Vested Members:				
• Number of members ²	4,391	4,015	9.4%	
• Average age	41.3	41.4	-0.1	
Total Members:	23,104	22,106	4.5%	

¹ Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

² Includes inactive members due a refund of member contributions.

Section 1: Actuarial Valuation Summary

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by the Association. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions and investment income. The valuation is based on the Market Value of Assets as of the valuation date, as provided by the Association. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. The Association uses a "Valuation Value of Assets" that differs from market value to gradually reflect six-month changes in the Market Value of Assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.
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The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the Association. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan. Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board of Retirement.¹

Some actuarial results in this report are not rounded, but that does not imply precision.

If the Association is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Association should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by the System upon delivery and review. The Association should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the plan.

¹ KCERA has a proven track record of adopting the Actuarial Determined Contributions as determined by the valuation and based on the Board's Actuarial Funding Policy.

Section 2: Actuarial Valuation Results

A. Member Data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive vested members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A, B, and C.*

Member Population: 2014 – 2023

Year Ended June 30	Active Members	Inactive Vested Members ¹	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2014	8,512	1,949	7,397	9,346	1.10	0.87
2015	8,481	2,053	7,599	9,652	1.14	0.90
2016	8,627	2,218	7,847	10,065	1.17	0.91
2017	8,728	2,363	8,093	10,456	1.20	0.93
2018	8,867	2,604	8,301	10,905	1.23	0.94
2019	9,197	2,877	8,495	11,372	1.24	0.92
2020	9,326	3,143	8,667	11,810	1.27	0.93
2021	9,072	3,517	8,835	12,352	1.36	0.97
2022	9,076	4,015	9,015	13,030	1.44	0.99
2023	9,557	4,391	9,156	13,547	1.42	0.96

¹ Includes inactive members due a refund of member contributions.

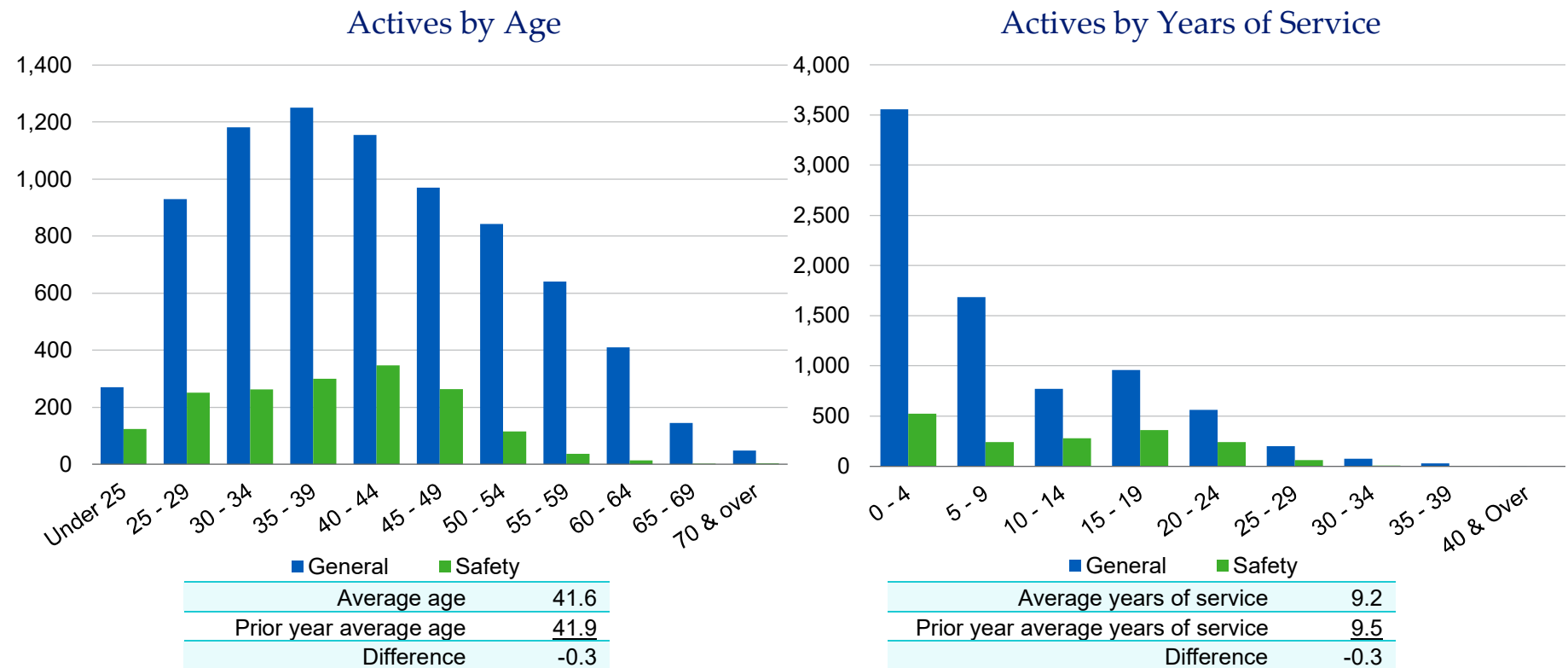
Section 2: Actuarial Valuation Results

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 9,557 active members with an average age of 41.6, average years of service of 9.2 years and average compensation of \$74,931. The 9,076 active members in the prior valuation had an average age of 41.9, average service of 9.5 years and average compensation of \$69,756.

Among the active members, there were none with unknown age information.

Distribution of Active Members as of June 30, 2023



Inactive Members

In this year's valuation, there were 4,391 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 4,015 in the prior valuation.

Section 2: Actuarial Valuation Results

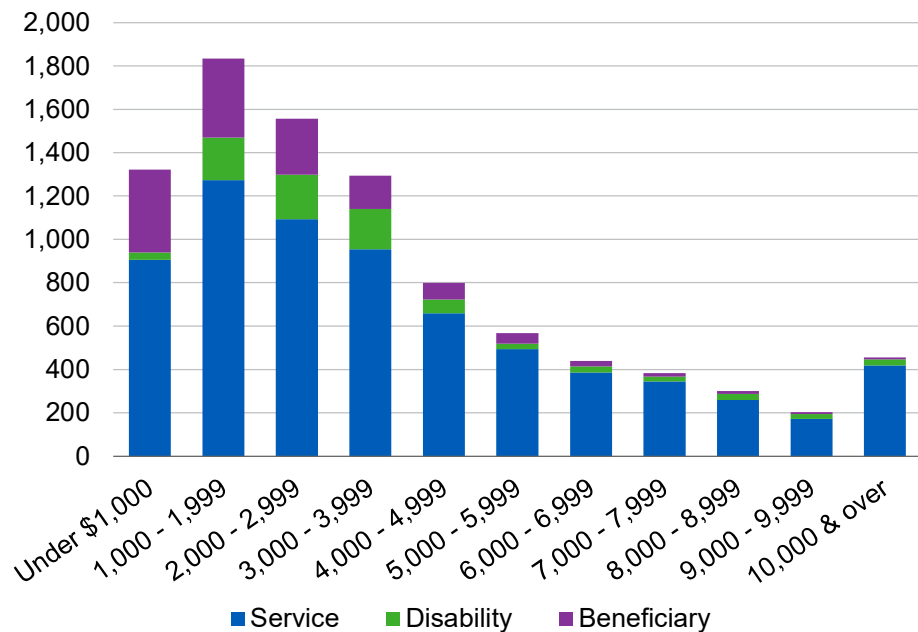
Retired Members and Beneficiaries

As of June 30, 2023, 7,805 retired members and 1,351 beneficiaries were receiving total monthly benefits of \$34,463,248. For comparison, in the previous valuation, there were 7,693 retired members and 1,322 beneficiaries receiving monthly benefits of \$33,011,881.

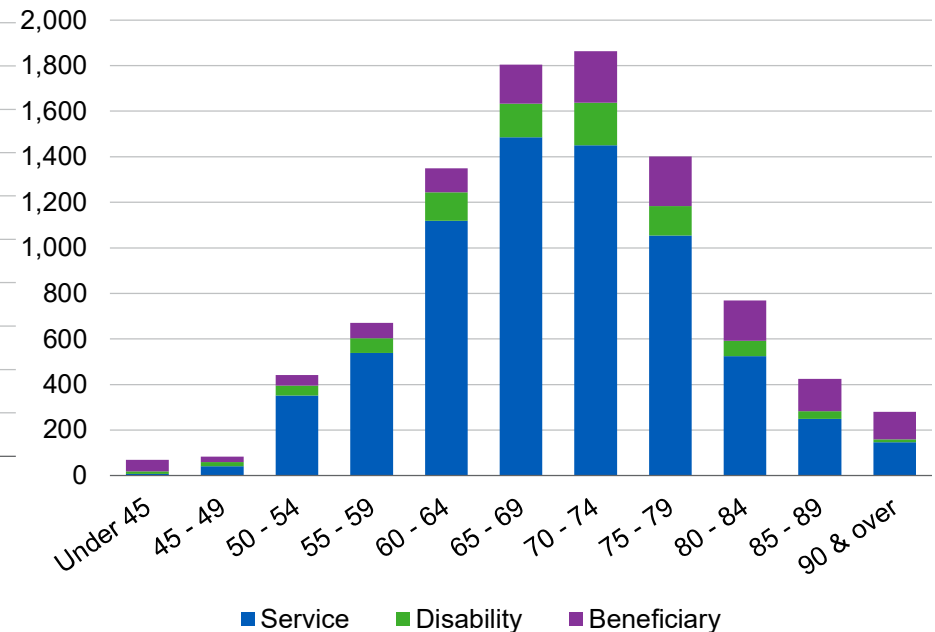
As of June 30, 2023, the average monthly benefit for retired members and beneficiaries is \$3,764, compared to \$3,662 in the previous valuation. The average age for retired members and beneficiaries is 69.9 in the current valuation, compared with 69.7 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2023

Retired Members and Beneficiaries
by Type and Monthly Amount



Retired Members and Beneficiaries
by Type and Age



Section 2: Actuarial Valuation Results

Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

Member Data Statistics: 2014 – 2023

Year Ended June 30	Active Members			Retired Members and Beneficiaries		
	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2014	8,512	42.8	10.3	7,397	68.0	\$2,914
2015	8,481	42.8	10.4	7,599	68.2	3,000
2016	8,627	42.6	10.2	7,847	68.4	3,065
2017	8,728	42.3	10.0	8,093	68.6	3,157
2018	8,867	42.2	9.9	8,301	68.9	3,246
2019	9,197	41.9	9.5	8,495	69.2	3,363
2020	9,326	41.9	9.5	8,667	69.4	3,465
2021	9,072	42.1	9.7	8,835	69.6	3,563
2022	9,076	41.9	9.5	9,015	69.7	3,662
2023	9,557	41.6	9.2	9,156	69.9	3,764

Section 2: Actuarial Valuation Results

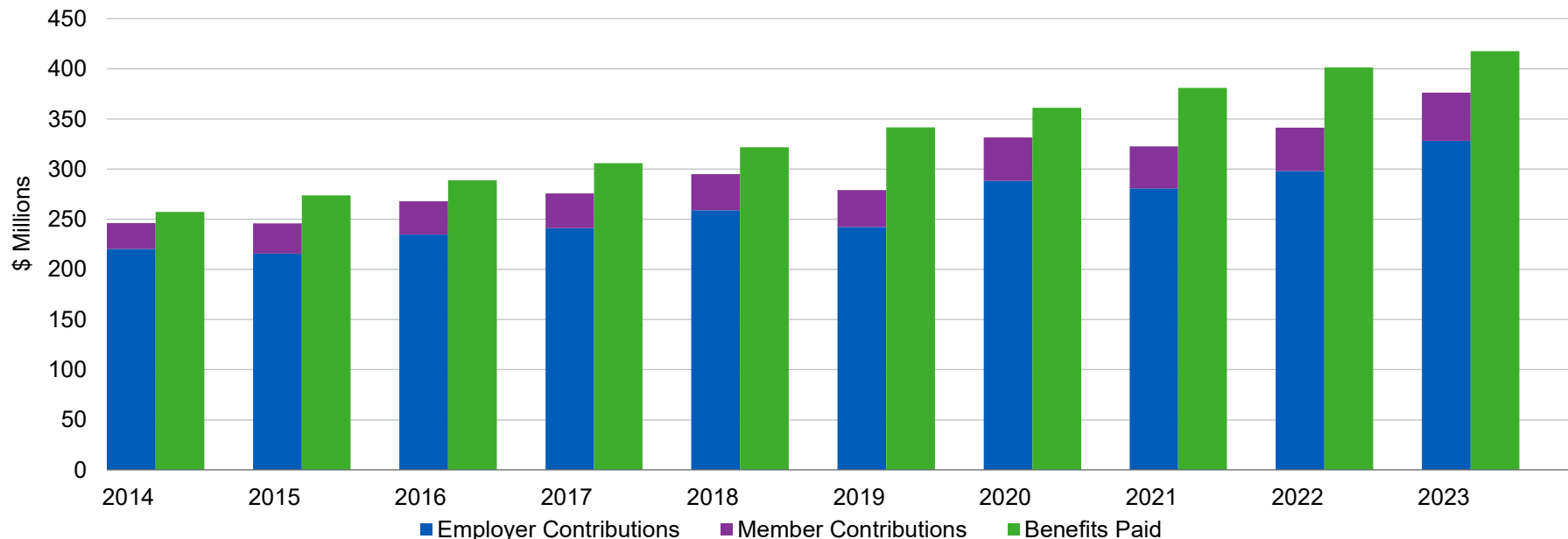
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E, F and G.*

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the valuation asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Comparison of Contributions Made with Benefits for Years Ended June 30, 2014 – 2023



Section 2: Actuarial Valuation Results

Determination of Actuarial Value of Assets for Year Ended June 30, 2023

1 Market Value of Assets						\$5,381,286,859
	Actual	Expected	Investment	Percent	Unrecognized	
2	Return	Return	Gain / (Loss)	Deferred	Amount	
a. Six-month period ended 6/30/2018	\$14,305,836	\$152,145,120	\$(137,839,284)	0%	\$0	
b. Six-month period ended 12/31/2018	(133,735,888)	151,819,366	(285,555,254)	0%	0	
c. Six-month period ended 6/30/2019	347,954,553	145,751,611	202,202,941	10%	20,220,294	
d. Six-month period ended 12/31/2019	202,028,683	157,497,125	44,531,558	20%	8,906,312	
e. Six-month period ended 6/30/2020	(74,167,569)	164,189,074	(238,356,644)	30%	(71,506,993)	
f. Six-month period ended 12/31/2020	581,412,997	160,447,752	420,965,246	40%	168,386,098	
g. Six-month period ended 6/30/2021	461,947,709	180,352,331	281,595,379	50%	140,797,689	
h. Six-month period ended 12/31/2021	213,987,511	195,823,815	18,163,696	60%	10,898,218	
i. Six-month period ended 6/30/2022	(433,934,557)	202,376,683	(636,311,240)	70%	(445,417,868)	
j. Six-month period ended 12/31/2022	1,904,057	185,564,893	(183,660,837)	80%	(146,928,669)	
k. Six-month period ended 6/30/2023	297,008,822	184,750,237	112,258,586	90%	<u>101,032,727</u>	
l. Total unrecognized return ¹					\$(213,612,193)	
3 Preliminary Actuarial Value of Assets: 1 – 2l						\$5,594,899,052
4 Corridor around Market Value of Assets						
a. Minimum – 50% of Market Value					\$2,690,643,429	
b. Maximum – 150% of Market Value					8,071,930,288	
5 Final Actuarial Value of Assets						\$5,594,899,052
6 Actuarial Value of Assets as a percentage of Market Value of Assets: 5 / 1						103.97%
7 Non-valuation reserves:						
a. Supplemental Retiree Benefit Reserve (SRBR) Unallocated to 0.5% COLA benefits					\$133,672,288	
b. Contingency Reserve					25,148,774	
c. COLA Contribution Reserve					<u>0</u>	
d. Subtotal					\$158,821,062	
8 Valuation Value of Assets: 5 – 7d						\$5,436,077,989

Note: Results may not add due to rounding.

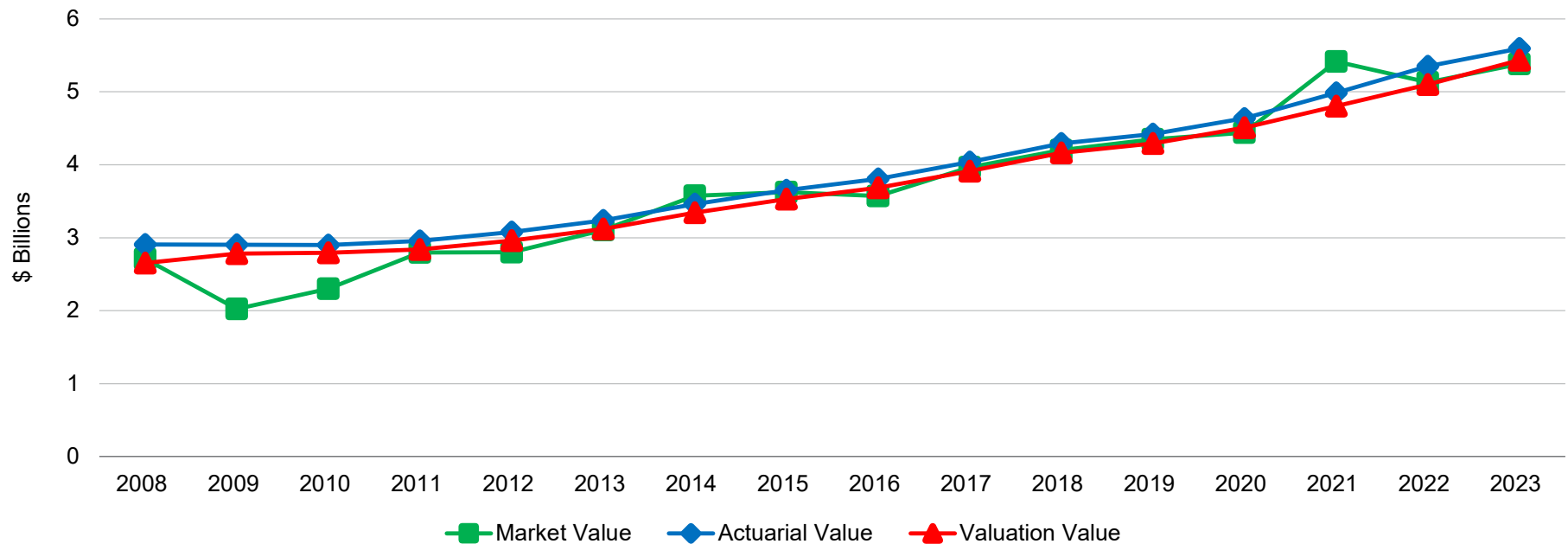
¹ Deferred return as of June 30, 2023 recognized in each of the next five years:

a. Amount recognized on June 30, 2024	\$(15,942,557)
b. Amount recognized on June 30, 2025	(21,233,499)
c. Amount recognized on June 30, 2026	(109,750,421)
d. Amount recognized on June 30, 2027	(77,911,574)
e. Amount recognized on June 30, 2028	<u>11,225,858</u>
f. Subtotal	\$(213,612,193)

Section 2: Actuarial Valuation Results

The Market Value, Actuarial Value and Valuation Value of Assets are representations of the plan's financial status. As investment gains and losses are gradually taken into account, the Actuarial Value of Assets tracks the Market Value of Assets. The Valuation Value of Assets is the Actuarial Value, excluding any non-valuation reserves. The Valuation Value of Assets is significant because the plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the Unfunded Actuarial Accrued Liability is an important element in determining the contribution requirement.

Market Value, Actuarial Value, and Valuation Value of Assets as of June 30, 2008 – 2023



Section 2: Actuarial Valuation Results

Allocation of Valuation Value of Assets as of June 30, 2023

	County General	District ¹	County Safety	Total
Member Deposit Reserves	\$371,663,885	\$41,741,310	\$188,092,944	\$601,498,138
Employer Advance Reserves	714,711,706	68,715,447	687,384,076	1,470,811,228
Cost-of-Living Reserves – 2%	1,016,897,662	84,950,638	728,283,290	1,830,131,590
Cost-of-Living Reserves – 0.5% ²	(2,193,976)	(183,283)	(1,571,285)	(3,948,544)
Retired Member Reserves	<u>1,053,580,263</u>	<u>90,606,753</u>	<u>393,398,562</u>	<u>1,537,585,578</u>
Valuation Value of Assets³	\$3,154,659,539	\$285,830,864	\$1,995,587,586	\$5,436,077,989

Note: Results may not add due to rounding.

¹ Includes Valuation Value of Assets allocated to the declining employers as follows:

Berrenda Mesa \$6,092,000
 Inyokern \$202,000

² Allocated in proportion to the Cost-of-Living Reserve – 2%.

³ Because the Contingency Reserve is positive, it is excluded from the Valuation Value of Assets per the Board's Interest Crediting Policy.

Section 2: Actuarial Valuation Results

C. Actuarial Experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the actuarially determined contribution will decrease from the previous year. On the other hand, the actuarially determined contribution will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. There are no changes in actuarial assumptions reflected in this valuation.

The net total loss is \$87.7 million, which includes \$7.1 million from investment gains, a gain of \$24.5 million from contribution experience and \$119.3 million in losses from all other sources. The net experience variation from individual sources other than investments was 1.2% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2023

1	Net gain from investments ¹	\$7,072,000
2	Net gain from contribution experience ²	24,483,000
3	Net loss from other experience ³	(119,271,000)
4	Net experience loss: 1 + 2 + 3	\$(87,716,000)

¹ Details on next page.

² Due to UAAL contributions paid on higher than expected payroll.

³ See *Section 2, Subsection E* for further details. Does not include the effect of plan or assumption changes, if any.

Section 2: Actuarial Valuation Results

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Association's investment policy. The rate of return on the Market Value of Assets was 5.85% for the year ended June 30, 2023.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets is 7.25% for the 2022-2023 plan year. The actual rate of return on a valuation basis for the 2022-2023 plan year was 7.39%. Because the actual return for the year was greater than the assumed return, the Association experienced an actuarial gain during the year ended June 30, 2023 with regard to its investments.

Investment Experience for Year Ended June 30, 2023

	Market Value	Actuarial Value	Valuation Value
1 Net investment income	\$298,912,879	\$292,472,029	\$375,481,008
2 Average value of assets	5,106,751,320	5,326,804,362	5,081,499,665
3 Rate of return: 1 ÷ 2	5.85%	5.49%	7.39%
4 Assumed rate of return	7.25%	7.25%	7.25%
5 Expected investment income: 2 x 4	370,239,471	386,193,316	368,408,726
6 Actuarial gain/(loss): 1 - 5	\$(71,326,592)	\$(93,721,287)	\$7,072,282

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial and valuation basis compared to the actual market value investment return for the last ten years, including averages over select time periods.

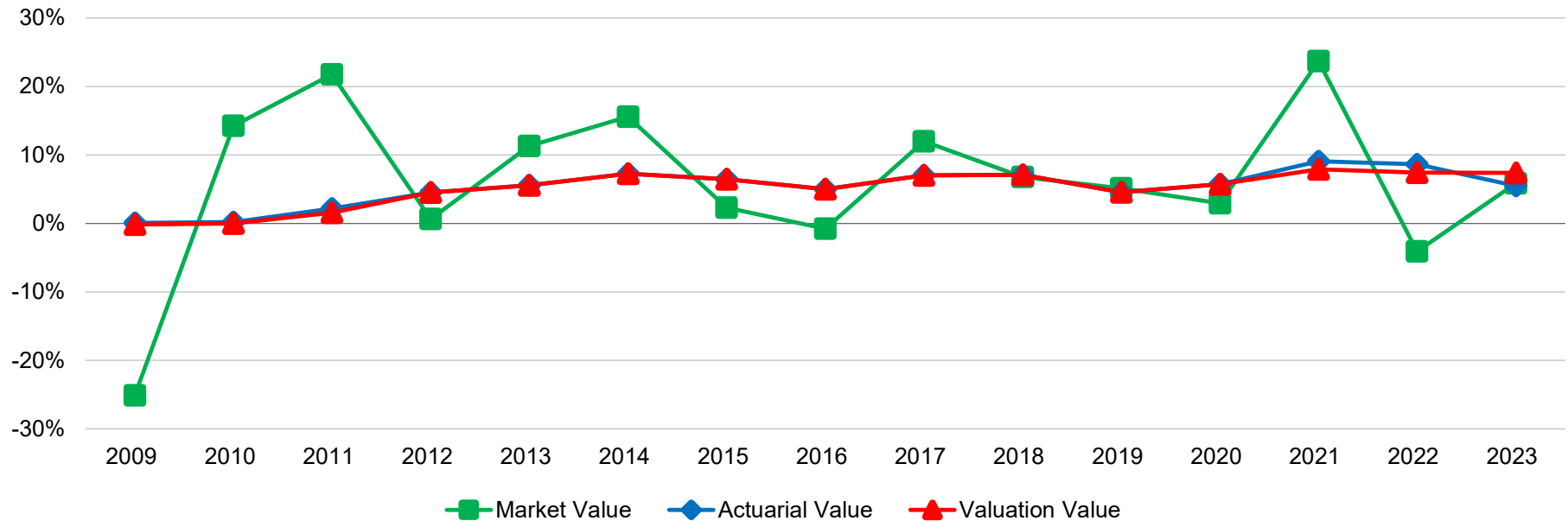
Investment Return – Market Value, Actuarial Value and Valuation Value: 2014 – 2023

Year Ended June 30	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2014	\$482,632,857	15.57%	\$235,294,994	7.28%	\$227,040,629	7.28%
2015	81,931,170	2.30%	222,215,376	6.45%	214,895,554	6.46%
2016	(27,535,157)	(0.76%)	181,835,568	5.00%	176,132,858	5.00%
2017	426,606,857	12.00%	265,683,238	7.01%	257,592,581	7.02%
2018	267,658,596	6.78%	285,584,383	7.10%	277,046,241	7.10%
2019	214,244,104	5.14%	194,249,223	4.56%	188,682,583	4.57%
2020	127,861,225	2.95%	251,758,339	5.72%	245,000,434	5.73%
2021	1,043,360,707	23.68%	418,061,488	9.08%	355,223,792	7.93%
2022	(219,947,047)	(4.08%)	429,170,405	8.66%	355,955,626	7.45%
2023	298,912,879	5.85%	292,472,029	5.49%	375,481,008	7.39%
Most recent five-year geometric average return		6.33%	6.69%		6.61%	
Most recent ten-year geometric average return		6.67%	6.63%		6.59%	

Section 2: Actuarial Valuation Results

Section 2, Subsection B described the actuarial asset valuation method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2009 – 2023



Section 2: Actuarial Valuation Results

Contributions

Contributions for the year ended June 30, 2023 totaled \$376.4 million, compared to the projected amount of \$352.7 million. This resulted in a gain of \$24.5 million from contribution experience for the year, when adjusted for timing.

Non-Investment Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected),
- salary increases (greater or smaller than projected), and
- cost-of-living adjustments (COLAs) higher or lower than anticipated.

The net loss from this other experience for the year ended June 30, 2023 amounted to \$119.3 million, which is 1.5% of the Actuarial Accrued Liability. See *Section 2, Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

Section 2: Actuarial Valuation Results

D. Other Changes in the Actuarial Accrued Liability

Actuarial Assumptions and Methods

The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2023 valuation, as well as a refinement in applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate. The assumption changes resulted in an increase in the Actuarial Accrued Liability of \$185.4 million, or 2.4%, an increase in the average employer contribution rate of 3.07% of payroll, and an increase in the average member rate of 0.38% of payroll.

Details on actuarial assumptions and methods are in *Section 4, Exhibit 1*.

Plan Provisions

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in *Section 4, Exhibit 2*.

Section 2: Actuarial Valuation Results

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2023 (\$ in '000s)

1	Unfunded Actuarial Accrued Liability at beginning of year	\$2,270,251
2	Total Normal Cost at middle of year ¹	122,227
3	Expected administrative expenses	5,694
4	Expected employer and member contributions ²	(352,732)
5	Interest	<u>164,180</u>
6	Expected Unfunded Actuarial Accrued Liability at end of year	\$2,209,620
7	Changes due to:	
	a. Investment return greater than expected (after “smoothing”)	\$(7,072)
	b. Actual contributions greater than expected in item 4 ³	(24,483)
	c. Individual salary increases greater than expected	124,510
	d. Other experience gain	(5,239)
	e. Changes in actuarial assumptions	<u>185,434</u>
	Total changes	<u>\$273,150</u>
8	Unfunded Actuarial Accrued Liability at end of year	\$2,482,770

Note: The sum of items 7c and 7d equals the “Net loss from other experience” shown in *Section 2, Subsection C*.

¹ Excludes administrative expense load.

² Includes contributions towards administration expenses.

³ Due to UAAL contributions paid on higher than expected payroll.

Section 2: Actuarial Valuation Results

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment and a payment on the Unfunded Actuarial Accrued Liability. As of June 30, 2023, the average recommended employer contribution is 48.80% of compensation.

The Board sets the funding policy used to calculate the recommended contribution based on layered 18-year¹ amortization periods as a level percentage of payroll. See *Section 4, Exhibit 1* for further details on the funding policy. Based on this policy, there is no negative amortization and each amortization layer is fully funded in 18 years. As shown in the graphical projection of the UAAL amortization balances and payments found in *Section 3, Exhibit 1*, because there is a combination of charge and credit amortization layers, the UAAL of the Plan is expected to be fully amortized by 2041, assuming all assumptions are realized and contributions are made in accordance with the funding policy.

The contribution requirement as of June 30, 2023 is based on the data previously described, the actuarial assumptions and plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

The current funding policy is intended to fully fund the cost of the benefits and to allocate the cost of benefits reasonably and equitably over time while minimizing the volatility of employer contributions. The recommended contribution is expected to remain level as a percent of payroll, except when any current amortization layer is fully amortized, assuming there are no future actuarial gains or losses. Furthermore, the funded ratio is expected to increase as the UAAL is methodically funded by employer contributions.

¹ Changes in Unfunded Actuarial Accrued Liability as a result of gains or losses or as a result of changes in actuarial assumptions or methods for each valuation are amortized over separate 18-year periods. Changes in Unfunded Actuarial Accrued Liability as a result of plan amendments are generally amortized over separate 15-year periods.

Section 2: Actuarial Valuation Results

Recommended Contribution (continued)

Average Recommended Employer Contribution for Year Ended June 30

	2023		2022	
	Amount (\$ in '000s)	% of Projected Compensation ¹	Amount (\$ in '000s)	% of Projected Compensation ¹
1 Total Normal Cost ²	\$143,942	20.10%	\$123,617	19.53%
2 Expected member contributions	<u>53,038</u>	<u>7.41%</u>	<u>44,039</u>	<u>6.96%</u>
3 Employer Normal Cost: 1 – 2	\$90,904	12.69%	\$79,578	12.57%
4 Actuarial Accrued Liability	\$7,918,848		\$7,372,653	
5 Valuation Value of Assets	<u>5,436,078</u>		<u>5,102,402</u>	
6 Unfunded Actuarial Accrued Liability: 4 – 5	\$2,482,770		\$2,270,251	
7 Payment on Unfunded Actuarial Accrued Liability	<u>258,590</u>	<u>36.11%</u>	<u>229,115</u>	<u>36.19%</u>
8 Total average recommended employer contribution: 3 + 7	\$349,494	48.80%	\$308,693	48.76%
9 Projected compensation	\$716,116		\$633,103	

¹ Contributions are assumed to be paid at the middle of the year.

² Includes administrative expense load.

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Employer Contribution Rate

The chart below details the changes in the average recommended employer contribution rate from the prior valuation to the current year's valuation.

Reconciliation from June 30, 2022 to June 30, 2023

	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
1 Average Recommended Employer Contribution as of June 30, 2022	48.76%	\$308,693
2 Effect of investment return greater than expected (after "smoothing")	(0.08%)	(573)
3 Effect of actual contributions greater than expected	(0.27%)	(1,934)
4 Effect of individual salary increases greater than expected	1.35%	9,668
5 Effect of amortizing prior year's UAAL over a larger than expected projected total payroll	(2.89%)	(20,696)
6 Effect of changes in demographics of members amongst tiers	(0.90%)	(6,445)
7 Effect of other net experience gains ²	(0.24%)	38,796
8 Effect of changes in actuarial assumptions	<u>3.07%</u>	<u>21,985</u>
9 Total change	0.04%	\$40,801
10 Average Recommended Employer Contribution as of June 30, 2023	48.80%	\$349,494

¹ Based on projected compensation for each valuation date shown.

² Net of an adjustment to reflect 12-month delay between date of valuation and date of rate implementation for all actuarial experience (-0.16% of payroll). Estimated annual dollar cost also reflects the change in total projected compensation from the prior valuation.

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Member Contribution Rate

The chart below details the changes in the average recommended member contribution rate from the prior valuation to the current year's valuation.

Reconciliation from June 30, 2022 to June 30, 2023

		Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
1	Average Recommended Member Contribution as of June 30, 2022	6.96%	\$44,039
2	Effect of changes in member demographics amongst tiers	0.02%	143
3	Effect of net other changes ²	0.05%	6,135
4	Effect of changes in actuarial assumptions	<u>0.38%</u>	<u>2,721</u>
5	Total change	0.45%	8,999
6	Average Recommended Member Contribution as of June 30, 2023	7.41%	\$53,038

¹ Based on projected compensation for each valuation date shown.

² Other differences in actual versus expected experience. Estimated annual dollar cost also reflects the change in total projected compensation from the prior valuation.

Section 2: Actuarial Valuation Results

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates

County and Courts

Plan (Tier I)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Adopted 1997 MOU	Soc Sec Integration	Pre-Tax	5-yr Contribution Stop
General – County Tier I	County General Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	Varies ¹
General – County – Court Employees Tier I	Courts Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55 plus supplemental 8.0% ²	Yes	Yes	Yes	3/12/2011 ³
Safety – County Tier I	County Safety Tier I	31664.1 (3% @ 50)	31639.25	3/200 of FAS1 at age 50 ⁴	Yes	Yes	Yes	Varies ¹

Plan (Tier IIA)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Tier Adoption Date	Soc Sec Integration	Pre-Tax
General – County Tier IIA	County General Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	10/27/2007 ⁵	Yes	Yes
General – County – Court Employees Tier IIA	Courts Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	3/12/2011	Yes	Yes
Safety – County Tier IIA	County Safety Tier IIA	31664 (2% @ 50)	31639.25	1/100 of FAS1 at age 50 ¹	3/27/2012	Yes	Yes

Plan (Tier IIB)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution	Tier Adoption Date	Soc Sec Integration	Pre-Tax
General – County Tier IIB	County General Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
General – County – Court Employees Tier IIB	Courts Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
Safety – County Tier IIB	County Safety Tier IIB	31664 (2% @ 50)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes

FAS1 = 1-Year Final Average Salary

¹ See next page for member contribution rates by employee association and bargaining unit.

² Court employees in Tier I pay an additional 8% of the base salary for their entire career.

³ Court employees in Tier I hired prior to this date pay the full member contribution rates for only the first five years of service as a result of the 2010 Memorandum of Understanding (MOU).

⁴ Safety Tier I and Safety Tier IIA members stop paying contributions upon attaining 30 years of continuous county service.

⁵ KCPA (Prosecutors) employee association adopted Tier IIA effective July 5, 2008.

Section 2: Actuarial Valuation Results

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates (continued)

Summary of KCERA Member Contribution Rates – County Bargaining Units

Plan	Employee Association	Bargaining Unit	5-yr Contribution Stop ¹	1/6 th Rate Start ¹	1/3 rd Rate Start ¹	“Safety 3” Effective Date
County General	SEIU	1 – Supervisory, 2 – Professional, 3 – Technical Services, 4 – Clerical, 5 – Administrative, 6 – Trade/Crafts/Labor	8/7/2004	5/4/2013	5/3/2014	N/A
County General		D – Mid-management, M – Management, X – Confidential	9/4/2004 ²	7/13/2013	7/12/2014	N/A
County General	KCPA	P – Prosecutors	2/8/2005	8/10/2013	8/9/2014	N/A
County Safety	KCFFU	F – Firefighters, 7 – Supervisors	3/31/2007 ³	5/4/2013	5/3/2014	3/31/2007 ⁴
County Safety	KLEA	L – Sheriff Law Enforcement, 8 – Supervisors	11/10/2007	5/4/2013	5/3/2014	N/A
County Safety	KCSCA	N – Sheriff Lieutenants, R – Commanders	3/17/2007	5/4/2013	5/3/2014	N/A
County Safety	SEIU-CJU	J – Criminal Justice, S – Supervisors	12/8/2007	5/4/2013	5/3/2014	N/A
County Safety	KCPMA	O – Probation Management	4/7/2004	5/4/2013	5/3/2014	N/A
County Safety	KCPOA	Q – Probation Officers, Y – Supervisors	9/18/2007	8/10/2013	8/9/2014	9/18/2007 ¹
County Safety	KCDOA	T – Detention Officers, V – Supervisors	6/23/2007	5/4/2013	5/3/2014	N/A
County Safety	KCSCA II	W – Detention Officers Lieutenants	9/15/2009	5/4/2013	5/3/2014	12/8/2007 to 9/14/2009 ⁵

¹ Tier I members hired prior to this date pay the full member contributions for only the first five years of service. These members will start paying one-sixth of their full member contributions on the “1/6th Rate Start” date, and will start paying one-third of their full member contributions on the “1/3rd Rate Start” date.

² Elected officials hired prior to this date do not pay member contributions. These members will start paying one-third of their full member contributions on the first day of the first biweekly payroll period in January 2015.

³ Firefighters hired prior to this date pay 1% of their base salary after the first five years of service. These members will start paying one-sixth of their full member contributions (not to exceed 2% of base salary) on the “1/6th Rate Start” date, and will start paying one-third of their full member contributions (not to exceed 4% of base salary) on the “1/3rd Rate Start” date.

⁴ Members hired after this date pay a uniform “Safety 3” rate for all entry ages. The uniform rate continues to be integrated with Social Security.

⁵ Effective December 8, 2007 through September 14, 2009, this flat rate applied to KCSCA II employees.

Section 2: Actuarial Valuation Results

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates (continued)

Districts

Plan (Tier I)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Adopted 1997 MOU	Soc Sec Integration	Pre-Tax	5-yr Contribution Stop ¹
District – Berrenda Mesa Water Tier I	Declining Employers Tier I	31676.17 (3% @ 60) ²	31621.8	1/100 of FAS1 at age 55	Yes	No	Yes	1/1/2004
District – Buttonwillow Recreation & Park Tier I	District Category III Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55 (Member pays 50%) ³	No	No	No	N/A
District – East Kern Cemetery Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	1/1/2004
District – Inyokern Community Services Tier I	Declining Employers Tier I	31676.17 (3% @ 60) ¹	31621.8	1/100 of FAS1 at age 55	Yes	No	No	1/1/2004
District – Kern County Water Agency Tier I	District Category I Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55 (100% employer pickup if hired prior to 8/22/2004) ⁴	Yes	Yes	Yes	N/A
District – Kern Mosquito & Vector Control Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	1/8/2005
District – North of River Sanitation Tier I	District Category V Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	8/7/2004
District – San Joaquin Valley Unified Air Pollution Control Tier I	District Category III Tier I	31676.17 (3% @ 60)	31621.8	Member pays 50% of Normal Cost rate ⁵	No	No	Yes	N/A
District – Shafter Recreation & Park Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	1/1/2004
District – West Side Cemetery Tier I	District Category VI Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	No	N/A ⁶
District – West Side Mosquito Abatement Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	No	1/1/2004
District – West Side Recreation & Park Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	No	8/7/2004

FAS1 = 1-Year Final Average Salary

¹ Tier I Members hired prior to this date pay the full member contribution rates for only the first five years of service as a result of the 1997 Memorandum of Understanding (MOU).

² District Category IV adopted the 3% @ 60 Formula on a prospective basis only. Member contribution rates are the same as General Tier I.

³ Buttonwillow District Tier I (District Category III) did not adopt the 1997 MOU. Members in those districts pay 50% of the full rates, regardless of hire date.

⁴ For Kern County Water Agency (District Category I) employees hired prior to August 22, 2004, the employer picks up 100% of all member contributions.

⁵ Effective July 11, 2015, San Joaquin Valley Unified Air Pollution Control District Tier I members pay 28% of the total Normal Cost rate. That percent increases to 39% effective 2016-2017 and 50% effective 2017-2018.

⁶ West Side Cemetery (District Category VI) employees pay the full member contribution rates for only the first five years of service, regardless of hire date.

Section 2: Actuarial Valuation Results

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates (continued)

Districts (continued)

Plan (Tier IIA)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Tier Adoption Date	Soc Sec Integration	Pre-Tax
District – Berrenda Mesa Water Tier IIA ¹	Declining Employers Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	1/12/2010	No	Yes
District – Buttonwillow Recreation & Park Tier IIA ¹	District Category III Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	12/17/2012	No	No
District – East Kern Cemetery Tier IIA ¹	District Category II Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	12/17/2012	Yes	Yes
District – Inyokern Community Services Tier IIA ¹	Declining Employers Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	12/13/2012	No	No
District – Kern County Water Agency Tier IIA	District Category I Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	1/1/2010	Yes	Yes
District – Kern Mosquito & Vector Control Tier IIA ¹	District Category II Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	12/12/2012	Yes	Yes
District – North of River Sanitation Tier IIA	District Category V Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	10/29/2007	Yes	Yes
District – San Joaquin Valley Unified Air Pollution Control Tier IIA	District Category III Tier IIA	31676.01 (1.62% @ 65)	31621	Member pays 50% of Normal Cost rate ²	7/31/2012	No	Yes
District – Shafter Recreation & Park Tier IIA ¹	District Category II Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	12/19/2012	Yes	Yes
District – West Side Cemetery Tier IIA ¹	District Category VI Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	12/18/2012	Yes	No
District – West Side Mosquito Abatement Tier IIA ¹	District Category II Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	11/15/2012	Yes	No

FAS1 = 1-Year Final Average Salary

¹ These districts adopted Tier IIA, but had no Tier IIA employees as of the valuation date.

² Effective July 8, 2017, San Joaquin Valley Unified Air Pollution Control District Tier IIA members pay 50% of the total Normal Cost rate.

Section 2: Actuarial Valuation Results

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates (continued)

Districts (continued)

Plan (Tier IIB and Tier III)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution	Tier Adoption Date	Soc Sec Integration	Pre-Tax
District – Berrenda Mesa Water Tier IIB ¹	Declining Employers Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	Yes
District – Buttonwillow Recreation & Park Tier IIB	District Category III Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	No
District – East Kern Cemetery Tier IIB	District Category II Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – Inyokern Community Services Tier IIB ¹	Declining Employers Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	No
District – Kern County Water Agency Tier IIB	District Category I Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – Kern Mosquito & Vector Control Tier IIB	District Category II Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – North of River Sanitation Tier IIB	District Category V Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – San Joaquin Valley Unified Air Pollution Control Tier IIB	District Category III Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	Yes
District – Shafter Recreation & Park Tier IIB	District Category II Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – West Side Cemetery Tier IIB ¹	District Category VI Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	No
District – West Side Mosquito Abatement Tier IIB	District Category II Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	No
District – West Side Recreation & Park Tier III ¹	District Category II Tier III	7522.20(a) (2.50% @ 67)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	No

¹ These districts adopted Tier IIB or Tier III, but had no employees in those tiers as of the valuation date.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Current Valuation

June 30, 2023 Actuarial Valuation

	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
County General Tier I without Courts								
Normal Cost	13.47%	\$16,978	4.40%	\$5,546	1.36%	\$1,715	19.23%	\$24,239
UAAL	20.13%	25,373	2.43%	3,063	6.02%	7,588	28.58%	36,024
Total Contributions	33.60%	\$42,351	6.83%	\$8,609	7.38%	\$9,303	47.81%	\$60,263
County General Tier IIA without Courts								
Normal Cost	4.14%	\$2,694	2.26%	\$1,471	0.69%	\$449	7.09%	\$4,614
UAAL	20.13%	13,101	2.43%	1,581	6.02%	3,918	28.58%	18,600
Total Contributions	24.27%	\$15,795	4.69%	\$3,052	6.71%	\$4,367	35.67%	\$23,214
County General Tier IIB without Courts								
Normal Cost	5.13%	\$14,902	1.09%	\$3,166	0.33%	\$959	6.55%	\$19,027
UAAL	20.13%	58,476	2.43%	7,059	6.02%	17,488	28.58%	83,023
Total Contributions	25.26%	\$73,378	3.52%	\$10,225	6.35%	\$18,447	35.13%	\$102,050
County General without Courts – Combined								
Normal Cost	7.18%	\$34,574	2.11%	\$10,183	0.65%	\$3,123	9.94%	\$47,880
UAAL	20.13%	96,950	2.43%	11,703	6.02%	28,994	28.58%	137,647
Total Contributions	27.31%	\$131,524	4.54%	\$21,886	6.67%	\$32,117	38.52%	\$185,527
Courts Tier I								
Normal Cost	11.04%	\$1,348	4.40%	\$537	1.36%	\$166	16.80%	\$2,051
UAAL	20.13%	2,458	2.43%	297	6.02%	735	28.58%	3,490
Total Contributions	31.17%	\$3,806	6.83%	\$834	7.38%	\$901	45.38%	\$5,541
Courts Tier IIA								
Normal Cost	4.47%	\$152	2.26%	\$77	0.69%	\$23	7.42%	\$252
UAAL	20.13%	683	2.43%	82	6.02%	204	28.58%	969
Total Contributions	24.60%	\$835	4.69%	\$159	6.71%	\$227	36.00%	\$1,221
Courts Tier IIB								
Normal Cost	5.13%	\$1,074	1.09%	\$228	0.33%	\$69	6.55%	\$1,371
UAAL	20.13%	4,213	2.43%	509	6.02%	1,260	28.58%	5,982
Total Contributions	25.26%	\$5,287	3.52%	\$737	6.35%	\$1,329	35.13%	\$7,353

¹ Based on June 30, 2023 projected compensation as shown on page 49.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Current Valuation (continued)

June 30, 2023 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
Courts – Combined								
Normal Cost	7.05%	\$2,574	2.31%	\$842	0.70%	\$258	10.06%	\$3,674
UAAL	20.13%	7,354	2.43%	888	6.02%	2,199	28.58%	10,441
Total Contributions	27.18%	\$9,928	4.74%	\$1,730	6.72%	\$2,457	38.64%	\$14,115
County Safety Tier I								
Normal Cost	18.87%	\$16,563	7.26%	\$6,372	2.34%	\$2,054	28.47%	\$24,989
UAAL	38.91%	34,152	7.03%	6,170	15.22%	13,359	61.16%	53,681
Total Contributions	57.78%	\$50,715	14.29%	\$12,542	17.56%	\$15,413	89.63%	\$78,670
County Safety Tier IIA								
Normal Cost	11.78%	\$935	5.46%	\$433	1.73%	\$138	18.97%	\$1,506
UAAL	38.91%	3,089	7.03%	558	15.22%	1,209	61.16%	4,856
Total Contributions	50.69%	\$4,024	12.49%	\$991	16.95%	\$1,347	80.13%	\$6,362
County Safety Tier IIB								
Normal Cost	10.65%	\$6,244	2.68%	\$1,571	0.85%	\$499	14.18%	\$8,314
UAAL	38.91%	22,814	7.03%	4,122	15.22%	8,924	61.16%	35,860
Total Contributions	49.56%	\$29,058	9.71%	\$5,693	16.07%	\$9,423	75.34%	\$44,174
County Safety – Combined								
Normal Cost	15.38%	\$23,742	5.43%	\$8,376	1.74%	\$2,691	22.55%	\$34,809
UAAL	38.91%	60,055	7.03%	10,850	15.22%	23,492	61.16%	94,397
Total Contributions	54.29%	\$83,797	12.46%	\$19,226	16.96%	\$26,183	83.71%	\$129,206
All County with Courts – Combined								
Normal Cost	9.05%	\$60,890	2.88%	\$19,401	0.91%	\$6,072	12.84%	\$86,363
UAAL	24.44%	164,359	3.49%	23,441	8.13%	54,685	36.06%	242,485
Total Contributions	33.49%	\$225,249	6.37%	\$42,842	9.04%	\$60,757	48.90%	\$328,848
District Category I Tier I								
Normal Cost	15.15%	\$528	4.40%	\$153	1.36%	\$47	20.91%	\$728
UAAL	25.44%	886	4.08%	142	6.53%	228	36.05%	1,256
Total Contributions	40.59%	\$1,414	8.48%	\$295	7.89%	\$275	56.96%	\$1,984

¹ Based on June 30, 2023 projected compensation as shown on page 49.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Current Valuation (continued)

June 30, 2023 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
District Category I Tier IIA								
Normal Cost	4.77%	\$43	2.26%	\$20	0.69%	\$6	7.72%	\$69
UAAL	25.44%	228	4.08%	37	6.53%	58	36.05%	323
Total Contributions	30.21%	\$271	6.34%	\$57	7.22%	\$64	43.77%	\$392
District Category I Tier IIB								
Normal Cost	5.13%	\$106	1.09%	\$22	0.33%	\$7	6.55%	\$135
UAAL	25.44%	523	4.08%	84	6.53%	135	36.05%	742
Total Contributions	30.57%	\$629	5.17%	\$106	6.86%	\$142	42.60%	\$877
District Category I – Combined								
Normal Cost	10.51%	\$677	3.04%	\$195	0.94%	\$60	14.49%	\$932
UAAL	25.44%	1,637	4.08%	263	6.53%	421	36.05%	2,321
Total Contributions	35.95%	\$2,314	7.12%	\$458	7.47%	\$481	50.54%	\$3,253
District Category II Tier I								
Normal Cost	12.14%	\$168	4.40%	\$61	1.36%	\$19	17.90%	\$248
UAAL	25.44%	352	4.08%	56	6.53%	91	36.05%	499
Total Contributions	37.58%	\$520	8.48%	\$117	7.89%	\$110	53.95%	\$747
District Category II Tier IIB								
Normal Cost	5.13%	\$66	1.09%	\$14	0.33%	\$4	6.55%	\$84
UAAL	25.44%	325	4.08%	52	6.53%	84	36.05%	461
Total Contributions	30.57%	\$391	5.17%	\$66	6.86%	\$88	42.60%	\$545
District Category II Tier III								
Normal Cost	6.17%	\$0	1.27%	\$0	0.39%	\$0	7.83%	\$0
UAAL	25.44%	0	4.08%	0	6.53%	0	36.05%	0
Total Contributions	31.61%	\$0	5.35%	\$0	6.92%	\$0	43.88%	\$0
District Category II – Combined								
Normal Cost	8.78%	\$234	2.79%	\$75	0.90%	\$23	12.47%	\$332
UAAL	25.44%	677	4.08%	108	6.53%	175	36.05%	960
Total Contributions	34.22%	\$911	6.87%	\$183	7.43%	\$198	48.52%	\$1,292

¹ Based on June 30, 2023 projected compensation as shown on page 49.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Current Valuation (continued)

June 30, 2023 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
District Category III Tier I (Buttonwillow)								
Normal Cost	10.50%	\$6	4.40%	\$3	1.36%	\$1	16.26%	\$10
UAAL	25.44%	15	4.08%	2	6.53%	5	36.05%	22
Total Contributions	35.94%	\$21	8.48%	\$5	7.89%	\$6	52.31%	\$32
District Category III Tier I (SJVAPCD)								
Normal Cost	9.61%	\$1,496	2.20%	\$343	0.68%	\$106	12.49%	\$1,945
UAAL	25.44%	3,961	4.08%	635	6.53%	1,017	36.05%	5,613
Total Contributions	35.05%	\$5,457	6.28%	\$978	7.21%	\$1,123	48.54%	\$7,558
District Category III Tier IIA (Buttonwillow)								
Normal Cost	3.71%	\$0	2.26%	\$0	0.69%	\$0	6.66%	\$0
UAAL	25.44%	0	4.08%	0	6.53%	0	36.05%	0
Total Contributions	29.15%	\$0	6.34%	\$0	7.22%	\$0	42.71%	\$0
District Category III Tier IIA (SJVAPCD)								
Normal Cost	5.54%	\$61	1.13%	\$12	0.34%	\$4	7.01%	\$77
UAAL	25.44%	280	4.08%	45	6.53%	71	36.05%	396
Total Contributions	30.98%	\$341	5.21%	\$57	6.87%	\$75	43.06%	\$473
District Category III Tier IIB								
Normal Cost	5.13%	\$815	1.09%	\$173	0.33%	\$53	6.55%	\$1,041
UAAL	25.44%	4,043	4.08%	648	6.53%	1,038	36.05%	5,729
Total Contributions	30.57%	\$4,858	5.17%	\$821	6.86%	\$1,091	42.60%	\$6,770
District Category III – Combined								
Normal Cost	7.29%	\$2,378	1.63%	\$531	0.50%	\$164	9.42%	\$3,073
UAAL	25.44%	8,299	4.08%	1,330	6.53%	2,131	36.05%	11,760
Total Contributions	32.73%	\$10,677	5.71%	\$1,861	7.03%	\$2,295	45.47%	\$14,833
District Category V Tier I								
Normal Cost	19.08%	\$14	4.40%	\$3	1.36%	\$2	24.84%	\$19
UAAL	25.44%	19	4.08%	3	6.53%	5	36.05%	27
Total Contributions	44.52%	\$33	8.48%	\$6	7.89%	\$7	60.89%	\$46

¹ Based on June 30, 2023 projected compensation as shown on page 49.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Current Valuation (continued)

June 30, 2023 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
District Category V Tier IIA								
Normal Cost	4.77%	\$21	2.26%	\$10	0.69%	\$3	7.72%	\$34
UAAL	25.44%	113	4.08%	18	6.53%	29	36.05%	160
Total Contributions	30.21%	\$134	6.34%	\$28	7.22%	\$32	43.77%	\$194
District Category V Tier IIB								
Normal Cost	5.13%	\$51	1.09%	\$11	0.33%	\$3	6.55%	\$65
UAAL	25.44%	252	4.08%	40	6.53%	65	36.05%	357
Total Contributions	30.57%	\$303	5.17%	\$51	6.86%	\$68	42.60%	\$422
District Category V – Combined								
Normal Cost	5.69%	\$86	1.55%	\$24	0.56%	\$8	7.80%	\$118
UAAL	25.44%	384	4.08%	61	6.53%	99	36.05%	544
Total Contributions	31.13%	\$470	5.63%	\$85	7.09%	\$107	43.85%	\$662
District Category VI Tier I								
Normal Cost	19.08%	\$39	4.40%	\$9	1.36%	\$3	24.84%	\$51
UAAL	25.44%	52	4.08%	8	6.53%	13	36.05%	73
Total Contributions	44.52%	\$91	8.48%	\$17	7.89%	\$16	60.89%	\$124
District Category VI Tier IIB								
Normal Cost	5.13%	\$0	1.09%	\$0	0.33%	\$0	6.55%	\$0
UAAL	25.44%	0	4.08%	0	6.53%	0	36.05%	0
Total Contributions	30.57%	\$0	5.17%	\$0	6.86%	\$0	42.60%	\$0
District Category VI – Combined								
Normal Cost	19.08%	\$39	4.40%	\$9	1.36%	\$3	24.84%	\$51
UAAL	25.44%	52	4.08%	8	6.53%	13	36.05%	73
Total Contributions	44.52%	\$91	8.48%	\$17	7.89%	\$16	60.89%	\$124
Declining Employers Tier I (Berrenda)								
Normal Cost	12.54%	\$24	4.31%	\$8	1.34%	\$3	18.19%	\$35
UAAL	135.56%	258	48.07%	92	43.73%	83	227.36%	433
Total Contributions²	148.10%	\$282	52.38%	\$100	45.07%	\$86	245.55%	\$468

¹ Based on June 30, 2023 projected compensation as shown on page 49.

² These Districts are declining employers and they should contribute based on dollar contribution amounts shown (not rates).

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Current Valuation (continued)

June 30, 2023 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
Declining Employers Tier I (Inyokern)								
Normal Cost	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0
UAAL	N/A	11	N/A	0	N/A	2	N/A	14
Total Contributions²	N/A	\$11	N/A	\$0	N/A	\$2	N/A	\$14
Declining Employers – Combined								
Normal Cost	12.60%	\$24	4.20%	\$8	1.58%	\$3	18.38%	\$35
UAAL	141.42%	269	48.54%	92	44.68%	85	234.64%	447
Total Contributions	154.02%	\$293	52.74%	\$100	46.26%	\$88	253.02%	\$482
All Districts – Combined								
Normal Cost	7.88%	\$3,438	1.93%	\$842	0.60%	\$261	10.41%	\$4,541
UAAL	25.95%	11,318	4.27%	1,862	6.70%	2,924	36.92%	16,105
Total Contributions	33.83%	\$14,756	6.20%	\$2,704	7.30%	\$3,185	47.33%	\$20,646
All Employers – Combined								
Normal Cost	8.98%	\$64,328	2.83%	\$20,243	0.88%	\$6,333	12.69%	\$90,904
UAAL	24.53%	175,677	3.53%	25,303	8.05%	57,609	36.11%	258,590
Total Contributions	33.51%	\$240,005	6.36%	\$45,546	8.93%	\$63,942	48.80%	\$349,494

¹ Based on June 30, 2023 projected compensation as shown on page 49.

² These Districts are declining employers and they should contribute based on dollar contribution amounts shown (not rates).

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Current Valuation (continued)

	June 30, 2023 Projected Compensation (\$ in '000s)		June 30, 2023 Projected Compensation (\$ in '000s)
County General Tier I without Courts	\$126,046	District Category I Tier I	\$3,484
County General Tier IIA without Courts	65,080	District Category I Tier IIA	895
County General Tier IIB without Courts	290,493	District Category I Tier IIB	2,057
Courts Tier I	12,210	District Category II Tier I	1,384
Courts Tier IIA	3,391	District Category II Tier IIB	1,278
Courts Tier IIB	20,930	District Category II Tier III	0
County Safety Tier I	87,772	District Category III Tier I (Buttonwillow)	60
County Safety Tier IIA	7,940	District Category III Tier I (SJVAPCD)	15,569
County Safety Tier IIB	58,633	District Category III Tier IIA (Buttonwillow)	0
		District Category III Tier IIA (SJVAPCD)	1,099
		District Category III Tier IIB	15,891
		District Category V Tier I	76
		District Category V Tier IIA	444
		District Category V Tier IIB	990
		District Category VI Tier I	204
		District Category VI Tier IIB	0
		Declining Employers Tier I (Berrenda)	190
		Declining Employers Tier I (Inyokern)	0
		All Districts	\$43,622
All County with Courts	\$672,494	Total	\$716,116

Note: As of June 30, 2023, the COLA Contribution Reserve was zero and, therefore, not available to offset the 2% COLA contribution rate.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Prior Valuation

June 30, 2022 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
County General Tier I without Courts								
Normal Cost	13.18%	\$16,384	4.24%	\$5,271	1.32%	\$1,641	18.74%	\$23,296
UAAL	21.16%	26,305	2.55%	3,170	6.07%	7,545	29.78%	37,020
Total Contributions	34.34%	\$42,689	6.79%	\$8,441	7.39%	\$9,186	48.52%	\$60,316
County General Tier IIA without Courts								
Normal Cost	3.92%	\$2,479	2.17%	\$1,372	0.67%	\$424	6.76%	\$4,275
UAAL	21.16%	13,382	2.55%	1,613	6.07%	3,838	29.78%	18,833
Total Contributions	25.08%	\$15,861	4.72%	\$2,985	6.74%	\$4,262	36.54%	\$23,108
County General Tier IIB without Courts								
Normal Cost	4.88%	\$11,239	1.04%	\$2,395	0.33%	\$760	6.25%	\$14,394
UAAL	21.16%	48,734	2.55%	5,873	6.07%	13,979	29.78%	68,586
Total Contributions	26.04%	\$59,973	3.59%	\$8,268	6.40%	\$14,739	36.03%	\$82,980
County General without Courts – Combined								
Normal Cost	7.20%	\$30,102	2.16%	\$9,038	0.68%	\$2,825	10.04%	\$41,965
UAAL	21.16%	88,421	2.55%	10,656	6.07%	25,362	29.78%	124,439
Total Contributions	28.36%	\$118,523	4.71%	\$19,694	6.75%	\$28,187	39.82%	\$166,404
Courts Tier I								
Normal Cost	10.45%	\$1,272	4.24%	\$516	1.32%	\$161	16.01%	\$1,949
UAAL	21.16%	2,576	2.55%	310	6.07%	740	29.78%	3,626
Total Contributions	31.61%	\$3,848	6.79%	\$826	7.39%	\$901	45.79%	\$5,575
Courts Tier IIA								
Normal Cost	4.08%	\$121	2.17%	\$64	0.67%	\$21	6.92%	\$206
UAAL	21.16%	629	2.55%	76	6.07%	180	29.78%	885
Total Contributions	25.24%	\$750	4.72%	\$140	6.74%	\$201	36.70%	\$1,091
Courts Tier IIB								
Normal Cost	4.88%	\$853	1.04%	\$182	0.33%	\$58	6.25%	\$1,093
UAAL	21.16%	3,700	2.55%	446	6.07%	1,062	29.78%	5,208
Total Contributions	26.04%	\$4,553	3.59%	\$628	6.40%	\$1,120	36.03%	\$6,301

¹ Based on June 30, 2022 projected compensation as shown on page 56.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Prior Valuation (continued)

June 30, 2022 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
Courts – Combined								
Normal Cost	6.88%	\$2,246	2.33%	\$762	0.75%	\$240	9.96%	\$3,248
UAAL	21.16%	6,905	2.55%	832	6.07%	1,982	29.78%	9,719
Total Contributions	28.04%	\$9,151	4.88%	\$1,594	6.82%	\$2,222	39.74%	\$12,967
County Safety Tier I								
Normal Cost	17.24%	\$15,179	6.45%	\$5,679	2.08%	\$1,831	25.77%	\$22,689
UAAL	35.71%	31,441	6.06%	5,335	14.05%	12,370	55.82%	49,146
Total Contributions	52.95%	\$46,620	12.51%	\$11,014	16.13%	\$14,201	81.59%	\$71,835
County Safety Tier IIA								
Normal Cost	10.84%	\$828	4.98%	\$380	1.57%	\$121	17.39%	\$1,329
UAAL	35.71%	2,728	6.06%	463	14.05%	1,074	55.82%	4,265
Total Contributions	46.55%	\$3,556	11.04%	\$843	15.62%	\$1,195	73.21%	\$5,594
County Safety Tier IIB								
Normal Cost	9.79%	\$4,641	2.44%	\$1,157	0.76%	\$360	12.99%	\$6,158
UAAL	35.71%	16,927	6.06%	2,873	14.05%	6,660	55.82%	26,460
Total Contributions	45.50%	\$21,568	8.50%	\$4,030	14.81%	\$7,020	68.81%	\$32,618
County Safety – Combined								
Normal Cost	14.43%	\$20,648	5.04%	\$7,216	1.62%	\$2,312	21.09%	\$30,176
UAAL	35.71%	51,096	6.06%	8,671	14.05%	20,104	55.82%	79,871
Total Contributions	50.14%	\$71,744	11.10%	\$15,887	15.67%	\$22,416	76.91%	\$110,047
All County with Courts – Combined								
Normal Cost	8.93%	\$52,996	2.87%	\$17,016	0.90%	\$5,377	12.70%	\$75,389
UAAL	24.67%	146,422	3.40%	20,159	7.99%	47,448	36.06%	214,029
Total Contributions	33.60%	\$199,418	6.27%	\$37,175	8.89%	\$52,825	48.76%	\$289,418
District Category I Tier I								
Normal Cost	15.34%	\$561	4.24%	\$155	1.32%	\$49	20.90%	\$765
UAAL	26.69%	976	4.31%	158	6.29%	230	37.29%	1,364
Total Contributions	42.03%	\$1,537	8.55%	\$313	7.61%	\$279	58.19%	\$2,129

¹ Based on June 30, 2022 projected compensation as shown on page 56.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Prior Valuation (continued)

June 30, 2022 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
District Category I Tier IIA								
Normal Cost	4.59%	\$37	2.17%	\$17	0.67%	\$5	7.43%	\$59
UAAL	26.69%	213	4.31%	34	6.29%	50	37.29%	297
Total Contributions	31.28%	\$250	6.48%	\$51	6.96%	\$55	44.72%	\$356
District Category I Tier IIB								
Normal Cost	4.88%	\$74	1.04%	\$16	0.33%	\$5	6.25%	\$95
UAAL	26.69%	404	4.31%	65	6.29%	96	37.29%	565
Total Contributions	31.57%	\$478	5.35%	\$81	6.62%	\$101	43.54%	\$660
District Category I – Combined								
Normal Cost	11.26%	\$672	3.15%	\$188	0.99%	\$59	15.40%	\$919
UAAL	26.69%	1,593	4.31%	257	6.29%	376	37.29%	2,226
Total Contributions	37.95%	\$2,265	7.46%	\$445	7.28%	\$435	52.69%	\$3,145
District Category II Tier I								
Normal Cost	12.18%	\$171	4.24%	\$60	1.32%	\$18	17.74%	\$249
UAAL	26.69%	375	4.31%	61	6.29%	88	37.29%	524
Total Contributions	38.87%	\$546	8.55%	\$121	7.61%	\$106	55.03%	\$773
District Category II Tier IIB								
Normal Cost	4.88%	\$50	1.04%	\$11	0.33%	\$3	6.25%	\$64
UAAL	26.69%	274	4.31%	44	6.29%	65	37.29%	383
Total Contributions	31.57%	\$324	5.35%	\$55	6.62%	\$68	43.54%	\$447
District Category II Tier III								
Normal Cost	5.85%	\$0	1.21%	\$0	0.37%	\$0	7.43%	\$0
UAAL	26.69%	0	4.31%	0	6.29%	0	37.29%	0
Total Contributions	32.54%	\$0	5.52%	\$0	6.66%	\$0	44.72%	\$0
District Category II – Combined								
Normal Cost	9.05%	\$221	2.92%	\$71	0.86%	\$21	12.83%	\$313
UAAL	26.69%	649	4.31%	105	6.29%	153	37.29%	907
Total Contributions	35.74%	\$870	7.23%	\$176	7.15%	\$174	50.12%	\$1,220

¹ Based on June 30, 2022 projected compensation as shown on page 56.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Prior Valuation (continued)

June 30, 2022 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
District Category III Tier I (Buttonwillow)								
Normal Cost	10.10%	\$4	4.24%	\$2	1.32%	\$0	15.66%	\$6
UAAL	26.69%	11	4.31%	2	6.29%	2	37.29%	15
Total Contributions	36.79%	\$15	8.55%	\$4	7.61%	\$2	52.95%	\$21
District Category III Tier I (SJVAPCD)								
Normal Cost	9.31%	\$1,479	2.12%	\$337	0.67%	\$106	12.10%	\$1,922
UAAL	26.69%	4,240	4.31%	685	6.29%	999	37.29%	5,924
Total Contributions	36.00%	\$5,719	6.43%	\$1,022	6.96%	\$1,105	49.39%	\$7,846
District Category III Tier IIA (Buttonwillow)								
Normal Cost	3.93%	\$0	2.17%	\$0	0.67%	\$0	6.77%	\$0
UAAL	26.69%	0	4.31%	0	6.29%	0	37.29%	0
Total Contributions	30.62%	\$0	6.48%	\$0	6.96%	\$0	44.06%	\$0
District Category III Tier IIA (SJVAPCD)								
Normal Cost	5.35%	\$53	1.09%	\$11	0.34%	\$3	6.78%	\$67
UAAL	26.69%	264	4.31%	43	6.29%	61	37.29%	368
Total Contributions	32.04%	\$317	5.40%	\$54	6.63%	\$64	44.07%	\$435
District Category III Tier IIB								
Normal Cost	4.88%	\$605	1.04%	\$129	0.33%	\$40	6.25%	\$774
UAAL	26.69%	3,307	4.31%	534	6.29%	779	37.29%	4,620
Total Contributions	31.57%	\$3,912	5.35%	\$663	6.62%	\$819	43.54%	\$5,394
District Category III – Combined								
Normal Cost	7.31%	\$2,141	1.64%	\$479	0.50%	\$149	9.45%	\$2,769
UAAL	26.69%	7,822	4.31%	1,264	6.29%	1,841	37.29%	10,927
Total Contributions	34.00%	\$9,963	5.95%	\$1,743	6.79%	\$1,990	46.74%	\$13,696
District Category V Tier I								
Normal Cost	18.51%	\$14	4.24%	\$3	1.32%	\$1	24.07%	\$18
UAAL	26.69%	20	4.31%	3	6.29%	5	37.29%	28
Total Contributions	45.20%	\$34	8.55%	\$6	7.61%	\$6	61.36%	\$46

¹ Based on June 30, 2022 projected compensation as shown on page 56.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Prior Valuation (continued)

June 30, 2022 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
District Category V Tier IIA								
Normal Cost	4.49%	\$19	2.17%	\$9	0.67%	\$3	7.33%	\$31
UAAL	26.69%	113	4.31%	18	6.29%	27	37.29%	158
Total Contributions	31.18%	\$132	6.48%	\$27	6.96%	\$30	44.62%	\$189
District Category V Tier IIB								
Normal Cost	4.88%	\$45	1.04%	\$10	0.33%	\$3	6.25%	\$58
UAAL	26.69%	247	4.31%	40	6.29%	58	37.29%	345
Total Contributions	31.57%	\$292	5.35%	\$50	6.62%	\$61	43.54%	\$403
District Category V – Combined								
Normal Cost	5.43%	\$78	1.51%	\$22	0.51%	\$7	7.45%	\$107
UAAL	26.69%	380	4.31%	61	6.29%	90	37.29%	531
Total Contributions	32.12%	\$458	5.82%	\$83	6.80%	\$97	44.74%	\$638
District Category VI Tier I								
Normal Cost	18.51%	\$38	4.24%	\$9	1.32%	\$2	24.07%	\$49
UAAL	26.69%	54	4.31%	9	6.29%	13	37.29%	76
Total Contributions	45.20%	\$92	8.55%	\$18	7.61%	\$15	61.36%	\$125
District Category VI Tier IIB								
Normal Cost	4.88%	\$0	1.04%	\$0	0.33%	\$0	6.25%	\$0
UAAL	26.69%	0	4.31%	0	6.29%	0	37.29%	0
Total Contributions	31.57%	\$0	5.35%	\$0	6.62%	\$0	43.54%	\$0
District Category VI – Combined								
Normal Cost	18.51%	\$38	4.24%	\$9	1.32%	\$2	24.07%	\$49
UAAL	26.69%	54	4.31%	9	6.29%	13	37.29%	76
Total Contributions	45.20%	\$92	8.55%	\$18	7.61%	\$15	61.36%	\$125
Declining Employers Tier I (Berrenda)								
Normal Cost	12.00%	\$22	3.78%	\$7	1.62%	\$3	17.40%	\$32
UAAL	135.93%	251	43.33%	80	40.62%	76	219.88%	407
Total Contributions²	147.93%	\$273	47.11%	\$87	42.24%	\$79	237.28%	\$439

¹ Based on June 30, 2022 projected compensation as shown on page 56.

² These Districts are declining employers and they should contribute based on dollar contribution amounts shown (not rates).

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Prior Valuation (continued)

June 30, 2022 Actuarial Valuation								
	Basic		2% COLA		0.5% COLA		Total	
	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)	Rate	Estimated Annual Amount ¹ (\$ in '000s)
Declining Employers Tier I (Inyokern)								
Normal Cost	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0
UAAL	N/A	10	N/A	0	N/A	2	N/A	12
Total Contributions²	N/A	\$10	N/A	\$0	N/A	\$2	N/A	\$12
Declining Employers – Combined								
Normal Cost	11.89%	\$22	3.79%	\$7	1.61%	\$3	17.29%	\$32
UAAL	141.08%	261	43.24%	80	42.17%	78	226.49%	419
Total Contributions	152.97%	\$283	47.03%	\$87	43.78%	\$81	243.78%	\$451
All Districts – Combined								
Normal Cost	8.03%	\$3,172	1.96%	\$776	0.61%	\$241	10.60%	\$4,189
UAAL	27.22%	10,759	4.49%	1,776	6.46%	2,551	38.17%	15,086
Total Contributions	35.25%	\$13,931	6.45%	\$2,552	7.07%	\$2,792	48.77%	\$19,275
All Employers – Combined								
Normal Cost	8.87%	\$56,168	2.81%	\$17,792	0.89%	\$5,618	12.57%	\$79,578
UAAL	24.83%	157,181	3.46%	21,935	7.90%	49,999	36.19%	229,115
Total Contributions	33.70%	\$213,349	6.27%	\$39,727	8.79%	\$55,617	48.76%	\$308,693

¹ Based on June 30, 2022 projected compensation as shown on page 56.

² These Districts are declining employers and they should contribute based on dollar contribution amounts shown (not rates).

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates – Prior Valuation (continued)

	June 30, 2022 Projected Compensation (\$ in '000s)		June 30, 2022 Projected Compensation (\$ in '000s)
County General Tier I without Courts	\$124,313	District Category I Tier I	\$3,658
County General Tier IIA without Courts	63,240	District Category I Tier IIA	797
County General Tier IIB without Courts	230,310	District Category I Tier IIB	1,514
Courts Tier I	12,175	District Category II Tier I	1,406
Courts Tier IIA	2,971	District Category II Tier IIB	1,028
Courts Tier IIB	17,487	District Category II Tier III	0
County Safety Tier I	88,044	District Category III Tier I (Buttonwillow)	40
County Safety Tier IIA	7,640	District Category III Tier I (SJVAPCD)	15,885
County Safety Tier IIB	47,402	District Category III Tier IIA (Buttonwillow)	0
		District Category III Tier IIA (SJVAPCD)	988
		District Category III Tier IIB	12,390
		District Category V Tier I	75
		District Category V Tier IIA	425
		District Category V Tier IIB	926
		District Category VI Tier I	204
		District Category VI Tier IIB	0
		Declining Employers Tier I (Berrenda)	185
		Declining Employers Tier I (Inyokern)	0
		All Districts	\$39,521
All County with Courts	\$593,582	Total	\$633,103

Note: As of June 30, 2022, the COLA Contribution Reserve was zero and, therefore, not available to offset the 2% COLA contribution rate.

Section 2: Actuarial Valuation Results

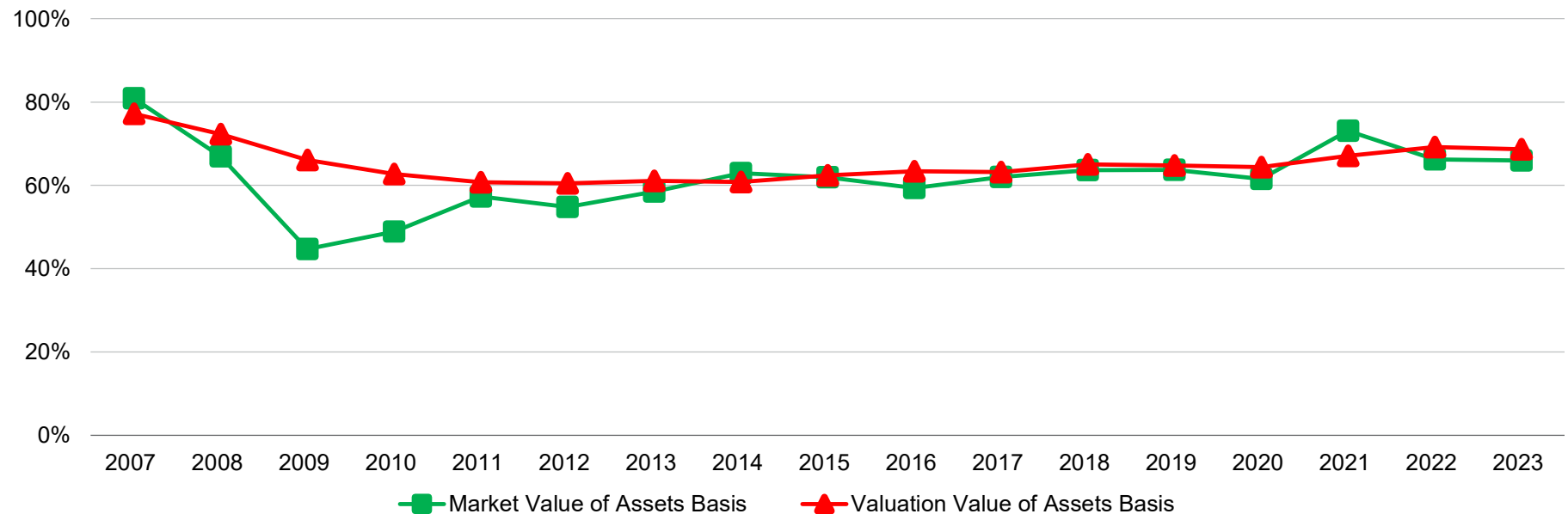
G. Funded Status

A commonly reported piece of information regarding the Association's financial status is the funded ratio. These ratios compare the Market and Valuation Value of Assets to the Actuarial Accrued Liability of the Association. High ratios indicate a well-funded plan while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes.

The chart below depicts a history of the funded ratio for the Association. The chart on the next page shows the Association's schedule of funding progress for the last ten years.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Association's benefit obligations. As the chart below shows, the measures are different depending on whether the Valuation or Market Value of Assets is used.

Funded Ratio for Years Ended June 30, 2007 – 2023



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Schedule of Funding Progress for Years Ended June 30, 2014 – 2023

Actuarial Valuation Date as of June 30	Valuation Value of Assets ¹ (a)	Actuarial Accrued Liability (AAL) ² (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (%) [(b) - (a)] / (c)
2014	\$3,342,122,000	\$5,492,440,000	\$2,150,318,000	60.8%	\$555,634,000	387.0%
2015	3,529,786,000	5,657,173,000	2,127,387,000	62.4%	556,824,000	382.1%
2016	3,685,447,000	5,813,092,000	2,127,645,000	63.4%	567,261,000	375.1%
2017	3,913,073,000	6,191,433,000	2,278,360,000	63.2%	572,081,000	398.3%
2018	4,163,476,000	6,398,814,000	2,235,338,000	65.1%	584,180,000	382.6%
2019	4,291,573,000	6,622,495,000	2,330,922,000	64.8%	612,277,000	380.7%
2020	4,508,548,000	7,005,589,000	2,497,041,000	64.4%	634,570,000	393.5%
2021	4,806,026,000	7,164,225,000	2,358,199,000	67.1%	623,295,000	378.3%
2022	5,102,402,000	7,372,653,000	2,270,251,000	69.2%	633,103,000	358.6%
2023	5,436,078,000	7,918,848,000	2,482,770,000	68.7%	716,116,000	346.7%

¹ Excludes assets for SRBR Reserves Unallocated to 0.5% COLA benefits and COLA Contribution Reserve. Excludes assets for Contingency Reserve (unless the Contingency Reserve is negative).

² Excludes liabilities held for SRBR Reserves Unallocated to 0.5% COLA benefits.

Section 2: Actuarial Valuation Results

H. Actuarial Balance Sheet

An overview of the Association's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Association for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the Actuarial Present Value of Future Benefits of the Association.

Second, this Actuarial Present Value of Future Benefits is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Association, the present value of future member contributions, the present value of future employer Normal Cost contributions, and the present value of future employer amortization payments for the Unfunded Actuarial Accrued Liability.

Actuarial Balance Sheet for Year Ended

	June 30, 2023 (\$ in '000s)	June 30, 2022 (\$ in '000s)
Actuarial Present Value of Future Benefits		
• Present value of benefits for retired members and beneficiaries	\$5,283,115	\$4,985,491
• Present value of benefits for inactive vested members ¹	305,150	272,783
• Present value of benefits for active members	<u>3,405,391</u>	<u>3,074,921</u>
Total Actuarial Present Value of Future Benefits	\$8,993,656	\$8,333,195
Current and future assets		
• Total Valuation Value of Assets	\$5,436,078	\$5,102,402
• Present value of future contributions by members	432,968	389,934
• Present value of future employer contributions for:		
– Entry age Normal Cost	641,840	570,608
– Unfunded Actuarial Accrued Liability	<u>2,482,770</u>	<u>2,270,251</u>
Total of current and future assets	\$8,993,656	\$8,333,195

¹ Includes inactive members due a refund of member contributions.

Section 2: Actuarial Valuation Results

I. Volatility Ratios

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the Market Value of Assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measurement because it is based on the current level of assets.

The current AVR is about 7.5. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 7.5% of one year's payroll. Because actuarial gains and losses are amortized over 18 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current total plan LVR is about 11.1, but is 8.9 for General compared to 18.8 for Safety. This means, for example, that assumption changes will have a greater impact on employer contribution rates for Safety than for General.

The chart on the next page shows how the asset and liability volatility ratios have varied over time.

Section 2: Actuarial Valuation Results

Volatility Ratios for Years Ended 2014 – 2023

Year Ended June 30	Asset Volatility Ratio			Liability Volatility Ratio		
	General	Safety	Total	General	Safety	Total
2014	5.5	9.1	6.4	8.5	13.7	9.9
2015	5.6	9.2	6.5	8.8	14.1	10.2
2016	5.4	9.0	6.3	8.8	14.4	10.3
2017	5.8	10.4	6.9	9.2	16.0	10.8
2018	6.0	11.0	7.2	9.2	16.4	11.0
2019	5.8	11.4	7.1	9.0	16.9	10.8
2020	5.7	11.8	7.0	9.1	18.0	11.0
2021	7.1	14.4	8.7	9.5	18.5	11.5
2022	6.6	13.2	8.1	9.6	18.6	11.6
2023	6.1	12.8	7.5	8.9	18.8	11.1

Section 2: Actuarial Valuation Results

J. Risk Assessment

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

Our separate risk assessment report dated September 4, 2019 based on the June 30, 2018 actuarial valuation contained a detailed analysis of the potential range of future measurements. This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Association's financial condition, as well as a discussion of historical trends and maturity measures.

Risk Assessments

- Asset/Liability Mismatch Risk (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

The most significant asset/liability mismatch risk to the Association is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first mismatch is evident in annual valuations: when asset values deviate from assumptions, they are typically independent from liability changes. The second mismatch can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any changes in the expected experience of asset growth rates.

Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but have no impact on asset levels. This risk is also discussed below.

- Investment Risk (the risk that investment returns will be different than expected)

The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the Association, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets, however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 60, a 1% asset gain or loss (relative to the assumed investment return) translates to about 7.5% of one-year's payroll. Because actuarial gains and losses are amortized over 18 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain or loss.

The single year market value rate of return over the last 10 years has ranged from a low of -4.08% to a high of 23.68%.

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- Longevity Risk (the risk that mortality experience will be different than expected)

The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Association (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with the June 30, 2020 valuation, the Board has adopted a benefit-weighted mortality table with the generational projection approach.

- Other Risks

In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. One example is projected salary scales over time. As salary is central to the determination of benefits paid in retirement, deviations from the projected salary scales could have a material impact on the benefits anticipated for each member. Examples of demographic assumptions include retirement, termination and disability assumptions, and these will likely vary in significance for different groups (for example, disability assumptions are typically more significant for safety groups).

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employers have a proven track-record of making the Actuarially Determined Contributions based on the Board's Actuarial Funding Policy, so contribution risk is minimal.

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the plan's actual experience. Over the past ten years:

- The funded percentage on the Valuation Value of Assets has increased from 60.8% to 68.7%. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 57.
- The geometric average investment return on the Actuarial Value of Assets over the last 10 years was 6.63%. This includes a high of a 9.08% return and a low of 4.56%. The average over the last 5 years was 6.69%. For more details see the Investment Return table in *Section 2, Subsection C* on page 29.
- One of the primary sources of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2017 changed the discount rate from 7.50% to 7.25% and updated mortality tables adding \$213 million in unfunded liability. The assumption changes in 2020 again updated mortality tables adding \$147 million in unfunded liability. The assumption changes in 2023 changed the discount rate from 7.25% to 7.00% and updated mortality tables adding \$185 million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit H, Table of Amortization Bases* starting on page 93.

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- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in the *Section 3, Exhibit I, Projection of UAAL Balances and Payments* on pages 102 and 103.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.87 to 0.96. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative to understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 19.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the plan's asset allocation is aligned to meet emerging pension liabilities. Over the past year, benefits paid were \$49 million more than contributions received (net of administrative expenses). The \$49 million in negative cash flows represented about 1.0% of the market value of assets. Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. For more details on historical cash flows see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 23.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* on page 60.

Low-Default-Risk Obligation Measure (LDROM)

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDROM) when performing a funding valuation. The LDROM presented in this report is calculated using the same methodology and assumptions used to determine the Actuarial Accrued Liability (AAL) used for funding, except for the discount rate. The LDROM is required to be calculated using "a discount rate...derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future."

The LDROM is a calculation assuming a plan's assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer, is 3.65% for use effective June 30, 2023. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of public pension plan liabilities. The LDROM is not used to determine a plan's

Section 2: Actuarial Valuation Results

funded status or Actuarially Determined Contribution Rate. The plan's expected return on assets, currently 7.00%, is used for these calculations.

As of June 30, 2023, the LDROM for the Association is \$12.50 billion. The difference between the Association's AAL of \$7.92 billion and the LDROM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the plan's diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of participant benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the Actuarially Determined Contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	9,557	9,076	5.3%
• Average age	41.6	41.9	-0.3
• Average years of service	9.2	9.5	-0.3
• Total projected compensation	\$716,116,083	\$633,102,218	13.1%
• Average projected compensation	\$74,931	\$69,756	7.4%
• Account balances	\$471,976,712	\$431,176,612	9.5%
• Total active vested members	5,562	5,479	1.5%
Inactive vested members:¹			
• Number	4,391	4,015	9.4%
• Average age	41.3	41.4	-0.1
Retired members:			
• Number in pay status	6,967	6,848	1.7%
• Average age	69.4	69.2	0.2
• Average monthly benefit ²	\$4,064	\$3,960	2.6%
Disabled members:			
• Number in pay status	838	845	-0.8%
• Average age	69.0	68.7	0.3
• Average monthly benefit ²	\$3,609	\$3,503	3.0%
Beneficiaries:			
• Number in pay status	1,351	1,322	2.2%
• Average age	73.0	72.9	0.1
• Average monthly benefit ²	\$2,314	\$2,220	4.2%

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier I County with Courts

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1,640	1,793	-8.5%
• Average age	52.3	51.8	0.5
• Average years of service	21.0	20.3	0.7
• Total projected compensation	\$138,256,045	\$136,488,286	1.3%
• Average projected compensation	\$84,302	\$76,123	10.7%
• Account balances	\$154,846,349	\$149,747,319	3.4%
• Total active vested members	1,637	1,791	-8.6%
Inactive vested members:¹			
• Number	866	903	-4.1%
• Average age	50.3	49.9	0.4
Retired members:			
• Number in pay status	5,101	5,090	0.2%
• Average age	70.5	70.2	0.3
• Average monthly benefit ²	\$3,516	\$3,405	3.3%
Disabled members:			
• Number in pay status	408	420	-2.9%
• Average age	70.3	69.9	0.4
• Average monthly benefit ²	\$2,226	\$2,143	3.9%
Beneficiaries:			
• Number in pay status	855	834	2.5%
• Average age	74.1	73.9	0.2
• Average monthly benefit ²	\$1,900	\$1,819	4.5%

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier IIA County with Courts

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	835	892	-6.4%
• Average age	48.1	47.3	0.8
• Average years of service	12.0	11.2	0.8
• Total projected compensation	\$68,470,521	\$66,210,811	3.4%
• Average projected compensation	\$82,001	\$74,227	10.5%
• Account balances	\$53,055,011	\$49,887,241	6.3%
• Total active vested members	777	830	-6.4%
Inactive vested members:¹			
• Number	571	547	4.4%
• Average age	45.0	44.5	0.5
Retired members:			
• Number in pay status	138	104	32.7%
• Average age	65.3	65.2	0.1
• Average monthly benefit ²	\$820	\$792	3.5%
Disabled members:			
• Number in pay status	3	2	50.0%
• Average age	52.7	58.6	-5.9
• Average monthly benefit ²	\$1,285	\$1,866	-31.1%
Beneficiaries:			
• Number in pay status	10	9	11.1%
• Average age	63.5	62.4	1.1
• Average monthly benefit ²	\$626	\$675	-7.3%

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier IIB County with Courts

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	4,901	4,266	14.9%
• Average age	38.2	37.9	0.3
• Average years of service	3.9	3.8	0.1
• Total projected compensation	\$311,422,896	\$247,797,165	25.7%
• Average projected compensation	\$63,543	\$58,087	9.4%
• Account balances	\$75,625,313	\$60,254,303	25.5%
• Total active vested members	1,674	1,389	20.5%
Inactive vested members:¹			
• Number	2,239	1,895	18.2%
• Average age	37.0	36.8	0.2
Retired members:			
• Number in pay status	21	7	200.0%
• Average age	65.9	68.9	-3.0
• Average monthly benefit ²	\$635	\$674	-5.8%
Disabled members:			
• Number in pay status	1	0	N/A
• Average age	65.3	0.0	N/A
• Average monthly benefit ²	\$1,617	\$0	N/A
Beneficiaries:			
• Number in pay status	3	1	200.0%
• Average age	57.1	61.5	-4.4
• Average monthly benefit ²	\$1,235	\$680	81.6%

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Districts Tier I

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	176	187	-5.9%
• Average age	48.9	48.1	0.8
• Average years of service	18.5	17.6	0.9
• Total projected compensation	\$20,966,739	\$21,452,432	-2.3%
• Average projected compensation	\$119,129	\$114,719	3.8%
• Account balances	\$25,253,559	\$22,762,756	10.9%
• Total active vested members	176	187	-5.9%
Inactive vested members:¹			
• Number	139	139	0.0%
• Average age	50.3	49.7	0.6
Retired members:			
• Number in pay status	337	328	2.7%
• Average age	68.6	68.2	0.4
• Average monthly benefit ²	\$4,407	\$4,307	2.3%
Disabled members:			
• Number in pay status	13	13	0.0%
• Average age	67.3	66.6	0.7
• Average monthly benefit ²	\$2,964	\$2,540	16.7%
Beneficiaries:			
• Number in pay status	46	43	7.0%
• Average age	73.2	73.0	0.2
• Average monthly benefit ²	\$2,615	\$2,669	-2.0%

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Districts Tier IIA

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	21	20	5.0%
• Average age	46.1	43.8	2.3
• Average years of service	11.7	10.9	0.8
• Total projected compensation	\$2,438,206	\$2,209,629	10.3%
• Average projected compensation	\$116,105	\$110,481	5.1%
• Account balances	\$1,393,713	\$1,217,941	14.4%
• Total active vested members	20	19	5.3%
Inactive vested members:¹			
• Number	13	12	8.3%
• Average age	41.2	40.8	0.4
Retired members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Districts Tier IIB

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	267	217	23.0%
• Average age	35.1	34.8	0.3
• Average years of service	3.4	3.1	0.3
• Total projected compensation	\$20,216,724	\$15,858,712	27.5%
• Average projected compensation	\$75,718	\$73,082	3.6%
• Account balances	\$4,220,886	\$3,059,842	37.9%
• Total active vested members	73	53	37.7%
Inactive vested members:¹			
• Number	72	54	33.3%
• Average age	35.9	35.8	0.1
Retired members:			
• Number in pay status	1	0	N/A
• Average age	72.0	N/A	N/A
• Average monthly benefit ²	\$865	N/A	N/A
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Districts Tier III

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	0	0	N/A
• Average age	N/A	N/A	N/A
• Average years of service	N/A	N/A	N/A
• Total projected compensation	N/A	N/A	N/A
• Average projected compensation	N/A	N/A	N/A
• Account balances	N/A	N/A	N/A
• Total active vested members	N/A	N/A	N/A
Inactive vested members:¹			
• Number	0	0	N/A
• Average age	N/A	N/A	N/A
Retired members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier I

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	828	904	-8.4%
• Average age	44.9	44.4	0.5
• Average years of service	18.7	18.1	0.6
• Total projected compensation	\$87,772,148	\$88,043,782	-0.3%
• Average projected compensation	\$106,005	\$97,394	8.8%
• Account balances	\$118,790,867	\$112,966,532	5.2%
• Total active vested members	827	902	-8.3%
Inactive vested members:¹			
• Number	250	261	-4.2%
• Average age	43.4	42.8	0.6
Retired members:			
• Number in pay status	1,365	1,317	3.6%
• Average age	66.1	66.0	0.1
• Average monthly benefit ²	\$6,417	\$6,290	2.0%
Disabled members:			
• Number in pay status	411	409	0.5%
• Average age	67.9	67.6	0.3
• Average monthly benefit ²	\$5,025	\$4,935	1.8%
Beneficiaries:			
• Number in pay status	434	434	0.0%
• Average age	71.7	71.3	0.4
• Average monthly benefit ²	\$3,149	\$2,977	5.8%

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier IIA

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	85	90	-5.6%
• Average age	39.0	38.4	0.6
• Average years of service	11.5	10.4	1.1
• Total projected compensation	\$7,939,514	\$7,639,579	3.9%
• Average projected compensation	\$93,406	\$84,884	10.0%
• Account balances	\$7,580,625	\$6,761,440	12.1%
• Total active vested members	84	88	-4.5%
Inactive vested members:¹			
• Number	30	29	3.4%
• Average age	37.6	36.7	0.9
Retired members:			
• Number in pay status	3	2	50.0%
• Average age	69.1	67.9	1.2
• Average monthly benefit ²	\$1,658	\$1,124	47.5%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	49.4	48.4	1.0
• Average monthly benefit ²	\$5,118	\$4,993	2.5%
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier IIB

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	804	707	13.7%
• Average age	31.6	31.5	0.1
• Average years of service	4.0	3.8	0.2
• Total projected compensation	\$58,633,289	\$47,401,823	23.7%
• Average projected compensation	\$72,927	\$67,046	8.8%
• Account balances	\$31,210,389	\$24,519,238	27.3%
• Total active vested members	294	220	33.6%
Inactive vested members:¹			
• Number	211	175	20.6%
• Average age	33.6	33.0	0.6
Retired members:			
• Number in pay status	1	0	N/A
• Average age	61.6	N/A	N/A
• Average monthly benefit ²	\$2,455	N/A	N/A
Disabled members:			
• Number in pay status	1	0	N/A
• Average age	33.2	N/A	N/A
• Average monthly benefit ²	\$2,265	N/A	N/A
Beneficiaries:			
• Number in pay status	3	1	200.0%
• Average age	18.9	36.1	-17.2
• Average monthly benefit ²	\$1,377	\$3,931	-65.0%

¹ Includes inactive members due a refund of member contributions.

² Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation

Total Plan

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	393	392	1	—	—	—	—	—	—	—
	\$55,174	\$55,168	\$57,440	—	—	—	—	—	—	—
25 – 29	1,180	1,074	105	1	—	—	—	—	—	—
	\$60,592	\$59,956	\$66,972	\$73,061	—	—	—	—	—	—
30 – 34	1,444	859	499	83	3	—	—	—	—	—
	\$67,325	\$61,629	\$73,339	\$89,703	\$78,837	—	—	—	—	—
35 – 39	1,550	643	466	296	145	—	—	—	—	—
	\$74,152	\$63,711	\$71,210	\$93,027	\$91,375	—	—	—	—	—
40 – 44	1,502	413	323	226	426	114	—	—	—	—
	\$81,290	\$63,791	\$72,518	\$87,364	\$94,889	\$106,674	—	—	—	—
45 – 49	1,234	259	192	155	321	259	48	—	—	—
	\$84,875	\$65,327	\$70,915	\$87,034	\$89,375	\$104,357	\$104,009	—	—	—
50 – 54	957	205	125	125	176	213	94	19	—	—
	\$85,413	\$71,905	\$74,376	\$81,215	\$85,539	\$98,305	\$102,772	\$99,822	—	—
55 – 59	677	130	102	76	133	124	61	42	9	—
	\$77,336	\$66,547	\$65,414	\$78,321	\$79,685	\$83,805	\$85,970	\$97,041	\$85,648	—
60 – 64	423	73	68	63	77	65	43	15	17	2
	\$80,862	\$70,995	\$77,856	\$83,330	\$77,150	\$89,138	\$79,479	\$98,709	\$101,628	\$58,822
65 – 69	146	22	37	20	26	20	12	3	3	3
	\$79,903	\$81,337	\$67,630	\$78,047	\$74,925	\$93,522	\$90,676	\$93,520	\$100,109	\$108,588
70 & over	51	9	7	5	10	7	6	3	3	1
	\$78,064	\$91,812	\$74,563	\$83,726	\$76,021	\$56,009	\$89,163	\$79,361	\$52,604	\$131,205
Total	9,557	4,079	1,925	1,050	1,317	802	264	82	32	6
	\$74,931	\$62,363	\$71,790	\$87,260	\$88,762	\$97,976	\$94,462	\$97,215	\$92,395	\$95,769

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

General Tier I County with Courts

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	2	—	—	1	1	—	—	—	—	—
35 – 39	56	1	—	5	50	—	—	—	—	—
40 – 44	258	1	—	14	204	39	—	—	—	—
45 – 49	350	1	—	15	192	124	18	—	—	—
50 – 54	381	—	2	10	130	159	67	13	—	—
55 – 59	318	—	1	5	104	107	56	36	9	—
60 – 64	189	1	1	5	56	59	37	12	16	2
65 – 69	61	—	1	1	23	17	11	3	2	3
70 & over	25	—	—	—	8	6	5	2	3	1
Total	1,640	4	5	56	768	511	194	66	30	6
	\$84,302	\$74,761	\$96,172	\$71,992	\$80,658	\$88,077	\$88,752	\$90,064	\$91,836	\$95,769

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

General Tier IIA County with Courts

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	31	3	4	22	2	—	—	—	—	—
	\$68,608	\$62,268	\$56,640	\$71,513	\$70,094	—	—	—	—	—
35 – 39	154	12	15	109	18	—	—	—	—	—
	\$79,619	\$61,808	\$73,713	\$84,561	\$66,489	—	—	—	—	—
40 – 44	195	24	23	114	32	2	—	—	—	—
	\$84,474	\$68,063	\$72,029	\$84,765	\$104,963	\$80,137	—	—	—	—
45 – 49	135	13	16	87	18	1	—	—	—	—
	\$84,668	\$80,665	\$83,502	\$86,505	\$80,983	\$61,816	—	—	—	—
50 – 54	118	12	10	84	12	—	—	—	—	—
	\$82,626	\$71,624	\$117,317	\$79,690	\$85,265	—	—	—	—	—
55 – 59	90	7	11	60	11	—	1	—	—	—
	\$77,022	\$65,982	\$74,001	\$79,216	\$77,581	—	\$49,726	—	—	—
60 – 64	72	8	3	46	14	—	1	—	—	—
	\$84,843	\$83,173	\$101,772	\$83,078	\$90,442	—	\$50,246	—	—	—
65 – 69	28	1	6	17	3	1	—	—	—	—
	\$77,220	\$51,837	\$72,427	\$79,086	\$82,135	\$84,874	—	—	—	—
70 & over	12	4	3	3	2	—	—	—	—	—
	\$102,260	\$121,484	\$61,816	\$92,052	\$139,787	—	—	—	—	—
Total	835	84	91	542	112	4	2	—	—	—
	\$82,001	\$73,038	\$79,532	\$82,784	\$87,698	\$76,741	\$49,986	—	—	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

General Tier IIB County with Courts

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	257	256	1	—	—	—	—	—	—	—
	\$49,487	\$49,456	\$57,440	—	—	—	—	—	—	—
25 – 29	852	785	66	1	—	—	—	—	—	—
	\$57,151	\$57,082	\$57,728	\$73,061	—	—	—	—	—	—
30 – 34	1,077	699	369	9	—	—	—	—	—	—
	\$63,163	\$59,646	\$69,627	\$71,268	—	—	—	—	—	—
35 – 39	970	558	378	34	—	—	—	—	—	—
	\$66,386	\$62,713	\$69,615	\$90,772	—	—	—	—	—	—
40 – 44	634	353	262	18	1	—	—	—	—	—
	\$66,604	\$63,093	\$71,024	\$72,471	\$42,080	—	—	—	—	—
45 – 49	409	226	165	16	2	—	—	—	—	—
	\$65,733	\$62,753	\$68,821	\$78,521	\$45,370	—	—	—	—	—
50 – 54	301	182	106	11	2	—	—	—	—	—
	\$69,729	\$70,488	\$68,133	\$76,252	\$49,300	—	—	—	—	—
55 – 59	212	117	87	7	1	—	—	—	—	—
	\$65,590	\$66,455	\$64,066	\$67,551	\$83,245	—	—	—	—	—
60 – 64	127	59	59	8	1	—	—	—	—	—
	\$70,952	\$69,290	\$73,855	\$61,180	\$75,890	—	—	—	—	—
65 – 69	52	21	29	2	—	—	—	—	—	—
	\$73,246	\$82,742	\$65,696	\$83,007	—	—	—	—	—	—
70 & over	10	4	4	2	—	—	—	—	—	—
	\$76,675	\$71,944	\$84,124	\$71,238	—	—	—	—	—	—
Total	4,901	3,260	1,526	108	7	—	—	—	—	—
	\$63,543	\$60,530	\$68,960	\$78,436	\$55,793	—	—	—	—	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Districts Tier I

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	2	—	—	2	—	—	—	—	—	—
	\$103,269	—	—	\$103,269	—	—	—	—	—	—
35 – 39	22	—	—	16	6	—	—	—	—	—
	\$113,305	—	—	\$108,994	\$124,802	—	—	—	—	—
40 – 44	27	—	—	10	14	3	—	—	—	—
	\$123,281	—	—	\$124,790	\$109,304	\$183,480	—	—	—	—
45 – 49	60	—	—	9	28	23	—	—	—	—
	\$123,534	—	—	\$105,640	\$111,415	\$145,290	—	—	—	—
50 – 54	29	—	—	4	12	8	2	3	—	—
	\$117,922	—	—	\$80,434	\$104,100	\$164,666	\$109,579	\$104,101	—	—
55 – 59	16	—	—	3	6	4	—	3	—	—
	\$113,213	—	—	\$132,814	\$100,075	\$87,338	—	\$154,387	—	—
60 – 64	17	—	—	2	4	6	3	2	—	—
	\$114,982	—	—	\$89,785	\$92,904	\$119,390	\$108,434	\$180,937	—	—
65 – 69	2	—	—	—	—	2	—	—	—	—
	\$112,091	—	—	—	—	\$112,091	—	—	—	—
70 & over	1	—	—	—	—	—	—	1	—	—
	\$116,830	—	—	—	—	—	—	\$116,830	—	—
Total	176	—	—	46	70	46	5	9	—	—
	\$119,129	—	—	\$109,758	\$108,856	\$141,289	\$108,892	\$139,352	—	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Districts Tier IIA

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
35 – 39	4	—	—	4	—	—	—	—	—	—
	\$136,977	—	—	\$136,977	—	—	—	—	—	—
40 – 44	8	1	—	7	—	—	—	—	—	—
	\$95,505	\$88,347	—	\$96,527	—	—	—	—	—	—
45 – 49	2	—	—	2	—	—	—	—	—	—
	\$110,960	—	—	\$110,960	—	—	—	—	—	—
50 – 54	5	3	—	2	—	—	—	—	—	—
	\$121,749	\$138,110	—	\$97,208	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
60 – 64	2	—	—	2	—	—	—	—	—	—
	\$147,799	—	—	\$147,799	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
Total	21	4	—	17	—	—	—	—	—	—
	\$116,105	\$125,669	—	\$113,855	—	—	—	—	—	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Districts Tier IIB

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	13	13	—	—	—	—	—	—	—	—
	\$66,230	\$66,230	—	—	—	—	—	—	—	—
25 – 29	77	74	3	—	—	—	—	—	—	—
	\$71,614	\$71,484	\$74,834	—	—	—	—	—	—	—
30 – 34	69	46	23	—	—	—	—	—	—	—
	\$79,552	\$73,720	\$91,216	—	—	—	—	—	—	—
35 – 39	44	33	10	1	—	—	—	—	—	—
	\$74,204	\$70,301	\$85,411	\$90,927	—	—	—	—	—	—
40 – 44	33	19	14	—	—	—	—	—	—	—
	\$76,483	\$67,954	\$88,057	—	—	—	—	—	—	—
45 – 49	14	11	3	—	—	—	—	—	—	—
	\$88,831	\$89,577	\$86,094	—	—	—	—	—	—	—
50 – 54	8	4	4	—	—	—	—	—	—	—
	\$96,634	\$62,334	\$130,934	—	—	—	—	—	—	—
55 – 59	5	2	3	—	—	—	—	—	—	—
	\$62,735	\$60,133	\$64,470	—	—	—	—	—	—	—
60 – 64	3	2	1	—	—	—	—	—	—	—
	\$57,514	\$47,237	\$78,069	—	—	—	—	—	—	—
65 – 69	1	—	1	—	—	—	—	—	—	—
	\$60,544	—	\$60,544	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	267	204	62	1	—	—	—	—	—	—
	\$75,718	\$71,580	\$89,087	\$90,927	—	—	—	—	—	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Districts Tier III

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
40 – 44	—	—	—	—	—	—	—	—	—	—
45 – 49	—	—	—	—	—	—	—	—	—	—
50 – 54	—	—	—	—	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
60 – 64	—	—	—	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Safety Tier I

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	18	—	—	18	—	—	—	—	—	—
	\$105,600	—	—	\$105,600	—	—	—	—	—	—
35 – 39	141	—	1	71	69	—	—	—	—	—
	\$105,164	—	\$71,517	\$105,046	\$105,773	—	—	—	—	—
40 – 44	286	—	—	42	174	70	—	—	—	—
	\$106,483	—	—	\$100,501	\$103,718	\$116,947	—	—	—	—
45 – 49	239	1	—	17	80	111	30	—	—	—
	\$106,952	\$99,366	—	\$97,325	\$102,975	\$108,152	\$118,831	—	—	—
50 – 54	103	—	2	7	20	46	25	3	—	—
	\$107,732	—	\$71,503	\$90,347	\$101,276	\$111,929	\$112,455	\$111,782	—	—
55 – 59	31	—	—	—	11	13	4	3	—	—
	\$97,727	—	—	—	\$92,221	\$103,765	\$86,710	\$106,444	—	—
60 – 64	6	—	—	—	2	—	2	1	1	—
	\$98,094	—	—	—	\$77,349	—	\$98,556	\$118,568	\$118,187	—
65 – 69	2	—	—	—	—	—	1	—	1	—
	\$88,655	—	—	—	—	—	\$93,931	—	\$83,378	—
70 & over	2	—	—	—	—	1	1	—	—	—
	\$67,736	—	—	—	—	\$74,135	\$61,337	—	—	—
Total	828	1	3	155	356	241	63	7	2	—
	\$106,005	\$99,366	\$71,507	\$102,368	\$103,309	\$111,050	\$112,310	\$110,464	\$100,783	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Safety Tier IIA

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	19	—	3	16	—	—	—	—	—	—
	\$100,725	—	\$96,139	\$101,585	—	—	—	—	—	—
35 – 39	37	1	4	31	1	—	—	—	—	—
	\$92,673	\$99,674	\$97,327	\$91,641	\$99,032	—	—	—	—	—
40 – 44	20	—	4	15	1	—	—	—	—	—
	\$91,392	—	\$92,424	\$92,052	\$77,371	—	—	—	—	—
45 – 49	3	—	—	3	—	—	—	—	—	—
	\$74,108	—	—	\$74,108	—	—	—	—	—	—
50 – 54	5	—	—	5	—	—	—	—	—	—
	\$93,108	—	—	\$93,108	—	—	—	—	—	—
55 – 59	1	—	—	1	—	—	—	—	—	—
	\$81,141	—	—	\$81,141	—	—	—	—	—	—
60 – 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	85	1	11	71	2	—	—	—	—	—
	\$93,406	\$99,674	\$95,220	\$93,183	\$88,201	—	—	—	—	—

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Safety Tier IIB

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	123	123	—	—	—	—	—	—	—	—
	\$65,886	\$65,886	—	—	—	—	—	—	—	—
25 – 29	251	215	36	—	—	—	—	—	—	—
	\$68,890	\$66,483	\$83,266	—	—	—	—	—	—	—
30 – 34	226	111	100	15	—	—	—	—	—	—
	\$76,806	\$69,089	\$82,910	\$93,214	—	—	—	—	—	—
35 – 39	122	38	58	25	1	—	—	—	—	—
	\$77,686	\$72,398	\$76,705	\$87,344	\$94,145	—	—	—	—	—
40 – 44	41	15	20	6	—	—	—	—	—	—
	\$73,582	\$67,550	\$77,796	\$74,615	—	—	—	—	—	—
45 – 49	22	7	8	6	1	—	—	—	—	—
	\$77,800	\$68,827	\$83,257	\$81,753	\$73,223	—	—	—	—	—
50 – 54	7	4	1	2	—	—	—	—	—	—
	\$89,007	\$97,150	\$61,697	\$86,377	—	—	—	—	—	—
55 – 59	4	4	—	—	—	—	—	—	—	—
	\$73,446	\$73,446	—	—	—	—	—	—	—	—
60 – 64	7	3	4	—	—	—	—	—	—	—
	\$100,595	\$88,448	\$109,705	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	1	1	—	—	—	—	—	—	—	—
	\$52,595	\$52,595	—	—	—	—	—	—	—	—
Total	804	521	227	54	2	—	—	—	—	—
	\$72,927	\$67,780	\$81,321	\$86,903	\$83,685	—	—	—	—	—

Section 3: Supplemental Information

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members ¹	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2022	9,076	4,015	6,848	845	1,322	22,106
• New members	1,402	191	N/A	N/A	100	1,693
• Terminations	(568)	568	N/A	N/A	N/A	0
• Contribution refunds	(193)	(200)	N/A	N/A	N/A	(393)
• Retirements	(214)	(84)	298	N/A	N/A	0
• New disabilities	(8)	(5)	(5)	18	N/A	0
• Return to work	77	(75)	(2)	0	N/A	0
• Died with or without beneficiary	(15)	(14)	(172)	(25)	(67)	(293)
• Data adjustments	<u>0</u>	<u>(5)</u>	<u>0</u>	<u>0</u>	<u>(4)</u>	<u>(9)</u>
Number as of June 30, 2023	9,557	4,391	6,967	838	1,351	23,104

¹ Includes inactive members due a refund of member contributions.

Section 3: Supplemental Information

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2023	Year Ended June 30, 2022
Net assets at market value at the beginning of the year	\$5,131,128,660	\$5,417,513,179
Contribution income:		
• Employer contributions	\$328,443,490	\$298,067,679
• Employee contributions	47,915,612	43,509,629
• Less administrative expenses	<u>(7,259,484)</u>	<u>(6,702,394)</u>
Net contribution income	\$369,099,618	\$334,874,915
Investment income:		
• Interest, dividends, and other income	\$140,517,150	\$93,474,499
• Asset appreciation	236,974,025	(253,607,135)
• Less investment expenses	<u>(78,578,297)</u>	<u>(59,814,411)</u>
Net investment income	<u>\$298,912,879</u>	<u>\$(219,947,047)</u>
Total income available for benefits	\$668,012,497	\$114,927,868
Less benefit payments:		
• Retirement and survivor benefits	\$(388,230,364)	\$(371,350,067)
• Supplemental retirement benefits	(22,184,676)	(20,589,526)
• Refunds of member contributions	(7,439,258)	(9,372,795)
• Miscellaneous expenses	<u>0</u>	<u>0</u>
Net benefit payments	\$(417,854,298)	\$(401,312,388)
Change in net assets at market value	\$250,158,199	\$(286,384,520)
Net assets at market value at the end of the year	\$5,381,286,859	\$5,131,128,660

Note: Results may not add due to rounding.

Section 3: Supplemental Information

Exhibit E: Summary Statement of Plan Assets

	June 30, 2023	June 30, 2022
Cash equivalents	\$717,745,648	\$405,583,020
Capital and intangible assets	\$609,322	\$1,214,029
Accounts receivable:		
• Investments sold	\$97,211,980	\$74,962,170
• Interest and dividends	10,336,436	8,803,838
• Contributions and other receivables	<u>18,509,753</u>	<u>15,095,745</u>
Total accounts receivable	\$126,058,169	\$98,861,753
Investments:		
• Fixed Income	898,231,931	\$1,038,328,285
• Equities	1,643,768,320	1,628,137,718
• Commodities	50,779,863	334,656,267
• Real estate investments (core and private)	434,269,783	462,020,045
• Alternative investments, including hedge funds, private credit and private equity	1,678,759,884	1,296,766,280
• Collateral held for securities lending	<u>0</u>	<u>153,385,647</u>
Total investments at market value	<u>\$4,705,809,781</u>	<u>\$4,913,294,243</u>
Total assets	\$5,550,222,919	\$5,418,953,044
Accounts payable:		
• Securities purchased	\$166,493,657	\$132,265,296
• Collateral held for securities lent	0	153,385,647
• Contributions and other liabilities	<u>2,442,403</u>	<u>2,173,442</u>
Total accounts payable	\$(168,936,060)	\$(287,824,385)
Net assets at market value	\$5,381,286,859	\$5,131,128,660
Net assets at actuarial value	\$5,594,899,052	\$5,351,181,702
Net assets at valuation value	\$5,436,077,989	\$5,102,402,350

Note: Results may not add due to rounding.

Section 3: Supplemental Information

Exhibit F: Summary of Reported Reserve Information

	June 30, 2023	June 30, 2022
Member Deposit Reserve – General & Courts	\$371,663,885	\$338,241,350
Member Deposit Reserve – Safety	188,092,944	171,943,124
Member Deposit Reserve – Special Districts	41,741,310	37,372,674
Employers Advance Reserve – General & Courts	714,711,706	609,174,682
Employers Advance Reserve – Safety	687,384,076	628,132,476
Employers Advance Reserve – Special Districts	68,715,447	56,699,919
Cost-of-Living Reserve – General & Courts	1,016,897,662	939,362,805
Cost-of-Living Reserve – Safety	728,283,290	671,515,446
Cost-of-Living Reserve – Special Districts	84,950,638	76,937,478
Retired Members – General, Courts & Special Districts	1,144,187,016	1,161,298,548
Retired Members – Safety	393,398,562	400,953,611
Supplemental Retiree Benefit Reserve (SRBR) – 0.5% COLA	(3,948,544)	10,770,237
Contingency Reserve	<u>0</u>	<u>0</u>
Valuation Reserves (Valuation Value of Assets)	\$5,436,077,989	\$5,102,402,350
Supplemental Retiree Benefit Reserve (SRBR)	\$133,672,288	\$131,235,770
Contingency Reserve ¹	25,148,774	117,543,583
COLA Contribution Reserve	<u>0</u>	<u>0</u>
Total Reserves (Actuarial Value of Assets)	\$5,594,899,052	\$5,351,181,702
Market Stabilization Reserve	<u>\$(213,612,193)</u>	<u>\$(220,053,042)</u>
Net Market Value of Assets	\$5,381,286,859	\$5,131,128,660

Note: Results may not add due to rounding.

¹ Because the Contingency Reserve is positive as of June 30, 2022 and June 30, 2023, it is excluded from the June 30, 2022 and June 30, 2023 Valuation Value of Assets, respectively.

Section 3: Supplemental Information

Exhibit G: Development of the Fund through June 30, 2023

Year Ended June 30	Employer Contributions	Member Contributions	Administrative and Other Expenses	Net Investment Return ¹	Benefit Payments	Market Value of Assets at Year-End	Valuation Value of Assets at Year-End	Valuation Value as a Percent of Market Value
2014	\$220,393,167	\$25,810,310	\$0	\$482,632,857	\$257,495,061	\$3,576,111,526	\$3,342,121,678	93.5%
2015	215,476,956	30,324,848	4,886,637	81,931,170	273,864,680	3,625,093,183	3,529,785,691	97.4%
2016	234,713,690	33,278,504	5,224,452	(27,535,157)	288,738,174	3,571,587,594	3,685,447,112	103.2%
2017	241,112,434	34,649,054	5,243,309	426,606,857	305,817,454	3,962,895,176	3,913,072,636	98.7%
2018	258,894,487	36,143,110	5,116,557	267,658,596	321,612,528	4,198,862,285	4,163,475,848	99.2%
2019	242,424,569	36,827,443	4,766,651	214,244,104	341,811,689	4,345,780,060	4,291,572,784	98.8%
2020	288,293,446	43,477,770	5,523,340	127,861,224	361,094,367	4,438,794,794	4,508,548,272	101.6%
2021	280,812,319	41,602,345	6,060,675	1,043,360,707	380,996,310	5,417,513,179	4,806,026,107	88.7%
2022	298,067,679	43,509,629	6,702,394	(219,947,047)	401,312,388	5,131,128,660	5,102,402,350	99.4%
2023	328,443,490	47,915,612	7,259,484	298,912,879	417,854,298	5,381,286,859	5,436,077,989	101.0%

Note: Results may not add due to rounding.

¹ On a market basis, net of investment fees and administrative expenses prior to 2015. Starting in 2015, administrative expenses are included in the previous column.

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Exhibit H: Table of Amortization Bases

General County with Courts

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Restart Amortization	June 30, 2011	\$1,137,894 ²	24.5 ²	\$1,082,973	12.5	\$110,482
Actuarial Loss	June 30, 2012	36,175	18	25,025	7	4,132
Actuarial Loss	June 30, 2013	13,512	18	10,096	8	1,485
Actuarial Gain	June 30, 2014	(37,659)	18	(29,926)	9	(3,985)
Assumption Change	June 30, 2014	103,045	18	81,885	9	10,903
Actuarial Gain	June 30, 2015	(21,641)	18	(18,094)	10	(2,208)
Actuarial Gain	June 30, 2016	(2,590)	18	(2,257)	11	(255)
Actuarial Gain	June 30, 2017	(40,492)	18	(36,540)	12	(3,849)
Assumption Change	June 30, 2017	120,406	18	108,632	12	11,443
Actuarial Gain	June 30, 2018	(19,589)	18	(18,203)	13	(1,801)
Actuarial Loss	June 30, 2019	70,119	18	66,669	14	6,234
Actuarial Loss	June 30, 2020	24,813	18	24,030	15	2,134
Assumption Change	June 30, 2020	108,013	18	104,592	15	9,287
Actuarial Gain	June 30, 2021	(47,168)	18	(46,385)	16	(3,928)
Implementation of Alameda Decision	June 30, 2021	(17,062)	15	(16,369)	13	(1,620)
Actuarial Gain	June 30, 2022	(39,961)	18	(39,759)	17	(3,224)
Alameda Decision Refunds	June 30, 2022	3	15	3	14	0
Alameda Decision Amounts Due from Members	June 30, 2022	(2,196)	10	(2,084)	9	(277)
Alameda Decision Amounts Not Collected from Members	June 30, 2022	2,196	10	2,084	9	277
PEPRA Implementation Refunds	June 30, 2022	359	15	353	14	33
PEPRA Implementation Amounts Due from Members	June 30, 2022	(295)	10	(279)	9	(37)
PEPRA Implementation Amounts Not Collected from Members	June 30, 2022	295	10	279	9	37

¹ As of middle of year.

² For the June 30, 2011 Restart Amortization, the Initial Amount was the UAAL as of that date and the Initial Period was the remainder of the original 30-year period that commenced December 31, 2005.

Section 3: Supplemental Information

Exhibit H: Table of Amortization Bases (continued)

General County with Courts (continued)

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Actuarial Loss	June 30, 2023	\$45,105	18	\$45,105	18	\$3,513
Assumption Change	June 30, 2023	77,793	18	77,793	18	6,059
General County with Courts Subtotal				\$1,419,622		\$144,835

¹ As of middle of year.

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Exhibit H: Table of Amortization Bases (continued)

Type	Date Established	Districts		Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment' (\$ in '000s)
		Initial Amount (\$ in '000s)	Initial Period			
Restart Amortization	June 30, 2011	\$86,149 ²	24.5 ²	\$81,984	12.5	\$8,364
Actuarial Loss	June 30, 2012	4,431	18	3,061	7	505
Actuarial Loss	June 30, 2013	1,620	18	1,199	8	176
Actuarial Loss	June 30, 2014	2,584	18	2,045	9	272
Assumption Change	June 30, 2014	7,390	18	5,872	9	782
Actuarial Gain	June 30, 2015	(31)	18	(17)	10	(2)
Actuarial Loss	June 30, 2016	5,060	18	4,413	11	498
Actuarial Loss	June 30, 2017	5,822	18	5,249	12	553
Assumption Change	June 30, 2017	11,343	18	10,225	12	1,077
Actuarial Loss	June 30, 2018	5,634	18	5,223	13	517
Actuarial Loss	June 30, 2019	14,365	18	13,660	14	1,277
Actuarial Loss	June 30, 2020	3,557	18	3,440	15	305
Assumption Change	June 30, 2020	10,306	18	9,982	15	886
Actuarial Loss	June 30, 2021	3,337	18	3,278	16	278
Implementation of Alameda Decision	June 30, 2021	(7,865)	15	(7,548)	13	(747)
Actuarial Loss	June 30, 2022	1,477	18	1,464	17	119
Alameda Decision Refunds	June 30, 2022	0	15	0	14	0
Alameda Decision Amounts Due from Members	June 30, 2022	(103)	10	(101)	9	(13)
Alameda Decision Amounts Not Collected from Members	June 30, 2022	103	10	101	9	13
PEPRA Implementation Refunds	June 30, 2022	14	15	11	14	1
PEPRA Implementation Amounts Due from Members	June 30, 2022	(8)	10	(8)	9	(1)
PEPRA Implementation Amounts Not Collected from Members	June 30, 2022	8	10	8	9	1

¹ As of middle of year.

² For the June 30, 2011 Restart Amortization, the Initial Amount was the UAAL as of that date and the Initial Period was the remainder of the original 30-year period that commenced December 31, 2005.

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Exhibit H: Table of Amortization Bases (continued)

Districts (continued)						
Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Actuarial Gain	June 30, 2023	\$(136)	18	\$(136)	18	\$(11)
Assumption Change	June 30, 2023	6,832	18	<u>6,832</u>	18	<u>532</u>
Districts Subtotal (Not Including Declining Employers)				\$150,237		\$15,384

¹ As of middle of year.

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Exhibit H: Table of Amortization Bases (continued)

Districts (continued)

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Declining Employer Restart Amortization (Berrenda Mesa)	June 30, 2019	\$4,147	18	\$3,634	14	\$400
Actuarial Loss (Berrenda Mesa)	June 30, 2020	556	18	503	15	53
Assumption Change (Berrenda Mesa)	June 30, 2020	267	18	242	15	26
Actuarial Gain (Berrenda Mesa)	June 30, 2021	(495)	18	(473)	16	(48)
Implementation of Alameda Decision (Berrenda Mesa)	June 30, 2021	1	15	0	13	0
Actuarial Gain (Berrenda Mesa)	June 30, 2022	(273)	18	(269)	17	(27)
Actuarial Loss (Berrenda Mesa)	June 30, 2023	52	18	52	18	5
Assumption Change (Berrenda Mesa)	June 30, 2023	218	18	218	18	21
Declining Employer Restart Amortization (Inyokern)	June 30, 2019	102	18	90	14	10
Actuarial Loss (Inyokern)	June 30, 2020	13	18	9	15	1
Actuarial Loss (Inyokern)	June 30, 2021	18	18	19	16	2
Actuarial Gain (Inyokern)	June 30, 2022	(13)	18	(10)	17	(1)
Actuarial Gain (Inyokern)	June 30, 2023	(2)	18	(2)	18	0
Assumption Change (Inyokern)	June 30, 2023	22	18	22	18	2
Declining Employer Subtotal				\$4,035		\$444
Districts Subtotal (Including Declining Employers)				\$154,272		\$15,828

¹ As of middle of year.

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Exhibit H: Table of Amortization Bases (continued)

Safety County

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Restart Amortization	June 30, 2011	\$606,032 ²	24.5 ²	\$576,780	12.5	\$58,841
Actuarial Loss	June 30, 2012	37,591	18	25,993	7	4,292
Actuarial Loss	June 30, 2013	17,808	18	13,307	8	1,958
Actuarial Gain	June 30, 2014	(23,991)	18	(19,073)	9	(2,540)
Assumption Change	June 30, 2014	93,817	18	74,541	9	9,925
Actuarial Gain	June 30, 2015	(8,513)	18	(7,119)	10	(869)
Actuarial Gain	June 30, 2016	(4,514)	18	(3,947)	11	(446)
Actuarial Gain	June 30, 2017	(24,660)	18	(22,241)	12	(2,343)
Assumption Change	June 30, 2017	81,394	18	73,443	12	7,736
Actuarial Gain	June 30, 2018	(13,175)	18	(12,229)	13	(1,210)
Actuarial Loss	June 30, 2019	34,070	18	32,386	14	3,028
Actuarial Loss	June 30, 2020	23,024	18	22,299	15	1,980
Assumption Change	June 30, 2020	28,027	18	27,144	15	2,410
Actuarial Gain	June 30, 2021	(18,908)	18	(18,593)	16	(1,575)
Implementation of Alameda Decision	June 30, 2021	(3,996)	15	(3,837)	13	(380)
Actuarial Loss	June 30, 2022	5,933	18	5,905	17	479
Alameda Decision Refunds	June 30, 2022	4	15	4	14	0
Alameda Decision Amounts Due from Members	June 30, 2022	(545)	10	(519)	9	(69)
Alameda Decision Amounts Not Collected from Members	June 30, 2022	545	10	519	9	69
PEPRA Implementation Refunds	June 30, 2022	866	15	850	14	79
PEPRA Implementation Amounts Due from Members	June 30, 2022	0	10	0	9	0
PEPRA Implementation Amounts Not Collected from Members	June 30, 2022	0	10	0	9	0

¹ As of middle of year.

² For the June 30, 2011 Restart Amortization, the Initial Amount was the UAAL as of that date and the Initial Period was the remainder of the original 30-year period that commenced December 31, 2005.

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Exhibit H: Table of Amortization Bases (continued)

Safety County (continued)

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Actuarial Loss	June 30, 2023	\$42,697	18	\$42,697	18	\$3,325
Assumption Change	June 30, 2023	100,568	18	<u>100,568</u>	18	<u>7,832</u>
Safety County Subtotal				\$908,877		\$92,526

¹ As of middle of year.

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Exhibit H: Table of Amortization Bases (continued)

Total KCERA

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Restart Amortization	June 30, 2011	\$1,830,075 ²	24.5 ²	\$1,741,736	12.5	\$177,687
Actuarial Loss	June 30, 2012	78,197	18	54,078	7	8,929
Actuarial Loss	June 30, 2013	32,940	18	24,602	8	3,620
Actuarial Gain	June 30, 2014	(59,066)	18	(46,954)	9	(6,252)
Assumption Change	June 30, 2014	204,252	18	162,298	9	21,611
Actuarial Gain	June 30, 2015	(30,185)	18	(25,231)	10	(3,078)
Actuarial Gain	June 30, 2016	(2,044)	18	(1,791)	11	(202)
Actuarial Gain	June 30, 2017	(59,330)	18	(53,532)	12	(5,639)
Assumption Change	June 30, 2017	213,143	18	192,299	12	20,256
Actuarial Gain	June 30, 2018	(27,130)	18	(25,210)	13	(2,495)
Actuarial Loss	June 30, 2019	118,554	18	112,715	14	10,539
Declining Employer Restart (Berrenda)	June 30, 2019	4,147	18	3,634	14	400
Declining Employer Restart (Inyokern)	June 30, 2019	102	18	90	14	10
Actuarial Loss	June 30, 2020	51,394	18	49,769	15	4,419
Actuarial Loss (Berrenda)	June 30, 2020	556	18	503	15	53
Actuarial Loss (Inyokern)	June 30, 2020	13	18	9	15	1
Assumption Change	June 30, 2020	146,346	18	141,718	15	12,583
Assumption Change (Berrenda)	June 30, 2020	267	18	242	15	26
Actuarial Gain	June 30, 2021	(62,739)	18	(61,700)	16	(5,225)
Actuarial Gain (Berrenda)	June 30, 2021	(495)	18	(473)	16	(48)
Actuarial Loss (Inyokern)	June 30, 2021	18	18	19	16	2
Implementation of Alameda Decision	June 30, 2021	(28,923)	15	(27,754)	13	(2,746)
Implementation of Alameda Decision (Berrenda)	June 30, 2021	1	15	0	13	0
Actuarial Gain	June 30, 2022	(32,551)	18	(32,390)	17	(2,626)
Actuarial Gain (Berrenda)	June 30, 2022	(273)	18	(269)	17	(27)
Actuarial Gain (Inyokern)	June 30, 2022	(13)	18	(10)	17	(1)

¹ As of middle of year.

² For the June 30, 2011 Restart Amortization, the Initial Amount was the UAAL as of that date and the Initial Period was the remainder of the original 30-year period that commenced December 31, 2005.

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Exhibit H: Table of Amortization Bases (continued)

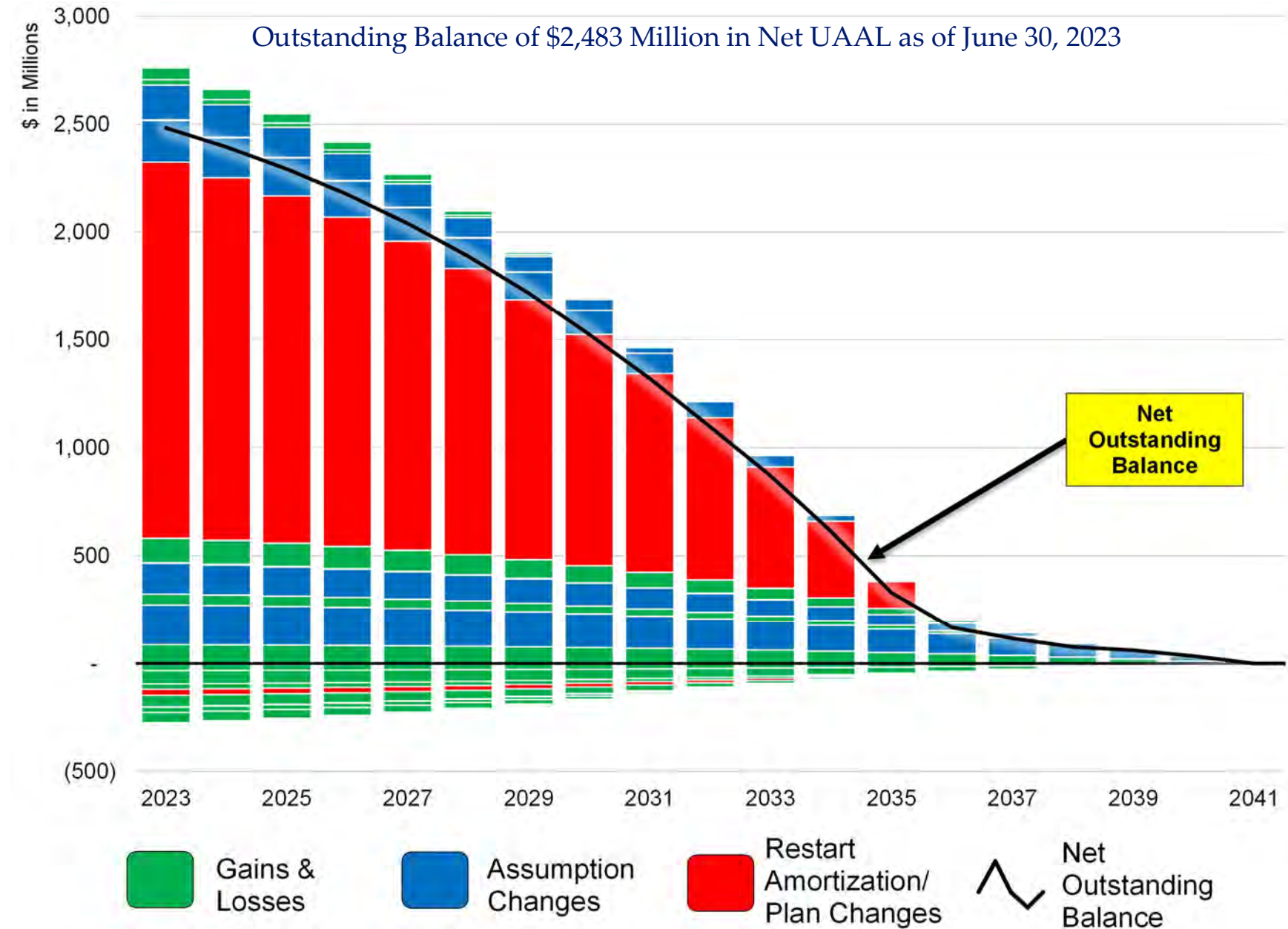
Total KCERA (continued)

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Alameda Decision Refunds	June 30, 2022	\$7	15	\$7	14	\$1
Alameda Decision Amounts Due from Members	June 30, 2022	(2,844)	10	(2,704)	9	(360)
Alameda Decision Amounts Not Collected from Members	June 30, 2022	2,844	10	2,704	9	360
PEPRA Implementation Refunds	June 30, 2022	1,239	15	1,214	14	113
PEPRA Implementation Amounts Due from Members	June 30, 2022	(303)	10	(287)	9	(38)
PEPRA Implementation Amounts Not Collected from Members	June 30, 2022	303	10	287	9	38
Actuarial Loss	June 30, 2023	87,667	18	87,667	18	6,828
Actuarial Loss (Berrenda Mesa)	June 30, 2023	52	18	52	18	5
Actuarial Gain (Inyokern)	June 30, 2023	(2)	18	(2)	18	0
Assumption Change	June 30, 2023	185,194	18	185,194	18	14,423
Assumption Change (Berrenda Mesa)	June 30, 2023	218	18	218	18	21
Assumption Change (Inyokern)	June 30, 2023	22	18	22	18	2
KCERA Total				\$2,482,770		\$253,189

¹ As of middle of year.

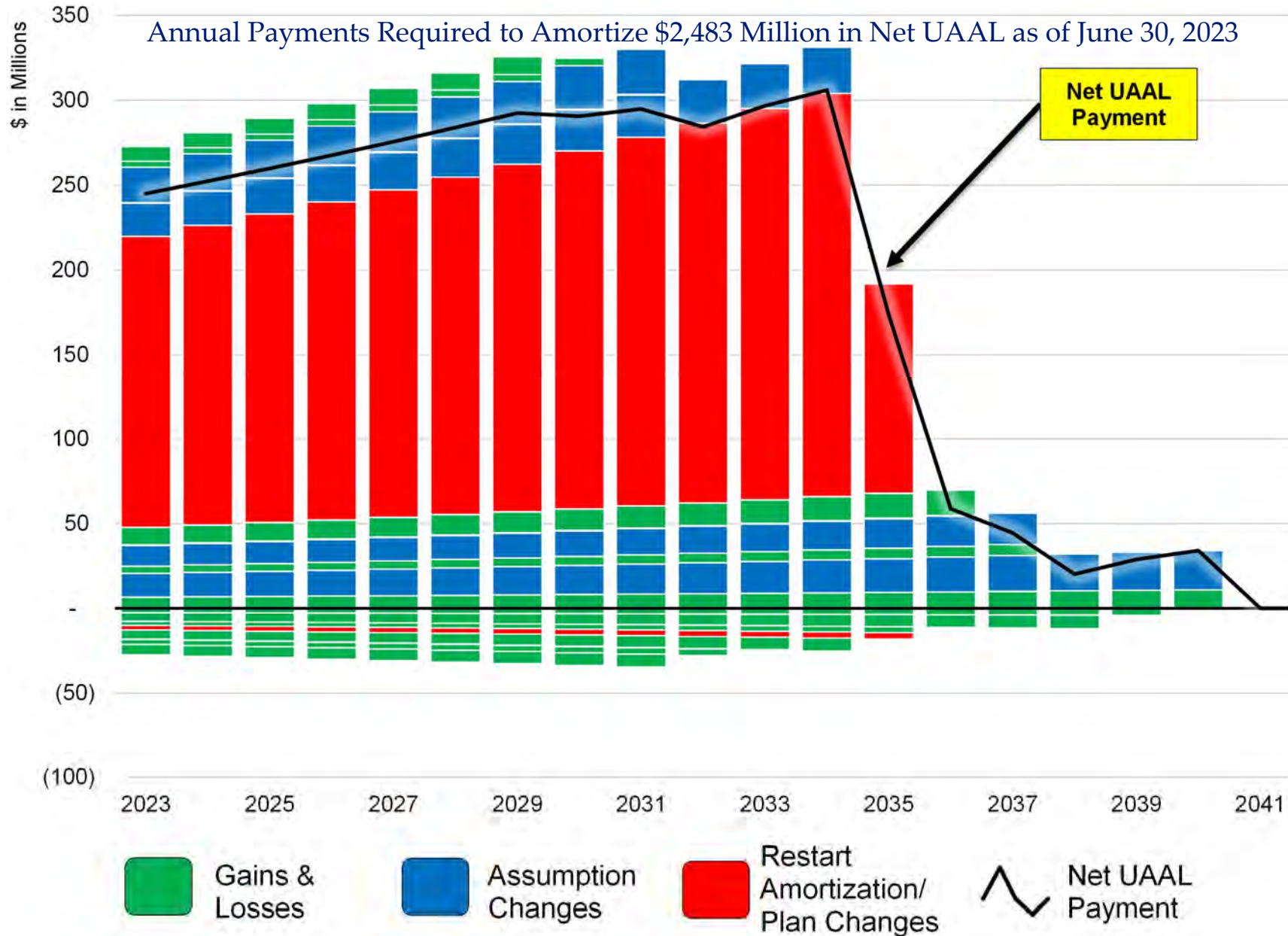
Section 3: Supplemental Information

Exhibit I: Projection of UAAL Balances and Payments



Section 3: Supplemental Information

Exhibit I: Projection of UAAL Balances and Payments (continued)



Section 3: Supplemental Information

Exhibit J: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners and Beneficiaries:	The single-sum value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent:	Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	<p>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. Each such amount or series of amounts is:</p> <p>Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)</p> <p>Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and</p> <p>Discounted according to an assumed rate (or rates) of return to reflect the time value of money.</p>

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Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts 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, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits when due.
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 plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Association's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the plan.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Association's funding policy. The ADC consists of the employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

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Assumptions or Actuarial Assumptions:	<p>The estimates upon which the cost of the Association is calculated, including:</p> <p><u>Investment return</u> - the rate of investment yield that the Association will earn over the long-term future;</p> <p><u>Mortality rates</u> - the death rates of employees and pensioners; life expectancy is based on these rates;</p> <p><u>Retirement rates</u> - the rate or probability of retirement at a given age or service;</p> <p><u>Disability rates</u> - the probability of disability retirement at a given age;</p> <p><u>Withdrawal rates</u> - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;</p> <p><u>Salary increase rates</u> - the rates of salary increase due to inflation and productivity growth.</p>
Closed Amortization Period:	<p>A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.</p>
Decrements:	<p>Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.</p>
Defined Benefit Plan:	<p>A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.</p>
Defined Contribution Plan:	<p>A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.</p>
Employer Normal Cost:	<p>The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.</p>
Experience Study:	<p>A periodic review and analysis of the actual experience of the Association that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.</p>
Funded Ratio:	<p>The ratio of the Valuation Value of Assets (VVA) to the Actuarial Accrued Liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.</p>
Investment Return:	<p>The rate of earnings of the plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.</p>

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Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the actuarial assumptions are realized.
Payroll or Compensation:	Compensation Earnable and Pensionable Compensation expected to be paid to active members during the twelve months following the valuation date. Only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Valuation Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2019 through June 30, 2022 Actuarial Experience Study dated May 24, 2023. Unless otherwise noted, all actuarial assumptions and methods shown below apply to members for all tiers. These assumptions were adopted by the Board.																										
Economic Assumptions																											
Net Investment Return:	7.00%; net of investment expenses. Based on the Actuarial Experience Study reference above, expected investment expenses represent about 0.05% of the Actuarial Value of Assets.																										
Administrative Expenses:	0.95% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and member. This results in an administrative expense load as shown below: <table border="1"> <thead> <tr> <th></th> <th>Average Contribution Rate Before Administrative Expense</th> <th>Weighting</th> <th>Total Loading</th> </tr> </thead> <tbody> <tr> <td>Employer</td> <td>47.98%</td> <td>86.83%</td> <td>0.82%</td> </tr> <tr> <td>Member</td> <td>7.28%</td> <td>13.17%</td> <td>0.13%</td> </tr> <tr> <td>Total</td> <td></td> <td>100.00%</td> <td>0.95%</td> </tr> </tbody> </table> <p>Under this approach, the employer Normal Cost rate is then increased by the same percent of payroll as the member rate with the remaining employer loading allocated to the employer UAAL rate. This is done to maintain a 50/50 sharing of Normal Cost for those in PEPRA Tiers. The table below shows this allocation.</p> <table border="1"> <thead> <tr> <th colspan="2">Allocation of Administrative Expense Load as a % of Payroll</th> </tr> </thead> <tbody> <tr> <td>Addition to Employer Basic Normal Cost Rate</td> <td>0.13%</td> </tr> <tr> <td>Addition to Employer Basic UAAL Rate</td> <td>0.69%</td> </tr> <tr> <td>Addition to Member Basic Rate</td> <td>0.13%</td> </tr> <tr> <td>Total Addition to Contribution Rates</td> <td>0.95%</td> </tr> </tbody> </table> <p>The administrative expense load is added to the Basic rates for employers and members.</p>		Average Contribution Rate Before Administrative Expense	Weighting	Total Loading	Employer	47.98%	86.83%	0.82%	Member	7.28%	13.17%	0.13%	Total		100.00%	0.95%	Allocation of Administrative Expense Load as a % of Payroll		Addition to Employer Basic Normal Cost Rate	0.13%	Addition to Employer Basic UAAL Rate	0.69%	Addition to Member Basic Rate	0.13%	Total Addition to Contribution Rates	0.95%
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Member Contribution Crediting Rate:	7.00%, compounded semi-annually.																										

Section 4: Actuarial Valuation Basis

Consumer Price Index (CPI) and Cost of Living Adjustments (COLA):	CPI Increase of 2.50% per year. Retiree COLA increases due to CPI are limited to maximum of 2.50% per year.																																																											
Payroll Growth:	Inflation of 2.50% per year plus “across the board” real salary increases of 0.50% per year.																																																											
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.50% per year from the valuation date.																																																											
Increase in Section 7522.10 Compensation Limit:	Increase of 2.50% per year from the valuation date.																																																											
Salary Increases:	<p>The annual rate of compensation increase includes:</p> <ul style="list-style-type: none"> • Inflation at 2.50%, plus • “Across the board” salary increases of 0.50% per year, plus • The following merit and promotion increases: <table border="1"> <thead> <tr> <th colspan="3">Merit and Promotion Increases</th> </tr> <tr> <th rowspan="2">Years of Service</th> <th colspan="2">Rate (%)</th> </tr> <tr> <th>General</th> <th>Safety</th> </tr> </thead> <tbody> <tr><td>Less than 1</td><td>5.00</td><td>7.00</td></tr> <tr><td>1 – 2</td><td>5.25</td><td>8.00</td></tr> <tr><td>2 – 3</td><td>4.50</td><td>6.00</td></tr> <tr><td>3 – 4</td><td>4.00</td><td>5.50</td></tr> <tr><td>4 – 5</td><td>3.25</td><td>5.00</td></tr> <tr><td>5 – 6</td><td>2.75</td><td>4.00</td></tr> <tr><td>6 – 7</td><td>2.25</td><td>3.50</td></tr> <tr><td>7 – 8</td><td>2.00</td><td>3.00</td></tr> <tr><td>8 – 9</td><td>1.75</td><td>2.00</td></tr> <tr><td>9 – 10</td><td>1.50</td><td>1.75</td></tr> <tr><td>10 – 11</td><td>1.25</td><td>1.25</td></tr> <tr><td>11 – 12</td><td>1.15</td><td>1.25</td></tr> <tr><td>12 – 13</td><td>1.05</td><td>1.25</td></tr> <tr><td>13 – 14</td><td>1.00</td><td>1.25</td></tr> <tr><td>14 – 15</td><td>0.90</td><td>1.25</td></tr> <tr><td>15 – 16</td><td>0.80</td><td>1.00</td></tr> <tr><td>16 & Over</td><td>0.70</td><td>1.00</td></tr> </tbody> </table>	Merit and Promotion Increases			Years of Service	Rate (%)		General	Safety	Less than 1	5.00	7.00	1 – 2	5.25	8.00	2 – 3	4.50	6.00	3 – 4	4.00	5.50	4 – 5	3.25	5.00	5 – 6	2.75	4.00	6 – 7	2.25	3.50	7 – 8	2.00	3.00	8 – 9	1.75	2.00	9 – 10	1.50	1.75	10 – 11	1.25	1.25	11 – 12	1.15	1.25	12 – 13	1.05	1.25	13 – 14	1.00	1.25	14 – 15	0.90	1.25	15 – 16	0.80	1.00	16 & Over	0.70	1.00
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Section 4: Actuarial Valuation Basis

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 15% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates decreased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.

Beneficiary

- **Beneficiaries not currently in Pay Status:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates unadjusted for males and increased by 15% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Beneficiaries in Pay Status:** Pub-2010 General Contingent Survivor Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 10% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.

The Pub-2010 mortality tables and adjustments as shown above with generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Section 4: Actuarial Valuation Basis

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Safety Members:** Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.

Age	Rate (%)			
	General		Safety	
	Male	Female	Male	Female
25	0.03	0.01	0.03	0.02
30	0.04	0.01	0.04	0.02
35	0.05	0.02	0.04	0.03
40	0.07	0.04	0.05	0.04
45	0.10	0.06	0.07	0.06
50	0.15	0.08	0.10	0.08
55	0.22	0.12	0.15	0.11
60	0.32	0.19	0.23	0.14
65	0.47	0.30	0.35	0.20

Note that generational projections beyond the base year (2010) are not reflected in the above mortality rates. All pre-retirement deaths are assumed to be non-service connected.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 15% for females, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2021, weighted 30% male and 70% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2021, weighted 80% male and 20% female.

Section 4: Actuarial Valuation Basis

Disability Incidence:

Age	Rate (%)	
	General	Safety
20	0.02	0.05
25	0.02	0.07
30	0.03	0.10
35	0.06	0.18
40	0.08	0.33
45	0.11	0.46
50	0.16	1.01
55	0.22	2.34
60	0.31	3.75
65	0.35	4.25

50% of General disabilities are assumed to be service connected disabilities.
The other 50% are assumed to be non-service connected disabilities.

90% of Safety disabilities are assumed to be service connected disabilities.
The other 10% are assumed to be non-service connected disabilities.

Section 4: Actuarial Valuation Basis

Termination:

Years of Service	Rate (%)	
	General	Safety
Less than 1	20.00	11.00
1 – 2	15.00	9.00
2 – 3	12.00	8.00
3 – 4	11.00	7.00
4 – 5	9.00	6.50
5 – 6	8.50	5.50
6 – 7	8.00	4.75
7 – 8	7.50	4.50
8 – 9	6.50	4.25
9 – 10	5.00	4.00
10 – 11	4.50	3.50
11 – 12	4.00	3.25
12 – 13	3.75	3.00
13 – 14	3.50	2.00
14 – 15	3.25	2.00
15 – 16	3.00	2.00
16 – 17	2.75	1.00
17 – 18	2.25	0.90
18 – 19	2.00	0.80
19 – 20	1.90	0.75
20 – 21	1.75	0.00
21 – 22	1.50	0.00
22 – 23	1.25	0.00
23 – 24	1.00	0.00
24 – 25	1.00	0.00
25 – 26	1.00	0.00
26 – 27	1.00	0.00
27 – 28	1.00	0.00
28 – 29	1.00	0.00
29 – 30	1.00	0.00
30 & Over	0.00	0.00

Refer to the next table that contains rates for electing a refund of contributions upon termination. No termination is assumed after a member is eligible for retirement.

Section 4: Actuarial Valuation Basis

Electing a Refund of Contributions upon Termination:

Proportion of Total Terminations Assumed to Elect a Refund of Contributions Upon Termination

Years of Service	Rate (%)	
	General	Safety
Less than 5	100.00	100.00
5 – 10	25.00	30.00
10 – 15	15.00	12.00
15 – 20	15.00	12.00
20 & Over	0.00	0.00

Section 4: Actuarial Valuation Basis

Retirement Rates:

Rate (%)				
General				
Tier I				
Age	Less Than 25 Years of Service	25 or More Years of Service	Tier IIA and IIB	Tier III
50	10.00	10.00	5.00	0.00
51	6.00	6.00	3.00	0.00
52	6.00	10.00	3.00	3.00
53	5.00	12.00	3.00	3.00
54	5.00	12.00	3.25	3.25
55	5.00	12.00	3.50	3.50
56	6.00	14.00	4.00	4.00
57	5.00	16.00	4.50	4.50
58	9.00	20.00	6.50	6.50
59	14.00	24.00	11.00	11.00
60	20.00	30.00	12.00	12.00
61	14.00	24.00	13.00	13.00
62	20.00	30.00	20.00	20.00
63	20.00	30.00	20.00	20.00
64	20.00	30.00	20.00	20.00
65	33.00	33.00	33.00	33.00
66	33.00	33.00	33.00	33.00
67	30.00	30.00	30.00	30.00
68	30.00	30.00	30.00	30.00
69	35.00	35.00	35.00	35.00
70	100.00	100.00	100.00	100.00

The retirement rates only apply to members who are eligible to retire at the age shown.

Section 4: Actuarial Valuation Basis

Retirement Rates (continued):

Age	Rate (%)		
	Safety		
	Tier I		
	Less Than 25 Years of Service	25 or More Years of Service	Tier IIA and IIB
41	5.00	5.00	0.00
42	5.00	5.00	0.00
43	5.00	5.00	0.00
44	5.00	5.00	0.00
45	5.00	5.00	0.00
46	5.00	5.00	0.00
47	8.00	8.00	0.00
48	8.00	8.00	0.00
49	22.00	36.00	0.00
50	16.00	36.00	5.00
51	10.00	30.00	3.00
52	10.00	30.00	3.00
53	10.00	30.00	5.00
54	12.00	28.00	11.00
55	14.00	28.00	13.00
56	14.00	28.00	12.00
57	14.00	28.00	12.00
58	14.00	28.00	12.00
59	14.00	28.00	12.00
60	30.00	60.00	15.00
61	30.00	60.00	15.00
62	30.00	60.00	30.00
63	30.00	60.00	30.00
64	30.00	60.00	30.00
65	100.00	100.00	100.00

The retirement rates only apply to members who are eligible to retire at the age shown.

Section 4: Actuarial Valuation Basis

Retirement Age and Benefit for Deferred Vested Members:	<p>For current and future deferred vested members, retirement assumptions are as follows:</p> <p>General Non-Reciprocal Retirement Age: 56 General Reciprocal Retirement Age: 60 Safety Retirement Age: 51</p> <p>We assume that 45% of future General and 60% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocal members, we assume 3.70% and 4.00% compensation increases per annum for General and Safety members, respectively.</p>
Future Benefit Accruals:	1.0 year of service per year of employment.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Definition of Active Members:	All active members of KCERA as of the valuation date.
Form of Payment:	All active and inactive members are assumed to elect the unmodified option at retirement.
Percent Married:	For all active and inactive members, 65% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
<u>Actuarial Funding Policy</u>	
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age on the valuation date minus the lesser of years of employment or years of benefit service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect (i.e., "replacement life within a tier").
Actuarial Value of Assets:	Market Value of Assets (MVA) less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are recognized semi-annually over a five-year period. The Actuarial Value of Assets (AVA) is limited by a 50% corridor; the AVA cannot be less than 50% of MVA, nor greater than 150% of MVA.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves (excluding the Contingency Reserve if it is negative).

Section 4: Actuarial Valuation Basis

Amortization Policy:

The UAAL, (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2011 shall be amortized separately from any future changes in UAAL over a period of 24.5 years from June 30, 2011.

Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of June 30 will be amortized over a period of 18 years.

Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of 18 years.

Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis:

- a. With the exception noted in b., below, the change in UAAL as a result of any plan amendments will be amortized over a period of 15 years or less;
- b. the increase in UAAL resulting from a temporary retirement incentive, including the impact of benefits resulting from additional service permitted in Section 31641.04 of the 1937 CERL (Golden Handshake), will be funded over a period of up to 5 years. For Golden Handshakes, the employer has the choice of two methods:
 - i. Payment in full for the UAAL attributable to the Golden Handshake in the first month of the fiscal year following the fiscal year in which the Golden Handshake was granted.
 - ii. Payment according to a five-year amortization period which will be invoiced (payable in 30 days) to the employer in the first month of the fiscal year following the fiscal year in which the Golden Handshake was granted. The amortization schedule will be based upon the valuation interest rate used in the most recently completed valuation at the time that the amortization schedule is created. The employer may complete payment of the Golden Handshake at any time during the five-year amortization period.

If the amortization method is used, then the outstanding balance will generally be recorded as a receivable asset to be included with the Actuarial Value of Assets. All Golden Handshakes provided by an employer during any fiscal year will be bundled together and will be invoiced in one transaction in the first month following the fiscal year in which the Golden Handshakes were granted.

UAAL shall be amortized over “closed” amortization periods so that the amortization period for each layer decreases by one year with each actuarial valuation.

UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase (i.e., wage inflation).

If an overfunding or “surplus” exists (i.e., the Valuation Value of Assets exceeds the Actuarial Accrued Liability, so that the total of all UAAL amortization layers becomes negative), such surplus and any subsequent surpluses will be amortized over an “open” amortization period of 30 years. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL will be amortized over 18 years as the first of a new series of amortization layers.

These amortization policy components will apply separately to each of KCERA’s UAAL cost sharing groups.

Section 4: Actuarial Valuation Basis

Other Actuarial Methods

Employer Contributions:

Employer contributions consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is determined as a level percentage of the member's compensation.

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain level as a percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase along with expected payroll at the combined annual inflation and "across the board" salary increase rate of 3.00%. Effective with the June 30, 2012 valuation, the June 30, 2011 UAAL is being amortized over a 24.5-year declining period (12.5 years as of June 30, 2023). The change in UAAL that arises due to actuarial gains or losses or due to changes in actuarial assumptions or methods at each valuation is amortized over its own declining 18-year period. Any change in UAAL that arises due to plan amendments is amortized over its own declining 15-year period (with the exception of retirement incentives which are amortized over its own declining period of up to 5 years).

The amortization policy is described on the previous page.

The UAAL contribution rates have been adjusted to account for the one-year delay between the valuation date and the date that the contribution rates become effective.

The recommended employer contributions are provided in *Section 2, Subsection F*. The rates are shown for each tier/cost group and are separated into Normal Cost and UAAL components into each of these three benefit categories:

- The Basic benefits are the retirement benefits excluding all COLAs.
- The COLA benefits adopted prior to Ventura Settlement are referred to as the "2.0% COLA benefits".
- The COLA benefits provided under the Ventura settlement are referred to as the "0.5% COLA benefits".

Section 4: Actuarial Valuation Basis

Member Contributions:

The member contribution rates for all members are provided in *Section 4, Exhibit 3*.

General Tiers I and IIA and Safety Tiers I and IIA

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General and Safety members, respectively. The basic contribution rate is determined as that percentage of compensation which if paid annually from a member's first year of membership through the prescribed retirement age would accumulate to the amount necessary to fund a prescribed annuity.

The prescribed annuity is equal to:

- 1/100 of Final Average Salary per year of service at age 55 for General Tier I members
- 1/120 of Final Average Salary per year of service at age 60 for General Tier IIA members
- 1/100 of Final Average Salary per year of service at age 50 for Safety Tier I and Safety Tier IIA members

Safety Tier I members also pay a supplemental contribution rate such that the aggregate amount of the supplemental and basic contribution rates will provide an annuity equal to 3/200 of one year Final Average Salary per year of service at age 50.

Members in these non-CalPEPRA tiers do not contribute towards the cost-of-living benefits.

Effective July 11, 2015, San Joaquin Valley Unified Air Pollution Control District Tier I members pay 28% of the total Normal Cost rate. That percent increased to 39% effective 2016-2017 and 50% effective 2017-2018.

Effective July 8, 2017, San Joaquin Valley Unified Air Pollution Control District Tier IIA members pay 50% of the total Normal Cost rate.

General Tiers IIB and III and Safety Tier IIB

Pursuant to Section 7522.30(a) of the Government Code, General Tier IIB, General Tier III and Safety Tier IIB members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). Also of note is that based on our discussions with KCERA, we have used the discretion made available by Section 31620.5(a) of AB 1380 to no longer round the member contribution rates to the nearest quarter of one percent as previously required by CalPEPRA. This is consistent with established practice for the non-CalPEPRA tiers and should allow for exactly one-half of the Normal Cost for the CalPEPRA tiers to be paid by the employees and one-half by the employers. In addition, Section 31620.5(b) of AB 1380 also provides that the "one percent" rule under Section 7022.30(d) does not apply. This section formerly limited the circumstances under which the member rate would change.

Member contributions are accumulated at an annual interest rate adopted annually by the Board.

Section 4: Actuarial Valuation Basis

Member Contributions: (continued) For some employers, benefits are integrated with Social Security. In those cases, non-General Tier III members pay two-thirds of the full rate on the first \$350 of pay each month. (The General Tier III formula, as valued, is not integrated with Social Security.)

The tables on pages 38 through 42 summarize the specific member contribution rate arrangements for each employer as they have been reflected in this valuation. For valuation purposes, the member contribution levels that are assumed to be in place are those for the fiscal year that begins one year after the valuation date. Any future changes in member contribution rates after that would be reflected in future valuations in determining the allocation of the total costs payable between the employers and the members.

Transfers:

When employees transfer from one participating employer to another KCERA participating employer, recognition needs to be made of the employee's prior service within KCERA on an equitable basis. For each employee that transfers within KCERA the funding for the employee's benefits will be determined as follows:

The employee will be reported and funded as a vested terminated employee for the former participating employer with reciprocal benefits the same as any other vested terminated employee who moves to a reciprocal retirement system other than KCERA.

- The employee will be reported and funded as an active employee for the new participating employer but with reciprocal service credits for the prior service in KCERA for purposes of benefit eligibility and entry age. Benefit amounts will be funded only for the service provided to the new participating employer.
- Upon retirement from KCERA, the employee's total retirement benefit will be determined based on service with each KCERA participating employer and the employee's Final Average Salary.
- The entire liability for the retired employee's KCERA benefit payments will be allocated to the latest participating employer's cost group. The employee will be reported as a retired employee for the latest participating employer with the full KCERA retirement benefit amount.

Section 4: Actuarial Valuation Basis

Cost Sharing Adjustments:

KCERA's Normal Cost is determined separately for each group of members that have the same benefit formula (on a prospective basis). The seven Normal Cost cost sharing groups are as follows:

- General Tier I
- General Tier IIA
- General Tier IIB
- General Tier III
- Safety Tier I
- Safety Tier IIA
- Safety Tier IIB

KCERA's UAAL is determined separately for each cost sharing group depending on the assets for that cost group. The three UAAL cost sharing groups are as follows:

- General County and Courts
- General Districts
- Safety

Internal Revenue Code Section 415:

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of \$160,000 indexed for inflation. That limit is \$265,000 for 2023. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits for members in the legacy tiers in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

Section 4: Actuarial Valuation Basis

Changed Actuarial Assumptions and Methods:	Based on the Actuarial Experience Study, the following assumptions were changed. Previously, these assumptions and methods were as follows:																										
<i>Net Investment Return:</i>	7.25%; net of investment expenses. Expected investment expenses represent about 0.40% of the Market Value of Assets.																										
<i>Administrative Expenses:</i>	0.90% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and member. This results in an administrative expense load as shown below:																										
	<table border="1"> <thead> <tr> <th></th> <th>Average Contribution Rate Before Administrative Expense</th> <th>Weighting</th> <th>Total Loading</th> </tr> </thead> <tbody> <tr> <td>Employer</td> <td>47.97%</td> <td>87.50%</td> <td>0.79%</td> </tr> <tr> <td>Member</td> <td>6.85%</td> <td>12.50%</td> <td>0.11%</td> </tr> <tr> <td>Total</td> <td></td> <td>100.00%</td> <td>0.90%</td> </tr> </tbody> </table> <p>Under this approach, the employer Normal Cost rate is then increased by the same percent of payroll as the member rate with the remaining employer loading allocated to the employer UAAL rate. This is done to maintain a 50/50 sharing of Normal Cost for those in PEPRA Tiers. The table below shows this allocation.</p> <table border="1"> <thead> <tr> <th colspan="2">Allocation of Administrative Expense Load as a % of Payroll</th> </tr> </thead> <tbody> <tr> <td>Addition to Employer Basic Normal Cost Rate</td> <td>0.11%</td> </tr> <tr> <td>Addition to Employer Basic UAAL Rate</td> <td>0.68%</td> </tr> <tr> <td>Addition to Member Basic Rate</td> <td>0.11%</td> </tr> <tr> <td>Total Addition to Contribution Rates</td> <td>0.90%</td> </tr> </tbody> </table> <p>The administrative expense load is added to the Basic rates for employers and members.</p>		Average Contribution Rate Before Administrative Expense	Weighting	Total Loading	Employer	47.97%	87.50%	0.79%	Member	6.85%	12.50%	0.11%	Total		100.00%	0.90%	Allocation of Administrative Expense Load as a % of Payroll		Addition to Employer Basic Normal Cost Rate	0.11%	Addition to Employer Basic UAAL Rate	0.68%	Addition to Member Basic Rate	0.11%	Total Addition to Contribution Rates	0.90%
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Total Addition to Contribution Rates	0.90%																										
<i>Member Contribution Crediting Rate:</i>	7.25%, compounded semi-annually.																										
<i>Consumer Price Index (CPI) and Cost of Living Adjustments (COLA):</i>	CPI Increase of 2.75% per year. Retiree COLA increases due to CPI are assumed to be 2.50% per year.																										
<i>Payroll Growth:</i>	Inflation of 2.75% per year plus “across the board” real salary increases of 0.50% per year.																										
<i>Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:</i>	Increase of 2.75% per year from the valuation date.																										
<i>Increase in Section 7522.10 Compensation Limit:</i>	Increase of 2.75% per year from the valuation date.																										

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Salary Increases:

The annual rate of compensation increase includes: inflation at 2.75%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Years of Service	Merit and Promotion Increases	
	Rate (%)	
	General	Safety
Less than 1	5.50	8.75
1 – 2	4.50	7.00
2 – 3	4.00	5.50
3 – 4	3.50	5.00
4 – 5	3.00	4.50
5 – 6	2.50	4.00
6 – 7	2.25	3.50
7 – 8	1.75	2.50
8 – 9	1.50	1.50
9 – 10	1.25	1.25
10 – 11	1.15	1.00
11 – 12	1.05	0.80
12 – 13	0.95	0.75
13 – 14	0.85	0.70
14 – 15	0.75	0.65
15 – 16	0.75	0.60
16 – 17	0.75	0.55
17 – 18	0.75	0.50
18 – 19	0.75	0.50
19 – 20	0.75	0.50
20 & Over	0.75	0.50

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Post-Retirement Mortality Rates:

Healthy

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 15% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates decreased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2019.
- **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Beneficiaries

- **General and Safety Members:** Pub-2010 General Contingent Survivor Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 10% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

The Pub-2010 mortality tables and adjustments as shown above with generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.
- **Safety Members:** Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.

Age	Rate (%)			
	General		Safety	
	Male	Female	Male	Female
25	0.03	0.01	0.03	0.02
30	0.04	0.01	0.04	0.02
35	0.05	0.02	0.04	0.03
40	0.07	0.04	0.05	0.04
45	0.10	0.06	0.07	0.06
50	0.15	0.08	0.10	0.08
55	0.22	0.12	0.15	0.11
60	0.32	0.19	0.23	0.14
65	0.47	0.30	0.35	0.20

All pre-retirement deaths are assumed to be non-service connected. Note that generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 15% for females, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 30% male and 70% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 80% male and 20% female.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Disability Incidence:

Age	Rate (%)	
	General	Safety
20	0.02	0.05
25	0.03	0.07
30	0.04	0.10
35	0.07	0.19
40	0.09	0.28
45	0.13	0.39
50	0.18	1.08
55	0.26	2.55
60	0.36	3.70
65	0.40	4.00
70	0.00	0.00

50% of General disabilities are assumed to be service connected (duty) disabilities and the other 50% are assumed to be non-service connected (ordinary) disabilities.

90% of Safety disabilities are assumed to be service connected (duty) disabilities and the other 10% are assumed to be non-service connected (ordinary) disabilities.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Termination:

Years of Service	Rate (%)	
	General	Safety
Less than 1	17.00	9.00
1 – 2	13.00	8.00
2 – 3	10.00	7.00
3 – 4	9.00	6.00
4 – 5	8.50	5.00
5 – 6	8.00	4.00
6 – 7	7.00	3.50
7 – 8	6.00	3.25
8 – 9	5.00	3.00
9 – 10	4.00	2.60
10 – 11	3.75	2.20
11 – 12	3.50	1.80
12 – 13	3.25	1.60
13 – 14	3.00	1.40
14 – 15	2.75	1.20
15 – 16	2.50	1.00
16 – 17	2.30	0.90
17 – 18	2.10	0.75
18 – 19	1.90	0.75
19 – 20	1.70	0.75
20 – 21	1.50	0.00
21 – 22	1.30	0.00
22 – 23	1.10	0.00
23 – 24	1.00	0.00
24 – 25	1.00	0.00
25 – 26	1.00	0.00
26 – 27	1.00	0.00
27 – 28	1.00	0.00
28 – 29	1.00	0.00
29 – 30	1.00	0.00
30 & Over	0.00	0.00

Refer to the next table that contains rates for electing a refund of contributions upon termination. No termination is assumed after a member is first assumed to retire.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

*Electing a Refund of Contributions
upon Termination:*

Years of Service	Rate (%)	
	General	Safety
Less than 5	100.00	100.00
5 – 6	36.00	44.00
6 – 7	34.00	40.00
7 – 8	32.00	38.00
8 – 9	30.00	32.00
9 – 10	28.00	30.00
10 – 11	26.00	26.00
11 – 12	25.00	25.00
12 – 13	24.00	21.00
13 – 14	23.00	18.00
14 – 15	22.00	15.00
15 – 16	21.00	12.00
16 – 17	18.00	10.00
17 – 18	16.00	8.00
18 – 19	14.00	6.00
19 – 20	13.00	4.00
20 – 21	12.00	0.00
21 – 22	11.00	0.00
22 – 23	10.00	0.00
23 – 24	8.00	0.00
24 – 25	6.00	0.00
25 – 26	4.00	0.00
26 – 27	2.00	0.00
27 & Over	0.00	0.00

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Retirement Rates:

Age	Rate (%)						
	General Tier I		General Tiers IIA and IIB	General Tier III	Safety Tier I		Safety Tiers IIA and IIB
	<25 Years of Service	>25 Years of Service			<25 Years of Service	>25 Years of Service	
45	0.00	0.00	0.00	0.00	5.00	5.00	0.00
46	0.00	0.00	0.00	0.00	5.00	5.00	0.00
47	0.00	0.00	0.00	0.00	5.00	5.00	0.00
48	0.00	0.00	0.00	0.00	5.00	5.00	0.00
49	0.00	0.00	0.00	0.00	25.00	25.00	0.00
50	10.00	10.00	5.00	0.00	10.00	30.00	3.00
51	6.00	6.00	3.00	0.00	8.00	24.00	3.00
52	6.00	12.00	3.00	3.00	8.00	24.00	3.00
53	6.00	12.00	3.00	3.00	8.00	24.00	5.00
54	6.00	12.00	3.50	3.50	12.00	24.00	11.00
55	6.00	12.00	4.00	4.00	14.00	28.00	13.00
56	6.00	14.00	4.50	4.50	14.00	28.00	12.00
57	6.00	16.00	5.00	5.00	8.00	28.00	12.00
58	9.00	18.00	6.50	6.50	8.00	28.00	12.00
59	16.00	24.00	11.00	11.00	14.00	28.00	12.00
60	20.00	35.00	12.00	12.00	25.00	28.00	12.00
61	16.00	28.00	13.00	13.00	25.00	50.00	12.00
62	20.00	35.00	20.00	20.00	25.00	50.00	25.00
63	20.00	30.00	20.00	20.00	25.00	50.00	25.00
64	20.00	30.00	20.00	20.00	25.00	50.00	25.00
65	35.00	35.00	35.00	35.00	100.00	100.00	100.00
66	35.00	35.00	35.00	35.00	100.00	100.00	100.00
67	35.00	35.00	35.00	35.00	100.00	100.00	100.00
68	35.00	35.00	35.00	35.00	100.00	100.00	100.00
69	40.00	40.00	40.00	40.00	100.00	100.00	100.00
70	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Retirement Age and Benefit for Deferred Vested Members:

For current and future deferred vested members, retirement age assumptions are as follows:

General Retirement Age: 57

Safety Retirement Age: 53

We assume that 45% of future General and 60% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocal members, we assume 4.00% and 3.75% compensation increases per annum for General and Safety members, respectively.

Percent Married:

For all active and inactive members, 70% of male members and 60% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.

Section 4: Actuarial Valuation Basis

Exhibit 2: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Association included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Membership Eligibility:	All permanent employees of Kern County or participating Special Districts scheduled to work 50% or more of the required regular standard hours are eligible to become a member of the Retirement Association subject to classification below:
<i>General Tier I</i>	All General members hired by the County prior to October 27, 2007 (prior to July 5, 2008 for Prosecutors), hired by North of the River Sanitation District prior to October 29, 2007, hired by the Kern County Water Agency prior to January 1, 2010, hired by Berrenda Mesa Water District prior to January 12, 2010, hired by San Joaquin Valley Unified Air Pollution Control District prior to July 31, 2012, hired by West Side Mosquito Abatement District prior to November 15, 2012, hired by Kern Mosquito & Vector Control District prior to December 12, 2012, hired by Inyokern Community Services District prior to December 13, 2012, hired by Buttonwillow Recreation & Park District or East Kern Cemetery District prior to December 17, 2012, hired by West Side Cemetery District prior to December 18, 2012, hired by Shafter Recreation & Park District prior to December 19, 2012, or hired by the Courts prior to March 12, 2011.
<i>General Tier IIA</i>	All General members hired by the County on or after October 27, 2007, hired by North of the River Sanitation District on or after October 29, 2007, hired by the Kern County Water Agency on or after January 1, 2010, hired by Berrenda Mesa Water District on or after January 12, 2010, hired by San Joaquin Valley Unified Air Pollution Control District on or after July 31, 2012, hired by West Side Mosquito Abatement District on or after November 15, 2012, hired by Kern Mosquito & Vector Control District on or after December 12, 2012, hired by Inyokern Community Services District on or after December 13, 2012, hired by Buttonwillow Recreation & Park District or East Kern Cemetery District on or after December 17, 2012, hired by West Side Cemetery District on or after December 18, 2012, hired by Shafter Recreation & Park District on or after December 19, 2012, or hired by the Courts on or after March 12, 2011; and hired prior to January 1, 2013.
<i>General Tier IIB</i>	All General members hired by the County or districts (other than West Side Recreation & Park) on or after January 1, 2013.
<i>General Tier III</i>	All General members hired by West Side Recreation & Park on or after January 1, 2013.
<i>Safety Tier I</i>	All members employed in active law enforcement, active fire suppression, probation, detention or criminal investigation hired prior to March 27, 2012.
<i>Safety Tier IIA</i>	All members employed in active law enforcement, active fire suppression, probation, detention or criminal investigation hired on or after March 27, 2012 and prior to January 1, 2013.
<i>Safety Tier IIB</i>	All member employee in active law enforcement, active fire suppression, probation, detention or criminal investigation hired on or after January 1, 2013.

Section 4: Actuarial Valuation Basis

Final Compensation for Benefit Determination:		
<i>General Tiers I and IIA, Safety Tiers I and IIA</i>	Highest consecutive twelve months of compensation earnable (§31462.1) (FAS1).	
<i>General Tier IIB, General Tier III and Safety Tier IIB</i>	Highest consecutive thirty-six months of pensionable compensation (§7522.32 and §7522.34) (FAS3).	
Compensation Limit:		
<i>Non-General Tier III</i>	For members with membership dates on or after July 1, 1996, Compensation Earnable is limited to Internal Revenue Code Section 401(a)(17). The limit for the plan year beginning July 1, 2023 is \$330,000. The limit is indexed for inflation on an annual basis.	
<i>General Tier III</i>	Pensionable Compensation is limited to \$146,042 for 2023 (\$175,250, if not enrolled in Social Security). The limit is indexed for inflation on an annual basis.	
Service:		
Years of service (Yrs).		
Service Retirement Eligibility:		
<i>General Tiers I, IIA and IIB</i>	Age 50 with 10 years of service credit, or age 70 regardless of service credit, or after 30 years of service credit, regardless of age (§31672).	
<i>General Tier III</i>	Age 52 with 5 years of service (§7522.20(a)), or age 70 regardless of service credit.	
<i>Safety Tiers I, IIA and IIB</i>	Age 50 with 10 years of service credit, or age 70 regardless of service credit, or after 20 years of service credit, regardless of age (§31663.25).	
Benefit Formula:		
<i>General Tier I (§31676.17)</i>	Retirement Age	Benefit Formula⁽¹⁾
	50	$(2.00\% \times \text{FAS1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(2.50\% \times \text{FAS1} - 1/3 \times 2.50\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	62 and over	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Tier I⁽²⁾ (§31676.14)</i>	Retirement Age	Benefit Formula
	50	$1.48\% \times \text{FAS1} \times \text{Yrs}$
	55	$1.95\% \times \text{FAS1} \times \text{Yrs}$
	60	$2.44\% \times \text{FAS1} \times \text{Yrs}$
	62 and over	$2.61\% \times \text{FAS1} \times \text{Yrs}$

Section 4: Actuarial Valuation Basis

General Tier IIA (§31676.01)

Retirement Age	Benefit Formula ⁽¹⁾
50	$(0.79\% \times \text{FAS1} - 1/3 \times 0.79\% \times \$350 \times 12) \times \text{Yrs}$
55	$(0.99\% \times \text{FAS1} - 1/3 \times 1.00\% \times \$350 \times 12) \times \text{Yrs}$
60	$(1.28\% \times \text{FAS1} - 1/3 \times 1.28\% \times \$350 \times 12) \times \text{Yrs}$
62	$(1.39\% \times \text{FAS1} - 1/3 \times 1.39\% \times \$350 \times 12) \times \text{Yrs}$
65 and over	$(1.62\% \times \text{FAS1} - 1/3 \times 1.62\% \times \$350 \times 12) \times \text{Yrs}$

General Tier IIB (§31676.01)

Retirement Age	Benefit Formula ⁽¹⁾
50	$(0.79\% \times \text{FAS3} - 1/3 \times 0.79\% \times \$350 \times 12) \times \text{Yrs}$
55	$(0.99\% \times \text{FAS3} - 1/3 \times 1.00\% \times \$350 \times 12) \times \text{Yrs}$
60	$(1.28\% \times \text{FAS3} - 1/3 \times 1.28\% \times \$350 \times 12) \times \text{Yrs}$
62	$(1.39\% \times \text{FAS3} - 1/3 \times 1.39\% \times \$350 \times 12) \times \text{Yrs}$
65 and over	$(1.62\% \times \text{FAS3} - 1/3 \times 1.62\% \times \$350 \times 12) \times \text{Yrs}$

⁽¹⁾ Benefits for some District Members are not integrated with Social Security.

⁽²⁾ Two General Districts, Berrenda Mesa and Inyokern, have adopted Section 31676.17 on a prospective basis only as of January 1, 2005, but have Section 31676.14 for service prior to January 1, 2005.

General Tier III (§7522.20(a))

Retirement Age	Benefit Formula
52	$1.00\% \times \text{FAS3} \times \text{Yrs}$
55	$1.30\% \times \text{FAS3} \times \text{Yrs}$
60	$1.80\% \times \text{FAS3} \times \text{Yrs}$
62	$2.00\% \times \text{FAS3} \times \text{Yrs}$
65	$2.30\% \times \text{FAS3} \times \text{Yrs}$
67 and over	$2.50\% \times \text{FAS3} \times \text{Yrs}$

Safety Tier I (§31664.1)

Retirement Age	Benefit Formula
50	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
55	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
60 and over	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$

Section 4: Actuarial Valuation Basis

<i>Safety Tier IIA (§31664)</i>	Retirement Age	Benefit Formula
	50	$(2.00\% \times \text{FAS1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(2.62\% \times \text{FAS1} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
	60 and over	$(2.62\% \times \text{FAS1} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Tier IIB (§31664)</i>	Retirement Age	Benefit Formula
	50	$(2.00\% \times \text{FAS3} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(2.62\% \times \text{FAS3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
	57 and over	$(2.62\% \times \text{FAS3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
Maximum Benefit:		
<i>Non-General Tier III</i>	100% of final compensation (§31676.14, §31676.17, §31676.01, §31664.1, §31664).	
<i>General Tier III</i>	There is no final compensation limit on the maximum retirement benefit.	
Non-Service Connected Disability:		
<i>Eligibility</i>	Five years of service (§31720).	
<i>Benefit</i>	20% of Final Compensation plus 2% of Final Compensation for each full year of service in excess of five years, not to exceed 40% of Final Compensation (§31727.7).	
	For all members, 100% of the Service Retirement benefit, if greater.	
Service Connected Disability:		
<i>Eligibility</i>	No age or service requirements (§31720).	
<i>Benefit</i>	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).	

Section 4: Actuarial Valuation Basis

Pre-Retirement Death:	
<i>All Members</i>	
<i>Eligibility</i>	None.
<i>Basic lump sum benefit</i>	Refund of employee contributions with interest plus one month's eligible compensation for each year of service to a maximum of six months' compensation (§31781).
<i>Service Connected Death</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787). In addition, Safety members are entitled to benefits under Sections 31787.5 and 31787.6.
<i>Vested Members</i>	
<i>Eligibility</i>	Five years of service.
<i>Basic benefit</i>	60% of the greater of Service Retirement or Non-Service Connected Disability Retirement benefit payable to surviving eligible spouse or eligible children (§31765.1, §31781.1), in lieu of above. Additionally, the spouse may choose a combined benefit of: <ul style="list-style-type: none"> • A lump sum payment of up to six months' compensation (see above), and • A monthly (60%) benefit reduced by actuarial equivalent of the lump sum payment (§31781.3).
Death After Retirement:	
<i>All Members</i>	
<i>Service Retirement or Non-Service Connected Disability Retirement</i>	Unless another option was selected at retirement, 60% of member's unmodified allowance continued to eligible spouse (§31760.1). An eligible spouse is a surviving spouse who was married to the member at least one year prior to the day of retirement (§31760.1), or, at least two years prior to the date of death and has attained age 55 on or prior to the date of death (§31760.2).
<i>Service Connected Disability</i>	Unless another option was selected at retirement, 100% of member's unmodified allowance continued to eligible spouse (§31786).
Withdrawal Benefits:	
<i>Less than Five Years of Service</i>	Refund of accumulated employee contributions with interest (§31628) or entitled to earned benefits commencing any time after eligible to retire (§31629.5) if eligible for benefits at a reciprocal system.
<i>Five or More Years of Service</i>	If contributions left on deposit, a member is entitled to earned benefits commencing at any time after eligible to retire (§31700). Service for eligibility includes service credited as an employee of a reciprocal system.
Post-retirement Cost-of-Living Benefits:	Future changes based on changes to the Consumer Price Index to a maximum of 2.50% per year. (§31870.4)
Supplemental Retiree Benefit Reserve:	The Association provides Supplemental Retiree Benefit Reserve benefits for eligible retirees. These benefits have been excluded from this valuation.

Section 4: Actuarial Valuation Basis

Member Contributions:	Please refer to <i>Section 4, Exhibit 3</i> for the specific rates. Members in General Tiers I and IIA (excluding San Joaquin Valley Unified Air Pollution Control District) and Safety Tiers I and IIA do not contribute towards the cost-of-living benefits.
<i>General Tier I (non-SJVAPCD)</i>	
<i>Basic</i>	Entry age based rates that provide for an average annuity at age 55 equal to 1/100 of FAS (\$31621.8).
<i>General Tier I (SJVAPCD)</i>	
<i>Basic</i>	Entry age based rates that provide for 50% of total Normal Cost Rate.
<i>General Tier IIA (non-SJVAPCD)</i>	
<i>Basic</i>	Entry age based rates that provide for an average annuity at age 60 equal to 1/120 of FAS (\$31621).
<i>General Tier IIA (SJVAPCD)</i>	
<i>Basic</i>	Entry age based rates that provide for 50% of total Normal Cost Rate.
<i>General Tiers IIB and III</i>	Non-entry age based rates that provide for 50% of total Normal Cost Rate.
<i>Safety Tier I</i>	
<i>Basic</i>	Entry age based rates that provide for an average annuity at age 50 equal to 1/100 of FAS (\$31639.25).
<i>Supplemental</i>	Entry age based rates that provide for an average annuity at age 50 equal to 1/200 of FAS (Resolution #2004-144).
<i>Safety "3" Tier I</i>	
<i>Basic and Supplemental</i>	At all entry ages, the member contribution rate for the above Safety Tier I members who enter the plan at age 27.
<i>Safety Tier IIA</i>	
<i>Basic</i>	Entry age based rates that provide for an average annuity at age 50 equal to 1/100 of FAS (\$31639.25).
<i>Safety "3" Tier IIA</i>	
<i>Basic</i>	At all entry ages, the member contribution rate for the above Safety Tier IIA members who enter the plan at age 27.
<i>Safety Tier IIB</i>	Non-entry age based rates that provide for 50% of total Normal Cost Rate.
Other Information:	Safety Tier I and Tier IIA members with 30 or more years of service are exempt from paying member contributions. Various other exemptions for member contributions are outlined on pages 38 through 42.
Changed Plan Provisions:	There have been no changes in plan provisions since the last valuation.

Note: The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the Association should find the plan summary not in accordance with the actual provisions, the Association should alert the actuary so they can both be sure the proper provisions are valued.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates

General Tier I Members' (non-SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	Integrated		Non-Integrated
	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation	All Compensation
16	4.47%	6.71%	6.71%
17	4.56%	6.84%	6.84%
18	4.65%	6.97%	6.97%
19	4.73%	7.10%	7.10%
20	4.83%	7.24%	7.24%
21	4.92%	7.38%	7.38%
22	5.01%	7.52%	7.52%
23	5.11%	7.66%	7.66%
24	5.21%	7.81%	7.81%
25	5.30%	7.95%	7.95%
26	5.41%	8.11%	8.11%
27	5.51%	8.26%	8.26%
28	5.61%	8.42%	8.42%
29	5.72%	8.58%	8.58%
30	5.83%	8.74%	8.74%
31	5.94%	8.91%	8.91%
32	6.05%	9.08%	9.08%
33	6.17%	9.26%	9.26%
34	6.29%	9.44%	9.44%
35	6.42%	9.63%	9.63%
36	6.55%	9.82%	9.82%
37	6.68%	10.02%	10.02%
38	6.81%	10.22%	10.22%
39	6.95%	10.43%	10.43%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier I Members' (non-SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	Integrated		Non-Integrated
	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation	All Compensation
40	7.09%	10.63%	10.63%
41	7.22%	10.83%	10.83%
42	7.35%	11.03%	11.03%
43	7.49%	11.24%	11.24%
44	7.63%	11.45%	11.45%
45	7.76%	11.64%	11.64%
46	7.88%	11.82%	11.82%
47	7.99%	11.99%	11.99%
48	8.10%	12.15%	12.15%
49	8.19%	12.28%	12.28%
50	8.25%	12.37%	12.37%
51	8.26%	12.39%	12.39%
52	8.25%	12.38%	12.38%
53	8.21%	12.31%	12.31%
54 & Over	8.17%	12.25%	12.25%

Interest: 7.00% per annum
 COLA: None
 Administrative Expenses: 0.13% of payroll added to Basic rates
 Mortality: See Section 4, Exhibit 1
 Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit and Promotion (See Section 4, Exhibit 1)
 Note: These rates are determined before any pickups by the employer, if any.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier I Members' (SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
16	9.61%
17	9.80%
18	9.98%
19	10.17%
20	10.37%
21	10.57%
22	10.78%
23	10.98%
24	11.19%
25	11.40%
26	11.63%
27	11.84%
28	12.07%
29	12.30%
30	12.53%
31	12.78%
32	13.02%
33	13.28%
34	13.54%
35	13.82%
36	14.09%
37	14.38%
38	14.67%
39	14.97%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier I Members' (SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
40	15.26%
41	15.54%
42	15.83%
43	16.13%
44	16.44%
45	16.71%
46	16.97%
47	17.22%
48	17.45%
49	17.63%
50	17.76%
51	17.79%
52	17.78%
53	17.68%
54 & Over	17.59%

The General Tier I (SJVAPCD) member contribution rate is 50% of the total Normal Cost rate. The rates shown above also include an administrative expense load of 0.13% of payroll.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier IIA Members' (non-SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	Integrated		Non-Integrated
	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation	All Compensation
16	3.22%	4.83%	4.83%
17	3.29%	4.93%	4.93%
18	3.35%	5.02%	5.02%
19	3.41%	5.12%	5.12%
20	3.48%	5.22%	5.22%
21	3.55%	5.32%	5.32%
22	3.61%	5.42%	5.42%
23	3.68%	5.52%	5.52%
24	3.75%	5.63%	5.63%
25	3.82%	5.73%	5.73%
26	3.89%	5.84%	5.84%
27	3.97%	5.95%	5.95%
28	4.04%	6.06%	6.06%
29	4.12%	6.18%	6.18%
30	4.20%	6.30%	6.30%
31	4.28%	6.42%	6.42%
32	4.36%	6.54%	6.54%
33	4.44%	6.66%	6.66%
34	4.53%	6.79%	6.79%
35	4.61%	6.92%	6.92%
36	4.70%	7.05%	7.05%
37	4.79%	7.19%	7.19%
38	4.89%	7.33%	7.33%
39	4.98%	7.47%	7.47%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier IIA Members' (non-SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	Integrated		Non-Integrated
	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation	All Compensation
40	5.08%	7.62%	7.62%
41	5.18%	7.77%	7.77%
42	5.28%	7.92%	7.92%
43	5.39%	8.08%	8.08%
44	5.49%	8.24%	8.24%
45	5.60%	8.40%	8.40%
46	5.71%	8.56%	8.56%
47	5.81%	8.72%	8.72%
48	5.92%	8.88%	8.88%
49	6.03%	9.05%	9.05%
50	6.13%	9.20%	9.20%
51	6.23%	9.34%	9.34%
52	6.32%	9.48%	9.48%
53	6.40%	9.60%	9.60%
54	6.47%	9.70%	9.70%
55	6.51%	9.77%	9.77%
56	6.53%	9.80%	9.80%
57	6.53%	9.79%	9.79%
58	6.49%	9.73%	9.73%
59 & Over	6.45%	9.68%	9.68%

Interest: 7.00% per annum
 COLA: None
 Administrative Expenses: 0.13% of payroll added to Basic rates
 Mortality: See *Section 4, Exhibit 1*
 Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit and Promotion (See *Section 4, Exhibit 1*)
 Note: These rates are determined before any pickups by the employer, if any.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier IIA Members' (SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
16	4.60%
17	4.69%
18	4.78%
19	4.87%
20	4.97%
21	5.06%
22	5.16%
23	5.25%
24	5.36%
25	5.45%
26	5.56%
27	5.66%
28	5.77%
29	5.88%
30	5.99%
31	6.11%
32	6.22%
33	6.34%
34	6.46%
35	6.58%
36	6.71%
37	6.84%
38	6.97%
39	7.11%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier IIA Members' (SJVAPCD) Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
40	7.25%
41	7.39%
42	7.53%
43	7.68%
44	7.84%
45	7.99%
46	8.14%
47	8.29%
48	8.44%
49	8.61%
50	8.75%
51	8.88%
52	9.02%
53	9.13%
54	9.22%
55	9.29%
56	9.32%
57	9.31%
58	9.25%
59 & Over	9.21%

The General Tier IIA (SJVAPCD) member contribution rate is 50% of the total Normal Cost rate. The rates shown above also include an administrative expense load of 0.13% of payroll.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier IIB Members' Contribution Rates from the June 30, 2023 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

All Members	Integrated		Non-Integrated
	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation	All Compensation
Basic	3.49%	5.24%	5.24%
2% COLA	0.74%	1.11%	1.11%
0.5% COLA	<u>0.23%</u>	<u>0.34%</u>	<u>0.34%</u>
Total	4.46%	6.69%	6.69%

The General Tier IIB member contribution rate is 50% of the total Normal Cost rate. The rates shown above also include an administrative expense load of 0.13% of payroll.

General Tier III Members' Contribution Rates from the June 30, 2023 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

All Members	All Compensation ¹
Basic	6.17%
2% COLA	1.27%
0.5% COLA	<u>0.39%</u>
Total	7.83%

The General Tier III member contribution rate is 50% of the total Normal Cost rate. The rates shown above also include an administrative expense load of 0.13% of payroll.

¹ It is our understanding that in the determination of pension benefits under the General Tier III formula, the compensation that can be taken into account for 2023 is \$146,042 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023 (reference: Section 7522.10(d)).

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier I Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2023 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

Integrated		
Entry Age	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation
16	8.19%	12.28%
17	8.33%	12.50%
18	8.47%	12.71%
19	8.63%	12.94%
20	8.77%	13.16%
21	8.93%	13.40%
22	9.09%	13.63%
23	9.25%	13.87%
24	9.41%	14.12%
25	9.58%	14.37%
26	9.75%	14.63%
27	9.93%	14.89%
28	10.11%	15.17%
29	10.30%	15.45%
30	10.49%	15.73%
31	10.69%	16.03%
32	10.89%	16.34%
33	11.11%	16.66%
34	11.33%	17.00%
35	11.55%	17.32%
36	11.77%	17.65%
37	12.00%	18.00%
38	12.25%	18.37%
39	12.52%	18.78%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier I Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2023 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

Integrated		
Entry Age	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation
40	12.76%	19.14%
41	13.00%	19.50%
42	13.15%	19.72%
43	13.26%	19.89%
44	13.34%	20.01%
45	13.33%	20.00%
46	13.29%	19.94%
47	13.22%	19.83%
48	12.97%	19.45%
49 & Over	12.79%	19.19%

Interest: 7.00% per annum
 COLA: None
 Administrative Expenses: 0.13% of payroll added to Basic rates
 Mortality: See *Section 4, Exhibit 1*
 Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit and Promotion (See *Section 4, Exhibit 1*)
 Note: These rates are determined before any pickups by the employer, if any.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

“Safety 3” Safety Tier I Members' Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Integrated		
Entry Age	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation
Every	9.93%	14.89%

Interest: 7.00% per annum
COLA: None
Administrative Expenses: 0.13% of payroll added to Basic rates
Mortality: See *Section 4, Exhibit 1*
Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit and Promotion (See *Section 4, Exhibit 1*)

Note: Beginning at various dates throughout 2007, certain Safety bargaining units converted to a new schedule of contribution rates, referred to as “Safety 3” contribution rates. For employees falling under this category and hired after the appropriate date (which varies by bargaining unit), the contribution rate will be a flat percentage of pay regardless of entry age. The contribution rates shown above are based on an entry age of 27. This is expected to provide for the same value of contributions that would be made based on the specific entry age based rates shown on the previous two pages. These rates are determined before any pickups by the employer.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier IIA Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2023 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

Integrated		
Entry Age	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation
16	5.49%	8.23%
17	5.58%	8.37%
18	5.68%	8.52%
19	5.78%	8.67%
20	5.88%	8.82%
21	5.98%	8.97%
22	6.09%	9.13%
23	6.19%	9.29%
24	6.31%	9.46%
25	6.41%	9.62%
26	6.53%	9.80%
27	6.65%	9.97%
28	6.77%	10.15%
29	6.89%	10.34%
30	7.02%	10.53%
31	7.15%	10.73%
32	7.29%	10.94%
33	7.43%	11.15%
34	7.59%	11.38%
35	7.73%	11.59%
36	7.87%	11.81%
37	8.03%	12.04%
38	8.19%	12.29%
39	8.37%	12.56%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier IIA Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2023 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

Integrated		
Entry Age	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation
40	8.53%	12.80%
41	8.69%	13.04%
42	8.79%	13.19%
43	8.87%	13.30%
44	8.93%	13.39%
45	8.92%	13.38%
46	8.89%	13.34%
47	8.85%	13.27%
48	8.67%	13.01%
49 & Over	8.56%	12.84%

Interest: 7.00% per annum

COLA: None

Administrative Expenses: 0.13% of payroll added to Basic rates

Mortality: See *Section 4, Exhibit 1*

Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit and Promotion (See *Section 4, Exhibit 1*)

Note: These rates are determined before any pickups by the employer, if any.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

“Safety 3” Safety Tier IIA Members' Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Integrated		
Entry Age	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation
Every	6.65%	9.97%

Interest:	7.00% per annum
COLA:	None
Administrative Expenses:	0.13% of payroll added to Basic rates
Mortality:	See <i>Section 4, Exhibit 1</i>
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit and Promotion (See <i>Section 4, Exhibit 1</i>)

Note: Beginning at various dates throughout 2007, certain Safety bargaining units converted to a new schedule of contribution rates, referred to as “Safety 3” contribution rates. For employees falling under this category and hired after the appropriate date (which varies by bargaining unit), the contribution rate will be a flat percentage of pay regardless of entry age. The contribution rates shown above are based on an entry age of 27. This is expected to provide for the same value of contributions that would be made based on the specific entry age based rates shown on the previous two pages. These rates are determined before any pickups by the employer.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier IIB Members' Contribution Rates from the June 30, 2023 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

All Members	Integrated	
	First \$350 of Monthly Compensation	Over \$350 of Monthly Compensation
Basic	7.24%	10.86%
2% COLA	1.82%	2.73%
0.5% COLA	<u>0.58%</u>	<u>0.87%</u>
Total	9.64%	14.46%

The Safety Tier IIB member contribution rate is 50% of the total Normal Cost rate. The rates shown above also include an administrative expense load of 0.13% of payroll.

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Kern County Employees' Retirement Association

Supplemental Retiree Benefit Reserve (SRBR) Actuarial Valuation and Review

As of June 30, 2023



This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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December 6, 2023

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, California 93311

Dear Board Members:

We are pleased to submit this Supplemental Retiree Benefit Reserve (SRBR) Actuarial Valuation and Review as of June 30, 2023. It summarizes the actuarial data used in the SRBR valuation, analyzes the preceding year's experience, and determines the funding status of the SRBR benefits.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement Association. The census information and financial information on which our calculations were based was prepared by the staff of the Association. That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Molly Calcagno, ASA, MAAA and Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Association and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

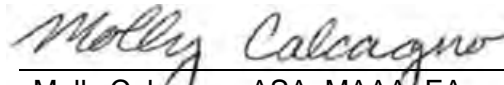
We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Kern County Employees' Retirement Association ("KCERA" or "the Association") Supplemental Retiree Benefit Reserve (SRBR) benefits as of June 30, 2023. The valuation was performed to determine the funding status of the SRBR benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of current plan assets to cover the estimated cost of settling the plan's accrued benefit obligations.

The funded status information presented in this report is based on:

- The benefit provisions of the SRBR, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2023, provided by KCERA;
- The SRBR Reserve value as of June 30, 2023, provided by KCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board of Retirement for the June 30, 2023 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board of Retirement for the June 30, 2023 valuation; and
- The SRBR policy adopted by the Board of Retirement.

Note that the investment return assumption of 7.00% used in this report was determined without taking into consideration any impact of the 50/50 excess earnings allocation between the retirement and SRBR asset pools. More details regarding this can be found in the actuarial valuation for funding purposes.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association's liabilities associated with the SRBR benefits. Our calculations are based upon member data and financial information provided to us by the Association's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

Section 1: Actuarial Valuation Summary

Valuation Highlights

1. The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2023 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in *Section 4, Exhibit 1* of the June 30, 2023 Actuarial Valuation and Review for KCERA. The assumption changes resulted in an increase in the Present Value of SRBR Benefits (PVB) of \$3.5 million.
2. The Restructured SRBR benefit became effective July 1, 2022 and is equal to \$1.80 per year of service, but no less than the member's then current SRBR benefit as of July 1, 2022. The Restructured SRBR benefit also includes a 2.5% cost-of-living adjustment (COLA) on the SRBR benefit, so long as the SRBR remains adequately funded. A summary of the benefits provided by the SRBR is displayed in *Section 3, Exhibit 2*.
3. Under the Board's SRBR policy, the SRBR funding status is calculated by comparing the SRBR Reserve excluding the court ordered Allocated SRBR Reserve (i.e., the 0.5% COLA Reserve) to the current actuarial funding target, which is the present value of all projected future SRBR benefit payments for all KCERA's current plan members.
4. Additional or increased SRBR benefits may be adopted if the SRBR funding status is more than 115% funded in the last two consecutive valuations.¹ The 2.5% COLA may be suspended if the SRBR funding status is less than 95% funded in the last two consecutive valuations. In addition, the SRBR policy also describes certain conditions that should be considered prior to adopting additional or increased SRBR benefits or suspending the 2.5% COLA. These conditions include the potential impact of any deferred investment gains or losses not yet recognized in the asset smoothing method and any recent or potential changes in actuarial assumptions.
5. The funding status of the SRBR benefits decreased from 110.2% as of June 30, 2022 to 108.2% as of June 30, 2023 prior to reflecting any deferred investment gains or losses. The funding status of the SRBR benefits is 104.1% as of June 30, 2023 after reflecting any deferred investment gains or losses as of the same date. This ratio is one measure of funding status and is not necessarily appropriate for assessing the sufficiency of current plan assets to cover the estimated cost of settling the plan's accrued benefit obligations.
6. The decrease in the funding status for the SRBR benefits was due to the changes in actuarial assumptions, offset somewhat by expected increases in the funding status due to passage of time; an investment gain because the rate of return on the available SRBR (after smoothing) during 2022-2023 was about 7.3%, which is slightly greater than the 7.25% assumption (based on the June 30, 2022 valuation); and other liability gains.

¹ Prior to the adoption of the Restructured SRBR benefit adopted on September 14, 2022, this was 120%.

Section 1: Actuarial Valuation Summary

The actuarial gain in the overfunded PVB of \$592,000, or 0.5% of the PVB, is due to an investment gain of \$119,000, or 0.1% of the PVB, and a gain from sources other than investments of \$473,000, or 0.4% of the PVB prior to reflection of assumption changes. This latter gain was primarily due to demographic experience.

7. The following table compares the reserves and liabilities for the SRBR benefits as of June 30, 2022 and of June 30, 2023:

	June 30, 2023	June 30, 2022
1 Available SRBR Reserves		
a. Total SRBR	\$129,724,000	\$142,006,000
b. 0.5% COLA Account	<u>(3,949,000)</u>	<u>10,770,000</u>
c. Available SRBR Reserve (1a – 1b)	\$133,673,000	\$131,236,000
2 Present Value of SRBR Benefits (PVB)		
a. Approved Benefits	\$96,057,000	\$98,273,000
b. Future Benefits	<u>27,490,000</u>	<u>20,788,000</u>
c. Total (2a + 2b)	\$123,547,000	\$119,061,000
3 PVB minus Reserves (2c) – (1c)	\$(10,126,000)	\$(12,175,000)
4 Funding Ratio (1c) ÷ (2c)	108.2%	110.2%

8. As of the June 30, 2023 valuation, the net deferred investment losses were 3.8% of the Actuarial Value of Assets. The Board's SRBR policy requires that the funding status be more than 115% or less than 95% in two consecutive valuations prior to implementing any benefit increases or COLA suspension, taking into account the current status of deferred investment gains and losses not yet recognized under the asset smoothing method. Consistent with this requirement, we have decreased the available SRBR Reserve by this amount to account for these losses. The results before and after reflecting the deferred investment losses are as follows:

	June 30, 2023 Before Reflecting Deferred Losses	June 30, 2023 After Reflecting Deferred Losses
1 Available SRBR Reserves	\$133,673,000	\$128,568,000
2 Present Value of SRBR Benefits (PVB)	<u>123,547,000</u>	<u>123,547,000</u>
3 PVB minus Reserves (2) – (1)	\$(10,126,000)	\$(5,021,000)
4 Funding Ratio (1) ÷ (2)	108.2%	104.1%

Section 1: Actuarial Valuation Summary

9. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2023. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2023 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

Section 1: Actuarial Valuation Summary

Summary of SRBR Valuation Results

		Death Benefit	Restructured SRBR	Total
Present Value of SRBR Benefits (PVB):	• Active members	\$3,153,000	\$33,555,000	\$36,708,000
	• Inactive vested members	845,000	5,152,000	5,997,000
	• Retirees and Beneficiaries	<u>14,056,000</u>	<u>66,786,000</u>	<u>80,842,000</u>
	• Total	\$18,054,000	\$105,493,000	\$123,547,000
Available SRBR Reserves:¹	• Total SRBR			\$129,724,000
	• Additional 0.5% COLA Account			<u>(3,949,000)</u>
	• Available SRBR Before Reflecting Deferred Investment Gains/Losses			\$133,673,000
	• Available SRBR After Reflecting Deferred Investment Gains/Losses			128,568,000
Funding Ratio:	• SRBR Benefits Before Reflecting Deferred Investment Gains/Losses			108.2%
	• SRBR Benefits After Reflecting Deferred Investment Gains/Losses			104.1%

¹ This valuation is based on the preliminary market value of assets of \$5,381,286,859 provided in the unaudited financial statement provided by KCERA for this valuation. The final market value of assets is \$5,386,581,194, reflecting an increase of \$5,294,335, or about 0.1% of plan assets.

Section 1: Actuarial Valuation Summary

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by KCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future investment income. The valuation is based on the Market Value of Assets as of the measurement date, as provided by KCERA. The Association uses a “Valuation Value of Assets” that differs from market value to gradually reflect six-month changes in the Market Value of Assets.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan’s benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan’s assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

Models

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the Association. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan. Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods; and
- Changes in statutory provisions.

If the Association is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Association should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by the Association upon delivery and review. The Association should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the plan.

Section 2: Actuarial Valuation Results

A. Introduction

Additional benefits may be provided to KCERA active and retired members under the plan provisions adopted by the County as provided under article 5.5 of the County Employees Retirement Association Law of 1937 (CERL). These are the Supplemental Retiree Benefit Reserve (SRBR) benefits.

Article 5.5 governs the crediting of interest to reserves and the allocation of Undistributed Earnings. Undistributed Earnings are the amounts that remain after earnings have been used to credit interest to the plan's reserves. They are generally thought of as earnings in excess of those assumed to be earned under the actuarial valuation assumptions.

Under the provisions of Article 5.5, and in accordance with the Board's Interest Crediting Policy, if Undistributed Earnings remain, then 50% of those Earnings are allocated to the SRBR and the remaining 50% are allocated as additional interest credits to all other reserve funds excluding the Contingency Reserve and the SRBR.

A summary of the benefits provided by the SRBR is displayed in *Section 3, Exhibit 2*. Note that, in addition to the benefits summarized in *Section 3, Exhibit 2*, the KCERA Board has set aside a portion of the SRBR reserve to help pay for an additional 0.5% COLA adopted under the Ventura Settlement. The assets and liabilities related to this additional 0.5% COLA are included in the regular valuation and are therefore excluded from this SRBR valuation.

Section 2: Actuarial Valuation Results

B. Demographic Data

The table below provides a summary of the number of members eligible for Approved Benefits as of June 30, 2023. It also contains information on the monthly SRBR benefits in pay status as of June 30, 2023.

Each of the various SRBR benefits and their eligibilities are described in *Section 3, Exhibit 2*.

Table of Coverage

	Members Eligible for Approved Benefits as of June 30, 2023	Death Benefit	Restructured SRBR
1	Active members	9,557	8,133
2	Inactive vested members	4,391	4,199
3	Retirees and Beneficiaries	7,805	9,137
4	Total	21,753	21,469
5	Total monthly benefits in pay status as of June 30, 2023		\$505,600
6	Average monthly benefits in pay status as of June 30, 2023		\$55

Section 2: Actuarial Valuation Results

C. Funding Status

Undistributed Earnings are the only source of funding for the SRBR Benefits. By their very nature, Undistributed Earnings are produced on an inconsistent basis and cannot be relied upon on to appear in any single period.

The actuarial assumptions and methods used to determine the Present Value of SRBR Benefits (PVB) are shown in *Section 3, Exhibit 1*. These are the same assumptions and methods used in the regular June 30, 2023 KCERA valuation.

KCERA's funding target for the SRBR is based on the PVB. They include the Restructured SRBR and Death Benefits.

The table below shows the funding status of the SRBR benefits before reflecting deferred investment gains or losses.

Funding Status of SRBR Benefits before Reflecting Deferred Investment Gains or Losses

	June 30, 2023	June 30, 2022
1 Available SRBR Reserves before Reflecting Deferred Investment Gains or Losses		
a. Total SRBR	\$129,724,000	\$142,006,000
b. 0.5% COLA Account	<u>(3,949,000)</u>	<u>10,770,000</u>
c. Available SRBR Reserve (1a – 1b)	\$133,673,000	\$131,236,000
2 Present Value of SRBR Benefits (PVB)		
a. Death Benefits	\$18,054,000	\$17,020,000
b. Restructured SRBR	<u>105,493,000</u>	<u>102,041,000</u>
c. Total	\$123,547,000	\$119,061,000
3 PVB minus Reserves (2c) – (1c)	\$(10,126,000)	\$(12,175,000)
4 Funding Ratio before Reflecting Deferred Investment Gains or Losses (1c) ÷ (2c)	108.2%	110.2%

Section 2: Actuarial Valuation Results

The Board's SRBR policy requires that the funding status be more than 115% or less than 95% in two consecutive valuations, *taking into account the current status of deferred investment gains and losses not yet recognized under the asset smoothing method* and any recent or potential changes in actuarial assumptions, prior to implementing any benefit increases or COLA suspension.

The table below shows the funding status of the SRBR benefits after reflecting deferred investment gains or losses.

Funding Status of SRBR Benefits after Reflecting Deferred Investment Gains or Losses

	June 30, 2023	June 30, 2022
1 Available SRBR Reserves after Reflecting Deferred Investment Gains or Losses	\$128,568,000	\$125,837,000
2 Present Value of SRBR Benefits (PVB)		
a. Death Benefits	\$18,054,000	\$17,020,000
b. Restructured SRBR	<u>105,493,000</u>	<u>102,041,000</u>
c. Total	\$123,547,000	\$119,061,000
3 PVB minus Reserves (2c) – (1)	\$(5,021,000)	\$(6,776,000)
4 Funding Ratio after Reflecting Deferred Investment Gains or Losses (1) ÷ (2c)	104.1%	105.7%

Section 2: Actuarial Valuation Results

The funding status of the SRBR benefits as measured by the funding ratio decreased from 110.2% as of June 30, 2022 to 108.2% as of June 30, 2023 prior to reflecting any deferred investment gains or losses.

The following table details the changes in the funding ratio from the prior year's valuation to the current year's valuation.

The decrease in the funding status for the SRBR benefits was due to the changes in actuarial assumptions, offset somewhat by the passage of time (i.e., expected changes in the funding status); an investment gain because the rate of return on the available SRBR (after smoothing) during 2022-2023 was about 7.3%, which is slightly greater than the 7.25% assumption (based on the June 30, 2022 valuation); and other liability gains.

Reconciliation of Funding Ratio for SRBR Benefits

1	Funding Ratio as of June 30, 2022	110.2%
2	Changes due to:	
a.	Passage of Time (Expected Changes)	0.6%
b.	Investment Gain	0.1%
c.	Other Liability Gain	0.5%
d.	Changes in actuarial assumptions	(3.2%)
e.	Total	(2.0%)
3	Funding Ratio as of June 30, 2023	108.2%

Note: Results are prior to reflecting any deferred investment gains or losses as of each valuation date.

The net total gain in the overfunded PVB is \$592,000, which includes \$119,000 from investment gains (after smoothing) and \$473,000 in gains from all other sources, prior to reflection of assumption changes. The net experience variation from individual sources other than investments was 0.4% of the PVB.

Section 3: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Actuarial Assumptions:	The same actuarial assumptions used in the KCERA June 30, 2023 Actuarial Valuation and Review.
Actuarial Cost Method:	Not applicable, because only the Present Value of SRBR Benefits (PVB) is determined in this report.
Actuarial Value of Assets:	Supplemental Retiree Benefit Reserve value as of valuation date.
Changed Actuarial Assumptions and Methods:	Based on the Actuarial Experience Study, the following assumptions were changes: Those described in the KCERA June 30, 2023 Actuarial Valuation and Review.

Section 3: Actuarial Valuation Basis

Exhibit 2: Summary of Plan Provisions

This exhibit summarizes the major provisions of the plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Benefits Provided:	The SRBR currently provides two categories of benefits:
<i>Restructured SRBR</i>	<p>The greater of either the “Floor Benefit” or the “Service SRBR Benefit”, payable monthly to retirees who were hired before July 1, 2022:</p> <ul style="list-style-type: none">• The “Floor Benefit” is equal to the total current Legacy SRBR Benefit as of July 1, 2022 or the member’s future retirement date. The Legacy SRBR Benefits (Tier 1, Tier 2, Tier 3 and Tier 4) are shown below.• The “Service SRBR Benefit” is equal to the member’s years of service at retirement multiplied by \$1.80 and adjusted by a 2.5% fixed rate COLA effective as of July 1, 2022 (without regard to retirement date) with the first increase applied July 1, 2023. <p>The Restructured SRBR benefit will be adjusted annually to receive a 2.5% fixed rate COLA on July 1 each year, with the first increase applied on the latter of July 1, 2023 or the July 1st immediately following the date of retirement.</p> <p>Upon the death of the retired member, 60% of the Restructured SRBR benefit continues to the retired member’s beneficiary.</p>
<i>Death Benefit</i>	An additional one-time post-retirement death benefit of \$5,000 is paid to a retired member’s beneficiary upon the death of the retired member.
Legacy SRBR Benefits:	
<i>Tier 1</i>	<p>\$35.50 per month payable to retirees who were hired on or before July 1, 1994.</p> <p>Upon the death of the retired member, 60% of the Tier 1 SRBR benefit continued to the retired member’s beneficiary.</p>
<i>Tier 2</i>	<p>Three additional monthly stipends payable to retirees:</p> <ul style="list-style-type: none">• \$1.372 per year of service for members who retired prior to 1985. This was granted July 1, 1994.• \$5.470 per year of service for members who retired prior to 1985. This was granted July 1, 1996.• \$10.276 per year of service for members who retired prior to 1981. This was granted July 1, 1997. <p>Upon the death of the retired member, 60% of the Tier 2 SRBR benefit continued to the retired member’s beneficiary.</p>
<i>Tier 3</i>	Additional benefits to maintain 82% purchasing power protection. Upon death, this benefit continued to be paid to the retired member’s beneficiary based on the applicable continuation percentage under the member’s form of payment elected at retirement.

Section 3: Actuarial Valuation Basis

Tier 4

\$21 per month granted starting July 1, 2018, payable to retirees who were hired prior to July 1, 2018. Upon the death of the retired member, 60% of the Tier 4 SRBR benefit continued to the retired member's beneficiary.

Changed Plan Provisions:

There have been no changes in plan provisions since the last valuation.

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Kern County Employees' Retirement Association

Governmental Accounting Standards Board Statement 67 (GAS 67) Actuarial Valuation

As of June 30, 2023



This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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December 6, 2023

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, California 93311

Dear Board Members:

We are pleased to submit this Governmental Accounting Standard (GAS) 67 Actuarial Valuation as of June 30, 2023. It contains various information that will need to be disclosed in order to comply with GAS 67. Please refer to the Actuarial Valuation and Review as of June 30, 2023, for the data, assumptions and plan of benefits underlying these calculations.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist KCERA in preparing items related to the pension plan in their financial report. The census and financial information on which our calculations were based was provided by KCERA. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Molly Calcagno, ASA, MAAA and Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Association and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

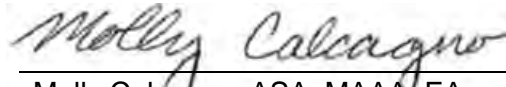
We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement 67 (GAS 67) as of June 30, 2023. This report is based on financial information as of June 30, 2023 and the Actuarial Valuation and Review as of June 30, 2023, which reflects:

- The benefit provisions of KCERA, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2022, provided by KCERA;
- The assets of the Plan as of June 30, 2023, provided by KCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board of Retirement for the June 30, 2023 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board of Retirement for the June 30, 2023 valuation.

General observations on the GAS 67 actuarial valuation

1. The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Employers and plans should develop and adopt funding policies under current practices.
2. When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as KCERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is generally determined on the same basis as KCERA's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
3. The Plan's Fiduciary Net Position includes assets held for the Supplemental Retiree Benefit Reserve (SRBR). The TPL reflects all future projected benefits expected to be paid from the SRBR for members as of the valuation date.
4. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded

Section 1: Actuarial Valuation Summary

Actuarial Accrued Liability (UAAL) on a market value basis. The exception is that the NPL is reduced by the excess of the SRBR assets over the TPL associated with the SRBR benefits.

Highlights of the valuation

1. For this report, the reporting dates for the Plan are June 30, 2023 and June 30, 2022. The NPL was measured as of June 30, 2023 and June 30, 2022, respectively, and was determined based upon rolling forward the results from actuarial valuations as of June 30, 2022 and June 30, 2021. In addition, any changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement dates.
2. The NPL increased from \$2.38 billion as of June 30, 2022 to \$2.52 billion as of June 30, 2023 primarily due to the changes in actuarial assumptions and the 5.96% return on the market value of assets during 2022-2023 (that was lower than the assumed return of 7.25%), offset to some extent by gains from retirement experience during 2021-2022 (because liabilities are rolled forward from June 30, 2022 to June 30, 2023, this change is not reflected until this valuation as of June 30, 2023). Changes in these values during the last two fiscal years ending June 30, 2023 and June 30, 2022 can be found in *Section 2, Schedule of changes in Net Pension Liability* on page 21.
3. All results shown in this report are on a combined basis including both the regular statutory (non-SRBR) benefits and the SRBR benefits. For purposes of illustration, separate values for the TPL, Plan's Fiduciary Net Position and NPL for the regular statutory (non-SRBR) benefits and the SRBR benefits as of June 30, 2023 are shown in the table below:

	Regular Benefits (Non-SRBR)	SRBR Benefits	Total KCERA
Total Pension Liability (TPL)	\$7,791,557,918	\$111,366,610	\$7,902,924,528
Plan's Fiduciary Net Position¹	5,252,882,900	133,698,294	5,386,581,194
Net Pension Liability (NPL)	2,538,675,018	(22,331,684)	2,516,343,334

4. The discount rate originally used to determine the TPL and NPL as of June 30, 2023 was 7.25%, following the same assumption used by the Association in the funding valuation as of June 30, 2022. However, as the Board has approved a new set of actuarial assumptions (including a new discount rate of 7.00%) for use in the funding valuation as of June 30, 2023, we have

¹ The total Fiduciary Net Position of \$5,386,581,194 as of June 30, 2023 is equal to the final market value of assets in the Pension Trust Fund as of June 30, 2023. This differs from the \$5,381,286,859 market value of assets used in our June 30, 2023 funding valuation because our funding valuation was based on the preliminary market value of assets provided in the unaudited financial statements.

Section 1: Actuarial Valuation Summary

estimated the impact of these assumption changes by (1) revaluing the TPL as of June 30, 2022 (before the roll forward) and (2) using this revalued TPL in rolling forward the results from June 30, 2022 to June 30, 2023. The detailed derivation of the discount rate of 7.00% used in the calculation of the TPL and NPL as of June 30, 2023 can be found in *Section 3, Appendix A*. The discount rate assumption has been developed without taking into consideration any impact of the 50/50 allocation of future excess earnings between the retirement and SRBR asset pools. Various other information that is required to be disclosed can be found throughout *Section 2*.

5. As discussed in our letter dated September 11, 2015 regarding the treatment of the SRBR for financial reporting purposes, Actuarial Standard of Practice (ASOP) No. 4 (“Measuring Pension Obligations and Determining Pension Plan Costs or Contributions”) states that some plan provisions, including “gain sharing” provisions, “may create pension obligations that are difficult to appropriately measure using traditional valuation procedures.” ASOP No. 4 further states that “for such plan provisions, the actuary should consider using alternative valuation procedures, such as stochastic modeling ... to reflect the impact of variations in experience from year to year.” The 50% allocation of future excess earnings to the SRBR for KCERA is a clear example of the gain sharing provisions referenced by ASOP No. 4.

After several meetings with KCERA and its auditors, and based on information regarding another SRBR system that included discussions with GASB staff, it was previously determined that future allocations to the SRBR should be treated as an additional “outflow” (i.e., assets not available to fund the benefits included in the determination of the TPL) against the Plan’s Fiduciary Net Position in the GASB crossover test² (see *Section 3, Appendix A*).

However, as noted earlier in this report, the Plan’s Fiduciary Net Position includes assets held for the SRBR, and the TPL includes all projected future benefits expected to be paid from the SRBR for members as of the valuation date. This treatment was also discussed with KCERA and its auditors and determined to be appropriate. Therefore, any outflows due to the 50/50 excess earnings allocation would not affect the outcome of the crossover test since the crossover test is performed based on the combined results of the statutory (non-SRBR) benefits and the SRBR.

6. Based on discussions with KCERA and their auditors, starting with the June 30, 2016 measurement date for the employers, employer paid member contributions are excluded from employer contributions in the determination of the Actuarially Determined Contribution (ADC). The amount of employer paid member contributions was estimated by first determining what the employer contribution rates would have been during the year, excluding any employer paid member contributions. The actual employer contribution rates were then adjusted by the ratio of the employer contribution rates determined above and the employer contribution rates determined in the annual actuarial valuation. The result is the employer contributions excluding any employer paid member contributions. This change has not been applied on a retroactive basis prior to the 2015-2016 fiscal year.

² The purpose of the GASB crossover test is to determine if the full expected return (or 7.00% in this case) can be used as the discount rate to determine the TPL and the NPL. That is, if there is no crossover point where the projected benefit payments would exceed the Plan’s Fiduciary Net Position, then the full expected return assumption can be used. As detailed later in this report, KCERA does pass the crossover test, which means that the full 7.00% investment rate of return assumption can be used as the discount rate to determine the TPL and the resulting NPL.

Section 1: Actuarial Valuation Summary

7. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2023. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation is based on Plan data as of June 30, 2022 and it does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2022 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Measurement Date		June 30, 2023	June 30, 2022
Disclosure elements for plan year ending June 30:	• Service Cost ¹	\$119,519,579	\$118,979,049
	• Total Pension Liability	7,902,924,528	7,510,905,541
	• Plan's Fiduciary Net Position	5,386,581,194	5,131,128,660
	• Net Pension Liability	2,516,343,334	2,379,776,881
Schedule of contributions for plan year ending June 30:	• Actuarially determined contributions ²	\$316,838,000	\$287,063,000
	• Actual employer contributions ²	316,838,000	287,063,000
	• Contribution deficiency / (excess)	0	0
Demographic data for plan Year ending June 30:³	• Number of retired members and beneficiaries	9,156	9,015
	• Number of inactive vested members ⁴	4,391	4,015
	• Number of active members	9,557	9,076
Key assumptions as of June 30:	• Investment rate of return	7.00%	7.25%
	• Inflation rate	2.50%	2.75%
	• Real across-the-board salary increase	0.50%	0.50%
	• Projected salary increases ⁵	General: 3.70% to 8.00% and Safety: 4.00% to 10.00%	General: 4.00% to 8.75% and Safety: 3.75% to 12.00%
	• Cost of living adjustments	2.50%	2.50%

¹ Excludes administrative expense load. The service cost is based on the previous year's valuation, meaning the June 30, 2023 and June 30, 2022 values are based on the valuations as of June 30, 2022 and June 30, 2021, respectively. Both service costs have been calculated using the assumptions shown in the June 30, 2022 column, as there had been no changes in the actuarial assumptions between the June 30, 2021 and June 30, 2022 valuations.

² See footnote (1) under *Section 2, Schedule of contributions* on page 22.

³ Data as of June 30, 2022 is used in the measurement of the TPL as of June 30, 2023.

⁴ Includes terminated members due a refund of member contributions.

⁵ Includes inflation at 2.50% plus real across-the-board salary increase of 0.50% plus merit and promotional increases that vary by service for the June 30, 2023 measurement date and includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus merit and promotional increases that vary by service for the June 30, 2022 measurement date.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by KCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	The valuation is based on the market value of assets as of the measurement date, as provided by KCERA.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The valuation is prepared at the request of the Board to assist KCERA in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

Actuarial results in this report are not rounded, but that does not imply precision.

If KCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Association should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by KCERA upon delivery and review. KCERA should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of KCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to KCERA.

Section 2: GAS 67 Information

General information about the pension plan

Plan Description

Plan administration. The Kern County Employees' Retirement Association (KCERA) was established by the County of Kern in 1945. KCERA is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq.), the California Public Employees' Pension Reform Act (CalPEPRA) and the bylaws, procedures and policies adopted by the KCERA Board. KCERA is a cost-sharing multiple employer defined benefit public employee retirement system whose main function is to provide retirement, disability, death, beneficiary, cost-of-living and supplemental retirement benefits to the General and Safety members employed by the County of Kern. KCERA also provides retirement benefits to the employee members of the Berrenda Mesa Water District, Buttonwillow Recreation and Park District, East Kern Cemetery District, Inyokern Community Services District, Kern County Water Agency, Kern Mosquito and Vector Control District, North of the River Sanitation District, San Joaquin Valley Unified Air Pollution Control District, Shafter Recreation and Park District, West Side Cemetery District, West Side Mosquito and Vector Control District, West Side Recreation and Park District, the Kern County Superior Court, and the Kern County Hospital Authority.

The management of KCERA is vested with the KCERA Board of Retirement. The Board consists of nine members and two alternate members. The County Treasurer is elected by the general public and is a member of the Board of Retirement by law. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor; two members are elected by the general membership; one member and one alternate member are elected by the safety membership; and one member and one alternate member are elected by the retired members of the Association. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with his term as County Treasurer.

Plan membership. At June 30, 2023, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	9,156
Inactive vested members entitled to, but not yet receiving benefits ¹	4,391
Active members	9,557
Total	23,104

¹ Includes terminated members due a refund of member contributions.

Note: Data as of June 30, 2023 is not used in the measurement of the TPL as of June 30, 2023.

Section 2: GAS 67 Information

Benefits provided. KCERA provides retirement, disability, beneficiary, cost-of-living and supplemental retirement benefits to eligible employees. All regular full-time employees of the County of Kern or contracting districts who work 50% or more of the regular standard hours required become members of KCERA effective on the first day of the first full biweekly payroll period following the date of employment. There are separate retirement benefits for General and Safety members. Safety membership is extended to those involved in active law enforcement, fire suppression, and certain probation officers.

General members (excluding Tier III) are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 30 years of service is eligible to retire regardless of age. General Tier III members are eligible to retire once they have attained the age of 70 regardless of service or at age 52 and have acquired 5 or more years of retirement service credit.

Safety members are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 20 years of service is eligible to retire regardless of age.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

General member benefits for Tier I and Tier II are calculated pursuant to the provisions of California Government Code Sections 31676.17 and 31676.01, respectively. The monthly allowance is equal to 1/50th of final average compensation times years of accrued retirement service credit times age factor from Section 31676.17 (Tier I) or 1/90th of final average compensation times years of accrued retirement service credit times age factor from Section 31676.01 (Tier II). General Tier III member benefits are calculated pursuant to the provisions found in California Government Code Section 7522.20(a). The monthly allowance is equal to the final average compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.20(a).

Safety member benefits for Tier I and Tier II are calculated pursuant to the provisions of California Government Code Sections 31664.1 and 31664, respectively. The monthly allowance is equal to 3% of final average compensation times years of accrued retirement service credit times age factor from 31664.1 (Tier I) or 1/50th (or 2%) of final average compensation times years of accrued retirement service credit times age factor from Section 31664 (Tier II).

For members in Tier I or Tier II, the maximum monthly retirement allowance is 100% of final average compensation. There is no final average compensation limit on the maximum retirement benefit for General Tier III members. However, the maximum amount of compensation earnable that can be taken into account for 2023 for members with membership dates on or after July 1, 1996 but before January 1, 2013 is \$330,000. For members with membership dates on or after January 1, 2013 the maximum amount of pensionable compensation that can be taken into account for 2023 is equal to \$146,042 for those enrolled in Social Security. These limits are adjusted on an annual basis. Members are exempt from paying member contributions and employers are exempt from paying employer contributions on compensation in excess of the annual cap.

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Final average compensation consists of the highest 12 consecutive months of pensionable pay for a General Tier I or Tier IIA member or a Safety Tier I or Tier IIA member and the highest 36 consecutive months of pensionable pay for a General Tier IIB or Tier III member or a Safety Tier IIB member.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse or domestic partner. An eligible surviving spouse or domestic partner is one married to or registered with the member one year prior to the effective retirement date. Certain surviving spouses or domestic partners may also be eligible if marriage or domestic partnership was at least two years prior to the date of death and the surviving spouse or domestic partner has attained age 55 on or prior to the date of death. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse, domestic partner, or named beneficiary having an insurable interest in the life of the member to a surviving spouse, domestic partner, or named beneficiary having an insurable interest in the life of the member.

KCERA provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the ratio of the past two Consumer Price Indices for the Los Angeles-Long Beach-Anaheim Area, is capped at 2.5%.

The County of Kern and contracting districts contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from KCERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2023 for 2022-2023 (based on the June 30, 2021 valuation and after reflecting the phase-in of the impact of the assumption changes for the County Safety cost group) was 48.91% of compensation.

Members are required to make contributions to KCERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2023 for 2022-2023 (based on the June 30, 2021 valuation) was 6.82% of compensation.

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Net Pension Liability

The components of the Net Pension Liability were as follows:

Measurement Date	June 30, 2023	June 30, 2022
Total Pension Liability	\$7,902,924,528	\$7,510,905,541
Plan's Fiduciary Net Position	<u>5,386,581,194</u>	<u>(5,131,128,660)</u>
Net Pension Liability	\$2,516,343,334	\$2,379,776,881
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	68.16%	68.32%

The Net Pension Liability (NPL) for the plan was measured as of June 30, 2023 and June 30, 2022. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement dates while the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2022 and June 30, 2021, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of June 30, 2023 and June 30, 2022 are the same as those used in the KCERA actuarial valuation as of June 30, 2023 and June 30, 2022, respectively. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for the Supplemental Retiree Benefit Reserve (SRBR).

Actuarial assumptions and actuarial cost method. The TPL as of June 30, 2023 was remeasured by (1) revaluing the TPL as of June 30, 2022 (before the roll forward) to include the following actuarial assumptions and actuarial cost method that the Retirement Board has adopted for use in the June 30, 2023 funding valuation and (2) using this revalued TPL in rolling forward the results from June 30, 2022 to June 30, 2023. The actuarial assumptions used in the June 30, 2023 funding valuation were based on the result of an experience study for the period from July 1, 2019 through June 30, 2022. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2023 measurement:

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Investment rate of return:	7.00%, net of pension plan investment expense, including inflation.
Inflation rate:	2.50%
Administrative expenses:	0.95% of payroll allocated to both the employer and the member based on the components of the total average contribution rate (before expenses) for the employer and the member.
Real across-the-board salary increase:	0.50%
Projected salary increases:	General: 3.70% to 8.00% and Safety: 4.00% to 10.00%, varying by service, including inflation and real across-the-board salary increase
Cost of living adjustments (COLA):	Retiree COLA increases due to CPI are assumed to be 2.50%.
Other assumptions:	Same as those used in the June 30, 2023 funding valuation. These assumptions were developed in the analysis of actuarial experience for the period July 1, 2019 through June 30, 2022.

The TPL as of June 30, 2022 that was measured by the actuarial valuation as of June 30, 2021 used the same actuarial assumptions and actuarial cost method as the June 30, 2022 funding valuation. The actuarial assumptions used in the June 30, 2022 funding valuation were based on the result of an experience study for the period from July 1, 2016 through June 30, 2019. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2022 measurement:

Investment rate of return:	7.25%, net of pension plan investment expense, including inflation.
Inflation rate:	2.75%
Administrative expenses:	0.90% of payroll allocated to both the employer and the member based on the components of the total average contribution rate (before expenses) for the employer and the member.
Real across-the-board salary increase:	0.50%
Projected salary increases:	General: 4.00% to 8.75% and Safety: 3.75% to 12.00%, varying by service, including inflation and real across-the-board salary increase
Cost of living adjustments (COLA):	Retiree COLA increases due to CPI are assumed to be 2.50%.
Other assumptions:	Same as those used in the June 30, 2022 funding valuation. These assumptions were developed in the analysis of actuarial experience for the period July 1, 2016 through June 30, 2019.

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The Entry Age Actuarial Cost Method used in KCERA's annual actuarial valuation has also been applied in measuring the service cost and TPL with one exception. For purposes of measuring the service cost and TPL, we have reflected the same plan provisions used in determining the member's Actuarial Present Value of Projected Benefits. This is different from the version of this method applied in KCERA's annual funding valuation, where the Normal Cost is determined as if the current benefit accrual rate had always been in effect.

Section 2: GAS 67 Information

Determination of discount rate and investment rates of return

In the most recent experience study performed in 2023, the long-term expected rate of return on pension plan investments was determined using a building-block method in which expected arithmetic real rates of return (expected returns, net of inflation and, beginning with June 30, 2023, any applicable investment management expenses) are developed for each major asset class. These returns are combined to produce the long-term expected arithmetic rate of return for the portfolio by weighting the expected arithmetic real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses (beginning with June 30, 2023 including only investment consulting fees, custodian fees and other miscellaneous investment expenses) and a risk margin. Beginning with June 30, 2023 this portfolio return is also adjusted to an expected geometric real rate of return for the portfolio. The target allocation and projected arithmetic real rates of return for each major asset class (after deducting inflation) are shown in the following tables. For June 30, 2022 these rates are before deducting investment management expenses while for June 30, 2023 they are after deducting applicable investment management expenses. This information was used in the derivation of the long-term expected investment rate of return assumption in the June 30, 2023 and June 30, 2022 actuarial valuations. This information will change every three years based on the actuarial experience study.

June 30, 2023

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Global Equity	37%	7.05%
Core Fixed Income	14%	1.97%
High Yield Corporate Credit	6%	4.63%
Emerging Market Debt (Hard)	2%	4.72%
Emerging Market Debt (Local)	2%	4.53%
Commodities	4%	4.21%
Core Real Estate	5%	3.86%
Value Added Real Estate	5%	6.70%
Midstream	5%	8.00%
Capital Efficiency Alpha Pool	8%	3.10%
Hedge Fund	10%	3.10%
Private Equity	5%	10.27%
Private Credit	5%	6.97%
Cash	-8%	0.63%
Total	100%	5.81%

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June 30, 2022

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Global Equity	37%	6.51%
Core Fixed Income	14%	1.09%
High Yield Corporate Credit	6%	3.38%
Emerging Market Debt Blend	4%	3.41%
Commodities	4%	3.08%
Core Real Estate	5%	4.59%
Private Real Estate	5%	9.50%
Midstream	5%	8.20%
Capital Efficiency Alpha Pool	5%	2.40%
Hedge Fund	10%	2.40%
Private Equity	5%	9.40%
Private Credit	5%	5.60%
Cash	-5%	0.00%
Total	100%	5.25%

Discount rate. The discount rate used to measure the TPL was 7.00% as of June 30, 2023 and 7.25% as of June 30, 2022. The projection of cash flows used to determine the discount rates assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2023 and June 30, 2022.

The discount rate assumptions have been developed without taking into consideration any impact of the 50/50 allocation of future excess earnings between the retirement and Supplement Retirement Benefit Reserve (SRBR) asset pools.

Section 2: GAS 67 Information

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of the KCERA as of June 30, 2023, calculated using the discount rate of 7.00%, as well as what the KCERA's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net Pension Liability as of June 30, 2023	\$3,549,044,545	\$2,516,343,334	\$1,667,639,118

Section 2: GAS 67 Information

Schedule of changes in Net Pension Liability – Last two fiscal years

Measurement Date	June 30, 2023	June 30, 2022
Total Pension Liability		
• Service cost	\$119,519,579	\$118,979,049
• Interest	538,058,603	523,871,953
• Change of benefit terms	0	30,437,639
• Differences between expected and actual experience	(33,519,899)	(69,170,152)
• Changes of assumptions	185,815,002	0
• Benefit payments, including refunds of member contributions	<u>(417,854,298)</u>	<u>(400,107,882)</u>
Net change in Total Pension Liability	\$392,018,987	\$204,010,607
Total Pension Liability – beginning	<u>7,510,905,541</u>	<u>7,306,894,934</u>
Total Pension Liability – ending	<u>\$7,902,924,528</u>	<u>\$7,510,905,541</u>
Plan’s Fiduciary Net Position		
• Contributions – employer ¹	\$316,837,594	\$287,063,044
• Contributions – employee ¹	59,521,508	54,514,264
• Net investment income	304,207,898	(219,947,045)
• Benefit payments, including refunds of member contributions	(417,854,298)	(400,107,882)
• Administrative expense	(7,260,168)	(6,702,394)
• Other	<u>0</u>	<u>(1,204,506)</u> ²
Net change in Plan’s Fiduciary Net Position	\$255,452,534	\$(286,384,519)
Plan’s Fiduciary Net Position – beginning	<u>5,131,128,660</u>	<u>5,417,513,179</u>
Plan’s Fiduciary Net Position – ending	<u>\$5,386,581,194</u>	<u>\$5,131,128,660</u>
Net Pension Liability – ending	<u>\$2,516,343,334</u>	<u>\$2,379,776,881</u>
Plan’s Fiduciary Net Position as a percentage of the Total Pension Liability	68.16%	68.32%
Covered payroll ³	\$677,026,425	\$612,609,249
Net Pension Liability as percentage of covered payroll	371.68%	388.47%

¹ See footnote (1) under Section 2, Schedule of contributions on page 22.

² This represents the amount of recovery or refunds of benefits and/or member contributions previously paid in conjunction with PEPRA implementation and pay items impacted by the implementation of the Alameda decision.

³ Covered payroll represents payroll on which contributions to the pension plan are based.

Notes to Schedule: Benefit changes: None.

Section 2: GAS 67 Information

Schedule of contributions – Last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions ¹	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll ²	Contributions as a Percentage of Covered Payroll
2014	\$220,393,000	\$220,393,000	\$0	\$533,850,811	41.28%
2015	215,477,000	215,477,000	0	531,598,183	40.53%
2016	216,229,000	216,229,000	0	537,539,991	40.23%
2017	224,351,000	224,351,000	0	546,671,003	41.04%
2018	242,534,000	242,534,000	0	576,728,789	42.05%
2019	229,120,000	229,120,000	0	579,071,865	39.57%
2020	273,909,000	273,909,000	0	607,695,110	45.07%
2021	268,626,000	268,626,000	0	604,320,398	44.45%
2022	287,063,000	287,063,000	0	612,609,249	46.86%
2023	316,838,000	316,838,000	0	677,026,425	46.80%

¹ All “Actuarially Determined Contributions” through June 30, 2014 were determined as the “Annual Required Contribution” under GAS 25 and 27. Starting from 2016, actuarially determined contributions exclude employer paid member contributions.

² Covered payroll represents payroll on which contributions to the pension plan are based.

See accompanying notes to this schedule on next page.

Section 2: GAS 67 Information

Notes to Schedule:

Methods and assumptions used to establish “actuarially determined contribution” rates:

Valuation date:	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method:	Entry Age Actuarial Cost Method
Amortization method:	Level percent of payroll for total unfunded liability
Remaining amortization period:	12.5 years as of June 30, 2023 for all UAAL as of June 30, 2011. Effective June 30, 2012, any changes in UAAL due to actuarial gains or losses or due to changes in actuarial assumptions or methods will be amortized over a 18-year closed period effective with each valuation. Any change in unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining 15-year period (with exception of a change due to retirement incentives, which is amortized over a declining period of up to 5 years).
Asset valuation method:	Market value of assets (MVA) less unrecognized returns in each of the last five years. Unrecognized returns are equal to the difference between the actual market return and the expected return on a market value basis and are recognized semi-annually over a five-year period. The AVA cannot be less than 50% of MVA, nor greater than 150% of MVA. The Actuarial Value of Assets (AVA) is reduced by the value of the non-valuation reserves.

Section 2: GAS 67 Information

Actuarial assumptions:

Valuation Date:	June 30, 2021 Valuation Date (used for the year ended June 30, 2023 ADC)
Investment rate of return:	7.25%, net of pension plan investment expenses, including inflation
Inflation rate:	2.75%
Administrative expense:	0.90% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member
Real across-the-board salary increase:	0.50%
Projected salary increases:¹	General: 4.00% to 8.75% and Safety: 3.75% to 12.00%
Cost of living adjustments:	2.50% (actual increases contingent upon CPI increases with a 2.50% maximum)
Other assumptions:	Same as those used in the June 30, 2021 funding actuarial valuation

¹ Includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus merit and promotional increases that vary by service.

Section 3: Appendices

Appendix A: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2023 (\$ in millions)

Year Beginning June 30	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Beginning Plan Fiduciary Net Position (f) = (a) + (b) – (c) – (d) + (e)
2022	\$5,131	\$376	\$418	\$7	\$304	\$5,387
2023	5,387	364	464	5	373	5,654
2024	5,654	368	459	5	392	5,951
2025	5,951	373	476	5	412	6,256
2026	6,256	385	494	5	434	6,577
2027	6,577	395	511	4	456	6,912
2028	6,912	399	531	4	479	7,255
2029	7,255	402	550	4	503	7,605
2030	7,605	395	570	4	526	7,953
2031	7,953	394	589	4	550	8,304
2062	6,870	1	688	0*	457	6,640
2063	6,640	1	675	0*	441	6,407
2064	6,407	0*	661	0*	425	6,172
2065	6,172	0*	645	0*	409	5,937
2066	5,937	0*	628	0*	394	5,703
2097	4,992	0	25	0	349	5,315
2098	5,315	0	20	0	371	5,667
2099	5,667	0	15	0	396	6,048
2100	6,048	0	11	0	423	6,459
2101	6,459	0	8	0	452	6,903
2137	73,514	0	0*	0	5,146	78,659
2138	78,659					
2138 Discounted Value	33**					

* Less than \$1 million when rounded.

** \$78,659 million when discounted with interest at the rate of 7.00% per annum has a value of \$33 million (or 0.61% of the Plan's Fiduciary Net Position) as of the June 30, 2023 measurement date.

Section 3: Appendices

Notes:

1. Amounts may not total exactly due to rounding.
2. Amounts shown in the year beginning July 1, 2022 row are actual amounts, based on the final audited financial statements provided by KCERA.
3. Various years have been omitted from this table.
4. **Column (a):** Except for the "discounted value" shown for 2138, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.
5. **Column (b):** Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2022); plus employer contributions to the unfunded actuarial accrued liability; plus employer and employee contributions to fund each year's annual administrative expenses, based on the Plan's funding policy. Contributions are assumed to occur halfway through the year, on average.
6. **Column (c):** Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2022. The projected benefit payments reflect the cost of living increase assumption of 2.50% per annum and include projected benefits associated with the Supplemental Retiree Benefit Reserve, including applicable cost of living increases on those benefits. Benefit payments are assumed to occur halfway through the year, on average.
7. **Column (d):** Projected administrative expenses are calculated as approximately 0.95% of the closed group payroll. Administrative expenses are assumed to occur halfway through the year, on average.
8. **Column (e):** Projected investment earnings are based on the assumed investment rate of return of 7.00% per annum.
9. As illustrated in this Appendix, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2023 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.
10. This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of Plan's Fiduciary Net Position and the discounting of benefits is part of the model.

Section 3: Appendices

Appendix B: Definition of Terms

Definitions of certain terms as they are used in Statement 67. The terms may have different meanings in other contexts.

Actuarial Present Value of Projected Benefit Payments:	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation:	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date:	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution:	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs):	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad Hoc Postemployment Benefit Changes:	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Automatic Cost-of-Living Adjustments (Automatic COLAs):	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Automatic Postemployment Benefit Changes:	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Cost-of-Living Adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan):	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered Payroll:	Payroll on which contributions to the pension plan are based.
Defined Benefit Pension Plans:	Pension plans that are used to provide defined benefit pensions.

Section 3: Appendices

Defined Benefit Pensions:	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 67.)
Defined Contribution Pension Plans:	Pension plans that are used to provide defined contribution pensions.
Defined Contribution Pensions:	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount Rate:	<p>The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:</p> <ol style="list-style-type: none"> 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan's Fiduciary Net Position is projected (under the requirements of Statement 67) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
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 age(s). 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.
Inactive Employees:	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Multiple-Employer Defined Benefit Pension Plan:	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL):	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.

Section 3: Appendices

Other Postemployment Benefits:	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension Plans:	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions:	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan Members:	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment:	The period after employment.
Postemployment Benefit Changes:	Adjustments to the pension of an inactive employee.
Postemployment Healthcare Benefits:	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected Benefit Payments:	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public Employee Retirement System:	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real Rate of Return:	The rate of return on an investment after adjustment to eliminate inflation.
Service Costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan):	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Termination Benefits:	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL):	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 67.

Via Email

December 6, 2023

Mr. Dominic Brown
Chief Executive Officer
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association (KCERA)
Possible phase-ins of the increase in County's UAAL contribution rate due to
changes in actuarial assumptions**

Dear Dominic:

We have been requested to provide information on possible two-year and three-year “phase-ins” of the increase in the County’s unfunded actuarial accrued liability (UAAL) contribution rate due to changes in actuarial assumptions effective with the June 30, 2023 valuation. This letter provides an illustration of the phased in contribution rate and discusses the impact of the phase-ins on the ultimate employer contribution rate after the phase-ins are over.

Background

In our valuation, we calculated that the changes in actuarial assumptions adopted by the Board, including a 7.00% investment return assumption, would increase the aggregate employer contribution rate by 3.07% of payroll and the aggregate member rate by 0.38% of payroll. More specifically the employer rate increases are 1.70% for County General, 1.80% for Courts, and 7.97% for County Safety.

Please note that the discussion in this letter reflects the general practice that, even when changes in employer rates are phased in, changes in the member rates due to assumption changes are not phased in. There are two main reasons for that practice. The principal reason is that, because the phase-in increases the UAAL and the UAAL is funded only by the employer, a phase-in of the member rates would in effect shift cost from the employees to the employers. In addition, because member contribution rates are based solely on normal cost and are unaffected by changes in the UAAL, the cost impact on member rates is generally smaller than the impact on employer rates.

Consistent with the action the Board took at the time of the last experience study, this letter illustrates only a phase-in of the UAAL amortization component of the employer rate increase. In practice, this is usually most of the cost impact. For example, of the 3.07% of rate impact noted

above, the UAAL amortization component increased by 2.32%, while the normal cost rate increased by 0.75%.

Another reason behind the Board's decision to phase-in only the changes in the UAAL rate at the last experience study had to do with the fact that, under the California Public Employees' Pension Reform Act of 2013 (CalPEPRA), the normal cost is split 50:50 between the employers and the members. Since, as noted earlier, changes in member rates due to assumption changes are not phased in, it may be considered more consistent with CalPEPRA to exclude the change in employer normal cost from the phase-in as well.

We would advise the Board of Retirement that phasing in of the employer's contribution rate impact of assumption changes is a common practice both nationally and especially here in California. Some systems routinely phase in such rate changes whenever assumptions are changed and the cost impact is above some threshold amount. Furthermore, guidance on actuarial funding policy from both the California Actuarial Advisory Panel and the Conference of Consulting Actuaries views this as an acceptable practice as long as the phase-in period is no longer than the time until the next experience study, just as is being illustrated here.

Impact of two-year phase-in of only the employer UAAL contribution rate change

The changes in actuarial assumptions increase the employer's UAAL contribution rate in the June 30, 2023 valuation by 1.36% of payroll for County General and Courts and 5.76% for County Safety. Under this scenario, the 1.36% and 5.76% would be phased in over two years starting with the June 30, 2023 valuation, which establishes the employer and member contribution rates for the 2024/2025 fiscal year.

The following is a general description of how a two-year phase-in would work:

- The portion of the employer contribution to be phased in would be determined one time, as of the June 30, 2023 valuation. That total fixed amount of 1.36% of payroll for County General and Courts and 5.76% of payroll for County Safety will not be re-determined in later valuations.
- The actual employer contribution rate would immediately increase by the full impact of the change in normal cost. The actual employer contribution rate would also reflect one-half of the impact of the change in the UAAL amortization rate. That amount is 0.68% of payroll ($1/2 \times 1.36\%$) for County General and Courts and 2.88% of payroll ($1/2 \times 5.76\%$) for County Safety. In other words, the actual employer rates would defer recognition of one-half of the impact by subtracting 0.68% for County General and Courts and 2.88% for County Safety from the employer rate determined in the June 30, 2023 valuation.
- In the June 30, 2024 valuation, the employer contribution rate would reflect the full impact of the change in UAAL amortization rate shown above, or 1.36% of payroll for County General and Courts and 5.76% of payroll for County Safety. None of the original impact would be deferred and there would be no deduction from the employer rate determined in the June 30, 2024 valuation.

During the phase-in period, the plan is not receiving the full UAAL amortization payments. That means that in the next actuarial valuation, there will be an actuarial loss that will increase the future UAAL and future UAAL contributions. This contribution loss will be amortized and funded over a period of 18 years starting with the actuarial valuation that follows the contribution loss (i.e., following the year of the phased in contribution). In our experience, contribution losses due to phase-ins are usually relatively small and so are not identified separately, but simply become part of “other gains and losses”.

If the Board adopts the two-year phase-in only for the impact on UAAL amortization, the employer contribution rates would immediately increase by the full impact of the change in normal cost. The cumulative increase in only the aggregate employer UAAL amortization rates both before and after applying the phase-in is provided in the tables below:

Cost Phase-in Applied Only to UAAL Amortization Rate for County General and Courts

Fiscal Year	Cumulative Increase in Employer UAAL Rates Without Phase-in	Cumulative Increase in Employer UAAL Rates With Phase-in
2024 / 2025	1.36%	0.68%
2025 and later	1.36%	1.41%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety

Fiscal Year	Cumulative Increase in Employer UAAL Rates Without Phase-in	Cumulative Increase in Employer UAAL Rates With Phase-in
2024 / 2025	5.76%	2.88%
2025 and later	5.76%	5.99%

When we then add in the full impact of the change in normal cost, the total increases in the total employer rate would be as follows:

Cost Phase-in Applied Only to UAAL Amortization Rate for County General¹

Fiscal Year	Cumulative Increase in Aggregate Employer Rates Without Phase-in	Cumulative Increase in Aggregate Employer Rates With Phase-in
2024 / 2025	1.70%	1.02%
2025 and later	1.70%	1.75%

Cost Phase-in Applied Only to UAAL Amortization Rate for Courts²

Fiscal Year	Cumulative Increase in Aggregate Employer Rates Without Phase-in	Cumulative Increase in Aggregate Employer Rates With Phase-in
2024 / 2025	1.80%	1.12%
2025 and later	1.80%	1.85%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety³

Fiscal Year	Cumulative Increase in Aggregate Employer Rates Without Phase-in	Cumulative Increase in Aggregate Employer Rates With Phase-in
2024 / 2025	7.97%	5.09%
2025 and later	7.97%	8.20%

These tables show that, because of the contribution losses discussed earlier, the rate impact for the second year of the phase-in is somewhat higher than simply adding another one-half of the phased in amount to the contribution rates for the preceding year.

Impact of three-year phase-in of only the employer UAAL contribution rate change

As an alternative, we have shown below the impact of a three-year phase-in of the UAAL amortization rate for the employer. The structure is similar to a two-year phase in, except that one-third of the rate increase will be recognized each year, causing contribution losses in the next two actuarial valuations that will increase the future UAAL and future UAAL contributions.

¹ It is our understanding that, in practice, County General pays a single employer rate, regardless of tier, which will differ from the tier-specific total employer rates paid by Courts.

² It is our understanding that, in practice, Courts pay separate employer rates for each tier. While the UAAL rate to be phased-in for each tier would be the same, because of different normal cost rates we would calculate different total employer rates for each tier.

³ It is our understanding that, in practice, County Safety pays a single employer rate, regardless of tier.

If the Board adopts the three-year phase-in only for the impact on UAAL amortization, the employer contribution rates would immediately increase by the full impact of the change in normal cost. The cumulative increase in only the aggregate employer UAAL amortization rates both before and after applying the phase-in is provided in the table below:

Cost Phase-in Applied Only to UAAL Amortization Rate for County General and Courts

Fiscal Year	Cumulative Increase in Employer UAAL Rates Without Phase-in	Cumulative Increase in Employer UAAL Rates With Phase-in
2024 / 2025	1.36%	0.45%
2025 / 2026	1.36%	0.98%
2026 and later	1.36%	1.47%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety

Fiscal Year	Cumulative Increase in Employer UAAL Rates Without Phase-in	Cumulative Increase in Employer UAAL Rates With Phase-in
2024 / 2025	5.76%	1.92%
2025 / 2026	5.76%	4.14%
2026 and later	5.76%	6.21%

When we then add in the full impact of the change in normal cost, the total increases in the total employer rate would be as follows:

Cost Phase-in Applied Only to UAAL Amortization Rate for County General¹

Fiscal Year	Cumulative Increase in Aggregate Employer Rates Without Phase-in	Cumulative Increase in Aggregate Employer Rates With Phase-in
2024 / 2025	1.70%	0.79%
2025 / 2026	1.70%	1.32%
2026 and later	1.70%	1.81%

¹ It is our understanding that, in practice, County General pays a single employer rate, regardless of tier, which will differ from the tier-specific total employer rates paid by Courts.

Cost Phase-in Applied Only to UAAL Amortization Rate for Courts¹

Fiscal Year	Cumulative Increase in Aggregate Employer Rates Without Phase-in	Cumulative Increase in Aggregate Employer Rates With Phase-in
2024 / 2025	1.80%	0.89%
2025 / 2026	1.80%	1.42%
2026 and later	1.80%	1.91%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety²

Fiscal Year	Cumulative Increase in Aggregate Employer Rates Without Phase-in	Cumulative Increase in Aggregate Employer Rates With Phase-in
2024 / 2025	7.97%	4.13%
2025 / 2026	7.97%	6.35%
2026 and later	7.97%	8.42%

These tables show that, because of the contribution losses discussed earlier, the rate impacts for the second and third years of the phase-in are somewhat higher than simply adding another one-third of the phased in amount to the contribution rates for the preceding year.

Unless otherwise noted, all of the above calculations are based on the June 30, 2023 actuarial valuation results including the participant data and actuarial assumptions on which that valuation was based. That valuation and these calculations were completed under the supervision of Molly Calcagno, ASA, MAAA, Enrolled Actuary.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

¹ It is our understanding that, in practice, Courts pay separate employer rates for each tier. While the UAAL rate to be phased-in for each tier would be the same, because of different normal cost rates we would calculate different total employer rates for each tier.

² It is our understanding that, in practice, County Safety pays a single employer rate, regardless of tier.

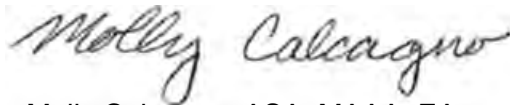
Mr. Dominic Brown
December 6, 2023
Page 7

Please let us know if you have any questions, and we look forward to discussing this with you and your Board.

Sincerely,



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl



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December 6, 2023

Mr. Dominic Brown
Chief Executive Officer
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association (KCERA)
Allocation of June 30, 2023 Liabilities and Assets by District**

Dear Dominic:

As requested, the following provides an allocation of the Actuarial Accrued Liability (AAL), the Valuation Value of Assets (VVA) and the Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2023 for each District. This information (and a few other results) is included on the enclosed Exhibit.

The AAL for each District is based on the results of the June 30, 2023 actuarial valuation including the actuarial assumptions and demographic data used in that valuation. However, since the Association is a cost-sharing multiple employer plan, assets and UAAL are generally not maintained on an employer-by-employer basis in our actuarial valuation. Assets are maintained for each of three UAAL cost groups in the valuation. Those cost groups are County General with Courts, Districts and Safety.

In order to allocate the assets maintained for all Districts to each District, we have pro-rated the assets based on the AAL for each District.¹ This results in the same funded ratio for each of the Districts. Based on this methodology, we have prepared the attached Exhibit that contains a breakdown of various June 30, 2023 valuation results by each District.

Note that the UAAL we calculate for each District is not equal to the unfunded liability that would be allocated to that District in the event of a plan termination by that District. This is because the methodology used in this letter is not the same as the methodology adopted by the Retirement Board for determining unfunded liabilities for terminating employers. It is also not equal to the Net Pension Liability (NPL) allocated to each employer for financial reporting purposes as shown in the Governmental Accounting Standards (GAS) No. 68 report.²

¹ The assets for Berrenda Mesa Water and Inyokern Community Services have been allocated based on the Association's Declining Employer Payroll Policy. The remaining assets are pro-rated based on the AAL for the other Districts.

² The methodologies used for allocating unfunded liabilities to terminating employers and NPL to active employers for financial reporting purposes are generally based on allocating by payroll. Note that the methodology used in the actuarial valuation to allocate active employer UAAL contributions is also based on payroll.

Mr. Dominic Brown
December 6, 2023
Page 2

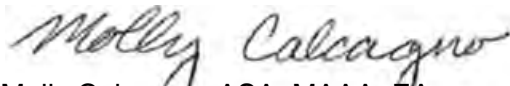
As noted above, all of the above calculations are based on the June 30, 2023 actuarial valuation results including the participant data and actuarial assumptions on which that valuation was based. That valuation and these calculations were completed under the supervision of Molly Calcagno, ASA, MAAA, Enrolled Actuary.

The undersigned are Members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Sincerely,



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl
Enclosure

Exhibit

Kern County Employees' Retirement Association Allocation as of June 30, 2023

Category	District Name	Member Count ¹	A	B	C	D	E
			Present Value of Projected Benefits	Present Value of Future Normal Costs ²	Actuarial Liability (AAL) (A - B)	Valuation Assets (Prorated by AAL) ³	Unfunded Actuarial Liability (UAAL) (C - D)
IV	Berrenda Mesa Water	16	\$10,266,643	\$267,953	\$9,998,690	\$6,091,829	\$3,906,861
III	Buttonwillow Recreation & Park	5	1,220,766	179,782	1,040,984	677,085	363,899
II	East Kern Cemetery	3	1,338,153	142,437	1,195,716	777,727	417,989
IV	Inyokern Community Services	2	329,873	0	329,873	202,009	127,864
I	Kern County Water Agency	151	119,340,987	8,578,246	110,762,741	72,043,205	38,719,536
II	Kern Mosquito & Vector Control	47	21,017,488	2,093,809	18,923,679	12,308,494	6,615,185
V	North of the River Sanitation	34	13,045,625	1,783,551	11,262,074	7,325,170	3,936,904
III	San Joaquin Valley Unified Air Pollution Control	760	309,449,495	45,806,608	263,642,887	171,480,756	92,162,131
II	Shafter Recreation & Park	11	778,627	246,132	532,495	346,350	186,145
VI	West Side Cemetery	14	6,558,694	208,140	6,350,554	4,130,579	2,219,975
II	West Side Mosquito Abatement	16	9,634,827	789,155	8,845,672	5,753,474	3,092,198
II	West Side Recreation & Park	26	7,785,156	568,086	7,217,070	4,694,186	2,522,884
Total Districts		1,085	\$500,766,334	\$60,663,899	\$440,102,435	\$285,830,864	\$154,271,571

Note: Results may not match those shown in the Actuarial Valuation and Review as of June 30, 2023 due to rounding.

¹ Includes both active and inactive members.

² Includes both employer and employee contributions.

³ The assets for Berrenda Mesa Water and Inyokern Community Services have been allocated based on the Association's Declining Employer Payroll Policy. The remaining assets are pro-rated based on the AAL for the other Districts.

December 6, 2023

Mr. Dominic Brown
Chief Executive Officer
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association (KCERA)
Berrenda Mesa Water District – Impact of declining employer payroll policy based on
June 30, 2023 Actuarial Valuation**

Dear Dominic:

As requested, we have prepared information regarding the impact of the Declining Employer Payroll Policy (Policy) on the Berrenda Mesa Water District (Berrenda Mesa). In August 2019, the Retirement Board determined that a triggering event occurred during the 2019-20 fiscal year, resulting from this employer ceasing to enroll new hires and/or a material and expected long-lasting reduction in KCERA covered payroll.

We have determined the Valuation Value of Assets (VVA), Actuarial Accrued Liability (AAL) and resulting Unfunded Actuarial Accrued Liability (UAAL) that have been allocated to Berrenda Mesa as of June 30, 2023 based on the Policy. We have also included the employer contribution amounts for Berrenda Mesa that result from application of the Policy. These contribution amounts are also shown in the Actuarial Valuation and Review as of June 30, 2023.

Summary of results

After applying the Policy, we have determined Berrenda Mesa's UAAL to be as follows as of June 30, 2023:

Berrenda Mesa

Unfunded Actuarial Accrued Liability as of June 30, 2023	\$3,907,000
---	-------------

The Policy requires that the employer contribution to pay off the initial UAAL be made in level dollar amounts over a period not to exceed eighteen years. Section 6 F of the Policy further states:

- Annually, after the determination of the covered employer’s initial funding obligation, as part of the regular annual actuarial valuation of the plan, KCERA’s actuary will measure any change in the UAAL of the participating employer due to actuarial experience or changes in actuarial assumptions. In addition to the amortized payments for the covered employer’s initial UAAL funding obligation determined as of the initial valuation, the employer will be liable for, and must contribute to KCERA, any such new UAAL determined as of subsequent valuations, based upon an amortization schedule recommended by the actuary and adopted by the Board of Retirement.

As shown in Exhibit C, this valuation reflects changes in UAAL due to both actuarial experience and changes in actuarial assumptions. We have amortized these changes in Berrenda Mesa’s UAAL as separate 18-year level dollar amortization layers using the current 7.00% discount rate. The use of 18 years as the amortization periods for this change in UAAL is consistent with both the Declining Employer Payroll Policy and KCERA’s regular Actuarial Funding Policy, and is recommended by Segal.

We have also calculated the employer Normal Cost rate and average member contribution rate for Berrenda Mesa based only on the demographics of Berrenda Mesa’s current active members. A comparison of the demographics of Berrenda Mesa as of June 30, 2023 and June 30, 2022 is provided in Exhibit A.

The following table is a summary comparison of the average contribution rates for both employers and members after application of the Policy as of June 30, 2023 and June 30, 2022.

Berrenda Mesa

	June 30, 2023 Rate	June 30, 2023 Estimated Annual Amount ¹ (\$ in ‘000s)	June 30, 2022 Rate	June 30, 2022 Estimated Annual Amount ² (\$ in ‘000s)
Average Employer Rate				
Normal Cost	18.19%	\$35	17.40%	\$32
UAAL	227.36%	433 ³	219.88%	407 ⁴
Total Contributions	245.55%	\$468 ⁵	237.28%	\$439 ⁶
Average Member Rate				
	6.23%	\$12	6.06%	\$11

¹ Based on June 30, 2023 projected compensation of \$190,000.

² Based on June 30, 2022 projected compensation of \$185,000.

³ This annual UAAL contribution in dollars of \$433,000 for Berrenda Mesa is equal to the level dollar layered amortization of the \$3,907,000 in UAAL of \$430,000 plus \$1,000 in administrative expenses plus a \$2,000 adjustment due to the 12-month delay between the valuation date and the plan year beginning July 1, 2024.

⁴ This annual UAAL contribution in dollars of \$407,000 for Berrenda Mesa is equal to the level dollar layered amortization of the \$3,769,000 in UAAL of \$410,000 plus \$1,000 in administrative expenses minus a \$4,000 adjustment due to the 12-month delay between the valuation date and the plan year beginning July 1, 2023.

⁵ Berrenda Mesa should contribute based on the dollar amounts shown (not the rates). These contribution amounts assume payment throughout the 2024-25 plan year.

⁶ Berrenda Mesa should contribute based on the dollar amounts shown (not the rates). These contribution amounts assume payment throughout the 2023-24 plan year.

The UAAL and employer contribution amounts for this employer are higher than that shown in our previous letter dated November 30, 2022 that included the impact of the Policy based on the previous actuarial valuation. This increase is due to the changes in actuarial assumptions (primarily the reduction in the discount rate from 7.25% to 7.00%).

Declining payroll methodology

Based on the methodology described in the Policy, a participating employer that has a triggering event, such as ceasing to enroll new hires or a material and expected long-lasting reduction in KCERA covered payroll, would be allocated a pro-rata share of the total UAAL for their cost group. That pro-rata share would be allocated based on the employer's AAL including inactive and deferred members as compared to the AAL for all the employers within the same cost group. Note that this means that the initial UAAL payments for the employer would no longer be allocated in proportion to its covered payroll (which is expected to decline), but rather in proportion to its AAL.

The initial VVA is determined by a pro-rata allocation based on the employer's initial AAL to the AAL for all the employers within that cost group. The initial UAAL is the initial AAL minus the initial VVA. This amount is rolled forward each year using the actual contributions and benefit payments for Berrenda Mesa, and the actual (smoothed) return for all KCERA assets. The detailed calculations of the UAAL for Berrenda Mesa based on applying the Policy are shown in Exhibit B.

Assumptions used in calculations

Unless otherwise noted, all of the above calculations are based on the June 30, 2023 actuarial valuation results including the participant data and actuarial assumptions on which that valuation was based. That valuation and these calculations were completed under the supervision of Molly Calcagno, ASA, MAAA, Enrolled Actuary.

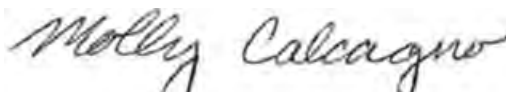
The undersigned are Members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl

Exhibit A

Table of Plan Coverage for Berrenda Mesa Water District

Category	Year Ended June 30, 2023	Year Ended June 30, 2022	Change From Prior Year
Active members in valuation:			
• Number	3	3	0.0%
• Average age	51.0	50.0	1.0
• Average years of service	22.3	21.3	1.0
• Total projected compensation	\$190,455	\$185,013	2.9%
• Average projected compensation	\$63,485	\$61,671	2.9%
• Account balances	\$300,281	\$269,481	11.4%
• Total active vested members	3	3	0.0%
Inactive vested members:¹			
• Number	0	0	N/A
• Average age	N/A	N/A	N/A
Retired members:			
• Number in pay status	10	10	0.0%
• Average age	69.4	68.4	1.0
• Average monthly benefit ²	\$4,284	\$4,180	2.5%
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	3	3	0.0%
• Average age	77.0	76.0	1.0
• Average monthly benefit ²	\$4,608	\$4,495	2.5%

¹ Includes inactive members due a refund of contributions.

² Excludes monthly benefit paid from the Supplemental Retiree Benefit Reserve.

Exhibit B

Allocated UAAL for Berrenda Mesa Water District

Here are the specific steps involved in the determination of the UAAL for Berrenda Mesa as of June 30, 2023:

Step 1: Determine the AAL for Berrenda Mesa as of June 30, 2023

The June 30, 2023 AAL of Berrenda Mesa was calculated using the membership data for Berrenda Mesa as of the same date. Berrenda Mesa's AAL as of June 30, 2023 was \$9,999,000.¹

Step 2: Determine the VVA for Berrenda Mesa as of June 30, 2023

In our previous letter dated November 30, 2022, Berrenda Mesa's portion of the VVA as of June 30, 2022 was \$5,864,000.

To determine the VVA for Berrenda Mesa as of June 30, 2023, the June 30, 2022 amount is rolled forward using the actual contributions and benefit payments for Berrenda Mesa, and the actual (smoothed) return for all KCERA assets. The VVA as of June 30, 2023 is calculated in the following table:

	Year Ended June 30, 2023
1 Rate of Return ²	7.39%
2 VVA as of June 30, 2022	\$5,864,000
3 Employer Contributions	461,000
4 Member Contributions	10,738
5 Benefit Payments	669,935
6 Interest Crediting ³	426,026
7 VVA as of June 30, 2023	\$6,092,000 ^{4,5}

The VVA for Berrenda Mesa as of June 30, 2023 is \$6,092,000.⁴

¹ This amount has been reduced by \$4,000 in transfer liability from Berrenda Mesa to the County and assumes none of the transfer liability from the County will be allocated to Berrenda Mesa.

² Based on VVA rate of return for all KCERA assets.

³ Equals $[(2) \times (1)]$ plus $[(3) + (4) - (5)] \times [(1) / 2]$.

⁴ This has been rounded to the nearest \$1,000.

⁵ The gain from investments is \$8,000.

Exhibit B (continued)

Step 3: Determine the UAAL for Berrenda Mesa as of June 30, 2023

Berrenda Mesa's UAAL as of June 30, 2023 is equal to:

- The AAL for Berrenda Mesa's actives, deferred vested, retirees and beneficiaries as of June 30, 2023

MINUS

- The VVA allocated to Berrenda Mesa as of the same date

The UAAL for Berrenda Mesa as determined under the Declining Employer Payroll Policy as of June 30, 2023 is Berrenda Mesa's AAL minus their VVA, i.e., \$9,999,000 - \$6,092,000, or \$3,907,000.

The VVA will be subtracted from the AAL as of each future valuation date to determine the updated total Berrenda Mesa UAAL. A new UAAL layer due to actuarial experience will then be calculated as the difference between that updated total UAAL amount (prior to any assumption or plan changes) and the outstanding balance of the current UAAL layer(s). A new UAAL layer due to assumption or plan changes, if any, will be calculated as the difference between the AAL for Berrenda Mesa's actives, deferred vested, retirees and beneficiaries under the new and old assumptions or plan provisions.

Each new UAAL layer will be amortized as a level dollar amount over a separate 18-year period (15-year period for plan changes).

Exhibit C

Table of Amortization Bases for Berrenda Mesa Water District

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Restart Amortization	June 30, 2019	\$4,147	18	\$3,634	14	\$400
Actuarial Loss	June 30, 2020	556	18	503	15	53
Assumption Change	June 30, 2020	267	18	242	15	26
Actuarial Gain	June 30, 2021	(495)	18	(473)	16	(48)
Implementation of Alameda Decision	June 30, 2021	1	15	0	13	0
Actuarial Gain	June 30, 2022	(273)	18	(269)	17	(27)
Actuarial Loss	June 30, 2023	52	18	52	18	5
Assumption Change	June 30, 2023	218	18	218	18	21
Total				\$3,907		\$430

¹ Assumes payments throughout the year, calculated as a level dollar amount.

December 6, 2023

Mr. Dominic Brown
Chief Executive Officer
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association (KCERA)
Inyokern Community Services District – Impact of declining employer payroll policy
based on June 30, 2023 Actuarial Valuation**

Dear Dominic:

As requested, we have prepared information regarding the impact of the Declining Employer Payroll Policy (Policy) on the Inyokern Community Services District (Inyokern). In August 2019, the Retirement Board determined that a triggering event occurred during the 2019-20 fiscal year, resulting from this employer ceasing to enroll new hires and/or a material and expected long-lasting reduction in KCERA covered payroll.

We have determined the Valuation Value of Assets (VVA), Actuarial Accrued Liability (AAL) and resulting Unfunded Actuarial Accrued Liability (UAAL) that have been allocated to Inyokern as of June 30, 2023 based on the Policy. We have also included the employer contribution amounts for Inyokern that result from application of the Policy. These contribution amounts are also shown in the Actuarial Valuation and Review as of June 30, 2023.

Summary of results

After applying the Policy, we have determined Inyokern's UAAL to be as follows as of June 30, 2023:

Inyokern

Unfunded Actuarial Accrued Liability as of June 30, 2023	\$128,000
---	-----------

The Policy requires that the employer contribution to pay off the initial UAAL be made in level dollar amounts over a period not to exceed eighteen years. Section 6 F of the Policy further states:

- Annually, after the determination of the covered employer's initial funding obligation, as part of the regular annual actuarial valuation of the plan, KCERA's actuary will measure any change in the UAAL of the participating employer due to actuarial experience or changes in actuarial assumptions. In addition to the amortized payments for the covered employer's initial UAAL funding obligation determined as of the initial valuation, the employer will be liable for, and must contribute to KCERA, any such new UAAL determined as of subsequent valuations, based upon an amortization schedule recommended by the actuary and adopted by the Board of Retirement.

As shown in Exhibit C, this valuation reflects changes in UAAL due to both actuarial experience and changes in actuarial assumptions. We have amortized these changes in Inyokern's UAAL as separate 18-year level dollar amortization layers using the current 7.00% discount rate. The use of 18 years as the amortization period for this change in UAAL is consistent with both the Declining Employer Payroll Policy and KCERA's regular Actuarial Funding Policy, and is recommended by Segal.

A comparison of the demographics of Inyokern as of June 30, 2023 and June 30, 2022 is provided in Exhibit A.

The following table is a summary comparison of the average contribution rates for both employers and members after application of the Policy as of June 30, 2023 and June 30, 2022.

Inyokern¹

	June 30, 2023 Rate	June 30, 2023 Estimated Annual Amount ² (\$ in '000s)	June 30, 2022 Rate	June 30, 2022 Estimated Annual Amount ³ (\$ in '000s)
Average Employer Rate				
Normal Cost	N/A	\$0	N/A	\$0
UAAL	N/A	14 ⁴	N/A	12 ⁵
Total Contributions	N/A	\$14 ⁶	N/A	\$12 ⁷
Average Member Rate	N/A	\$0	N/A	\$0

¹ There are no active members at Inyokern. Therefore, there is no Normal Cost rate and no average member rate after application of the Policy.

² Based on June 30, 2023 projected compensation of \$0.

³ Based on June 30, 2022 projected compensation of \$0.

⁴ This annual UAAL contribution in dollars of \$14,000 for Inyokern is equal to the level dollar layered amortization of the \$128,000 in UAAL of \$14,000 plus \$0 in administrative expenses plus a \$0 adjustment due to the 12-month delay between the valuation date and the plan year beginning July 1, 2024.

⁵ This annual UAAL contribution in dollars of \$12,000 for Inyokern is equal to the level dollar layered amortization of the \$110,000 in UAAL of \$12,000 plus \$0 in administrative expenses plus a \$0 adjustment due to the 12-month delay between the valuation date and the plan year beginning July 1, 2023.

⁶ Inyokern should contribute based on the dollar amounts shown. These contribution amounts assume payment throughout the 2024-25 plan year.

⁷ Inyokern should contribute based on the dollar amounts shown. These contribution amounts assume payment throughout the 2023-24 plan year.

The UAAL and employer contribution amounts for this employer are higher than that shown in our previous letter dated November 30, 2022 that included the impact of the Policy based on the previous actuarial valuation. This increase is due to the changes in actuarial assumptions (primarily the reduction in the discount rate from 7.25% to 7.00%).

Declining payroll methodology

Based on the methodology described in the Policy, a participating employer that has a triggering event, such as ceasing to enroll new hires or a material and expected long-lasting reduction in KCERA covered payroll, would be allocated a pro-rata share of the total UAAL for their cost group. That pro-rata share would be allocated based on the employer's AAL including inactive and deferred members as compared to the AAL for all the employers within the same cost group. Note that this means that the initial UAAL payments for the employer would no longer be allocated in proportion to its covered payroll (which is expected to decline), but rather in proportion to its AAL.

The initial VVA is determined by a pro-rata allocation based on the employer's initial AAL to the AAL for all the employers within that cost group. The initial UAAL is the initial AAL minus the initial VVA. This amount is rolled forward each year using the actual contributions and benefit payments for Inyokern, and the actual (smoothed) return for all KCERA assets. The detailed calculations of the UAAL for Inyokern based on applying the Policy are shown in Exhibit B.

Assumptions used in calculations

Unless otherwise noted, all of the above calculations are based on the June 30, 2023 actuarial valuation results including the participant data and actuarial assumptions on which that valuation was based. That valuation and these calculations were completed under the supervision of Molly Calcagno, ASA, MAAA, Enrolled Actuary.

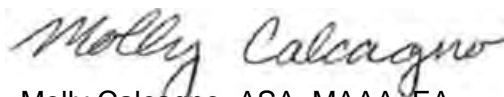
The undersigned are Members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary



Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl

Exhibit A

Table of Plan Coverage for Inyokern Community Services District

Category	Year Ended June 30, 2023	Year Ended June 30, 2022	Change From Prior Year
Active members in valuation:			
• Number	0	0	N/A
• Average age	N/A	N/A	N/A
• Average years of service	N/A	N/A	N/A
• Total projected compensation	N/A	N/A	N/A
• Average projected compensation	N/A	N/A	N/A
• Account balances	N/A	N/A	N/A
• Total active vested members	N/A	N/A	N/A
Inactive vested members:¹			
• Number	1	1	0.0%
• Average age	49.8	48.8	1.0
Retired members:			
• Number in pay status	1	1	0.0%
• Average age	55.4	54.4	1.0
• Average monthly benefit ²	\$362	\$353	2.5%
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit ²	N/A	N/A	N/A

¹ Includes inactive members due a refund of contributions.

² Excludes monthly benefit paid from the Supplemental Retiree Benefit Reserve.

Exhibit B

Allocated UAAL for Inyokern Community Services District

Here are the specific steps involved in the determination of the UAAL for Inyokern as of June 30, 2023:

Step 1: Determine the AAL for Inyokern as of June 30, 2023

The June 30, 2023 AAL of Inyokern was calculated using the membership data for Inyokern as of the same date. Inyokern's AAL as of June 30, 2023 was \$330,000.¹

Step 2: Determine the VVA for Inyokern as of June 30, 2023

In our previous letter dated November 30, 2022, Inyokern's portion of the VVA as of June 30, 2022 was \$180,000.

To determine the VVA for Inyokern as of June 30, 2023, the June 30, 2022 amount is rolled forward using the actual contributions and benefit payments for Inyokern, and the actual (smoothed) return for all KCERA assets. The VVA as of June 30, 2023 is calculated in the following table:

	Year Ended June 30, 2023
1 Rate of Return ²	7.39%
2 VVA as of June 30, 2022	\$180,000
3 Employer Contributions	13,000
4 Member Contributions	0
5 Benefit Payments	4,603
6 Interest Crediting ³	13,612
7 VVA as of June 30, 2023	\$202,000 ^{4,5}

The VVA for Inyokern as of June 30, 2023 is \$202,000.⁴

¹ Assumes none of the transfer liability from the County will be allocated to Inyokern.

² Based on VVA rate of return for all KCERA assets.

³ Equals $[(2) \times (1)]$ plus $[(3) + (4) - (5)] \times [(1) / 2]$.

⁴ This has been rounded to the nearest \$1,000.

⁵ The gain from investments is \$0 when rounded to the nearest \$1,000.

Exhibit B (continued)

Step 3: Determine the UAAL for Inyokern as of June 30, 2023

Inyokern's UAAL as of June 30, 2023 is equal to:

- The AAL for Inyokern's actives, deferred vested, retirees and beneficiaries as of June 30, 2023

MINUS

- The VVA allocated to Inyokern as of the same date

The UAAL for Inyokern as determined under the Declining Employer Payroll Policy as of June 30, 2023 is Inyokern's AAL minus their VVA, i.e., \$330,000 - \$202,000, or \$128,000.

The VVA will be subtracted from the AAL as of each future valuation date to determine the updated total Inyokern UAAL. A new UAAL layer due to actuarial experience will then be calculated as the difference between that updated total UAAL amount (prior to any assumption or plan changes) and the outstanding balance of the current UAAL layer(s). A new UAAL layer due to assumption or plan changes, if any, will be calculated as the difference between the AAL for Inyokern's actives, deferred vested, retirees and beneficiaries under the new and old assumptions or plan provisions.

Each new UAAL layer will be amortized as a level dollar amount over a separate 18-year period (15-year period for plan changes).

Exhibit C

Table of Amortization Bases for Inyokern Community Services District

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment ¹ (\$ in '000s)
Restart Amortization	June 30, 2019	\$102	18	\$90	14	\$10
Actuarial Loss	June 30, 2020	13	18	9	15	1
Actuarial Loss	June 30, 2021	18	18	19	16	2
Actuarial Gain	June 30, 2022	(13)	18	(10)	17	(1)
Actuarial Gain	June 30, 2023	(2)	18	(2)	18	(0)
Assumption Change	June 30, 2023	22	18	<u>22</u>	18	<u>2</u>
Total				\$128		\$14

¹ Assumes payments throughout the year, calculated as a level dollar amount.



SWOT Analysis

Presented by:

Jeremy Rowell

Communications Manager

KERN COUNTY
EMPLOYEES' RETIREMENT
ASSOCIATION



SWOT

A SWOT analysis is a way to analyze KCERA's strengths, weaknesses, opportunities, and threats.

It's not a crystal ball, but more like a compass.



STRENGTHS

Strengths describe what KCERA excels at.



WEAKNESSES

Weaknesses prevent KCERA from performing at its optimum level. They are areas where we need to improve to better serve our stakeholders.



OPPORTUNITIES

Opportunities refer to favorable external factors that could help KCERA better serve stakeholders.



THREATS

Threats refer to factors that have the potential to harm KCERA.



STRENGTHS

Strengths describe what KCERA excels at.

- What do we do well?



STRENGTHS



- Accurate
- Transparent
- Compassion/Empathy
- Customer Service
- Collaboration
- Office Culture



STRENGTHS



Legal:

Accurate
Transparent
Compassion/Empathy
Collaboration Between Divisions
Resourceful
Substantive Answers

Member Services:

Accurate
Transparent
Compassion/Empathy
Collaboration Between Divisions
Customer Service

Accounting:

Accurate
Office Culture
Customer Service
On Time Payments
Employees Going the Extra Mile

Investments:

Office Culture/Friendly Staff
On Time Payments
Employees' Passion for the Job
Customer Service

Administration:

Serving Members
Investments
Customer Service
Education
Accuracy

IT:

Transparent
Customer Service
Tech. Capabilities
Office Culture
High Standards



STRENGTHS

Employees



Legal:

Accurate
Transparent
Compassion/Empathy
Collaboration Between Divisions
Resourceful
Substantive Answers

Member Services:

Accurate
Transparent
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Administration:

Serving Members
Investments
Customer Service
Education
Accuracy

IT:

Transparent
Customer Service
Tech. Capabilities
Office Culture
High Standards



WEAKNESSES

Weaknesses prevent KCERA from performing at its optimum level. They are areas where we need to improve to better serve our stakeholders.

- **Where can we improve?**



WEAKNESS



- Response Time
- Staffing
- Communication to Stakeholders
- Member Education
- Staff Training



WEAKNESS



Legal:

- Response Time
- Staffing
- Member Education
- Clarity of MOUs
- Training Manuals

Member Services:

- Communication to Stakeholders
- Internal Response Time
- Formalized Training
- Understanding Government Codes
- Internal Transparency

Investments:

- Staffing
- Experience & Retention
- Geography to Lure Candidates
- Steep Learning Curve
- Members Knowing Value of Pension

Accounting:

- Learning Curve
- Hiring Retention
- Education/Outreach
- Internal Communication
- CPAS Training

Administration:

- Communication/Engagement
- Education
- Compensation
- Negotiating Conflict
- Organizational Consistency
- Knowledge/Familiarity

IT:

- Stakeholder Education
- Historical Knowledge/Documentation
- Communication
- Unrealistic Goals/Expectations
- Overuse of Technology



WEAKNESS

Staff Training



Legal:

- Response Time
- Staffing
- Member Education
- Clarity of MOUs
- Training Manuals

Member Services:

- Communication to Stakeholders
- Internal Response Time
- Formalized Training
- Understanding Government Codes
- Internal Transparency

Investments:

- Staffing
- Experience & Retention
- Geography to Lure Candidates
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IT:

- Stakeholder Education
- Historical Knowledge/Documentation
- Communication
- Unrealistic Goals/Expectations
- Overuse of Technology



WEAKNESS

Communication



Legal:

- Response Time
- Staffing
- Member Education
- Clarity of MOUs
- Training Manuals

Member Services:

- Communication to Stakeholders
- Internal Response Time
- Formalized Training
- Understanding Government Codes
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IT:

- Stakeholder Education
- Historical Knowledge/Documentation
- Communication
- Unrealistic Goals/Expectations
- Overuse of Technology



OPPORTUNITIES

Opportunities refer to favorable external (sometimes internal) factors that could help KCERA better serve our Stakeholders.

- How can we make KCERA better?



OPPORTUNITY

O, P, P, O, R, T, U, N, I, T, Y.

- Division Cross-Training
- Staff Training
- Plan Sponsor Specific Stakeholder Education
- Early Member Education



OPPORTUNITY

O, P, P, O, R, T, U, N, I, T, Y.

Legal:

Cross-Training
Staff Training
Plan Sponsor Specific Stakeholder Education
Early Member Education

Member Services:

Outreach
More Legal Training
Division Training
Educational Videos for Members

Investments:

Investment Certifications
Additional Reports on Website
Board Member Education prior to Applying
Education Pension Vs 457

Accounting:

Member Education Through Stages of Career
Annual Payroll Clerk Meetings
New ERP System (KCERA Input)

Administration:

Build Staff w/Team Players
Stakeholder Relations/Education
BOR Education/Fiduciary Duty
Structural Improvements

IT:

Stakeholder Education
Outreach
Self-Service



OPPORTUNITY

Staff Training

O, P, P, O, R, T, U, N, I, T, Y.

Legal:

Section Cross-Training

Staff Training

Plan Sponsor Specific Stakeholder Education

Early Member Education

Member Services:

Outreach

More Legal Training

Section Training

Educational Videos for Members

Investments:

Investment Certifications

Additional Reports on Website

Board Member Education prior to Applying

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Administration:

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Stakeholder Relations/Education

BOR Education/Fiduciary Duty

Structural Improvements

IT:

Stakeholder Education

Outreach

Self-Service



OPPORTUNITY

Communications/Outreach

O, P, P, O, R, T, U, N, I, T, Y.

Legal:

Section Cross-Training

Staff Training

Plan Sponsor Specific Stakeholder Education

Early Member Education

Accounting:

Member Education Through Stages of Career

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New ERP System (KCERA Input)

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Outreach

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Board Member Education prior to Applying

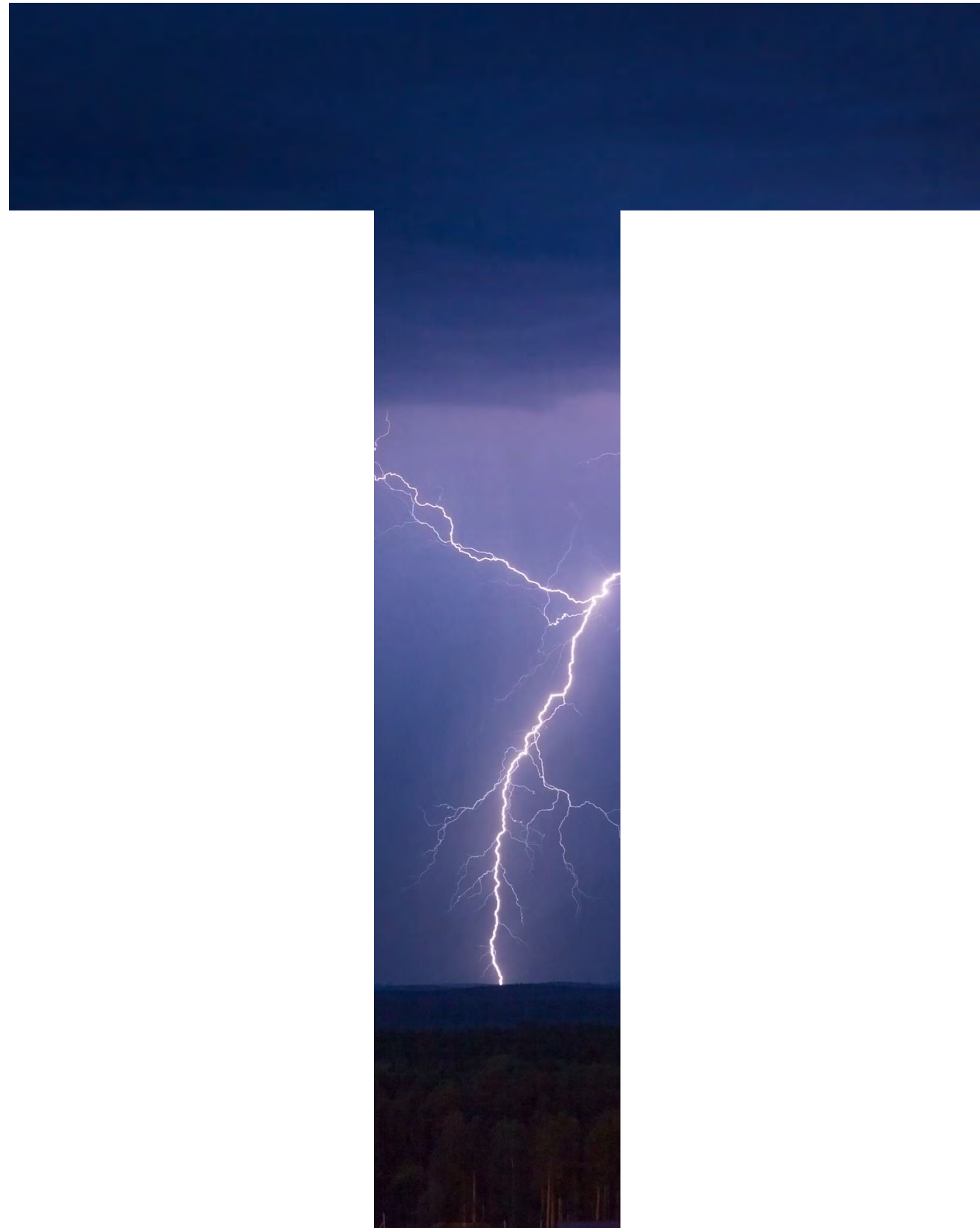
Education Pension Vs 457

IT:

Stakeholder Education

Outreach

Self-Service



THREATS

Threats refer to external factors that have the potential to harm KCERA.

- What is something happening now or in the future that could work against us?
- What should we be monitoring to keep prepared for?



THREATS



- New MOUs
- Advanced Phishing (A.I.)
- Disgruntled Members (physical)
- New Payroll System ERP
- Not Maintaining Office Culture
- Trustee Turnover



THREATS



Legal:

New Processes Creating Extra Work
Not Maintaining Culture
New County Payroll System ERP
MOUs
Running out of Office Space

Accounting:

New County Payroll System ERP
New MOUs
County's Employee Retention
Competitive Job Market
Not Maintaining Culture

Member Services:

Natural Disaster
Succession Planning
Advanced Phishing (A.I.)
Not Maintaining Culture

Administration:

Trustee Turnover
Changes in Law
Staffing Retention
Stakeholder Relations
County Compensation Structure
Security (Cyber & Physical)

Investments:

Government Structure
Inflation
New Board Members
A.I. Security Threats
Disgruntled Members (Physical)

IT:

Domain Issues/False Ownership
Data Accuracy
Receiving Unencrypted Personal Information
Disgruntled Members (Physical)



THREATS

Not Maintaining Office Culture



Legal:

New Processes Creating Extra Work
Not Maintaining Culture
New County Payroll System ERP
MOUs
Running out of Office Space

Member Services:

Natural Disaster
Succession Planning
Advanced Phishing (A.I.)
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Competitive Job Market
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Staffing Retention
Stakeholder Relations
County Compensation Structure
Security (Cyber & Physical)

IT:

Domain Issues/False Ownership
Data Accuracy
Receiving Unencrypted Personal Information
Disgruntled Members (Physical)



KCERA Staff

- 100% participation
- Well thought-out answers
- Open-minded conversations
- Responses mirrored across sections



Next Steps:

- Strategic Plan
 - Member & Stakeholder Communication
 - Satisfaction/Retirement Surveys
 - Cyber Security
 - Staff Recruitment/Retention/Engagement
- Communications Plan
- Stakeholder Summit
- Payroll Clerk Training
- Continue Staff Development



Questions?

STRENGTHS

WEAKNESSES

OPPORTUNITIES

THREATS

**No Material
to be Distributed**

**No Material
to be Distributed**



Chief Executive Officer's Report

Presented by: Dominic Brown, Chief Executive Officer
December 2023



Office Update

- Staffing
 - Recruitments: Deputy/Senior Deputy Chief Legal Officer, KCERA Accountant I/II, Administrative Specialist/Senior Specialist, Member Services Technician
 - New Certification Pays approved by Board of Supervisors – CEBS
- Member Outreach: New Employee Orientation 11/30/23, Stakeholder Summit 2024
- Disability Update – Nossaman engaged to help review files from MMRO
- Solar Update



Office Update (cont'd)

- New KCERA credit card program, including Trustee card
- Special Election Update – Beginning now, an election day will be in April '24
- Internal Audit/Plan Sponsor monitoring initiative commencing – to be presented to Finance Committee in January
- New software programs under evaluation for possible implementation by Investment team and Finance team



Operations Activity

- Member Services
 - 16 new retirements and calculations
 - 52 death benefit calculations
 - 83 service-credit purchase calculations
 - 42 retirement estimates
 - 157 new active members
 - 94 terminations with disposition packets
 - 23 in-person appointments
 - 138 walk-ins
 - 486 phone calls
 - 143 emails
- Communications
 - Monitoring website traffic analytics
 - Stakeholder Survey
- Accounting & Reporting
 - Service Purchases – 45 days
 - ACFR Preparation
- Information Technology
 - Retro Split Project
 - Tax withholding update for retirement estimates



Upcoming Events

- Administrative Committee – Meeting to be scheduled in January/early February
- Finance Committee – Meeting to be scheduled in January
- Investment Committee – Meeting to be scheduled in January/early February
- Board of Retirement – Next regular monthly meeting will be February 14, 2024





CIO REPORT

INVESTMENT PROGRAM UPDATE

December 2023

Presented by:
Daryn Miller, CFA
Chief Investment Officer



Rebalancing

NOVEMBER ACTIVITY

- Core Real Estate
 - -10MM ASB
 - -10MM JPM
- Equities
 - Fund Japan investments
 - +100MM Lazard (Japan)
 - +50MM Dalton (Japan)
 - -102MM Mellon EAFE
 - -13MM Mellon CAD
 - -10MM ACI
 - AB EM redemption
 - -50MM AB EM
 - +22MM Mellon EM
 - -25MM Parametric S&P 500
- Rates
 - -30MM Parametric Rates

Reporting period covers 10/21/2023 to 11/30/2023



Core Real Estate: Top up redemption request to reduce core real estate exposure



Public Equities: Fund both Japan investments, redeem from AB EM, and reduce S&P 500 exposure



Fixed Income: Reduce rates exposure following fixed income rally, to generate cash for increase private market capital call activity; remain overweight to policy target, and underweight to adjusted policy target.

Asset Class	Actual	Policy Target	Adj. Policy Target	Diff. Act. vs. Adj. Pol.
Public Equities	31.5%	33.0%	33.9%	-2.4%
Fixed Income	23.6%	25.0%	27.6%	-4.1%
Core	15.3%	15.0%	17.6%	-2.3%
Credit	8.3%	10.0%	10.0%	-1.7%
Commodities	3.9%	4.0%	4.0%	-0.1%
Hedge Funds	10.3%	10.0%	10.0%	0.3%
Alpha Pool	4.2%	8.0%	8.0%	-3.8%
Midstream Energy	5.6%	5.0%	5.0%	0.6%
Core Real Estate	5.3%	5.0%	7.3%	-1.9%
Private Real Estate	2.8%	5.0%	2.8%	0.0%
Private Equity	4.1%	5.0%	4.1%	0.0%
Private Credit	5.4%	8.0%	5.4%	0.0%
Opportunistic	2.7%	0.0%	0.0%	2.7%
Cash	0.7%	-8.0%	-8.0%	8.7%
Total	100.0%	100.0%	100.0%	0.0%

Positioning

ACTUAL VS POLICY TARGET

Public Equity: underweight vs. policy target and adjusted policy target. Underweight is primarily in domestic large cap.

Core Fixed Income: overweight vs. policy target and underweight vs. adjusted policy target. Underweight credit both in high yield and EMD.

Private Equity: underweight vs. policy target is typically reallocated to public equity. However, underweight is currently reallocated to other asset classes where we see better return opportunity.

Private Credit: the underweight vs. policy target has recently increased due to increasing the Strategic Asset Allocation Private Credit target from 5% to 8%.

Private Markets: total weight now over 12%, as fund commitments and capital call activity have increased. Pacing indicates the Plan should hit 18% target around 2026.



UPDATES

Delegation

Staff has been working with our governance consultant Aon to construct an investment delegation model and expects to bring it to an Investment Committee meeting in early 2024.



Securities Lending

In March of this year, given the regional banking crisis that was unfolding, Staff decided to pause securities lending activity with Deutsche Bank. Staff is using this period to revisit the relationship with Deutsche Bank, as well as evaluate the potential to shift the program to the Plan's custodial bank (Northern Trust).



Key Initiatives

Enhancing return while managing risk

- **Currency management**
- **Improve hedge fund program returns**
- **Multi-asset research / tactical asset allocation**
- **Opportunistic investments**
- **Private markets**
- **Repositioning fixed income**



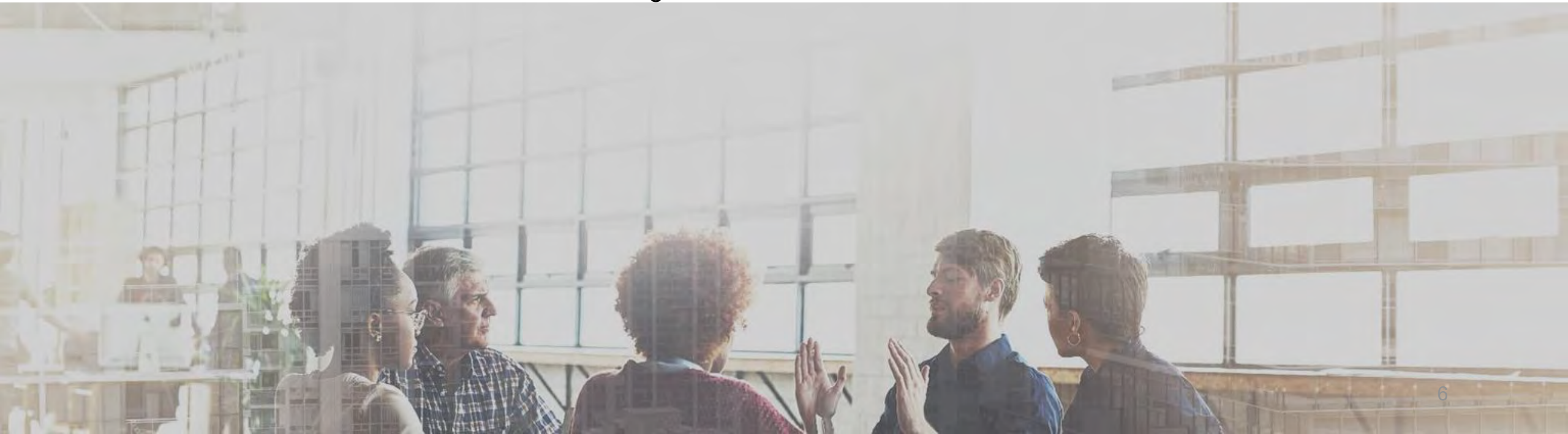
Investment Committee Meetings

Next meeting late January/early February — date TBD

The next IC meeting agenda will include the following items:

- Delegation

The last IC meeting was held on December 11th





CLO Report December 2023

Jennifer Esquivel Zahry, Chief Legal Officer
Maggie Peralta-Lee, KCERA Senior Paralegal
Irma Chavez, KCERA Senior Legal Secretary
Sofia Reyes, KCERA Senior Paralegal (Ret.)

Felony Forfeiture Cases

- *Estrada v. CalPERS*, 95 Cal. App. 5th 870 (Case No. B3217848, 9/21/23)
 - “[P]ublic employee who pleads ‘no contest’ to a felony arising out of, or in the performance of, his or her official duties forfeits public retirement benefits that accrued during all periods after the employee first began committing the felony.”
 - “California Court of Appeal affirmed the CalPERS Board’s application of the subject felony forfeiture statute, noting that the statute, which is part of the California Public Employees’ Pension Reform Act of 2013 (PEPRA), “was enacted to close loopholes and to curb abusive practices that existed in California’s public pension system. [Citing *Alameda County Deputy Sheriff’s Assn. v. Alameda County Employees’ Retirement Assn.* (2020 9 Cal.5th 1032, 1054, 1102.)].”
- *Giulino v. Massachusetts State Board of Retirement*, (Case No. 2227CV000072, 9/13/23)
 - Court found “the gravity of Giulino’s crimes was not sufficient to justify the ruinous consequences of total forfeiture.”

Dunning, Ashley; Kennedy, John; Westerfield, Alexander: “Felony Forfeitures Statutes Tested Again: A Tale of Two States’ Pension Reform Statutes – One Forfeiture Survives and One Does Not.” (nossaman.com) Nossaman, LLP. 9.28.23.



December Calendar

	Pending CLO Review
Board/Committee Meetings/Staff Meetings/Conferences	12
Community Property Matters	2
Disability Matters	7
Investment Matters/ Custodial Documents	6
Member Inquiries	5
Operational Contracts	5
Post-Retirement Certifications	2
Public Records Act Requests	1
Staff Inquiries	13



Felony Forfeitures Statutes Tested Again: A Tale of Two States' Pension Reform Statutes- One Forfeiture Survives and One Does Not

09.28.2023 | By [Ashley K. Dunning](#), [John T. Kennedy](#), [Alexander Westerfield](#)

The constitutionality of California's felony forfeiture statute, as applied by the Board of Administration of the California Public Employees' Retirement System (CalPERS), survived yet another challenge in September 2023, after having been upheld by two courts of appeal decisions in 2021 (see here: [Two Out of Two: Another Appellate Court Upholds Constitutionality of California's Felony Forfeiture Statute](#) (nossaman.com)).

Meanwhile, across the country, the Board of the Massachusetts State Retirement System's application of that state's felony forfeiture statute, which takes a more expansive approach to forfeiture than California, fell nearly simultaneously to a similar challenge.

The California Tale – Partial Forfeiture of Benefits Affirmed

On September 21, 2023, the California Court of Appeal for the Second Appellate District issued a unanimous decision, *Estrada v. California Public Employees' Retirement System* (Case No. B3217848, Sept. 21, 2023), confirming that a public employee who pleads "no contest" to a felony arising out of, or in the performance of, his or her official duties forfeits public retirement benefits that accrued during all periods after the employee first began committing the felony. This result occurs *even if* the felonious conduct could have been charged as a misdemeanor – in criminal law lingo, a "wobbler". This result also occurs even if the judge in the criminal proceeding reduces the conviction to a misdemeanor by a later "nunc pro tunc" order – not to correct a scrivener's error in the order (which is the reason such orders are permitted by law), but rather, seemingly, to avoid the forfeiture of retirement benefits.

In *Estrada*, the crimes charged were misappropriation and embezzlement of public funds, as well as unauthorized computer access. These crimes occurred when Elaine Estrada, who was in charge of payroll

deductions for her employer, the City of La Habra Heights (City), removed the employee share that she was required to pay for dependents covered on her benefit plan for two years, beginning in 2007. The City did not discover the discrepancy until an audit in 2012 because Estrada was responsible for the payroll and timekeeping of all City employees. The Los Angeles County District Attorney's Office filed a felony complaint against Estrada in 2016. In 2017, Estrada's counsel advised the trial court that Estrada had entered into a "no contest" plea agreement to the felony charge of unauthorized computer access. As a result of that plea agreement, sentencing was set out six months, at which time the felony plea was to be vacated and a misdemeanor plea was to be entered in its place, so long as with Estrada paid the full amount of the missed payroll deductions (just under \$6,000).

In 2018, while Estrada was serving probation, the City submitted a forfeiture of benefits form to the state retirement system, CalPERS, regarding Estrada's criminal conviction. The form indicated that Estrada was convicted of a job-related felony on June 28, 2017, and that the earliest date of the commission of the felony was September 1, 2007. After a comprehensive administrative adjudication, including a hearing before an administrative law judge, the CalPERS Board implemented the forfeiture required by California law, i.e., (1) forfeiture of accrued retirement benefits earned after September 1, 2007; (2) ineligibility to return to CalPERS-covered employment or to accrue further CalPERS benefits; and (3) return to Estrada of any member contributions that she made to the retirement system during the forfeiture period.

In *Estrada*, the California Court of Appeal affirmed the CalPERS Board's application of the subject felony forfeiture statute, noting that the statute, which is part of the California Public Employees' Pension Reform Act of 2013 (PEPRA), "was enacted to close loopholes and to curb abusive practices that existed in California's public pension system. [Citing *Alameda County Deputy Sheriff's Assn. v. Alameda County Employees' Retirement Assn.* (2020) 9 Cal.5th 1032, 1054, 1102.]" The court in *Estrada* also cited with approval California's recent appellate cases affirming the constitutionality of PEPRA's felony forfeiture statutes, *Hipsher v. LACERA* (2020) 58 Cal.App.5th 671 and *Wilmot v. CCCERA* (2021) 60 Cal.App.5th 631, noting the purpose of the felony forfeiture statutes specifically: "to protect the public employee pension system from abusive practices . . . and to preserve public trust in government by discouraging serious criminal activity abusive of the public trust" and "to close an egregious loophole that allowed public funds to reward criminality."

Significantly, the court also observed the limitations of California's "partial forfeiture requirement" – that is, it is "triggered only by felonious conduct committed in the scope of the pensioner's public employment" and it is "limited to service time from the date the criminal conduct began." Also important to this proceeding however, the legislature clearly applied the felony forfeiture rules to all circumstances in which a public employee was charged with a job-related felony and admitted that conduct. The only exception would be if a public employee's conviction were later "reversed," but the felony forfeiture rules apply notwithstanding a subsequent downgrading of the conviction from a felony to a misdemeanor or a reduction in penalties for the conviction. Therefore, what mattered in *Estrada* was the felony charge levied against and pled to by the (former) public employee arising from her public duties, and her "no contest" plea to that charge. At that point, the partial forfeiture of retirement benefits was effectively resolved, subject to the due process rights of the former employee addressed in *Hipsher*.

The Massachusetts Tale – Complete Forfeiture of Benefits Overturned

On September 13, 2023, the Massachusetts District Court (in *Giulino v. State Board of Retirement*, Pittsfield District Court Case No. 2227CV000072) considered the same topic of public employee felonious acts, in

that instance involving a scandal regarding overtime abuses by a retired Massachusetts State Police lieutenant, John Giulino. Giulino was convicted under state law for making a false claim to a public employer, larceny, and procurement fraud. Giulino pled guilty in 2019, and received two years of probation, for having received more than \$28,000 for nearly 280 hours of overtime that he did not work in 2015 and 2016.

Massachusetts and California differ dramatically, however, in their felony forfeiture rules. Under Massachusetts law, the Massachusetts State Retirement Board determined that Giulino faced *complete forfeiture* of all of his pension benefits, rather than the *limited forfeiture* provided by California's statute. In the case of Giulino, the Massachusetts court concluded that complete forfeiture was "grossly disproportionate to the gravity of the offenses" and overturned the retirement board's complete forfeiture of all of Giulino's pension benefits.

Applying the relevant test under Massachusetts law—which stems from the prohibition against excessive fines in the Massachusetts Declaration of Rights—the court considered four factors: the nature and circumstances of the Giulino's crimes, whether those crimes were related to other illegal activity, the maximum possible sentence, and the harm caused by Giulino's conduct. The court, continuing to follow excessive fines precedent, then weighed the effect of total forfeiture against the defendant's financial status, concluding that the gravity of Giulino's crimes was not sufficient to justify the ruinous consequences of total forfeiture. Particularly important to the court was the fact that Giulino had, as a part of his criminal plea, had already returned his unearned overtime wages.

"The State Retirement Board takes the protection and responsibility of the State Employees Retirement System and its trust very seriously," a statement from the Massachusetts Attorney General noted. "We are still considering all available options."

Takeaway from this Tale of Two States

Regardless of the next steps in either *Estrada* or *Giulino*, it remains clear that efforts by public retirement boards to protect their retirement systems from abuse by public employees who engage in felonies when they are supposed to be serving the public will rise or fall based on whether the law that's being enforced, and the manner in which it is enforced, passes constitutional muster.

Unfortunately, the challenge for public retirement boards and systems of having to address these challenging issues is far from over.



Two Out of Two: Another Appellate Court Upholds Constitutionality of California's Felony Forfeiture Statute

02.09.2021 | By [Ashley K. Dunning](#), [Peter H. Mixon](#)

On February 5, 2021, a second court of appeal in California upheld the constitutionality of the felony forfeiture statute enacted as part of the Public Employees' Pension Reform Act of 2013 (PEPRA) in *Wilmot v. Contra Costa County Employees' Retirement Association* (2021 Cal. App. LEXIS 101 (Feb. 5, 2021)) ("*Wilmot*"). We wrote about the first felony forfeiture decision, *Hipsher v. Los Angeles County Employees Retirement Assn* ("*Hipsher*"), in our December 16, 2020 eAlert. Both *Wilmot* and *Hipsher* were on remand from the California Supreme Court following its July 30, 2020 decision, *Alameda County Deputy Sheriff's Association, et al. v. Alameda County Employees' Retirement Association, et al. (State Of California)* (2020) 9 Cal.5th 1032 ("*Alameda County*"). We wrote about *Alameda County* in our July 31, 2020 eAlert.

Significantly, in *Wilmot*, unlike *Hipsher*, the court engaged in a detailed and substantive application of the constitutional standards that the California Supreme Court articulated in *Alameda County*.

As an initial matter, the court in *Wilmot* affirmed that the felony forfeiture statute properly applied to an employee, such as the appellant in the case, who had initiated the process of retiring, but whom the retirement board had not yet retired as of PEPRA's effective date of January 1, 2013. Even more importantly, though, the court concluded that even if the employee was retired at the time the statute was enacted and the forfeiture provision was applied to him, "there would be no violation of the California Constitution's provision against the undue impairment of the employee's contract with the governmental employer, nor would that application constitute and ex post facto law." Thus, the court concluded, the felony forfeiture statute may be applied to retirement system members, even if they retired before January 1, 2013, so long as the statutory predicate of the forfeiture (e.g., job connection) was met.

The court next walked through the constitutionality analysis of *Alameda County*, first determining that the legislative change of status quo imposed an economic disadvantage on affected employees that was not offset by comparable new advantages. That conclusion led to the second step of the *Alameda County* analysis: “whether the government’s articulated purpose in making the changes [is] sufficient, for constitutional purposes, to justify any impairment of pension rights.” The court recited that standard as requiring that “alterations of employees’ pension rights must bear some material relation to the theory of a pension system and its successful operation.”

On that prong, the court first noted that PEPRA was enacted “for the purpose ‘of closing loopholes and preventing abuse of the pension system in a manner consistent with CERL’s preexisting structure.’” The court recited a number of potential purposes of a felony forfeiture statute that would not have been constitutionally permissible under *Alameda County*, such as “public outrage,” which was an “essentially political reason” that was “not a permissible or ‘proper purpose,’ and thus was insufficient to justify the forfeiture.” The court also noted another unconstitutional purpose – the intent to enforce a punishment, a point also central to Wilmot’s ex post facto argument. But the court rejected this and found that the statute was designed to serve the same constitutional purpose on which the court in *Hipsler* originally had relied, that a retirement benefit is premised on an employee’s “faithful” performance of his or her responsibilities. As the court stated,

An employee who draws public pay while stealing public property, or embezzling public funds, or who uses public facilities or equipment to run an illegal business (which is what occurred in *Hipsler*), is the antithesis of a ‘faithful’ servant of the public trust. When misconduct turns into outright criminality, it is beyond dispute that public service is not being faithfully performed. To give such a person a pension would further reward misconduct.

The court further observed that the absence of a forfeiture statute for that context “clearly amounted to a ‘loophole’ that the Legislature moved to closed because it ‘distort[ed] the pension calculation.’” Moreover, “Calling a halt to having the public pay for job-related criminality unquestionably ‘bear[s] some material relation to the theory of a pension system and its successful operation.’”

In reaching this conclusion, the court distinguished the only California Supreme Court case dealing with public pension forfeitures – *Wallace v. City of Fresno* (1954) 42 Cal.2d 180 (“*Wallace*”). In *Wallace*, the Supreme Court addressed a felony forfeiture enacted before Wallace had retired, which eliminated his entire pension for a felony conviction based on his post-retirement conduct. The Court held that the termination of all pension rights upon felony conviction for post-retirement conduct for the purpose of meeting “taxpayer objections” does not have a material relation to the theory or operation of a pension plan. The *Wilmot* court noted that Wallace’s conviction was based on conduct that was unrelated to his employment. In contrast, Wilmot’s conviction was based on his theft of public property during the course of his duties as a firefighter. Unlike Wallace, Wilmot failed to fulfill his duty of providing “faithful service” as a firefighter and thus any impairment of Wilmot’s pension rights was justified by a constitutionally permissible purpose.

Finally, the court addressed the third step of the analysis, which is: “even if changes were made for a proper purpose, ‘[t]he Legislature’s decision to impose financial disadvantages on public employees without providing comparable advantages will be upheld under the contract clause only if providing comparable advantages would undermine, or would otherwise be inconsistent with, the modification’s constitutionally permissible purpose.’” (Citing *Alameda County*, *supra* 9 Cal.5th 1032, 1093.) The court observed:

We have been unable to imagine how the Legislature could have provided ‘comparable new advantages to offset’ this particular disadvantageous modification because to do so ‘would undermine [and would] . . . be inconsistent with [] the constitutionally permissible purpose underlying the modification.’ [Citation omitted.] Put bluntly, why should the Legislature be required to come up with another way to reward criminality by public employees? Why should the Legislature be prevented from attacking public employee criminality until it came up with another way for job-related crimes to be paid for with public money? Why should the Legislature have to compensate public employees not to commit crimes?

The *Wilmot* court then again expressed its agreement with the *Hipsher* court on this topic: “With eloquent understatement, the *Hipsher* court concluded that accepting Wilmot’s reasoning would ‘yield perverse results,’ ‘would do nothing to disincentivize the very abuse that [Pension Reform Act] is intended to curb, . . . would erode public trust,’ and ‘would be antithetical to the statute’s purpose by unjustly enriching a malfeasant . . . employee for engaging in the very sort of abusive practices section 7522.72 is intended to curb.”

The *Wilmot* court then examined, and rejected, plaintiff’s argument that the felony forfeiture statute was an unconstitutional “ex post facto” law, determining that civil forfeiture of benefits earned while committing a job-related crime was not unlawfully punitive but rather was a proper “remedial civil measure.” The court also noted that “Proportionality has never been a consideration,” when determining the legality of a forfeiture statute:

Violate the California Uniform Controlled Substances Act, and you risk losing your car, real property, or business, as well as ‘[a]ll moneys, negotiable instruments, securities, or other things of value . . . , all proceeds traceable [that] is . . . used or intended to be used to facilitate a violation’ [Citation omitted.] Lie about how much whisky is being produced at your distillery, and the Government can take the distillery. [Citation omitted.] As Justice Brandeis put it, the severity of a forfeiture’s application has no impact on its established legality. [Citation omitted.]

Thus, the *Wilmot* court concluded that partial forfeiture of Wilmot’s pension benefits pursuant to section 7522.72 did not violate either the impairment of contract or the ex post factor clauses of the California Constitution.

Now that two California Courts of Appeal have deemed the PEPRA felony forfeiture statutes to be constitutional in light of *Alameda County*, we expect the California Supreme Court will deny the pending petition for review of *Hipsher*.

California retirement boards will be left with the task of determining, as due process requires, the extent to which California’s felony forfeiture statutes are to be applied to any of their members—active, deferred or retired—who are convicted of committing job-related and/or pension-related felonies. While the *Wilmot* court characterizes that review as a “near ministerial administrative process,” that administrative review by the retirement board remains an important due process obligation, as the *Hipsher* court observed when originally remanding the case for a due process determination of job-relatedness by the retirement board.