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

June 8, 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, June 14, 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# 829 0109 3650:

- (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/82901093650?pwd=MVUrUHlhZm11UDVJclhwNEY1NVNCUT09
- Passcode: 729439

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Items 1 and/or 2 withdrawn from agenda if no trustees will have a need to appear via teleconference: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. Application for service-connected disability pension benefits for Mabelle Carrillo, Animal Services (General) – ADOPT RECOMMENDATION OF SDAG TO GRANT SERVICE-CONNECTED DISABILITY PENSION

*4. Application for service-connected disability pension benefits for Jonathan Hulsey, Probation (Safety) – ADOPT RECOMMENDATION OF SDAG TO GRANT SERVICE-CONNECTED DISABILITY PENSION

*5. Summary of proceedings of the following meetings:

- April 19, 2023 Administrative Committee
- April 25, 2023 Finance Committee
- May 3, 2023 Board of Retirement

RECEIVE AND FILE

*6. Report from the KCERA office on members retired from service for the month of May 2023 – RATIFY

*7. Report from the KCERA office on deceased retirees for the month of May 2023 – RECEIVE AND FILE

*8. Report of current disability retirement applications and appeals of KCERA Board decisions for the period ending May 31, 2023 – RECEIVE AND FILE

*9. Securities Lending Earnings Summary Report for the period ending April 30, 2023 from Deutsche Bank – RECEIVE AND FILE

*10. KCERA asset allocation, cash flow position, investment fees cash flow, and operating expense budget status reports for the month of April 2023 – RECEIVE AND FILE

*11. Revised 2023 Board of Retirement Committee Assignments – RECEIVE AND FILE

*12. Invitation from California Association of Public Retirement Systems (CALAPRS) to trustees to attend the CALAPRS Principles of Pension Governance for Trustees, August 28-31, 2023 in Los Angeles, California – APPROVE THE ATTENDANCE OF TRUSTEE JEANINE ADAMS

*13. Invitation from State Association of County Retirement Systems (SACRS) to Board of Directors to attend the SACRS Board of Directors Meeting June 20, 2023, in Sacramento, California – APPROVE ATTENDANCE OF TRUSTEE JORDAN KAUFMAN

*14. Report on Special Pay Codes classified by the Chief Executive Officer – RECEIVE AND FILE

*15. Second Amendment to CPAS Maintenance Services Agreement (CPAS), effective July 1, 2023 – RECEIVE AND FILE; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

*16. Third Amendment to CPAS Software Support Services Agreement (CPAS), effective July 1, 2023 – RECEIVE AND FILE; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

*17. Service provider evaluation period initiated pursuant to Evaluation Period Policy – RATIFY

*18. Request to extend employment of Retired Kern County Employee Sofia Reyes, effective July 1, 2023 for a period expiring June 30, 2024 – APPROVE

PUBLIC COMMENTS

19. 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

20. Presentation on the 1st Quarter Investment Performance Review period ending March 31, 2023 by Scott Whalen, CFA, Verus – RECEIVE AND FILE

21. Presentation on the 1st Quarter 2023 Portfolio Review presented by Spencer Edge, Albourne America[1] – RECEIVE AND FILE

22. Presentation on the 2H 2022 Private Markets Performance Report presented by Andrea Auerbach, Investment Managing Director, Keirsten Lawton, Investment Managing Director, Kelly Jensen, Senior Investment Director, Maria Surina, Investment Director, Cambridge Associates[2], Chief Investment Officer Daryn Miller, CFA, and Senior Retirement Investment Officer Geoff Nolan – RECEIVE AND FILE

23. Discussion and appropriate action on private market fund recommendation presented by Keirsten Lawton, Managing Director, Cambridge Associates[3], and Senior Investment Officer Geoff Nolan – APPROVE UP TO $50MM COMMITMENT TO ARES SENIOR DIRECT LENDING III; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

24. Discussion and appropriate action on private market fund recommendation presented by Keirsten Lawton, Managing Director, Cambridge Associates[4], Senior Investment Officer Geoff Nolan, and the Investment Committee – APPROVE UP TO $50MM COMMITMENT TO CERBERUS LEVERED LOAN OPPORTUNITIES FUND V; 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.

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.

25. Discussion and appropriate action on private market fund recommendation presented by Maria Surina, Senior Investment Director, Cambridge Associates[5], Chief Investment Officer Daryn Miller, CFA, and the Investment Committee – APPROVE UP TO $30MM COMMITMENT TO MERIT HILL SELF-STORAGE V; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

26. Discussion and appropriate action on co-investment recommendation presented by Andrea Auerbach, Investment Managing Director, Cambridge Associates[6], and Chief Investment Officer Daryn Miller, CFA* – APPROVE UP TO $10MM COMMITMENT TO WARREN EQUITY PARTNERS CO-INVESTMENT; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

    **Pursuant KCERA's Board Operations Policy #38, this matter is being presented to the Board without the involvement of the Investment Committee to timely capture an investment opportunity and prevent diminished returns. Prior consideration of this matter by the Investment Committee would have been imprudent.*

27. Discussion and appropriate action on recommendation for Portfolio Risk Analytics System Provider presented by Chief Investment Officer Daryn Miller, CFA, Investment Analyst II Jack Bowman, and the Investment Committee – APPROVE VENN AS PORTFOLIO RISK ANALYTICS SYSTEM PROVIDER; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

FINANCIAL MATTERS

28. Discussion and appropriate action on the Actuarial Experience Study for the period July 1, 2019 through June 30, 2022, presented by Actuaries Paul Angelo, FSA, and Molly Calcagno, ASA, Segal, and the Finance Committee – ADOPT THE ECONOMIC AND NON-ECONOMIC ASSUMPTIONS

29. Presentation regarding KCERA Organizational Landscape and Budget Governance presented by presented by Chief Executive Officer Dominic Brown – HEAR PRESENTATION

30. Discussion and appropriate action on the proposed fiscal year 2023-2024 KCERA Operating Budget presented by Chief Executive Officer Dominic Brown, Chief Operations Officer Matthew Henry, Chief Financial Officer Angela Kruger, and the Finance Committee – APPROVE

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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.

6 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.

ADMINISTRATIVE MATTERS

31. Trustee education regarding Managed Medical Review Organization (MMRO) Disability Workflow and status update presented by Doug Minke, MMRO – RECEIVE EDUCATIONAL TRAINING (10 MINUTES TRUSTEE EDUCATION CREDIT); RECEIVE AND FILE UPDATE

32. Discussion and appropriate action on creation of a Compensation Policy and Compensation Study – DIRECT STAFF TO WORK WITH AON AND THE ADMINISTRATIVE COMMITTEE TO DEVELOP A COMPENSATION POLICY AND COMPENSATION STUDY

STAFF REPORTS

33. Report from Chief Executive Officer

34. Report from Chief Investment Officer

35. Report from Chief Legal Officer

COMMITTEE REPORTS

36. Report from Committee Chairs:

    a. Administrative Committee: Gonzalez
    b. Finance Committee: Contreras
    c. Investment Committee: Kratt
    d. KCERA Property, Inc. Board: Kratt

CALL FOR PUBLIC COMMENT ON EXECUTIVE SESSION ITEM(S)

EXECUTIVE SESSION

Items 3-4 are withdrawn from Executive Session if approved on the consent agenda:

3. PUBLIC EMPLOYMENT (pursuant to Government Code §54957) Application for service-connected disability pension benefits:

Mabelle Carrillo	Animal Services	General

4. PUBLIC EMPLOYMENT (pursuant to Government Code §54957) Application for service-connected disability pension benefits:

Jonathan Hulsey	Probation	Safety

37. PUBLIC EMPLOYEE PERFORMANCE EVALUATION (pursuant to GOVERNMENT CODE §54957): Title: Chief Executive Officer

RETURN TO PUBLIC SESSION

ROLL CALL

REPORT OF EXECUTIVE SESSION ACTIONS, IF APPLICABLE

REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS

38. 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

39. 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

40. Adjournment

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

11125 River Run Boulevard, Bakersfield, California

SUMMARY OF PROCEEDINGS

Administrative Committee
April 19, 2023

8:32 a.m.

Committee Members: Franey (Alternate), Chair Gonzalez, Hughes, Nunneley, Seibly

ROLL CALL

Present: Franey, Gonzalez, Nunneley, Seibly

Absent: Hughes

NOTE: The vote is displayed in bold below each item. For example, Nunneley-Seibly denotes Trustee Chase Nunneley made the motion and Trustee Robb Seibly seconded the motion.

AB 2449 REMOTE APPEARANCE(S)

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

3. KCERA 2023 Board Self-Assessment Report presented by Chief Executive Officer Dominic Brown and Governance Consultants Julie Becker and Benita Harper, Aon – JULIE BECKER, AON, HEARD; CHAIR JUAN GONZALEZ HEARD; TRUSTEE PHIL FRANEY HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN, HEARD

   HEARD PRESENTATION; RECOMMENDED THE BOARD OF RETIREMENT RECEIVE AND FILE

   Franey-Nunneley – 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 – TRUSTEE PHIL FRANEY HEARD

6. ADJOURNED – 8:47 A.M.

____
Secretary, Board of Retirement

____
Chair, Administrative Committee

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

11125 River Run Boulevard, Bakersfield, California

<u>SUMMARY OF PROCEEDINGS</u>

Finance Committee
April 25, 2023

1:01 p.m.

Committee Members: Adams, Chair Contreras, Franey, Whitezell, (Alternate Vacant)

<u>ROLL CALL</u>

Present: Adams, Contreras, Franey

Absent: Whitezell

NOTE: The vote is displayed in bold below each item. For example, Adams-Franey denotes Trustee Jeanine Adams made the motion and Trustee Phil Franey seconded the motion.

<u>AB 2449 REMOTE APPEARANCE(S)</u>

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

TRUSTEE TYLER WHITEZELL ARRIVED AT 1:02 PM

3. Discussion and appropriate action on Request for Proposal (RFP) for Audit Services, presented by Chief Executive Officer Dominic Brown and Chief Operations Officer Matthew Henry – TRUSTEES JEANINE ADAMS, PHIL FRANEY AND TYLER WHITEZELL HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN, HEARD; CHIEF OPERATIONS OFFICER MATTHEW HENRY HEARD

   RECOMMENDED THE BOARD OF RETIREMENT ENGAGE UHY LLP CERTIFIED PUBLIC ACCOUNTANTS TO PERFORM THE 2023 AUDIT; AND AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

   Whitezell-Franey – 4 Ayes

4. Discussion and appropriate action on Request for Proposal (RFP) for Other Audit Services, presented by Chief Executive Officer Dominic Brown and Chief Operations Officer Matthew Henry – TRUSTEE PHIL FRANEY HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN, HEARD; CHIEF OPERATIONS OFFICER MATTHEW HENRY HEARD

RECOMMENDED THE BOARD OF RETIREMENT ENGAGE UHY LLP CERTIFIED PUBLIC ACCOUNTANTS TO PERFORM OTHER AUDIT SERVICES; AND AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

Whitezell-Adams – 4 Ayes

<u>PUBLIC COMMENTS</u>

5. 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 – TRUSTEE FRANEY HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD

<u>REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS</u>

6. 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

7. ADJOURNED – 1:17 P.M.

____
Secretary, Board of Retirement

____
Chair, Finance Committee

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

11125 River Run Boulevard, Bakersfield, California

SUMMARY OF PROCEEDINGS

Board of Retirement Meeting
May 3, 2023

8:30 A.M.

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

ROLL CALL

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

Absent: Hughes, Kaufman

SALUTE TO FLAG – TRUSTEE DAVID COUCH

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.

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

Nunneley-Couch – 8 Ayes
**Trustee Dustin Contreras voted in place of Trustee Rick Kratt per Cal. Gov. Code* section 31520.1

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

Nunneley-Couch – 8 Ayes
**Trustee Dustin Contreras voted in place of Trustee Rick Kratt per Cal. Gov. Code* section 31520.1

*5. Application for service-connected disability pension benefits for Enrique Bravo, Sheriff (Safety) –

THIS ITEM REMOVED FROM CONSENT AGENDA

*6. Summary of proceedings of the following meetings:

- March 22, 2023 Finance Committee
- March 22, 2023 Administrative Committee
- April 5, 2023 Investment Committee
- April 12, 2023 Board of Retirement

RECEIVED AND FILED

Nunneley-Couch – 8 Ayes

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

Nunneley-Couch – 8 Ayes

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

Nunneley-Couch – 8 Ayes

*9. Report of current disability retirement applications and appeals of KCERA Board decisions for the period ending April 30, 2023 – RECEIVED AND FILED

Nunneley-Couch – 8 Ayes

*10. Securities Lending Earnings Summary Report for the periods March 31, 2023 from Deutsche Bank – RECEIVED AND FILED

Nunneley-Couch – 8 Ayes

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

Nunneley-Couch – 8 Ayes

*12. KCERA Class Action Proceeds Report from January 1, 2023 through March 31, 2023 from the Northern Trust Company – RECEIVED AND FILED

Nunneley-Couch – 8 Ayes

*13. Invitation from State Association of County Retirement Systems (SACRS) to trustees and staff to attend the SACRS Spring Conference, May 9-12, 2023, in San Diego, California – APPROVED ATTENDANCE OF TRUSTEE DAVID COUCH

Nunneley-Couch – 8 Ayes

*14. SACRS Business Meeting 2023 Packet for SACRS business meeting on May 12, 2023 in San Diego, California – RECEIVED AND FILED

Nunneley-Couch – 8 Ayes

PUBLIC COMMENTS

15. 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

ADMINISTRATIVE MATTERS

16. KCERA 2023 Board Self-Assessment Report presented by Chief Executive Officer Dominic Brown, Governance Consultants Julie Becker and Benita Harper, Aon, and the Administrative Committee – JULIE BECKER, AON, HEARD; CHAIR TYLER WHITEZELL HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD

TRUSTEE JOSEPH D. HUGHES ARRIVED AT 8:36 A.M.

HEARD PRESENTATION; RECEIVED AND FILED

Couch-Franey – 9 Ayes

17. Trustee education regarding KCERA Disability Retirement Process presented by Chief Executive Officer Dominic Brown – CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD

RECEIVED EDUCATIONAL TRAINING (14 MINUTES TRUSTEE EDUCATION CREDIT)

FINANCIAL MATTERS

18. Trustee education regarding Internal Revenue Code limits on Plan Sponsor Contributions under 26 USCA § 401(a)(17) presented by Chief Executive Officer Dominic Brown and Chief Legal Officer Jennifer Zahry – TRUSTEE RICK KRATT HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD

RECEIVED EDUCATIONAL TRAINING (18 MINUTES TRUSTEE EDUCATION CREDIT

19. Discussion and appropriate action on Request for Proposal (RFP) for Audit Services, presented by Chief Executive Officer Dominic Brown, Chief Operations Officer Matthew Henry, and the Finance Committee – CHAIR TYLER WHITEZELL HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF OPERATIONS OFFICER MATTHEW HENRY HEARD

ENGAGED UHY LLP CERTIFIED PUBLIC ACCOUNTANTS TO PERFORM THE 2023 AUDIT; AUTHORIZED CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

Gonzalez-Adams – 9 Ayes

20. Discussion and appropriate action on Request for Proposal (RFP) for Other Audit Services, presented by Chief Executive Officer Dominic Brown, Chief Operations Officer Matthew Henry, and the Finance Committee – TRUSTEE JUAN GONZALEZ HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF OPERATIONS OFFICER MATTHEW HENRY HEARD

ENGAGED UHY LLP CERTIFIED PUBLIC ACCOUNTANTS TO PERFORM OTHER AUDIT SERVICES; AUTHORIZED CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW

Kratt-Couch – 9 Ayes

STAFF REPORTS

21. Report from Chief Executive Officer

CHIEF OPERATIONS OFFICER MATTHEW HENRY REPORTED THE FOLLOWING:

- COMPLETED BOARD REFERRALS
- STAFFING UPDATE
- SOLAR PROJECT UPDATE
- RFP UPDATE
- SERVICE PURCHASE UPDATE
- DECEDENT PROJECT
- MMRO UPDATE
- OPERATIONS ACTIVITY
- MEMBER HANDBOOK UPDATE
- UPCOMING MEETINGS AND EVENTS

TRUSTEES JEANINE ADAMS AND DAVID COUCH HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD

22. Report from Chief Investment Officer

SENIOR INVESTMENT OFFICER GEOFF NOLAN REPORTED THE FOLLOWING:

- REBALANCING – NO APRIL ACTIVITY
- PORTFOLIO POSITIONING
- UPDATES – INVESTMENT ANALYST STARTED APRIL 2023
- KEY INITIATIVES
- UPCOMING INVESTMENT COMMITTEE JUNE 1, 2023

TRUSTEE JUAN GONZALEZ HEARD

23. Report from Chief Legal Officer and Trustee education regarding service purchases and community property:

CHIEF LEGAL OFFICER JENNIFER ZAHRY REPORTED THE FOLLOWING:

- SERVICE PURCHASES AND COMMUNITY PROPERTY
- LEGISLATIVE UPDATES
- MAY CALENDAR

TRUSTEES DAVID COUCH AND RICK KRATT HEARD

RECEIVED EDUCATIONAL TRAINING (10 MINUTES TRUSTEE EDUCATION CREDIT)

COMMITTEE REPORTS

24. Report from Committee Chairs:

    a. Administrative Committee: GONZALEZ – NONE

    b. Finance Committee: CONTRERAS – NONE

    c. Investment Committee: KRATT – MEETING SCHEDULED JUNE 2, 2023

    d. KCERA Property, Inc.: KRATT – NONE

THIS ITEM HEARD OUT OF ORDER

27. Administrative Appeal of Sharon Meyer (formerly Eby) regarding request for escheated contributions and interest – SHARON MEYER (FORMERLY EBY) HEARD; TRUSTEE DAVID COUCH HEARD; CHIEF EXECUTIVE OFFICER DOMINIC BROWN HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD; DEPUTY CHIEF LEGAL OFFICER PHILLIP JENKINS HEARD

    HEARD STATEMENTS; RECEIVED ADMINISTRATIVE RECORD

CALL FOR PUBLIC COMMENT ON EXECUTIVE SESSION ITEM(S) – NONE

TRUSTEE DUSTIN CONTRERAS DISCLOSED PERSONAL KNOWLEDGE OF THE MEMBER IN ITEM 5, RECUSED HIMSELF FROM ITEM 5, AND LEFT THE MEETING AT 9:47 A.M.

EXECUTIVE SESSION

5. PUBLIC EMPLOYMENT (pursuant to Government Code §54957) Application for service-connected disability pension benefits:

Enrique Bravo	Sheriff	Safety

CHAIR TYLER WHITEZELL LEFT AT 10:30 A.M.*

**In Chair Tyler Whitezell's absence, Vice-Chair Phil Franey assumed the Chair role for the remainder of the meeting*

TRUSTEE DUSTIN CONTRERAS RETURNED AT 10:30 A.M. FOLLOWING THE CONCLUSION OF ITEMS 5 AND 27

THE FOLLOWING ITEMS HEARD OUT OF ORDER

27. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
    Paragraph (1) of subdivision (d) of Section 54956.9). Administrative Appeal submitted by Shannon Meyer (formerly Eby)

26. PUBLIC EMPLOYEE PERFORMANCE EVALUATION (pursuant to GOVERNMENT CODE §54957): Title: Chief Executive Officer

25. 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

RETURN TO PUBLIC SESSION

BOARD OF RETIREMENT RECONVENED AT 10:55 A.M.

ROLL CALL

Present: Adams, Contreras, Couch, Franey, Gonzalez, Hughes, Kratt, Nunneley, Sanders, Seibly

Absent: Kaufman, Whitezell

REPORT OF EXECUTIVE SESSION ACTIONS, IF APPLICABLE

ITEM 5 – RECOMMENDATION TO RETURN TO THE BOARD WITHIN 120 DAYS

ITEM 26 – NO REPORTABLE ACTION

ITEM 25 – NO REPORTABLE ACTION

27. Administrative Appeal of Sharon Meyer (formerly Eby) regarding request for escheated contributions and interest – CHAIR PHIL FRANEY HEARD; CHIEF LEGAL OFFICER JENNIFER ZAHRY HEARD

    DIRECTED STAFF TO RETURN THE CLAIMANT'S CONTRIBUTION BALANCE IN THE FUND AT THE TIME OF HER TERMINATION AND DENY HER REQUEST FOR INTEREST

    Gonzalez-Adams – 8 Ayes

REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS

28. 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 – NONE

NEW BUSINESS

29. Consider, discuss, and take possible action to agendize one or more items for future meetings of the Board of Retirement – TRUSTEES JUAN GONZALEZ AND JOSEPH D. HUGHES HEARD

    STAFF AND ADMINISTRATIVE COMMITTEE TO WORK WITH AON TO DEVELOP A COMPENSATION POLICY AND COMPENSATION STUDY FOR THE CHIEF EXECUTIVE OFFICER AND CHIEF INVESTMENT OFFICER

    Gonzalez-Couch – 8 Ayes

30. ADJOURNED – 11:01 A.M.

____
Secretary, Board of Retirement

____
Chair, Board of Retirement

Kern County Employees' Retirement Association
New Retirees- May 1, 2023 to May 31, 2023

Employer Name: County Of Kern

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Adams	Paul	03/25/2023	General Tier II PEPRA	4120 - Behavioral Health & Reco
Bettencourt	Eric	04/01/2023	Safety Tier I	2340S - Probation-Safety
Black	Gregory	03/25/2023	Safety Tier I	2415S - Fire
Bly	Beth	03/25/2023	General Tier II PEPRA	4120 - Behavioral Health & Reco
Bonanno	Anthony	03/25/2023	General Tier I	8954 - Public Works-Public Ways
Ceja-Butkiewicz	Imelda	03/31/2023	General Tier I	4110 - Depart Of Public Health
Cortez	Adolfo	03/25/2023	General Tier I	1610 - General Services Division
Coulter-Laird	Jeri	03/25/2023	Safety Tier I	2210S - Sheriff
Dorado	Berta	03/25/2023	General Tier I	4120 - Behavioral Health & Reco
Duran	Aida	04/08/2023	General Tier I	2210 - Sheriff
Finnerty	Linda	03/25/2023	General Tier II	2180 - District Attorney
Furnish	Jason	03/28/2023	Safety Tier I	2180S - District Attorney
Gaede	Wesley	03/28/2023	General Tier I	4110 - Depart Of Public Health
Garza	Mario	03/18/2023	Safety Tier I	2210S - Sheriff
Gause	Gregory	03/25/2023	Safety Tier I	2340S - Probation-Safety
Harbour	Jeffrey	03/25/2023	Safety Tier I	2210S - Sheriff
Hilburn	Irene	03/25/2023	Safety Tier I	2340S - Probation-Safety

Kern County Employees’ Retirement Association
New Retirees- May 1, 2023 to May 31, 2023

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Hitchcock	Teresa	03/17/2023	General Tier I	5923 - Employers' Train Resource
Hixson	Shannon	03/25/2023	Safety Tier I	2210S - Sheriff
Huerta	David	03/25/2023	General Tier I	1130 - Assessor
Hunter	Dwayne	04/08/2023	General Tier II	8950 - Garage
Juarez	Imelda	03/25/2023	General Tier I	4120 - Behavioral Health & Reco
Kish	Edward	04/22/2023	General Tier II	4120 - Behavioral Health & Reco
Masangkay	Benjamin	03/10/2023	General Tier I	2180 - District Attorney
Masonheimer	Darren	03/25/2023	General Tier I	1610 - General Services Division
McCurley	David	04/03/2023	General Tier II	3000 - Road
Muniz	Linda	04/03/2023	General Tier II	4120 - Behavioral Health & Reco
Murphy	Stephen	03/25/2023	General Tier I	1160 - Information Technology Sv
Nevis-Perrien	Angelique	03/18/2023	General Tier I	4120 - Behavioral Health & Reco
Nobregas	Amanda	03/25/2023	General Tier I	5120 - Depart Of Human Services
Olsen	Mark	03/25/2023	General Tier II	8954 - Public Works-Public Ways
Patterson	Douglas	03/25/2023	Safety Tier I	2415S - Fire
Pear	Thomas	03/25/2023	General Tier I	5120 - Depart Of Human Services

Kern County Employees' Retirement Association
New Retirees- May 1, 2023 to May 31, 2023

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Pena	Roberto	02/03/2023	General Tier I	9415 - Kcera-Administration
Pichardo	Martha	03/25/2023	General Tier I	5120 - Depart Of Human Services
Pollock	Isaiah	03/25/2023	General Tier I	2415 - Fire
Posney	Claudine	03/25/2023	General Tier I	2750 - Planning & Community Devl
Rivera	Silvia	03/25/2023	General Tier I	5120 - Depart Of Human Services
Robinson	Genise	03/25/2023	General Tier I	2183 - Dept Of Child Support Svc
Smith	David	03/31/2023	General Tier I	2340 - Probation-Safety
Smith	John	03/25/2023	Safety Tier I	2210S - Sheriff
Sobrien	Andrea	03/25/2023	General Tier I	2183 - Dept Of Child Support Svc
Wade	Ruby	12/06/2022	General Tier I	4120 - Behavioral Health & Reco

Employer Name: KC Superior Court

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
White	Jane	04/08/2023	General Tier I	9410A - Judges and Courtroom Suppt

Employer Name: Kern County Hospital Authority

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Garnette	Theodora	04/08/2023	General Tier I	9460 - Kern County Hospital Authority

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Kalish	David	04/18/2023	General Tier I	9460 - Kern County Hospital Authority
Trowbridge	Laura	03/25/2023	General Tier I	9460 - Kern County Hospital Authority

Employer Name: Kern County Water Agency

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Carls	Robert	03/25/2023	General Tier I	0957 - Engineering & Groundwater Serv

Employer Name: San Joaquin Valley APCD

Member Last Name	Member First Name	Retirement Date	Membership Tier	Department Name
Biscay	Peter	03/25/2023	General Tier I	0959 - San Joaquin Valley Air Pollution Control District
Redmond	Catherine	04/03/2023	General Tier I	0959 - San Joaquin Valley Air Pollution Control District

Kern County Employees' Retirement Association
Decedents- May 1, 2023 to May 31, 2023

Post-Retirement Deaths

Last Name	First Name	Membership Type	Employer Name
Antongiovanni	Dorris	General	County Of Kern
Arias	Victoria	General	County Of Kern
Beach	Ruth	General	County Of Kern
Brunsell	Debbie	General	KC Superior Court
Ceccarelli	Arliss	General	County Of Kern
Champlin	Timothy	Safety	County Of Kern
Christoffersen	Mary Ann	General	County Of Kern
Flores	Augustine	General	County Of Kern
Gallagher	John	General	County Of Kern
Garland	Dolly	General	County Of Kern
Gatewood	Pamela	General	County Of Kern
Haddad	Munir	General	County Of Kern
Lindsay	Thomas	General	County Of Kern
Mccarthy	Thomas	Safety	County Of Kern
Miller	Gerald	General	County Of Kern
Nelson	Tracy	General	County Of Kern
Oesch	David	Safety	County Of Kern
Petrina	Mark	Safety	County Of Kern
Radis	William	General	County Of Kern
Richards	Sachiko	General	County Of Kern
Russell	Catherine	General	County Of Kern
Sallee	Ansel	Safety	County Of Kern
Sidhu	Gloria	General	County Of Kern
Smithee	Augustus	Safety	County Of Kern
Street	Howard	General	County Of Kern
Young	John	General	County Of Kern

KCERA
STATUS OF DISABILITY RETIREMENT APPLICATIONS
AS OF MAY 31, 2023

NAME	PLAN SPONSOR/ DEPARTMENT	DATE FILED	DATE OF LAST CONTACT
Meeks, Sandra	BEHAVIORAL HEALTH & RECOVERY SERVICES	5/1/2023	5/18/2023
Fulmer, Evon	DEPARTMENT OF HUMAN SERVICES	4/28/2023	5/8/2023
Muniz, Linda	BEHAVIORAL HEALTH & RECOVERY SERVICES	4/6/2023	4/24/2023
Romero, Anthony	FIRE	3/10/2023	4/6/2023
Gonzalez-Lopez, Rebecca	DEPARTMENT OF HUMAN SERVICES	3/9/2023	3/24/2023
Guivas Smith, Loida	AGING AND ADULT SERVICES	3/8/2023	3/24/2023
NAME	**PLAN SPONSOR/ DEPARTMENT**	**DATE FILED**	**MMRO ASSIGNED**
Allen, Paul	SHERIFF	2/22/2023	4/25/2023
Mierta, 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
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
Yohn, Jacob	SHERIFF	11/30/2021	7/21/2022

KCERA
STATUS OF DISABILITY RETIREMENT APPLICATIONS
AS OF MAY 31, 2023

NAME	PLAN SPONSOR/ DEPARTMENT	DATE FILED	MMRO ASSIGNED
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
Garcia, Judy	KERN COUNTY HOSPITAL AUTHORITY	3/29/2021	10/18/2021
Smith, Thomas Jr.	SHERIFF	3/16/2021	11/8/2021
Brandon, Bradly	SHERIFF	3/4/2021	8/20/2021
Bravo, Enrique	SHERIFF	3/1/2021	8/20/2021
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
Carrillo, Mabelle	ANIMAL CONTROL	11/18/2020	4/21/2021
Burchfield, James	PUBLIC WORKS	11/17/2020	7/16/2021
Fleeman, Justin	SHERIFF	9/17/2020	2/8/2021
Diffenbaugh, Anthony	FIRE	6/11/2020	4/26/2021
Baker, Breanne	DEPARTMENT OF HUMAN SERVICES	4/2/2020	9/29/2020
Martinez de Moore, Brenda	KERN BEHAVIORAL HEALTH AND RECOVERY SERVICES	12/10/2018	9/8/2020
Champlin, Timothy	PROBATION	4/25/2018	5/21/2020
Hulsey, Jonathan	PROBATION	4/18/2018	4/22/2020
Carvel, Scott	DISTRICT ATTORNEY	1/27/2017	11/5/2019

COMPLETED IN 2023

NAME	DEPARTMENT	FILED	DATE COMPLETED
Coletti, John	SHERIFF	01/30/18	3/8/2023
Rodriquez, Ted	SHERIFF	6/22/2017	4/12/2023
Brown, Michael	SHERIFF	4/14/2020	4/12/2023
Tisinger, Douglas	KERN COUNTY WATER AGENCY	10/5/2020	4/12/2023
Gardner, Stephen	FIRE	7/19/2021	4/12/2023
Terry, Leann	SHERIFF	10/17/2019	5/3/2023
Barnes, Mark	SHERIFF	12/3/2021	5/3/2023

KCERA
DISABILITY RETIREMENT APPLICATION APPEALS PENDING
AS OF MAY 31, 2023

ADMINISTRATIVE HEARING	DEPARTMENT	DATE FILED	SDAG RECOMMENDATION	APPEAL RECEIVED	HEARING OFFICER ASSIGNED	STATUS

WRIT OF MANDATE	DEPARTMENT	DATE FILED	BOARD DECISION	PETITION FOR WRIT FILED	STATUS

COURT OF APPEAL	DEPARTMENT	DATE FILED	BOARD DECISION	PETITION FOR WRIT FILED	JUDGMENT ON WRIT	NOTICE OF APPEAL RECEIVED	STATUS

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

SECURITIES LENDING

Summary Earnings Report

Run Time:	08-May-2023 12:29 EDT
Date Range:	01-APR-2023 To 30-APR-2023
Location:	Not specified
Currency:	USD
Client ID:	Not Specified
Master Client:	CAKERN
Grouping Type:	None
Level:	Individually

	Client ID	Average Contract Amount	Gross Earnings	DB Earnings	Client Earnings	Custody Account
KNCTY PIMCO EMD	CAKE08	11,847.00	160.08	16.01	144.07	KNC12
KNTCY - Western Asset MGMT Co 02	CAKE04	3,082.23	0.26	0.03	0.23	KNC08
	CCY Total USD:	**14,929.23**	**160.34**	**16.03**	**144.30**	
Grand Total USD:			**160.34**	**16.03**	**144.30**	

KCERA ASSET ALLOCATION*
4/30/2023

Manager Name	Type	$(000)	Current Allocation	Target Percentage	Variance Over Target (Under Target)	Variance Over Target (Under Target) $(000)
AllianceBernstein	Small Cap Value	82,842	1.6%			
Geneva Capital	Small Cap Growth	49,947	0.9%	*Domestic Equity Range 16.0% - 27.0%*		
Mellon Capital Management EB DV	Large Cap Passive	500,503	9.4%			
PIMCO StockPlus	Large Cap Enhanced	108,797	2.1%			
Total Domestic Equity		**$742,089**	**14.0%**	**19.0%**	**(5.0%)**	**($264,878)**
American Century	International Small	72,199	1.4%	*International Developed Equity Range 8.0% - 18.0%*		
Cevian Capital II LP	International Large	37,456	0.7%			
Mellon Capital Management-EB DV	International Large Passive	524,502	9.9%			
Total International Developed Equity		**$634,157**	**12.0%**	**13.0%**	**(1.0%)**	**($54,820)**
AB Emerging Markets Strategic Core	Emerging Markets	51,807	1.0%	*Emerging Market Equity Range 1.0% - 9.0%*		
DFA Emerging Markets Value Portfolio	Emerging Markets	79,368	1.5%			
Mellon Emerging Markets	Emerging Markets	82,681	1.6%			
Total Emerging Market Equity		**$213,856**	**4.0%**	**5.0%**	**(1.0%)**	**($51,135)**
TOTAL EQUITY		**$1,590,102**	**30.0%**	**37.0%**	**(7.0%)**	**($370,834)**
Mellon Capital Management Ag Bond	Core	163,398	3.1%	*Core Range 12.0% - 25.0%*		
PIMCO CP	Core Plus	166,370	3.1%			
Western Asset Management - CP	Core Plus	123,118	2.3%			
Total Core		**$452,886**	**8.5%**	**14.0%**	**(5.5%)**	**($289,090)**
TCW Securitized Opportunities LP	Securitized Opportunities	94,946	1.8%	*Credit Range 3.0% - 9.0%*		
Western Asset Management - HY	High Yield	165,122	3.1%			
Total Credit		**$260,068**	**4.9%**	**6.0%**	**(1.1%)**	**($57,922)**
PIMCO EM Beta	Emerging Markets	144,285	2.7%	*Emerging Market Debt Range 1.0% - 7.0%*		
Stone Harbor Global Funds	Emerging Markets	65,179	1.2%			
Total Emerging Market Debt		**$209,464**	**4.0%**	**4.0%**	**(0.0%)**	**($2,529)**
TOTAL FIXED INCOME		**$922,418**	**17.4%**	**24.0%**	**(6.6%)**	**($349,540)**
Gresham Commodity Builder Fund	Active	48,769	0.9%	*Commodities Range 0.0% - 6.0%*		
Wellington Trust Company (WTC)	Active	146,605	2.8%			
TOTAL COMMODITIES		**$195,374**	**3.7%**	**4.0%**	**(0.3%)**	**($16,619)**
Aristeia International Ltd	Hedge Fund - Direct	69,960	1.3%			
Brevan Howard Fund Limited	Hedge Fund - Direct	55,851	1.1%			
D.E. Shaw Composite Fund	Hedge Fund - Direct	59,530	1.1%			
HBK Multi-Strategy Fund	Hedge Fund - Direct	44,425	0.8%			
Hudson Bay Enhanced Fund LP	Hedge Fund - Direct	82,253	1.6%	*Hedge Fund Range 5.0% - 15.0%*		
Indus Pacific Opportunities Fund	Hedge Fund - Direct	46,951	0.9%			
Magnetar Structured Credit Fund	Hedge Fund - Direct	7,328	0.1%			
PIMCO Commodity Alpha Fund LLC	Hedge Fund - Direct	68,619	1.3%			
Pharo Macro Fund LTD	Hedge Fund - Direct	61,359	1.2%			
Sculptor Enhanced LP (Formerly OZ Domestic)	Hedge Fund - Direct	45,599	0.9%			
TOTAL HEDGE FUND		**$541,875**	**10.2%**	**10.0%**	**0.2%**	**$11,892**
ASB Capital Management	Core	174,344	3.3%	*Core Real Estate Range 3.0% - 7.0%*		
JPMCB Strategic Property Fund	Core	141,848	2.7%			
TOTAL CORE REAL ESTATE		**$316,192**	**6.0%**	**5.0%**	**1.0%**	**$51,201**
Davidson Kempner	Hedge Fund - Direct	54,896	1.0%			
Garda Fixed Income	Hedge Fund - Direct	58,583	1.1%	*CE Alpha Pool Range 0.0% - 7.0%*		
HBK Multi-Strategy Fund	Hedge Fund - Direct	43,335	0.8%			
Hudson Bay Enhanced Fund LP	Hedge Fund - Direct	60,845	1.1%			
TOTAL CE ALPHA POOL		**$217,659**	**4.1%**	**5.0%**	**(0.9%)**	**($47,332)**
Harvest Midstream	Midstream	158,048	3.0%	*Midstream Energy Range 0.0% - 7.0%*		
PIMCO Midstream	Midstream	149,974	2.8%			
TOTAL MIDSTREAM ENERGY		**$308,022**	**5.8%**	**5.0%**	**0.8%**	**$43,031**
Aristeia Select Opportunities II LP	Opportunistic	49,531	0.9%			
DB Investor's Fund IV	Opportunistic	24,436	0.5%	*Opportunistic Range 0.0% - 10.0%*		
River Birch International Ltd	Opportunistic	6,013	0.1%			
Sixth Street TAO Partners (D)	Opportunistic	85,956	1.6%			
TOTAL OPPORTUNISTIC		**$165,936**	**3.1%**	**0.0%**	**3.1%**	**$165,936**
Abbott Capital Funds	Private Equity Fund of Funds	17,940	0.3%			
Brighton Park Capital Fund I	Private Equity	35,438	0.7%			
Brighton Park Capital Fund II	Private Equity	2,249	0.0%			
Level Equity Growth Partners	Private Equity	7,672	0.1%			
LGT Crown Global	Private Equity	27,188	0.5%			
Linden Capital Partners	Private Equity	7,844	0.1%	*Private Equity Range 0.0% - 10.0%*		
Pantheon Funds	Private Equity Fund of Funds	8,465	0.2%			
Peak Rock	Private Equity	11,226	0.2%			
OrbiMed Private Investments IX	Private Equity	428	0.0%			
Rubicon Technology Partners IV	Private Equity	3,021	0.1%			
Vista Foundation Fund IV	Private Equity	17,418	0.3%			
Warren Equity Partners Fund III and Fund IV	Private Equity	33,476	0.6%			
TOTAL PRIVATE EQUITY		**$172,365**	**3.3%**	**5.0%**	**(1.7%)**	**($92,626)**
Blue Torch Credit Opportunites II	Private Credit	17,526	0.3%			
Blue Torch Credit Opportunities Fund III	Private Equity	7,625	0.1%			
Brookfield Real Estate Finance Fund V	Private Credit	17,526	0.3%			
Colony Distressed Credit Fund	Private Credit	20,781	0.4%			
Fortress Credit Opportunities Fund V	Private Credit	15,218	0.3%	*Private Credit Range 0.0% - 10.0%*		
Fortress Lending Fund II (A)	Private Credit	27,823	0.5%			
Fortress Lending Fund III (A)	Private Credit	22,835	0.4%			
H.I.G Bayside Loan Opportunity Fund	Private Credit	44,306	0.8%			
Magnetar Constellation Fund V	Private Credit	28,836	0.5%			
OrbiMed Royalty & Credit Opportunities IV	Private Credit	4,500	0.1%			
Sixth Street TAO Partners (B)	Private Credit	39,398	0.7%			
TOTAL PRIVATE CREDIT		**$246,374**	**4.6%**	**5.0%**	**(0.4%)**	**($18,617)**
Covenant Apartment Fund X	Private Real Estate	31,413	0.6%			
Covenant Apartment Fund XI	Private Real Estate	9,823	0.2%			
Invesco Real Estate Funds III & IV	Private Real Estate	946	0.0%			
KCERA Property	Private Real Estate	4,629	0.1%	*Private Real Estate Range 0.0% - 10.0%*		
KSL Capital Partners VI, LP and ITS Parallel Funds	Private Real Estate	2,016	0.0%			
LBA Logistics Value Fund IX	Private Real Estate	7,442	0.1%			
Landmark Real Estate Partners VIII	Private Real Estate	31,563	0.6%			
Long Wharf Real Estate Partners VI	Private Real Estate	33,660	0.6%			
Singerman Real Estate Opportunity Fund IV	Private Real Estate	8,752	0.2%			
TOTAL PRIVATE REAL ESTATE		**$130,244**	**2.5%**	**5.0%**	**(2.5%)**	**($134,748)**
Northern Trust STIF	Short Term	202,757	3.8%			
BlackRock Short Duration	Short Term	178,643	3.4%	*Cash Range 0.0% - 5.0%*		
Parametric	Overlay	98,212	1.9%			
Treasurers Pooled Cash	Short Term	13,012	0.2%			
Wells Fargo Bank	Short Term	333	0.0%			
TOTAL CASH AND OVERLAY		**$492,957**	**9.3%**	**-5.0%**	**14.3%**	**$757,948**
Transition Accounts	Liquidation	309	0.0%			
Other		**$309**	**0.0%**	**0.0%**	**0.0%**	**$309**
As Allocated to Managers **		**$5,299,827**	**100.0%**	**100.0%**	**(0.0%)**	**$0**

*This report reflects the strategic asset allocation policy adopted by the Board of Retirement April 2022.

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

KCERA
CASH FLOW POSITION
APRIL, 2023

TREASURERS POOLED CASH

Beginning Cash Balance:			**$ 13,500,601**
Employer Contributions		24,975,525	
Employee Contributions		3,659,424	
Service Purchases		101,190	
Miscellaneous		2,196	
Total Receipts:			**28,738,335**
Operating Expenses		(649,941)	
Investment Expenses		(576,719)	
Transfers-out		(28,000,000)	
Total Disbursements:			**(29,226,660)**
Ending Cash Balance:			**13,012,276**

NORTHERN TRUST

Beginning Cash Balance:			**$ 206,414,571**
Private Markets - Distributions		2,010,511	
Commingled Funds - Distributions		2,936,380	
Hedge Funds - Distributions		183,496	
Dividend and Interest Income		1,424,397	
Class Action Proceeds		124	
Interest		812,779	
Securities Lending Earnings (NET)		65,361	
Total Receipts:			**7,433,048**
Capital Calls	Rubicon	(681,618)	
Capital Calls	SRE Opportunistic	(131,250)	
Capital Calls	Covenant	(3,000,000)	
Capital Calls	Warren Equity	(1,309,413)	
Capital Calls	KSL Capital	(2,016,241)	
Capital Calls	Fortress	(1,280,261)	
Other Expenses		(16,640)	
Transfers-out		(7,000,000)	
Total Disbursements:			**(15,435,423)**
Ending Cash Balance:			**$ 198,412,197**

KCERA
CASH FLOW POSITION
APRIL, 2023

WELLS FARGO BANK

Beginning Cash Balance			**$ 942,662**
Transfer In	Northern Trust	7,000,000	
Transfer In	TPC - County	28,000,000	
ACH Returns / Deletes		9,956	
Total Receipts:			**35,009,956**
ACH Benefit Payments		(31,022,678)	
Total Checks Paid		(186,322)	
Taxes Witholding Deposits		(4,409,905)	
Bank Services		(565)	
Total Disbursements:			**(35,619,471)**
WFB ending Balance			**$ 333,147**

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

Description	July	August	September	October	November	December	January	February	March	April	Total
Investment Base Fees:											
Domestic Equity:											
AllianceBernstein				136,722.65			150,695.87			150,378.71	437,797.23
Henderson Geneva Capital				88,266.00				89,299.00			177,565.00
Mellon Capital				52,344.44			60,651.70			63,266.65	176,262.79
International Equity:											
BlackRock							67,463.92	72,897.90			140,361.82
Fixed Income:											
Mellon Capital (Ag Bond)				10,917.00			11,042.85			10,999.88	32,959.73
Pacific Investment Management Company		280,932.77			279,097.65			483,950.46			1,043,980.88
Western Asset Management		210,204.72			197,600.56		162,994.65				570,799.93
Commodities:											
Wellington Trust Company								324,021.78	431,339.47		755,361.25
Real Estate:											
ASB Capital Management		374,856.86			383,045.97			364,535.70			1,122,438.53
Midstream Energy:											
Harvest Midstream				366,080.72			335,618.05			284,573.98	986,272.75
Overlay											
Parametric		67,965.00			77,590.00			62,394.00			207,949.00
Subtotal	**0.00**	**933,959.35**	**0.00**	**654,330.81**	**937,334.18**	**0.00**	**788,467.04**	**1,397,098.84**	**431,339.47**	**509,219.22**	**5,651,748.91**
Investment Professional Fees:											
Consulting:											
Abel Noser			7,500.00			7,500.00	7,500.00				22,500.00
Albourne America LLC		33,333.33	33,333.33	33,333.33		46,283.33	33,333.33	33,333.33	33,333.33	33,333.33	279,616.64
Cambridge Associates				187,500.00		187,500.00			187,500.00		562,500.00
Verus		34,166.67	34,166.67	34,166.67	34,166.67	34,166.67	34,166.67	34,166.67	34,166.67	34,166.67	307,500.03
Consulting - Other Expenses							9,360.00				9,360.00
Custodial:											
The Northern Trust Co.			120,000.00					120,000.00	120,000.00		360,000.00
Legal:											
Foley & Lardner LLP											0.00
Hanson Bridgett LLP											0.00
Nossaman LLP	25,980.00						22,500.00	12,778.50			61,258.50
Due Diligence / Investment-Related Travel:									198.85		
Subtotal	**25,980.00**	**67,500.00**	**195,000.00**	**255,000.00**	**34,166.67**	**275,450.00**	**106,860.00**	**200,278.50**	**375,198.85**	**67,500.00**	**1,602,934.02**
Total Investment Fees	**25,980.00**	**1,001,459.35**	**195,000.00**	**909,330.81**	**971,500.85**	**275,450.00**	**895,327.04**	**1,597,377.34**	**806,538.32**	**576,719.22**	**7,254,682.93**

KCERA

Operating Expense Budget Status Report
For the Month Ended April 30, 2023

Expense Type	Budget FY 2022/23	Expenses	Over (Under)
Staffing			
Salaries	3,724,357.00	$2,482,134.14	(1,242,222.86)
Benefits	2,410,676.00	1,440,576.75	(970,099.25)
Staffing Total	**6,135,033.00**	**3,922,710.89**	**(2,212,322.11)**
Staff Development			
Education & Professional Development	90,000.00	67,134.90	(22,865.10)
Staff Appreciation	3,000.00	2,455.63	(544.37)
Staff Development Total	**93,000.00**	**69,590.53**	**(23,409.47)**
Professional Fees			
Actuarial fees	140,000.00	30,623.00	(109,377.00)
Audit fees	50,500.00	42,000.00	(8,500.00)
Consultant fees	115,000.00	35,000.00	(80,000.00)
Legal fees	80,000.00	29,536.91	(50,463.09)
Professional Fees Total	**385,500.00**	**137,159.91**	**(248,340.09)**
Office Expenses			
Building expenses	115,000.00	81,608.42	(33,391.58)
Communications	52,770.00	22,259.78	(30,510.22)
Equipment lease	9,600.00	7,322.85	(2,277.15)
Equipment maintenance	7,178.00	2,000.00	(5,178.00)
Memberships	20,000.00	8,220.00	(11,780.00)
Office supplies & misc. admin.	68,300.00	$30,550.00	(37,750.00)
Payroll & accounts payable fees	27,800.00	$18,117.20	(9,682.80)
Other Services - Kern County	40,000.00	-	(40,000.00)
Postage	20,000.00	$15,890.64	(4,109.36)
Subscriptions	13,733.00	10,383.94	(3,349.06)
Utilities	30,000.00	39,179.29	9,179.29
Office Expense Total	**404,381.00**	**235,532.12**	**(168,848.88)**
Insurance	**160,595.00**	**162,795.00**	**2,200.00**
Member Services			
Disability - legal fees	10,000.00	-	(10,000.00)
Disability - professional services	20,000.00	-	(20,000.00)
Disability - administration MMRO	140,000.00	47,375.00	(92,625.00)
Member communications	20,000.00	$12,215.42	(7,784.58)
Member Services Total	**190,000.00**	**59,590.42**	**(130,409.58)**
Systems			
Audit – security & vulnerability scan	15,000.00	13,750.00	(1,250.00)
Business continuity expenses	23,850.00	16,934.33	(6,915.67)
Hardware	48,453.00	12,647.31	(35,805.69)
Licensing & support	148,413.00	136,548.32	(11,864.68)
Software	164,229.00	128,946.23	(35,282.77)
Website design & hosting	85,695.00	10,290.00	(75,405.00)
Systems Total	**485,640.00**	**319,116.19**	**(166,523.81)**
Board of Retirement			
Board compensation	12,000.00	5,400.00	(6,600.00)
Board conferences & training	50,000.00	28,010.91	(21,989.09)
Board elections	50,000.00	-	(50,000.00)
Board meetings	5,000.00	2,173.07	(2,826.93)
Board of Retirement Total	**117,000.00**	**35,583.98**	**(81,416.02)**
Depreciation / Amortization	**666,471.00**	**540,972.00**	**(125,499.00)**
Total Operating Expenses	**8,637,620.00**	**5,483,051.04**	**(3,154,568.96)**

KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

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

Date: June 14, 2023

To: Trustees, Board of Retirement

From: Dominic D. Brown, Chief Executive Officer Dominic D Brown

Subject: **2023 Board of Retirement Committee Assignment Revisions**

Pursuant to the KCERA Board Chair Charter duties and responsibilities, 2023 Board Chair Tyler Whitezell made trustee assignments to the standing committees for calendar year 2023. Due to the vacancy of the 6th member Trustee seat at the time, the alternate member of the Finance Committee was also left vacant. Those assignments were presented to your Board at the Regular meeting on February 8, 2023.

With the subsequent appointment of Trustee John Sanders to the 6th member Trustee seat in May 2023, Chair Tyler Whitezell has revised the committee assignments. These changes include assigning Mr. Sanders to be a member of the Finance Committee and switching Chair Whitezell from a member to the alternate member on the same committee.

Therefore, it is recommended that your Board receive and file these revised 2023 Board of Retirement Committee Assignments.

Enclosure

2023 KCERA Board Committee Assignments

Member Seat #	Trustee Name	Administrative Committee	Finance Committee	Investment Committee
3rd *(Elected)*	**Adams**		**Member**	
7th Alt. Sfty *(Elected)*	**Contreras**		**Chair**	
4th *(Appointed)*	**Couch**			**Member**
8th *(Elected)*	**Franey**	**Alternate**	**Member**	
2nd *(Elected)*	**Gonzalez**	**Chair**		
5th *(Appointed)*	**Hughes**	**Member**		
1st *(Statute)*	**Kaufman**			**Member**
7th *(Elected)*	**Kratt**			**Chair**
1st Alt. *(Statute)*	**Nunneley**	**Member**		**Alternate**
6th *(Appointed)*	**Sanders**		**Member**	
8th Alt. Ret. *(Elected)*	**Seibly**	**Member**		
9th *(Appointed)*	**Whitezell**		**Alternate**	**Member**

The ***alternate 7th member (safety)*** *shall vote as a member of the Board only if the 2nd (general elected), 3rd (general elected), 7th (safety elected), or 8th (retiree elected) member (and 8th alternate) is absent from a board meeting for any cause. Or, if there is a vacancy with respect to the 2nd, 3rd, 7th or 8th member (and 8th alternate), the alternate 7th member shall fill the vacancy until a successor qualifies.*

The ***alternate 8th (retiree elected) member*** *shall vote as a member of the Board if the 8th member is absent from a board meeting for any cause. Or, if the 8th member is present and both the 2nd and 3rd, both the 2nd and 7th, or both the 3rd and 7th members are absent from a board meeting for any cause.*

Date: June 14, 2023

To: Trustees, Board of Retirement

From: Dominic D. Brown, Chief Executive Officer

Subject: **CALAPRS Principles of Pension Governance for Trustees**
Los Angeles, California
August 28 - 31, 2023

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

- Agenda and supporting information on the pertinence and relevance of attendance to a fiduciary – Preliminary agenda is attached

- Specific information as to whether staff or members of the Board will serve as a speaker or panel participant – None

- Specific information concerning the estimated total travel cost involved, including the estimated costs to be borne by KCERA and those costs borne by the conference sponsor

The topic list is timely and relevant to the administration of the retirement system. Accordingly, I recommend that the Board approve the attendance of Trustee Jeanine Adams.

Attachments

Travel Subject CALAPRS Principles of Pension Governance for Trustees
Sponsor CALAPRS
Date(s) August 28 - 31, 2023
Location Los Angeles, CA
Proposed Attendee(s) Jeanine Adams

Estimated Total Travel Cost **$3,480.62**

Description	Computation		Adams	Totals	Borne By	
					KCERA	**Sponsor**
Registration fees	$3,000.00	=	3,000.00	**3,000.00**	3,000.00	
Lodging expense	3 nights @ $ - /night	=	-	**-**	-	
Per diem meals reimbursement:	4 days @ $ 74.00 /day	=	296.00			
Less meals provided by sponsor	0 Breakfast, 3 Lunch, 3 Dinner = $175.38	=	($175.38)			$175.38
Total meals expense		=		**296.00**	120.62	
Shuttle/taxicab expense	Taxi Estimate	=		**-**	-	
Airfare	$0.00	=	$0.00	**$0.00**	-	
Vehicle-related expenses:		=	-	**-**	-	
Parking	3 days @ 20.00 /day	=	60.00	**60.00**	60.00	
Mileage	miles @ 0.370 /mile (Department Head)	=	-	**-**	-	
	miles @ 0.625 /mile (Staff, Trustee)	=	-	**-**	-	
Rental car		=	180.00	**180.00**	180.00	
Rental car gasoline		=	120.00	**120.00**	120.00	
Totals		=	3,480.62	**$ 3,656.00**	**$ 3,480.62**	**$ 175.38**

CALAPRS
EDUCATION · COMMUNICATION · NETWORKING

CALIFORNIA ASSOCIATION OF PUBLIC RETIREMENT SYSTEMS'

PRINCIPLES OF PENSION GOVERNANCE

A Course For Trustees

2023 PROGRAM SCHEDULE

Program Location: The Villa Graziadio Executive Center, Pepperdine University - Malibu, CA

Monday - August 28

4:00 PM	Hotel Check-In
6:00PM	Welcome Dinner
7:30PM	**Introductions and Course Overview** *Kristen Santos, Administrator, Merced County Employees' Retirement Association*

Tuesday – August 29

8:00-9:30AM	**100: What's the Big Deal About Being A Fiduciary?** *Chris W. Waddell, Senior Attorney, Olson, Hagel & Fishburn, LLP* *Carl Nelson, Executive Secretary, San Luis Obispo County Pension Trust*
9:30-10:00AM	Networking Break
10:00-11:45AM	**101: How Should a Board Function?**
11:45AM-12:45PM	Lunch
12:45-2:00PM	**102: What Benefits Do We Provide/What is the Board's Role?** *Kristen Santos, Administrator, Merced County Employees' Retirement Association* *Ryan Paskin, Board Chair, Merced County Employees' Retirement Association*
2:00-2:20PM	Break
2:20-4:00PM	**103: What Are the Key Issues in Disability Retirement?** *Suzanne Jenike, Assistant CEO, External Operations, Orange County Employees Retirement System*
4:00- 4:45PM	Break
4:45PM	Leave for Off-site Dinner
5:15– 6:30 PM	**104: Disability Hearing: Case Study** *Suzanne Jenike, Assistant CEO, External Operations, Orange County Employees Retirement System*
6:30 – 8:00 PM	Dinner and Table Topics Content Review

Wednesday – August 30

8:00-11:15AM	**105: How Should We Manage Our Pension Liabilities?** *Paul Angelo, FSA, Senior Vice President & Actuary, Segal* *Todd Tauzer, FSA, Vice President & Actuary, Segal*
11:15-11:30AM	Break
11:30-12:30PM	**106: Investment Basics** *Scott Whalen, Executive Vice President, Verus Investments* *Tim Price, Chief Investment Officer, Contra Costa County ERA*
12:30-1:30PM	Lunch
1:30-2:30PM	106 (Cont'd)
2:30-2:45PM	Break
2:45-4:00PM	**107: How Should We Manage Our Investment Program?** *Tim Price, Chief Investment Officer, Contra Costa County ERA* *Scott Whalen, Executive Vice President, Verus Investments*
4:00-4:30PM	**107: Investments Case Study** *Tim Price, Chief Investment Officer, Contra Costa County ERA* *Scott Whalen, Executive Vice President, Verus Investments*
4:30-5:30PM	Break
5:30-6:30PM	**108: Case Study: Who Are Our Stakeholders/What Are Our Roles?**
6:30 – 8:00 PM	Dinner and Table Topics Content Review

Thursday – August 31

8:00-10:00AM	**109: AB1234 Ethics Training** *Ashley K. Dunning, Partner, Nossaman LLP*
10:10-11:30AM	**110: Course Summary** *Carl Nelson, Executive Secretary, San Luis Obispo County Pension Trust*
11:30AM	Certificates and Final Course Evaluation with Lunch To-Go

KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

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

Date: June 14, 2023

To: Trustees, Board of Retirement

From: Dominic D. Brown, Chief Executive Officer

Subject: **SACRS Board of Directors Meeting**
Sacramento, California
June 19-20, 2023

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)	June 19-20, 2023
Location	Sacramento, CA
Proposed Attendee(s)	Jordan Kaufman
Estimated Total Travel Cost	**$748.38**

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	0 Breakfast, 2 Lunch, 2 Dinner = $0.00	=	$0.00			$0.00
Total meals expense		=		**69.00**	69.00	
Shuttle/taxicab expense	Taxi Estimate	=		**-**	-	
Airfare	$0.00	=	$0.00	**$0.00**	-	
Vehicle-related expenses:		=	-	**-**	-	
Parking	1 days @ 20.00 /day	=	20.00	**20.00**	20.00	
Mileage	miles @ /mile (Department Head)	=	-	**-**	-	
	575 miles @ 0.625 /mile (Staff, Trustee)	=	359.38	**359.38**	359.38	
Rental car		=	-	**-**	-	
Rental car gasoline		=	-	**-**	-	
Totals		=	748.38	**$ 748.38**	**$ 748.38**	**$ -**

KCERA

KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

SPECIAL PAY CODE CLASSIFICATIONS

SPECIAL PAY CODES – PENSIONABLE AND NON-PENSIONABLE

Dept./BU	Code	Title	Details	Legal Authority
KCPA	EG	KCPA Supervisory – 10% INCLUDED FOR LEGACY MEMBERS EXCLUDED FOR PEPRA MEMBERS	KCPA Amendment 1 to MOU for Supervisory and Specialized Unit Assignment pay equivalent to the following percentage of the assigned employee's base salary: Supervisory Assignment 10% Amendment No. 1 to the MOU between County of Kern and Kern County Prosecutor's Association, Approved 4/18/2023	*Not excluded from compensation earnable by Cal. Gov. Code section 31461* *Excluded from pensionable compensation by PEPRA portions of Cal. Gov. Code sections 7522.34(a), 7522.34(c)(7), 7522.34(c)(10)-(12)*

SPECIAL PAY CODES – PENSIONABLE AND NON-PENSIONABLE

Dept./BU	Code	Title	Details	Legal Authority
KCPA	EH	KCPA Homicide Unit – 7.5% INCLUDED FOR LEGACY MEMBERS EXCLUDED FOR PEPRA MEMBERS	KCPA Amendment 1 to MOU for Supervisory and Specialized Unit Assignment pay equivalent to the following percentage of the assigned employee's base salary: Homicide Unit Assignment 7.5% Amendment No. 1 to the MOU between County of Kern and Kern County Prosecutor's Association, Approved 4/18/2023	*Not excluded from compensation earnable by Cal. Gov. Code section 31461* *Excluded from pensionable compensation by PEPRA portions of Cal. Gov. Code sections 7522.34(a), 7522.34(c)(7), 7522.34(c)(10)-(12)*

SPECIAL PAY CODES – PENSIONABLE AND NON-PENSIONABLE

Dept./BU	Code	Title	Details	Legal Authority
KCPA	EI	KCPA Sex Crimes Unit – 5% INCLUDED FOR LEGACY MEMBERS EXCLUDED FOR PEPRA MEMBERS	KCPA Amendment 1 to MOU for Supervisory and Specialized Unit Assignment pay equivalent to the following percentage of the assigned employee's base salary: Sex Crimes Unit Assignment 5% Amendment No. 1 to the MOU between County of Kern and Kern County Prosecutor's Association, Approved 4/18/2023	*Not excluded from compensation earnable by Cal. Gov. Code section 31461* *Excluded from pensionable compensation by PEPRA portions of Cal. Gov. Code sections 7522.34(a), 7522.34(c)(7), 7522.34(c)(10)-(12)*

SPECIAL PAY CODES – PENSIONABLE AND NON-PENSIONABLE

Dept./BU	Code	Title	Details	Legal Authority
KCPA	EJ	KCPA Gang Unit – 4% INCLUDED FOR LEGACY MEMBERS EXCLUDED FOR PEPRA MEMBERS	KCPA Amendment 1 to MOU for Supervisory and Specialized Unit Assignment pay equivalent to the following percentage of the assigned employee's base salary: Gang Unit Assignment 4% Amendment No. 1 to the MOU between County of Kern and Kern County Prosecutor's Association, Approved 4/18/2023	*Not excluded from compensation earnable by Cal. Gov. Code section 31461* *Excluded from pensionable compensation by PEPRA portions of Cal. Gov. Code sections 7522.34(a), 7522.34(c)(7), 7522.34(c)(10)-(12)*

SPECIAL PAY CODES – PENSIONABLE AND NON-PENSIONABLE

Dept./BU	Code	Title	Details	Legal Authority
KCPA	EK	KCPA OTS Unit – 4% INCLUDED FOR LEGACY MEMBERS EXCLUDED FOR PEPRA MEMBERS	KCPA Amendment 1 to MOU for Supervisory and Specialized Unit Assignment pay equivalent to the following percentage of the assigned employee's base salary: Office of Traffic Safety Unit Assignment 4% Amendment No. 1 to the MOU between County of Kern and Kern County Prosecutor's Association, Approved 4/18/2023	*Not excluded from compensation earnable by Cal. Gov. Code section 31461* *Excluded from pensionable compensation by PEPRA portions of Cal. Gov. Code sections 7522.34(a), 7522.34(c)(7), 7522.34(c)(10)-(12)*

THE FOLLOWING SPECIAL ALLOWANCE DESIGNATIONS DISPLAY THE SPECIAL ALLOWANCES CLASSIFIED BY THE CHIEF EXECUTIVE OFFICER PURSUANT TO KCERA BOARD'S ADMINISTRATION OF SPECIAL ALLOWANCES POLICY & CA SUPREME COURT ALAMEDA DECISION (7/30/2020)

COMPENSATION EARNABLE

THE FOLLOWING SPECIAL ALLOWANCES ARE CONSIDERED COMPENSATION EARNABLE FOR APPLICABLE MEMBERS (MEMBERSHIP BEFORE 1/1/2013).

SPECIAL ALLOWANCE	
CODE	FULL LEGEND
EG	KCPA SUPERVISORY – 10%
EH	KCPA HOMICIDE UNIT – 7.5%
EI	KCPA SEX CRIMES UNIT – 5%
EJ	KCPA GANG UNIT – 4%
EK	KCPA OTS UNIT – 4%

PENSIONABLE COMPENSATION

THE FOLLOWING SPECIAL ALLOWANCES ARE NOT CONSIDERED PENSIONABLE COMPENSATION FOR APPLICABLE MEMBERS (MEMBERSHIP ON OR AFTER 1/1/2013).

SPECIAL ALLOWANCE	
CODE	FULL LEGEND
EG	KCPA SUPERVISORY – 10%
EH	KCPA HOMICIDE UNIT – 7.5%
EI	KCPA SEX CRIMES UNIT – 5%
EJ	KCPA GANG UNIT – 4%
EK	KCPA OTS UNIT – 4%

AMENDMENT NO. TWO (2) TO CPAS MAINTENANCE SERVICES AGREEMENT

This AMENDMENT No. Two (2) to CPAS Maintenance Services Agreement is effective July 1, 2023, by and between KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION ("KCERA") (also referred to as "Customer") and CPAS Systems Inc. ("CPAS").

WITNESSETH:

WHEREAS:

(a) KCERA first engaged the services of CPAS on July 1, 2013 to obtain certain Maintenance Services from CPAS ("AGREEMENT");

(b) The AGREEMENT limited the Maintenance Services Term ("Term") to five (5) years, with an expiration date of June 30, 2018;

(c) KCERA and CPAS executed the first Amendment to the Agreement on July 1, 2018 which extended the Term of the Agreement for an additional five (5) years, with an expiration date of June 30, 2023;

(d) KCERA desires to update the AGREEMENT to extend the Term for five (5) additional years, update personnel information, correct an erroneous reference and add annual fee provisions;

(e) CPAS agrees to such amendment.

NOW, THEREFORE, IT IS AGREED between the parties hereto that effective July 1, 2023, portions of Schedule "A" to the AGREEMENT, Maintenance Services Agreement Particulars, and certain other paragraphs of the AGREEMENT, are amended as follows:

2. Maintenance Services Term start and end dates:

Start: July 1, 2023
End: June 30, 2028

4. Customer Contact Person: KCERA's Chief Executive Officer or designee

8. Maintenance Fee: For the Maintenance Term, the Customer will pay CPAS the Maintenance Fee of $55,640.00 per year for a **minimum of 5 years**, payable annually in advance and in accordance with Section 5 of this agreement.

Beginning July 1, 2024, and each July 1st during the five-year Maintenance Term, the annual Maintenance Fee will increase five percent (5%) payable as follows:

Term	Maintenance Fee
7/1/2023 – 6/30/2024	$55,640.00
7/1/2024 – 6/30/2025	$58,422.00
7/1/2025 – 6/30/2026	$61,343.10
7/1/2026 – 6/30/2027	$64,410.26

7/1/2027 – 6/30/2028	$67,630.77

IT IS FURTHER AGREED the reference in Amendment No. One to paragraph 13(a) is corrected to reference paragraph 12.

Except as expressly stated in Amendment No. Two (2), all terms and conditions of the AGREEMENT, as amended in Amendment No. One, shall remain in full force and effect.

IN WITNESS WHEREOF, each party to this AGREEMENT has signed this AGREEMENT upon the date indicated, and agrees, for itself, its employees, officers, partners, and successors, to be fully bound by all terms and conditions of this AGREEMENT.

APROVED AS TO CONTENT:

Kern County Employees' Retirement Association (KCERA)

By: ____________________________
Dominic Brown,
Chief Executive Officer
KCERA

____
<Date>

CPAS Systems, Inc.

By: ____________________________
< Name & Title>

____
<Date>

APPROVED AS TO FORM:

By: ____________________________
Jennifer Esquivel Zahry,
Chief Legal Officer
KCERA

____
<Date>

AMENDMENT NO. THREE (3) TO CPAS SOFTWARE SUPPORT SERVICES AGREEMENT

This AMENDMENT No. Three (3) to CPAS Software Support Services Agreement is effective July 1, 2023, by and between KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION ("KCERA") (also referred to as "Customer"), and CPAS Systems Inc. ("CPAS").

W I T N E S S E T H:

WHEREAS:

(a) KCERA first engaged the services of CPAS on July 1, 2013 to obtain certain Software Support Services from CPAS ("AGREEMENT");

(b) The AGREEMENT limited the Software Support Services Term ("Term") to five (5) years, with an expiration date of June 30, 2018;

(c) Effective October 1, 2014, KCERA and CPAS entered into "Amendment Number One" to amend the Support Fee and Support Hours;

(d) Effective July 1, 2018, KCERA and CPAS entered into "Amendment Number Two" to extend the Term of the Agreement to five (5) additional years, with an expiration date of June 30, 2023;

(d) KCERA desires to update the AGREEMENT to extend the Term for five (5) additional years, update personnel information, further amend the Support Fee and Support Hours; and

(e) CPAS agrees to such amendment;

NOW, THEREFORE, IT IS AGREED between the parties hereto that effective July 1, 2023, portions of Schedule "A" to the AGREEMENT, CPAS Software Support Services Agreement, are amended as follows:

2. Support Term Start and End dates:

Start: July 1, 2023
End: June 30, 2028

4. Customer Contact Person: KCERA's Chief Executive Officer or designee

8. Software Support Services:

For the Support Term, the Customer will pay CPAS the Support Fee of $7,350.00 per quarter (not to exceed $29,400.00 per year). Support periods are payable quarterly in accordance with Section 6 of the AGREEMENT.

The Support Fee will entitle the Customer to 120 hours per year of Support Hours. Support Hours can be used as set forth in Section 1 of the AGREEMENT.

Unused Support hours at the end of each year can be rolled over into the following year. However, unused Support Hours will not extend beyond the Support Term unless the Customer and CPAS agree to further extend the Term set forth in this Amendment No. Three (3) to Schedule “A” of the AGREEMENT.

Beginning July 1, 2024, and each July 1st during the five-year Support Term, the annual Support Fee will increase five percent (5%) payable as follows:

Term	Support Fee
7/1/2023 – 6/30/2024	$7,350.00/qtr (NTE $29,400.00/yr)
7/1/2024 – 6/30/2025	$7717.50/qtr (NTE $30,870.00/yr)
7/1/2025 – 6/30/2026	$8,103.38/qtr (NTE $32,413.50/yr)
7/1/2026 – 6/30/2027	$8,508.55/qtr (NTE $34,034.20/yr)
7/1/2027 – 6/30/2028	$8,933.98/qtr (NTE $35,735.91/yr)

CPAS will provide KCERA with Hours Usage Reports on a monthly basis.

Excess Support Hours will be charged at $265 per hour, billable monthly. However, additional blocks of hours (minimum 10 hours per month) may be purchased at the regular rate of $245.00 per hour.

Beginning July 1, 2024, and each July 1st during the five-year Support Term, the hourly Excess Support Fee will increase five percent (5%) payable as follows:

Term	Excess Support Fee
7/1/2023 – 6/30/2024	$265/hr
7/1/2024 – 6/30/2025	$278.25/hr
7/1/2025 – 6/30/2026	$292.16/hr
7/1/2026 – 6/30/2027	$322.11/hr
7/1/2027 – 6/30/2028	$306.77/hr

Except as expressly stated in this Amendment No. Three (3), all other provisions, terms and conditions of the AGREEMENT as amended in Amendment Nos. One and Two, shall remain in full force and effect.

[The remainder of this page was intentionally left blank.]

IN WITNESS WHEREOF, each party to this AGREEMENT has signed this AGREEMENT upon the date indicated, and agrees, for itself, its employees, officers, partners, and successors, to be fully bound by all terms and conditions of this AGREEMENT.

APROVED AS TO CONTENT:

Kern County Employees' Retirement Association (KCERA)

By: ____________________________
Dominic Brown,
Chief Executive Officer
KCERA

____
<Date>

CPAS Systems, Inc.

By: ____________________________
<Name & Title>

____
<Date>

APPROVED AS TO FORM:

By: ____________________________

Jennifer Esquivel Zahry,
Chief Legal Officer
KCERA

____
<Date>

Date: June 14, 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) Portfolio Risk Analytics System RFP Recommendation – Venn by Two Sigma

2) ARES SENIOR DIRECT LENDING III

3) CERBERUS LEVERED LOAN OPPORTUNITIES FUND V

4) MERIT HILL SELF-STORAGE V

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.
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 June 5, 2023.

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

Date: June 14, 2023

To: Trustees, Board of Retirement

From: Dominic D. Brown, Chief Executive Officer

Subject: **Request to Extend Employment of Retired Kern County Employee**

The Kern County Employees' Retirement Association (KCERA) requests approval to extend employment of retired Kern County employee, Sofia Reyes, as a Senior Paralegal, Step 10, effective February 13, 2023, pursuant to Section 130 of Chapter 1 of the County's Administrative Policy and Procedures Manual. Ms. Reyes retired from Kern County service on October 17, 2015.

Ms. Reyes is providing senior paralegal support to KCERA's Chief Legal Counsel and Legal team, as well as the Member Services and Administrative Services divisions, in clearing backlogs related to administering decedent estates and submitting tax reclaim forms. Ms. Reyes is an experienced senior paralegal who has worked previously with KCERA and is familiar with the types of assignments that will assist staff in effectively administering the law and serving our membership when workload has increased beyond what KCERA staff can manage. Staff requests to continue Ms. Reyes' employment beyond June 30, 2023 because the case volume and complexity has required more time to complete than originally anticipated and has not allowed time to address tax reclaim filings.

Therefore, it is recommended that your Board approve the request to employ retired Kern County employee Sofia Reyes as a Senior Paralegal, Step 10, at an estimated cost of $30,016 for a period expiring June 30, 2024, or 960 hours; whichever occurs first.

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: MARCH 31, 2023

Investment Performance Review for

Kern County Employees’ Retirement Association

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Verus
PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS
2ND QUARTER 2023
Investment Landscape

Verus business update

Since our last Investment Landscape webinar:

— Verus hired three employees:
  - **Philip Schmitt**, Director | Public Markets
  - **Christian Reed**, Private Markets Performance Analyst
  - **Jonathan Powell**, Performance Analyst

— Three employees recently passed various levels of the CFA exam. Verus currently has a total of 34 CFA charterholders

— Jonathan Henderson, Director | Operations received the 2022 Verus North Star Award for championing client success

— Verus launched a newly designed website in February, making it easier to find our thought leadership and markets updates

— At the end of March, Verus met with 40 emerging or diverse managers at its Emerging & Diverse Manager Diligence Days event

— Recent research, found at *verusinvestments.com/research*
  - ***U.S. Equity Index Concentration*** *(short video)*
  - ***2023 Active Management Environment***
  - ***Verus Viewpoints on SVB & Broad Market Stress***
  - ***2023: The Return of Simplicity***
  - ***The Importance of Emerging & Diverse Managers***

Recent Verus research

Visit: verusinvestments.com/research

Sound thinking

2023: THE RETURN OF SIMPLICITY

Each January, we assess the suggestions that we made the previous year to see what we called correctly and where we got things wrong. We also suggest topics that we believe should be on the agenda for the balance of the coming year:

1. Inflation: Down, bumpily
2. A landing: But what kind?
3. Rates: Lower but slower
4. Zero makes heroes: Funded foolishness failing
5. More office pain: The slow recognition of reality
6. International markets of mystery: Or opportunity?
7. Active opportunities: Decision-making matters
8. Private pain: A drag for a while
9. ESG: Louder not quieter
10. Simple beats complex: With a twist

Thought leadership

SVB & BROAD MARKET STRESS

Given recent events around Silicon Valley Bank's failure, heightened market volatility, and broad uncertainty in the banking sector, Verus shared our perspectives, focusing on asset-owner impacts.

U.S. EQUITY INDEX CONCENTRATION

Does the rising concentration of the U.S. equity market have implications for investors? In a short video, we examined the causes of index concentration, the levels of concentration relative to global markets, and how this environment affects the success of active managers. We answered the following questions:

— What causes index concentration?
— How concentrated has the U.S. equity market become? How does this index concentration compare to other equity markets?
— What are the implications of concentration for active managers?

Annual research

2023 ACTIVE MANAGEMENT ENVIRONMENT

Changing market conditions in recent years continue to suggest a more attractive environment for active managers to demonstrate skill and add value for investors.

— Greater economic uncertainty around the world, aggressive central bank actions, and rising bond yields have created an environment of greater dispersion in active manager performance.
— Higher dispersion is apparent in the most recent 3-year dataset within the document, which also reflects a larger proportion of active managers outperforming the benchmark relative to prior periods.
— Our analysis continues to illustrate stark differences regarding the relationship between risk and return across asset class universes. In many asset classes, there has been a negative relationship between risk-taking relative to the benchmark and total return. These characteristics may provide helpful context to investors when discussing active management.

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1st quarter summary

THE ECONOMIC CLIMATE

— Real GDP increased at a 2.7% rate in the fourth quarter (0.9% growth year-over-year). The U.S. economy was supported by mild but positive growth across most aspects of activity.

— Unemployment continued to suggest a strong labor market, unchanged at 3.5% in March. Widespread layoffs in the technology sector have captured headlines, though the sector makes up a rather small segment of overall jobs. The labor participation rate is showing positive signs as workers who had left the job market during the pandemic are once again seeking employment.

PORTFOLIO IMPACTS

— The U.S. inflation picture continued to improve. March headline CPI came in at 5.0% year-over-year—the lowest since Q2 2021. Core inflation remained stubbornly high at 5.6% year-over-year. Many of the goods and services that initially contributed to high inflation, such as used cars, food, and energy, have moderated in price.

— U.S. real (inflation-adjusted) personal consumption expenditures were modest in February at 2.5% growth year-over-year. Household purchases of services continued to climb, while goods purchases remained flat. During the pandemic, an unprecedented surge in spending on goods occurred to the detriment of services. It appears that trend has now normalized.

THE INVESTMENT CLIMATE

— U.S. yield curve inversion reached even more extreme levels during Q1. The 10-year 2-year yield spread (short-term interest rates being higher than long-term interest rates) reached ~107 bps on March 8th. Inversion has historically preceded recession.

— Silicon Valley Bank (SVB) failed and was transitioned to government ownership on March 10th. SVB is among the top 20 largest banks in the United States with approximately 1% of all U.S. domestic bank deposits. In the near-term, sentiment seems to have been shored up by backstops from the Federal Reserve, Treasury, and FDIC, though we are watching conditions closely.

ASSET ALLOCATION ISSUES

— Global equities delivered another strong quarter in Q1 (MSCI ACWI +7.3%). A variety of risks are stacking up that could weigh on additional gains, including potential recession in many markets, persistent inflation problems, and tightening credit conditions.

— U.S. growth stocks delivered strong outperformance in the first quarter (Russell 1000 Growth +14.4% vs. Russell 1000 Value +1.0%), effectively reversing value's rally in Q4 2022. This divergence in style behavior appears to be, once again, mostly a result of relative sector returns. Information technology led the index +21.8% over the quarter, while energy (-4.7%) and financials (-5.6%) were laggards.

Markets performed well in Q1, further recovering from the losses of 2022

Recession risk, banking stress, and stubborn inflation may create difficulties going forward

What drove the market in Q1?

"U.S. Inflation Eases but Stays High, Putting Fed in a Tough Spot"

HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)					
Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
7.7%	7.1%	6.5%	6.4%	6.0%	5.0%

Article Source: AP, March 14th, 2023

"U.S. Bank Failures Pose Risk to Global Growth"

FDIC UNREALIZED GAINS (LOSSES) ON BANK'S INVESTMENT SECURITIES					
Q3 21	**Q4 21**	**Q1 22**	**Q2 22**	**Q3 22**	**Q4 22**
$29.4B	($7.9B)	($293.7B)	($469.7B)	($689.9B)	($620.4B)

Article Source: Wall Street Journal, March 26th, 2023

"Federal Reserve's Path is Murkier After Bank Blowup"

FED FUNDS FUTURES PEAK IMPLIED RATE (MONTH END)					
Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
4.98%	4.92%	4.97%	4.92%	5.42%	4.95%

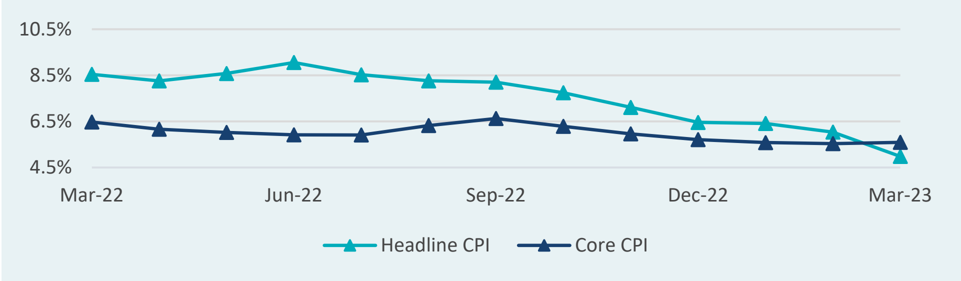
Article Source: The New York Times, March 13th, 2023

"Fed Hikes Interest Rates 25 Basis Points in March 2023"

FED FUNDS TARGET RATE – UPPER BOUND					
Q4 21	**Q1 22**	**Q2 22**	**Q3 22**	**Q4 22**	**Q1 23**
0.25%	0.50%	1.75%	3.25%	4.50%	5.00%

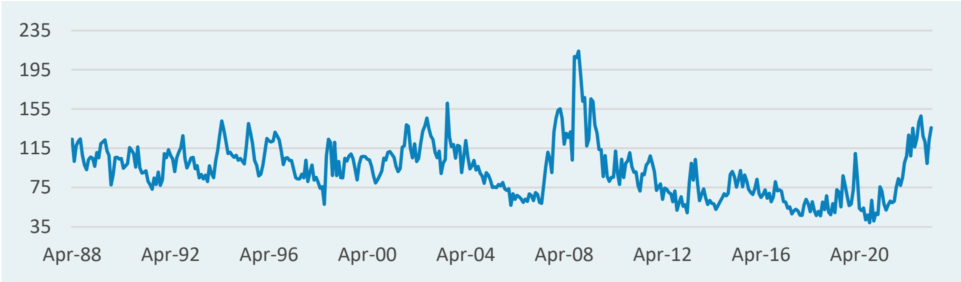
Article Source: Bloomberg, March 22nd, 2023

U.S. HEADLINE VS. CORE INFLATION (YEAR-OVER-YEAR)



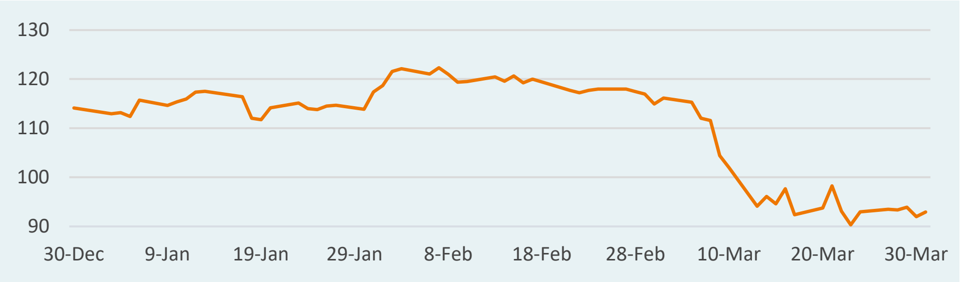
Source: BLS, as of 3/31/23

U.S. TREASURIES IMPLIED VOLATILITY (ICE BOFA MOVE INDEX)



Source: Bloomberg, as of 3/31/23

KBW REGIONAL BANKING INDEX



Source: Bloomberg, as of 3/31/23

Economic environment

U.S. economics summary

— Real GDP increased at a 2.7% rate in the fourth quarter (0.9% year-over-year). The U.S. economy in Q4 was supported by mild but positive growth across most aspects of activity. First quarter GDP is expected to come in at 2.2%, according to the Atlanta Fed GDPNow forecast, as of April 10th.

— The inflation picture improved further. March headline inflation came in at 5.0% year-over-year—the lowest since Q2 2021. Core inflation has remained stubbornly high at 5.6% year-over-year. Many of the goods and services prices that initially contributed to high inflation have moderated or fallen.

— U.S. real personal consumption expenditures were modest in February at 2.5% year-over-year. Household purchases of services continued to climb, while goods purchases were flat. Purchasing trends around goods and services appear to have normalized for the first time since the pandemic.

— Although hiring activity may be slowing and layoffs are occurring in places, the labor participation rate is rebounding as workers who had left the job market during the pandemic are once again seeking employment.

— Consumer sentiment remained weak in Q1. According to the University of Michigan, households increasingly expect a recession in the near-term, especially lower income and younger Americans. Inflation fears have reportedly subsided, with expectations for 3.6% inflation over the next year.

— The U.S. housing market has faced a harsh winter season, as high prices and a significant jump in mortgage interest rates severely crimped demand. Existing home sales are as weak as during the lows of 2009-2011 following the U.S. housing bubble.

	Most Recent	**12 Months Prior**
Real GDP *(YoY)*	0.9% *12/31/22*	5.7% *12/31/21*
Inflation *(CPI YoY, Core)*	5.6% *3/31/23*	8.5% *3/31/22*
Expected Inflation *(5yr-5yr forward)*	2.2% *3/31/23*	2.4% *3/31/22*
Fed Funds Target Range	4.75% – 5.00% *3/31/23*	0.25% – 0.50% *3/31/22*
10-Year Rate	3.47% *3/31/23*	2.34% *3/31/22*
U-3 Unemployment	3.5% *3/31/23*	3.6% *3/31/22*
U-6 Unemployment	6.7% *3/31/23*	6.9% *3/31/22*

GDP growth

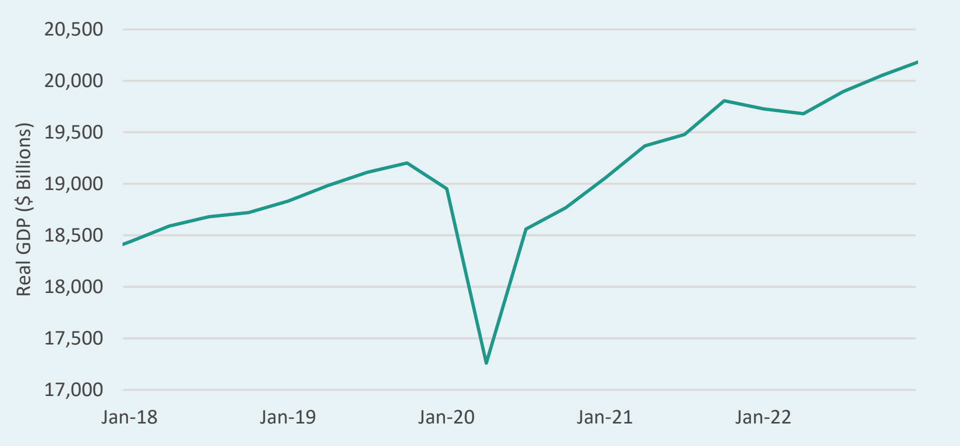
Real GDP increased at a 2.7% rate in the fourth quarter (0.9% growth year-over-year). The U.S. economy was supported by mild but positive growth across most aspects of activity. First quarter GDP is expected to come in at 2.2%, according to the Atlanta Fed GDPNow forecast, as of April 10th.

Consumer spending increased at a 2.1% annualized rate, boosted by spending on services but dragged lower by fewer goods purchases. Within services, healthcare and housing saw the largest gains. Private investment spending was fueled by manufacturing—primarily in traditional energy products, mining, utilities, and construction. With regard to government spending, increases were reportedly due to higher compensation of government employees rather than on new projects or initiatives.

Investors remain undecided regarding whether the U.S. economy will enter recession in 2023. Economist forecasts suggest near-zero growth for most quarters this year, but with no recession. Either way, it is reasonable to assume very weak economic growth for the near-term. Furthermore, the failure of Silicon Valley Bank and ensuing stress on the financial sector has created new risks, as this stress will likely lead to a slowdown in traditional bank lending activity. If many banks reduce lending activity and increase lending standards, this may result in a material tightening of economic activity that compounds the existing effects of higher interest rates.

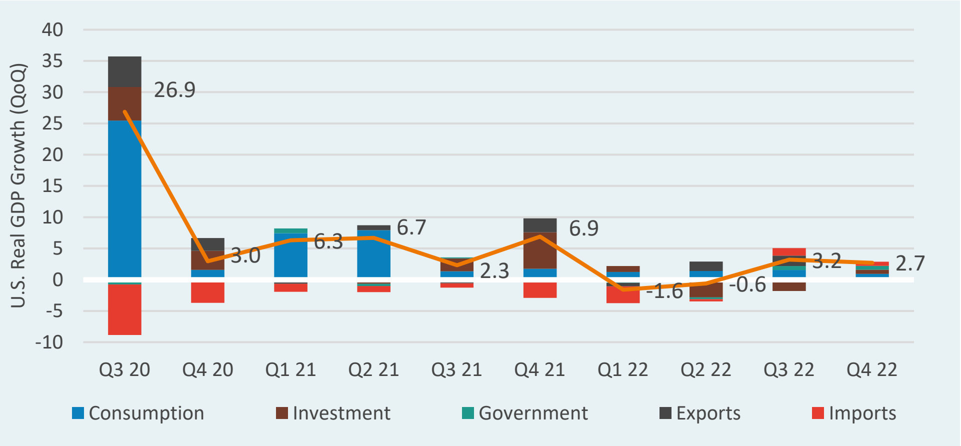
A tightening of bank lending raises the risks of an economic slowdown

U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 12/31/22

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 12/31/22

Inflation

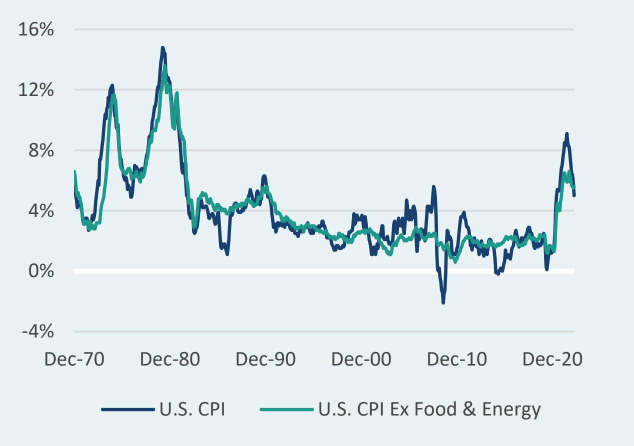
The inflation picture further improved in the United States, as both headline and core inflation figures declined further. March headline inflation came in at 5.0% year-over-year—the lowest since Q2 of 2021. Core inflation has remained stubbornly high at 5.6% year-over-year in March. Many of the goods and services that initially contributed to high inflation, such as used cars, food, and energy, have moderated or are falling in price. Shelter costs remain the largest single driver of inflation. Recent output cuts in oil production by OPEC+ members could reignite some inflation in energy and transportation costs—these effects will be important to watch in the coming months.

U.S. hourly wage gains continued to decelerate during the quarter—now at only a 4.2% year-over-year growth rate. The possibility of persistently high wage increases has been a risk to the inflation story, as accelerating wages can sustain higher spending and therefore higher ongoing inflation. Now that wage growth has slowed, this risk is subsiding.

Overall, inflation (CPI) is very likely to fall to around 4% in Q2, for the technical reasons illustrated below. However, certain persistent monthly price pressures suggest that inflation may stabilize at this level rather than at the 1-2% inflation experienced throughout much of the 2010s.

Persistent monthly Core CPI figures suggest inflation may stabilize at a level higher than the Fed's target

U.S. CPI (YOY)

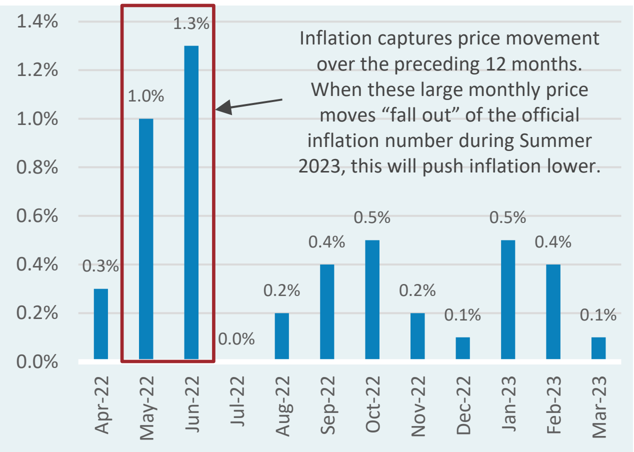


Source: BLS, as of 3/31/23

AVERAGE HOURLY EARNINGS

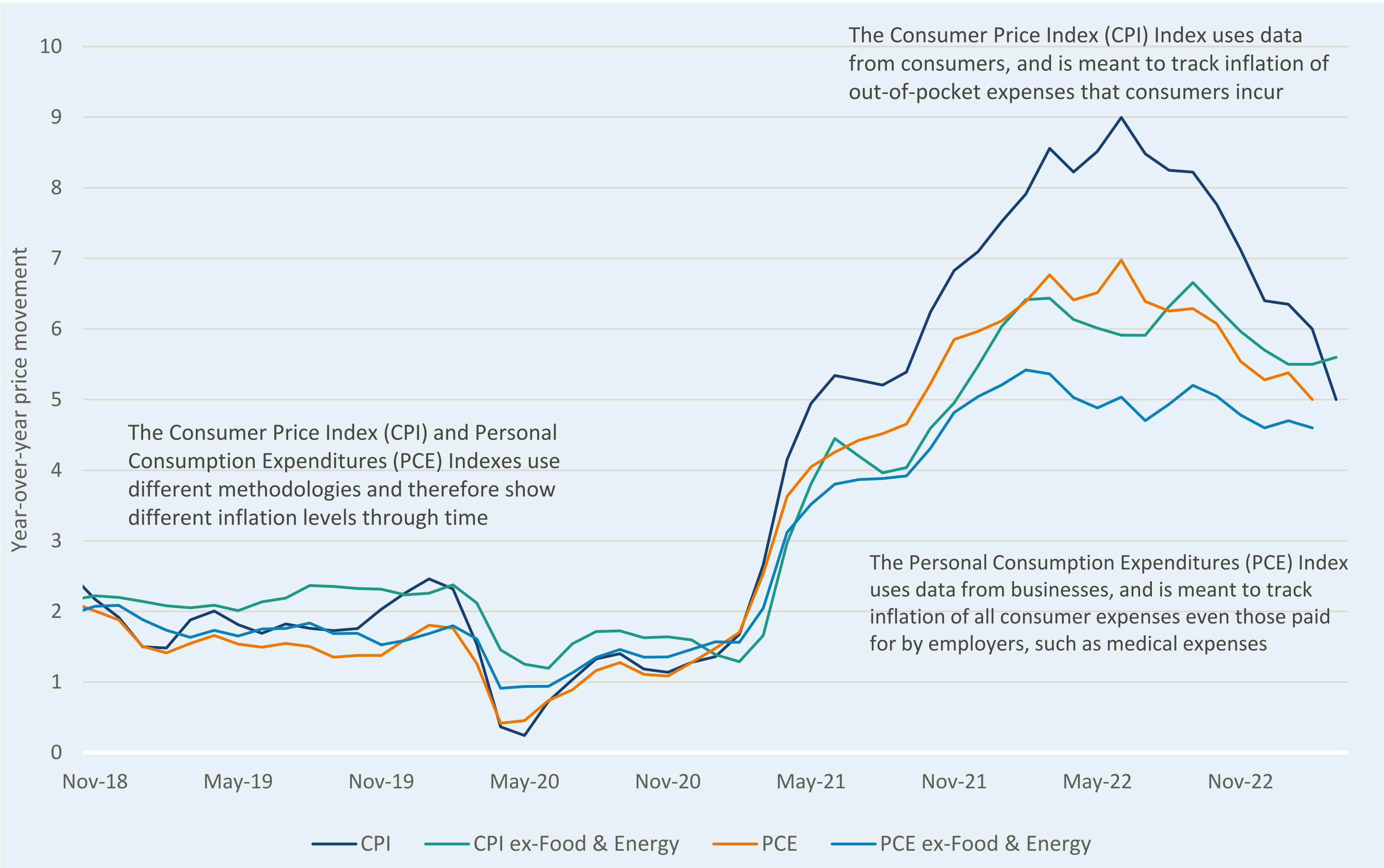
Source: BLS, as of 3/31/23

MONTHLY PRICE MOVEMENT



Source: BLS, as of 3/31/23

How are inflation conditions evolving?



Official inflation figures continue to fall, though persistent monthly Core CPI figures suggest inflation may stabilize at a level higher than the Fed's target

Source: FRED, Verus, PCE data as of 2/28/23, CPI data as of 3/31/23

Labor market

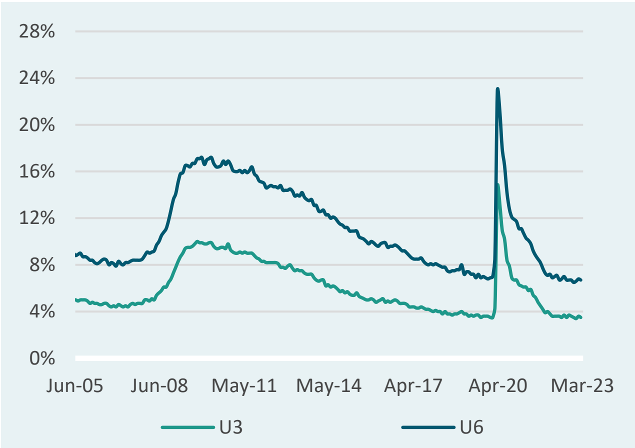
Unemployment continues to suggest a strong labor market, unchanged at 3.5% in March. Widespread layoffs in the technology sector have captured headlines in recent months, though it is important to remember that this sector makes up a rather small segment of overall jobs in the country, and the job market remains broadly strong by most measures.

Although hiring activity may be slowing and layoffs are occurring in some places, the labor participation rate is now showing positive signs as workers who had left the job market during the pandemic are once again seeking employment. Labor data suggests that this recovery has occurred mostly in the age 25 to 55-year cohort, and that older workers are not yet returning to the labor market.

A recovery in total workforce size is a good sign for future economic growth and may take some pressure off wages. This trend also helps relieve the historically large mismatch regarding the number of jobs available and the number of workers available to fill those jobs. An increase in total workforce size while the number of job postings are declining helps to rebalance the labor market.

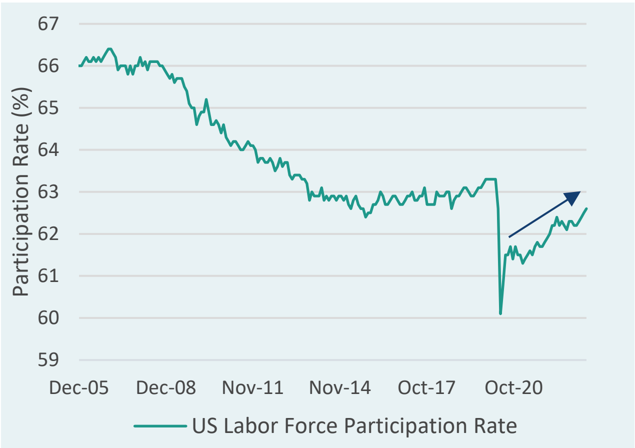
Workers that left the labor force during the pandemic are slowly returning to the job market

U.S. UNEMPLOYMENT



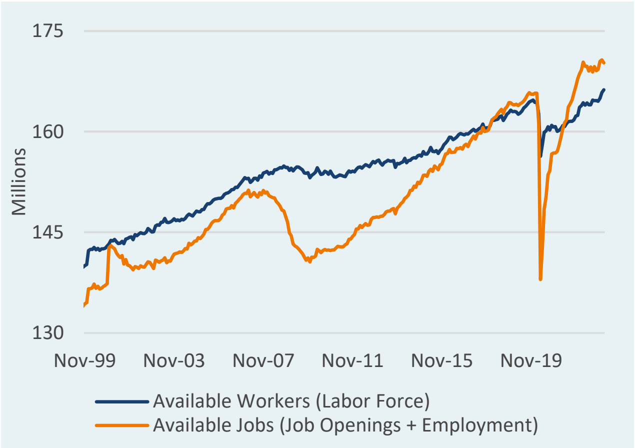
Source: FRED, as of 3/31/23

LABOR FORCE PARTICIPATION RATE



Source: FRED, as of 3/31/23

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, as of 2/28/23

The consumer

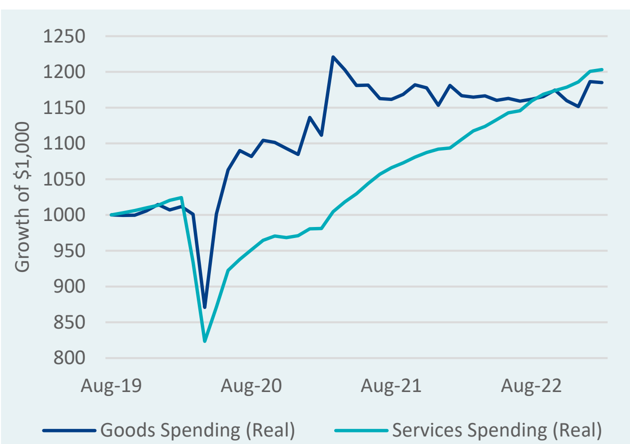
U.S. real (inflation-adjusted) personal consumption expenditure growth has been modest, at 2.5% year-over-year in February. Household purchases of services continued to climb, while goods purchases remained flat. During the pandemic, an unprecedented surge in spending on goods occurred, to the detriment of services. It appears that trend has now normalized.

Personal savings rates have improved from extremely low levels. More household savings may be partly a reflection of consumer expectations for recession, as well as weaker job prospects (these sentiments are discussed on the next slide).

Big ticket items such as automobiles and homes have seen slowing sales activity as higher interest rates make purchases less affordable and budgets come under strain. The average size of a car payment in America over time illustrates the significance of this effect, as monthly payments have outstripped the overall rate of inflation—by a significant margin in the case of used vehicles.

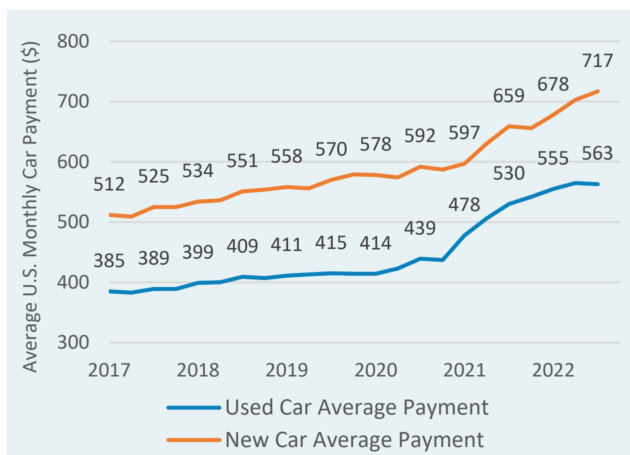
Much of the increase in consumer spending has been due to rising prices rather than more goods purchased

SPENDING TRENDS: GOODS VS. SERVICES



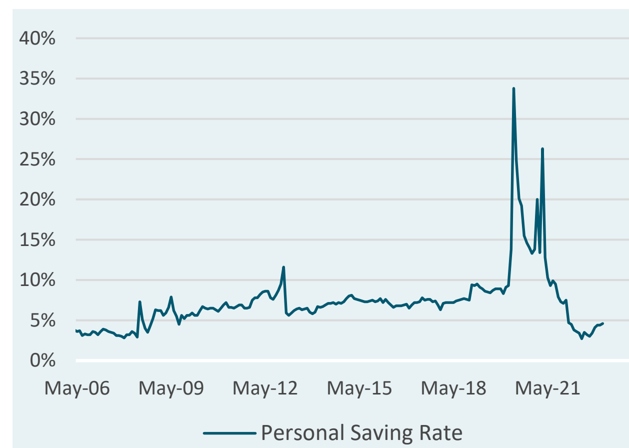
Source: FRED, as of 2/28/23

AVERAGE SIZE OF CAR PAYMENT



Source: Irina Ivanova, Edmunds, as of 9/30/22

PERSONAL SAVINGS RATE



Source: FRED, as of 2/28/23

Sentiment

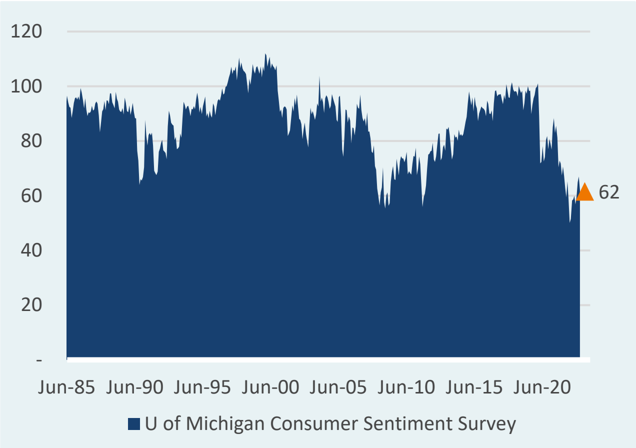
Consumer sentiment was unchanged in the first quarter by most measures but remains depressed. According to the University of Michigan, households increasingly fear a recession in the near-term, especially among lower income and younger Americans. Inflation concerns have subsided, with households expecting 3.6% inflation over the next full year—only moderately higher than the 2.3-3.0% assumed rate of pre-pandemic times.

Consumer confidence measured by the Conference Board was also stable. According to the Conference Board survey, available jobs are 'not so plentiful', discretionary spending plans have been cut back, but spending plans for items such as health care and home repairs increased.

The NFIB Small Business Optimism index remains very depressed, reflecting a poor business outlook. Fewer business owners reported inflation as their top concern for business operations, at twenty-four percent in March. During the quarter, a greater number of business owners expected inflation-adjusted sales to fall in the future.

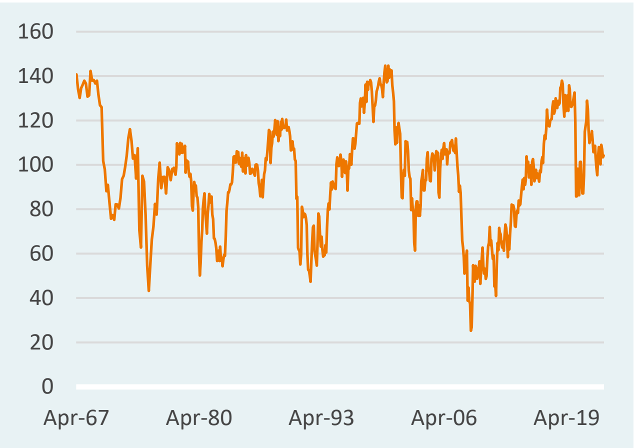
Sentiment, by most measures, remains very poor

CONSUMER SENTIMENT



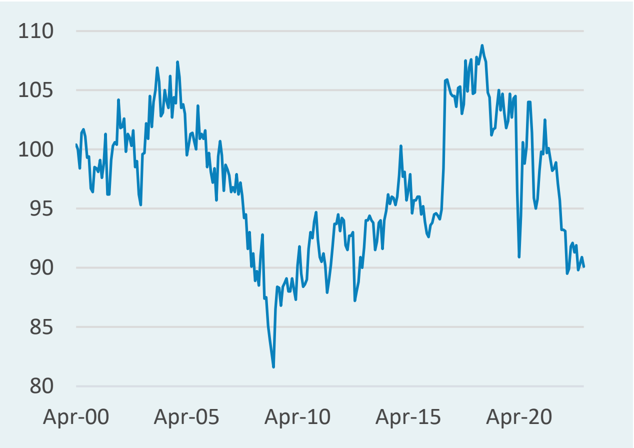
Source: University of Michigan, as of 3/31/23

CONFERENCE BOARD CONSUMER CONFIDENCE



Source: Conference Board, as of 3/31/23

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 3/31/23

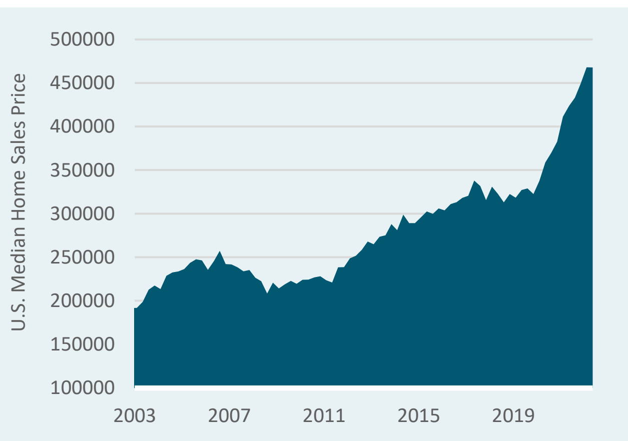
Housing

The U.S. housing market has faced a harsh winter season, as high prices and a significant jump in mortgage interest rates severely crimped demand. Existing home sales are as weak as during the lows of 2009-2011 following the housing bubble. However, monthly sales activity surged 14.5% in February, according to the National Association of Realtors, as potential buyers took advantage of a dip in mortgage rates.

By most measures available, average home prices appear to have plateaued over the latter half of 2022. Price movement has varied significantly by marketplace, with larger markets such as San Francisco experiencing double digit losses in home values, while certain smaller markets—mostly in the southern U.S.—such as Sarasota, Florida seeing some of the largest gains in the nation.

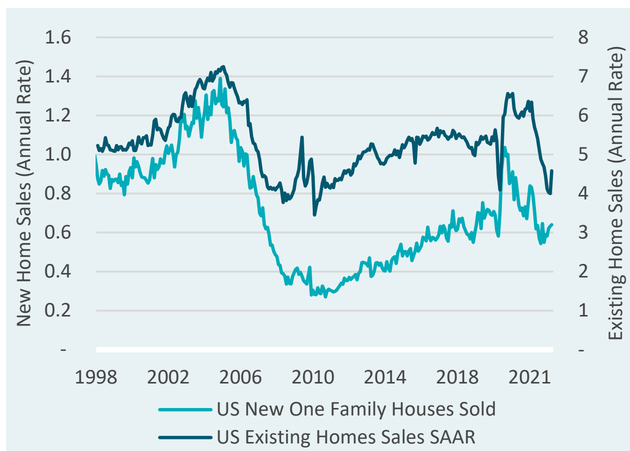
The monthly supply of homes remains high, due to a combination of depressed sales activity and modest increases in inventory levels over the past year. Inventories could stay soft as potential sellers wish to avoid listing their homes and giving up their existing low interest rate mortgage. Additionally, potential sellers who have recently seen the value of their home decline may not wish to sell at lower prices—especially those sellers who may be underwater on a loan.

U.S. MEDIAN HOME SALES PRICE



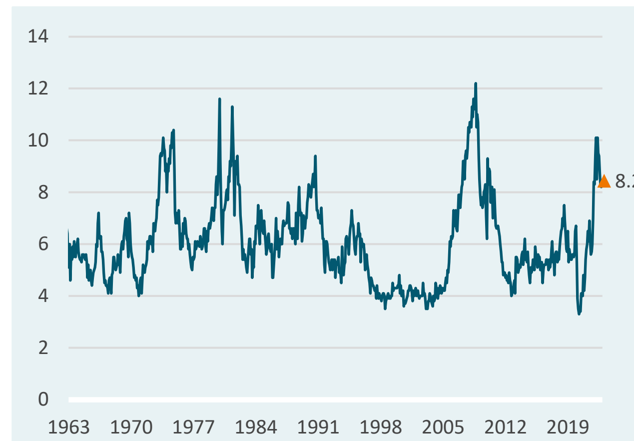
Source: FRED, as of 12/31/22

HOME SALES: NEW & EXISTING (MILLIONS)



Source: FRED, as of 2/28/23

MONTHLY SUPPLY OF HOMES



Source: FRED, as of 2/28/23

International economics summary

- Developed economies have experienced a sharp slowdown in growth. The IMF forecasts developed economy GDP to fall from 2.7% in 2022 to 1.3% in 2023. The deteriorating outlook was attributed to monetary tightening by central banks, as well as Russia's invasion of Ukraine. Meanwhile, emerging market economic growth is expected to accelerate in 2023, rising from 3.9% to 4.0%.
- Inflation trends varied by country during the quarter but seem to suggest broad moderation. European nations continue to cope with very high inflation rates—much of which have been driven by surging energy costs. In many countries, higher energy prices are contributing to half of official inflation figures.
- Developed central banks, in response to inflation, have carried on with their tightening cycles. Both the European Central Bank and Bank of England raised rates in March, with the ECB increasing their Deposit Facility Rate by 50 bps to 3.00%, while the BOE implemented a 25 bps hike, bringing their policy rate to 4.25%.
- February 24th marked the one-year anniversary of Russia's invasion of Ukraine. The war has created much uncertainty around Europe's economic outlook, and led Finland to apply, and to be accepted as, a NATO member.
- China made progress on its reopening in Q1, as the country aims to ramp up economic activity following nearly three-years of lockdowns. Mobility data has picked up, while gauges of manufacturing and non-manufacturing activity have moved into expansionary territory. March non-manufacturing PMIs came in at 58.2—the highest level since 2011.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	0.9% *12/31/22*	5.0% *3/31/23*	3.5% *3/31/23*
Eurozone	1.8% *12/31/22*	6.9% *3/31/23*	6.6% *2/28/23*
Japan	0.4% *12/31/22*	3.3% *3/31/23*	2.5% *2/28/23*
BRICS Nations	2.5% *12/31/22*	2.9% *3/31/23*	5.2% *12/31/21*
Brazil	1.9% *12/31/22*	4.7% *3/31/23*	8.5% *3/31/23*
Russia	(2.7%) *12/31/22*	3.5% *3/31/23*	3.5% *2/28/23*
India	4.4% *12/31/22*	5.7% *3/31/23*	7.8% *3/31/23*
China	2.9% *12/31/22*	0.7% *3/31/23*	5.6% *2/28/23*

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.

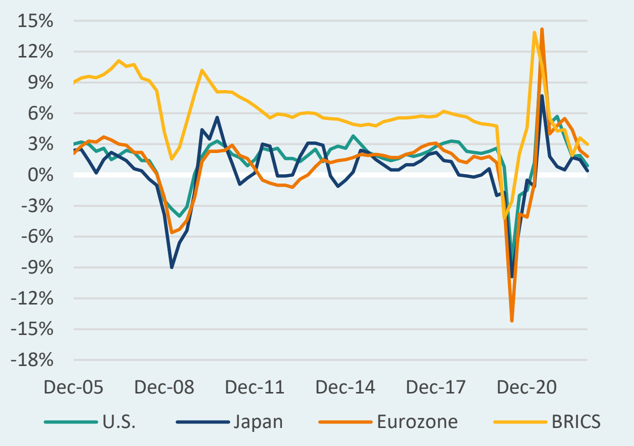
International economics

Many developed economies have experienced a sharp slowdown in growth, which is expected to continue in 2023. Near-zero growth or recession is likely in the near-term for the U.S. and many other developed markets. The IMF forecasts developed economy growth to fall from 2.7% in 2022 to 1.3% in 2023. The deteriorating outlook was partly attributed to monetary tightening of central banks, as well as Russia's invasion of Ukraine.

A rosier outlook exists for emerging markets. The IMF forecasts economic growth of 4.0% in 2022 and 3.9% in 2023. Growth expectations continue to suggest a widening divide between emerging and developed economies, with emerging markets exhibiting a 1.3% *growth premium* over developed markets in 2022, a 2.6% premium in 2023, and a 2.8% premium in 2024.

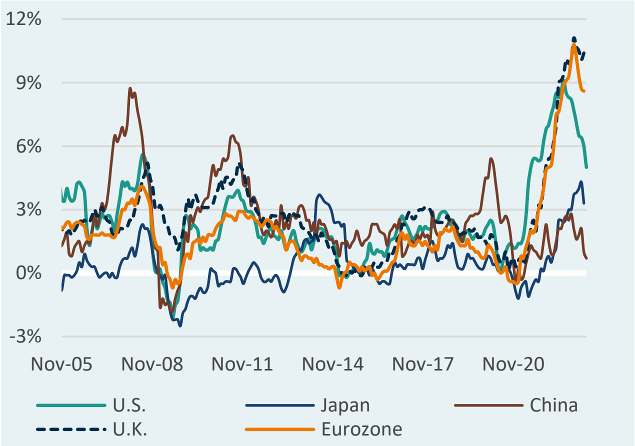
Inflation trends varied by country during the quarter but seem to suggest broad moderation. European countries continue to cope with higher inflation rates—much of which have been driven by surging energy costs. In many areas, higher energy prices are contributing as much as one half of official inflation figures.

REAL GDP GROWTH (YOY)



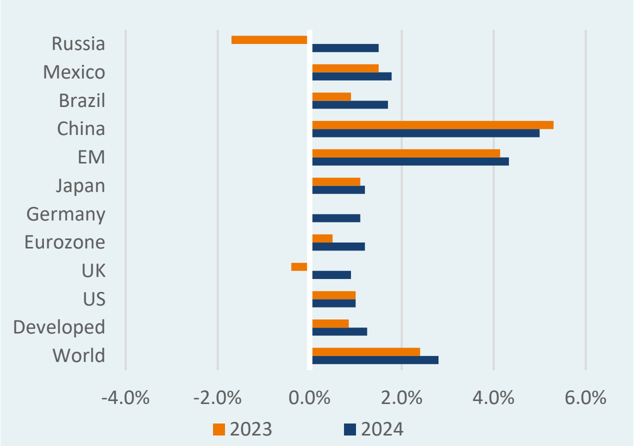
Source: Bloomberg, as of 12/31/22

INFLATION (CPI YOY)



Source: Bloomberg, as of 3/31/23 – or most recent release

ECONOMIC GROWTH FORECASTS



Source: Bloomberg, as of 3/31/23 – or most recent release

Fixed income rates & credit

Fixed income environment

— The 10-year U.S. Treasury yield fell during the quarter from 3.88% to 3.47%. It appears increasingly likely that the U.S. has already reached, and is beyond, *peak interest rates*. The looming possibility of recession, effects of banking stress, and implications from the Federal Reserve that only one interest rate hike may remain, suggests that bond yields may have more room to fall than to rise.

— Silicon Valley Bank (SVB) failed and was transitioned to government ownership on March 10th. SVB is among the top 20 largest banks in the United States, with approximately 1% of all U.S. domestic bank deposits. New York regulators closed Signature Bank shortly thereafter, and more failures may follow. Banking stress has implications for the future actions of the Federal Reserve and for the economy.

— During the first quarter, fixed income markets delivered strong positive returns despite concerns related to the banking sector and the potential for additional Fed rate hikes. High yield credit performance led the way at 3.6%, followed by 3.5% from investment grade credit and 3.3% from bank loans.

— U.S. yield curve inversion reached even more extreme levels during Q1. The 10-year 2-year yield spread (short-term interest rates being higher than long-term interest rates) reached ~107 bps on March 8th, suggesting an incoming recession.

— Uncertainty around the path of Federal Reserve rate hikes and whether inflation is under control has contributed to considerable volatility in bond markets. As indicated by the ICE BofA "MOVE" Index, which measures the volatility priced into U.S. Treasury bonds, domestic and international banking stress further added to fixed income market choppiness in the first quarter.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	3.0%	(4.8%)
Core Plus Fixed Income (Bloomberg U.S. Universal)	2.9%	(4.6%)
U.S. Treasuries (Bloomberg U.S. Treasury)	3.0%	(4.5%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	3.6%	(3.3%)
Bank Loans (S&P/LSTA Leveraged Loan)	3.3%	2.5%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	5.2%	(0.7%)
Emerging Market Debt Hard (JPM EMBI Global Diversified)	1.9%	(6.9%)
Mortgage-Backed Securities (Bloomberg MBS)	2.5%	(4.9%)

Source: Bloomberg, as of 3/31/23

Banking stress

Markets saw significant volatility in March, largely driven by failures within the banking system. We believe these bank failures were widely due to two factors:

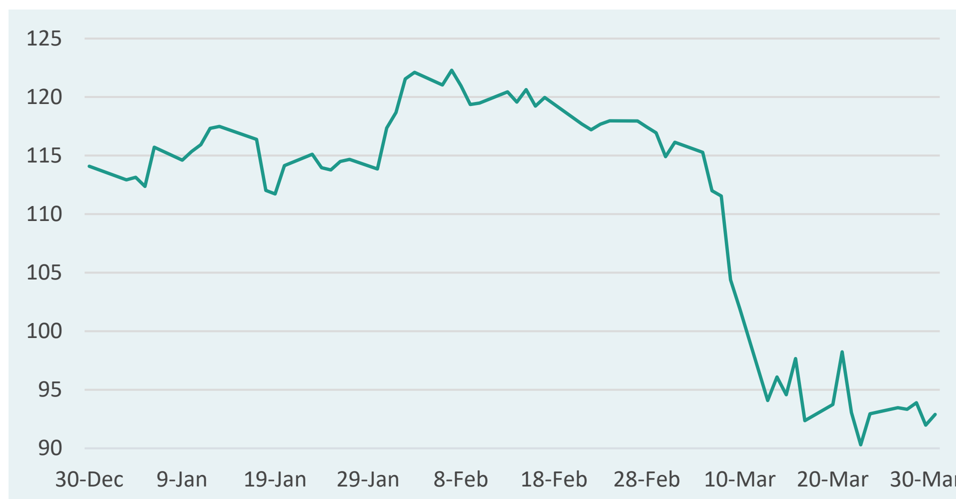
First, the bank depositor base was very concentrated in certain lines of business. Silvergate and Signature Bank were both involved in the crypto-currency space (although neither of these banks held crypto-currency directly on their balance sheet). This space came under significant pressure after the crypto-currency exchange FTX and some other smaller firms declared bankruptcy. Silicon Valley Bank had a large exposure to the technology and U.S. venture space, where clients had a greater need to withdraw their cash deposits due to slowing venture capital deployment and tighter economic conditions.

Second, bank assets were sharply devalued as interest rates rose quickly. The rapid rise in interest rates impacted assets such as Treasuries and mortgage-backed securities. In many cases, interest rate duration mismatch between bank assets and liabilities could arguably be attributed to a lack of risk management oversight. It is important to note that although these assets lost value very quickly, most assets are high quality with low default risk. This is a key differentiator from banking stress that occurred during the 2008-2009 Global Financial Crisis when banks held complex securitized assets—many of which turned out to be very low quality with high default risk.

TIMELINE

Date	Event
March 8th	Silvergate Bank announces it will be winding down operations
March 10th	Silicon Valley Bank falls into FDIC receivership after a failed attempt to raise equity following large losses associated with a substantial sale of its Available-For-Sale securities portfolio
March 12th	Signature Bank fails. The bank had a similar deposit base to Silvergate Bank, who rapidly pulled cash after previous failures
March 16th	Eleven large banks deposit $30B at First Republic Bank to shore up liquidity and improve confidence. First Republic's shares had tanked as investors feared contagion risks spreading to First Republic
March 19th	The Swiss government announced the acquisition of Credit Suisse by rival UBS. The acquisition was in order to prevent CS from collapsing

KBW REGIONAL BANKING INDEX



Source: Verus, Bloomberg, as of 3/31/23

Impacts outside the financial sector

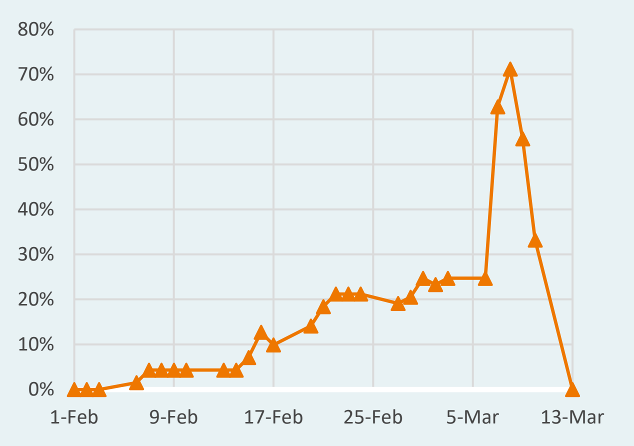
Expectations for the Fed's hiking cycle has weakened dramatically alongside bond yields, as markets began to doubt the Federal Reserve's willingness to hike rates in the face of financial stress. Banking issues will likely translate to a lower risk tolerance for many banks, as well as the offloading of many existing loans, and reduced overall lending activity. These effects would create an additional tightening of financial conditions regardless of future Federal Reserve actions.

Money market funds have seen very large inflows, as cash is transferred from traditional bank deposits to much higher yielding, and in many instances safer (if bank deposits were not FDIC insured), vehicles.

It will take time for all implications and effects to be clear. In the near term, sentiment seems to have been largely shored up by backstops from the Federal Reserve, Treasury, and the FDIC. In addition to the Federal Reserve's discount lending window, the Bank Term Funding Program (BTFP) was created to increase liquidity for banks which hold high quality assets. This has increased the Fed's balance sheet, counteracting recent efforts to reduce the size of the balance sheet.

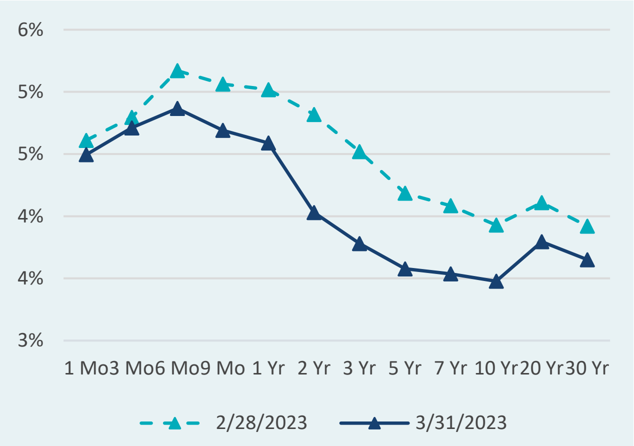
Repricing for a softer FOMC tightening cycle has arguably had the largest impact from a macroeconomic perspective

IMPLIED PROBABILITY: 50 BP RATE HIKE BY FED



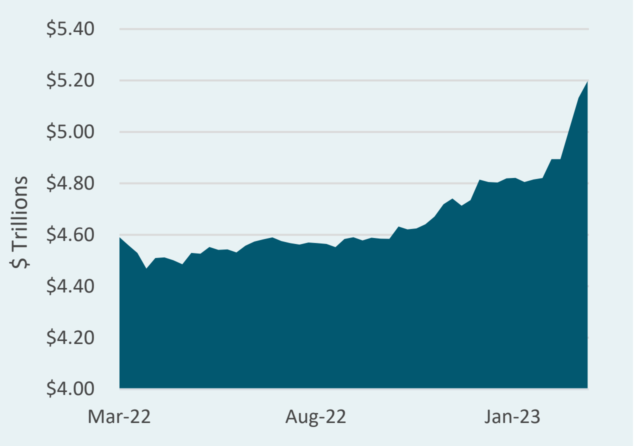
Source: Bloomberg, as of 3/13/23

U.S. YIELD CURVE



Source: Bloomberg, as of 3/31/23

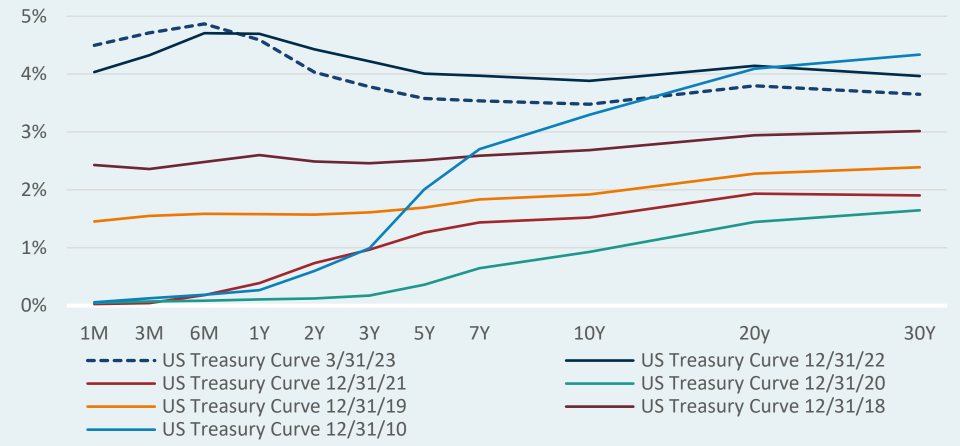
ICI MONEY MARKET FUNDS ASSETS



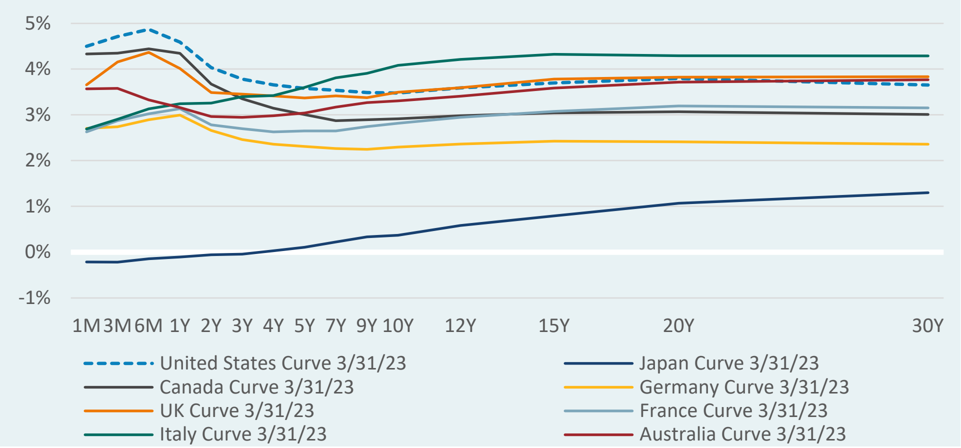
Source: ICI, Bloomberg, as of 3/29/23

Yield environment

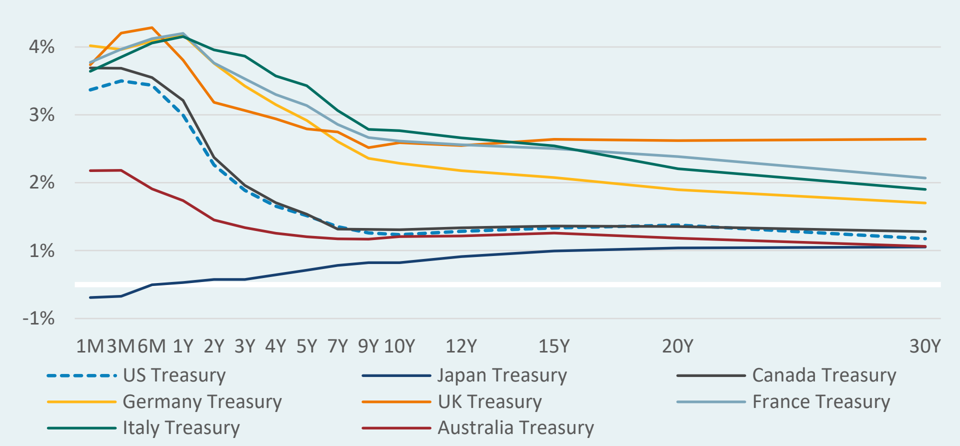
U.S. YIELD CURVE



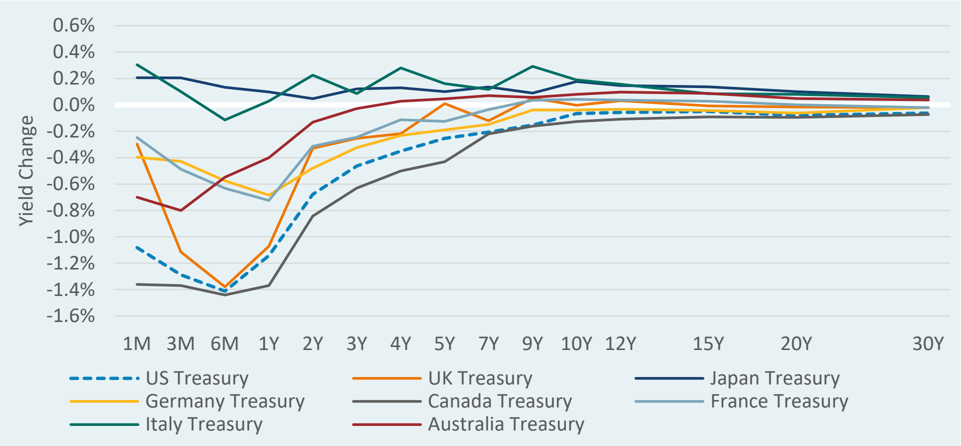
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 3/31/23

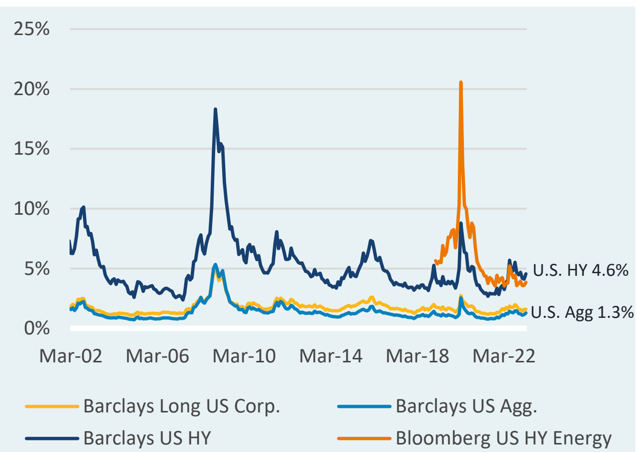
Credit environment

During the first quarter, fixed income markets delivered strong, positive returns despite concerns related to the banking sector and the potential for additional Fed rate hikes. High yield credit returns led the way with 3.6%, followed by 3.5% from investment grade credit and 3.3% from bank loans.

Within high yield bonds, unlike the performance witnessed during the fourth quarter where higher quality credit outperformed, performance was driven primarily by lower quality CCC-rated bonds. These bonds returned 5.1% during the quarter compared to 3.4% and 3.8% for B-rated and BB-rated bonds, respectively. Bank loan performance was driven primarily by continued strong demand from CLOs.

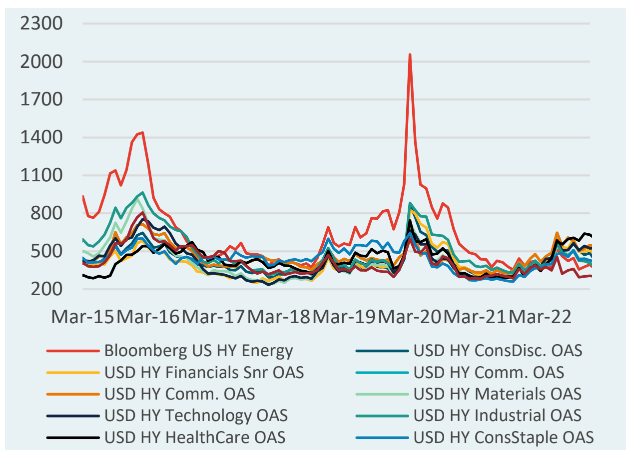
Credit spreads widened with investment grade spreads rising 0.10% to 1.4% while high yield spreads rose by 0.30% to 4.6%. Despite the jump, credit spreads remain below their long-term averages, which suggests that investors remain positive on the health of the market. However, should the economy begin to slow, credit spreads could move wider from here.

SPREADS



Source: Barclays, Bloomberg, as of 3/31/23

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 3/31/23

	Credit Spread (OAS)	
Market	**3/31/23**	**3/31/22**
Long U.S. Corp	1.6%	1.6%
U.S. Inv Grade Corp	1.4%	1.2%
U.S. High Yield	4.6%	3.3%
U.S. Bank Loans*	5.6%	4.3%

Source: Barclays, Credit Suisse, Bloomberg, as of 3/31/23
**Discount margin (4-year life)*

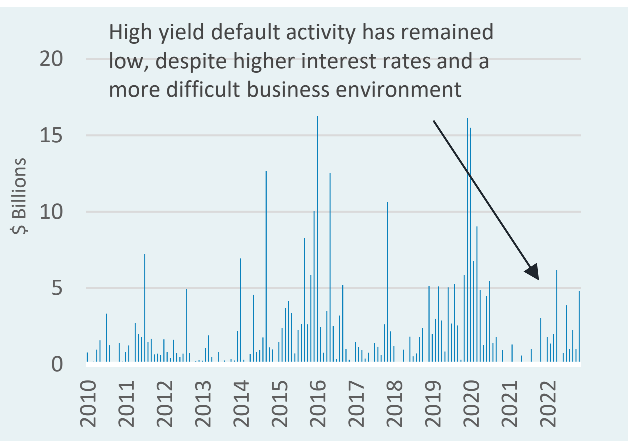
Default & issuance

Default activity remained below the long-term trend in Q1. During the quarter, 17 companies defaulted totaling $20.6 billion, with large defaults concentrated in the Media, Technology, and Consumer-related sectors. Combined defaults during the quarter were the highest since the beginning of the pandemic in 2Q 2020.

Past twelve-month default rates for both high yield bonds and bank loans decreased to 1.9% and 2.2%, respectively. This compares favorably to the long-term average of roughly 3.2% for bonds and 3.1% for loans. High yield recovery rates ended the quarter at 47.4%, down roughly 7.9% from the end of last year. Similarly, the recovery rate of bank loans ended the quarter at roughly 45.7%, down from 51.8% in 2022.

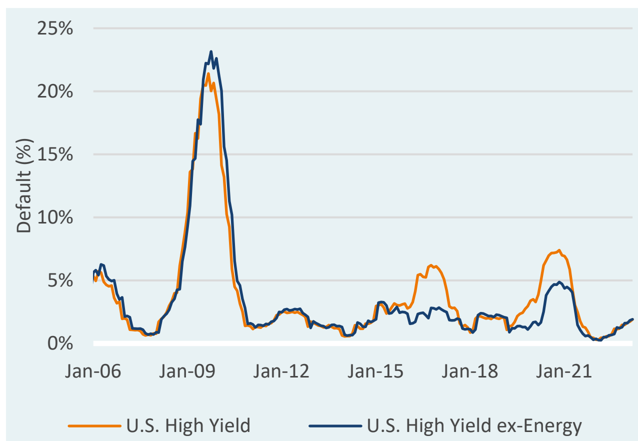
The pace of investment grade credit issuance accelerated in the first quarter with $404.2 billion of issuance compared with $200.2 billion in Q4 2022. The story was very different in levered credit which saw high yield bond and bank loan issuance decline to roughly $40.2 and $48.3 billion, respectively, during the period. For context, the level of high yield issuance ranked as the second lowest since the Global Financial Crisis in 2008-2009.

U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)



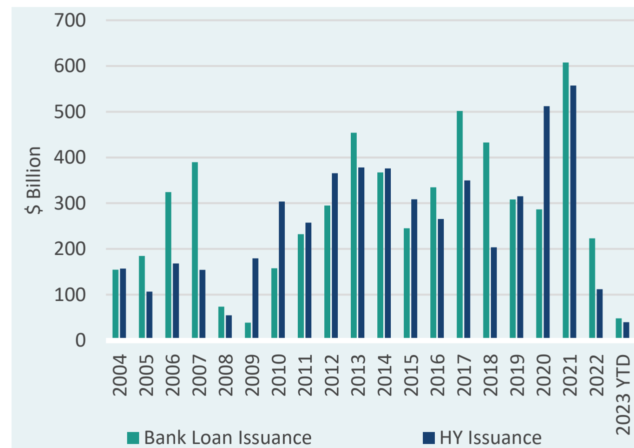
Source: BofA Merrill Lynch, as of 3/31/23

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 3/31/23 – par weighted

DEVELOPED MARKET ISSUANCE ($ BILLIONS)



Source: BofA Merrill Lynch, all developed markets, as of 3/31/23

Equity

Equity environment

— Global equities delivered another strong quarter in Q1 (MSCI ACWI +7.3%). A variety of risks are stacking up that could weigh on additional gains, including potential recession in many markets, persistent inflation problems, and tightening credit conditions.

— The outlook for domestic stocks remains challenged, especially against the backdrop of high inflation and expectations for slowing economic growth. Earnings growth has started to decline, with year-over-year S&P 500 earnings falling -4.9% in Q4 2022, the first decline seen since Q2 2020.

— The effects of currency volatility on portfolio performance was mixed during the first quarter. Over the past full year, currency movement led to a -8.5% loss for investors with unhedged exposure to international developed equity (MSCI EAFE unhedged -1.4%, MSCI EAFE hedged +7.1%), led by a -12.6% loss in Japanese equities (TOPIX unhedged -3.1%, TOPIX hedged +9.5%). We continue to believe that a thoughtful currency program may allow investors to reduce their total portfolio risk while also increasing long-term expected returns.

— Growth stocks delivered strong outperformance in the first quarter (Russell 1000 Growth +14.4% vs. Russell 1000 Value +1.0%), effectively reversing value's rally in Q4 2022. This divergence in style behavior appears to be, once again, mostly a result of relative sector returns.

— The Cboe VIX implied volatility index surged in March on the news of Silicon Valley Bank's failure, and the possibility of contagion across the financial sector, but ended the quarter at 18.7%—near the longer-term average.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	7.5%		(7.7%)	
U.S. Small Cap (Russell 2000)	2.7%		(11.6%)	
U.S. Equity (Russell 3000)	7.2%		(8.6%)	
U.S. Large Value (Russell 1000 Value)	1.0%		(5.9%)	
US Large Growth (Russell 1000 Growth)	14.4%		(10.9%)	
Global Equity (MSCI ACWI)	7.3%	7.3%	(7.4%)	(4.8%)
International Large (MSCI EAFE)	8.5%	8.3%	(1.4%)	7.1%
Eurozone (EURO STOXX 50)	16.2%	15.0%	10.8%	17.1%
U.K. (FTSE 100)	6.4%	3.8%	(1.1%)	6.9%
Japan (TOPIX)	5.8%	8.5%	(3.1%)	9.5%
Emerging Markets (MSCI Emerging Markets)	4.0%	3.8%	(10.7%)	(6.6%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 3/31/23

Domestic equity

U.S. equities finished the first quarter up 7.5%, marking another positive quarter as the S&P 500 recovers from the losses of 2022. Much volatility persisted through recent months, with shares moving higher in January, before falling sharply in line with expectations for a more hawkish Federal Reserve. The fallout in the banking system challenged the financial sector, but ultimately proved to be a significant tailwind to the broader index, as investor expectations for the Federal Reserve's rate path were significantly cut down. This boosts equity market valuations because lower interest rates increase the present value of equities through the discounting of cash flows. Growth stocks tend to benefit the most from this effect, as businesses with larger earnings expected further into the future are more sensitive to interest rate changes.

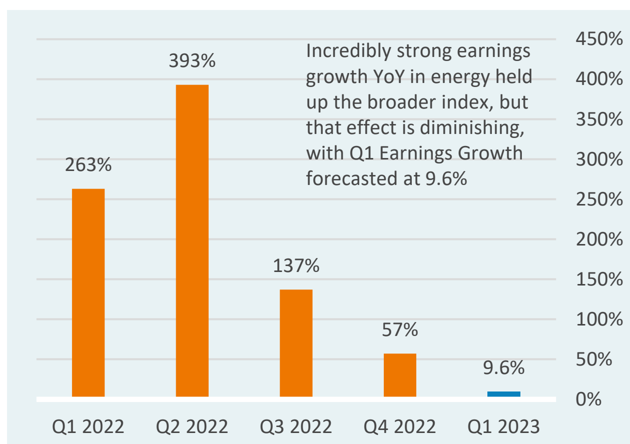
Despite recent gains, the outlook for domestic stocks remains challenged, given the backdrop of high inflation and expectations for slowing economic growth. Corporate earnings have been weakening, with year-over-year S&P 500 earnings falling -4.9% in Q4 2022—the first decline seen since Q2 2020. Analysts believe this trend will continue—FactSet expects Q1 2023 earnings to slide -6.6%.

Domestic companies continue to face margin compression due to higher input prices and wages, although many companies are now implementing cost cutting measures—most visibly within the technology and financial sectors—to help retain earnings. The normalization of earnings growth within the energy sector, which had previously provided a large tailwind to broad earnings, has also been a drag.

S&P 500 PRICE INDEX

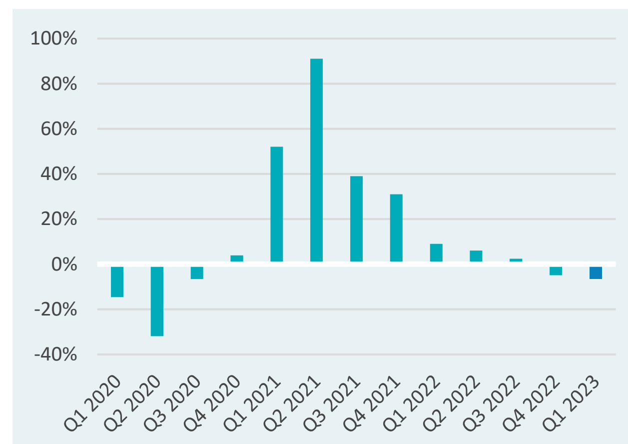
Source: Standard & Poor's, as of 3/31/23

ENERGY EARNINGS GROWTH (YEAR-OVER-YEAR)



Source: FactSet, as of 3/31/23

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



Source: FactSet, as of 3/31/23

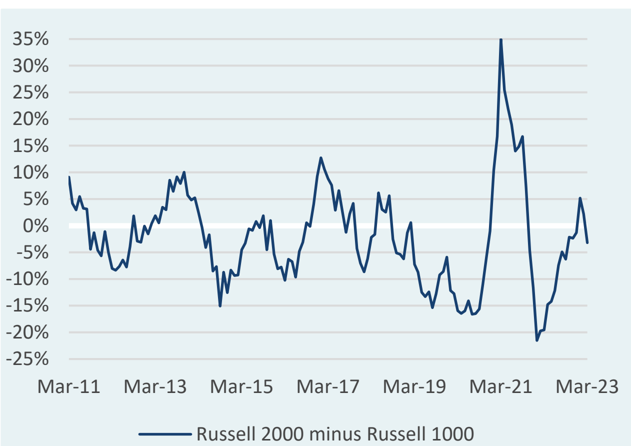
Domestic equity size & style

Growth stocks delivered strong outperformance in the first quarter (Russell 1000 Growth +14.4% vs. Russell 1000 Value +1.0%), effectively reversing the value rally of Q4 2022. This divergence in style behavior appears to be, once again, mostly a result of relative sector returns. Information technology led the index at +21.8% over the quarter, while energy (-4.7%) and financials (-5.6%) were laggards.

Small capitalization stocks underperformed large capitalization stocks during Q1 (Russell 2000 +2.7%, Russell 1000 +7.5%) and have also lagged over the past year (Russell 2000 -11.6%, Russell 1000 -8.4%).

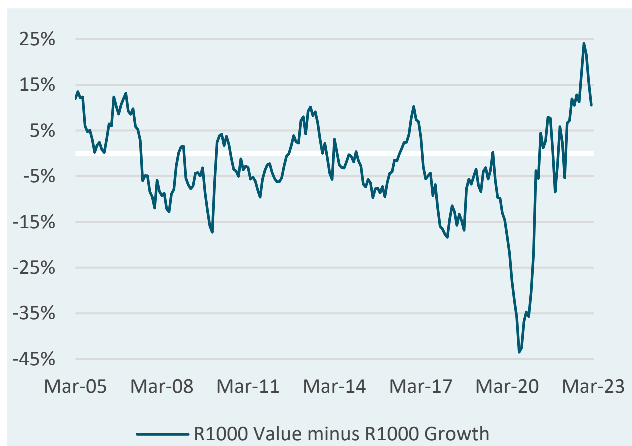
Large disparities in sector performance and the significant impact of this ongoing volatility on style factors supports our view that factor timing should rarely be pursued for most investors. There are occasions when market mispricing offers a compelling case to tilt into a style factor, though these occasions come along perhaps every few decades rather than every few years. We believe that style investing is most appropriately pursued in a strategic manner based on each individual investor's market beliefs and long-term goals.

SMALL CAP VS LARGE CAP (YOY)



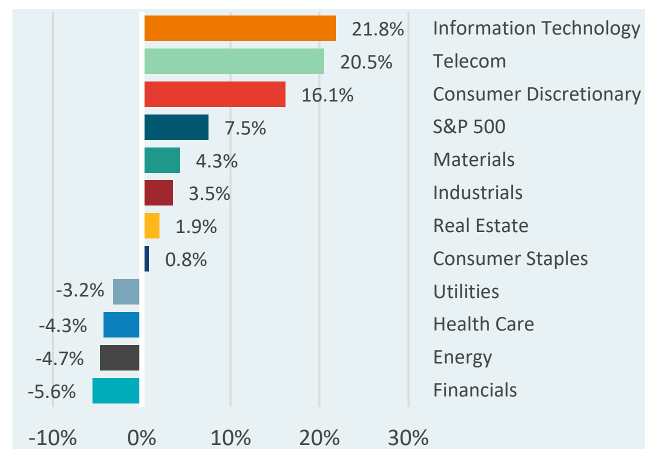
Source: FTSE, as of 3/31/23

VALUE VS GROWTH (YOY)



Source: FTSE, as of 3/31/23

Q1 2023 SECTOR PERFORMANCE



Source: Morningstar, as of 3/31/23

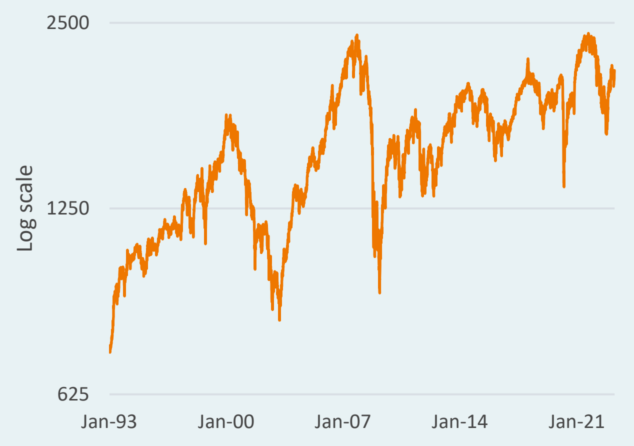
International developed equity

International developed equities outperformed global peers for a consecutive quarter, with the MSCI EAFE Index finishing up 8.3% in unhedged currency terms. Currency market movement was more muted, leading to a smaller 0.2% difference between currency hedged and unhedged index returns. This was likely a welcome change, given large and painful currency movements of the past year as the U.S. dollar appreciated.

European shares outperformed, due to larger European companies delivering positive earnings despite much economic uncertainty. The larger capitalization STOXX 50 Index returned 16.2%, compared to the broader STOXX 600 Index which finished the quarter up 10.3%. Japanese equities lagged most other markets in Q1.

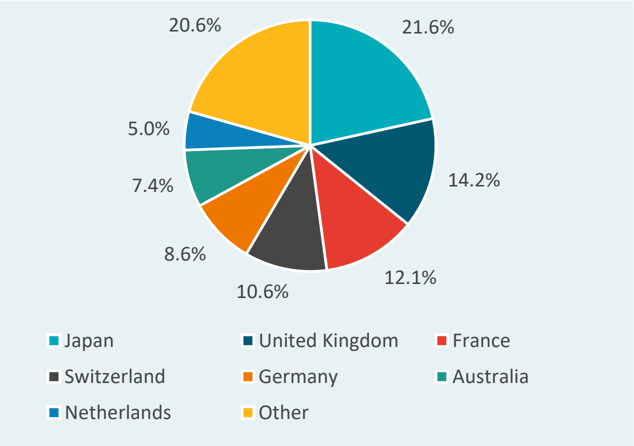
Inflation uncertainty has likely been a key contributor to the cheaper valuations of international developed equities, although inflation pressures have started to show some relief in the Eurozone, driven primarily by moderating energy prices. Despite these positive signs, both the European Central Bank and Bank of England have signaled that additional rate hikes are ahead. The drag presented by central bank hawkishness may be an ongoing theme of 2023.

INTERNATIONAL DEVELOPED EQUITY



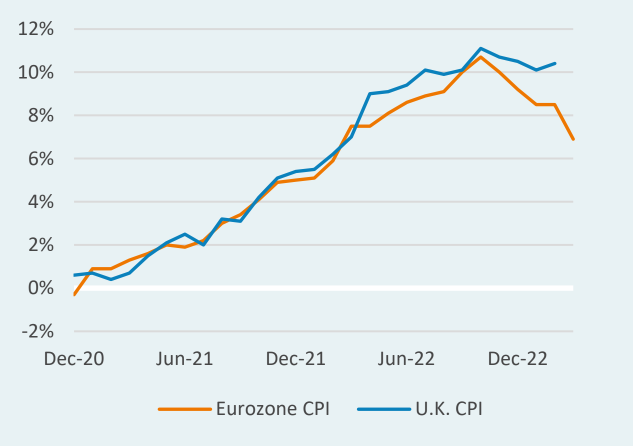
Source: MSCI, as of 3/31/23

MSCI EAFE INDEX COUNTRY DECOMPOSITION



Source: MSCI, as of 3/31/23

EUROPEAN INFLATION



Source: Bloomberg, as of 3/31/23. U.K. CPI as of 2/28/23

Emerging market equity

Emerging market equities lagged the global opportunity set during the quarter. The MSCI EM Index finished up 4.0%, relative to 8.5% from the MSCI EAFE Index and 7.5% from the S&P 500.

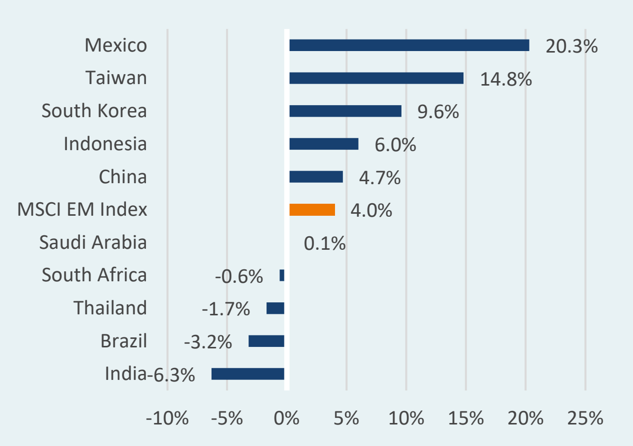
Chinese equities—the largest country weight in the index at thirty percent—saw a slowdown in economic momentum from the COVID-19 reopening, yet still finished the quarter +4.7%. China generated a drag on the overall emerging market index despite large gains from markets in Mexico, Taiwan, and South Korea.

While slowing economic growth amongst developed economies provides a headwind to emerging markets, a lack of inflationary pressures amongst most emerging countries helps paint a more optimistic picture. Fewer inflation problems allows for looser central bank policies, which combined with a continuation of pandemic reopening in China, could allow for higher economic growth in the near-term. The IMF's World Economic Outlook sees emerging & developing economy growth at 3.9% in 2023—much higher than the expected 1.3% for advanced economies.

EMERGING MARKET EQUITY

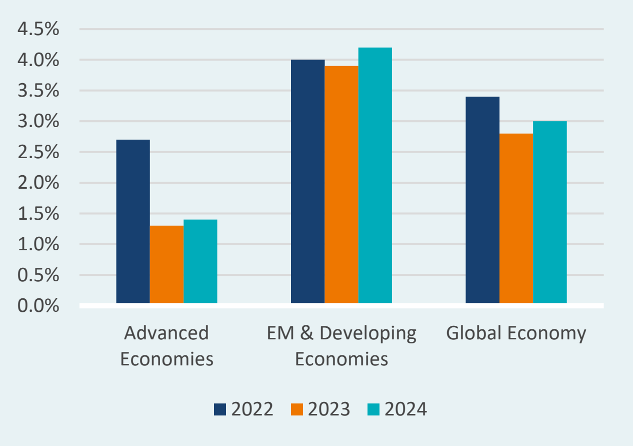
Source: MSCI, as of 3/31/23

Q1 2023 MSCI COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 3/31/23

IMF'S APRIL REAL GDP GROWTH FORECASTS



Source: IMF April World Economic Outlook

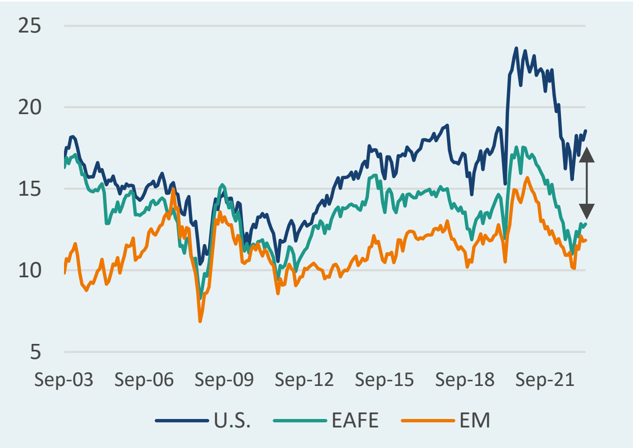
Equity valuations

Equity valuations continued to move higher in the first quarter, as global equities advanced and corporate earnings remained relatively flat. Forward price-to-earnings in the U.S. ended March at 18.6x, sliding below the 5-year average, but still higher than the 10-year average of 17.8x. In contrast, international developed (12.8x) and emerging market (11.8x) valuations sit below or at their respective five- and ten-year averages.

U.S. equities led global markets over the past decade largely due to a boom in corporate earnings and the success of technology-focused mega cap stocks. However, part of that outperformance was due to U.S. equity multiples rising to elevated levels. This is reflected in current U.S. valuations and the near-record divide between U.S. and non-U.S. markets. Lofty multiples may limit further upside of domestic equities without a rebound in earnings, especially given the possibility of U.S. recession, persistent inflation, and recent banking stress. However, an incoming global economic slowdown could support domestic equities as investors tend to prefer high quality markets during times of stress.

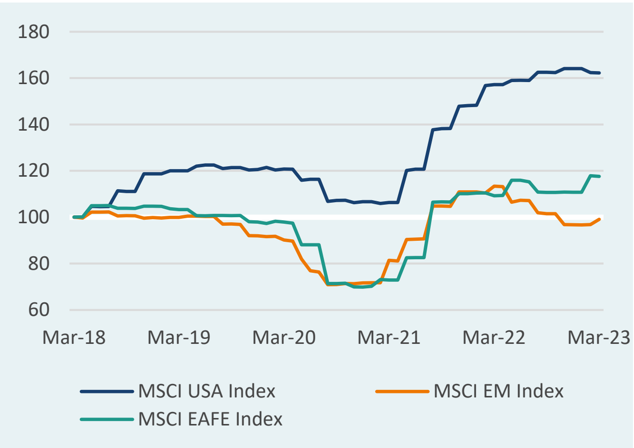
U.S. markets remain relatively expensive, despite potential recession, inflation, banking, and other risks

FORWARD P/E RATIOS



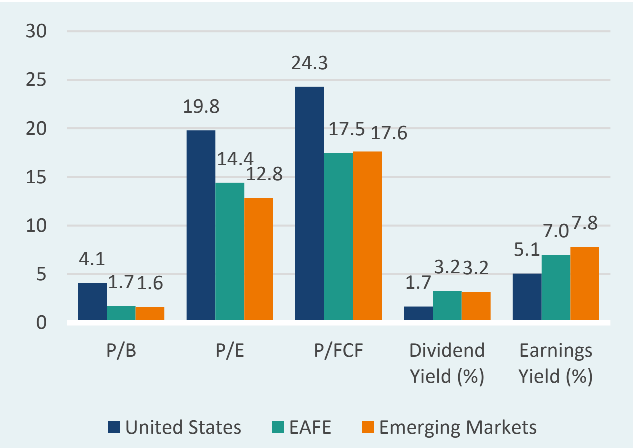
Source: MSCI, 12m forward P/E, as of 3/31/23

TRAILING 12M EPS (INDEX 100)



Source: Bloomberg, MSCI, as of 3/31/23

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI, as of 3/31/23 - trailing P/E

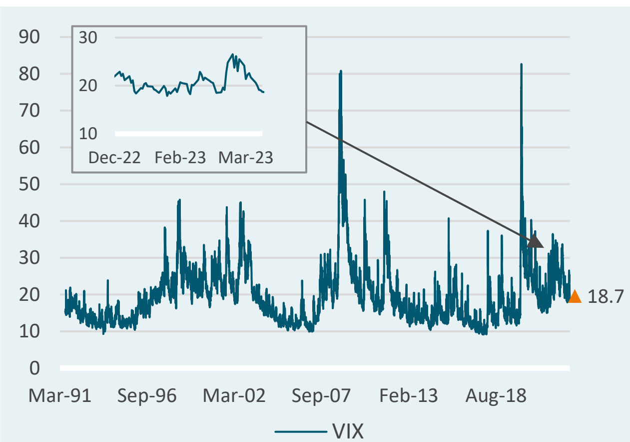
Equity volatility

The Cboe VIX implied volatility index surged in March on the news of Silicon Valley Bank's failure, and the possibility of contagion across the financial sector, but ended the quarter at 18.7%—near the longer-term average. Markets have faced an ongoing drumbeat of risks in recent years, from the global pandemic, to ensuing inflation shock and aggressive response from central banks, now to banking/credit stress and possible recession.

Realized volatility of global equity markets remains above average, while emerging market volatility continues to be in line with developed markets—a trend that has been uncommon historically.

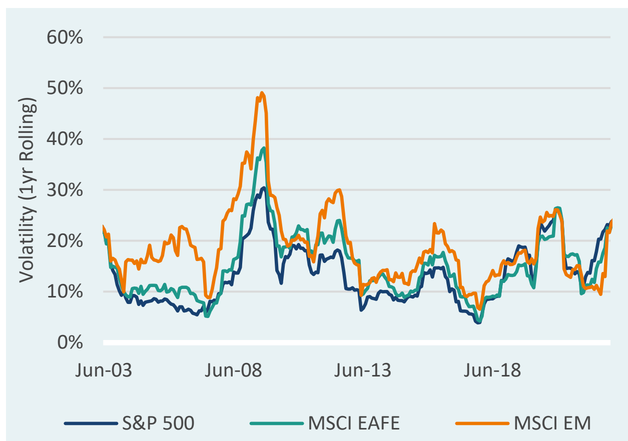
Many market stories of the past year have related to Federal Reserve tightening and the path of interest rates. These stories have contributed to considerable volatility in bond markets. As indicated by the ICE BofA "MOVE" Index, which measures the volatility priced into U.S. Treasury bonds, domestic and international banking stress in the first quarter further added to market choppiness.

U.S. IMPLIED VOLATILITY (VIX)



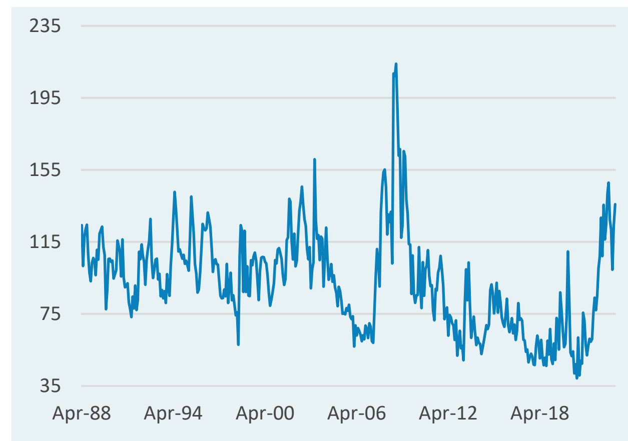
Source: Cboe, as of 3/31/23

REALIZED VOLATILITY



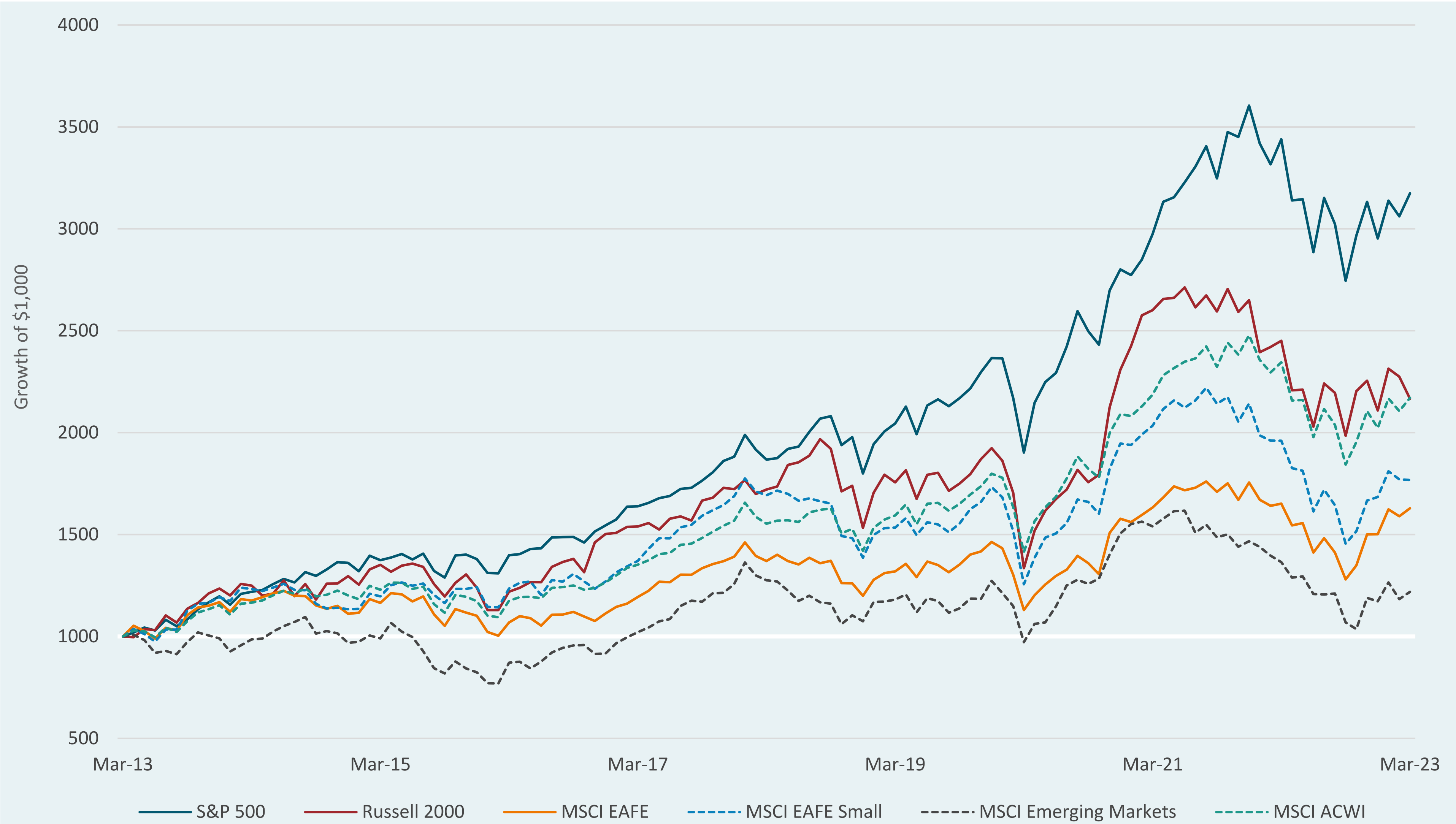
Source: S&P, MSCI, as of 3/31/23

U.S. TREASURY IMPLIED VOL ("MOVE" INDEX)



Source: Bloomberg, as of 3/31/23

Long-term equity performance



Source: MPI, as of 3/31/23

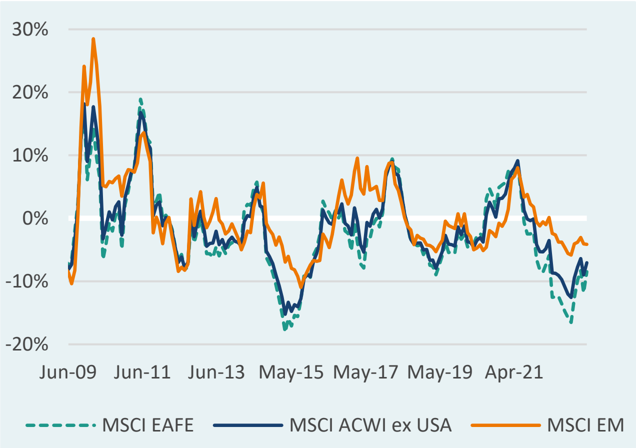
Other assets

Currency

The effects of currency volatility on portfolio performance was mixed during the first quarter. Over the past full year, currency movement led to a -8.5% loss for investors with unhedged exposure to international developed equity (MSCI EAFE unhedged -1.4%, MSCI EAFE hedged +7.1%), fueled by a -12.6% currency loss from Japanese equities (TOPIX unhedged -3.1%, TOPIX hedged +9.5%). The U.S. dollar depreciated -1.6% during the quarter, according to the U.S. Trade Weighted Dollar Index, providing a tailwind to most unhedged international investments.

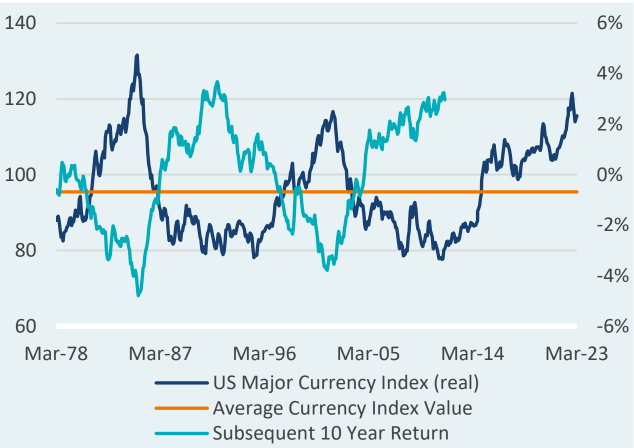
A thoughtful currency program may allow investors to reduce their total portfolio risk while also increasing long-term expected returns. The MSCI Currency Factor Mix Index—a representation of a passive investment in the currency market—has shown a positive one-year rolling return over most periods with very low volatility. This contrasts to the unhedged currency exposure (what we refer to as "embedded currency") that most investors own, which has demonstrated high volatility and frequent losses. This currency program would have delivered cumulative outperformance of +22.5% over the past five years for an international developed equity portfolio, and +52.0% cumulative outperformance over the past ten years, while also reducing total risk in the portfolio.

EFFECT OF CURRENCY (1-YEAR ROLLING)



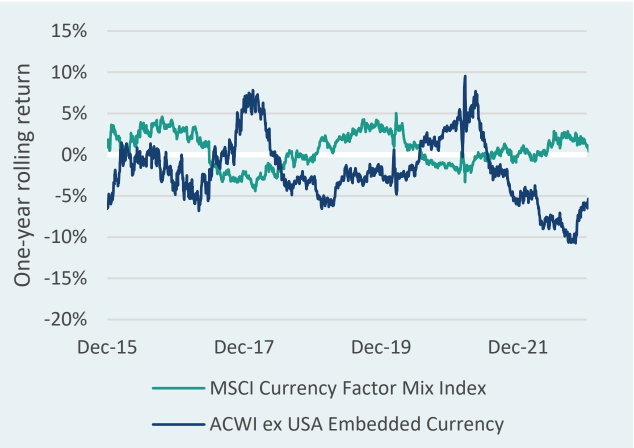
Source: MSCI, as of 3/31/23

BLOOMBERG DOLLAR SPOT INDEX



Source: Federal Reserve, as of 3/31/23

EMBEDDED CURRENCY VS CURRENCY FACTORS



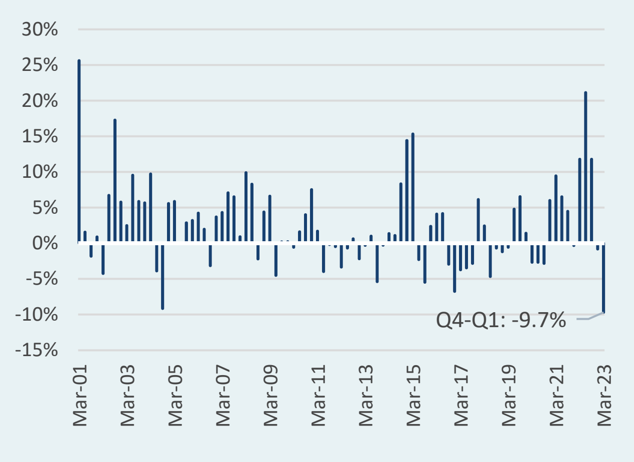
Source: Bloomberg, MSCI, as of 3/31/23

A reversal in CTA strategy performance

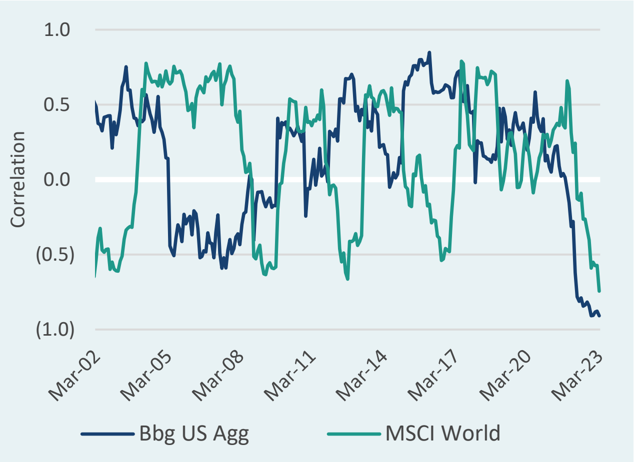
In 2021 and for most of 2022, systematic CTA strategies were the top performing hedge fund strategy. Trend following was paying off after several years of mediocre returns from 2016-2020. This periodicity is typical of trend following/CTA type strategies, and the end of 2022 and first quarter of 2023 served as examples of weak runs for these strategies. CTA strategies, as proxied by the SocGen CTA Index, had their worst ever consecutive quarters from Q4 '22 through Q1 '23, looking back to the year 2000.

A key driver of underperformance is apparent when examining one-year correlations of these strategies to stocks and bonds, which were recently at their all time most-negative levels. Rolling 3-year performance of CTAs relative to other strategy types has reversed after COVID-19 drawdowns begin to roll off and as CTAs have suffered from the recent reversals in both stocks and bonds. As intermediate (6-12 month) trends in markets begin to flatten out and the first half of 2022 rolls off, we believe CTA positioning may level out and potentially support a rebound in performance.

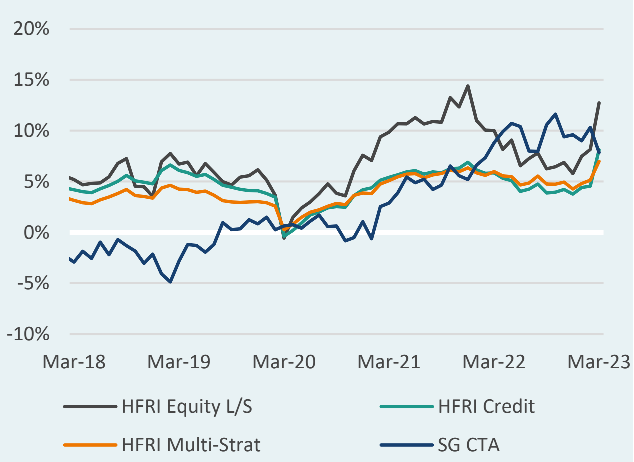
ROLLING 6-MONTH RETURNS FOR CTA INDEX



12-MONTH CORRELATION VS CTA INDEX



CUMULATIVE RETURN LAST 12 MONTHS



Source: HFR, MPI, Morningstar. SocGen, Data as of 3/31/23

Appendix

Periodic table of returns

BEST ↑ … ↓ WORST

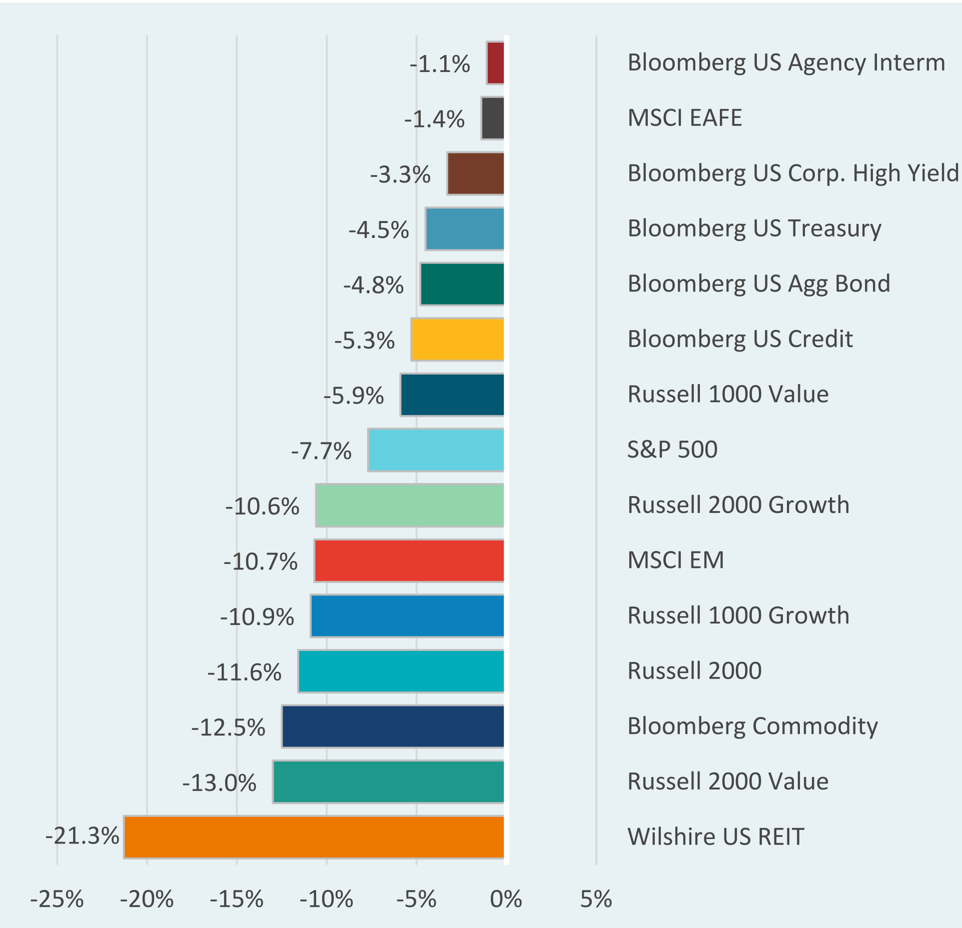
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	5-Year	10-Year
Large Cap Growth	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	14.4	13.7	14.6
International Equity	48.5	22.2	21.4	26.9	16.2	1.4	37.2	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	8.5	10.9	12.0
Large Cap 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	7.5	7.5	9.1
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	6.1	7.5	8.8
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	5.6	5.4	8.5
Emerging Markets Equity	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	4.0	4.7	8.0
US Bonds	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	4.5	7.2
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	2.7	4.3	5.0
Hedge Funds of Funds	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	1.6	3.9	5.0
Cash	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	1.1	3.5	3.3
Large 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	1.0	3.3	2.0
Real Estate	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	0.0	1.3	1.4
Small Cap Value	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	-0.7	0.9	0.8
Commodities	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	-5.4	-0.9	-1.7

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value
- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash
- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% Bloomberg Global Bond

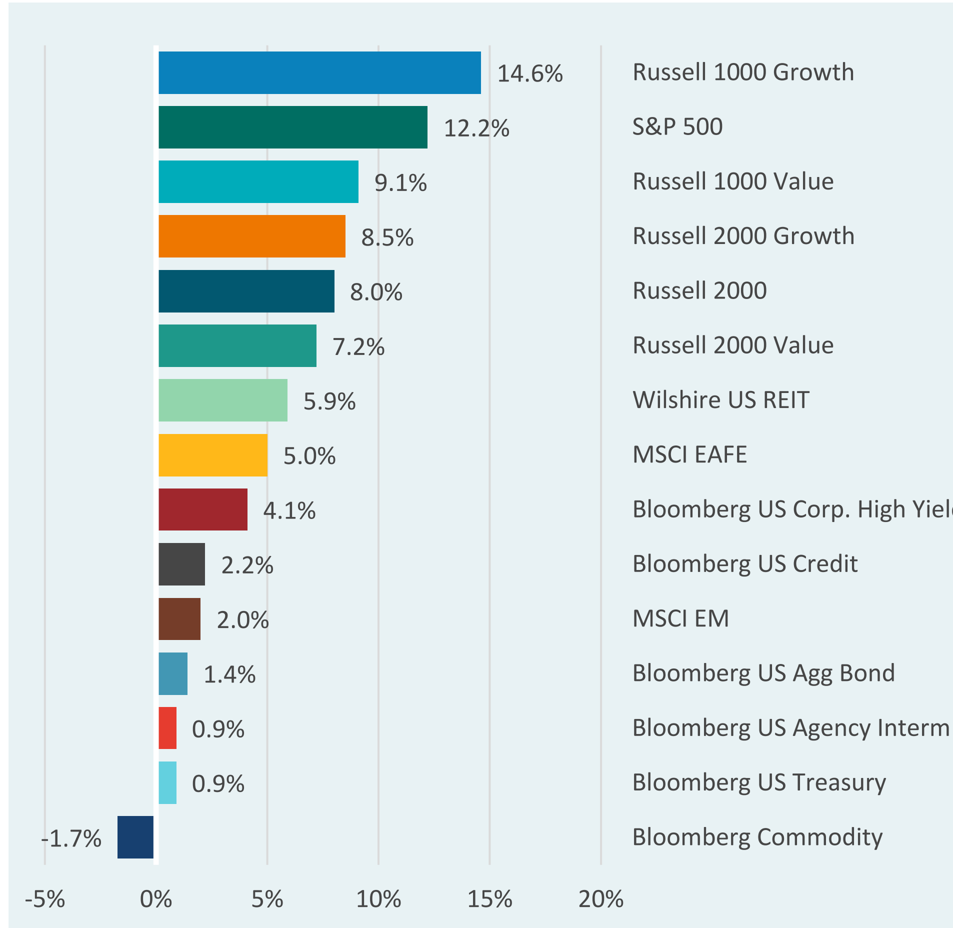
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 12/31/22.

Major asset class returns

ONE YEAR ENDING MARCH



TEN YEARS ENDING MARCH



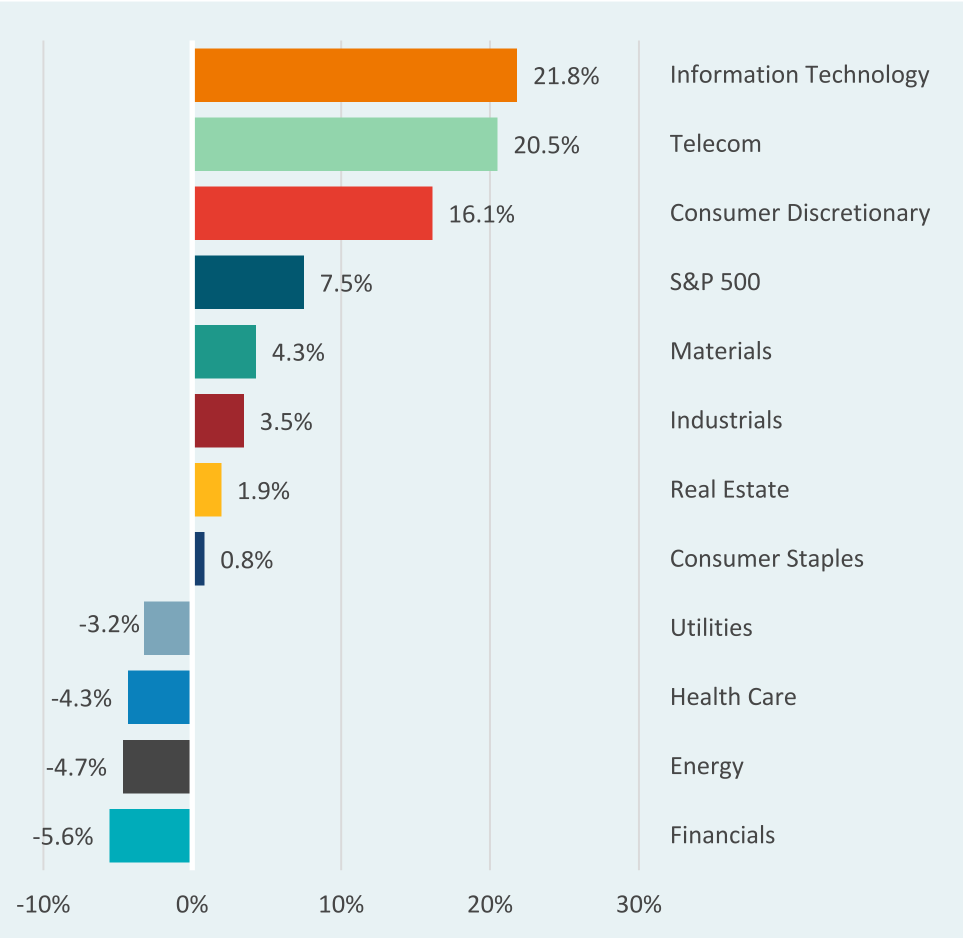
**Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.*

Source: Morningstar, as of 3/31/23

Source: Morningstar, as of 3/31/23

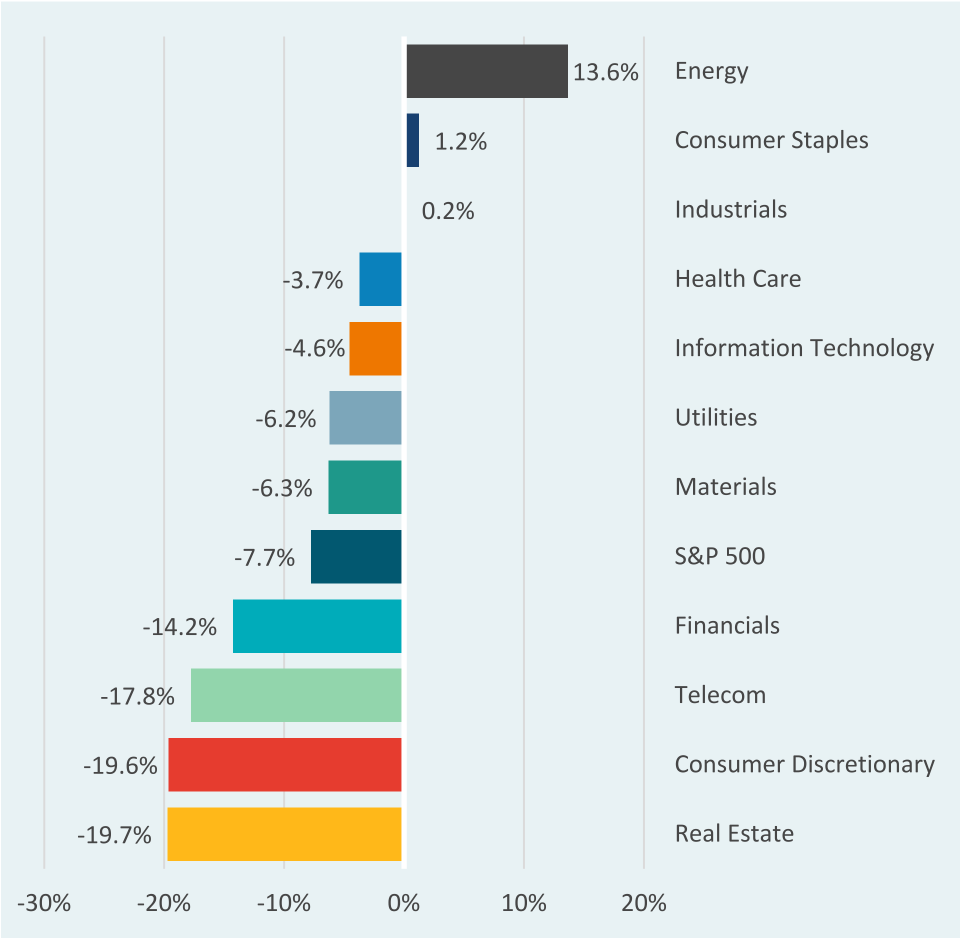
S&P 500 sector returns

QTD



Source: Morningstar, as of 3/31/23

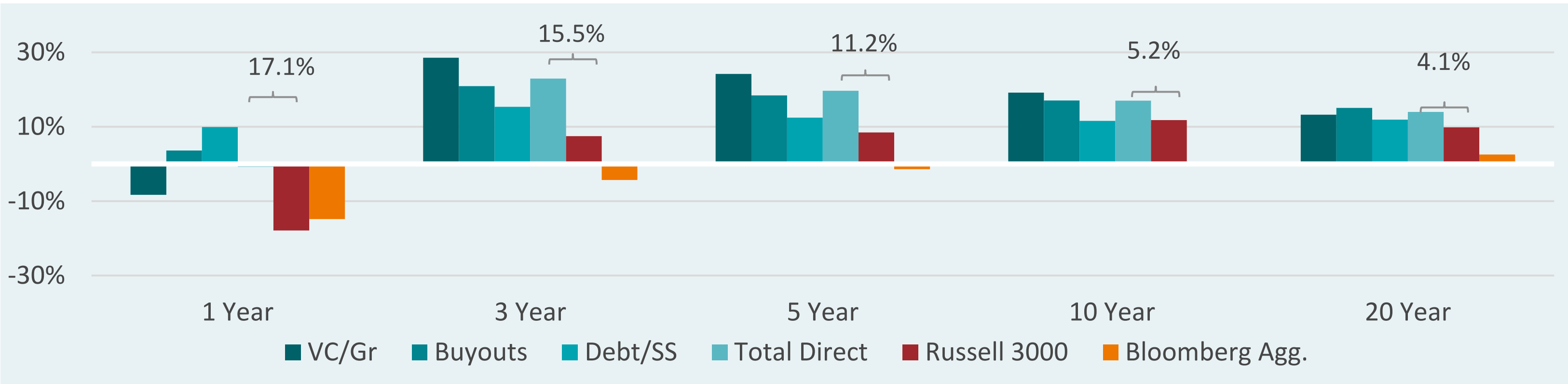
ONE YEAR ENDING MARCH



Source: Morningstar, as of 3/31/23

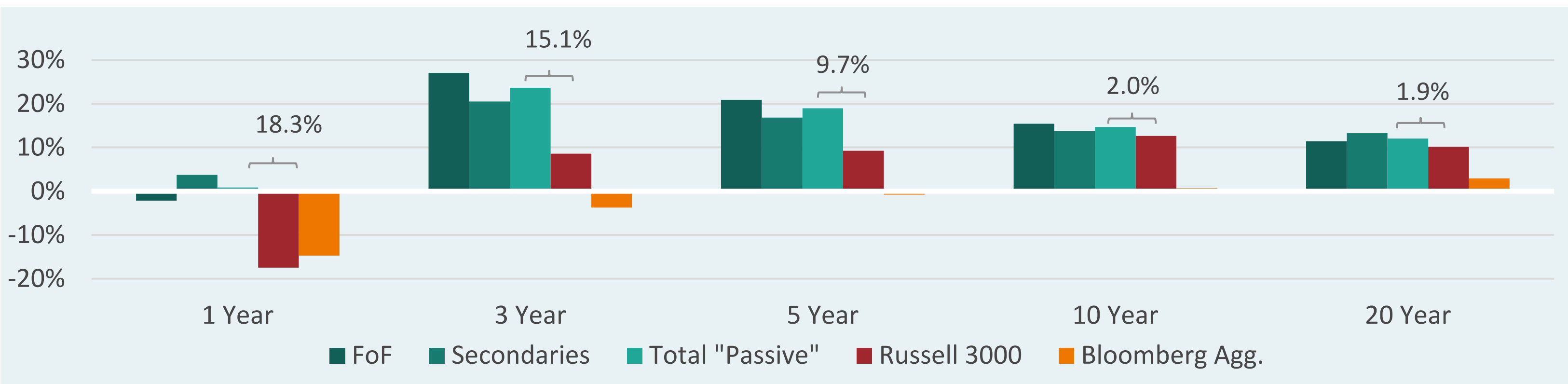
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed comparable public equites across all time periods

"PASSIVE" STRATEGIES

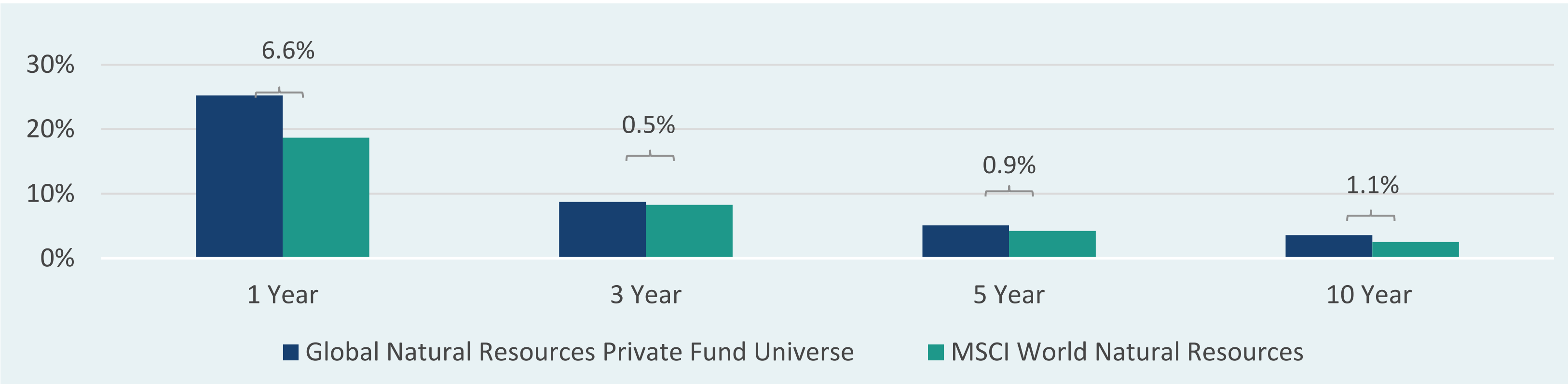


"Passive" strategies outperformed comparable public equities across all time periods

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of September 30, 2022. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

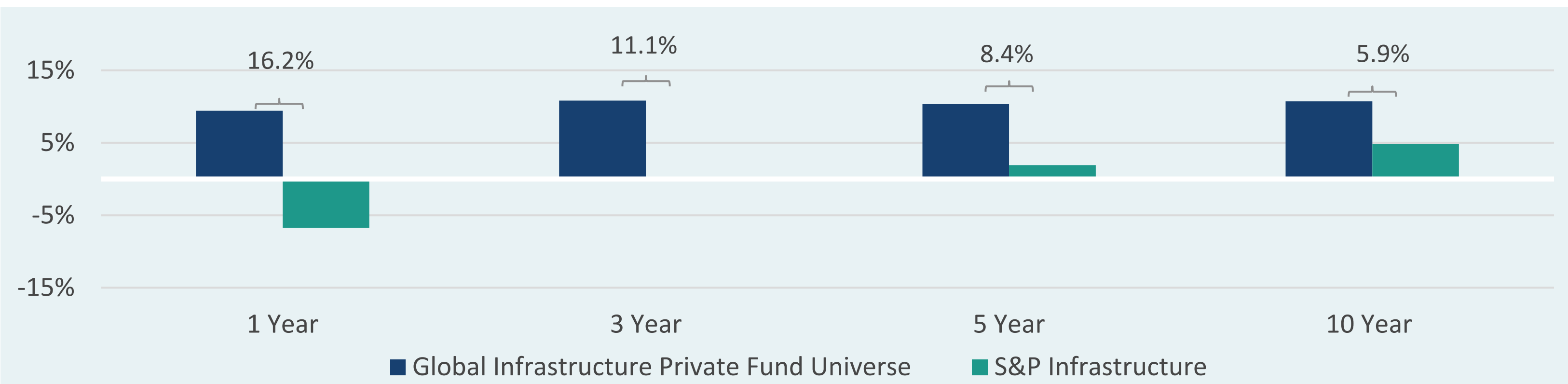
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds outperformed the MSCI World Natural Resources benchmark across all periods

GLOBAL INFRASTRUCTURE FUNDS

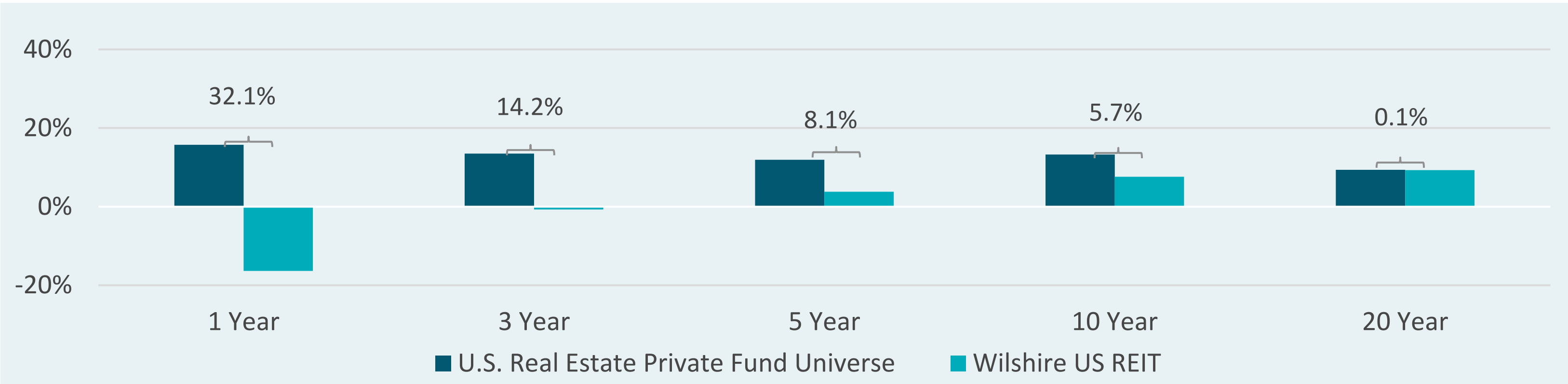


Infra. funds outperformed the S&P Infra. across all periods

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 September 30, 2022. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

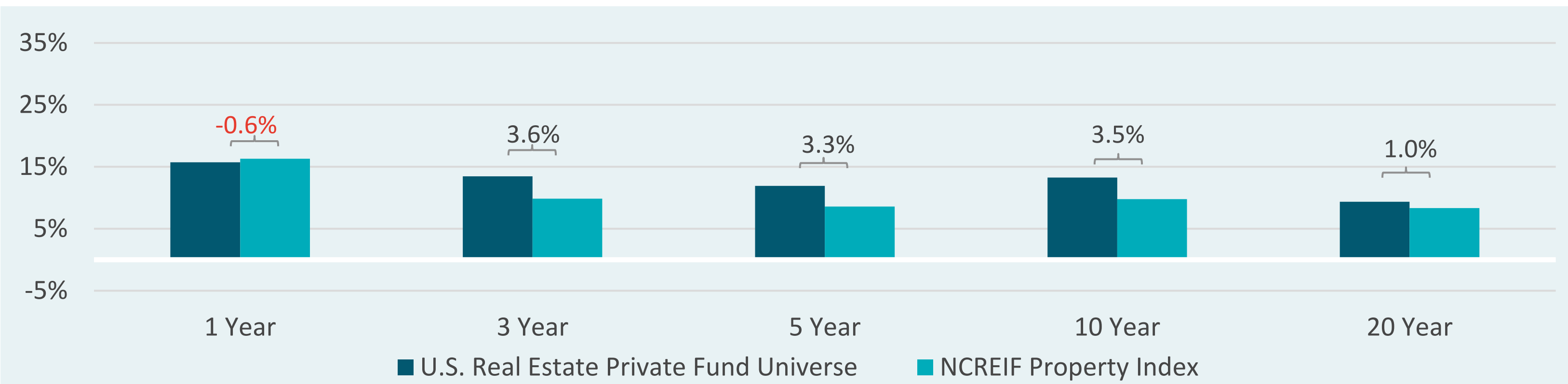
Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. Private R.E. funds outperformed the Wilshire U.S. REIT Index across all time periods

U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods, aside from the 1-year

Sources: Refinitiv PME: U.S. Real Estate universes as of September 30, 2022. 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	3.7	7.5	7.5	(7.7)	18.6	11.2	12.2
S&P 500 Equal Weighted	(0.9)	2.9	2.9	(6.3)	22.1	10.0	11.4
DJ Industrial Average	2.1	0.9	0.9	(2.0)	17.3	9.0	11.1
Russell Top 200	4.9	8.7	8.7	(8.3)	18.4	11.9	12.8
Russell 1000	3.2	7.5	7.5	(8.4)	18.6	10.9	12.0
Russell 2000	(4.8)	2.7	2.7	(11.6)	17.5	4.7	8.0
Russell 3000	2.7	7.2	7.2	(8.6)	18.5	10.5	11.7
Russell Mid Cap	(1.5)	4.1	4.1	(8.8)	19.2	8.1	10.1
Style Index							
Russell 1000 Growth	6.8	14.4	14.4	(10.9)	18.6	13.7	14.6
Russell 1000 Value	(0.5)	1.0	1.0	(5.9)	17.9	7.5	9.1
Russell 2000 Growth	(2.5)	6.1	6.1	(10.6)	13.4	4.3	8.5
Russell 2000 Value	(7.2)	(0.7)	(0.7)	(13.0)	21.0	4.5	7.2

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	3.1	7.3	7.3	(7.4)	15.4	6.9	8.1
MSCI ACWI ex US	2.4	6.9	6.9	(5.1)	11.8	2.5	4.2
MSCI EAFE	2.5	8.5	8.5	(1.4)	13.0	3.5	5.0
MSCI EM	3.0	4.0	4.0	(10.7)	7.8	(0.9)	2.0
MSCI EAFE Small Cap	(0.2)	4.9	4.9	(9.8)	12.1	0.9	5.9
Style Index							
MSCI EAFE Growth	5.3	11.1	11.1	(2.8)	10.9	4.9	6.0
MSCI EAFE Value	(0.3)	5.9	5.9	(0.3)	14.6	1.7	3.7
Regional Index							
MSCI UK	(0.6)	6.1	6.1	(0.8)	14.6	3.0	3.4
MSCI Japan	4.0	6.2	6.2	(5.2)	7.4	1.3	5.0
MSCI Euro	4.1	15.6	15.6	7.7	17.1	3.9	6.0
MSCI EM Asia	3.6	4.8	4.8	(9.4)	7.1	0.1	4.2
MSCI EM Latin American	0.8	3.9	3.9	(11.1)	18.1	(1.8)	(1.9)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	2.9	3.3	3.3	(6.1)	1.8	2.9	1.5
Bloomberg US Treasury Bills	0.4	1.1	1.1	2.5	0.8	1.4	0.9
Bloomberg US Agg Bond	2.5	3.0	3.0	(4.8)	(2.8)	0.9	1.4
Bloomberg US Universal	2.3	2.9	2.9	(4.6)	(2.0)	1.0	1.6
Duration							
Bloomberg US Treasury 1-3 Yr	1.6	1.6	1.6	0.2	(0.8)	1.1	0.8
Bloomberg US Treasury Long	4.7	6.2	6.2	(16.0)	(11.3)	(0.4)	1.5
Bloomberg US Treasury	2.9	3.0	3.0	(4.5)	(4.2)	0.7	0.9
Issuer							
Bloomberg US MBS	1.9	2.5	2.5	(4.9)	(3.3)	0.2	1.0
Bloomberg US Corp. High Yield	1.1	3.6	3.6	(3.3)	5.9	3.2	4.1
Bloomberg US Agency Interm	1.8	1.9	1.9	(1.1)	(1.6)	0.9	0.9
Bloomberg US Credit	2.7	3.5	3.5	(5.3)	(0.7)	1.5	2.2

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(0.2)	(5.4)	(5.4)	(12.5)	20.8	5.4	(1.7)
Wilshire US REIT	(2.6)	3.2	3.2	(21.3)	11.0	5.7	5.9
CS Leveraged Loans	(0.1)	3.1	3.1	2.1	8.4	3.5	3.9
S&P Global Infrastructure	2.4	3.9	3.9	(3.5)	15.6	5.9	6.4
Alerian MLP	(0.7)	3.4	3.4	13.9	46.3	6.9	0.6
Regional Index							
JPM EMBI Global Div	1.0	1.9	1.9	(6.9)	(0.0)	(0.6)	2.0
JPM GBI-EM Global Div	4.1	5.2	5.2	(0.7)	0.9	(2.4)	(1.5)
Hedge Funds							
HFRI Composite	(0.8)	1.2	1.2	(2.1)	10.5	4.7	4.4
HFRI FOF Composite	0.1	1.6	1.6	(1.1)	7.5	3.3	3.3
Currency (Spot)							
Euro	2.5	1.8	1.8	(2.4)	(0.3)	(2.5)	(1.7)
Pound Sterling	2.1	2.8	2.8	(6.1)	(0.1)	(2.5)	(2.0)
Yen	2.4	(0.9)	(0.9)	(8.8)	(6.7)	(4.4)	(3.4)

Source: Morningstar, HFRI, as of 3/31/23.

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.langerresearch.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 induces 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 "(Good-Poor + 100)/2" to the present and future sales series and "(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.*

Notices & disclosures

Kern County Employees' Retirement Association

Investment Performance Review

Period Ending: March 31, 2023

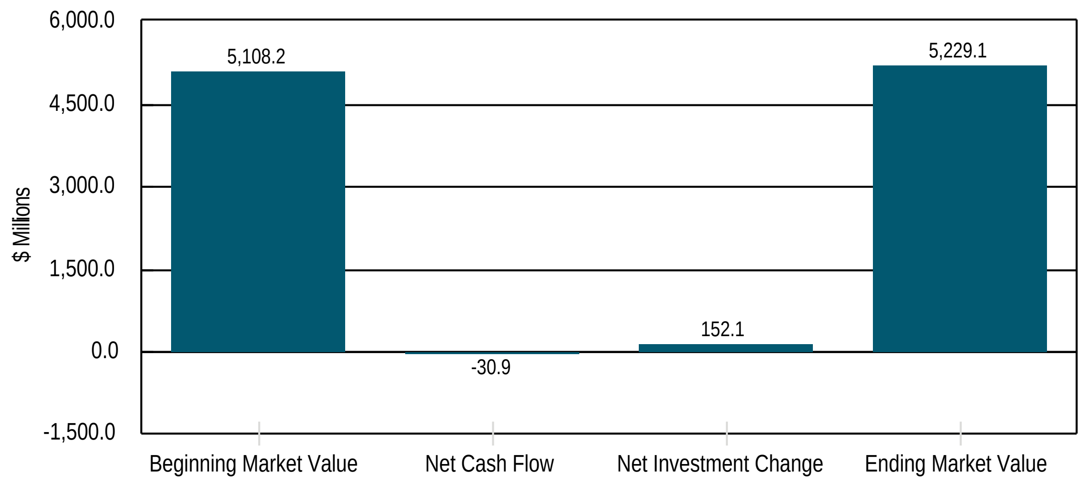
VERUSINVESTMENTS.COM

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

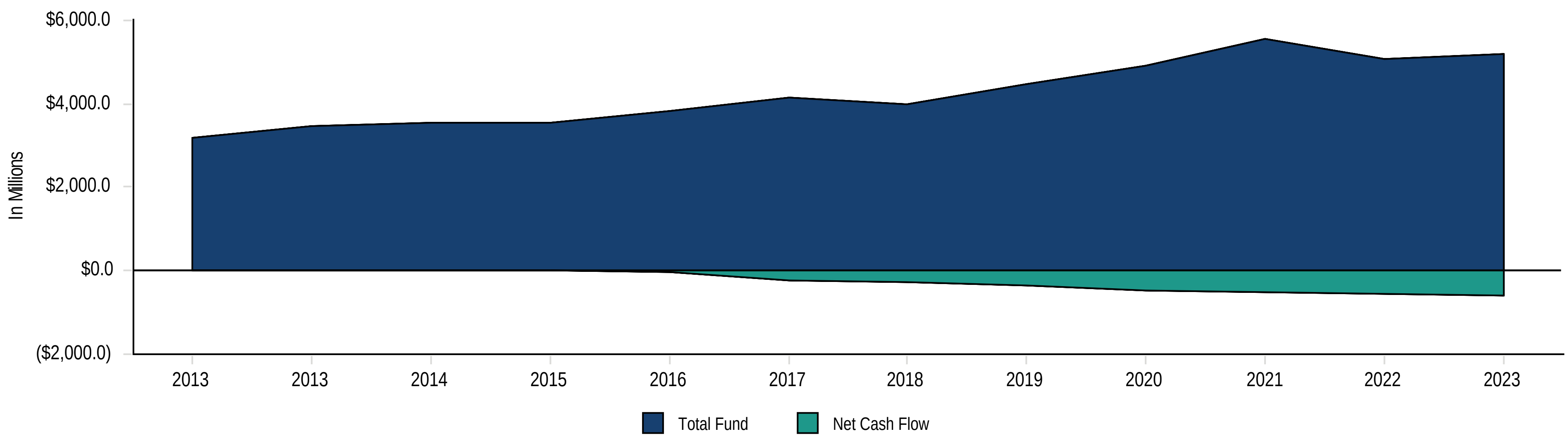
Portfolio Reconciliation

	Last Three Months
Beginning Market Value	$5,108,203,758
Net Cash Flows	-$30,913,139
Net Investment Change	$152,095,026
Ending Market Value	$5,229,051,413

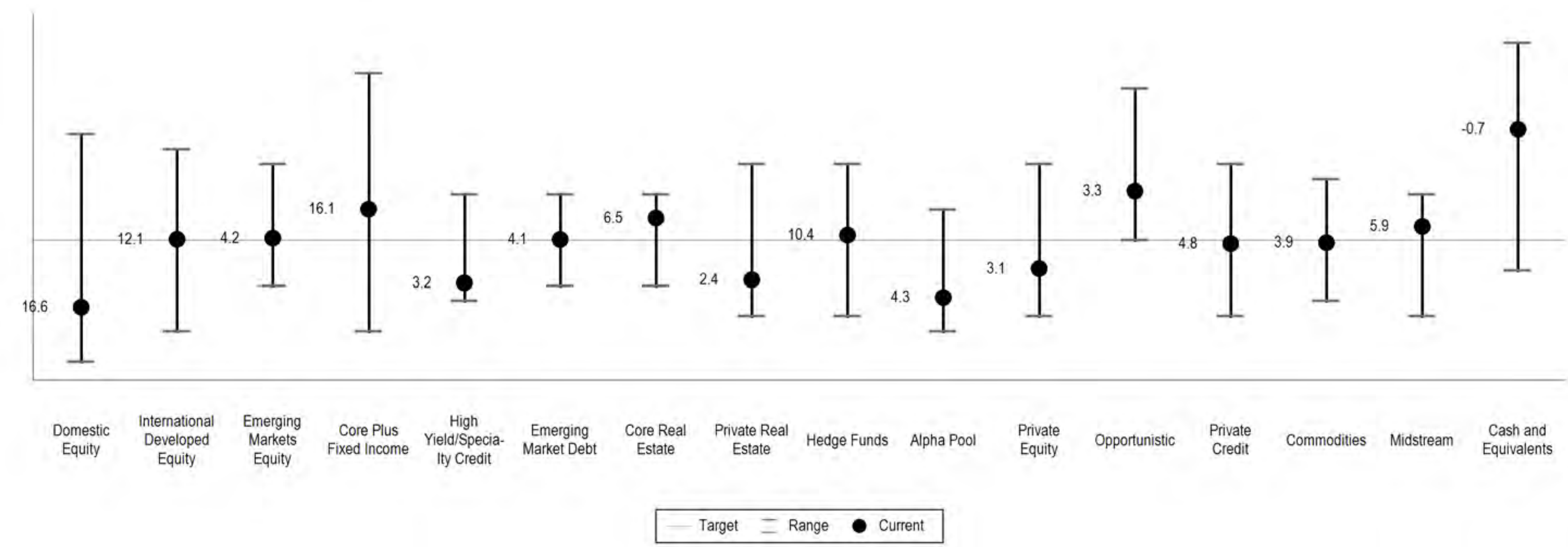
Change in Market Value
Last Three Months

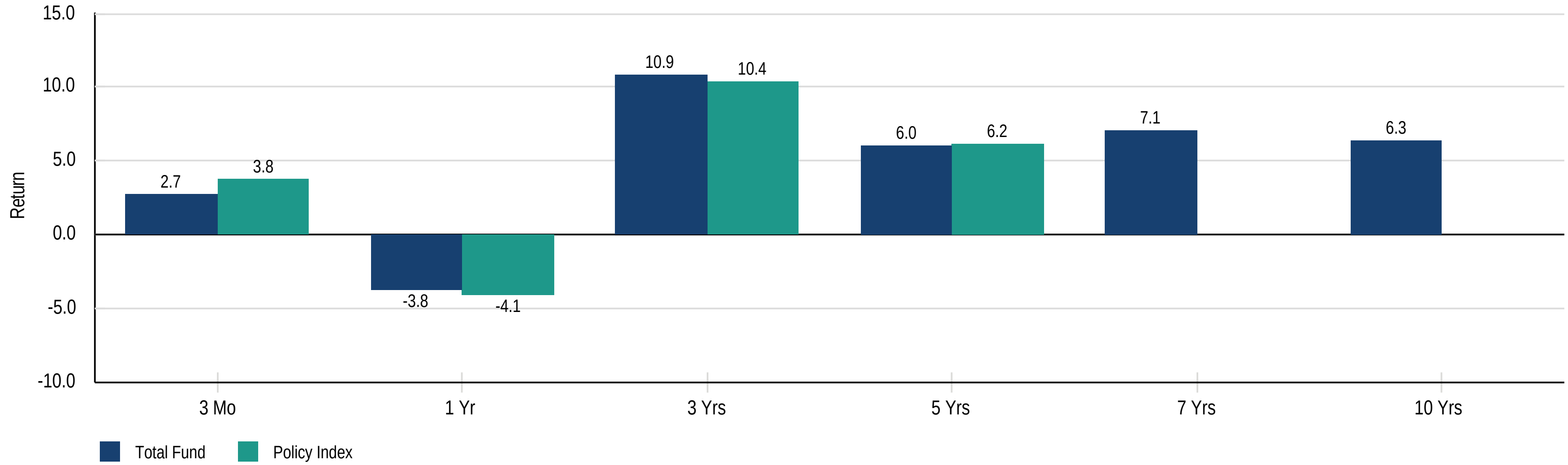


Market Value History



	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
Equity	$1,684,531,735	32.8%	37.0%	-$212,849,364	26.0% - 48.0%	Yes
Fixed Income	$1,293,165,405	23.3%	24.0%	-$33,710,708	14.0% - 34.0%	Yes
Core Real Estate	$321,881,000	6.5%	5.0%	$75,860,102	2.0% - 8.0%	Yes
Hedge Funds	$530,794,535	10.4%	10.0%	$17,986,677	5.0% - 15.0%	Yes
Alpha Pool	$218,863,824	4.3%	8.0%	-$191,815,022	2.0% - 10.0%	Yes
Private Equity	$164,186,192	3.1%	5.0%	-$94,910,770	0.0% - 10.0%	Yes
Private Credit	$245,458,300	4.8%	5.0%	-$10,945,629	0.0% - 10.0%	Yes
Private Real Estate	$123,608,804	2.4%	5.0%	-$132,546,895	0.0% - 10.0%	Yes
Commodities	$197,553,350	3.9%	4.0%	-$7,569,793	0.0% - 8.0%	Yes
Opportunistic	$167,025,043	3.3%	0.0%	$167,025,043	0.0% - 10.0%	Yes
Midstream	$303,662,302	5.9%	5.0%	$47,258,373	0.0% - 8.0%	Yes
Cash and Equivalents	$-21,679,077	-0.7%	-8.0%	$376,217,986	-10.0% - 5.0%	Yes
Total	**$5,229,051,413**	**100.0%**	**100.0%**			




15.0
10.0
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-10.0
Return
2.7
3.8
-3.8
-4.1
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6.2
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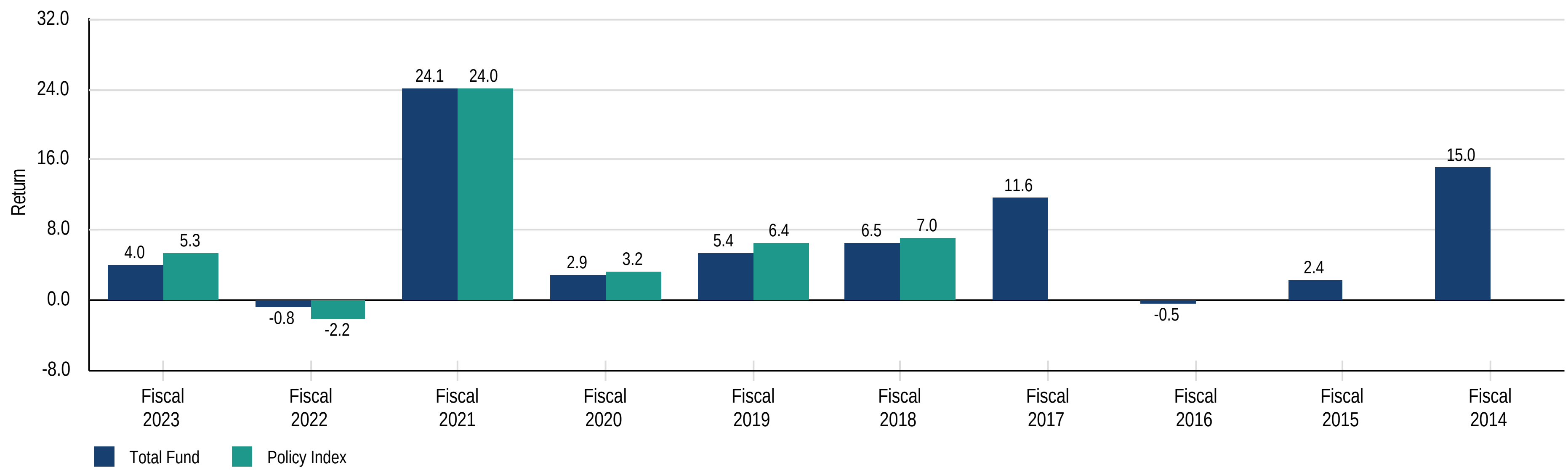
3 Mo
1 Yr
3 Yrs
5 Yrs
7 Yrs
10 Yrs
Total Fund
Policy Index


32.0
24.0
16.0
8.0
0.0
-8.0
Return
4.0
5.3
-0.8
-2.2
24.1
24.0
2.9
3.2
5.4
6.4
6.5
7.0
11.6
-0.5
2.4
15.0
Fiscal 2023
Fiscal 2022
Fiscal 2021
Fiscal 2020
Fiscal 2019
Fiscal 2018
Fiscal 2017
Fiscal 2016
Fiscal 2015
Fiscal 2014
Total Fund
Policy Index

	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	5,229,051,413	100.0	2.8	4.2	-3.5	11.2	6.3	6.7	-4.2	24.4	3.2	5.7	6.8
Policy Index			*3.8*	*5.3*	*-4.1*	*10.4*	*6.2*	*-*	*-6.5*	*24.0*	*3.2*	*6.4*	*7.0*
InvMetrics Public DB > $1B Rank			*91*	*70*	*30*	*47*	*47*	*59*	*32*	*89*	*21*	*62*	*97*
Equity	1,684,531,735	32.2	6.8	9.7	-6.6	16.5	7.1	9.2	-14.9	41.2	0.7	5.3	12.4
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*
Domestic Equity	852,361,067	16.3	6.6	8.7	-8.8	18.6	10.6	-	-12.0	43.6	6.3	9.2	16.1
MSCI USA IMI			*7.3*	*10.0*	*-8.5*	*18.8*	*10.6*	*11.8*	*-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
MSCI World ex U.S. IMI Index (Net)			*7.6*	*13.3*	*-3.9*	*13.5*	*3.5*	*5.0*	*-17.7*	*34.8*	*-5.1*	*0.2*	*7.7*
Emerging Markets Equity	213,035,817	4.1	4.6	1.9	-9.6	9.5	-1.8	-	-21.4	40.6	-10.9	0.4	4.0
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*
Fixed Income	1,293,165,405	24.7	2.8	2.5	-4.8	0.2	1.4	1.9	-12.7	5.4	6.6	7.9	0.2
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*
Core Plus Fixed Income	823,458,691	15.7	2.4	-0.8	-5.9	-2.3	1.0	-	-11.2	1.0	9.5	8.0	0.0
Blmbg. 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*
High Yield/ Specialty Credit	260,844,746	5.0	3.3	5.9	-2.9	5.6	3.4	-	-9.5	13.6	0.0	7.5	3.3
ICE BofA U.S. High Yield Index			*3.7*	*7.1*	*-3.6*	*5.8*	*3.1*	*4.0*	*-12.7*	*15.6*	*-1.1*	*7.6*	*2.5*
Emerging Market Debt	208,560,566	4.0	3.8	8.8	-2.5	2.6	-1.3	-	-19.6	9.4	-1.2	8.5	-3.6
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			*3.5*	*6.9*	*-3.8*	*0.5*	*-1.4*	*0.3*	*-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
Bloomberg Commodity Index Total Return			*-5.4*	*-7.2*	*-12.5*	*20.8*	*5.4*	*-1.7*	*24.3*	*45.6*	*-17.4*	*-6.8*	*7.3*
Hedge Funds	530,794,535	10.2	1.6	5.8	6.0	11.3	7.0	6.2	2.8	16.3	7.3	2.6	7.6
75% 90 Day TBills +4% / 25% MSCI ACWI IMI (Net)			*3.3*	*6.8*	*3.3*	*7.8*	*6.2*	*6.0*	*-0.9*	*12.3*	*5.1*	*6.6*	*7.0*
Alpha Pool	218,863,824	4.2	1.8	2.5	1.8	-	-	-	1.5	14.5	-	-	-
90-Day T-Bill +4%			*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	-	-	-	-
Alerian Midstream Energy Index			*0.8*	*8.1*	*-1.2*	*-*	*-*	*-*	*11.4*	*-*	*-*	*-*	*-*
Core Real Estate	321,881,000	6.2	-4.4	-8.1	-3.9	6.7	6.4	-	25.6	6.6	2.3	6.1	7.4
NCREIF ODCE			*-3.2*	*-7.5*	*-3.1*	*8.4*	*7.5*	*9.5*	*29.5*	*8.0*	*2.2*	*6.4*	*8.4*
Private Real Estate	123,608,804	2.4	3.5	9.4	13.0	16.7	12.9	13.2	31.3	12.1	4.4	9.0	5.4
			3.5	*9.4*	*13.0*	*16.7*	*12.9*	*13.2*	*31.3*	*12.1*	*4.4*	*9.0*	*5.4*
Private Equity	164,186,192	3.1	-0.1	-6.5	-5.9	13.1	10.5	10.8	23.0	41.7	-10.5	10.9	7.8
			-0.1	*-6.5*	*-5.9*	*13.1*	*10.5*	*10.8*	*23.0*	*41.7*	*-10.5*	*10.9*	*7.8*
Private Credit	245,458,300	4.7	1.3	-0.6	0.6	1.0	4.5	-	1.2	4.8	5.5	9.7	9.3
			1.3	*-0.6*	*0.6*	*1.0*	*4.5*	*-*	*1.2*	*4.8*	*5.5*	*9.7*	*9.3*

	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	-10.2	18.4	-	-	-5.4	59.9	-	-	-
Assumed Rate of Return +3%			*1.8*	*5.4*	*7.2*	*7.2*	-	-	*7.2*	*7.2*	-	-	-
Cash	-21,679,077	-0.4	0.6	3.0	2.6	0.9	1.3	1.5	-0.5	0.1	1.0	2.0	3.2

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	5,229,051,413	100.0	2.7	4.0	-3.8	10.9	6.0	6.3	-4.5	24.1	2.9	5.4	6.5	6.3	Jun-11
Policy Index			*3.8*	*5.3*	*-4.1*	*10.4*	*6.2*	*-*	*-6.5*	*24.0*	*3.2*	*6.4*	*7.0*	*-*	
Equity	1,684,531,735	32.2	6.7	9.5	-6.8	16.2	6.8	8.7	-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	6.5	8.5	-9.0	18.3	10.3	-	-12.2	43.2	6.0	8.8	15.5	10.6	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	6.2	7.0	-10.5	-	-	-	-11.0	-	-	-	-	9.2	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*	*0.2*	*-*	*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	1.5	-10.1	8.7	-2.6	-	-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	0.5	-11.2	4.8	-3.4	-	-25.2	33.6	-5.1	-2.6	1.2	1.7	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	2.8	2.3	-5.1	0.0	1.2	1.6	-13.0	5.1	6.3	7.6	-0.1	3.1	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	2.4	-0.9	-6.1	-2.4	0.8	-	-11.4	0.8	9.3	7.9	-0.2	1.4	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	1.6	-4.0	-	-	-	-	-	-	-	-	-	-1.7	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*	

HBK Opportunities Platform liquidated on 2/2/2023.

	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	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	5.5	-3.4	5.0	2.9	-	-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	8.4	-3.0	2.3	-1.7	-	-19.8	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	2.8	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	530,794,535	10.2	1.4	5.2	5.7	11.1	6.9	5.6	2.9	16.1	7.0	2.5	7.6	5.9	Sep-10
75% 90 Day TBills +4% / 25% MSCI ACWI (Net)			*3.3*	*6.8*	*3.3*	*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	45,839,068	0.9	-3.4	1.8	6.4	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	7.1	5.1	10.1	5.0	-	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
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
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
Alpha Pool	218,863,824	4.2	1.8	2.5	1.8	-	-	-	1.5	14.5	-	-	-	6.6	Jul-20
90-Day T-Bill +4%			*2.1*	*5.5*	*6.6*	*-*	*-*	*-*	*4.2*	*4.1*	*-*	*-*	*-*	*5.0*	
Hudson Bay	62,361,920	1.2	1.1	2.6	3.8	-	-	-	6.7	-	-	-	-	8.0	Aug-20
Davidson Kempner Institutional Partners	54,896,123	1.0	1.0	-1.1	-4.0	-	-	-	-3.4	-	-	-	-	1.6	Dec-20
HBK Fund II	43,022,754	0.8	1.5	3.8	1.4	-	-	-	1.3	-	-	-	-	4.4	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	58,583,027	1.1	4.1	5.9	7.9	-	-	-	-	-	-	-	-	7.4	Sep-21

HBK Opportunities Platform liquidated on 2/2/2023.

	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	16.1	5.6	-	-	-	9.3	-	-	-	-	29.5	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	6.2	-4.6	-8.4	-4.3	5.9	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	-7.4	-3.2	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	-9.7	-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	9.3	12.8	16.6	12.8	12.7	31.3	12.1	4.4	9.0	5.4	12.9	Mar-11
			3.5	*9.4*	*13.0*	*16.7*	*12.9*	*13.2*	*31.3*	*12.1*	*4.4*	*9.0*	*5.4*	*12.9*	
Private Equity	164,186,192	3.1	-0.1	-6.5	-5.9	13.1	10.5	10.4	22.9	41.7	-10.5	10.9	7.8	10.3	Sep-10
			-0.1	*-6.5*	*-5.9*	*13.1*	*10.5*	*10.8*	*23.0*	*41.7*	*-10.5*	*10.9*	*7.8*	*10.5*	
Private Credit	245,458,300	4.7	1.2	-0.6	0.5	1.0	4.5	-	1.2	4.8	5.5	9.7	9.3	-24.3	Dec-15
			1.3	*-0.6*	*0.6*	*1.0*	*4.5*	-	*1.2*	*4.8*	*5.5*	*9.7*	*9.3*	*6.6*	
Opportunistic	167,025,043	3.2	4.2	-0.5	-10.2	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	16.2	25.9	25.3	3.3	0.1	-	-0.2	-0.7	-19.9	-0.5	2.8	-	Jul-15
Assumed Rate of Return +3%			*1.8*	*5.4*	*7.2*	*7.2*	-	-	*7.2*	*7.2*	*7.2*	-	-	-	
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	0.6	3.0	2.6	0.9	1.3	1.5	-0.5	0.1	1.0	2.0	3.2	1.4	Apr-11

HBK Opportunities Platform liquidated on 2/2/2023.

Vintage Year	Manager/Fund	Estimated Market Value as of 3/31/2022	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
			IRR Analysis as of 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	$50,623,827	$346,190	1.53x	1.54x	6.7%	12/31/22
2006	Pantheon USA VII	$6,715,424	$50,000,000	$46,600,000	93%	$3,400,000	$80,124,999	$7,894,161	1.72x	1.86x	10.1%	12/31/22
2020	Vista Foundation Fund IV	$17,834,565	$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	$450,000	$24,982,600	0.02x	1.35x	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	$25,661,636	$32,500,000	$22,969,862	71%	$9,530,138	$508,290	$24,410,915	0.02x	1.14x	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	$10,755,627	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	$3,253,566	$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	$5,461,028	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	**$164,186,192**	$632,500,000	$343,126,229	54%	$289,373,771	$311,185,711	$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
[3]Net 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.

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

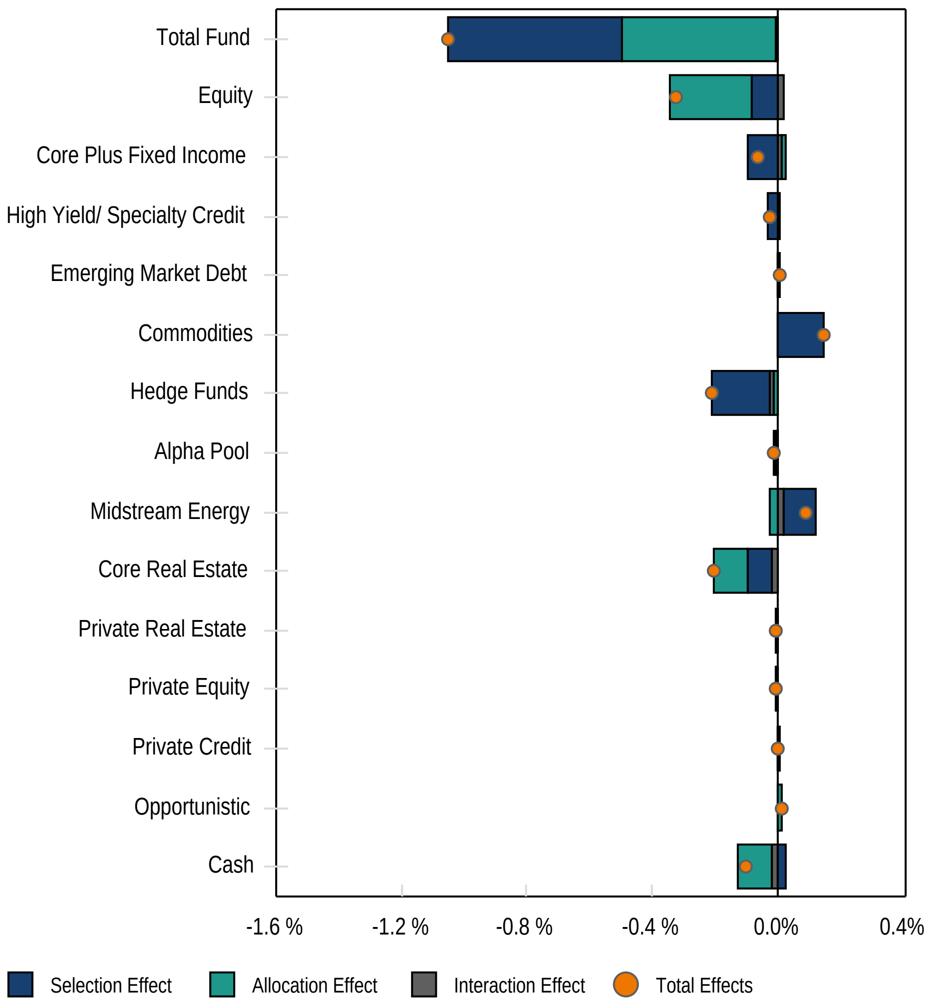
Vintage Year	Manager/Fund	Estimated Market Value 3/31/2023	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Net IRR Since Inception[3]	IRR Date
			IRR Analysis as of IRR date									
Private 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)	4.8%										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Net 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.
[4]Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

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
			IRR Analysis as of IRR date									
Private Real Estate												
2014	Invesco Real Estate Value-Add Fund IV	$1,394,290	$50,000,000	$43,637,717	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
[3]Net 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.

Attribution Effects
Last Three Months



Performance Attribution

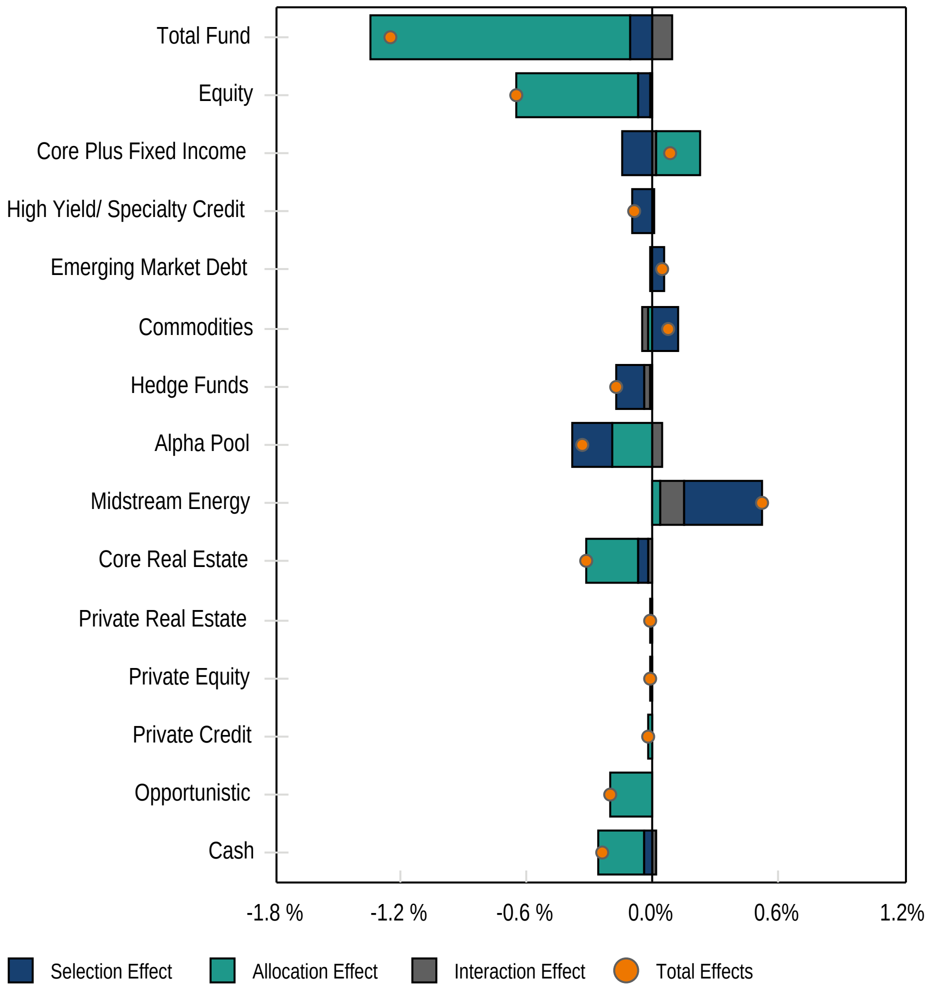
	Last Three Months
Wtd. Actual Return	2.7
Wtd. Index Return	3.8
Excess Return	-1.1
Selection Effect	-0.6
Allocation Effect	-0.5
Interaction Effect	0.0

Attribution Summary
Last Three Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	6.7	6.9	-0.2	-0.2	-0.3	0.0	-0.3
Core Plus Fixed Income	2.4	3.0	-0.6	-0.1	0.0	0.0	-0.1
High Yield/ Specialty Credit	3.2	3.7	-0.6	-0.1	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	3.3	-1.9	-0.2	0.0	0.0	-0.2
Alpha Pool	1.8	2.1	-0.2	0.0	0.0	0.0	0.0
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	-0.1	-0.1	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	0.6	1.1	-0.5	0.0	-0.1	0.0	-0.1
Total Fund	2.7	3.8	-1.1	-0.6	-0.5	0.0	-1.1

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.

Attribution Effects
Fiscal YTD



Performance Attribution

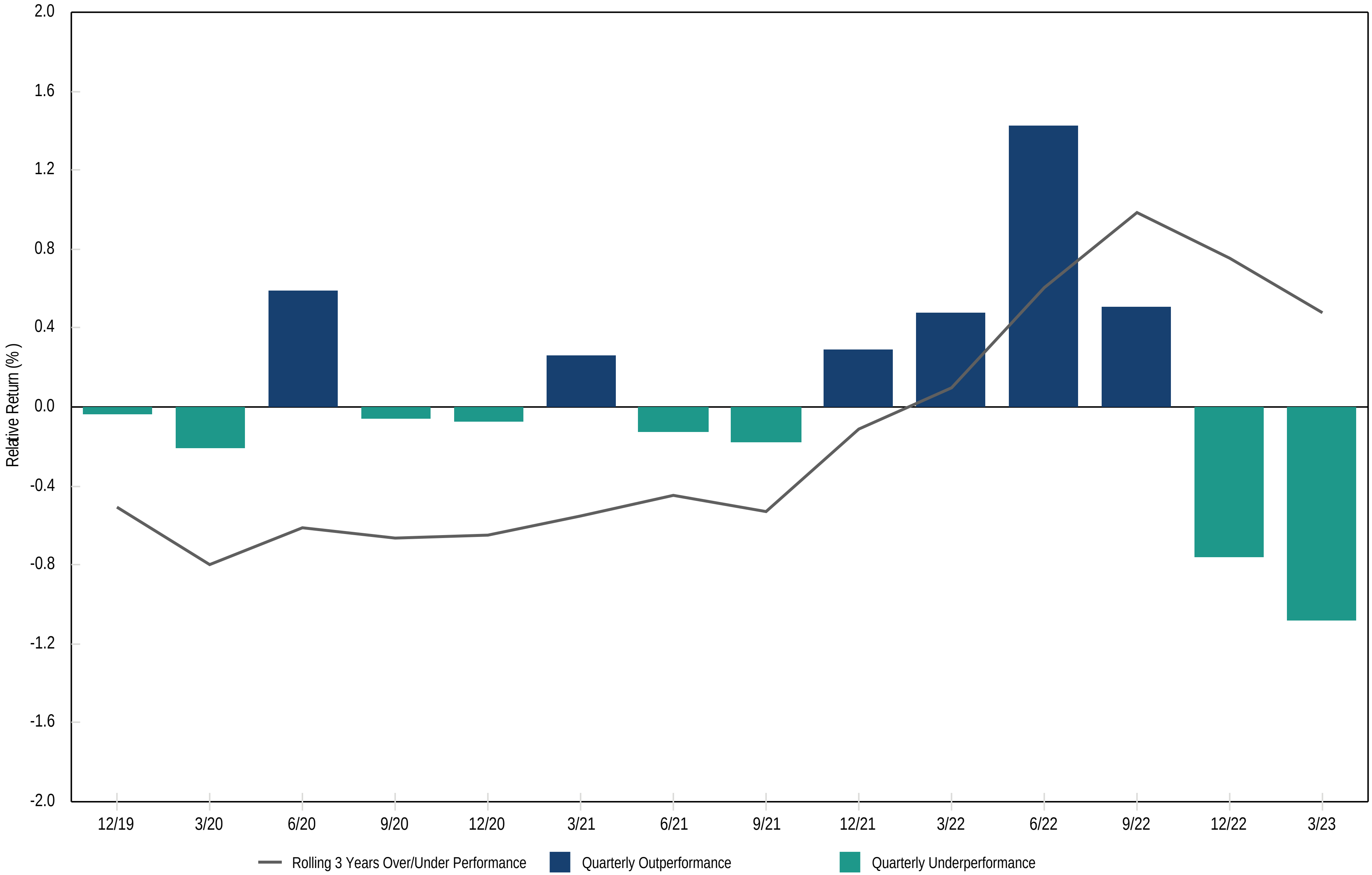
	Fiscal YTD
Wtd. Actual Return	4.0
Wtd. Index Return	5.2
Excess Return	-1.2
Selection Effect	-0.1
Allocation Effect	-1.2
Interaction Effect	0.1

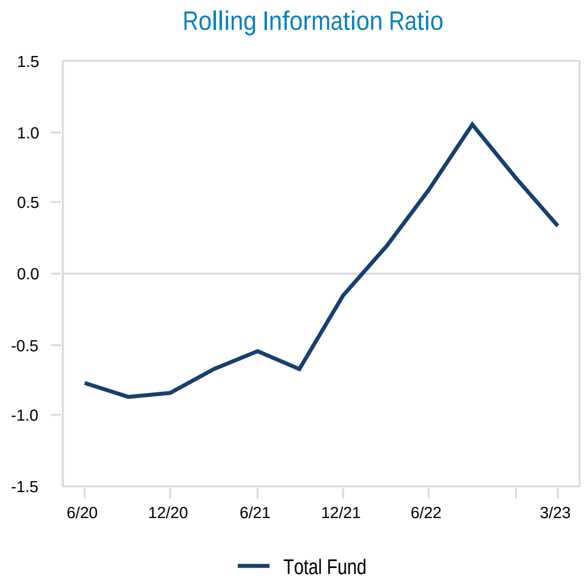
Attribution Summary
Fiscal YTD

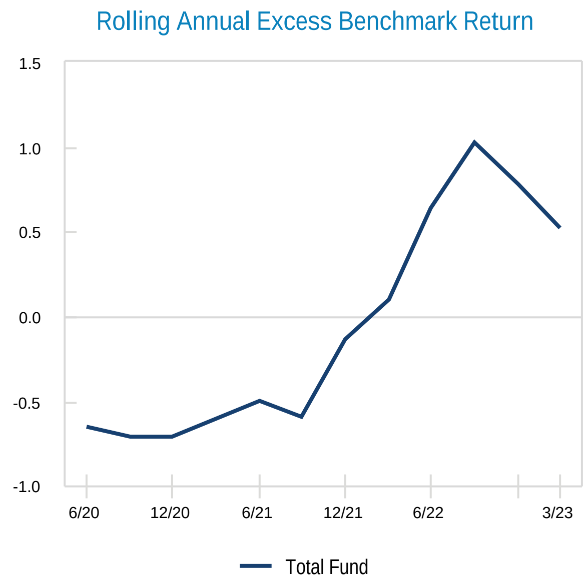
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	9.5	9.7	-0.1	0.0	-0.6	0.0	-0.6
Core Plus Fixed Income	-0.9	-0.1	-0.8	-0.1	0.2	0.0	0.1
High Yield/ Specialty Credit	5.5	7.1	-1.6	-0.1	0.0	0.0	-0.1
Emerging Market Debt	8.4	6.9	1.5	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	-1.6	-0.1	0.0	0.0	-0.2
Alpha Pool	2.5	5.5	-2.9	-0.2	-0.2	0.0	-0.3
Midstream Energy	16.1	8.1	8.0	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	9.3	9.4	-0.1	0.0	0.0	0.0	0.0
Private Equity	-6.5	-6.5	0.0	0.0	0.0	0.0	0.0
Private Credit	-0.6	-0.6	0.0	0.0	0.0	0.0	0.0
Opportunistic	-0.5	5.4	-5.8	0.0	-0.2	0.0	-0.2
Cash	3.0	2.4	0.6	0.0	-0.2	0.0	-0.2
Total Fund	4.0	5.2	-1.2	-0.1	-1.2	0.1	-1.2

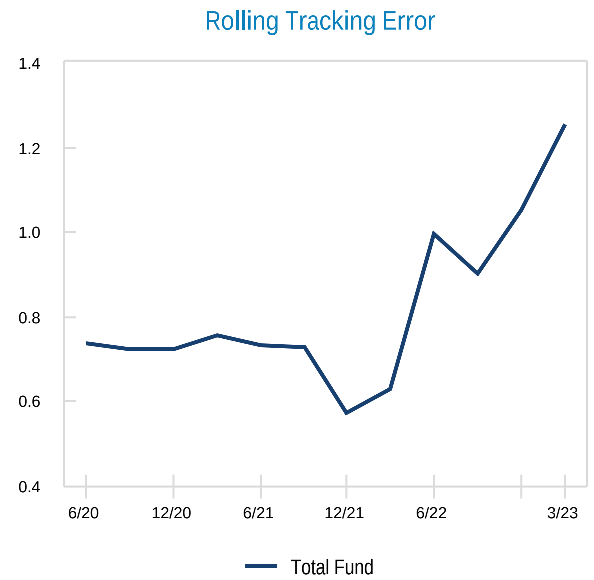
Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution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

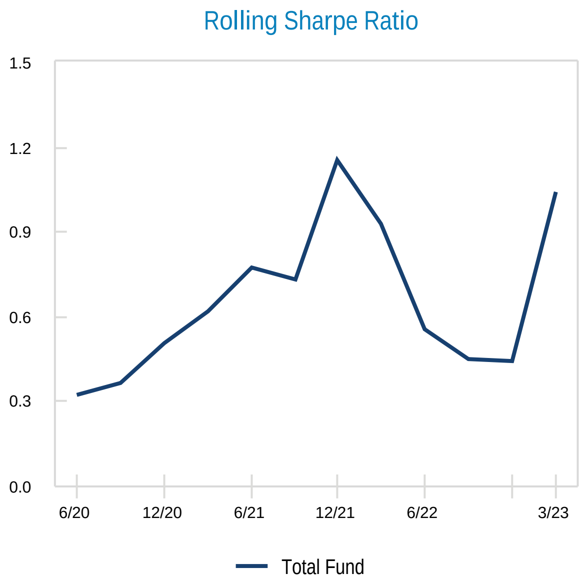
Rolling 3 Year Annualized Excess Performance



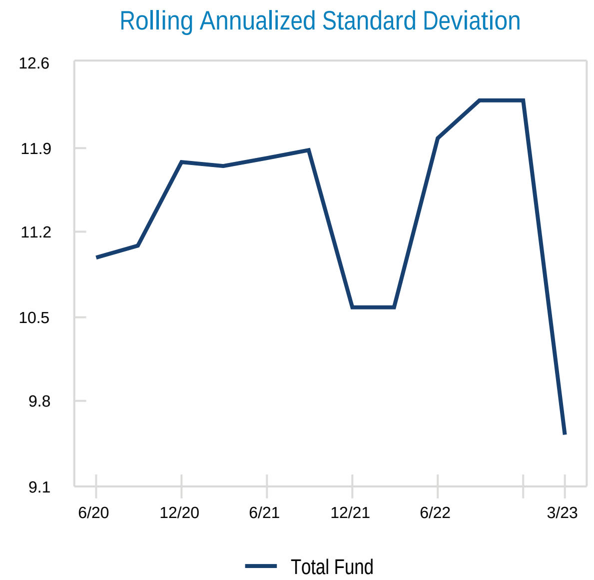

Rolling Information Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
6/20
12/20
6/21
12/21
6/22
3/23
Total Fund


Rolling Annual Excess Benchmark Return
1.5
1.0
0.5
0.0
-0.5
-1.0
6/20
12/20
6/21
12/21
6/22
3/23
Total Fund

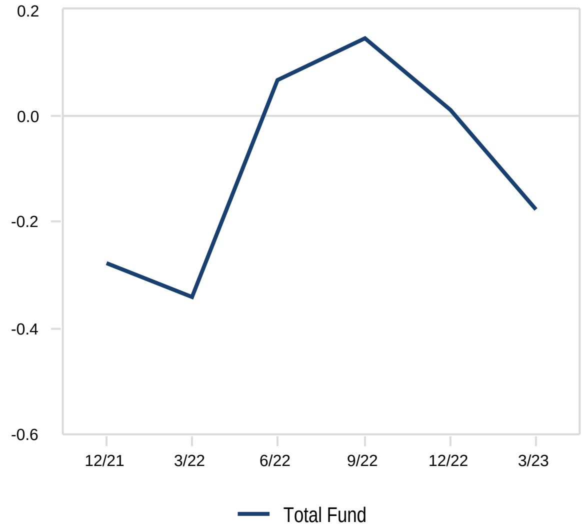

Rolling Tracking Error
1.4
1.2
1.0
0.8
0.6
0.4
6/20
12/20
6/21
12/21
6/22
3/23
Total Fund


Rolling Sharpe Ratio
1.5
1.2
0.9
0.6
0.3
0.0
6/20
12/20
6/21
12/21
6/22
3/23
Total Fund

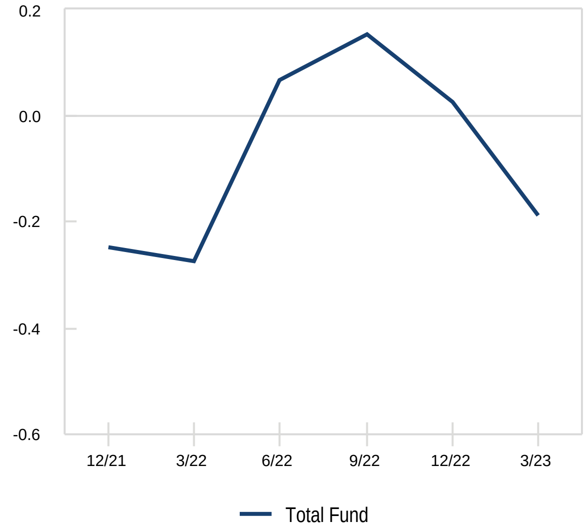

Rolling Annual Excess Risk Free Return
14.0
12.0
10.0
8.0
6.0
4.0
2.0
6/20
12/20
6/21
12/21
6/22
3/23
Total Fund


Rolling Annualized Standard Deviation
12.6
11.9
11.2
10.5
9.8
9.1
6/20
12/20
6/21
12/21
6/22
3/23
Total Fund

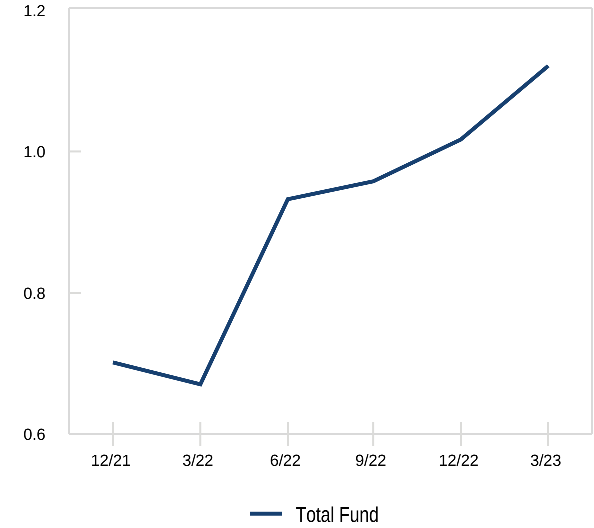
Rolling Information Ratio



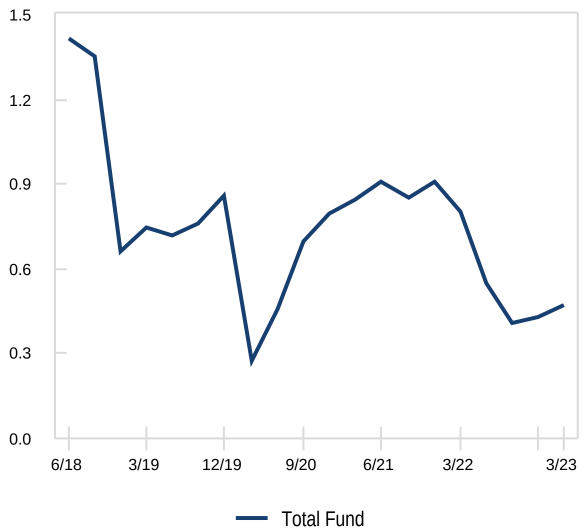
Rolling Annual Excess Benchmark Return



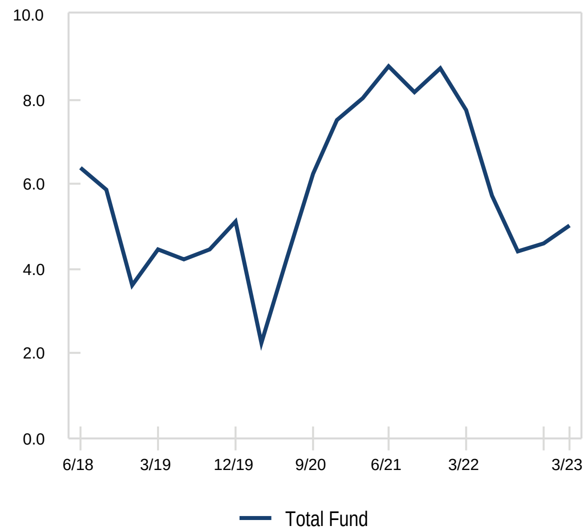
Rolling Tracking Error



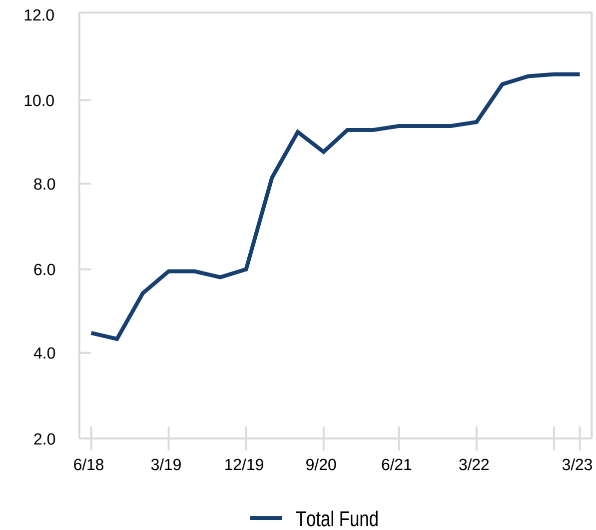
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Ending Market Value
Equity	1,577,575,704	1,004,648	-504,548		-42,989	106,498,920	1,684,531,735
Equity Beta Exposure	108,880,200	1,004,648				6,799,702	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
Fidelity Non-US Small Cap Equity	251,920		-209,067		-42,989	2,506	2,371
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
Fixed Income	1,232,206,332	30,829,590			-4,747,049	34,876,532	1,293,165,405
Fixed Income Beta Exposure	337,322,663	29,800,000				5,929,466	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		-10,012,361	-160,036	-10,039,496	7,697,228	530,794,535
Aristeia International Limited	68,181,409					1,778,107	69,959,516
Brevan Howard Fund	76,763,840		-10,012,361		-19,002,348	-1,910,064	45,839,068
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

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Ending Market Value
Indus Pacific Opportunities Fund	37,237,546				10,000,000	412,810	47,650,356
Magnetar Structured Credit Fund	8,297,190				-1,037,149	67,504	7,327,545
Pharo Macro Fund	62,281,994					-922,954	61,359,040
PIMCO Commodity Alpha Fund	63,025,840			-160,036		4,249,237	67,115,042
Sculptor Domestic Partners II LP	44,404,229					2,136,768	46,540,997
Alpha Pool	239,505,576	799,884	-807,723		-24,837,758	4,203,845	218,863,824
Hudson Bay	61,864,015	38,286	-230,739			690,358	62,361,920
Davidson Kempner Institutional Partners	54,247,004	335,271	-203,116			516,964	54,896,123
HBK Fund II	42,476,585	52,497	-158,306			651,978	43,022,754
HBK Opportunities Platform – SPAC Series	24,757,936	17,734			-24,837,758	62,088	
Garda Fixed Income Relative Value Opportunity Fund	56,160,036	356,096	-215,562			2,282,457	58,583,027
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			7,273,935	-4,370,925	164,186,192
Abbott V	2,868,708	520			-2,869,228		
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

Net Cash Flow: Last 1 Quarter

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	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						25,661,636
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
Warren Equity Partners Fund IV					5,146,048	-5,146,048	
Private Credit	243,377,473			-33,710	-976,841	3,091,378	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			-33,710	-177,098	-1,478,455	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
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
Blue Torch Credit Opportunities Fund III	7,389,421					235,685	7,625,106
Opportunistic	176,377,759			-34,806	-8,873,186	-444,724	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	7,537,076				-2,736,428	1,160,880	5,961,528
Cash	-30,578,931	184,539,513	-236,742,127	-14,259	54,962,315	6,154,412	-21,679,077

	Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Ending Market Value
Short Term Cash Account	1						1
Short Term Investment Funds	193,132,111	24,868,640	-29,687,523	-14,259	29,962,315	2,450,028	220,711,312
Parametric Cash Overlay	67,571,696	86,826,194	-72,705,891			564,614	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	-56,861,807			866,154	-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

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	5,108,203,758	5,069,038,943	5,489,310,251	3,953,802,126	4,178,770,638	3,174,973,937
Contributions	667,037,506	2,569,764,302	3,381,072,527	10,076,566,898	12,742,273,550	18,713,623,832
Withdrawals	-697,950,645	-2,627,639,885	-3,445,364,412	-10,266,286,094	-13,112,366,066	-19,318,990,602
Fees	-334,232	-3,492,208	-6,807,034	-38,981,477	-65,730,424	-129,155,488
Net Cash Flows	-30,913,139	-57,875,582	-64,291,886	-189,719,195	-370,092,517	-605,366,770
Net Investment Change	151,760,794	217,888,053	-195,966,952	1,464,968,483	1,420,373,292	2,659,444,246
Ending Market Value	5,229,051,413	5,229,051,413	5,229,051,413	5,229,051,413	5,229,051,413	5,229,051,413
Net Change $	120,847,655	160,012,470	-260,258,838	1,275,249,288	1,050,280,775	2,054,077,476

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

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	0.74	0.96	1.00					
H	0.89	0.86	0.84	0.83	0.74	0.90	0.79	1.00				
I	0.80	0.78	0.70	0.81	0.82	0.91	0.79	0.80	1.00			
J	0.61	0.50	0.45	0.55	0.46	0.34	0.19	0.46	0.43	1.00		
K	0.61	0.59	0.56	0.56	0.52	0.40	0.26	0.55	0.45	0.38	1.00	
L	-0.15	-0.17	-0.10	-0.23	-0.27	-0.37	-0.36	-0.26	-0.38	0.04	-0.11	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 Interation
Moderate to High Interation
High Interaction

	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	10.9	0.2	0.5	1.7	1.1	9.9	8.8	1.9	93.1	82.2
Equity	0.7	1.0	1.0	16.2	0.4	0.6	1.0	0.9	15.8	17.7	1.5	99.7	97.1
Domestic Equity	-0.2	1.0	1.0	18.3	-0.3	-0.4	1.2	0.9	17.9	19.2	1.6	98.5	99.1
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	8.7	-0.2	-0.4	2.7	0.5	9.0	17.1	0.9	91.9	90.6
Fixed Income	0.4	1.0	1.0	0.0	0.4	0.4	1.0	-0.1	-0.7	6.9	-0.1	107.5	102.9
Core Plus Fixed Income	0.5	1.0	1.0	-2.4	0.4	0.3	1.0	-0.5	-3.1	6.5	-0.6	111.3	104.5
High Yield/ Specialty Credit	0.6	0.7	0.9	5.0	-0.3	-0.8	2.8	0.6	4.3	6.8	1.0	75.1	68.3
Emerging Market Debt	1.8	1.0	1.0	2.3	1.5	1.8	1.2	0.2	2.0	11.2	0.3	108.2	95.7
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	7.2	0.5	0.3	11.1	0.8	3.3	3.9	2.5	9.7	3.8	10.6	86.0	-33.8
Core Real Estate	0.7	0.6	0.8	5.9	-0.6	-2.5	4.0	0.8	5.1	5.8	1.6	74.6	85.4
Private Real Estate	0.0	1.0	1.0	16.6	-1.0	0.0	0.0	1.8	15.0	8.4	5.1	99.8	100.0
Private Equity	0.0	1.0	1.0	13.1	-0.6	0.0	0.0	0.9	12.4	13.9	1.7	100.0	100.1
Private Credit	0.0	1.0	1.0	1.0	-1.0	0.0	0.0	0.0	0.2	4.0	0.1	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

3 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	50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 90 Day TBills +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	3.31	3.68	4.64	6.02	7.59	7.35	8.01	8.78	3.99	3.34	5.39	7.97
Minimum Return	-9.53	-9.65	-4.34	-4.32	-5.04	-6.81	-5.96	-5.81	-8.90	-10.77	-0.75	-1.98	-3.77	-4.97
Return	16.19	15.64	-2.43	-2.77	5.04	5.84	2.29	0.46	21.80	20.82	11.06	7.81	5.95	8.40
Excess Return	15.77	15.33	-3.14	-3.50	4.27	5.20	2.00	0.14	20.11	19.42	9.73	6.76	5.07	7.58
Excess Performance	0.56	0.00	0.34	0.00	-0.80	0.00	1.83	0.00	0.98	0.00	3.25	0.00	-2.46	0.00
RISK SUMMARY STATISTICS														
Beta	0.98	1.00	1.03	1.00	0.74	1.00	1.04	1.00	0.88	1.00	0.49	1.00	0.62	1.00
Upside Risk	15.16	15.22	4.05	3.89	5.58	7.12	8.30	7.66	13.70	13.62	4.84	4.50	5.23	8.30
Downside Risk	10.26	10.57	5.10	4.88	4.14	5.63	7.50	7.47	8.42	9.69	0.81	2.10	3.08	3.52
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	17.67	17.93	6.48	6.20	6.79	8.90	11.15	10.69	14.89	15.66	3.83	4.45	5.82	8.68
Alpha	0.70	0.00	0.46	0.00	0.64	0.00	1.84	0.00	3.18	0.00	7.10	0.00	0.75	0.00
Sharpe Ratio	0.89	0.85	-0.49	-0.57	0.63	0.58	0.18	0.01	1.34	1.23	2.46	1.51	0.84	0.86
Excess Risk	17.70	17.96	6.46	6.15	6.82	8.93	11.09	10.63	15.02	15.82	3.95	4.47	6.07	8.86
Tracking Error	1.03	0.00	0.98	0.00	2.76	0.00	1.23	0.00	5.96	0.00	3.90	0.00	4.05	0.00
Information Ratio	0.43	-	0.37	-	-0.34	-	1.51	-	0.12	-	0.76	-	-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	0.57	1.00	0.92	1.00

Risk Return Statistics: Last Two Years

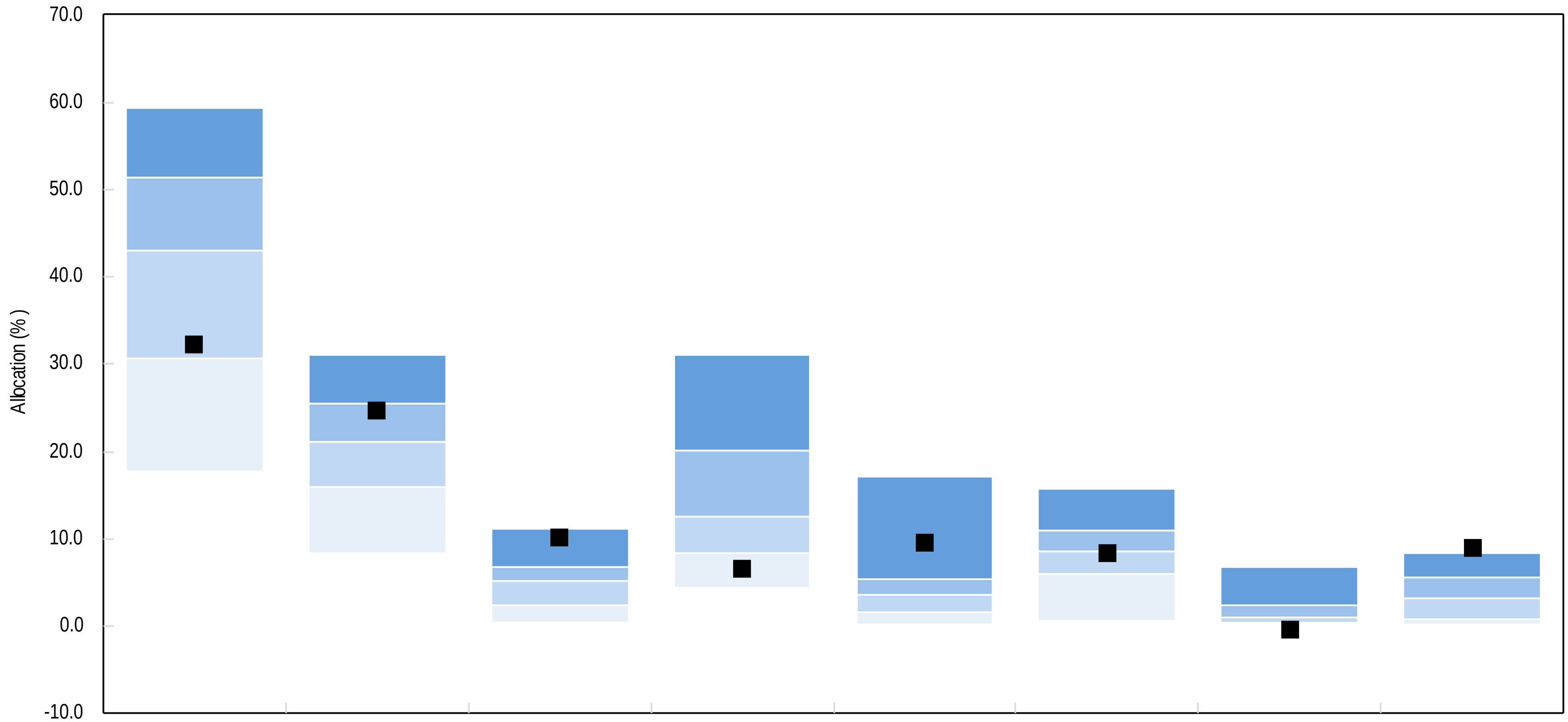
2 Yrs

	Midstream Energy	Alerian Midstream Energy Index	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	11.20	11.05	7.60	0.58
Minimum Return	-11.82	-12.21	-4.04	0.58
Return	21.19	18.42	2.22	7.25
Excess Return	19.89	18.09	1.37	5.75
Excess Performance	2.76	0.00	-5.03	0.00
RISK SUMMARY STATISTICS				
Beta	0.87	1.00	-	-
Upside Risk	16.22	17.57	7.77	2.03
Downside Risk	11.45	13.57	5.43	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	18.89	21.49	9.45	0.00
Alpha	4.50	0.00	-	-
Sharpe Ratio	1.05	0.84	0.14	11.77
Excess Risk	18.99	21.60	9.52	0.49
Tracking Error	4.39	0.00	9.45	0.00
Information Ratio	0.41	-	-0.46	-
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

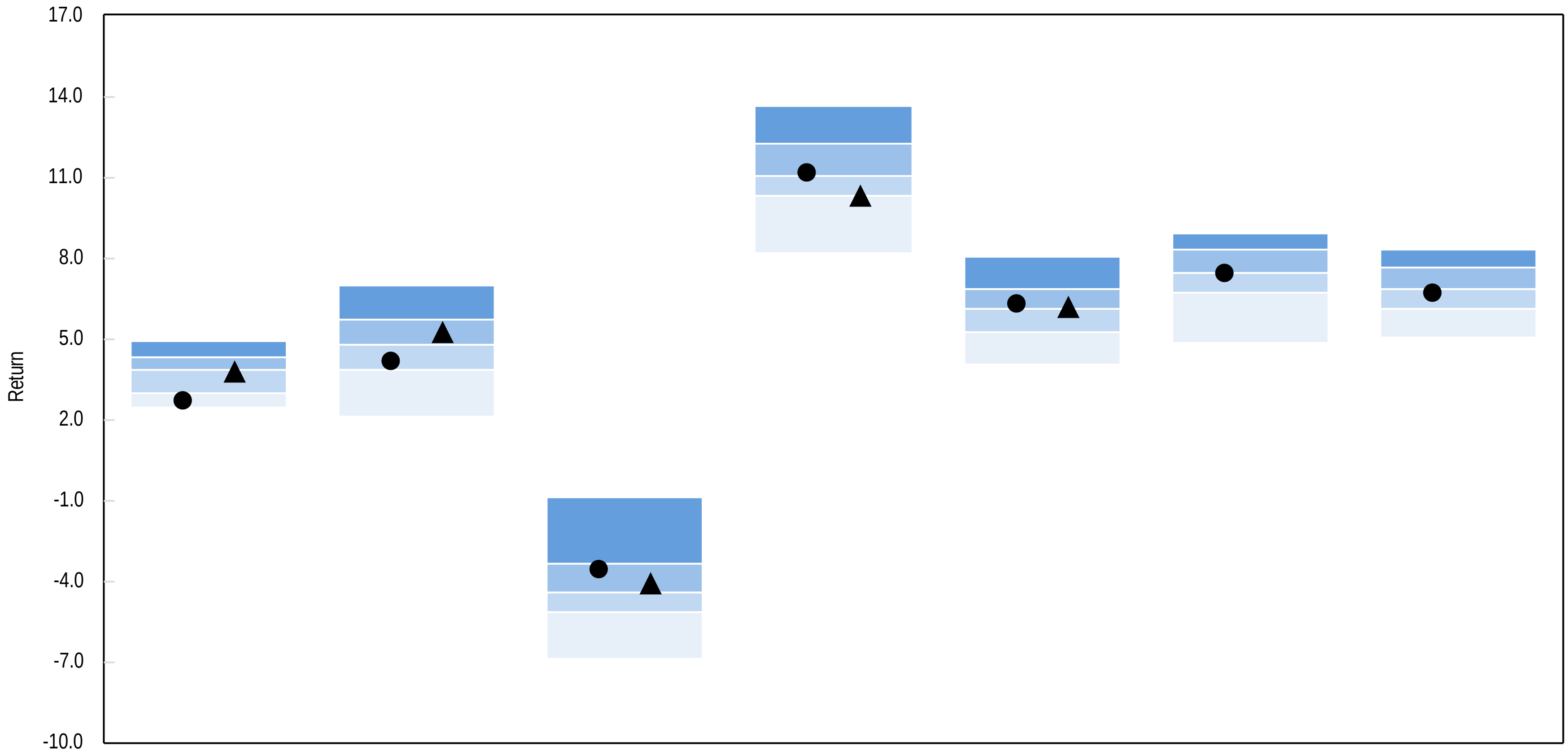
Total Plan Allocation vs. InvMetrics Public DB > $1B
As of March 31, 2023



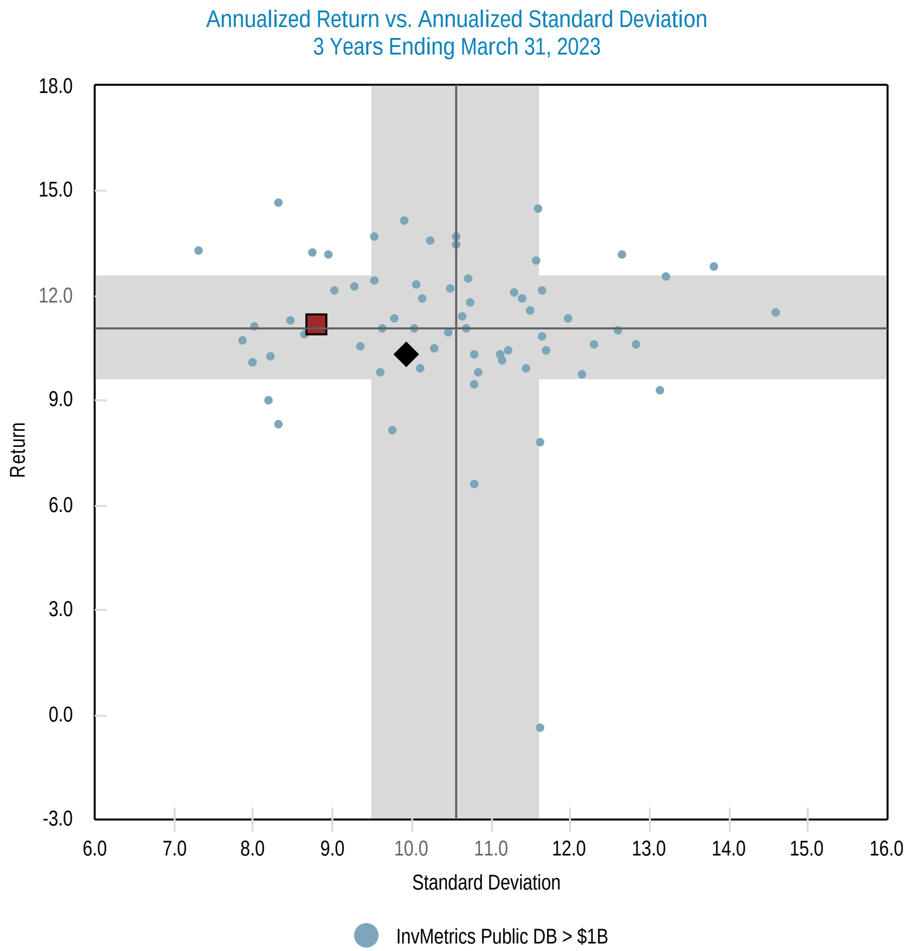
	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Real Assets/Commod	Real Estate - Private	Cash & Equivalents	Other
■ Total Fund	32.2 (74)	24.7 (31)	10.2 (16)	6.5 (90)	9.6 (13)	8.4 (54)	-0.4	8.9 (1)
5th Percentile	59.4	31.0	11.2	31.1	17.1	15.7	6.7	8.4
1st Quartile	51.5	25.5	6.7	20.2	5.4	10.9	2.3	5.6
Median	43.2	21.2	5.2	12.6	3.6	8.5	1.0	3.1
3rd Quartile	30.6	15.9	2.4	8.4	1.5	5.9	0.5	0.8
95th Percentile	17.7	8.4	0.4	4.3	0.2	0.6	0.1	0.2
Population	65	66	27	47	32	44	47	7

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.

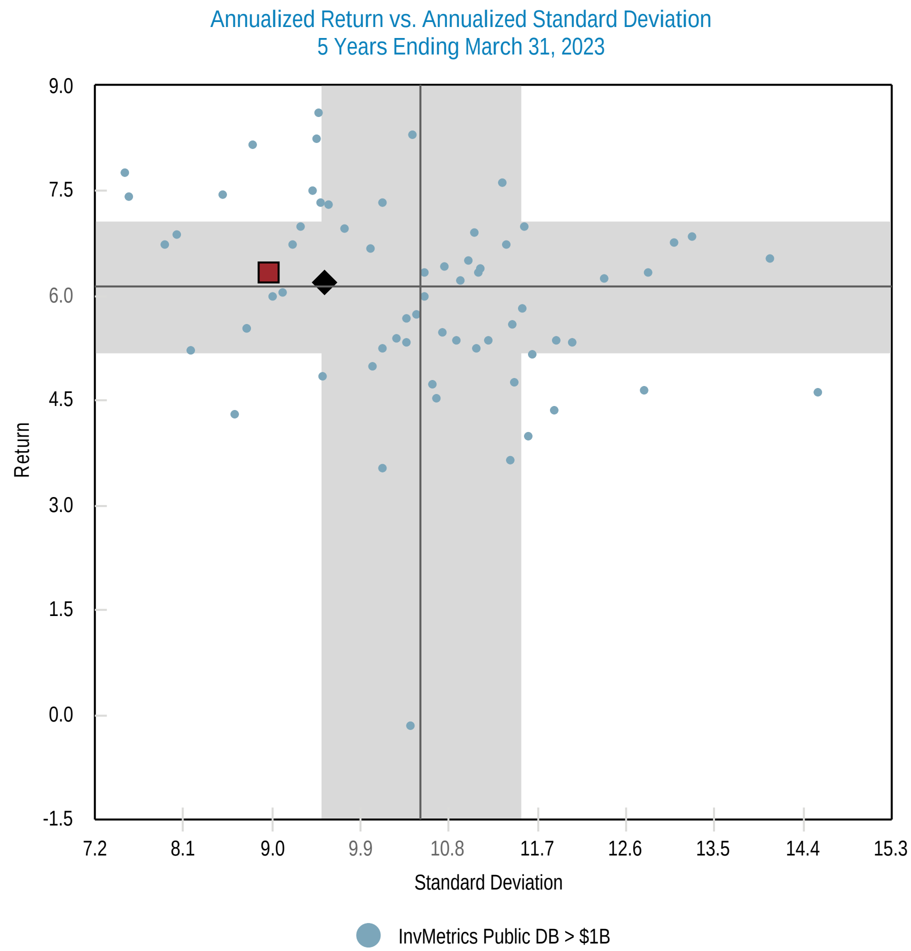
Total Fund vs. InvMetrics Public DB > $1B



	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	2.8 (91)	4.2 (70)	-3.5 (30)	11.2 (47)	6.3 (47)	7.5 (47)	6.7 (59)
▲ Policy Index	3.8 (55)	5.3 (40)	-4.1 (45)	10.4 (71)	6.2 (50)	-	-
5th Percentile	5.0	7.0	-0.9	13.7	8.1	8.9	8.4
1st Quartile	4.4	5.7	-3.4	12.3	6.9	8.3	7.7
Median	3.9	4.8	-4.4	11.1	6.1	7.4	6.9
3rd Quartile	3.0	3.9	-5.1	10.3	5.3	6.7	6.1
95th Percentile	2.5	2.1	-6.9	8.2	4.1	4.9	5.1
Population	76	73	68	67	66	65	61



	Return	Standard Deviation
Total Fund	11.21	8.81
Policy Index	10.36	9.92
Median	11.09	10.55
Population	67	67



	Return	Standard Deviation
Total Fund	6.33	8.96
Policy Index	6.20	9.54
Median	6.13	10.51
Population	66	66

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	--

Verus

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 ■ (green)
- Watch ■ (yellow)
- Terminate ■ (red)

Legend for Standards
- Pass ✔
- Fail ⚑

Legend for Concern
- Provisional P
- Restricted R
- No Issues --

Verus

	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	2.7	4.6	-3.3	-7.4	-0.8	3.6	0.5	5.5	3.5	8.8	4.4	10.7
Policy Index	*3.8*	*5.4*	*-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*	-	-	-	-	-	-	-	-	-	-	-

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

Investment Fund or Strategy	Fund Incepted	Data Source	Investment Fund or Strategy	Fund Incepted	Data Source
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 IV	7/13/2001	Abbott Capital	Magnetar Constellation	11/14/2018	Magnetar
Abbott Capital PE V	5/25/2005	Abbott Capital	Magnetar Structured Credit	5/1/2014	Magnetar
Abbott Capital PE VI	3/31/2008	Abbott Capital	Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
American Century Non-US Small Cap	12/15/2020	American Century	Mellon EB DV Stock Index	10/18/2017	Mellon
Aristeia International Limited	5/1/2014	Northern Trust	Mellon EB DV World ex-US Index	8/1/2018	Mellon
ASB Real Estate	9/30/2013	ASB	Myriad Opportunities Offshore	5/19/2016	Northern Trust
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric	OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
BlackRock Short Duration Fund	9/8/2021	BlackRock	Pantheon Global III	6/30/2000	Pantheon
Blue Torch Credit Opportunities	7/24/2020	Blue Torch	Pantheon USA III	3/31/2007	Pantheon
Brevan Howard	11/1/2013	Northern Trust	Pantheon USA V	6/30/2005	Pantheon
Brighton Private Equity	3/28/2021	Brighton	Pantheon USA VI	3/31/2005	Pantheon
Brighton Park Capital Fund II, L.P	9/30/2022	Brighton	Pantheon USA VII	3/31/2005	Pantheon
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust	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
Landmark Real Estate Partners VIII	4/29/2018	Landmark	Warren Equity III	4/1/2021	Warren
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA	Warren Equity IV	1/1/2023	Warren
Level Equity Growth Partners V	11/1/2021	Level Equity	Wellington Alternative Investments	2/9/2023	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			

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)

DO NOT REPRODUCE

DO NOT DISTRIBUTE

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KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Memorandum from the
Office of the Chief Investment Officer
Daryn Miller

Date: June 14, 2023

To: Trustees, Board of Retirement

From: Daryn Miller, Chief Investment Officer

Subject: **Portfolio Risk Analytics System Recommendation**

RECOMMENDATION

Staff asks the Board of Retirement to approve staff's recommendation to contract with Venn risk analytics system ("Venn") by Two Sigma Investor Solutions ("Two Sigma"), and subject to legal advice and review, to authorize the Chief Executive Officer to sign corresponding documents.

RISK ANALYTICS SYSTEM EXPLAINED

A risk analytics system is used to assist in systematically identifying, assessing, monitoring, and reporting on portfolio risk for the entire portfolio, as well as analyzing subsets of the total portfolio on an isolated basis. One of the biggest distinguishing factors of a risk analytics system is whether the system is holdings based or returns based. Holdings based systems gather security level detail of the portfolio's holding versus a returns based system which utilizes return streams of investment strategies or funds, and then runs regression analysis on the return data. There are pros and cons of each type of system, but this RFP was specifically for returns based systems due to their cost benefit analysis (timely output vs. cost of system) and their ease to maintain.

SUMMARY

Staff believes that Venn is the most appropriate portfolio risk analytics system for KCERA. Venn's strengths lie in the firm's capabilities, the polished interface, the ease of maintaining the system, and solid value proposition. Additionally, KCERA is able to use Venn's investment library of over 100,000 investments as proxies for our current investments to have real time risk analytics.

BACKGROUND

Staff released a Request for Information (RFI) for portfolio risk analytics system on October 3, 2022 to survey the market landscape for portfolio risk analytics offerings, consider functionality offered, understand the different approaches utilized, and collect a range of pricing models. Following the RFI, Staff held calls with approximately 10 firms that provide risk analytic systems and had product demos with several providers. Additionally, Staff had conversations with users of risk analytics systems, to gain insight from others who had already implemented a solution.

RFP PROCESS

Following the RFI process for a portfolio risk analytics system, staff released a formal RFP on December 22, 2022. Written questions were due on January 23, 2023, and submission of proposals were due on February 10, 2023. The RFP consisted of approximately 45 questions covering areas such as firm history, implementation, support, data, system, and analytics. Four proposals were received. The RFP responses were evaluated by staff and each was individually reviewed and scored. The scores were then aggregated and compared. At that point, the responses were narrowed to a field of two candidate firms, multiple video conference calls were held with each firm. Throughout the process, staff made multiple reference calls with other clients, which included other public pensions plans, to gain additional insight. Upon completing due diligence, staff determined that Venn was the best suited candidate.

Staff presented the recommendation to contract with the Venn risk analytics solution to the Investment Committee on June 1st, 2023, and it was approved.

OVERVIEW

Firm background

Two Sigma is a financial science company, combining rigorous inquiry, data analysis, and invention to solve the challenges in investment management, insurance, securities, private equity, and venture capital. Founded in 2001 by David Siegel and John Overdeck, Two Sigma, as of October 1, 2022, employs over 1,900 people, and has offices in New York, Houston, Stamford, Portland, Chicago, London, Tokyo, Hong Kong and Shanghai. Following Venn's private launch in 2018, Two Sigma announced the public launch of Venn in November 2019, as a cloud-based investment analytics software platform. Venn was initially introduced on a limited, invite-only basis, and is now available to institutional investors and wealth managers among others. Venn operates a password-protected, web-based platform that provides institutional subscribers with access to analytic and research tools and data to help subscribers manage their investment programs.

Venn

Venn is a holdings based risk analytics system that uses 18 different factors to run regression analysis to determine which factors are significant and then will run Ordinary Least Squares (OLS) multiple linear regression. Venn provides tracking error, proforma analysis (factor exposures), portfolio construction and optimization, stress testing (including max drawdowns), for an additional cost, reporting and data visualization.

Venn also provides additional functionality that we will not be contracting with to start but will continue to evaluate. The additional functionality includes Report Lab (a custom reporting tool) and a custodian bank integration tool (potentially streamlines data integration between KCERA's custodian bank and Venn).

KCERA will have a dedicated member of the Client Strategy and Solutions Team ("CSS") to assist with implementation and ongoing support. The individual will provide training and support. The individual will be available as needed, as well as facilitate quarterly calls and updates and any ad-hoc support that KCERA requires. If technical/engineering support is needed beyond the CSS team's capabilities, the CSS team will reach out to a member of the engineering team for additional guidance.

Terms

If approved, KCERA will enter into a contract with Venn to retain portfolio risk analytics system services. The term will be for five years. The first-year annual fee will be $65,000, with $2,500 annual increases thereafter. KCERA has negotiated an annual fee break of $20,000 until Venn implements certain key functionality. The key functionality is important to KCERA as it relates to handling portfolio level leverage. This functionality is currently planned as part of Venn the production queue. Once the functionality is delivered, the fee break will cease. For context, the range of annual costs for risk systems from the RFI was $50,000 to $400,000, with the median annual cost of approximately $125,000 to $150,000.

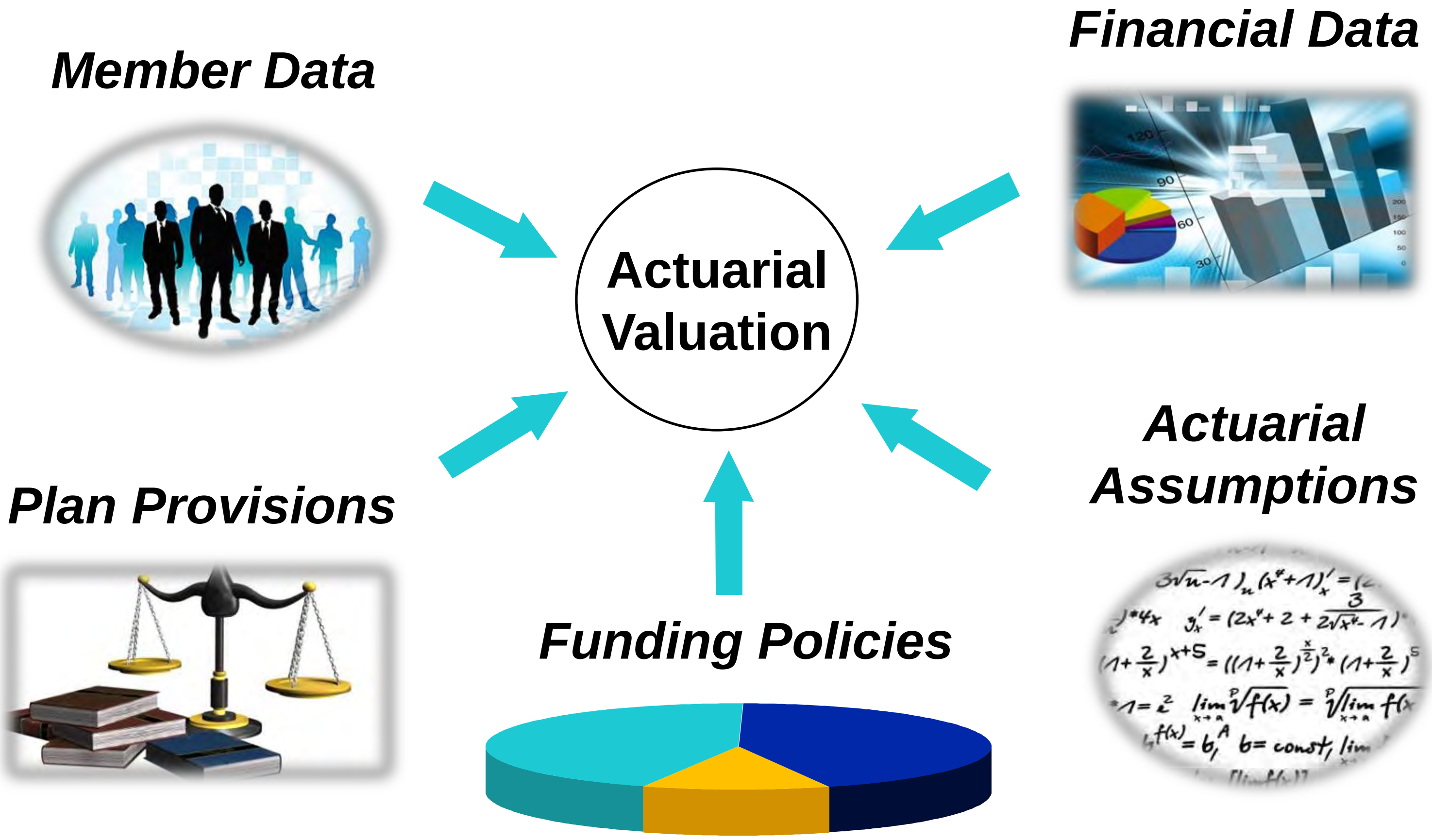
Kern County Employees' Retirement Association

2023 Actuarial Experience Study
June 14, 2023

Paul Angelo, FSA / Molly Calcagno, ASA

 5769806v1

What Goes Into an Actuarial Valuation



KCERA 2023 Actuarial Experience Study

- Analysis of actuarial experience during the 3-year period July 1, 2019 through June 30, 2022
  - For some assumptions also includes experience from prior studies
  - Note: ongoing effect of COVID-19 is beyond scope of this study
- Develops recommended assumptions for the June 30, 2023 actuarial valuation (and 2024, 2025)
  - Determines contributions starting July 1, 2024 (and 2025, 2026)
- Major recommendations
  - Demographic assumptions: mortality
  - Economic assumptions: inflation, expected return, merit/promotion salary increases

Role of Assumptions and Methods

C + I = B + E

<u>C</u>ontributions + <u>I</u>nvestment Income

equals

<u>B</u>enefit Payments + <u>E</u>xpenses

- Actuarial valuation determines the current or "measured" cost, not the ultimate cost
- Assumptions and funding methods affect only the timing of costs (unless benefits are affected!)

Setting Actuarial Assumptions

- Selection of Actuarial Assumptions
  - Objective, long term
  - Experience study
  - Recent experience or future expectations
    - Demographic: recent experience
    - Economic: not necessarily!
  - Client specific or not
  - Consistency among assumptions
  - Desired pattern of cost incidence
    - Good assumptions produce level costs
    - Assumption setting is “results aware” but not “results based”

Demographic Assumptions

- Rates of “decrement”: termination, mortality, disability, retirement
  - Termination
    - Refund of contribution versus deferred vested benefit
  - Mortality
    - Before and after retirement
    - Healthy, disability and beneficiary
    - Service connected versus non-service connected
  - Disability
    - Service connected versus non-service connected
  - Retirement, based on age and service
- Percent married and member/spouse age difference
- Reciprocity
- Assumptions can be distinct for classification (General and Safety) as well as Tiers

Recommended KCERA Demographic Assumptions

- Retirement rates
  - Adjust Tier I rates based on experience
    - Separately for members with under 25 years of service and for members with 25 or more years of service
    - Overall, slightly later retirements for General members and earlier retirements for Safety members
  - Adjust General Tier II rates based on experience and consistent with adjustments for Tier I
    - Slightly later retirements for General Tier II members
  - Adjust General Tier III and Safety Tier II rates consistent with adjustments for Tier I
    - Slightly later retirements for General Tier III members
    - Slightly earlier retirements for Safety Tier II members

Recommended KCERA Demographic Assumptions (continued)

- Termination rates
  - Increase in termination rates for both General and Safety
  - Decrease in proportion of terminated members who elect a refund of contributions
    - Corresponding increase in proportion who elect a deferred retirement benefit
- Disability incidence rates
  - Decrease in disability rates for General and slight increase in disability rates for Safety

Setting Demographic Assumptions – KCERA Mortality Assumptions

- Continue using generational projection of future mortality improvement
  - Probability of dying depends not only on age and sex but also what year it is
  - Each future year has its own mortality table with forecasted improvement at every age
  - Currently using MP-2019 mortality improvement scale
  - Recommended mortality improvement scale is MP-2021
    - MP-2021 anticipates less future mortality improvement as compared to MP-2019
- Separate benefit weighted mortality tables for General and Safety members
  - Both using PUB-2010 as base table
    - PUB-2010 table developed using public sector pension experience
  - Adjusted based on 10 years of KCERA mortality experience
    - Four 3-year periods but excluding mortality data from 2020-2021 and 2021-2022
  - Adjustment reflects “credibility” based on amount of KCERA data available

Recommended KCERA Mortality Assumptions

- General service retirees base table:
  - Pub-2010 General Healthy Retiree Amount-Weighted Mortality Table (separate tables for males and females), with rates increased by 15% for females
    - Base table unchanged from prior study
  - Base table actual to expected ratio is 106% after adjustment for partial credibility
- Safety service retirees base table:
  - Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females)
    - Base table unchanged from prior study
  - Base table actual to expected ratio is 104% after adjustment for partial credibility
- Comparable tables for disabled retirees, beneficiaries and pre-retirement
  - All tables projected generationally with the two-dimensional mortality improvement scale MP-2021

Questions?

Setting Actuarial Assumptions – Economic Assumptions

- Price Inflation (CPI)
  - Investment Return, Salary Increases, COLA
- Investment Return
  - Components include CPI, real return, investment expenses
  - Generally based on passive returns
- Salary Increases
  - "Across the board" increases
    - Includes price inflation plus real wage growth
  - Merit & Promotion: based on experience
    - More like a "demographic" assumption
- Administrative expenses

Current KCERA Economic Assumptions

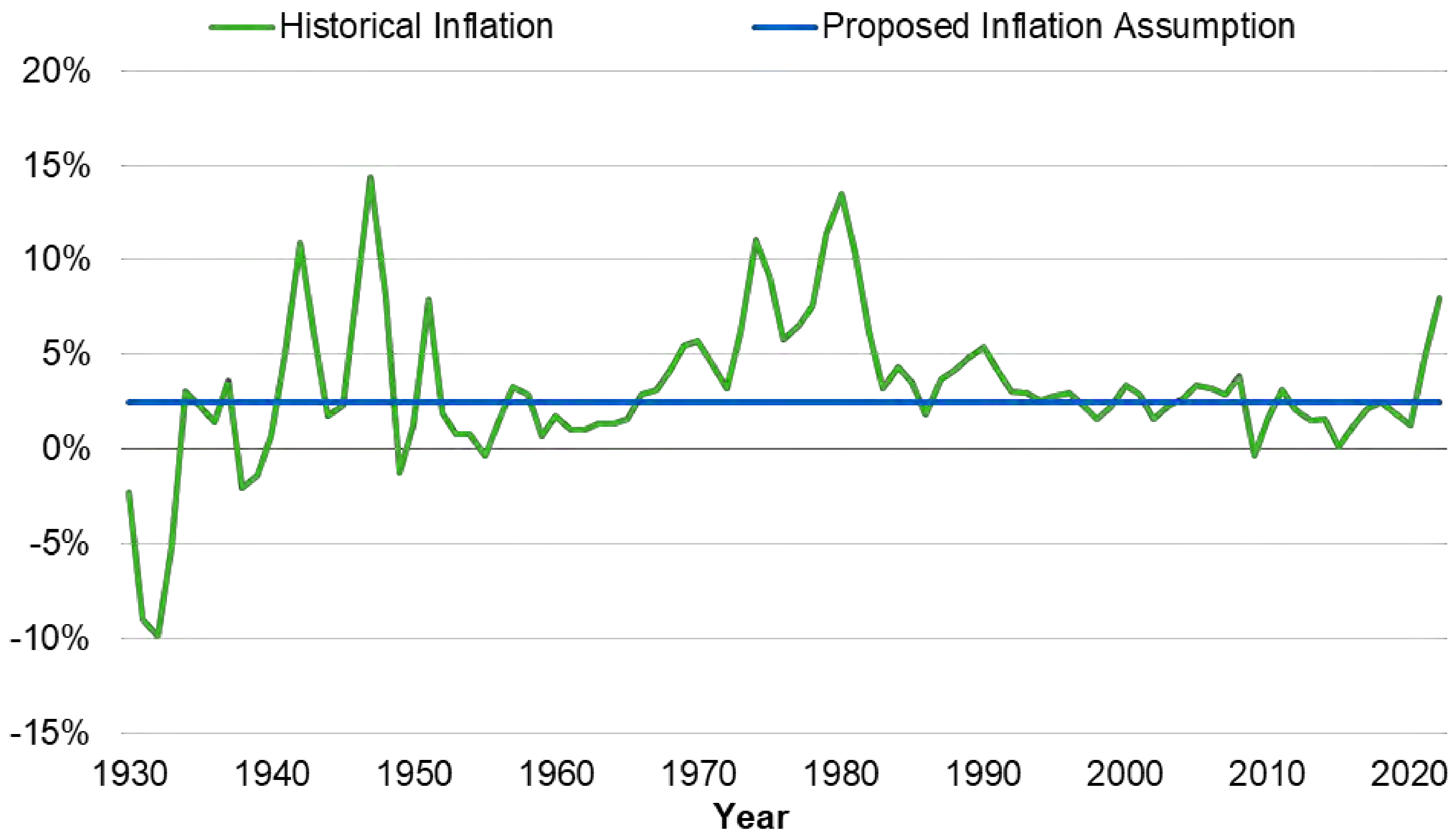
	2020 Study Adopted		2017 Study Adopted	
	Return	Pay*	Return	Pay*
Price Inflation	2.75%	2.75%	3.00%	3.00%
Real Wages	n/a	0.50%	n/a	0.50%
Net Real Return	4.50%**	n/a	4.25%**	n/a
Total	**7.25%**	**3.25%**	**7.25%**	**3.50%**

* Excludes merit and promotion component of assumed individual salary increases

** Recommended return is net of investment expenses

Setting Economic Assumptions – Price Inflation (CPI)

- Historical Consumer Price Index
  - Spike in Q2 of 2021 continuing into 2022
  - Relatively steady since Q2 of 2022

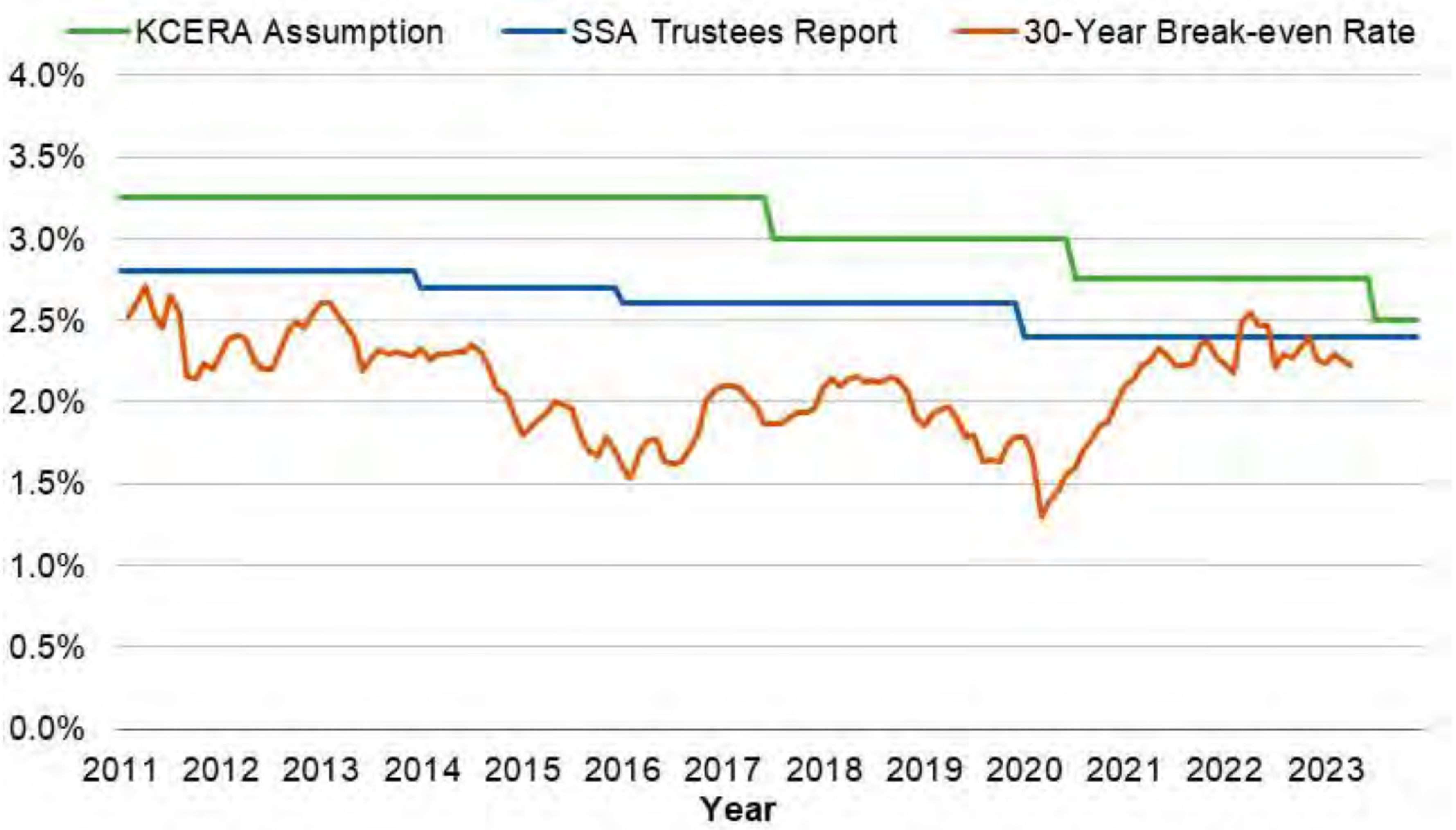


Setting Economic Assumptions – Price Inflation (CPI)

- Market-based inflation forecasts: “Breakeven rates”
  - Peaked at 2.55% in April 2022
  - Currently 2.23% (April 2023)
- Verus anticipates long-term inflation of 2.1%
  - Average inflation from survey of investment consultants = 2.43%
- Social Security’s 75-year intermediate forecast
  - Maintained at 2.4% in their latest report (2023)
- Other public retirement systems
  - Average state system inflation assumption is approximately 2.5% (NASRA survey)
  - Average CA system inflation is approximately 2.5%

Setting Economic Assumptions – Price Inflation (CPI)

- KCERA historical inflation assumption compared to Social Security and market-based forecasts



Recommended Price Inflation Assumption (CPI)

- Price Inflation: Trend is lower assumptions
  - KCERA: Reduced from 3.00% (2017) to 2.75% (2020)
  - Market-based forecasts are even lower
  - Segal has been recommending 2.50% since 2021
    - 2.50% anticipates some periods of high inflation (like the one we are in now)
- Recommend decreasing price inflation assumption from 2.75% to 2.50%
  - Note COLA assumption remains unchanged at 2.50%

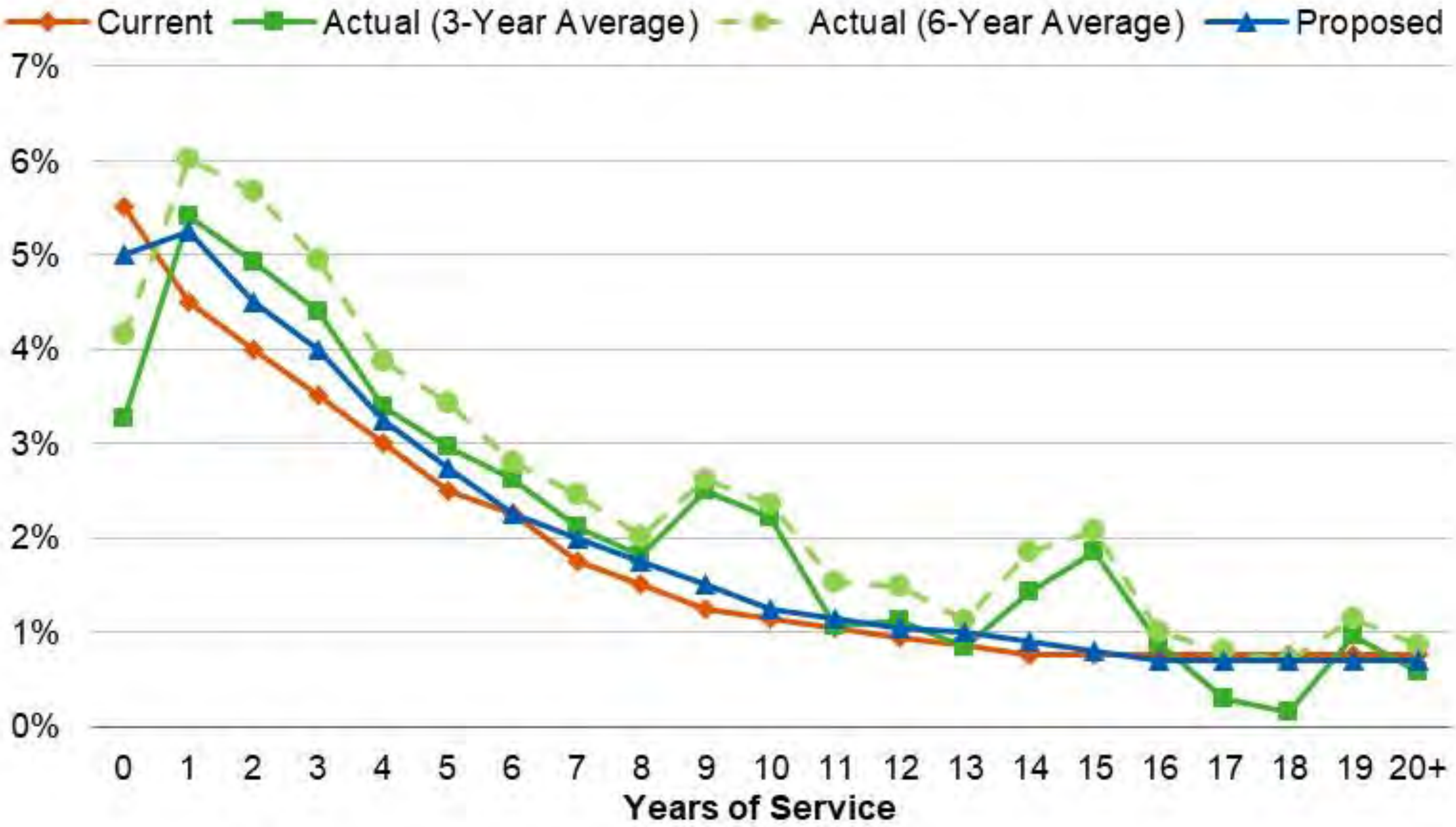
Setting Economic Assumptions – Recommended Salary Increase Assumptions

- Three components:
  - Price Inflation (CPI)
    - Recommend decreasing from 2.75% to 2.50%
  - Real Increases (“Across the Board”)
    - Average wage growth above average price increases
    - Historically: 0.5%-0.8% for state and local governments
    - Social Security projects 1.2% (median assumptions)
    - Recommend maintaining at 0.50%

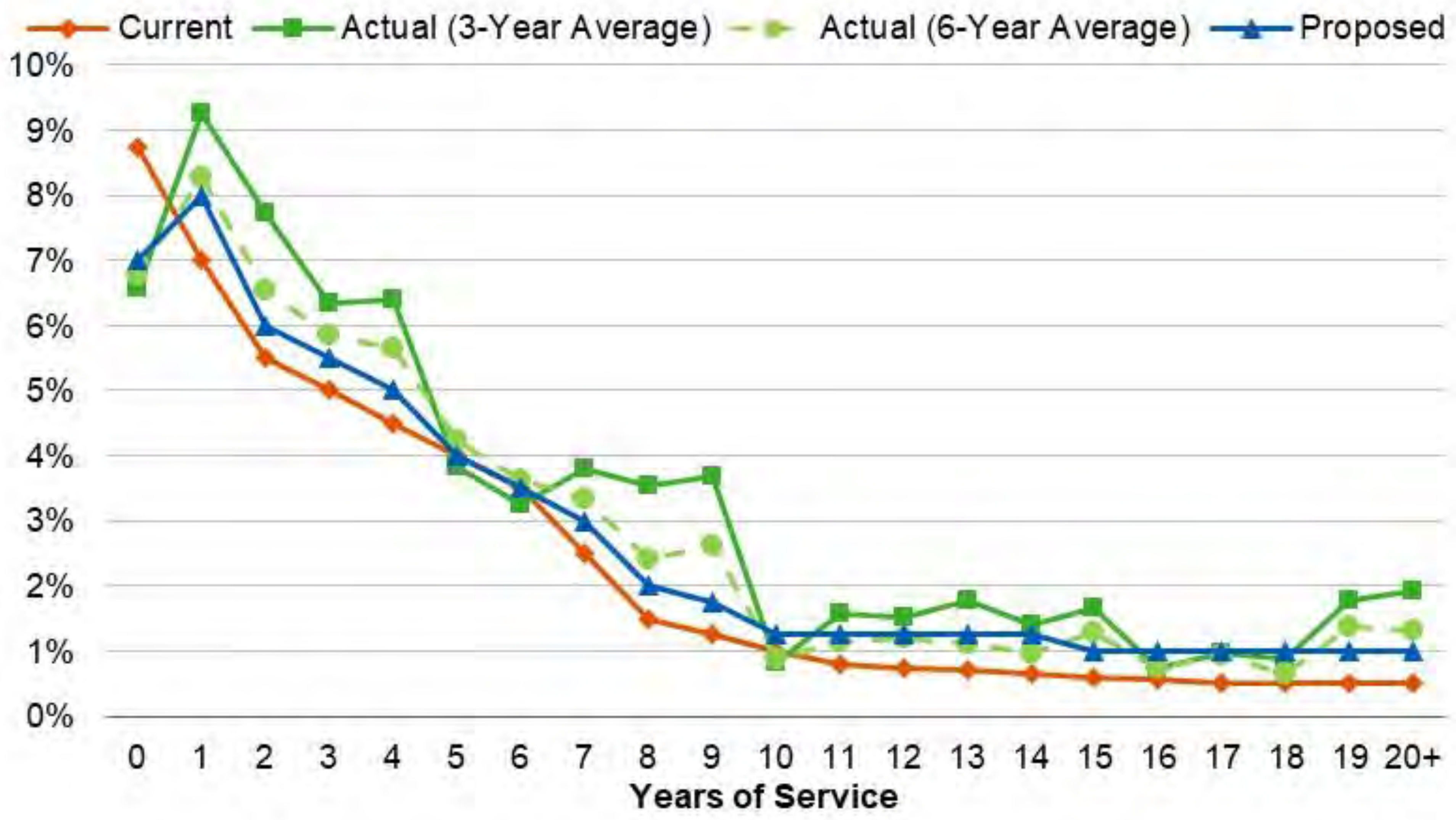
Recommended Salary Increase Assumptions (continued)

- Three components (continued):
  - Merit and Promotion Increases
    - Assumption based on years of service
    - Reviewed 3 years and 6 years of data
    - General: Currently 5.50% (0-1 years) to 0.75% (14+ years)
      - Increase merit and promotion for General members
      - Decrease overall after taking into account the lower inflation component
    - Safety: Currently 8.75% (0-1 years) to 0.50% (17+ years)
      - Increase merit and promotion for Safety members
      - Increase overall after taking into account the lower inflation component

Salary Increase Assumptions – Merit and Promotion Example (General)



Salary Increase Assumptions – Merit and Promotion Example (Safety)



Setting Economic Assumptions – Payroll Growth Assumption

- Used to project total payroll for UAAL amortization
- Active member payroll growth based on wage inflation
  - Assumes constant active head count
- Includes price inflation and real wage increases
  - Price inflation: decrease to 2.50%
  - Real wage increases: maintain at 0.50%
  - Total payroll growth: decrease from 3.25% to 3.00%

Questions?

Setting Economic Assumptions – Investment Earnings (Return) Assumption

- Used to set the discount rate for measuring costs
  - Sometimes called the assumed interest rate
- Used for contribution requirements
  - Also for financial reporting (GASB 67 and 68)
- Affects timing of Plan cost
  - Lower assumed rate means higher <u>current</u> cost
  - Ultimately, actual earnings determine cost
    C + I = B + E
  - "Can't pay benefits with assumed earnings!"

Setting the Investment Earnings Assumption (continued)

- Building-Block Method – Four components:
  - Expected inflation: consistent with salary increases
  - Real return for each asset class
    - Survey of investment consultants (KCERA's and industry)
    - Weighted by asset allocation
    - **NEW:** Converted from expected arithmetic average to expected geometric average
  - Less assumed investment expenses
    - **NEW:** No reduction for active investment management fees
  - Less risk adjustment ("margin for adverse deviation")
    - Expressed as confidence level above 50%
- Note: generally no add-on for superior managers
  - "Indexed" returns, no "alpha"

Setting the Investment Earnings Assumption – Real Return Component

- Real return assumptions by asset class
  - Use an average of 6 investment advisory firms retained by Segal public clients and Segal's investment advisory division
    - Use results from Verus for asset categories unique to KCERA
- Expected real return for KCERA asset allocation is 5.81%
  - Increased from 5.25% in 2020 study (increase of 0.56%)
  - Primarily due to change in real return assumptions (+0.49%)
  - Extraordinarily high rates of real return should be used with caution in selecting a long-term investment return assumption

Setting the Investment Earnings Assumption – Real Return Component (continued)

- KCERA real rate of return

Asset Class	Target Allocation	Real Return	Weighted Return
Global Equity	37.0%	7.05%	2.61%
Core Fixed Income	14.0%	1.97%	0.28%
High Yield Corporate Credit	6.0%	4.63%	0.28%
Emerging Market Debt (Hard)	2.0%	4.72%	0.09%
Emerging Market Debt (Local)	2.0%	4.53%	0.09%
Commodities	4.0%	4.21%	0.17%
Core Real Estate	5.0%	3.86%	0.19%
Private Equity	5.0%	10.27%	0.51%
Private Credit	5.0%	6.97%	0.35%
Value Added Real Estate	5.0%	6.70%	0.34%
Midstream	5.0%	8.00%	0.40%
Capital Efficiency Alpha Pool	8.0%	3.10%	0.25%
Hedge Fund	10.0%	3.10%	0.31%
Cash	-8.0%	0.63%	-0.05%
Total	**100.0%**		**5.81%**

Setting the Investment Earnings Assumption – Investment Expenses Component

- Investment expenses

Year Ending June 30	Investment Expenses as a Percent of AVA	Year Ending June 30	Investment Expenses as a Percent of AVA
2017	0.03%	2020	0.04%
2018	0.04%	2021	0.06%
2019	0.03%	2022	0.04%
Three-Year Average	**0.04%**		**0.05%**
Six-Year Average			**0.04%**
Current			**0.40%**
Recommendation			**0.05%**

– Includes investment consultant fees, custodian fees and other miscellaneous expenses

– Beginning with this study, excludes investment management fees

Setting the Investment Earnings Assumption – Risk Adjustment Component

- Compares the Association's risk position over time
- Confidence level is a relative, not absolute, measure
  – Can be reevaluated and reset for future comparisons
- Confidence level is based on standard deviation
  – Measure of volatility based on portfolio assumptions
- Confidence level depends on model used

Two Common Models for Setting Discount Rate based on Expected Returns

- Use forward looking expected arithmetic average returns, reduced by all investment expenses
  - Expected to have no surplus or shortfall
  - Investment management fees reduce expected return
- Use forward looking expected geometric average returns, reduced only by consulting and custodian fees
  - Equal likelihood of surplus or shortfall
  - Investment management fees do not reduce expected return
- These differences offset each other so results are generally comparable

Setting the Investment Earnings Assumption – Summary of the Components

	2023 Recommended (new model)	2023 Comparison (prior model)	2020 Adopted
Assumed Inflation	2.50%	2.50%	2.75%
Portfolio Real Rate of Return	5.81%	5.81%	5.25%
Assumed Expenses	(0.05%)	(0.40%)	(0.40%)
Geometric Conversion	(0.75%)	N/A	N/A
Risk Adjustment	(0.51%)	(0.91%)	(0.35%)
Total	**7.00%**	**7.00%**	**7.25%**
Confidence Level	56%	61%	55%

Setting the Investment Earnings Assumption – Risk Adjustment Component History

- Most useful for comparing risk position over time

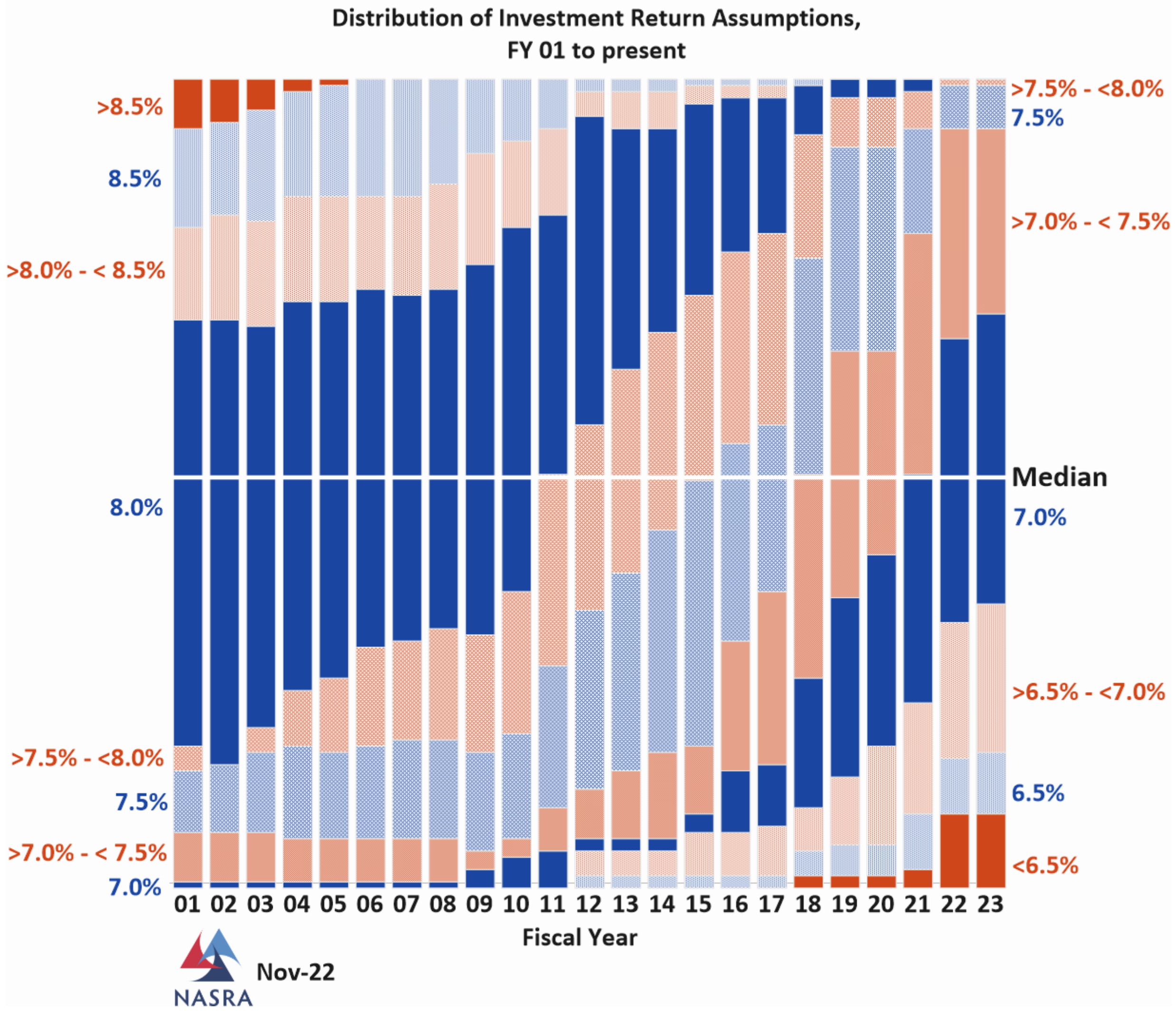
Year Ending June 30	Investment Return Assumption	Risk Adjustment	Confidence Level
2011 - 2013	7.75%	(0.04%)	49%
2014 - 2016	7.50%	0.23%	53%
2017 - 2019	7.25%*	0.22%	53%
2020 - 2022	7.25%*	0.35%	55%
2023 (Comparison)	7.00%*	0.91%	61%
2023 (Recommended)	7.00%*	0.51%	56%

* These investment return assumptions are gross of administrative expenses.

Setting the Investment Earnings Assumption – Comparison with Other Models and Systems (continued)

- Segal ran KCERA's asset allocation through alternative fully stochastic model
  - Using a national survey of capital market assumptions (Horizon)
    - Stochastic simulation using 10,000 trial outcomes
  - 51% likelihood of achieving 7.00% using 15-year returns
    - Compared to 56% in the 2020 experience study
- Comparison with other systems
  - National median is 7.00% but continues to trend down nationwide
    - National practice lags California!
  - 6.75% and 7.00% are most common for California CERL systems
    - Eight California systems at 6.75% and seven at 7.00%
    - CalPERS at 6.80% and CalSTRS at 7.00%

Setting the Investment Earnings Assumption – Change in Distribution of Public Pension Investment Return Assumptions, FY 01 to FY 23



Setting the Investment Earnings Assumptions – Expected Return Assumptions for California Systems

System(s)	Assumption	Count
CalPERS	6.80%	
CalSTRS	7.00%	
University of California	6.75%	
1937 CERL Systems	7.25%	2
	7.00%	7
	6.75%	8
	6.50%	2
	6.25%	1
City Systems		
San Francisco	7.20%	
LACERS, LAFPP	7.00%	
LADWP	6.50%	
Fresno	6.75%	
San Jose	6.625%	
San Diego	6.50%	

Setting the Investment Earnings Assumption – Administrative Expenses

- Administrative expenses

Year Ending June 30	Administrative Expenses as a Percent of Payroll	Year Ending June 30	Administrative Expenses as a Percent of Payroll
2017	0.96%	2020	0.91%
2018	0.89%	2021	1.00%
2019	0.83%	2022	1.09%
Three-Year Average	**0.89%**		**1.00%**
Six-Year Average			**0.95%**
Current			**0.90%**
Recommendation			**0.95%**

Questions?

Anticipated Impact on Valuation Results Modeled as of June 30, 2022 for Illustration

Summary of Cost Impact of Recommended Assumptions	
Impact on Employer	
Increase due to changes in economic assumptions	3.64%
Decrease due to changes in demographic assumptions	(0.25%)
Total increase in average employer rate	3.39%
Total estimated change in annual dollar amount	$20,653,000
Impact on Member	
Increase due to changes in economic assumptions	0.34%
Increase due to changes in demographic assumptions	0.02%
Total increase in average member rate	0.36%
Total estimated change in annual dollar amount	$2,226,000
Impact on UAAL and Funded Percentage	
Increase in UAAL	$182 million
Change in funded percentage	From 69.2% to 67.5%

Anticipated Impact on Valuation Results Modeled as of June 30, 2022 for Illustration (continued)

Employer Contribution Rate Increases/(Decreases) (% of Payroll) (Estimated Annual Dollar Amounts in $000s)				
	Normal Cost	UAAL	Total	Annual Amount
General County w/o Courts	0.37%	1.56%	1.93%	$7,646
Courts	0.46%	1.56%	2.02%	629
County Safety	2.32%	6.01%	8.33%	11,629
District Category I	0.33%	1.60%	1.93%	109
District Category II	0.59%	1.60%	2.19%	50
District Category III	0.35%	1.60%	1.95%	536
District Category V	0.35%	1.60%	1.95%	26
District Category VI	0.85%	1.60%	2.45%	5
Declining Employers	1.09%	11.35%	12.44%	23
Combined	0.82%	2.57%	3.39%	$20,653

* Based on June 30, 2022 projected annual payroll as determined under each set of assumptions.

Anticipated Impact on Valuation Results Modeled as of June 30, 2022 for Illustration (continued)

Average Member Contribution Rate Increases/(Decreases) (% of Payroll) (Estimated Annual Dollar Amounts in $000s)		
	Total	Annual Amount
General County w/o Courts	0.22%	$868
Courts	0.16%	46
County Safety	0.86%	1,190
District Category I	0.33%	19
District Category II	0.26%	6
District Category III	0.34%	94
District Category V	0.23%	3
District Category VI	0.00%	0
Declining Employers	0.00%	0
Combined	0.36%	$2,226

* Based on June 30, 2022 projected annual payroll as determined under each set of assumptions.

Questions?

Kern County Employees' Retirement Association

Actuarial Experience Study

Analysis of Actuarial Experience During the Period July 1, 2019 through June 30, 2022

180 Howard Street
Suite 1100
San Francisco, CA 94105-6147
segalco.com

May 24, 2023

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

Re: Review of Actuarial Assumptions for the June 30, 2023 Actuarial Valuation

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience for the Kern County Employees' Retirement Association (KCERA). This study utilizes the census data for the period July 1, 2019 to June 30, 2022 as well as prior periods for some assumptions, and provides the proposed actuarial assumptions, both economic and demographic, to be used in the June 30, 2023 valuation.

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.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl

Table of Contents

1. Introduction, Summary, and Recommendations

To project the cost and liabilities of the pension plan, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are modified, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions means that year's experience is treated as temporary and that, over the long run, experience will return to what was originally assumed. For example, the actuarial assumptions used in the most recent valuation did not include any possible short-term or long-term impacts on mortality of the covered population that emerged due to COVID-19.[1] Changing assumptions reflects a basic change in thinking about the future, and has a much greater effect on the current contribution requirements than recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying the promised benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the economic and demographic actuarial assumptions and to compare the actual experience with that expected under the current assumptions during the three-year experience period from July 1, 2019 through June 30, 2022. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations"[2] and ASOP No. 35 "Selection of Demographic and Other Non-Economic Assumptions for Measuring Pension Obligations." These Standards of Practice provide guidance for the selection of the various actuarial assumptions utilized in a pension plan actuarial valuation. Based on the study's results and expected future experience, we are recommending various changes in the current actuarial assumptions.

We are recommending changes in the assumptions for inflation, investment return, merit and promotion salary increases, administrative expenses, retirement from active employment, retirement age for deferred vested members, percent married, pre-retirement mortality, post-

[1] An analysis of the ongoing impact of COVID-19 is beyond the scope of the current experience study.
[2] References made later in this report are with respect to the revised ASOP 27 adopted in June 2020.

retirement healthy and disabled life mortality, beneficiary mortality, termination, and disability incidence (non-service connected and service connected).

Our recommendations for the major actuarial assumption categories are as follows:

Pg #	Actuarial Assumption Categories	Recommendation
11	**Inflation:** Future increases in the Consumer Price Index (CPI), which drives investment returns and active member salary increases.	Reduce the inflation assumption from 2.75% to 2.50% per annum as discussed in Section (3)(A).
14	**Retiree Cost of Living Increases:** Future increases in the cost of living adjustment for retirees.	Maintain the current assumption of 2.50% per annum as discussed in Section (3)(A).
15	**Investment Return:** The estimated average future net rate of return on current and future assets of the Association as of the valuation date. This rate is used to discount liabilities.	Reduce the investment return assumption from 7.25% to 7.00% per annum as discussed in Section (3)(B).
25	**Individual Salary Increases:** Increases in the salary of a member between the date of the valuation to the date of separation from active service. This assumption has three components: • Inflationary salary increases • Real "across the board" salary increases • Merit and promotion increases	Reduce the current inflationary salary increase assumption from 2.75% to 2.50% and maintain the current real "across the board" salary increase assumption of 0.50%. This means that the combined inflationary and real "across the board" salary increases will decrease from 3.25% to 3.00%. We recommend adjusting the merit and promotion rates of salary increase as developed in Section (3)(C) to reflect past experience. Overall future merit and promotion salary increases are higher for General and Safety members under the proposed assumptions. The recommended total rates of salary increase anticipate lower increases overall for General members and higher increases overall for Safety members than the current assumptions.
31	**Administrative Expenses:** Fees for administration, legal, accounting, and actuarial services, and other functions carried out by the Association.	Increase the explicit administrative expense load from 0.90% to 0.95% of projected payroll as discussed in Section (3)(D).
32	**Retirement Rates:** The probability of retirement at each age at which participants are eligible to retire. **Other Retirement Related Assumptions including:** • Retirement age for deferred vested members • Future reciprocal members and reciprocal salary increases • Percent married and spousal age differences for members not yet retired	For active members, adjust the current retirement rates to those developed in Section (4)(A). The retirement rate assumptions anticipate later retirements for General members and earlier retirements for Safety members overall. For deferred vested members, decrease the assumed retirement age for non-reciprocal General members from age 57 to age 56, increase the assumed retirement age for reciprocal General members from age 57 to age 60, and decrease the assumed retirement age for Safety members from age 53 to age 51. Maintain the current proportion of future terminated members expected to be covered by a reciprocal system at 45% for General members and 60% for Safety members. For active and deferred vested members, decrease the percent married at retirement assumption from 70% to 65% for males and from 60% to 55% for females. Maintain the spouse age difference assumption that male retirees are three years older than their spouses and maintain the assumption that female retirees are two years younger than their spouses.

Pg #	Actuarial Assumption Categories	Recommendation
44	**Mortality Rates:** The probability of dying at each age. Mortality rates are used to project life expectancies.	**Healthy Retirees:** Current & recommended base table for General Members: Pub-2010 General Healthy Retiree Amount-Weighted Mortality Table with rates unadjusted for males and increased by 15% for females. Current & recommended base table for Safety Members: Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table. **All Beneficiaries:** Current base table: Pub-2010 Contingent Survivor Amount-Weighted Mortality Table with rates increased by 10% for males and females. Recommended base table: Pub-2010 Contingent Survivor Amount-Weighted Mortality Table with rates increased by 10% for males and 5% for females. For the purposes of the actuarial valuations (for funding and financial reporting), when calculating the liability for the continuance to a beneficiary of a surviving member we recommend that the General Healthy Retiree mortality tables be used for beneficiary mortality both before and after the expected death of the General or Safety member. Upon the actual death of the member (i.e., for all beneficiaries in pay status as of the valuation date), we recommend for the purposes of the actuarial valuations that we use the Contingent Survivor mortality tables as stated above. **Pre-Retirement Mortality:** Current & recommended base table for General Members: Pub-2010 General Employee Amount-Weighted Mortality Table. Current & recommended base table for Safety Members: Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table. **Disabled Retirees:** Current & recommended base table for General Members: Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table with rates decreased by 5% for males and females. Current base table for Safety Members: Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table with rates increased by 5% for males and females. Recommended base table for Safety Members: Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table. **All current tables** are projected generationally with the two-dimensional mortality improvement scale MP-2019. **All recommended tables** are projected generationally with the two-dimensional mortality improvement scale MP-2021. This is the most recent projection scale, as an updated projection scale was not published in 2022. **For member contribution rates, optional forms, and reserves:** change the mortality rates to those developed in Section (4)(B).

Pg #	Actuarial Assumption Categories	Recommendation
56	**Termination Rates:** The probability of leaving employment at each age and receiving either a refund of member contributions or a deferred vested retirement benefit.	We recommend adjusting the termination rates to those developed in Section (4)(D) to reflect a higher incidence of termination for General members and Safety members.
63	**Disability Incidence Rates:** The probability of becoming disabled at each age.	We recommend adjusting the disability rates to those developed in Section (4)(E) to reflect a slightly lower incidence of disability overall for General members and a slightly higher incidence of disability overall for Safety members.

We have estimated the impact of all the recommended economic and demographic assumptions as if they were applied to the June 30, 2022 actuarial valuation. The table below shows the changes in the employer and member contribution rates due to the proposed assumption changes separately for the recommended economic assumption changes including the recommended merit and promotion salary increases (as recommended in Section 3 of this report) and the recommended demographic assumption changes (as recommended in Section 4 of this report).

The cost associated with the administrative expense load has continued to be allocated to both the employer and the member based on the components of the total contribution rate (before administrative expenses) for the employer and the member.[1]

Cost Impact of the Recommended Assumptions Based on June 30, 2022 Actuarial Valuation

Assumption	Impact on Average Employer Contribution Rates
Increase due to changes in economic assumptions	3.64%
Decrease due to changes in demographic assumptions	(0.25%)
Total increase in average employer rate	**3.39%**
Total estimated increase in annual dollar amount ($000s)[2]	**$20,653**

Assumption	Impact on Weighted Average Member Contribution Rates
Increase due to changes in economic assumptions	0.34%
Increase due to changes in demographic assumptions	0.02%
Total increase in average member rate	**0.36%**
Total estimated increase in annual dollar amount ($000s)[2]	**$2,226**

[1] The actual allocation of contribution rates for administrative expenses will be determined in each actuarial valuation to reflect the relative proportion of employer and member contributions.
[2] Based on June 30, 2022 projected annual payroll as determined under each set of assumptions.

Assumption	Impact on UAAL[1] ($000s)
Increase due to changes in economic assumptions	$200,832
Decrease due to changes in demographic assumptions	(19,080)
Total increase in UAAL ($000s)	**$181,752**

	Impact on Funded Percentage
Change in Funded Percentage on VVA basis	69.2% to 67.5%

Of the various assumption changes, the most significant rate increase is due to the investment return assumption.

Section 2 provides some background on the basic principles and methodology used for the experience study and for the review of the economic and demographic actuarial assumptions. A detailed discussion of each assumption and reasons for the proposed changes are found in Section 3 for the economic assumptions and Section 4 for the demographic assumptions. The cost impact of the proposed changes is detailed in Section 5.

1 UAAL stands for the Unfunded Actuarial Accrued Liability, which is the excess, if any, of the Actuarial Accrued Liability over the Valuation Value of Assets.

2. Background and Methodology

In this report, we analyzed both economic and demographic ("non-economic") assumptions. The primary economic assumptions reviewed are inflation, investment return, salary increases, and administrative expenses. Demographic assumptions include the probabilities of certain events occurring in the population of members, referred to as "decrements," e.g., termination from service, disability retirement, service retirement, and death before and after retirement. In addition to decrements, other demographic assumptions reviewed in this study include the percentage of members electing the unmodified option with an eligible spouse or domestic partner, spousal age difference, percent of members assumed to go on to work for a reciprocal system, and reciprocal salary increase.

Economic Assumptions

Economic assumptions consist of:

- **Inflation:** Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees and drives increases in the allowances of retired members (if any).
- **Investment Return:** Expected long-term rate of return on the Association's investments after investment expenses. This assumption has a significant impact on contribution rates.
- **Salary Increases:** In addition to inflationary increases, it is assumed that salaries will also grow by real "across the board" pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers. These are commonly referred to as merit and promotion increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the price inflation rate plus any real "across the board" pay increases that are assumed.
- **Administrative Expenses:** These include expenses incurred in connection with the Plan's operation.

The setting of these economic assumptions is described in Section 3.

Demographic Assumptions

In order to determine the probability of an event occurring, we examine the "decrements" and "exposures" of that event. For example, taking termination from service, we compare the number of employees who actually terminate in a certain age and/or service category (i.e., the number of "decrements") with those who could have terminated (i.e., the number of "exposures"). For example, if there were 500 active employees in the 20-24 age group at the beginning of the year and 50 of them left during the year, we would say the probability of termination in that age group is 50 ÷ 500 or 10%.

The reliability of the resulting probability is highly dependent on both the number of decrements and the number of exposures. For example, if there are only a few people in a high age category at the beginning of the year (number of exposures), we would not lend as much credibility to the probability of termination developed for that age category, especially if it is out of line with the pattern shown for the other age groups. Similarly, if we are considering the death decrement, there may be a large number of exposures in the age 20-24 category, but very few decrements (actual deaths); therefore, we would not be able to rely heavily on the probability developed for that category.

One reason we use several years of experience for such a study is to have more exposures and decrements, and therefore more statistical reliability. Another reason for using several years of data is to smooth out fluctuations that may occur from one year to the next. However, we also calculate the rates on a year-to-year basis to check for any trend that may be developing in the later years.

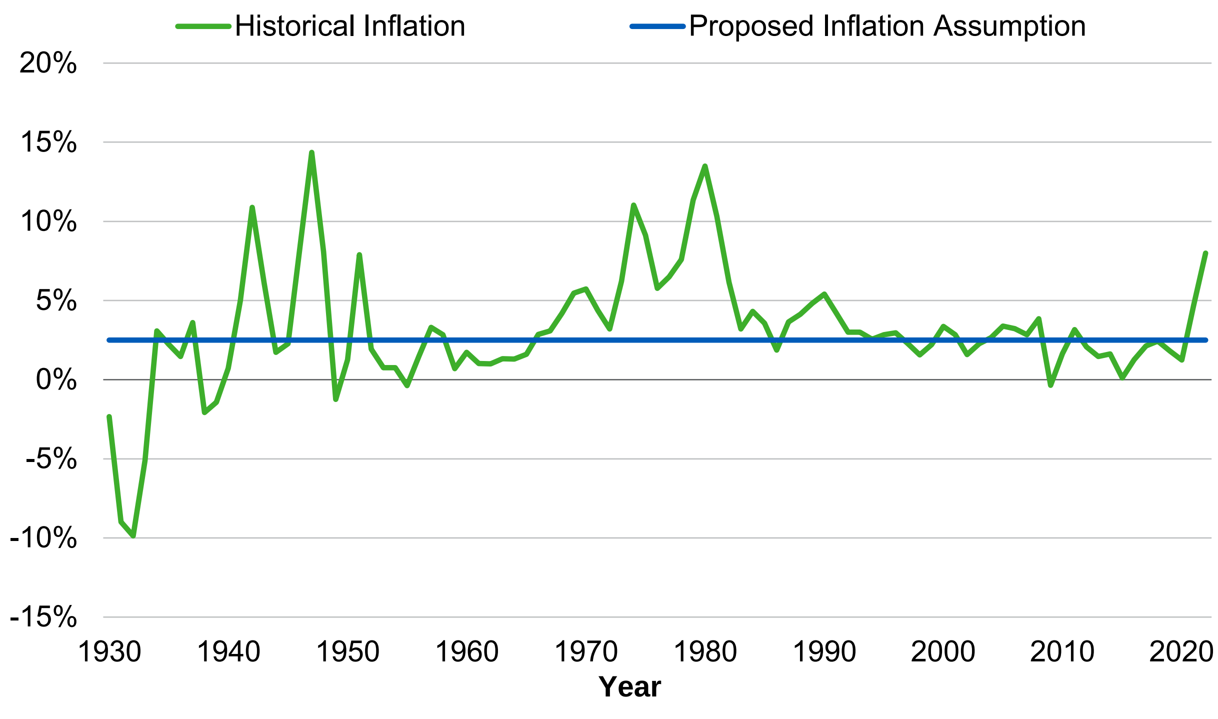
3. Economic Assumptions

A. Inflation

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when “riskless” investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so our analysis begins with a review of historical information. Following is a graph showing historical inflation rates and a comparison with the inflation assumption of 2.50% that we recommend in this report:

Historical Consumer Price Index – 1930 to 2022[1]
(U.S. City Average - All Urban Consumers)



There has been a spike in inflation that started in the second quarter of 2021 and continued into 2022. However, the rate of inflation, while still elevated, has been relatively steady since the Federal Reserve began to increase interest rates starting around the second quarter of 2022.

Based on information found in the Public Plans Database, which is produced in partnership with the National System of State Retirement Administrators (NASRA), the median inflation assumption used by 194 large public retirement funds in their 2021 fiscal year valuations was

[1] Source: Bureau of Labor Statistics – Based on annual-to-annual CPI for All Items in U.S. city average, all urban consumers, not seasonally adjusted (Series ID: CUUR0000SA0).

2.50%.[1] In California, CalSTRS and ten[2] 1937 Act CERL systems (including KCERA) currently use an inflation assumption of 2.75%, the other ten 1937 Act CERL systems use an inflation assumption of 2.50%[3] and CalPERS uses an inflation assumption of 2.30%.

KCERA's investment consultant, Verus, anticipates an annual inflation rate of 2.10% over a 30-year horizon,[4] while the average inflation assumption provided by Verus and five other investment advisory firms retained by Segal's California public sector clients, as well as Segal's investment advisory division (Segal Marco Advisors),[5] was 2.43%. Note that, in general, investment consultants use a time horizon for this assumption that is shorter than the time horizon we use for the actuarial valuation.[6]

To find a forecast of inflation based on a longer time horizon, we referred to the Social Security Administration's (SSA) 2023 report on the financial status of the Social Security program.[7] The projected average increase in the Consumer Price Index (CPI) over the next 75 years under the intermediate cost assumptions used in that report was 2.40%. The SSA report also includes alternative projections using lower and higher inflation assumptions of 1.80% and 3.00%, respectively.

We also compared the yields on the thirty-year inflation indexed U.S. Treasury bonds to comparable traditional U.S. Treasury bonds.[8] This "break-even rate" is commonly regarded as a market-based gauge of future inflation expectations. As of February 2023, the difference in yields is about 2.29% which provides a measure of market expectations of inflation. This market expectation for long term inflation can be quite volatile and has dropped from the high of 2.55% over the last 12 months, which is illustrated in the table below. It is worth noting that even during the peak of the recent inflation spike this break-even rate exceeded 2.50% in only a single month, April 2022.

[1] Among 219 large public retirement funds, the 2021 fiscal year inflation assumption was not available for 25 of the public retirement funds in the survey data as of March 2023.

[2] We note that out of these ten 1937 Act CERL Systems, five of those are served by Segal and we would generally expect to recommend 2.50% as the inflation assumption in their next experience study. KCERA is included in this count.

[3] Four of these 1937 Act CERL systems use a 2.50% inflation assumption with a 2.75% COLA assumption.

[4] The annual inflation assumption used by Verus is 2.5% over a 10-year horizon.

[5] We note that this is the first time we have included inflation and real rate of return assumptions used by Segal Marco Advisors in our review of economic assumptions for KCERA.

[6] The time horizon used by the six investment consultants included in our review, with the exception of one investment consultant that uses a 1-year horizon, generally ranges from 20 years to 30 years, with Verus using a 30-year horizon.

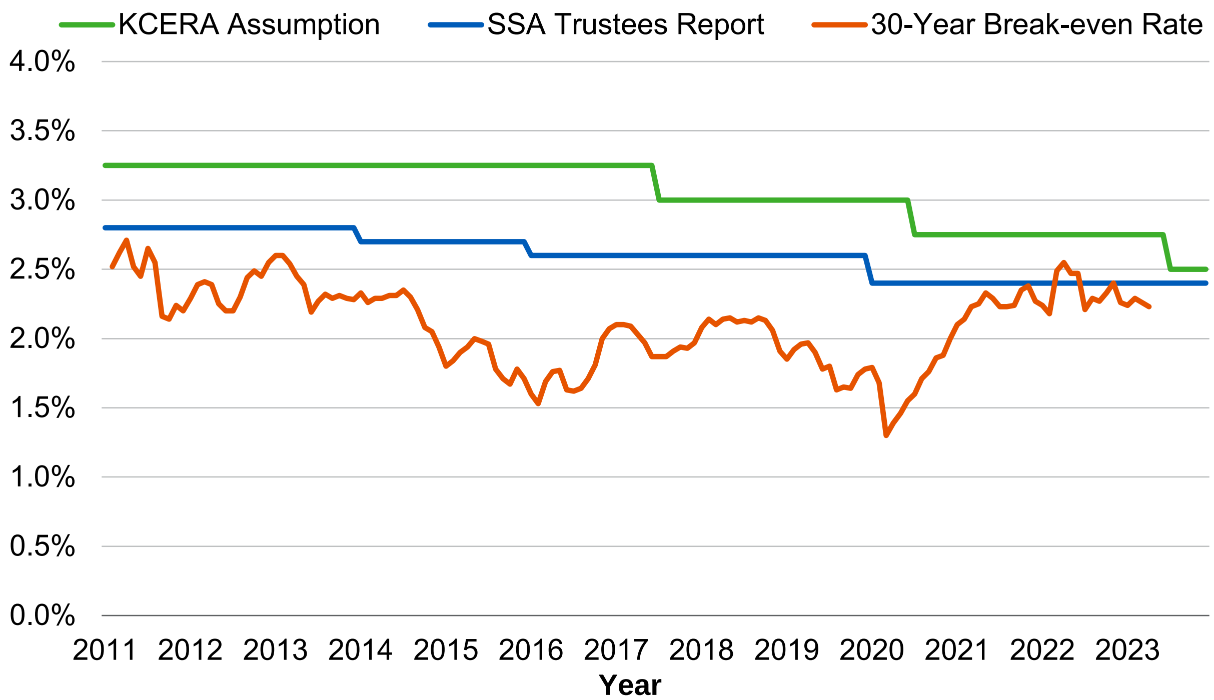
[7] Source: Social Security Administration: The 2023 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds.

[8] Source: Board of Governors of the Federal Reserve System.

Observation Month	Difference in Yields	Observation Month	Difference in Yields
November 2021	2.38%	August 2022	2.29%
December 2021	2.27%	September 2022	2.27%
January 2022	2.24%	October 2022	2.33%
February 2022	2.18%	November 2022	2.40%
March 2022	2.49%	December 2022	2.26%
April 2022	2.55%	January 2023	2.24%
May 2022	2.47%	February 2023	2.29%
June 2022	2.47%	March 2023	2.26%
July 2022	2.21%	April 2023	2.23%

The following graph shows Segal's historical and proposed inflation assumptions compared to the two other measures just discussed, going back to 2011. In effect, this compares Segal's assumption to two separate independent forecasts, one based on market observations and one developed by economists at the SSA. The graph shows that over this period, Segal's assumption has been higher but consistently moving towards these other forecasts.

Historical Inflation Forecasts



The setting of the inflation assumption using the information outlined above is a somewhat subjective process, and Segal does not apply a specific weight to each of the metrics in determining our recommended inflation assumption. Based on a consideration of all of the above metrics, beginning in 2021 we are generally recommending the same 2.50% inflation assumption in our experience studies for our California public retirement system clients.

Based on all of the above information, we recommend reducing the annual inflation assumption from 2.75% to 2.50%.

Retiree Cost of Living Increases

In our last experience study as of June 30, 2019, consistent with the 2.75% annual inflation assumption adopted by the Board, the Board maintained the 2.50% retiree cost-of-living adjustment for all General and Safety tiers.

We recommend that the current retiree cost of living assumption of 2.50% per year be continued in the June 30, 2023 valuation for all tiers.

In developing the COLA assumption, we also considered the results of a stochastic approach that would attempt to account for the possible impact of low inflation that could occur before COLA banks are able to be established for the member. Although the results of this type of analysis might justify the use of a lower COLA assumption, we are not recommending that at this time. The reasons for this conclusion include the following:

- The results of the stochastic modeling are significantly dependent on assuming that lower levels of inflation will persist in the early years of the projections. If this is not assumed, then the stochastic modeling will produce results similar to our proposed COLA assumptions.
- Using lower long-term COLA assumptions based on a stochastic analysis would mean that an actuarial loss would occur even when the inflation assumption of 2.50% is met in a year. We question the reasonableness of this result.

We do not see the stochastic possibility of COLAs averaging less than those predicted by the assumed rate of inflation as a reliable source of cost savings that should be anticipated in our COLA assumptions. Therefore, we continue to recommend setting the COLA assumptions based on the lesser of the provision adopted by the employers to provide an up to 2.50% retiree cost-of-living adjustment or the long-term annual inflation assumption, as we have in prior years.

B. Investment Return

The investment return assumption is comprised of two primary components, inflation and real rate of investment return, with adjustments for expenses and risk.

Real Rate of Investment Return

This component represents the portfolio's incremental investment market returns over inflation. Generally, when an investor takes on greater investment risk, the return on the investment is expected to also be greater, at least in the long run. This additional risk and return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement plan's portfolio will vary with the Board's asset allocation among asset classes.

The Association's current target asset allocation and the assumed real rate of return assumptions by asset class are shown in the following table. The first column of real rate of return assumptions are determined by reducing Verus' total or "nominal" 2023 return assumptions by their assumed 2.10% inflation rate. The second column of returns (except for Value Added Real Estate, Midstream, Capital Efficiency Alpha Pool, and Hedge Fund) represents the average of a sample of real rate of return assumptions. The sample includes the expected annual real rate of return provided to us by Verus and five other investment advisory firms retained by Segal's public sector clients, as well as Segal's investment advisory division. We believe these averages are a reasonable consensus forecast of long-term future market returns in excess of inflation.[1]

[1] Note that, just as for the inflation assumption, in general the time horizon used by the investment consultants in determining the real rate of return assumption is shorter than the time horizon encompassed by the actuarial valuation.

KCERA's Target Asset Allocation and Assumed Arithmetic Net Real Rate of Return Assumptions by Asset Class and for the Portfolio

Asset Class	Percentage of Portfolio	Verus' Assumed Net Real Rate of Return[1]	Average Assumed Net Real Rate of Return from a Sample of Consultants to Segal's California Public Sector Clients[2]
Global Equity	37.00%	7.70%	7.05%
Core Fixed Income	14.00%	2.60%	1.97%
High Yield Corporate Credit	6.00%	5.00%	4.63%
Emerging Market Debt (Hard)	2.00%	6.60%	4.72%
Emerging Market Debt (Local)	2.00%	5.60%	4.53%
Commodities	4.00%	4.40%	4.21%
Core Real Estate	5.00%	4.30%	3.86%
Private Equity	5.00%	10.60%	10.27%
Private Credit	5.00%	8.86%	6.97%
Value Added Real Estate	5.00%	6.70%	6.70%[3]
Midstream	5.00%	8.00%	8.00%[3]
Capital Efficiency Alpha Pool	8.00%	3.10%	3.10%[3]
Hedge Fund	10.00%	3.10%	3.10%[3]
Cash	-8.00%	1.20%	0.63%
Total	**100.00%**	**6.32%**	**5.81%**

Generally, the above are representative of “indexed” returns for securities that are publicly traded, returns net of fees for securities that are non-publicly traded and do not include any additional returns (“alpha”) from active management. Consideration of returns without alpha is consistent with the Actuarial Standard of Practice No. 27, Section 3.8.3.d, which states:

> “Investment Manager Performance - Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic). The actuary should not assume that superior or inferior returns will be achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy unless the actuary has reason to believe, based on relevant supporting data, that such superior or inferior returns represent a reasonable expectation over the long term.”

The following are some observations about the returns provided above:

1 The rates shown have been estimated by Segal by taking Verus' nominal projected arithmetic returns and reducing by Verus' assumed 2.10% inflation rate to develop the assumed real rate of return shown.

2 These are based on the projected arithmetic returns provided by Verus and five other investment advisory firms serving the county retirement system of KCERA and 16 other city and county retirement systems in California, as well as Segal's investment advisory division. These return assumptions are net of any applicable investment management expenses.

3 For this asset class, Verus' assumption is applied in lieu of the average because there is a larger disparity in returns for these asset classes among the firms surveyed and using Verus' assumption should more closely reflect the underlying investments made specifically for KCERA.

1. The investment consultants to our California public sector clients, as well as Segal's investment advisory division, have each provided us with their expected real rates of return for each asset class, over various future periods of time. However, in general, the returns available from investment consultants are projected over time periods that are shorter than the durations of a retirement plan's liabilities.
2. As discussed in the next section, the real rates of return provided this year by the investment consultants reflect a change in how investment expenses are reported.
3. Using a sample average of expected net real rates of return allows the Association's investment return assumption to reflect a broader range of capital market information and should help reduce year to year volatility in the investment return assumption.
4. Therefore, we recommend that the 5.81% portfolio net real rate of return be used to determine KCERA's investment return assumption, but with some caution. This return is 0.56% higher than the 5.25% gross return that was used three years ago in the review of the recommended investment return assumption for the June 30, 2020 valuation even before we consider the approximately 0.35% in investment management expense that, as discussed in the next section, will no longer be subtracted from the 5.81% gross return.
5. The 0.56% increase in the portfolio net real rate of return since the 2020 return is due to changes in the real rate of return assumptions provided to us by the investment advisory firms (+0.49% under the 2020 asset allocation), changes in KCERA's target asset allocation (+0.07%) and the interaction effect between these changes (+0.00%). We believe the increase in the real rates of return may be due to the very low returns earned in the 2021-2022 plan year, as well as the increase in the federal funds rate during 2022, and so should be used with caution in selecting a long-term investment return assumption.

Investment Expenses

For funding purposes, the real rate of return assumption for the portfolio needs to be adjusted for investment expenses expected to be paid from investment income. In the prior experience studies, we had adjusted the gross real rate of return developed using the target asset allocation by the investment expenses expected to be paid by KCERA.

However, as prevailing practice by investment advisory firms is to provide us with the real rates of return net of expected investment expenses, especially for active portfolio management, we now need to make adjustments only for investment consulting fees, custodian fees and other miscellaneous investment expenses. The following table provides these investment expenses in relation to the actuarial value of assets as of the beginning of the year, for the six-year period ending June 30, 2022.

Investment Expenses as a Percentage of Actuarial Value of Assets
(Dollars in 000's)

Year Ending June 30	Actuarial Value of Assets[1]	Investment Expenses[2]	Investment %
2017	$3,806,917	$1,330	0.03%
2018	4,037,302	1,791	0.04
2019	4,291,195	1,329	0.03
Three-Year Average (2017-2019)			**0.04**
2020	4,418,118	1,869	0.04
2021	4,635,030	2,667	0.06
2022	4,988,449	2,194	0.04
Three-Year Average (2020-2022)			**0.05**
Six-Year Average			**0.04**
Current Assumption (including investment management fees)			**0.40**
Proposed Assumption (excluding investment management fees)			**0.05**

Based on the above experience, we recommend reducing the investment expense component of the investment return assumption from 0.40% to 0.05%.

Note related to investment expenses paid to active managers – As cited above, under Section 3.8.3.d of ASOP No. 27, the effect of an active investment management strategy should be considered "net of investment expenses…unless the actuary believes, based on relevant data, that such superior or inferior returns represent a reasonable expectation over the measurement period."

We have not performed a detailed analysis to measure how much of the investment expenses paid to active managers might have been offset by additional returns ("alpha") earned by that active management. For this study, we will continue to use the current approach that any "alpha" that may be identified would be treated as an increase in the risk adjustment and corresponding confidence level that are discussed in the next section. However, as discussed above, the real return assumptions provided by the investment advisory firms assume that active management will generate additional returns to cover the expense of such management, an assumption that is consistent with ASOP No. 27.

Risk Adjustment

The real rate of return assumption for the portfolio is adjusted to reflect the potential risk of shortfalls in the return assumptions. KCERA's asset allocation determines this portfolio risk, since risk levels are driven by the variability of returns for the various asset classes and the correlation of returns among those asset classes. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

[1] As of beginning of plan year.

[2] Equals the sum of investment consulting fees, custodian fees, and miscellaneous investment expenses. Excludes investment manager fees.

The purpose of the risk adjustment (as measured by the corresponding confidence level) is to increase the likelihood of achieving the actuarial investment return assumption in the long term.[1] This is consistent with our experience that retirement plan fiduciaries would generally prefer that returns exceed the assumed rate more often than not.

The 5.81% expected real rate of return developed earlier in this report was based on expected arithmetic average returns. A retirement system using an expected arithmetic average return as the discount rate in a funding valuation is expected on average to have no surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.[2] That is the basis used in Segal's previous experience studies for KCERA.

Beginning with this study, in addition to no longer including an explicit adjustment for investment management fees, we are converting the portfolio's expected arithmetic average return to an expected geometric average return. A retirement system using an expected geometric average return as the discount rate in a funding valuation will, over long periods of time, have an equal likelihood of having a surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.[3]

Under either the arithmetic or geometric model, the confidence level associated with a particular risk adjustment represents a relative likelihood that future investment earnings would equal or exceed the assumed earnings over a 15-year period. The 15-year time horizon represents an approximation of the "duration" of the fund's liabilities, where the duration of a liability represents the sensitivity of that liability to interest rate variations.

For comparison purposes we first consider how the earlier model would look if used in this year's study. Three years ago, the Board adopted an investment return assumption of 7.25%. Under the model used in that experience study, that return implied a risk adjustment of 0.35%, corresponding to a 15-year confidence level of 55%, based on an annual portfolio return standard deviation of 11.0% provided by Verus in 2020.

If we use the same 55% 15-year confidence level from our last study to set this year's risk adjustment and the current annual portfolio return standard deviation of 12.69% provided by Verus, the corresponding risk adjustment would be 0.40%. Together with the other investment return components (including for this comparison updated expected arithmetic average returns and the same expense adjustment as used in the prior study), this would result in an investment return assumption of 7.51%, which is higher than the current assumption of 7.25%.

Based on the general practice of using one-quarter percentage point increments for economic assumptions, we evaluated the effect on the confidence level of other alternative investment return assumptions. We also considered that, as discussed above, the increase in the real rates of return provided by the investment consultants may reflect the very low returns earned in the 2021-2022 plan year, as well as the increase in the federal funds rate during 2022, and so could be overly optimistic when used for selecting a long-term investment return assumption. For that reason, for this comparison value we considered a net investment return assumption of 7.00% which, together with the other investment return components, would produce a risk adjustment of 0.91% which corresponds to a confidence level of 61% under the model and expense

1 This type of risk adjustment is referred to in the Actuarial Standards of Practice as a "margin for adverse deviation."
2 The mathematical terminology for this is that the mean (or average) surplus or asset shortfall is expected to be zero.
3 The mathematical terminology for this is that over time the median surplus or asset shortfall is expected to be zero.

adjustment used in prior studies. We believe this increase in confidence level would be appropriate given the concerns stated. For comparison, the current net investment return assumption of 7.25% would now have a confidence level of 58% under the model and expense adjustment used in prior studies.

As noted above, beginning with this study, in addition to no longer including an explicit adjustment for investment management fees, we are converting the portfolio's expected arithmetic average return to an expected geometric average return. For any given asset portfolio, the expected geometric average return will be less than expected arithmetic average return.[1] The difference depends on the variability of the portfolio as measured by its standard deviation. Based on the annual portfolio return standard deviation of 12.69% provided by Verus, the adjustment to an expected geometric average return reduces the expected return by 0.75%.

Together with the other investment return components (now excluding investment management expenses) and prior to any risk adjustment, this would result in a median expected assumption of 7.51%, which is higher than the current assumption of 7.25%. In applying this model to KCERA for the first time we also considered a net investment return assumption of 7.00% which, together with the other investment return components, would produce a risk adjustment of 0.51% which under the expected geometric average return model corresponds to a confidence level of 56%. For comparison, the current net investment return assumption of 7.25% would have a confidence level of 53% under this model.

Recommended Investment Return Assumption

The following table summarizes the components of the recommended investment return assumption developed in the previous discussion. For comparison purposes, we have also included similar values from the last study as well as the comparison values discussed above that apply the prior year's model to this year's information.

Assumption Component	June 30, 2023 Recommended Value	June 30, 2023 Comparison Values	June 30, 2020 Adopted Value
Inflation	2.50%	2.50%	2.75%
Portfolio Expected Arithmetic Real Rate of Return	5.81%	5.81%	5.25%
Expense Adjustment	(0.05)%	(0.40)%[2]	(0.40)%
Adjustment to Expected Geometric Real Rate of Return	(0.75)%	N/A	N/A
Risk Adjustment	(0.51)%	(0.91)%	(0.35)%
Total	**7.00%**	**7.00%**	**7.25%**
Confidence Level	**56%**	**61%**	**55%**

Based on this analysis, we recommend reducing the investment return assumption from 7.25% to 7.00% per annum.

1 This is because the expected geometric average return reflects expected median outcomes, while the expected arithmetic average return reflects expected average or mean outcomes. Expected median outcomes are lower than expected average outcomes because they are less affected by the possibility of extraordinary ("outlier") favorable outcomes.

2 For purposes of these comparison values we have assumed the same investment expenses as in the previous study, which included investment management fees.

The table below shows KCERA's recommended investment return assumption and the corresponding risk adjustment and confidence level compared to the similar values for prior studies.

Historical Investment Return Assumptions, Risk Adjustments and Confidence Levels based on Assumptions Adopted by the Board

Years Ending June 30	Investment Return[1]	Risk Adjustment	Corresponding Confidence Level
2011 - 2013	7.75%	(0.04%)	49%
2014 - 2016	7.50%	0.23%	53%
2017 - 2019	7.25%	0.22%	53%
2020 - 2022	7.25%	0.35%	55%
2023 (Comparison)	7.00%	0.91%	61%
2023 (Recommended)	7.00%	0.51%	56%

As we have discussed in prior experience studies, the risk adjustment model and associated confidence level is most useful as a means for comparing how KCERA has positioned itself relative to risk over periods of time.[2] The use of either a 56% or 61% confidence level should be considered in context with other factors, including:

- As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons. This is particularly true when comparing confidence levels developed using different models, as we are doing in this transitional year from one model to another.
- The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by Verus. The standard deviation is a statistical measure of the future volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a "soft" number.
- We have not taken into account any additional returns ("alpha") that might be earned on active management. This means that if active management generates enough alpha to cover its related expenses, this would increase returns. This aspect of Segal's model is further evaluated below.
- As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the later section on "Comparison with Other Public Retirement Systems."

Effect of Gain Sharing Provisions

The recommended investment return assumption has been developed without taking into consideration any impact of the 50/50 excess earnings allocation between the retirement and Supplemental Retiree Benefit Reserve (SRBR) asset pools. This is based on our understanding

[1] The investment returns starting in 2014 are gross of administrative expenses.

[2] In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is "risk-free."

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.

ASOP No. 4 “Measuring Pension Obligations and Determining Pension Plan Costs or Contributions” was revised and adopted in December 2013.[1] The revised ASOP 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 now mentions 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 in December 2015 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. This was done by comparing the future impact on the employer’s contribution rate over a 15-year period with and without the 50% allocation of excess earnings to the SRBR.

We recommend that we continue to develop our recommended investment return assumption and the resultant member and employer contribution rates without considering the 50% allocation of excess earnings to the SRBR. In addition, we will continue to disclose in the annual actuarial valuation reports the potential increase in actuarial liabilities and employer contributions by re-measuring the liabilities and contributions under an investment return assumption that is reduced by 0.3% to anticipate the 50% allocation of future excess earnings to the SRBR.

Comparison with Alternative Model used to Review Investment Return Assumption

In previous studies, we have consistently reviewed investment return assumptions based on our model that incorporates expected arithmetic real returns for the different asset classes and for the entire portfolio as one component of that model.[2] The use of “forward looking expected arithmetic returns” is one of the approaches discussed for use in the Selection of Economic Assumptions for measuring Pension Obligations under Actuarial Standards of Practice (ASOP) No. 27.

Besides using forward looking expected arithmetic returns, ASOP No. 27 also discusses setting investment return assumptions using an alternative “forward looking expected geometric returns” approach, which is the model we have used in this study.[3] Even though as noted earlier

[1] ASOP No. 4 was subsequently revised and adopted in December 2021 but those revisions did not impact the reference language which was adopted in 2013.

[2] Again, as discussed earlier in this section, if a retirement system uses the expected arithmetic average return as the discount rate in the funding valuation, that retirement system is expected to have no surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.

[3] As also noted earlier in slightly different terms, if a retirement system uses the expected geometric average return as the discount rate in the funding valuation, that retirement system is expected to have an asset value that generally converges to the median accumulated value as the time horizon lengthens assuming all actuarial assumptions are met in the future.

expected geometric returns are lower than expected arithmetic returns, public retirement systems that have set investment return assumptions using this geometric approach have in practice adopted investment return assumptions that are comparable to those adopted by the Board for KCERA under the arithmetic approach. This is because under the model used by those retirement systems and by Segal in this report, the investment return assumption is not reduced to anticipate future investment management expenses. That is also why the comparison values and recommended values discussed earlier reach the same 7.00% expected return with generally comparable confidence levels.

In the interest of still having an alternative model for comparison, we evaluated the recommended 7.00% assumption based on the expected geometric return for the entire portfolio gross of management investment expenses, but using a fully stochastic approach and a different source for capital market assumptions. Under this alternative model, over a 15-year period, there is a 51% likelihood that future average geometric returns will meet or exceed 7.00%[1] developed using the capital market assumptions compiled by Horizon Actuarial Services based their most recent survey published in August 2022. This 51% likelihood is lower than the corresponding likelihood of 56% that we observed in this comparison during the assumption review in 2020. However, note that some of the investment advisory firms that participated in the 2022 Horizon survey have since raised their capital market assumptions and it is reasonable to expect the 51% likelihood to increase if we were to revise these results using the updated capital market assumptions when the 2023 Horizon survey becomes available.

Comparison with Other Public Retirement Systems

One final test of the recommended investment return assumption is to compare it against those used by other public retirement systems, both in California and nationwide.

We note that an investment return of 7.00% or lower is becoming more common among California public sector retirement systems. In particular, of the twenty 1937 Act CERL systems, seven use a 7.00% investment return assumption, eight use 6.75%, two use 6.50% and one uses 6.25%. The remaining two 1937 Act CERL systems, including KCERA, currently use a 7.25% earnings assumption. Furthermore, CalSTRS currently uses a 7.00% earnings assumption and CalPERS uses a 6.80% earnings assumptions, while the San Jose and San Diego City retirement systems use investment return assumptions of 6.625% and 6.50%, respectively.

The following table compares KCERA's recommended net investment return assumption against those of the 210 large public retirement funds in their 2021 fiscal year valuations based on information found in the Public Plans Database, which is produced in partnership with NASRA:[2]

[1] We performed this stochastic simulation using the capital market assumptions included in the 2022 survey prepared by Horizon Actuarial Services. That simulation was performed using 10,000 trial outcomes of future market returns, using assumptions from 20-year arithmetic returns, standard deviations and correlation matrix that were found in the 2022 survey that included responses from 24 investment advisors.

[2] Among 219 large public retirement funds, the 2021 fiscal year investment return assumption was not available for 9 of the public retirement funds in the Public Plans Database as of March 2023.

		Public Plans Data[1]		
Assumption	**KCERA**	**Low**	**Median**	**High**
Net Investment Return	7.00%	4.25%	7.00%	8.25%

The detailed survey results show that over 80% of the systems have an investment return assumption in the range of 6.75% to 7.50%. Also, over half of the systems have reduced their investment return assumption from 2017 to 2021. State systems outside of California tend to change their economic assumptions less frequently and so may lag behind emerging practices in this area.

In summary, we believe the recommended assumption of 7.00% provides for an appropriate risk margin within the risk adjustment model and is consistent with KCERA's historical practice relative to other public systems.

[1] Public Plans Data website – Produced in partnership with the National System of State Retirement Administrators (NASRA).

C. Salary Increase

Salary increases impact plan costs in two ways: (1) by increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and (2) by increasing total active member payroll which in turn generates lower UAAL contribution rates as a percent of payroll. These two impacts are discussed separately as follows:

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. **Inflation:** Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces may require an employer to maintain its employees' standards of living.

   As discussed earlier in this report, we recommend reducing the annual inflation assumption from 2.75% to 2.50%. This inflation component is used as part of the salary increase assumption.

2. **Real "Across the Board" Pay Increases:** These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees "across the board". The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real "across the board" pay increases have averaged about 0.5% – 0.8% annually during the last ten to twenty years.

   We also referred to the annual report on the financial status of the Social Security program published in June 2022. In that report, real "across the board" pay increases are forecast to be 1.15% per year under the intermediate assumptions.

   The real pay increase assumption is generally considered a more "macroeconomic" assumption that is not necessarily based on individual plan experience. However, recent salary experience with public systems in California as well as anecdotal discussions with plans and plan sponsors indicate lower future real wage growth expectations for public sector employees. We note that for KCERA's active members, the actual average inflation plus "across the board" increase (i.e., wage inflation) over the three-year period ending June 30, 2022 was 1.93%, which is lower than the change in CPI of 4.30% during that same period, largely as a result of the inflation spike discussed above:

Valuation Date	Actual Average Increase[1]	Actual Annual-to-Annual Change in CPI[2]
June 30, 2020	2.51%	1.62%
June 30, 2021	1.77%	3.83%
June 30, 2022	1.51%	7.45%
Three-Year Average	**1.93%**	**4.30%**

[1] Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year. It does not reflect the average salary increases received by members who worked the full year.

[2] Based on the change in the annual average CPI for the Los Angeles-Long Beach-Anaheim Area compared to the prior year.

Even though the actual average salary increase was lower than the average change in the CPI over the 3-year period ending June 30, 2022, this was in part due to the spike in inflation in 2021-2022.

Based on all of the above information, we recommend maintaining the real "across the board" salary increase assumption at 0.50%. This means that the combined inflation and "across the board" salary increase assumption will decrease from 3.25% to 3.00%.

3. **Merit and Promotion Increases:** As the name implies, these increases come from an employee's career advances. This form of pay increase differs from the previous two, since it is specific to the individual. For KCERA, there are service-specific merit and promotion increase assumptions.

   The annual merit and promotion increases are determined by measuring the actual increases received by members over the experience period, net of the inflationary and real "across the board" pay increases. Increases are measured separately for General and Safety members. This is accomplished by:

   a. Measuring each continuing member's actual salary increase over each year of the experience period on a salary-weighted basis, with higher weights assigned to experience from members with larger salaries;
   b. Excluding any members with increases of more than 50% or decreases of more than 25% during any particular year;
   c. Categorizing these increases according to member demographics;
   d. Removing the wage inflation component from these increases (assumed to be equal to the increase in the members' average salary during the year);
   e. Averaging these annual increases over the experience period; and
   f. Modifying current assumptions to reflect some portion of these measured increases reflective of their "credibility."

   To be consistent with the other economic assumptions, these merit and promotion assumptions should be used in combination with the total 3.00% assumed inflation and real "across the board" increases recommended in this study.

   Due to the high variability of the actual salary increases, we have analyzed this assumption using data for the past six years. We believe that when the experience from the current and prior studies is combined, it provides a more reasonable representation of potential future merit and promotion salary increases over the long term.

The following table shows the General members' actual average merit and promotion increases by years of service over the current three-year period from July 1, 2019 through June 30, 2022, along with the average increases over the six-year period from July 1, 2016 through June 30, 2022 (combining the current three-year period with the three-year period from the prior experience study). The current and proposed assumptions are also shown. The actual increases were reduced by the actual average inflation plus "across the board" increase (i.e., wage inflation, estimated as the increase in average salaries) for each year during the experience period (2.01% on average for the current three-year period, 0.90% on average for the prior three-year period).

General

Rate (%)

Years of Service	Current Assumption	Actual Average Increase from Current Study (Last 3 Years)	Actual Average Increase from Current and Prior Studies (Last 6 Years)	Proposed Assumption
Less than 1	5.50	3.26	4.16	5.00
1 – 2	4.50	5.41	6.01	5.25
2 – 3	4.00	4.92	5.67	4.50
3 – 4	3.50	4.41	4.94	4.00
4 – 5	3.00	3.38	3.87	3.25
5 – 6	2.50	2.97	3.42	2.75
6 – 7	2.25	2.63	2.79	2.25
7 – 8	1.75	2.11	2.45	2.00
8 – 9	1.50	1.80	2.01	1.75
9 – 10	1.25	2.50	2.61	1.50
10 – 11	1.15	2.22	2.35	1.25
11 – 12	1.05	1.07	1.53	1.15
12 – 13	0.95	1.13	1.48	1.05
13 – 14	0.85	0.85	1.13	1.00
14 – 15	0.75	1.42	1.86	0.90
15 – 16	0.75	1.85	2.07	0.80
16 – 17	0.75	0.89	0.99	0.70
17 – 18	0.75	0.30	0.81	0.70
18 – 19	0.75	0.15	0.71	0.70
19 – 20	0.75	0.97	1.14	0.70
20 & Over	0.75	0.58	0.86	0.70

Based on this experience, overall we recommend increasing the merit and promotion salary increase assumptions for General members. The overall salary increase assumptions will decrease for General members after taking into account the lower inflation component of the salary increase assumption.

Chart 1 that follows later in the section compares the actual merit and promotion increase experience with the current and proposed assumptions for General members.

The following table shows the Safety members' actual average merit and promotion increases by years of service over the current three-year period from July 1, 2019 through June 30, 2022, along with the average increases over the six-year period from July 1, 2016 through June 30, 2022 (combining the current three-year period with the three-year period from the prior experience study). The current and proposed assumptions are also shown. The actual increases were reduced by the actual average inflation plus "across the board" increase (i.e., wage inflation, estimated as the increase in average salaries) for each year during the experience period (1.82% on average for the current three-year period, 0.48% on average for the prior three-year period).

Safety
Rate (%)

Years of Service	Current Assumption	Actual Average Increase from Current Study (Last 3 Years)	Actual Average Increase from Current and Prior Studies (Last 6 Years)	Proposed Assumption
Less than 1	8.75	6.57	6.78	7.00
1 – 2	7.00	9.25	8.28	8.00
2 – 3	5.50	7.73	6.56	6.00
3 – 4	5.00	6.33	5.86	5.50
4 – 5	4.50	6.41	5.63	5.00
5 – 6	4.00	3.82	4.24	4.00
6 – 7	3.50	3.25	3.62	3.50
7 – 8	2.50	3.80	3.33	3.00
8 – 9	1.50	3.53	2.41	2.00
9 – 10	1.25	3.68	2.62	1.75
10 – 11	1.00	0.83	0.88	1.25
11 – 12	0.80	1.58	1.15	1.25
12 – 13	0.75	1.52	1.19	1.25
13 – 14	0.70	1.79	1.11	1.25
14 – 15	0.65	1.39	0.97	1.25
15 – 16	0.60	1.66	1.28	1.00
16 – 17	0.55	0.74	0.73	1.00
17 – 18	0.50	0.97	0.94	1.00
18 – 19	0.50	0.88	0.66	1.00
19 – 20	0.50	1.77	1.37	1.00
20 & Over	0.50	1.91	1.30	1.00

Based on this experience, overall we recommend increasing the merit and promotion salary increase assumptions for Safety members. The overall salary increase assumptions will increase for Safety members after taking into account the lower inflation component of the salary increase assumption.

Chart 2 compares the actual merit and promotion increase experience with the current and proposed assumptions for Safety members.

Active Member Payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees increases only by inflation and real “across the board” pay increases. The merit and promotion increases are not an influence, because this average pay is not specific to an individual.

Under the Board’s current practice, the UAAL contribution rate is developed by assuming that the total payroll for all active members will increase annually over the amortization periods at the same assumed rates of inflation plus real “across the board” salary increase assumptions as are used to project the members’ future benefits.

Consistent with the combined recommended inflation and real “across the board” salary increase assumptions, we recommend reducing the payroll growth assumption from 3.25% to 3.00% annually.

Chart 1: Merit and Promotion Salary Increase Rates General Members

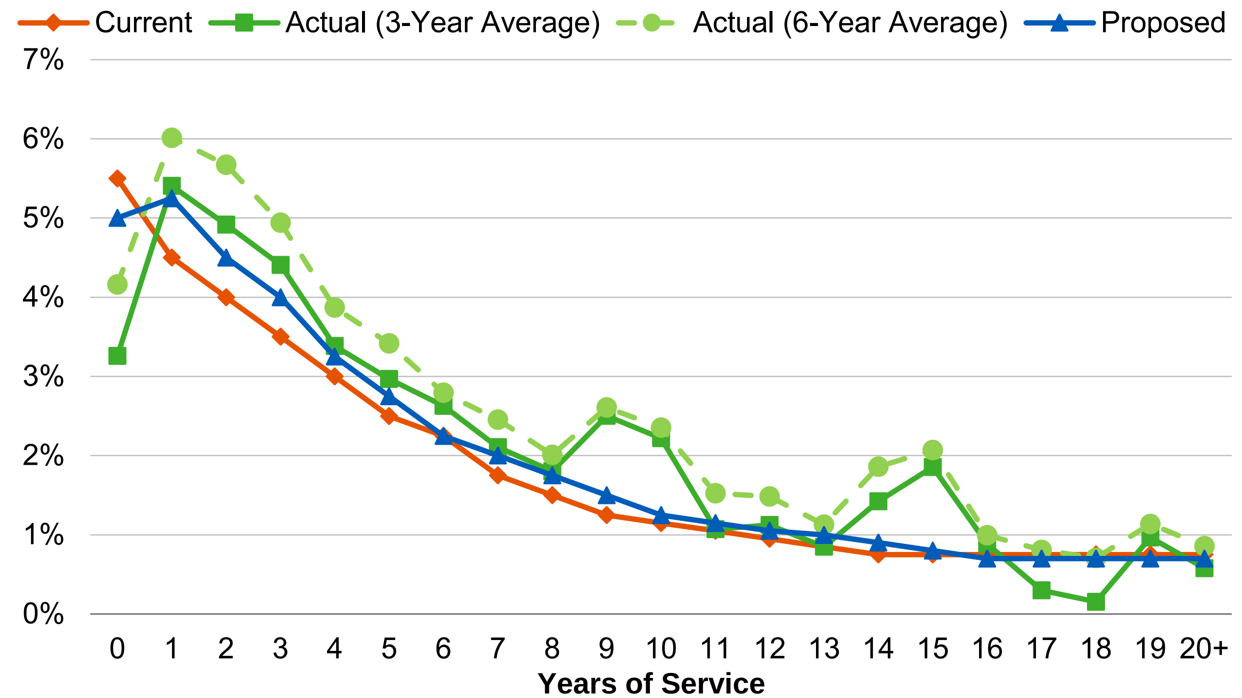
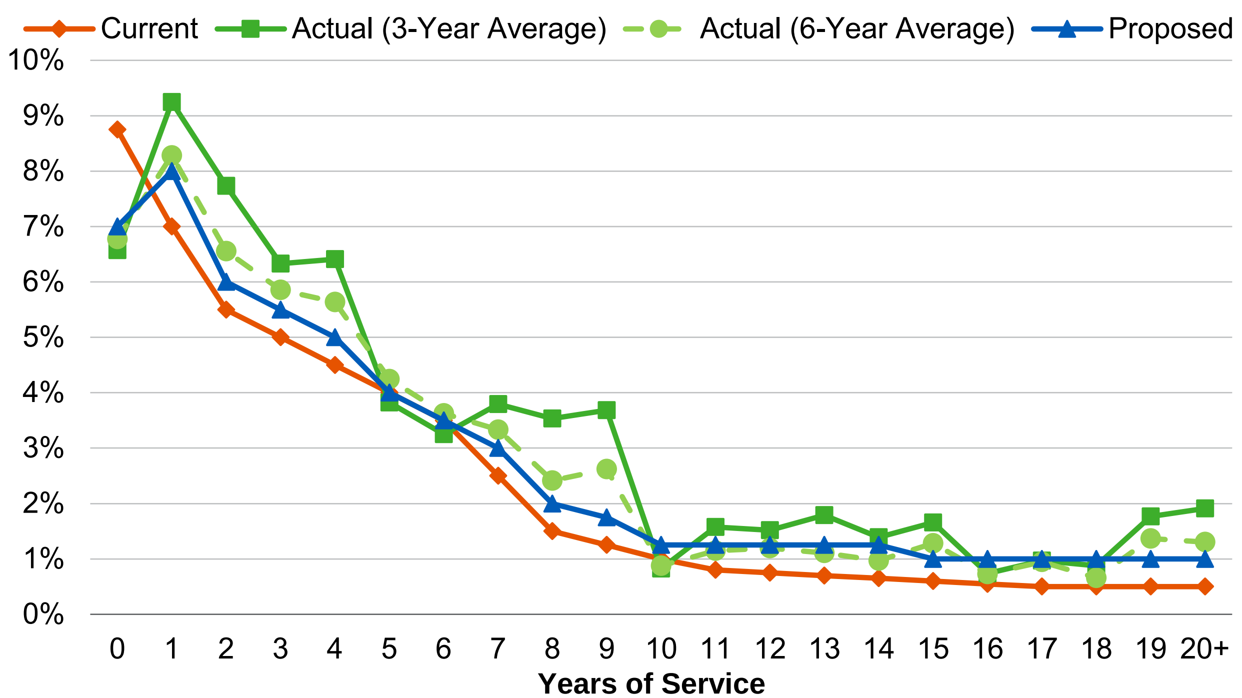


Chart 2: Merit and Promotion Salary Increase Rates Safety Members



D. Administrative Expenses

Like benefit payments made to members, expenses incurred in connection with the plan's operation are paid from KCERA's assets. These expenses include fees for administrative, legal, accounting, and actuarial services, as well as routine costs for printing, mailings, computer-related activities, and other functions carried out by the plan. They do not include investment-related expenses.

In order to reflect future administrative expenses in the contribution rates, the total assumed administrative expense load is allocated to both the employer and the member based on contribution rates (before expenses) for the employer and the member in each actuarial valuation.

The following table shows actual administrative expenses as a percent of payroll.

Administrative Expenses as a Percentage of Projected Payroll
(Dollars in 000's)

Year Ending June 30	Projected Payroll	Administrative Expenses	Administrative %
2017	$546,671	$5,243	0.96%
2018	576,729	5,116	0.89
2019	579,072	4,804	0.83
Three-Year Average (2017-2019)			**0.89**
2020	607,695	5,523	0.91
2021	604,320	6,061	1.00
2022	612,609	6,702	1.09
Three-Year Average (2020-2022)			**1.00**
Six-Year Average			**0.95**
Current Assumption			**0.90**
Proposed Assumption			**0.95**

Based on this experience, we recommend increasing the current administrative expense assumption from 0.90% to 0.95% of projected payroll.

This expense will be allocated to the employer and member based on the total average contribution rates in the upcoming June 30, 2023 actuarial valuation, as determined before including the administrative expenses. The allocation of the total administrative expenses between employer and member is subject to change with each actuarial valuation.

4. Demographic Assumptions

A. Retirement Rates

The age at which a member retires from service (i.e., who did not retire on a disability pension) will affect both the amount of the benefits that will be paid to that member as well as the period over which funding must take place.

The following table shows the observed service retirement rates for General Tier I members based on the actual experience over the past three years, separately for those with less than 25 years of service and more than 25 years of service. The actual service retirement rates were determined by comparing those members who actually retired from service to those eligible to retire from service. This same methodology is followed throughout this report and was described in Section 2. Also shown are the current assumed rates and the rates we propose.

General Tier I

Rate of Retirement (%)

	Less than 25 Years of Service			25 or More Years of Service		
Age	Current Rate	Actual Rate	Proposed Rate	Current Rate	Actual Rate	Proposed Rate
50	10.00	9.03	10.00	10.00	21.21	10.00
51	6.00	6.36	6.00	6.00	4.00	6.00
52	6.00	4.55	6.00	12.00	9.84	10.00
53	6.00	4.69	5.00	12.00	12.70	12.00
54	6.00	4.42	5.00	12.00	20.97	12.00
55	6.00	3.91	5.00	12.00	15.94	12.00
56	6.00	6.53	6.00	14.00	20.00	14.00
57	6.00	3.06	5.00	16.00	16.48	16.00
58	9.00	9.95	9.00	18.00	23.08	20.00
59	16.00	9.64	14.00	24.00	25.24	24.00
60	20.00	20.75	20.00	35.00	25.00	30.00
61	16.00	14.17	14.00	28.00	23.64	24.00
62	20.00	27.18	20.00	35.00	15.22	30.00
63	20.00	14.43	20.00	30.00	38.71	30.00
64	20.00	22.99	20.00	30.00	11.11	30.00
65	35.00	30.38	33.00	35.00	31.58	33.00
66	35.00	31.48	33.00	35.00	43.75	33.00
67	35.00	30.00	30.00	35.00	33.33	30.00
68	35.00	25.93	30.00	35.00	30.77	30.00
69	40.00	15.00	35.00	40.00	0.00	35.00
70 & Over	100.00	28.89	100.00	100.00	14.29	100.00

Based on this experience, we recommend decreasing the retirement rate assumption at certain ages while increasing the retirement rate assumption at other ages. Overall, the proposed rates represent a decrease from the current rates for General Tier I members.

Chart 3 that follows later in this section compares actual to expected retirements over the past three years for both the current and proposed assumptions for all General and Safety Tier I members.

Chart 4 compares the actual retirement experience with the current and proposed assumptions for General Tier I members with less than 25 years of service.

Chart 5 compares the actual retirement experience with the current and proposed assumptions for General Tier I members with 25 or more years of service.

The following table shows the observed service retirement rates for Safety Tier I members based on the actual experience over the past three years, separately for those with less than 25 years of service and more than 25 years of service.

Safety Tier I

Rate of Retirement (%)

	Less than 25 Years of Service			25 or More Years of Service		
Age	Current Rate	Actual Rate	Proposed Rate	Current Rate	Actual Rate	Proposed Rate
41	0.00	5.56	5.00	0.00	N/A	5.00
42	0.00	10.00	5.00	0.00	N/A	5.00
43	0.00	10.00	5.00	0.00	N/A	5.00
44	0.00	3.70	5.00	0.00	N/A	5.00
45	5.00	4.48	5.00	5.00	0.00	5.00
46	5.00	8.11	5.00	5.00	33.33	5.00
47	5.00	10.29	8.00	5.00	16.67	8.00
48	5.00	11.67	8.00	5.00	0.00	8.00
49	25.00	19.12	22.00	25.00	37.50	36.00
50	10.00	24.00	16.00	30.00	36.84	36.00
51	8.00	15.58	10.00	24.00	38.46	30.00
52	8.00	12.50	10.00	24.00	45.45	30.00
53	8.00	13.33	10.00	24.00	25.00	30.00
54	12.00	13.89	12.00	24.00	30.00	28.00
55	14.00	12.00	14.00	28.00	46.15	28.00
56	14.00	15.00	14.00	28.00	45.45	28.00
57	8.00	20.00	14.00	28.00	54.55	28.00
58	8.00	20.00	14.00	28.00	12.50	28.00
59	14.00	12.50	14.00	28.00	42.86	28.00
60	25.00	37.50	30.00	28.00	50.00	60.00
61	25.00	25.00	30.00	50.00	28.57	60.00
62	25.00	50.00	30.00	50.00	50.00	60.00
63	25.00	25.00	30.00	50.00	33.33	60.00
64	25.00	50.00	30.00	50.00	60.00	60.00
65 & Over	100.00	29.41	100.00	100.00	20.00	100.00

Based on this experience, we recommend increasing the retirement rate assumption at certain ages while decreasing the retirement rate assumption at other ages. Overall, the proposed rates represent an increase from the current rates for Safety Tier I members.

Chart 6 compares the actual retirement experience with the current and proposed assumptions for Safety Tier I members with less than 25 years of service.

Chart 7 compares the actual retirement experience with the current and proposed assumptions for Safety Tier I members with 25 or more years of service.

The following table shows the observed service retirement rates for General Tier II members based on the actual experience over the past three years. Also shown are the current assumed rates and the rates we propose.

General Tier IIA and IIB

Rate of Retirement (%)

Age	Current Rate	Actual Rate	Proposed Rate
50	5.00	4.76	5.00
51	3.00	6.25	3.00
52	3.00	6.25	3.00
53	3.00	0.00	3.00
54	3.50	6.06	3.25
55	4.00	0.00	3.50
56	4.50	8.00	4.00
57	5.00	0.00	4.50
58	6.50	12.00	6.50
59	11.00	7.14	11.00
60	12.00	4.55	12.00
61	13.00	13.79	13.00
62	20.00	20.00	20.00
63	20.00	9.09	20.00
64	20.00	46.67	20.00
65	35.00	33.33	33.00
66	35.00	28.57	33.00
67	35.00	14.29	30.00
68	35.00	16.67	30.00
69	40.00	28.57	35.00
70 & Over	100.00	6.90	100.00

Based on this experience, we recommend decreasing the retirement rate assumption at certain ages. Overall, the proposed rates represent a decrease from the current rates for General Tier II members.

Chart 8 compares the actual retirement experience with the current and proposed assumptions for General Tier II members

The following table shows the current assumed service retirement rates and the rates we propose for General Tier III and Safety Tier II members. There were no active retirements from General Tier III and few retirements from Safety Tier II over the past three years, so no actual rates are shown. We have based our recommended rates for General Tier III and Safety Tier II on a combination of the current assumptions for those tiers and the actual retirement experience that occurred for General Tier I, General Tier II, and Safety Tier I members.

General Tier III and Safety Tier II

Rate of Retirement (%)

Age	Current General Tier III Rate	Proposed General Tier III Rate	Current Safety Tier II Rate	Proposed Safety Tier II Rate
50	0.00	0.00	3.00	5.00
51	0.00	0.00	3.00	3.00
52	3.00	3.00	3.00	3.00
53	3.00	3.00	5.00	5.00
54	3.50	3.25	11.00	11.00
55	4.00	3.50	13.00	13.00
56	4.50	4.00	12.00	12.00
57	5.00	4.50	12.00	12.00
58	6.50	6.50	12.00	12.00
59	11.00	11.00	12.00	12.00
60	12.00	12.00	12.00	15.00
61	13.00	13.00	12.00	15.00
62	20.00	20.00	25.00	30.00
63	20.00	20.00	25.00	30.00
64	20.00	20.00	25.00	30.00
65	35.00	33.00	100.00	100.00
66	35.00	33.00	100.00	100.00
67	35.00	30.00	100.00	100.00
68	35.00	30.00	100.00	100.00
69	40.00	35.00	100.00	100.00
70 & Over	100.00	100.00	100.00	100.00

Due to the limited actual experience, we recommend changing the retirement rate assumption consistent with the changes made for General Tier II members and Safety Tier I members with less than 25 years of service. Overall, the proposed rates represent a slight decrease from the current rates for General Tier III members and a slight increase from the current rates for Safety Tier II members.

Chart 9 shows the current and proposed assumptions for General Tier III members.

Chart 10 shows the current and proposed assumptions for Safety Tier II members.

Deferred Vested Members

Under the current assumptions, deferred vested General members are assumed to retire at age 57 and Safety members are assumed to retire at age 53.

The following table shows the observed deferred vested retirement age for General non-reciprocal, General reciprocal, and Safety members based on the actual experience over the past three years. Based on the limited data on Safety deferred vested retirements over the past three years, there was not a significant difference between the actual retirement ages for reciprocal and non-reciprocal deferred vested members, so we have continued to combine the experience for these groups.[1] Also shown are the current assumed retirement ages and the retirement ages we propose.

Deferred Vested Retirement Age

	General Non-Reciprocal Members	General Reciprocal Members	Safety Members
Current Assumption	57.0	57.0	53.0
Actual Average Age	55.7	60.2	50.0
Proposed Assumption	**56.0**	**60.0**	**51.0**

Based on this experience, we recommend decreasing the deferred vested retirement age assumption for General non-reciprocal members from age 57 to 56, increasing the deferred vested retirement age for General reciprocal members from age 57 to 60, and decreasing the deferred vested retirement age for Safety members from age 53 to age 51.

Reciprocity

Under current assumptions, it is assumed that 45% of General and 60% of Safety future deferred vested members will be covered under a reciprocal retirement system. As of June 30, 2022, about 40% of the total General deferred vested members and 56% of the total Safety deferred vested members went on to be covered by a reciprocal retirement system. The actual reciprocal percentages shown above are as of June 30, 2022 instead of an average over three years.

Based on this experience, we recommend maintaining the future reciprocal assumption for General members at 45% and maintaining the future reciprocal assumption for Safety members at 60%. This recommendation takes into account the experience of all deferred vested members as of June 30, 2022 instead of just new deferred vested members during the three-year period. This is because there is a lag between a member's date of termination and the time that it is known if they have reciprocity with a reciprocal retirement system.

[1] For Safety, the difference in the average retirement age for reciprocal and non-reciprocal members was about 0.98 years. We will continue to monitor the retirement ages for Safety reciprocal and non-reciprocal deferred vesteds in future experience studies.

Survivor Continuance Under the Unmodified Option

In prior valuations, it was assumed that all members would select the unmodified option at retirement. Actual experience for recent new retirees shows that around 86% select the unmodified option. **Therefore, we recommend maintaining the assumption that all members will elect the unmodified option at retirement.**

Under current assumptions, it is assumed that 70% of all active and inactive male members and 60% of all active and inactive female members would be married or have an eligible domestic partner at the time of their retirement or pre-retirement death. We reviewed experience for new retirees during the three-year period and determined the actual percentage of these new retirees electing the unmodified option that had an eligible spouse or eligible domestic partner at the time of retirement. The results of that analysis are shown below.

New Retirees – Actual Percent Electing the Unmodified Option with Eligible Spouse or Domestic Partner

Year Ending June 30	Male	Female
2020	61%	55%
2021	68%	57%
2022	66%	57%
Total	**65%**	**56%**

According to experience of members who retired during the last three years, about 65% of all male members and 56% of all female members who selected the unmodified option were married or had a domestic partner at retirement

Based on this experience, we recommend decreasing the percent married assumption for male members from 70% to 65%, and decreasing the percent married assumption for female members from 60% to 55%.

Since the present value of the survivor's automatic continuance benefit is dependent on the survivor's age and sex, we must also have assumptions for the age and sex of the survivor. Based on the experience for members who retired during the most recent three-year period (results shown in the table below) and studies done for other retirement systems, **we recommend the following:**

1. Since most of the actual survivors are of the opposite sex, even with the inclusion of domestic partners, **we will continue to assume that all active and inactive members have a survivor of the opposite sex.**
2. **Based on the experience over three years, we recommend maintaining the spouse age difference assumption that male retirees are three years older than their spouses and maintaining the spouse age difference assumption that female retirees are two years younger than their spouses.** These assumptions will continue to be monitored in future experience studies.

Member's Age as Compared to Spouse's Age

	Male Retiree	Female Retiree
Current Assumption	3 years older	2 years younger
Actual Experience	1.6 years older[1]	1.7 years younger
Proposed Assumption	**3 years older**	**2 years younger**

[1] In the prior three-year period, new male retirees were 3.3 years older than their spouses.

Chart 3: Actual Number of Retirements Compared to Expected for General and Safety Tier I (July 1, 2019 through June 30, 2022)

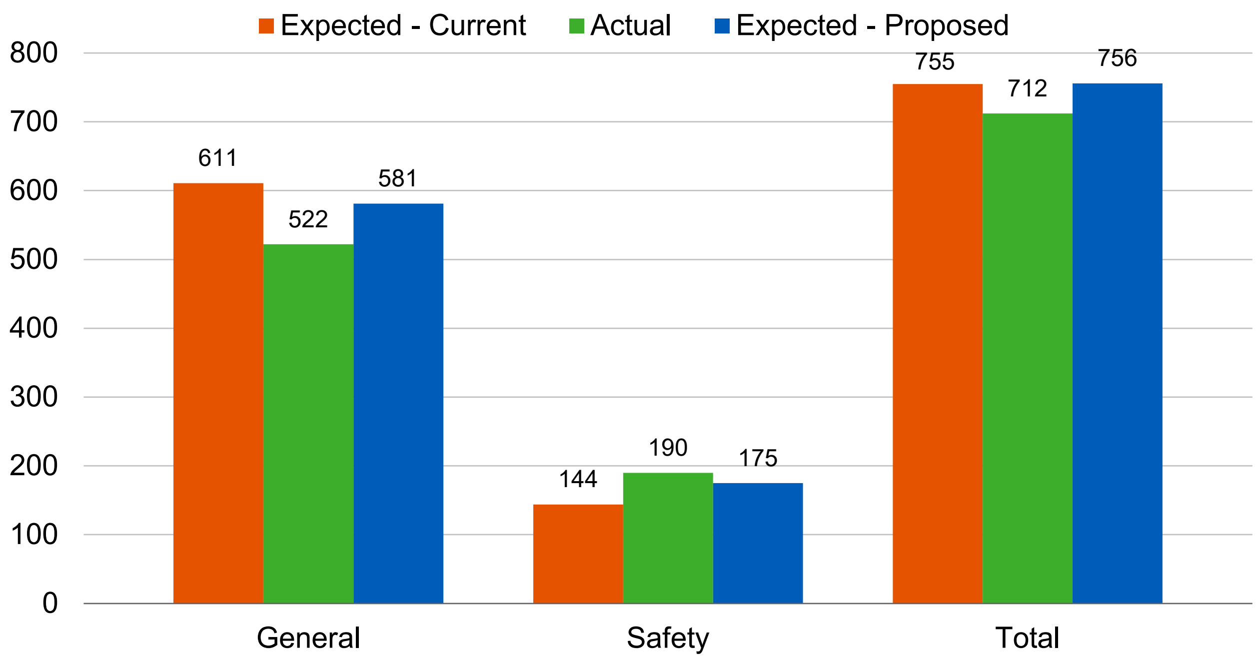


Chart 4: Retirement Rates General Tier I Members with Less than 25 Years of Service

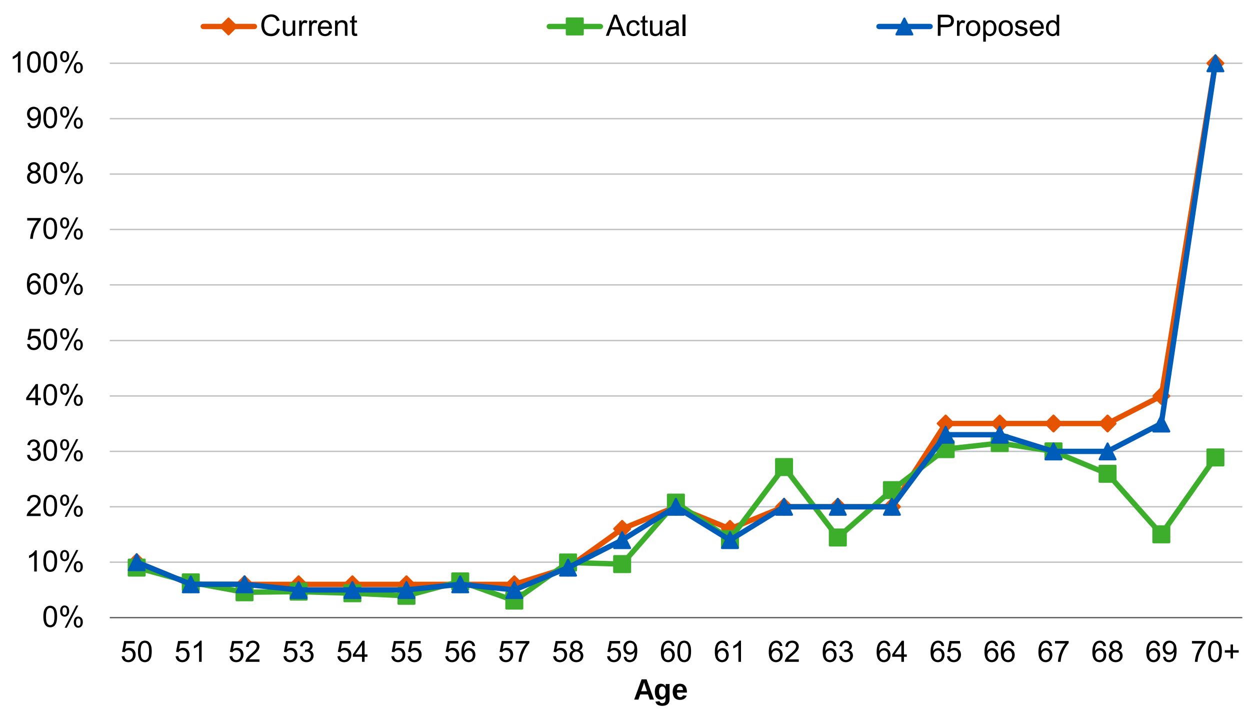


Chart 5: Retirement Rates
General Tier I Members with 25 or More Years of Service

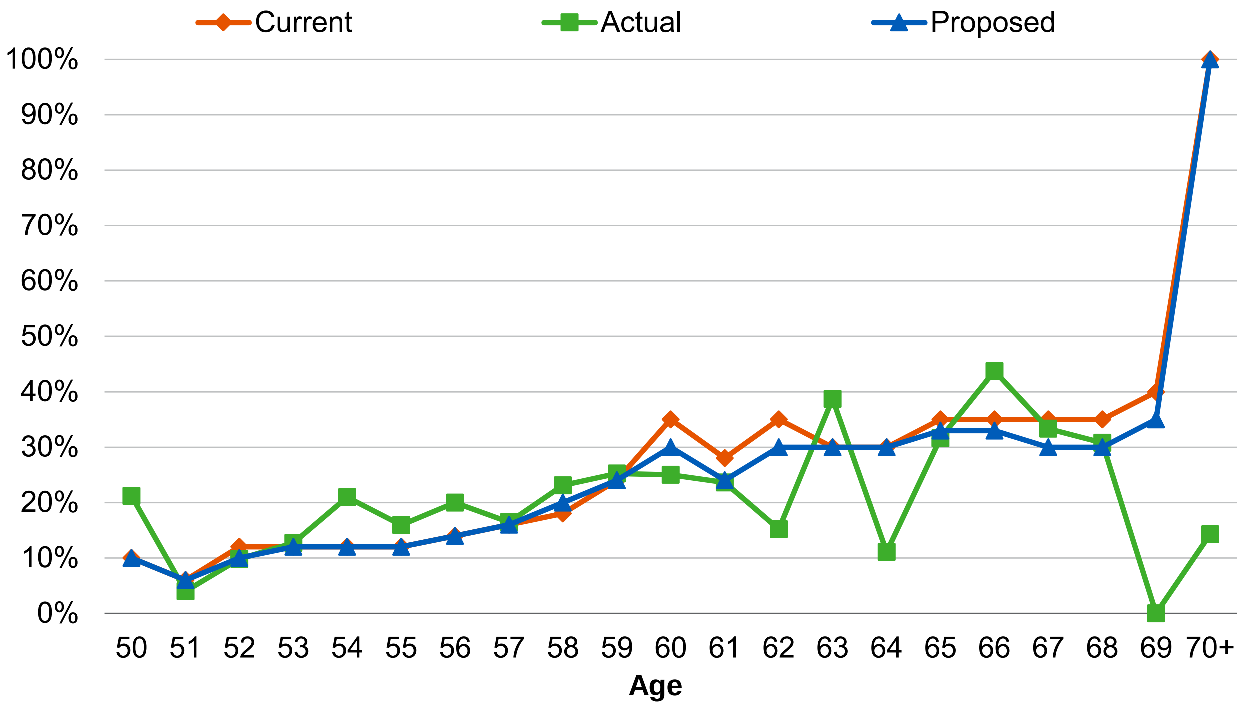


Chart 6: Retirement Rates
Safety Tier I Members with Less than 25 Years of Service

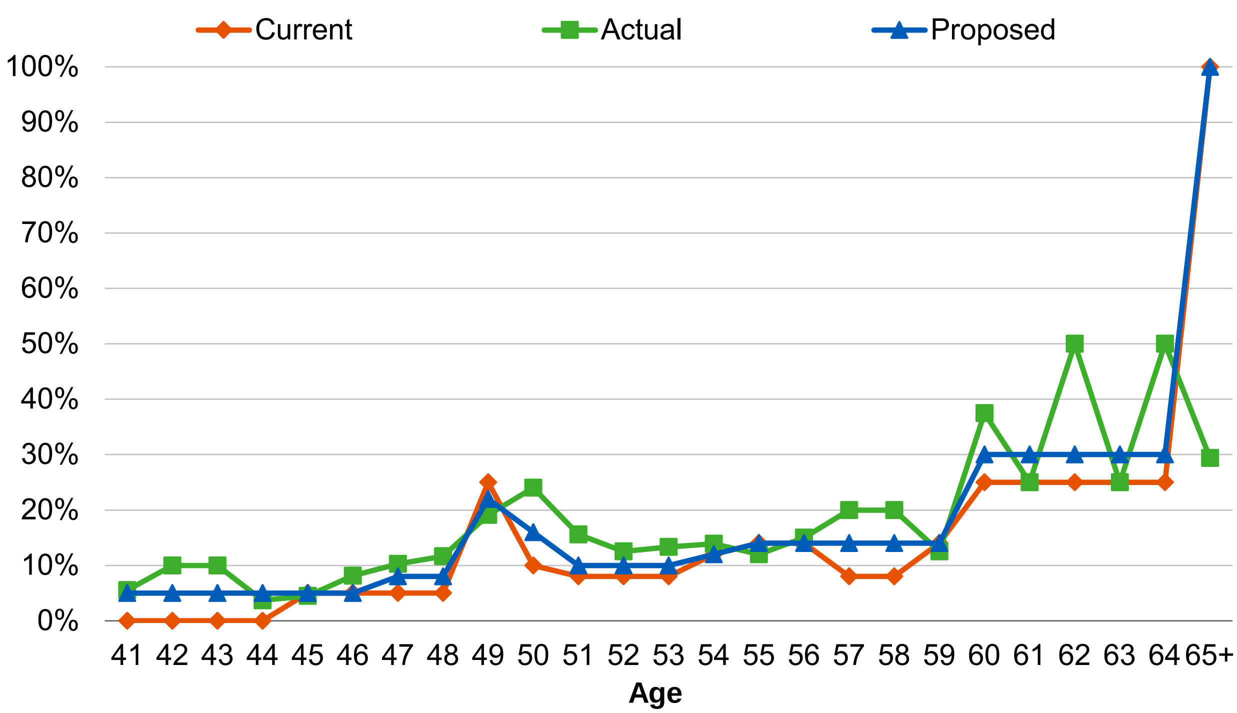


Chart 7: Retirement Rates
Safety Tier I Members with 25 or More Years of Service

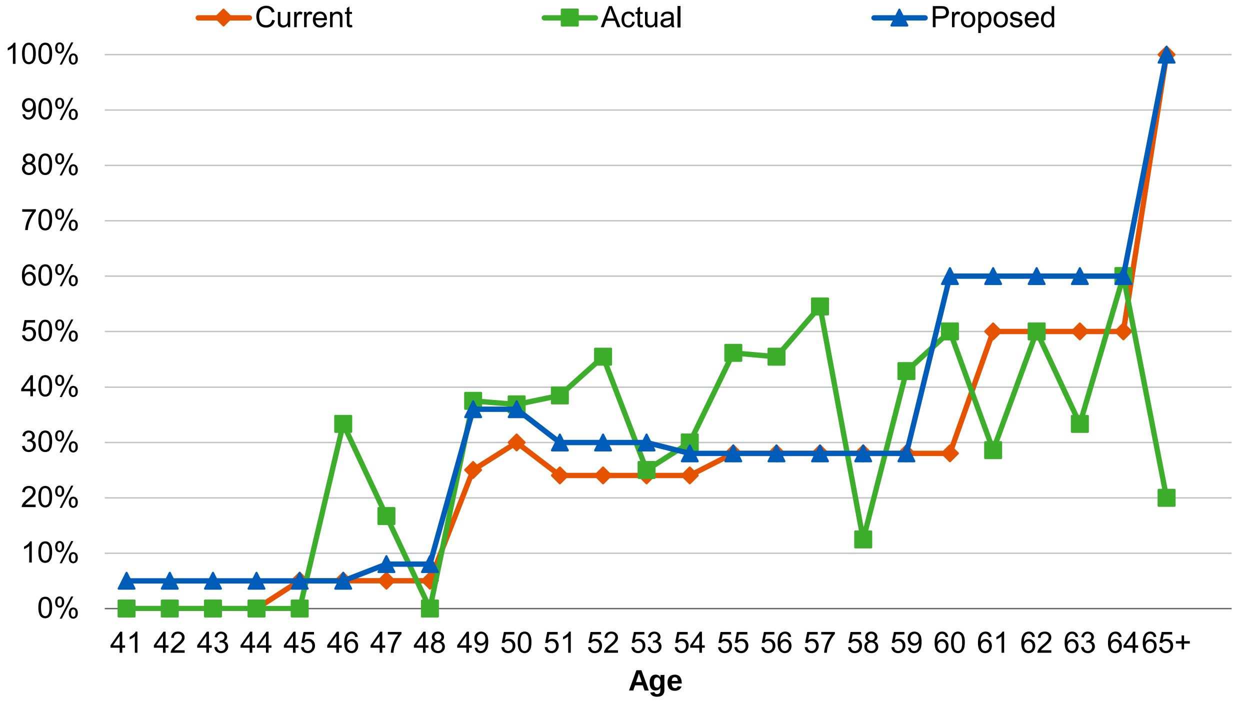


Chart 8: Retirement Rates
General Tier II Members

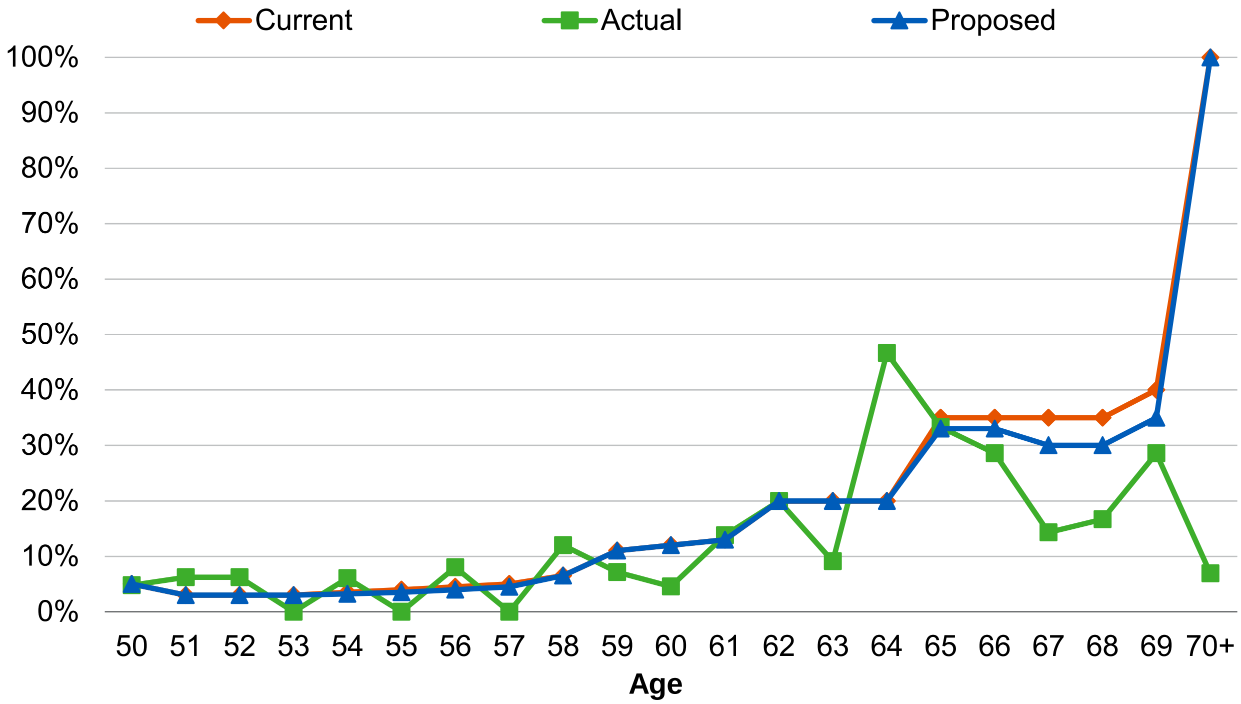


Chart 9: Retirement Rates
General Tier III Members

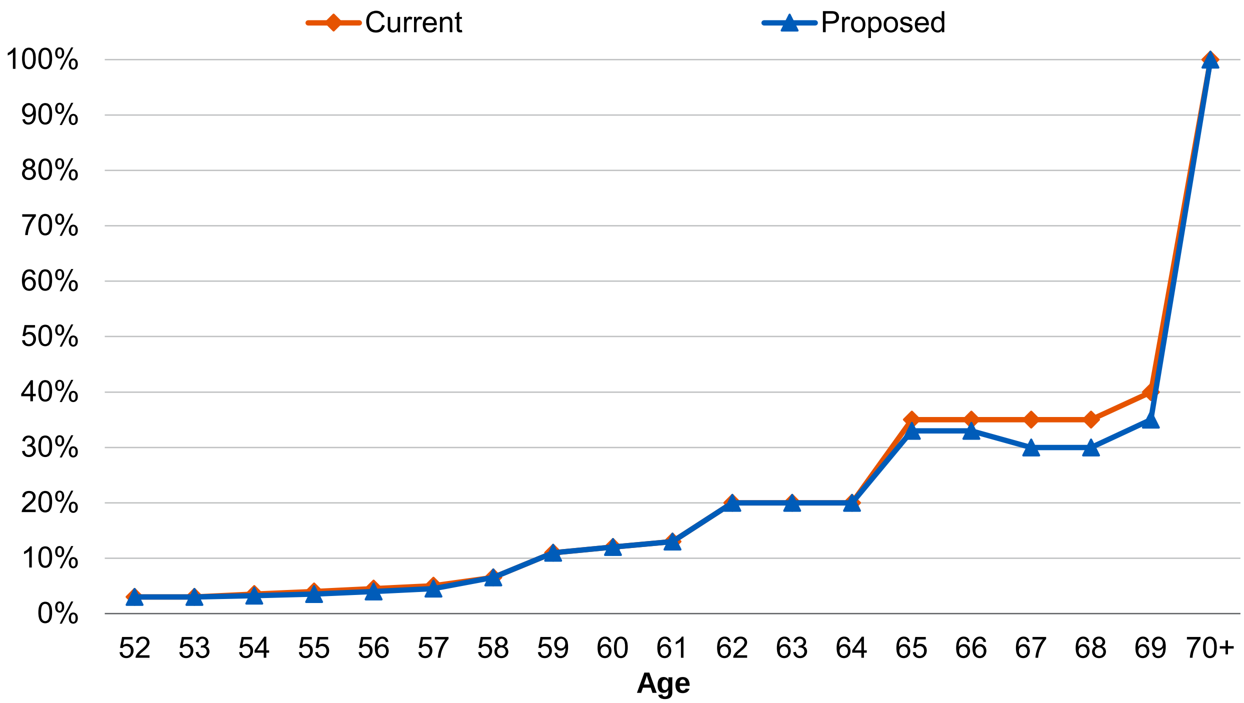
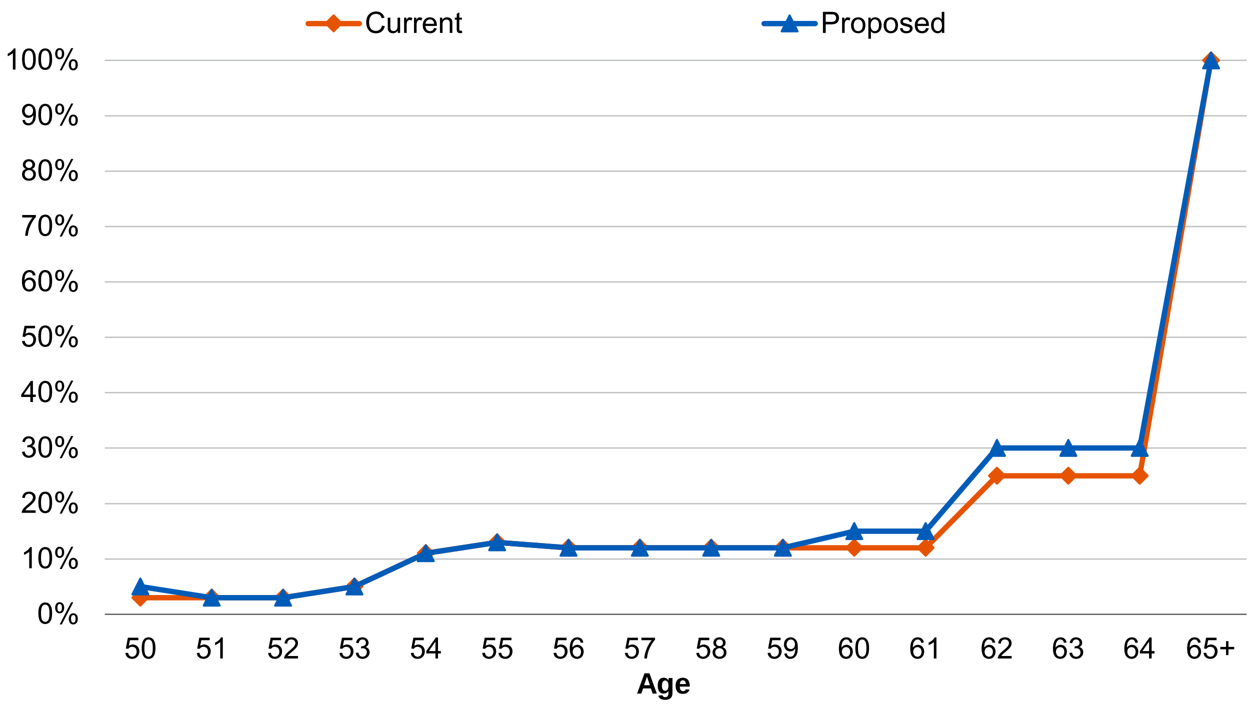


Chart 10: Retirement Rates
Safety Tier II Members



B. Mortality Rates - Healthy

The “healthy” mortality rates project the life expectancy of a member who retires from service (i.e., who did not retire on a disability pension). Also, the “healthy” pre-retirement mortality rates project what proportion of members will die before retirement. For General members, the table currently being used for post-service retirement mortality rates is the 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-2019. For Safety members, the table currently being used for post-service retirement mortality rates is the 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. For all beneficiaries, the table currently being used is the Pub-2010 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 Public Retirement Plans Mortality tables (Pub-2010) were published by the Retirement Plans Experience Committee (RPEC) of the SOA in 2019. For the first time, the published mortality tables are based exclusively on public sector pension plan experience in the United States. Within the Pub-2010 family of mortality tables, there are separate tables by job categories of General, Safety and Teachers. Included with the mortality tables is the analysis prepared by RPEC that continues to observe that benefit amount for healthy retirees and salary for employees are the most significant predictors of mortality differences within the job categories. Therefore, Pub-2010 includes mortality rates developed for annuitants on a “benefit” weighted basis, with higher credibility assigned to experience from annuitants receiving larger benefits. We continue to recommend using the "amount weighted" median version of the Pub-2010 mortality tables for General and the above-median version of the Pub-2010 mortality tables for Safety (adjusted for KCERA experience as discussed herein).

We also continue to recommend that the mortality improvement scale be applied generationally where each future year has its own mortality table that reflects the forecasted improvements, using the published improvement scales. The “generational” approach is now the established practice within the actuarial profession.

A generational mortality table provides dynamic projections of mortality experience for each cohort of retirees. For example, the mortality rate for someone who is 65 next year will be slightly less than for someone who is 65 this year. In general, using generational mortality anticipates increases in the cost of the Plan over time as participants’ life expectancies are projected to increase.

We understand that RPEC intends to publish annual updates to their mortality improvement scales. Improvement scale MP-2021 is the latest improvement scale available as RPEC decided not to release an updated projection scale in 2022. According to RPEC, they have been relying on the most recent population mortality experience in their model to project future mortality trends. In 2022, if they were to follow their past practice, they would have relied on the newest mortality data available from 2020 to prepare their “MP-2022” mortality improvement scale. However, population data from 2020 was severely affected by the COVID-19 pandemic. They believed it would not be appropriate to incorporate, without adjustment, the substantially higher rates of population mortality experience from 2020 into their graduation and projection models used to forecast future mortality. As a result, they elected not to release a new mortality improvement scale for 2022. We recommend that the Board adopt the Amount-Weighted Pub-2010 mortality tables for General members and the Amount-Weighted Above-Median Pub-2010 mortality tables for Safety members (adjusted for KCERA experience as discussed herein), and project the mortality improvement generationally using the MP-2021 mortality improvement scale.

In order to reflect more KCERA experience in our analysis, we have used experience for a twelve-year period by using data from the current (from July 1, 2019 through June 30, 2022 and the last three (from July 1, 2016 through June 30, 2019; from July 1, 2013 to June 30, 2016; and from July 1, 2010 to June 30, 2013) experience study periods in order to analyze this assumption. While we did not have information on the number of COVID-19 related deaths during the current three-year period, we noticed a spike in the number of deaths for 2020-2021 and 2021-2022. While the long-term impact of COVID-19 is still unknown, we have excluded the mortality data from 2020-2021 and 2021-2022 in setting our proposed mortality assumptions.

Even with the use of ten years of experience, based on standard statistical theory the data is only partially credible especially under the recommended amount-weighted basis when dispersion of retirees' benefit amounts is taken into account. In 2008 the SOA published an article recommending that mortality assumptions include an adjustment for credibility. Under this approach, the number of deaths needed for full credibility for a headcount-weighted mortality table is just over 1,000, where full credibility means a 90% confidence that the actual experience will be within 5% of the expected value. Therefore, in our recommended assumptions, we have only partially adjusted the Pub-2010 mortality tables to fit KCERA's experience. In future experience studies, more data will be available which may further increase the credibility of the KCERA experience.

Post-Retirement Mortality (Service Retirements)

Among all retired members, the actual deaths weighted by benefit amounts under the current assumptions for the ten-year period are shown in the table below. We also show the deaths weighted by benefit amount under the proposed assumptions. We continue to recommend the use of a generational mortality table, which incorporates a more explicit assumption for future mortality improvement. Accordingly, the goal is to start with a mortality table that closely matches the current experience (without a margin for future mortality improvement), and then reflect mortality improvement by projecting lower mortality rates in future years.

The proposed mortality table also reflects current experience to the extent that the experience is credible based on standard statistical theory. For KCERA, the volume of Safety member data is much less than the General member data, which makes the Safety group substantially less credible. As shown in the table below, the proposed mortality tables have actual to expected ratios of 106% and 104% for General and Safety, respectively, after adjustments for partial credibility. In future years the ratio should remain around 106% and 104% for General and Safety, respectively, as long as actual mortality improves at the same rates as anticipated by the generational mortality tables. The number of actual deaths compared to the number expected under the current and proposed assumptions weighted by benefit amounts for the ten-year period are as follows:

Healthy Retiree Mortality Experience – Benefit Weighted
(Dollars in millions)

	General Members			Safety Members		
Gender	**Current Expected Weighted Deaths**	**Actual Weighted Deaths**	**Proposed Expected Weighted Deaths**	**Current Expected Weighted Deaths**	**Actual Weighted Deaths**	**Proposed Expected Weighted Deaths**
Male	$160.35	$166.63	$160.12	$88.68	$93.38	$88.55
Female	142.19	154.79	141.79	5.83	5.18	5.81
Total	**$302.54**	**$321.42**	**$301.91**	**$94.52**	**$98.56**	**$94.36**
Actual / Expected	**106%**		**106%**[1]	**104%**		**104%**

Notes:
1. Experience shown above is weighted by annual benefit amounts for deceased members.
2. Expected amounts under the proposed generational mortality table are based on mortality rates from the base year projected with mortality improvements to the experience study period.
3. Results may not add due to rounding.

For General members, we recommend maintaining the current assumption that the post-retirement mortality follow the 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. We recommend updating the two-dimensional mortality improvement scale used for the generational projection from MP-2019 to MP-2021.

For Safety members, we recommend maintaining the current assumption that the post-retirement mortality follow the Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally. We recommend updating the two-dimensional mortality improvement scale used for the generational projection from MP-2019 to MP-2021.

Chart 11 that follows later in this section compares the number of actual to expected deaths on a benefit-weighted basis over the ten-year period for the current and proposed assumptions for Service Retirement General members.

Chart 12 compares the number of actual to expected deaths on a benefit-weighted basis over the ten-year period for the current and proposed assumptions for Service Retirement Safety members.

Chart 13 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for General members on a benefit-weighted basis. Life expectancies under the proposed generational mortality rates are based on age as of 2023. In practice, assumed life expectancies will increase as a result of the mortality improvement scale.

[1] If we used the benchmark Pub-2010 General Healthy Retiree table without any adjustment, the proposed actual to expected ratio would be 113%.

Chart 14 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for Safety members on a benefit-weighted basis. Life expectancies under the proposed generational mortality rates are based on age as of 2023. In practice, assumed life expectancies will increase as a result of the mortality improvement scale.

Beneficiary Mortality

The Pub-2010 Contingent Survivors Table is developed based only on contingent survivor data after the death of the retirees. This is consistent with the mortality experience that we have available for beneficiaries. The Pub-2010 Contingent Survivor mortality rates are comparable to KCERA's actual mortality experience for beneficiaries. However, in contrast to service retirees, there is less beneficiary data, so it is given less credibility when adjusting the base table. As shown in the table below, the proposed mortality tables have an actual to expected ratio of 108%, after adjustments for partial credibility. In future years the ratio should remain around 108% as long as actual mortality improves at the same rates as anticipated by the generational mortality tables. The number of actual deaths compared to the number expected under the current and proposed assumptions weighted by benefit amounts for the ten-year period are as follows:

Beneficiary Mortality Experience – Benefit Weighted
(Dollars in millions)

Gender	Current Expected Weighted Deaths	Actual Weighted Deaths	Proposed Expected Weighted Deaths
Male	$14.20	$17.92	$14.18
Female	80.63	80.17	76.81
Total	$94.83	$98.09	$90.98
Actual / Expected	**103%**		**108%**[1]

Notes:

1. Experience shown above is weighted by annual benefit amounts for deceased beneficiaries.
2. Expected amounts under the proposed generational mortality table are based on mortality rates from the base year projected with mortality improvements to the experience study period.
3. Results may not add due to rounding.

For all beneficiaries, we recommend updating the beneficiary mortality to follow the Pub-2010 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.

As noted above, the Contingent Survivor mortality tables are developed based on contingent survivor data only after the death of the retirees (i.e., it does not reflect any contingent survivor

[1] If we used the benchmark Pub-2010 Contingent Survivor table without any adjustment, the proposed actual to expected ratio would be 114%.

data before the death of the retirees). In the last experience study, we recommended that the Board applied the Contingent Survivor mortality tables to predict the mortality rates for the beneficiaries both before and after the death of the retirees. According to analysis provided by RPEC, the mortality rates for the beneficiaries could be somewhat overstated before the death of the retirees as the Contingent Survivor mortality tended to be higher than retiree mortality and the difference was statistically significant. Based on this analysis, for the purposes of the actuarial valuations (for funding and financial reporting), when calculating the liability for the continuance to a beneficiary of a surviving member, we recommend that the General Healthy Retiree mortality tables be used for beneficiary mortality both before and after the expected death of the General or Safety member. Upon the actual death of the member (i.e., for all beneficiaries in pay status as of the valuation date), we recommend for the purposes of the actuarial valuations that we use the Contingent Survivor mortality tables as stated above. We note that the use of different mortality tables (before and after the death of the member) has been found by the RPEC to be reasonable.

Pre-Retirement Mortality

For General members, the table currently being used for pre-retirement mortality rates is the Pub-2010 General Employee Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional scale MP-2019. For Safety members, the table currently being used for pre-retirement mortality rates is the Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional scale MP-2019. When analyzing pre-retirement mortality, there is much less data available, so it is given little credibility when adjusting the base table.

For General members, we recommend maintaining the assumption that the pre-retirement mortality follow the Pub-2010 General Employee Amount-Weighted Mortality Table (separate tables for males and females), projected generationally. We recommend updating the two-dimensional mortality improvement scale used for the generational projection from MP-2019 to MP-2021.

For Safety members, we recommend maintaining the assumption that the pre-retirement mortality follow the Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally. We recommend updating the two-dimensional mortality improvement scale used for the generational projection from MP-2019 to MP-2021.

Based on actual experience during the three-year experience study period, we also recommend maintaining the current assumption for pre-retirement mortality of 100% non-service connected for both General and Safety members.[1]

Mortality Table for Member Contributions, Optional Forms of Payments, and Reserves

There are administrative reasons why a generational mortality table is more difficult to implement for determining member contributions for legacy tiers (i.e., General Tier I, General

[1] While it is possible that COVID-19 deaths for members in certain industries may be considered service connected, we do not recommend a change in our assumption to reflect this possible short-term increase in service connected deaths.

Tier IIA, Safety Tier I and Safety Tier IIA), optional forms of payment, and reserves. One emerging practice is to approximate the use of a generational mortality table by the use of a static table with projection of the mortality improvement from the measurement year over a period that is close to the duration of the benefit payments for active members. We would recommend the use of this approximation for determining member contributions for employees in the legacy tiers.

For General members, we recommend that the mortality table used for determining contributions be updated to a blended table based on the 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 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2021, weighted 30% male and 70% female.

For Safety members, we recommend that the mortality table used for determining contributions be updated to a blended table based on the 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.

KCERA has implemented the use of a generational mortality table for determining optional forms of payment and reserves since the last experience study. We will provide the recommended mortality assumptions to KCERA in a separate letter at a later date similar to prior years.

Chart 11: Post-Retirement Benefit-Weighted Deaths ($ in Millions) Service Retirement General Members (July 1, 2010 through June 30, 2020)

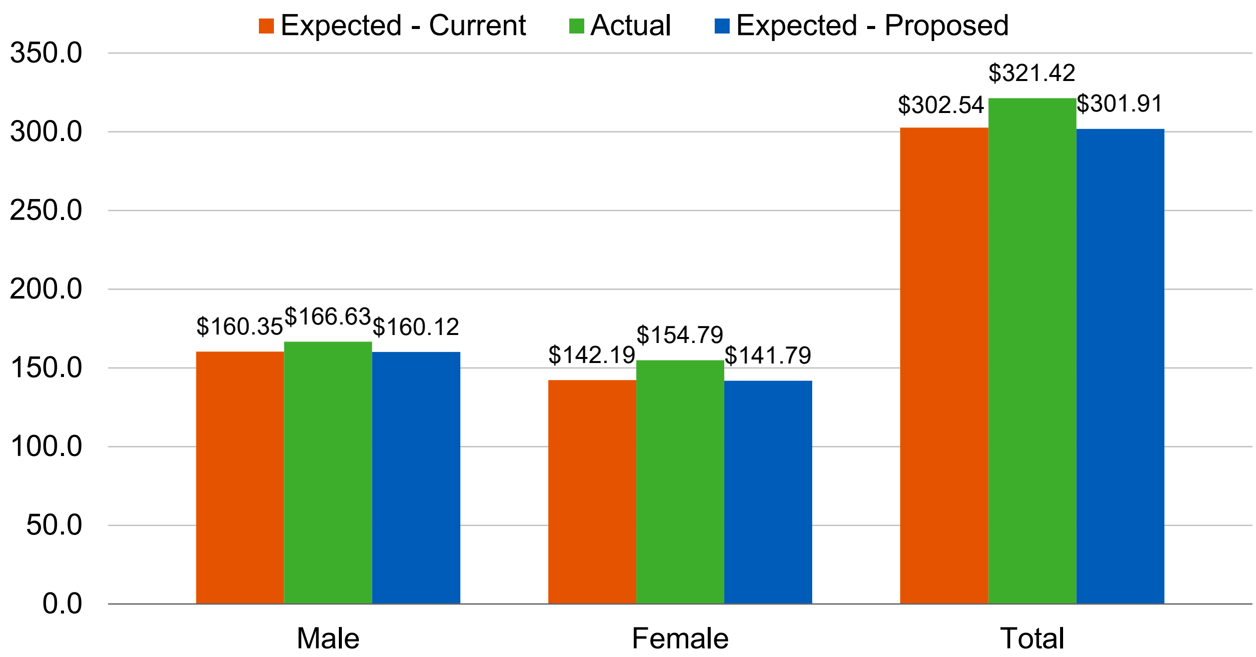


Chart 12: Post-Retirement Benefit-Weighted Deaths ($ in Millions) Service Retirement Safety Members (July 1, 2010 through June 30, 2020)

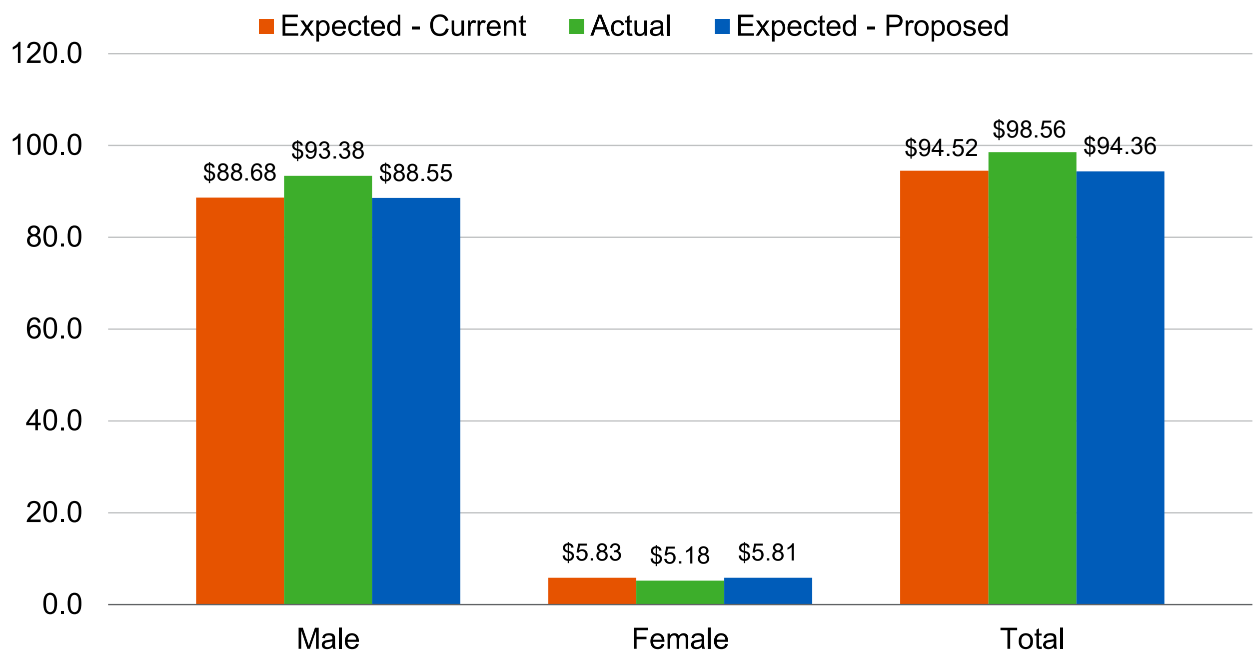


Chart 13: Benefit-Weighted Life Expectancies
Service Retirement General Members

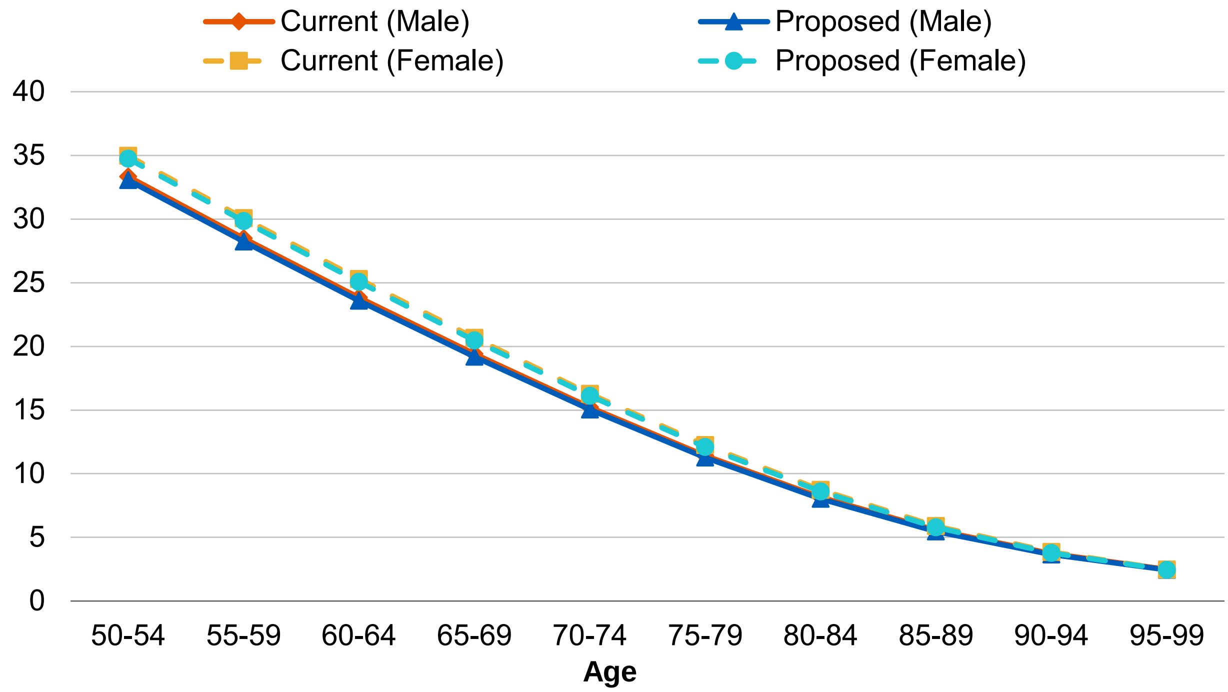
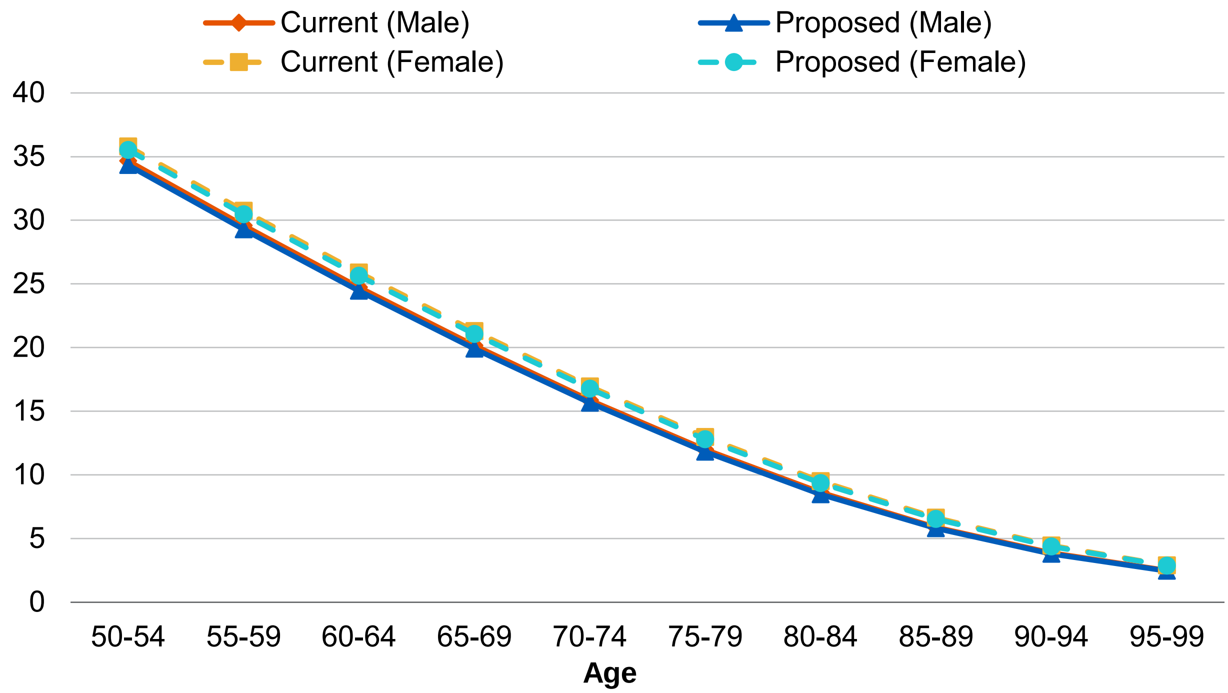


Chart 14: Benefit-Weighted Life Expectancies
Service Retirement Safety Members



C. Mortality Rates - Disabled

Since mortality rates for disabled members can vary from those of healthy members, a different mortality assumption is often used. For General members the table currently being used is the 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. For Safety members, the table currently being used is the 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.

Similar to mortality rates for service retirees, the proposed mortality table reflects current experience to the extent that the experience is credible based on standard statistical theory. For KCERA, there is far less data for disabled retirees, so it is given little credibility, even using experience for a ten-year period. As shown in the table below, the proposed mortality tables have actual to expected ratios of 88% and 100% for General and Safety respectively, after adjustments for partial credibility. In future years the ratio should remain around 88% and 100% for General and Safety, respectively, as long as actual mortality improves at the same rates as anticipated by the generational mortality tables. The number of actual deaths compared to the number expected under the current and proposed assumptions weighted by benefit amounts for the ten-year period are as follows:

Disabled Retiree Mortality Experience – Benefit Weighted
(Dollars in millions)

	General Members			Safety Members		
Gender	**Current Expected Weighted Deaths**	**Actual Weighted Deaths**	**Proposed Expected Weighted Deaths**	**Current Expected Weighted Deaths**	**Actual Weighted Deaths**	**Proposed Expected Weighted Deaths**
Male	$18.05	$16.04	$18.02	$40.31	$37.88	$38.34
Female	20.59	17.94	20.53	2.56	2.99	2.42
Total	**$38.63**	**$33.98**	**$38.55**	**$42.87**	**$40.87**	**$40.76**
Actual / Expected	**88%**		**88%**[1]	**95%**		**100%**

Notes:

1. Experience shown above is weighted by annual benefit amounts for deceased members.
2. Expected amounts under the proposed generational mortality table are based on mortality rates from the base year projected with mortality improvements to the experience study period.
3. Results may not add due to rounding.

For General disabled members, we recommend maintaining the assumption that the disabled mortality follow the Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), with rates decreased by 5% for

[1] If we use the benchmark Pub-2010 Non-Safety Disabled table without any adjustment, the proposed actual to expected ratio would be 84%.

males and females, projected generationally. We recommend updating the two-dimensional mortality improvement scale used for the generational projection from MP-2019 to MP-2021.

For Safety disabled members, we recommend updating the disabled mortality to follow the 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.

Chart 15 compares the number of actual to expected deaths on a benefit-weighted basis over the ten-year period for the current and proposed assumptions for disabled General members.

Chart 16 compares the number of actual to expected deaths on a benefit-weighted basis over the ten-year period for the current and proposed assumptions for disabled Safety members.

Chart 17 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for disabled General members on a benefit-weighted basis. Life expectancies under the current and proposed generational mortality rates are based on age as of 2023. In practice, life expectancies will be assumed to increase as a result of the mortality improvement scale.

Chart 18 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for disabled Safety members on a benefit-weighted basis. Life expectancies under the current and proposed generational mortality rates are based on age as of 2023. In practice, life expectancies will be assumed to increase as a result of the mortality improvement scale.

Chart 15: Post-Retirement Benefit-Weighted Deaths ($ in Millions)
Disabled General Members
(July 1, 2010 through June 30, 2020)

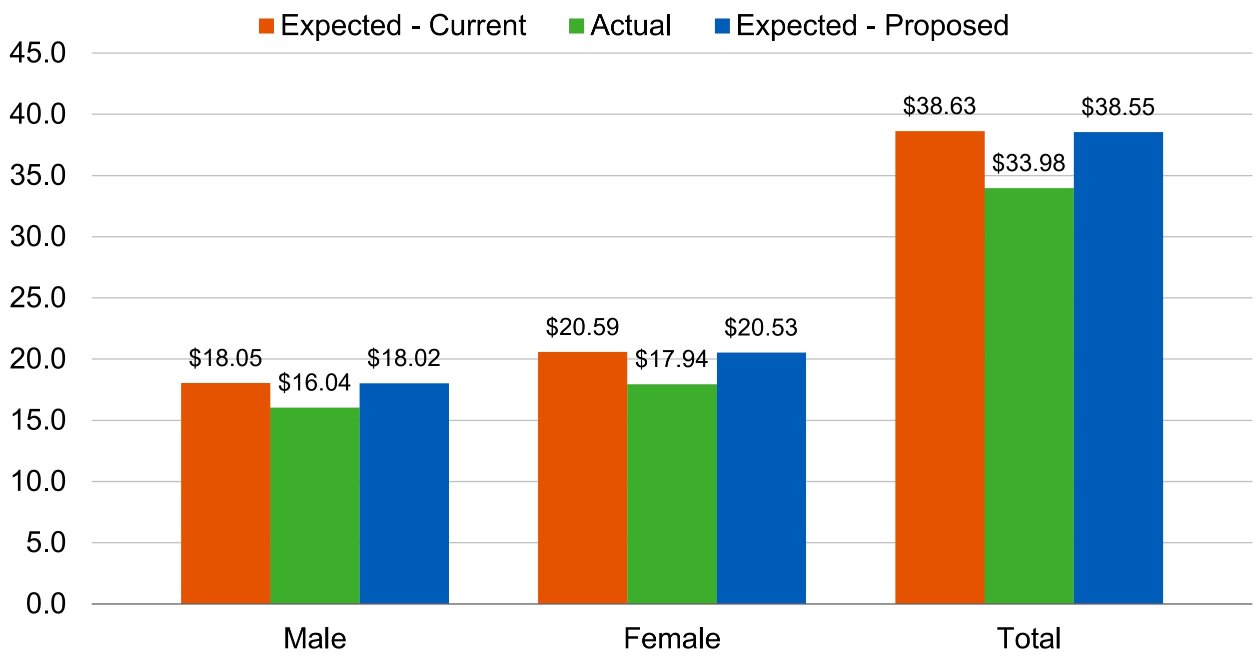


Chart 16: Post-Retirement Benefit-Weighted Deaths ($ in Millions)
Disabled Safety Members
(July 1, 2010 through June 30, 2020)

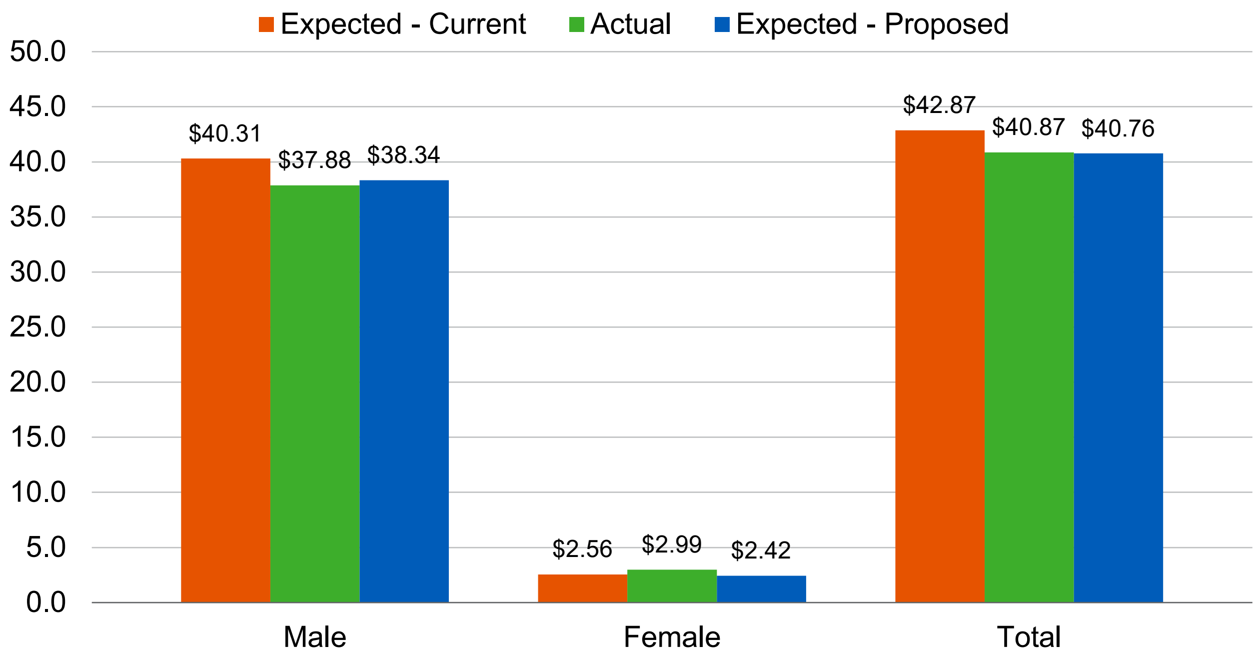


Chart 17: Benefit-Weighted Life Expectancies Disabled General Members

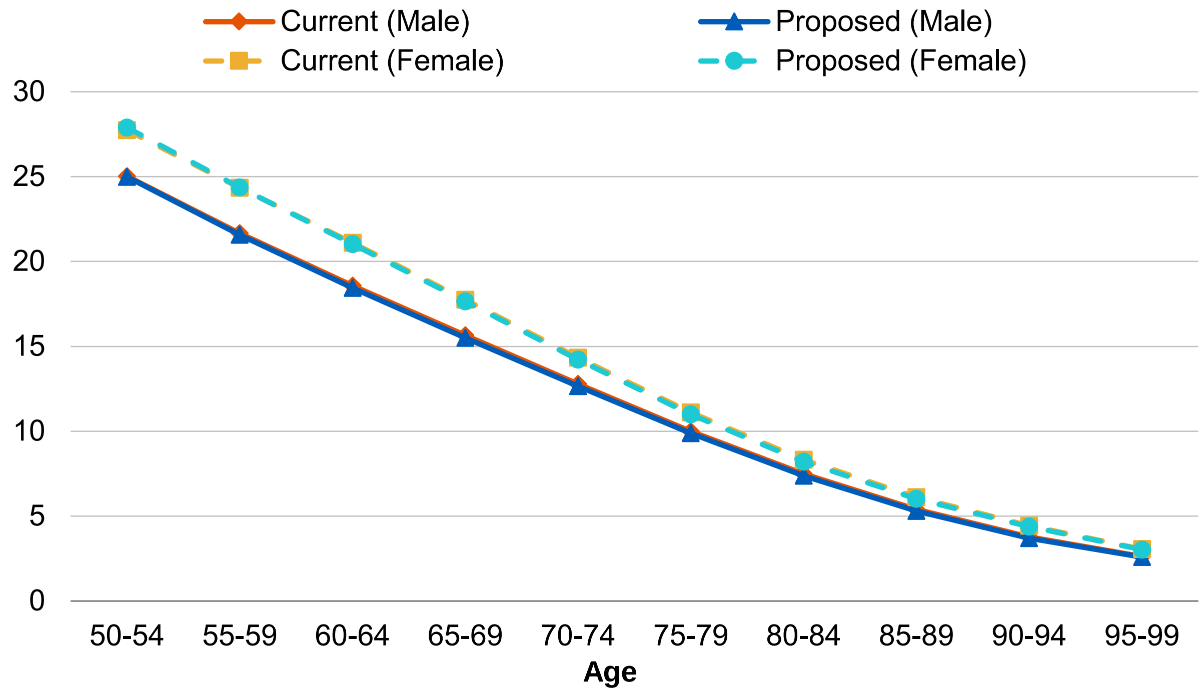
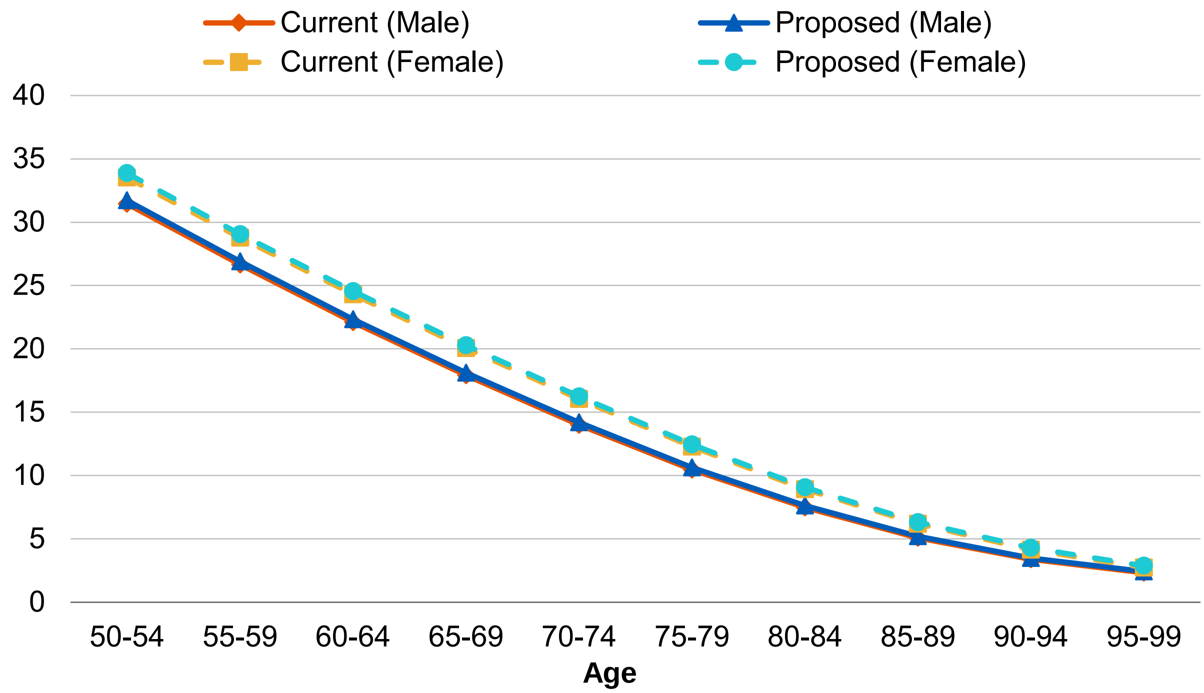


Chart 18: Benefit-Weighted Life Expectancies Disabled Safety Members



D. Termination Rates

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions there is an overall incidence of total termination assumed, combined with a separate assumption for the percentage of members who would be expected to elect a refund of contributions versus a deferred retirement benefit. Furthermore, the termination rates are based on a function of the member's years of service.

The termination experience over the last six years for General and Safety members is shown by years of service in the following tables. We have included six years of experience, rather than only the three years of the current experience period, in order to improve the credibility of KCERA's termination experience. Also shown are the current assumed rates and the rates we propose. Please note that we have excluded any members that were eligible for retirement.

Termination
Rates (%)

	General				Safety			
Service	Current Rate	Actual Rate (6 Years)	Actual Rate (3 Years)	Proposed Rate	Current Rate	Actual Rate (6 Years)	Actual Rate (3 Years)	Proposed Rate
Less than 1	17.00	20.11	22.51	20.00	9.00	14.72	18.57	11.00
1 – 2	13.00	15.00	16.54	15.00	8.00	9.26	8.58	9.00
2 – 3	10.00	12.49	13.92	12.00	7.00	8.04	6.09	8.00
3 – 4	9.00	10.60	12.27	11.00	6.00	9.41	12.38	7.00
4 – 5	8.50	8.94	9.04	9.00	5.00	7.50	9.02	6.50
5 – 6	8.00	8.43	8.34	8.50	4.00	5.74	8.39	5.50
6 – 7	7.00	8.21	7.91	8.00	3.50	4.76	5.77	4.75
7 – 8	6.00	7.84	8.41	7.50	3.25	6.61	5.68	4.50
8 – 9	5.00	6.41	7.91	6.50	3.00	5.99	7.21	4.25
9 – 10	4.00	3.99	4.84	5.00	2.60	5.86	6.54	4.00
10 – 11	3.75	5.43	7.38	4.50	2.20	3.42	4.48	3.50
11 – 12	3.50	4.43	5.64	4.00	1.80	3.85	6.01	3.25
12 – 13	3.25	5.38	5.08	3.75	1.60	3.21	4.94	3.00
13 – 14	3.00	3.60	3.69	3.50	1.40	2.02	1.89	2.00
14 – 15	2.75	3.80	3.98	3.25	1.20	2.67	2.73	2.00
15 – 16	2.50	3.33	3.28	3.00	1.00	2.94	3.93	2.00
16 – 17	2.30	2.89	2.82	2.75	0.90	0.75	1.23	1.00
17 – 18	2.10	2.21	1.45	2.25	0.75	1.06	1.12	0.90
18 – 19	1.90	1.86	2.52	2.00	0.75	0.54	1.04	0.80
19 – 20	1.70	2.98	2.58	1.90	0.75	0.64	0.59	0.75
20 – 21	1.50	3.70	3.78	1.75	0.00	N/A	N/A	0.00
21 – 22	1.30	2.67	2.68	1.50	0.00	N/A	N/A	0.00
22 – 23	1.10	2.17	1.43	1.25	0.00	N/A	N/A	0.00
23 – 24	1.00	1.10	2.70	1.00	0.00	N/A	N/A	0.00
24 – 25	1.00	0.00	0.00	1.00	0.00	N/A	N/A	0.00
25 – 26	1.00	2.27	0.00	1.00	0.00	N/A	N/A	0.00
26 – 27	1.00	3.03	0.00	1.00	0.00	N/A	N/A	0.00
27 – 28	1.00	7.14	0.00	1.00	0.00	N/A	N/A	0.00
28 – 29	1.00	0.00	0.00	1.00	0.00	N/A	N/A	0.00
29 – 30	1.00	0.00	0.00	1.00	0.00	N/A	N/A	0.00
30 & Over	0.00	N/A	N/A	0.00	0.00	N/A	N/A	0.00

It is important to note that not every service category has enough exposures and/or decrements such that the results in that category are statistically credible even if we look at six years' worth of experience. This is mainly the case for those members in the highest service categories because most members in those categories are eligible to retire and have been excluded from our review of this termination experience as mentioned above. It is also the case in the tables that follow due to the even more limited experience regarding actual terminations.

Based on this experience, we recommend decreasing the termination rate assumption for certain service groups while increasing the termination rate assumption for other service groups. Overall, the proposed rates represent an increase from the current rates for General members and Safety members.

We also continue to recommend that no termination is assumed after a member is first assumed to retire.

Chart 19 compares the number of actual to expected terminations over the past six years for the current and proposed assumptions.

Chart 20 compares the actual termination experience with the current and proposed assumptions for General members.

Chart 21 compares the actual termination experience with the current and proposed assumptions for Safety members.

In addition, among the terminations, we recommend the following assumptions for the percentage of members who would elect a refund of contributions versus those who would elect to leave their contributions on deposit and receive a deferred vested benefit.

Proportion of Total Termination Assumed to Elect a Refund of Contributions

Rates (%)

	General				Safety			
Service*	Current Rate	Actual Rate (6 Years)	Actual Rate (3 Years)	Proposed Rate	Current Rate	Actual Rate (6 Years)	Actual Rate (3 Years)	Proposed Rate
5 – 6	36.00	31.14	32.29	25.00	44.00	41.67	38.46	30.00
6 – 7	34.00	27.56	25.00	25.00	40.00	22.22	8.33	30.00
7 – 8	32.00	14.41	17.33	25.00	38.00	34.48	46.67	30.00
8 – 9	30.00	22.58	17.65	25.00	32.00	20.69	18.75	30.00
9 – 10	28.00	24.14	23.81	25.00	30.00	22.22	20.00	30.00
10 – 11	26.00	16.95	12.50	15.00	26.00	13.33	0.00	12.00
11 – 12	25.00	16.33	11.54	15.00	25.00	10.53	14.29	12.00
12 – 13	24.00	16.67	12.90	15.00	21.00	20.00	23.08	12.00
13 – 14	23.00	3.23	0.00	15.00	18.00	0.00	0.00	12.00
14 – 15	22.00	17.86	11.11	15.00	15.00	9.09	0.00	12.00
15 – 16	21.00	33.33	30.00	15.00	12.00	16.67	0.00	12.00
16 – 17	18.00	0.00	0.00	15.00	10.00	33.33	50.00	12.00
17 – 18	16.00	18.18	33.33	15.00	8.00	0.00	0.00	12.00
18 – 19	14.00	12.50	0.00	15.00	6.00	0.00	0.00	12.00
19 – 20	13.00	18.18	16.67	15.00	4.00	0.00	0.00	12.00
20 – 21	12.00	0.00	0.00	0.00	0.00	N/A	N/A	0.00
21 – 22	11.00	0.00	0.00	0.00	0.00	N/A	N/A	0.00
22 – 23	10.00	0.00	0.00	0.00	0.00	N/A	N/A	0.00
23 – 24	8.00	0.00	0.00	0.00	0.00	N/A	N/A	0.00
24 – 25	6.00	N/A	N/A	0.00	0.00	N/A	N/A	0.00
25 – 26	4.00	0.00	N/A	0.00	0.00	N/A	N/A	0.00
26 – 27	2.00	0.00	N/A	0.00	0.00	N/A	N/A	0.00
27 & Over	0.00	0.00	N/A	0.00	0.00	N/A	N/A	0.00

* *All members with less than 5 years of service are assumed to elect a refund of contributions*

For both General and Safety members, the overall actual rates for electing a refund of contributions are generally lower than the current assumptions for the past six years. **Based on this experience, we recommend overall decreases in the refund assumption. We are also changing the structure of our assumption to assume one rate for 5 to 10 years of service, one rate for 10 to 20 years of service, and assuming members with 20 or more years of service do not elect a refund of contributions.**

Chart 22 compares the actual rates of electing a refund of contributions with the current and proposed assumptions for General members.

Chart 23 compares the actual rates of electing a refund of contributions with the current and proposed assumptions for Safety members.

Chart 19: Actual Number of Terminations Compared to Expected (July 1, 2016 through June 30, 2022)

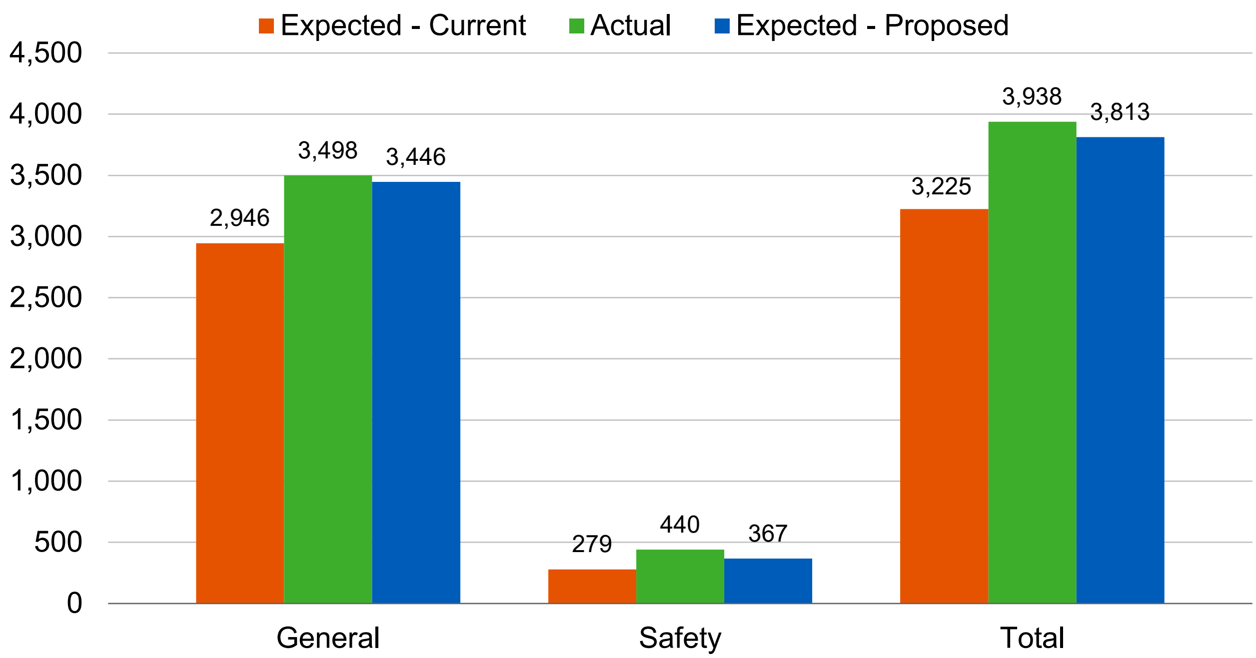


Chart 20: Termination Rates for General Members

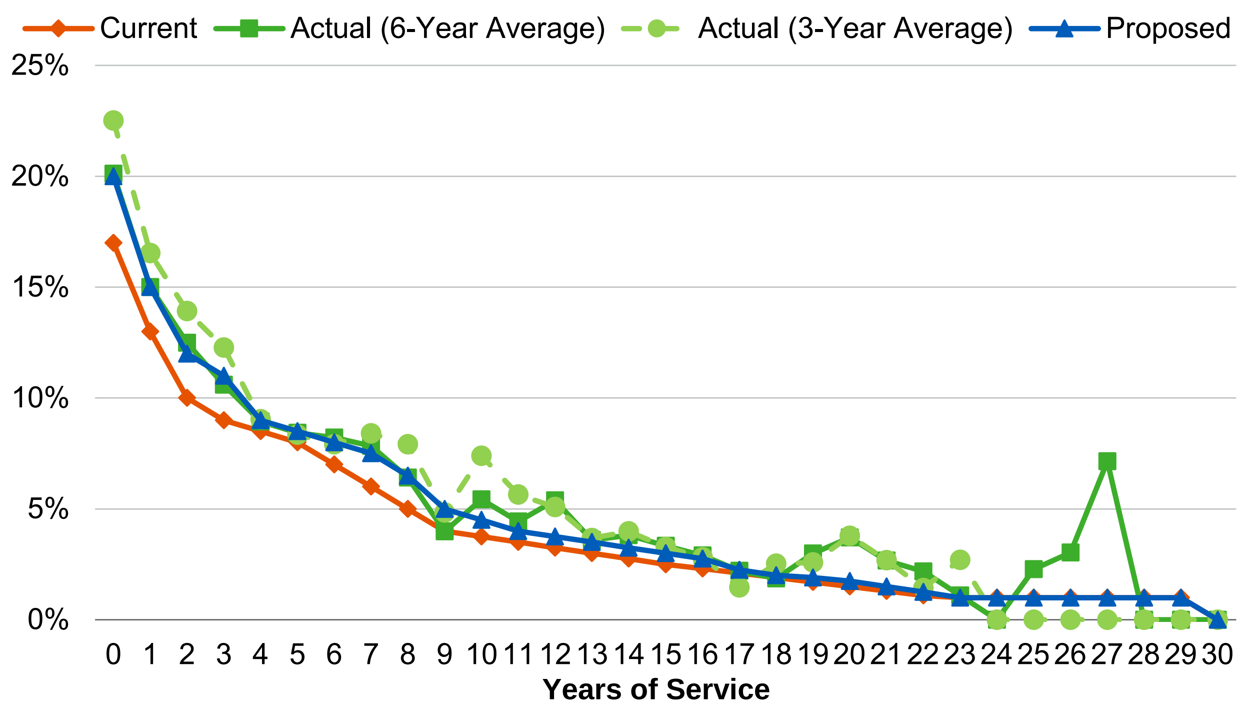


Chart 21: Termination Rates for Safety Members

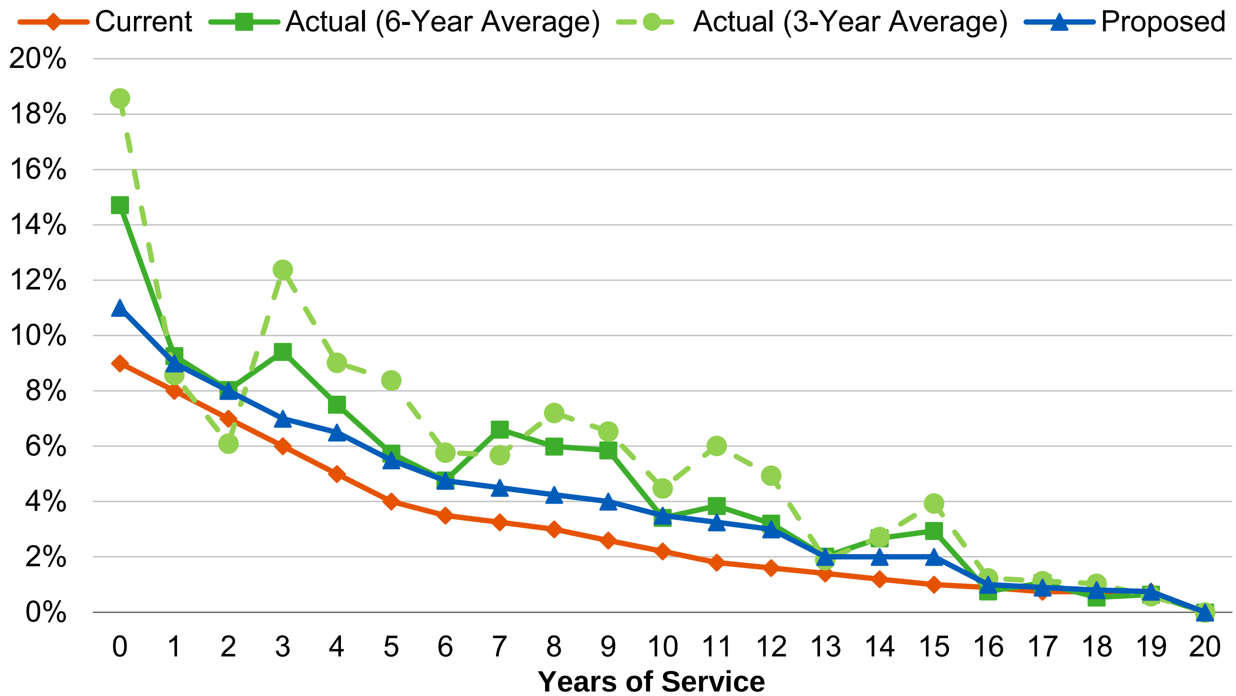


Chart 22: Rates of Electing a Refund – General Members

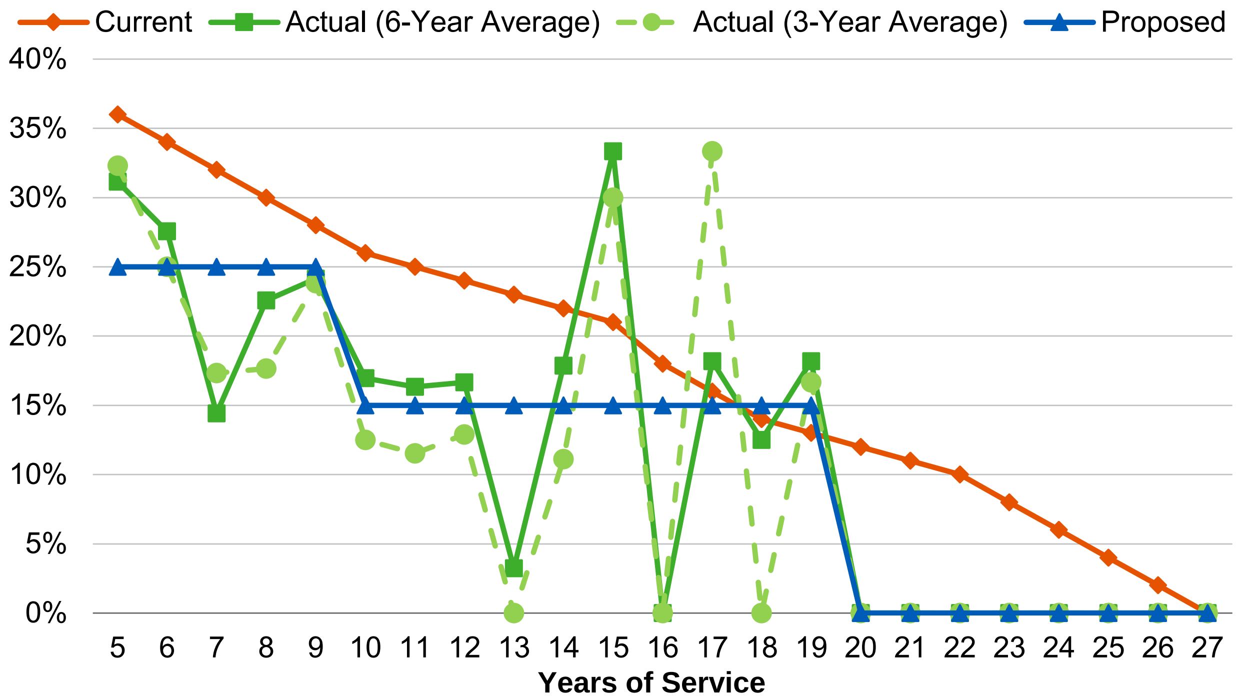
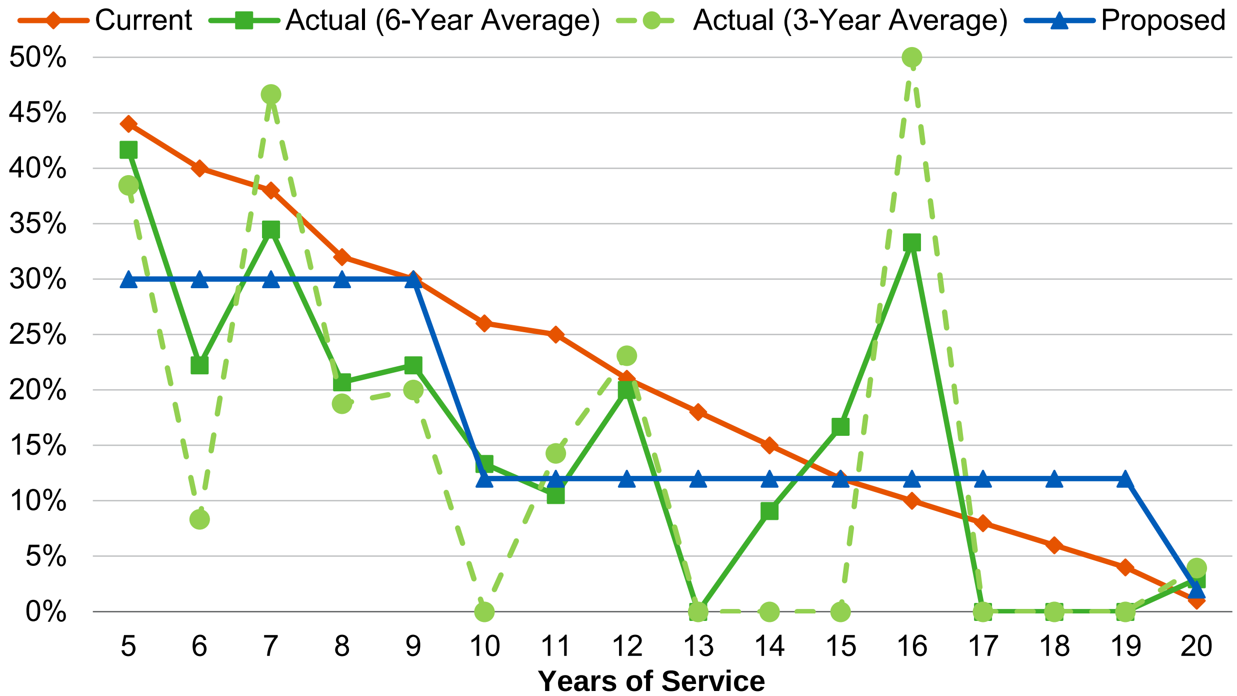


Chart 23: Rates of Electing a Refund – Safety Members



E. Disability Incidence Rates

When a member becomes disabled, he or she may be entitled to at least a 50% of pay pension (service connected disability), or a pension that depends upon the member's years of service (non-service connected disability).

The following table shows the observed disability incidence rates based on the actual experience over the past six years. We have included six years of experience, rather than only the three years of the current experience period, in order to improve the credibility of KCERA's disability experience. Also shown are the current assumed rates and the rates we propose. Please note that we have combined service and non-service connected disability incidence in the table below.

Disability Incidence[1]

Rates (%)

	General				Safety			
Age	Current Rate	Actual Rate (6 Years)	Actual Rate (3 Years)	Proposed Rate	Current Rate	Actual Rate (6 Years)	Actual Rate (3 Years)	Proposed Rate
20 – 24	0.02	0.00	0.00	0.02	0.05	0.00	0.00	0.05
25 – 29	0.03	0.00	0.00	0.02	0.08	0.00	0.00	0.08
30 – 34	0.05	0.00	0.00	0.04	0.12	0.05	0.00	0.11
35 – 39	0.08	0.01	0.03	0.07	0.24	0.14	0.09	0.22
40 – 44	0.10	0.02	0.00	0.09	0.30	0.40	0.71	0.40
45 – 49	0.15	0.04	0.07	0.13	0.45	0.51	0.60	0.50
50 – 54	0.20	0.17	0.17	0.18	1.50	0.54	1.00	1.35
55 – 59	0.30	0.20	0.23	0.25	3.25	2.60	1.30	3.00
60 – 64	0.40	0.37	0.30	0.35	4.00	3.60	6.15	4.25
65 – 69	0.40	0.11	0.00	0.35	4.00	4.44	8.70	4.25

Based on this experience, we recommend decreasing the disability incidence rate assumption for General members and slightly increasing the disability incidence rate for Safety members.

Chart 24 that follows later in this section compares the number of actual to expected service and non-service connected disabilities over the past six years for the current and proposed assumptions.

Chart 25 compares the actual disability incidence experience with the current and proposed assumptions for General members.

Chart 26 compares the actual disability incidence experience with the current and proposed assumptions for Safety members.

[1] Total rate for service connected and non-service connected disabilities.

The following table shows the observed percentage of members that received a service versus non-service connected disability based on the actual experience over the past six years. Also shown are the current assumed percentages and the percentages we propose.

Service vs. Non-Service Connected Disability

Service Connected %	General	Safety
Current Assumption	50%	90%
Actual Experience	53%	93%
Proposed Assumption	**50%**	**90%**

Based on this experience, we recommend maintaining the current assumption that 50% of General disabilities will be service connected disabilities, with the remaining 50% assumed to be non-service connected disabilities. We also recommend maintaining the current assumption that 90% of Safety disabilities will be service connected disabilities, with the remaining 10% assumed to be non-service connected disabilities.

Chart 22: Actual Number of Disabilities Compared to Expected (July 1, 2016 through June 30, 2022)

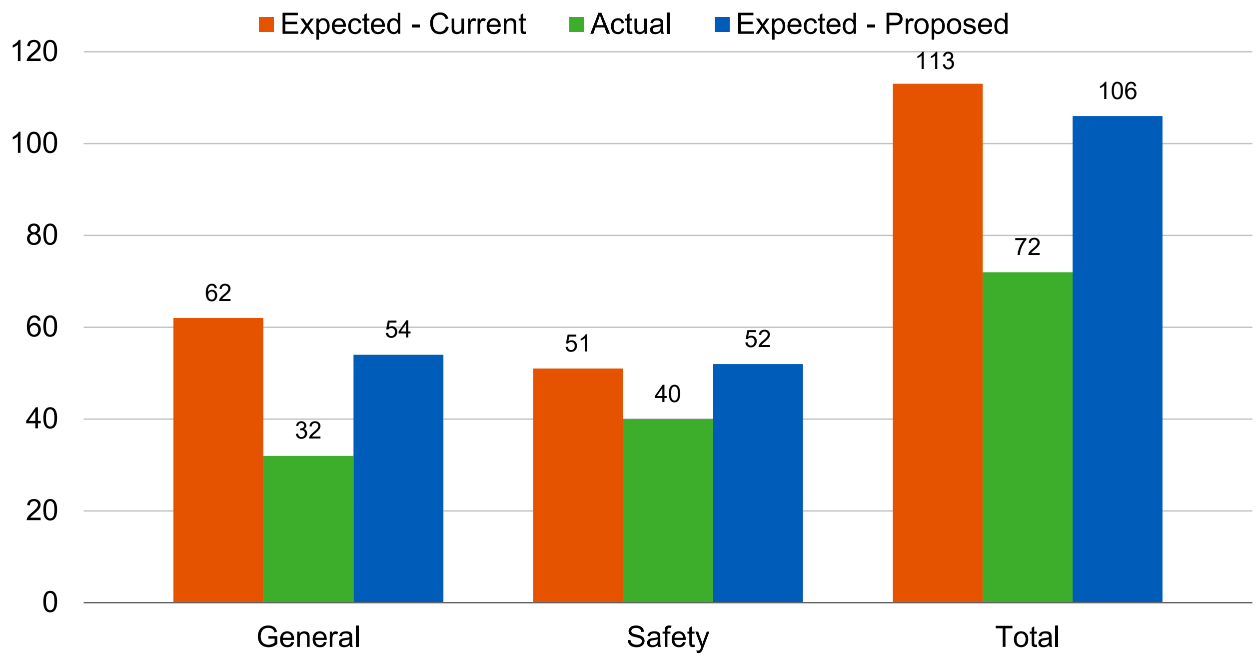


Chart 23: Disability Incidence Rates for General Members

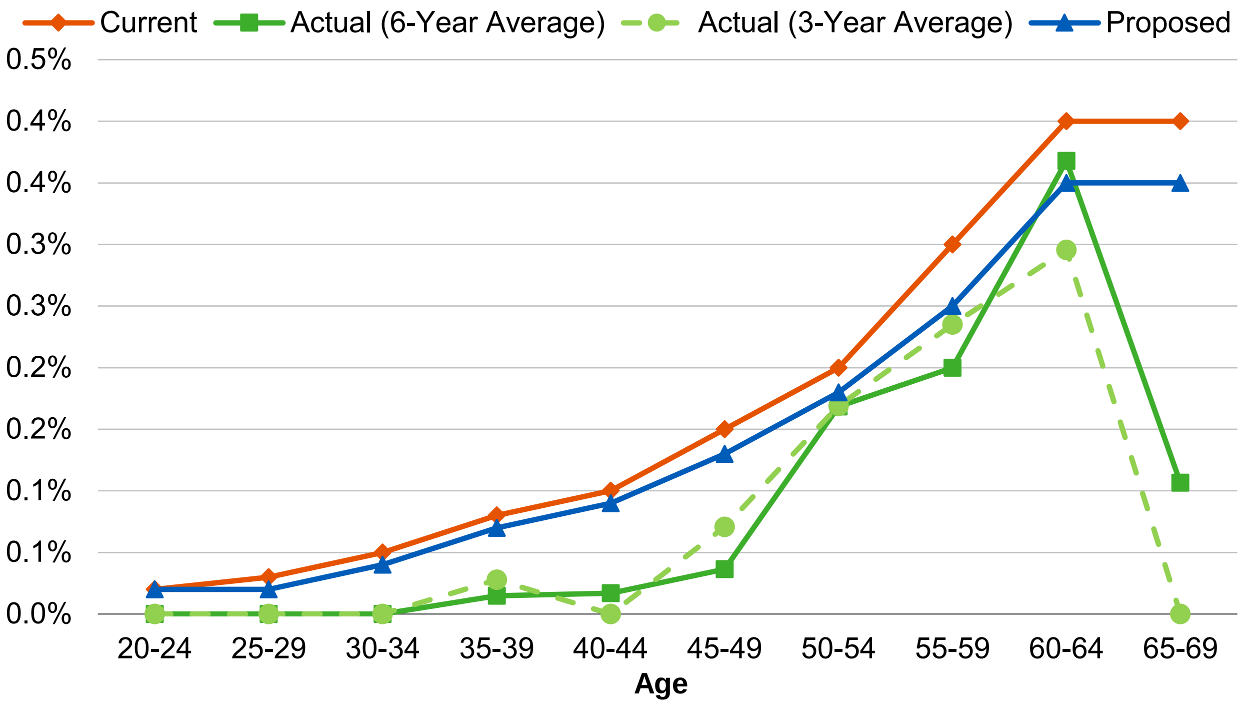
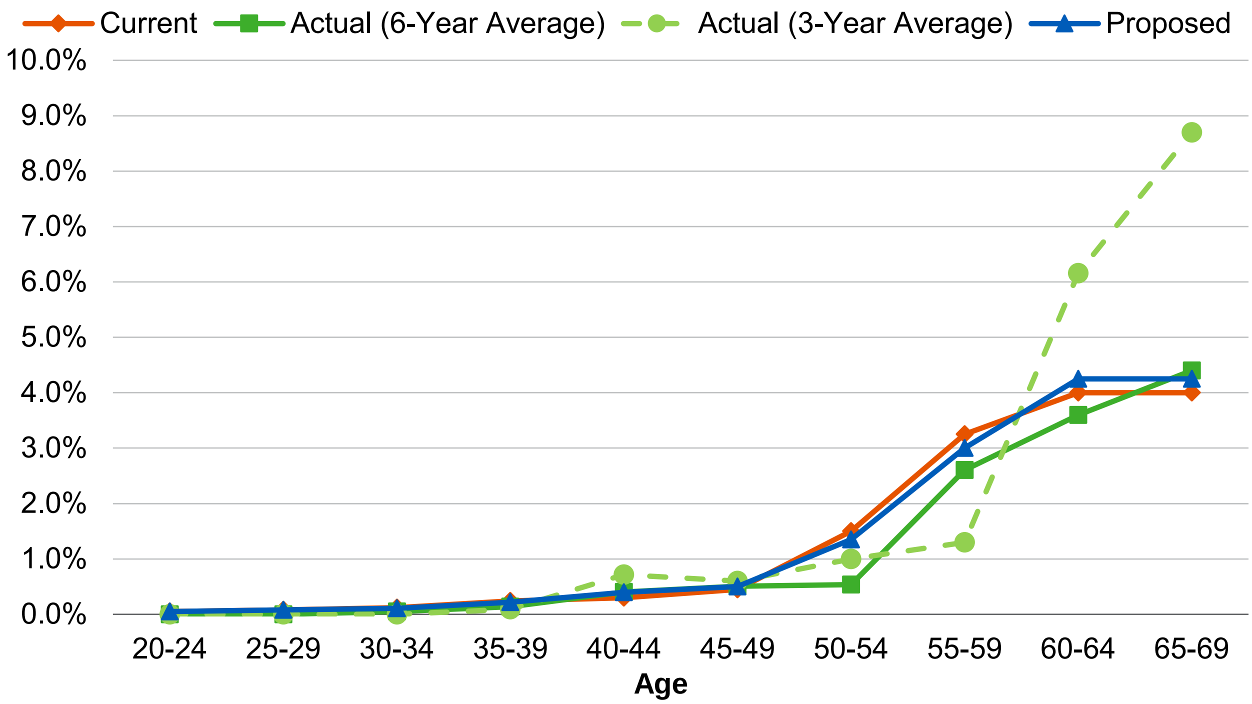


Chart 24: Disability Incidence Rates for Safety Members



5. Cost Impact

We have estimated the impact of all the recommended demographic and economic assumptions as if they were applied to the June 30, 2022 actuarial valuation. The table below shows the changes in the employer and member contribution rates due to the proposed assumption changes separately for the recommended economic assumption changes including the recommended merit and promotion salary increases (as recommended in Section 3 of this report) and the recommended demographic assumption changes (as recommended in Section 4 of this report).[1]

Cost Impact of the Recommended Assumptions Based on June 30, 2022 Actuarial Valuation

Assumption	Impact on Average Employer Contribution Rates
Increase due to changes in economic assumptions	3.64%
Decrease due to changes in demographic assumptions	(0.25%)
Total increase in average employer rate	**3.39%**
Total estimated increase in annual dollar amount ($000s)[2]	**$20,653**

Assumption	Impact on Weighted Average Member Contribution Rates
Increase due to changes in economic assumptions	0.34%
Increase due to changes in demographic assumptions	0.02%
Total increase in average member rate	**0.36%**
Total estimated increase in annual dollar amount ($000s)[1]	**$2,226**

Assumption	Impact on UAAL ($000s)
Increase due to changes in economic assumptions	$200,832
Decrease due to changes in demographic assumptions	(19,080)
Total increase in UAAL ($000s)	**$181,752**

	Impact on Funded Percentage
Change in Funded Percentage	69.2% to 67.5%

Of the various assumption changes, the most significant rate increase is due to the investment return assumption.

[1] The actual allocation of contribution rates for administrative expenses will be determined in each actuarial valuation to reflect the relative proportion of employer and member contributions.

[2] Based on June 30, 2022 projected annual payroll as determined under each set of assumptions.

The tables below show the average employer and member contribution rate impacts for each cost group due to the recommended assumption changes as if they were applied to the June 30, 2022 actuarial valuation.

Employer Contribution Rate Increases/(Decreases)

(% of Payroll)

	Normal Cost	UAAL	Total	Annual Amount[1] ($000s)
General County without Courts	0.37%	1.56%	1.93%	$7,646
Courts	0.46%	1.56%	2.02%	629
County Safety	2.32%	6.01%	8.33%	11,629
District Category I	0.33%	1.60%	1.93%	109
District Category II	0.59%	1.60%	2.19%	50
District Category III	0.35%	1.60%	1.95%	536
District Category V	0.35%	1.60%	1.95%	26
District Category VI	0.85%	1.60%	2.45%	5
Declining Employers	1.09%	11.35%	12.44%	23
All Categories Combined	**0.82%**	**2.57%**	**3.39%**	**$20,653**

[1] Based on June 30, 2022 projected annual payroll as determined under each set of assumptions.

Average Member Contribution Rate Increases/(Decreases)
(% of Payroll)

	Total	Annual Amount[1] ($000s)
County General Tier I without Courts	0.22%	$256
County General Tier IIA without Courts	0.13%	72
County General Tier IIB without Courts	0.25%	540
Courts Tier I	0.01%	(1)
Courts Tier IIA	0.20%	6
Courts Tier IIB	0.25%	41
County Safety Tier I	0.64%	548
County Safety Tier IIA	0.70%	52
County Safety Tier IIB	1.28%	590
District Category I Tier I	0.43%	15
District Category I Tier IIA	0.17%	1
District Category I Tier IIB	0.25%	3
District Category II Tier I	0.24%	3
District Category II Tier IIB	0.25%	3
District Category II Tier III	0.21%	0
District Category III Tier I (Buttonwillow)	0.23%	1
District Category III Tier I (SJVAPCD)	0.42%	62
District Category III Tier IIA (Buttonwillow)	0.25%	0
District Category III Tier IIA (SJVAPCD)	0.20%	2
District Category III Tier IIB	0.25%	29
District Category V Tier I	0.00%	0
District Category V Tier IIA	0.06%	1
District Category V Tier IIB	0.25%	2
District Category VI Tier I	0.00%	0
District Category VI Tier IIB	0.25%	0
Declining Employers Tier I	0.00%	0
Declining Employers Tier IIB	0.25%	0
All Categories Combined	**0.36%**	**$2,226**

[1] Based on June 30, 2022 projected annual payroll as determined under each set of assumptions.

Appendix A: Current Actuarial Assumptions

Economic Assumptions

Net Investment Return:	7.25%, net of investment expenses.
Administrative Expenses:	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.
Member Contribution Crediting Rate:	7.25%, compounded semi-annually.
Consumer Price Index (CPI):	Increase of 2.75% per year; retiree COLA increases due to CPI are limited to maximum of 2.50% per year.
Payroll Growth:	Inflation of 2.75% per year plus “across the board” real salary increases of 0.50% per year.
Increases in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.75% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.75% per year from the valuation date.

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	Rate (%) General	Rate (%) 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

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 unadjusted for males and 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. *Beneficiary* • **All Beneficiaries:** 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 reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

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.

	Rate (%)			
	General		Safety	
Age	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-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.

Disability Incidence Rates:

Age	Rate (%) General	Rate (%) 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

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.

Termination Rates:

Years of Service	Rate (%) General	Rate (%) 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.

Electing a Refund of Contributions Upon Termination:

Years of Service	Rate (%) General	Rate (%) 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

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	12.00	3.00	3.00
53	6.00	12.00	3.00	3.00
54	6.00	12.00	3.50	3.50
55	6.00	12.00	4.00	4.00
56	6.00	14.00	4.50	4.50
57	6.00	16.00	5.00	5.00
58	9.00	18.00	6.50	6.50
59	16.00	24.00	11.00	11.00
60	20.00	35.00	12.00	12.00
61	16.00	28.00	13.00	13.00
62	20.00	35.00	20.00	20.00
63	20.00	30.00	20.00	20.00
64	20.00	30.00	20.00	20.00
65	35.00	35.00	35.00	35.00
66	35.00	35.00	35.00	35.00
67	35.00	35.00	35.00	35.00
68	35.00	35.00	35.00	35.00
69	40.00	40.00	40.00	40.00
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.

Retirement Rates (continued):

	Rate (%)		
	Safety		
	Tier I		
Age	Less Than 25 Years of Service	25 or More Years of Service	Tier IIA and IIB
45	5.00	5.00	0.00
46	5.00	5.00	0.00
47	5.00	5.00	0.00
48	5.00	5.00	0.00
49	25.00	25.00	0.00
50	10.00	30.00	3.00
51	8.00	24.00	3.00
52	8.00	24.00	3.00
53	8.00	24.00	5.00
54	12.00	24.00	11.00
55	14.00	28.00	13.00
56	14.00	28.00	12.00
57	8.00	28.00	12.00
58	8.00	28.00	12.00
59	14.00	28.00	12.00
60	25.00	28.00	12.00
61	25.00	50.00	12.00
62	25.00	50.00	25.00
63	25.00	50.00	25.00
64	25.00	50.00	25.00
65	100.00	100.00	100.00

The retirement rates only apply to members who are eligible to retire at the age shown.

Retirement Age and Benefit for Deferred Vested Members:	For current and future deferred vested members, retirement 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.
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. If not provided, salary is assumed to be equal to the average salary of the membership group and tier.
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, 70% of male members and 60% of female members are assumed to be married at pre-retirement death or retirement.
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.

Appendix B: Proposed Actuarial Assumptions

Economic Assumptions

Net Investment Return:	7.00%, net of investment expenses.
Administrative Expenses:	0.95% 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.
Member Contribution Crediting Rate:	7.00%, compounded semi-annually.
Consumer Price Index (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 real “across the board” salary increases of 0.50% per year.
Increases 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:	The annual rate of compensation increase includes:

Salary Increases:

The annual rate of compensation increase includes:

- Inflation at 2.50%, plus
- “Across the board” salary increases of 0.50% per year, plus
- The following 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

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 unadjusted for males and 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 reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

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.

	Rate (%)			
	General		Safety	
Age	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.

Disability Incidence Rates:			
		Rate (%)	
	Age	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.

Termination Rates:

Years of Service	Rate (%) General	Rate (%) 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

Proportion of Total Terminations Assumed to Elect a Refund of Contributions Upon Termination

Years of Service	Rate (%) General	Rate (%) 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

No termination is assumed after a member is eligible for retirement.

Retirement Rates:

Age	General Tier I: Less Than 25 Years of Service	General Tier I: 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

Rate (%)

The retirement rates only apply to members who are eligible to retire at the age shown.

Retirement Rates (continued):

	Rate (%)		
	Safety		
	Tier I		
Age	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.

Retirement Age and Benefit for Deferred Vested Members:	For current and future deferred vested members, retirement assumptions are as follows: General Non-Reciprocal Retirement Age: 56 General Reciprocal Retirement Age: 60 Safety Retirement Age: 51 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.
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. If not provided, salary is assumed to be equal to the average salary of the membership group and tier.
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.
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.

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180 Howard Street
Suite 1100
San Francisco, CA 94105-6147
segalco.com

Via Email

June 8, 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)
Hypothetical 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 hypothetical 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 in our triennial experience study recommending assumptions for 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 experience study report dated May 24, 2023, we estimated that if all the recommended actuarial assumptions, including a 7.00% investment return assumption, were to be adopted by the Board, the aggregate employer contribution rate would increase by 3.39% of payroll and the aggregate member rate would increase by 0.36% of payroll.

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 3.39% of rate impact noted above, the UAAL amortization component increased by 2.57%, while the normal cost rate increased by 0.82%.

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

For illustration purposes in this letter only, we have assumed that the effect of the changes in actuarial assumptions in the triennial experience study would be to increase the employer's UAAL contribution rate in the June 30, 2023 valuation by 1.56% of payroll for County General and Courts and 6.01% for County Safety, as estimated in the experience study based on the June 30, 2022 valuation. Under this scenario, the 1.56% and 6.01% 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 actual amount phased in would be determined as part of the June 30, 2023 annual valuation.

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 part of the June 30, 2023 valuation. That total fixed amount would not be redetermined in later valuations. In this illustration, that amount is 1.56% of payroll for County General and Courts and 6.01% of payroll for County Safety.
- In the June 30, 2023 valuation, 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. In this illustration, that amount is 0.78% of payroll (1/2 × 1.56%) for County General and Courts and 3.01% of payroll (1/2 × 6.01%) for County Safety. In other words, the actual employer rates would defer recognition of one-half of the impact by subtracting 0.78% for County General and Courts and 3.01% 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 1.56% of payroll for County General and Courts and 6.01% 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	With Phase-in
2024 / 2025	1.56%	0.78%
2025 and later	1.56%	1.62%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety		
Fiscal Year	**Cumulative Increase in Employer UAAL Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	6.01%	3.01%
2025 and later	6.01%	6.25%

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 General[1]		
Fiscal Year	**Cumulative Increase in Aggregate Employer Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	1.93%	1.15%
2025 and later	1.93%	1.99%

Cost Phase-in Applied Only to UAAL Amortization Rate for Courts[2]		
Fiscal Year	**Cumulative Increase in Aggregate Employer Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	2.02%	1.24%
2025 and later	2.02%	2.08%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety[3]		
Fiscal Year	**Cumulative Increase in Aggregate Employer Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	8.33%	5.33%
2025 and later	8.33%	8.57%

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	With Phase-in
2024 / 2025	1.56%	0.52%
2025 / 2026	1.56%	1.12%
2026 and later	1.56%	1.68%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety		
Fiscal Year	**Cumulative Increase in Employer UAAL Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	6.01%	2.00%
2025 / 2026	6.01%	4.32%
2026 and later	6.01%	6.48%

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 General[4]		
Fiscal Year	**Cumulative Increase in Aggregate Employer Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	1.93%	0.89%
2025 / 2026	1.93%	1.49%
2026 and later	1.93%	2.05%

[4] 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 Courts[5]		
Fiscal Year	**Cumulative Increase in Aggregate Employer Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	2.02%	0.98%
2025 / 2026	2.02%	1.58%
2026 and later	2.02%	2.14%

Cost Phase-in Applied Only to UAAL Amortization Rate for County Safety[6]		
Fiscal Year	**Cumulative Increase in Aggregate Employer Rates**	
	Without Phase-in	With Phase-in
2024 / 2025	8.33%	4.32%
2025 / 2026	8.33%	6.64%
2026 and later	8.33%	8.80%

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.

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.

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/bbf

[5] 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.

[6] It is our understanding that, in practice, County Safety pays a single employer rate, regardless of tier.

KCERA
KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Organizational Landscape and Budget Governance

Presented by:

Dominic D. Brown

Chief Executive Officer

June 14, 2023

Governance & Budget

- KCERA was established under the provisions of the County Employee Retirement Law of 1937 (CERL) by resolution of the Kern County Board of Supervisors. These provisions vest plenary authority of the management of the retirement system with the Board of Retirement.
- The complexity of benefits administration has increased significantly over the years, and the resource requirements to discharge those fiduciary duties are also increasing.
  - *Ventura* Decision, Tier I/Tier II, Service Purchases, PEPRA, Retiree Return to Work, Hospital Authority, Payroll Providers, Declining Employers, Affordable Care Act, Reciprocity, Portfolio Growth, *Alameda* Decision, etc.

Governance Landscape

- KCERA Board
  - 4-1-4 composition
- Government Code
  - An entire section of the government code is dedicated to the CERL and as the Plan Document, it governs the administration of KCERA's defined benefit system
- County Salary Schedule
- KCERA is responsible for delivering the pension promises made by our plan sponsors to their employees, to the extent allowed by our Plan and governing laws

The Five Fiduciary Pillars

Primary Loyalty to Members

- Avoid “two hat” conflicts of interest
- Attract and retain capable staff
- Provide superior member service
- Minimize risk of loss

Exclusive Benefit of Members

- Avoid diverting assets for other purposes
- Avoid impacting plan for others’ goals
- Pay only reasonable expenses to administer fund

Prudent Care and Expertise

- Establish and follow good governance policies as a Board
- Be transparent
- Engage and delegate to expert staff and consultants
- Monitor and adjust as needed

Diversify the Assets

- Establish collective risk tolerance
- Seek risk-adjusted returns across all markets
- Weigh each investment for its contribution to whole program

Follow the Law

- Establish and comply with written plan documents
- Be mindful of public official role

Delegation and Oversight

- A public fiduciary may (often must!) delegate, but only to others who are held to the same fiduciary standards
- You have specific authority to delegate to staff

  CERL sec. 31522.1: "The board of retirement … may appoint such administrative, technical, and clerical staff personnel as are required to accomplish the necessary work of the boards. "
- But don't "set and forget" – prudent delegation requires vigilant oversight: Monitor, evaluate, adjust when appropriate
- Engage advisors (auditors, consultants, counsel) to help you exercise your oversight role

 ReedSmith

KCERA'S "Stakeholders"

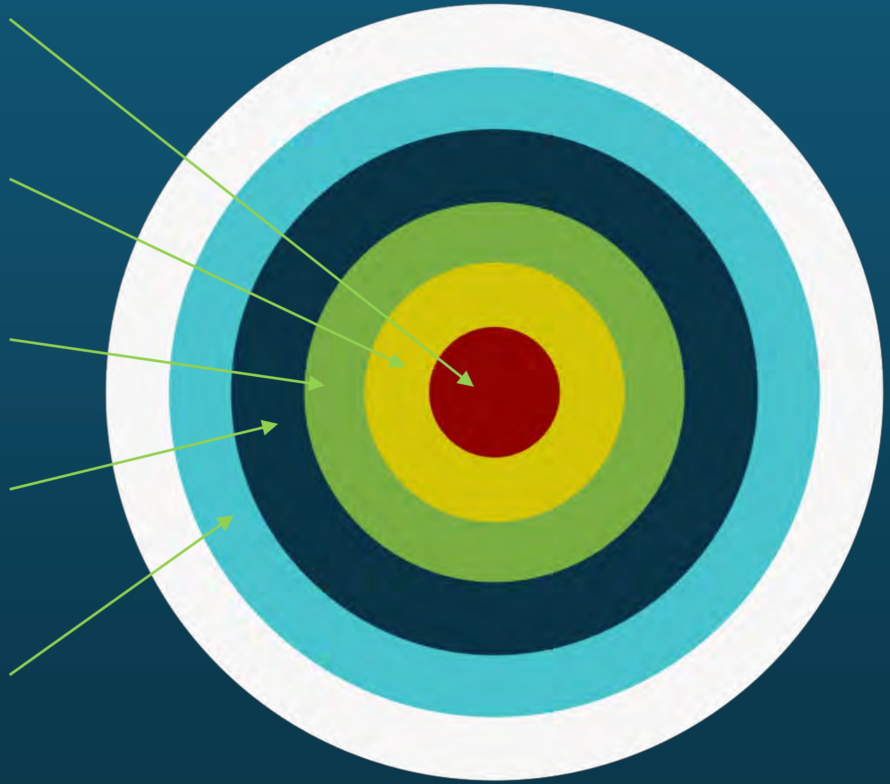
Members & Beneficiaries

Contributing Employers: County and Districts

Retiree Orgs.

General Public & Taxpayers

Third Parties: Unions, consultants, vendors…



Cal. Gov. Code section 31522.1 Appointment of Staff Personnel

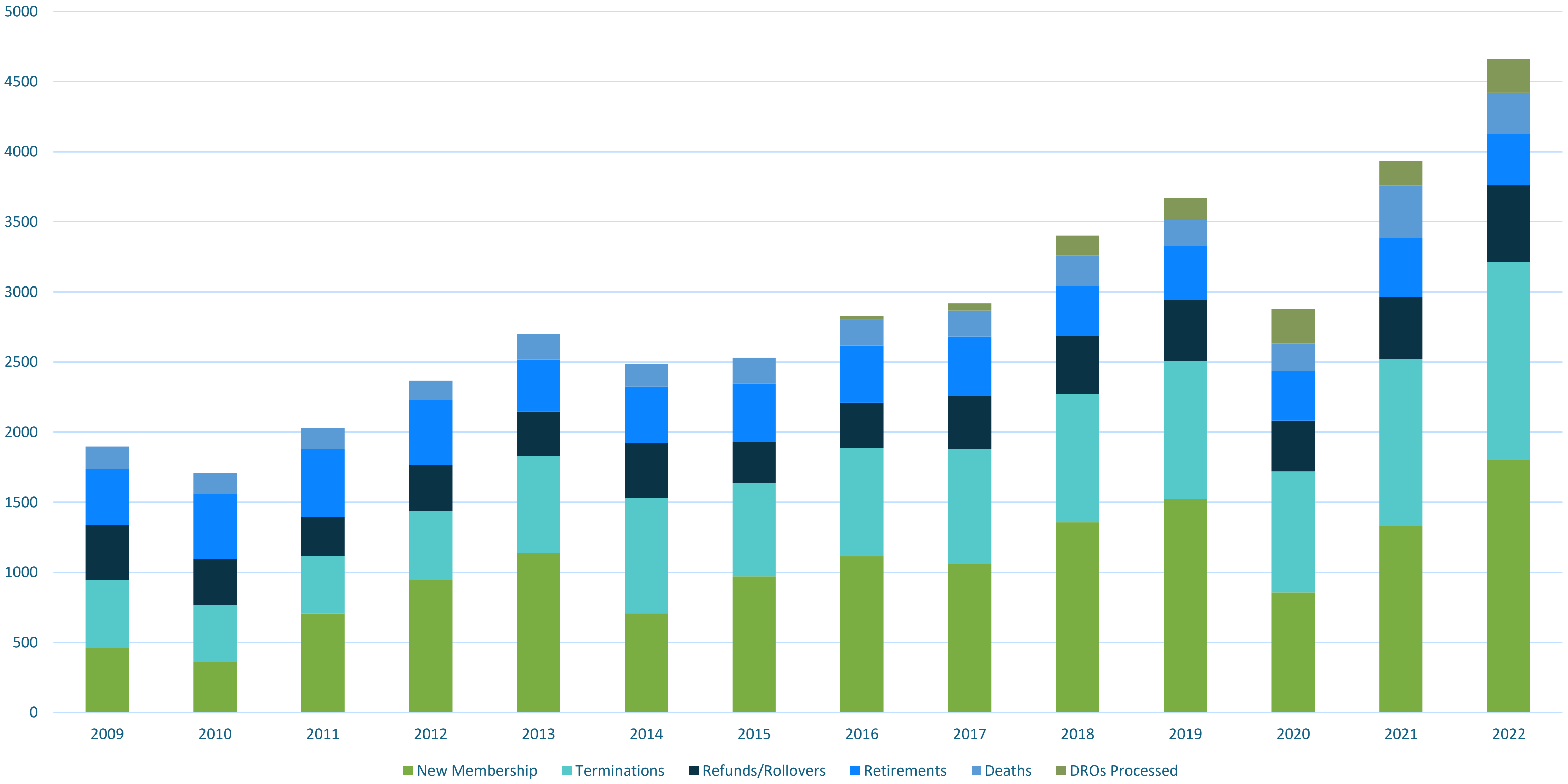
CERL – Cal. Gov. Code section 31522.1 –

The board of retirement and both the board of retirement and board of investment may appoint such administrative, technical, and clerical staff personnel as are required to accomplish the necessary work of the boards. The appointments shall be made from eligible lists created in accordance with the civil service or merit system rules of the county in which the retirement system governed by the boards is situated. The personnel shall be county employees and shall be subject to the county civil service or merit system rules or resolution adopted by the board of supervisors for the compensatioand shall be included in the salary ordinance n of county officers and employees.

California Constitution
Art. XVI, section 17 (Prop 162) (1992)

- “Notwithstanding any other provisions of law or this Constitution to the contrary, the retirement board of a public pension or retirement system shall have plenary authority and fiduciary responsibility for investment of moneys and administration of the system, subject to all of the following:
- (a) The retirement board of a public pension or retirement system shall have the sole and exclusive fiduciary responsibility over the assets of the public pension or retirement system. The retirement board shall also have sole and exclusive responsibility to administer the system in a manner that will assure prompt delivery of benefits and related services to the participants and their beneficiaries...”

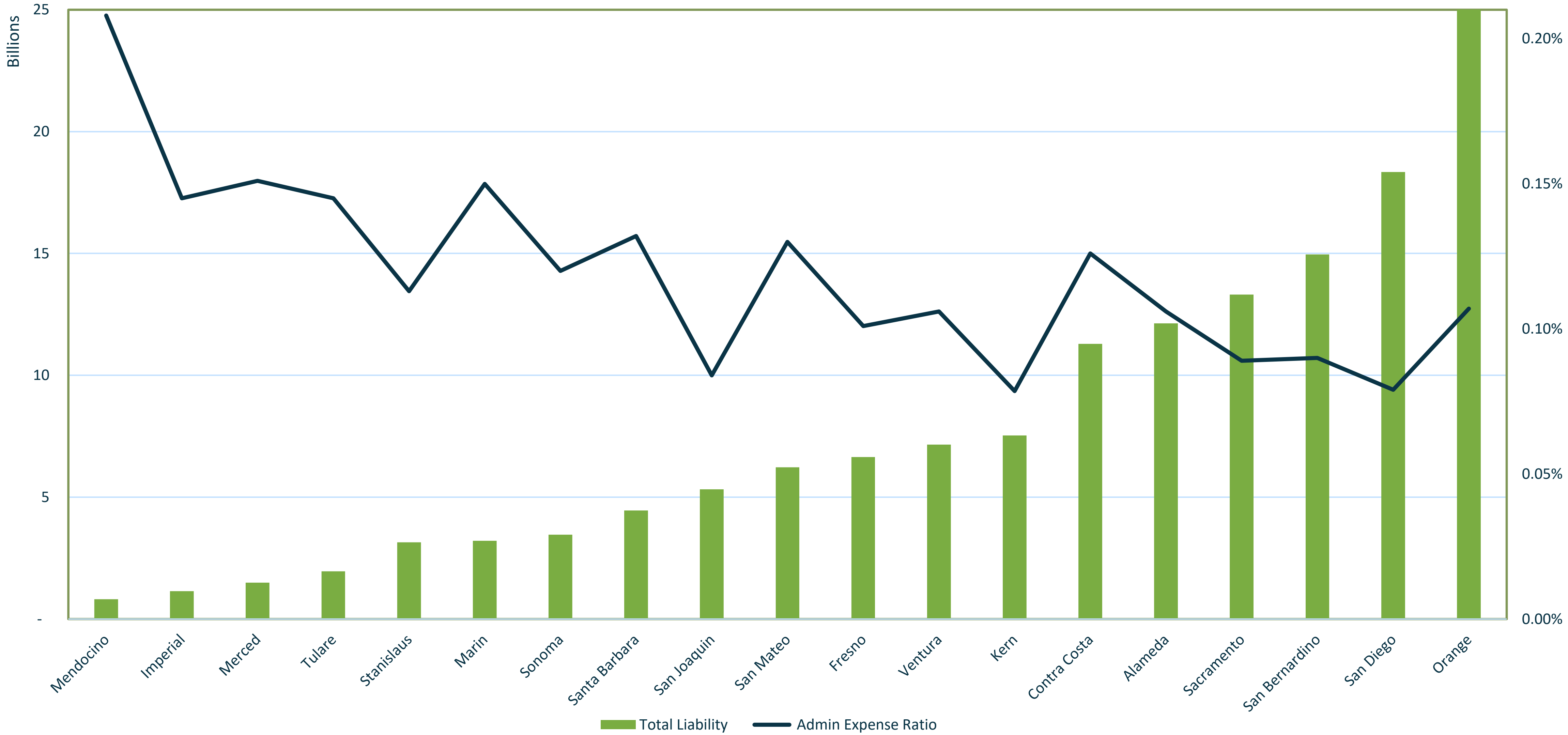
Member Activity by Year



Benchmarking

- The KCERA Board of Retirement is charged with exercising its fiduciary duty to determine the resources required in order to fulfill the KCERA mission and has independent budgetary authority to administer the system
- Other California State Association of County Retirement Systems (SACRS) peers can be a very helpful benchmark to help determine reasonable resource requirements
  - KCERA has a very low administrative expense ratio compared to peers

Total Liability vs. Admin Expense Ratio



APPFA & COSO

- The Association of Public Pension Fund Auditors, Inc. has published a document entitled *Operational Risks of a Defined Benefit and Related Plans and Controls to Mitigate those Risks*. A review of this document has revealed many risks that require additional resources in order to be sufficiently mitigated

  https://www.appfa.org/assets/docs/APPFA_OpRisk-Feb13-Final7.pdf

- COSO is an internal control framework that is used by accounting firms, the County, and other organizations for creating and evaluating business processes and internal controls

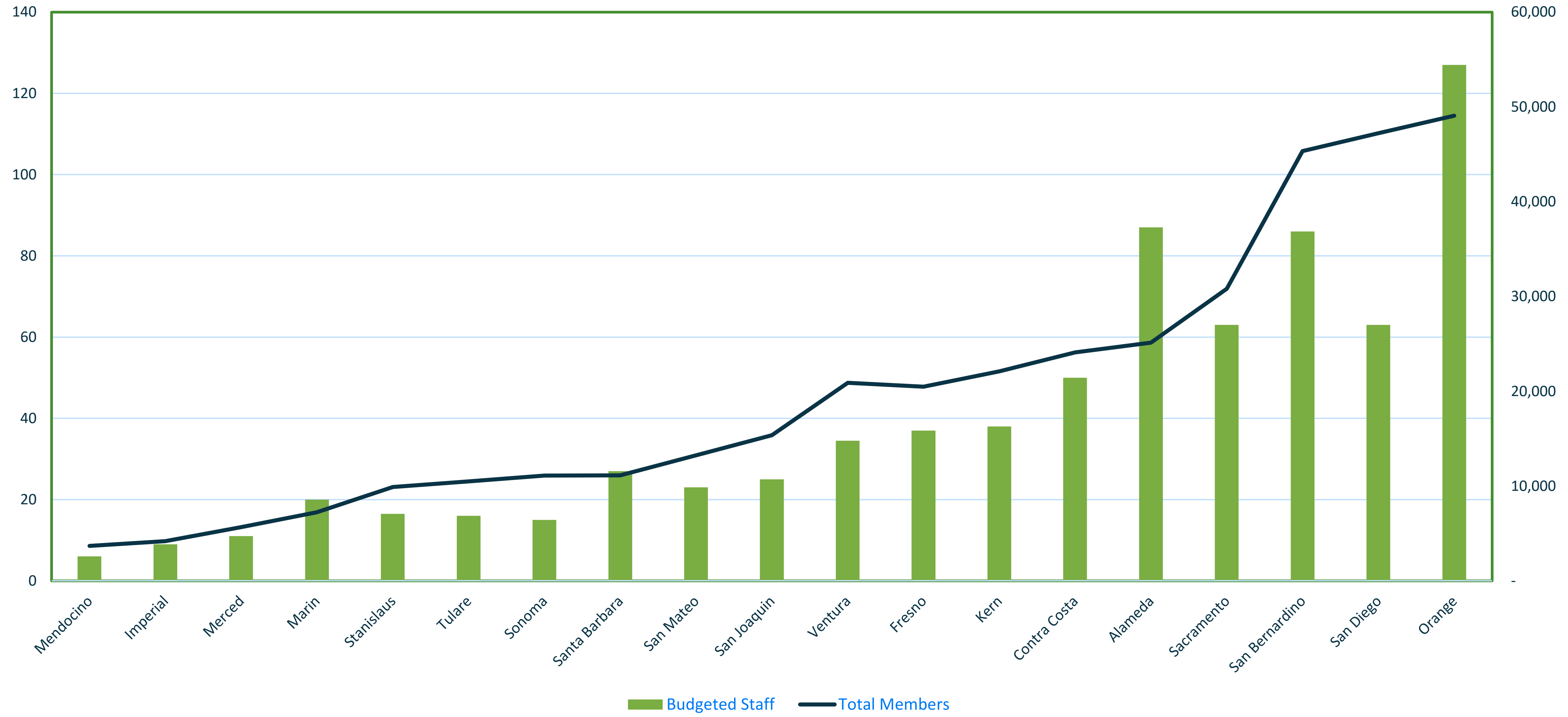
  https://www.coso.org/Documents/990025P-Executive-Summary-final-may20.pdf

- Staff has analyzed business processes throughout the organization and identified risks and opportunities to mitigate risks and improve service to our members

Uncompensated Operational Risks

- Errors in benefits, including tier placement, rate determinations, reciprocity analysis, service purchase calculations, special pay designations, MOU terms, COLA application, salary history analysis, etc.
- Slow response times to members including inquiries regarding retirement planning, service purchases, disability, DROs, etc.
- Attract and retain competent staff to carry out organizational responsibilities
- Headline risk

Staff vs Membership



Opportunities

- Mitigate operational risks
- Audit member data and enhance quality of member experience with KCERA by ensuring data is clean before member approaches retirement
- Enhance member education, especially retirement planning for Tier II members that will have a much smaller pension in retirement
- Member communication regarding domestic relations orders, member checklists, interaction with defined contribution plan, social security, health benefits, etc.

Reorganization

- KCERA completed a significant reorganization in the last few years, resulting in the addition of many positions, particularly in the investment section
- The next phase will focus on employee retention, cross-training, succession planning, and making sure that KCERA is strongly positioned to retain our high performing staff and be attractive in the talent marketplace

Expenses of Investing Money

CERL – Cal. Gov. Code section 31596.1 –

The expenses of investing its moneys shall be borne solely by the system. The following types of expenses shall not be considered a cost of administration of the retirement system, but shall be considered as a reduction in earnings from those investments or a charge against the assets of the retirement system as determined by the board: ….

- California Code, Cal. Gov't Code § 31596.1, Expenses of investing

Conclusions

- KCERA must discharge its fiduciary duty to administer the plan prudently, including ensuring the Plan has adequate resources to administer benefits
- When compared with SACRS peers, KCERA's administrative expense ratio is very low because KCERA strives to be lean and efficient
- Staff has put together a plan to help KCERA discharge all fiduciary duties, while keeping administrative expenses as low as possible

KCERA's Mission Statement:
KCERA's mission is to administer the benefits with excellence, invest plan assets with prudence, and provide quality service to our members and their beneficiaries

Budget Book

For Fiscal Year

2023-24

Presented by:
Chief Executive Officer Dominic D. Brown, CPA, CFE
Chief Operations Officer Matthew Henry, CFE
Chief Financial Officer Angela Kruger

June 14, 2023

Table of Contents

SECTION I

Letter from the Chief Executive Officer

June 14, 2023

Members of the Board of Retirement:

I am pleased to present to you the proposed Operating Expense Budget for fiscal year 2023-24. Highlights of the 2022-23 and 2023-24 budgets include:

- The largest budgetary category is staff, which comprises 78.4% of the total proposed budget. The 2022-23 projected actual expense for staffing is $5.2 million, which is $901,853 less than what was approved.

- The proposed 2023-24 Administrative Expense Budget of $6.6 million (8.5 basis points) is $9.7 million (12.5 basis points) under the statutory limit of 21 basis points of the actuarial accrued liability of the retirement system, pursuant to Government Code Section 31580.2. See *Section IV – Administrative Expenses.*

- For 2023-24, staff recommends a budget of $8.77 million, which is $0.13 million (1.48%) more than last year's approved budget of $8.64 million. The increase is mainly due to higher expenses in salaries and benefits from cost-of-living increases granted by the County and the continued build-out of the schedule of authorized positions that was approved by the Board last year.

<u>Key Events for Fiscal Year 2022-23</u>

The past year brought new challenges as your Board evaluated management's proposals to improve operations, and opportunities to enhance the investment program and the services provided to KCERA members and stakeholders. This was all done while completing the historic *Alameda* Decision. In conjunction with the end of the state declared emergency, members and the public are welcomed back into the KCERA board room.

In this fiscal period, staff were added in Investments, Communications, and Member Services. The end of the year will bring about the Triennial Experience Study, strategic planning, asset-liability study, installation of a solar array, and several requests for proposals for services.

Future Expectations

In fiscal year 2023-24, I expect to see the strength of the organization continue to improve as management works to implement the strategic staffing plan that the Board approved last year, along with the next incremental improvements to continue to build for the future. Staff will seek to align duties and responsibilities with the appropriate level of personnel to improve the effectiveness and efficiency of each division. The initiatives included in the Strategic Plan are intended to further the Board's goals and priorities to enhance stakeholder relations, strengthen the investment program, leverage available technology in our operations, build the effectiveness of KCERA staff, and ensure plan sustainability.

In this year's budget projection, additional staff are being requested to assist your Board in continuing to meet challenges to maintain a culture of excellence, fiscal responsibility, transparency, and prudent management of risk. In doing so, your Board will set the future direction of the organization while ensuring that you meet your duties as fiduciaries of the plan.

Management is very grateful to the Board for the support it has received over the last year, and I am pleased to present you with KCERA's budget for 2023-24.

Sincerely,

Dominic D. Brown
Chief Executive Officer

SECTION II

Budget Policies and Process

Budget Policies and Process

Budget Policies

KCERA's budgeting policies and guidelines are based on the County Employees Retirement Law of 1937 ("CERL"), and the policies and charters of the Board of Retirement ("Board"). The California Government Code Section 31580.2 that governs the Kern County Employees' Retirement Association ("KCERA") specifies that the Board of Retirement "… shall annually adopt a budget covering the entire expense of administration of the retirement system, which expense shall be charged against the earnings of the retirement fund…"

The retirement system's administrative expenses are limited to 0.21% (21 basis points) of the Actuarial Accrued Liability. Government Code Sections 31522.6 and 31580.2(b) indicate that KCERA should exclude actuarial fees, investment-related expenses and technology from that portion of the operating expense budget subject to the statutory limit.

The Board annually adopts the operating budget for the administration of KCERA. Each line item is budgeted based on Board initiatives, past costs, vendor proposals, and estimates of anticipated expenses. The Board also reviews year-to-date actual expenses for budget compliance on a monthly basis. The budget may be amended throughout the fiscal year, if necessary. Budgeted amounts may be reallocated between categories at the discretion of the Chief Executive Officer. These reclassifications do not result in increases or decreases to the total approved budget. Increases or decreases to the total approved budget must be approved by the Board of Retirement. Action items to increase or decrease the approved budget are introduced by KCERA staff to the Finance Committee. If the Finance Committee deems the action item necessary, it will recommend approval to the Board of Retirement.

Budget Process

The Budget Team consists of the Chief Executive Officer, Chief Operations Officer, Chief Financial Officer, and the division managers of KCERA. The team members review the requirements of their respective divisions for the balance of the current fiscal year and the upcoming budget year. The Chief Financial Officer projects the current year-end actual expenses and the projected expenses for the budget year and finalizes the proposed budget.

The proposed budget is presented to the Finance Committee for review and feedback. Any revisions to the proposed budget recommended by the Finance Committee are incorporated to produce the final version the Committee recommends to the Board of Retirement for final adoption.

KCERA prepares the budget on an accrual basis in accordance with Generally Accepted Accounting Principles (GAAP) and consistent with KCERA's audited financial statements.

SECTION III

Operating Expense Budget

Operating Expense Budget

KCERA's annual Operating Expense Budget is a detailed plan established to estimate the anticipated costs of carrying out the necessary level of services or activities as proposed by the KCERA Board of Retirement.

The Board annually adopts the operating budget for the administration of KCERA. Each month, the Board reviews year-to-date actual expenses to ensure budget compliance.

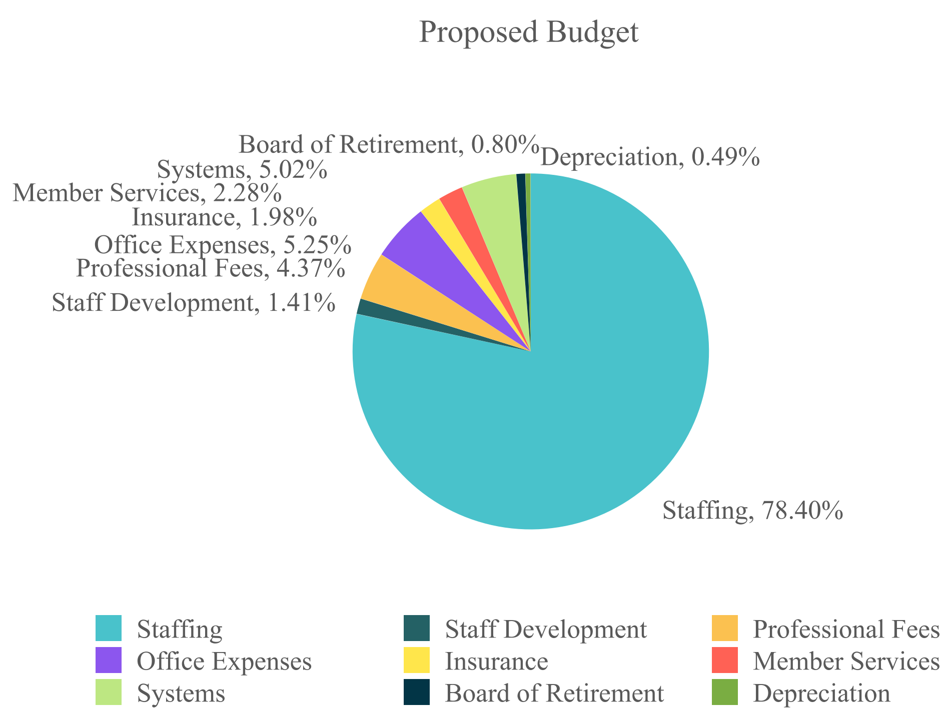
Important assumptions in the fiscal year 2023-24 budget include:

- Additional resources to complete the internal reorganization to effectively administer KCERA's service to plan sponsors.
    - Continued growth of Investment Unit to enhance KCERA's ability to effectively increase investment returns and meet the mandates required in managing a complex and diverse portfolio.
    - Anticipated 4% COLA increase for all staff.
    - Staff development to increase skills to proficient levels for new staff and continuing education.
- MMRO Disability Claim Review Service will continue to respond to KCERA's need to process disability claims more effectively.
- No Board election expenses, all trustees remain until terms expire next year or after.
- Proposed capital budget of $122,000 for Boardroom upgrades to be depreciated over a 10-year life and $118,914 for servers to be depreciated over a 5-year life.

KCERA's requested fiscal year 2023-24 Operating Expense Budget may be viewed on the following pages.

Operating Expense Budget Summary

Expense Type	FYE 23 Approved Budget	FYE 24 Proposed Budget	Increase (Decrease)	FYE 24 % of Total Operating Expenses
Staffing	$ 6,135,033	$ 6,871,078	$ 736,045	78.40 %
Staff Development	93,000	124,000	31,000	1.41 %
Professional Fees	385,500	383,275	(2,225)	4.37 %
Office Expenses	424,381	460,162	35,781	5.25 %
Insurance	160,595	173,384	12,789	1.98 %
Member Services	170,000	200,000	30,000	2.28 %
Systems	485,640	440,050	(45,590)	5.02 %
Board of Retirement	117,000	70,500	(46,500)	0.80 %
Depreciation	666,471	42,651	(623,820)	0.49 %
Total Operating Expenses	**$ 8,637,620**	**$ 8,765,100**	**$ 127,480**	**100 %**



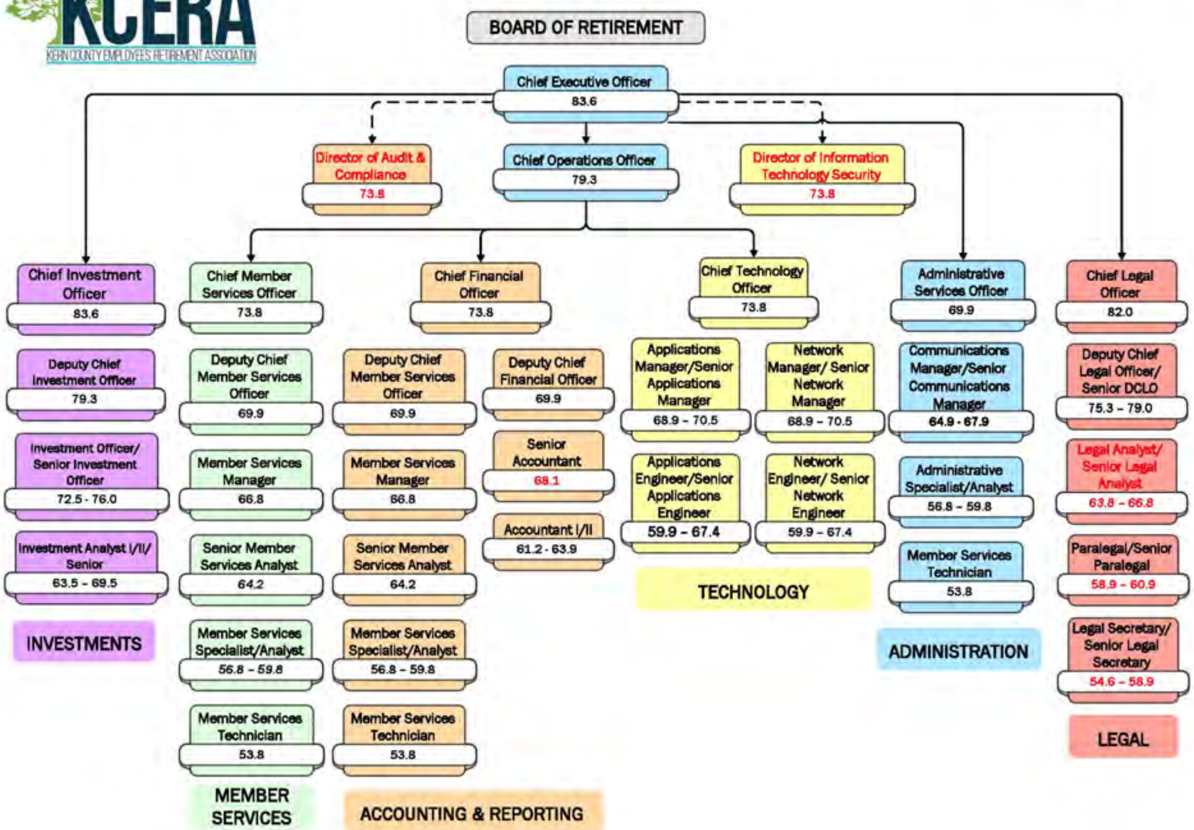
Operating Expense Budget

Expense Type	FYE 23 Approved Budget	FYE 23 Estimated Expenses	Over (Under)	FYE 24 Proposed Budget	Proposed vs. Approved Over (Under)	% Change
Staffing						
Salaries	3,724,357	3,293,008	(431,349)	4,215,888	491,531	
Benefits	2,410,676	1,922,135	(488,541)	2,655,190	244,514	
Temporary staff	—	18,037	18,037	—	—	
Staffing Total	6,135,033	5,233,180	(901,853)	6,871,078	736,045	12.00 %
Less Investment Staffing	(1,560,610)	(681,231)	(879,379)	(1,670,453)	(109,843)	
	4,574,423	4,551,949	(1,781,232)	5,200,625	$ 626,202	
Staff Development						
Education & Professional	90,000	90,531	531	120,000	30,000	
Staff Appreciation	3,000	2,956	(44)	4,000	1,000	
Staff Development Total	93,000	93,487	487	124,000	31,000	33.33 %
Professional Fees						
Actuarial fees	140,000	121,623	(18,377)	100,000	(40,000)	
Audit fees	50,500	48,480	(2,020)	98,275	47,775	
Consultant fees	115,000	86,500	(28,500)	115,000	—	
Legal fees	80,000	36,475	(43,525)	70,000	(10,000)	
Professional Fees Total	385,500	293,078	(92,422)	383,275	(2,225)	(0.58) %
Office Expenses						
Building expenses	115,000	95,064	(19,936)	124,000	9,000	
Communications	72,770	27,449	(45,321)	84,062	11,292	
Equipment lease	9,600	8,788	(812)	12,000	2,400	
Equipment maintenance	7,178	2,000	(5,178)	10,100	2,922	
Memberships	20,000	8,220	(11,781)	20,000	—	
Office supplies & misc. admin.	68,300	37,174	(31,126)	80,000	11,700	
Payroll & accounts payable fees	27,800	18,117	(9,683)	25,000	(2,800)	
Other Services - Kern County	40,000	20,000	(20,000)	40,000	—	
Postage	20,000	19,069	(931)	20,000	—	
Subscriptions	13,733	12,841	(892)	15,000	1,267	
Utilities	30,000	47,015	17,015	30,000	—	
Office Expense Total	424,381	295,737	(128,645)	460,162	35,781	8.43 %
Insurance	160,595	162,795	2,200	173,384	12,789	7.96 %
Member Services						
Disability – administration	170,000	137,175	(32,825)	200,000	30,000	
Member Services Total	170,000	137,175	(32,825)	200,000	30,000	17.65 %
Systems						
Audit – security & vulnerability	15,000	13,750	(1,250)	15,000	—	
Business continuity expenses	23,850	16,934	(6,916)	16,050	(7,800)	
Hardware	48,453	12,647	(35,806)	37,420	(11,033)	
Licensing & support	148,413	136,549	(11,864)	140,780	(7,633)	
Software	164,229	139,446	(24,783)	217,600	53,371	
Website design & hosting	85,695	50,290	(35,405)	13,200	(72,495)	
Systems Total	485,640	369,616	(116,024)	440,050	(45,590)	(9.39) %
Board of Retirement						
Board compensation	12,000	8,640	(3,360)	12,000	—	
Board conferences & training	50,000	38,333	(11,667)	50,000	—	
Board elections	50,000	—	(50,000)	—	(50,000)	
Board meetings	5,000	2,716	(2,284)	8,500	3,500	
Board of Retirement Total	117,000	49,689	(67,311)	70,500	(46,500)	(39.74) %
Depreciation	666,471	659,455	(7,016)	42,651	(623,820)	(93.60) %
Total Operating Expenses	**8,637,620**	**7,294,212**	**(1,343,409)**	**8,765,100**	**127,480**	**1.48 %**

Operating Expense Budget 2023-24 Proposed Budget vs. 2022-23 Approved Budget		Variance Over (Under)
Staff Staffing		
· Increased cost for Investment, Legal, and Administrative staff		736,045
	Sub-Total	**736,045**
Staff Development		
· Increased cost due career development and education for additional KCERA staff.		31,000
	Sub-Total	**31,000**
Professional Fees		
· Prior year special projects - Actuarial Triennial Experience Study		(40,000)
· Plan sponsor compliance audit fees		47,775
· Decreased legal fees related to prior year special project - Alameda Decision		(10,000)
	Sub-Total	**(2,225)**
Office Expenses		
· Increase in property management and building expenses,		9,000
· Increase in equipment and communications		17,881
· Increased office expenses related to additional staff and cost of goods		11,700
· Anticipated decrease in WFB payroll account fees due to higher interest rates.		(2,800)
	Sub-Total	**35,781**
Insurance		
· Increased costs associated to insurance premiums		12,789
	Sub-Total	**12,789**
Member Services		
· Anticipated increase in MMRO service fees and other fee related to disability claim review services		30,000
	Sub-Total	**30,000**
Systems		
· Decrease for business continuity expenses		(7,800)
· Decreased expenses related to hardware purchases		(11,033)
· Increased costs for new Investment related software		45,738
· Website hosting digital deployment completed in prior year		(72,495)
	Sub-Total	**(45,590)**
Board of Retirement		
· Elections for trustees		(50,000)
· Increased costs due to return to in-person meetings		3,500
	Sub-Total	**(46,500)**
Depreciation		
· CPAS Pension Administration Software fully depreciated in prior year		(623,820)
	Sub-Total	**(623,820)**
	Total Over (Under)	**127,480**

Operating Expense Budget 2022-23 Estimated Expenses vs. 2022-23 Approved Budget		Variance Over (Under)
Staff Staffing		
· Savings in permanent positions not filled 100% of the time during the fiscal year		(901,853)
	Sub-Total	**(901,853)**
Staff Development		
· Increase in staff's attendance at conferences/meetings/training		487
	Sub-Total	**487**
Professional Fees		
· Savings in consulting services		(92,422)
	Sub-Total	**(92,422)**
Office Expenses		
· Decreased office expense, including utilities		(88,709)
· Decrease in building expenses due to completion of expansion projects		(19,936)
· Decrease in anticipated expenses for services provided by Kern County		(20,000)
	Sub-Total	**(128,645)**
Insurance		
· Net increase in insurance expenses		2,200
	Sub-Total	**2,200**
Member Services		
· Expended less than estimated for disability professionals & services		(32,825)
	Sub-Total	**(32,825)**
Systems		
· Applied savings from other IT expenses to purchase hardware and software		(72,453)
· Savings from security audit and other IT expenses		(43,571)
	Sub-Total	**(116,024)**
Board of Retirement		
· Savings in Board meeting expenses		(5,644)
· Trustees' attendance at conferences/training		(11,667)
· Board Elections unnecessary - Trustees ran unopposed		(50,000)
	Sub-Total	**(67,311)**
Depreciation		
· Depreciation on servers		(7,016)
	Sub-Total	**(7,016)**
	Total Over (Under)	**(1,343,409)**

Positions FY 2023 - 2024
As of March 22, 2023



FY 2023-24

Proposed Positions	Range	Position Limit	Section Limit
Chief Executive Officer	83.6	1	6
Chief Operations Officer	79.3	1	
Administrative Services Officer	69.9	1	
Senior Communications Manager	67.9	1	
Communications Manager	64.9		
Administrative Analyst	59.8	2	
Administrative Specialist	56.8		
Member Services Technician	53.8		
Chief Investment Officer	83.6	1	5
Deputy Chief Investment Officer	79.3	1	
Senior Retirement Investment Officer	76.0	3	
Retirement Investment Officer	72.5		
Senior Retirement Investment Analyst	69.5	3	
Retirement Investment Analyst II	66.5		
Retirement Investment Analyst I	63.5		
Chief Legal Officer	82.0	1	5
Senior Deputy Chief Legal Officer	79.0	1	
Deputy Chief Legal Officer	75.3		
Senior Legal Analyst	66.8	3	
Legal Analyst	63.8		
Senior Paralegal	60.9		
Paralegal	58.9		
Senior Legal Secretary	58.9		
Legal Secretary	54.6		
Chief Financial Officer	73.8	1	9
Director of Audit & Compliance	73.8	1	
Deputy Chief Financial Officer	69.9	1	
Senior Accountant	68.1	2	
Accountant II	63.9		
Accountant I	61.2		
Deputy Chief Member Services Officer	69.9	1	
Member Services Manager	66.8	1	
Senior Member Services Analyst	64.2	3	
Member Services Analyst	59.8	5	
Member Services Specialist	56.8		
Member Services Technician	53.8		
Chief Technology Officer	73.8	1	5
Director of Information Technology Security	73.8	1	
Senior Network Manager	70.5	2	
Network Manager	68.9		
Senior Applications Manager	70.5		
Applications Manager	68.9		
Senior Network Engineer	67.4	2	
Network Engineer	59.9		
Senior Applications Engineer	67.4		
Applications Engineer	59.9		
Chief of Member Services Officer	73.8	1	10
Deputy Chief Member Services Officer	69.9	1	
Member Services Manager	66.8	1	
Senior Member Services Analyst	64.2	3	
Member Services Analyst	59.8	6	
Member Services Specialist	56.8		
Member Services Technician	53.8		
		Total	40

*Proposed name change, range, or new position.

SECTION IV

Administrative Expenses

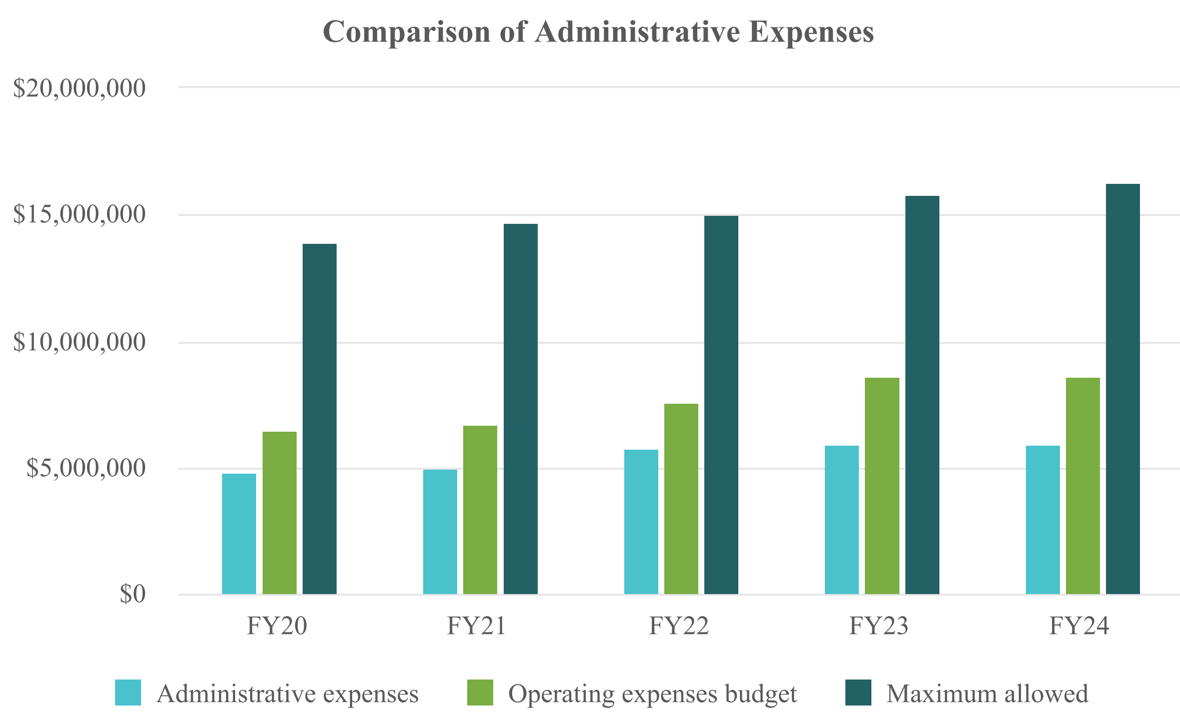
Administrative Expense Budget

The administrative expenses incorporates the limits of Section 31580.2 of the County Employees Retirement Act of 1937, whereby administrative expenses are "capped" at 0.21% of KCERA's actuarially accrued liabilities. The liability is calculated by KCERA's actuary. Pursuant to the relevant code sections, certain costs are excluded from the expense cap, namely those associated with investment related costs, expenditures for computer software, hardware and related technology consulting services.

Comparison of Administrative Expenses to Limits (Section 31580.2)	FY20 Budget	FY21 Budget	FY22 Budget	FY23 Budget*	FY24 Proposed Budget**
Total actuarial accrued liabilities	$6,622,495,000	$7,005,589,000	$7,164,225,000	$7,372,653,000	$7,770,000,000
Limit on expenses in basis points	21.00	21.00	21.00	21.00	21.00
Maximum allowed	$13,907,240	$14,711,737	$15,044,873	$15,482,571	$16,317,000
Operating expenses budget	$6,494,595	$6,754,287	$7,580,588	$8,637,620	$8,765,100
Less information technology expenses	$(965,354)	$(961,006)	$(1,010,998)	$(1,152,111)	$(482,701)
Less investment staff salaries	$(682,500)	$(797,332)	$(772,168)	$(1,560,610)	$(1,670,453)
Administrative expenses	$4,846,741	$4,995,949	$5,797,422	$5,924,899	$6,611,946
Over (Under) Maximum	**$(9,060,499)**	**$(9,715,788)**	**$(9,247,451)**	**$(9,557,672)**	**$(9,705,054)**
Basis Points	**7.32**	**7.13**	**8.09**	**8.04**	**8.51**

* Based on total actuarial accrued liabilities for pension as of June 30, 2022 (latest available actuarial valuation).

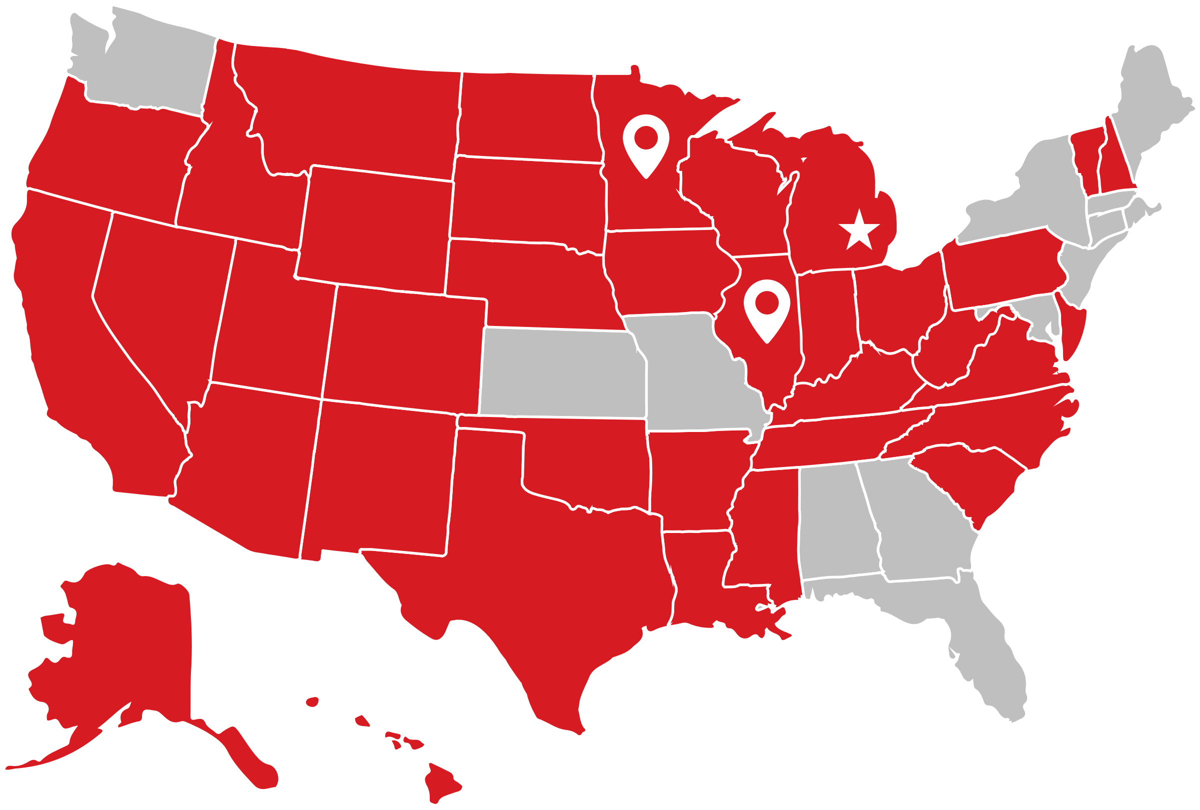
** Based on projected valuation value of assets and actuarial accrued liabilities (ASOP 51 Risk Report September 4, 2019).



Managed Medical Review Organization

Medical Advisor to the Kern County Employees' Retirement Association

June 14, 2023



Corporate Offices	Satellite Offices
MI NOVI	IL, MN

Who We Are & What We Do Best

MMRO is a national leader in providing Case Management and Disability Retirement Review Services to Public Retirement Systems. We partner with more than 75 state, county and municipal retirement systems nationwide.

Our specialties include:

- Modernizing and streamlining disability retirement programs
- Incorporating the most advanced technology and the industry’s best practices
- Meeting all applicable statutes, ordinances, and administrative requirements

Approximately 10,000 disability reviews performed per year

URAC ACCREDITATION

MMRO maintains accreditation as an Independent Review Organization.
The company just completed its triennial URAC Accreditation, with certification remaining valid through April 1, 2026.

- Through its URAC accreditation, MMRO adheres to nationally recognized standards to ensure ***Quality***, ***Credibility*** **and** ***Independence.***

- MMRO applies URAC Standards to every aspect of the disability retirement program, including:
    - ***Credentialing & Qualifications***
    - ***Conflict of Interest***
    - ***Quality Review and Measure***
    - ***Quality Management and Control***

Certification & Testing

MMRO's security systems and controls are reviewed and tested on an ongoing basis.

SOC2 Type II

Annual Audit of MMRO's internal control environment

- SOC 2 Type II report provided by outside audit firm
- Currently finishing our annual SOC2 Audit, with final report expected in July 2023

Security Testing

- Internal Vulnerability Scans
- Web Application (Portal) Scans
- External Penetration Tests
- Internal Penetration Tests

California County Retirement System Clients

MMRO has developed a keen understanding of the unique aspects of the County Employees Retirement Law of 1937 ("CERL")

MMRO currently serves as Medical Advisor to five (5) California County Retirement Systems, including:

- ***Kern County Employees' Retirement Association (KCERA)***
- ***Alameda County Employees' Retirement Association (ACERA)***
- ***Mendocino County Employees' Retirement Association (MCERA)***
- ***San Mateo County Employees Retirement Association (SAMCERA)***
- ***San Luis Obispo County Pension Trust (SLOCPT) (**California Charter County)***

Through more than eight (8) years of experience in the California market, MMRO has developed the institutional knowledge to properly handle the unique clinical questions present in CERL claims:

- **"Incapacity" Standard**
- **"Permanency" Standard**
- **"Service Connected" Disability Analysis**
- ***Safety Member "Presumption" Cases***

The KCERA-MMRO Partnership

MMRO is proud to have served as KCERA's Medical Advisor since 2019

- Since late-2019, MMRO has handled ***100 disability retirement claims*** on behalf of KCERA
  - 15 claims currently amid the clinical review process
  - 32 claims in which clinical claim handling is complete and the final Recommendation Report is being produced (including claims referred for IME/IPE)
- ***A strong working relationship has developed between the MMRO and KCERA Disability Staff, with periodic reports to the KCERA SDAG***
- ***Our teams are constantly looking for process improvements that will strengthen the disability retirement claim process***

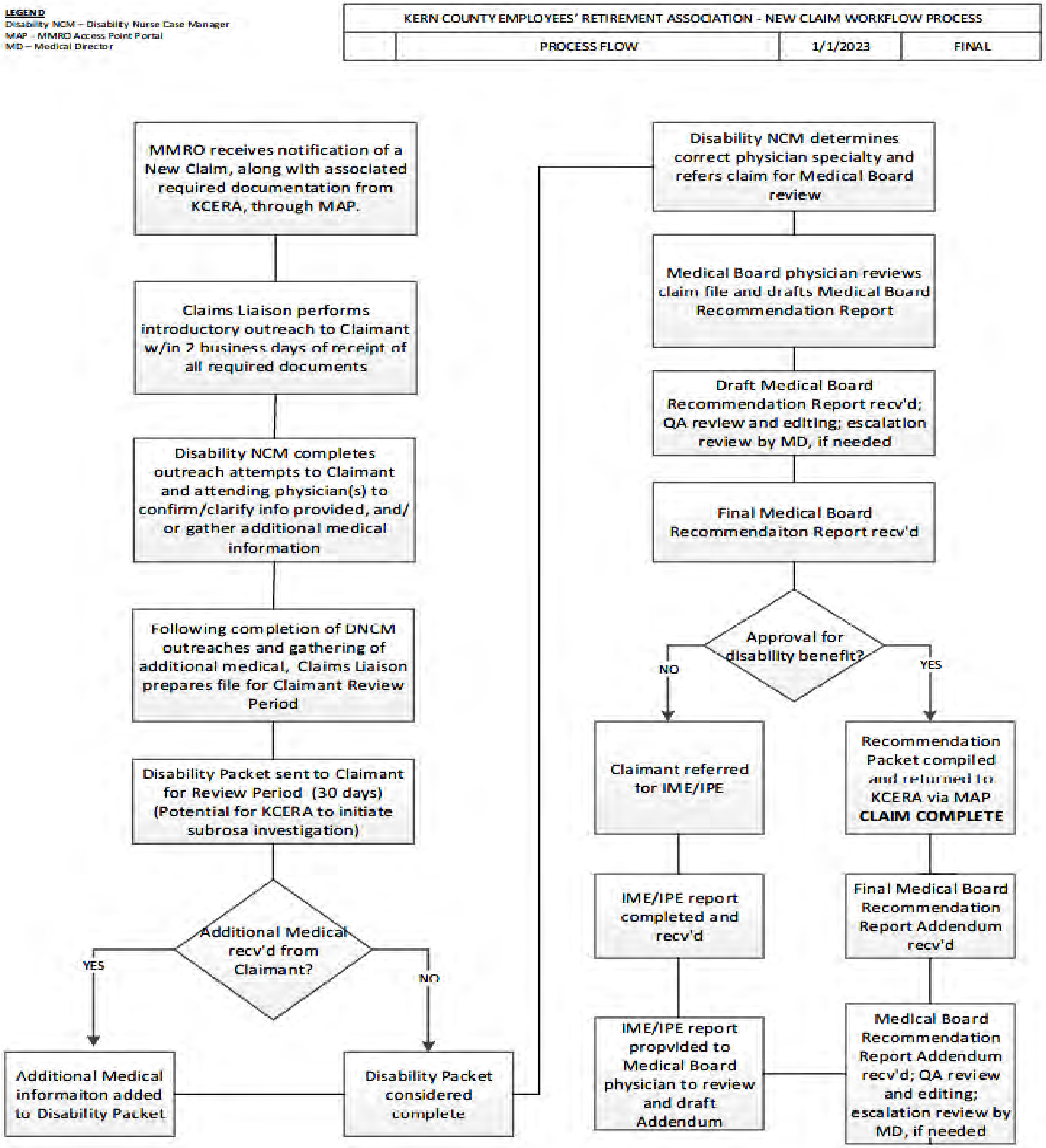
Disability Program Enhancements

In 2022, MMRO and KCERA jointly developed and implemented an enhanced disability claim review model based on clinical review by physician <u>specialists</u>

- ***HIGHLIGHTS:***

  - ***This Specialist Review model utilizes MMRO's panel of more than 375 board-certified physicians, in virtually all major specialties and sub-specialties.***
  - ***<u>BENEFIT:</u>*** Recommendation Reports are completed by specialists who are board-certified in the condition(s) at issue (*e.g., a heart presumption claim is best reviewed by a Cardiologist; a PTSD claim is best reviewed by a Psychiatrist, etc.)*

  - ***A specialized, expert opinion in each Disability Retirement claim makes the claim process more efficient and less burdensome on members.***
  - ***<u>BENEFIT:</u>*** The revised process is leading to a decrease in the overall claim completion timeframes, while in-person Independent Medical Examinations (IME) are reserved for claims where there is an initial recommendation for disapproval. In these instances, the member will be seen for an IME, and then the specialist reviewer will review the IME report and issue an Addendum with a final recommendation.



Revised Disability Retirement Claim Workflow

QUALITY ASSURANCE REVIEW

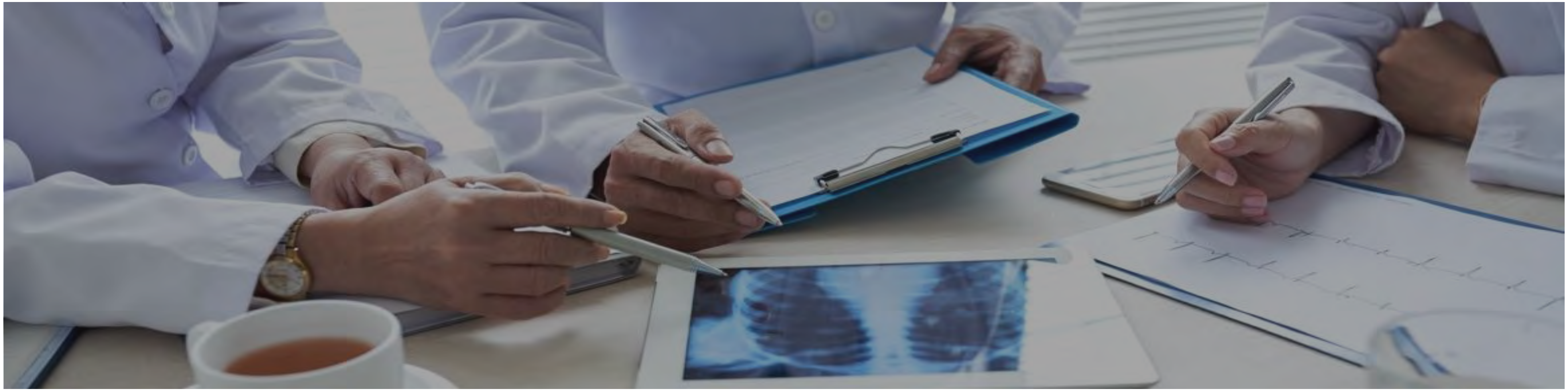
Quality Assurance (QA) Review is a **key value add process** in the Disability Retirement Review

- **Quality Assurance (QA) Review:**
  - *Physician Reviewer Reports are clinically reviewed by a Quality Nurse Reviewer*
    - *Minimum of five (5) years' experience in Disability Claim Review*
  - *Overseen by the MMRO Medical Director*
  - *Clinically managed by MMRO's Quality Improvement Committee*

- **Key areas of Quality Assurance (QA) Review:**
  - *Compliance (disability standards, program requirements)*
  - *Thoroughness of Report and Responses*
  - *Clarity of Report and Rationale*
  - *Timeliness of Report*
  - *Citing Evidence Based Clinical Criteria*
  - *Clinical Correlation and Sound Medical Reasoning*

This QA Process also includes compliance review with the KCERA team to ensure reports meet CERL Standards

Physician Reviewer/Examiner Network



MMRO maintains nationwide access to qualified and fully credentialed Disability Physician Reviewers/Examiners who ***specialize*** in Disability:

Covers over 65 specialties and sub-specialties:

- American Board of Medical Specialties (ABMS)
- Osteopathic Board Certification (AOA)
- American Board of Professional Psychology (ABPP)
- American Board of Podiatric Medicine (DPM)

Physician Reviewers are trained and well-versed in the unique disability retirement statutes and factors of Disability Retirement Review

Specialties include, but not limited to: *Cardiology, Family Medicine, Gastroenterology, Internal Medicine, Neurology, Occupational Medicine, Orthopedics, Physical Medicine & Rehabilitation, Psychiatry, Psychology*

Credentialing Standards

- Current non-restricted license or certification
- Board Certification

    American Board of Medical Specialties (ABMS), American Osteopathic Association (AOA), America Board of Podiatric Surgery (ABPS), America Board of Podiatric Orthopedics and Primary Podiatric Medicine (ABPOPPM), or American Board of Professional Psychology (ABPP)

- Professional experience to include five (5) years' full-time experience providing direct clinical care to patients
- No history of sanctions or disciplinary actions
- Specialty matched based on Dx

MMRO

Any Questions?

THANK YOU!

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

Date: June 14, 2023

To: Trustees, Board of Retirement

From: Dominic D. Brown, Chief Executive Officer

Subject: **Creation of Compensation Policy and Compensation Study**

This item responds to action taken by the Board at the May 3, 2023 meeting of the Board of Retirement. Trustees Gonzalez and Hughes collectively proposed KCERA Staff place the following item on a future Board of Retirement meeting agenda:

> KCERA Staff to work with Governance Consultant Aon to create a policy for CEO/CIO compensation to include the development of a compensation study for future consideration by the Administrative Committee and the Board of Retirement.

Trustee Couch seconded the motion made by Trustee Gonzalez, which was unanimously approved.

Therefore, it is recommended the Board approve the recommendation to direct KCERA Staff to work with Aon and the Administrative Committee to the develop a compensation policy and compensation study.

Staff has scheduled a meeting of the Administrative Committee on June 21, 2023 and has initiated discussion with Aon regarding the recommended action.

KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Chief Executive Officer's Report

Presented by: Dominic D. Brown, CPA, CFE

June 2023

Office Update

- Response to Referral:
  - KPI
  - Compensation Policy & Study
- Staffing
  - Recruitments: Deputy/Senior Deputy Chief Legal Officer
  - Retirement: Chief Technology Officer
- Member Outreach: End-of-Career Seminar, New Employee Orientation & Job Fest
- Solar Update
- Service Purchase Update

Operations Activity

- Member Services
  - 51 new retirements and calculations
  - 108 death benefit calculations
  - 45 service-credit purchase calculations
  - 94 retirement estimates
  - 169 new active members
  - 83 terminations with disposition packets
  - 30 in-person appointments
  - 196 walk-ins
  - 763 phone calls
  - 234 emails
- Accounting & Reporting
  - Service Purchases
  - Budget
- Information Technology
  - Retro Split Project
  - 2-Factor Authentication for Portal

KCERA
KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Upcoming Events

- Finance Committee – No meetings currently scheduled
- Administrative Committee – Compensation Policy/Study will be discussed on June 21, 2023
- Investment Committee – No meetings currently scheduled
- KCERA Property, Inc. – No meetings currently scheduled
- Board of Retirement – Next regular monthly meeting will be August 9, 2023 (Dark in July)
    - Targeting August for *Alameda* Decision appeals

KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

CIO REPORT

INVESTMENT PROGRAM UPDATE

June 2023

Presented by:
Daryn Miller, CFA
Chief Investment Officer

Rebalancing

MAY ACTIVITY

- Equity
  - Sell $35MM Parametric S&P
- Fixed Income
  - Buy $50MM Parametric Rates
- Commodities
  - Buy $35MM Wellington

Public Equities: Reduced equity exposure, further increased underweight

Fixed Income: Increase rates exposure, overweight versus policy while underweight versus adjusted policy

Commodities: Increased commodities exposure, slight overweight versus policy

Reporting period covers 04/24/2023 to 05/31/2023

Positioning

ACTUAL VS POLICY TARGET

Asset Class	Actual	Policy Target	Adj. Policy Target	Diff. Act. vs. Pol.
Public Equities	31.5%	37.0%	38.6%	-7.1%
Fixed Income	25.5%	24.0%	26.8%	-1.3%
Core	16.6%	14.0%	16.8%	-0.2%
Credit	4.9%	6.0%	6.0%	-1.1%
Emerging Market Debt	4.0%	4.0%	4.0%	0.0%
Commodities	4.2%	4.0%	4.0%	0.2%
Hedge Funds	10.4%	10.0%	10.0%	0.4%
Alpha Pool	4.2%	5.0%	5.0%	-0.8%
Midstream Energy	5.7%	5.0%	5.0%	0.7%
Core Real Estate	6.1%	5.0%	5.0%	1.1%
Private Real Estate	2.4%	5.0%	2.4%	0.0%
Private Equity	3.4%	5.0%	3.4%	0.0%
Private Credit	4.8%	5.0%	4.8%	0.0%
Opportunistic	3.2%	0.0%	0.0%	3.2%
Cash	-1.5%	-5.0%	-5.0%	3.5%
Total	100.0%	100.0%	100.0%	0.0%

Key underweight position is **Public Equity**

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.

Core Real Estate: staff is working to reduce overweight; however, the funds have redemption queues and are limiting redemptions.

Private Equity and Private Real Estate: underweights continue to be reallocated to other asset classes where we see better return opportunity than Public Equity, including **Midstream**, and **Opportunistic**.

Private Markets: exposure at ~10%; the allocation should reach 15% target around 2026.

**Adjusted Policy Target: see example in the Appendix*

As of May 31, 2023. Source: KCERA.

Updates

- Update on opportunistic investment from the April 12th Board meeting

KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Key Initiatives

Enhancing return while managing risk

- Asset Liability Study
- Fixed Income portfolio review
- Investment Policy Statement review
- Multi-asset research / tactical asset allocation
- Opportunistic investments
- Private Markets
- Japan equity research
- Risk Analytics tool

Investment Committee Meetings

Next meeting August—date TBD

The next IC meeting agenda will include the following items:

- Asset Liability Study
- Fixed Income portfolio review
- Private market: 1 fund recommendations

The last IC meeting was held on June 1st

Appendix

Policy and Adjusted Policy Target Methodology

Asset Class	Actual	Policy Target	Diff. Act. Vs. Pol.	Adj. Target
Public Equities	30.5%	37.0%		38.9%
Fixed Income	23.3%	24.0%		26.3%
Core	13.8%	14.0%		16.8%
Credit	5.7%	6.0%		5.7%
Emerging Market Debt	3.8%	4.0%		3.8%
Commodities	4.7%	4.0%		4.7%
Hedge Funds	10.4%	10.0%		10.4%
Alpha Pool	5.2%	5.0%		5.2%
Midstream Energy	6.7%	5.0%		6.7%
Core Real Estate	7.2%	5.0%		7.2%
Private Real Estate	2.1%	5.0%	-2.9%	5.0%
Private Equity	3.1%	5.0%	-1.9%	5.0%
Private Credit	5.1%	5.0%	0.1%	5.0%
Opportunistic	3.2%	0.0%		3.2%
Cash	-1.5%	-5.0%		-1.5%

Public Equity Adjusted Target
The 1.9% underweight from Private Equity is reallocated to Public Equity

Policy Target of 37% + 1.9% = 38.9%, which is the Adjusted Policy Target

Core Fixed Income Adjusted Target
The 2.8% combined underweight from Private Credit and Real Estate are reallocated to Core Fixed Income

Policy Target of 14% + 2.8% = 16.8%, the Adjusted Policy Target

CLO Report June 2023

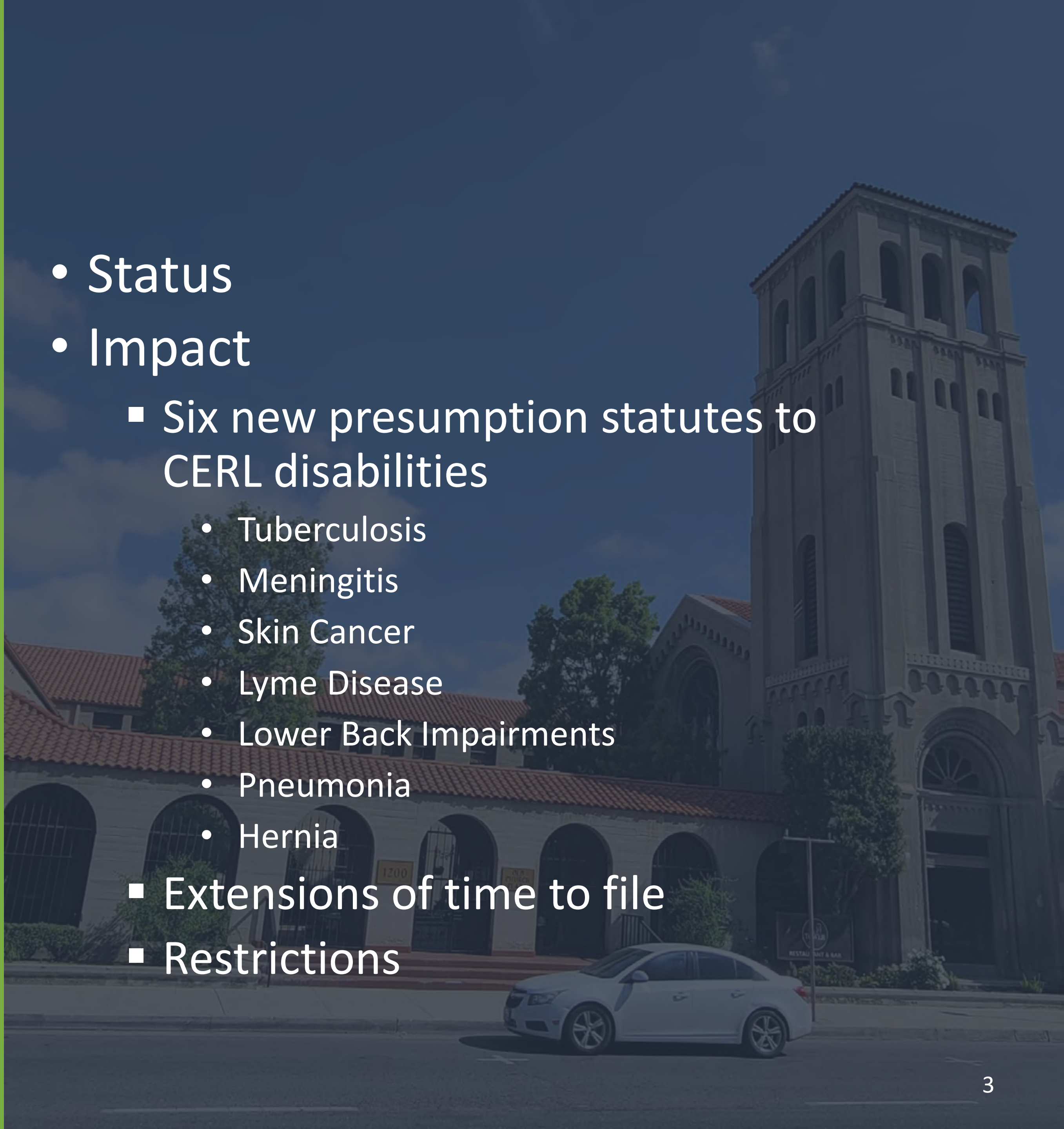
Jennifer Esquivel Zahry, Chief Legal Officer
Maggie Peralta-Lee, Senior Paralegal
Irma Chavez, Senior Legal Secretary

Legislative Updates

- Disability Retirement Presumptions
  - AB 1020
- Public Retirement Cost and Liability Panel
  - SB 660
- Remote Meeting Bills
  - AB 557
  - SB 537

AB 1020

Disability Retirement Presumptions



- Status
- Impact
  - Six new presumption statutes to CERL disabilities
    - Tuberculosis
    - Meningitis
    - Skin Cancer
    - Lyme Disease
    - Lower Back Impairments
    - Pneumonia
    - Hernia
  - Extensions of time to file
  - Restrictions

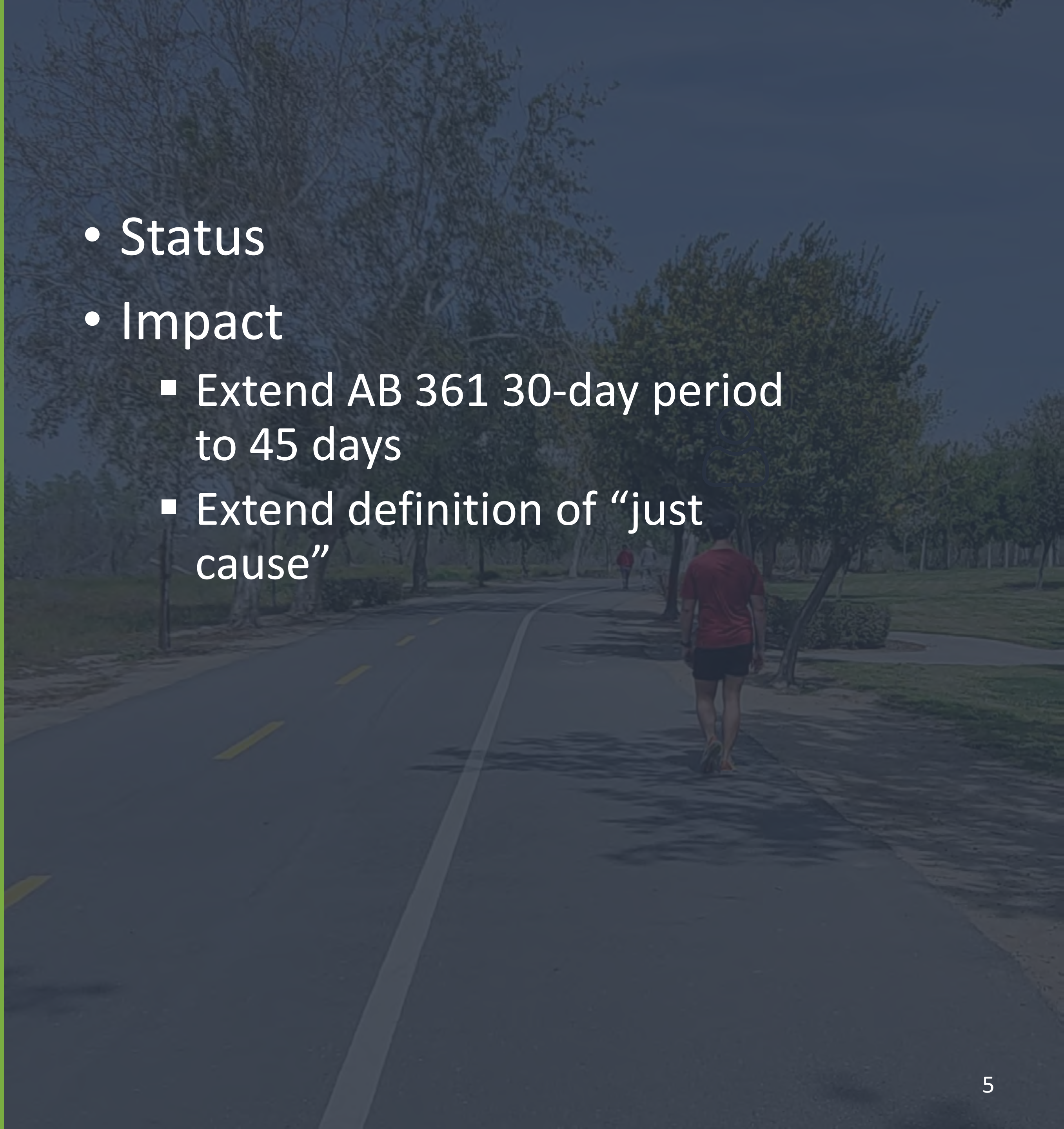
SB 660

Cost and Liability Panel

- Status
- Impact
  - Creates California Public Retirement System Agency Cost and Liability Panel
    - Purpose
    - Representation
    - Authority
    - Timing

AB 557
SB 537

Remote Meeting Bills



- Status
- Impact
  - Extend AB 361 30-day period to 45 days
  - Extend definition of “just cause”

June Calendar	Pending CLO Review
Operational Contracts	5
Investment/ Custodial Documents	6
Disability Matters	7
Community Property Matters	5
Staff Inquiries	9
Plan Sponsor Inquiries	1
Administrative Appeals	2
Board/Committee Meetings/Staff Meetings/ Conferences	16
Post-Retirement Employment	4
Probate Matters	1
Public Records Act Requests	3

EDELSTEIN GILBERT ROBSON & SMITH LLC

Donald B. Gilbert Michael R. Robson Trent E. Smith Jason D. Ikerd Associate Bridget E. McGowan Associate

May 5, 2023

TO: State Association of County Retirement Systems

FROM: Edelstein Gilbert Robson & Smith, LLC

RE: Legislative Update – May 2023

General Update

The Legislature just wrapped up policy committee hearings for fiscal bills in the first house. The weeks immediately preceding the April 28 policy committee deadline are arguably the busiest of the Legislative session, as committees work to analyze and hold hearings for most of the bills introduced thus far while simultaneously conducting hearings on the proposed state budget. As noted in previous reports, more bills were introduced this year than in recent years, leading to several late-night policy committee hearings the week of the deadline.

Non-fiscal bills have until today, May 5, to be heard in policy committee before going to a vote on the Floor of the first house.

The next legislative milestone is the fiscal committee deadline, where fiscal bills must be heard in the Appropriations Committee in the first house. A large proportion of the bills in either house's Appropriations Committee will get placed on the Committee's "suspense file" that will be dispensed with the day before the fiscal committee deadline of May 19. It is at this point in the Legislative process that we typically see the narrowing of bills that continue to move forward. The number of bills held back by this committee may be higher than in recent years given the increasingly dismal budget projections.

The Governor is set to announce his 2023-24 May Revision of the budget in mid-May. Recent estimates anticipate that we will see the projected budget deficit increase further from the $22.5 billion figure announced in January. Given the delayed tax return deadline, California's budget situation will continue to remain largely unknown.

Legislation of Interest

SB 885 (Committee on Labor, Public Employment and Retirement). This is the annual committee omnibus bill that contains various cleanup provisions for

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www.egrslobby.com

CalSTRS, CalPERS and CERL systems. The amendments to the CERL make non-substantive, technical changes as well as conform provisions on Required Minimum Distributions to federal law under the SECURE ACT 2.0 by referencing the federal law instead of a specific age.

The bill is in the Senate Appropriations Committee.

AB 1020 (Grayson) – CERL Disability Presumptions. This bill would establish several new disability retirement presumptions for various injuries and illnesses in the CERL, similar to provisions that exist in the Labor Code. The bill is sponsored by the California Professional Firefighters. SACRS has provided a series of technical clarifications to the sponsors for their consideration.

The bill is in the Senate.

SB 252 (Gonzalez) – PERS and STRS Fossil Fuel Divestment. Senator Gonzalez reintroduced SB 1173 from last session. Like last year, this bill applies to CalPERS and CalSTRS and prohibits the retirement systems from renewing or making new investments in fossil fuel companies as well as requiring them to liquidate existing investments by July 1, 2030, among other requirements. The bill was introduced as part of a package of climate legislation.

This bill was placed on the Suspense File in the Senate Appropriations Committee.

SB 660 (Alvarado-Gil) - CA Public Retirement System Agency Cost and Liability Panel. This bill would establish the CA Public Retirement System Agency Cost and Liability Panel that would be tasked to determine how costs and unfunded liability are apportioned to a public agency when a member changes employers within the same retirement system or concurrently retires with two or more systems that have entered into a reciprocity agreement. The panel would include a member from the State Association of County Retirement Systems (SACRS).

This bill was placed on the Suspense File in the Senate Appropriations Committee.

Public Meeting Bills

AB 557 (Hart) - Brown Act Emergency Teleconferencing Sunset Extension. This bill would remove the sunset in current law to allow teleconferencing during certain emergencies as well as increase the time period when the Board must renew the findings of an emergency or need for social distancing from 30 days to 45 days. This bill passed out of the Assembly Local Government Committee and is pending a vote on the Assembly Floor.

AB 817 (Pacheco) – Open Meeting Flexibility for Subsidiary Bodies. This bill allows subsidiary bodies to use teleconferencing without regard to a state of emergency if they meet certain requirements. Subsidiary bodies are bodies that serve in an advisory capacity and do not take final action on specified items.

Due to concerns from the Chair of the Assembly Local Government Committee, this bill was not heard in the committee and will not move further this year.

AB 1379 (Papan) - Teleconference Flexibilities. AB 1379 expands various flexibilities for local agencies under the Brown Act including, but not limited to, relaxing requirements for posting teleconference locations, relaxing certain quorum requirements, removing the existing January 1, 2026 sunset date of flexibilities in current law, removing restrictions that prohibit members from participating remotely for more than two meetings a year, among other changes. The bill also requires that a legislative body have at least two meetings a year where members are in person at a single designated location.

Due to concerns from the Chair of the Assembly Local Government Committee, this bill was not heard in the committee and will not move further this year.

SB 537 (Becker) - Teleconference Flexibilities. This bill would allow expanded teleconference flexibilities for multijurisdictional, cross county legislative bodies if certain requirements are met, along with adding to the list of circumstances where a member is permitted to participate remotely.

This bill passed out of the Senate Governance and Finance Committee in April after being narrowed considerably, including allowing remote participation only if the meeting location is more than 40 miles one way from the member's home, among other requirements that limit the flexibilities in the bill. The new amendments make the bill less useful for many local government entities who previously supported the bill.

We have met with the author's staff and proposed amendments to clarify that local retirement systems are covered by the bill.

The bill will go to a vote of the full Senate next.

EDELSTEIN GILBERT ROBSON & SMITH LLC
Donald B. Gilbert Michael R. Robson Trent E. Smith Jason D. Ikerd Associate Bridget E. McGowan Associate

June 2, 2023

TO: State Association of County Retirement Systems

FROM: Edelstein Gilbert Robson & Smith, LLC

RE: Legislative Update – June 2023

General Update

The Legislature wrapped up two major legislative deadlines in the last few weeks.

May 19th was the fiscal committee deadline, where fiscal bills must be heard in the Appropriations Committee in the first house before going to a vote on the floor. On May 18, the Appropriations Committees in both houses held their "suspense hearing," where they dispensed hundreds of bills on the "suspense file" at once. It is at this point in the legislative process where we see the number of active bills moving through the legislative process decrease, and this year was no exception with many bills being held in the Committee.

Today was another legislative milestone - the House of Origin Deadline, where bills must be voted on the Floor of the House of Origin. Those bills that move forward must have a policy committee hearing in the second house before the summer recess which begins July 14.

Budget Update. The Governor released the May Revision of the 2023-23 Budget on May 12. As anticipated, the May Revision projects an increased deficit of $31.5 billion, up from the figure in January. Given the delayed tax filing deadline, the revenue picture will remain largely uncertain.

The Governor and Legislature must agree on a budget by the June 15 constitutional deadline. Given the revenue uncertainty, we anticipate budget discussions will continue after the budget is formally adopted.

Legislation of Interest

SB 885 (Committee on Labor, Public Employment and Retirement). This is the annual committee omnibus bill that contains various cleanup provisions for CalSTRS, CalPERS and CERL systems. The amendments to the CERL make non-substantive, technical changes as well as conform provisions on Required Minimum Distributions to federal law under the SECURE ACT 2.0 by referencing the federal law instead of a specific age.

The bill is now in the Senate and will be set for a hearing soon.

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The bill is in the Senate awaiting its policy committee hearing.

AB 1637 (Irwin) - Local Government Websites and Email Addresses. This bill requires cities and counties to use a ".gov" or ".ca.gov" domain for websites and email addresses. The bill was recently amended out of the Assembly Appropriations Committee to narrow the bill to cities and counties as well as push out the implementation dates. The previous version of the bill would have applied to all local agencies.

The bill passed out of the Assembly this week and will go to the Senate.

SB 252 (Gonzalez) – PERS and STRS Fossil Fuel Divestment. Senator Gonzalez reintroduced SB 1173 from the last legislative session. Like last year, this bill applies to CalPERS and CalSTRS and prohibits the retirement systems from renewing or making new investments in fossil fuel companies as well as requiring them to liquidate existing investments by July 1, 2030, among other requirements. The bill was introduced as part of a package of climate legislation.

Despite opposition from CalPERS and CalSTRS, SB 252 passed the Senate and is now in the Assembly awaiting a hearing.

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