

Executive Team

**Dominic D. Brown, CPA, CFE**  
Chief Executive Officer

**Daryn Miller, CFA**  
Chief Investment Officer

**Jennifer Zahry, JD**  
Chief Legal Officer

**Matthew Henry, CFE**  
Chief Operations Officer



Board of Retirement

Juan Gonzalez, Chair  
Tyler Whitezell, Vice-Chair  
Jeanine Adams  
David Couch  
Phil Franey  
Joseph D. Hughes  
Jordan Kaufman  
Rick Kratt  
Traco Matthews  
Dustin Contreras, Alternate  
Chase Nunneley, Alternate  
Robb Seibly, Alternate

February 3, 2022

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, February 9, 2022 at 8:30 a.m. via teleconference pursuant to Assembly Bill 361, signed into law on September 16, 2021 as urgency legislation, Resolution 2022-01 adopted by the KCERA Board of Retirement at its Regular Meeting held January 19, 2022 and Governor Newsom's March 4, 2020 proclaimed State of Emergency, which remains in effect. (Cal. Gov. Code section 54953, as amended by Assembly Bill 361).

If you wish to listen to the teleconference meeting, please dial one of the following numbers and enter Meeting ID# 289-998-6429:

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

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](mailto:administration@kcera.org).

Sincerely,

**Dominic D. Brown**  
Chief Executive Officer

Attachment

**AGENDA:**

All agenda item supporting documentation is available for public review on KCERA's website at [www.kcera.org](http://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 teleconference meeting of the Board of Retirement may request assistance by calling (661) 381-7700 or sending an email to [administration@kcera.org](mailto: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.

**ROLL CALL**

**MOMENT OF SILENCE**

**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.

- \*1. [Discussion and appropriate action pursuant to California Government Code section 54953 of the Ralph M. Brown Act, as amended by Assembly Bill 361 presented by Chief Executive Officer Dominic Brown and Chief Legal Officer Jennifer Zahry – CIRCUMSTANCES OF THE STATE OF EMERGENCY RECONSIDERED; BOARD FINDS THE STATE OF EMERGENCY CONTINUES TO DIRECTLY IMPACT THE ABILITY OF ATTENDEES TO MEET SAFELY IN PERSON AND THAT SOCIAL DISTANCING MEASURES ARE BEING RECOMMENDED AT THE STATE AND LOCAL LEVEL; FINDINGS ADOPTED FOR THE BOARD AND ALL KCERA STANDING COMMITTEES; APPROVE 30-DAY RESOLUTION](#)
- \*2. [Summary of proceedings of the following meetings:](#)
  - January 19, 2022 Board of Retirement  
RECEIVE AND FILE
- \*3. [Report from the KCERA office on members retired from service for the month of January 2022 – RATIFY](#)
- \*4. [Report from the KCERA office on deceased retirees for the month of January 2022 – RECEIVE AND FILE](#)
- \*5. [Report of current disability retirement applications and appeals of KCERA Board decisions for the period ending January 31, 2022 – RECEIVE AND FILE](#)
- \*6. [Securities Lending Earnings Summary Report for the period December 1-31, 2021 from Deutsche Bank – RECEIVE AND FILE](#)
- \*7. [KCERA asset allocation, budget status, cash flow position and investment fees status report for the month of December 2021 – RECEIVE AND FILE](#)
- \*8. [KCERA Class Action Proceeds Report from October 1, 2021 through December 31, 2021 from the Northern Trust Company – RECEIVE AND FILE](#)
- \*9. [Corrections in Benefit Payments Report for the period July through December 2021 – RECEIVE AND FILE](#)
- \*10. [Corrections in Benefit Contributions Report for the period July through December 2021 – RECEIVE AND FILE](#)
- \*11. [Glass Lewis Proxy Voting Management Report for the period January 1, 2021 through December 31, 2021 – RECEIVE AND FILE](#)
- \*12. [Letter from Auditor-Controller-County Clerk Mary B. Bedard, CPA, dated January 14, 2022, regarding the Certificate of Results of the Retirement Election held December 14, 2021 – RECEIVE AND FILE](#)

- \*13. [Letter from Chief Executive Officer Dominic Brown, dated February 15, 2022, to the Kern County Board of Supervisors regarding Board of Retirement Election for Second, Third, Seventh and Alternate Seventh Members – RECEIVE AND FILE](#)
- \*14. [Invitation for trustees and/or staff to attend the 2022 California Association of Public Retirement Systems \(CALAPRS\) General Assembly, March 5-8, 2022 in San Diego, CA – APPROVE THE ATTENDANCE OF TRUSTEE JEANINE ADAMS AND CHIEF EXECUTIVE OFFICER DOMINIC BROWN](#)
- \*15. [Letter from Segal Consulting, dated January 24, 2022, on annual cost-of-living adjustment \(COLA\) rates for as of April 1, 2022 – ADOPT THE FOLLOWING:](#)

| RETIREMENT DATE            | COLA |
|----------------------------|------|
| ON OR BEFORE APRIL 1, 2022 | 2.5% |

- \*16. [Letter from Segal, dated December 2, 2021, regarding FY 2022-2023 Required Contributions with Adjustments to Reflect Three-Year Phase-in of Increases in Employer Unfunded Actuarial Accrued Liability \(UAAL\) Contribution Rate Due to Assumption Changes – RECEIVE AND FILE](#)
- \*17. [Letter from Segal, dated January 25, 2021, regarding Five-Year Projection of Employer Contribution Rates based on June 30, 2021 Valuation – RECEIVE AND FILE; DISTRIBUTE TO KCERA PLAN SPONSORS TO BE INTEGRATED INTO PAYROLL PROCESS](#)
- \*18. [Service provider evaluation period initiated pursuant to Evaluation Period Policy – RATIFY](#)

**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 Annual Private Markets Plan presented by Andrea Auerbach, Investment Managing Director, Keirsten Lawton, Investment Managing Director, Kelly Jensen, Senior Investment Director, Anelise Hohl, Investment Director, Cambridge Associates, Chief Investment Officer Daryn Miller, CFA, and Senior Retirement Investment Officer Brian Long, CFA – RECEIVE AND FILE](#)



21. [Discussion and appropriate action on private market fund recommendation](#) presented by Andrea Auerbach, Investment Managing Director, Cambridge Associates<sup>1</sup>, Chief Investment Officer Daryn Miller, CFA, Senior Retirement Investment Officer Brian Long, CFA, and the Investment Committee – APPROVE UP TO \$30MM COMMITMENT TO RUBICON TECHNOLOGY PARTNERS IV; AUTHORIZE CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL ADVICE AND REVIEW
22. [Trustee education regarding Capital Efficiency program and potential changes](#) presented by Scott Whalen, CFA, Verus, Chief Investment Officer Daryn Miller, CFA, and Senior Retirement Investment Officer Brian Long, CFA – RECEIVE EDUCATIONAL TRAINING (20 MINUTES TRUSTEE EDUCATION CREDIT)
23. [Presentation on the 4<sup>th</sup> Quarter Investment Performance Review for the period ending December 31, 2021](#) by Scott Whalen, CFA, Verus – RECEIVE AND FILE
24. [Presentation on the 4<sup>th</sup> Quarter 2021 Portfolio Review presented by Spencer Edge, Albourne America<sup>2</sup>](#) – RECEIVE AND FILE

#### **STAFF REPORTS**

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

#### **COMMITTEE REPORTS**

28. Report from Committee Chairs:
  - a. Administrative Committee: Hughes
  - b. Finance Committee: Franey
  - c. Investment Committee: Kaufman
  - d. KCERA Property, Inc. Board: Seibly

#### **REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS**

29. 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.

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<sup>1</sup> 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 §6254.26, §6255, and §54957.5.

<sup>2</sup> 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 §6254.26, §6255, and §54957.5.

**NEW BUSINESS**

30. 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
  
31. Adjournment





# Consideration of AB 361 Findings

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KCERA ADMINISTRATION

# Requirement

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The Board of Retirement must reconsider the circumstances of the current State of Emergency and determine whether any of the following circumstances exist:

(i) The state of emergency continues to directly impact the ability of the attendees to meet safely in person;

and/or

(ii) State or local officials continue to impose or recommend measures to promote social distancing.

# AB 361 Findings – Safety of Attendees

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## FACTS TO SUPPORT DIRECT IMPACT ON ABILITY OF ATTENDEES TO SAFELY MEET IN-PERSON

- ❖ Kern County Infection Rate – HIGH (CDC Covid Data Tracker); 7-day case rate was 175.3 per 100,000 as of Jan. 25<sup>th</sup> (up from 58.2 on Jan. 11<sup>th</sup>) (KCPH).
- ❖ 7-day Percent Change: -25.22% (cases) (130.06% Jan. 11<sup>th</sup>) (CDC Covid Data Tracker).
- ❖ As of February 2, 2022, 80.69% positivity rate for unvaccinated persons with 90.74% of hospitalizations occurring among unvaccinated persons. For fully vaccinated individuals in Kern County: 5.26% positivity rate (up from 2.48% in January) (KCPH).
- ❖ State-wide universal mask mandate currently in place until 2/15/22 (CDPH).
- ❖ State Strike Teams will remain at three local hospitals through February to expand bed capacity, and another team at a fourth local hospital will remain through March 31, 2022 (KCPH).
- ❖ KCERA ventilation system not evaluated (CEO).
- ❖ Size of Board Room – 12 Trustees, 6+ Staff, and varying public attendance depending on topic.
- ❖ Duration of Indoor Meetings: 1 – 4 hours depending on agenda.

## FACTS TO SUPPORT DECREASING IMPACT ON ATTENDEE SAFETY MEETING BY IN-PERSON

- ❖ Mandatory masking required indoors regardless of vaccinated status from December 15, 2021 through February 15, 2022 (CDPH).
- ❖ Latest Estimate of R-Effective is .72 (R-effective greater than 1 means COVID-19 will spread exponentially, less than 1 means COVID-19 will spread more slowly and cases will decline) (KCPH, CalCAT, CDPH).
- ❖ State Model used by KCPH forecasts Kern's COVID-19 hospitalizations to decrease from 318 (Jan. 31) to 132 (Mar. 4<sup>th</sup>) (KCPH).



# Recommendation

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- ❖ Reconsider circumstances of the State of Emergency; and
- ❖ Find the State of Emergency continues to directly impact the ability of attendees to meet safely in person; and/or
- ❖ Find that social distancing measures are being recommended at the state and local level; and
- ❖ Adopt such findings for the Board and all KCERA standing committees; and
- ❖ Approve proposed 30-day resolution.

**BEFORE THE BOARD OF RETIREMENT  
KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
RESOLUTION No. 2022-02**

**In the matter of:**

**MEETINGS OF THE KCERA BOARD OF RETIREMENT AND ITS STANDING  
COMMITTEES PURSUANT TO CALIFORNIA GOVERNMENT CODE SECTION  
54953, AS AMENDED BY ASSEMBLY BILL 361.**

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**Ayes:**

**Noes:**

**Absent:**

**Dominic D. Brown,**  
Secretary to the Board of Retirement,  
Kern County Employees' Retirement Association

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**RESOLUTION**

Section 1. WHEREAS:

- (a) The Kern County Employees' Retirement Association ("KCERA") is required by the Ralph M. Brown Act (Cal. Gov. Code<sup>1</sup> 54950 – 54963) ("the Brown Act") to conduct open and public meetings, so that any member of the public may attend, participate, and watch KCERA's legislative bodies conduct their business; and

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<sup>1</sup> All statutory references are to the California Government code unless stated otherwise.

- (b) All meetings of KCERA's Board of Retirement and its standing committees are open and public in accordance with the Brown Act or other governing authority; and
- (c) KCERA is committed to preserving and encouraging public access and participation in meetings of the Board of Retirement; and
- (d) The Brown Act, at section 54953(e) (as added by Assembly Bill 361), makes provisions for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the teleconference requirements of section 54953(b)(3), subject to the existence of certain conditions; and
- (e) A state of emergency must have been declared by the Governor pursuant to section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions as described in section 8558; and such state of emergency must be in effect at the time of the meeting in order to conduct a meeting under section 54953(e); and
- (f) Governor Newsom proclaimed a State of Emergency on March 4, 2020, pursuant to section 8625 that remains active; and
- (g) The KCERA Board of Retirement made findings on January 19, 2022, by majority vote, that it has reconsidered the circumstances of the state of emergency and found that the state of emergency continues to directly impact the ability of attendees to safely meet in person over the next 30 days and/or

- that Cal/OSHA continues to impose or recommend measures to promote social distancing in certain circumstances; and
- (h) To continue to teleconference without compliance with section 54953(b)(3), section 54953(e) requires the legislative body to make certain findings by majority vote within 30 days of January 19, 2022; and
  - (i) California's Division of Occupational Safety and Health, ("Cal/OSHA") COVID-19 Prevention Emergency Temporary Standards continue to include requirements for vaccinated and unvaccinated workers. (8 C.C.R. § 3205). These Standards continue to recommend physical distancing as part of training and instruction that must be given to employees. And, in some circumstances, the Standards continue to require physical distancing. (8 C.C.R. § 3205). These standards continue to apply to all workers in California with few exceptions. KCERA continues to follow the Cal/OSHA guidance; and
  - (j) Although the latest estimate of the R-effective in Kern County is .72, Kern County continues to be designated as having "high" community transmission by the Centers for Disease Control and Prevention ("CDC") and the California Department of Public Health ("CDPH"); and
  - (k) Variants of concern remain active in Kern County and the 7-day case rate, as reported by Kern County Public Health on January 25, 2022, is 175.3 per 100,000 (January 11, 2022 it was 58.2);

- (l) The Public Health Officer for the CDPH has issued a state-wide mask mandate for all individuals in all indoor public settings regardless of vaccination status through February 15, 2022. As of February 2, 2022, the mask-mandate has not been extended past February 15, 2022.
- (m) The two State-staffed strike teams, which have been in place since mid-January, have expanded Kern County's regular bed capacity by 15 beds and by 25 ICUs beds across three local hospitals. The teams are expected to remain at these hospitals through the end of February. A third State-staffed team at a fourth local hospital, which arrived last week and will remain through March 31, 2022, will expand that hospital's bed capacity by 18 ICU beds and 18 regular hospital beds. Additionally, an ambulance strike team of 11 ambulances, 22 crew, and 10 additional paramedics were also headed to Kern to assist with ambulance response to 911 calls; and
- (n) the Board finds that it has reconsidered the circumstances of the state of emergency and found that the state of emergency continues to directly impact the ability of attendees to safely meet in person over the next 30 days and/or that state and local officials continue to impose or recommend measures to promote social distancing in certain circumstances.

Section 2. NOW, THEREFORE BE IT RESOLVED, by the Board of Retirement for the Kern County Employees' Retirement Association as follows:

Effective February 9, 2022, the following actions are authorized and required of KCERA:



- 1) Remote Teleconference Meetings. The Chief Executive Officer and legislative bodies of KCERA are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution including, conducting open and public meetings in accordance with Government Code section 54953(e) and other applicable provisions of the Brown Act in order to avoid directly impacting the ability of attendees to meet safely in person during the next 30 days of the current State of Emergency (proclaimed by the Governor on March 4, 2020).
- 2) Effective Date of Resolution. This Resolution shall take effect immediately upon its adoption and shall be effective until the earlier of (i) March 11, 2022, or such time the Board of Directors adopts a subsequent resolution in accordance with Government Code section 54953(e)(3) to extend the time during which the legislative bodies of KCERA may continue to teleconference without compliance with paragraph (3) of subdivision (b) of section 54953.

#### **RESOLUTION HISTORY**

- 1) This Resolution was:
  - a) Approved by the Board on October 13, 2021.
  - b) Approved by the Board on November 3, 2021.
  - c) Approved by the Board on December 3, 2021.
  - d) Approved by the Board on December 20, 2021.
  - e) Approved by the Board on January 19, 2022.
  - f) Approved by the Board of February 9, 2022.

# **Evidence in Support of Findings**

# EVIDENCE IN SUPPORT OF FINDINGS

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# Kern County, California

[State Health Department](#) 

[7-day Metrics](#) | **7-day Percent Change**

Community Transmission

 High

Everyone in **Kern County, California** should wear a mask in public, indoor settings. Mask requirements might vary from place to place. Make sure you follow local laws, rules, regulations or guidance.

[How is community transmission calculated?](#)

February 3, 2022

|  |         |
|--|---------|
| Cases  | -25.22% |
| % Positivity   | -7.37%  |
| Deaths   | 950%    |
| % of population $\geq$ 5 years of age fully vaccinated | N/A     |
| New Hospital Admissions                                | -3.74%  |

The following data are cumulative from 1/21/21, the first date a resident of Kern was considered fully vaccinated

### Fully Vaccinated Individuals:

455,967

23,976

Total Post-Vaccine Cases

5.26%

Percentage of Vaccinated People Who Tested Positive

322

Total Post-Vaccine Hospitalizations

0.071%

Percentage of Vaccinated People Who were Hospitalized

### Unvaccinated Individuals:

464,684

100,183

Total Unvaccinated Cases

80.69%

Percentage of All Cases that are Unvaccinated

3,156

Total Unvaccinated Hospitalizations

90.74%

Percentage of All Hospitalizations that are Unvaccinated





Variants Identified in Kern County

Back



**Variants of Concern**

|           |           |       |
|-----------|-----------|-------|
| B.1.1.529 | (Omicron) | 341   |
| B.1.617.2 | (Delta)   | 2,244 |

**Variants Being Monitored**

|           |           |     |
|-----------|-----------|-----|
| B.1.1.7   | (Alpha)   | 140 |
| B.1.351   | (Beta)    | 5   |
| B.1.427   | (Epsilon) | 93  |
| B.1.429   | (Epsilon) | 342 |
| B.1.525   | (Eta)     | 0   |
| B.1.526   | (Iota)    | 2   |
| B.1.617.1 | (Kappa)   | 0   |
| B.1.617.3 | (n/a)     | 0   |
| B.1.621   | (Mu)      | 0   |
| P.1       | (Gamma)   | 19  |
| P.2       | (Zeta)    | 0   |

\* Date of specimen collection

January 25, 2022

## NEWS RELEASE

Media Contact: Michelle Corson, 661-868-0288

### Kern County Public Health Announces Latest COVID-19 Facts

- There are 1,620 newly reported confirmed cases in Kern County bringing our total confirmed cases to date to 204,686.
- There are 3 new deaths being reported today and a total of 1,977 COVID-19 deaths since the start of the pandemic.
- The 7-day case rate is 175.3 per 100,000.
- As of yesterday, 1,096,988 doses of the COVID-19 vaccine have been administered to Kern County residents. 456,712 or 53.4% of Kern's eligible population have been *fully* vaccinated against COVID-19.
- As of yesterday, Kern County has 309 COVID-19 related hospitalizations and 53 are in the ICU.

We continue to review the State's modeling for planning purposes. The modeling is currently suggesting that Kern's peak of COVID-19 patient census in the hospitals will be tomorrow with 337 COVID-19 patients. State models can be found [here](#).

Our pre-hospital and hospital systems continue to be impacted by the COVID-19 pandemic. Currently, two State-staffed teams are in Kern County that have expanded both regular and ICU hospital bed capacity at Kern Medical and Adventist Health Bakersfield and Delano. This expansion has provided approximately 25 ICU beds and 15 med-surge beds to Kern's capacity. It is anticipated this staffing will remain through February, at which time needs will be reassessed. A third State-staffed expansion team is expected to arrive tomorrow at Good Samaritan hospital to expand Kern's capacity by an additional 14 ICU beds and 18 regular hospital beds. This expansion is expected to be operational by this weekend and will be in place through March 31, at which time needs will be reassessed.

We also have three State-staffed strike teams consisting of 6 nurses and 6 paramedics on each team assigned to the emergency department in three hospitals to assist with offloading patients from ambulances and patient care in the emergency room. These teams are expected to be in Kern through the end of February, at which time needs will be reassessed. Additionally, we have ambulance strike teams consisting of 11 ambulances with 22 crew members, with an additional 10 paramedics currently headed to Kern to assist with ambulance response to 911 calls in Kern.

Individuals are not *required* to report COVID-19 home test results to Public Health. However, home test kits *recommend* an individual that tests positive to contact their healthcare provider and report positive results by following the instructions on the home test kit or to Kern County Public Health at [www.kernpublichealth.com/covidhomerests](http://www.kernpublichealth.com/covidhomerresults).

In addition to our countywide infrastructure of partner testing sites, we coordinate mobile COVID-19 testing and vaccination sites throughout the county and a map with this information can be found on our website [www.kernpublichealth.com](http://www.kernpublichealth.com).

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## NEWS RELEASE

Release Number: 2022-03

Date: January 6, 2022

### Cal/OSHA Updates COVID-19 FAQs to Align with CDPH Guidance on Isolation and Quarantines

**Oakland**—Cal/OSHA today updated its [FAQs on COVID-19 Prevention Emergency Temporary Standards \(ETS\)](#) to incorporate new [guidance from the California Department of Public Health \(CDPH\) on isolation and quarantine periods](#).

In December 2020, Governor Newsom issued [Executive Order N-84-20](#), which states that the recommended isolation and quarantine periods in the ETS will be overridden by any CDPH applicable isolation or quarantine recommendation if the ETS periods are longer than those recommended by CDPH.

Cal/OSHA helps protect workers from health and safety hazards on the job in almost every workplace in California. Employers who have questions or need assistance with workplace safety and health programs, including assistance with developing a COVID-19 prevention program at their worksite, can call [Cal/OSHA's Consultation Services Branch](#) at 800-963-9424.

Workers who have questions about COVID-19 hazards at work can call 833-579-0927 to speak with a Cal/OSHA representative during normal business hours. Complaints about workplace safety and health hazards can be filed confidentially with [Cal/OSHA district offices](#).

**Media Contact:** [Communications@dir.ca.gov](mailto:Communications@dir.ca.gov), (510) 286-1161

**Employers with Questions on Requirements May Contact:** [InfoCons@dir.ca.gov](mailto:InfoCons@dir.ca.gov) or call your [local Cal/OSHA Consultation Office](#)

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The [California Department of Industrial Relations](#), established in 1927, protects and improves the health, safety, and economic well-being of over 18 million wage earners, and helps their employers comply with state labor laws. DIR is housed within the [Labor & Workforce Development Agency](#)

Kern

Latest Estimate of R-effective is:

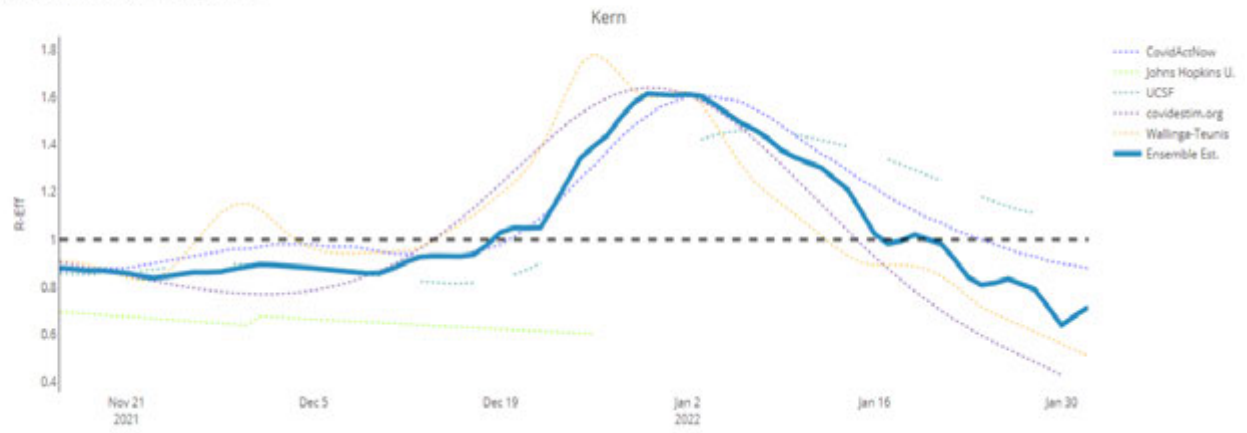
**0.72**  
Spread of COVID-19 is likely decreasing

Download County R-eff Trend

NOTE: Some counties do not have sufficient case numbers in order for modelers to estimate R-effective.

### R-effective Trends by County

Select a county to see how R-effective has changed overtime





TOMÁS J. ARAGÓN, M.D., Dr.P.H.  
State Public Health Officer & Director

State of California—Health and Human  
Services Agency  
**California Department of Public  
Health**



GAVIN NEWSOM  
Governor

January 5, 2022

**TO:** All Californians

**SUBJECT:** Guidance for the Use of Face Masks

**Related Materials:** [Face Coverings Q&A](#) | [Face Coverings Fact Sheet \(PDF\)](#) | [Face Mask Tips and Resources](#) | [Face Shields Q&A \(PDF\)](#) | [Safe Schools for All Hub](#) | [More Home & Community Guidance](#) | [All Guidance](#) | [More Languages](#)

**Updates as of January 5, 2022:**

- Extends requirement for universal masking indoors statewide December 15, 2021, through February 15, 2022.

**Guidance For the Use of Masks**

**Background**

The COVID-19 vaccines remain effective in preventing serious disease, hospitalization, and death from the SARS-CoV-2 virus. Unvaccinated persons are more likely to get infected and spread the virus which is transmitted through the air and concentrates indoors. To ensure that we collectively protect the health and well-being of all Californians; keep schools open for in-person instruction; and allow California's economy to remain open and thrive, the California Department of Public Health (CDPH) **is requiring masks to be worn in all indoor public settings, irrespective of vaccine status, until February 15, 2022.** This requirement will be updated as CDPH continues to assess conditions on an ongoing basis.

This measure brings an added layer of mitigation as the Omicron variant, a Variant of Concern as labeled by the World Health Organization, continues to increase in prevalence across California, the United States, and the world and spreads much more easily than the original SARS-CoV-2 virus and the Delta variant.

Over the last two weeks, the statewide seven-day average case rate has increased by more than sixfold and hospitalizations have doubled. While the percentage of Californians fully vaccinated and boosted continues to increase, we continue to have areas of the state where vaccine coverage is low, putting individuals and communities at greater risk for COVID-19. Given the current hospital census, which is over capacity, the surge in cases and hospitalizations has materially impacted California's health care delivery system within many regions of the state. Staffing levels are also increasingly impacted by COVID-19 transmission in many critical sectors.

As noted in the Science Brief[1] by the Centers for Disease Control and Prevention (CDC) updated in December 2021, at least ten studies have confirmed the benefit of universal masking in community level analyses: in a unified hospital system,[2] a German city,[3] two U.S. states,[4], [5] a panel of 15 U.S. states and Washington, D.C.,[6], [7] as well as both Canada[8] and the U.S.[9], [10], [11] nationally. Each analysis demonstrated that, following directives for universal

masking, new infections fell significantly. Two of these studies[12], [13] and an additional analysis of data from 200 countries that included the U.S.[14] also demonstrated reductions in mortality. Another 10-site study showed reductions in hospitalization growth rates following mask mandate implementation.[15]

Implementing a universal masking requirement not only has proven to decrease the rate of infections but is able to slow community transmission. A series of cross-sectional surveys in the U.S. suggested that a 10% increase in self-reported mask wearing tripled the likelihood of slowing community transmission.[16]

The masking requirement in California schools has allowed us to keep schools open when compared to other parts of the country. California accounts for roughly 12% of all U.S. students, but only 1% of COVID-19 related school closures. Nationally during the Delta surge in July and August 2021, jurisdictions without mask requirements in schools experienced larger increases in pediatric case rates, and school outbreaks were 3.5 times more likely in areas without school mask requirements.[17], [18]

In workplaces, employers are subject to the Cal/OSHA COVID-19 Emergency Temporary Standards (ETS) or in some workplaces the Cal/OSHA Aerosol Transmissible Diseases (ATD) Standard and should consult those regulations for additional applicable requirements.

## Masking Requirements

**Masks are required for all individuals in all indoor public settings, regardless of vaccination status from December 15, 2021 through February 15, 2022 [surgical masks or higher-level respirators (e.g., N95s, KN95s, KF94s) with good fit are recommended].**

See State Health Officer Order, issued on July 26, 2021, for a full list of high-risk congregate and other healthcare settings where surgical masks are required for unvaccinated workers, and recommendations for respirator use for unvaccinated workers in healthcare and long-term care facilities in situations or settings not covered by Cal OSHA ETS or ATD.

For additional information on types of masks, the most effective masks, and ensuring a well-fitted mask, individuals should refer to CDPH Get the Most out of Masking and see CDPH Masking Guidance Frequently Asked Questions for more information.

No person can be prevented from wearing a mask as a condition of participation in an activity or entry into a business.

## Exemptions to masks requirements

The following **individuals** are exempt from wearing masks at all times:

- Persons younger than two years old. Very young children must not wear a mask because of the risk of suffocation.
- Persons with a medical condition, mental health condition, or disability that prevents wearing a mask. This includes persons with a medical condition for whom wearing a mask could obstruct breathing or who are unconscious, incapacitated, or otherwise unable to remove a mask without assistance.
- Persons who are hearing impaired, or communicating with a person who is hearing impaired, where the ability to see the mouth is essential for communication.
- Persons for whom wearing a mask would create a risk to the person related to their work, as determined by local, state, or federal regulators or workplace safety guidelines.

[1] Science Brief: Community Use of Masks to Control the Spread of SARS-CoV-2 | CDC

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- [13] Ibid, 7.
- [14] Ibid, 11.
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**GAVIN NEWSOM**  
Governor

October 7, 2021

**TO:** All Californians

**SUBJECT:** Interim Guidance for Ventilation, Filtration, and Air Quality in Indoor Environments

**Related Materials:** [More Employees & Workplaces Guidance](#) | [All Guidance](#) | [More Languages](#)

**Updates as of October 7, 2021:**

- Incorporate Cal/OSHA revisions to the COVID-19 Emergency Temporary Standards.
- Clarify legal requirements pertaining to the guidance.
- Added additional resources.



**This Guidance is intended to be used for buildings for which the state or local health department is permitting business, assembly, or other occupancy or use to occur indoors.**

NOTE: On November 30, 2020, the California Division of Occupational Safety and Health (Cal/OSHA) implemented a mandatory emergency temporary standard (ETS) to prevent employee exposure to COVID-19 in California workplaces not covered by the Cal/OSHA Aerosol Transmissible Diseases standard; subsequently, a revised ETS was adopted and became effective June 17, 2021. Employers must become familiar with and implement all employee protection requirements covered in the ETS. Please see Section 9 of this document identifying the specific provisions of the ETS that pertain to ventilation.

The following guidance supplements the Cal/OSHA ETS by recommending practical steps building operators can take to promote better ventilation, filtration, and air quality in indoor environments for the purpose of reducing the spread of COVID-19. This interim guidance may change as scientific knowledge, experience, community transmission, and other conditions change. Other useful information on building ventilation and related issues is available from the Centers for Disease Control and Prevention (CDC) and Section 10 of this document, Resources.



The recommendations described below come with a range of initial costs and ongoing operating costs, which may affect decisions about which interventions to implement. Always consult with building engineering or maintenance staff prior to making changes to a mechanical ventilation system.

The following protocols are based on experience and principles that have a wide application. This guidance does not supersede any other mandatory requirements. Workplaces must continue to meet the requirements of the Cal/OSHA ETS and all other local and state directives regarding COVID-19.

The guidance is intended for use by non-healthcare organizations, including many types of businesses, companies, offices, restaurants, schools, faith-based organizations, etc. Healthcare facilities, which are expected to have infectious patients, require higher ventilation rates and employ higher filtration in order to ensure sufficient infection control; these requirements are not addressed in this guidance. Note that the recommendations contained in the guidance might not be applicable to your particular building or activity. Be aware that some of the recommendations could result in increased energy bills or increased wear and tear on ventilation system components.

## 1. COVID-19 Basics

COVID-19 is transmitted from person-to-person and may occur in the following scenarios:

- Large droplets from coughing and sneezing are propelled directly into the face, nose, eyes, or mouth of someone nearby, usually within six (6) feet. These droplets are sometimes called "ballistic droplets" because they tend to travel in straight lines and fall out of the air rapidly.
- Small particles (also known as aerosols) are released when a person breathes, talks or vocalizes, sings, coughs, or sneezes. These small particles can remain suspended in the air for a period of time and can move beyond six feet on air currents. Other people might inhale these small particles even if they are farther than six feet away.
- A person touches a surface that is contaminated and then touches a mucus membrane such as their nose, eyes, or mouth. Contaminated objects and surfaces are sometimes called "fomites." Aerosols deposited on surfaces may also be disturbed and introduced back into the air where they might be inhaled.

**Effective ventilation is one of the most important ways to control small aerosol transmission.** However, ventilation and other indoor air quality improvements are an addition to, and not a replacement for mandatory protections required by the Cal/OSHA ETS and state or local directives. Individuals at higher risk for severe illness from COVID-19 should exercise more caution regarding the time they spend in indoor environments outside of their home.

## 2. Definitions

**Aerosol** means solid or liquid particles suspended in a gas (typically air).

**Air Changes per Hour (ACH, also called Air Change Rate)** approximates how many times the air within a space is replaced each hour. ACH is a calculated value that allows standards, guidelines, and comparisons for ventilation to be made for rooms of different dimensions and which have different ventilation systems.

Using English units, the formula for ACH is:

$$\text{ACH} = (\text{ventilation rate in CFM} \times 60 \text{ minutes/hour}) / \text{room volume in cubic feet}$$

**Air Cleaners** are standalone devices that move air in a room through a filter. Some filters are capable of removing tiny particles, including virus particles and smoke. They are referred to in this document as Portable Air Cleaners (PACs) to differentiate them from filters and other devices in HVAC systems that provide air cleaning.

**ASHRAE** is the American Society for Heating, Refrigeration, and Air-Conditioning Engineers. Facilities staff, engineers, and health and safety professionals are familiar with this organization and its literature.

**CADR**, or Clean Air Delivery Rate, measures a Portable Air Cleaner's effectiveness based on room space and the volume of clean air produced per minute. Tested units have three CADR ratings; for COVID-19 purposes the "Smoke" CADR rating should be used.

**CFM**, or cubic feet per minute, is a measure of air flow into or out of a room.

In order to calculate how many cfm are required to obtain a desired ACH, the formula is:

$$\text{CFM} = (\text{ACH desired}) \times (\text{room volume in cubic feet}) / 60 \text{ minutes/hour}$$

Room volume can be calculated by the following formula:

$$\text{width} \times \text{length} \times \text{height to ceiling (all dimensions in feet)}$$

**Clean Air**, for the purposes of this document, refers both to clean outside supplied air, and also to recirculated indoor supplied air that has been passed through a Portable Air Cleaner (PAC) with an appropriately rated CADR, or through an HVAC system equipped with a Minimum Efficiency Reporting Value (MERV) 13 or greater filter. Note that unfiltered outside air contaminated with wildfire smoke may not qualify as clean air.

**Fans** are devices that pull or push air in one direction. Fans can be rectangularly shaped for placement in windows or doorways, they may be "pedestal type" for placement anywhere in a room, or they may be attached to ceiling fixtures. Some fans have switches that allow the user to change the direction of airflow of the fan; fans that do not have such switches must be physically turned to change the direction of air.

**HEPA Filter** refers to a High-Efficiency Particulate Air Filter. This type of air filter is designed to meet a standard of removing at least 99.97% of dust, pollen, mold, bacteria, and any airborne particles with a size of 0.3 micron ( $\mu\text{m}$ ). They are tested with 0.3 micron-sized particles as a "worst case" scenario, as this particle size penetrates through a filter most easily. Particles that are larger or smaller are trapped with even higher efficiency.

**HVAC** stands for Heating, Ventilation, and Air Conditioning system. Also referred to as "Mechanical Ventilation" because of the system's use of fans to move air in and out of rooms, typically through ducts and plenums.

**Mechanical Ventilation** is the active process of supplying air to or removing air from an indoor space by powered equipment such as motor-driven fans and blowers, but not by devices such as wind-driven turbine ventilators and mechanically operated windows.

**Outside Air (outdoor air)** refers to clean air drawn from outside the building either by natural or mechanical ventilation. Also referred to as "Fresh Air" or for selected applications "Makeup Air."

**PACs** are Portable Air Cleaners, devices that can be moved within a building or room to provide air cleaning. PACs are generally sold with some form of highly efficient filter such as a HEPA filter. The portability of PACs allows them to be placed where air cleaning will be most beneficial to room occupants.

**Natural Ventilation** refers to ventilation that is accomplished by opening windows and doors to the outside.

**Recirculated Air** refers to air that has been drawn from the inside of the building, passed through filters, conditioned, and reintroduced into the building. Unless passed through MERV-13 or greater efficiency filters, recirculated air is not considered when assessing building ventilation for COVID-19 purposes.

### 3. General Considerations

Our understanding of the role that the built environment plays in the transmission of COVID-19 is evolving; recent literature has clearly demonstrated small aerosols can be carried well beyond the six (6) foot physical radius and remain suspended in room air where they can be inhaled. With the possible exception of hospitals, healthcare facilities, and research facilities that employ exhaust hoods, existing ventilation requirements, such as those established in the California Building Code and Title 24, were not intended to control exposures to small aerosols of hazardous infectious agents such as COVID-19. Consequently, code compliance should be considered as the baseline, or starting point, in creating more protective environments. Ventilation should be maximized to levels as far above code requirements as is feasible, particularly for areas where people are unmasked (e.g., while eating in restaurants) and/or where there is mixing of people from different households, regardless of mask use.

In general, the greater the number of people in an indoor environment, the greater the need for ventilation with outdoor air. Efforts should be focused on providing fresh air ventilation to the spaces with the highest density of occupants, as well as where occupants may be unmasked. Decrease occupancy in areas where outdoor ventilation cannot be increased. Other changes that can be considered in buildings with specific ventilation features include:

- For buildings with mechanical ventilation systems, see Section 5. Improving Mechanical Ventilation.
- Inspect and maintain exhaust ventilation in support areas such as laundry rooms or kitchens.
- Ensure exhaust fans in restrooms and other areas are functioning properly and operating continuously or as needed. Since the virus can be present in fecal matter, closing toilet lids (if available) during flushing is advised.
- Keep windows and other sources of natural ventilation open to the greatest extent possible.
- Consider adding Portable Air Cleaners (PACs) in areas where fresh air ventilation cannot be increased.

To help you in improving your building's ventilation, some of the following professionals may be able to assist:

- Facilities ("Stationary") Engineers,
- Building Maintenance and Repair Staff,
- Mechanical Engineers,
- Mechanical (HVAC) Contractors,
- General Contractors,
- Architects, and/or
- Indoor Air Quality or Industrial Hygiene Consultants

Schools and other interested parties are encouraged to read the Yale School of Public Health's web page Ventilation Key to Reducing Risk, part of Yale's Public Health Guidance for Reopening Schools in 2020.

#### **4. Improving Natural Ventilation and Proper Use of Fans**

Consider implementing any of the following to improve the supply of outside air into a space, using caution on days with poor air quality:

- When weather and air quality conditions allow, increase fresh outdoor air by opening windows and doors. Do not open windows and doors if doing so poses a safety or health risk to anyone using the facility.
- Use fans to increase the effectiveness of open windows. Position fans securely and carefully in or near windows. Take care with electrical cords; look out for tripping or wet conditions, which can create electrocution hazards. Position fans so that air does not blow from one person to another. Window fans placed in exhaust mode can help draw fresh air into a room via other open windows and doors without generating strong room air currents. NOTE: For buildings with both operable windows and mechanical ventilation systems, the interactions between the two need to be carefully considered.
- Some rooms have high ceiling fans. There is not enough scientific evidence supporting their effectiveness in diluting potentially contaminated air with cleaner air in the higher parts of the room. Ceiling fans do not bring additional fresh air into an indoor space and are not considered to be equivalent to fresh air

ventilation. Given this uncertainty about their effect, ceiling fans should be turned off unless necessary for the thermal comfort of building occupants. Ceiling fans may result in improved air mixing, provided outdoor air is being introduced into the space.

- For information on the use of portable air cleaners, please see Section 7. Portable Air Cleaners ("HEPA Air Filters").

## 5. Improving Mechanical Ventilation

Consider mechanical ventilation system upgrades or improvements and other steps to 1) increase the delivery of clean air and 2) remove or dilute concentrations of COVID-19 or other contaminants in the building air. The amount of outdoor air brought into the mechanical system should be maximized.

MERV 13 or greater filtration is efficient at capturing airborne viruses and should be the target minimum level of filtration. If the air handling system cannot function with such a high level of filtration, increase the filtration in the equipment to the maximum allowable for the system.

Note that (regardless of COVID-19) CCR Title 8, Section 5142, requires that mechanical ventilation systems be maintained and operated to provide at least the quantity of outdoor air required by the State Building Standards Code, Title 24, Part 2, California Administrative Code, in effect at the time the building permit was issued.

Obtain consultation from experienced HVAC professionals when considering changes to HVAC systems and equipment. Some of the recommendations below are based on ASHRAE's Guidance for Building Operations During the COVID-19 Pandemic. Review additional ASHRAE Guidelines for Schools and Universities for further information on ventilation recommendations for different types of buildings and building readiness for occupancy. Not all steps are applicable for all scenarios.

- Fully open outdoor air dampers and close recirculation dampers to reduce or eliminate air recirculation. Set economizers at 100% outdoor air. In mild weather, this will not affect thermal comfort or humidity, but in cold, hot, or humid weather this may result in changes to indoor air, so expect a need for adjustments regarding clothing and/or space heaters.
- Improve central air filtration to as high as possible without significantly diminishing design airflow. Target air filtration should be MERV 13 or greater.
  - Inspect filter housings and racks to ensure appropriate filter fit and check for ways that air could bypass the filter.
  - Clean or replace filters and check filters to ensure they are appropriately installed, seated, functioning, and are not torn. Note that during poor air quality events caused by wildfire smoke, for example, higher efficiency filters will load faster and will need closer monitoring. Since filters may be contaminated with virus particles, anyone changing filters must wear, at a minimum, a fit-tested N95 respirator in accordance with the requirements of CCR Title 8, Section 5144 or Section 5199, as well as eye protection (face shield or goggles), and disposable gloves.
- Disable "demand controls" and occupancy sensors on ventilation systems so that fans operate continuously, independently of heating or cooling needs. This is done by setting the fan on the system's thermostat to the "ON" position instead of "AUTO."
  - If HVAC systems operate on day/night or other pre-programmed cycles, consider running the HVAC system at maximum outside airflow for 1-2 hours before the building opens and for 2-3 hours after the building is closed.
  - Consider running HVAC fans 24/7.
  - Continuous operation of the HVAC system is required regardless of COVID-19 when employees are present under CCR Title 8, Section 5142.
- Generate clean-to-less-clean air movement by adjusting the settings of supply and exhaust air diffusers and/or dampers in higher risk areas, so that potentially contaminated air is moved away from occupants.

- Typically, in-room, wall-mounted fan coil systems do not remove virus particles; this could allow virus particles to accumulate in a space. Such systems should not be operated in occupied rooms unless the fan coils have MERV 13 filtration as a minimum.
- The amount of outdoor air brought into the mechanical system should always be maximized regardless of air filtration.

## 6. Determining Mechanical System Function

- Small pieces of ribbon or tissue paper can be affixed to ventilation supply registers to verify that the system is operating.
- A lightweight (down) feather on the end of a stick or dowel can be used to trace air currents such as from fans or PACs to verify that air is not being blown from person to person.
- Carbon dioxide (CO<sub>2</sub>) levels increase as mechanical ventilation systems fail to keep up with the occupancy of a space. Therefore, the measurement of CO<sub>2</sub> levels in a space may be used to determine the effectiveness of the ventilation system in more densely occupied indoor spaces. However, CO<sub>2</sub> level is a lagging indicator since it takes time for it to increase after a space becomes occupied. Consultation with a knowledgeable professional mechanical engineer or industrial hygienist on how to best to use CO<sub>2</sub> monitoring technology in a facility is recommended.
- If you need assistance in evaluating your system, see the professionals listed in Section 3. General Considerations.

## 7. Portable Air Cleaners ("HEPA Air Filters")

Portable Air Cleaners (PACs) should be considered in rooms and areas where mechanical and passive ventilation cannot be improved. PACs come in a range of sizes, features, and prices; higher-priced units may not necessarily provide greater improvements to air quality. Depending on the quantity, quality, and condition of existing ventilation, PACs providing 2-5 additional ACH may be needed. Review these key points about effective use of PACs:

- Purchase PACs that are certified for ozone emissions and electrical safety by the California Air Resources Board (CARB).
- Ensure PACs are appropriately sized for the room or area they are deployed in. One method for selecting the appropriate size unit is the Association of Home Appliance Manufacturer's (AHAM) Clean Air Delivery Rate (CADR). The authors of the CADR standard suggest that a unit should have a CADR at least 2/3 of the room's floor area (in square feet), with adjustments made if the room's ceiling is more than eight feet in height. If this method is used, the unit's CADRs for Smoke should be used. A list of all units with CADR ratings (with the rating values) can be found on AHAM's "Verifide" website. It's possible that a room may need more than one PAC.
- PACs are very efficient at capturing coronavirus-size particles, but the particles must first physically travel to the filter. The faster a PAC can cycle air through the filter, the better its chances of catching virus particles. CADR reflects, in cubic feet per minute, the volume of clean air the PAC produces at its highest speed setting. (The efficiency of the PAC in cleaning the air decreases at lower speeds). PACs have three CADR ratings; smoke, dust and pollen, which represent small, medium and larger particles, respectively. For purposes of COVID-19, the smoke CADR rating should be used. Smoke particles are similar in size to the smallest virus droplets, while larger virus droplets are closer to the pollen size range. A PAC with a CADR of 250 for smoke reduces smoke particle levels to the same concentration that would be achieved by adding 250 cubic feet of clean air each minute.
- For more in-depth help determining the correct size of PACs for COVID-19, Harvard University and the University of Colorado, Boulder have jointly developed a spreadsheet for identifying the correct PAC, using the CADR. If using this spreadsheet, please note that the PACs listed on the third tab are only examples of

verified manufacturers and models; you can input your CADR (using the smoke value) for any unit on the second tab of the spreadsheet.

- Manufacturer's specifications, CADR values, and the Harvard/CU spreadsheet all base their estimates on the PAC operating at maximum fan speed. Reducing fan speed may reduce the noise generated by the unit but will also decrease the amount of air filtration the unit will provide.
- For effective air cleaning, a PAC should be placed towards the center of where people sit or gather with the unit exhaust directed so that it will not blow air from person to person. PACs that exhaust straight up should be used to avoid blowing air from one person to another. Placing air filtration units in unused corners of rooms or beneath tables will not effectively clean the air. Do not create a tripping hazard with the PAC or associated electrical cords.
- Industrial air cleaners that use high efficiency particulate air (HEPA) filtration can be used and are particularly well-suited for larger rooms and areas:

Commercial/Industrial units, sometimes referred to as "Negative Air Machines (NAMs)" or "hogs," may already be available in larger facilities; check with Facilities/Maintenance personnel, who may also be able to order this type of unit through their equipment suppliers. All such units should be inspected for proper discharge of exhaust.

Industrial air cleaners typically do not have CADR ratings. Instead, the manufacturer's rated airflow (in CFM) is incorporated into the Air Changes per Hour calculation provided in Section 2. *Definitions*. Depending on the fresh air ventilation in the room, ACHs of 2.5-6 are needed, with lower values working for well-ventilated rooms, and ACHs of 4-6 for rooms with marginal ventilation.

## 8. Ventilation During Wildfire Smoke Events

- Ventilation and filtration can be very effective in reducing indoor air concentrations of both wildfire smoke particles and coronavirus-sized particles; however, these strategies should be used in conjunction with physical distancing protocols, face coverings or masks, frequent hand washing, and other practices.
- When used with windows and doors closed, and when properly installed and maintained and operated, an HVAC system with MERV 13 filters will effectively reduce indoor exposure to both wildfire smoke and virus particles.
- Where buildings are not equipped with HVAC systems, PACs can effectively reduce the concentration of both smoke and corona virus-sized particles in indoor air. As noted above, more than one portable air filter might be needed to meet the air filtration rate recommended by the Association of Home Appliance Manufacturers (AHAM).
- To filter wildfire smoke and coronavirus-sized particles, the PAC should have a CADR for tobacco smoke (0.9-1.0  $\mu\text{m}$ ).

## 9. Requirements on Ventilation in Cal/OSHA COVID-19 Prevention Standards

On June 17, 2021, Cal/OSHA implemented a revised version of the mandatory emergency temporary standard (ETS) originally implemented on November 30, 2020, to prevent employee exposure to COVID-19 in California workplaces, with the following exceptions: (1) when employees are covered by CCR Title 8, Section 5199, the Aerosol Transmissible Diseases standard; (2) when employees are working from home; or (3) in work locations with one employee who does not have contact with other persons; or (4) when employees are teleworking from a location of the employee's choice which is not under control of the employer.

The ETS appears in CCR Title 8, Sections 3205 *COVID-19 Prevention*; 3205.1 *Multiple COVID-19 Infections and COVID-19 Outbreaks*; 3205.2 *Major COVID-19 Outbreaks*; 3205.3 *COVID-19 Prevention in Employer-Provided Housing*; and 3205.4 *COVID-19 Prevention in Employer-Provided Transportation to and from Work*.

The ETS requires covered employers to establish, implement and maintain an effective, written COVID-19 Prevention Program that includes elements pertaining specifically to ventilation and filtration, as follows:

- Section 3205 (c)(2)(E): *For indoor locations, the employer shall evaluate how to maximize ventilation with outdoor air; the highest level of filtration efficiency compatible with the existing ventilation system; and whether the use of portable or mounted High Efficiency Particulate Air (HEPA) filtration units, or other air cleaning systems, would reduce the risk of COVID-19 transmission.*
- Section 3205 (c)(2)(F): *The employer shall review applicable orders and guidance from the State of California and the local health department related to COVID-19 hazards and prevention. These orders and guidance are both information of general application, including Interim guidance for Ventilation, Filtration, and Air Quality in Indoor Environments by the California Department of Public Health (CDPH), and information specific to the employer's industry, location, and operations.*
- Section 3205 (c)(7)(A): *For buildings with mechanical or natural ventilation, or both, employers shall maximize the quantity of outside air provided to the extent feasible, except when the United States Environmental Protection Agency (EPA) Air Quality Index is greater than 100 for any pollutant or if opening windows or maximizing outdoor air by other means would cause a hazard to employees, for instance from excessive heat or cold.*

Under Sections 3205.1, *Multiple COVID-19 Infections and COVID-19 Outbreaks*, employers have additional ventilation and filtration requirements in the event of a COVID-19 outbreak, as follows (note: these provisions also apply to major outbreaks, addressed under Section 3205.2):

- Section 3205.1 (e)(3): *Multiple COVID-19 Infections and COVID-19 Outbreaks. The employer shall implement changes to reduce the transmission of COVID-19 based on the investigation and review required by subsections (e)(1) and (e)(2). The employer shall consider moving indoor tasks outdoors or having them performed remotely, increasing outdoor air supply when work is done indoors, improving air filtration, increasing physical distancing as much as feasible, requiring respiratory protection in compliance with section 5144, and other applicable controls.*
- Section 3205.1 (f): *In buildings or structures with mechanical ventilation, employers shall filter recirculated air with Minimum Efficiency Reporting Value (MERV) 13 or higher efficiency filters if compatible with the ventilation system. If MERV-13 or higher filters are not compatible with the ventilation system, employers shall use filters with the highest compatible filtering efficiency. Employers shall also evaluate whether portable or mounted High Efficiency Particulate Air (HEPA) filtration units or other air cleaning systems would reduce the risk of transmission and, if so, shall implement their use to the degree feasible.*

Under Sections 3205.3 and 3205.4, employers must implement ventilation requirements for employer-provided housing and transportation, as follows:

*Section 3205.3 COVID-19 Prevention in Employer-Provided Housing ...*

*... (c) Ventilation. In housing units, employers shall maximize the quantity and supply of outdoor air and increase filtration efficiency to the highest level compatible with the existing ventilation system. If there is not a Minimum Efficiency Reporting Value (MERV) 13 or higher filter in use, portable or mounted High Efficiency Particulate Air (HEPA) filtration units shall be used, to the extent feasible, in all sleeping areas in which there are two or more residents who are not fully vaccinated.*

*Section 3205.4 COVID-19 Prevention in Employer-Provided Transportation ...*

*...(f) Ventilation. Employers shall ensure that vehicle windows are kept open, and the ventilation system set to maximize outdoor air and not set to recirculate air. Windows do not have to be kept open if one or more of the*

following conditions exist:

- (1) The vehicle has functioning air conditioning in use and excessive outdoor heat would create a hazard to employees.
- (2) The vehicle has functioning heating in use and excessive outdoor cold would create a hazard to employees.
- (3) Protection is needed from weather conditions, such as rain or snow.
- (4) The vehicle has a cabin air filter in use and the U.S. EPA Air Quality Index for any pollutant is greater than 100.

## 10. Resources

State of California

- [www.covid19.ca.gov](http://www.covid19.ca.gov)

Cal/OSHA (Division of Occupational Safety and Health, Department of Industrial Relations) workplace safety regulations

- Cal/OSHA Emergency Temporary Standards - Fact Sheets, Model Program, and Other Resources
- CCR Title 8, Section 3205 COVID-19 Prevention; 3205.1 Multiple COVID-19 Infections and COVID-19 Outbreaks; 3205.2 Major COVID-19 Outbreaks; 3205.3 COVID-19 Prevention in Employer-Provided Housing; and 3205.4 COVID-19 Prevention in Employer-Provided Transportation to and from Work
- CCR Title 8, Section 5142 Mechanically Driven Heating, Ventilating and Air Conditioning (HVAC) Systems to Provide Minimum Building Ventilation.
- CCR Title 8, Section 5143 General Requirements of Mechanical Ventilation Systems.
- CCR Title 8, Section 5144 Respiratory Protection

Centers for Disease Control and Prevention

- Ventilation in Buildings
- Operating Schools during COVID-19: CDC's Considerations
- Wildfire Smoke and COVID-19: Frequently Asked Questions and Resources for Air Resource Advisors and Other Environmental Health Professionals

AIHA (formerly the American Industrial Hygiene Association)

- [Reducing the Risk of COVID-19 Using Engineering Controls](#)

American Conference of Governmental Industrial Hygienists

- [White Paper on Ventilation for Industrial Settings during the COVID-19 Pandemic](#)

American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)

- [Guidance for Building Operations During the COVID-19 Pandemic](#)
- [ASHRAE Resources Available to Address COVID-19 Concerns](#)
- [ASHRAE Reopening Schools and Universities C19 Guidance](#)
- [Standard 62.1-2019 Ventilation for Acceptable Indoor Air Quality](#) (*Note: This is a for-fee document. ASHRAE provides free web access to a read-only version from the linked web page; look for Standard 62.1-2019*)

Association of Home Appliance Manufacturers

- [Directory of Certified Portable Air Cleaners](#)
- [Information Regarding Portable Air Cleaner Testing](#)

California Air Resources Board (CARB)

- [Air Cleaners & Ozone Generating Products](#)



Environmental Protection Agency (EPA)

- Ventilation and COVID-19
- Indoor Air in Homes and COVID-19

Harvard University School of Public Health and University of Colorado, Boulder School of Engineering

- Harvard-CU Boulder Portable Air Cleaner Calculator for Schools

Johns Hopkins Bloomberg School of Public Health Center for Health Security

- School Ventilation: A Vital Tool to Reduce COVID-19 Spread

World Health Organization

- Q&A: Ventilation and Air Conditioning in Public Spaces and Buildings and COVID-19

Yale University School of Public Health

- Reopening Schools - Ventilation Key to Reducing Risk

*This Interim Guidance for Ventilation, Filtration, and Air Quality in Indoor Environments was adapted with permission from a similar document prepared by the San Francisco Department of Public Health (SFDPH): SFDPH COVID-19 Information and Guidance*

Originally Published on February 26, 2021

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Barclays Official California Code of Regulations Currentness  
Title 8. Industrial Relations  
Division 1. Department of Industrial Relations  
Chapter 4. Division of Industrial Safety  
Subchapter 7. General Industry Safety Orders  
Introduction

8 CCR § 3205

§ 3205. COVID-19 Prevention.

NOTE: See *Executive Order N-84-20 (2019 CA EO 84-20)*, issued in response to the COVID-19 pandemic, which suspends certain provisions relating to the exclusion of COVID-19 cases from the workplace.

(a) Scope.

(1) This section applies to all employees and places of employment, with the following exceptions:

(A) Work locations with one employee who does not have contact with other persons.

(B) Employees working from home.

(C) Employees with occupational exposure as defined by section 5199, when covered by that section.

(D) Employees teleworking from a location of the employee's choice, which is not under the control of the employer.

(2) Nothing in this section is intended to limit more protective or stringent state or local health department mandates or guidance.

(b) Definitions. The following definitions apply to this section and to sections 3205.1 through 3205.4.

(1) “Close contact” means being within six feet of a COVID-19 case for a cumulative total of 15 minutes or greater in any 24-hour period within or overlapping with the “high-risk exposure period” defined by this section. This definition applies regardless of the use of face coverings.

EXCEPTION: Employees have not had a close contact if they wore a respirator required by the employer and used in compliance with section 5144, whenever they were within six feet of the COVID-19 case during the high-risk exposure period.

(2) “COVID-19” means coronavirus disease, an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

(3) “COVID-19 case” means a person who:

(A) Has a positive “COVID-19 test” as defined in this section; or

(B) Has a positive COVID-19 diagnosis from a licensed health care provider; or

(C) Is subject to a COVID-19-related order to isolate issued by a local or state health official;  
or

(D) Has died due to COVID-19, in the determination of a local health department or per inclusion in the COVID-19 statistics of a county.

(4) “COVID-19 hazard” means potentially infectious material that may contain SARS-CoV-2, the virus that causes COVID-19. Potentially infectious materials include airborne droplets, small particle aerosols, and airborne droplet nuclei, which most commonly result from a person or persons exhaling, talking or vocalizing, coughing, or sneezing, or from

procedures performed on persons which may aerosolize saliva or respiratory tract fluids. This also includes objects or surfaces that may be contaminated with SARS-CoV-2.

(5) “COVID-19 symptoms” means fever of 100.4 degrees Fahrenheit or higher, chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, or diarrhea, unless a licensed health care professional determines the person's symptoms were caused by a known condition other than COVID-19.

(6) “COVID-19 test” means a viral test for SARS-CoV-2 that is:

(A) Approved by the United States Food and Drug Administration (FDA) or has an Emergency Use Authorization from the FDA to diagnose current infection with the SARS-CoV-2 virus; and

(B) Administered in accordance with the FDA approval or the FDA Emergency Use Authorization as applicable.

(7) “Exposed group” means all employees at a work location, working area, or a common area at work, where an employee COVID-19 case was present at any time during the high-risk exposure period. A common area at work includes bathrooms, walkways, hallways, aisles, break or eating areas, and waiting areas. The following exceptions apply:

(A) For the purpose of determining the exposed group, a place where persons momentarily pass through while everyone is wearing face coverings, without congregating, is not a work location, working area, or a common area at work.

(B) If the COVID-19 case was part of a distinct group of employees who are not present at the workplace at the same time as other employees, for instance a work crew or shift that does not overlap with another work crew or shift, only employees within that distinct group are part of the exposed group.

(C) If the COVID-19 case visited a work location, working area, or a common area at work for less than 15 minutes during the high-risk exposure period, and the COVID-19 case was

wearing a face covering during the entire visit, other people at the work location, working area, or common area are not part of the exposed group.

NOTE: An exposed group may include the employees of more than one employer. See [Labor Code sections 6303 and 6304.1](#).

(8) “Face covering” means a surgical mask, a medical procedure mask, a respirator worn voluntarily, or a tightly woven fabric or non-woven material of at least two layers. A face covering has no visible holes or openings and must cover the nose and mouth. A face covering does not include a scarf, ski mask, balaclava, bandana, turtleneck, collar, or single layer of fabric.

(9) “Fully vaccinated” means the employer has documented that the person received, at least 14 days prior, either the second dose in a two-dose COVID-19 vaccine series or a single-dose COVID-19 vaccine. Vaccines must be FDA approved; have an emergency use authorization from the FDA; or, for persons fully vaccinated outside the United States, be listed for emergency use by the World Health Organization (WHO).

(10) “High-risk exposure period” means the following time period:

(A) For COVID-19 cases who develop COVID-19 symptoms, from two days before they first develop symptoms until all of the following are true: it has been 10 days since symptoms first appeared; 24 hours have passed with no fever, without the use of fever-reducing medications; and symptoms have improved.

(B) For COVID-19 cases who never develop COVID-19 symptoms, from two days before until 10 days after the specimen for their first positive test for COVID-19 was collected.

(11) “Respirator” means a respiratory protection device approved by the National Institute for Occupational Safety and Health (NIOSH) to protect the wearer from particulate matter, such as an N95 filtering facepiece respirator.

(12) “Worksite,” for the limited purposes of COVID-19 prevention regulations only, means the building, store, facility, agricultural field, or other location where a COVID-19 case was

present during the high-risk exposure period. It does not apply to buildings, floors, or other locations of the employer that a COVID-19 case did not enter.

NOTE: The term worksite is used for the purpose of notice requirements in subsections (c)(3)(B)3. and 4. only.

(c) Written COVID-19 Prevention Program. Employers shall establish, implement, and maintain an effective, written COVID-19 Prevention Program, which may be integrated into the employer's Injury and Illness Prevention Program required by section 3203, or be maintained in a separate document. The written elements of a COVID-19 Prevention Program shall include:

(1) System for communicating. The employer shall do all of the following in a form readily understandable by employees:

(A) Ask employees to report to the employer, without fear of reprisal, COVID-19 symptoms, possible close contacts, and possible COVID-19 hazards at the workplace.

(B) Describe how employees with medical or other conditions that put them at increased risk of severe COVID-19 illness can request accommodations.

(C) Provide information about access to COVID-19 testing as described in subsection (c)(5)(I) when testing is required under this section, section 3205.1, or section 3205.2.

(D) In accordance with subsection (c)(3)(B), communicate information about COVID-19 hazards and the employer's COVID-19 policies and procedures to employees and to other employers, persons, and entities within or in contact with the employer's workplace.

NOTE: See subsection (c)(3)(C) for confidentiality requirements for COVID-19 cases.

(2) Identification and evaluation of COVID-19 hazards.

(A) The employer shall allow for employee and authorized employee representative participation in the identification and evaluation of COVID-19 hazards.

(B) The employer shall develop and implement a process for screening employees for and responding to employees with COVID-19 symptoms. The employer may ask employees to evaluate their own symptoms before reporting to work. If the employer conducts screening indoors at the workplace, the employer shall ensure that face coverings are used during screening by both screeners and employees who are not fully vaccinated and, if temperatures are measured, that non-contact thermometers are used.

(C) The employer shall develop COVID-19 policies and procedures to respond effectively and immediately to individuals at the workplace who are a COVID-19 case to prevent or reduce the risk of transmission of COVID-19 in the workplace.

(D) The employer shall conduct a workplace-specific identification of all interactions, areas, activities, processes, equipment, and materials that could potentially expose employees to COVID-19 hazards. Employers shall treat all persons, regardless of symptoms or negative COVID-19 test results, as potentially infectious.

1. This shall include identification of places and times when people may congregate or come in contact with one another, regardless of whether employees are performing an assigned work task or not, for instance during meetings or trainings and including in and around entrances, bathrooms, hallways, aisles, walkways, elevators, break or eating areas, cool-down areas, and waiting areas.

2. This shall include an evaluation of employees' potential workplace exposure to all persons at the workplace or who may enter the workplace, including coworkers, employees of other entities, members of the public, customers or clients, and independent contractors. Employers shall consider how employees and other persons enter, leave, and travel through the workplace, in addition to addressing stationary work.

(E) For indoor locations, the employer shall evaluate how to maximize ventilation with outdoor air; the highest level of filtration efficiency compatible with the existing ventilation system; and whether the use of portable or mounted High Efficiency Particulate Air (HEPA) filtration units, or other air cleaning systems, would reduce the risk of COVID-19 transmission.

(F) The employer shall review applicable orders and guidance from the State of California and the local health department related to COVID-19 hazards and prevention. These orders and guidance are both information of general application, including Interim guidance for Ventilation, Filtration, and Air Quality in Indoor Environments by the California Department of Public Health (CDPH), and information specific to the employer's industry, location, and operations.

(G) The employer shall evaluate existing COVID-19 prevention controls at the workplace and the need for different or additional controls. This includes evaluation of controls in subsections (c)(4), (c)(6), and (c)(7).

(H) The employer shall conduct periodic inspections as needed to identify unhealthy conditions, work practices, and work procedures related to COVID-19 and to ensure compliance with employers' COVID-19 policies and procedures.

(3) Investigating and responding to COVID-19 cases in the workplace.

(A) Employers shall have an effective procedure to investigate COVID-19 cases in the workplace. This includes procedures for seeking information from employees regarding COVID-19 cases and close contacts, COVID-19 test results, and onset of COVID-19 symptoms, and identifying and recording COVID-19 cases.

(B) The employer shall take the following actions when there has been a COVID-19 case at the place of employment:

1. Determine the day and time the COVID-19 case was last present and, to the extent possible, the date of the positive COVID-19 test(s) and/or diagnosis, and the date the COVID-19 case first had one or more COVID-19 symptoms, if any were experienced.

2. Determine who may have had a close contact. This requires an evaluation of the activities of the COVID-19 case and all locations at the workplace which may have been visited by the COVID-19 case during the high-risk exposure period.



NOTE: See subsection (c)(9) for exclusion requirements for employees after a close contact.

3. Within one business day of the time the employer knew or should have known of a COVID-19 case, the employer shall give written notice, in a form readily understandable by employees, that people at the worksite may have been exposed to COVID-19. The notice shall be written in a way that does not reveal any personal identifying information of the COVID-19 case. Written notice may include, but is not limited to, personal service, email, or text message if it can reasonably be anticipated to be received by the employee within one business day of sending. The notice shall include the disinfection plan required by [Labor Code section 6409.6\(a\)\(4\)](#). The notice must be sent to the following:

a. All employees at the worksite during the high-risk exposure period. If the employer should reasonably know that an employee has not received the notice, or has limited literacy in the language used in the notice, the employer shall provide verbal notice, as soon as practicable, in a language understandable by the employee.

b. Independent contractors and other employers at the worksite during the high-risk exposure period.

4. Within one business day of the time the employer knew or should have known of the COVID-19 case, the employer shall provide the notice required by [Labor Code section 6409.6\(a\)\(2\)](#) and (c) to the authorized representative of any employee at the worksite during the high-risk exposure period.

5. Make COVID-19 testing available at no cost, during paid time, to all employees of the employer who had a close contact in the workplace and provide them with the information on benefits described in subsections (c)(5)(B) and (c)(9)(C), with the following exceptions:

a. Employees who were fully vaccinated before the close contact and do not have COVID-19 symptoms.

b. COVID-19 cases who returned to work pursuant to subsection 3205(c)(10) (A) or (B) and have remained free of COVID-19 symptoms, for 90 days after the initial onset of COVID-19 symptoms or, for COVID-19 cases who never developed symptoms, for 90 days after the first positive test.

6. Investigate whether workplace conditions could have contributed to the risk of COVID-19 exposure and what could be done to reduce exposure to COVID-19 hazards.

(C) Personal identifying information of COVID-19 cases or persons with COVID-19 symptoms, and any employee medical records required by this section or by sections 3205.1 through 3205.4, shall be kept confidential unless disclosure is required or permitted by law. Unredacted information on COVID-19 cases shall be provided to the local health department, CDPH, the Division, and NIOSH immediately upon request, and when required by law.

(4) Correction of COVID-19 hazards. Employers shall implement effective policies and/or procedures for correcting unsafe or unhealthy conditions, work practices, policies and procedures in a timely manner based on the severity of the hazard. This includes, but is not limited to, implementing controls and/or policies and procedures in response to the evaluations conducted under subsections (c)(2) and (c)(3) and implementing the controls required by subsections (c)(6) and (c)(7).

(5) Training and instruction. The employer shall provide effective training and instruction to employees that includes the following:

(A) The employer's COVID-19 policies and procedures to protect employees from COVID-19 hazards, and how to participate in the identification and evaluation of COVID-19 hazards under subsection (c)(2)(A).

(B) Information regarding COVID-19-related benefits to which the employee may be entitled under applicable federal, state, or local laws. This includes any benefits available under legally mandated sick and vaccination leave, if applicable, workers' compensation law, local governmental requirements, the employer's own leave policies, leave guaranteed by contract, and this section.

(C) The fact that COVID-19 is an infectious disease that can be spread through the air when an infectious person talks or vocalizes, sneezes, coughs, or exhales; that COVID-19 may be transmitted when a person touches a contaminated object and then touches their eyes, nose, or mouth, although that is less common; and that an infectious person may have no symptoms.

(D) The fact that particles containing the virus can travel more than six feet, especially indoors, so physical distancing, face coverings, increased ventilation indoors, and respiratory protection decrease the spread of COVID-19, but are most effective when used in combination.

(E) The employer's policies for providing respirators, and the right of employees who are not fully vaccinated to request a respirator for voluntary use as stated in this section, without fear of retaliation and at no cost to employees. Whenever respirators are provided for voluntary use under this section or sections 3205.1 through 3205.4:

1. How to properly wear the respirator provided;
2. How to perform a seal check according to the manufacturer's instructions each time a respirator is worn, and the fact that facial hair interferes with a seal.

(F) The importance of frequent hand washing with soap and water for at least 20 seconds and using hand sanitizer when employees do not have immediate access to a sink or hand washing facility, and that hand sanitizer does not work if the hands are soiled.

(G) Proper use of face coverings and the fact that face coverings are not respiratory protective equipment. COVID-19 is an airborne disease. N95s and more protective respirators protect the users from airborne disease while face coverings primarily protect people around the user.

(H) COVID-19 symptoms, and the importance of not coming to work and obtaining a COVID-19 test if the employee has COVID-19 symptoms.

(I) Information on the employer's COVID-19 policies; how to access COVID-19 testing and vaccination; and the fact that vaccination is effective at preventing COVID-19, protecting against both transmission and serious illness or death.

(J) The conditions under which face coverings must be worn at the workplace and that face coverings are additionally recommended outdoors for people who are not fully vaccinated if six feet of distance between people cannot be maintained. Employees can request face coverings from the employer at no cost to the employee and can wear them at work, regardless of vaccination status, without fear of retaliation.

(6) Face coverings.

(A) For all employees who are not fully vaccinated, employers shall provide face coverings and ensure they are worn when indoors or in vehicles.

(B) Employers shall provide face coverings and ensure they are worn by employees when required by orders from the CDPH.

(C) Employers shall ensure that required face coverings are clean and undamaged, and that they are worn over the nose and mouth. Face shields are not a replacement for face coverings, although they may be worn together for additional protection.

(D) When employees are required to wear face coverings under this section or sections 3205.1 through 3205.4, the following exceptions apply:

1. When an employee is alone in a room or vehicle.
2. While eating or drinking at the workplace, provided employees are at least six feet apart and outside air supply to the area, if indoors, has been maximized to the extent feasible.
3. Employees wearing respirators required by the employer and used in compliance with section 5144.

4. Employees who cannot wear face coverings due to a medical or mental health condition or disability, or who are hearing-impaired or communicating with a hearing-impaired person.

5. Specific tasks which cannot feasibly be performed with a face covering. This exception is limited to the time period in which such tasks are actually being performed.

(E) Employees exempted from wearing face coverings due to a medical condition, mental health condition, or disability shall wear an effective non-restrictive alternative, such as a face shield with a drape on the bottom, if their condition or disability permits it.

(F) Any employee not wearing a face covering, pursuant to the exceptions in subsections (c)(6)(D)4. or 5., and not wearing a non-restrictive alternative when allowed by subsection (c)(6)(E), shall be at least six feet apart from all other persons unless the unmasked employee is either fully vaccinated or tested at least weekly for COVID-19 during paid time and at no cost to the employee. Employers may not use the provisions of subsection (c)(6)(F) as an alternative to face coverings when face coverings are otherwise required by this section.

(G) No employer shall prevent any employee from wearing a face covering when not required by this section, unless it would create a safety hazard, such as interfering with the safe operation of equipment.

(H) When face coverings are not required by this section or by sections 3205.1 through 3205.4, employers shall provide face coverings to employees upon request, regardless of vaccination status.

(I) Employers shall implement measures to communicate to non-employees the face coverings requirements on their premises.

(7) Other engineering controls, administrative controls, and personal protective equipment.

(A) For buildings with mechanical or natural ventilation, or both, employers shall maximize the quantity of outside air provided to the extent feasible, except when the United States Environmental Protection Agency (EPA) Air Quality Index is greater than 100 for any pollutant or if opening windows or maximizing outdoor air by other means would cause a hazard to employees, for instance from excessive heat or cold.

(B) Employers shall implement cleaning and disinfecting procedures, which require:

1. Identifying and regularly cleaning frequently touched surfaces and objects, such as doorknobs, elevator buttons, equipment, tools, handrails, handles, controls, phones, headsets, bathroom surfaces, and steering wheels. The employer shall inform employees and authorized employee representatives of cleaning and disinfection protocols, including the planned frequency and scope of cleaning and disinfection.

2. Cleaning of areas, material, and equipment used by a COVID-19 case during the high-risk exposure period, and disinfection if the area, material, or equipment is indoors and will be used by another employee within 24 hours of the COVID-19 case.

NOTE: Cleaning and disinfecting must be done in a manner that does not create a hazard to employees. See Group 2 and Group 16 of the General Industry Safety Orders for further information.

(C) To protect employees from COVID-19 hazards, the employer shall evaluate its handwashing facilities, determine the need for additional facilities, encourage and allow time for employee handwashing, and provide employees with an effective hand sanitizer. Employers shall encourage employees to wash their hands for at least 20 seconds each time. Provision or use of hand sanitizers with methyl alcohol is prohibited.

(D) Personal protective equipment.

1. Employers shall evaluate the need for personal protective equipment to prevent exposure to COVID-19 hazards, such as gloves, goggles, and face shields, and provide such personal protective equipment as needed.

2. Upon request, employers shall provide respirators for voluntary use in compliance with subsection 5144(c)(2) to all employees who are not fully vaccinated and who are working indoors or in vehicles with more than one person. Whenever an employer makes respirators for voluntary use available, under this section or sections 3205.1 through 3205.4, the employer shall encourage their use and shall ensure that employees are provided with a respirator of the correct size.

3. Employers shall provide and ensure use of respirators in compliance with section 5144 when deemed necessary by the Division through the Issuance of Order to Take Special Action, in accordance with title 8, section 332.3.

4. Employers shall provide and ensure use of eye protection and respiratory protection in compliance with section 5144 when employees are exposed to procedures that may aerosolize potentially infectious material such as saliva or respiratory tract fluids.

NOTE: Examples of work covered by subsection (c)(7)(D)4. include, but are not limited to, certain dental procedures and outpatient medical specialties not covered by section 5199.

(E) Testing of symptomatic employees. Employers shall make COVID-19 testing available at no cost to employees with COVID-19 symptoms who are not fully vaccinated, during employees' paid time.

(8) Reporting, recordkeeping, and access.

(A) The employer shall report information about COVID-19 cases and outbreaks at the workplace to the local health department whenever required by law, and shall provide any related information requested by the local health department. The employer shall report all information to the local health department as required by [Labor Code section 6409.6](#).

(B) The employer shall maintain records of the steps taken to implement the written COVID-19 Prevention Program in accordance with section 3203(b).

(C) The written COVID-19 Prevention Program shall be made available at the workplace to employees, authorized employee representatives, and to representatives of the Division immediately upon request.

(D) The employer shall keep a record of and track all COVID-19 cases with the employee's name, contact information, occupation, location where the employee worked, the date of the last day at the workplace, and the date of a positive COVID-19 test.

(9) Exclusion of COVID-19 cases and employees who had a close contact. The purpose of this subsection is to limit transmission of COVID-19 in the workplace.

(A) Employers shall ensure that COVID-19 cases are excluded from the workplace until the return to work requirements of subsection (c)(10) are met.

(B) Employers shall exclude from the workplace employees who had a close contact until the return to work requirements of subsection (c)(10) are met, with the following exceptions:

1. Employees who were fully vaccinated before the close contact and who do not develop COVID-19 symptoms; and

2. COVID-19 cases who returned to work pursuant to subsection (c)(10)(A) or (B) and have remained free of COVID-19 symptoms, for 90 days after the initial onset of COVID-19 symptoms or, for COVID-19 cases who never developed COVID-19 symptoms, for 90 days after the first positive test.

(C) For employees excluded from work under subsection (c)(9), employers shall continue and maintain an employee's earnings, wages, seniority, and all other employee rights and benefits, including the employee's right to their former job status, as if the employee had not been removed from their job. Employers may use employer-provided employee sick leave for this purpose to the extent permitted by law. Wages due under this subsection are subject to existing wage payment obligations and must be paid at the employee's regular rate of pay no later than the regular pay day for the pay period(s) in which the employee is excluded. Unpaid wages owed under this subsection are subject to enforcement through procedures available



in existing law. If an employer determines that one of the exceptions below applies, it shall inform the employee of the denial and the applicable exception.

EXCEPTION 1: Subsection (c)(9)(C) does not apply where the employee received disability payments or was covered by workers' compensation and received temporary disability.

EXCEPTION 2: Subsection (c)(9)(C) does not apply where the employer demonstrates that the close contact is not work related.

(D) Subsection (c)(9) does not limit any other applicable law, employer policy, or collective bargaining agreement that provides for greater protections.

(E) At the time of exclusion, the employer shall provide the employee the information on benefits described in subsections (c)(5)(B) and (c)(9)(C).

(10) Return to work criteria.

(A) COVID-19 cases with COVID-19 symptoms shall not return to work until:

1. At least 24 hours have passed since a fever of 100.4 degrees Fahrenheit or higher has resolved without the use of fever-reducing medications; and
2. COVID-19 symptoms have improved; and
3. At least 10 days have passed since COVID-19 symptoms first appeared.

(B) COVID-19 cases who tested positive but never developed COVID-19 symptoms shall not return to work until a minimum of 10 days have passed since the date of specimen collection of their first positive COVID-19 test.

(C) Once a COVID-19 case has met the requirements of subsection (c)(10)(A) or (B), as applicable, a negative COVID-19 test shall not be required for an employee to return to work.

(D) Persons who had a close contact may return to work as follows:

1. Persons who had a close contact but never developed any COVID-19 symptoms may return to work when 10 days have passed since the last known close contact.

2. Persons who had a close contact and developed any COVID-19 symptom cannot return to work until the requirements of subsection (c)(10)(A) have been met, unless all of the following are true:

a. The person tested negative for COVID-19 using a polymerase chain reaction (PCR) COVID-19 test with specimen taken after the onset of symptoms; and

b. At least 10 days have passed since the last known close contact; and

c. The person has been symptom-free for at least 24 hours, without using fever-reducing medications.

3. During critical staffing shortages, when there are not enough staff to provide safe patient care, essential critical infrastructure workers in the following categories may return after Day 7 from the date of last exposure if they have received a negative PCR COVID-19 test result from a specimen collected after Day 5:

a. Health care workers who did not develop COVID-19 symptoms;

b. Emergency response workers who did not develop COVID-19 symptoms; and

c. Social service workers who did not develop COVID-19 symptoms and who work face to face with clients in child welfare or assisted living.

(E) If an order to isolate, quarantine, or exclude an employee is issued by a local or state health official, the employee shall not return to work until the period of isolation or quarantine

is completed or the order is lifted. If no period was specified, then the period shall be in accordance with the return to work periods in subsection (c)(10)(A), (c)(10)(B), or (c)(10)(D), as applicable.

(F) If no violations of local or state health officer orders for isolation, quarantine, or exclusion would result, the Division may, upon request, allow employees to return to work on the basis that the removal of an employee would create undue risk to a community's health and safety. In such cases, the employer shall develop, implement, and maintain effective control measures to prevent transmission in the workplace including providing isolation for the employee at the workplace and, if isolation is not feasible, the use of respirators in the workplace.

Note: Authority cited: [Section 142.3, Labor Code](#). Reference: [Sections 142.3, 144.6 and 6409.6, Labor Code](#).

## HISTORY

1. New section filed 11-30-2020 as an emergency; operative 11-30-2020. Emergency expiration extended 60 days (Executive Order N-40-20) plus an additional 60 days (Executive Order N-71-20) (Register 2020, No. 49). A Certificate of Compliance must be transmitted to OAL by 10-1-2021 or emergency language will be repealed by operation of law on the following day. For prior history, see Register 74, No. 43.
2. Governor Newsom issued Executive Order N-84-20 (2019 CA EO 84-20), dated December 14, 2020, which suspended certain provisions relating to the exclusion of COVID-19 cases from the workplace.
3. Editorial correction of punctuation errors in subsections (b)(1), (c)(3)(D), (c)(10)(C) and (c)(10)(E) (Register 2021, No. 24).
4. New section refiled with amendments 6-17-2021 as an emergency; operative 6-17-2021 pursuant to Executive Order N-09-21 (Register 2021, No. 25). Exempt from the APA pursuant to [Government Code sections 8567, 8571 and 8627](#) (Executive Order N-09-21). Emergency expiration extended 60 days (Executive Order N-40-20) plus an additional 60 days (Executive Order N-71-20). A Certificate of Compliance must be transmitted to OAL by 1-13-2022 or emergency language will be repealed by operation of law on the following day.

This database is current through 9/17/21 Register 2021, No. 38

8 CCR § 3205, 8 CA ADC § 3205

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**EXECUTIVE DEPARTMENT  
STATE OF CALIFORNIA**

**PROCLAMATION OF A STATE OF EMERGENCY**

**WHEREAS** in December 2019, an outbreak of respiratory illness due to a novel coronavirus (a disease now known as COVID-19), was first identified in Wuhan City, Hubei Province, China, and has spread outside of China, impacting more than 75 countries, including the United States; and

**WHEREAS** the State of California has been working in close collaboration with the national Centers for Disease Control and Prevention (CDC), with the United States Health and Human Services Agency, and with local health departments since December 2019 to monitor and plan for the potential spread of COVID-19 to the United States; and

**WHEREAS** on January 23, 2020, the CDC activated its Emergency Response System to provide ongoing support for the response to COVID-19 across the country; and

**WHEREAS** on January 24, 2020, the California Department of Public Health activated its Medical and Health Coordination Center and on March 2, 2020, the Office of Emergency Services activated the State Operations Center to support and guide state and local actions to preserve public health; and

**WHEREAS** the California Department of Public Health has been in regular communication with hospitals, clinics and other health providers and has provided guidance to health facilities and providers regarding COVID-19; and

**WHEREAS** as of March 4, 2020, across the globe, there are more than 94,000 confirmed cases of COVID-19, tragically resulting in more than 3,000 deaths worldwide; and

**WHEREAS** as of March 4, 2020, there are 129 confirmed cases of COVID-19 in the United States, including 53 in California, and more than 9,400 Californians across 49 counties are in home monitoring based on possible travel-based exposure to the virus, and officials expect the number of cases in California, the United States, and worldwide to increase; and

**WHEREAS** for more than a decade California has had a robust pandemic influenza plan, supported local governments in the development of local plans, and required that state and local plans be regularly updated and exercised; and

**WHEREAS** California has a strong federal, state and local public health and health care delivery system that has effectively responded to prior events including the H1N1 influenza virus in 2009, and most recently Ebola; and

**WHEREAS** experts anticipate that while a high percentage of individuals affected by COVID-19 will experience mild flu-like symptoms, some will have more serious symptoms and require hospitalization, particularly individuals who are elderly or already have underlying chronic health conditions; and

**WHEREAS** it is imperative to prepare for and respond to suspected or confirmed COVID-19 cases in California, to implement measures to mitigate the spread of COVID-19, and to prepare to respond to an increasing number of individuals requiring medical care and hospitalization; and

**WHEREAS** if COVID-19 spreads in California at a rate comparable to the rate of spread in other countries, the number of persons requiring medical care may exceed locally available resources, and controlling outbreaks minimizes the risk to the public, maintains the health and safety of the people of California, and limits the spread of infection in our communities and within the healthcare delivery system; and

**WHEREAS** personal protective equipment (PPE) is not necessary for use by the general population but appropriate PPE is one of the most effective ways to preserve and protect California's healthcare workforce at this critical time and to prevent the spread of COVID-19 broadly; and

**WHEREAS** state and local health departments must use all available preventative measures to combat the spread of COVID-19, which will require access to services, personnel, equipment, facilities, and other resources, potentially including resources beyond those currently available, to prepare for and respond to any potential cases and the spread of the virus; and

**WHEREAS** I find that conditions of Government Code section 8558(b), relating to the declaration of a State of Emergency, have been met; and

**WHEREAS** I find that the conditions caused by COVID-19 are likely to require the combined forces of a mutual aid region or regions to appropriately respond; and

**WHEREAS** under the provisions of Government Code section 8625(c), I find that local authority is inadequate to cope with the threat posed by COVID-19; and

**WHEREAS** under the provisions of Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this order would prevent, hinder, or delay appropriate actions to prevent and mitigate the effects of the COVID-19.

**NOW, THEREFORE, I, GAVIN NEWSOM**, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes, including the California Emergency Services Act, and in particular, Government Code section 8625, **HEREBY PROCLAIM A STATE OF EMERGENCY** to exist in California.



**IT IS HEREBY ORDERED THAT:**

1. In preparing for and responding to COVID-19, all agencies of the state government use and employ state personnel, equipment, and facilities or perform any and all activities consistent with the direction of the Office of Emergency Services and the State Emergency Plan, as well as the California Department of Public Health and the Emergency Medical Services Authority. Also, all residents are to heed the advice of emergency officials with regard to this emergency in order to protect their safety.
2. As necessary to assist local governments and for the protection of public health, state agencies shall enter into contracts to arrange for the procurement of materials, goods, and services needed to assist in preparing for, containing, responding to, mitigating the effects of, and recovering from the spread of COVID-19. Applicable provisions of the Government Code and the Public Contract Code, including but not limited to travel, advertising, and competitive bidding requirements, are suspended to the extent necessary to address the effects of COVID-19.
3. Any out-of-state personnel, including, but not limited to, medical personnel, entering California to assist in preparing for, responding to, mitigating the effects of, and recovering from COVID-19 shall be permitted to provide services in the same manner as prescribed in Government Code section 179.5, with respect to licensing and certification. Permission for any such individual rendering service is subject to the approval of the Director of the Emergency Medical Services Authority for medical personnel and the Director of the Office of Emergency Services for non-medical personnel and shall be in effect for a period of time not to exceed the duration of this emergency.
4. The time limitation set forth in Penal Code section 396, subdivision (b), prohibiting price gouging in time of emergency is hereby waived as it relates to emergency supplies and medical supplies. These price gouging protections shall be in effect through September 4, 2020.
5. Any state-owned properties that the Office of Emergency Services determines are suitable for use to assist in preparing for, responding to, mitigating the effects of, or recovering from COVID-19 shall be made available to the Office of Emergency Services for this purpose, notwithstanding any state or local law that would restrict, delay, or otherwise inhibit such use.
6. Any fairgrounds that the Office of Emergency Services determines are suitable to assist in preparing for, responding to, mitigating the effects of, or recovering from COVID-19 shall be made available to the Office of Emergency Services pursuant to the Emergency Services Act, Government Code section 8589. The Office of Emergency Services shall notify the fairgrounds of the intended use and can immediately use the fairgrounds without the fairground board of directors' approval, and

notwithstanding any state or local law that would restrict, delay, or otherwise inhibit such use.

7. The 30-day time period in Health and Safety Code section 101080, within which a local governing authority must renew a local health emergency, is hereby waived for the duration of this statewide emergency. Any such local health emergency will remain in effect until each local governing authority terminates its respective local health emergency.
8. The 60-day time period in Government Code section 8630, within which local government authorities must renew a local emergency, is hereby waived for the duration of this statewide emergency. Any local emergency proclaimed will remain in effect until each local governing authority terminates its respective local emergency.
9. The Office of Emergency Services shall provide assistance to local governments that have demonstrated extraordinary or disproportionate impacts from COVID-19, if appropriate and necessary, under the authority of the California Disaster Assistance Act, Government Code section 8680 et seq., and California Code of Regulations, Title 19, section 2900 et seq.
10. To ensure hospitals and other health facilities are able to adequately treat patients legally isolated as a result of COVID-19, the Director of the California Department of Public Health may waive any of the licensing requirements of Chapter 2 of Division 2 of the Health and Safety Code and accompanying regulations with respect to any hospital or health facility identified in Health and Safety Code section 1250. Any waiver shall include alternative measures that, under the circumstances, will allow the facilities to treat legally isolated patients while protecting public health and safety. Any facilities being granted a waiver shall be established and operated in accordance with the facility's required disaster and mass casualty plan. Any waivers granted pursuant to this paragraph shall be posted on the Department's website.
11. To support consistent practices across California, state departments, in coordination with the Office of Emergency Services, shall provide updated and specific guidance relating to preventing and mitigating COVID-19 to schools, employers, employees, first responders and community care facilities by no later than March 10, 2020.
12. To promptly respond for the protection of public health, state entities are, notwithstanding any other state or local law, authorized to share relevant medical information, limited to the patient's underlying health conditions, age, current condition, date of exposure, and possible contact tracing, as necessary to address the effect of the COVID-19 outbreak with state, local, federal, and nongovernmental partners, with such information to be used for the limited purposes of monitoring, investigation and control, and treatment and coordination of care. The

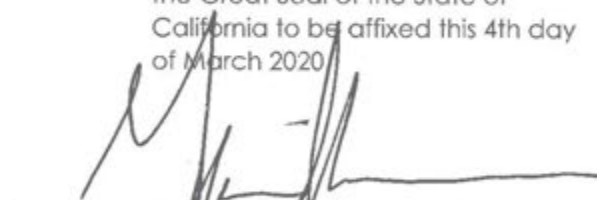


notification requirement of Civil Code section 1798.24, subdivision (i), is suspended.

13. Notwithstanding Health and Safety Code sections 1797.52 and 1797.218, during the course of this emergency, any EMT-P licensees shall have the authority to transport patients to medical facilities other than acute care hospitals when approved by the California EMS Authority. In order to carry out this order, to the extent that the provisions of Health and Safety Code sections 1797.52 and 1797.218 may prohibit EMT-P licensees from transporting patients to facilities other than acute care hospitals, those statutes are hereby suspended until the termination of this State of Emergency.
14. The Department of Social Services may, to the extent the Department deems necessary to respond to the threat of COVID-19, waive any provisions of the Health and Safety Code or Welfare and Institutions Code, and accompanying regulations, interim licensing standards, or other written policies or procedures with respect to the use, licensing, or approval of facilities or homes within the Department's jurisdiction set forth in the California Community Care Facilities Act (Health and Safety Code section 1500 et seq.), the California Child Day Care Facilities Act (Health and Safety Code section 1596.70 et seq.), and the California Residential Care Facilities for the Elderly Act (Health and Safety Code section 1569 et seq.). Any waivers granted pursuant to this paragraph shall be posted on the Department's website.

**I FURTHER DIRECT** that as soon as hereafter possible, this proclamation be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this proclamation.

**IN WITNESS WHEREOF** I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 4th day of March 2020.



\_\_\_\_\_  
GAVIN NEWSOM  
Governor of California

**ATTEST:**

\_\_\_\_\_  
ALEX PADILLA  
Secretary of State

**KERN COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION (KCERA)  
Board of Retirement**

**SUMMARY OF PROCEEDINGS**

**Teleconference Meeting – Board of Retirement Meeting**

**January 19, 2022**

**8:30 a.m.**

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

**ROLL CALL**

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

Absent: Kaufman

**MOMENT OF SILENCE**

- \*1. Discussion and appropriate action pursuant to California Government Code section 54953 of the Ralph M. Brown Act, as amended by Assembly Bill 361 presented by Chief Executive Officer Dominic Brown and Chief Legal Officer Jennifer Zahry – CIRCUMSTANCES OF THE STATE OF EMERGENCY RECONSIDERED; BOARD FINDS THE STATE OF EMERGENCY CONTINUES TO DIRECTLY IMPACT THE ABILITY OF ATTENDEES TO MEET SAFELY IN PERSON AND THAT SOCIAL DISTANCING MEASURES ARE BEING RECOMMENDED AT THE STATE AND LOCAL LEVEL; FINDINGS ADOPTED FOR THE BOARD AND ALL KCERA STANDING COMMITTEES; APPROVED 30-DAY RESOLUTION

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*2. Application for service-connected disability pension benefits for Anita Haight, Courts (General) – ADOPTED RECOMMENDATION OF SDAG TO GRANT SERVICE-CONNECTED DISABILITY PENSION

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*3. Application for non-service-connected disability pension benefits for Juan Lucio, Public Works (General) – ADOPTED RECOMMENDATION OF SDAG TO GRANT NON-SERVICE-CONNECTED DISABILITY PENSION

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*4. Summary of proceedings of the following meetings:

- December 2, 2021 Administrative Committee
- December 3, 2021 Special Board of Retirement
- December 8, 2021 Board of Retirement
- December 14, 2021 Investment Committee
- December 20, 2021 Special Board of Retirement

RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*5. Report from the KCERA office on members retired from service for the month of December 2021 – RATIFIED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*6. Report from the KCERA office on deceased retirees for the month of December 2021 – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*7. Report of current disability retirement applications and appeals of KCERA Board decisions for the period ending December 31, 2021 – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*8. Securities Lending Earnings Summary Report for the period November 1-30, 2021 from Deutsche Bank – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*9. KCERA asset allocation, budget status, cash flow position and investment fees status report for the month of November 2021 – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*10. 2022 Board of Retirement Committee Assignments – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*11. Board of Retirement Semi-annual Trustee Education Report – RECEIVED AND FILED; POSTED TO KCERA WEBSITE IN ACCORDANCE WITH CALIFORNIA GOVERNMENT CODE SECTION 31522.8(d)

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*12. Kern County Employees' Retirement Association Annual Comprehensive Financial Report (ACFR) for the fiscal year ended June 30, 2021 – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*13. Auditor's reports to management for the fiscal year ended June 30, 2021 – APPROVED AUDITOR'S REPORTS FOR THE FISCAL YEAR ENDED JUNE 30, 2021

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*14. Letter from Segal, dated January 7, 2022, regarding the Allocation of June 30, 2021 Liabilities and Assets by District – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*15. Memorandum from Chief Legal Officer Jennifer Zahry, dated January 19, 2022, regarding gift restrictions – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*16. Memorandum from Chief Legal Officer Jennifer Zahry, dated January 19, 2022, regarding gifts of travel – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

- \*17. Report on Special Pays Codes classified by the Chief Executive Officer – RECEIVED AND FILED

**Whitezell-Franey – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

## **PUBLIC COMMENTS**

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

## **INVESTMENT MATTERS**

19. Discussion and appropriate action on private market fund recommendation presented by Keirsten Lawton, Investment Managing Director, Cambridge Associates<sup>1</sup>, Chief Investment Officer Daryn Miller, CFA, Senior Retirement Investment Officer Brian Long, CFA, and the Investment Committee – KEIRSTEN LAWTON, CAMBRIDGE ASSOCIATES, HEARD; CHAIR JUAN GONZALEZ HEARD; TRUSTEE RICK KRATT HEARD; SENIOR RETIREMENT INVESTMENT OFFICER BRIAN LONG, CFA, HEARD

APPROVED UP TO \$40MM COMMITMENT TO FORTRESS LENDING FUND III;  
AUTHORIZED CHIEF EXECUTIVE OFFICER TO SIGN, SUBJECT TO LEGAL  
ADVICE AND REVIEW

### **Kratt-Nunneley – 9 Ayes**

*Trustee Chase Nunneley voted in place of Trustee Jordan Kaufman*

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<sup>1</sup> 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 §6254.26, §6255, and §54957.5.

**STAFF REPORTS**

20. Report from Chief Executive Officer

CHIEF EXECUTIVE OFFICER DOMINIC BROWN REPORTED THE FOLLOWING:

- RFP STATUS
- NEW COUNTY COMPENSATION STRUCTURE
- FACILITIES UPDATE
- STAFFING UPDATE
- *ALAMEDA* DECISION UPDATE
- OPERATIONS ACTIVITY
- UPCOMING MEETINGS AND EVENTS

CHAIR JUAN GONZALEZ HEARD

21. Report from Chief Investment Officer

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

- DECEMBER REBALANCING ACTIVITY
- POSITIONING
- KEY INITIATIVES
- INVESTMENT COMMITTEE MEETINGS

22. Report from Chief Legal Officer

CHIEF LEGAL OFFICER JENNIFER ZAHRY REPORTED THE FOLLOWING:

- LITIGATION UPDATE
- LEGISLATION UPDATE
- JANUARY 2022 CALENDAR ITEMS
- Q4 2021 METRICS

DEPUTY CHIEF LEGAL OFFICER PHILLIP JENKINS HEARD

**COMMITTEE REPORTS**

23. Report from Committee Chairs:
- a. Administrative Committee: HUGHES – NONE
  - b. Finance Committee: FRANNEY – NONE
  - c. Investment Committee: KAUFMAN – NONE
  - d. KCERA Property, Inc.: SEIBLY – NONE

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

**EXECUTIVE SESSION**

24. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION

Significant exposure to litigation pursuant to paragraph (2) of subdivision (d) of Section 54956.9: Facts and circumstances that might result in litigation against the local agency but which the local agency believes are not yet known to a potential plaintiff or plaintiffs, which facts and circumstances need not be disclosed (approximately 1,200 potential cases).

**RETURN TO PUBLIC SESSION**

BOARD OF RETIREMENT RECONVENED AT 10:15 A.M.

**ROLL CALL**

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

Absent: Kaufman

**REPORT OF EXECUTIVE SESSION ACTIONS, IF APPLICABLE**

ITEM 24 – NO REPORTABLE ACTION

**REFERRALS TO STAFF, ANNOUNCEMENTS OR REPORTS**

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

**NEW BUSINESS**

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

27. ADJOURNED – 10:17 A.M.

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Secretary, Board of Retirement

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Chair, Board of Retirement





**Kern County Employees' Retirement Association  
New Retirees - January 1, 2022 to January 31, 2022**

**Employer Name: County Of Kern**

| <b>Member Last Name</b> | <b>Member First Name</b> | <b>Retirement Date</b> | <b>Membership Tier</b> | <b>Department Name</b>           |
|-------------------------|--------------------------|------------------------|------------------------|----------------------------------|
| Bosola                  | Elizabeth                | 12/10/2021             | General Tier I         | 2183 - Dept Of Child Support Svc |
| Brunsell                | Casey                    | 12/18/2021             | Safety Tier I          | 2210S - Sheriff                  |
| Butler                  | William                  | 12/01/2021             | Safety Tier I          | 2340S - Probation-Safety         |
| Cespedes                | Victoria                 | 11/30/2021             | General Tier I         | 5120 - Depart Of Human Services  |
| Ellison                 | Robert                   | 12/18/2021             | General Tier I         | 1160 - Information Technology Sv |
| Gadbury                 | Jason                    | 12/18/2021             | Safety Tier I          | 2415S - Fire                     |
| Gray                    | Misty                    | 12/01/2021             | General Tier II        | 5120 - Depart Of Human Services  |
| Hernandez               | Steven                   | 12/18/2021             | General Tier II        | 8954 - Public Works-Public Ways  |
| Hubanks                 | Curtis                   | 09/17/2021             | Safety Tier I          | 2210S - Sheriff                  |
| Johnson                 | Debbie                   | 12/18/2021             | General Tier I         | 4110 - Depart Of Public Health   |
| Leal                    | Ernesto                  | 12/30/2021             | General Tier I         | 8997 - Kern Medical Center       |
| Loyd                    | Stacy                    | 12/04/2021             | General Tier I         | 5120 - Depart Of Human Services  |
| Ramirez                 | Rey                      | 12/18/2021             | Safety Tier I          | 2415S - Fire                     |
| Reddell                 | Kenneth                  | 12/18/2021             | General Tier I         | 2415 - Fire                      |
| Sakamoto                | Brett                    | 12/04/2021             | General Tier I         | 2183 - Dept Of Child Support Svc |
| Ussery                  | Richard                  | 12/18/2021             | Safety Tier I          | 2340S - Probation-Safety         |



**Kern County Employees' Retirement Association  
New Retirees - January 1, 2022 to January 31, 2022**

**Employer Name: KC Superior Court**

| Member Last Name | Member First Name | Retirement Date | Membership Tier | Department Name       |
|------------------|-------------------|-----------------|-----------------|-----------------------|
| Garza            | Rachel            | 12/18/2021      | General Tier I  | 9410 - Superior Court |
| Lemoine          | Carla             | 12/20/2021      | General Tier I  | 9410 - Superior Court |

**Employer Name: Kern County Hospital Authority**

| Member Last Name | Member First Name | Retirement Date | Membership Tier | Department Name                       |
|------------------|-------------------|-----------------|-----------------|---------------------------------------|
| Garza            | Gena              | 12/04/2021      | General Tier I  | 9460 - Kern County Hospital Authority |
| Halsell          | Nancy             | 12/18/2021      | General Tier II | 9460 - Kern County Hospital Authority |
| Marderosian      | Susanne           | 12/04/2021      | General Tier I  | 9460 - Kern County Hospital Authority |
| Salinas          | Nora              | 12/27/2021      | General Tier I  | 9460 - Kern County Hospital Authority |
| Santerre         | Eric              | 12/04/2021      | General Tier I  | 9460 - Kern County Hospital Authority |
| Stansbury        | Debra             | 12/18/2021      | 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                       |
|------------------|-------------------|-----------------|-----------------|---------------------------------------|
| Walthall         | Brent             | 12/04/2021      | 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           |
|------------------|-------------------|-----------------|-----------------|---------------------------|
| Presto           | Anthony           | 12/02/2021      | General Tier I  | 0959 - San Joaquin Valley |



## Kern County Employees' Retirement Association Decedents - January 1, 2022 to January 31, 2022

### Post-Retirement Deaths

| Last Name | First Name | Membership Type | Employer Name     |
|-----------|------------|-----------------|-------------------|
| Adamson   | Waunita    | General         | County Of Kern    |
| Barger    | Gail       | General         | County Of Kern    |
| Braem     | Troy       | Safety          | County Of Kern    |
| Brown     | Dona       | General         | County Of Kern    |
| Burnett   | Carl       | General         | County Of Kern    |
| Davis     | Darla      | General         | County Of Kern    |
| Dodson    | William    | Safety          | County Of Kern    |
| Dupraw    | Ernest     | General         | County Of Kern    |
| Erickson  | Richard    | General         | County Of Kern    |
| Fitch     | Loralee    | General         | County Of Kern    |
| Heath     | Virginia   | General         | KC Superior Court |
| Hutchison | Ella       | General         | County Of Kern    |
| Mccune    | Michael    | Safety          | County Of Kern    |
| Myers     | Lorita     | General         | County Of Kern    |
| Penney    | Michael    | General         | County Of Kern    |
| Prins     | Brigid     | General         | County Of Kern    |
| Scott     | Bruce      | General         | County Of Kern    |
| Solano    | Mike       | General         | County Of Kern    |
| Southwick | Margaret   | General         | County Of Kern    |
| Stockton  | Judith     | General         | County Of Kern    |
| Voyles    | Michael    | Safety          | County Of Kern    |

**KCERA  
STATUS OF DISABILITY RETIREMENT APPLICATIONS  
AS OF 01/31/22**

| <b>NAME</b>                 | <b>DEPARTMENT</b>                     | <b>DATE FILED</b> | <b>DATE OF LAST CONTACT</b> |
|-----------------------------|---------------------------------------|-------------------|-----------------------------|
| Yohn, Jacob                 | SHERIFF                               | 11/30/21          | 01/25/22                    |
| Fussel, Kathy               | HOSPITAL AUTHORITY                    | 11/03/21          | 11/18/21                    |
| Guandique, Sandra           | RISK MANAGEMENT                       | 10/29/21          | 11/03/21                    |
| Kauffman, Stephen           | DISTRICT ATTORNEY                     | 08/16/21          | 11/23/21                    |
| Gardner, Stephen            | FIRE                                  | 07/19/21          | 09/22/21                    |
| <b>NAME</b>                 | <b>DEPARTMENT</b>                     | <b>DATE FILED</b> | <b>MMRO ASSIGNED</b>        |
| Brannan, Derek              | SHERIFF                               | 07/14/21          | 11/22/21                    |
| Leon, Theresa               | HUMAN SERVICES                        | 07/07/21          | 10/18/21                    |
| Patton, Eric                | SHERIFF                               | 06/30/21          | 11/22/21                    |
| Candelaria, Valerie         | HUMAN SERVICES                        | 06/23/21          | 09/15/21                    |
| Introini, Jessica           | SHERIFF                               | 06/18/21          | 11/22/21                    |
| Williams, Theron            | GENERAL SERVICES                      | 05/12/21          | 09/15/21                    |
| Garcia, Judy                | HOSPITAL AUTHORITY                    | 03/29/21          | 10/18/21                    |
| Smith, Thomas Jr.           | SHERIFF                               | 03/16/21          | 11/08/21                    |
| Brandon, Bradly             | SHERIFF                               | 03/04/21          | 08/20/21                    |
| Bravo, Enrique              | SHERIFF                               | 03/01/21          | 08/20/21                    |
| Sanders-Stubblefield, Misty | AGING AND ADULT SERVICES              | 02/25/21          | 08/20/21                    |
| McAdoo, John                | SHERIFF                               | 02/24/21          | 08/20/21                    |
| Bankston, Josh              | SHERIFF                               | 02/09/21          | 08/19/21                    |
| Cushman, Harris             | SHERIFF                               | 12/22/20          | 08/19/21                    |
| Carrillo, Mabelle           | ANIMAL CONTROL                        | 11/18/20          | 04/21/21                    |
| Burchfield, James           | PUBLIC WORKS                          | 11/17/20          | 07/16/21                    |
| Tisinger, Douglas           | KERN COUNTY WATER AGENCY              | 10/05/20          | 05/21/21                    |
| Fleeman, Justin             | SHERIFF                               | 09/17/20          | 02/08/21                    |
| Diffenbaugh, Anthony        | FIRE                                  | 06/11/20          | 04/26/21                    |
| Brown, Michael              | SHERIFF                               | 04/14/20          | 08/31/20                    |
| Baker, Breanne              | HUMAN SERVICES                        | 04/02/20          | 09/29/20                    |
| Terry, Leann                | SHERIFF                               | 10/17/19          | 06/30/20                    |
| Martinez de Moore, Brenda   | BEHAVIORAL HEALTH & RECOVERY SERVICES | 12/10/18          | 09/08/20                    |
| Boren, Colleen              | RISK MANAGEMENT                       | 08/02/18          | 09/03/20                    |
| Champlin, Timothy           | PROBATION                             | 04/25/18          | 05/21/20                    |
| Hulsey, Jonathan            | PROBATION                             | 04/18/18          | 04/22/20                    |
| Alaniz, Maria D.            | PUBLIC HEALTH                         | 04/13/18          | 10/17/20                    |
| Coletti, John               | SHERIFF                               | 01/30/18          | 05/20/20                    |
| Tennison, Robyn (McClain)   | BEHAVIORAL HEALTH & RECOVERY SERVICES | 07/17/17          | 02/20/20                    |
| Rodriguez, Ted              | SHERIFF                               | 06/22/17          | 02/20/20                    |

**KCERA  
STATUS OF DISABILITY RETIREMENT APPLICATIONS  
AS OF 01/31/22**

| <b>NAME</b>              | <b>DEPARTMENT</b>                     | <b>DATE FILED</b> | <b>MMRO ASSIGNED</b>  |
|--------------------------|---------------------------------------|-------------------|-----------------------|
| Hsu, Sue                 | BEHAVIORAL HEALTH & RECOVERY SERVICES | 04/05/17          | 02/06/20              |
| Paxson, Kalae            | SHERIFF                               | 03/15/17          | 11/05/19              |
| Carvel, Scott            | DISTRICT ATTORNEY                     | 01/27/17          | 11/05/19              |
| <b>COMPLETED IN 2022</b> |                                       |                   |                       |
| <b>NAME</b>              | <b>DEPARTMENT</b>                     | <b>FILED</b>      | <b>DATE COMPLETED</b> |
| Lucio, Juan              | PUBLIC WORKS                          | 07/19/21          | 01/19/22              |
| Haight, Anita            | COURTS                                | 05/14/20          | 01/19/22              |

**KCERA  
APPEALS PENDING  
AS OF 01/31/22**

| ADMINISTRATIVE HEARING | DEPARTMENT        | DATE FILED | SDAG RECOMMENDATION | APPEAL RECEIVED | SENT TO COUNTY COUNSEL | HEARING OFFICER ASSIGNED | HEARING DATE |
|------------------------|-------------------|------------|---------------------|-----------------|------------------------|--------------------------|--------------|
| Winn, Jay M.           | DISTRICT ATTORNEY | 03/16/16   | SDAG to deny SCD    | 05/28/20        | 06/02/20               | 06/25/20                 | 11/09/20     |

| WRIT OF MANDATE | DEPARTMENT | DATE FILED | BOARD DECISION                    |
|-----------------|------------|------------|-----------------------------------|
| Blue, Michael   | SHERIFF    | 06/14/13   | Board denied SCD                  |
| Ashley, Mark    | SHERIFF    | 09/03/15   | Board denied SCD and granted NSCD |

| COURT OF APPEAL | DEPARTMENT | DATE FILED | BOARD DECISION   |
|-----------------|------------|------------|------------------|
| Morgan, Gloria  | SHERIFF    | 03/26/15   | Board denied SCD |

| HEARINGS COMPLETED IN 2022 |            |            |                |
|----------------------------|------------|------------|----------------|
| NAME                       | DEPARTMENT | DATE FILED | DATE COMPLETED |

SECURITIES LENDING

Summary Earnings Report

Run Time: 10-Jan-2022 12:20 EST  
 Date Range: 01-DEC-2021 To 31-DEC-2021  
 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 |
|----------------------------------|-------------------------|-------------------------|------------------|-----------------|------------------|-----------------|
| <b>New York</b>                  |                         |                         |                  |                 |                  |                 |
| <b>USD</b>                       |                         |                         |                  |                 |                  |                 |
| KNCTY - Harvest Midstream        | CAKE18                  | 2,505,450.48            | 1,555.85         | 155.59          | 1,400.27         | KNC15           |
| KNCTY - PIMCO Midstream          | CAKE19                  | 10,432,654.38           | 4,326.33         | 432.63          | 3,893.70         | KNC16           |
| KNCTY PIMCO Core Plus            | CAKE07                  | 19,314,835.50           | 4,824.61         | 482.46          | 4,342.15         | KNC11           |
| KNCTY PIMCO EMD                  | CAKE08                  | 636,730.59              | 258.91           | 25.89           | 233.02           | KNC12           |
| KNTCY - Alliance Bernstein       | CAKE15                  | 9,753,194.48            | 3,138.78         | 313.88          | 2,824.90         | 2664130         |
| KNTCY - Geneva                   | CAKE16                  | 8,663,002.44            | 2,706.69         | 270.67          | 2,436.02         | 2667336         |
| KNTCY - Western Asset MGMT Co 01 | CAKE03                  | 29,538,677.80           | 8,417.67         | 841.77          | 7,575.90         | KNC06           |
| KNTCY - Western Asset MGMT Co 02 | CAKE04                  | 32,416,926.32           | 12,940.91        | 1,294.09        | 11,646.82        | KNC08           |
|                                  | <b>CCY Total USD:</b>   | <b>113,261,472.00</b>   | <b>38,169.74</b> | <b>3,816.97</b> | <b>34,352.77</b> |                 |
|                                  | <b>Grand Total USD:</b> |                         | <b>38,169.74</b> | <b>3,816.97</b> | <b>34,352.77</b> |                 |

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**KCERA ASSET ALLOCATION\***  
12/31/2021

| Manager Name                                | Type                         | \$(000)            | Current Allocation | Target Percentage | Variance Over Target (Under Target) | Variance Over Target (Under Target) \$(000) |
|---|------------------------------|--------------------|--------------------|-------------------|-------------------------------------|---|
| AllianceBernstein                           | Small Cap Value              | 102,353            | 1.8%               |                   |                                     |   |
| Geneva Capital                              | Small Cap Growth             | 60,426             | 1.1%               |                   |                                     |   |
| Mellon Capital Management EB DV             | Large Cap Passive            | 350,801            | 6.3%               |                   |                                     |   |
| PIMCO StockPlus                             | Large Cap Enhanced           | 125,029            | 2.2%               |                   |                                     |   |
| <b>Total Domestic Equity</b>                |                              | <b>\$638,609</b>   | <b>11.5%</b>       | <b>19.0%</b>      | <b>(7.5%)</b>                       | <b>(\$418,251)</b>                          |
| American Century                            | International Small          | 96,406             | 1.7%               |                   |                                     |   |
| BlackRock International Alpha Tilts         | International Large          | 0                  | 0.0%               |                   |                                     |   |
| Cevian Capital II LP                        | International Large          | 35,807             | 0.6%               |                   |                                     |   |
| Mellon Capital Management-EB DV             | International Large Passive  | 576,312            | 10.4%              |                   |                                     |   |
| <b>Total International Developed Equity</b> |                              | <b>\$708,525</b>   | <b>12.7%</b>       | <b>13.0%</b>      | <b>(0.3%)</b>                       | <b>(\$14,590)</b>                           |
| AB Emerging Markets Strategic Core          | Emerging Markets             | 108,257            | 1.9%               |                   |                                     |   |
| DFA Emerging Markets Value Portfolio        | Emerging Markets             | 84,198             | 1.5%               |                   |                                     |   |
| Mellon Emerging Markets                     | Emerging Markets             | 101,097            | 1.8%               |                   |                                     |   |
| <b>Total Emerging Market Equity</b>         |                              | <b>\$293,552</b>   | <b>5.3%</b>        | <b>5.0%</b>       | <b>0.3%</b>                         | <b>\$15,431</b>                             |
| <b>TOTAL EQUITY</b>                         |                              | <b>\$1,640,686</b> | <b>29.5%</b>       | <b>37.0%</b>      | <b>(7.5%)</b>                       | <b>(\$417,409)</b>                          |
| Mellon Capital Management Ag Bond           | Core                         | 225,377            | 4.1%               |                   |                                     |   |
| PIMCO                                       | Core Plus                    | 211,819            | 3.8%               |                   |                                     |   |
| Western Asset Management                    | Core Plus                    | 228,557            | 4.1%               |                   |                                     |   |
| <b>Total Core</b>                           |                              | <b>\$665,753</b>   | <b>12.0%</b>       | <b>14.0%</b>      | <b>(2.0%)</b>                       | <b>(\$112,986)</b>                          |
| TCW Securitized Opportunities LP            | Securitized Opportunities    | 132,716            | 2.4%               |                   |                                     |   |
| Western Asset Management                    | High Yield                   | 190,746            | 3.4%               |                   |                                     |   |
| <b>Total Credit</b>                         |                              | <b>\$323,462</b>   | <b>5.8%</b>        | <b>6.0%</b>       | <b>(0.2%)</b>                       | <b>(\$10,283)</b>                           |
| PIMCO EM Beta                               | Emerging Markets             | 156,742            | 2.8%               |                   |                                     |   |
| Stone Harbor Global Funds                   | Emerging Markets             | 106,209            | 1.9%               |                   |                                     |   |
| <b>Total Emerging Market Debt</b>           |                              | <b>\$262,951</b>   | <b>4.7%</b>        | <b>4.0%</b>       | <b>0.7%</b>                         | <b>\$40,454</b>                             |
| <b>TOTAL FIXED INCOME</b>                   |                              | <b>\$1,252,166</b> | <b>22.5%</b>       | <b>24.0%</b>      | <b>(1.5%)</b>                       | <b>(\$82,815)</b>                           |
| Gresham Commodity Builder Fund              | Active                       | 93,803             | 1.7%               |                   |                                     |   |
| Wellington Trust Company (WTC)              | Active                       | 206,268            | 3.7%               |                   |                                     |   |
| <b>TOTAL COMMODITIES</b>                    |                              | <b>\$300,071</b>   | <b>5.4%</b>        | <b>4.0%</b>       | <b>1.4%</b>                         | <b>\$77,574</b>                             |
| Aristeia International Ltd                  | Hedge Fund - Direct          | 67,440             | 1.2%               |                   |                                     |   |
| Brevan Howard Fund Limited                  | Hedge Fund - Direct          | 67,791             | 1.2%               |                   |                                     |   |
| D.E. Shaw Composite Fund                    | Hedge Fund - Direct          | 59,498             | 1.1%               |                   |                                     |   |
| HBK Multi-Strategy Fund                     | Hedge Fund - Direct          | 56,684             | 1.0%               |                   |                                     |   |
| Hudson Bay Enhanced Fund LP                 | Hedge Fund - Direct          | 72,800             | 1.3%               |                   |                                     |   |
| Indus Pacific Opportunities Fund            | Hedge Fund - Direct          | 37,466             | 0.7%               |                   |                                     |   |
| Magnetar Structured Credit Fund             | Hedge Fund - Direct          | 11,020             | 0.2%               |                   |                                     |   |
| Myriad Opportunities Offshore Fund          | Hedge Fund - Direct          | 1,583              | 0.0%               |                   |                                     |   |
| PIMCO Commodity Alpha Fund LLC              | Hedge Fund - Direct          | 64,665             | 1.2%               |                   |                                     |   |
| PMF LTD                                     | Hedge Fund - Direct          | 62,782             | 1.1%               |                   |                                     |   |
| River Birch International Ltd               | Hedge Fund - Direct          | 830                | 0.0%               |                   |                                     |   |
| Systematica Blue Trend                      | Hedge Fund - Direct          | 0                  | 0.0%               |                   |                                     |   |
| Sculptor Enhanced LP (Formerly OZ Domestic) | Hedge Fund - Direct          | 53,577             | 1.0%               |                   |                                     |   |
| <b>TOTAL HEDGE FUND</b>                     |                              | <b>\$556,136</b>   | <b>10.0%</b>       | <b>10.0%</b>      | <b>(0.0%)</b>                       | <b>(\$106)</b>                              |
| ASB Capital Management                      | Core                         | 166,125            | 3.0%               |                   |                                     |   |
| JPMCB Strategic Property Fund               | Core                         | 128,645            | 2.3%               |                   |                                     |   |
| <b>TOTAL CORE REAL ESTATE</b>               |                              | <b>\$294,770</b>   | <b>5.3%</b>        | <b>5.0%</b>       | <b>0.3%</b>                         | <b>\$16,649</b>                             |
| Davidson Kempner                            | Hedge Fund - Direct          | 54,415             | 1.0%               |                   |                                     |   |
| Garda Fixed Income                          | Hedge Fund - Direct          | 48,617             | 0.9%               |                   |                                     |   |
| HBK Multi-Strategy Fund                     | Hedge Fund - Direct          | 54,512             | 1.0%               |                   |                                     |   |
| HBK Spac Fund                               | Hedge Fund - Direct          | 51,026             | 0.9%               |                   |                                     |   |
| Hudson Bay Enhanced Fund LP                 | Hedge Fund - Direct          | 56,232             | 1.0%               |                   |                                     |   |
| <b>TOTAL CE ALPHA POOL</b>                  |                              | <b>\$264,802</b>   | <b>4.8%</b>        | <b>5.0%</b>       | <b>(0.2%)</b>                       | <b>(\$13,319)</b>                           |
| Harvest Midstream                           | Midstream                    | 161,785            | 2.9%               |                   |                                     |   |
| PIMCO Midstream                             | Midstream                    | 131,543            | 2.4%               |                   |                                     |   |
| <b>TOTAL MIDSTREAM ENERGY</b>               |                              | <b>\$293,328</b>   | <b>5.3%</b>        | <b>0.0%</b>       | <b>5.3%</b>                         | <b>\$293,328</b>                            |
| Aristeia Select Opportunities II LP         | Opportunistic                | 49,717             | 0.9%               |                   |                                     |   |
| DB Investor's Fund IV                       | Opportunistic                | 43,893             | 0.8%               |                   |                                     |   |
| TSSP Adjacent Opportunities Partners (D)    | Opportunistic                | 70,314             | 1.3%               |                   |                                     |   |
| <b>TOTAL OPPORTUNISTIC</b>                  |                              | <b>\$163,924</b>   | <b>2.9%</b>        | <b>0.0%</b>       | <b>2.9%</b>                         | <b>\$163,924</b>                            |
| Abbott Capital Funds                        | Private Equity Fund of Funds | 32,021             | 0.6%               |                   |                                     |   |
| Brighton Park                               | Private Equity               | 24,416             | 0.4%               |                   |                                     |   |
| Level Equity Growth Partners                | Private Equity               | 1,710              | 0.0%               |                   |                                     |   |
| LGT Crown Global                            | Private Equity               | 16,463             | 0.3%               |                   |                                     |   |
| Pantheon Funds                              | Private Equity Fund of Funds | 13,038             | 0.2%               |                   |                                     |   |
| Peak Rock                                   | Private Equity               | 6,010              | 0.1%               |                   |                                     |   |
| Vista                                       | Private Equity               | 9,350              | 0.2%               |                   |                                     |   |
| Warren Equity Partners                      | Private Equity               | 13,940             | 0.3%               |                   |                                     |   |
| <b>TOTAL PRIVATE EQUITY</b>                 |                              | <b>\$116,948</b>   | <b>2.1%</b>        | <b>5.0%</b>       | <b>(2.9%)</b>                       | <b>(\$161,173)</b>                          |
| Blue Torch Credit Opportunites              | Private Credit               | 14,092             | 0.3%               |                   |                                     |   |
| Brookfield Real Estate Finance Fund V       | Private Credit               | 22,448             | 0.4%               |                   |                                     |   |
| Colony Distressed Credit Fund               | Private Credit               | 43,190             | 0.8%               |                   |                                     |   |
| Fortress Credit Opportunities Fund V        | Private Credit               | 11,084             | 0.2%               |                   |                                     |   |
| Fortress Lending Fund II (A)                | Private Credit               | 30,781             | 0.6%               |                   |                                     |   |
| H.I.G Bayside Loan Opportunity Fund         | Private Credit               | 37,200             | 0.7%               |                   |                                     |   |
| Magnetar Constellation Fund V               | Private Credit               | 36,896             | 0.7%               |                   |                                     |   |
| TSSP Adjacent Opportunities Partners (B)    | Private Credit               | 37,518             | 0.7%               |                   |                                     |   |
| <b>TOTAL PRIVATE CREDIT</b>                 |                              | <b>\$233,209</b>   | <b>4.2%</b>        | <b>5.0%</b>       | <b>(0.8%)</b>                       | <b>(\$44,912)</b>                           |
| Covenant Apartment Fund                     | Private Real Estate          | 18,845             | 0.3%               |                   |                                     |   |
| Invesco Real Estate Funds III & IV          | Private Real Estate          | 8,042              | 0.1%               |                   |                                     |   |
| KCERA Property                              | Private Real Estate          | 4,629              | 0.1%               |                   |                                     |   |
| Landmark Real Estate Partners VIII          | Private Real Estate          | 25,796             | 0.5%               |                   |                                     |   |
| Long Wharf Real Estate Partners VI          | Private Real Estate          | 21,294             | 0.4%               |                   |                                     |   |
| Singerman Real Estate Opportunity Fund IV   | Private Real Estate          | 1,759              | 0.0%               |                   |                                     |   |
| <b>TOTAL PRIVATE REAL ESTATE</b>            |                              | <b>\$80,365</b>    | <b>1.4%</b>        | <b>5.0%</b>       | <b>(3.6%)</b>                       | <b>(\$197,756)</b>                          |
| Northern Trust STIF                         | Short Term                   | 19,067             | 0.3%               |                   |                                     |   |
| BlackRock Short Duration                    | Short Term                   | 119,833            | 2.2%               |                   |                                     |   |
| Parametric                                  | Overlay                      | 223,756            | 4.0%               |                   |                                     |   |
| Treasurers Pooled Cash                      | Short Term                   | 1,251              | 0.0%               |                   |                                     |   |
| Wells Fargo Bank                            | Short Term                   | 1,624              | 0.0%               |                   |                                     |   |
| <b>TOTAL CASH AND OVERLAY</b>               |                              | <b>\$365,531</b>   | <b>6.6%</b>        | <b>0.0%</b>       | <b>6.6%</b>                         | <b>\$365,531</b>                            |
| Transition Accounts                         | Liquidation                  | 483                | 0.0%               |                   |                                     |   |
| <b>Other</b>                                |                              | <b>\$483</b>       | <b>0.0%</b>        | <b>0.0%</b>       | <b>0.0%</b>                         | <b>\$483</b>                                |
| <b>As Allocated to Managers **</b>          |                              | <b>\$5,562,419</b> | <b>100.0%</b>      | <b>100.0%</b>     | <b>(0.0%)</b>                       | <b>\$0</b>                                  |



**KCERA**  
**Operating Expense Budget Status Report**  
**For the Month Ended December 31, 2021**

| Expense Type                          | Budget<br>FY 2021/22 | Expenses            | Over (Under)          |
|---------------------------------------|----------------------|---------------------|-----------------------|
| <b>Staffing</b>                       |                      |                     |                       |
| Salaries                              | 3,000,135.00         | 1,257,607.94        | (1,742,527.06)        |
| Benefits                              | 2,098,829.00         | 803,186.32          | (1,295,642.68)        |
| Temporary staff                       | 100,000.00           | 18,320.29           | (81,679.71)           |
| <b>Staffing Total</b>                 | <b>5,198,964.00</b>  | <b>2,079,114.55</b> | <b>(3,119,849.45)</b> |
| <b>Staff Development</b>              |                      |                     |                       |
| Education & Professional Development  | 57,500.00            | 7,847.00            | (49,653.00)           |
| Staff Appreciation                    | 2,500.00             | 485.83              | (2,014.17)            |
| <b>Staff Development Total</b>        | <b>60,000.00</b>     | <b>8,332.83</b>     | <b>(51,667.17)</b>    |
| <b>Professional Fees</b>              |                      |                     |                       |
| Actuarial fees                        | 190,000.00           | 36,073.00           | (153,927.00)          |
| Audit fees                            | 49,000.00            | 44,812.33           | (4,187.67)            |
| Consultant fees                       | 125,000.00           | 10,250.00           | (114,750.00)          |
| Legal fees                            | 80,000.00            | 7,173.30            | (72,826.70)           |
| <b>Professional Fees Total</b>        | <b>444,000.00</b>    | <b>98,308.63</b>    | <b>(345,691.37)</b>   |
| <b>Office Expenses</b>                |                      |                     |                       |
| Building expenses                     | 72,000.00            | \$26,024.53         | (45,975.47)           |
| Communications                        | 33,100.00            | 14,018.96           | (19,081.04)           |
| Equipment lease                       | 13,000.00            | 5,269.61            | (7,730.39)            |
| Equipment maintenance                 | 2,000.00             | 2,000.00            | -                     |
| Memberships                           | 16,000.00            | 8,770.00            | (7,230.00)            |
| Office supplies & misc. admin.        | 54,540.00            | 17,504.36           | (37,035.64)           |
| Payroll & accounts payable fees       | 22,800.00            | 2,961.33            | (19,838.67)           |
| Other Services - Kern County          | 100,000.00           | 7,407.15            | (92,592.85)           |
| Postage                               | 25,000.00            | 3,389.81            | (21,610.19)           |
| Subscriptions                         | 13,500.00            | 3,010.69            | (10,489.31)           |
| Utilities                             | 50,000.00            | 18,918.32           | (31,081.68)           |
| <b>Office Expense Total</b>           | <b>401,940.00</b>    | <b>109,274.76</b>   | <b>(292,665.24)</b>   |
| <b>Insurance</b>                      | <b>138,385.00</b>    | <b>149,034.00</b>   | <b>10,649.00</b>      |
| <b>Member Services</b>                |                      |                     |                       |
| Disability- legal fees                | 50,000.00            | 1,369.75            | (48,630.25)           |
| Disability – professional services    | 45,000.00            | -                   | (45,000.00)           |
| Disability- administration MMRO       | 130,800.00           | 41,750.00           | (89,050.00)           |
| Member communications                 | 20,000.00            | 1,527.84            | (18,472.16)           |
| <b>Member Services Total</b>          | <b>245,800.00</b>    | <b>44,647.59</b>    | <b>(201,152.41)</b>   |
| <b>Systems</b>                        |                      |                     |                       |
| Audit – security & vulnerability scan | 15,000.00            | -                   | (15,000.00)           |
| Business continuity expenses          | 14,700.00            | 8,740.00            | (5,960.00)            |
| Hardware                              | 35,775.00            | 4,551.57            | (31,223.43)           |
| Licensing & support                   | 138,415.00           | 125,343.98          | (13,071.02)           |
| Software                              | 95,500.00            | 77,770.35           | (17,729.65)           |
| Website design & hosting              | 64,700.00            | 390.00              | (64,310.00)           |
| <b>Systems Total</b>                  | <b>364,090.00</b>    | <b>216,795.90</b>   | <b>(147,294.10)</b>   |
| <b>Board of Retirement</b>            |                      |                     |                       |
| Board compensation                    | 12,000.00            | 3,923.65            | (8,076.35)            |
| Board conferences & training          | 30,000.00            | 5,901.95            | (24,098.05)           |
| Board elections                       | 35,000.00            | -                   | (35,000.00)           |
| Board meetings                        | 3,500.00             | 120.51              | (3,379.49)            |
| <b>Board of Retirement Total</b>      | <b>80,500.00</b>     | <b>9,946.11</b>     | <b>(70,553.89)</b>    |
| <b>Depreciation / Amortization</b>    | <b>646,908.00</b>    | <b>323,232.08</b>   | <b>(323,675.92)</b>   |
| <b>Total Operating Expenses</b>       | <b>7,578,087.00</b>  | <b>3,038,686.45</b> | <b>(4,539,400.55)</b> |

**KCERA**  
**CASH FLOW POSITION**  
**December, 2021**  
**TREASURERS POOLED CASH**

|   |              |                                   |
|---|--------------|-----------------------------------|
| <b>Beginning Cash Balance:</b>              |              | <b>\$ 2,707,638</b>               |
| Employer Contributions                      | 21,717,369   |                                   |
| Employee Contributions                      | 3,091,240    |                                   |
| Service Purchases                           | 152,485      |                                   |
| Miscellaneous - Including erroneous deposit | 2,510        |                                   |
| <b>Total Receipts:</b>                      |              | <b>24,963,604</b>                 |
| Operating Expenses                          | (654,413)    |                                   |
| Investment Expenses                         | (265,775)    |                                   |
| Transfers-out                               | (25,500,000) |                                   |
| <b>Total Disbursements:</b>                 |              | <b><u>(26,420,188)</u></b>        |
| <b>Ending Cash Balance:</b>                 |              | <b><u><u>\$ 1,251,054</u></u></b> |

**NORTHERN TRUST**

|                                   |              |                                   |
|-----------------------------------|--------------|-----------------------------------|
| <b>Beginning Cash Balance:</b>    |              | <b>5,827,741</b>                  |
| Private Equity - Distributions    | 4,384,935    |                                   |
| Commingled Funds - Distributions  | 11,773,849   |                                   |
| Redemption PIMCO                  | 20,000,000   |                                   |
| Redemption Mellon                 | 20,000,000   |                                   |
| Redemption Western                | 10,000,000   |                                   |
| Class Action Proceeds             | 2,574        |                                   |
| Interest                          | 2,474        |                                   |
| Securities Lending Earnings (NET) | 39,397       |                                   |
| <b>Total Receipts:</b>            |              | <b>66,203,229</b>                 |
| Capital Calls Level Equity        | (1,511,487)  |                                   |
| Capital Calls Fortress            | (2,000,000)  |                                   |
| Capital Calls Crown Global        | (4,000,000)  |                                   |
| Capital Calls Singerman           | (1,575,000)  |                                   |
| Capital Calls TSSP                | (7,776,454)  |                                   |
| Capital Calls Warren              | (5,404,813)  |                                   |
| Capital Calls Brighton Park       | (2,715,833)  |                                   |
| Capital Calls Long Wharf          | (6,362,735)  |                                   |
| Capital Calls HIG Bayside         | (3,377,267)  |                                   |
| Capital Calls Covenant            | (1,500,000)  |                                   |
| Capital Calls Landmark            | (2,993,386)  |                                   |
| Capital Calls Peakrock            | (1,626,059)  |                                   |
| Contribution Harvest Midstream    | (15,000,000) |                                   |
| Other Expenses                    | (1,709)      |                                   |
| Transfers-out                     | (7,000,000)  |                                   |
| <b>Total Disbursements:</b>       |              | <b><u>(62,844,744)</u></b>        |
| <b>Ending Cash Balance:</b>       |              | <b><u><u>\$ 9,186,226</u></u></b> |

**WELLS FARGO BANK**

|                                |              |                                   |
|--------------------------------|--------------|-----------------------------------|
| <b>Beginning Cash balance:</b> |              | <b>\$ 5,756,337</b>               |
| Transfer-In                    | 32,500,000   |                                   |
| <b>Total Receipts:</b>         |              | <b>32,500,000</b>                 |
| Pension Payments               | (31,957,030) |                                   |
| Lump Sum Payments              | (625,659)    |                                   |
| Bank Service Charges           | (1,490)      |                                   |
| Cash Clearing (NET) *          | (4,048,432)  |                                   |
| <b>Total Disbursements:</b>    |              | <b><u>(36,632,612)</u></b>        |
| <b>Ending Cash Balance:</b>    |              | <b><u><u>\$ 1,623,725</u></u></b> |

**KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
INVESTMENT FEES CASH FLOW REPORT  
FOR THE MONTH ENDED DECEMBER, 2021**

| Description                                | July              | August              | September         | October           | November            | December          | Total               |
|--|-------------------|---------------------|-------------------|-------------------|---------------------|-------------------|---------------------|
| <b>Investment Base Fees:</b>               |                   |                     |                   |                   |                     |                   |                     |
| Domestic Equity:                           |                   |                     |                   |                   |                     |                   |                     |
| AllianceBernstein                          | 221,667.83        |                     |                   |                   | 206,725.49          |                   | 428,393.32          |
| Henderson Geneva Capital                   |                   | 124,076.00          |                   |                   | 109,770.00          |                   | 233,846.00          |
| Mellon Capital                             | 135,799.99        |                     |                   |                   | 91,967.45           |                   | 227,767.44          |
| International Equity:                      |                   |                     |                   |                   |                     |                   |                     |
| BlackRock                                  |                   |                     | 65,882.31         |                   |                     |                   | 65,882.31           |
| Fidelity Institutional Asset Management    |                   |                     |                   |                   |                     |                   | 0.00                |
| Fixed Income:                              |                   |                     |                   |                   |                     |                   |                     |
| Mellon Capital (Ag Bond)                   | 11,876.36         |                     |                   |                   | 12,011.39           |                   | 23,887.75           |
| Pacific Investment Management Company      |                   | 284,672.90          |                   |                   | 300,372.43          |                   | 585,045.33          |
| Western Asset Management                   |                   |                     | 219,911.39        |                   | 223,146.49          |                   | 443,057.88          |
| Commodities:                               |                   |                     |                   |                   |                     |                   |                     |
| Wellington Trust Company                   |                   | 364,698.23          |                   |                   | 371,110.50          |                   | 735,808.73          |
| Real Estate:                               |                   |                     |                   |                   |                     |                   |                     |
| ASB Capital Management                     |                   | 242,926.04          |                   |                   | 323,985.26          |                   | 566,911.30          |
| Midstream Energy:                          |                   |                     |                   |                   |                     |                   | 0.00                |
| Harvest Midstream                          | 187,309.24        |                     |                   | 233,263.61        |                     |                   | 420,572.85          |
| Overlay                                    |                   |                     |                   |                   |                     |                   |                     |
| Parametric                                 |                   |                     |                   | 77,171.00         | 77,186.00           |                   |                     |
| <b>Subtotal</b>                            | <b>556,653.42</b> | <b>1,016,373.17</b> | <b>285,793.70</b> | <b>310,434.61</b> | <b>1,716,275.01</b> | <b>0.00</b>       | <b>3,885,529.91</b> |
| <b>Investment Professional Fees:</b>       |                   |                     |                   |                   |                     |                   |                     |
| Consulting:                                |                   |                     |                   |                   |                     |                   |                     |
| Abel Noser                                 |                   |                     | 7,500.00          | 7,500.00          |                     |                   |                     |
| Albourne America LLC                       | 33,333.33         | 33,333.33           | 33,333.33         | 33,333.33         | 33,333.33           | 44,683.33         | 211,349.98          |
| Cambridge Associates                       |                   |                     |                   | 168,750.00        |                     | 56,250.00         | 225,000.00          |
| Glass, Lewis & Co.                         |                   |                     |                   |                   | 7,950.00            |                   | 7,950.00            |
| Verus                                      | 34,166.67         | 34,166.67           | 34,166.67         | 34,166.67         | 34,166.67           | 34,166.67         | 205,000.02          |
| Custodial:                                 |                   |                     |                   |                   |                     |                   |                     |
| The Northern Trust Co.                     | 228,541.66        |                     | 111,875.00        |                   |                     | 128,645.83        | 469,062.49          |
| Legal:                                     |                   |                     |                   |                   |                     |                   |                     |
| Foley & Lardner LLP                        |                   |                     |                   |                   |                     |                   | 0.00                |
| Hanson Bridgett LLP                        |                   |                     | 2,220.00          | 7,380.00          |                     |                   | 9,600.00            |
| Nossaman LLP                               | 1,148.00          |                     | 28,136.50         |                   |                     | 2,029.50          | 31,314.00           |
| Due Diligence / Investment-Related Travel: |                   |                     |                   |                   |                     |                   | 0.00                |
| <b>Subtotal</b>                            | <b>297,189.66</b> | <b>67,500.00</b>    | <b>217,231.50</b> | <b>251,130.00</b> | <b>75,450.00</b>    | <b>265,775.33</b> | <b>1,174,276.49</b> |
| <b>Total Investment Fees</b>               | <b>853,843.08</b> | <b>1,083,873.17</b> | <b>503,025.20</b> | <b>561,564.61</b> | <b>1,791,725.01</b> | <b>265,775.33</b> | <b>5,059,806.40</b> |

# Class Action Reports

## ◆ Class Action Activity Detail by Event Name

| Class Action Name                    | Event Status                   | Event Status As Of | Class Start Class End                        | Filing Deadline     | Objection/ Exclusion Deadline | Claims Admin Name        | Web Address                           |                                 |
|--------------------------------------|--------------------------------|--------------------|--|---------------------|-------------------------------|--------------------------|---------------------------------------|---------------------------------|
| BOFI HOLDING, INC. (2015)            | NOTIFIED<br>INFORMATIONAL ONLY | 21 Jan 22          | 04 Sep 13<br>13 Oct 15                       |                     | 21 Mar 22                     | JND Legal Administration |                                       |                                 |
|                                      |                                |                    | <b>Claim Status as of Date/ Claim Status</b> | <b>Account Paid</b> | <b>Account Paid Name</b>      | <b>Amount Currency</b>   | <b>Distribution/ Type</b>             | <b>Date Distributed</b>         |
|                                      |                                |                    | 2667336 KNCTY-GENEVA                         |                     |                               |                          |                                       | 21 Jan 22<br>INFORMATIONAL ONLY |
|                                      |                                |                    | 2671877 ZZKNCTY-COLUMBIA MGMT.-SL            |                     |                               |                          |                                       | 21 Jan 22<br>INFORMATIONAL ONLY |
| COGNIZANT TECHNOLOGY SOLUTIONS CORP. | FILED                          | 19 Jan 22          | 26 Feb 15<br>28 Dec 16                       | 28 Jan 22           | 22 Nov 21<br>22 Nov 21        | JND Legal Administration | www.CognizantSecuritiesLitigation.com |                                 |
|                                      |                                |                    | <b>Claim Status as of Date/ Claim Status</b> | <b>Account Paid</b> | <b>Account Paid Name</b>      | <b>Amount Currency</b>   | <b>Distribution/ Type</b>             | <b>Date Distributed</b>         |
|                                      |                                |                    | 2671873 ZZKNCTY-T. ROWE PRICE -SL            |                     |                               |                          |                                       | 19 Jan 22<br>FILED              |
| GRANITE CONSTRUCTION INC (N.D. CAL.) | FILED                          | 06 Jan 22          | 16 Feb 17<br>25 Oct 21                       | 24 Jan 22           | 05 Jan 22<br>03 Dec 21        | Epiq Systems, Inc.       | www.granitesecuritieslitigation.com   |                                 |
|                                      |                                |                    | <b>Claim Status as of Date/ Claim Status</b> | <b>Account Paid</b> | <b>Account Paid Name</b>      | <b>Amount Currency</b>   | <b>Distribution/ Type</b>             | <b>Date Distributed</b>         |
|                                      |                                |                    | 2664130 *KNCTY-ALLIANCEBERNSTEIN-SL          |                     |                               |                          |                                       | 06 Jan 22<br>FILED              |

# Class Action Reports

## ◆ Class Action Activity Detail by Event Name

| Class Action Name                        | Event Status | Event Status As Of | Class Start Class End                        | Filing Deadline     | Objection/ Exclusion Deadline | Claims Admin Name        | Web Address                         |                          |
|--|--------------|--------------------|--|---------------------|-------------------------------|--------------------------|-------------------------------------|--------------------------|
| MYLAN NV (SEC)                           | NOTIFIED     | 11 Jan 22          | 27 Feb 15<br>30 Nov 16                       | 09 Mar 22           |                               | RCB Fund Services LLC    | www.mylanfairfund.com/              |                          |
|  |              |                    | <b>Claim Status as of Date/ Claim Status</b> | <b>Account Paid</b> | <b>Account Paid Name</b>      | <b>Amount Currency</b>   | <b>Distribution/ Type</b>           | <b>Date Distributed</b>  |
|  |              |                    | 2671874 ZZKNCTY-PANAGORA -SL                 |                     |                               |                          |                                     | 11 Jan 22<br>TO BE FILED |
| NAVIENT CORPORATION (2016)               | NOTIFIED     | 11 Jan 22          | 16 Apr 14<br>16 Nov 21                       | 13 Apr 22           | 24 Feb 22<br>09 Jul 21        | JND Legal Administration | www.navientsecuritieslitigation.com |                          |
|  |              |                    | <b>Claim Status as of Date/ Claim Status</b> | <b>Account Paid</b> | <b>Account Paid Name</b>      | <b>Amount Currency</b>   | <b>Distribution/ Type</b>           | <b>Date Distributed</b>  |
|  |              |                    | 2671874 ZZKNCTY-PANAGORA -SL                 |                     |                               |                          |                                     | 11 Jan 22<br>TO BE FILED |
|  |              |                    | KNC08 KNCTY - WESTERN ASSET MGMT CO          |                     |                               |                          |                                     | 11 Jan 22<br>TO BE FILED |
|  |              |                    | KNC11 KNCTY-PIMCO                            |                     |                               |                          |                                     | 11 Jan 22<br>TO BE FILED |
| PETROLEO BRASILEIRO SA - PETROBRAS (SEC) | FILED        | 06 Jan 22          | 26 Feb 10<br>21 Jul 15                       | 10 Jan 22           | 28 Jul 21                     | Epiq Systems, Inc.       | www.petrobrasfairfund.com/          |                          |
|  |              |                    | <b>Claim Status as of Date/ Claim Status</b> | <b>Account Paid</b> | <b>Account Paid Name</b>      | <b>Amount Currency</b>   | <b>Distribution/ Type</b>           | <b>Date Distributed</b>  |
|  |              |                    | KNC05 KNCTY-JP MORGAN FLEMING ASSET          |                     |                               |                          |                                     | 06 Jan 22<br>FILED       |

# Class Action Reports

## ◆ Class Action Activity Detail by Event Name

| Class Action Name | Event Status | Event Status As Of | Class Start Class End | Filing Deadline | Objection/ Exclusion Deadline | Claims Admin Name | Web Address |
|-------------------|--------------|--------------------|-----------------------|-----------------|-------------------------------|-------------------|-------------|
|-------------------|--------------|--------------------|-----------------------|-----------------|-------------------------------|-------------------|-------------|

Although this report has been prepared using information believed to be reliable, it may contain information provided by third parties or derived from third party information, and/or information that may have been obtained from, categorized or otherwise reported based upon client direction. The Northern Trust Company does not guarantee the accuracy, timeliness or completeness of any such information. The information included in this report is intended to assist clients with their financial reporting needs, but you must consult with your accountants, auditors and/or legal counsel to ensure your accounting and financial reporting complies with applicable laws, regulations and accounting guidance. The Northern Trust Company and its affiliates shall have no responsibility for the consequences of investment decisions made in reliance on information contained in this report .

# Class Action Reports

## Class Action Proceeds by Account

| Account Paid     | Account Paid Name       | Class Action Name           | Gross Amount Paid | Net Amount Paid | Service Charge  | Processing Charge | Currency    | Date Distributed |
|------------------|-------------------------|-----------------------------|-------------------|-----------------|-----------------|-------------------|-------------|------------------|
| 2608468          | KNCTY-CASH ACCOUNT      | DELL INC. (2014)            | 1,565.84          | 1,565.84        | 0.00            | 0.00              | USD         | 15 Dec 21        |
| 2608468          | KNCTY-CASH ACCOUNT      | GENERAL MOTORS COMPANY      | 722.06            | 722.06          | 0.00            | 0.00              | USD         | 09 Nov 21        |
| 2608468          | KNCTY-CASH ACCOUNT      | INSULET CORPORATION         | 3,648.74          | 3,648.74        | 0.00            | 0.00              | USD         | 27 Oct 21        |
| 2608468          | KNCTY-CASH ACCOUNT      | LIQUIDITY SERVICES, INC.    | 989.96            | 989.96          | 0.00            | 0.00              | USD         | 17 Dec 21        |
| <b>Sub Total</b> | <b>2608468</b>          | <b>and Currency</b>         | <b>USD</b>        | <b>6,926.60</b> | <b>6,926.60</b> | <b>0.00</b>       | <b>0.00</b> |                  |
| KNC05            | KNCTY-JP MORGAN FLEMING | THE BANK OF NEW YORK MELLON | 350.14            | 350.14          | 0.00            | 0.00              | USD         | 25 Oct 21        |
| <b>Sub Total</b> | <b>KNC05</b>            | <b>and Currency</b>         | <b>USD</b>        | <b>350.14</b>   | <b>350.14</b>   | <b>0.00</b>       | <b>0.00</b> |                  |

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Kern County Employees' Retirement Association

11125 River Run Boulevard  
Bakersfield, CA 93311

Tel (661) 381-7700 • Fax (661) 381-7799

Toll Free (877) 733-6831

TTY Relay (800) 735-2929

[www.kcera.org](http://www.kcera.org)

**Date:** February 9, 2022  
**To:** Trustees, Board of Retirement  
**From:** Dominic D. Brown, Executive Director

**Subject: Report on Errors in Benefit Payments**

As required in the Correction of Errors in Benefit Payments Principles, Policy and Procedures, every reasonable effort is made to collect the amount of payments in excess of what members are entitled to receive. KCERA will abandon claims for collection of overpaid benefits only if it concludes that settlement is not possible and pursuing the claim is not appropriate under the circumstances. When KCERA has underpaid benefits, the member shall be entitled to both the correction of the underpayment prospectively and a retroactive lump-sum payment plus interest.

There were no over or underpayments during the past six months. Accordingly, it is recommended the Board receive and file this report.





KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

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

**Date:** February 9, 2022

**To:** Trustees, Board of Retirement

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

**Subject:** **Report on Errors in Member Contributions**

As required in the Correction of Errors in Member Contribution Principles, Policy and Procedures, every reasonable and prompt effort is made to recover the amount of any underpayment of contributions and to remit the amount of any overpayment of contributions. KCERA will abandon claims for collection of underpaid contributions only if it concludes that settlement is not possible and pursuing the claim is not appropriate under the circumstances. When a member has overpaid contributions, the member shall be entitled to both the correction of the overpayment and, if applicable, appropriate interest.

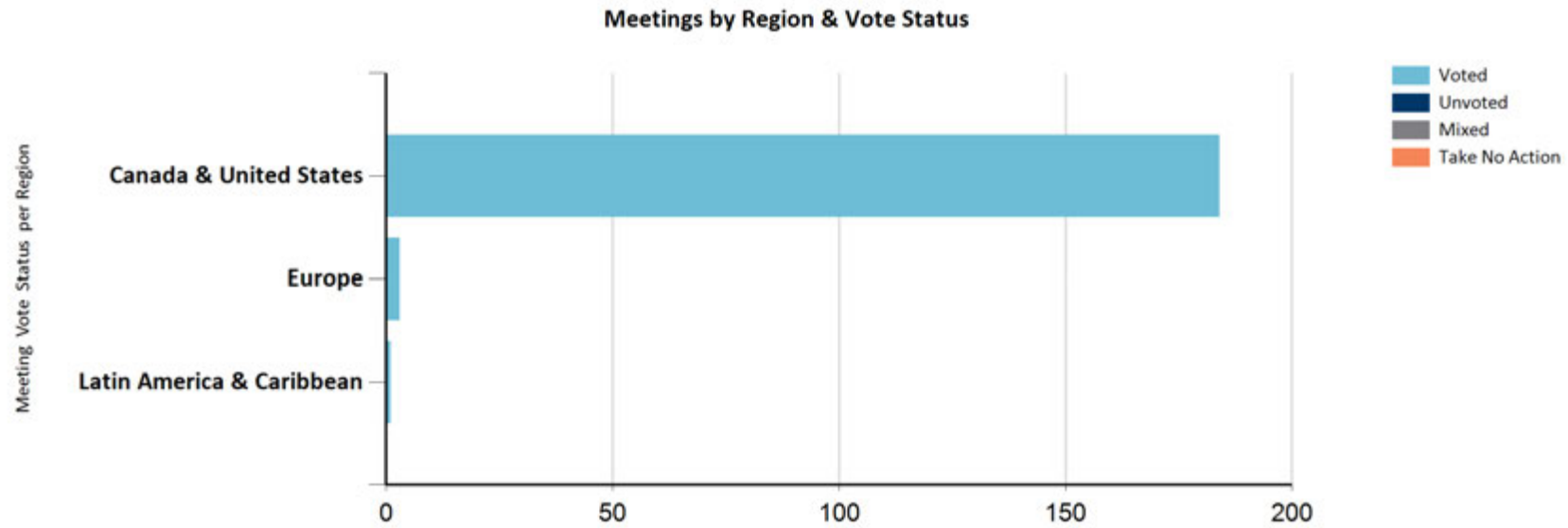
Below you will find a list of members who have had an overpayment of contributions resolved during the past six months. In addition, please note that there were no underpayment of contributions to KCERA during this period. Accordingly, it is recommended the Board receive and file this report.

Attachment A

| <u>Member</u>             | <u>Amount</u> | <u>Corrective Action</u> | <u>Reason for Correction</u> |
|---------------------------|---------------|--------------------------|------------------------------|
| David Witt                | \$2,323.47    | Refund                   | Purchase of service error    |
| Stephen Leonard           | \$9,097.17    | Refund                   | Alameda                      |
| Terry Wright              | \$1,313.55    | Refund                   | Alameda                      |
| Connie Shepard-Thompson   | \$1,320.84    | Refund                   | Over 60, waived membership   |
| Felipe Bernal             | \$1,894.79    | Refund                   | Academy time correction      |
| Brandon Gifford           | \$1,890.21    | Refund                   | Academy time correction      |
| Christopher Hollingsworth | \$1,894.61    | Refund                   | Academy time correction      |
| Jerold Turner             | \$1,135.18    | Refund                   | Over 60, waived membership   |

# Meeting Statistics Report

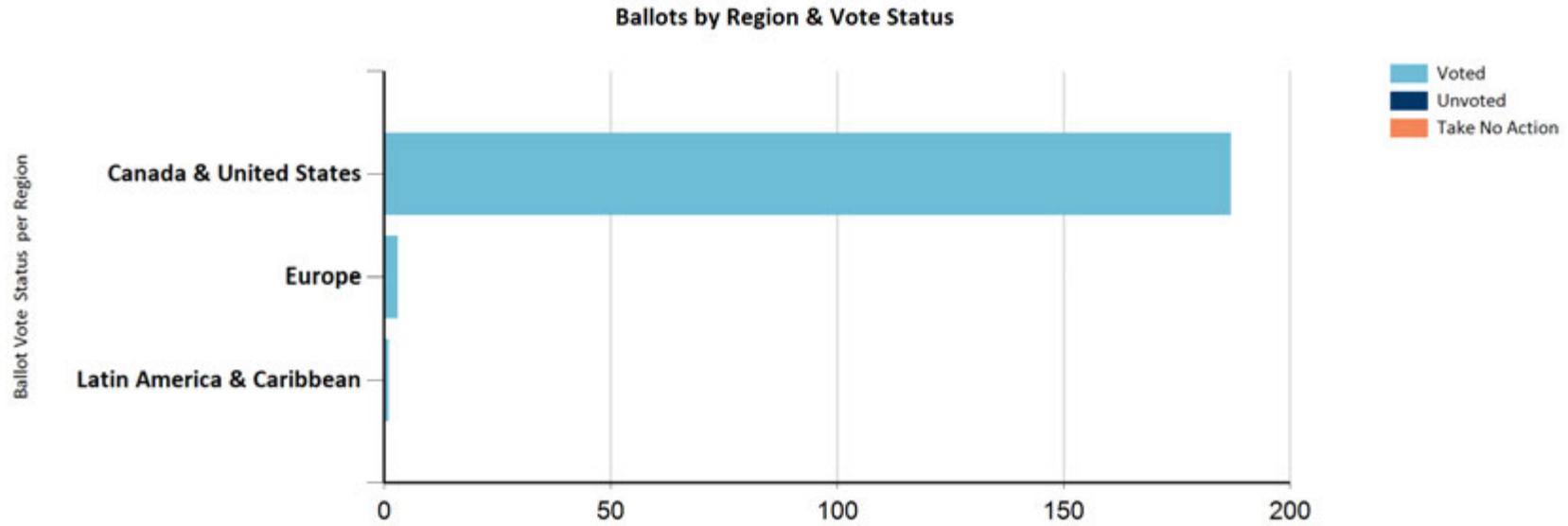
From 1/1/2021 to 12/31/2021



| Region                               | Country Of Origin        | Voted      | Unvoted  | Mixed    | Take No Action | Total      |
|--------------------------------------|--------------------------|------------|----------|----------|----------------|------------|
| <b>Total for all Regions</b>         |                          | <b>188</b> | <b>0</b> | <b>0</b> | <b>0</b>       | <b>188</b> |
| <b>Canada &amp; United States</b>    |                          | <b>184</b> | <b>0</b> | <b>0</b> | <b>0</b>       | <b>184</b> |
|                                      | Canada                   | 13         | 0        | 0        | 0              | 13         |
|                                      | United States            | 171        | 0        | 0        | 0              | 171        |
| <b>Europe</b>                        |                          | <b>3</b>   | <b>0</b> | <b>0</b> | <b>0</b>       | <b>3</b>   |
|                                      | France                   | 1          | 0        | 0        | 0              | 1          |
|                                      | Luxembourg               | 2          | 0        | 0        | 0              | 2          |
| <b>Latin America &amp; Caribbean</b> |                          | <b>1</b>   | <b>0</b> | <b>0</b> | <b>0</b>       | <b>1</b>   |
|                                      | Virgin Islands (British) | 1          | 0        | 0        | 0              | 1          |

# Ballot Statistics Report

From 1/1/2021 to 12/31/2021



| Region                               | Country Of Origin        | Voted      | Unvoted  | Take No Action | Total      |
|--------------------------------------|--------------------------|------------|----------|----------------|------------|
| <b>Total for all Regions</b>         |                          | <b>191</b> | <b>0</b> | <b>0</b>       | <b>191</b> |
| <b>Canada &amp; United States</b>    |                          | <b>187</b> | <b>0</b> | <b>0</b>       | <b>187</b> |
|                                      | Canada                   | 13         | 0        | 0              | 13         |
|                                      | United States            | 174        | 0        | 0              | 174        |
| <b>Europe</b>                        |                          | <b>3</b>   | <b>0</b> | <b>0</b>       | <b>3</b>   |
|                                      | France                   | 1          | 0        | 0              | 1          |
|                                      | Luxembourg               | 2          | 0        | 0              | 2          |
| <b>Latin America &amp; Caribbean</b> |                          | <b>1</b>   | <b>0</b> | <b>0</b>       | <b>1</b>   |
|                                      | Virgin Islands (British) | 1          | 0        | 0              | 1          |

# Proposal Statistics Report

From 1/1/2021 to 12/31/2021

|                | Mgmt Proposals | SHP Proposals | Total Proposals |
|----------------|----------------|---------------|-----------------|
| For            | 1559           | 12            | 1571            |
| Against        | 53             | 3             | 56              |
| Abstain        | 0              | 0             | 0               |
| 1 Year         | 4              | 0             | 4               |
| 2 Years        | 0              | 0             | 0               |
| 3 Years        | 0              | 0             | 0               |
| Mixed          | 0              | 0             | 0               |
| Take No Action | 0              | 0             | 0               |
| Unvoted        | 0              | 0             | 0               |
| <b>Totals</b>  | <b>1616</b>    | <b>15</b>     | <b>1631</b>     |

|                    | Mgmt Proposals | SHP Proposals | Total Proposals |
|--------------------|----------------|---------------|-----------------|
| With Management    | 1561           | 1             | 1562            |
| Against Management | 55             | 14            | 69              |
| N/A                | 0              | 0             | 0               |
| Mixed              | 0              | 0             | 0               |
| Take No Action     | 0              | 0             | 0               |
| Unvoted            | 0              | 0             | 0               |
| <b>Totals</b>      | <b>1616</b>    | <b>15</b>     | <b>1631</b>     |

Management Proposals – Votes Cast

For - 1559 Against - 53 1 Year - 4



Shareholder Proposals – Votes Cast

For - 12 Against - 3



Management Proposals – Votes versus Management

With Mgmt - 1561 Against Mgmt - 55



Shareholder Proposals – Votes versus Management

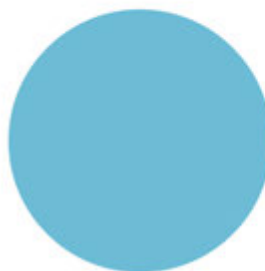
With Mgmt - 1 Against Mgmt - 14



|                | Mgmt Proposals | SHP Proposals | Total Proposals |
|----------------|----------------|---------------|-----------------|
| With Policy    | 1616           | 15            | <b>1631</b>     |
| Against Policy | 0              | 0             | <b>0</b>        |
| Manual         | 0              | 0             | <b>0</b>        |
| N/A            | 0              | 0             | <b>0</b>        |
| Mixed          | 0              | 0             | <b>0</b>        |
| Take No Action | 0              | 0             | <b>0</b>        |
| Unvoted        | 0              | 0             | <b>0</b>        |
| <b>Totals</b>  | <b>1616</b>    | <b>15</b>     | <b>1631</b>     |

Management Proposals - Votes versus Policy

With Policy 1616



Shareholder Proposals - Votes versus Policy

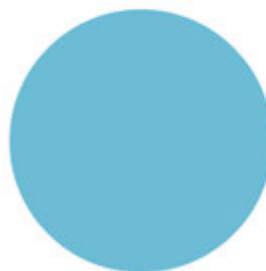
With Policy 15



|                     | Mgmt Proposals | SHP Proposals | Total Proposals |
|---------------------|----------------|---------------|-----------------|
| With Glass Lewis    | 1616           | 15            | <b>1631</b>     |
| Against Glass Lewis | 0              | 0             | <b>0</b>        |
| N/A                 | 0              | 0             | <b>0</b>        |
| Mixed               | 0              | 0             | <b>0</b>        |
| Take No Action      | 0              | 0             | <b>0</b>        |
| Unvoted             | 0              | 0             | <b>0</b>        |
| <b>Totals</b>       | <b>1616</b>    | <b>15</b>     | <b>1631</b>     |

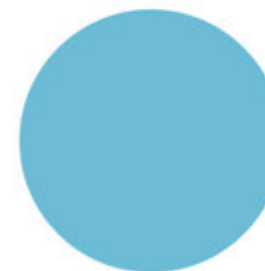
Management Proposals - Votes versus Glass Lewis

With GL 1616



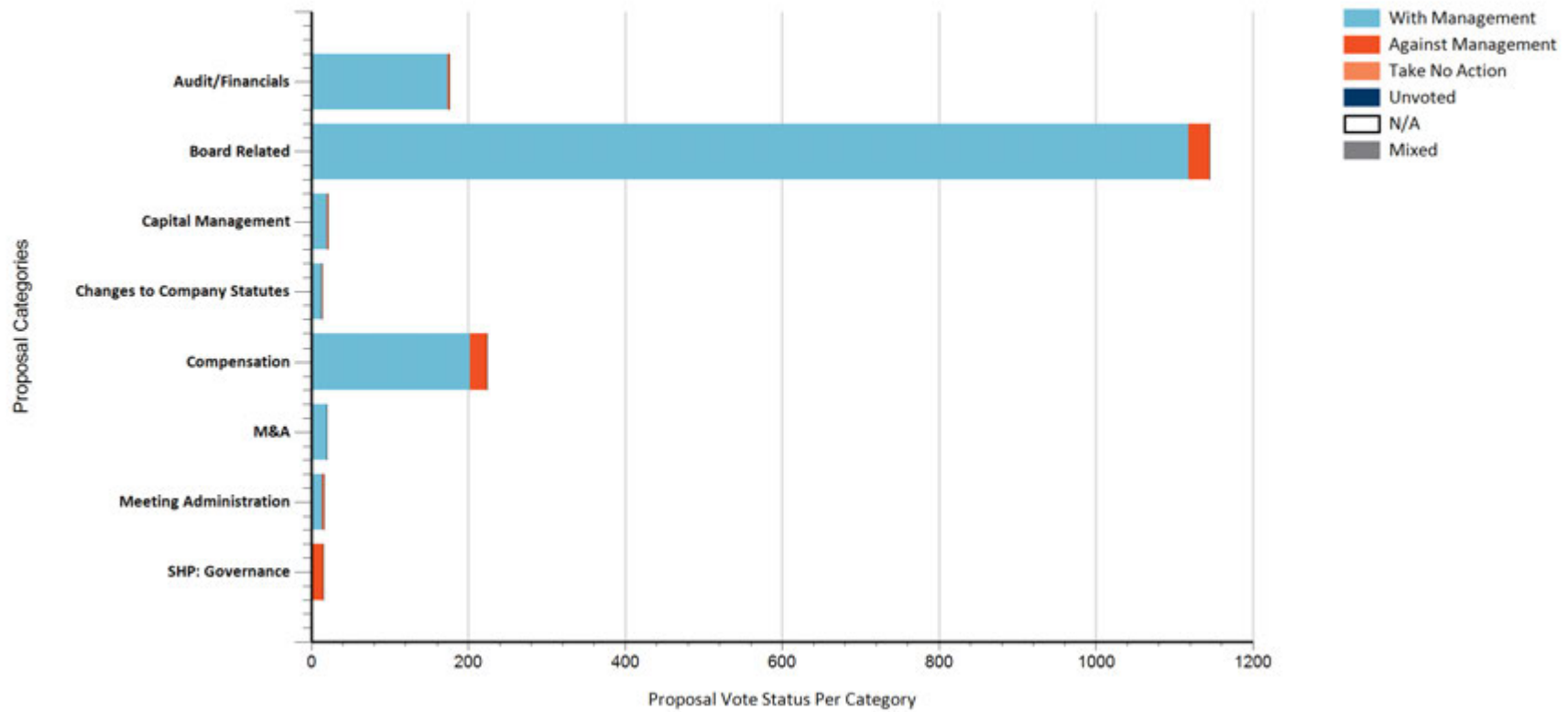
Shareholder Proposals - Votes versus Glass Lewis

With GL 15





Proposal Categories - Votes versus Management

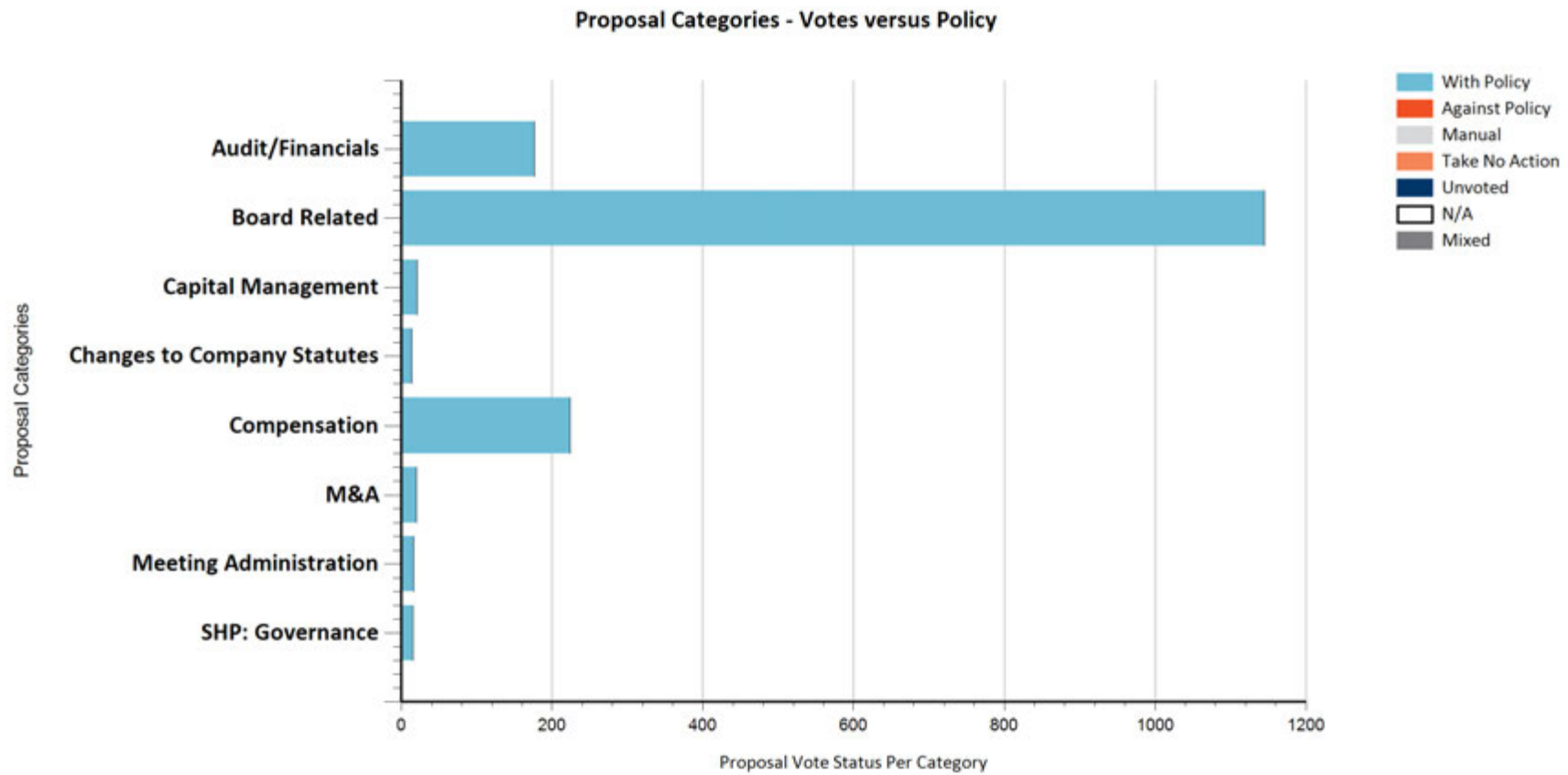


Proposal Categories - Votes versus Management

| Proposal Category Type      | With Management | Against Management | Take No Action | Unvoted  | N/A      | Mixed    | Total       |
|-----------------------------|-----------------|--------------------|----------------|----------|----------|----------|-------------|
| <b>Totals</b>               | <b>1562</b>     | <b>69</b>          | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>1631</b> |
| Audit/Financials            | 174             | 2                  | 0              | 0        | 0        | 0        | 176         |
| Board Related               | 1118            | 27                 | 0              | 0        | 0        | 0        | 1145        |
| Capital Management          | 20              | 1                  | 0              | 0        | 0        | 0        | 21          |
| Changes to Company Statutes | 13              | 1                  | 0              | 0        | 0        | 0        | 14          |



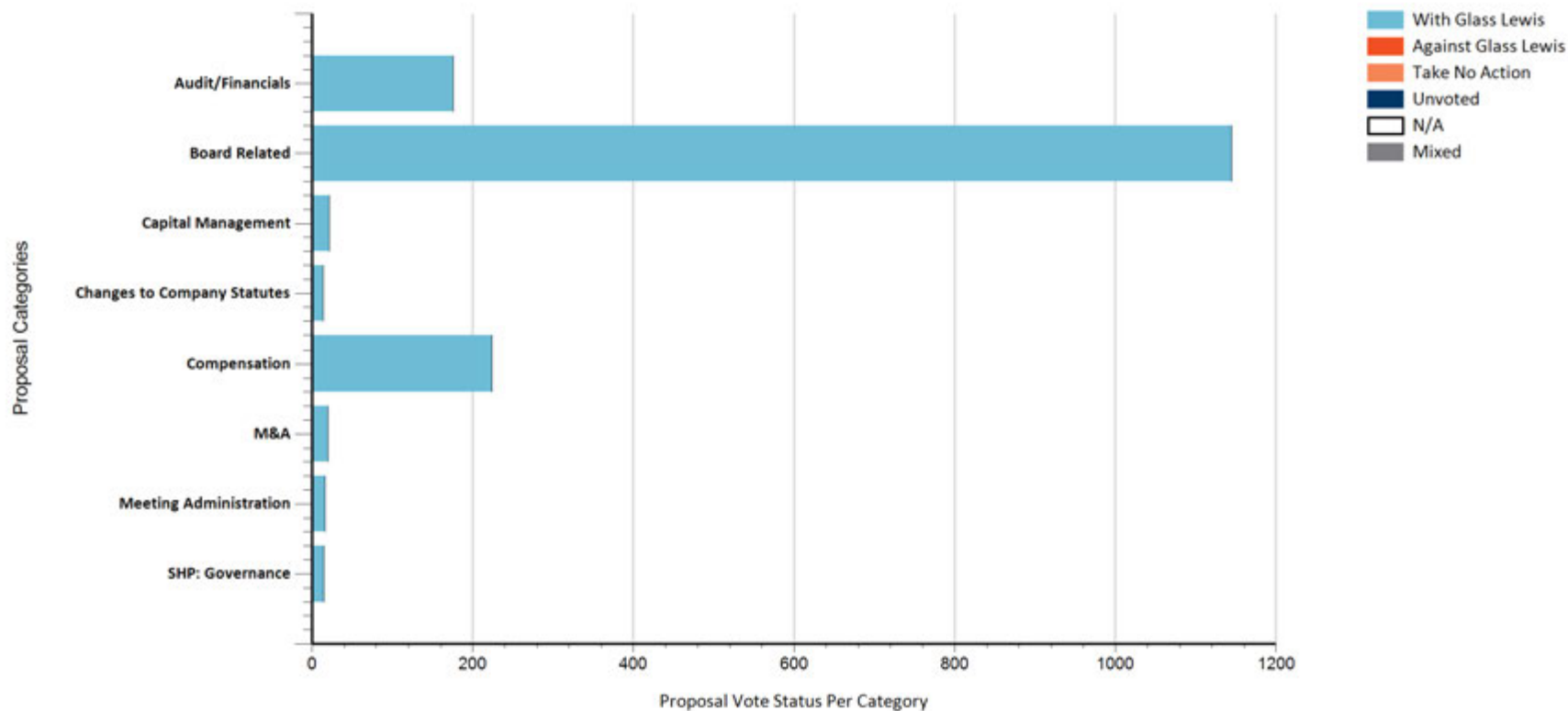
| Proposal Category Type | With Management | Against Management | Take No Action | Unvoted | N/A | Mixed | Total |
|------------------------|-----------------|--------------------|----------------|---------|-----|-------|-------|
| Compensation           | 202             | 22                 | 0              | 0       | 0   | 0     | 224   |
| M&A                    | 20              | 0                  | 0              | 0       | 0   | 0     | 20    |
| Meeting Administration | 14              | 2                  | 0              | 0       | 0   | 0     | 16    |
| SHP: Governance        | 1               | 14                 | 0              | 0       | 0   | 0     | 15    |



Proposal Categories - Votes versus Policy



Proposal Categories - Votes versus Glass Lewis



Proposal Categories - Votes versus Glass Lewis

| Proposal Category Type      | With Glass Lewis | Against Glass Lewis | Take No Action | Unvoted  | N/A      | Mixed    | Total       |
|-----------------------------|------------------|---------------------|----------------|----------|----------|----------|-------------|
| <b>Totals</b>               | <b>1631</b>      | <b>0</b>            | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>1631</b> |
| Audit/Financials            | 176              | 0                   | 0              | 0        | 0        | 0        | 176         |
| Board Related               | 1145             | 0                   | 0              | 0        | 0        | 0        | 1145        |
| Capital Management          | 21               | 0                   | 0              | 0        | 0        | 0        | 21          |
| Changes to Company Statutes | 14               | 0                   | 0              | 0        | 0        | 0        | 14          |

| <b>Proposal Category Type</b> | <b>With Glass Lewis</b> | <b>Against Glass Lewis</b> | <b>Take No Action</b> | <b>Unvoted</b> | <b>N/A</b> | <b>Mixed</b> | <b>Total</b> |
|-------------------------------|-------------------------|----------------------------|-----------------------|----------------|------------|--------------|--------------|
| Compensation                  | 224                     | 0                          | 0                     | 0              | 0          | 0            | <b>224</b>   |
| M&A                           | 20                      | 0                          | 0                     | 0              | 0          | 0            | <b>20</b>    |
| Meeting Administration        | 16                      | 0                          | 0                     | 0              | 0          | 0            | <b>16</b>    |
| SHP: Governance               | 15                      | 0                          | 0                     | 0              | 0          | 0            | <b>15</b>    |







| Issue Code Category    | Issue Short Text   | For       | Against  | Take No  |          |          | Unvoted  | Mixed    | 1 Year   | 2 Years  | 3 Years  | Total     |
|------------------------|--|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|                        |  |           |          | Abstain  | Action   |          |          |          |          |          |          |           |
|                        | Right to Adjourn Meeting   | 14        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 14        |
|                        | Transaction of Other Business  | 0         | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 2         |
| <b>SHP: Governance</b> |  | <b>12</b> | <b>3</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>15</b> |
|                        | SHP Regarding Election of Board Member (s) During a Contested Election – Disside | 7         | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 9         |
|                        | SHP Regarding Eliminating Supermajority Provisions                               | 1         | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 1         |
|                        | SHP Regarding Independent Board Chairman/Seperation of Chair and CEO             | 0         | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 1         |
|                        | SHP Regarding Majority Vote for Election of Directors                            | 1         | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 1         |
|                        | SHP Regarding Right to Act by Written Consent                                    | 1         | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 1         |
|                        | SHP Regarding Right to Call a Special Meeting                                    | 2         | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 2         |

## Proposal Types – Votes Versus Management

| Issue Code Category             | Issue Code Description                           | With Management | Against Management | Take No Action | Unvoted  | N/A      | Mixed    | Total       |
|---------------------------------|--|-----------------|--------------------|----------------|----------|----------|----------|-------------|
| <b>Total for all Categories</b> |  | <b>1562</b>     | <b>69</b>          | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>1631</b> |
| <b>Audit/Financials</b>         |  | <b>174</b>      | <b>2</b>           | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>176</b>  |
|                                 | Accounts and Reports (Bundled Issues)            | 1               | 0                  | 0              | 0        | 0        | 0        | 1           |
|                                 | Allocation of Profits/Dividends                  | 3               | 0                  | 0              | 0        | 0        | 0        | 3           |
|                                 | Appointment of Auditor                           | 2               | 0                  | 0              | 0        | 0        | 0        | 2           |
|                                 | Appointment of Auditor and Authority to Set Fees | 8               | 0                  | 0              | 0        | 0        | 0        | 8           |
|                                 | Financial Statements                             | 4               | 0                  | 0              | 0        | 0        | 0        | 4           |



| <b>Issue Code Category</b> | <b>Issue Code Description</b>  | <b>With Management</b> | <b>Against Management</b> | <b>Take No Action</b> | <b>Unvoted</b> | <b>N/A</b> | <b>Mixed</b> | <b>Total</b> |
|----------------------------|--|------------------------|---------------------------|-----------------------|----------------|------------|--------------|--------------|
|                            | Ratification of Auditor  | 155                    | 2                         | 0                     | 0              | 0          | 0            | <b>157</b>   |
|                            | Ratification of Auditor's Acts                                       | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
| <b>Board Related</b>       |  | <b>1118</b>            | <b>27</b>                 | <b>0</b>              | <b>0</b>       | <b>0</b>   | <b>0</b>     | <b>1145</b>  |
|                            | Change in Board Size   | 2                      | 0                         | 0                     | 0              | 0          | 0            | <b>2</b>     |
|                            | Election of Directors  | 1113                   | 27                        | 0                     | 0              | 0          | 0            | <b>1140</b>  |
|                            | Ratification of Board Acts - Legal                                   | 2                      | 0                         | 0                     | 0              | 0          | 0            | <b>2</b>     |
|                            | Ratification of Co-Option of a Director                              | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
| <b>Capital Management</b>  |  | <b>20</b>              | <b>1</b>                  | <b>0</b>              | <b>0</b>       | <b>0</b>   | <b>0</b>     | <b>21</b>    |
|                            | Amendment to Authorized Preferred Stock                              | 2                      | 0                         | 0                     | 0              | 0          | 0            | <b>2</b>     |
|                            | Authority to Issue Shares and Convertible Debt w/o Preemptive Rights | 2                      | 0                         | 0                     | 0              | 0          | 0            | <b>2</b>     |
|                            | Authority to Issue Shares w/o Preemptive Rights                      | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
|                            | Authority to Repurchase and Re-Issue Shares                          | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
|                            | Authority to Repurchase Shares                                       | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
|                            | Authorize Overallotment/Greenshoe                                    | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
|                            | Cancellation of Authorized Stock                                     | 2                      | 0                         | 0                     | 0              | 0          | 0            | <b>2</b>     |
|                            | Increase in Authorized Capital                                       | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
|                            | Increase in Authorized Common Stock                                  | 5                      | 0                         | 0                     | 0              | 0          | 0            | <b>5</b>     |
|                            | Increase in/Authorization of Preferred Stock                         | 0                      | 1                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
|                            | Issuance of Common Stock   | 1                      | 0                         | 0                     | 0              | 0          | 0            | <b>1</b>     |
|                            | Limit to Capital Increase  | 2                      | 0                         | 0                     | 0              | 0          | 0            | <b>2</b>     |

| Issue Code Category                | Issue Code Description                         | With Management | Against Management | Take No Action | Unvoted  | N/A      | Mixed    | Total      |
|------------------------------------|--|-----------------|--------------------|----------------|----------|----------|----------|------------|
|                                    | Reduction in Share Premium Account             | 1               | 0                  | 0              | 0        | 0        | 0        | 1          |
| <b>Changes to Company Statutes</b> |  | <b>13</b>       | <b>1</b>           | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>14</b>  |
|                                    | Adoption of Advance Notice Requirement         | 0               | 1                  | 0              | 0        | 0        | 0        | 1          |
|                                    | Adoption of New Articles                       | 1               | 0                  | 0              | 0        | 0        | 0        | 1          |
|                                    | Amend Articles, Constitution, Bylaws - Bundled | 2               | 0                  | 0              | 0        | 0        | 0        | 2          |
|                                    | Amendment to Poison Pill                       | 1               | 0                  | 0              | 0        | 0        | 0        | 1          |
|                                    | Amendments to Articles, Constitution, Bylaws   | 2               | 0                  | 0              | 0        | 0        | 0        | 2          |
|                                    | Change in State of Incorporation               | 1               | 0                  | 0              | 0        | 0        | 0        | 1          |
|                                    | Company Name Change                            | 2               | 0                  | 0              | 0        | 0        | 0        | 2          |
|                                    | Misc. Article Amendments                       | 2               | 0                  | 0              | 0        | 0        | 0        | 2          |
|                                    | Repeal of Classified Board                     | 2               | 0                  | 0              | 0        | 0        | 0        | 2          |
| <b>Compensation</b>                |  | <b>202</b>      | <b>22</b>          | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>224</b> |
|                                    | Adoption of Director Equity Compensation Plan  | 0               | 1                  | 0              | 0        | 0        | 0        | 1          |
|                                    | Adoption of Employee Stock Purchase Plan       | 6               | 0                  | 0              | 0        | 0        | 0        | 6          |
|                                    | Adoption of Equity Compensation Plan           | 17              | 2                  | 0              | 0        | 0        | 0        | 19         |
|                                    | Advisory Vote on Executive Compensation        | 132             | 18                 | 0              | 0        | 0        | 0        | 150        |
|                                    | Advisory Vote on Severance                     | 7               | 0                  | 0              | 0        | 0        | 0        | 7          |
|                                    | Amendment to Employee Stock Purchase Plan      | 3               | 0                  | 0              | 0        | 0        | 0        | 3          |
|                                    | Amendment to Equity Compensation Plan          | 22              | 1                  | 0              | 0        | 0        | 0        | 23         |
|                                    | Amendment to Stock Option Plan                 | 1               | 0                  | 0              | 0        | 0        | 0        | 1          |



| Issue Code Category              | Issue Code Description   | With Policy | Against Policy | Manual   | Take No Action | Unvoted  | N/A      | Mixed    | Total       |
|----------------------------------|--|-------------|----------------|----------|----------------|----------|----------|----------|-------------|
| <b><i>Audit/Financials</i></b>   |  | <b>176</b>  | <b>0</b>       | <b>0</b> | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>176</b>  |
|                                  | Accounts and Reports (Bundled Issues)                                | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1           |
|                                  | Allocation of Profits/Dividends                                      | 3           | 0              | 0        | 0              | 0        | 0        | 0        | 3           |
|                                  | Appointment of Auditor   | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2           |
|                                  | Appointment of Auditor and Authority to Set Fees                     | 8           | 0              | 0        | 0              | 0        | 0        | 0        | 8           |
|                                  | Financial Statements   | 4           | 0              | 0        | 0              | 0        | 0        | 0        | 4           |
|                                  | Ratification of Auditor  | 157         | 0              | 0        | 0              | 0        | 0        | 0        | 157         |
|                                  | Ratification of Auditor's Acts                                       | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1           |
| <b><i>Board Related</i></b>      |  | <b>1145</b> | <b>0</b>       | <b>0</b> | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>1145</b> |
|                                  | Change in Board Size   | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2           |
|                                  | Election of Directors  | 1140        | 0              | 0        | 0              | 0        | 0        | 0        | 1140        |
|                                  | Ratification of Board Acts - Legal                                   | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2           |
|                                  | Ratification of Co-Option of a Director                              | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1           |
| <b><i>Capital Management</i></b> |  | <b>21</b>   | <b>0</b>       | <b>0</b> | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>21</b>   |
|                                  | Amendment to Authorized Preferred Stock                              | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2           |
|                                  | Authority to Issue Shares and Convertible Debt w/o Preemptive Rights | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2           |
|                                  | Authority to Issue Shares w/o Preemptive Rights                      | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1           |
|                                  | Authority to Repurchase and Re-Issue Shares                          | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1           |
|                                  | Authority to Repurchase Shares                                       | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1           |
|                                  | Authorize Overallotment/Greenshoe                                    | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1           |

| Issue Code Category                | Issue Code Description                         | With Policy | Against Policy | Manual   | Take No Action | Unvoted  | N/A      | Mixed    | Total      |
|------------------------------------|--|-------------|----------------|----------|----------------|----------|----------|----------|------------|
|                                    | Cancellation of Authorized Stock               | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2          |
|                                    | Increase in Authorized Capital                 | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Increase in Authorized Common Stock            | 5           | 0              | 0        | 0              | 0        | 0        | 0        | 5          |
|                                    | Increase in/Authorization of Preferred Stock   | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Issuance of Common Stock                       | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Limit to Capital Increase                      | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2          |
|                                    | Reduction in Share Premium Account             | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
| <b>Changes to Company Statutes</b> |  | <b>14</b>   | <b>0</b>       | <b>0</b> | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>14</b>  |
|                                    | Adoption of Advance Notice Requirement         | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Adoption of New Articles                       | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Amend Articles, Constitution, Bylaws - Bundled | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2          |
|                                    | Amendment to Poison Pill                       | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Amendments to Articles, Constitution, Bylaws   | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2          |
|                                    | Change in State of Incorporation               | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Company Name Change                            | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2          |
|                                    | Misc. Article Amendments                       | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2          |
|                                    | Repeal of Classified Board                     | 2           | 0              | 0        | 0              | 0        | 0        | 0        | 2          |
| <b>Compensation</b>                |  | <b>224</b>  | <b>0</b>       | <b>0</b> | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>224</b> |
|                                    | Adoption of Director Equity Compensation Plan  | 1           | 0              | 0        | 0              | 0        | 0        | 0        | 1          |
|                                    | Adoption of Employee Stock Purchase Plan       | 6           | 0              | 0        | 0              | 0        | 0        | 0        | 6          |



| Issue Code Category | Issue Code Description                        | With Policy | Against Policy | Manual | Take No Action | Unvoted | N/A | Mixed | Total |
|---------------------|---|-------------|----------------|--------|----------------|---------|-----|-------|-------|
|                     | SHP Regarding Right to Act by Written Consent | 1           | 0              | 0      | 0              | 0       | 0   | 0     | 1     |
|                     | SHP Regarding Right to Call a Special Meeting | 2           | 0              | 0      | 0              | 0       | 0   | 0     | 2     |

## Proposal Types – Votes Versus Glass Lewis

| Issue Code Category             | Issue Code Description                           | With Glass Lewis | Against Glass Lewis | Take No Action | Unvoted  | N/A      | Mixed    | Total       |
|---------------------------------|--|------------------|---------------------|----------------|----------|----------|----------|-------------|
| <b>Total for all Categories</b> |  | <b>1631</b>      | <b>0</b>            | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>1631</b> |
| <b><i>Audit/Financials</i></b>  |  | <b>176</b>       | <b>0</b>            | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>176</b>  |
|                                 | Accounts and Reports (Bundled Issues)            | 1                | 0                   | 0              | 0        | 0        | 0        | 1           |
|                                 | Allocation of Profits/Dividends                  | 3                | 0                   | 0              | 0        | 0        | 0        | 3           |
|                                 | Appointment of Auditor                           | 2                | 0                   | 0              | 0        | 0        | 0        | 2           |
|                                 | Appointment of Auditor and Authority to Set Fees | 8                | 0                   | 0              | 0        | 0        | 0        | 8           |
|                                 | Financial Statements                             | 4                | 0                   | 0              | 0        | 0        | 0        | 4           |
|                                 | Ratification of Auditor                          | 157              | 0                   | 0              | 0        | 0        | 0        | 157         |
|                                 | Ratification of Auditor's Acts                   | 1                | 0                   | 0              | 0        | 0        | 0        | 1           |
| <b><i>Board Related</i></b>     |  | <b>1145</b>      | <b>0</b>            | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>1145</b> |
|                                 | Change in Board Size                             | 2                | 0                   | 0              | 0        | 0        | 0        | 2           |
|                                 | Election of Directors                            | 1140             | 0                   | 0              | 0        | 0        | 0        | 1140        |
|                                 | Ratification of Board Acts - Legal               | 2                | 0                   | 0              | 0        | 0        | 0        | 2           |
|                                 | Ratification of Co-Option of a Director          | 1                | 0                   | 0              | 0        | 0        | 0        | 1           |

| Issue Code Category                | Issue Code Description   | With Glass Lewis | Against Glass Lewis | Take No Action | Unvoted  | N/A      | Mixed    | Total     |
|------------------------------------|--|------------------|---------------------|----------------|----------|----------|----------|-----------|
| <b>Capital Management</b>          |  | <b>21</b>        | <b>0</b>            | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>21</b> |
|                                    | Amendment to Authorized Preferred Stock                              | 2                | 0                   | 0              | 0        | 0        | 0        | 2         |
|                                    | Authority to Issue Shares and Convertible Debt w/o Preemptive Rights | 2                | 0                   | 0              | 0        | 0        | 0        | 2         |
|                                    | Authority to Issue Shares w/o Preemptive Rights                      | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Authority to Repurchase and Re-Issue Shares                          | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Authority to Repurchase Shares                                       | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Authorize Overallotment/Greenshoe                                    | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Cancellation of Authorized Stock                                     | 2                | 0                   | 0              | 0        | 0        | 0        | 2         |
|                                    | Increase in Authorized Capital                                       | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Increase in Authorized Common Stock                                  | 5                | 0                   | 0              | 0        | 0        | 0        | 5         |
|                                    | Increase in/Authorization of Preferred Stock                         | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Issuance of Common Stock   | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Limit to Capital Increase  | 2                | 0                   | 0              | 0        | 0        | 0        | 2         |
|                                    | Reduction in Share Premium Account                                   | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
| <b>Changes to Company Statutes</b> |  | <b>14</b>        | <b>0</b>            | <b>0</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>14</b> |
|                                    | Adoption of Advance Notice Requirement                               | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Adoption of New Articles   | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Amend Articles, Constitution, Bylaws - Bundled                       | 2                | 0                   | 0              | 0        | 0        | 0        | 2         |
|                                    | Amendment to Poison Pill   | 1                | 0                   | 0              | 0        | 0        | 0        | 1         |
|                                    | Amendments to Articles, Constitution, Bylaws                         | 2                | 0                   | 0              | 0        | 0        | 0        | 2         |





| <b>Issue Code Category</b>    | <b>Issue Code Description</b>  | <b>With<br/>Glass Lewis</b> | <b>Against Glass<br/>Lewis</b> | <b>Take No<br/>Action</b> | <b>Unvoted</b> | <b>N/A</b> | <b>Mixed</b> | <b>Total</b> |
|-------------------------------|--|-----------------------------|--------------------------------|---------------------------|----------------|------------|--------------|--------------|
|                               | Right to Adjourn Meeting   | 14                          | 0                              | 0                         | 0              | 0          | 0            | <b>14</b>    |
|                               | Transaction of Other Business  | 2                           | 0                              | 0                         | 0              | 0          | 0            | <b>2</b>     |
| <b><i>SHP: Governance</i></b> |  | <b>15</b>                   | <b>0</b>                       | <b>0</b>                  | <b>0</b>       | <b>0</b>   | <b>0</b>     | <b>15</b>    |
|                               | SHP Regarding Election of Board Member (s) During a Contested Election – Disside | 9                           | 0                              | 0                         | 0              | 0          | 0            | <b>9</b>     |
|                               | SHP Regarding Eliminating Supermajority Provisions                               | 1                           | 0                              | 0                         | 0              | 0          | 0            | <b>1</b>     |
|                               | SHP Regarding Independent Board Chairman/Seperation of Chair and CEO             | 1                           | 0                              | 0                         | 0              | 0          | 0            | <b>1</b>     |
|                               | SHP Regarding Majority Vote for Election of Directors                            | 1                           | 0                              | 0                         | 0              | 0          | 0            | <b>1</b>     |
|                               | SHP Regarding Right to Act by Written Consent                                    | 1                           | 0                              | 0                         | 0              | 0          | 0            | <b>1</b>     |
|                               | SHP Regarding Right to Call a Special Meeting                                    | 2                           | 0                              | 0                         | 0              | 0          | 0            | <b>2</b>     |





**Mary B. Bedard, CPA**  
Auditor-Controller-County Clerk-Registrar of Voters

**KERN COUNTY AUDITOR-CONTROLLER-COUNTY CLERK-ELECTIONS**

1115 Truxtun Avenue, 1st and 2nd Floor • Bakersfield, CA 93301-4639

January 14, 2022

Mr. Dominic Brown, Executive Director  
KCERA  
11125 River Run Blvd.  
Bakersfield, CA 93311

Dear Mr. Brown:

Enclosed are the Certificates of Election and Oath of Office for Jeanine Adams (General, 3<sup>rd</sup> Member) and Vidal D. Contreras (Safety Alternate, 7<sup>th</sup> Member).

The Oath of Office may be administered in our office, or by any other officer qualified to administer oaths, or by a Notary Public. The original Oath of Office shall be filed with the Elections Office at 1115 Truxtun Ave., 1<sup>st</sup> Floor, Bakersfield, CA 93301. An endorsed file copy will be mailed to the elected member and to KCERA.

Sincerely,

Mary B. Bedard, CPA  
Auditor-Controller-County Clerk

By:   
Vilma Rosales, Elections Process Coordinator

MBB/vr  
Enclosures

CERTIFICATE OF COUNTY CLERK AS TO RESULT OF THE CANVASS

OF THE RETIREMENT ELECTION

HELD DECEMBER 14, 2021

STATE OF CALIFORNIA    )  
  ) ss  
COUNTY OF KERN         )

I, MARY B. BEDARD, Auditor-Controller-County Clerk, County of Kern, State of California, HEREBY CERTIFY that I have canvassed the returns of the votes cast at the RETIREMENT ELECTION held on December 14, 2021 and that the whole number of votes cast for and against each candidate, as shown, are full, true and correct.

IN WITNESS HEREOF I do hereby set my hand and the Official Seal of the County of Kern this 14<sup>th</sup> day of January, 2022.



MARY B. BEDARD  
Auditor-Controller-County Clerk  
County of Kern  
State of California





**Mary B. Bedard, CPA**  
Auditor-Controller-County Clerk-Registrar of Voters

**KERN COUNTY AUDITOR-CONTROLLER-COUNTY CLERK-ELECTIONS**

1115 Truxtun Avenue, 1st and 2nd Floor • Bakersfield, CA 93301-4639

January 14, 2022

Mr. Dominic Brown, Executive Director  
KCERA  
11125 River Run Blvd.  
Bakersfield, CA 93311

Dear Mr. Brown:

Enclosed is the Certificate of Election and Oath of Office for Juan Gonzalez Ramos (General 2<sup>nd</sup> Member), and Rick Kratt (Safety 7<sup>th</sup> Member), Appointment in Lieu of Election.

The Oath of Office may be administered in our office, or by any other officer qualified to administer oaths, or by a Notary Public. The original Oath of Office shall be filed with the Elections Office at 1115 Truxtun Ave., 1<sup>st</sup> Floor, Bakersfield, CA 93301. An endorsed file copy will be mailed to the elected member and to KCERA.

Sincerely,

Mary B. Bedard, CPA  
Auditor-Controller-County Clerk

By:   
Vilma Rosales, Elections Process Coordinator


MBB/vr  
Enclosures

CERTIFICATE OF COUNTY CLERK AS TO RESULT OF THE CANVASS  
OF THE RETIREMENT ELECTION  
HELD DECEMBER 14, 2021

STATE OF CALIFORNIA )  
  ) ss  
COUNTY OF KERN         )

I, MARY B. BEDARD, Auditor-Controller-County Clerk, County of Kern, State of California, HEREBY CERTIFY that I have canvassed the returns of the votes cast at the RETIREMENT ELECTION held on December 14, 2021 and that the whole number of votes cast for and against each candidate, as shown, are full, true and correct.

IN WITNESS HEREOF I do hereby set my hand and the Official Seal of the County of Kern this 14<sup>th</sup> day of January, 2022.

  
\_\_\_\_\_  
MARY B. BEDARD  
Auditor-Controller-County Clerk  
County of Kern  
State of California



**Kern County  
Kern Retirement 1221  
December 14, 2021  
Summary Report**

|                                | Registered<br>Voters | Turnout |
|--------------------------------|----------------------|---------|
| Total Registration and Turnout | 10,717               | 479     |

General Member

---

( 1 of 1 precincts reported )

|               |            |        |
|---------------|------------|--------|
| JEANINE ADAMS | 269        | 61.70% |
| ALEX ALVA     | 167        | 38.30% |
| Write-in      | 0          | 0.00%  |
| Under Votes:  |            |        |
| Over Votes:   |            |        |
| <b>Total</b>  | <b>436</b> |        |

Safety Member

---

( 1 of 1 precincts reported )

|                    |           |         |
|--------------------|-----------|---------|
| VIDAL D. CONTRERAS | 42        | 100.00% |
| Write-in           | 0         | 0.00%   |
| Under Votes:       | 1         |         |
| Over Votes:        |           |         |
| <b>Total</b>       | <b>42</b> |         |



Executive Team

**Dominic D. Brown, CPA, CFE**  
Chief Executive Officer

**Daryn Miller, CFA**  
Chief Investment Officer

**Jennifer Zahry, JD**  
Chief Legal Officer

**Matthew Henry, CFE**  
Chief Operations Officer



Board of Retirement

Juan Gonzalez, Chair  
Tyler Whitezell, Vice-Chair  
Jeanine Adams  
David Couch  
Phil Franey  
Joseph D. Hughes  
Jordan Kaufman  
Rick Kratt  
Traco Matthews  
Dustin Contreras, Alternate  
Chase Nunneley, Alternate  
Robb Seibly, Alternate

February 15, 2022

Board of Supervisors  
Kern County Administrative Center  
1115 Truxtun Avenue  
Bakersfield, California 93301

**BOARD OF RETIREMENT ELECTION**  
(Fiscal Impact: None)

Pursuant to the Kern County Employees' Retirement Association (KCERA) Election Procedures adopted by the Board of Supervisors, a notice of election and candidacy filing procedures were given to members eligible for the Second Member General, the Third Member General, the Seventh Member Safety, and the Seventh Member Alternate Safety seats of the Kern County Board of Retirement.

Attached is a Certificate of Results of the Board of Retirement held on December 14, 2021 for the Third Member General and the Seventh Member Alternate Safety seats. Ms. Jeanine Adams was elected as the Third Member General and Mr. Vidal D. Contreras was elected as the Seventh Member Alternate Safety. Pursuant to KCERA's Election Procedures, Mr. Juan Gonzalez Ramos was appointed in lieu of election for the Second Member General seat, and Mr. Rick Kratt was appointed in lieu of election for the Seventh Member Safety seat.

Therefore, IT IS RECOMMENDED that the attached Certificate of Results of the Board of Retirement Election be received and filed.

Sincerely,

Dominic D. Brown  
Chief Executive Officer

cc: County Administrative Office  
Clerk of the Board  
Auditor-Controller-County Clerk  
Trustees, Board of Retirement



**Mary B. Bedard, CPA**  
Auditor-Controller-County Clerk-Registrar of Voters

**KERN COUNTY AUDITOR-CONTROLLER-COUNTY CLERK-ELECTIONS**

1115 Truxtun Avenue, 1st and 2nd Floor • Bakersfield, CA 93301-4639

January 14, 2022

Mr. Dominic Brown, Executive Director  
KCERA  
11125 River Run Blvd.  
Bakersfield, CA 93311

Dear Mr. Brown:

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Sincerely,

Mary B. Bedard, CPA  
Auditor-Controller-County Clerk

By:   
Vilma Rosales, Elections Process Coordinator

MBB/vr  
Enclosures





**Mary B. Bedard, CPA**  
Auditor-Controller-County Clerk-Registrar of Voters

**KERN COUNTY AUDITOR-CONTROLLER-COUNTY CLERK-ELECTIONS**

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Sincerely,

Mary B. Bedard, CPA  
Auditor-Controller-County Clerk

By:   
Vilma Rosales, Elections Process Coordinator

MBB/vr  
Enclosures



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Kern Retirement 1221  
December 14, 2021  
Summary Report**

|                                | Registered<br>Voters | Turnout |
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General Member

---

( 1 of 1 precincts reported )

|               |            |        |
|---------------|------------|--------|
| JEANINE ADAMS | 269        | 61.70% |
| ALEX ALVA     | 167        | 38.30% |
| Write-in      | 0          | 0.00%  |
| Under Votes:  |            |        |
| Over Votes:   |            |        |
| <b>Total</b>  | <b>436</b> |        |

Safety Member

---

( 1 of 1 precincts reported )


|                    |           |         |
|--------------------|-----------|---------|
| VIDAL D. CONTRERAS | 42        | 100.00% |
| Write-in           | 0         | 0.00%   |
| Under Votes:       | 1         |         |
| Over Votes:        |           |         |
| <b>Total</b>       | <b>42</b> |         |



KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

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

---

**Date:** February 9, 2022  
**To:** Trustees, Board of Retirement  
**From:** Dominic D. Brown, Chief Executive Officer   
**Subject:** **CALAPRS General Assembly**  
**San Diego, California**  
**March 5-8, 2022**

In accordance with the Travel Policy approved by the Board of Retirement on August 11, 2021, 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 and Chief Executive Officer Dominic Brown.

Attachments

# FOCUSING

# ON THE FUTURE

Creating and Sustaining Success

# CALAPRS

EDUCATION · COMMUNICATION · NETWORKING

California Association of Public Retirement Systems

## 2022 General Assembly

March 5 – March 8, 2022

Mission Bay Resort, San Diego, CA

The California Association of Public Retirement Systems (CALAPRS) invites you to attend the Annual General Assembly, March 5 - March 8, 2022 in sunny San Diego at the San Diego Mission Bay Resort! The General Assembly is an educational conference for retirement system trustees, senior staff, and our annual sponsors. Attendees will learn from experts and peers, while getting the opportunity to greet their colleagues face-to-face and network.

## REGISTRATION

Register online at [www.calaprs.org/events](http://www.calaprs.org/events).

- **Retirement System Fee:** \$250/person
- **Sponsor Fee:** Complimentary for up to 2 representatives\*

\*Annual sponsorship required.

## LODGING

CALAPRS has arranged for a discounted room rate at the meeting hotel, the San Diego Mission Bay Resort for the duration of the meeting.

**Room Rate:** \$229/night, plus taxes and fees\*

**Book Online:**

[https://bit.ly/SDMissionBay\\_CALAPRSGA22](https://bit.ly/SDMissionBay_CALAPRSGA22)

**By Phone:** 877-259-0010; Group Code: CAL304

\*The regular resort rate of \$36/night is waived for those who book under the CALAPRS discounted rate.

**Cut-off Date:** The room rate is available until February 2, 2022 or until the block is sold out, whichever comes first.

## SPONSORSHIP

Sign-up to Sponsor at [www.calaprs.org/sponsors](http://www.calaprs.org/sponsors).

**Fee:** \$2,500

**Sponsor Benefits:**

- (2) Two complimentary registrations to the General Assembly
- Access to the CALAPRS Systems Directory
- A company listing in the CALAPRS Sponsor directory
- Subscription to the semi-annual CALAPRS Newsletter

## HEALTH & SAFETY

CALAPRS is dedicated to providing a safe event experience for all participants involved including attendees, sponsors, staff, and guests. CALAPRS will conduct the General Assembly as advised by government (local, state, and national) regulations, CDC recommendations, and venue requirements at the time of the event. This will include, but is not limited to, requiring proof of vaccination (or negative COVID-19 test) and wearing a face covering while indoors, when not eating or drinking. CALAPRS will continue to monitor guidelines for safe in-person events. Requirements for attendance are subject to change. Read the fully in-person event policy here: [www.calaprs.org/page/eventpolicy](http://www.calaprs.org/page/eventpolicy)



# PROGRAM

FOCUSING

ON THE FUTURE

Creating and Sustaining Success

## SATURDAY, MARCH 5

4:00 – 6:00 PM Early-Bird Registration

## SUNDAY, MARCH 6

10:00 AM – 5:00 PM Registration Open

**10:00 AM – 12:00 PM AB1234 Ethics for Trustees**

This two hour mandatory bi-annual training for public officials covers conflict of interest rules, public meeting and record requirements, due process requirements and other significant rules for legal compliance by public officials, with a particular focus on how these rules apply to retirement board trustees and senior staff. Note - this session is designed for system trustees and senior staff.

Speaker: Ashley Dunning, Partner, Nossaman LLP

**2:00 – 2:15 PM**

**Welcome Remarks**

Speakers: Johanna Shick, CEO, San Joaquin County Employees Retirement Association (SJCERA) and General Assembly Conference Chair; and Carl Nelson, CEO, San Luis Obispo County Pension Trust and CALAPRS President

**2:15 – 3:15 PM**

**Issues Facing Pension Plans: A Fireside Chat**

What is top of mind for our trustees and system administrators alike? During this fireside chat, we'll hear about what is most concerning for public pension systems from varying perspectives – statewide, medium-sized pensions, and smaller/rural pensions.

Moderator: Steve Delaney, CEO, Orange County Employees Retirement System (OCERS)

Speakers: Hank Kim, Esq., Executive Director and Counsel, National Conference on Public Employee Retirement Systems (NCPERS)

**3:15 – 3:30 PM**

Networking Break

**3:30 – 4:30 PM**

**How Inflation will Impact Your Portfolio**

During this session Jack Ross will discuss what pension systems should be aware of as they manage their portfolios in the coming year. How will real assets portfolios be impacted by higher inflation and what does it mean for the remainder of the portfolio? What are the unforeseen risks on the portfolio? How might asset allocations need to change if we have sustained inflation? How are investors measuring the impacts of higher inflation on their portfolios? These are just some of the questions that will be addressed.

Speaker: Jack Ross, Managing Partner and Co-founder, Waterfall Asset Management

**7:00 – 9:30 PM**

**Strolling Dinner at San Diego Mission Bay Resort** (*outdoor venue*)

System attendees may bring a guest to the Strolling Dinner. Please contact [info@calaprs.org](mailto:info@calaprs.org) to add your guest to your registration.

7:00 AM – 4:00 PM Registration Open

7:15 – 8:15 AM Breakfast (*outdoor venue*)

**8:15 – 8:30 AM Opening Remarks**

Speaker: Johanna Shick, CEO, San Joaquin County Employees Retirement Association (SJCERA) and General Assembly Conference Chair

**8:30 – 9:30 AM**

**Keynote Session featuring Kristina Hooper, Chief Global Market Strategist, Invesco**

During this session, Kristina Hooper will cover her current macro outlook for 2022, including fiscal and monetary policy, asset class implications based on her base case outlook, as well as implications for tail risk scenarios and key investment themes.

9:30 – 10:00 AM Networking Break

**10:00 – 11:00 AM**

**So Your System is Fully-Funded – What Now?**

Recent record investment returns improved pension systems' funding, in some cases to full (or nearly full) funding. While full funding has been our goal, it presents challenges that most systems haven't contemplated in more than a decade. This panel of actuaries and investment consultants will discuss the policy and implementation considerations Boards and staff should consider. Should systems lower the return assumption? De-risk the portfolio? Establish a rainy-day reserve? What about amortization layers? Do these policy decisions affect members and employers differently? How do we manage potential pressure for benefit increases, contribution holidays? Alternatively, what happens if you stay the course and maintain your current policy?

Moderator: Jeff Wickman, Administrator, Marin County Employees' Retirement Association (MCERA)

Panelists: Paul Angelo, Senior Vice President and Actuary, The Segal Group; Graham Schmidt, ASA, Consulting Actuary, Cheiron; Jeff MacLean, CEO, Verus; and Steve McCourt, CFA, Managing Principal / Co-CEO, Meketa

**11:00 AM – 12:00 PM Delegating to the Investment Staff**

Some argue pension systems are increasing their delegation of asset management duties, but how are those functions delegated and how does that affect the overall governance of the organization. Who determines the investment strategies of a plan and how they're implemented to ensure the success of plan assets? In this session, participants will hear from a number of investment professionals to discuss how the practice has changed within their systems, lessons learned, challenges, and successes.

Moderator: Roberto Peña, CEO, San Jose City Retirement Plans

Panelists: Shawn Dewane, Trustee, OCERS; Allan Emkin, Managing Principal / Consultant, Meketa Investment Group; Drew Lanza, San Jose City P&F Retirement Plan Chair; Prabhu Palani, CIO, San Jose City Retirement Plans; and Tim Price, CIO, Contra Costa County Employees' Retirement Association (CCCERA)

12:00 – 1:30 PM

Lunch (*outdoor venue*)

**1:30 – 2:30 PM**

**Using A.I. in Retirement Administration**

Artificial Intelligence is no longer a what-if, a myth, or some far-off idea that won't come to fruition until later in the future. It's being used NOW and used by many retirement systems worldwide, as well as by our supporting partners. So - what *are* they doing? Hear from pension plans, investment managers, and our partners in the private sector to hear about how they are using AI now and how you can implement it in your own organizations.

Panelists: Steve Delaney, CEO, Orange County Employees Retirement System (OCERS); and Michael Baker, Senior Advisor, AltaML

2:30 – 3:00 PM

Networking Break

## MONDAY, MARCH 7 *(continued)*

3:00 – 4:00 PM

### **Death Verification**

Timely detection of unreported deaths, and the resulting overpaid benefits, is an issue facing many sectors of the financial services industry including public pension systems. Come hear what steps CalPERS is taking to identify unreported deaths, confirm the living status of benefit recipients, locate beneficiaries and collect overpayments.

Moderator: Anthony Suine, Deputy Executive Officer, Customer Services & Support, California Public Employees' Retirement System (CalPERS)

Speakers: Jacqueline Quintero, Survivor Benefits Training Manager; and Tiffany Triplett, Section Manager, Disability and Survivor Benefits Division, California Public Employees' Retirement System (CalPERS)

5:00 – 6:00 PM

Networking Reception (*outdoor venue*)

## TUESDAY, MARCH 8

7:30 - 10:30 AM

Registration Open

7:30 – 8:30 AM

Breakfast (*outdoor venue*)

8:30 – 9:30 AM

### **Succession Planning in the Public Pension Sector—Developing the Leadership**

At the Board, executive, and staff levels, effective leadership and continuity of talent are key to your organization's success. Too often, we hear succession planning isn't possible in the public sector or, alternatively, the organization's succession plan consists primarily of, "Call the recruiter" or "Hopefully the Board of Supervisors appoints someone who knows about investments to the Board." This panel will discuss the programs and practices your organization can put in place now at the Board, Executive, and staff levels to help ensure there are well-qualified people ready, willing and able to step forward when turnover occurs.

Moderator: Johanna Shick, CEO, San Joaquin County Employees' Retirement Association (SJCERA)

Panelists: Amy McDuffee, Founder and CEO, Mosaic Governance Advisors; Melissa Norcia, Chief Administrative Officer, CalSTRS; and Debra Smith, CEO, Montage Careers

9:30 – 10:00 AM

Networking Break

10:00 – 11:00 AM

### **Cybersecurity and the Retirement System – What You Can do NOW to Protect Your Organization**

We've heard it before and we all know that cyber crimes are not something to take lightly, but what can our systems do now to protect ourselves, especially now that most have transitioned to a fully virtual or hybrid workplace? During this session, panelists will provide tangible best practices that our public pension systems should adopt to ensure they're secure.

Moderator: Vijay Jagar, CTO, Alameda County Employees' Retirement Association (ACERA)

Panelists: Matt Eakin, CISSP, CCSP, CEH, Director of Cyber Security, Orange County Employees' Retirement System (OCERS); Harsh Jadhav, Chief of Internal Audit, Alameda County Employees' Retirement Association (ACERA); and James Vorhis, Co-Chair, Insurance Recovery & Counseling Group, Nossaman LLP

11:00 AM

### **Closing Remarks**

Speaker: Johanna Shick, CEO, San Joaquin County Employees' Retirement Association (SJCERA)

**GENERAL ASSEMBLY PLANNING COMMITTEE:** Johanna Shick, SJCERA (Chair); Steve Delaney, OCERS; Scott Hood, SamCERA; David Nelsen, ACERA; Roberto Peña, San Jose City Retirement Plans; Kristen Santos, MercedCERA; and Anthony Suine, CalPERS

|                      |                          |
|----------------------|--------------------------|
| Travel Subject       | CALAPRS General Assembly |
| Sponsor              | CALAPRS                  |
| Date(s)              | March 5-8, 2022          |
| Location             | San Diego, CA            |
| Proposed Attendee(s) | Adams, Brown             |

Estimated Total Travel Cost **\$3,171.65**

| Description                    | Computation                               |   | Adams           | Brown           | Totals             | Borne By           |                 |
|--------------------------------|---|---|-----------------|-----------------|--------------------|--------------------|-----------------|
|                                |   |   |                 |                 |                    | KCERA              | Sponsor         |
| Registration fees              | \$250.00                                  | = | 250.00          | 250.00          | <b>500.00</b>      | 500.00             |                 |
| Lodging expense                | 3 nights @ \$ 350.00 /night               | = | 1,050.00        | 1,050.00        | <b>2,100.00</b>    | 2,100.00           |                 |
| Per diem meals reimbursement:  | 4 days @ \$ 74.00 /day                    | = | 296.00          | 296.00          |                    |                    |                 |
| Less meals provided by sponsor | 2 Breakfast, 1 Lunch, 1 Dinner = \$95.46  | = | (\$95.46)       | (\$95.46)       |                    |                    | \$95.46         |
| Total meals expense            |   | = |                 |                 | <b>296.00</b>      | 200.54             |                 |
| Shuttle/taxicab expense        | Taxi Estimate                             | = |                 |                 | -                  | -                  |                 |
| Airfare                        | \$0.00                                    | = | \$0.00          | \$0.00          | <b>\$0.00</b>      | -                  |                 |
| Vehicle-related expenses:      |   | = | -               | -               | -                  | -                  |                 |
| Parking                        | 4 days @ 20.00 /day                       | = | 80.00           | 80.00           | <b>160.00</b>      | 160.00             |                 |
| Mileage                        | 227 miles @ 0.345 /mile (Department Head) | = |                 | 78.32           | <b>78.32</b>       | 78.32              |                 |
|                                | 227 miles @ 0.585 /mile (Staff, Trustee)  | = | 132.80          |                 | <b>132.80</b>      | 132.80             |                 |
| Rental car                     |   | = | -               | -               | -                  | -                  |                 |
| Rental car gasoline            |   | = | -               | -               | -                  | -                  |                 |
| <b>Totals</b>                  |   | = | <b>1,713.34</b> | <b>1,658.86</b> | <b>\$ 3,267.11</b> | <b>\$ 3,171.65</b> | <b>\$ 95.46</b> |



Molly Calcagno, ASA, MAAA, EA  
Actuary  
T 415.263.8254  
M 415.265.6078  
mcalcagno@segalco.com

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

January 24, 2022

Mr. Dominic Brown  
Executive Director  
Kern County Employees' Retirement Association  
11125 River Run Boulevard  
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association  
Cost-of-Living Adjustments (COLA) as of April 1, 2022**

Dear Dominic:

We have determined the cost-of-living adjustments for the Association in accordance with Section 31870 of the 1937 Act and reflecting Paragraph 15 of the Ventura Settlement. The cost-of-living adjustments are provided in the enclosed exhibit.

The first step in the development of the cost-of-living factor to be used by the Association on April 1, 2022 is to compare the annual average CPI for the Los Angeles-Long Beach-Anaheim Area (with 1982-84 as the base period), as published by the Bureau of Labor Statistics, in each of the past two years. The ratio of the past two annual indices, 289.244 in 2021 and 278.567 in 2020, is 1.0383. The County Law section cited above indicates that the resulting percentage change of 3.83% should be rounded to the nearest one-half percent, which is 4.0%, but shall not exceed the 2.0% maximum pursuant to Section 31870.

Based on historical practices, the maximum COLA is increased by an additional 0.5% (to 2.5%) on each April 1, with the additional 0.5% being provided through the Supplemental Retiree Benefit Reserve (SRBR) pursuant to Paragraph 15 of the Ventura Settlement. We understand that, according to the Ventura Settlement, these two COLAs combined (i.e., the maximum 2.0% under Section 31870 and the additional 0.5% payable through the SRBR) function "in all respects as if the County had adopted Government Code section 31870.1, except that the increase shall not exceed 2.5%."

The actual cost-of-living adjustment is independent of the date of retirement. The CPI adjustment to be applied on April 1, 2022 is provided in Column (4) of the enclosed exhibit. The COLA bank on April 1, 2022 is provided in Column (5).

Based on the Board's prior referral to legal for review of Government Code Section 31870, and consistent with KCERA staff's request, we have determined the April 1, 2022 COLA according to the following steps:

- a. The first step in determining the COLA to be provided on April 1, 2022 is to determine the rounded change in the CPI (i.e., to the nearest 0.5%).
- b. The second step is to add the COLA bank from April 1, 2021 to the result from item a above.
- c. To determine the COLA to be provided on April 1, 2022, the resulting percentage in item b is rounded down to the completed 0.5%, but is limited to 2.0% pursuant to Section 31870, plus the additional COLA of up to 0.5% being provided through the SRBR, for a maximum of 2.5%.
- d. To determine the COLA bank on April 1, 2022, the difference between the rounded change in the CPI (item a) and the COLA to be provided on April 1, 2022 (item c) is added to the April 1, 2021 COLA bank.

The actuarial liabilities for the April 1, 2022 COLA payments will be allocated between the COLA Reserve and the 0.5% COLA reserve set aside by the KCERA Board within the SRBR as provided in the Ventura Settlement. The portion allocated to the 2% COLA Reserve is the cost of any increase up to 2%, with any remaining cost allocated to the 0.5% COLA Reserve.

Please give us a call if you have any questions.

Sincerely,



Molly Calcagno, ASA, MAAA, EA  
Actuary

bts/hy  
Enclosure

Kern County Employees' Retirement Association  
 Cost-Of-Living Adjustment  
 As of April 1, 2022

| Retirement Date  | (1)<br>April 1, 2021<br>Accumulated<br>Carry-over | (2)<br>CPI<br>Change* | (3)<br>CPI<br>Rounded | (4)<br>CPI<br>Used** | (5)<br>April 1, 2022<br>Accumulated<br>Carry-over*** |
|--|---|-----------------------|-----------------------|----------------------|--|
| All General and Safety<br>Section 31870<br>Maximum Annual COLA | 2.5% ****   |                       |                       |                      |  |
| On or Before 4/1/1974  | 91.5%   | 3.83%                 | 4.0%                  | 2.5%                 | 93.0%  |
| 04/02/1974 to 04/01/1975                                       | 88.9%   | 3.83%                 | 4.0%                  | 2.5%                 | 90.4%  |
| 04/02/1975 to 04/01/1976                                       | 79.6%   | 3.83%                 | 4.0%                  | 2.5%                 | 81.1%  |
| 04/02/1976 to 04/01/1977                                       | 71.0%   | 3.83%                 | 4.0%                  | 2.5%                 | 72.5%  |
| 04/02/1977 to 04/01/1978                                       | 66.2%   | 3.83%                 | 4.0%                  | 2.5%                 | 67.7%  |
| 04/02/1978 to 04/01/1979                                       | 61.3%   | 3.83%                 | 4.0%                  | 2.5%                 | 62.8%  |
| 04/02/1979 to 04/01/1980                                       | 55.9%   | 3.83%                 | 4.0%                  | 2.5%                 | 57.4%  |
| 04/02/1980 to 04/01/1981                                       | 47.2%   | 3.83%                 | 4.0%                  | 2.5%                 | 48.7%  |
| 04/02/1981 to 04/01/1982                                       | 33.4%   | 3.83%                 | 4.0%                  | 2.5%                 | 34.9%  |
| 04/02/1982 to 04/01/1983                                       | 25.6%   | 3.83%                 | 4.0%                  | 2.5%                 | 27.1%  |
| 04/02/1983 to 04/01/1985                                       | 21.7%   | 3.83%                 | 4.0%                  | 2.5%                 | 23.2%  |
| 04/02/1985 to 04/01/1986                                       | 19.2%   | 3.83%                 | 4.0%                  | 2.5%                 | 20.7%  |
| 04/02/1986 to 04/01/1987                                       | 16.6%   | 3.83%                 | 4.0%                  | 2.5%                 | 18.1%  |
| 04/02/1987 to 04/01/1988                                       | 15.4%   | 3.83%                 | 4.0%                  | 2.5%                 | 16.9%  |
| 04/02/1988 to 04/01/1989                                       | 12.9%   | 3.83%                 | 4.0%                  | 2.5%                 | 14.4%  |
| 04/02/1989 to 04/01/1990                                       | 10.5%   | 3.83%                 | 4.0%                  | 2.5%                 | 12.0%  |
| 04/02/1990 to 04/01/1991                                       | 7.4%  | 3.83%                 | 4.0%                  | 2.5%                 | 8.9%   |
| 04/02/1991 to 04/01/1992                                       | 3.5%  | 3.83%                 | 4.0%                  | 2.5%                 | 5.0%   |
| 04/02/1992 to 04/01/1993                                       | 1.5%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.0%   |
| 04/02/1993 to 04/01/2000                                       | 1.8%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.3%   |
| 04/02/2000 to 04/01/2001                                       | 1.5%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.0%   |
| 04/02/2001 to 04/01/2002                                       | 1.7%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.2%   |
| 04/02/2002 to 04/01/2003                                       | 1.9%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.4%   |
| 04/02/2003 to 04/01/2004                                       | 1.6%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.1%   |
| 04/02/2004 to 04/01/2005                                       | 1.5%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.0%   |
| 04/02/2005 to 04/01/2007                                       | 1.7%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.2%   |
| 04/02/2007 to 04/01/2008                                       | 1.9%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.4%   |
| 04/02/2008 to 04/01/2010                                       | 1.6%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.1%   |
| 04/02/2010 to 04/01/2011                                       | 1.9%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.4%   |
| 04/02/2011 to 04/01/2012                                       | 1.7%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.2%   |
| 04/02/2012 to 04/01/2018                                       | 1.5%  | 3.83%                 | 4.0%                  | 2.5%                 | 3.0%   |
| 04/02/2018 to 04/01/2019                                       | 1.0%  | 3.83%                 | 4.0%                  | 2.5%                 | 2.5%   |
| 04/02/2019 to 04/01/2021                                       | 0.0%  | 3.83%                 | 4.0%                  | 2.5%                 | 1.5%   |
| 04/02/2021 to 04/01/2022                                       |   | 3.83%                 | 4.0%                  | 2.5%                 | 1.5%   |

\* Based on ratio of 2021 annual average CPI to 2020 annual average CPI for the Los Angeles - Long Beach - Anaheim Area.  
 \*\* These are the cost-of-living adjustment factors to be applied on April 1, 2022.  
 \*\*\* These are the carry-over of the cost-of-living adjustments that have not been used on April 1, 2022.  
 \*\*\*\* Includes the additional 0.5% payable through the SRBR 0.5% COLA Reserve.



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segalco.com

December 2, 2021

Mr. Dominic Brown  
Executive Director  
Kern County Employees' Retirement Association  
11125 River Run Boulevard  
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association (KCERA)  
FY 2022-2023 Required Contributions with Adjustments to Reflect Three-Year  
Phase-in of Increases in Employer Unfunded Actuarial Accrued Liability (UAAL)  
Contribution Rate Due to Assumption Changes**

Dear Dominic:

In January 2021, the Board elected to phase-in (over a three-year period) the impact of the new actuarial assumptions on the employer Unfunded Actuarial Accrued Liability (UAAL) contribution rates for Safety, as calculated in the June 30, 2020 actuarial valuation. This letter provides the second year "phased-in" employer contribution rates for the 2022-2023 fiscal year by cost group in the enclosed Exhibit A. The impact of the new actuarial assumptions on the UAAL is not "phased-in" for the County General,<sup>1</sup> Courts or District cost groups, and the impact on the Normal Cost is not phased-in for any employers.

**Phased-in Contribution Rates for 2022-2023**

The full impact of the adopted actuarial assumptions on the Safety employer UAAL contribution rate for the 2021-2022 fiscal year based on the June 30, 2020 actuarial valuation is 2.62% of payroll. This percentage is the portion of the increase in the Safety employer UAAL contribution rate from the 2020 valuation that will be phased-in over three years. The phase-in of this change in the Safety employer UAAL contribution rate will not have any impact on the employer UAAL contribution rates for the County General,<sup>1</sup> Courts or District cost groups as assets are tracked separately for each of these cost groups.

Exhibit A shows the "phased-in" employer contribution rates for the 2022-2023 fiscal year. The UAAL rates for Safety shown in this Exhibit (as compared with those in the June 30, 2021 actuarial valuation) reflect only two-thirds of the increase in the UAAL rate due to the new actuarial assumptions in the June 30, 2020 actuarial valuation. Note that different changes are reflected in the detailed components (Basic, 2% COLA and 0.5% COLA) of the employer contribution rates depending on the effect of the new actuarial assumptions on that specific rate

<sup>1</sup> Including the Hospital Authority.



component. Employer contribution rates for the County General,<sup>1</sup> Courts and District cost groups are also shown, but they do not reflect the phase-in.

All of these rates may be adopted in conjunction with the June 30, 2021 actuarial valuation for the fiscal year that extends from July 1, 2022 through June 30, 2023.

Unless otherwise noted, all of the above calculations are based on the June 30, 2021 actuarial valuation results including the participant data and actuarial assumptions on which that valuation was based. That valuation and these projections were completed under the supervision of Molly Calcagno, ASA, MAAA, Enrolled Actuary.

The undersigned are Members of the American Academy of Actuaries and meet the qualification requirement to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,



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



Molly Calcagno, ASA, MAAA, EA  
Actuary

ST/jl  
Enclosures

## Recommended Employer Contribution Rates – Current Valuation AFTER Reflecting Three-Year Phase-In

June 30, 2021 Actuarial Valuation

|   | Basic         |   | 2% COLA      |   | 0.5% COLA    |   | Total         |   |
|---|---------------|---|--------------|---|--------------|---|---------------|---|
|   | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate         | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate         | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) |
| <b>County General Tier I without Courts</b>     |               |   |              |   |              |   |               |   |
| Normal Cost                                     | 13.36%        | \$18,085  | 4.26%        | \$5,767   | 1.33%        | \$1,800   | 18.95%        | \$25,652  |
| UAAL  | 21.29%        | 28,820  | 2.97%        | 4,020   | 5.53%        | 7,486   | 29.79%        | 40,326  |
| <b>Total Contributions</b>                      | <b>34.65%</b> | <b>\$46,905</b>                                       | <b>7.23%</b> | <b>\$9,787</b>  | <b>6.86%</b> | <b>\$9,286</b>  | <b>48.74%</b> | <b>\$65,978</b>                                       |
| <b>County General Tier IIA without Courts</b>   |               |   |              |   |              |   |               |   |
| Normal Cost                                     | 3.87%         | \$2,538   | 2.15%        | \$1,410   | 0.66%        | \$432   | 6.68%         | \$4,380   |
| UAAL  | 21.29%        | 13,961  | 2.97%        | 1,948   | 5.53%        | 3,626   | 29.79%        | 19,535  |
| <b>Total Contributions</b>                      | <b>25.16%</b> | <b>\$16,499</b>                                       | <b>5.12%</b> | <b>\$3,358</b>  | <b>6.19%</b> | <b>\$4,058</b>  | <b>36.47%</b> | <b>\$23,915</b>                                       |
| <b>County General Tier IIB without Courts</b>   |               |   |              |   |              |   |               |   |
| Normal Cost                                     | 4.88%         | \$10,453  | 1.03%        | \$2,206   | 0.32%        | \$686   | 6.23%         | \$13,345  |
| UAAL  | 21.29%        | 45,603  | 2.97%        | 6,362   | 5.53%        | 11,845  | 29.79%        | 63,810  |
| <b>Total Contributions</b>                      | <b>26.17%</b> | <b>\$56,056</b>                                       | <b>4.00%</b> | <b>\$8,568</b>  | <b>5.85%</b> | <b>\$12,531</b>                                       | <b>36.02%</b> | <b>\$77,155</b>                                       |
| <b>County General without Courts – Combined</b> |               |   |              |   |              |   |               |   |
| Normal Cost                                     | 7.49%         | \$31,076  | 2.26%        | \$9,383   | 0.70%        | \$2,918   | 10.45%        | \$43,377  |
| UAAL  | 21.29%        | 88,384  | 2.97%        | 12,330  | 5.53%        | 22,957  | 29.79%        | 123,671   |
| <b>Total Contributions</b>                      | <b>28.78%</b> | <b>\$119,460</b>                                      | <b>5.23%</b> | <b>\$21,713</b>                                       | <b>6.23%</b> | <b>\$25,875</b>                                       | <b>40.24%</b> | <b>\$167,048</b>                                      |
| <b>Courts Tier I</b>                            |               |   |              |   |              |   |               |   |
| Normal Cost                                     | 10.59%        | \$1,381   | 4.26%        | \$555   | 1.33%        | \$174   | 16.18%        | \$2,110   |
| UAAL  | 21.29%        | 2,776   | 2.97%        | 387   | 5.53%        | 721   | 29.79%        | 3,884   |
| <b>Total Contributions</b>                      | <b>31.88%</b> | <b>\$4,157</b>  | <b>7.23%</b> | <b>\$942</b>  | <b>6.86%</b> | <b>\$895</b>  | <b>45.97%</b> | <b>\$5,994</b>  |
| <b>Courts Tier IIA</b>                          |               |   |              |   |              |   |               |   |
| Normal Cost                                     | 4.16%         | \$136   | 2.15%        | \$71  | 0.66%        | \$22  | 6.97%         | \$229   |
| UAAL  | 21.29%        | 699   | 2.97%        | 97  | 5.53%        | 181   | 29.79%        | 977   |
| <b>Total Contributions</b>                      | <b>25.45%</b> | <b>\$835</b>  | <b>5.12%</b> | <b>\$168</b>  | <b>6.19%</b> | <b>\$203</b>  | <b>36.76%</b> | <b>\$1,206</b>  |
| <b>Courts Tier IIB</b>                          |               |   |              |   |              |   |               |   |
| Normal Cost                                     | 4.88%         | \$741   | 1.03%        | \$156   | 0.32%        | \$49  | 6.23%         | \$946   |
| UAAL  | 21.29%        | 3,234   | 2.97%        | 451   | 5.53%        | 841   | 29.79%        | 4,526   |
| <b>Total Contributions</b>                      | <b>26.17%</b> | <b>\$3,975</b>  | <b>4.00%</b> | <b>\$607</b>  | <b>5.85%</b> | <b>\$890</b>  | <b>36.02%</b> | <b>\$5,472</b>  |

<sup>1</sup> Based on June 30, 2021 projected compensation.

## Recommended Employer Contribution Rates – Current Valuation AFTER Reflecting Three-Year Phase-In

June 30, 2021 Actuarial Valuation

|  | Basic         |   | 2% COLA       |   | 0.5% COLA     |   | Total         |   |
|--|---------------|---|---------------|---|---------------|---|---------------|---|
|  | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) |
| <b>Courts – Combined</b>                 |               |   |               |   |               |   |               |   |
| Normal Cost                              | 7.17%         | \$2,258   | 2.48%         | \$782   | 0.77%         | \$245   | 10.42%        | \$3,285   |
| UAAL                                     | 21.29%        | 6,709   | 2.97%         | 935   | 5.53%         | 1,743   | 29.79%        | 9,387   |
| <b>Total Contributions</b>               | <b>28.46%</b> | <b>\$8,967</b>  | <b>5.45%</b>  | <b>\$1,717</b>  | <b>6.30%</b>  | <b>\$1,988</b>  | <b>40.21%</b> | <b>\$12,672</b>                                       |
| <b>County Safety Tier I</b>              |               |   |               |   |               |   |               |   |
| Normal Cost                              | 17.47%        | \$16,460  | 6.47%         | \$6,096   | 2.08%         | \$1,960   | 26.02%        | \$24,516  |
| UAAL                                     | 35.04%        | 33,015  | 6.66%         | 6,275   | 12.87%        | 12,126  | 54.57%        | 51,416  |
| <b>Total Contributions</b>               | <b>52.51%</b> | <b>\$49,475</b>                                       | <b>13.13%</b> | <b>\$12,371</b>                                       | <b>14.95%</b> | <b>\$14,086</b>                                       | <b>80.59%</b> | <b>\$75,932</b>                                       |
| <b>County Safety Tier IIA</b>            |               |   |               |   |               |   |               |   |
| Normal Cost                              | 10.84%        | \$825   | 4.97%         | \$378   | 1.56%         | \$119   | 17.37%        | \$1,322   |
| UAAL                                     | 35.04%        | 2,666   | 6.66%         | 507   | 12.87%        | 979   | 54.57%        | 4,152   |
| <b>Total Contributions</b>               | <b>45.88%</b> | <b>\$3,491</b>  | <b>11.63%</b> | <b>\$885</b>  | <b>14.43%</b> | <b>\$1,098</b>  | <b>71.94%</b> | <b>\$5,474</b>  |
| <b>County Safety Tier IIB</b>            |               |   |               |   |               |   |               |   |
| Normal Cost                              | 9.75%         | \$3,583   | 2.41%         | \$886   | 0.77%         | \$282   | 12.93%        | \$4,751   |
| UAAL                                     | 35.04%        | 12,875  | 6.66%         | 2,447   | 12.87%        | 4,729   | 54.57%        | 20,051  |
| <b>Total Contributions</b>               | <b>44.79%</b> | <b>\$16,458</b>                                       | <b>9.07%</b>  | <b>\$3,333</b>  | <b>13.64%</b> | <b>\$5,011</b>  | <b>67.50%</b> | <b>\$24,802</b>                                       |
| <b>County Safety – Combined</b>          |               |   |               |   |               |   |               |   |
| Normal Cost                              | 15.06%        | \$20,868  | 5.31%         | \$7,360   | 1.70%         | \$2,361   | 22.07%        | \$30,589  |
| UAAL                                     | 35.04%        | 48,556  | 6.66%         | 9,229   | 12.87%        | 17,834  | 54.57%        | 75,619  |
| <b>Total Contributions</b>               | <b>50.10%</b> | <b>\$69,424</b>                                       | <b>11.97%</b> | <b>\$16,589</b>                                       | <b>14.57%</b> | <b>\$20,195</b>                                       | <b>76.64%</b> | <b>\$106,208</b>                                      |
| <b>All County with Courts – Combined</b> |               |   |               |   |               |   |               |   |
| Normal Cost                              | 9.26%         | \$54,202  | 2.99%         | \$17,525  | 0.95%         | \$5,524   | 13.20%        | \$77,251  |
| UAAL                                     | 24.55%        | 143,649   | 3.84%         | 22,494  | 7.27%         | 42,534  | 35.66%        | 208,677   |
| <b>Total Contributions</b>               | <b>33.81%</b> | <b>\$197,851</b>                                      | <b>6.83%</b>  | <b>\$40,019</b>                                       | <b>8.22%</b>  | <b>\$48,058</b>                                       | <b>48.86%</b> | <b>\$285,928</b>                                      |
| <b>District Category I Tier I</b>        |               |   |               |   |               |   |               |   |
| Normal Cost                              | 15.68%        | \$677   | 4.26%         | \$184   | 1.33%         | \$57  | 21.27%        | \$918   |
| UAAL                                     | 26.85%        | 1,159   | 4.60%         | 199   | 5.85%         | 253   | 37.30%        | 1,611   |
| <b>Total Contributions</b>               | <b>42.53%</b> | <b>\$1,836</b>  | <b>8.86%</b>  | <b>\$383</b>  | <b>7.18%</b>  | <b>\$310</b>  | <b>58.57%</b> | <b>\$2,529</b>  |

<sup>1</sup> Based on June 30, 2021 projected compensation.

## Recommended Employer Contribution Rates – Current Valuation AFTER Reflecting Three-Year Phase-In

June 30, 2021 Actuarial Valuation

|  | Basic         |   | 2% COLA      |   | 0.5% COLA    |   | Total         |   |
|--|---------------|---|--------------|---|--------------|---|---------------|---|
|  | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate         | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate         | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) |
| <b>District Category I Tier IIA</b>    |               |   |              |   |              |   |               |   |
| Normal Cost                            | 4.43%         | \$30  | 2.15%        | \$14  | 0.66%        | \$5   | 7.24%         | \$49  |
| UAAL                                   | 26.85%        | 180   | 4.60%        | 31  | 5.85%        | 40  | 37.30%        | 251   |
| <b>Total Contributions</b>             | <b>31.28%</b> | <b>\$210</b>  | <b>6.75%</b> | <b>\$45</b>   | <b>6.51%</b> | <b>\$45</b>   | <b>44.54%</b> | <b>\$300</b>  |
| <b>District Category I Tier IIB</b>    |               |   |              |   |              |   |               |   |
| Normal Cost                            | 4.88%         | \$59  | 1.03%        | \$12  | 0.32%        | \$4   | 6.23%         | \$75  |
| UAAL                                   | 26.85%        | 324   | 4.60%        | 55  | 5.85%        | 71  | 37.30%        | 450   |
| <b>Total Contributions</b>             | <b>31.73%</b> | <b>\$383</b>  | <b>5.63%</b> | <b>\$67</b>   | <b>6.17%</b> | <b>\$75</b>   | <b>43.53%</b> | <b>\$525</b>  |
| <b>District Category I – Combined</b>  |               |   |              |   |              |   |               |   |
| Normal Cost                            | 12.35%        | \$766   | 3.39%        | \$210   | 1.09%        | \$66  | 16.83%        | \$1,042   |
| UAAL                                   | 26.85%        | 1,663   | 4.60%        | 285   | 5.85%        | 364   | 37.30%        | 2,312   |
| <b>Total Contributions</b>             | <b>39.20%</b> | <b>\$2,429</b>  | <b>7.99%</b> | <b>\$495</b>  | <b>6.94%</b> | <b>\$430</b>  | <b>54.13%</b> | <b>\$3,354</b>  |
| <b>District Category II Tier I</b>     |               |   |              |   |              |   |               |   |
| Normal Cost                            | 12.58%        | \$178   | 4.26%        | \$60  | 1.33%        | \$20  | 18.17%        | \$258   |
| UAAL                                   | 26.85%        | 381   | 4.60%        | 65  | 5.85%        | 83  | 37.30%        | 529   |
| <b>Total Contributions</b>             | <b>39.43%</b> | <b>\$559</b>  | <b>8.86%</b> | <b>\$125</b>  | <b>7.18%</b> | <b>\$103</b>  | <b>55.47%</b> | <b>\$787</b>  |
| <b>District Category II Tier IIB</b>   |               |   |              |   |              |   |               |   |
| Normal Cost                            | 4.88%         | \$50  | 1.03%        | \$11  | 0.32%        | \$3   | 6.23%         | \$64  |
| UAAL                                   | 26.85%        | 275   | 4.60%        | 47  | 5.85%        | 60  | 37.30%        | 382   |
| <b>Total Contributions</b>             | <b>31.73%</b> | <b>\$325</b>  | <b>5.63%</b> | <b>\$58</b>   | <b>6.17%</b> | <b>\$63</b>   | <b>43.53%</b> | <b>\$446</b>  |
| <b>District Category II Tier III</b>   |               |   |              |   |              |   |               |   |
| Normal Cost                            | 5.84%         | \$0   | 1.20%        | \$0   | 0.37%        | \$0   | 7.41%         | \$0   |
| UAAL                                   | 26.85%        | 0   | 4.60%        | 0   | 5.85%        | 0   | 37.30%        | 0   |
| <b>Total Contributions</b>             | <b>32.69%</b> | <b>\$0</b>  | <b>5.80%</b> | <b>\$0</b>  | <b>6.22%</b> | <b>\$0</b>  | <b>44.71%</b> | <b>\$0</b>  |
| <b>District Category II – Combined</b> |               |   |              |   |              |   |               |   |
| Normal Cost                            | 9.34%         | \$228   | 2.89%        | \$71  | 0.94%        | \$23  | 13.17%        | \$322   |
| UAAL                                   | 26.85%        | 656   | 4.60%        | 112   | 5.85%        | 143   | 37.30%        | 911   |
| <b>Total Contributions</b>             | <b>36.19%</b> | <b>\$884</b>  | <b>7.49%</b> | <b>\$183</b>  | <b>6.79%</b> | <b>\$166</b>  | <b>50.47%</b> | <b>\$1,233</b>  |

<sup>1</sup> Based on June 30, 2021 projected compensation.

## Recommended Employer Contribution Rates – Current Valuation AFTER Reflecting Three-Year Phase-In

June 30, 2021 Actuarial Valuation

|  | Basic         |   | 2% COLA      |   | 0.5% COLA    |   | Total         |   |
|--|---------------|---|--------------|---|--------------|---|---------------|---|
|  | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate         | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate         | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) |
| <b>District Category III Tier I (Buttonwillow)</b>   |               |   |              |   |              |   |               |   |
| Normal Cost  | 10.20%        | \$4   | 4.26%        | \$2   | 1.33%        | \$0   | 15.79%        | \$6   |
| UAAL   | 26.85%        | 11  | 4.60%        | 2   | 5.85%        | 2   | 37.30%        | 15  |
| <b>Total Contributions</b>                           | <b>37.05%</b> | <b>\$15</b>   | <b>8.86%</b> | <b>\$4</b>  | <b>7.18%</b> | <b>\$2</b>  | <b>53.09%</b> | <b>\$21</b>   |
| <b>District Category III Tier I (SJVAPCD)</b>        |               |   |              |   |              |   |               |   |
| Normal Cost  | 9.38%         | \$1,612   | 2.13%        | \$366   | 0.67%        | \$115   | 12.18%        | \$2,093   |
| UAAL   | 26.85%        | 4,615   | 4.60%        | 791   | 5.85%        | 1,005   | 37.30%        | 6,411   |
| <b>Total Contributions</b>                           | <b>36.23%</b> | <b>\$6,227</b>  | <b>6.73%</b> | <b>\$1,157</b>  | <b>6.52%</b> | <b>\$1,120</b>  | <b>49.48%</b> | <b>\$8,504</b>  |
| <b>District Category III Tier IIA (Buttonwillow)</b> |               |   |              |   |              |   |               |   |
| Normal Cost  | 3.70%         | \$0   | 2.15%        | \$0   | 0.66%        | \$0   | 6.51%         | \$0   |
| UAAL   | 26.85%        | 0   | 4.60%        | 0   | 5.85%        | 0   | 37.30%        | 0   |
| <b>Total Contributions</b>                           | <b>30.55%</b> | <b>\$0</b>  | <b>6.75%</b> | <b>\$0</b>  | <b>6.51%</b> | <b>\$0</b>  | <b>43.81%</b> | <b>\$0</b>  |
| <b>District Category III Tier IIA (SJVAPCD)</b>      |               |   |              |   |              |   |               |   |
| Normal Cost  | 5.31%         | \$50  | 1.08%        | \$10  | 0.34%        | \$4   | 6.73%         | \$64  |
| UAAL   | 26.85%        | 255   | 4.60%        | 44  | 5.85%        | 56  | 37.30%        | 355   |
| <b>Total Contributions</b>                           | <b>32.16%</b> | <b>\$305</b>  | <b>5.68%</b> | <b>\$54</b>   | <b>6.19%</b> | <b>\$60</b>   | <b>44.03%</b> | <b>\$419</b>  |
| <b>District Category III Tier IIB</b>                |               |   |              |   |              |   |               |   |
| Normal Cost  | 4.88%         | \$466   | 1.03%        | \$98  | 0.32%        | \$30  | 6.23%         | \$594   |
| UAAL   | 26.85%        | 2,561   | 4.60%        | 439   | 5.85%        | 558   | 37.30%        | 3,558   |
| <b>Total Contributions</b>                           | <b>31.73%</b> | <b>\$3,027</b>  | <b>5.63%</b> | <b>\$537</b>  | <b>6.17%</b> | <b>\$588</b>  | <b>43.53%</b> | <b>\$4,152</b>  |
| <b>District Category III – Combined</b>              |               |   |              |   |              |   |               |   |
| Normal Cost  | 7.69%         | \$2,132   | 1.72%        | \$476   | 0.54%        | \$149   | 9.95%         | \$2,757   |
| UAAL   | 26.85%        | 7,442   | 4.60%        | 1,276   | 5.85%        | 1,621   | 37.30%        | 10,339  |
| <b>Total Contributions</b>                           | <b>34.54%</b> | <b>\$9,574</b>  | <b>6.32%</b> | <b>\$1,752</b>  | <b>6.39%</b> | <b>\$1,770</b>  | <b>47.25%</b> | <b>\$13,096</b>                                       |
| <b>District Category V Tier I</b>                    |               |   |              |   |              |   |               |   |
| Normal Cost  | 18.64%        | \$14  | 4.26%        | \$3   | 1.33%        | \$1   | 24.23%        | \$18  |
| UAAL   | 26.85%        | 20  | 4.60%        | 3   | 5.85%        | 5   | 37.30%        | 28  |
| <b>Total Contributions</b>                           | <b>45.49%</b> | <b>\$34</b>   | <b>8.86%</b> | <b>\$6</b>  | <b>7.18%</b> | <b>\$6</b>  | <b>61.53%</b> | <b>\$46</b>   |

<sup>1</sup> Based on June 30, 2021 projected compensation.

## Recommended Employer Contribution Rates – Current Valuation AFTER Reflecting Three-Year Phase-In

## June 30, 2021 Actuarial Valuation

|  | Basic          |   | 2% COLA       |   | 0.5% COLA     |   | Total          |   |
|--|----------------|---|---------------|---|---------------|---|----------------|---|
|  | Rate           | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate           | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) |
| <b>District Category V Tier IIA</b>          |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 4.43%          | \$18  | 2.15%         | \$9   | 0.66%         | \$3   | 7.24%          | \$30  |
| UAAL   | 26.85%         | 110   | 4.60%         | 19  | 5.85%         | 24  | 37.30%         | 153   |
| <b>Total Contributions</b>                   | <b>31.28%</b>  | <b>\$128</b>  | <b>6.75%</b>  | <b>\$28</b>   | <b>6.51%</b>  | <b>\$27</b>   | <b>44.54%</b>  | <b>\$183</b>  |
| <b>District Category V Tier IIB</b>          |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 4.88%          | \$38  | 1.03%         | \$8   | 0.32%         | \$3   | 6.23%          | \$49  |
| UAAL   | 26.85%         | 210   | 4.60%         | 36  | 5.85%         | 46  | 37.30%         | 292   |
| <b>Total Contributions</b>                   | <b>31.73%</b>  | <b>\$248</b>  | <b>5.63%</b>  | <b>\$44</b>   | <b>6.17%</b>  | <b>\$49</b>   | <b>43.53%</b>  | <b>\$341</b>  |
| <b>District Category V – Combined</b>        |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 5.46%          | \$70  | 1.55%         | \$20  | 0.61%         | \$7   | 7.62%          | \$97  |
| UAAL   | 26.85%         | 340   | 4.60%         | 58  | 5.85%         | 75  | 37.30%         | 473   |
| <b>Total Contributions</b>                   | <b>32.31%</b>  | <b>\$410</b>  | <b>6.15%</b>  | <b>\$78</b>   | <b>6.46%</b>  | <b>\$82</b>   | <b>44.92%</b>  | <b>\$570</b>  |
| <b>District Category VI Tier I</b>           |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 18.64%         | \$50  | 4.26%         | \$11  | 1.33%         | \$4   | 24.23%         | \$65  |
| UAAL   | 26.85%         | 72  | 4.60%         | 12  | 5.85%         | 16  | 37.30%         | 100   |
| <b>Total Contributions</b>                   | <b>45.49%</b>  | <b>\$122</b>  | <b>8.86%</b>  | <b>\$23</b>   | <b>7.18%</b>  | <b>\$20</b>   | <b>61.53%</b>  | <b>\$165</b>  |
| <b>District Category VI Tier IIB</b>         |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 4.88%          | \$0   | 1.03%         | \$0   | 0.32%         | \$0   | 6.23%          | \$0   |
| UAAL   | 26.85%         | 0   | 4.60%         | 0   | 5.85%         | 0   | 37.30%         | 0   |
| <b>Total Contributions</b>                   | <b>31.73%</b>  | <b>\$0</b>  | <b>5.63%</b>  | <b>\$0</b>  | <b>6.17%</b>  | <b>\$0</b>  | <b>43.53%</b>  | <b>\$0</b>  |
| <b>District Category VI – Combined</b>       |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 18.64%         | \$50  | 4.26%         | \$11  | 1.33%         | \$4   | 24.23%         | \$65  |
| UAAL   | 26.85%         | 72  | 4.60%         | 12  | 5.85%         | 16  | 37.30%         | 100   |
| <b>Total Contributions</b>                   | <b>45.49%</b>  | <b>\$122</b>  | <b>8.86%</b>  | <b>\$23</b>   | <b>7.18%</b>  | <b>\$20</b>   | <b>61.53%</b>  | <b>\$165</b>  |
| <b>Declining Employers Tier I (Berrenda)</b> |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 12.18%         | \$21  | 4.02%         | \$7   | 1.15%         | \$2   | 17.35%         | \$30  |
| UAAL   | 159.50%        | 278   | 48.27%        | 84  | 40.12%        | 69  | 247.89%        | 431   |
| <b>Total Contributions<sup>2</sup></b>       | <b>171.68%</b> | <b>\$299</b>  | <b>52.29%</b> | <b>\$91</b>   | <b>41.27%</b> | <b>\$71</b>   | <b>265.24%</b> | <b>\$461</b>  |

<sup>1</sup> Based on June 30, 2021 projected compensation.

<sup>2</sup> These Districts are declining employers and they should contribute based on dollar contribution amounts shown (not rates).

## Recommended Employer Contribution Rates – Current Valuation AFTER Reflecting Three-Year Phase-In

June 30, 2021 Actuarial Valuation

|  | Basic          |   | 2% COLA       |   | 0.5% COLA     |   | Total          |   |
|--|----------------|---|---------------|---|---------------|---|----------------|---|
|  | Rate           | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate          | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) | Rate           | Estimated Annual Amount <sup>1</sup><br>(\$ in '000s) |
| <b>Declining Employers Tier I (Inyokern)</b> |                |   |               |   |               |   |                |   |
| Normal Cost                                  | N/A            | \$0   | N/A           | \$0   | N/A           | \$0   | N/A            | \$0   |
| UAAL   | N/A            | 10  | N/A           | 1   | N/A           | 2   | N/A            | 13  |
| <b>Total Contributions<sup>2</sup></b>       | <b>N/A</b>     | <b>\$10</b>   | <b>N/A</b>    | <b>\$1</b>  | <b>N/A</b>    | <b>\$2</b>  | <b>N/A</b>     | <b>\$13</b>   |
| <b>Declining Employers – Combined</b>        |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 12.07%         | \$21  | 4.02%         | \$7   | 1.15%         | \$2   | 17.24%         | \$30  |
| UAAL   | 165.52%        | 288   | 48.85%        | 85  | 40.80%        | 71  | 255.17%        | 444   |
| <b>Total Contributions</b>                   | <b>177.59%</b> | <b>\$309</b>  | <b>52.87%</b> | <b>\$92</b>   | <b>41.95%</b> | <b>\$73</b>   | <b>272.41%</b> | <b>\$474</b>  |
| <b>All Districts – Combined</b>              |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 8.58%          | \$3,267   | 2.09%         | \$795   | 0.66%         | \$251   | 11.33%         | \$4,313   |
| UAAL   | 27.48%         | 10,461  | 4.80%         | 1,828   | 6.02%         | 2,290   | 38.30%         | 14,579  |
| <b>Total Contributions</b>                   | <b>36.06%</b>  | <b>\$13,728</b>                                       | <b>6.89%</b>  | <b>\$2,623</b>  | <b>6.68%</b>  | <b>\$2,541</b>  | <b>49.63%</b>  | <b>\$18,892</b>                                       |
| <b>All Employers – Combined</b>              |                |   |               |   |               |   |                |   |
| Normal Cost                                  | 9.22%          | \$57,469  | 2.94%         | \$18,320  | 0.93%         | \$5,775   | 13.09%         | \$81,564  |
| UAAL   | 24.73%         | 154,110   | 3.90%         | 24,322  | 7.19%         | 44,824  | 35.82%         | 223,256   |
| <b>Total Contributions</b>                   | <b>33.95%</b>  | <b>\$211,579</b>                                      | <b>6.84%</b>  | <b>\$42,642</b>                                       | <b>8.12%</b>  | <b>\$50,599</b>                                       | <b>48.91%</b>  | <b>\$304,820</b>                                      |

<sup>1</sup> Based on June 30, 2021 projected compensation.

<sup>2</sup> These Districts are declining employers and they should contribute based on dollar contribution amounts shown (not rates).

## Recommended Employer Contribution Rates – Current Valuation AFTER Reflecting Three-Year Phase-In

|  | <b>June 30, 2021<br/>Projected<br/>Compensation<br/>(\$ in '000s)</b> |   | <b>June 30, 2021<br/>Projected<br/>Compensation<br/>(\$ in '000s)</b> |
|--|---|---|---|
| County General Tier I without Courts   | \$135,368   | District Category I Tier I                    | \$4,318   |
| County General Tier IIA without Courts | 65,575  | District Category I Tier IIA                  | 672   |
| County General Tier IIB without Courts | 214,201   | District Category I Tier IIB                  | 1,206   |
| Courts Tier I                          | 13,038  | District Category II Tier I                   | 1,418   |
| Courts Tier IIA                        | 3,281   | District Category II Tier IIB                 | 1,025   |
| Courts Tier IIB                        | 15,192  | District Category II Tier III                 | 0   |
| County Safety Tier I                   | 94,220  | District Category III Tier I (Buttonwillow)   | 40  |
| County Safety Tier IIA                 | 7,608   | District Category III Tier I (SJVAPCD)        | 17,188  |
| County Safety Tier IIB                 | 36,744  | District Category III Tier IIA (Buttonwillow) | 0   |
|  |   | District Category III Tier IIA (SJVAPCD)      | 951   |
|  |   | District Category III Tier IIB                | 9,540   |
|  |   | District Category V Tier I                    | 76  |
|  |   | District Category V Tier IIA                  | 410   |
|  |   | District Category V Tier IIB                  | 783   |
|  |   | District Category VI Tier I                   | 267   |
|  |   | District Category VI Tier IIB                 | 0   |
|  |   | Declining Employers Tier I (Berrenda)         | 174   |
|  |   | Declining Employers Tier I (Inyokern)         | 0   |
|  |   | All Districts                                 | \$38,068  |
| All County with Courts                 | \$585,227   | Total   | \$623,295   |

Note: As of June 30, 2021, the COLA Contribution Reserve was zero and, therefore, not available to offset the 2% COLA contribution rate.





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January 25, 2022

Mr. Dominic Brown  
Executive Director  
Kern County Employees' Retirement Association  
11125 River Run Boulevard  
Bakersfield, CA 93311

**Re: Kern County Employees' Retirement Association (KCERA)  
Five-Year Projection of Employer Contribution Rates**

Dear Dominic:

As requested, we have prepared a five-year projection of estimated employer contributions for KCERA. This projection is generally derived from the June 30, 2021 actuarial valuation. Other key assumptions and methods are detailed below. **It is important to understand that these results are entirely dependent on those assumptions. Actual results as determined in future actuarial valuations will differ from these results. In particular, actual investment returns and actual salary levels different than assumed can have a significant impact on future contribution rates.**

**Results**

In the next several years, assuming the key assumptions and methods detailed below were to be met, the Contingency Reserve is anticipated to reach its target level of 3% of the total market value of assets. This occurs as the \$429 million of net deferred investment gains from the June 30, 2021 valuation are recognized in the valuation of assets under KCERA's five-year asset smoothing.

Based on the Board's Regular Interest and Excess Interest Crediting Policy, once the Contingency Reserve reaches this target level, any remaining Excess Earnings are first allocated to the COLA Contribution Reserve (CCR) up to the amount of 2% COLA contributions paid in the prior fiscal year. Any remaining Excess Earnings would be allocated on a 50/50 basis to 1) the Unallocated Supplemental Retiree Benefit Reserve (SRBR) Reserve and 2) the valuation reserves (excluding the Allocated SRBR Reserve) and the CCR. We have estimated the impact of any such future allocations of Excess Earnings in these projections. Specifically, in Exhibit B, we have provided the estimated contribution rates and dollar contribution amounts both before and after any available employer contribution offset from the CCR for the 2% COLA benefits, as described on page 3. The estimated contribution rate impact of any future 50/50 allocations of excess earnings to the valuation reserves is captured in item (1) described below.

The estimated contribution rate changes shown below apply to the average employer contribution rate for all of KCERA. For purposes of this projection, the rate changes reflected are derived from the net deferred asset gains that will be amortized as a level percentage of the Association’s total active payroll base. In addition, these projections reflect that the Board elected to phase-in (over a three-year period) the impact of the new actuarial assumptions on the employer Unfunded Actuarial Accrued Liability (UAAL) contribution rates for Safety as calculated in the June 30, 2020 actuarial valuation.

The changes in contribution rate are due to: (1) recognition of net deferred investment gains under the actuarial asset smoothing methodology, (2) contribution increases which occur from the three-year phase-in of the impact of the assumption changes on the Safety rates, (3) contribution losses due to that three-year phase-in, and (4) adjustment for the 12-month delay in rate implementation.

The following table provides the year-to-year rate changes from each of the above components and the cumulative rate change over the five-year projection period. These rate changes become effective 12 months following the actuarial valuation date shown in the table. To obtain the estimated average employer contribution rate at each successive valuation date, these cumulative rate changes should be added to the average employer rate in our phase-in letter dated December 2, 2021 (based on the June 30, 2021 actuarial valuation) that is after reflecting the three-year phase-in. This calculation is generally the basis for the “total plan” projection of estimated employer contributions at the bottom of Exhibit B.

The rate changes shown below represent the changes in average rate for the aggregate plan.

| Rate Change Component                            | Valuation Date (6/30) |               |               |               |              |
|--|-----------------------|---------------|---------------|---------------|--------------|
|  | 2022                  | 2023          | 2024          | 2025          | 2026         |
| (1) Investment (Gains)/Losses                    | 0.00%                 | -0.33%        | -0.57%        | -0.47%        | 0.00%        |
| (2) Increase due to Three-year Phase-in          | 0.19%                 | 0.00%         | 0.00%         | 0.00%         | 0.00%        |
| (3) Contribution Loss due to Three-year Phase-in | 0.03%                 | 0.01%         | 0.00%         | 0.00%         | 0.00%        |
| (4) Adjustment for 12-Month Delay                | <u>0.00%</u>          | <u>-0.03%</u> | <u>-0.05%</u> | <u>-0.04%</u> | <u>0.00%</u> |
| Incremental Rate Change                          | 0.22%                 | -0.35%        | -0.62%        | -0.51%        | 0.00%        |
| Cumulative Rate Change                           | 0.22%                 | -0.13%        | -0.75%        | -1.26%        | -1.26%       |

The rate change for an individual cost group or employer will vary depending primarily on the size of that group’s assets and liabilities relative to its payroll. The ratio of the group’s assets to payroll is sometimes referred to as the Asset Volatility Index (AVI). A higher AVI results in more volatile contributions and can result from the following factors:

- More generous benefits
- More retirees
- Older workforce
- Shorter careers
- Higher funded ratio

Exhibit A shows the AVI for KCERA's cost groups along with the "relative AVI" which is the AVI for that specific cost group divided by the average AVI for the aggregate plan. Using these ratios we have estimated the rate change due to these generally investment related net gains for each individual cost group by multiplying the rate changes shown above for the aggregate plan by the relative AVI for each cost group. The exception is that the rate change due to the three-year phase-in of the impact of the assumption changes and the contribution losses due to the three-year phase-in have been allocated only to the Safety cost group based on the phase-in amount for that cost group.<sup>1</sup> These estimated rate changes for each cost group are shown in Exhibit A.

As with the rate change components discussed earlier for the total plan, in order to obtain contribution rates for specific employers, the cumulative rate changes shown in Exhibit A should be added to the contribution rates in our phase-in letter (based on the June 30, 2021 actuarial valuation) that is after reflecting the three-year phase-in for specific employers depending on which cost groups they are in. These rate changes are before any available employer contribution offset from the CCR for the 2% COLA benefits.

Exhibit B shows the projection of estimated employer contribution rates and dollar contributions for each cost group and for the total plan, using this methodology to apply the rate changes from Exhibit A. We have provided the estimated contribution rates and dollar contributions both before and after any available employer contribution offset from the CCR for the 2% COLA benefits.

Note that because we have estimated the allocation of the rate changes across the cost groups, the actual rate changes by group may differ from those shown in the exhibit, even if the plan-wide average rate changes are close to those shown above.

### **Key Assumptions and Methods**

The projection is based upon the following assumptions and methods:

- June 30, 2021 non-economic assumptions remain unchanged.
- June 30, 2021 retirement benefit formulas remain unchanged.

<sup>1</sup> The phase-in of the change in the Safety employer UAAL contribution rate will not have any impact on the employer UAAL contribution rates for the other cost groups as assets are tracked separately for each cost group.

- June 30, 2021 1937 Act and CalPEPRA statutes remain unchanged.
- UAAL amortization method remains unchanged (i.e., 18-year layers, level percent of pay).
- June 30, 2021 economic assumptions remain unchanged, including the 7.25% investment earnings assumption.
- We have assumed that returns of 7.25% are actually earned on a market value basis for each of the next five plan years beginning July 1, 2021.
- Active payroll grows at 3.25% per annum.
- Deferred investment gains and losses are recognized per the asset smoothing schedule shown on page 23 of the June 30, 2021 actuarial valuation. They are funded as a level percentage of the Association's total active payroll base.
- Deferred investment gains are credited according to the Board's Interest Crediting Policy.
- The Asset Volatility Index (AVI) used for these projections is based on the June 30, 2021 actuarial valuation and is assumed to stay constant during the projection period.
- All other actuarial assumptions used in the June 30, 2021 actuarial valuation are realized.
- No changes are made to any other actuarial methodologies.
- The projections do not reflect any changes in the employer contribution rates that could result due to future changes in the demographics of KCERA's active members or decreases in the employer contribution rates that might be due to new hires going into new tiers as applicable.

## Other Considerations

It is important to note that the projection is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this projection does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the Association in future valuations, Segal is available to prepare projections of potential outcomes upon request.

Finally, we emphasize that projections, by their nature, are not a guarantee of future results. The modeling projections are intended to serve as illustrations of future financial outcomes that

are based on the information available to us at the time the modeling is undertaken and completed, and the agreed-upon assumptions and methodologies described herein. Emerging results may differ significantly if the actual experience proves to be different from these assumptions or if alternative methodologies are used. Actual experience may differ due to such variables as demographic experience, the economy, stock market performance and the regulatory environment.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Unless otherwise noted, all of the above calculations are based on the June 30, 2021 actuarial valuation results including the participant data and actuarial assumptions on which that valuation was based. That valuation and these projections were completed under the supervision of Molly Calcagno, ASA, MAAA, Enrolled Actuary.

The undersigned are Members of the American Academy of Actuaries and meet the qualification requirement to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,



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



Molly Calcagno, ASA, MAAA, EA  
Actuary

ST/bbf  
Enclosures

**Kern County Employees' Retirement Association**  
**Estimated Employer Contribution Rate Changes by Cost Group based on June 30, 2021 Valuation**

|  | General<br>County* and<br>Courts | General<br>Districts | Safety          | Total<br>Plan   |
|--|----------------------------------|----------------------|-----------------|-----------------|
| Market Value of Assets (MVA)**   | \$3,044,229,178                  | \$264,616,933        | \$1,926,244,405 | \$5,235,090,516 |
| Projected Payroll for 2021/2022  | \$446,654,049                    | \$38,068,382         | \$138,571,654   | \$623,294,085   |
| Asset Volatility Index (AVI) = MVA/Payroll   | 6.82                             | 6.95                 | 13.90           | 8.40            |
| Relative Asset Volatility Index (AVI) = CG AVI / Total Plan AVI                                | 0.81                             | 0.83                 | 1.66            | 1.00            |
| <b>Rate Change due to Investments and Adjustment for 12-Month Delay</b>                        |                                  |                      |                 |                 |
| Estimated Incremental Rate Change as of 6/30/2022  | 0.00%                            | 0.00%                | 0.00%           | 0.00%           |
| Estimated Incremental Rate Change as of 6/30/2023  | -0.29%                           | -0.30%               | -0.60%          | -0.36%          |
| Estimated Incremental Rate Change as of 6/30/2024  | -0.50%                           | -0.51%               | -1.03%          | -0.62%          |
| Estimated Incremental Rate Change as of 6/30/2025  | -0.41%                           | -0.42%               | -0.84%          | -0.51%          |
| Estimated Incremental Rate Change as of 6/30/2026  | 0.00%                            | 0.00%                | 0.00%           | 0.00%           |
| <b>Rate Change due to Three-year Phase-in and Contribution Loss due to Three-year Phase-in</b> |                                  |                      |                 |                 |
| Estimated Incremental Rate Change as of 6/30/2022  | 0.00%                            | 0.00%                | 1.00%           | 0.22%           |
| Estimated Incremental Rate Change as of 6/30/2023  | 0.00%                            | 0.00%                | 0.04%           | 0.01%           |
| Estimated Incremental Rate Change as of 6/30/2024  | 0.00%                            | 0.00%                | 0.00%           | 0.00%           |
| Estimated Incremental Rate Change as of 6/30/2025  | 0.00%                            | 0.00%                | 0.00%           | 0.00%           |
| Estimated Incremental Rate Change as of 6/30/2026  | 0.00%                            | 0.00%                | 0.00%           | 0.00%           |
| <b>Cumulative Rate Change</b>  |                                  |                      |                 |                 |
| Cumulative Rate Change as of 6/30/2022   | 0.00%                            | 0.00%                | 1.00%           | 0.22%           |
| Cumulative Rate Change as of 6/30/2023   | -0.29%                           | -0.30%               | 0.44%           | -0.13%          |
| Cumulative Rate Change as of 6/30/2024   | -0.79%                           | -0.81%               | -0.59%          | -0.75%          |
| Cumulative Rate Change as of 6/30/2025   | -1.20%                           | -1.23%               | -1.43%          | -1.26%          |
| Cumulative Rate Change as of 6/30/2026   | -1.20%                           | -1.23%               | -1.43%          | -1.26%          |

\* Including the Hospital Authority

\*\* Excludes non-valuation reserves

## Kern County Employees' Retirement Association Projection of Estimated Employer Contributions

| County General* without Courts |             |               |                             |                          |                             |                         |
|--------------------------------|-------------|---------------|-----------------------------|--------------------------|-----------------------------|-------------------------|
| Valuation Date                 | Fiscal Year | Total Payroll | Total Employer Contribution | Contribution Rate        | Total Employer Contribution | Contribution Rate       |
|                                |             |               | <u>Before</u> CCR Offset    | <u>Before</u> CCR Offset | <u>After</u> CCR Offset     | <u>After</u> CCR Offset |
| June 30, 2020                  | 2021-22     | \$415,144,000 | \$167,635,000               | 40.38%                   | \$167,635,000               | 40.38%                  |
| June 30, 2021                  | 2022-23     | 428,636,000   | 172,483,000                 | 40.24%                   | 172,483,000                 | 40.24%                  |
| June 30, 2022                  | 2023-24     | 442,567,000   | 178,089,000                 | 40.24%                   | 153,738,000                 | 34.74%                  |
| June 30, 2023                  | 2024-25     | 456,950,000   | 182,552,000                 | 39.95%                   | 160,839,000                 | 35.20%                  |
| June 30, 2024                  | 2025-26     | 471,801,000   | 186,125,000                 | 39.45%                   | 163,692,000                 | 34.70%                  |
| June 30, 2025                  | 2026-27     | 487,135,000   | 190,178,000                 | 39.04%                   | 174,050,000                 | 35.73%                  |
| June 30, 2026                  | 2027-28     | 502,967,000   | 196,358,000                 | 39.04%                   | 194,527,000                 | 38.68%                  |

| Courts         |             |               |                             |                          |                             |                         |
|----------------|-------------|---------------|-----------------------------|--------------------------|-----------------------------|-------------------------|
| Valuation Date | Fiscal Year | Total Payroll | Total Employer Contribution | Contribution Rate        | Total Employer Contribution | Contribution Rate       |
|                |             |               | <u>Before</u> CCR Offset    | <u>Before</u> CCR Offset | <u>After</u> CCR Offset     | <u>After</u> CCR Offset |
| June 30, 2020  | 2021-22     | \$31,510,000  | \$12,692,000                | 40.28%                   | \$12,692,000                | 40.28%                  |
| June 30, 2021  | 2022-23     | 32,534,000    | 13,082,000                  | 40.21%                   | 13,082,000                  | 40.21%                  |
| June 30, 2022  | 2023-24     | 33,591,000    | 13,507,000                  | 40.21%                   | 11,548,000                  | 34.38%                  |
| June 30, 2023  | 2024-25     | 34,683,000    | 13,845,000                  | 39.92%                   | 12,128,000                  | 34.97%                  |
| June 30, 2024  | 2025-26     | 35,810,000    | 14,116,000                  | 39.42%                   | 12,342,000                  | 34.47%                  |
| June 30, 2025  | 2026-27     | 36,974,000    | 14,424,000                  | 39.01%                   | 13,149,000                  | 35.56%                  |
| June 30, 2026  | 2027-28     | 38,176,000    | 14,892,000                  | 39.01%                   | 14,747,000                  | 38.63%                  |

| Districts      |             |               |                             |                          |                             |                         |
|----------------|-------------|---------------|-----------------------------|--------------------------|-----------------------------|-------------------------|
| Valuation Date | Fiscal Year | Total Payroll | Total Employer Contribution | Contribution Rate        | Total Employer Contribution | Contribution Rate       |
|                |             |               | <u>Before</u> CCR Offset    | <u>Before</u> CCR Offset | <u>After</u> CCR Offset     | <u>After</u> CCR Offset |
| June 30, 2020  | 2021-22     | \$38,068,000  | \$18,634,000                | 48.95%                   | \$18,634,000                | 48.95%                  |
| June 30, 2021  | 2022-23     | 39,305,000    | 19,507,000                  | 49.63%                   | 19,507,000                  | 49.63%                  |
| June 30, 2022  | 2023-24     | 40,582,000    | 20,141,000                  | 49.63%                   | 17,283,000                  | 42.59%                  |
| June 30, 2023  | 2024-25     | 41,901,000    | 20,670,000                  | 49.33%                   | 18,047,000                  | 43.07%                  |
| June 30, 2024  | 2025-26     | 43,263,000    | 21,121,000                  | 48.82%                   | 18,411,000                  | 42.56%                  |
| June 30, 2025  | 2026-27     | 44,669,000    | 21,620,000                  | 48.40%                   | 19,672,000                  | 44.04%                  |
| June 30, 2026  | 2027-28     | 46,121,000    | 22,323,000                  | 48.40%                   | 22,102,000                  | 47.92%                  |

| Safety         |             |               |                             |                          |                             |                         |
|----------------|-------------|---------------|-----------------------------|--------------------------|-----------------------------|-------------------------|
| Valuation Date | Fiscal Year | Total Payroll | Total Employer Contribution | Contribution Rate        | Total Employer Contribution | Contribution Rate       |
|                |             |               | <u>Before</u> CCR Offset    | <u>Before</u> CCR Offset | <u>After</u> CCR Offset     | <u>After</u> CCR Offset |
| June 30, 2020  | 2021-22     | \$138,572,000 | \$105,772,000               | 76.33%                   | \$105,772,000               | 76.33%                  |
| June 30, 2021  | 2022-23     | 143,076,000   | 109,653,000                 | 76.64%                   | 109,653,000                 | 76.64%                  |
| June 30, 2022  | 2023-24     | 147,726,000   | 114,694,000                 | 77.64%                   | 96,845,000                  | 65.56%                  |
| June 30, 2023  | 2024-25     | 152,527,000   | 117,568,000                 | 77.08%                   | 100,979,000                 | 66.20%                  |
| June 30, 2024  | 2025-26     | 157,484,000   | 119,767,000                 | 76.05%                   | 102,270,000                 | 64.94%                  |
| June 30, 2025  | 2026-27     | 162,602,000   | 122,293,000                 | 75.21%                   | 109,714,000                 | 67.47%                  |
| June 30, 2026  | 2027-28     | 167,887,000   | 126,268,000                 | 75.21%                   | 124,840,000                 | 74.36%                  |

| Total Plan     |             |               |                             |                          |                             |                         |
|----------------|-------------|---------------|-----------------------------|--------------------------|-----------------------------|-------------------------|
| Valuation Date | Fiscal Year | Total Payroll | Total Employer Contribution | Contribution Rate        | Total Employer Contribution | Contribution Rate       |
|                |             |               | <u>Before</u> CCR Offset    | <u>Before</u> CCR Offset | <u>After</u> CCR Offset     | <u>After</u> CCR Offset |
| June 30, 2020  | 2021-22     | \$623,294,000 | \$304,733,000               | 48.89%                   | \$304,733,000               | 48.89%                  |
| June 30, 2021  | 2022-23     | 643,551,000   | 314,725,000                 | 48.91%                   | 314,725,000                 | 48.91%                  |
| June 30, 2022  | 2023-24     | 664,466,000   | 326,431,000                 | 49.13%                   | 279,414,000                 | 42.05%                  |
| June 30, 2023  | 2024-25     | 686,061,000   | 334,635,000                 | 48.78%                   | 291,993,000                 | 42.56%                  |
| June 30, 2024  | 2025-26     | 708,358,000   | 341,129,000                 | 48.16%                   | 296,715,000                 | 41.89%                  |
| June 30, 2025  | 2026-27     | 731,380,000   | 348,515,000                 | 47.65%                   | 316,585,000                 | 43.29%                  |
| June 30, 2026  | 2027-28     | 755,151,000   | 359,841,000                 | 47.65%                   | 356,216,000                 | 47.17%                  |

\* Including the Hospital Authority

Estimated Employer Contribution Amounts for 2021-22 Fiscal Year are Based on June 30, 2020 Valuation Contribution Rate and June 30, 2021 Valuation Payroll.

Note: These rates are after reflecting the three-year phase-in of the impact of the assumption changes on the Safety employer's UAAL contribution rate.





KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

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

**Date:** February 9, 2022  
**To:** Trustees, Board of Retirement  
**From:** Dominic D. Brown, Chief Executive Officer *Dominic D. Brown*  
**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") when, as here, a request for proposals (RFP) has been issued by KCERA. The CEO has initiated an evaluation period during the search for a new Actuarial Services Consultant, as he believes it is prudent to limit communications between current or prospective service providers and KCERA board members during this time. (See Due Diligence and Service Provider Selection Policy).

Trustees are required to comply with the evaluation period restrictions upon notice of the evaluation period. (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 February 2, 2022.



# KERN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

## PRIVATE MARKETS PORTFOLIO REVIEW

PRESENTED BY ANDREA AUERBACH, INVESTMENT MANAGING DIRECTOR, KEIRSTEN LAWTON, INVESTMENT MANAGING DIRECTOR, KELLY JENSEN, SENIOR INVESTMENT DIRECTOR, AND ANELISE HOHL, INVESTMENT DIRECTOR



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## KCERA's Private Markets Strategy Revisited

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- KCERA has a 15% long-term target allocation to private markets
  - 5% to private equity
  - 5% to private credit
  - 5% to private real estate
  
- As of September 30, 2021, the private markets portfolio NAV stood at \$398.8 million, or ~7.3% of total Plan assets<sup>1</sup>
  - ~1.8% to private equity
  - ~4.2% to private credit
  - ~1.3% to private real estate
  
- To achieve the long-term target, we recommend an annual commitment pace of ~\$260 million for 2022.
  
- Implementation approach:
  - Develop a relatively concentrated portfolio of “best ideas” based on bottom-up manager selection
  - Seek diversification across asset classes, sub-strategies, and sectors
  - Maintain a relatively steady commitment pace each year for sufficient vintage year diversification
  - Incorporate secondaries exposure in the early years to mitigate the j-curve as the portfolio matures

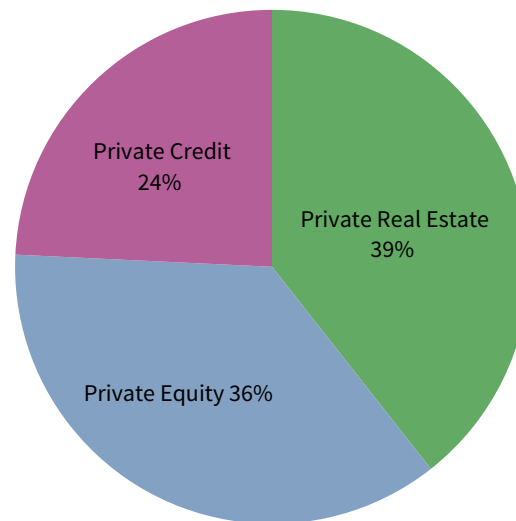
## 2021 Year in Review

- KCERA demonstrated discipline against the backdrop of a highly active fundraising environment
  - \$165 million committed to 7 funds across 5 high conviction managers
    - 4 private equity funds, 1 private credit fund, 2 private real estate funds
  - Leaned into “value-add” strategies, namely lower-middle-market and middle-market players with sector specialization and operational orientations
  - Maintained emphasis on managers with experience across cycles and/or differentiated capabilities
  
- Private Equity:
  - Introduced dedicated healthcare exposure with a best-in-class, specialist buyout player
  - Complemented existing technology growth equity relationship in Brighton Park with Level Equity who operates at the lower end of the middle-market technology segment
  
- Private Credit:
  - Furthered relationship with cycle-tested manager, Fortress, who is well-positioned to take advantage of a wide range of credit opportunities
  
- Private Real Estate:
  - Gained dedicated logistics exposure with top-tier specialist manager LBA Realty
  - Added a flexible, value- and operationally-oriented strategy poised to take advantage of changing market conditions
  
- In January 2022, the Board approved a \$40 million commitment to Fortress Lending Fund III

## 2021 Year in Review (continued)

- Commitments were diversified across strategies, though guided by opportunities in the market
- Capital deployment biased to private real estate and private equity given larger relative underweights
- Over time, we anticipate commitment pacing to be roughly equal across the three strategies

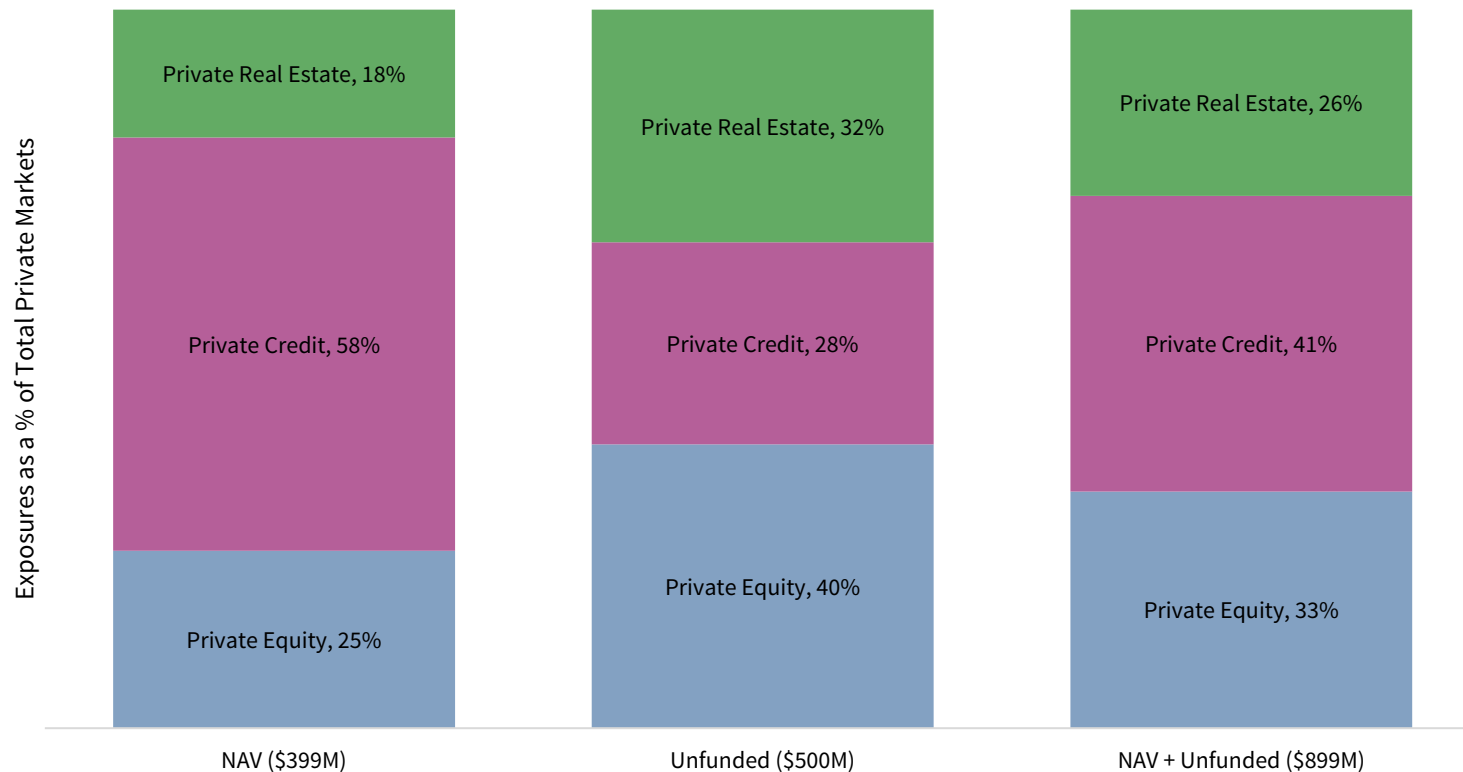
**KCERA Private Markets 2021 Commitments by Asset Class<sup>1</sup>**  
**By \$ committed**



## Private Markets Portfolio Snapshot

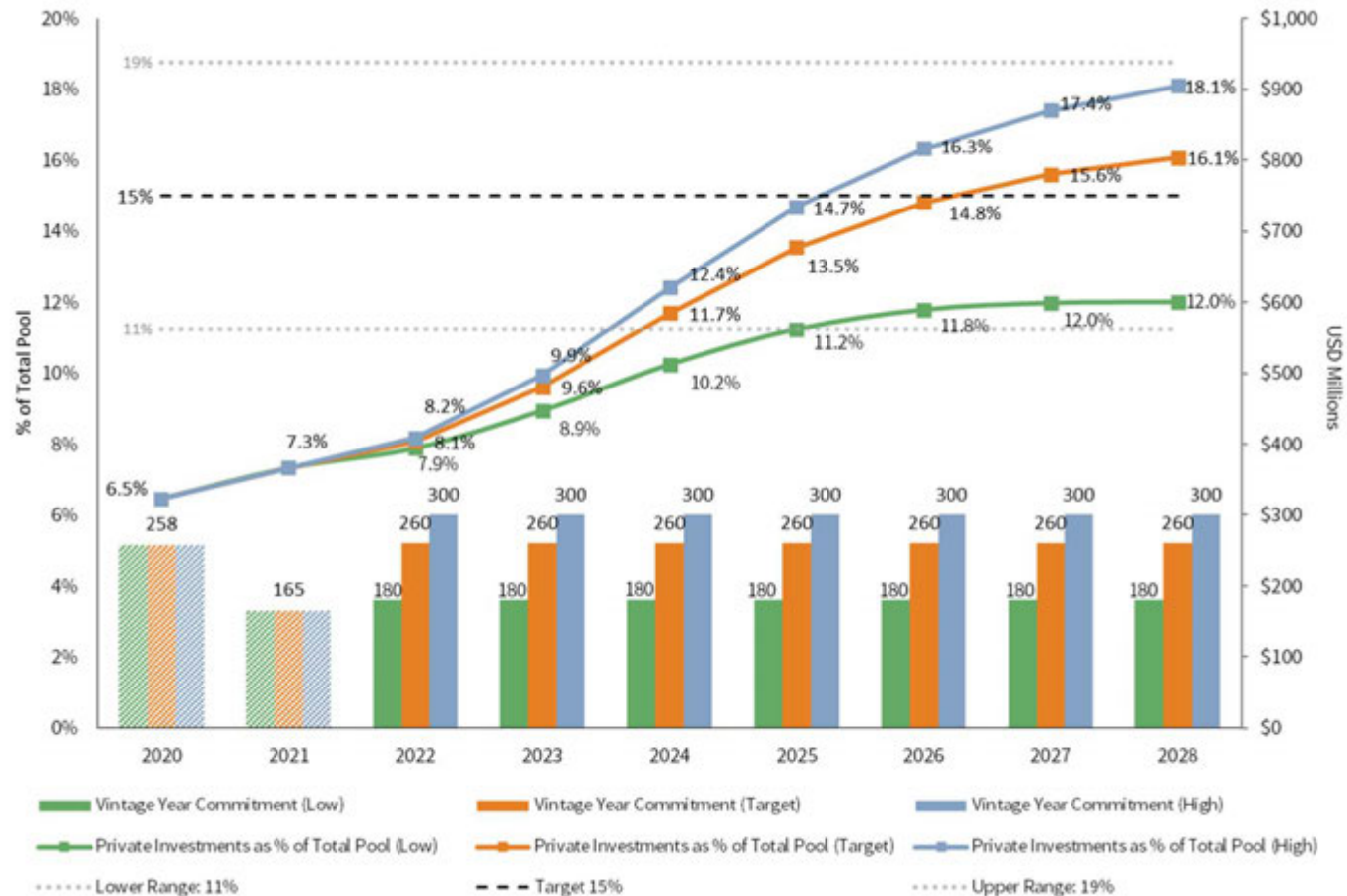
- Current portfolio NAV biased towards private credit strategies (58%) given legacy commitments
- “In the ground” exposure likely to balance out as recent commitments to private equity and private real estate funds mature and unfunded capital is drawn

### ASSET CLASS EXPOSURES



## Private Markets Commitment Pacing

- Recommended commitment pace of \$260 million p.a. for the portfolio to reach target around 2026
- Actual commitments to be determined based on the quality of the opportunity set



## 2022 Private Markets Plan

- Expect a mix of new manager relationships and “re-up” opportunities this year
  - 4 existing managers likely to raise subsequent funds, presenting an opportunity to maintain exposure over time with top performers
- Diversify technology buyout exposure
- Add complementary real estate exposure
- Consider additional secondaries commitment(s) for j-curve mitigation
- Widen the funnel of opportunities within private equity to include venture capital

|                            | <i># of Manager Relationships</i> | <i>Target Returns (net)</i> | <i>Sub-Strategies</i>   | <i>2022 Priorities / Potential Areas of Focus</i>  |
|----------------------------|-----------------------------------|-----------------------------|---|--|
| <b>Private Equity</b>      | 6-13*                             | 12-15% IRR<br>1.8x-2.0x+    | Middle Market Buyouts<br>Growth Equity<br>PE Secondaries<br>Venture Capital   | Buyout & Growth Equity Re-ups<br>Complementary PE secondaries<br>Venture Capital                           |
| <b>Private Credit</b>      | 4-6                               | 10-12% IRR<br>1.4x-1.7x     | Direct Lending<br>Credit Opportunities<br>Niche/Specialty Finance             | Credit Opportunities Re-up-FLF ✓<br>Direct Lending Re-up<br>Other Niche Opportunities                      |
| <b>Private Real Estate</b> | 6-8                               | 10-14% IRR<br>1.4x-1.7x     | Opportunistic Real Estate<br>Value Add Real Estate<br>Real Estate Secondaries | Real Estate Secondaries<br>Multi-Family Specialist Re-up<br>Hospitality Specialist<br>Global Opportunistic |

## Private Equity and Private Credit Commitment Planning

| Managers                                       | Strategy                      | 2020         | 2021        | 2022         | 2023        | 2024        | Total        |
|--|-------------------------------|--------------|-------------|--------------|-------------|-------------|--------------|
| <b>Buyouts</b>                                 |                               |              |             |              |             |             |              |
| <i>Vista Foundation</i>                        | Buyouts - Tech                | \$25         | --          | --           | --          | --          | \$25         |
| <i>Peak Rock Capital</i>                       | Distressed Special Situations | \$30         | --          | --           | --          | --          | \$30         |
| <i>Warren Equity Partners</i>                  | Buyouts - Industrial          | \$32.5       | --          | --           | --          | --          | \$33         |
| <i>Linden Capital Partners</i>                 | Buyouts - Healthcare          | --           | \$30        | --           | --          | --          | \$30         |
| <i>TBD (manager / coinvestments)</i>           | TBD                           | --           | --          | \$30         | --          | --          | \$30         |
| <i>TBD (manager / coinvestments)</i>           | TBD                           | --           | --          | --           | --          | \$30        | \$30         |
| <i>Anticipated Re-up Commitments</i>           | TBD                           | --           | --          | \$33         | \$60        | \$30        | \$123        |
| <b>Subtotal Buyouts</b>                        |                               | <b>\$88</b>  | <b>\$30</b> | <b>\$63</b>  | <b>\$60</b> | <b>\$60</b> | <b>\$300</b> |
| <b>Growth</b>                                  |                               |              |             |              |             |             |              |
| <i>Brighton Park</i>                           | Growth Equity                 | \$30         | --          | --           | --          | --          | \$30         |
| <i>Level Equity Growth &amp; Opportunities</i> | Growth Equity                 | --           | \$30        | --           | --          | --          | \$30         |
| <i>Anticipated Re-up Commitments</i>           | TBD                           | --           | --          | \$30         | --          | \$30        | \$60         |
| <b>Subtotal Growth</b>                         |                               | <b>\$30</b>  | <b>\$30</b> | <b>\$30</b>  | <b>--</b>   | <b>\$30</b> | <b>\$120</b> |
| <b>Private Equity Secondaries</b>              |                               |              |             |              |             |             |              |
| <i>LGT - Crown Global Secondaries</i>          | Global Secondaries            | \$50         | --          | --           | --          | --          | \$50         |
| <i>TBD (manager / coinvestments)</i>           | Secondaries                   | --           | --          | \$25         | --          | --          | \$25         |
| <b>Subtotal Private Equity Secondaries</b>     |                               | <b>\$50</b>  | <b>--</b>   | <b>\$25</b>  | <b>--</b>   | <b>--</b>   | <b>\$75</b>  |
| <b>Subtotal Private Equity</b>                 |                               | <b>\$168</b> | <b>\$60</b> | <b>\$118</b> | <b>\$60</b> | <b>\$90</b> | <b>\$495</b> |
| <i>Proposed Commitment Pace (Approximate)</i>  |                               | \$155        | \$80        | \$85         | \$85        | \$85        | \$490        |
| <i>Variance</i>                                |                               | \$13         | (\$20)      | \$33         | (\$25)      | \$5         | \$5          |
| <b>Private Credit</b>                          |                               |              |             |              |             |             |              |
| <i>Fortress Credit Opportunities</i>           | Credit Opportunities          | \$40         | --          | --           | --          | --          | \$40         |
| <i>Blue Torch Credit Opportunities Fund</i>    | Senior Lending                | \$20         | --          | --           | --          | --          | \$20         |
| <i>Fortress Lending Fund</i>                   | Credit Opportunities          | --           | \$40        | \$40         | --          | --          | \$80         |
| <i>TBD (manager / coinvestments)</i>           | TBD                           | --           | --          | --           | \$40        | --          | \$40         |
| <i>TBD (manager / coinvestments)</i>           | TBD                           | --           | --          | --           | --          | \$40        | \$40         |
| <i>Anticipated Re-up Commitments</i>           | TBD                           | --           | --          | \$40         | \$40        | \$40        | \$120        |
| <b>Subtotal Private Credit</b>                 |                               | <b>\$60</b>  | <b>\$40</b> | <b>\$80</b>  | <b>\$80</b> | <b>\$80</b> | <b>\$340</b> |
| <i>Proposed Commitment Pace (Approximate)</i>  |                               | \$45         | \$80        | \$85         | \$85        | \$85        | \$380        |
| <i>Variance</i>                                |                               | \$15         | (\$40)      | (\$5)        | (\$5)       | (\$5)       | (\$40)       |



## Private Real Estate Commitment Planning

| Managers                                      | Strategy                                | 2020         | 2021         | 2022         | 2023         | 2024         | Total          |
|---|---|--------------|--------------|--------------|--------------|--------------|----------------|
| <b>Private Real Estate</b>                    |   |              |              |              |              |              |                |
| <i>Covenant Capital Group</i>                 | US Value-Add Real Estate - Multi-Family | <b>\$30</b>  | --           | --           | --           | --           | \$30           |
| <i>Singerman Real Estate</i>                  | US Opportunistic Real Estate            | --           | <b>\$35</b>  | --           | --           | --           | \$35           |
| <i>LBA Realty</i>                             | US Real Estate - Industrial             | --           | <b>\$30</b>  | --           | --           | --           | \$30           |
| <i>TBD (manager / coinvestments)</i>          | TBD                                     | --           | --           | \$30         | --           | --           | \$30           |
| <i>TBD (manager / coinvestments)</i>          | TBD                                     | --           | --           | \$40         | --           | --           | \$40           |
| <i>TBD (manager / coinvestments)</i>          | TBD                                     | --           | --           | --           | \$40         | --           | \$40           |
| <i>Anticipated Re-up Commitments</i>          | TBD                                     | --           | --           | \$30         | --           | \$70         | \$100          |
| <b>Subtotal Private Real Estate</b>           |   | <b>\$30</b>  | <b>\$65</b>  | <b>\$100</b> | <b>\$40</b>  | <b>\$70</b>  | <b>\$305</b>   |
| <b>Real Estate Secondaries</b>                |   |              |              |              |              |              |                |
| <i>Anticipated Re-up Commitments</i>          | TBD                                     | --           | --           | \$40         | --           | --           | \$40           |
| <b>Subtotal Real Estate Secondaries</b>       |   | --           | --           | <b>\$40</b>  | --           | --           | <b>\$40</b>    |
| <b>Subtotal Private Real Estate</b>           |   | <b>\$30</b>  | <b>\$65</b>  | <b>\$140</b> | <b>\$40</b>  | <b>\$70</b>  | <b>\$345</b>   |
| <i>Proposed Commitment Pace (Approximate)</i> |   | \$30         | \$80         | \$85         | \$85         | \$85         | \$365          |
| <i>Variance</i>                               |   | --           | (\$15)       | \$55         | (\$45)       | (\$15)       | (\$20)         |
| <b>Total Private Investments</b>              |   | <b>\$258</b> | <b>\$165</b> | <b>\$338</b> | <b>\$180</b> | <b>\$240</b> | <b>\$1,180</b> |
| <i>Proposed Commitment Pace (Approximate)</i> |   | \$230        | \$240        | \$260        | \$260        | \$260        | \$1,250        |
| <i>Variance</i>                               |   | \$28         | (\$75)       | \$78         | (\$80)       | (\$20)       | (\$70)         |

# APPENDIX



## Implementation Plan for Private Equity Portfolio

| STRATEGY                                      | GROWTH EQUITY & VENTURE CAPITAL  | BUYOUTS  |
|---|--|--|
| POSSIBLE WEIGHTING (% OF TOTAL PE ALLOCATION) | 20%-40%  | 50-70%   |
| # OF MANAGER RELATIONSHIPS                    | 2-5  | 4-8  |
| COMMITMENT SIZING                             | \$30-35M   | \$30-50M   |
| TARGET RETURN                                 | 12-15%+  | 12-15%+  |
| TARGET MULTIPLE                               | 1.8X-2.0X+   | 1.8X   |
| FOCUS   | <ul style="list-style-type: none"> <li>▪ Mid and lower middle market growth equity</li> <li>▪ Strong sourcing capability</li> <li>▪ Sub sectors of expertise</li> <li>▪ Venture capital</li> </ul> | <ul style="list-style-type: none"> <li>▪ Small/mid-cap bias</li> <li>▪ Operational value-add</li> <li>▪ Buy and build</li> <li>▪ Sector specialists</li> <li>▪ PE Secondaries</li> </ul> |

Total Private Equity Portfolio Targets (net): 12-15% IRR; 1.8-2.0x Multiple

## Implementation Plan for Private Credit Portfolio

| STRATEGY  | DISTRESSED   | CREDIT OPPORTUNITIES  | PRIVATE CREDIT   |
|---|--|---|--|
| WEIGHTING<br>(% OF TOTAL PRIVATE CREDIT ALLOCATION) | 0%-15%   | 40%-70%   | 30%-60%  |
| # OF MANAGER RELATIONSHIPS                          | 0-1  | 2-3   | 2-3  |
| COMMITMENT SIZING                                   | \$20-40M   | \$30-40M  | \$30-40M   |
| TARGET RETURN                                       | 12-15%   | 10-13%  | 9-12%  |
| TARGET MULTIPLE                                     | 1.7X   | 1.5X  | 1.4X   |
| FOCUS   | <ul style="list-style-type: none"> <li>▪ Special situations</li> <li>▪ Distressed credit</li> <li>▪ Distressed assets and ABS</li> </ul> | <ul style="list-style-type: none"> <li>▪ Credit opportunities</li> <li>▪ ABS</li> <li>▪ Intellectual property</li> <li>▪ Litigation finance</li> <li>▪ Royalties</li> <li>▪ Life settlements</li> </ul> | <ul style="list-style-type: none"> <li>▪ Senior secured lending/direct lending</li> <li>▪ Capital solutions</li> </ul> |

Total Private Credit Portfolio Targets (net): 10-12% IRR; 1.4-1.7x Multiple

## Implementation Plan for Private Real Estate Portfolio

| STRATEGY  | OPPORTUNISTIC REAL ESTATE   | VALUE-ADDED REAL ESTATE |
|---|---|-------------------------|
| WEIGHTING<br>(% OF TOTAL REAL ASSETS ALLOCATION)  | 20%-50%   | 20%-50%                 |
| # OF MANAGER RELATIONSHIPS  | 2-5   | 2-5                     |
| COMMITMENT SIZING   | \$25-40M  | \$25-40M                |
| TARGET RETURN   | 12-15%  | 10-13%                  |
| TARGET MULTIPLE   | 1.5-1.8X  | 1.3-1.6X                |
| FOCUS   | <ul style="list-style-type: none"> <li>▪ Defensive property types</li> <li>▪ Secular-driven opportunities</li> <li>▪ Property-type specialists</li> <li>▪ Operationally-oriented firms</li> <li>▪ Real estate secondaries to be considered as J-curve mitigant</li> </ul> |                         |
| <b>Total Private Real Estate Portfolio Targets (net): 10-14% IRR; 1.4-1.7x Multiple</b> |   |                         |

## KCERA's Legacy Portfolio

- Exposure is tilted towards Fund of Funds and generalist strategies at larger platforms
- The legacy portfolio returns to date are below what we expect from the CA-Advised portfolio going forward

| ASSET CLASS         | SINCE INCEPTION RETURNS       | NOTES   |
|---------------------|-------------------------------|---|
| Private Equity      | 7.9% net IRR<br>1.6x net TVPI | <ul style="list-style-type: none"> <li>• The legacy Private Equity portfolio is made up of nine funds across two manager relationships with vintage years between 1997-2006. Only one fund is liquidated while the rest are no longer making new investments but have remaining NAV that will be distributed over time</li> <li>• Exposures are concentrated in diversified Fund of Funds (98%), with the remainder in one private equity secondaries fund</li> </ul>   |
| Private Credit      | 6.6% net IRR<br>1.1x net TVPI | <ul style="list-style-type: none"> <li>• The legacy Private Credit portfolio is made up of five funds across five manager relationships with vintage years between 2014-2018. Three funds are still calling capital, while the remaining two are no longer making new investments but have remaining NAV that will be distributed over time.</li> <li>• Exposures are concentrated in real estate debt strategies (59%) with the remainder in distressed corporate credit and senior debt strategies</li> <li>• Relative to the other asset classes, the Private Credit portfolio is younger and managers such as H.I.G. and TSSP have produced strong trailing 1-year returns</li> </ul> |
| Private Real Estate | 7.9% net IRR<br>1.3x net TVPI | <ul style="list-style-type: none"> <li>• The legacy Private Real Estate portfolio is made up of nine funds across four manager relationships with vintage years between 1996-2018. Five of the funds have been fully liquidated, three are no longer making new investments but have remaining NAV, and one is still actively investing</li> <li>• Exposures are concentrated in generalist, direct real estate mandates (59%), with the remainder in one real estate secondaries fund</li> </ul>   |

**ALTERNATIVE INVESTMENTS RECORDS**

**EXEMPT FROM PUBLIC DISCLOSURE**

**(CA Gov. Code §6254.26)**

**(CA Gov. Code §6255)**

**(CA Gov. Code §54957.5)**

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**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**FEBRUARY 2022**

Capital efficiency review

**Kern County Employees' Retirement Association**



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Where we've been; where we're headed **PAGE 3**

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Concept review **PAGE 4**

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Beta diversification **PAGE 8**

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Right-sizing the reserve **PAGE 12**

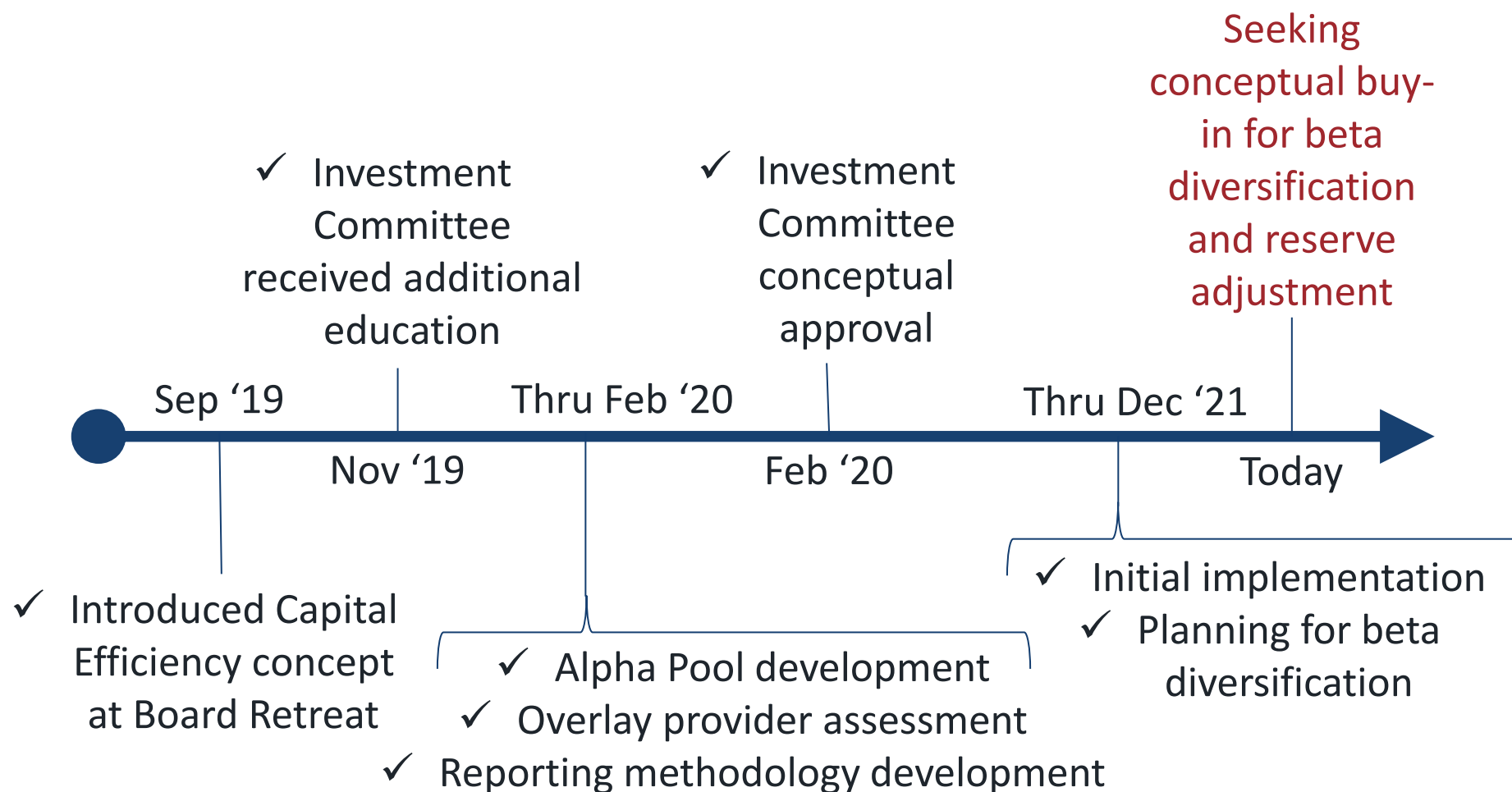
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Recommendation **PAGE 14**

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Next steps **PAGE 15**

# Program timeline



# Refresher

## Definitions

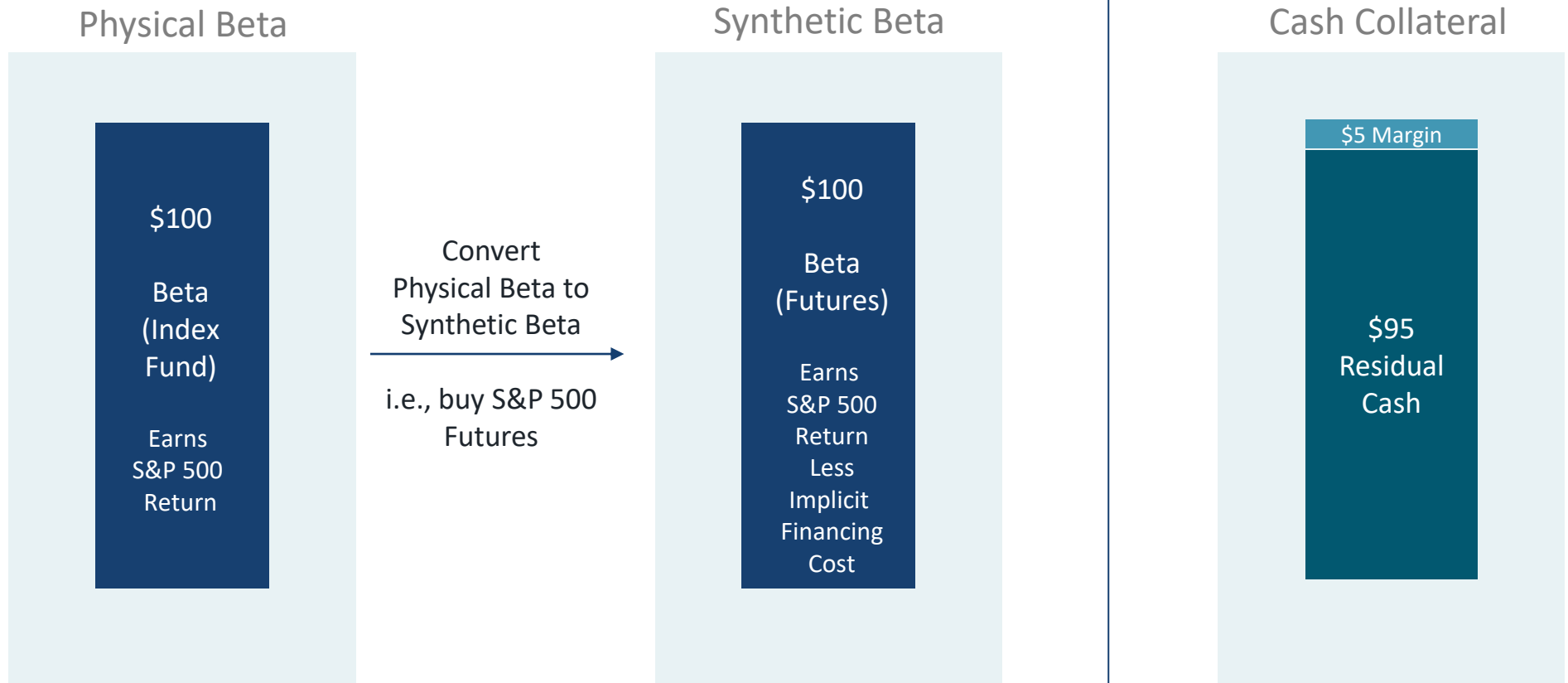
- **Beta:** Market exposure for a given asset class or index (e.g., S&P 500, 10-year Treasury).  
Beta is cheap!
- **Alpha:** Excess return over the benchmark. Also referred to as active return, the potential reward for being different than the benchmark.
- **“Capital Efficiency”:** An approach to earning higher excess returns overall by “hunting” alpha where it can be most easily found and “harvesting” beta where it cannot.

## Program Benefits

- Enhanced return to the pure Beta Portfolio through more efficient use of capital
- More efficient use of fees (paying for pure alpha, not a combination of alpha and beta)
- More reliable alpha sources
- Ability to use excess return from the strategy to balance Total Fund risk

# Capital efficiency mechanics

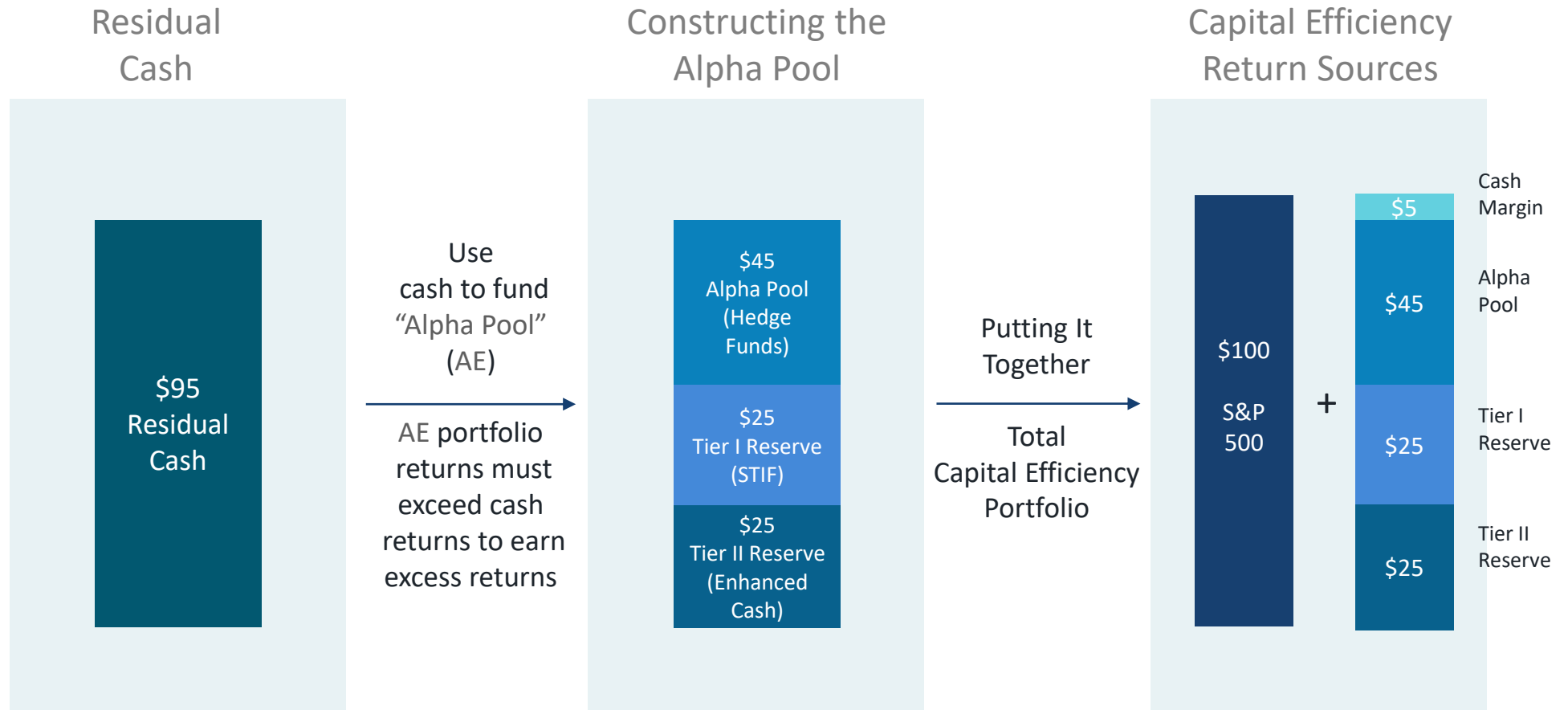
Step One: Create Synthetic Beta Portfolio (single Beta solution)



Big Question: What do we do with Residual Cash?

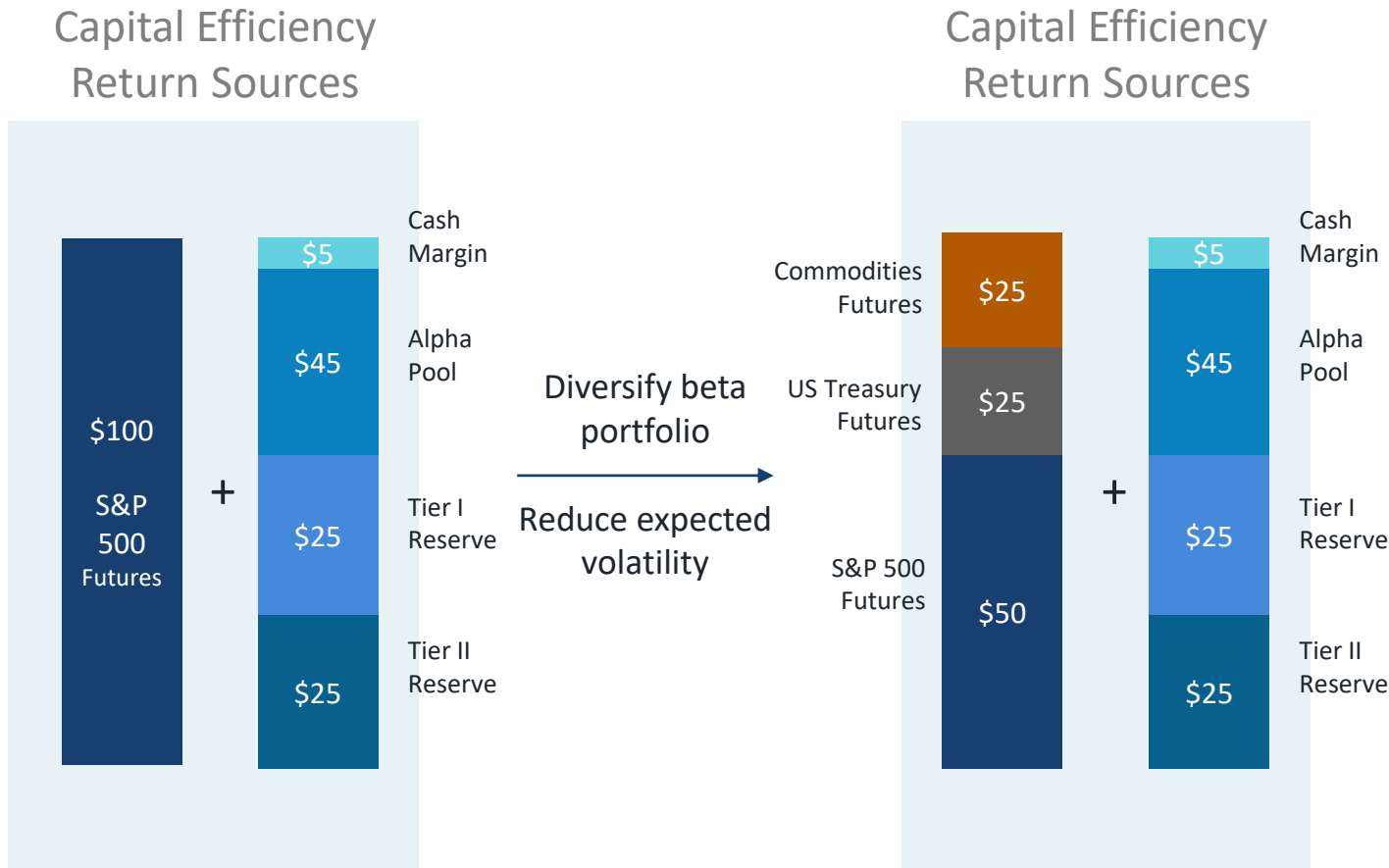
# Capital efficiency mechanics

## Step Two: Integrating Alpha



# Capital efficiency mechanics

Diversifying Beta beyond S&P 500



- Beta to be sourced from three highly liquid markets, rather than just one
  - S&P 500 futures
  - US Treasury futures
  - Commodities futures
- Using only highly liquid markets helps ensure best index tracking during extreme events
- Lower Beta volatility leads to potential for more efficient collateral utilization

# Why diversify the beta portfolio?

## — Advantages

- Diversification = lower volatility = lower cash reserve requirements (currently very conservative)
- Greater flexibility: ability to replace other challenged sources of traditional alpha with Capital Efficiency alpha, i.e., no longer restricted to US large cap equity

## — Disadvantage: modest increase in operational risk (if beta manager fails to maintain required market exposures)

## — Other Considerations

- Minimizing the volatility of the beta portfolio reduces reserve requirements (and the need for low-yielding cash equivalent accounts)
- On the other hand, maximization of traditional alpha opportunities requires qualitative judgement regarding the beta sourcing
- Solution: **wide ranges for each beta allocation**

# Why beta portfolio volatility matters

- Due to opportunities for arbitrage, a liquid futures contract closely tracks the underlying index. Downward price movements are generally the same as they are in an index fund (may be some timing differences during extreme events, e.g., Oct 1987).
- Unlike an index fund, additional collateral must be posted to cover those short-term futures losses (variation margin)
- At 25% of capital, the level I reserve is currently more than adequate to cover the greatest single-day loss in the history of the S&P 500 (-20.5% on 10/19/87)
- The 25% level II reserve is sized to provide approximately six months of rebalancing flexibility in the event of a sustained S&P 500 drawdown
- A more diversified beta portfolio would have less downside risk, thus **requiring smaller reserves to provide the same level of safety**, and leaving more capital available for allocation to the alpha pool



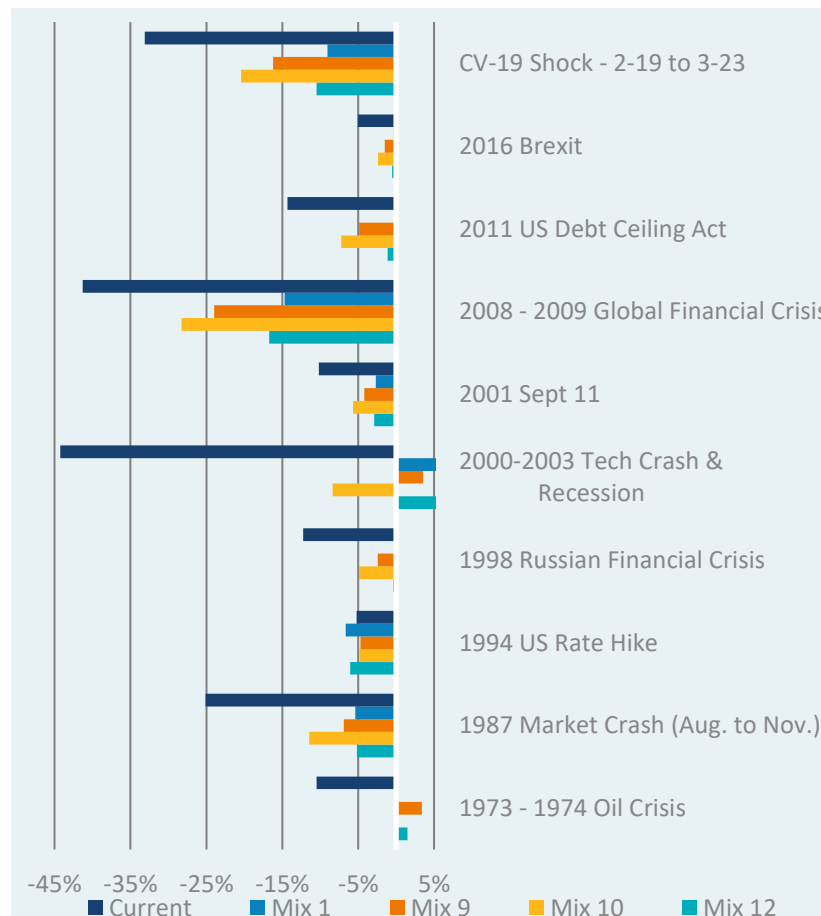
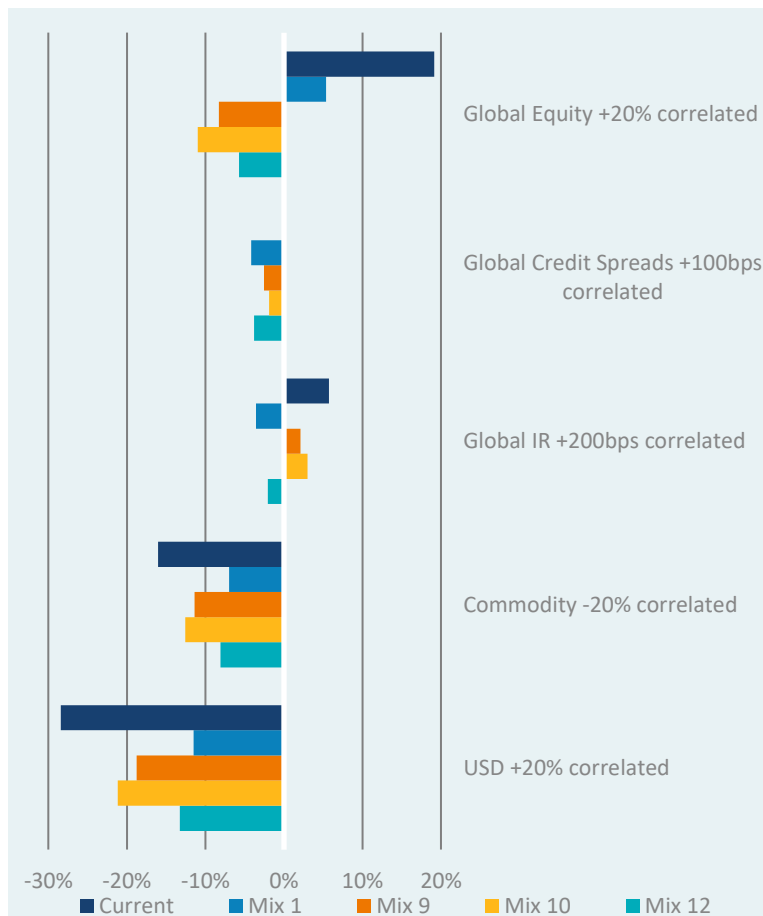
# Reducing beta portfolio volatility

- KCERA Investment Staff and Verus considered many alternative beta portfolios, using three different risk models to examine the volatility reduction provided by increasing proportions of the two new asset classes (US Treasuries and commodities)
- From left-to-right below, we show how eventually putting more than half of the beta portfolio in a 10-year Treasury index (along with some commodities), results in a significantly more risk-efficient beta portfolio (Mix 1), cutting one model's downside risk estimate by more than half

|                                    |              |              |              |              |              | Verus<br>2021 CMA's (10 Yr) |            |                    |                  |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|-----------------------------|------------|--------------------|------------------|
|                                    | Current      | Mix 10       | Mix 9        | Mix 12       | Mix 1        | Return (g)                  | Return (a) | Standard Deviation | Sharpe Ratio (a) |
| US Large Cap                       | 100          | 50           | 33           | 25           | 25           | 5.1                         | 6.3        | 15.7               | 0.38             |
| US Treasury                        | 0            | 25           | 33           | 50           | 55           | 0.7                         | 0.9        | 6.7                | 0.10             |
| Commodities                        | 0            | 25           | 33           | 25           | 20           | 2.2                         | 3.4        | 15.9               | 0.20             |
| <b>Total</b>                       | <b>100</b>   | <b>100</b>   | <b>100</b>   | <b>100</b>   | <b>100</b>   |                             |            |                    |                  |
| Mean Variance Analysis (Lognormal) |              |              |              |              |              |                             |            |                    |                  |
| Forecast 10 Year Return            | 5.1          | 3.8          | 3.2          | 2.7          | 2.6          |                             |            |                    |                  |
| Standard Deviation                 | 15.7         | 9.9          | 8.6          | 6.4          | 5.8          |                             |            |                    |                  |
| Sharpe Ratio (a)                   | 0.38         | 0.39         | 0.38         | 0.40         | 0.42         |                             |            |                    |                  |
| <b>1 year 99% VaR</b>              | <b>-25.3</b> | <b>-16.9</b> | <b>-14.9</b> | <b>-11.0</b> | <b>-10.0</b> |                             |            |                    |                  |

# Additional risk modeling

- Using a Barra factor model, we also examined the drawdown reduction that the various alternative beta portfolios would have provided under both historical scenarios and single factor shocks



*Only in the "1994 US Rate Hike" scenario did Mix 1 experience a greater drawdown than the current 100% S&P beta portfolio*

# Right-sizing the reserves

## Excessive liquidity reserves are a source of inefficiency

- As with traditional asset classes, the fund rebalances *into* the Capital Efficiency beta portfolio after a bad quarter, and *out of* it after a good quarter
- In this context, the reserves are a buffer that prevents forced rebalancing *during* the quarter
- Therefore, estimating the worst-case one-quarter drawdown in the beta portfolio gives us an additional yardstick for sizing the reserves
- We examine both historical data and risk model simulations, and note that currently, a reserve large enough to completely cover the worst 1-quarter drawdown (-29.7%) is also large enough to cover the worst 1-day drawdown (-20.5%, as previously noted)

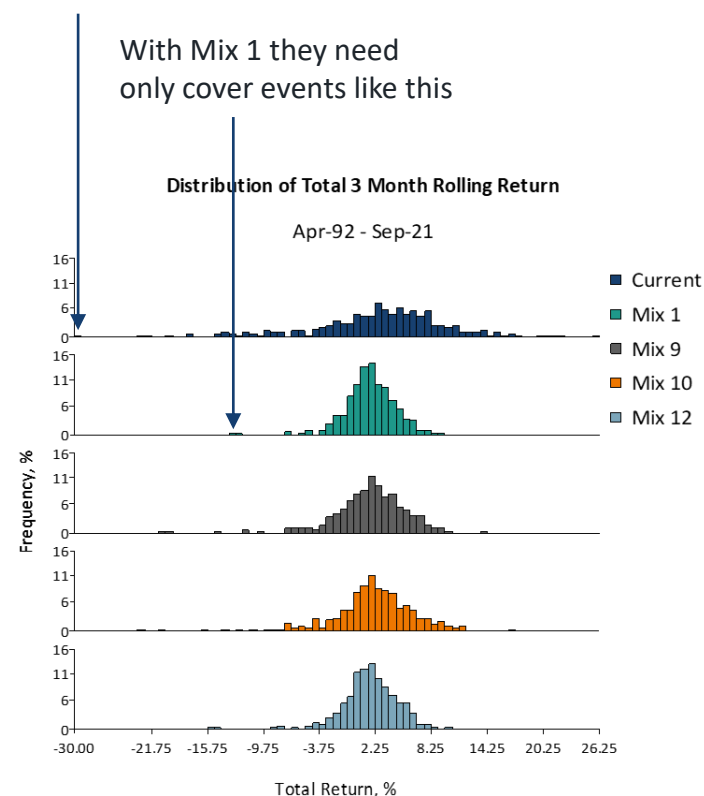
| 3-month total return (%)                        | Current | Mix 1 | Mix 9 | Mix 10 | Mix 12 |
|---|---------|-------|-------|--------|--------|
| Historical worst <sup>1</sup>                   | -29.7   | -13.4 | -20.7 | -23.0  | -15.3  |
| Barra 3-sd event <sup>2</sup> (99.7 percentile) | -38.0   | -13.0 | -19.1 | -22.8  | -14.2  |
| MPI 3-sd event <sup>3</sup> (99.7 percentile)   | -35.5   | -15.2 | -23.6 | -26.4  | -17.5  |

<sup>1</sup> Full common index history, Apr 1992 to Sep 2021

<sup>2</sup> MAC.L model Monte Carlo simulation, 90-day 99.7 percentile outcome

<sup>3</sup> Downside Log-Stable simulation, 3-month 99.7 percentile outcome

Currently the reserves cover events like this



# Right-sizing the reserves (cont'd)

KCERA Staff worked with Parametric to assess an appropriate reserve level given a more diversified (lower risk) mix of Beta sources. They dimensioned risk through three separate historical lenses.

## Adverse One-Day Moves

|                      | One Standard Deviation | Two Standard Deviations | Three Standard Deviations |
|----------------------|------------------------|-------------------------|---------------------------|
| Portfolio Change (%) | -0.41%                 | -0.83%                  | -1.26%                    |

## Worst-Case Scenarios

|                      | One-Day          | Five-Day         | Ten-Day        | Twenty-Day       |
|----------------------|------------------|------------------|----------------|------------------|
| End Date             | October 15, 2008 | October 10, 2008 | March 18, 2020 | October 24, 2008 |
| Portfolio Change (%) | -3.17%           | -7.72%           | -10.93%        | -12.95%          |

## Margin Call Analysis

| Margin Level            | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% |
|-------------------------|----|----|----|----|----|----|----|----|
| Cumulative Margin Calls | 15 | 10 | 3  | 2  | 1  | 1  | 1  | 1  |

KCERA Staff and Verus agree that a reserve cushion of 30% of program capital should be more than sufficient to cover any portfolio variability

Source: Parametric

Timeframe: December 2006 to December 2021

# Recommendation

- Simply using diversification to reduce the volatility of the beta portfolio of the Capital Efficiency Program for reduce the need for reserve liquidity, providing the flexibility for a potential increase in the Alpha Pool allocation
- In order to provide the maximum discretion to source beta from the weakest sources of traditional alpha, Verus recommends wide ranges around the most risk efficient target allocation we considered:
  - S&P 500 futures: 0-50% (**target 25%**)
  - Treasury futures (7-10 yr): 0-75% (**target 55%**)
  - Commodities futures: 0-40% (**target 20%**)
- We concur with KCERA Staff's recommendation to hold 30% of program capital as reserve collateral (down from current level of 55%)

# Next steps

- Address any Board questions/concerns, as necessary
- Incorporate program adjustments into upcoming Strategic Asset Allocation review; gain Board approval
- Implement
- Monitor and report



**PERSPECTIVES  
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SUCCESS**



**PERIOD ENDING: DECEMBER 31, 2021**

Investment Performance Review for

**Kern County Employees' Retirement Association**

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Investment Landscape

TAB I

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Investment Performance  
Review

TAB II





**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**

1<sup>ST</sup> QUARTER 2022  
Investment Landscape

# Recent Verus research

Visit: <https://www.verusinvestments.com/insights/>

## Topics of interest

### THE ROLE OF INCOME IN PORTFOLIOS

Many aspects of investing are fundamentally rooted in the idea that total investment return includes both investment income and investment price appreciation (growth). Nearly every asset class can be decomposed into these two characteristics—some assets being composed mostly of income and some assets being composed mostly of price appreciation. As interest rates have fallen around the world, the importance of income, and the role it plays in portfolios, has seen a dramatic increase. In this Topic of Interest, we revisit these two fundamental characteristics to provide investors with a lens with which to view decision-making in the current market environment.

### INTEGRATING ACTIVE RETURN INTO ASSET ALLOCATION MODELING

Long-term asset class forecasts, or capital market assumptions, typically focus on the future performance of broad markets. However, most investors employ some combination of passive and active management in their portfolios. And active management is most often pursued with the expectation that returns will be different than that of the broad market (specifically, that “active return” will be achieved above and beyond the market return). If capital market assumptions are typically comprised of market forecasts, but investors tend to build portfolios with the expectation of market return plus active return, how might investors estimate the expected behavior of active management (active return) in their asset allocation work? In this Topic of Interest we look at this question from multiple angles.

## Annual research

### 2022 CAPITAL MARKET ASSUMPTIONS

Some important developments occurred in the last year. During our 2022 Capital Market Assumptions webinar, we discussed:

- Market movements of 2021 and how these shifts have improved our long-term outlook,
- The impact of rising inflation and interest rates on asset class expectations,
- And our newly released forecasts for specific hedge fund styles, and forecasts for various strategies/approaches with the private credit universe.



# Verus business update

## 2021

- We celebrated our 35<sup>th</sup> anniversary. Wurts Johnson & Company (founding name) was established in January 1986.
- Eight employees passed their CFA exams, including two who passed Level III, earning their charters. Verus now has a total of 32 CFA charterholders.
- Jeff MacLean, CEO, was awarded the 2021 Knowledge Broker Award by CIO Magazine in September.
- Verus expanded the ownership group to 30 employees. 95% of senior consultants are shareholders.
- We continued to grow our Pittsburgh footprint by adding three professionals for a total of five and moved to a new space on Liberty Avenue. Verus established our “east coast” office in Pittsburgh, PA in May 2020.
- Our national client footprint expanded to 23 states, with our recent additions of clients in Massachusetts, Illinois, and Texas.
- Our assets under advisement has reached over \$664 billion, as a result of strong markets and success in retaining several new clients. Our OCIO business saw continued growth as well, surpassing \$5 billion in assets.
- We completed a third-party verification process that supports our claim of GIPS\* compliance and have implemented the verified GIPS and policies and procedure for our OCIO performance composites. We have 17 unique composites. Our E&F and Taft-Hartley composites now have >5-year track records.
- The IIDC grew to 24 consulting firms with over \$32 trillion in assets under advisement. Verus founded the Institutional Investing Diversity Cooperative in December 2020, leading a call to action in the consulting industry for disclosure of asset manager diversity data at the investment team level.

## 2022

- Managing Director | Senior Consultant, Margaret Jadallah plans to retire towards the end of the year.



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Economic environment 7

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Fixed income rates & credit 21

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Equity 26

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Other assets 35

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Appendix 38

# 4<sup>th</sup> quarter summary

## THE ECONOMIC CLIMATE

- Real GDP grew at a 4.9% rate year-over-year in the third quarter (+2.3% quarterly annualized rate). A slowdown in consumer spending contributed to a lower rate of growth. This was due to a combination of factors, including new COVID-19 restrictions, a delay in the reopening of businesses across the country, and general fear of virus spread which has led to less spending on services. **p. 9**
- The U.S. labor market improved further, as unemployment fell from 4.8% to 3.9%. The labor force participation rate has also improved, though very gradually, rising from 61.6% to 61.9%. **p. 14**

## PORTFOLIO IMPACTS

- Credit spreads have reached extremely tight levels. High yield bonds traded at a credit spread of 283 bps at year-end. However, these spread levels may be justified by record-low bond default activity. Just 0.4% of U.S. high yield bonds defaulted in 2021, on a par-weighted basis. **p. 24**
- U.S. core CPI increased 5.5% year-over-year in December. Headline inflation, which includes all goods, reached 7.0%. Large price increases have occurred across many goods and services, though approximately half of the rise in inflation continues to be driven by energy prices and automobiles. **p. 13**

## THE INVESTMENT CLIMATE

- In December it was announced that Senator Joe Manchin had communicated a hard “No” regarding his support for the Build Back Better bill. For months, Democrats have sought a solution to the disparate needs and spending interests of their party. **p. 12**
- Extremely fast spread of the Omicron variant worldwide does not seem to have had an outsized impact on the markets. While this new wave has in fact led to shutdowns in certain economies, much of the world has remained open, perhaps in acknowledgment that the health effects of Omicron are believed to be milder in nature. **p. 10**

## ASSET ALLOCATION ISSUES

- Equity markets delivered strong returns in Q4, up +6.7% and ending the year up 18.5% (MSCI ACWI). U.S. equities delivered 11.0% during the quarter, while international equities delivered 2.7% and emerging market equities saw a slight loss of -1.3%, on an unhedged currency basis. **p. 27**
- Size and Value factor performance was negative once again during Q4. Large capitalization stocks significantly outperformed small capitalization stocks and Growth beat Value. Tighter monetary conditions and a pullback in some growth stocks has renewed talks of a possible Value rotation. **p. 29**

Risk assets continue to perform strongly, despite rapid global spread of the Omicron variant

# What drove the market in Q4?

“World is put on high alert over the Omicron coronavirus variant”

NUMBER OF NEW DETECTED COVID-19 INFECTIONS WORLDWIDE (MILLIONS)

| Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|------|------|------|------|------|------|
| 15.6 | 19.9 | 16.0 | 13.0 | 15.7 | 25.4 |

Article Source: CNN, as of November 28<sup>th</sup>, 2021

“Transitory’ is out for describing inflation at the Fed... what will take its place?”

HEADLINE CONSUMER PRICE INFLATION (YEAR-OVER-YEAR)

| Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|------|------|------|------|------|------|
| 5.4% | 5.3% | 5.4% | 6.2% | 6.8% | 7.0% |

Article Source: MarketWatch, December 15<sup>th</sup>, 2021

“Unphased by Omicron, Fed policymakers show greater consensus for faster taper”

FEDERAL RESERVE BALANCE SHEET SIZE (TRILLIONS)

| Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|--------|--------|--------|--------|--------|--------|
| \$8.2T | \$8.3T | \$8.4T | \$8.6T | \$8.7T | \$8.8T |

Article Source: Reuters, December 2<sup>nd</sup>, 2021

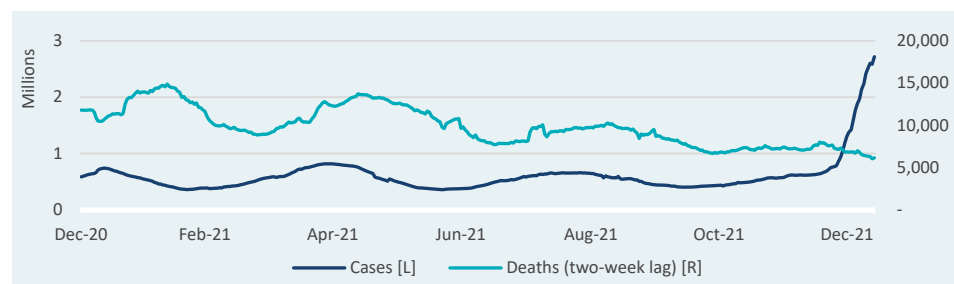
“Dow, S&P 500 end at all-time records as U.S. stocks extend winning streak amid strong company earnings”

S&P 500 INDEX – NUMBER OF CUMULATIVE YEAR-TO-DATE RECORD CLOSES

| Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|
| 41  | 53  | 54  | 59  | 66  | 70  |

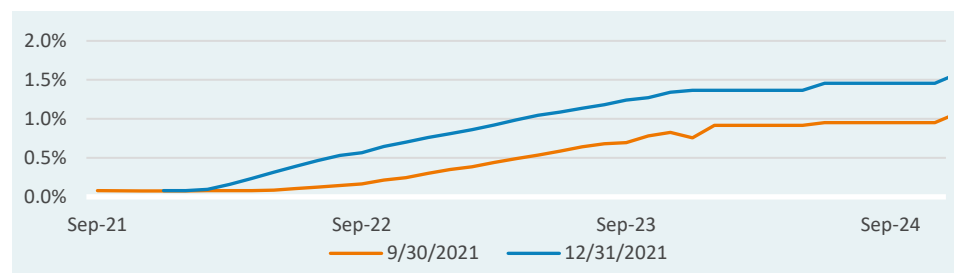
Article Source: October 26<sup>th</sup>, 2021

GLOBAL CASE GROWTH VS. LAGGED DEATHS (7-DAY TRAILING AVERAGE)



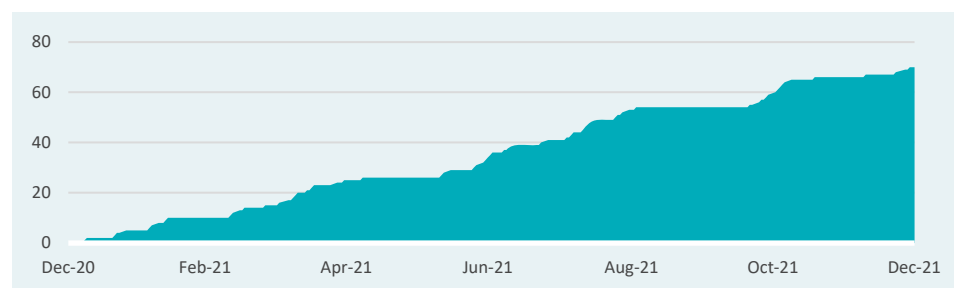
Source: Bloomberg, as of 12/31/21

IMPLIED EFFECTIVE FED FUNDS RATE



Source: Bloomberg, as of 12/31/21

S&P 500 INDEX – CUMULATIVE NUMBER OF RECORD CLOSES IN 2021



Source: Standard & Poor's, Bloomberg, as of 12/31/21

# Economic environment

# U.S. economics summary

- Real GDP grew at a 4.9% rate year-over-year in the third quarter (+2.3% quarterly annualized rate). A slowdown in consumer spending contributed to a lower pace of growth. This was due to a combination of factors, including new COVID-19 restrictions, a delay in the reopening of businesses, and general fear of virus spread which has led to less spending on services. As GDP growth is stated in *inflation-adjusted* terms, higher inflation has also contributed to slower economic growth.
- U.S. core CPI, which excludes food and energy prices, increased 5.5% year-over-year in December. Headline inflation, which includes all goods, reached 7.0%. Large price increases have occurred across many goods and services, though approximately half of the rise in inflation continues to be driven by energy prices and automobiles.
- The U.S. unemployment fell further, from 4.8% to 3.9% during Q4. The labor force participation rate has improved, though very gradually, rising from 61.6% to 61.9%.
- After months of political brinksmanship, it appears the Build Back Better plan has stalled, as Senator Joe Manchin had communicated a hard “No” on his support for the Build Back Better bill. Democrats continue to seek a solution to the disparate needs and spending interests of their party.
- U.S. home prices increased +19.1% over the past year ending October. However, price growth may be cooling off, as the inventory of homes has expanded materially and mortgage interest rates have begun to rise.
- Consumer sentiment was mixed during the quarter. Depressed survey levels suggest we are no longer in the euphoric spending environment of mid to late 2021.

|                                      | Most Recent            | 12 Months Prior        |
|--------------------------------------|------------------------|------------------------|
| Real GDP (YoY)                       | 4.9%<br>9/30/21        | (2.9%)<br>9/30/20      |
| Inflation (CPI YoY, Core)            | 5.5%<br>12/31/21       | 1.6%<br>12/31/20       |
| Expected Inflation (5yr-5yr forward) | 2.3%<br>12/31/21       | 2.0%<br>12/31/20       |
| Fed Funds Target Range               | 0% – 0.25%<br>12/31/21 | 0% – 0.25%<br>12/31/20 |
| 10-Year Rate                         | 1.51%<br>12/31/21      | 0.91%<br>12/31/20      |
| U-3 Unemployment                     | 3.9%<br>12/31/21       | 6.7%<br>12/31/20       |
| U-6 Unemployment                     | 7.3%<br>12/31/21       | 11.7%<br>12/31/20      |



# GDP growth

Real GDP grew at a 4.9% rate year-over-year in the third quarter (+2.3% quarterly annualized rate). During the quarter, a slowdown in consumer spending resulted in a lower pace of growth. This was partly a factor of new COVID-19 restrictions and a delay in the reopening of businesses across the country. Fear of contracting the virus likely led to less spending on services. Government assistance to businesses and households also continued to fall, creating a drag on growth. On the other hand, a strong rebuilding of inventories by businesses had a large positive impact on economic growth.

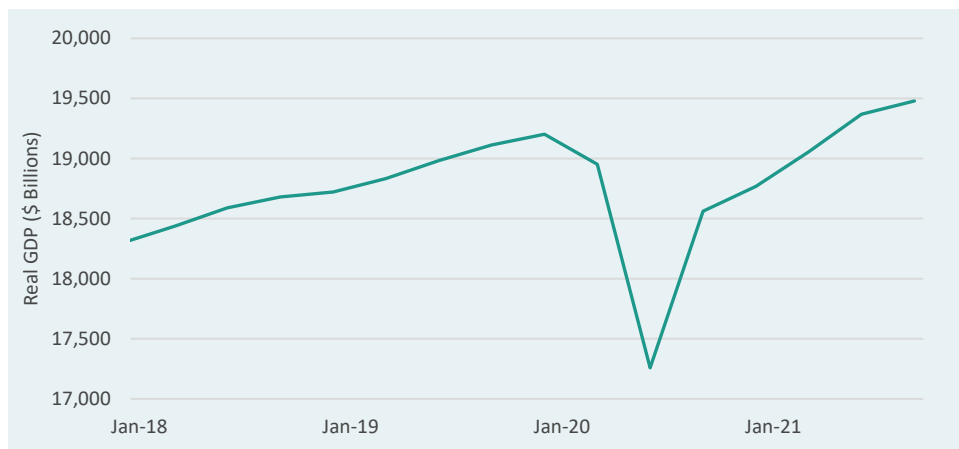
Although Q3 showed a weaker rate of growth, expectations more broadly are for further strong economic expansion—

materially above pre-pandemic rates. The Atlanta Fed GDPNow estimate, as of January 14<sup>th</sup>, suggests a GDP growth rate of 6.8% in the fourth quarter (seasonally-adjusted quarterly annualized rate).

U.S. GDP growth is traditionally quoted in *inflation-adjusted* terms. This means that higher inflation has contributed to slower GDP growth, as shown below. It will be important to watch the rate of inflation and the impact of higher inflation on GDP figures. Multiple past U.S. recessions were caused at least partially by rising inflation rather than solely by slowing growth (see 1970s, 1980s).

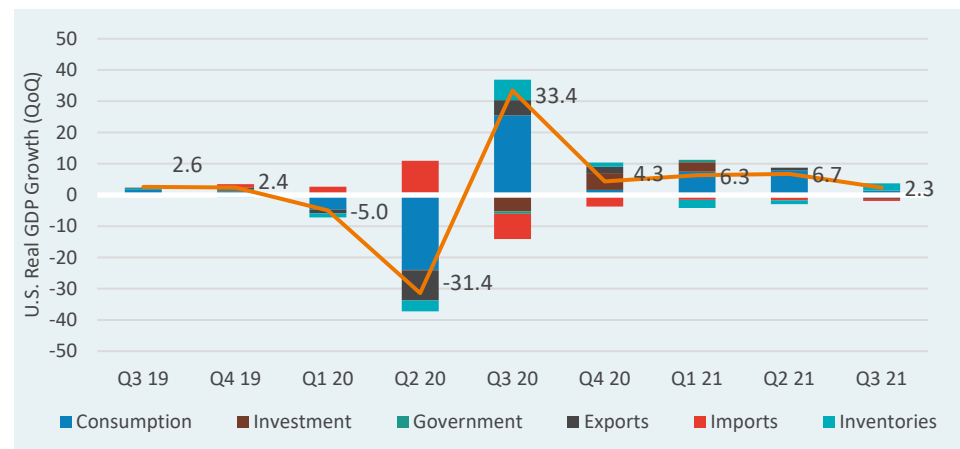
Although Q3 was relatively weak, economists expect continued above-average GDP growth

## U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 9/30/21

## U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 9/30/21

# Omicron variant

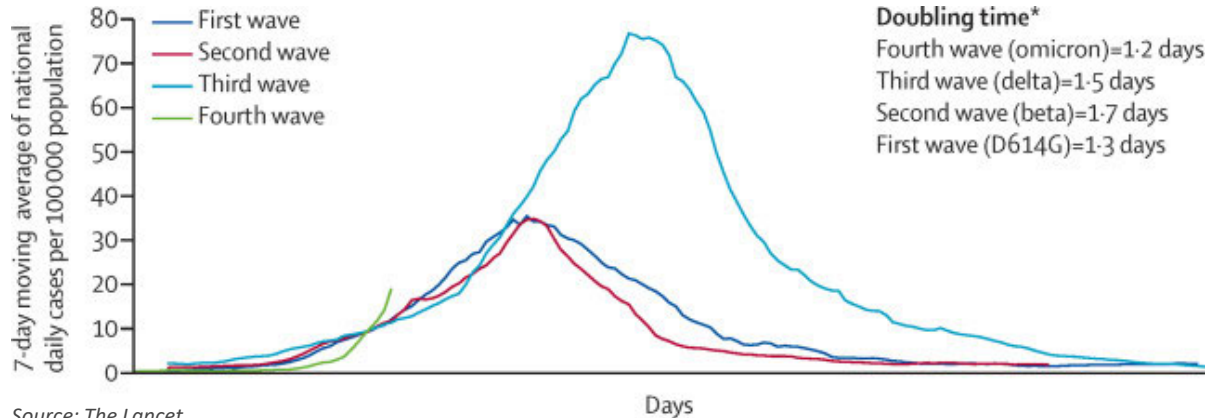
**COVID-19 variant B.1.1.529 (Omicron) was discovered in Botswana on November 11<sup>th</sup> and has since spread exponentially around the globe, replacing the delta variant as the dominant global strain.**

Based on available studies and data, the Omicron variant is much more infectious than prior variants, but its symptoms are less severe. In the Gauteng province within South Africa, the doubling time of cases proved to be faster than each of the previous three waves at 1.2 days

While case growth has accelerated more quickly than in previous waves in South Africa, hospitalizations and deaths have not paced the increase in cases, leaving some to predict that symptoms may be less severe.

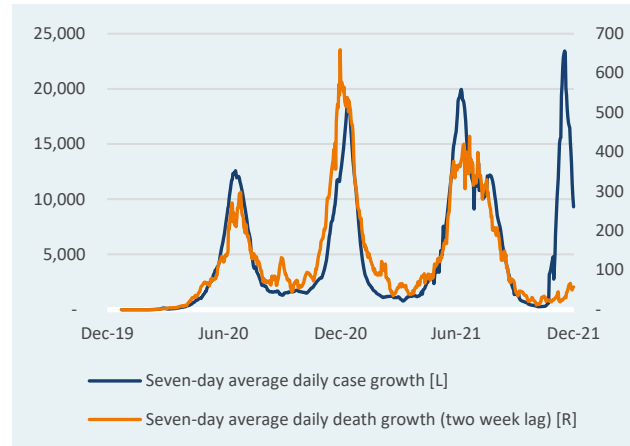
Some have argued that it is a good thing that a highly infectious but not severe strain is spreading around the world, because it will provide some level of neutralizing antibodies to the people it infects, shortening the path to herd immunity. A more pessimistic view would be that “letting it rip” would allow more time for the virus to mutate to a more deadly strain.

**COVID WAVE CASE DOUBLING TIME – GAUTENG PROVINCE, SOUTH AFRICA**



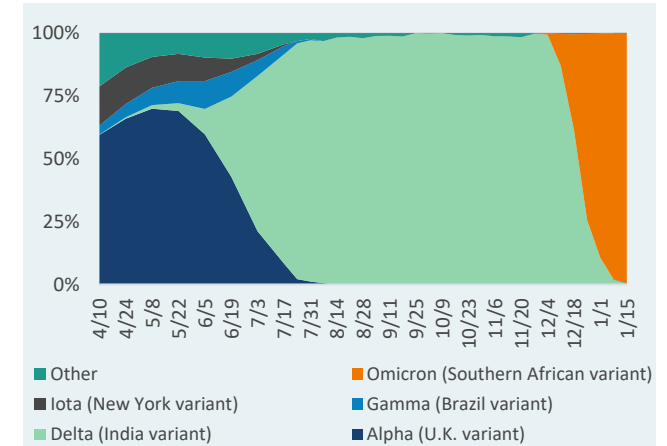
Source: The Lancet

**SOUTH AFRICAN CASES AND DEATHS**



Source: Bloomberg, as of 12/31/21

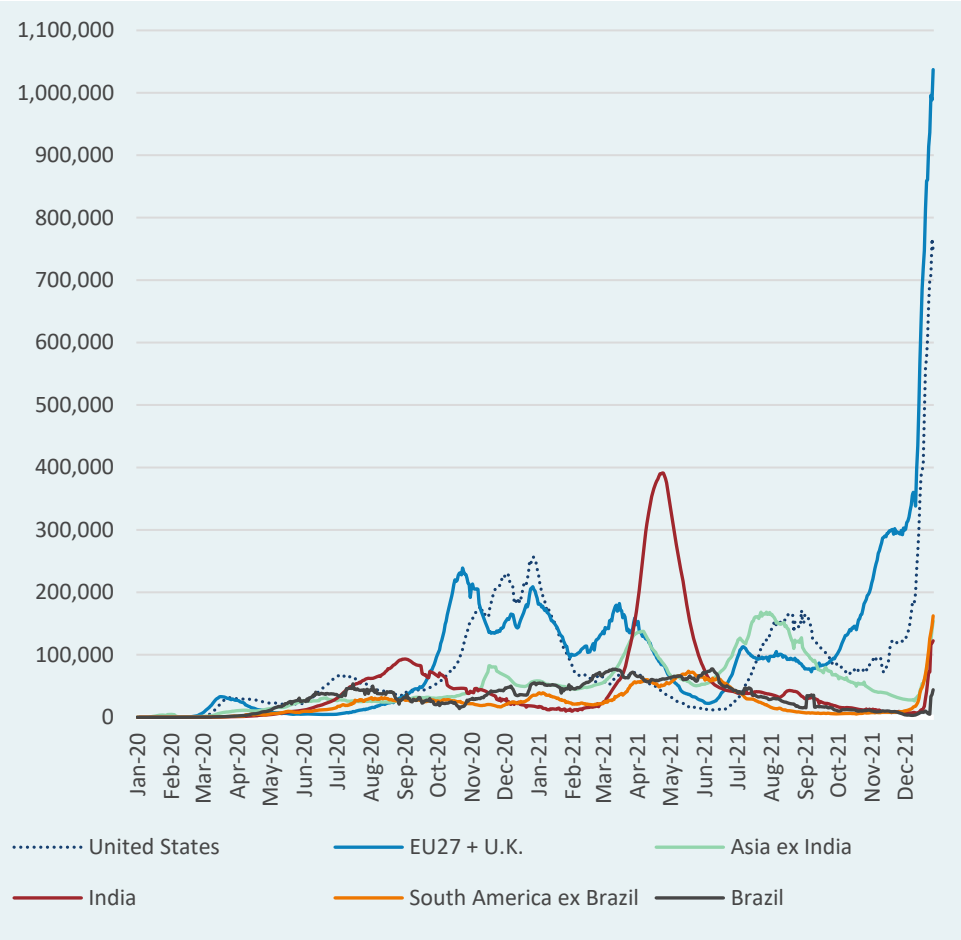
**STRAIN DOMINANCE IN THE UNITED STATES**



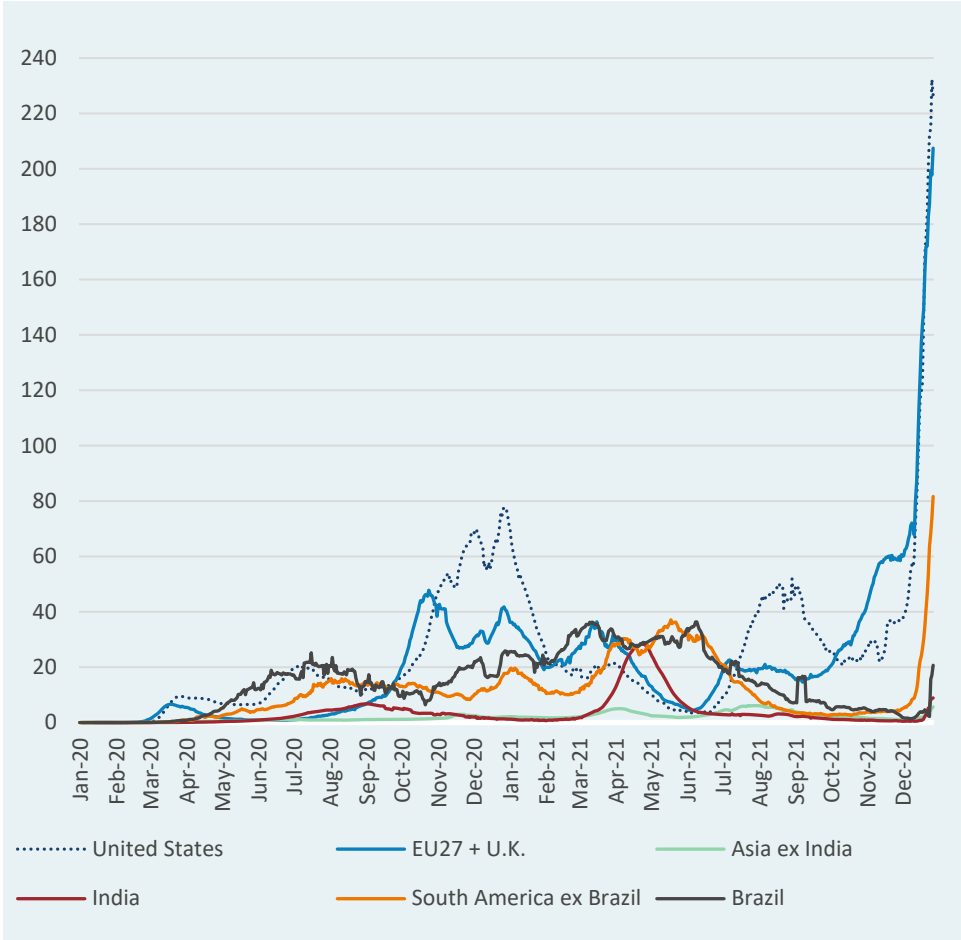
Source: CDC, as of 1/15/22

# COVID-19 case growth monitors

DAILY AVERAGE CASE GROWTH (SEVEN-DAY TRAILING)



DAILY AVERAGE CASE GROWTH (SEVEN-DAY TRAILING) – PER 100,000



Source: Bloomberg, as of 1/11/22

# “Build Back Better” update

After months of political brinksmanship, it appears the BBB plan has stalled

- For months, Democrats have sought a solution to the disparate needs and spending interests of their party. This ranged from the more aggressive spending demands of Bernie Sanders, who hoped for a total of nearly \$6 trillion in new spending, to Senator Joe Manchin who had expressed throughout the year a willingness to support a maximum of \$1.5 trillion in new spending. In December it was announced that Senator Joe Manchin communicated a hard “No” regarding his support for the bill.
- The party appears to have taken a calculated risk in continuing to push for spending in excess of the \$1.5 trillion limit that Joe Manchin had indicated, as well as refusing to negotiate on other items where disagreement existed, such as tax credits and climate change legislation. Despite DNC claims that the Build Back Better would not raise the national deficit, Manchin also expressed skepticism around sunset clauses and other assumptions within the bill that he believed hid the true magnitude of spending and its likely impact on the U.S. deficit.
- Some remain hopeful for a revival of negotiations and perhaps an agreement on many or most of the items within the bill. However, in January Senator Manchin indicated that he will not support the bill altogether—a reversal from the sentiments expressed during earlier negotiations.

# Inflation

U.S. core CPI, which excludes food & energy prices, increased 5.5% year-over-year in December. Headline inflation, which includes all goods, reached 7.0%. Large price increases have occurred across many goods and services, though approximately half of the rise in inflation continues to be driven by energy prices and automobiles. Inflation has proven more “sticky”, which suggests that higher prices may be less transitory than previously believed.

The price of shelter continue to be a notable driver of U.S. inflation, as shelter costs have risen 4.1% over the past year. Although the rate of price growth in this area has been fairly modest, the cost of shelter makes up nearly one third of the overall CPI basket (32.4% as of November). As we have mentioned

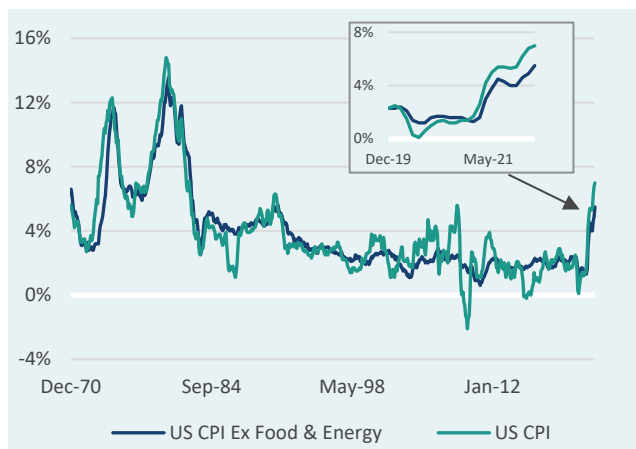
previously, the way in which housing costs are captured in official statistics is nuanced, and increases in home prices do not necessarily flow through directly to official inflation numbers. Instead, today’s higher shelter costs may take quarters or even years to show up in government statistics.

We maintain our view that inflation will most likely begin falling towards previous levels later in 2022, though this could be a slower process. The variables that will likely impact this outcome include: whether energy and automobile prices plateau, the speed at which supply chain problems are resolved, and the willingness of businesses to raise wages in line with rates of inflation (quickly rising wages could further pressure prices upward).

Inflation has proven more “sticky”

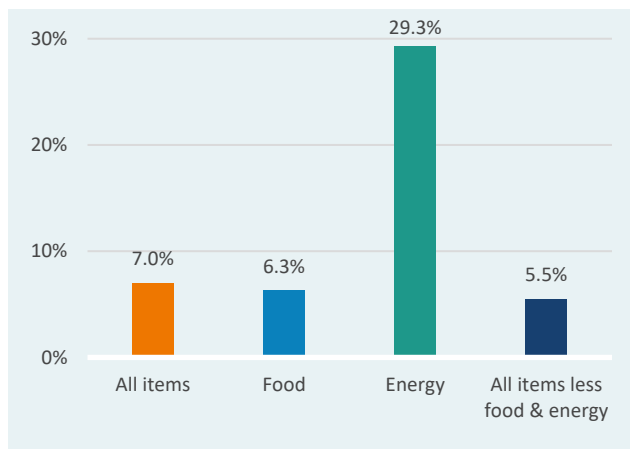
Higher prices may be less transitory than previously believed

U.S. CPI (YOY)



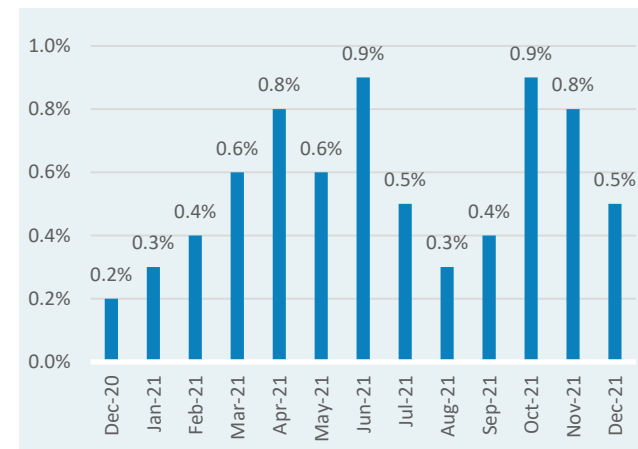
Source: BLS, as of 12/31/21

U.S. CPI (YOY)



Source: BLS, as of 12/31/21

MONTHLY PRICE MOVEMENT



Source: BLS, as of 12/31/21

# Labor market

The U.S. unemployment rate fell further, from 4.8% to 3.9% during Q4. The labor force participation rate has improved, though very gradually, rising from 61.6% to 61.9%. The U.S. labor shortage has reached historic proportions. Job openings far exceed the supply of workers. As of November, 10.5 million job openings were posted, while only 6.8 million Americans were seeking work.

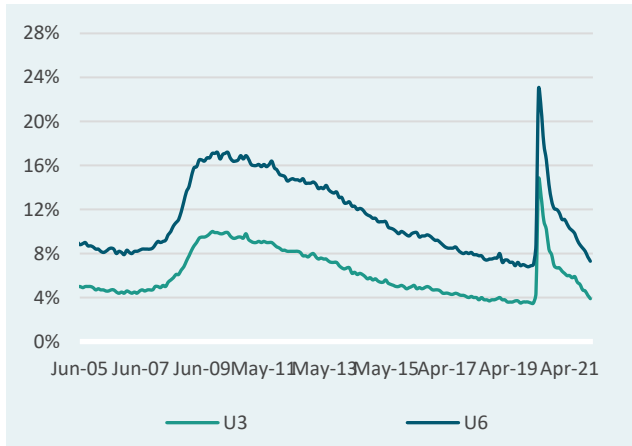
In 2021, using U.S. government employment and retirement data, we reached a conclusion that the sudden and historically large quantity of workers leaving the labor force was mostly caused by early retirements. At the time, multiple theories had

been proposed, such as COVID-19 fear (workers were not seeking employment due to a fear of human interaction) or that this was due to government aid and stimulus (workers flush with cash were finding it temporarily unnecessary to hold a job). Over recent quarters it does appear that our thesis has held. The U.S. labor force participation rate remains stuck, as two million abnormally early retirements imply that the available workforce is now permanently smaller. This reduction in workforce likely reduces the productive capacity of the U.S. economy and aggregate household income, though it may have an incremental lifting effect on the wages of existing workers.

A portion of the U.S. labor force remains neither employed nor seeking work

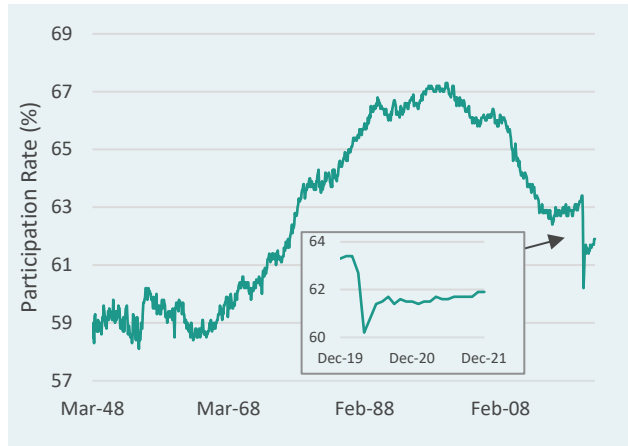
Much of this loss appears to be due to early retirements

## U.S. UNEMPLOYMENT



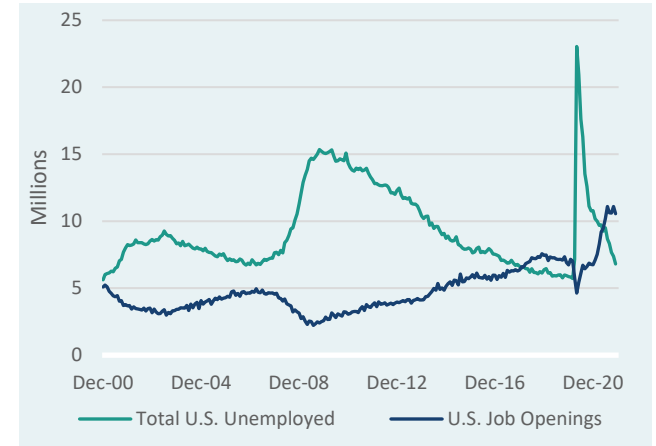
Source: FRED, as of 12/31/21

## LABOR PARTICIPATION RATE



Source: FRED, as of 12/31/21

## # UNEMPLOYED VS # JOBS AVAILABLE



Source: FRED, as of 11/30/21

# Labor costs & shortages

“We could see mid-single-digit inflation in retails, as **rising raw material pricing, labor and transportation costs are all impacting us and our suppliers**. We have no way to say how long this will last, but our industry has been disciplined about pricing for decades, and we expect that to continue.” -AutoZone (Dec. 7)



“Moving on to inflation, again, it's pretty much the same story that we told during each of the last two quarters. **There have been and are a variety of inflationary pressures that we and others are seeing from labor cost to freight cost, to higher demand, to container shortages and port delays, to increased demand on certain product categories**, much of what you see and read out there. Various shortages on everything from chips to oils and chemicals supplied by facilities hit by the Gulf storms a while back. Higher commodities prices.” -Costco (Dec. 9)



“To further impact our second-quarter results, I will highlight several key drivers. **The difficult labor market once again had the largest effect on our bottom line, representing an estimated \$470 million in additional year-over-year costs**. As I did last quarter, I'll separate the effect of the labor market into two components: **higher rates and network inefficiencies resulting from labor shortages**.” -FedEx (Dec. 16)



“To add to the challenge, **industry-wide shortages in the labor market are impacting every part of the supply chain, adding significant costs that are above and beyond inflation**. We're seeing record levels of **disruptions across our raw material suppliers, internal and external production facilities, our own distribution centers, our customers' warehouses and the logistics networks required to connect each of these elements of the supply chain**. These disruptions are resulting in service challenges and elevated costs across the industry.” -General Mills (Dec. 21)



“**Lost production days and unplanned downtimes** were primarily due to **labor shortages** across our manufacturing network, including **COVID-related absenteeism**.” -Lamb Weston (Jan. 6)



Source: FactSet, as of 1/13/22

# The consumer

U.S. real retail sales remain strong, up 10.6% year-over-year. It is worth noting that this was the growth rate *after* adjusting for inflation. American households continue to spend at a rapid pace, though this could be set to slow down as government spending and other easy money policies are likely in the rearview mirror.

Auto sales volumes fell dramatically in the second half of 2021. Multiple variables are having an impact, as microchip shortages crimp new car production, many households already purchased a vehicle recently (assisted by stimulus checks), and very high auto prices have disincentivized purchases more generally.

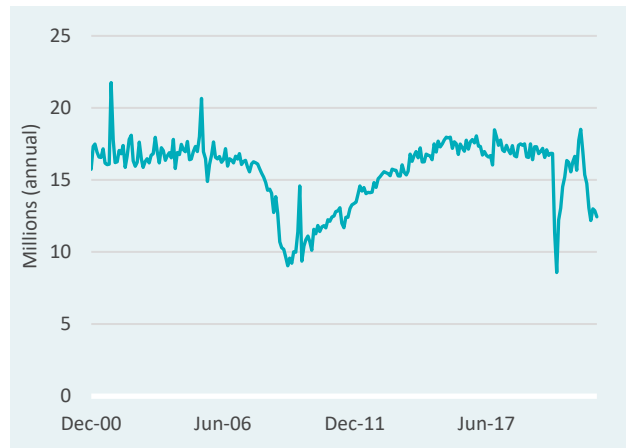
A rather surprising economic result of the pandemic has been the jump in household savings rates, paying down of debt, and broadly improved financial situation of domestic households. As we have discussed in recent quarters, the inability of Americans to take vacations during much of the past two years, as well as reduced spending on services such as dining out, meant greater saving and less spending. However, it is incredibly important to point out that economic metrics such as the ones discussed here inherently involve an *averaging* of all household situations. The recent recession has had particularly destructive effects on specific sectors of the economy, and many have yet to recover.

**REAL RETAIL SALES GROWTH (MONTHLY)**



Source: FRED, as of 11/30/21

**AUTO SALES**



Source: Federal Reserve, as of 12/31/21

**U.S. HOUSEHOLD DEBT BURDEN**



Source: FRED, as of 9/30/21 – household debt service payments as a percent of disposable personal income



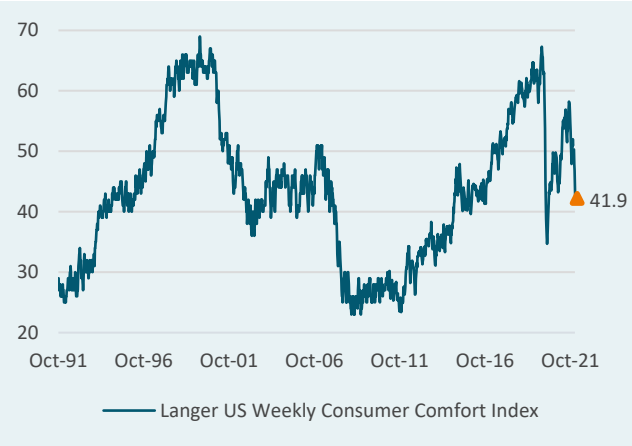
# Sentiment

Consumer sentiment was mixed during the quarter. The University of Michigan survey indicated relatively depressed but stable sentiment. Announced increases to Social Security payments (+5.9% YoY) due to inflation and a rise in wages among younger workers lifted sentiment slightly. On the other hand, the Langer U.S. Weekly Consumer Comfort Index suggested a sharp falloff in sentiment. Rising inflation, the spreading Omicron variant, and the steepest one week drop in “buying conditions” in 36 years translated to much poorer sentiment to start 2022. Both surveys seem to communicate an end to the euphoric spending spree that occurred in mid to late 2021.

The NFIB Small Business Optimism index was rangebound during the quarter but remained near the long-term average level. As outlined by the survey, 59% of small businesses have increased prices, which was the highest reading since 1979. The December survey suggests that business conditions are not encouraging to small business owners, as new government mandates and tax increases have been discussed in the legislature. Furthermore, high inflation and supply chain issues continue to create challenges.

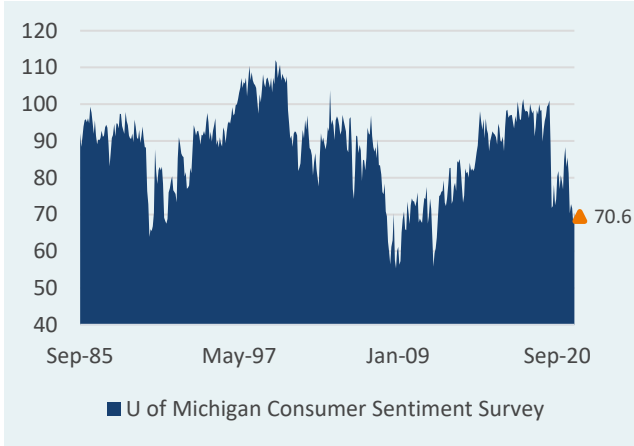
Sentiment remains depressed, as concerns exist around inflation, Omicron, and economic restrictions

**CONSUMER COMFORT**



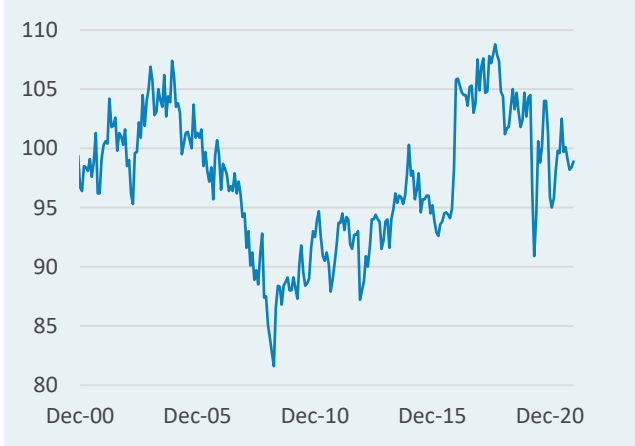
Source: Bloomberg, as of 1/9/22

**CONSUMER SENTIMENT**



Source: University of Michigan, as of 12/31/21

**SMALL BUSINESS OPTIMISM**



Source: NFIB, as of 12/31/21

# Housing

U.S. home prices increased +19.1% over the past year, ending October. However, price growth may be cooling off, as the inventory of homes has expanded materially and mortgage interest rates have begun to rise. The dramatic surge in real estate values throughout the pandemic resulted in considerable wealth gains for those who owned homes, but has also created real financial issues for many who rent as housing costs have risen faster than incomes.

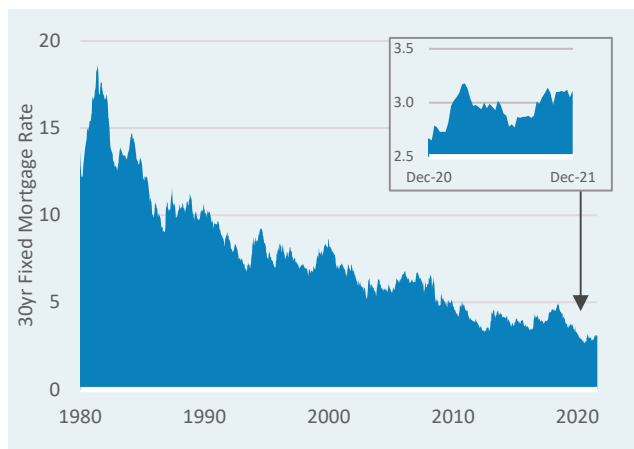
Much higher living costs may lead to further social unrest and political discussions on topics such as the relaxation of

zoning restrictions and rent control. The growing homeless crisis in many U.S. areas further compounds the need, both real and perceived, for bringing the costs of housing under control.

U.S. mortgage rates have risen off the all-time-low (2.65%) achieved earlier in 2021. During the first week of January, the 30-year average fixed rate mortgage reached 3.22%. Given high home prices, small increases in interest rates will have a larger impact on affordability. Higher borrowing costs would act as a headwind to further home price appreciation.

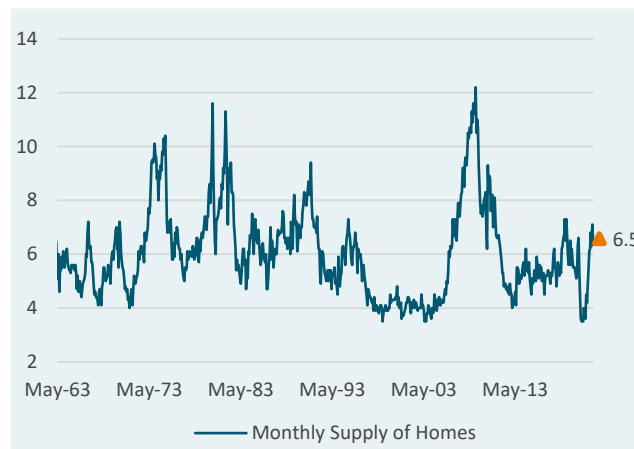
A dramatic jump in shelter costs may be adding pressure to household budgets

**30YR FIXED MORTGAGE RATE (AVERAGE)**



Source: U.S. Census Bureau, as of 12/31/21

**SUPPLY OF HOMES**



Source: FRED, as of 11/30/21

**CASE-SHILLER HOME PRICE INDEX**



Source: FRED, as of 10/31/21

# International economics summary

— COVID-19 variant B.1.1.529 (Omicron) was discovered in Botswana on November 11<sup>th</sup> and has since spread exponentially around the globe, replacing the delta variant as the dominant global strain. Based on available studies and data, the Omicron variant is much more infectious than prior variants, but its symptoms are less severe. Many countries have taken a cautious approach and have reinstated social distancing controls.

— Several countries including China and New Zealand have implemented zero-COVID approaches with the goal of completely eradicating the virus within their borders. These policies may present upside risks for inflation looking ahead, as they are likely to result in more uncertainty and therefore potentially sustain or even worsen current supply chain problems.

— Prices paid by global producers of

goods and services have surged over the last year. Chinese producer price growth (+10.3% in December) hit its highest level in 26 years, and German producer prices (+19.2% in November) grew very quickly as supply chain disruptions squeezed prices for timber and raw metal materials.

— Eurozone GDP grew +3.7% year-over-year in Q3, lagging U.S. growth over the same period (+4.9%). Economic growth was more robust in Italy (+3.8%) and a bit weaker in Germany (+2.5%).

— China's real estate crisis seems to be spreading. In early December, Evergrande, one of the largest property developers in China, defaulted on its debt. An increasing number of Chinese property developers have been strained. Given that real estate development makes up nearly one third of China's economy, a crisis in this sector could have serious ramifications.

| Area             | GDP<br>(Real, YoY) | Inflation<br>(CPI, YoY) | Unemployment      |
|------------------|--------------------|-------------------------|-------------------|
| United States    | 4.9%<br>9/30/21    | 7.0%<br>12/31/21        | 3.9%<br>12/31/21  |
| Eurozone         | 3.9%<br>9/30/21    | 5.0%<br>12/31/21        | 7.2%<br>11/30/21  |
| Japan            | 1.2%<br>9/30/21    | 0.8%<br>12/31/21        | 2.7%<br>11/30/21  |
| BRICS<br>Nations | 5.2%<br>9/30/21    | 3.3%<br>12/31/21        | 5.4%<br>6/30/21   |
| Brazil           | 4.0%<br>9/30/21    | 10.1%<br>12/31/21       | 12.1%<br>10/31/21 |
| Russia           | 4.3%<br>9/30/21    | 8.4%<br>12/31/21        | 4.3%<br>11/30/21  |
| India            | 8.4%<br>9/30/21    | 5.6%<br>12/31/21        | 7.9%<br>12/31/21  |
| China            | 4.0%<br>12/31/21   | 1.5%<br>12/31/21        | 5.1%<br>12/31/21  |

*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

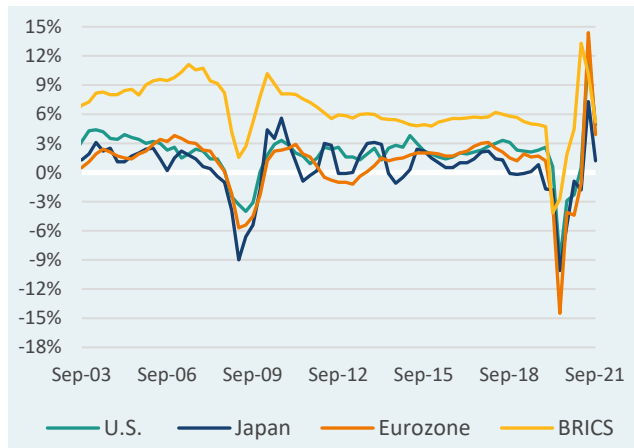
The rate of economic growth across most economies has moved back towards average levels, as the global recession and recovery fades from the rearview mirror. In October, the International Monetary Fund cut their 2021 advanced economy growth projections (from 5.6% to 5.2%), citing supply chain disruptions which have dampened the outlook for these economies. Worsening pandemic dynamics were flagged as a greater risk for emerging and developing economies, though 2021 growth expectations were revised up 0.1% to 6.4%.

Inflation moved higher in many areas, and the United States continues to cope with one of the highest rates of inflation among other major developed economies. Several countries

including China and New Zealand have implemented zero-COVID approaches with the goal of completely eradicating the virus within their borders. These policies may present upside risks for inflation looking ahead, as they are likely to result in more uncertainty and therefore potentially sustain or even worsen current supply chain problems. Inflation trends and the reaction of central banks to these trends will have important implications for markets.

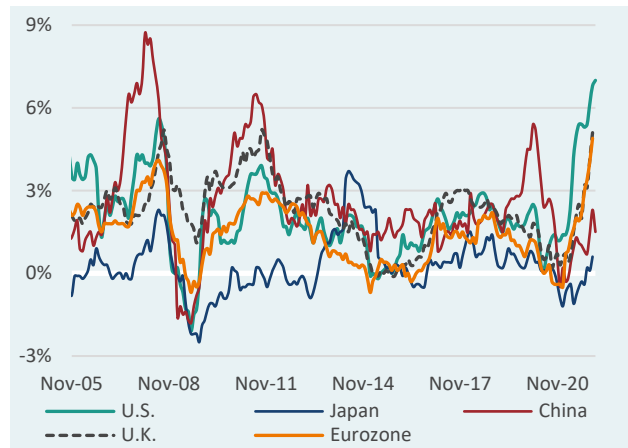
Unemployment has generally improved to pre-pandemic levels, as government restrictions are relaxed, people regain comfort in moving out and about, and economies trend back towards normalcy.

**REAL GDP GROWTH (YOY)**



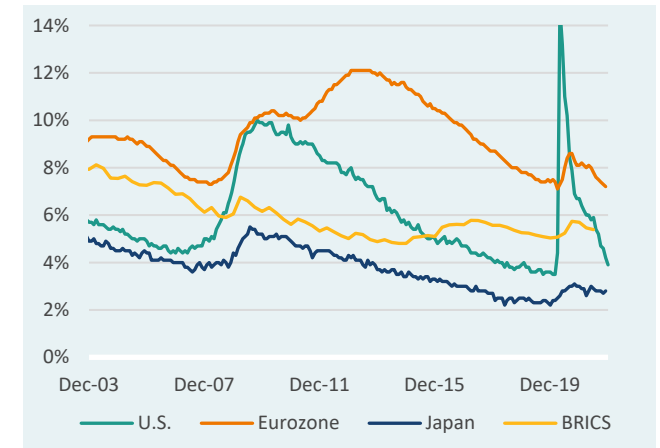
Source: Bloomberg, as of 9/30/21

**INFLATION (CPI YOY)**



Source: Bloomberg, as of 12/31/21 – or most recent release

**UNEMPLOYMENT**



Source: Bloomberg, as of 12/31/21 – or most recent release

# Fixed income rates & credit

# Fixed income environment

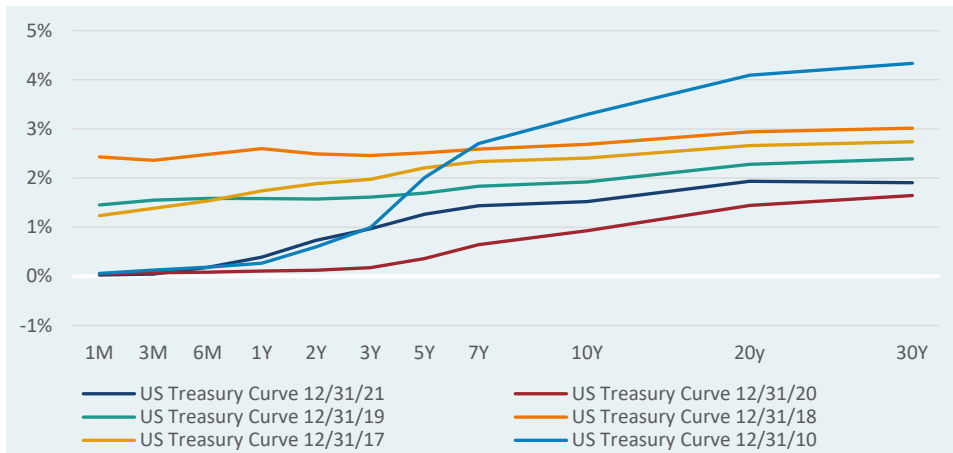
- The 10-year U.S. Treasury yield was relatively rangebound during the quarter, remaining at a yield of 1.5%. Thus far, U.S. interest rates have not noticeably reacted to an inflation rate of 7.0%. Market pricing seems to indicate that investors generally expect inflation to be transitory—perhaps falling towards normal levels by the end of this year.
- One of the largest stories over the quarter was the Fed’s pivot on inflation, the retirement of the word “transitory” to describe inflation, and a more aggressive policy path expected by investors. The conversation around the balance sheet shifted from concluding the taper in June to concluding in March, and perhaps selling assets as soon as June. The conversation around interest rates shifted from potentially hiking around June to the market fully pricing in a hike by March and maybe two by May. The Fed is now clearly more concerned with inflation relative to unemployment.
- Although credit spreads are tight, bond defaults have dropped to incredibly low levels. The one-year high-yield bond default rate reached 0.4% in December, one of the lowest rates on record.
- New issue activity across credit markets has been historically high. In the fourth quarter, \$285 billion of investment grade credit was issued. Over the full year, gross issuance totaled \$1.4 trillion, which was second only to the \$1.8 trillion issued in 2020.
- In early December, Evergrande, one of the largest property developers in China, defaulted on its debt. At the start of 2022, property developer Shimao also defaulted on its debt. These bonds had been classified as investment grade until recently. Credit spreads of Chinese debt have expanding enormously, from near 750 bps in June to 2,175 bps in November.

|  | QTD Total Return | 1 Year Total Return |
|--|------------------|---------------------|
| Core Fixed Income (Bloomberg U.S. Aggregate)               | 0.0%             | (1.5%)              |
| Core Plus Fixed Income (Bloomberg U.S. Universal)          | 0.0%             | (1.1%)              |
| U.S. Treasuries (Bloomberg U.S. Treasury)                  | 0.2%             | (2.3%)              |
| U.S. High Yield (Bloomberg U.S. Corporate HY)              | 0.7%             | 5.3%                |
| Bank Loans (S&P/LSTA Leveraged Loan)                       | 0.7%             | 5.2%                |
| Emerging Market Debt Local (JPM GBI-EM Global Diversified) | (2.5%)           | (8.7%)              |
| Emerging Market Debt Hard (JPM EMBI Global Diversified)    | (0.4%)           | (1.8%)              |
| Mortgage-Backed Securities (Bloomberg MBS)                 | (0.4%)           | (1.0%)              |

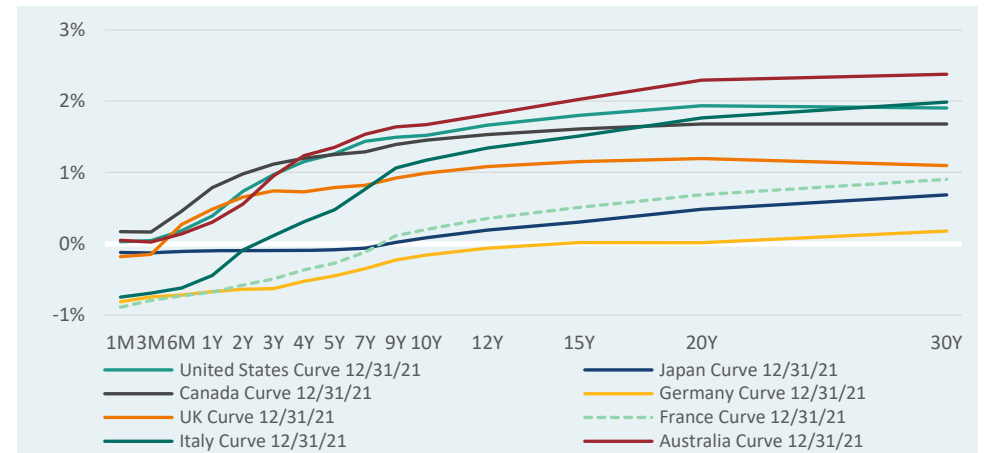
Source: Bloomberg, as of 12/31/21

# Yield environment

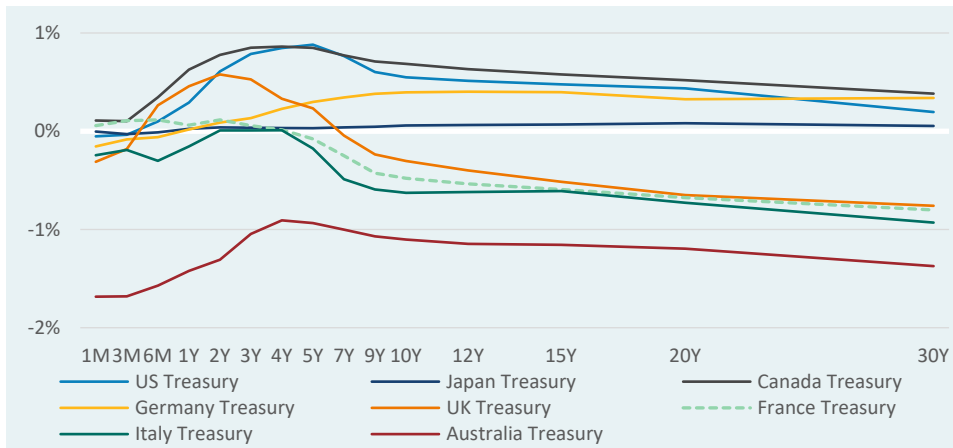
U.S. YIELD CURVE



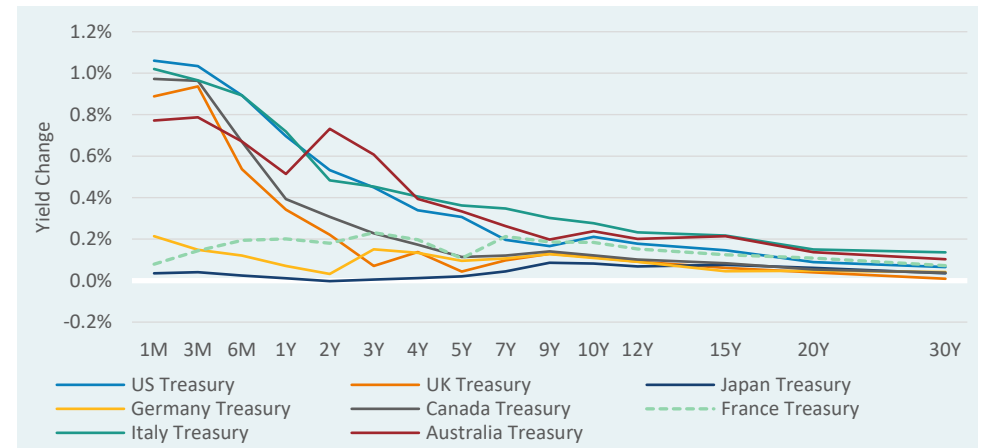
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/21

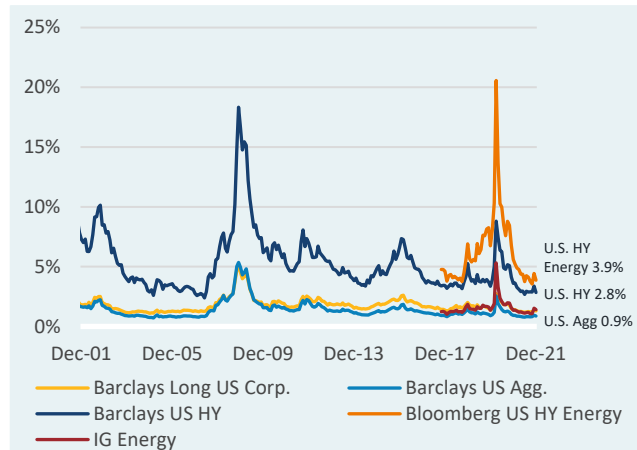
# Credit environment

During the fourth quarter, high yield bonds returned 0.7%, matching the performance of loans and outperforming investment grade credit (+0.2%). Over the full year, leveraged loans returned 5.4%, exceeding high yield performance (+5.3%) as well as investment grade credit (-1.2%). Credit spreads tightened modestly over the course of the year with pockets of volatility. This was also the case during Q4 as the Omicron variant circulated across the globe, reducing the appetite for risk. Investment grade spreads widened 8 basis points to 92 bps, which was 4 bps tighter relative to the beginning of the year. High yield corporate spreads finished 2021 at 283 bps, 6 bps tighter for the quarter and 77 bps tighter to end the year.

The search for yield continues within credit markets as option-adjusted

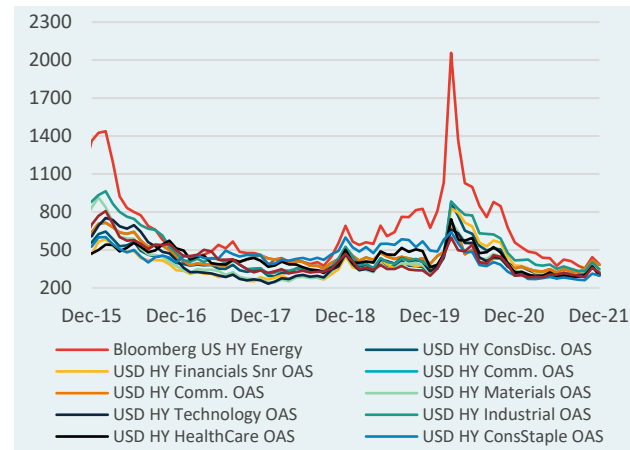
spreads continue to be at or near historic lows and short-term interest rates remain near zero. We have observed that numerous managers are positioning portfolios relatively more defensively with an eye toward capitalizing on potential future volatility, as well as placing greater focus on more niche segments within credit markets. Despite tight spreads, increased rate volatility, and surging inflation, a record amount of funds (\$583 billion) flowed into fixed income funds and ETFs in 2021, exceeding the previous record set in 2019 (\$459 billion). Demand was broad-based, driven by demographics, an abundance of cash on corporate balance sheets, and strong equity market returns which led to increased rebalancing activity. Furthermore, given continued low rates across developed markets, U.S. fixed income remains an attractive market for foreign investors to pick up yield.

## SPREADS



Source: Barclays, Bloomberg, as of 12/31/21

## HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 12/31/21

| Market              | Credit Spread (OAS) |          |
|---------------------|---------------------|----------|
|                     | 12/31/21            | 12/31/20 |
| Long U.S. Corp      | 1.3%                | 1.4%     |
| U.S. Inv Grade Corp | 0.9%                | 1.0%     |
| U.S. High Yield     | 2.8%                | 3.6%     |
| U.S. Bank Loans*    | 4.3%                | 4.6%     |

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/21

\*Discount margin (4-year life)



# Default & issuance

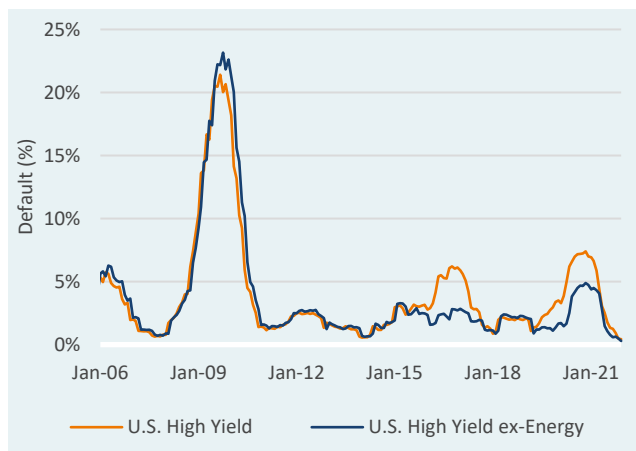
Contrasting the pandemic-driven surge of credit defaults in 2020, which resulted in the second highest annual dollar volume of defaulted bonds and loans on record, default activity in 2021 was very modest. Overall, 14 companies defaulted on loans and bonds during the year on debt totaling \$9.8 billion. The year-over-year improvement was largely fueled by robust economic growth, improving credit fundamentals, and greater access to capital markets, as record bond and loan refinancing activity totaling roughly \$1 trillion since 2020 has improved corporate liquidity.

The par-weighted U.S. high yield default rate ended the year at a historic low of 0.4%, down 82 bps for the quarter and down 656 bps for the year. The par-weighted loan default rate ended the year at 0.5%, down 23 bps for the quarter and 348 bps for the year. For context, the 25-year average annual

default rate of high yield was 3.1%, while the default rate for loans has averaged 3.0% since 1998.

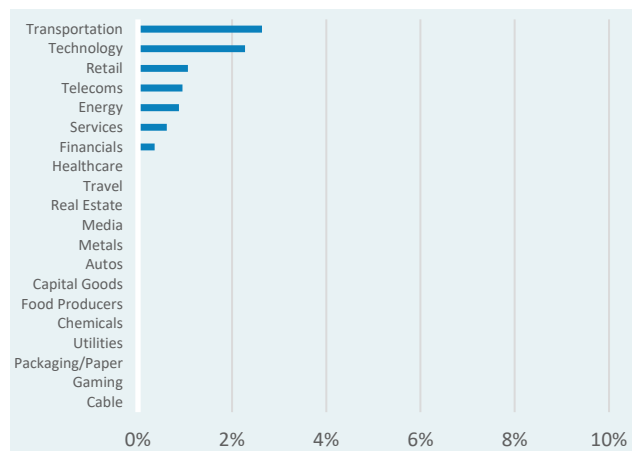
While new issue activity across credit markets fell broadly during the second half of the year, total credit issuance in 2021 was historically high. In the fourth quarter, \$285 billion of investment grade credit was issued. Over the full year, gross issuance totaled \$1.4 trillion, which was second only to the \$1.8 trillion issued in 2020. Similarly, the fourth quarter was the lightest quarter for new issue activity for both high yield bonds and loans with \$87.3 billion and \$114.4 billion, respectively. However, each asset class experienced record issuance over the year with \$557.1 billion in high yield bonds and \$534.4 billion in loans.

**HY DEFAULT RATE (ROLLING 1-YEAR)**



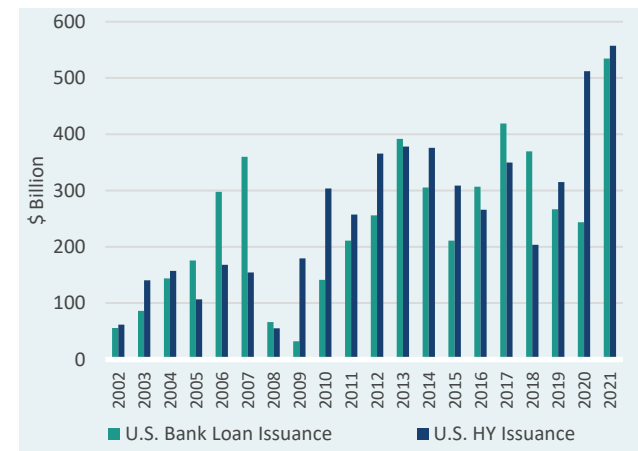
Source: BofA Merrill Lynch, as of 12/31/21

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



Source: BofA Merrill Lynch, as of 12/31/21 – par weighted

**U.S. ISSUANCE (\$ BILLIONS)**



Source: BofA Merrill Lynch, as of 12/31/21

# Equity

# Equity environment

- Equity markets delivered strong returns in Q4, up 6.7% and ending the year up 18.5% (MSCI ACWI). U.S. equities delivered 11.0% during the quarter, while international equities delivered 2.7% and emerging market equities saw a slight loss of -1.3%, on an unhedged currency basis.
- Size and Value factor performance was negative once again during Q4. Large capitalization stocks significantly outperformed small capitalization stocks (Russell 1000 +9.8%, Russell 2000 +2.1%) and Growth exceeded Value (Russell 1000 Growth +11.6%, Russell 1000 Value +7.8%). This theme held for full-year 2021.
- Extremely fast spread of the Omicron variant worldwide does not seem to have had an outsized impact on the markets. While this new wave has in fact led to shutdowns in certain countries,

much of the world has remained open, perhaps in acknowledgment that the health effects of Omicron are milder in nature.

- Labor costs and labor supply issues are front-of-mind in corporate boardrooms, and 60% of S&P 500 companies have reported negative impacts to Q4 earnings during quarterly calls so far, as reported by FactSet.
- Weakness in Chinese equities (MSCI China -6.1%) continued to drive the broader underperformance of emerging market equities. Chinese policymakers have signaled a shift in focus from containing excessive leverage in the property sector to promoting growth and stability ahead of next year's parliamentary meeting. Still, the risk of further crackdowns on targeted sectors of the economy remains in place.

|  | QTD TOTAL RETURN |          | 1 YEAR TOTAL RETURN |          |
|--|------------------|----------|---------------------|----------|
|  | (unhedged)       | (hedged) | (unhedged)          | (hedged) |
| U.S. Large Cap (S&P 500)                 | 11.0%            |          | 28.7%               |          |
| U.S. Small Cap (Russell 2000)            | 2.1%             |          | 14.8%               |          |
| U.S. Equity (Russell 3000)               | 9.3%             |          | 25.7%               |          |
| U.S. Large Value (Russell 1000 Value)    | 7.8%             |          | 25.2%               |          |
| US Large Growth (Russell 1000 Growth)    | 11.6%            |          | 27.6%               |          |
| Global Equity (MSCI ACWI)                | 6.7%             | 7.1%     | 18.5%               | 20.9%    |
| International Large (MSCI EAFE)          | 2.7%             | 4.2%     | 11.3%               | 19.4%    |
| Eurozone (Euro Stoxx 50)                 | 4.4%             | 6.9%     | 14.6%               | 24.4%    |
| U.K. (FTSE 100)                          | 5.2%             | 5.1%     | 17.3%               | 18.9%    |
| Japan (NIKKEI 225)                       | (5.3%)           | (2.0%)   | (4.7%)              | 6.7%     |
| Emerging Markets (MSCI Emerging Markets) | (1.3%)           | (1.3%)   | (2.5%)              | (1.3%)   |

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/21

# Domestic equity

U.S. equities were a top performer in Q4, delivering 11.0% (S&P 500). The S&P 500 Index achieved all-time closing highs on 70 days over the course of the year, which was nearly a record number in and of itself. Performance across sectors was broadly positive during Q4, though those with a greater “value” bias lagged the index (ex: Financials, Energy, Industrials). Per FactSet, the bottom-up price target for the S&P 500 Index by 2022 year-end is around 5300, which implies a price return of roughly 11% for the year.

While supply chain disruptions remain a key concern for chief financial officers in the United States and around the globe, the number one headwind for earnings in Q4 shifted to labor costs and shortages, based on earnings calls transcribed by FactSet. Workers have been quitting their jobs in great numbers

for a wide variety of reasons, pushing many employers to raise wages in order to retain employees, which could erode margins. Of companies that had reported Q4 earnings, 60% reported that rising labor costs had negatively impacted earnings. On a more optimistic note, those companies reported aggregate year-over-year earnings growth of around 28%, suggesting somewhat defensible margins and modest pricing power. Of companies mentioning labor issues, 85% discussed increasing prices or improving price realization on their earnings calls.

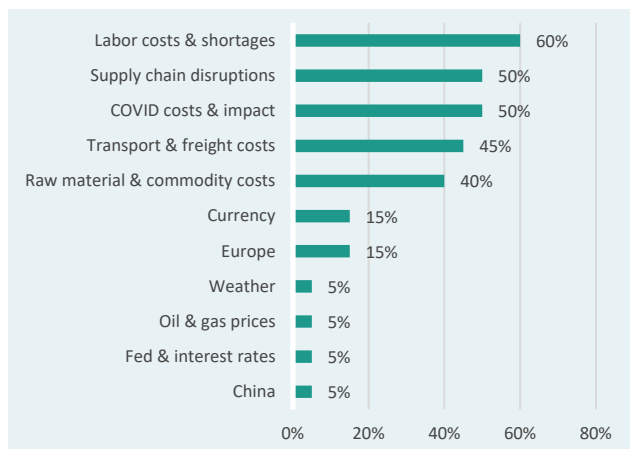
Net profit margins have fallen a percentage point from the record level of 13% achieved in Q2 2021, but remain historically high. If earnings growth in Q4 2021 meets expectations (21.4%), it will mark the fourth consecutive quarter of 20% YoY earnings growth.

## S&P 500 INDEX



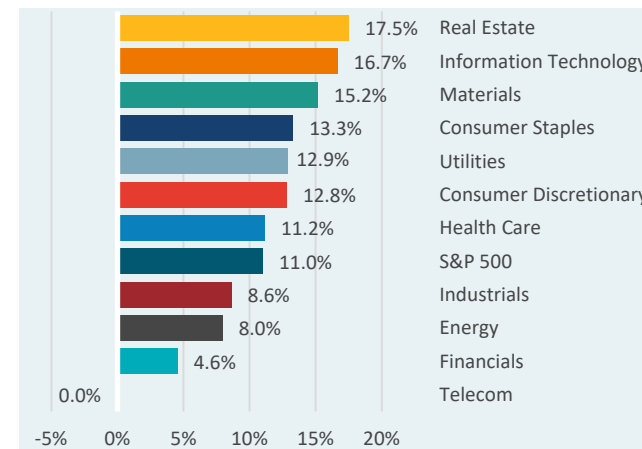
Source: Standard & Poor's, as of 12/31/21

## S&P 500 COS. CITING NEGATIVE IMPACT – 4Q21



Source: FactSet, as of 1/13/22

## Q4 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 12/31/21

# Domestic equity size & style

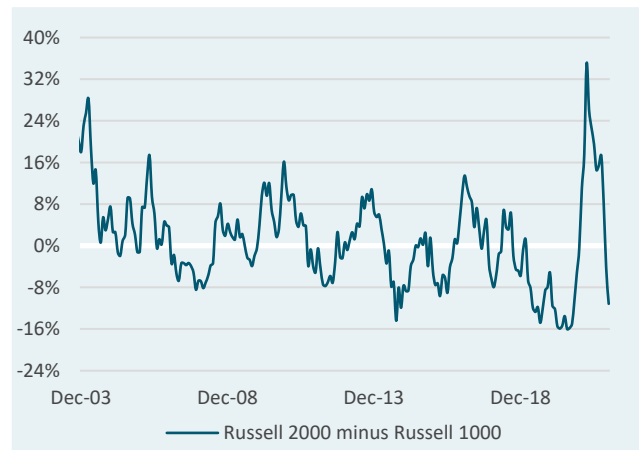
Size and Value factor performance was negative once again during Q4. Large capitalization stocks significantly outperformed small capitalization stocks (Russell 1000 +9.8%, Russell 2000 +2.1%) and Growth exceeded Value (Russell 1000 Growth +11.6%, Russell 1000 Value +7.8%). This theme held for full-year 2021.

Within MSCI's suite of long-only factor indices, Quality (+11.0%) was the top performer in Q4 which generally implies investor appetite for more defensive positioning. The strong performance of the Quality factor was skewed by Nvidia (+42.0%), Apple (+25.7%) and Microsoft (+19.5%).

Towards the end of the year, investor expectations for tighter Fed policy and interest rate hikes increased markedly. If the market is in fact undergoing a transition to tighter monetary conditions, this could have a notable impact on Value and Growth stock performance. The general cheapness of certain Value stocks and richness of certain Growth stocks may accentuate a value rotation, if and when this occurs. As always, we like to keep in mind that factor performance tends to be noisy and difficult to predict, which suggests that style investing should in most cases involve a longer-term focus.

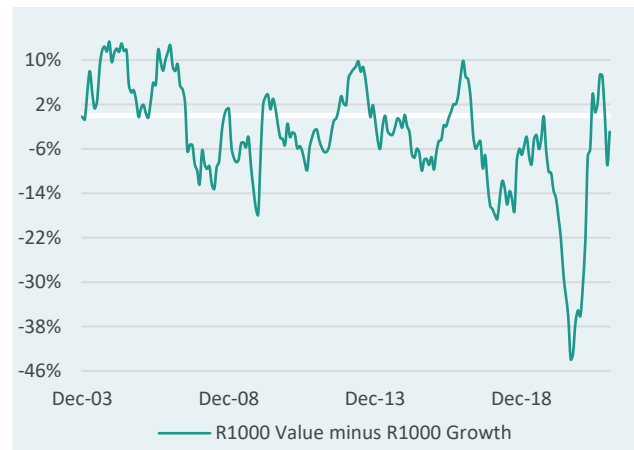
Size and Value underperformed during Q4 2021

**SMALL CAP VS LARGE CAP (YOY)**



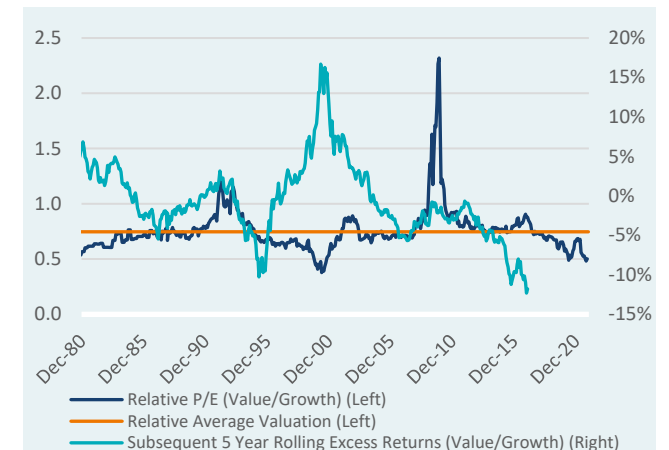
Source: FTSE, as of 12/31/21

**VALUE VS GROWTH (YOY)**



Source: FTSE, as of 12/31/21

**VALUE VS. GROWTH RELATIVE VALUATIONS**



Source: Standard & Poor's, as of 12/31/21

# International developed equity

International developed equities delivered 2.7% during the quarter. U.S. equities were the top performer (S&P 500 +11.0%) while emerging market equities saw a slight loss (MSCI Emerging Markets -1.3%), on an unhedged currency basis. Currency movement during the quarter resulted in a loss of -1.5% (MSCI EAFE) relative to those investors with a currency hedging program.

Japanese equities (MSCI Japan -4.0%) underperformed most developed markets, reversing strong third quarter returns, though this was mostly caused by currency market movement (Yen -3.1%). The yen fell to its weakest level relative to the dollar since early 2017 in the fourth quarter as

the Bank of Japan's dovish policy increasingly diverged from peers, many of which have signaled the beginning of a normalization process from pandemic stimulus. Rising interest rate differentials, as well as speculation that the new strain of COVID-19 might not be as disruptive as had been feared, has likely contributed to investor flows out of yen positions.

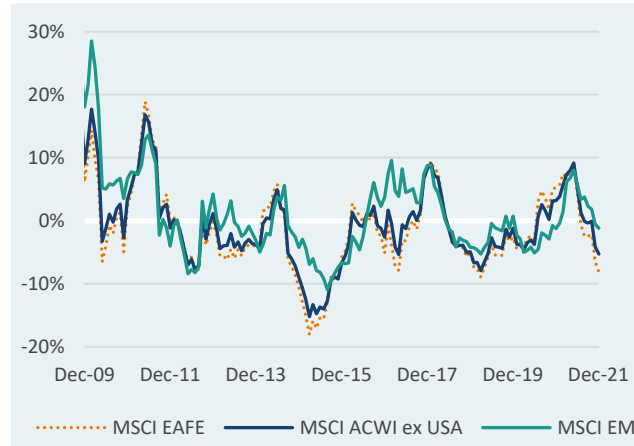
Swiss equities (MSCI Switzerland +12.8%) were the top performer in developed European markets, and unhedged U.S. investors benefitted from a 2.1% appreciation in the Swiss Franc relative to the U.S. dollar.

**EFFECT OF CURRENCY (1-YEAR ROLLING)**



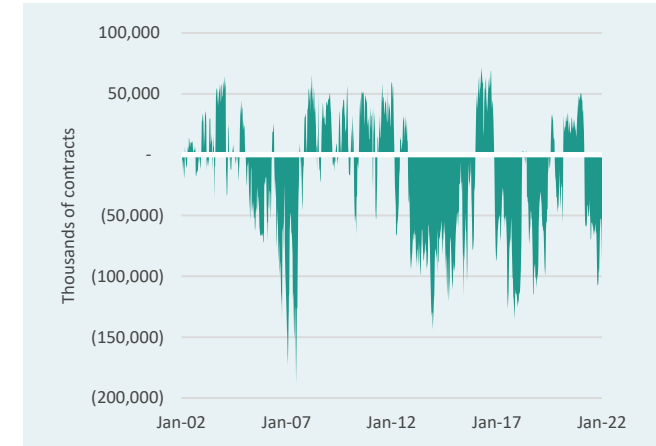
Source: MSCI, as of 12/31/21

**INTERNATIONAL DEVELOPED EQUITIES**



Source: MSCI, as of 12/31/21

**YEN NET FUTURES POSITIONING**



Source: CFTC, non-commercial positioning, as of 1/11/22

# Emerging market equity

Emerging market equities saw a mild loss (MSCI EM -1.5%) on an unhedged currency basis, underperforming global markets again in the fourth quarter. Latin American and Asian emerging markets performed generally on par during the quarter (MSCI EM Latin America -2.7%, MSCI EM Asia -1.0%).

Weakness in Chinese equities (MSCI China -6.1%) continues to drive broader emerging market underperformance, as China delivered -21.7% return in 2021, while the broader complex was down -2.5% (MSCI China, MSCI Emerging Markets).

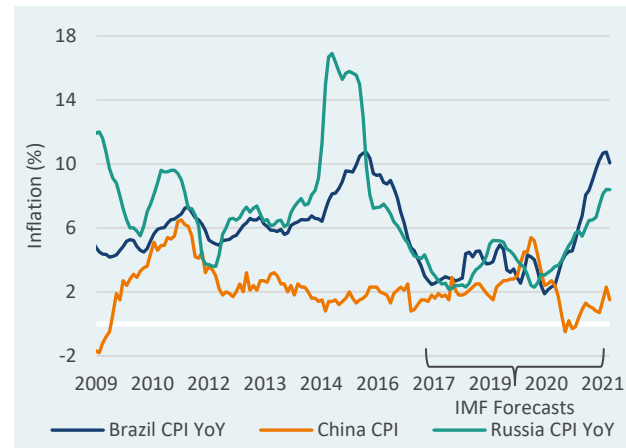
Inflation in Brazil has reached 10.7%, while Russia saw an 8.4% rise in prices and China sits near the longer-term average at 1.5%. Emerging market central banks have continued to raise interest rates. Brazil hiked their rate during the quarter from 6.25% to 9.25% in order to fight rising prices, while Russia hiked its rate from 6.75% to 8.50%. It is worth noting that many of these central banks have very recently implemented a domestic interest rate tightening cycle in order to battle price fluctuations and/or unwanted domestic currency movements. In other words, many emerging central banks deal with these types of issues more often than developed central bankers.

## EMERGING MARKET EQUITY



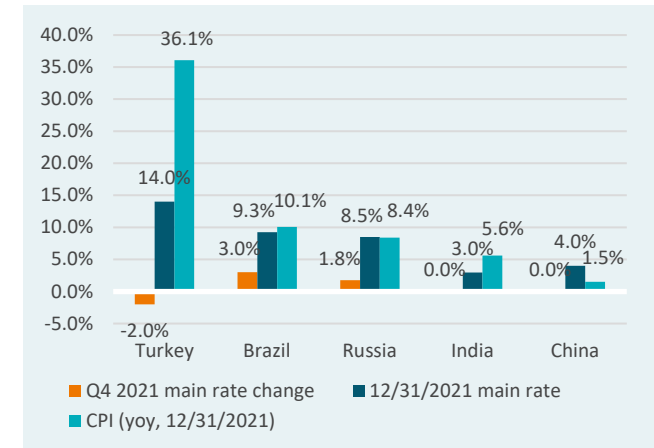
Source: MSCI, as of 12/31/21

## INFLATION (YOY)



Source: Bloomberg, as of 12/31/21 or most recent data

## CENTRAL BANK RATE CHANGES AND INFLATION



Source: Bloomberg, various, as of 12/31/21

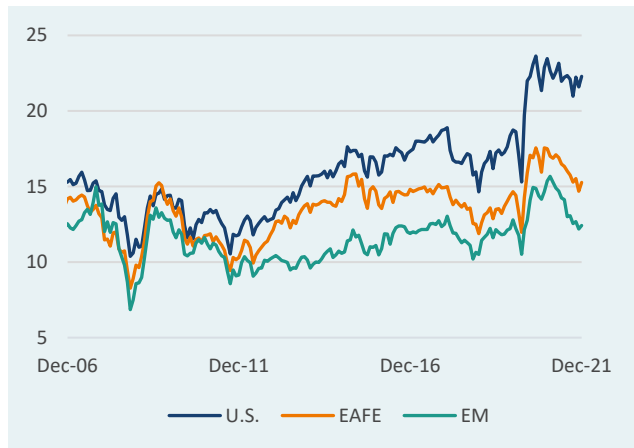
# Equity valuations

Forward price/earnings equity multiples have been falling around the world, as earnings expectations rise faster than equity prices. U.S. equities remain the exception in this regard, as U.S. valuations have stayed elevated. The domestic equity market offers one half of the dividend yield of international developed equities (MSCI EAFE), with a forward P/E multiple that is 50% higher. The valuation difference between U.S. and the rest of the world is wider than ever before. This effect is partly due to the rising share of domestic technology stocks, as the technology sector tends to demand loftier valuations than most other sectors, but only partly so. The high prices of U.S. equities may imply more muted returns over the longer-term.

U.S. equity trailing P/E ratio was unmoved during the quarter, while international developed equity valuations fell (19.3 to 17.2) along with emerging market equity valuations (15.8 to 14.0). Relative valuation differences across global markets are apparent in the yield (carry) offered by each market. U.S. equities offer a 3.8% earnings yield, while international developed offer 5.8% and emerging market equities offer 7.1%. In simple terms, for the U.S. market to deliver future performance equivalent to other markets, domestic stocks will either need to deliver outsized profit growth or higher valuations.

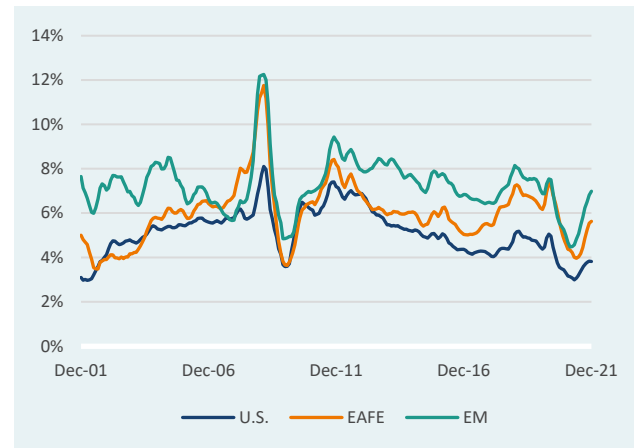
Most equity valuations have moved back towards normal levels, though U.S. prices remain exceptionally rich

## FORWARD P/E RATIOS



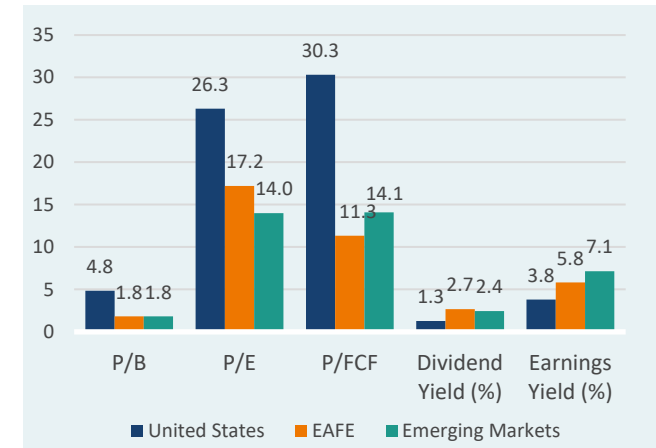
Source: MSCI, 12m forward P/E, as of 12/31/21

## CURRENT EARNINGS YIELD (3-MONTH AVERAGE)



Source: Bloomberg, MSCI, as of 12/31/21

## VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 12/31/21 - trailing P/E



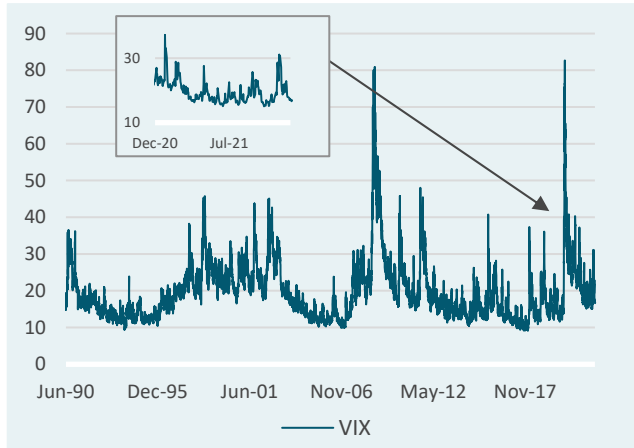
# Equity volatility

The Cboe VIX Index stayed near average levels throughout the fourth quarter, with the exception of market choppiness at the end of November which briefly sent the VIX Index above 30. Realized volatility over the past year was muted. U.S. and emerging market equities exhibited 11% volatility during the calendar year, while international developed showed 9.8%. Historically, it has been uncommon for global markets to show similar levels of volatility, as developed markets tend to deliver lower volatility, and emerging markets higher volatility.

Market response to the Omicron variant was minimal, with a few larger market drops followed by quick recoveries. We

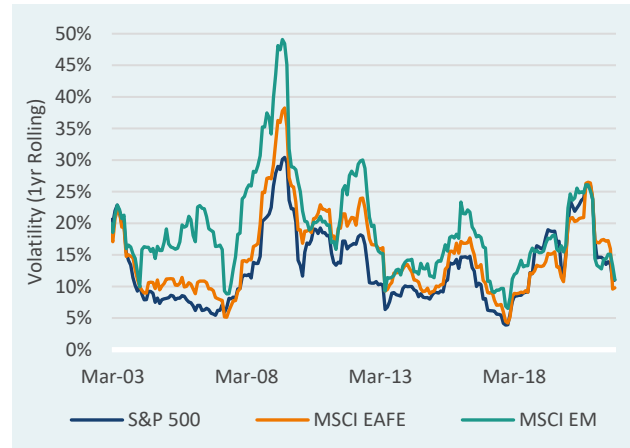
believe that investors have largely moved beyond COVID-19, and that markets have adjusted to the transition away from fiscal stimulus and many of the recent unique government spending programs. As we enter 2022, investors seem to be focused on Federal Reserve plans for tapering and interest rate hikes. It is very possible that this rate hike cycle will look similar to those of the past decade—bouts of volatility as markets either accept or push back against tightening financial conditions, “good news is bad news” as positive economic developments are seen as potentially encouraging tighter Fed policy, and “bad news is good news” as economic weakness is interpreted as an excuse for Federal Reserve easiness and accommodation.

**U.S. IMPLIED VOLATILITY (VIX)**



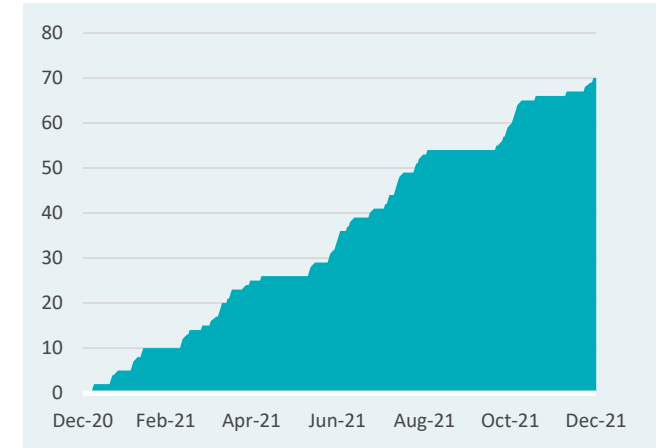
Source: Cboe, as of 12/31/21

**REALIZED VOLATILITY**



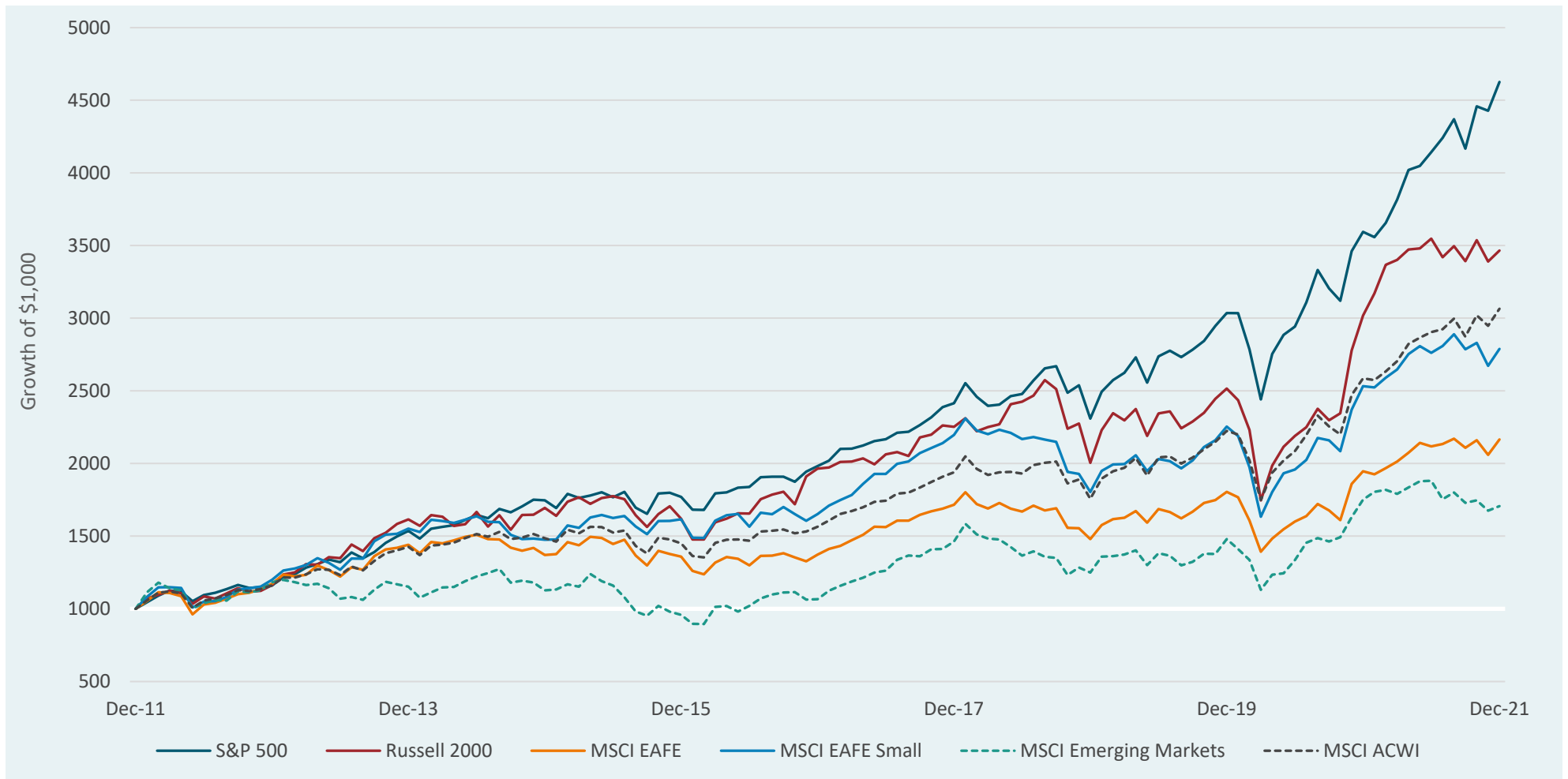
Source: Standard & Poor's, MSCI, as of 12/31/21

**S&P 500 INDEX – CUMULATIVE NUMBER OF RECORD CLOSES IN 2021**



Source: Standard & Poor's, Bloomberg, as of 12/31/21

# Long-term equity performance



Source: Morningstar, as of 12/31/21

# Other assets

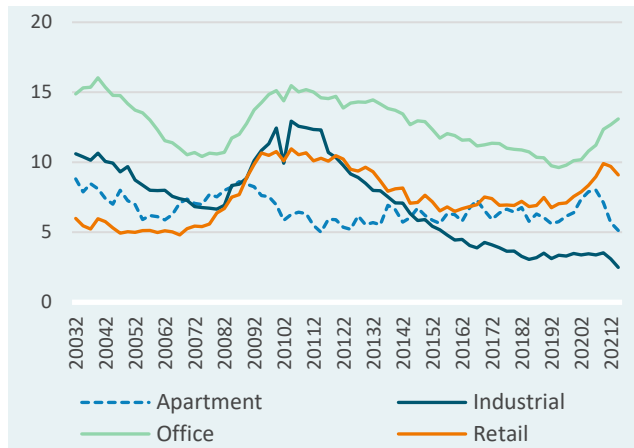
# Private real estate fundamentals

Private real estate fundamentals have seen steady improvement in vacancy rates and net operating income (NOI) growth during 2021.

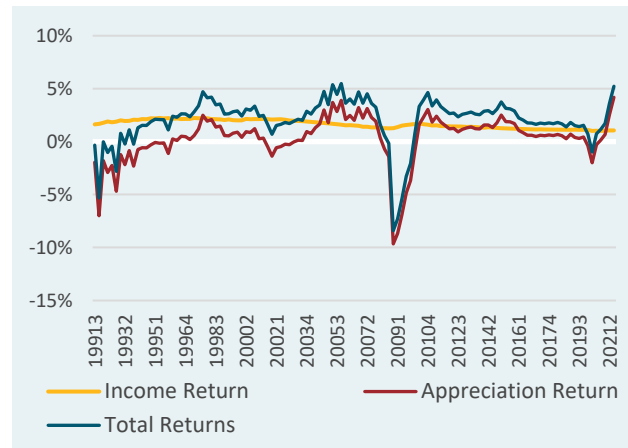
Performance has also been very strong. In Q3 2021, the NCREIF ODCE posted a 6.4% net return, the highest single quarter return in the history of the index, beating the previous high of 6.2% (Q4 1978). Early indications are Q4 2021 will be another strong quarter.

The office sector has been one exception where vacancy rates have continued to climb and NOI growth has been modest (although still positive).

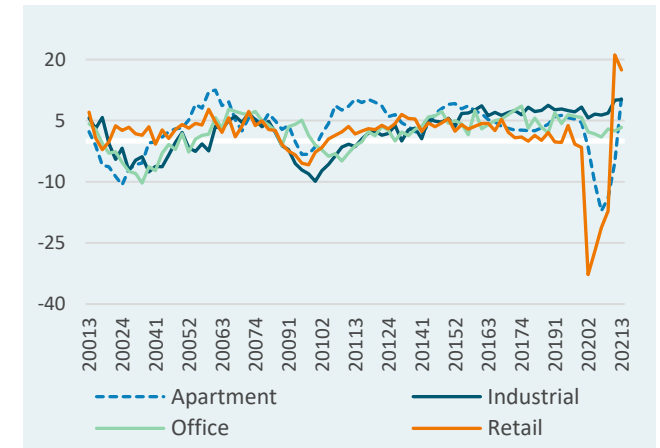
VACANCY BY PROPERTY TYPE



NCREIF PROPERTY INDEX QUARTERLY RETURNS



NOI GROWTH BY PROPERTY TYPE (4-QTR ROLLING)



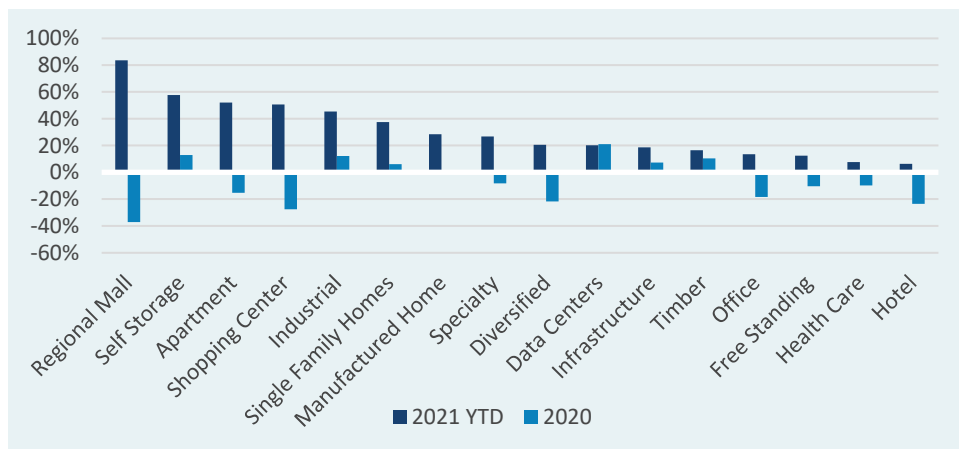
Source: NCREIF, as of 9/30/21

# Strong rebound in REITs

REITs rebounded strongly in 2021 posting an overall return of +42.3% for the FTSE NAREIT Equity Index. Several of the strongest sectors of 2021 were those that struggled the most in 2020, such as Regional Malls, Shopping Centers, and Apartments. Sectors with pandemic-driven tailwinds such as Industrial and Data Centers continued to perform well in 2021.

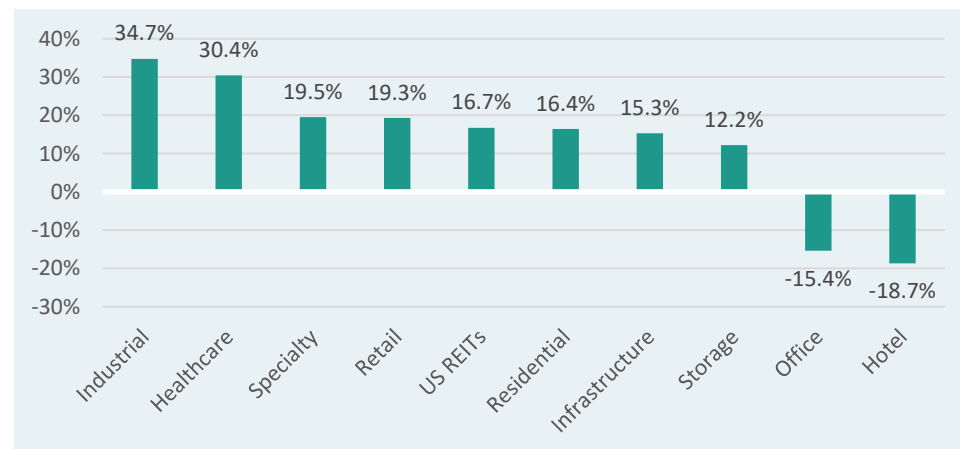
Valuations have become rich across a number of sectors, trading at substantial premiums to their net asset values (NAVs). The U.S. REIT market overall is currently trading at a 16% premium to NAV.

REIT PERFORMANCE BY SUB SECTOR (2021 VS 2020)



Source: Cohen & Steers, as of 11/30/21

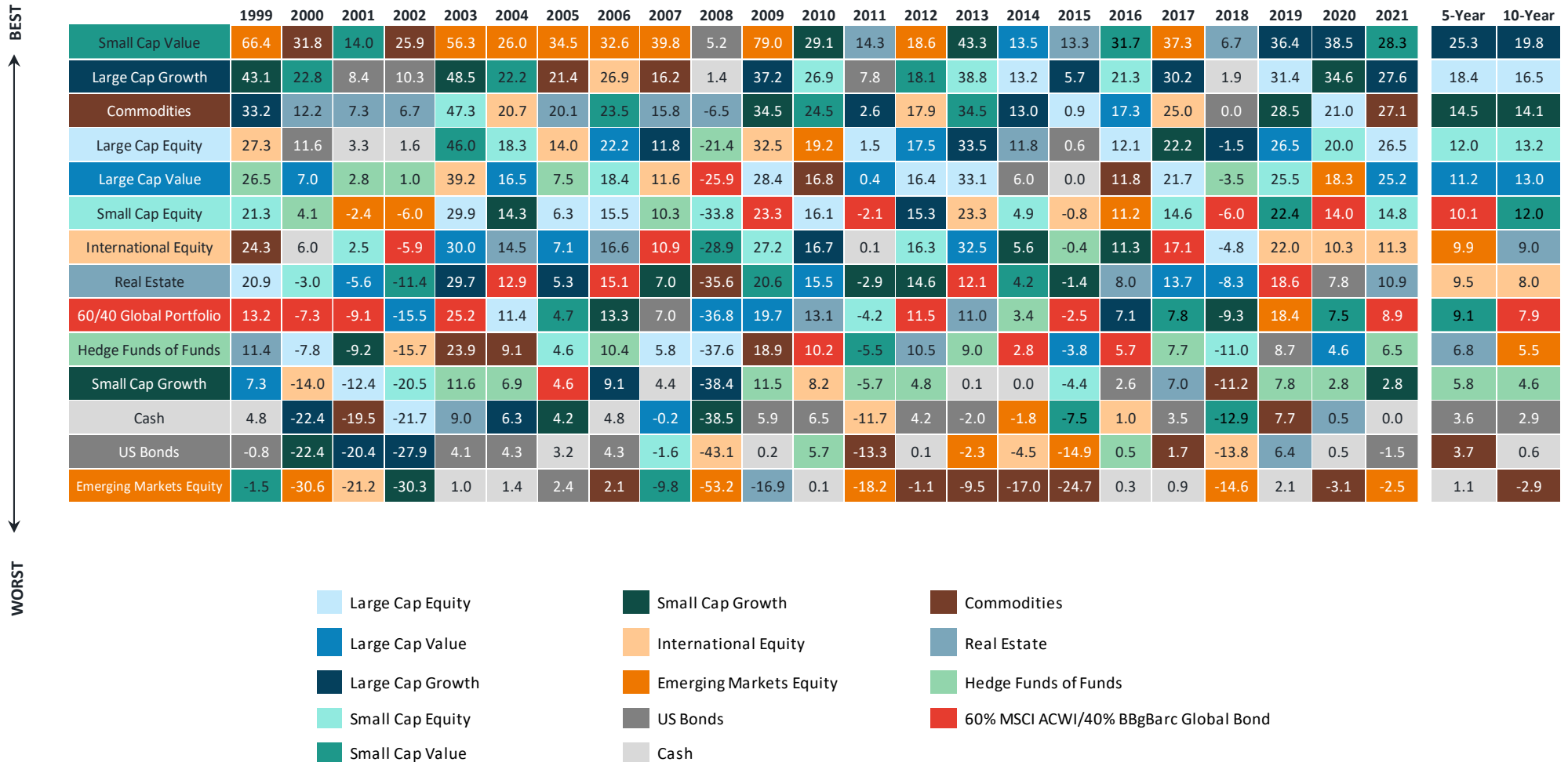
REIT PREMIUM/DISCOUNT TO NAV BY SUB SECTOR



Source: Heitman, as of 12/31/21

# Appendix

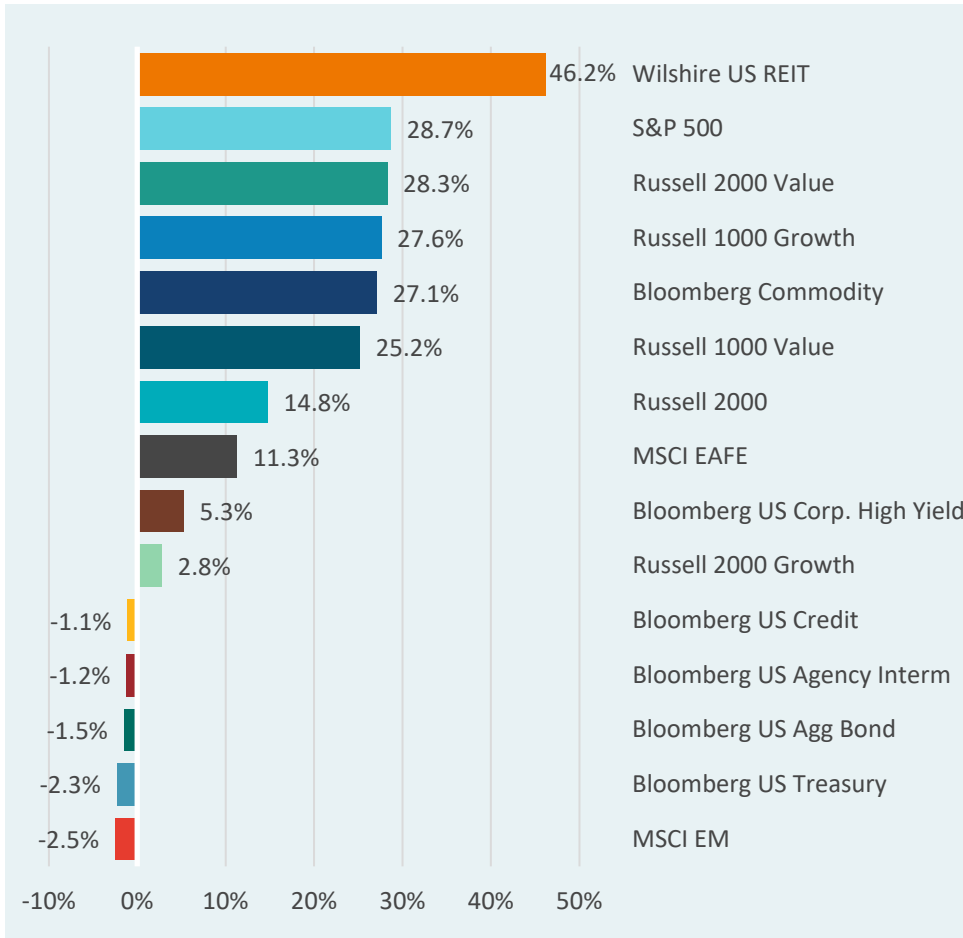
# Periodic table of returns



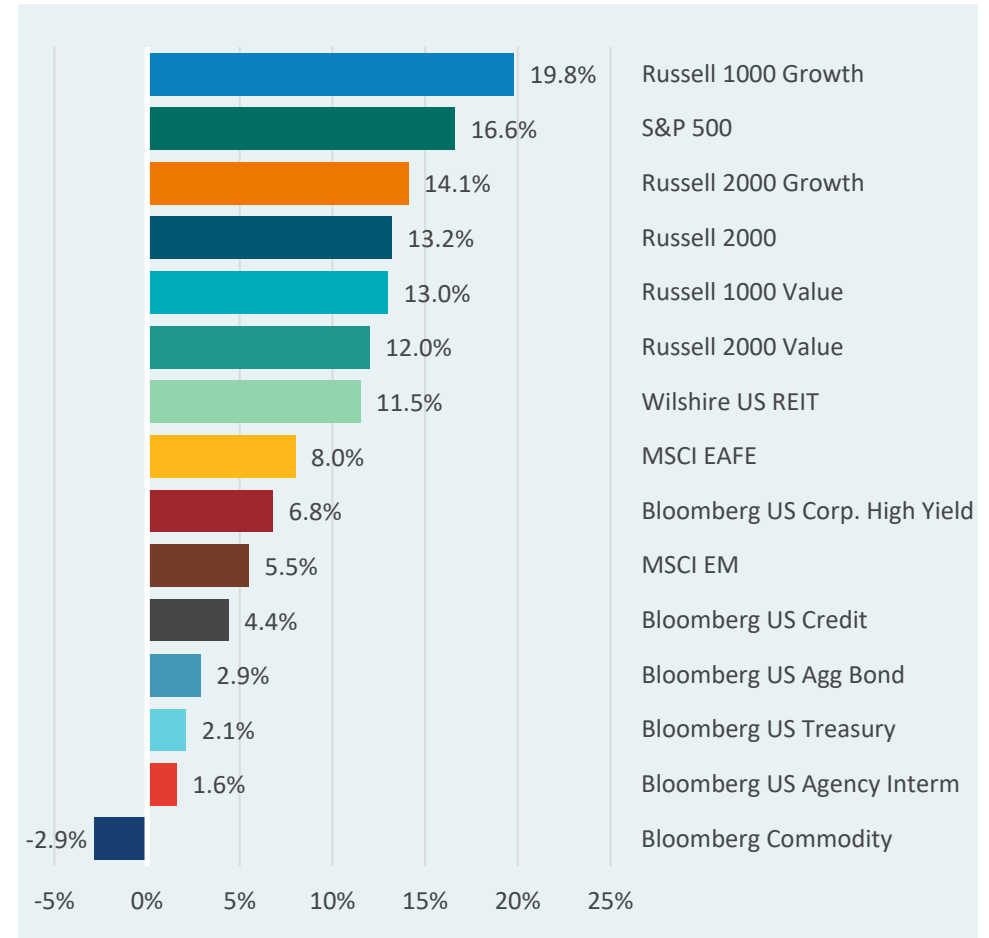
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 9/30/21.

# Major asset class returns

ONE YEAR ENDING DECEMBER



TEN YEARS ENDING DECEMBER



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

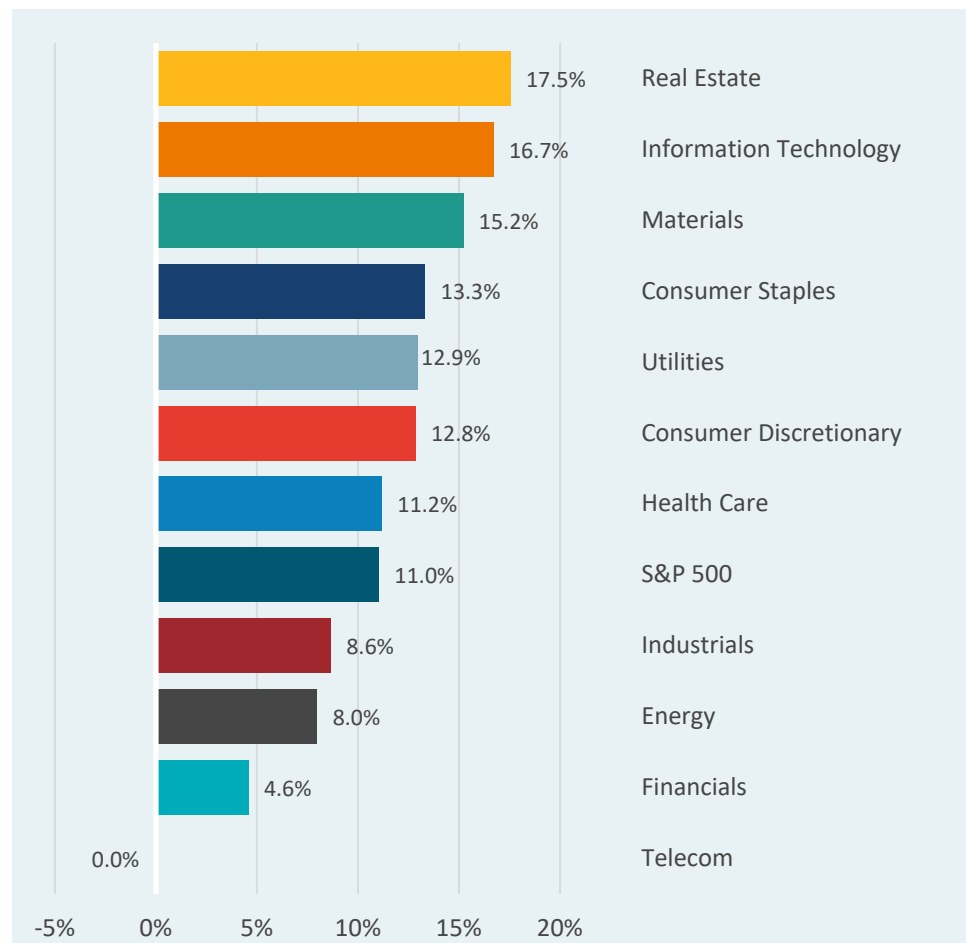
Source: Morningstar, as of 12/31/21

Source: Morningstar, as of 12/31/21



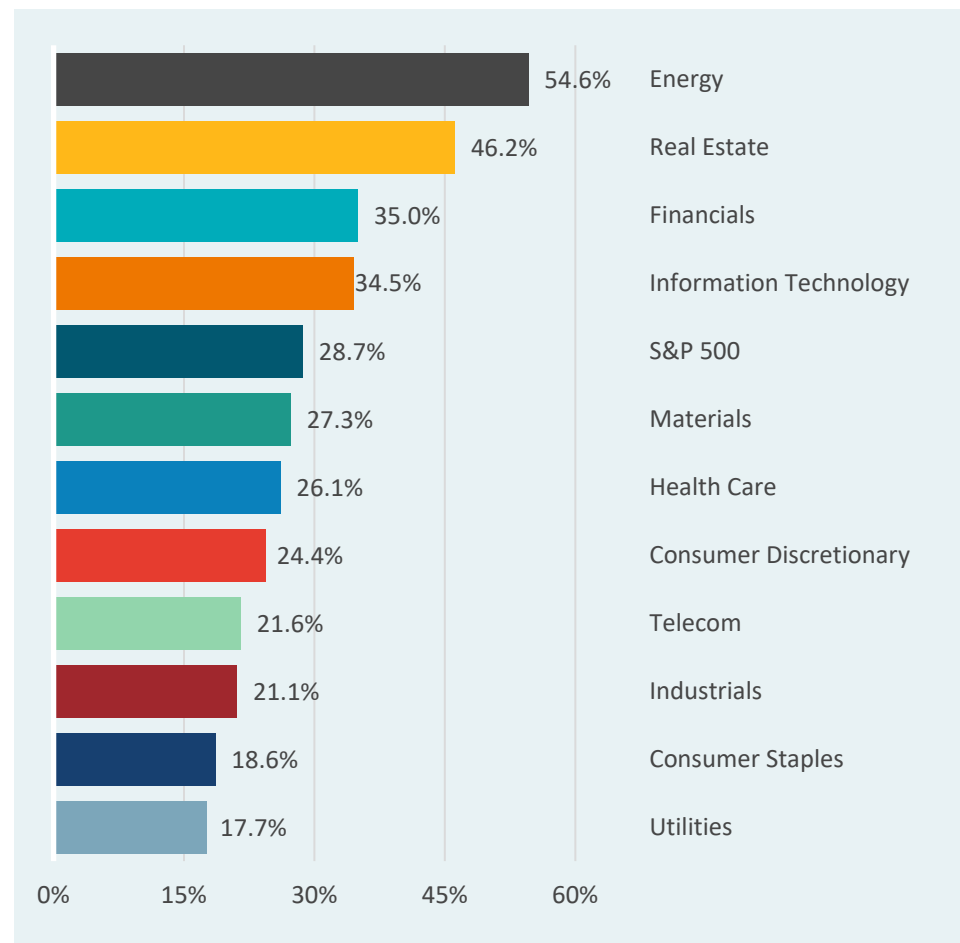
# S&P 500 sector returns

Q4 2021



Source: Morningstar, as of 12/31/21

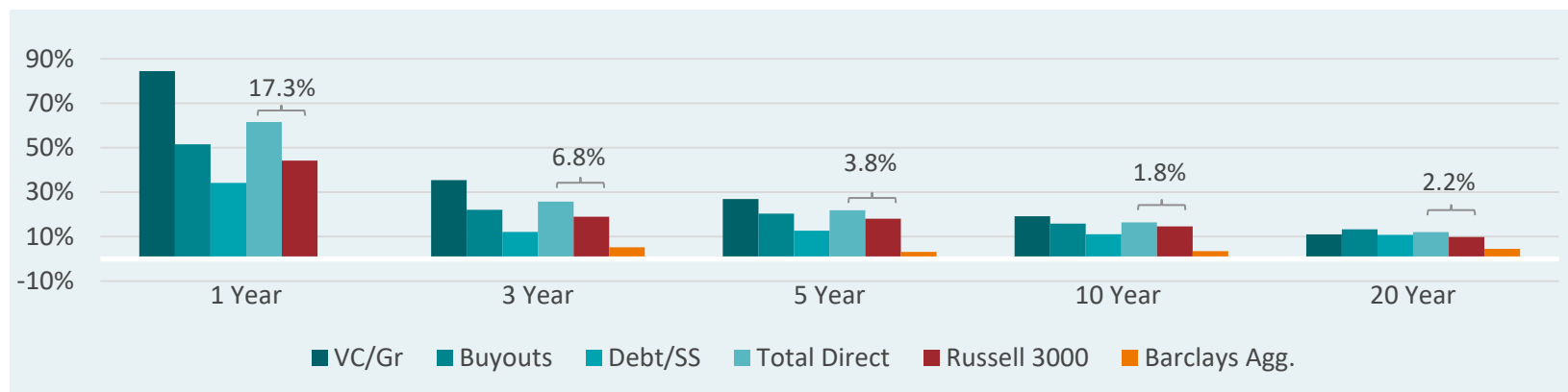
ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/21

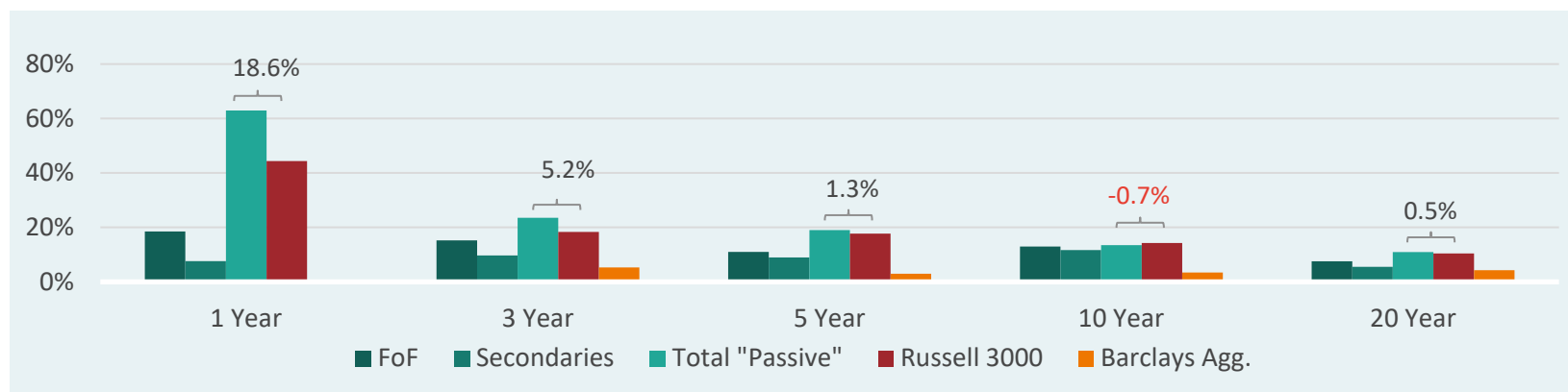
# Private equity vs. traditional assets performance

## DIRECT PRIVATE EQUITY FUND INVESTMENTS



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

## “PASSIVE” STRATEGIES

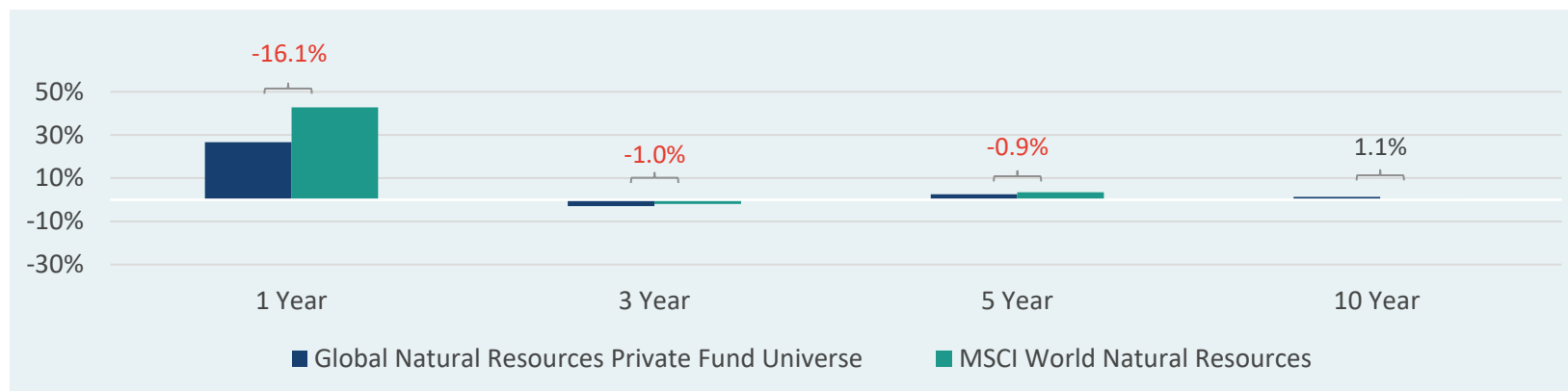


“Passive” strategies outperformed comparable public equities across all time periods, aside from the 10-year basis.

Sources: Refinitiv CJA PME: U.S. Private Equity Funds sub asset classes as of June 30, 2021. Public Market Equivalent returns resulted from “Total Passive” and Total Direct’s identical cash flows invested into and distributed from respective traditional asset comparable.

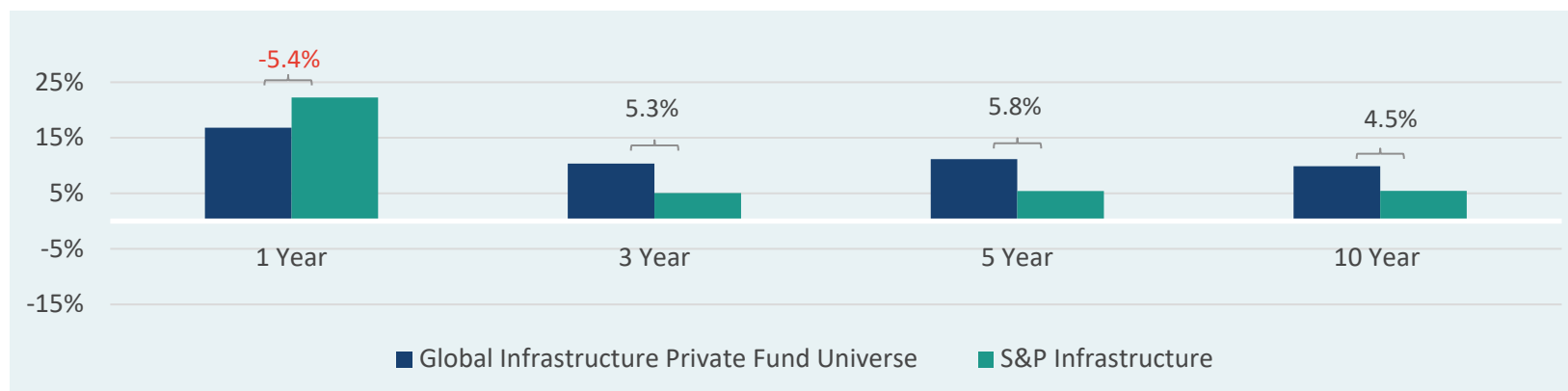
# Private vs. liquid real assets performance

## GLOBAL NATURAL RESOURCES FUNDS



N.R. funds underperformed the MSCI World Natural Resources benchmark across all time periods, aside from the 10-year basis.

## GLOBAL INFRASTRUCTURE FUNDS

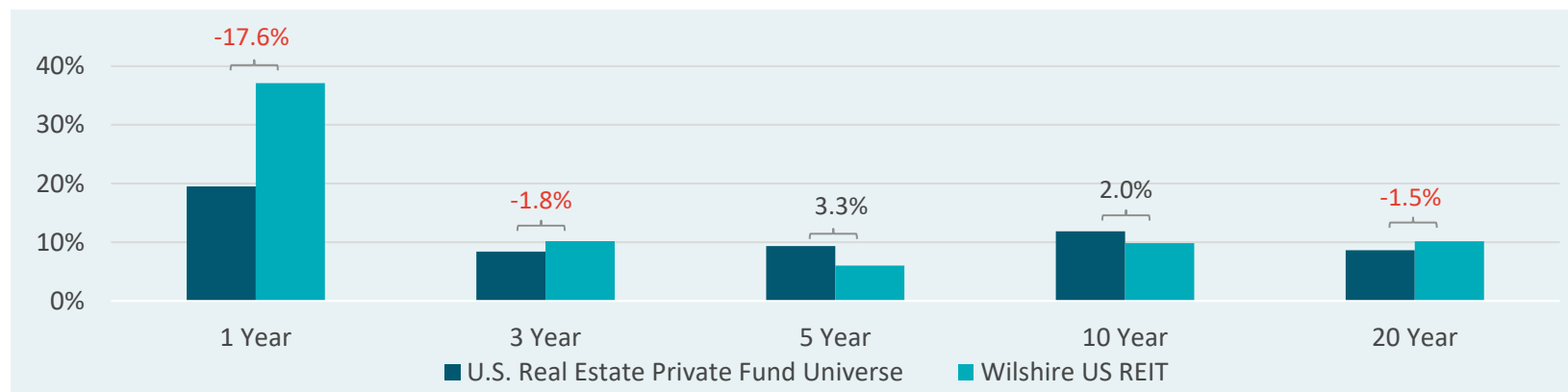


Infra. funds outperformed the S&P Infra. across all periods, aside from the 1-year basis.

Sources: Refinitiv CJA 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 June 30, 2021. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

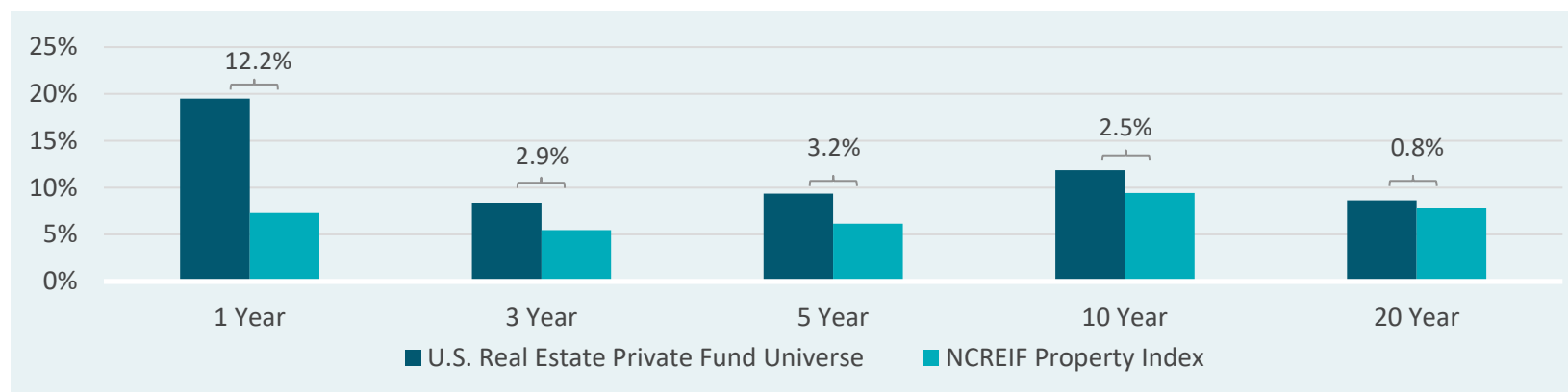
# Private vs. liquid and core real estate performance

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



U.S. Private R.E. funds underperformed the Wilshire U.S. REIT Index across all time periods, aside on a 5-year and 10-year basis.

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



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

Sources: Refinitiv CJA PME: Global and U.S. Real Estate universes as of June 30, 2021. 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 |
|------------------------|-------|------|------|--------|--------|--------|---------|
| <b>Core Index</b>      |       |      |      |        |        |        |         |
| S&P 500                | 4.5   | 11.0 | 28.7 | 28.7   | 26.1   | 18.5   | 16.6    |
| S&P 500 Equal Weighted | 6.2   | 9.0  | 29.6 | 29.6   | 23.6   | 15.7   | 15.6    |
| DJ Industrial Average  | 5.5   | 7.9  | 20.9 | 20.9   | 18.5   | 15.5   | 14.2    |
| Russell Top 200        | 4.0   | 11.0 | 27.9 | 27.9   | 27.3   | 19.7   | 17.2    |
| Russell 1000           | 4.1   | 9.8  | 26.5 | 26.5   | 26.2   | 18.4   | 16.5    |
| Russell 2000           | 2.2   | 2.1  | 14.8 | 14.8   | 20.0   | 12.0   | 13.2    |
| Russell 3000           | 3.9   | 9.3  | 25.7 | 25.7   | 25.8   | 18.0   | 16.3    |
| Russell Mid Cap        | 4.1   | 6.4  | 22.6 | 22.6   | 23.3   | 15.1   | 14.9    |
| <b>Style Index</b>     |       |      |      |        |        |        |         |
| Russell 1000 Growth    | 2.1   | 11.6 | 27.6 | 27.6   | 34.1   | 25.3   | 19.8    |
| Russell 1000 Value     | 6.3   | 7.8  | 25.2 | 25.2   | 17.6   | 11.2   | 13.0    |
| Russell 2000 Growth    | 0.4   | 0.0  | 2.8  | 2.8    | 21.2   | 14.5   | 14.1    |
| Russell 2000 Value     | 4.1   | 4.4  | 28.3 | 28.3   | 18.0   | 9.1    | 12.0    |

## INTERNATIONAL EQUITY

|                        | Month | QTD   | YTD   | 1 Year | 3 Year | 5 Year | 10 Year |
|------------------------|-------|-------|-------|--------|--------|--------|---------|
| <b>Broad Index</b>     |       |       |       |        |        |        |         |
| MSCI ACWI              | 4.0   | 6.7   | 18.5  | 18.5   | 20.4   | 14.4   | 11.9    |
| MSCI ACWI ex US        | 4.1   | 1.8   | 7.8   | 7.8    | 13.2   | 9.6    | 7.3     |
| MSCI EAFE              | 5.1   | 2.7   | 11.3  | 11.3   | 13.5   | 9.5    | 8.0     |
| MSCI EM                | 1.9   | (1.3) | (2.5) | (2.5)  | 10.9   | 9.9    | 5.5     |
| MSCI EAFE Small Cap    | 4.4   | 0.1   | 10.1  | 10.1   | 15.6   | 11.0   | 10.8    |
| <b>Style Index</b>     |       |       |       |        |        |        |         |
| MSCI EAFE Growth       | 4.3   | 4.1   | 11.3  | 11.3   | 19.0   | 13.6   | 10.1    |
| MSCI EAFE Value        | 6.0   | 1.2   | 10.9  | 10.9   | 7.8    | 5.3    | 5.8     |
| <b>Regional Index</b>  |       |       |       |        |        |        |         |
| MSCI UK                | 7.3   | 5.6   | 18.5  | 18.5   | 8.7    | 6.2    | 5.1     |
| MSCI Japan             | 1.9   | (4.0) | 1.7   | 1.7    | 11.7   | 8.5    | 8.3     |
| MSCI Euro              | 6.3   | 3.9   | 14.9  | 14.9   | 14.6   | 9.7    | 8.4     |
| MSCI EM Asia           | 1.5   | (1.0) | (5.1) | (5.1)  | 13.3   | 11.9   | 8.1     |
| MSCI EM Latin American | 5.9   | (2.7) | (8.1) | (8.1)  | (2.4)  | 1.5    | (2.2)   |

## FIXED INCOME

|                               | Month | QTD   | YTD    | 1 Year | 3 Year | 5 Year | 10 Year |
|-------------------------------|-------|-------|--------|--------|--------|--------|---------|
| <b>Broad Index</b>            |       |       |        |        |        |        |         |
| Bloomberg US TIPS             | 0.3   | 2.4   | 6.0    | 6.0    | 8.4    | 5.3    | 3.1     |
| Bloomberg US Treasury Bills   | 0.0   | 0.0   | 0.0    | 0.0    | 1.0    | 1.2    | 0.7     |
| Bloomberg US Agg Bond         | (0.3) | 0.0   | (1.5)  | (1.5)  | 4.8    | 3.6    | 2.9     |
| Bloomberg US Universal        | (0.1) | (0.0) | (1.1)  | (1.1)  | 5.2    | 3.8    | 3.3     |
| <b>Duration</b>               |       |       |        |        |        |        |         |
| Bloomberg US Treasury 1-3 Yr  | (0.2) | (0.6) | (0.6)  | (0.6)  | 2.0    | 1.6    | 1.1     |
| Bloomberg US Treasury Long    | (1.4) | 3.1   | (4.6)  | (4.6)  | 8.8    | 6.5    | 4.5     |
| Bloomberg US Treasury         | (0.5) | 0.2   | (2.3)  | (2.3)  | 4.1    | 3.1    | 2.1     |
| <b>Issuer</b>                 |       |       |        |        |        |        |         |
| Bloomberg US MBS              | (0.1) | (0.4) | (1.0)  | (1.0)  | 3.0    | 2.5    | 2.3     |
| Bloomberg US Corp. High Yield | 1.9   | 0.7   | 5.3    | 5.3    | 8.8    | 6.3    | 6.8     |
| Bloomberg US Agency Interm    | (0.2) | (0.7) | (1.2)  | (1.2)  | 2.4    | 2.0    | 1.6     |
| Bloomberg US Credit           | (0.1) | 0.2   | (1.1)  | (1.1)  | 7.2    | 5.1    | 4.4     |
| <b>OTHER</b>                  |       |       |        |        |        |        |         |
| <b>Index</b>                  |       |       |        |        |        |        |         |
| Bloomberg Commodity           | 3.5   | (1.6) | 27.1   | 27.1   | 9.9    | 3.7    | (2.9)   |
| Wilshire US REIT              | 8.8   | 17.1  | 46.2   | 46.2   | 19.2   | 10.9   | 11.5    |
| CS Leveraged Loans            | 0.6   | 0.7   | 5.4    | 5.4    | 5.4    | 4.3    | 4.8     |
| S&P Global Infrastructure     | 6.6   | 4.6   | 11.9   | 11.9   | 10.2   | 7.8    | 7.7     |
| Alerian MLP                   | 3.7   | 0.9   | 40.9   | 40.9   | 1.0    | (3.7)  | (0.3)   |
| <b>Regional Index</b>         |       |       |        |        |        |        |         |
| JPM EMBI Global Div           | 1.4   | (0.4) | (1.8)  | (1.8)  | 5.9    | 4.7    | 5.3     |
| JPM GBI-EM Global Div         | 1.6   | (2.5) | (8.7)  | (8.7)  | 2.1    | 2.8    | 0.7     |
| <b>Hedge Funds</b>            |       |       |        |        |        |        |         |
| HFRI Composite                | 1.3   | 0.6   | 10.3   | 10.3   | 10.9   | 7.1    | 5.8     |
| HFRI FOF Composite            | 0.8   | 0.7   | 6.5    | 6.5    | 8.6    | 5.8    | 4.6     |
| <b>Currency (Spot)</b>        |       |       |        |        |        |        |         |
| Euro                          | 1.0   | (1.9) | (7.1)  | (7.1)  | (0.2)  | 1.5    | (1.3)   |
| Pound Sterling                | 2.4   | 0.5   | (0.9)  | (0.9)  | 2.1    | 1.9    | (1.4)   |
| Yen                           | (1.4) | (3.1) | (10.3) | (10.3) | (1.6)  | 0.3    | (4.0)   |

Source: Morningstar, HFRI, as of 12/31/21

# Definitions

**Bloomberg US Weekly Consumer Comfort Index** - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. ([www.lanqerresearch.com](http://www.lanqerresearch.com))

**University of Michigan Consumer Sentiment Index** - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. ([www.Bloomberg.com](http://www.Bloomberg.com))

**NFIB Small Business Outlook** - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

**NAHB Housing Market Index** - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula  $(\text{Good-Poor} + 100)/2$  to the present and future sales series and  $(\text{High/Very High-Low/Very Low} + 100)/2$  to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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# Kern County Employees' Retirement Association

Investment Performance Review  
Period Ending: December 31, 2021



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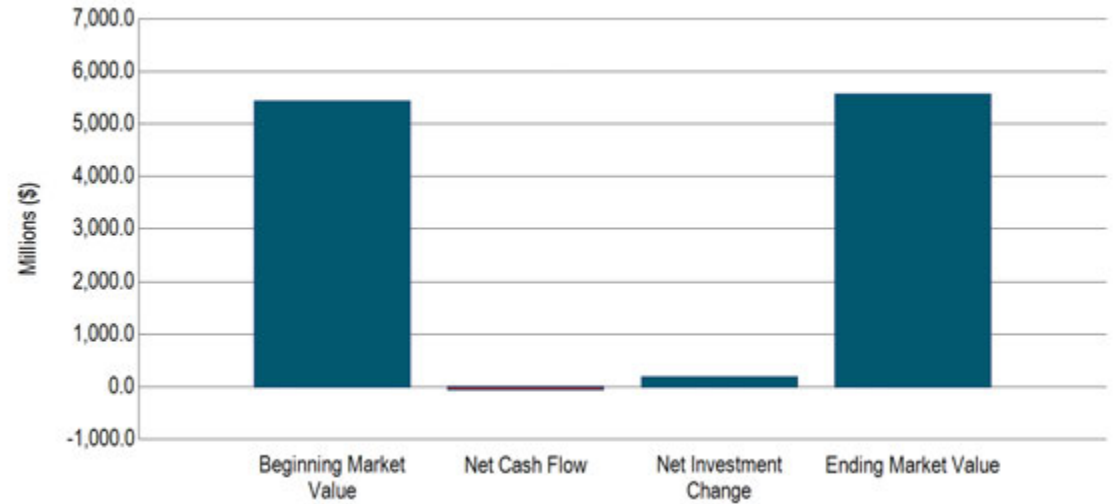
Total Fund  
Portfolio Reconciliation

Period Ending: December 31, 2021

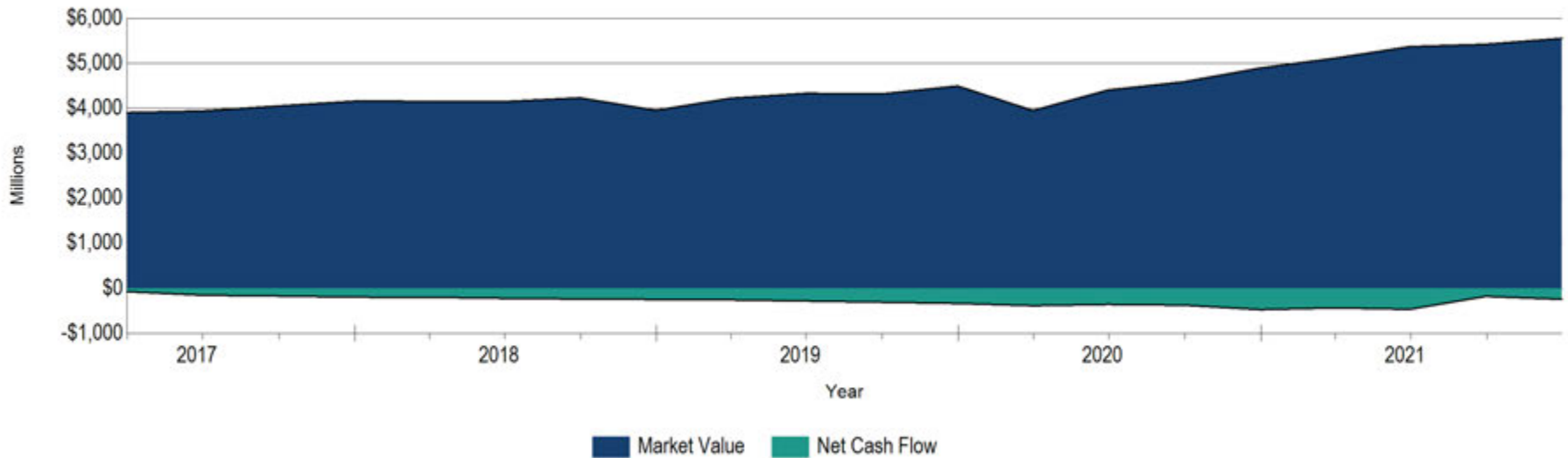
Portfolio Reconciliation

|                        | Months          |
|------------------------|-----------------|
| Beginning Market Value | \$5,425,448,232 |
| Net Cash Flow          | -\$62,775,747   |
| Net Investment Change  | \$194,767,448   |
| Ending Market Value    | \$5,557,439,932 |

Change in Market Value Last Three Months



Market Value History

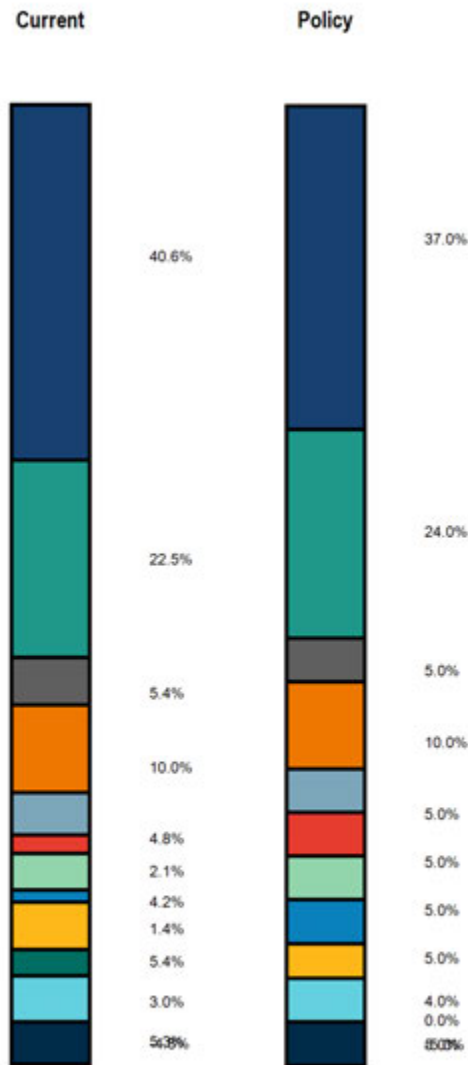


Contributions and withdrawals may include intra-account transfers between managers/funds. The Kern County Property Fund was removed at the beginning of 1Q 2016.

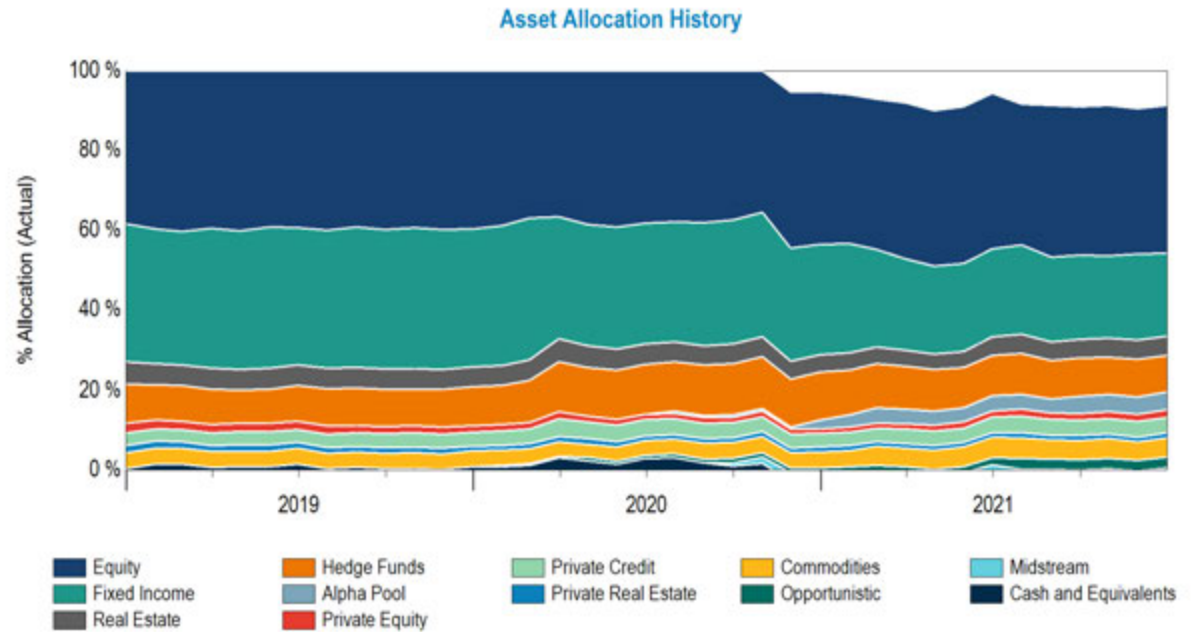


Total fund  
Asset Allocation vs. Policy

Period Ending: December 31, 2021



|                      | Current Balance        | Current Allocation | Policy        | Difference     | Policy Range  | Within IPS Range? |
|----------------------|------------------------|--------------------|---------------|----------------|---------------|-------------------|
| Equity               | \$2,256,356,252        | 40.6%              | 37.0%         | \$200,238,986  | 32.0% - 46.0% | Yes               |
| Fixed Income         | \$1,252,600,835        | 22.5%              | 24.0%         | -\$81,096,851  | 20.0% - 34.0% | Yes               |
| Real Estate          | \$301,476,904          | 5.4%               | 5.0%          | \$23,623,220   | 3.0% - 7.0%   | Yes               |
| Hedge Funds          | \$557,581,161          | 10.0%              | 10.0%         | \$1,873,792    | 5.0% - 15.0%  | Yes               |
| Alpha Pool           | \$266,445,048          | 4.8%               | 5.0%          | -\$11,408,637  | 0.0% - 7.0%   | Yes               |
| Private Equity       | \$117,844,408          | 2.1%               | 5.0%          | -\$160,009,277 | 0.0% - 10.0%  | Yes               |
| Private Credit       | \$234,880,412          | 4.2%               | 5.0%          | -\$42,973,273  | 0.0% - 10.0%  | Yes               |
| Private Real Estate  | \$77,223,017           | 1.4%               | 5.0%          | -\$200,630,668 | 0.0% - 10.0%  | Yes               |
| Commodities          | \$300,071,302          | 5.4%               | 4.0%          | \$77,788,354   | 2.0% - 6.0%   | Yes               |
| Opportunistic        | \$166,466,006          | 3.0%               | 0.0%          | \$166,466,006  | 0.0% - 10.0%  | Yes               |
| Midstream            | \$293,368,210          | 5.3%               | 5.0%          | \$15,514,525   | 0.0% - 7.0%   | Yes               |
| Cash and Equivalents | -\$267,239,863         | -4.8%              | -5.0%         | \$10,613,822   | -7.0% - 5.0%  | Yes               |
| <b>Total</b>         | <b>\$5,557,073,691</b> | <b>100.0%</b>      | <b>100.0%</b> |                |               |                   |



Market value does not include residual \$366,241 in Fidelity International.

# Total Fund

## Executive Summary (Gross of Fees)

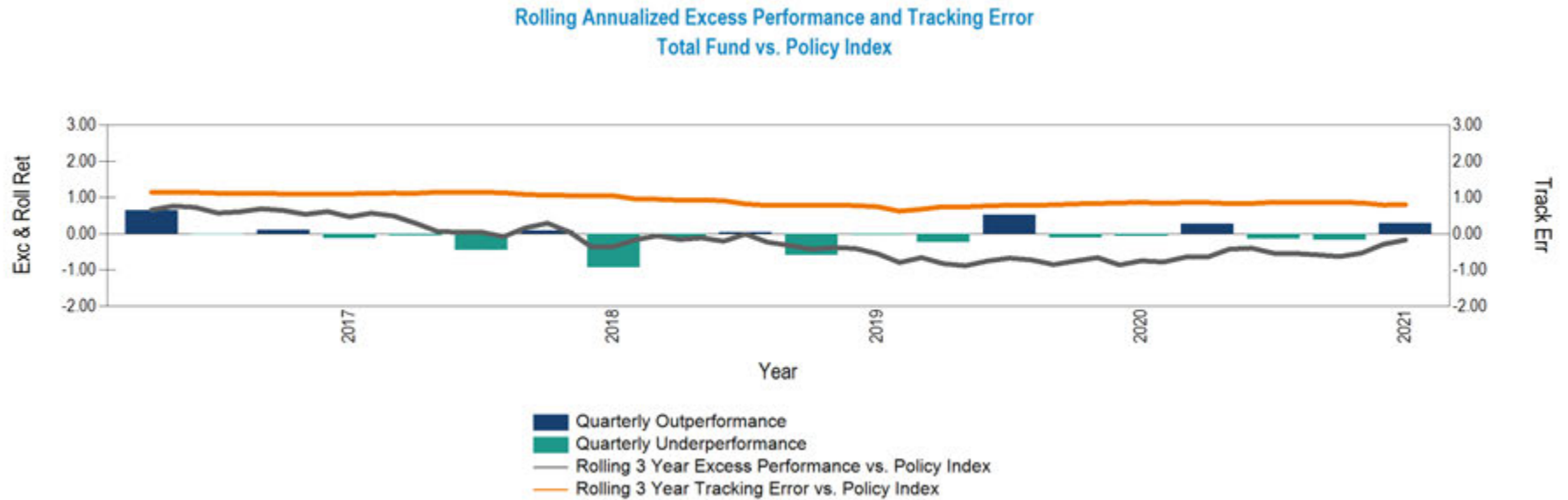
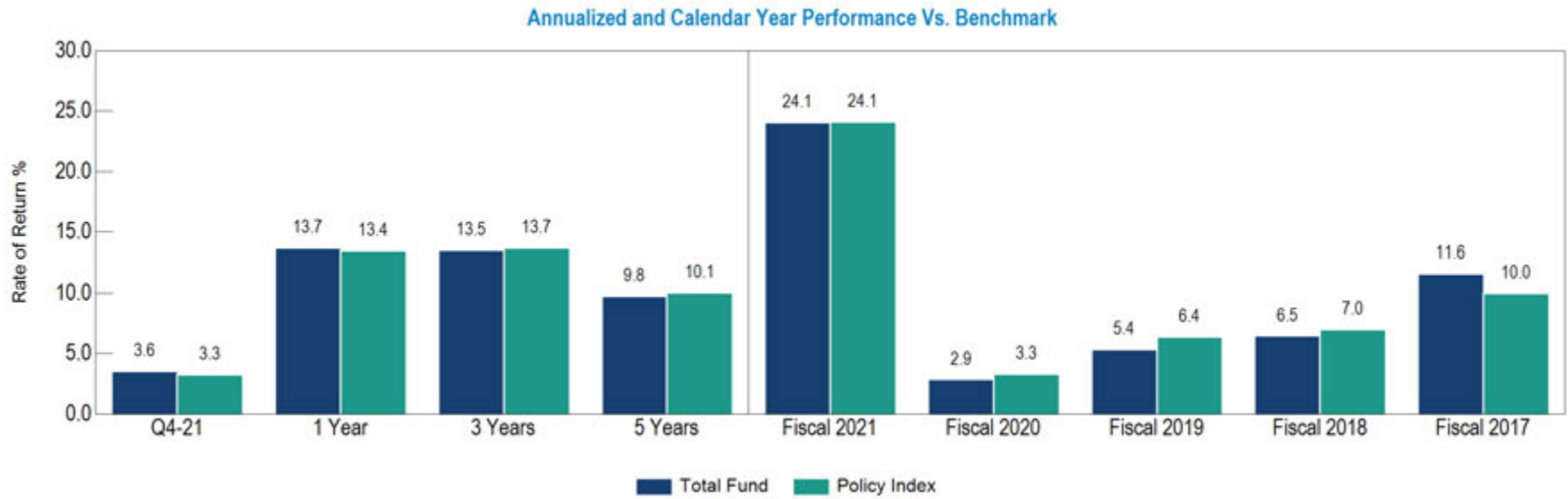
Period Ending: December 31, 2021

|  | Market Value         | 3 Mo        | Fiscal YTD  | 1 Yr        | 3 Yrs       | 5 Yrs       | 10 Yrs      | Fiscal 2021 | Fiscal 2020  | Fiscal 2019 | Fiscal 2018 | Fiscal 2017 |
|--|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|
| <b>Total Fund</b>                                | <b>5,557,439,932</b> | <b>3.6</b>  | <b>4.2</b>  | <b>14.0</b> | <b>13.8</b> | <b>10.1</b> | <b>9.0</b>  | <b>24.4</b> | <b>3.2</b>   | <b>5.7</b>  | <b>6.8</b>  | <b>12.1</b> |
| <i>Policy Index</i>                              |                      | 3.3         | 4.0         | 13.4        | 13.7        | 10.1        | 8.3         | 24.1        | 3.3          | 6.4         | 7.0         | 10.0        |
| <i>InvMetrics Public DB &gt; \$1B Gross Rank</i> |                      | 75          | 62          | 55          | 74          | 81          | 84          | 89          | 16           | 42          | 96          | 74          |
| <b>Equity</b>                                    | <b>2,256,722,493</b> | <b>6.8</b>  | <b>5.8</b>  | <b>20.2</b> | <b>20.8</b> | <b>14.9</b> | <b>13.2</b> | <b>41.2</b> | <b>0.7</b>   | <b>5.3</b>  | <b>12.4</b> | <b>20.6</b> |
| <i>MSCI ACWI IMI GR</i>                          |                      | 6.2         | 5.1         | 18.7        | 20.8        | 14.7        | 12.4        | 41.5        | 1.7          | 5.1         | 11.7        | 19.6        |
| <b>Domestic Equity</b>                           | <b>1,254,277,887</b> | <b>10.2</b> | <b>10.7</b> | <b>28.4</b> | <b>26.5</b> | <b>18.6</b> | <b>--</b>   | <b>43.6</b> | <b>6.3</b>   | <b>9.2</b>  | <b>16.1</b> | <b>19.4</b> |
| <i>Russell 3000</i>                              |                      | 9.3         | 9.2         | 25.7        | 25.8        | 18.0        | --          | 44.2        | 6.5          | 9.0         | 14.8        | 18.5        |
| <b>International Developed Equity</b>            | <b>708,891,613</b>   | <b>3.3</b>  | <b>3.0</b>  | <b>14.4</b> | <b>15.4</b> | <b>10.9</b> | <b>--</b>   | <b>37.0</b> | <b>-5.5</b>  | <b>-0.6</b> | <b>9.1</b>  | <b>23.1</b> |
| <i>MSCI World ex USA GR</i>                      |                      | 3.2         | 2.6         | 13.2        | 14.6        | 10.2        | --          | 34.2        | -5.0         | 1.8         | 7.6         | 20.1        |
| <b>Emerging Markets Equity</b>                   | <b>293,552,275</b>   | <b>1.2</b>  | <b>-6.5</b> | <b>2.1</b>  | <b>8.4</b>  | <b>7.8</b>  | <b>--</b>   | <b>40.6</b> | <b>-10.9</b> | <b>0.4</b>  | <b>4.0</b>  | <b>20.4</b> |
| <i>MSCI Emerging Markets</i>                     |                      | -1.3        | -9.3        | -2.5        | 10.9        | 9.9         | --          | 40.9        | -3.4         | 1.2         | 8.2         | 23.7        |
| <b>Fixed Income</b>                              | <b>1,252,600,835</b> | <b>-0.2</b> | <b>-0.2</b> | <b>-0.5</b> | <b>6.3</b>  | <b>4.7</b>  | <b>3.9</b>  | <b>5.4</b>  | <b>6.6</b>   | <b>7.9</b>  | <b>0.2</b>  | <b>4.6</b>  |
| <i>Fixed Income Custom Benchmark</i>             |                      | 0.1         | 0.1         | -0.2        | 5.6         | 4.3         | 3.8         | 4.1         | 5.2          | 8.4         | 0.0         | 3.2         |
| <b>Core Plus Fixed Income</b>                    | <b>665,636,615</b>   | <b>-0.1</b> | <b>0.1</b>  | <b>-1.5</b> | <b>5.6</b>  | <b>4.3</b>  | <b>--</b>   | <b>1.0</b>  | <b>9.5</b>   | <b>8.0</b>  | <b>0.0</b>  | <b>1.4</b>  |
| <i>Bloomberg US Aggregate TR</i>                 |                      | 0.0         | 0.1         | -1.5        | 4.8         | 3.6         | --          | -0.3        | 8.7          | 7.9         | -0.4        | -0.3        |
| <b>High Yield/ Specialty Credit</b>              | <b>323,459,509</b>   | <b>0.8</b>  | <b>1.9</b>  | <b>5.8</b>  | <b>7.9</b>  | <b>6.0</b>  | <b>--</b>   | <b>13.6</b> | <b>0.0</b>   | <b>7.5</b>  | <b>3.3</b>  | <b>10.4</b> |
| <i>ICE BofAML High Yield Master II</i>           |                      | 0.7         | 1.6         | 5.4         | 8.6         | 6.1         | --          | 15.6        | -1.1         | 7.6         | 2.5         | 12.8        |
| <b>Emerging Market Debt</b>                      | <b>263,388,651</b>   | <b>-1.7</b> | <b>-3.5</b> | <b>-5.0</b> | <b>4.5</b>  | <b>3.2</b>  | <b>--</b>   | <b>9.4</b>  | <b>-1.2</b>  | <b>8.5</b>  | <b>-3.6</b> | <b>9.6</b>  |
| <i>50 JPM EMBI Global Div/ 50 JPM GBI EM</i>     |                      | -0.6        | -1.7        | -2.2        | 4.4         | 4.2         | --          | 8.7         | -3.0         | 11.2        | -1.8        | 6.5         |
| <b>Commodities</b>                               | <b>300,071,302</b>   | <b>1.9</b>  | <b>4.4</b>  | <b>25.6</b> | <b>13.0</b> | <b>6.5</b>  | <b>--</b>   | <b>43.5</b> | <b>-10.7</b> | <b>-6.2</b> | <b>13.7</b> | <b>-3.1</b> |
| <i>Bloomberg Commodity Index TR USD</i>          |                      | -1.6        | 4.9         | 27.1        | 9.9         | 3.7         | --          | 45.6        | -17.4        | -6.8        | 7.3         | -6.5        |
| <b>Hedge Funds</b>                               | <b>557,581,161</b>   | <b>0.8</b>  | <b>2.2</b>  | <b>7.1</b>  | <b>10.0</b> | <b>7.7</b>  | <b>7.1</b>  | <b>16.3</b> | <b>7.3</b>   | <b>2.6</b>  | <b>7.6</b>  | <b>8.0</b>  |
| <i>75% 90 Day TBills +4% / 25% MSCI ACWI</i>     |                      | 2.4         | 3.0         | 7.7         | 9.0         | 7.7         | 6.7         | 12.3        | 5.1          | 6.6         | 7.0         | 8.1         |
| <b>Alpha Pool</b>                                | <b>266,445,048</b>   | <b>0.8</b>  | <b>1.5</b>  | <b>6.8</b>  | <b>--</b>   | <b>--</b>   | <b>--</b>   | <b>14.5</b> | <b>--</b>    | <b>--</b>   | <b>--</b>   | <b>--</b>   |
| <i>91-Day T-Bill +4%</i>                         |                      | 1.0         | 2.0         | 4.0         | --          | --          | --          | 4.1         | --           | --          | --          | --          |
| <b>Midstream Energy</b>                          | <b>293,368,210</b>   | <b>1.3</b>  | <b>1.0</b>  | <b>34.8</b> | <b>--</b>   | <b>--</b>   | <b>--</b>   | <b>--</b>   | <b>--</b>    | <b>--</b>   | <b>--</b>   | <b>--</b>   |
| <i>Alerian Midstream Index</i>                   |                      | -0.4        | -1.6        | 38.4        | --          | --          | --          | --          | --           | --          | --          | --          |
| <b>Core Real Estate</b>                          | <b>301,476,904</b>   | <b>5.7</b>  | <b>11.9</b> | <b>17.4</b> | <b>7.8</b>  | <b>7.3</b>  | <b>--</b>   | <b>6.6</b>  | <b>2.3</b>   | <b>6.1</b>  | <b>7.4</b>  | <b>5.8</b>  |
| <i>NCREIF-ODCE</i>                               |                      | 8.0         | 15.1        | 22.2        | 9.2         | 8.7         | --          | 8.0         | 2.2          | 6.4         | 8.4         | 7.9         |

Total Fund  
Executive Summary (Gross of Fees)

Period Ending: December 31, 2021

|                            | Market Value | 3 Mo | Fiscal YTD | 1 Yr | 3 Yrs | 5 Yrs | 10 Yrs | Fiscal 2021 | Fiscal 2020 | Fiscal 2019 | Fiscal 2018 | Fiscal 2017 |
|----------------------------|--------------|------|------------|------|-------|-------|--------|-------------|-------------|-------------|-------------|-------------|
| Private Real Estate        | 77,223,017   | 10.6 | 17.9       | 27.9 | 11.7  | 9.2   | 13.2   | 12.1        | 4.4         | 9.0         | 5.4         | 6.4         |
| Private Equity             | 117,844,408  | 6.5  | 16.8       | 35.8 | 14.9  | 13.9  | 12.3   | 41.7        | -10.5       | 10.9        | 7.8         | 14.8        |
| Private Credit             | 234,880,412  | -2.5 | 0.7        | 5.9  | 5.1   | 7.2   | --     | 4.8         | 5.5         | 9.7         | 9.3         | 10.2        |
| Opportunistic              | 166,466,006  | 6.8  | 6.1        | 51.0 | --    | --    | --     | 59.9        | --          | --          | --          | --          |
| Assumed Rate of Return +3% |              | 2.5  | 5.1        | 10.4 | --    | --    | --     | 10.4        | --          | --          | --          | --          |
| Cash                       | -267,239,863 |      |            |      |       |       |        |             |             |             |             |             |



## **Performance and Attribution**

Total Fund  
Performance (Net of Fees)

Period Ending: December 31, 2021

|  | Market Value         | % of Portfolio | 3 Mo        | Fiscal YTD  | 1 Yr        | 3 Yrs       | 5 Yrs       | 10 Yrs      | Fiscal 2021 | Fiscal 2020 | Fiscal 2019 | Fiscal 2018 | Fiscal 2017 | Inception  | Inception Date |
|--|----------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|----------------|
| <b>Total Fund</b>                        | <b>5,557,439,932</b> | <b>100.0</b>   | <b>3.6</b>  | <b>4.1</b>  | <b>13.7</b> | <b>13.5</b> | <b>9.8</b>  | <b>8.6</b>  | <b>24.1</b> | <b>2.9</b>  | <b>5.4</b>  | <b>6.5</b>  | <b>11.6</b> | <b>7.7</b> | <b>Jun-11</b>  |
| <i>Policy Index</i>                      |                      |                | 3.3         | 4.0         | 13.4        | 13.7        | 10.1        | 8.3         | 24.1        | 3.3         | 6.4         | 7.0         | 10.0        | 7.5        | Jun-11         |
| <b>Equity</b>                            | <b>2,256,722,493</b> | <b>40.6</b>    | <b>6.8</b>  | <b>5.7</b>  | <b>19.9</b> | <b>20.4</b> | <b>14.4</b> | <b>12.8</b> | <b>40.7</b> | <b>0.3</b>  | <b>4.8</b>  | <b>11.8</b> | <b>20.1</b> |            |                |
| <i>MSCI ACWI IMI GR</i>                  |                      |                | 6.2         | 5.1         | 18.7        | 20.8        | 14.7        | 12.4        | 41.5        | 1.7         | 5.1         | 11.7        | 19.6        |            |                |
| <b>Domestic Equity</b>                   | <b>1,254,277,887</b> | <b>22.6</b>    | <b>10.2</b> | <b>10.6</b> | <b>28.1</b> | <b>26.2</b> | <b>18.2</b> | <b>--</b>   | <b>43.2</b> | <b>6.0</b>  | <b>8.8</b>  | <b>15.5</b> | <b>18.9</b> |            |                |
| <i>Russell 3000</i>                      |                      |                | 9.3         | 9.2         | 25.7        | 25.8        | 18.0        | --          | 44.2        | 6.5         | 9.0         | 14.8        | 18.5        |            |                |
| Equity Beta Exposure                     | 586,960,975          | 10.6           | 11.0        | 11.5        | 28.1        | --          | --          | --          | --          | --          | --          | --          | --          | 31.9       | Jul-20         |
| <i>S&amp;P 500</i>                       |                      |                | 11.0        | 11.7        | 28.7        | --          | --          | --          | --          | --          | --          | --          | --          | 32.4       | Jul-20         |
| Russell 2000 Overlay                     | 28,707,840           | 0.5            | 4.3         | --          | --          | --          | --          | --          | --          | --          | --          | --          | --          | 4.3        | Sep-21         |
| <i>Russell 2000</i>                      |                      |                | 2.1         | --          | --          | --          | --          | --          | --          | --          | --          | --          | --          | 2.1        | Sep-21         |
| Mellon DB SL Stock Index                 | 350,801,307          | 6.3            | 11.0        | 11.7        | 28.7        | 26.0        | --          | --          | 40.8        | 7.5         | 10.4        | --          | --          | 18.0       | Oct-17         |
| <i>S&amp;P 500</i>                       |                      |                | 11.0        | 11.7        | 28.7        | 26.1        | --          | --          | 40.8        | 7.5         | 10.4        | --          | --          | 18.0       | Oct-17         |
| PIMCO StocksPLUS                         | 125,028,886          | 2.2            | 10.8        | 11.4        | 28.2        | 26.7        | 18.6        | 17.5        | 41.7        | 7.7         | 10.6        | 14.1        | 19.1        | 12.0       | Jul-03         |
| <i>S&amp;P 500</i>                       |                      |                | 11.0        | 11.7        | 28.7        | 26.1        | 18.5        | 16.6        | 40.8        | 7.5         | 10.4        | 14.4        | 17.9        | 11.1       | Jul-03         |
| AB US Small Cap Value Equity             | 102,353,305          | 1.8            | 5.4         | 4.9         | 35.6        | 19.9        | 9.6         | --          | 77.5        | -19.4       | -6.9        | 13.2        | 23.9        | 10.8       | Jul-15         |
| <i>Russell 2000 Value</i>                |                      |                | 4.4         | 1.2         | 28.3        | 18.0        | 9.1         | --          | 73.3        | -17.5       | -6.2        | 13.1        | 24.9        | 10.2       | Jul-15         |
| Geneva Capital Small Cap Growth          | 60,425,575           | 1.1            | 6.0         | 4.0         | 12.4        | 24.3        | 18.5        | --          | 37.6        | 9.3         | 8.6         | 22.7        | 21.2        | 15.1       | Jul-15         |
| <i>Russell 2000 Growth</i>               |                      |                | 0.0         | -5.6        | 2.8         | 21.2        | 14.5        | --          | 51.4        | 3.5         | -0.5        | 21.9        | 24.4        | 10.9       | Jul-15         |
| <b>International Developed Equity</b>    | <b>708,891,613</b>   | <b>12.8</b>    | <b>3.3</b>  | <b>2.9</b>  | <b>14.2</b> | <b>15.1</b> | <b>10.6</b> | <b>--</b>   | <b>36.7</b> | <b>-5.7</b> | <b>-0.9</b> | <b>8.7</b>  | <b>22.6</b> |            |                |
| <i>MSCI World ex USA IMI NR</i>          |                      |                | 2.7         | 2.3         | 12.4        | 14.4        | 9.8         | --          | 34.8        | -5.1        | 0.2         | 7.7         | 19.7        |            |                |
| Mellon DB SL World ex-US Index           | 576,312,450          | 10.4           | 3.4         | 2.6         | 14.5        | 15.1        | --          | --          | 35.6        | -5.5        | --          | --          | --          | 8.4        | Jul-18         |
| <i>MSCI World ex USA IMI GR</i>          |                      |                | 2.8         | 2.4         | 12.9        | 14.9        | --          | --          | 35.4        | -4.7        | --          | --          | --          | 8.5        | Jul-18         |
| Cevian Capital II                        | 35,807,322           | 0.6            | 6.1         | 6.0         | 23.6        | 16.4        | 9.1         | --          | 46.8        | -8.2        | -5.0        | 2.9         | 32.9        | 7.9        | Dec-14         |
| <i>MSCI Europe</i>                       |                      |                | 5.7         | 4.0         | 16.3        | 14.9        | 10.1        | --          | 35.1        | -6.8        | 1.9         | 5.3         | 21.1        | 6.6        | Dec-14         |
| American Century Non-US Small Cap        | 96,405,600           | 1.7            | 1.6         | 4.5         | 14.5        | --          | --          | --          | --          | --          | --          | --          | --          | 18.8       | Dec-20         |
| <i>MSCI World ex US Small Cap Growth</i> |                      |                | 0.1         | 1.4         | 8.8         | --          | --          | --          | --          | --          | --          | --          | --          | 14.9       | Dec-20         |

# Total Fund

## Executive Summary (Net of Fees)

Period Ending: December 31, 2021

|   | Market Value         | % of Portfolio | 3 Mo        | Fiscal YTD  | 1 Yr        | 3 Yrs      | 5 Yrs      | 10 Yrs     | Fiscal 2021 | Fiscal 2020  | Fiscal 2019 | Fiscal 2018 | Fiscal 2017 | Inception | Inception Date |
|---|----------------------|----------------|-------------|-------------|-------------|------------|------------|------------|-------------|--------------|-------------|-------------|-------------|-----------|----------------|
| <b>Emerging Markets Equity</b>  | <b>293,552,275</b>   | <b>5.3</b>     | <b>1.0</b>  | <b>-6.8</b> | <b>1.4</b>  | <b>7.5</b> | <b>6.8</b> | <b>--</b>  | <b>39.5</b> | <b>-11.8</b> | <b>-0.6</b> | <b>2.9</b>  | <b>19.3</b> |           |                |
| <i>MSCI EM IMI GR</i>   |                      |                | -0.9        | -8.1        | 0.1         | 12.0       | 10.4       | --         | 43.7        | -3.6         | 0.9         | 8.3         | 23.2        |           |                |
| DFA Emerging Markets Value I  | 84,198,233           | 1.5            | 0.4         | -2.9        | 12.4        | 8.2        | 8.3        | --         | 47.6        | -17.7        | 2.0         | 5.7         | 27.6        | 4.9       | Mar-14         |
| <i>MSCI Emerging Markets Value GR</i>   |                      |                | -0.3        | -5.2        | 4.5         | 7.6        | 7.5        | --         | 42.2        | -15.3        | 5.6         | 4.8         | 22.1        | 4.1       | Mar-14         |
| AB Emerging Markets Strategic Core Equity   | 108,256,998          | 1.9            | 3.8         | -7.3        | -2.9        | 8.7        | 6.6        | --         | 33.6        | -5.1         | -2.6        | 1.2         | --          | 6.4       | Nov-16         |
| <i>MSCI Emerging Markets Gross</i>  |                      |                | -1.2        | -9.1        | -2.2        | 11.3       | 10.3       | --         | 41.4        | -3.0         | 1.6         | 8.6         | --          | 10.1      | Nov-16         |
| Mellon Emerging Markets Stock Index   | 101,097,044          | 1.8            | -1.3        | -9.2        | -2.4        | --         | --         | --         | 41.1        | --           | --          | --          | --          | 16.7      | Jun-20         |
| <i>MSCI Emerging Markets Gross</i>  |                      |                | -1.2        | -9.1        | -2.2        | --         | --         | --         | 41.4        | --           | --          | --          | --          | 22.5      | Jun-20         |
| <b>Fixed Income</b>   | <b>1,252,600,835</b> | <b>22.5</b>    | <b>-0.3</b> | <b>-0.4</b> | <b>-0.7</b> | <b>6.1</b> | <b>4.5</b> | <b>3.7</b> | <b>5.1</b>  | <b>6.3</b>   | <b>7.6</b>  | <b>-0.1</b> | <b>4.3</b>  |           |                |
| <i>Fixed Income Custom Benchmark</i>  |                      |                | 0.1         | 0.1         | -0.2        | 5.6        | 4.3        | 3.8        | 4.1         | 5.2          | 8.4         | 0.0         | 3.2         |           |                |
| <b>Core Plus Fixed Income</b>   | <b>665,636,615</b>   | <b>12.0</b>    | <b>-0.1</b> | <b>0.0</b>  | <b>-1.7</b> | <b>5.5</b> | <b>4.1</b> | <b>--</b>  | <b>0.8</b>  | <b>9.3</b>   | <b>7.9</b>  | <b>-0.2</b> | <b>1.3</b>  |           |                |
| <i>Bloomberg US Aggregate TR</i>  |                      |                | 0.0         | 0.1         | -1.5        | 4.8        | 3.6        | --         | -0.3        | 8.7          | 7.9         | -0.4        | -0.3        |           |                |
| Mellon DB SL Aggregate Bond Index Fund  | 225,377,240          | 4.1            | -0.1        | 0.0         | -1.7        | 4.7        | 3.5        | 2.9        | -0.4        | 8.8          | 7.9         | -0.4        | -0.3        | 3.3       | Jan-11         |
| <i>Bloomberg US Aggregate TR</i>  |                      |                | 0.0         | 0.1         | -1.5        | 4.8        | 3.6        | 2.9        | -0.3        | 8.7          | 7.9         | -0.4        | -0.3        | 3.3       | Jan-11         |
| PIMCO Core Plus   | 211,833,662          | 3.8            | 0.0         | 0.2         | -1.0        | 5.0        | 3.9        | 3.2        | 1.1         | 8.7          | 6.3         | 1.0         | 1.4         | 3.5       | Jan-11         |
| <i>Bloomberg US Aggregate TR</i>  |                      |                | 0.0         | 0.1         | -1.5        | 4.8        | 3.6        | 2.9        | -0.3        | 8.7          | 7.9         | -0.4        | -0.3        | 3.3       | Jan-11         |
| Western Asset Core Plus   | 228,425,712          | 4.1            | -0.2        | 0.0         | -2.0        | 6.5        | 4.9        | 4.3        | 2.4         | 9.3          | 9.4         | -0.4        | 3.0         | 5.0       | May-04         |
| <i>Bloomberg US Aggregate TR</i>  |                      |                | 0.0         | 0.1         | -1.5        | 4.8        | 3.6        | 2.9        | -0.3        | 8.7          | 7.9         | -0.4        | -0.3        | 4.1       | May-04         |
| <b>High Yield/ Specialty Credit</b>   | <b>323,459,509</b>   | <b>5.8</b>     | <b>0.7</b>  | <b>1.7</b>  | <b>5.2</b>  | <b>7.4</b> | <b>5.5</b> | <b>--</b>  | <b>13.1</b> | <b>-0.5</b>  | <b>7.0</b>  | <b>2.8</b>  | <b>9.9</b>  |           |                |
| <i>ICE BofAML High Yield Master II</i>  |                      |                | 0.7         | 1.6         | 5.4         | 8.6        | 6.1        | --         | 15.6        | -1.1         | 7.6         | 2.5         | 12.8        |           |                |
| Western Asset High Yield Fixed Income   | 190,741,578          | 3.4            | 0.9         | 1.7         | 6.1         | 8.8        | 6.0        | 6.6        | 16.5        | -2.2         | 8.3         | 2.2         | 11.7        | 7.0       | May-05         |
| 50% <i>Bloomberg US HY Ba 2%/50%</i>  |                      |                | 0.8         | 1.7         | 4.6         | 9.1        | 6.4        | 6.7        | 13.4        | 2.1          | 8.8         | 1.8         | 10.9        | 6.9       | May-05         |
| <i>Bloomberg US HY B 2% CAP</i>   |                      |                |             |             |             |            |            |            |             |              |             |             |             |           |                |
| TCW Securitized Opportunities   | 132,717,932          | 2.4            | 0.5         | 1.5         | 3.9         | 4.6        | 4.6        | --         | 6.4         | 2.2          | 5.2         | 4.3         | 6.3         | 4.5       | Feb-16         |
| <i>Bloomberg US HY 2% Issuer Cap</i>  |                      |                | 0.7         | 1.6         | 5.3         | 8.8        | 6.3        | --         | 15.3        | 0.0          | 7.5         | 2.6         | 12.7        | 8.4       | Feb-16         |
| <b>Emerging Market Debt</b>   | <b>263,388,651</b>   | <b>4.7</b>     | <b>-1.8</b> | <b>-3.6</b> | <b>-5.2</b> | <b>4.1</b> | <b>2.8</b> | <b>--</b>  | <b>9.1</b>  | <b>-1.7</b>  | <b>7.9</b>  | <b>-4.2</b> | <b>8.9</b>  |           |                |
| 50 <i>JPM EMBI Global Div/ 50 JPM GBI EM</i>  |                      |                | -0.6        | -1.7        | -2.2        | 4.4        | 4.2        | --         | 8.7         | -3.0         | 11.2        | -1.8        | 6.5         |           |                |
| Stone Harbor Emerging Markets Debt  | 106,209,436          | 1.9            | -1.8        | -3.4        | -4.9        | 4.6        | 3.3        | --         | 9.5         | -1.8         | 8.2         | -3.1        | 6.3         | 1.1       | Aug-12         |
| 50 <i>JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx</i> |                      |                | -1.5        | -3.3        | -5.1        | 4.1        | 3.9        | --         | 7.2         | -0.8         | 10.6        | -1.7        | 6.3         | 2.2       | Aug-12         |
| PIMCO EMD   | 157,179,215          | 2.8            | -1.8        | -3.8        | -5.4        | --         | --         | --         | 8.7         | --           | --          | --          | --          | 0.1       | Jan-20         |
| 50 <i>JPM EMBI Global Div/ 50 JPM GBI EM</i>  |                      |                | -0.6        | -1.7        | -2.2        | --         | --         | --         | 8.7         | --           | --          | --          | --          | -0.1      | Jan-20         |

# Total Fund

## Executive Summary (Net of Fees)

Period Ending: December 31, 2021

|  | Market Value       | % of Portfolio | 3 Mo       | Fiscal YTD | 1 Yr        | 3 Yrs       | 5 Yrs      | 10 Yrs     | Fiscal 2021 | Fiscal 2020  | Fiscal 2019 | Fiscal 2018 | Fiscal 2017 | Inception | Inception Date |
|--|--------------------|----------------|------------|------------|-------------|-------------|------------|------------|-------------|--------------|-------------|-------------|-------------|-----------|----------------|
| <b>Commodities</b>                                 | <b>300,071,302</b> | <b>5.4</b>     | <b>1.7</b> | <b>4.1</b> | <b>24.8</b> | <b>12.3</b> | <b>6.0</b> | <b>--</b>  | <b>42.5</b> | <b>-11.3</b> | <b>-6.7</b> | <b>13.3</b> | <b>-3.7</b> |           |                |
| <i>Bloomberg Commodity Index TR USD</i>            |                    |                | -1.6       | 4.9        | 27.1        | 9.9         | 3.7        | --         | 45.6        | -17.4        | -6.8        | 7.3         | -6.5        |           |                |
| Gresham MTAP Commodity                             | 93,802,946         | 1.7            | -1.6       | 2.9        | 25.2        | 10.1        | 4.4        | --         | 46.8        | -16.3        | -9.0        | 12.4        | -3.8        | -1.9      | Sep-13         |
| <i>Bloomberg Commodity Index TR USD</i>            |                    |                | -1.6       | 4.9        | 27.1        | 9.9         | 3.7        | --         | 45.6        | -17.4        | -6.8        | 7.3         | -6.5        | -2.3      | Sep-13         |
| Wellington Commodities                             | 206,268,356        | 3.7            | 3.2        | 4.6        | 24.6        | 13.9        | 7.0        | --         | 40.2        | -7.5         | -5.4        | 14.2        | -3.3        | -0.2      | Sep-13         |
| <i>S&amp;P GSCI Commodity Equal Weighted</i>       |                    |                | 3.7        | 5.5        | 25.3        | 12.1        | 7.1        | --         | 40.9        | -12.4        | -3.5        | 12.6        | -2.3        | -0.3      | Sep-13         |
| <b>Hedge Funds</b>                                 | <b>557,581,161</b> | <b>10.0</b>    | <b>0.8</b> | <b>2.1</b> | <b>6.9</b>  | <b>9.8</b>  | <b>7.6</b> | <b>6.4</b> | <b>16.1</b> | <b>7.0</b>   | <b>2.5</b>  | <b>7.6</b>  | <b>7.1</b>  |           |                |
| <i>75% 90 Day TBills +4% / 25% MSCI ACWI</i>       |                    |                | 2.4        | 3.0        | 7.7         | 9.0         | 7.7        | 6.7        | 12.3        | 5.1          | 6.6         | 7.0         | 8.1         |           |                |
| Aristeia International Limited                     | 67,577,644         | 1.2            | 1.7        | 2.3        | 8.3         | 12.0        | 9.7        | --         | 21.6        | 8.7          | 9.2         | 2.6         | 13.1        | 5.7       | May-14         |
| Brevan Howard                                      | 68,109,600         | 1.2            | 0.6        | 1.3        | 2.2         | 12.5        | 8.6        | --         | 6.1         | 20.5         | 12.7        | 7.8         | 1.0         | 7.1       | Nov-13         |
| D.E. Shaw  | 59,670,684         | 1.1            | 4.9        | 9.7        | 22.3        | 18.2        | 14.3       | --         | 19.0        | 15.6         | 11.5        | 11.3        | 8.0         | 13.4      | Jul-13         |
| HBK Fund II  | 57,300,333         | 1.0            | 3.1        | 5.2        | 9.4         | 7.2         | 5.8        | --         | 11.0        | 1.5          | 5.5         | 3.0         | 6.7         | 4.7       | Nov-13         |
| Hudson Bay   | 73,262,598         | 1.3            | 2.0        | 4.2        | 9.1         | --          | --         | --         | 14.2        | 16.2         | --          | --          | --          | 13.6      | Jun-19         |
| Indus Pacific Opportunities                        | 37,466,384         | 0.7            | -7.1       | -6.8       | 1.4         | 16.7        | 9.5        | --         | 38.0        | 15.8         | -19.2       | 15.8        | 15.1        | 8.4       | Jun-14         |
| Magnetar Structured Credit                         | 10,874,643         | 0.2            | 3.0        | 2.7        | 19.9        | 13.3        | 10.5       | --         | 38.1        | -0.2         | 5.4         | 7.7         | 8.6         | 8.8       | May-14         |
| Myriad Opportunities Offshore                      | 1,175,290          | 0.0            | -35.1      | -37.2      | -29.7       | -10.2       | -4.7       | --         | 30.6        | -9.2         | -8.4        | 10.4        | 8.2         | -3.3      | May-16         |
| Pharo Macro Fund LTD                               | 63,709,761         | 1.1            | -2.8       | -3.7       | -10.6       | --          | --         | --         | 3.5         | --           | --          | --          | --          | 1.3       | Dec-19         |
| PIMCO Commodity Alpha                              | 64,665,216         | 1.2            | 7.8        | 11.0       | 17.7        | 11.4        | 10.2       | --         | 14.2        | 4.8          | 5.2         | 10.4        | 17.0        | 11.3      | May-16         |
| River Birch  | 839,041            | 0.0            | 1.1        | 0.2        | 1.1         | -7.2        | -3.8       | --         | -0.7        | -19.9        | -0.5        | 2.8         | 9.6         | -2.1      | Aug-15         |
| Sculptor Enhanced Domestic Partners                | 52,929,967         | 1.0            | -5.6       | -4.0       | -0.4        | --          | --         | --         | 16.8        | 6.5          | --          | --          | --          | 11.7      | Mar-19         |
| <b>Alpha Pool</b>                                  | <b>266,445,048</b> | <b>4.8</b>     | <b>0.8</b> | <b>1.5</b> | <b>6.8</b>  | <b>--</b>   | <b>--</b>  | <b>--</b>  | <b>14.5</b> | <b>--</b>    | <b>--</b>   | <b>--</b>   | <b>--</b>   |           |                |
| <i>91-Day T-Bill +4%</i>                           |                    |                | 1.0        | 2.0        | 4.0         | --          | --         | --         | 4.1         | --           | --          | --          | --          |           |                |
| Hudson Bay   | 56,589,550         | 1.0            | 1.8        | 3.8        | 8.4         | --          | --         | --         | --          | --           | --          | --          | --          | 11.5      | Jul-20         |
| Davidson Kempner                                   | 54,564,532         | 1.0            | -0.1       | -0.4       | 6.3         | --          | --         | --         | --          | --           | --          | --          | --          | 7.6       | Dec-20         |
| HBK Fund II  | 55,104,610         | 1.0            | 2.9        | 4.8        | 8.7         | --          | --         | --         | --          | --           | --          | --          | --          | 9.3       | Dec-20         |
| HBK Opportunities - SPAC Series                    | 50,536,171         | 0.9            | -0.1       | -0.8       | 7.3         | --          | --         | --         | --          | --           | --          | --          | --          | 6.8       | Dec-20         |
| Garda Fixed Income Relative Value Opportunity Fund | 49,650,185         | 0.9            | -0.9       | -0.9       | --          | --          | --         | --         | --          | --           | --          | --          | --          | -0.9      | Sep-21         |



# Total Fund

## Executive Summary (Net of Fees)

Period Ending: December 31, 2021

|   | Market Value        | % of Portfolio | 3 Mo        | Fiscal YTD  | 1 Yr        | 3 Yrs       | 5 Yrs       | 10 Yrs      | Fiscal 2021 | Fiscal 2020  | Fiscal 2019 | Fiscal 2018 | Fiscal 2017 | Inception | Inception Date |
|---|---------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-----------|----------------|
| <b>Midstream Energy</b>   | <b>293,368,210</b>  | <b>5.3</b>     | <b>1.3</b>  | <b>1.0</b>  | <b>34.8</b> | <b>--</b>   | <b>--</b>   | <b>--</b>   | <b>--</b>   | <b>--</b>    | <b>--</b>   | <b>--</b>   | <b>--</b>   |           |                |
| <i>Alerian Midstream Index</i>  |                     |                | -0.4        | -1.6        | 38.4        | --          | --          | --          | --          | --           | --          | --          | --          |           |                |
| Harvest Midstream   | 161,784,382         | 2.9            | 1.5         | 1.2         | 40.2        | --          | --          | --          | --          | --           | --          | --          | --          | 46.6      | Sep-20         |
| <i>Alerian Midstream Index</i>  |                     |                | -0.4        | -1.6        | 38.4        | --          | --          | --          | --          | --           | --          | --          | --          | 34.7      | Sep-20         |
| PIMCO Midstream   | 131,583,828         | 2.4            | 1.2         | 0.9         | 28.3        | --          | --          | --          | --          | --           | --          | --          | --          | 35.9      | Oct-20         |
| <i>50/25/25 Alerian Midstream/ ICE BofA US Pipeline/ ICE BofA US HY Midstream</i> |                     |                | 0.3         | 0.1         | 21.1        | --          | --          | --          | --          | --           | --          | --          | --          | --        | Oct-20         |
| <b>Core Real Estate</b>   | <b>301,476,904</b>  | <b>5.4</b>     | <b>5.5</b>  | <b>11.5</b> | <b>16.5</b> | <b>6.9</b>  | <b>6.8</b>  | <b>--</b>   | <b>5.6</b>  | <b>1.4</b>   | <b>5.9</b>  | <b>7.4</b>  | <b>5.3</b>  |           |                |
| <i>NCREIF-ODCE</i>  |                     |                | 8.0         | 15.1        | 22.2        | 9.2         | 8.7         | --          | 8.0         | 2.2          | 6.4         | 8.4         | 7.9         |           |                |
| ASB Real Estate   | 172,835,315         | 3.1            | 3.8         | 9.0         | 14.0        | 6.4         | 6.2         | --          | 5.4         | 1.5          | 6.8         | 7.1         | 3.3         | 8.1       | Sep-13         |
| <i>NCREIF-ODCE</i>  |                     |                | 8.0         | 15.1        | 22.2        | 9.2         | 8.7         | --          | 8.0         | 2.2          | 6.4         | 8.4         | 7.9         | 10.1      | Sep-13         |
| J.P. Morgan Strategic Property  | 128,641,589         | 2.3            | 7.9         | 14.9        | 19.9        | 7.7         | 7.6         | --          | 5.9         | 1.3          | 5.0         | 7.6         | 7.4         | 8.6       | Jul-14         |
| <i>NCREIF-ODCE</i>  |                     |                | 8.0         | 15.1        | 22.2        | 9.2         | 8.7         | --          | 8.0         | 2.2          | 6.4         | 8.4         | 7.9         | 9.8       | Jul-14         |
| <b>Private Real Estate</b>  | <b>77,223,017</b>   | <b>1.4</b>     | <b>10.6</b> | <b>17.9</b> | <b>27.9</b> | <b>11.7</b> | <b>9.2</b>  | <b>12.6</b> | <b>12.1</b> | <b>4.4</b>   | <b>9.0</b>  | <b>5.4</b>  | <b>5.7</b>  |           |                |
| <i>Private Real Estate Benchmark</i>  |                     |                | 10.6        | 17.9        | 27.9        | 11.7        | 9.2         | 12.6        | 12.1        | 4.4          | 9.0         | 5.4         | 5.7         |           |                |
| <b>Private Equity</b>   | <b>117,844,408</b>  | <b>2.1</b>     | <b>6.5</b>  | <b>16.8</b> | <b>35.8</b> | <b>14.9</b> | <b>13.9</b> | <b>11.9</b> | <b>41.7</b> | <b>-10.5</b> | <b>10.9</b> | <b>7.8</b>  | <b>14.1</b> |           |                |
| <i>Private Equity Benchmark</i>   |                     |                | 6.5         | 16.8        | 35.8        | 14.9        | 13.9        | 11.9        | 41.7        | -10.5        | 10.9        | 7.8         | 14.1        |           |                |
| <b>Private Credit</b>   | <b>234,880,412</b>  | <b>4.2</b>     | <b>-2.5</b> | <b>0.7</b>  | <b>5.9</b>  | <b>5.1</b>  | <b>7.2</b>  | <b>--</b>   | <b>4.8</b>  | <b>5.5</b>   | <b>9.7</b>  | <b>9.3</b>  | <b>10.2</b> |           |                |
| <i>Private Credit Benchmark</i>   |                     |                | -2.5        | 0.7         | 5.9         | 5.1         | 7.2         | --          | 4.8         | 5.5          | 9.7         | 9.3         | 10.2        |           |                |
| <b>Opportunistic</b>  | <b>166,466,006</b>  | <b>3.0</b>     | <b>6.8</b>  | <b>6.1</b>  | <b>51.0</b> | <b>--</b>   | <b>--</b>   | <b>--</b>   | <b>59.9</b> | <b>--</b>    | <b>--</b>   | <b>--</b>   | <b>--</b>   |           |                |
| <i>Assumed Rate of Return +3%</i>   |                     |                | 2.5         | 5.1         | 10.4        | --          | --          | --          | 10.4        | --           | --          | --          | --          |           |                |
| DB Investors Fund IV  | 43,892,738          | 0.8            | 11.0        | 12.9        | 95.4        | --          | --          | --          | 95.1        | --           | --          | --          | --          | 48.1      | Jan-20         |
| TAO Contingent  | 70,762,776          | 1.3            | 4.2         | 3.9         | 30.4        | --          | --          | --          | 39.6        | --           | --          | --          | --          | 23.7      | Apr-20         |
| Aristeia Select Opportunities II  | 51,810,492          | 0.9            | 7.0         | 3.6         | --          | --          | --          | --          | --          | --           | --          | --          | --          | 3.6       | Jul-21         |
| <i>Assumed Rate of Return +3%</i>   |                     |                | 2.5         | 5.1         | --          | --          | --          | --          | --          | --           | --          | --          | --          | 5.1       | Jul-21         |
| <b>Cash</b>   | <b>-267,239,863</b> | <b>-4.8</b>    | <b>0.0</b>  | <b>0.0</b>  | <b>0.0</b>  | <b>0.7</b>  | <b>1.6</b>  | <b>--</b>   | <b>0.1</b>  | <b>1.0</b>   | <b>2.0</b>  | <b>3.2</b>  | <b>2.7</b>  |           |                |

| IRR Analysis as of IRR date          |                                      |   |                  |                |          |                      |                  |                             |                                      |   |                                      |          |
|--------------------------------------|--------------------------------------|---|------------------|----------------|----------|----------------------|------------------|-----------------------------|--------------------------------------|---|--------------------------------------|----------|
| Vintage Year                         | Manager/Fund                         | Estimated Market Value as of 12/31/2021 | Total Commitment | Capital Called | % Called | Remaining Commitment | Capital Returned | Market Value as of IRR date | Distrib./ Paid-In (DPI) <sup>1</sup> | Tot. Value/ Paid-In (TVPI) <sup>2</sup> | Net IRR Since Inception <sup>3</sup> | IRR Date |
| <b>Private Equity</b>                |                                      |   |                  |                |          |                      |                  |                             |                                      |   |                                      |          |
| 2001                                 | Abbott Capital PE IV                 | \$1,156,229                             | \$50,000,000     | \$49,650,000   | 99%      | \$350,000            | \$85,714,140     | \$1,104,670                 | 1.73x                                | 1.75x                                   | 11.0%                                | 12/31/20 |
| 2005                                 | Abbott Capital PE V                  | \$4,656,643                             | \$65,000,000     | \$62,790,000   | 97%      | \$2,210,000          | \$89,361,494     | \$5,280,775                 | 1.42x                                | 1.50x                                   | 6.9%                                 | 09/30/21 |
| 2008                                 | Abbott Capital PE VI                 | \$26,208,334                            | \$50,000,000     | \$49,750,000   | 100%     | \$250,000            | \$72,850,074     | \$28,869,137                | 1.46x                                | 1.99x                                   | 13.9%                                | 09/30/21 |
| 2006                                 | Pantheon Global III                  | \$1,087,500                             | \$50,000,000     | \$47,300,000   | 95%      | \$2,700,000          | \$51,500,000     | \$1,087,500                 | 1.09x                                | 1.11x                                   | 1.9%                                 | 09/30/21 |
| 1998                                 | Pantheon USA III                     | \$52,823                                | \$7,500,000      | \$7,335,000    | 98%      | \$165,000            | \$8,197,500      | \$52,823                    | 1.12x                                | 1.12x                                   | 1.9%                                 | 09/30/21 |
| 2002                                 | Pantheon USA V                       | \$429,727                               | \$25,000,000     | \$24,350,000   | 97%      | \$650,000            | \$37,950,000     | \$429,727                   | 1.56x                                | 1.58x                                   | 9.0%                                 | 09/30/21 |
| 2004                                 | Pantheon USA VI                      | \$860,950                               | \$35,000,000     | \$33,075,000   | 95%      | \$1,925,000          | \$50,203,827     | \$860,950                   | 1.52x                                | 1.54x                                   | 6.8%                                 | 09/30/21 |
| 2006                                 | Pantheon USA VII                     | \$10,606,938                            | \$50,000,000     | \$46,600,000   | 93%      | \$3,400,000          | \$76,925,001     | \$12,556,938                | 1.65x                                | 1.88x                                   | 10.3%                                | 09/30/21 |
| 2020                                 | Vista Equity Partners IV             | \$9,379,623                             | \$25,000,000     | \$9,835,795    | 39%      | \$15,164,205         | \$0              | N/A                         | N/A                                  | N/A                                     | 30.8%                                | 09/30/21 |
| 2021                                 | LGT Crown                            | \$16,630,053                            | \$50,000,000     | \$13,250,000   | 27%      | \$36,750,000         | \$0              | N/A                         | N/A                                  | N/A                                     | N/A                                  | N/A      |
| 2021                                 | Brighton Private Equity              | \$24,592,195                            | \$30,000,000     | \$19,943,402   | 66%      | \$10,056,598         | \$1,167,799      | N/A                         | 0.06x                                | 1.29x                                   | N/A                                  | N/A      |
| 2021                                 | Warren Equity                        | \$14,452,892                            | \$32,500,000     | \$14,911,186   | 46%      | \$17,588,814         | \$508,290        | N/A                         | 0.03x                                | 1.00x                                   | N/A                                  | N/A      |
| 2021                                 | Peak Rock Capital Fund III           | \$6,020,541                             | \$30,000,000     | \$6,245,219    | 21%      | \$23,754,781         | \$0              | N/A                         | N/A                                  | N/A                                     | N/A                                  | N/A      |
| 2021                                 | Level Equity Growth Partners V       | \$1,688,471                             | \$15,000,000     | \$1,688,471    | 11%      | \$13,311,529         | \$0              | N/A                         | N/A                                  | N/A                                     | N/A                                  | N/A      |
| 2021                                 | Level Equity Opportunities Fund 2021 | \$21,489                                | \$15,000,000     | \$21,489       | 0%       | \$14,978,511         | \$0              | N/A                         | N/A                                  | N/A                                     | N/A                                  | N/A      |
| <b>Total Private Equity</b>          |                                      | <b>\$117,844,408</b>                    | \$530,000,000    | \$386,745,562  | 73%      | \$143,254,438        | \$474,378,126    | \$50,242,520                | 1.23x                                | 1.53x                                   |                                      |          |
| <b>% of Portfolio (Market Value)</b> |                                      | <b>2.1%</b>                             |                  |                |          |                      |                  |                             |                                      |   |                                      |          |

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

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

<sup>3</sup>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.

| IRR Analysis as of IRR date          |  |                      |               |               |            |               |                |                            |                             |                              |       |         |
|--------------------------------------|--|----------------------|---------------|---------------|------------|---------------|----------------|----------------------------|-----------------------------|------------------------------|-------|---------|
| Vintage                              | Estimated Market Value                   | Total                | Capital       | %             | Remaining  | Capital       | Market Value   | Distrib./                  | Tot. Value/                 | Net IRR                      | IRR   |         |
| Year                                 | 12/31/2021                               | Commitment           | Called        | Called        | Commitment | Returned      | as of IRR date | Paid-In (DPI) <sup>1</sup> | Paid-In (TVPI) <sup>2</sup> | Since Inception <sup>3</sup> | Date  |         |
| Manager/Fund                         |  |                      |               |               |            |               |                |                            |                             |                              |       |         |
| <b>Private Credit</b>                |  |                      |               |               |            |               |                |                            |                             |                              |       |         |
| 2015                                 | Colony Distressed Credit IV <sup>4</sup> | \$43,189,865         | \$60,000,000  | \$73,340,099  | 122%       | -\$5,500,870  | \$24,003,132   | \$51,535,333               | 0.33x                       | 0.92x                        | 1.0%  | 6/30/21 |
| 2017                                 | Brookfield Real Estate Finance Fund V    | \$22,575,965         | \$50,000,000  | \$35,545,586  | 71%        | \$14,454,414  | \$21,702,372   | \$23,191,827               | 0.61x                       | 1.25x                        | 8.1%  | 9/30/21 |
| 2017                                 | TSSP Adjacent Opportunities Partners     | \$38,088,624         | \$50,000,000  | \$64,060,356  | 128%       | -\$14,060,356 | \$35,322,200   | \$36,662,874               | 0.55x                       | 1.15x                        | 11.2% | 9/30/21 |
| 2018                                 | Magnetar Constellation                   | \$37,670,607         | \$60,000,000  | \$64,905,493  | 108%       | -\$4,905,493  | \$34,067,238   | N/A                        | 0.52x                       | 1.11x                        | N/A   | N/A     |
| 2019                                 | H.I.G Bayside Loan Opportunity Fund V    | \$37,253,822         | \$60,000,000  | \$24,496,503  | 41%        | \$35,503,497  | \$5,260,705    | N/A                        | 0.21x                       | 1.74x                        | N/A   | N/A     |
| 2020                                 | Blue Torch Credit Opportunities          | \$14,092,264         | \$20,000,000  | \$14,605,427  | 73%        | \$5,394,573   | \$1,360,813    | N/A                        | 0.09x                       | 1.06x                        | N/A   | N/A     |
| 2020                                 | Fortress Credit Opportunities            | \$11,178,043         | \$40,000,000  | \$10,851,947  | 27%        | \$29,148,053  | \$468,590      | N/A                        | 0.04x                       | 1.07x                        | N/A   | N/A     |
| 2021                                 | Fortress Lending Fund II                 | \$30,831,222         | \$40,000,000  | \$30,137,851  | 75%        | \$9,862,149   | \$797,187      | N/A                        | 0.03x                       | 1.05x                        | N/A   | N/A     |
| <b>Total Private Credit</b>          |  | <b>\$234,880,412</b> | \$300,000,000 | \$262,348,037 | 87%        | -\$10,012,305 | \$115,094,942  | \$111,390,034              | 0.44x                       | 1.33x                        |       |         |
| <b>% of Portfolio (Market Value)</b> |  | <b>4.2%</b>          |               |               |            |               |                |                            |                             |                              |       |         |

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

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

<sup>3</sup>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.

<sup>4</sup>\$14,360,749 is recallable capital as of 6/30/2020.

| IRR Analysis as of IRR date          |   |                                   |                  |                |          |                      |                  |                             |                                      |   |                                      |          |
|--------------------------------------|---|-----------------------------------|------------------|----------------|----------|----------------------|------------------|-----------------------------|--------------------------------------|---|--------------------------------------|----------|
| Vintage Year                         | Manager/Fund                              | Estimated Market Value 12/31/2021 | Total Commitment | Capital Called | % Called | Remaining Commitment | Capital Returned | Market Value as of IRR date | Distrib./ Paid-In (DPI) <sup>1</sup> | Tot. Value/ Paid-In (TVPI) <sup>2</sup> | Net IRR Since Inception <sup>3</sup> | IRR Date |
| <b>Private Real Estate</b>           |   |                                   |                  |                |          |                      |                  |                             |                                      |   |                                      |          |
| 2012                                 | Invesco Real Estate III                   | \$277,169                         | \$60,000,000     | \$55,519,583   | 93%      | \$4,480,417          | \$81,296,679     | \$286,862                   | 1.46x                                | 1.47x                                   | 13.6%                                | 12/31/20 |
| 2014                                 | Invesco Real Estate IV                    | \$7,764,801                       | \$50,000,000     | \$43,637,717   | 87%      | \$6,362,283          | \$51,606,600     | \$24,596,747                | 1.18x                                | 1.36x                                   | 12.3%                                | 12/31/20 |
| 2017                                 | Landmark Real Estate Partners VIII        | \$25,796,483                      | \$60,000,000     | \$31,768,833   | 53%      | \$28,231,167         | \$15,272,018     | \$18,637,114                | 0.48x                                | 1.29x                                   | 16.4%                                | 09/30/21 |
| 2018                                 | Long Wharf Real Estate Partners VI        | \$22,780,498                      | \$50,000,000     | \$26,243,805   | 52%      | \$23,756,195         | \$9,712,587      | \$16,608,184                | 0.37x                                | 1.24x                                   | 24.3%                                | 09/30/21 |
| 2020                                 | Covenant Apartment Fund X                 | \$18,845,316                      | \$30,000,000     | \$14,400,000   | 48%      | \$15,600,000         | \$138,381        | N/A                         | 0.01x                                | 1.32x                                   | N/A                                  | N/A      |
| 2021                                 | Singerman Real Estate Opportunity Fund IV | \$1,758,750                       | \$35,000,000     | \$1,758,750    | 5%       | \$33,241,250         | \$0              | N/A                         | N/A                                  | N/A                                     | N/A                                  | N/A      |
| <b>Total Private Real Assets</b>     |   | <b>\$77,223,017</b>               | \$285,000,000    | \$173,328,688  | 61%      | \$111,671,312        | \$158,026,265    | \$60,128,907                | 0.91x                                | 1.36x                                   |                                      |          |
| <b>% of Portfolio (Market Value)</b> |   | <b>1.4%</b>                       |                  |                |          |                      |                  |                             |                                      |   |                                      |          |

<sup>1</sup>(DPI) is equal to (capital returned / capital called)

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

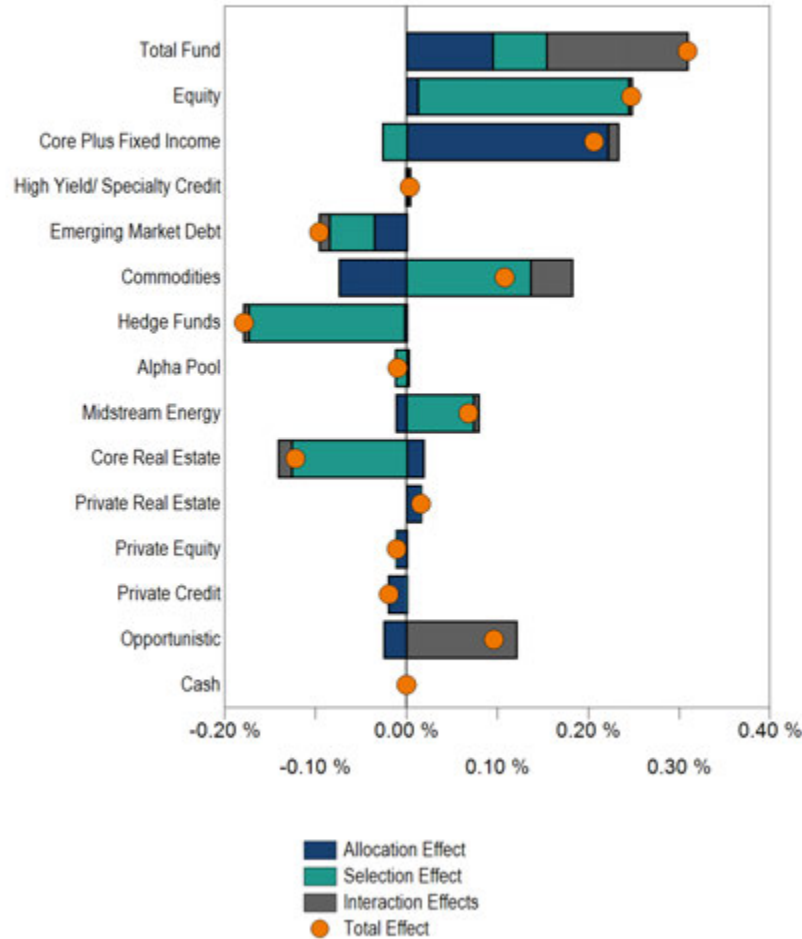
<sup>3</sup>Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

Total Fund

Attribution Analysis - Asset Class Level (Net of Fees)

Period Ending: December 31, 2021

Attribution Effects Last Three Months



Performance Attribution

|                      |              |              |
|----------------------|--------------|--------------|
| Wtd. Actual Return   | 3.57%        | 4.16%        |
| Wtd. Index Return *  | 3.27%        | 3.97%        |
| <b>Excess Return</b> | <b>0.29%</b> | <b>0.19%</b> |
| Selection Effect     | 0.06%        | -0.05%       |
| Allocation Effect    | 0.10%        | 0.27%        |
| Interaction Effect   | 0.15%        | -0.01%       |

\*Calculated from benchmark returns and weightings of each component.

Attribution Summary Last Three Months

|                              | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction Effects | Total Effects |
|------------------------------|--------------------|-------------------|---------------|------------------|-------------------|---------------------|---------------|
| Equity                       | 6.8%               | 6.2%              | 0.6%          | 0.2%             | 0.0%              | 0.0%                | 0.2%          |
| Core Plus Fixed Income       | -0.1%              | 0.0%              | -0.1%         | 0.0%             | 0.2%              | 0.0%                | 0.2%          |
| High Yield/ Specialty Credit | 0.7%               | 0.7%              | 0.0%          | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Emerging Market Debt         | -1.8%              | -0.6%             | -1.2%         | 0.0%             | 0.0%              | 0.0%                | -0.1%         |
| Commodities                  | 1.7%               | -1.6%             | 3.2%          | 0.1%             | -0.1%             | 0.0%                | 0.1%          |
| Hedge Funds                  | 0.8%               | 2.4%              | -1.7%         | -0.2%            | 0.0%              | 0.0%                | -0.2%         |
| Alpha Pool                   | 0.8%               | 1.0%              | -0.2%         | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Midstream Energy             | 1.3%               | -0.4%             | 1.7%          | 0.1%             | 0.0%              | 0.0%                | 0.1%          |
| Core Real Estate             | 5.5%               | 8.0%              | -2.4%         | -0.1%            | 0.0%              | 0.0%                | -0.1%         |
| Private Real Estate          | 10.6%              | 10.6%             | 0.0%          | 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               | -2.5%              | -2.5%             | 0.0%          | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Opportunistic                | 6.8%               | 2.5%              | 4.3%          | 0.0%             | 0.0%              | 0.1%                | 0.1%          |
| Cash                         | --                 | --                | --            | --               | --                | --                  | --            |
| <b>Total</b>                 | <b>3.6%</b>        | <b>3.3%</b>       | <b>0.3%</b>   | <b>0.1%</b>      | <b>0.1%</b>       | <b>0.2%</b>         | <b>0.3%</b>   |

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table.

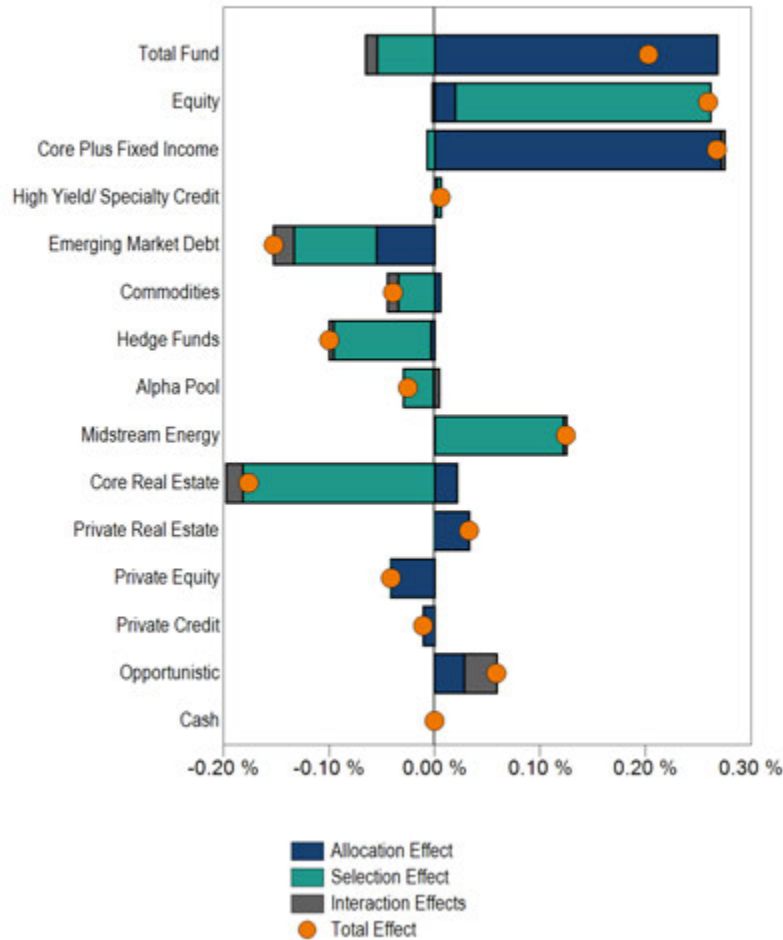


# Total Fund

## Attribution Analysis - Asset Class Level (Net of Fees)

Period Ending: December 31, 2021

**Attribution Effects  
Fiscal YTD**



**Performance Attribution**

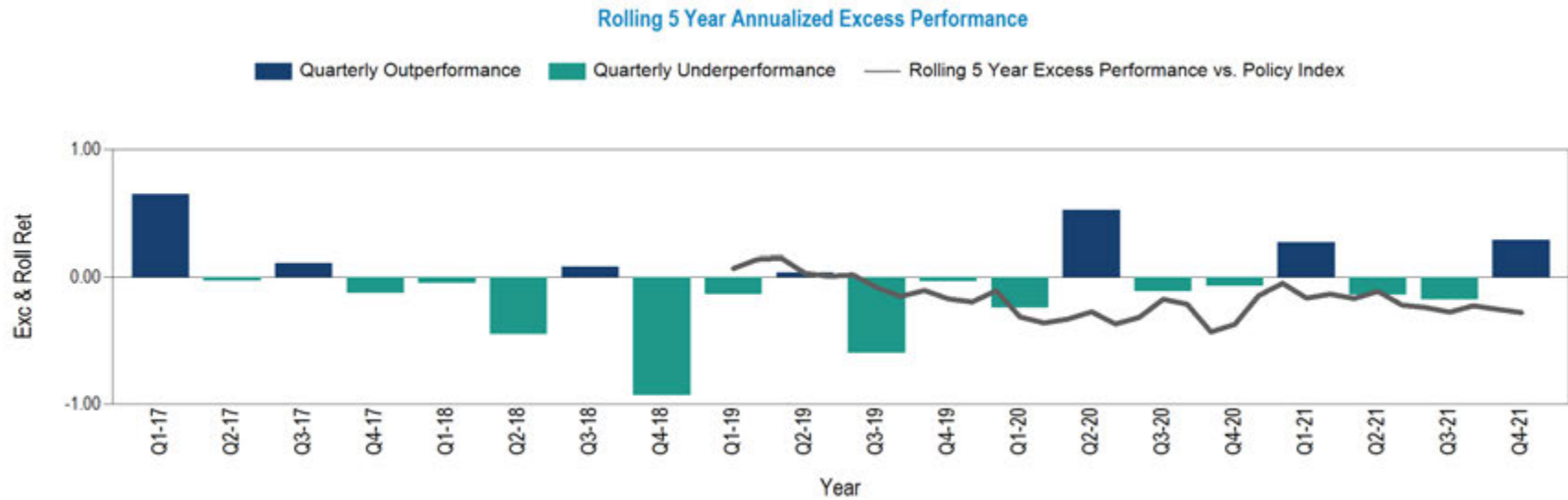
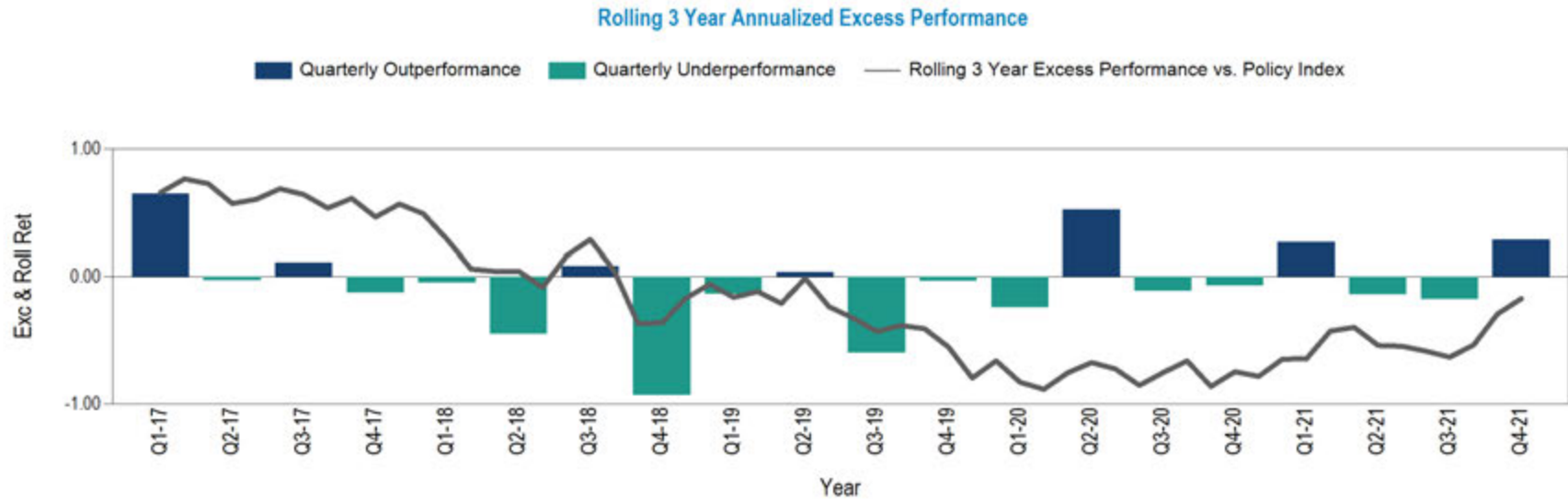
|                      |              |              |
|----------------------|--------------|--------------|
| Wtd. Actual Return   | 3.57%        | 4.16%        |
| Wtd. Index Return *  | 3.27%        | 3.97%        |
| <b>Excess Return</b> | <b>0.29%</b> | <b>0.19%</b> |
| Selection Effect     | 0.06%        | -0.05%       |
| Allocation Effect    | 0.10%        | 0.27%        |
| Interaction Effect   | 0.15%        | -0.01%       |

\*Calculated from benchmark returns and weightings of each component.

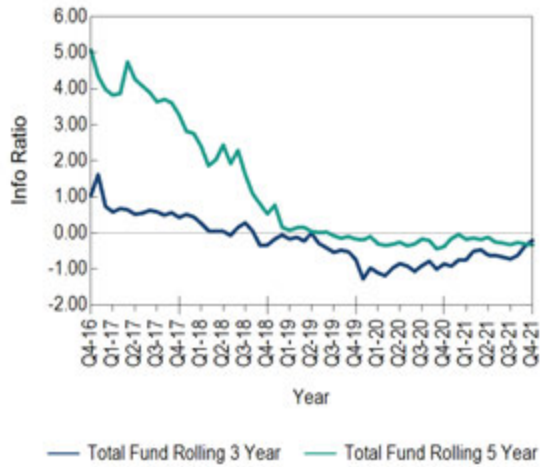
**Attribution Summary  
Fiscal YTD**

|                              | Wtd. Actual Return | Wtd. Index Return | Excess Return | Selection Effect | Allocation Effect | Interaction Effects | Total Effects |
|------------------------------|--------------------|-------------------|---------------|------------------|-------------------|---------------------|---------------|
| Equity                       | 5.7%               | 5.1%              | 0.6%          | 0.2%             | 0.0%              | 0.0%                | 0.3%          |
| Core Plus Fixed Income       | 0.0%               | 0.1%              | 0.0%          | 0.0%             | 0.3%              | 0.0%                | 0.3%          |
| High Yield/ Specialty Credit | 1.7%               | 1.6%              | 0.1%          | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Emerging Market Debt         | -3.6%              | -1.7%             | -1.9%         | -0.1%            | -0.1%             | 0.0%                | -0.2%         |
| Commodities                  | 4.1%               | 4.9%              | -0.9%         | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Hedge Funds                  | 2.1%               | 3.0%              | -0.9%         | -0.1%            | 0.0%              | 0.0%                | -0.1%         |
| Alpha Pool                   | 1.5%               | 2.0%              | -0.5%         | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Midstream Energy             | 1.0%               | -1.6%             | 2.6%          | 0.1%             | 0.0%              | 0.0%                | 0.1%          |
| Core Real Estate             | 11.5%              | 15.1%             | -3.6%         | -0.2%            | 0.0%              | 0.0%                | -0.2%         |
| Private Real Estate          | 17.9%              | 17.9%             | 0.0%          | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Private Equity               | 16.8%              | 16.8%             | 0.0%          | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Private Credit               | 0.7%               | 0.7%              | 0.0%          | 0.0%             | 0.0%              | 0.0%                | 0.0%          |
| Opportunistic                | 6.1%               | 5.1%              | 1.0%          | 0.0%             | 0.0%              | 0.0%                | 0.1%          |
| Cash                         | --                 | --                | --            | --               | --                | --                  | --            |
| <b>Total</b>                 | <b>4.2%</b>        | <b>4.0%</b>       | <b>0.2%</b>   | <b>-0.1%</b>     | <b>0.3%</b>       | <b>0.0%</b>         | <b>0.2%</b>   |

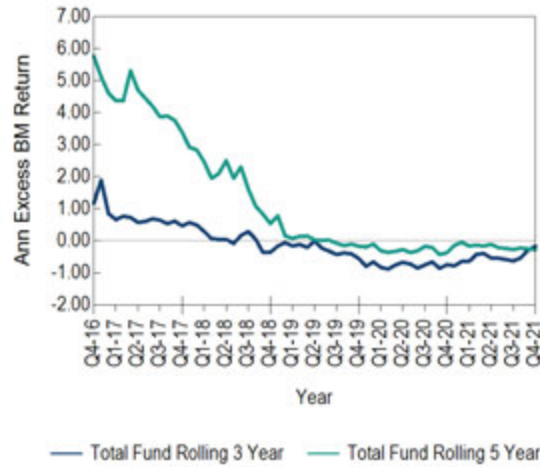
Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table.



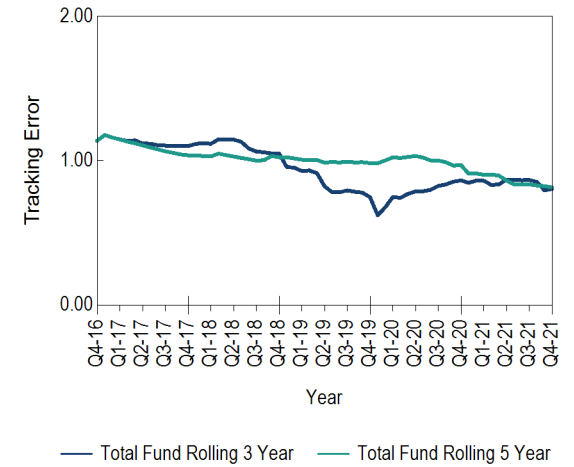
Rolling Information Ratio



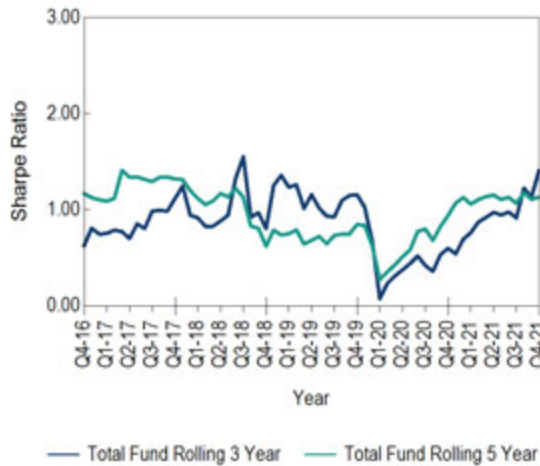
Rolling Annual Excess Benchmark Return



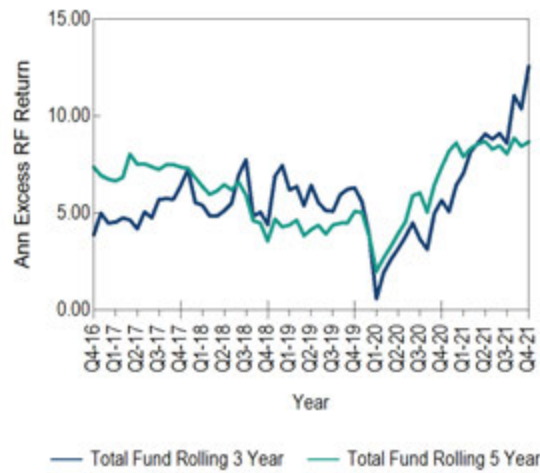
Rolling Tracking Error



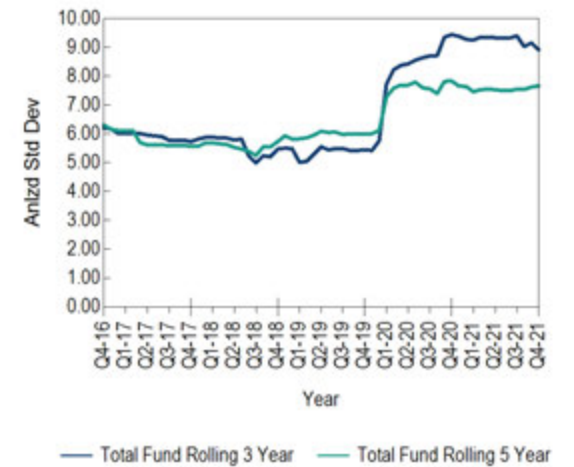
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation





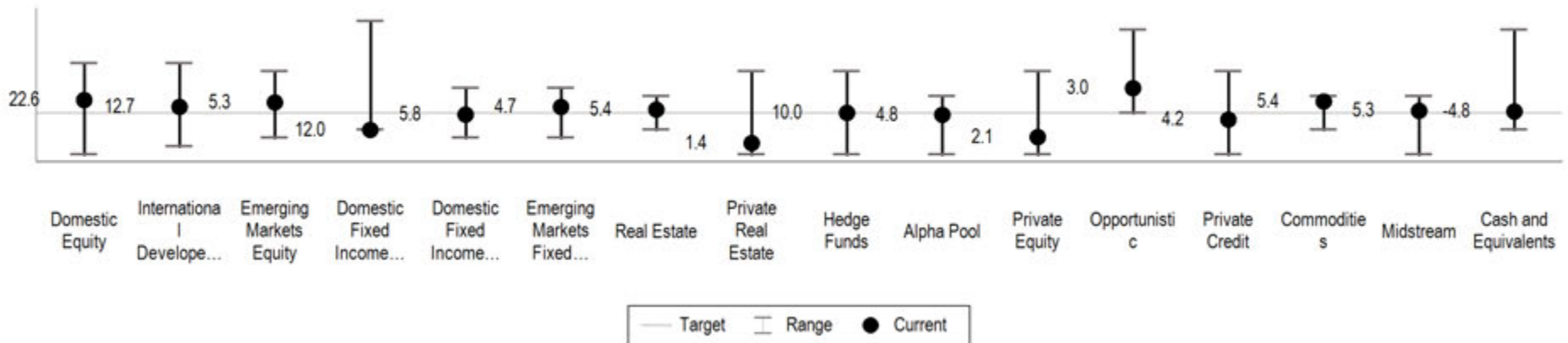
## **Asset Allocation**

Total Fund  
Sub-Asset Class Allocation

Period Ending: December 31, 2021

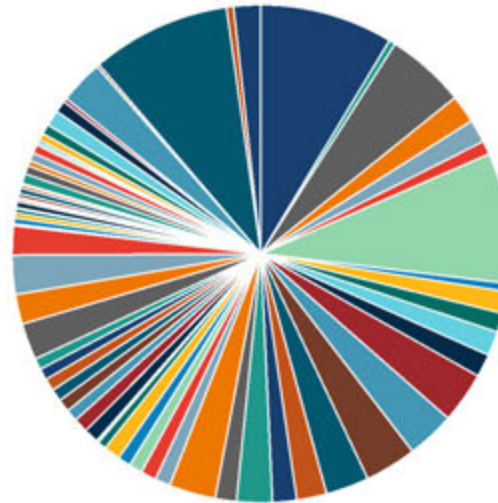
|                                  | Current Balance        | Current Allocation | Policy        | Difference     | Policy Range  | Within IPS Range? |
|----------------------------------|------------------------|--------------------|---------------|----------------|---------------|-------------------|
| Domestic Equity                  | \$1,254,278,604        | 22.6%              | 21.0%         | \$87,293,129   | 16.0% - 27.0% | Yes               |
| International Developed Equity   | \$708,525,372          | 12.7%              | 12.0%         | \$41,676,529   | 8.0% - 18.0%  | Yes               |
| Emerging Markets Equity          | \$293,552,275          | 5.3%               | 4.0%          | \$71,269,328   | 1.0% - 9.0%   | Yes               |
| Domestic Fixed Income Core Plus  | \$665,752,674          | 12.0%              | 14.0%         | -\$112,237,643 | 12.0% - 25.0% | Yes               |
| Domestic Fixed Income High Yield | \$323,459,509          | 5.8%               | 6.0%          | -\$9,964,912   | 3.0% - 9.0%   | Yes               |
| Emerging Markets Fixed Income    | \$263,388,651          | 4.7%               | 4.0%          | \$41,105,704   | 1.0% - 7.0%   | Yes               |
| Real Estate                      | \$301,476,904          | 5.4%               | 5.0%          | \$23,623,220   | 3.0% - 7.0%   | Yes               |
| Private Real Estate              | \$77,223,017           | 1.4%               | 5.0%          | -\$200,630,668 | 0.0% - 10.0%  | Yes               |
| Hedge Funds                      | \$557,581,161          | 10.0%              | 10.0%         | \$1,873,792    | 5.0% - 15.0%  | Yes               |
| Alpha Pool                       | \$266,445,048          | 4.8%               | 5.0%          | -\$11,408,637  | 0.0% - 7.0%   | Yes               |
| Private Equity                   | \$117,844,408          | 2.1%               | 5.0%          | -\$160,009,277 | 0.0% - 10.0%  | Yes               |
| Opportunistic                    | \$166,466,006          | 3.0%               | 0.0%          | \$166,466,006  | 0.0% - 10.0%  | Yes               |
| Private Credit                   | \$234,880,412          | 4.2%               | 5.0%          | -\$42,973,273  | 0.0% - 10.0%  | Yes               |
| Commodities                      | \$300,071,302          | 5.4%               | 4.0%          | \$77,788,354   | 2.0% - 6.0%   | Yes               |
| Midstream                        | \$293,368,210          | 5.3%               | 5.0%          | \$15,514,525   | 0.0% - 7.0%   | Yes               |
| Cash and Equivalents             | -\$267,239,863         | -4.8%              | -5.0%         | \$10,613,822   | -7.0% - 5.0%  | Yes               |
| <b>Total</b>                     | <b>\$5,557,073,691</b> | <b>100.0%</b>      | <b>100.0%</b> |                |               |                   |

Actual vs. Target



Market value does not include residual \$366,241 in Fidelity International.

Current Allocation: by Manager



- |   |                                       |  |                                       |  |
|---|---------------------------------------|--|---------------------------------------|--|
| Equity Beta Exposure                      | Western Asset Core Plus               | Pharo Macro Fund LTD                               | Long Wharf Real Estate                | H.I.G. Bayside Loan Opportunity Fund V |
| Russell 2000 Overlay                      | Western Asset High Yield Fixed Income | PIMCO Commodity Alpha                              | Covenant Apartment Fund X             | Blue Torch Credit Opportunities        |
| Mellon DB SL Stock Index                  | TCW Securitized Opportunities         | Sculptor Enhanced Domestic Partners                | Abbott V                              | Fortress Credit Opportunitis           |
| PIMCO StocksPLUS                          | Stone Harbor Emerging Markets Debt    | Hudson Bay   | Abbott VI                             | Fortress Lending Fund II               |
| AB US Small Cap Value Equity              | PIMCO EMD                             | Davidson Kempner                                   | Pantheon VII                          | DB Investors Fund IV                   |
| Geneva Capital Small Cap Growth           | Gresham MTAP Commodity                | HBK Fund II  | Vista Equity Partners IV              | TAO Contingent                         |
| Mellon DB SL World ex-US Index            | Wellington Commodities                | HBK Opportunities - SPAC Series                    | LGT Crown                             | Aristeia Select Opportunities II       |
| Cevian Capital II                         | Aristeia International Limited        | Garda Fixed Income Relative Value Opportunity Fund | Brighton Private Equity               | Short Term Investment Funds            |
| American Century Non-US Small Cap         | Brevan Howard                         | Harvest Midstream                                  | Warren Equity                         | Parametric Cash Overlay                |
| DFA Emerging Markets Value I              | D.E. Shaw                             | PIMCO Midstream                                    | Peak Rock Capital Fund III            | Goldman Sachs Cash Account             |
| AB Emerging Markets Strategic Core Equity | HBK Fund II                           | ASB Real Estate                                    | Colony Distressed Credit IV           | Futures Offset                         |
| Mellon Emerging Markets Stock Index       | Hudson Bay                            | J.P. Morgan Strategic Property                     | TSSP Adjacent Opportunities Partners  | Collateral Cash                        |
| Mellon DB SL Aggregate Bond Index Fund    | Indus Pacific Opportunities           | Invesco Real Estate IV                             | Brookfield Real Estate Finance Fund V | BlackRock Short Duration Fund          |
| PIMCO Core Plus                           | Magnetar Structured Credit            | Landmark Real Estate Partners VIII                 | Magnetar Constellation                |  |

Correlation Matrix  
3 Years Ending December 31, 2021

|                                | Total Fund Equity | Domestic Equity | International Developed Equity | Fixed Income | Core Plus Fixed Income | High Yield/ Specialty Credit | Emerging Market Debt | Commodities | Hedge Funds | Core Real Estate | Private Real Estate | Private Equity | Private Credit | Policy Index |      |
|--------------------------------|-------------------|-----------------|--------------------------------|--------------|------------------------|------------------------------|----------------------|-------------|-------------|------------------|---------------------|----------------|----------------|--------------|------|
| Total Fund                     | 1.00              | --              | --                             | --           | --                     | --                           | --                   | --          | --          | --               | --                  | --             | --             | --           |      |
| Equity                         | 1.00              | 1.00            | --                             | --           | --                     | --                           | --                   | --          | --          | --               | --                  | --             | --             | --           |      |
| Domestic Equity                | 0.99              | 0.99            | 1.00                           | --           | --                     | --                           | --                   | --          | --          | --               | --                  | --             | --             | --           |      |
| International Developed Equity | 0.99              | 0.99            | 0.98                           | 1.00         | --                     | --                           | --                   | --          | --          | --               | --                  | --             | --             | --           |      |
| Fixed Income                   | 0.75              | 0.73            | 0.72                           | 0.72         | 1.00                   | --                           | --                   | --          | --          | --               | --                  | --             | --             | --           |      |
| Core Plus Fixed Income         | 0.23              | 0.21            | 0.21                           | 0.19         | 0.81                   | 1.00                         | --                   | --          | --          | --               | --                  | --             | --             | --           |      |
| High Yield/ Specialty Credit   | 0.96              | 0.96            | 0.95                           | 0.96         | 0.81                   | 0.33                         | 1.00                 | --          | --          | --               | --                  | --             | --             | --           |      |
| Emerging Market Debt           | 0.92              | 0.91            | 0.89                           | 0.92         | 0.92                   | 0.54                         | 0.92                 | 1.00        | --          | --               | --                  | --             | --             | --           |      |
| Commodities                    | 0.95              | 0.93            | 0.92                           | 0.94         | 0.60                   | 0.04                         | 0.91                 | 0.82        | 1.00        | --               | --                  | --             | --             | --           |      |
| Hedge Funds                    | 0.90              | 0.90            | 0.88                           | 0.90         | 0.73                   | 0.27                         | 0.87                 | 0.88        | 0.83        | 1.00             | --                  | --             | --             | --           |      |
| Core Real Estate               | -0.21             | -0.22           | -0.19                          | -0.20        | -0.50                  | -0.50                        | -0.29                | -0.34       | -0.09       | -0.38            | 1.00                | --             | --             | --           |      |
| Private Real Estate            | -0.21             | -0.19           | -0.18                          | -0.19        | -0.57                  | -0.60                        | -0.38                | -0.38       | -0.19       | -0.27            | 0.71                | 1.00           | --             | --           |      |
| Private Equity                 | -0.07             | -0.09           | -0.12                          | -0.04        | -0.48                  | -0.70                        | -0.08                | -0.29       | 0.15        | -0.15            | 0.49                | 0.33           | 1.00           | --           |      |
| Private Credit                 | -0.68             | -0.73           | -0.76                          | -0.66        | -0.51                  | -0.18                        | -0.65                | -0.59       | -0.55       | -0.66            | 0.15                | 0.09           | 0.14           | 1.00         |      |
| Policy Index                   | 1.00              | 0.99            | 0.98                           | 0.99         | 0.76                   | 0.24                         | 0.97                 | 0.93        | 0.95        | 0.89             | -0.22               | -0.23          | -0.06          | -0.67        | 1.00 |

**Cash Flows**

Total Fund  
Net Cash Flow - Three Months Ended

Period Ending: December 31, 2021

|   | Equity                 |                    |                       |                     |                       |                        |
|---|------------------------|--------------------|-----------------------|---------------------|-----------------------|------------------------|
|   | Beginning Market Value | Contributions      | Withdrawals           | Fees                | Net Investment Change | Ending Market Value    |
| Equity Beta Exposure                      | \$562,575,475          | \$0                | -\$35,865,158         | \$0                 | \$60,250,658          | \$586,960,975          |
| Russell 2000 Overlay                      | \$24,759,000           | \$7,999,352        | -\$4,964,956          | \$0                 | \$914,444             | \$28,707,840           |
| Mellon DB SL Stock Index                  | \$366,460,521          | \$0                | -\$55,000,000         | -\$27,458           | \$39,340,786          | \$350,801,307          |
| PIMCO StocksPLUS                          | \$140,882,168          | \$0                | -\$28,000,000         | -\$152,149          | \$12,146,718          | \$125,028,886          |
| AB US Small Cap Value Equity              | \$96,921,866           | \$0                | \$0                   | -\$212,493          | \$5,431,439           | \$102,353,305          |
| Geneva Capital Small Cap Growth           | \$56,880,277           | \$0                | \$0                   | -\$111,498          | \$3,545,299           | \$60,425,575           |
| Mellon DB SL World ex-US Index            | \$557,571,932          | \$0                | \$0                   | \$0                 | \$18,740,518          | \$576,312,450          |
| Cevian Capital II                         | \$33,755,044           | \$0                | \$0                   | \$0                 | \$2,052,278           | \$35,807,322           |
| Fidelity Non-US Small Cap Equity          | \$368,510              | \$0                | \$0                   | -\$367              | -\$2,269              | \$366,241              |
| American Century Non-US Small Cap         | \$94,869,600           | \$0                | \$0                   | -\$77,394           | \$1,536,000           | \$96,405,600           |
| DFA Emerging Markets Value I              | \$83,838,459           | \$0                | \$0                   | -\$111,952          | \$359,774             | \$84,198,233           |
| AB Emerging Markets Strategic Core Equity | \$103,914,311          | \$0                | \$0                   | -\$385,123          | \$4,342,688           | \$108,256,998          |
| Mellon Emerging Markets Stock Index       | \$102,432,650          | \$0                | \$0                   | \$0                 | -\$1,335,606          | \$101,097,044          |
| Transition Equity                         | \$676                  | \$0                | \$0                   | \$0                 | \$40                  | \$717                  |
| <b>Total</b>                              | <b>\$2,225,230,489</b> | <b>\$7,999,352</b> | <b>-\$123,830,113</b> | <b>-\$1,078,433</b> | <b>\$147,322,765</b>  | <b>\$2,256,722,493</b> |

|  | Fixed Income           |                     |                      |                   |                       |                        |
|--|------------------------|---------------------|----------------------|-------------------|-----------------------|------------------------|
|  | Beginning Market Value | Contributions       | Withdrawals          | Fees              | Net Investment Change | Ending Market Value    |
| Mellon DB SL Aggregate Bond Index Fund | \$180,317,091          | \$45,000,000        | \$0                  | -\$16,780         | \$60,148              | \$225,377,240          |
| PIMCO Core Plus                        | \$231,285,732          | \$0                 | -\$20,000,000        | -\$164,030        | \$547,931             | \$211,833,662          |
| Western Asset Core Plus                | \$238,690,914          | \$0                 | -\$10,000,000        | -\$125,500        | -\$265,202            | \$228,425,712          |
| Western Asset High Yield Fixed Income  | \$188,997,933          | \$0                 | \$0                  | -\$94,458         | \$1,743,644           | \$190,741,578          |
| TCW Securitized Opportunities          | \$132,112,556          | \$0                 | \$0                  | -\$331,245        | \$605,376             | \$132,717,932          |
| Stone Harbor Emerging Markets Debt     | \$108,178,756          | \$0                 | \$0                  | -\$158,383        | -\$1,969,320          | \$106,209,436          |
| PIMCO EMD                              | \$160,064,084          | \$0                 | \$0                  | -\$19,593         | -\$2,884,869          | \$157,179,215          |
| Transition Fixed Income                | \$151,254              | \$0                 | -\$33,748            | \$0               | -\$1,446              | \$116,059              |
| <b>Total</b>                           | <b>\$1,239,798,321</b> | <b>\$45,000,000</b> | <b>-\$30,033,748</b> | <b>-\$909,989</b> | <b>-\$2,163,738</b>   | <b>\$1,252,600,835</b> |

# Total Fund

## Net Cash Flow - Three Months Ended

Period Ending: December 31, 2021

### Commodities

|                        | Beginning Market Value | Contributions | Withdrawals | Fees              | Net Investment Change | Ending Market Value  |
|------------------------|------------------------|---------------|-------------|-------------------|-----------------------|----------------------|
| Gresham MTAP Commodity | \$95,296,585           | \$0           | \$0         | -\$119,601        | -\$1,493,640          | \$93,802,946         |
| Wellington Commodities | \$199,421,799          | \$0           | \$0         | -\$379,267        | \$6,846,558           | \$206,268,356        |
| <b>Total</b>           | <b>\$294,718,384</b>   | <b>\$0</b>    | <b>\$0</b>  | <b>-\$498,868</b> | <b>\$5,352,918</b>    | <b>\$300,071,302</b> |

### Hedge Funds

|                                     | Beginning Market Value | Contributions    | Withdrawals          | Fees              | Net Investment Change | Ending Market Value  |
|-------------------------------------|------------------------|------------------|----------------------|-------------------|-----------------------|----------------------|
| Aristeia International Limited      | \$66,436,489           | \$0              | \$0                  | \$0               | \$1,141,154           | \$67,577,644         |
| Brevan Howard                       | \$67,698,310           | \$27,973         | \$0                  | \$0               | \$383,318             | \$68,109,600         |
| D.E. Shaw                           | \$56,908,903           | \$0              | \$0                  | \$0               | \$2,761,781           | \$59,670,684         |
| HBK Fund II                         | \$55,572,116           | \$0              | \$0                  | \$0               | \$1,728,217           | \$57,300,333         |
| Hudson Bay                          | \$71,799,464           | \$0              | \$0                  | \$0               | \$1,463,134           | \$73,262,598         |
| Indus Pacific Opportunities         | \$40,338,968           | \$0              | \$0                  | \$0               | -\$2,872,584          | \$37,466,384         |
| Magnetar Structured Credit          | \$10,557,042           | \$0              | \$0                  | \$0               | \$317,601             | \$10,874,643         |
| Myriad Opportunities Offshore       | \$17,445,148           | \$430,928        | -\$16,331,163        | \$0               | -\$369,623            | \$1,175,290          |
| Pharo Macro Fund LTD                | \$65,533,137           | \$0              | \$0                  | \$0               | -\$1,823,376          | \$63,709,761         |
| PIMCO Commodity Alpha               | \$60,002,012           | \$0              | \$0                  | -\$286,905        | \$4,663,204           | \$64,665,216         |
| River Birch                         | \$830,168              | \$0              | \$0                  | \$0               | \$8,873               | \$839,041            |
| Sculptor Enhanced Domestic Partners | \$56,097,202           | \$0              | \$0                  | \$0               | -\$3,167,235          | \$52,929,967         |
| <b>Total</b>                        | <b>\$569,218,960</b>   | <b>\$458,901</b> | <b>-\$16,331,163</b> | <b>-\$286,905</b> | <b>\$4,234,463</b>    | <b>\$557,581,161</b> |

### Alpha Pool

|  | Beginning Market Value | Contributions    | Withdrawals | Fees       | Net Investment Change | Ending Market Value  |
|--|------------------------|------------------|-------------|------------|-----------------------|----------------------|
| Hudson Bay   | \$55,459,395           | \$118,270        | \$0         | \$0        | \$1,011,885           | \$56,589,550         |
| Davidson Kempner                                   | \$54,479,157           | \$114,389        | \$0         | \$0        | -\$29,014             | \$54,564,532         |
| HBK Fund II  | \$53,442,617           | \$114,663        | \$0         | \$0        | \$1,547,330           | \$55,104,610         |
| HBK Opportunities - SPAC Series                    | \$50,487,960           | \$106,400        | \$0         | \$0        | -\$58,189             | \$50,536,171         |
| Garda Fixed Income Relative Value Opportunity Fund | \$50,000,000           | \$101,393        | \$0         | \$0        | -\$451,208            | \$49,650,185         |
| <b>Total</b>                                       | <b>\$263,869,129</b>   | <b>\$555,114</b> | <b>\$0</b>  | <b>\$0</b> | <b>\$2,020,805</b>    | <b>\$266,445,048</b> |

Total Fund  
Net Cash Flow - Three Months Ended

Period Ending: December 31, 2021

**Midstream Energy**

|                   | Beginning<br>Market Value | Contributions       | Withdrawals | Fees              | Net Investment<br>Change | Ending<br>Market Value |
|-------------------|---------------------------|---------------------|-------------|-------------------|--------------------------|------------------------|
| Harvest Midstream | \$144,247,048             | \$15,000,000        | \$0         | \$0               | \$2,537,334              | \$161,784,382          |
| PIMCO Midstream   | \$129,873,102             | \$0                 | \$0         | -\$149,509        | \$1,710,726              | \$131,583,828          |
| <b>Total</b>      | <b>\$274,120,150</b>      | <b>\$15,000,000</b> | <b>\$0</b>  | <b>-\$149,509</b> | <b>\$4,248,060</b>       | <b>\$293,368,210</b>   |

**Core Real Estate**

|                                | Beginning<br>Market Value | Contributions | Withdrawals | Fees              | Net Investment<br>Change | Ending<br>Market Value |
|--------------------------------|---------------------------|---------------|-------------|-------------------|--------------------------|------------------------|
| ASB Real Estate                | \$166,125,474             | \$0           | \$0         | -\$328,179        | \$6,709,841              | \$172,835,315          |
| J.P. Morgan Strategic Property | \$119,212,945             | \$0           | \$0         | -\$238,925        | \$9,428,643              | \$128,641,589          |
| <b>Total</b>                   | <b>\$285,338,420</b>      | <b>\$0</b>    | <b>\$0</b>  | <b>-\$567,104</b> | <b>\$16,138,484</b>      | <b>\$301,476,904</b>   |

**Private Real Estate**

|   | Beginning<br>Market Value | Contributions       | Withdrawals          | Fees       | Net Investment<br>Change | Ending<br>Market Value |
|---|---------------------------|---------------------|----------------------|------------|--------------------------|------------------------|
| Invesco Real Estate III                   | \$278,732                 | \$0                 | \$0                  | \$0        | -\$1,563                 | \$277,169              |
| Invesco Real Estate IV                    | \$23,422,694              | \$0                 | -\$16,114,965        | \$0        | \$457,072                | \$7,764,801            |
| Landmark Real Estate Partners VIII        | \$19,044,856              | \$2,993,386         | \$0                  | \$0        | \$3,758,241              | \$25,796,483           |
| Long Wharf Real Estate                    | \$16,608,184              | \$7,849,355         | -\$3,964,321         | \$0        | \$2,287,280              | \$22,780,498           |
| Covenant Apartment Fund X                 | \$15,378,573              | \$3,300,000         | -\$138,381           | \$0        | \$305,124                | \$18,845,316           |
| Singerman Real Estate Opportunity Fund IV | \$0                       | \$1,758,750         | \$0                  | \$0        | \$0                      | \$1,758,750            |
| <b>Total</b>                              | <b>\$74,733,039</b>       | <b>\$15,901,491</b> | <b>-\$20,217,667</b> | <b>\$0</b> | <b>\$6,806,153</b>       | <b>\$77,223,017</b>    |



# Total Fund

## Net Cash Flow - Three Months Ended

Period Ending: December 31, 2021

|                                      | Private Equity         |                     |                     |            |                       |                      |
|--------------------------------------|------------------------|---------------------|---------------------|------------|-----------------------|----------------------|
|                                      | Beginning Market Value | Contributions       | Withdrawals         | Fees       | Net Investment Change | Ending Market Value  |
| Abbott IV                            | \$1,114,514            | \$0                 | \$0                 | \$0        | \$41,715              | \$1,156,229          |
| Abbott V                             | \$5,315,079            | \$0                 | -\$624,132          | \$0        | -\$34,304             | \$4,656,643          |
| Abbott VI                            | \$27,764,944           | \$0                 | -\$2,660,803        | \$0        | \$1,104,193           | \$26,208,334         |
| Pantheon Secondary III               | \$1,326,168            | \$0                 | \$0                 | \$0        | -\$238,668            | \$1,087,500          |
| Pantheon III                         | \$53,934               | \$0                 | \$0                 | \$0        | -\$1,111              | \$52,823             |
| Pantheon V                           | \$436,219              | \$0                 | \$0                 | \$0        | -\$6,492              | \$429,727            |
| Pantheon VI                          | \$982,303              | \$0                 | \$0                 | \$0        | -\$121,353            | \$860,950            |
| Pantheon VII                         | \$12,090,447           | \$0                 | -\$1,950,000        | \$0        | \$466,491             | \$10,606,938         |
| Vista Equity Partners IV             | \$9,102,279            | \$0                 | \$0                 | \$0        | \$277,344             | \$9,379,623          |
| LGT Crown                            | \$9,827,603            | \$5,750,000         | \$0                 | \$0        | \$1,052,450           | \$16,630,053         |
| Brighton Private Equity              | \$14,669,252           | \$6,797,615         | \$0                 | \$0        | \$3,125,328           | \$24,592,195         |
| Warren Equity                        | \$6,020,389            | \$8,181,283         | -\$508,290          | \$0        | \$759,510             | \$14,452,892         |
| Peak Rock Capital Fund III           | \$4,477,089            | \$1,626,059         | \$0                 | \$0        | -\$82,607             | \$6,020,541          |
| Level Equity Growth Partners V       | --                     | \$1,688,471         | \$0                 | \$0        | \$0                   | \$1,688,471          |
| Level Equity Opportunities Fund 2021 | --                     | \$21,489            | \$0                 | \$0        | \$0                   | \$21,489             |
| <b>Total</b>                         | <b>\$93,180,220</b>    | <b>\$24,064,917</b> | <b>-\$5,743,226</b> | <b>\$0</b> | <b>\$6,342,496</b>    | <b>\$117,844,408</b> |

|  | Private Credit         |                     |                     |            |                       |                      |
|--|------------------------|---------------------|---------------------|------------|-----------------------|----------------------|
|  | Beginning Market Value | Contributions       | Withdrawals         | Fees       | Net Investment Change | Ending Market Value  |
| Colony Distressed Credit IV            | \$50,998,021           | \$0                 | \$0                 | \$0        | -\$7,808,156          | \$43,189,865         |
| TSSP Adjacent Opportunities Partners   | \$39,054,581           | \$527,600           | -\$868,051          | \$0        | -\$625,506            | \$38,088,624         |
| Brookfield Real Estate Finance Fund V  | \$25,199,984           | \$0                 | -\$3,069,630        | \$0        | \$445,611             | \$22,575,965         |
| Magnetar Constellation                 | \$41,901,809           | \$0                 | -\$3,418,001        | \$0        | -\$813,201            | \$37,670,607         |
| H.I.G. Bayside Loan Opportunity Fund V | \$33,295,474           | \$3,377,267         | -\$998,284          | \$0        | \$1,579,364           | \$37,253,822         |
| Blue Torch Credit Opportunities        | \$11,026,050           | \$2,779,843         | -\$169,880          | \$0        | \$456,251             | \$14,092,264         |
| Fortress Credit Opportunités           | \$6,434,771            | \$4,851,947         | -\$468,590          | \$0        | \$359,916             | \$11,178,043         |
| Fortress Lending Fund II               | \$23,234,456           | \$6,937,851         | \$0                 | \$0        | \$658,915             | \$30,831,222         |
| <b>Total</b>                           | <b>\$231,145,146</b>   | <b>\$18,474,508</b> | <b>-\$8,992,436</b> | <b>\$0</b> | <b>-\$5,746,806</b>   | <b>\$234,880,412</b> |

|                                  | Opportunistic          |                     |             |            |                       |                      |
|----------------------------------|------------------------|---------------------|-------------|------------|-----------------------|----------------------|
|                                  | Beginning Market Value | Contributions       | Withdrawals | Fees       | Net Investment Change | Ending Market Value  |
| DB Investors Fund IV             | \$39,529,437           | \$0                 | \$0         | \$0        | \$4,363,301           | \$43,892,738         |
| TAO Contingent                   | \$57,903,485           | \$10,384,854        | \$0         | \$0        | \$2,474,437           | \$70,762,776         |
| Aristeia Select Opportunities II | \$48,428,765           | \$0                 | \$0         | \$0        | \$3,381,727           | \$51,810,492         |
| <b>Total</b>                     | <b>\$145,861,687</b>   | <b>\$10,384,854</b> | <b>\$0</b>  | <b>\$0</b> | <b>\$10,219,465</b>   | <b>\$166,466,006</b> |

Total Fund

Net Cash Flow - Three Months Ended

Period Ending: December 31, 2021

|                               | Beginning<br>Market Value | Cash<br>Contributions | Withdrawals           | Fees             | Net Investment<br>Change | Ending<br>Market Value |
|-------------------------------|---------------------------|-----------------------|-----------------------|------------------|--------------------------|------------------------|
| Short Term Cash Account       | \$1,165,075               | \$894,685             | -\$2,059,759          | \$0              | \$0                      | \$1                    |
| Short Term Investment Funds   | \$26,174,727              | \$168,042,972         | -\$176,848,890        | \$0              | \$5,945                  | \$17,374,754           |
| Parametric Cash Overlay       | \$133,681,691             | \$170,988,313         | -\$112,336,883        | \$0              | \$20,483                 | \$192,353,604          |
| Goldman Sachs Cash Account    | \$23,708,558              | \$130,081,293         | -\$166,407,922        | \$0              | \$0                      | -\$12,618,071          |
| Futures Offset                | -\$587,334,475            | \$9,606,705           | -\$37,941,045         | \$0              | \$0                      | -\$615,668,815         |
| Collateral Cash               | \$30,888,000              | \$2,260,000           | -\$1,746,000          | \$0              | \$0                      | \$31,402,000           |
| BlackRock Short Duration Fund | \$99,950,711              | \$20,000,000          | \$0                   | -\$67,415        | -\$34,046                | \$119,916,665          |
| <b>Total</b>                  | <b>-\$271,765,714</b>     | <b>\$501,873,968</b>  | <b>-\$497,340,499</b> | <b>-\$67,415</b> | <b>-\$7,618</b>          | <b>-\$267,239,863</b>  |

Total Fund  
Cash Flow History

Period Ending: December 31, 2021

Portfolio Reconciliation

|                        | Quarter-To-Date | Fiscal Year-To-Date | One Year         | Three Years      | Five Years        | Ten Years         |
|------------------------|-----------------|---------------------|------------------|------------------|-------------------|-------------------|
| Beginning Market Value | \$5,425,448,232 | \$5,373,108,431     | \$4,897,452,956  | \$3,956,327,591  | \$3,817,360,019   | \$2,538,858,548   |
| Contributions          | \$639,713,105   | \$2,009,004,196     | \$3,552,846,688  | \$7,846,225,450  | \$10,305,916,878  | \$14,720,165,960  |
| Withdrawals            | -\$702,488,853  | -\$1,781,747,669    | -\$3,310,790,314 | -\$7,801,466,189 | -\$10,484,330,565 | -\$14,510,485,636 |
| Fees                   | -\$3,558,223    | -\$6,987,595        | -\$14,410,821    | -\$42,097,528    | -\$67,171,516     | -\$114,539,034    |
| Net Cash Flow          | -\$62,775,747   | \$227,256,528       | \$242,056,374    | \$44,759,261     | -\$178,413,686    | \$209,680,325     |
| Net Investment Change  | \$194,767,448   | -\$42,925,026       | \$417,930,602    | \$1,556,353,081  | \$1,918,493,599   | \$2,808,901,059   |
| Ending Market Value    | \$5,557,439,932 | \$5,557,439,932     | \$5,557,439,932  | \$5,557,439,932  | \$5,557,439,932   | \$5,557,439,932   |
| Net Change             | \$131,991,700   | \$184,331,501       | \$659,986,976    | \$1,601,112,342  | \$1,740,079,913   | \$3,018,581,384   |

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.

## **Asset Class Details**

# Total Fund

## Risk Analysis - 3 Years (Net of Fees)

Period Ending: December 31, 2021

|                                | Alpha  | Beta | R-Squared | Anlzd Return | Information Ratio | Ann Excess BM Return | Tracking Error | Sharpe Ratio | Ann Excess RF Return | Anlzd Standard Deviation | Sortino Ratio | Up Mkt Capture Ratio | Down Mkt Capture Ratio |
|--------------------------------|--------|------|-----------|--------------|-------------------|----------------------|----------------|--------------|----------------------|--------------------------|---------------|----------------------|------------------------|
| Total Fund                     | -0.01% | 1.00 | 0.99      | 13.51%       | -0.21             | -0.17%               | 0.80%          | 1.41         | 12.55%               | 8.91%                    | 1.55          | 98.87%               | 99.77%                 |
| Equity                         | -0.02% | 1.00 | 1.00      | 20.38%       | -0.42             | -0.39%               | 0.93%          | 1.12         | 19.53%               | 17.48%                   | 1.39          | 98.14%               | 99.62%                 |
| Domestic Equity                | 0.05%  | 0.99 | 1.00      | 26.16%       | 0.36              | 0.37%                | 1.04%          | 1.41         | 25.31%               | 17.96%                   | 1.79          | 100.04%              | 98.47%                 |
| International Developed Equity | 0.05%  | 1.01 | 1.00      | 15.14%       | 0.82              | 0.76%                | 0.92%          | 0.80         | 14.29%               | 17.83%                   | 1.08          | 103.85%              | 100.47%                |
| Fixed Income                   | -0.01% | 1.09 | 0.98      | 6.06%        | 0.51              | 0.43%                | 0.84%          | 1.06         | 5.21%                | 4.93%                    | 1.23          | 109.63%              | 109.36%                |
| Core Plus Fixed Income         | 0.02%  | 1.08 | 0.90      | 5.46%        | 0.55              | 0.67%                | 1.23%          | 1.20         | 4.61%                | 3.85%                    | 2.44          | 116.83%              | 116.55%                |
| High Yield/ Specialty Credit   | 0.03%  | 0.82 | 0.97      | 7.40%        | -0.56             | -1.17%               | 2.10%          | 0.86         | 6.55%                | 7.67%                    | 0.47          | 77.29%               | 73.88%                 |
| Emerging Market Debt           | -0.05% | 1.08 | 0.96      | 4.14%        | -0.12             | -0.30%               | 2.46%          | 0.28         | 3.29%                | 11.70%                   | 0.34          | 106.16%              | 108.46%                |
| Commodities                    | 0.20%  | 0.99 | 0.91      | 12.27%       | 0.52              | 2.41%                | 4.66%          | 0.72         | 11.42%               | 15.92%                   | 1.03          | 106.15%              | 95.15%                 |
| Hedge Funds                    | 0.12%  | 0.93 | 0.57      | 9.85%        | 0.25              | 0.85%                | 3.46%          | 1.72         | 9.00%                | 5.23%                    | 1.58          | 96.89%               | 60.96%                 |
| Core Real Estate               | 0.20%  | 0.48 | 0.79      | 6.92%        | -0.62             | -2.28%               | 3.68%          | 1.76         | 6.08%                | 3.45%                    | 4.90          | 50.76%               | 74.88%                 |

Total Fund  
Risk Return Statistics: Last Three Years

Period Ending: December 31, 2021

| Last Three Years  |                  |        | Last Three Years                        |                           |       | Last Three Years   |                                 |        | Last Three Years   |                                       |        |
|---|------------------|--------|---|---------------------------|-------|--|---------------------------------|--------|--|---------------------------------------|--------|
| Equity  | MSCI ACWI IMI GR |        | Core Plus Fixed Income                  | Bloomberg US Aggregate TR |       | High Yield/ Specialty Credit   | ICE BofAML High Yield Master II |        | Emerging Market Debt   | 50 JPM EMBI Global Div/ 50 JPM GBI EM |        |
| <b>RETURN SUMMARY STATISTICS</b>                                  |                  |        | <b>RETURN SUMMARY STATISTICS</b>        |                           |       | <b>RETURN SUMMARY STATISTICS</b>   |                                 |        | <b>RETURN SUMMARY STATISTICS</b>   |                                       |        |
| Number of Periods   | 36               | 36     | Number of Periods                       | 36                        | 36    | Number of Periods  | 36                              | 36     | Number of Periods  | 36                                    | 36     |
| Maximum Return  | 12.43            | 12.70  | Maximum Return                          | 2.64                      | 2.59  | Maximum Return   | 3.61                            | 4.78   | Maximum Return   | 6.74                                  | 5.49   |
| Minimum Return  | -14.74           | -14.33 | Minimum Return                          | -1.93                     | -1.44 | Minimum Return   | -10.52                          | -11.76 | Minimum Return   | -13.80                                | -12.61 |
| Annualized Return   | 20.38            | 20.77  | Annualized Return                       | 5.46                      | 4.79  | Annualized Return  | 7.40                            | 8.57   | Annualized Return  | 4.14                                  | 4.44   |
| Total Return  | 74.45            | 76.17  | Total Return                            | 17.30                     | 15.07 | Total Return   | 23.89                           | 27.98  | Total Return   | 12.94                                 | 13.92  |
| Annualized Excess Return Over Risk Free                           | 19.53            | 19.93  | Annualized Excess Return Over Risk Free | 4.61                      | 3.94  | Annualized Excess Return Over Risk Free  | 6.55                            | 7.72   | Annualized Excess Return Over Risk Free  | 3.29                                  | 3.59   |
| Annualized Excess Return  | -0.39            | 0.00   | Annualized Excess Return                | 0.67                      | 0.00  | Annualized Excess Return   | -1.17                           | 0.00   | Annualized Excess Return   | -0.30                                 | 0.00   |
| <b>RISK SUMMARY STATISTICS</b>                                    |                  |        | <b>RISK SUMMARY STATISTICS</b>          |                           |       | <b>RISK SUMMARY STATISTICS</b>   |                                 |        | <b>RISK SUMMARY STATISTICS</b>   |                                       |        |
| Beta  | 1.00             | 1.00   | Beta                                    | 1.08                      | 1.00  | Beta   | 0.82                            | 1.00   | Beta   | 1.08                                  | 1.00   |
| Upside Deviation  | 10.07            | 10.28  | Upside Deviation                        | 2.54                      | 2.53  | Upside Deviation   | 3.76                            | 5.15   | Upside Deviation   | 6.37                                  | 5.95   |
| Downside Deviation  | 14.65            | 14.44  | Downside Deviation                      | 2.24                      | 1.58  | Downside Deviation   | 15.67                           | 15.28  | Downside Deviation   | 12.35                                 | 10.60  |
| <b>RISK/RETURN SUMMARY STATISTICS</b>                             |                  |        | <b>RISK/RETURN SUMMARY STATISTICS</b>   |                           |       | <b>RISK/RETURN SUMMARY STATISTICS</b>  |                                 |        | <b>RISK/RETURN SUMMARY STATISTICS</b>  |                                       |        |
| Annualized Standard Deviation                                     | 17.48            | 17.52  | Annualized Standard Deviation           | 3.85                      | 3.40  | Annualized Standard Deviation  | 7.67                            | 9.27   | Annualized Standard Deviation  | 11.70                                 | 10.65  |
| Alpha   | -0.02            | 0.00   | Alpha                                   | 0.02                      | 0.00  | Alpha  | 0.03                            | 0.00   | Alpha  | -0.05                                 | 0.00   |
| Sharpe Ratio  | 1.12             | 1.14   | Sharpe Ratio                            | 1.20                      | 1.16  | Sharpe Ratio   | 0.86                            | 0.83   | Sharpe Ratio   | 0.28                                  | 0.34   |
| Excess Return Over Market / Risk                                  | -0.02            | 0.00   | Excess Return Over Market / Risk        | 0.17                      | 0.00  | Excess Return Over Market / Risk   | -0.15                           | 0.00   | Excess Return Over Market / Risk   | -0.03                                 | 0.00   |
| Tracking Error  | 0.93             | 0.00   | Tracking Error                          | 1.23                      | 0.00  | Tracking Error   | 2.10                            | 0.00   | Tracking Error   | 2.46                                  | 0.00   |
| Information Ratio   | -0.42            | --     | Information Ratio                       | 0.55                      | --    | Information Ratio  | -0.56                           | --     | Information Ratio  | -0.12                                 | --     |
| <b>CORRELATION STATISTICS</b>                                     |                  |        | <b>CORRELATION STATISTICS</b>           |                           |       | <b>CORRELATION STATISTICS</b>  |                                 |        | <b>CORRELATION STATISTICS</b>  |                                       |        |
| R-Squared   | 1.00             | 1.00   | R-Squared                               | 0.90                      | 1.00  | R-Squared  | 0.97                            | 1.00   | R-Squared  | 0.96                                  | 1.00   |
| Correlation   | 1.00             | 1.00   | Correlation                             | 0.95                      | 1.00  | Correlation  | 0.99                            | 1.00   | Correlation  | 0.98                                  | 1.00   |
| Market Proxy: MSCI ACWI IMI GR<br>Risk-Free Proxy: 91 Day T-Bills |                  |        | Market Proxy: Bloomberg US Aggregate TR |                           |       | Market Proxy: ICE BofAML High Yield Master II<br>Risk-Free Proxy: 91 Day T-Bills |                                 |        | Market Proxy: 50 JPM EMBI Global Div/ 50 JPM GBI EM<br>Risk-Free Proxy: 91 Day T-Bills |                                       |        |

91 Day T-Bills used as risk-free proxy

Total Fund  
Risk Return Statistics: Last Three Years

Period Ending: December 31, 2021

| Last Three Years                           |             |  | Last Three Years                      |   |       | Last Three Years                      |  |             |
|--|-------------|--|---------------------------------------|---|-------|---------------------------------------|--|-------------|
|  | Commodities | Bloomberg<br>Commodity Index TR<br>USD | Hedge Funds                           | 75% 90 Day TBills<br>+4% / 25% MSCI<br>ACWI |       | Core Real Estate                      |  | NCREIF-ODCE |
| <b>RETURN SUMMARY STATISTICS</b>           |             |  | <b>RETURN SUMMARY STATISTICS</b>      |   |       | <b>RETURN SUMMARY STATISTICS</b>      |  |             |
| Number of Periods                          | 36          | 36                                     | 36                                    | 36  | 36    | 36                                    |  | 36          |
| Maximum Return                             | 8.01        | 8.29                                   | 3.99                                  | 3.34  | 3.34  | 4.24                                  |  | 7.97        |
| Minimum Return                             | -12.65      | -12.81                                 | -5.24                                 | -3.02                                       | -3.02 | -1.17                                 |  | -1.56       |
| Annualized Return                          | 12.27       | 9.86                                   | 9.85                                  | 9.00  | 9.00  | 6.92                                  |  | 9.20        |
| Total Return                               | 41.52       | 32.61                                  | 32.55                                 | 29.50                                       | 29.50 | 22.24                                 |  | 30.22       |
| Annualized Excess Return<br>Over Risk Free | 11.42       | 9.02                                   | 9.00                                  | 8.15  | 8.15  | 6.08                                  |  | 8.35        |
| Annualized Excess Return                   | 2.41        | 0.00                                   | 0.85                                  | 0.00  | 0.00  | -2.28                                 |  | 0.00        |
| <b>RISK SUMMARY STATISTICS</b>             |             |  | <b>RISK SUMMARY STATISTICS</b>        |   |       | <b>RISK SUMMARY STATISTICS</b>        |  |             |
| Beta                                       | 0.99        | 1.00                                   | 0.93                                  | 1.00  | 1.00  | 0.48                                  |  | 1.00        |
| Upside Deviation                           | 8.56        | 7.00                                   | 3.30                                  | 2.61  | 2.61  | 3.42                                  |  | 8.67        |
| Downside Deviation                         | 11.89       | 12.35                                  | 6.25                                  | 3.28  | 3.28  | 1.41                                  |  | --          |
| <b>RISK/RETURN SUMMARY STATISTICS</b>      |             |  | <b>RISK/RETURN SUMMARY STATISTICS</b> |   |       | <b>RISK/RETURN SUMMARY STATISTICS</b> |  |             |
| Annualized Standard<br>Deviation           | 15.92       | 15.45                                  | 5.23                                  | 4.23  | 4.23  | 3.45                                  |  | 6.40        |
| Alpha                                      | 0.20        | 0.00                                   | 0.12                                  | 0.00  | 0.00  | 0.20                                  |  | 0.00        |
| Sharpe Ratio                               | 0.72        | 0.58                                   | 1.72                                  | 1.93  | 1.93  | 1.76                                  |  | 1.31        |
| Excess Return Over Market /<br>Risk        | 0.15        | 0.00                                   | 0.16                                  | 0.00  | 0.00  | -0.66                                 |  | 0.00        |
| Tracking Error                             | 4.66        | 0.00                                   | 3.46                                  | 0.00  | 0.00  | 3.68                                  |  | 0.00        |
| Information Ratio                          | 0.52        | --                                     | 0.25                                  | --  | --    | -0.62                                 |  | --          |
| <b>CORRELATION STATISTICS</b>              |             |  | <b>CORRELATION STATISTICS</b>         |   |       | <b>CORRELATION STATISTICS</b>         |  |             |
| R-Squared                                  | 0.91        | 1.00                                   | 0.57                                  | 1.00  | 1.00  | 0.79                                  |  | 1.00        |
| Correlation                                | 0.96        | 1.00                                   | 0.75                                  | 1.00  | 1.00  | 0.89                                  |  | 1.00        |

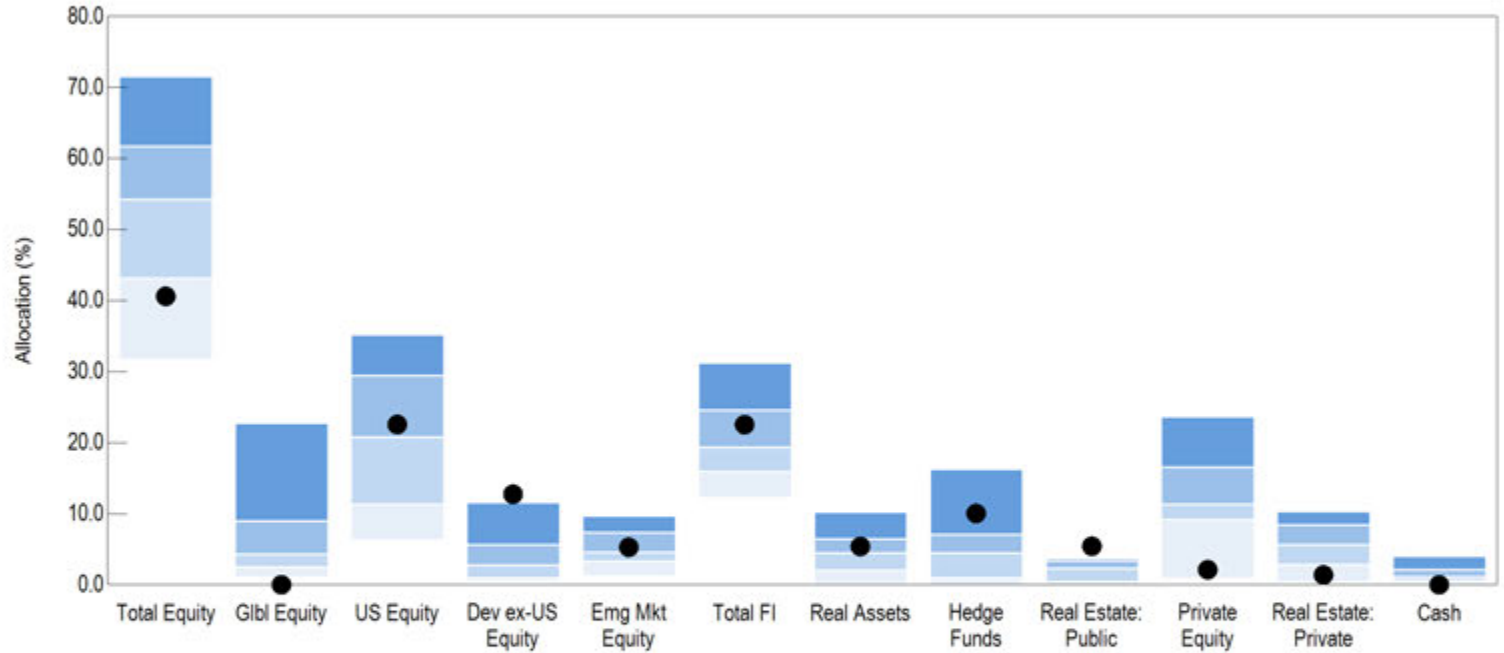
Market Proxy: Bloomberg Commodity Index TR USD

91 Day T-Bills used as risk-free proxy

**Peer Comparison**



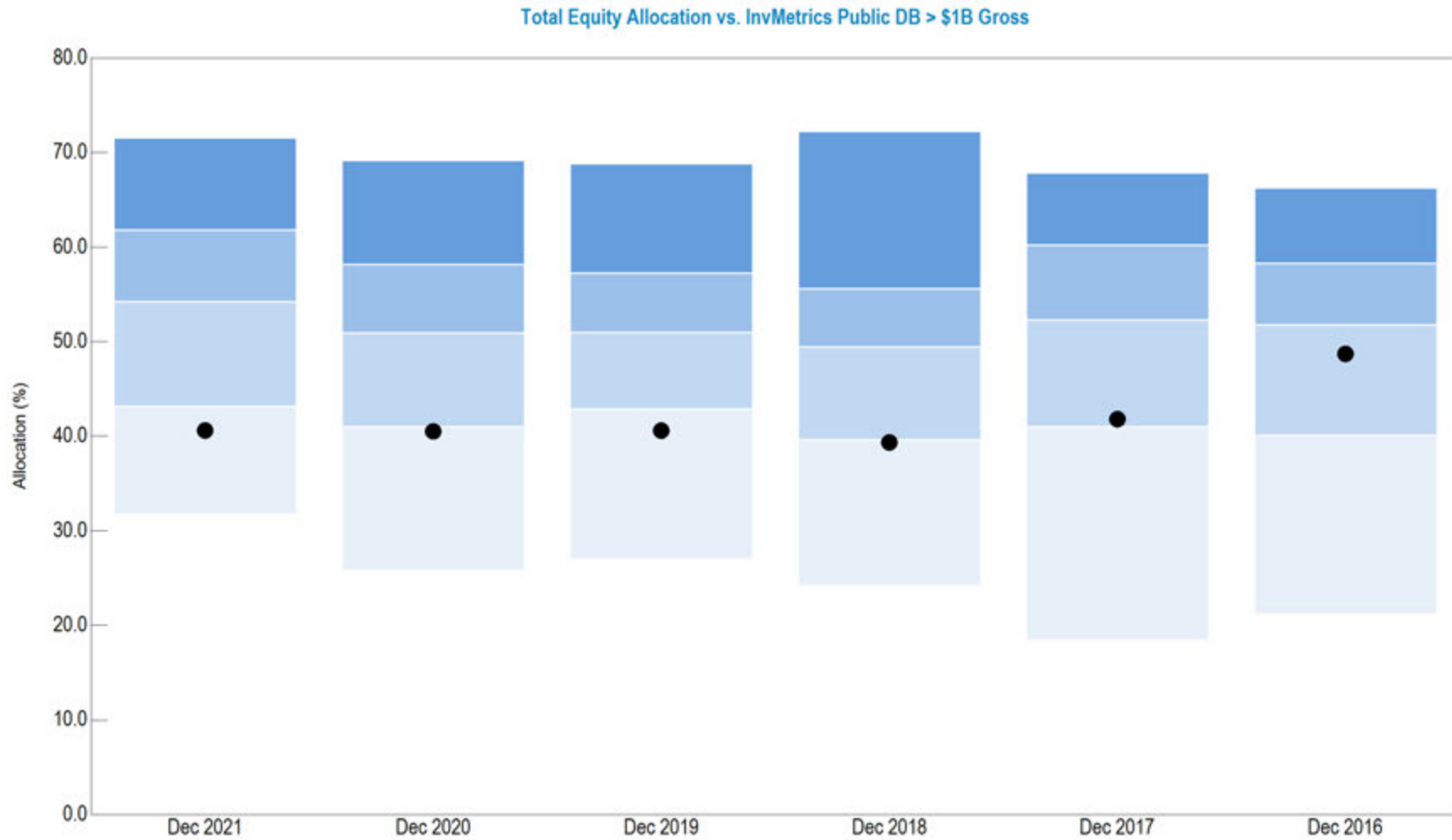
Total Plan Allocation vs. InvMetrics Public DB > \$1B Gross  
As of December 31, 2021



Allocation (Rank)

|                 |           |          |           |          |          |           |          |           |         |          |          |          |    |
|-----------------|-----------|----------|-----------|----------|----------|-----------|----------|-----------|---------|----------|----------|----------|----|
| 5th Percentile  | 71.6      | 22.7     | 35.2      | 11.6     | 9.7      | 31.2      | 10.2     | 16.2      | 3.8     | 23.7     | 10.3     | 4.0      | -- |
| 25th Percentile | 61.9      | 9.0      | 29.5      | 5.7      | 7.4      | 24.7      | 6.6      | 7.1       | 3.5     | 16.6     | 8.6      | 2.3      | -- |
| Median          | 54.3      | 4.4      | 20.9      | 2.9      | 4.6      | 19.4      | 4.5      | 4.6       | 2.4     | 11.4     | 5.7      | 1.2      | -- |
| 75th Percentile | 43.2      | 2.6      | 11.4      | 1.0      | 3.4      | 16.0      | 2.1      | 1.0       | 0.5     | 9.2      | 3.0      | 0.7      | -- |
| 95th Percentile | 31.8      | 1.1      | 6.4       | 0.5      | 1.3      | 12.3      | 0.2      | 0.0       | 0.0     | 0.9      | 0.4      | 0.2      | -- |
| # of Portfolios | 31        | 14       | 23        | 15       | 25       | 31        | 20       | 20        | 9       | 25       | 27       | 31       | -- |
| ● Total Fund    | 40.6 (80) | 0.0 (99) | 22.6 (48) | 12.8 (3) | 5.3 (47) | 22.5 (36) | 5.4 (38) | 10.0 (11) | 5.4 (1) | 2.1 (93) | 1.4 (86) | 0.0 (99) | -- |

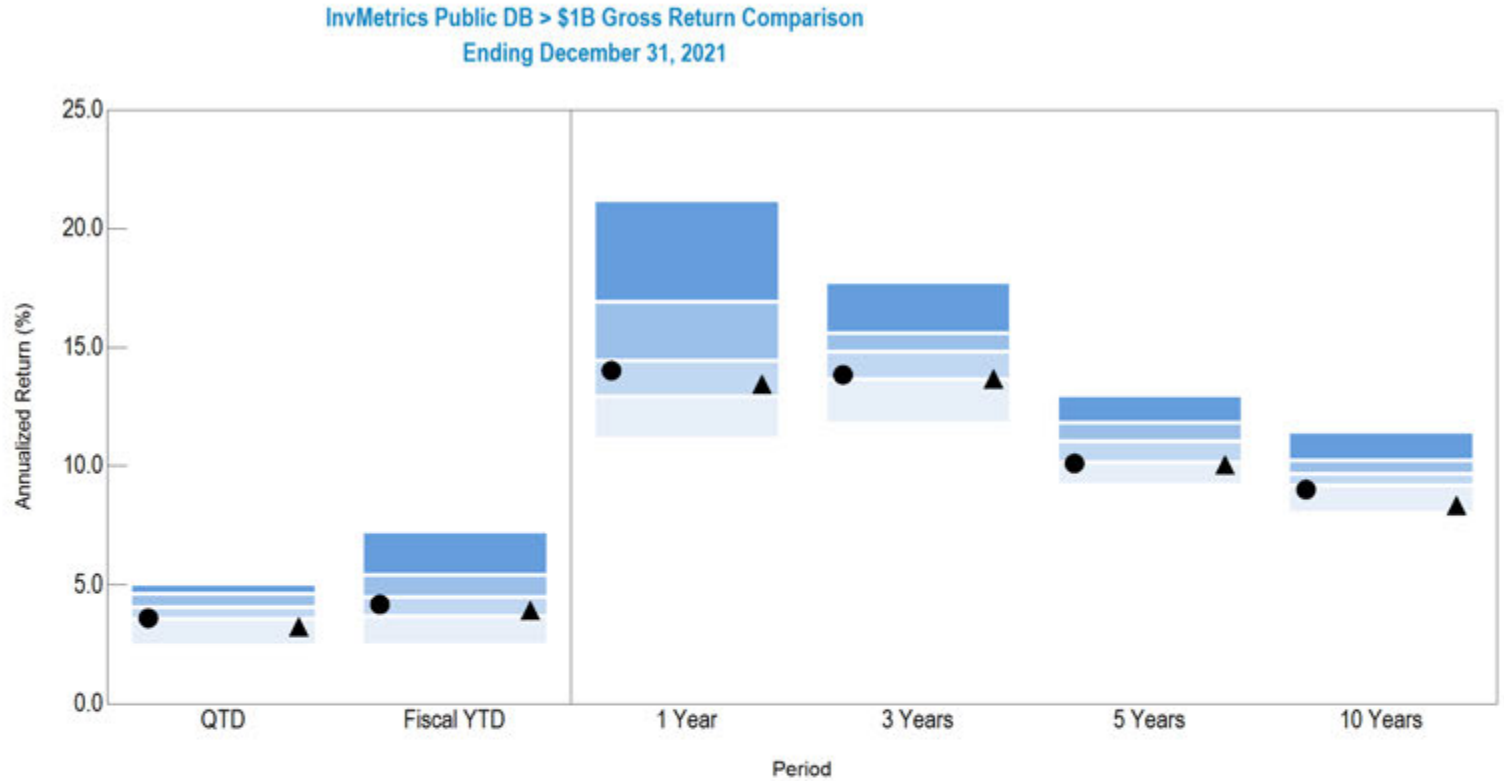
Private Credit allocation of 3.7% not included in the above chart. Opportunistic and midstream allocations not included in chart.



Total Fund

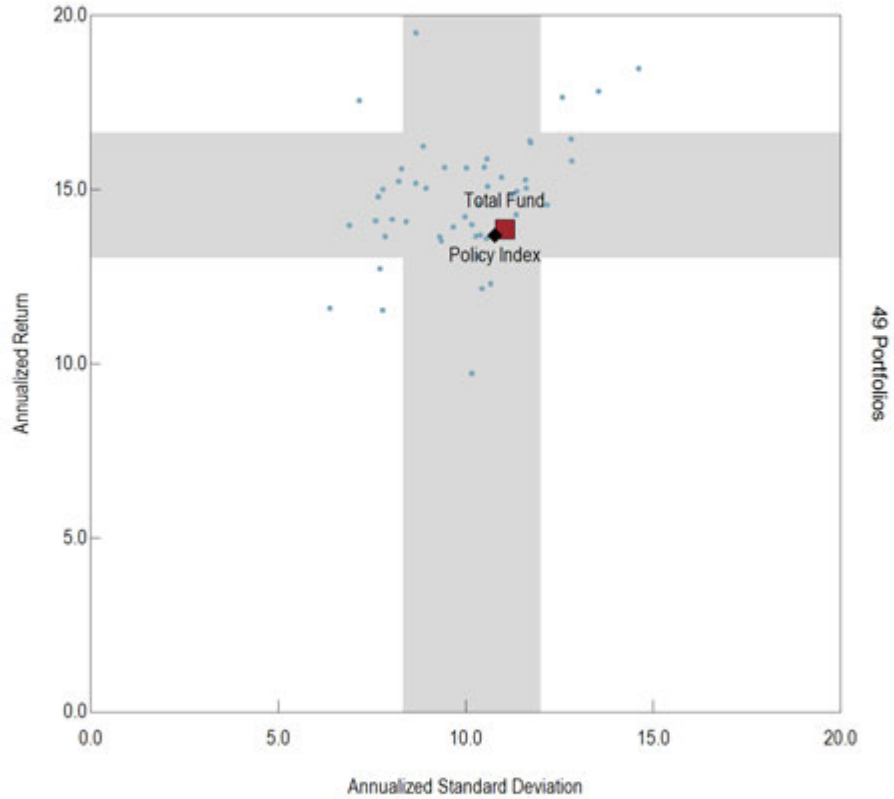
Peer Universe Comparison: Cumulative Performance (Gross of Fees)

Period Ending: December 31, 2021



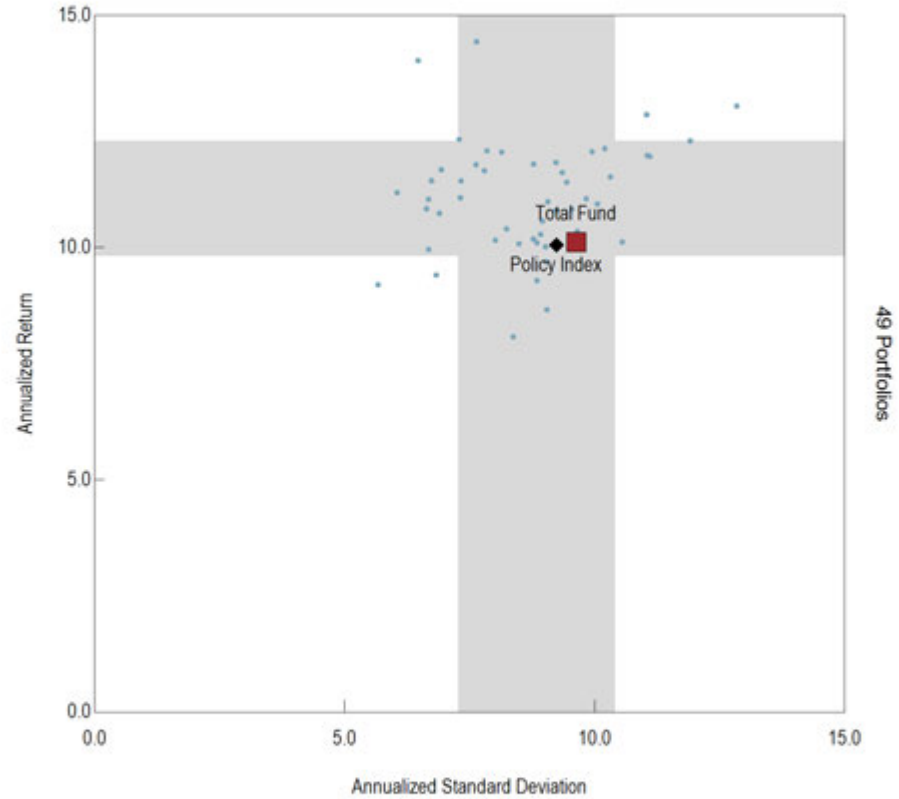
|                      | QTD |      | Fiscal YTD |      | 1 Year |      | 3 Years |      | 5 Years |      | 10 Years |      |
|----------------------|-----|------|------------|------|--------|------|---------|------|---------|------|----------|------|
| <b>Return (Rank)</b> |     |      |            |      |        |      |         |      |         |      |          |      |
| 5th Percentile       | 5.0 |      | 7.2        |      | 21.2   |      | 17.7    |      | 13.0    |      | 11.4     |      |
| 25th Percentile      | 4.7 |      | 5.4        |      | 16.9   |      | 15.6    |      | 11.8    |      | 10.2     |      |
| Median               | 4.1 |      | 4.5        |      | 14.5   |      | 14.8    |      | 11.0    |      | 9.7      |      |
| 75th Percentile      | 3.6 |      | 3.7        |      | 12.9   |      | 13.7    |      | 10.2    |      | 9.2      |      |
| 95th Percentile      | 2.5 |      | 2.5        |      | 11.2   |      | 11.8    |      | 9.2     |      | 8.0      |      |
| # of Portfolios      | 50  |      | 49         |      | 49     |      | 49      |      | 49      |      | 47       |      |
| ● Total Fund         | 3.6 | (75) | 4.2        | (62) | 14.0   | (55) | 13.8    | (74) | 10.1    | (81) | 9.0      | (84) |
| ▲ Policy Index       | 3.3 | (79) | 4.0        | (69) | 13.4   | (65) | 13.7    | (76) | 10.1    | (85) | 8.3      | (94) |

Annualized Return vs. Annualized Standard Deviation  
 3 Years Ending December 31, 2021



- Total Fund
- ◆ Policy Index
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

Annualized Return vs. Annualized Standard Deviation  
 5 Years Ending December 31, 2021



- Total Fund
- ◆ Policy Index
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

**Other**

# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2021

| Name                                      | Fee Schedule  | Market Value  | Estimated Fee Value | Estimated Fee |
|---|---|---------------|---------------------|---------------|
| Equity Beta Exposure                      |   | \$586,960,975 |                     |               |
| Russell 2000 Overlay                      |   | \$28,707,840  |                     |               |
| Mellon DB SL Stock Index                  | 0.03% of Assets   | \$350,801,307 | \$105,240           | 0.03%         |
| PIMCO StocksPLUS                          | 0.50% of Assets   | \$125,028,886 | \$625,144           | 0.50%         |
| AB US Small Cap Value Equity              | 1.00% of First 25.0 Mil,<br>0.90% of Next 25.0 Mil,<br>0.75% Thereafter | \$102,353,305 | \$867,650           | 0.85%         |
| Geneva Capital Small Cap Growth           | 0.75% of Assets   | \$60,425,575  | \$453,192           | 0.75%         |
| Mellon DB SL World ex-US Index            |   | \$576,312,450 |                     |               |
| Cevian Capital II                         | Performance-based 1.50 and 18.00  | \$35,807,322  | \$537,110           | 1.50%         |
| American Century Non-US Small Cap         | 0.32% of Assets   | \$96,405,600  | \$308,498           | 0.32%         |
| DFA Emerging Markets Value I              | 0.54% of Assets   | \$84,198,233  | \$454,670           | 0.54%         |
| AB Emerging Markets Strategic Core Equity | 1.45% of Assets   | \$108,256,998 | \$1,569,726         | 1.45%         |
| Mellon Emerging Markets Stock Index       | 0.05% of Assets   | \$101,097,044 | \$50,549            | 0.05%         |
| Mellon DB SL Aggregate Bond Index Fund    | 0.05% of First 50.0 Mil,<br>0.04% of Next 50.0 Mil,<br>0.02% Thereafter | \$225,377,240 | \$70,075            | 0.03%         |
| PIMCO Core Plus                           | 0.50% of First 25.0 Mil,<br>0.38% of Next 25.0 Mil,<br>0.25% Thereafter | \$211,833,662 | \$623,334           | 0.29%         |
| Western Asset Core Plus                   | 0.30% of First 100.0 Mil,<br>0.15% Thereafter                           | \$228,425,712 | \$492,639           | 0.22%         |
| Western Asset High Yield Fixed Income     | 0.20% of Assets   | \$190,741,578 | \$381,483           | 0.20%         |
| TCW Securitized Opportunities             | 1.00% of Assets   | \$132,717,932 | \$1,327,179         | 1.00%         |
| Stone Harbor Emerging Markets Debt        | 0.60% of First 100.0 Mil,<br>0.55% Thereafter                           | \$106,209,436 | \$634,152           | 0.60%         |
| PIMCO EMD                                 | 0.05% of Assets   | \$157,179,215 | \$78,590            | 0.05%         |
| Gresham MTAP Commodity                    | 0.75% of Assets   | \$93,802,946  | \$703,522           | 0.75%         |
| Wellington Commodities                    | 0.75% of Assets   | \$206,268,356 | \$1,547,013         | 0.75%         |
| Aristeia International Limited            | Performance-based 1.00 and 20.00  | \$67,577,644  | \$675,776           | 1.00%         |
| Brevan Howard                             | Performance-based 2.00 and 20.00  | \$68,109,600  | \$1,372,708         | 2.02%         |
| D.E. Shaw                                 | Performance-based 2.50 and 25.00  | \$59,670,684  | \$1,491,767         | 2.50%         |
| HBK Fund II                               | Performance-based 1.50 and 20.00  | \$57,300,333  | \$936,625           | 1.63%         |

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2021

| Name   | Fee Schedule   | Market Value  | Estimated Fee Value | Estimated Fee |
|--|--|---------------|---------------------|---------------|
| Hudson Bay   |  | \$73,262,598  |                     |               |
| Indus Pacific Opportunities                        | Performance-based 1.50 and 20.00                                       | \$37,466,384  | \$561,996           | 1.50%         |
| Magnetar Structured Credit                         | Performance-based 1.50 and 20.00                                       | \$10,874,643  | \$163,120           | 1.50%         |
| Myriad Opportunities Offshore                      | Performance-based 2.00 and 20.00                                       | \$1,175,290   | \$23,506            | 2.00%         |
| Pharo Macro Fund LTD                               |  | \$63,709,761  |                     |               |
| PIMCO Commodity Alpha                              | Performance-based 1.70 and 20.00                                       | \$64,665,216  | \$1,170,951         | 1.81%         |
| River Birch  | Performance-based 1.50 and 20.00                                       | \$839,041     | \$13,684            | 1.63%         |
| Sculptor Enhanced Domestic Partners                |  | \$52,929,967  |                     |               |
| Hudson Bay   |  | \$56,589,550  |                     |               |
| Davidson Kempner                                   |  | \$54,564,532  |                     |               |
| HBK Fund II  |  | \$55,104,610  |                     |               |
| HBK Opportunities - SPAC Series                    |  | \$50,536,171  |                     |               |
| Garda Fixed Income Relative Value Opportunity Fund |  | \$49,650,185  |                     |               |
| Harvest Midstream                                  |  | \$161,784,382 |                     |               |
| PIMCO Midstream                                    | 0.69% of Assets  | \$131,583,828 | \$907,928           | 0.69%         |
| ASB Real Estate                                    | 1.25% of First 5.0 Mil,<br>1.00% of Next 10.0 Mil,<br>0.75% Thereafter | \$172,835,315 | \$1,346,265         | 0.78%         |
| J.P. Morgan Strategic Property                     | 1.00% of Assets  | \$128,641,589 | \$1,286,416         | 1.00%         |
| Invesco Real Estate III                            | 1.50% of Assets  | \$277,169     | \$4,158             | 1.50%         |
| Invesco Real Estate IV                             | 1.50% of Assets  | \$7,764,801   | \$116,472           | 1.50%         |
| Landmark Real Estate Partners VIII                 | 777,717 Annually   | \$25,796,483  | \$777,717           | 3.01%         |
| Long Wharf Real Estate                             | 1.50% of Assets  | \$22,780,498  | \$341,707           | 1.50%         |
| Covenant Apartment Fund X                          |  | \$18,845,316  |                     |               |
| Singerman Real Estate Opportunity Fund IV          | 1.50% of Assets  | \$1,758,750   | \$26,381            | 1.50%         |
| Abbott IV  | 330,000 Annually   | \$1,156,229   | \$330,000           | 28.54%        |
| Abbott V   | 545,000 Annually   | \$4,656,643   | \$545,000           | 11.70%        |
| Abbott VI  | 1.00% of First 25.0 Mil,<br>0.90% Thereafter                           | \$26,208,334  | \$260,875           | 1.00%         |
| Pantheon Secondary III                             | 73,114 Quarterly   | \$1,087,500   | \$292,456           | 26.89%        |
| Pantheon III                                       | 0 Annually   | \$52,823      | \$0                 | 0.00%         |
| Pantheon V   | 16,345 Quarterly   | \$429,727     | \$65,380            | 15.21%        |

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

# Total Fund Investment Fund Fee Analysis

Period Ending: December 31, 2021

| Name                                   | Fee Schedule  | Market Value           | Estimated Fee Value | Estimated Fee |
|--|---|------------------------|---------------------|---------------|
| Pantheon VI                            | 149,262 Annually  | \$860,950              | \$149,262           | 17.34%        |
| Pantheon VII                           | 303,750 Annually  | \$10,606,938           | \$303,750           | 2.86%         |
| Vista Equity Partners IV               |   | \$9,379,623            |                     |               |
| LGT Crown                              |   | \$16,630,053           |                     |               |
| Brighton Private Equity                |   | \$24,592,195           |                     |               |
| Warren Equity                          |   | \$14,452,892           |                     |               |
| Peak Rock Capital Fund III             |   | \$6,020,541            |                     |               |
| Level Equity Growth Partners V         | 2.50% of Assets   | \$1,688,471            | \$42,212            | 2.50%         |
| Level Equity Opportunities Fund 2021   | 1.00% of Assets   | \$21,489               | \$215               | 1.00%         |
| Colony Distressed Credit IV            | 0.38% of Assets   | \$43,189,865           | \$161,962           | 0.38%         |
| TSSP Adjacent Opportunities Partners   | 1.35% of Assets   | \$38,088,624           | \$514,196           | 1.35%         |
| Magnetar Constellation                 | Performance-based 1.50 and 17.50  | \$37,670,607           | \$565,059           | 1.50%         |
| H.I.G. Bayside Loan Opportunity Fund V |   | \$37,253,822           |                     |               |
| Blue Torch Credit Opportunities        |   | \$14,092,264           |                     |               |
| Fortress Credit Opportunitites         |   | \$11,178,043           |                     |               |
| Fortress Lending Fund II               |   | \$30,831,222           |                     |               |
| DB Investors Fund IV                   |   | \$43,892,738           |                     |               |
| TAO Contingent                         |   | \$70,762,776           |                     |               |
| Aristeia Select Opportunities II       |   | \$51,810,492           |                     |               |
| Short Term Cash Account                |   | \$1                    |                     |               |
| Short Term Investment Funds            |   | \$17,374,754           |                     |               |
| Parametric Cash Overlay                |   | \$192,353,604          |                     |               |
| Goldman Sachs Cash Account             |   | -\$12,618,071          |                     |               |
| Futures Offset                         |   | -\$615,668,815         |                     |               |
| Collateral Cash                        |   | \$31,402,000           |                     |               |
| BlackRock Short Duration Fund          | 0.23% of First 100.0 Mil,<br>0.20% of Next 150.0 Mil,<br>0.18% Thereafter | \$119,916,665          | \$269,833           | 0.23%         |
| <b>Total</b>                           |   | <b>\$5,534,380,950</b> | <b>\$25,547,143</b> | <b>0.46%</b>  |

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.



# Total Fund Watch List (Gross of Fees)

Period Ending: December 31, 2021

| Name                                      | Allocation Group                 | Status    | Rule 1 | Rule 2 | Rule 3 | Rule 4 | Rule 5 | Rule 6 | Rule 7 | Rule 8 | Rule 9 |
|---|----------------------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Equity Beta Exposure                      | Domestic Equity                  | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | ✓      |
| Russell 2000 Overlay                      | Domestic Equity                  | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | --     |
| Mellon DB SL Stock Index                  | Domestic Equity                  | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | ✓      |
| PIMCO StocksPLUS                          | Domestic Equity                  | No Issues | ✓      | ✓      | ✓      | ✓      | ✓      | ✓      | ✓      | --     | --     |
| AB US Small Cap Value Equity              | Domestic Equity                  | No Issues | ✓      | ✓      | ✓      | ✓      | ✓      | R      | ✓      | --     | --     |
| Geneva Capital Small Cap Growth           | Domestic Equity                  | No Issues | ✓      | ✓      | ✓      | R      | ✓      | R      | ✓      | --     | --     |
| Mellon DB SL World ex-US Index            | International Developed Equity   | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | R      |
| American Century Non-US Small Cap         | International Developed Equity   | No Issues | ✓      | ✓      | ✓      | --     | --     | --     | --     | --     | --     |
| DFA Emerging Markets Value I              | Emerging Markets Equity          | No Issues | ✓      | ✓      | ✓      | R      | ✓      | R      | ✓      | --     | --     |
| AB Emerging Markets Strategic Core Equity | Emerging Markets Equity          | No Issues | ✓      | ✓      | ✓      | R      | R      | R      | R      | R      | --     |
| Mellon Emerging Markets Stock Index       | Emerging Markets Equity          | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | ✓      |
| Mellon DB SL Aggregate Bond Index Fund    | Domestic Fixed Income Core Plus  | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | ✓      |
| PIMCO Core Plus                           | Domestic Fixed Income Core Plus  | No Issues | ✓      | R      | ✓      | R      | ✓      | R      | ✓      | --     | --     |
| Western Asset Core Plus                   | Domestic Fixed Income Core Plus  | No Issues | ✓      | R      | R      | ✓      | ✓      | ✓      | ✓      | --     | --     |
| Western Asset High Yield Fixed Income     | Domestic Fixed Income High Yield | No Issues | ✓      | ✓      | ✓      | ✓      | R      | ✓      | R      | --     | --     |
| TCW Securitized Opportunities             | Domestic Fixed Income High Yield | No Issues | ✓      | ✓      | R      | ✓      | R      | ✓      | R      | --     | --     |

Rule 1 - Manager has outperformed the 10th percentile in the appropriate style universe for the one year period.

Rule 2 - Manager has underperformed the 75th percentile in the appropriate style universe for the one year period.

Rule 3 - Manager has underperformed the benchmark index for the one year period.

Rule 4 - Manager has underperformed the 50th percentile in the appropriate style universe for the three year period.

Rule 5 - Manager has underperformed the benchmark index for the three year period.

Rule 6 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 7 - Manager has underperformed the benchmark index for the five year period.

Rule 8 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.

Rule 9 - Index Fund Tracking Error exceeds 0.25% of the appropriate benchmark over the one year period.

# Total Fund Watch List (Gross of Fees)

Period Ending: December 31, 2021

| Name   | Allocation Group              | Status    | Rule 1 | Rule 2 | Rule 3 | Rule 4 | Rule 5 | Rule 6 | Rule 7 | Rule 8 | Rule 9 |
|--|-------------------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Stone Harbor Emerging Markets Debt                 | Emerging Markets Fixed Income | No Issues | ✓      | ✓      | ✓      | ⚠      | ✓      | ⚠      | ✓      | ⚠      | --     |
| PIMCO EMD  | Emerging Markets Fixed Income | No Issues | ✓      | ⚠      | ⚠      | --     | --     | --     | --     | --     | --     |
| Gresham MTAP Commodity                             | Commodities                   | Watch     | ✓      | ⚠      | ⚠      | ⚠      | ✓      | ⚠      | ✓      | --     | --     |
| Wellington Commodities                             | Commodities                   | No Issues | ✓      | ⚠      | ✓      | ✓      | ✓      | ✓      | ✓      | --     | --     |
| Garda Fixed Income Relative Value Opportunity Fund | Alpha Pool                    | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | --     |
| Harvest Midstream                                  | Midstream                     | No Issues | ✓      | ✓      | ✓      | --     | --     | --     | --     | --     | --     |
| PIMCO Midstream                                    | Midstream                     | No Issues | --     | --     | --     | --     | --     | --     | --     | --     | ⚠      |
| ASB Real Estate                                    | Real Estate                   | No Issues | --     | --     | ⚠      | --     | ⚠      | --     | ⚠      | --     | --     |

Rule 1 - Manager has outperformed the 10th percentile in the appropriate style universe for the one year period.

Rule 2 - Manager has underperformed the 75th percentile in the appropriate style universe for the one year period.

Rule 3 - Manager has underperformed the benchmark index for the one year period.

Rule 4 - Manager has underperformed the 50th percentile in the appropriate style universe for the three year period.

Rule 5 - Manager has underperformed the benchmark index for the three year period.

Rule 6 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 7 - Manager has underperformed the benchmark index for the five year period.

Rule 8 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.

Rule 9 - Index Fund Tracking Error exceeds 0.25% of the appropriate benchmark over the one year period.

Total Fund  
Quarterly Historical Net Returns

Period Ending: December 31, 2021

|                     | 2021<br>Q4 | 2021<br>Q3 | 2021<br>Q2 | 2021<br>Q1 | 2020<br>Q4 | 2020<br>Q3 | 2020<br>Q2  | 2020<br>Q1   | 2019<br>Q4 | 2019<br>Q3 | 2019<br>Q2 | 2019<br>Q1 |
|---------------------|------------|------------|------------|------------|------------|------------|-------------|--------------|------------|------------|------------|------------|
| <b>Total Fund</b>   | <b>3.6</b> | <b>0.5</b> | <b>5.5</b> | <b>3.5</b> | <b>8.8</b> | <b>4.4</b> | <b>10.7</b> | <b>-11.3</b> | <b>4.6</b> | <b>0.2</b> | <b>3.1</b> | <b>6.8</b> |
| <i>Policy Index</i> | 3.3        | 0.7        | 5.7        | 3.3        | 8.8        | 4.5        | 10.1        | -11.1        | 4.6        | 0.8        | 3.0        | 7.0        |

|                     | 2018<br>Q4  | 2018<br>Q3 | 2018<br>Q2 | 2018<br>Q1  | 2017<br>Q4 | 2017<br>Q3 | 2017<br>Q2 | 2017<br>Q1 | 2016<br>Q4 | 2016<br>Q3 | 2016<br>Q2 | 2016<br>Q1 |
|---------------------|-------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>Total Fund</b>   | <b>-6.4</b> | <b>2.3</b> | <b>0.3</b> | <b>-0.1</b> | <b>3.0</b> | <b>3.2</b> | <b>2.7</b> | <b>4.2</b> | <b>0.8</b> | <b>3.5</b> | <b>1.9</b> | <b>1.0</b> |
| <i>Policy Index</i> | -5.5        | 2.2        | 0.7        | -0.1        | 3.2        | 3.1        | 2.8        | 3.5        | 0.5        | 2.9        | 2.2        | 1.8        |

|                     | 2015<br>Q4 | 2015<br>Q3  | 2015<br>Q2 | 2015<br>Q1 | 2014<br>Q4 | 2014<br>Q3  | 2014<br>Q2 | 2014<br>Q1 | 2013<br>Q4 | 2013<br>Q3 | 2013<br>Q2  | 2013<br>Q1 |
|---------------------|------------|-------------|------------|------------|------------|-------------|------------|------------|------------|------------|-------------|------------|
| <b>Total Fund</b>   | <b>2.2</b> | <b>-5.4</b> | <b>0.7</b> | <b>2.4</b> | <b>0.8</b> | <b>-1.5</b> | <b>3.6</b> | <b>2.1</b> | <b>4.1</b> | <b>4.4</b> | <b>-0.6</b> | <b>4.4</b> |
| <i>Policy Index</i> | 1.4        | -4.9        | 0.4        | 2.0        | 0.4        | -1.4        | 3.4        | 2.4        | 3.8        | 4.4        | -0.5        | 3.4        |

**Performance Return Calculations**

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

**Data Source**

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

**Illiquid Alternatives**

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

**Manager Line Up**

| <u>Manager</u>                          | <u>Fund Incepted</u> | <u>Data Source</u> | <u>Manager</u>                             | <u>Fund Incepted</u> | <u>Data Source</u> |
|---|----------------------|--------------------|--|----------------------|--------------------|
| AB Emerging Markets Strategic Core      | 11/3/2016            | Northern Trust     | Long Wharf Real Estate                     | 6/27/2019            | Long Wharf         |
| AB US Small Cap Value Equity            | 7/7/2015             | Northern Trust     | Magnetar Constellation                     | 11/14/2018           | Magnetar           |
| Abbott Capital PE IV                    | 7/13/2001            | Abbott Capital     | Magnetar Structured Credit                 | 5/1/2014             | Magnetar           |
| Abbott Capital PE V                     | 5/25/2005            | Abbott Capital     | Mellon Aggregate Bond Index Fund           | 1/14/2011            | Mellon             |
| Abbott Capital PE VI                    | 3/31/2008            | Abbott Capital     | Mellon EB DV Stock Index                   | 10/18/2017           | Mellon             |
| American Century Non-US Small Cap       | 12/15/2020           | American Century   | Mellon EB DV World ex-US Index             | 8/1/2018             | Mellon             |
| Aristeia International Limited          | 5/1/2014             | Northern Trust     | Myriad Opportunities Offshore              | 5/19/2016            | Northern Trust     |
| ASB Real Estate                         | 9/30/2013            | ASB                | Pantheon Global III                        |                      | Pantheon           |
| BlackRock Short Duration Fund           | 9/8/2021             | BlackRock          | Pantheon USA III                           |                      | Pantheon           |
| Blue Torch Credit Opportunities         | 7/24/2020            | Blue Torch         | Pantheon USA V                             |                      | Pantheon           |
| Brevan Howard                           | 11/1/2013            | Northern Trust     | Pantheon USA VI                            |                      | Pantheon           |
| Brighton Private Equity                 | 3/28/2021            | Brighton           | Pantheon USA VII                           |                      | 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          |
| Colony Distressed Debt 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                                  |                      | 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              | Singerman Real Estate Opportunity Fund IV  | 10/27/2021           | Singerman          |
| Geneva Capital Small Cap Growth         | 7/22/2015            | Geneva             | Sculptor Enhanced Domestic Partners        | 3/28/2019            | Sculptor           |
| Gresham MTAP Commodity                  | 9/3/2013             | Gresham            | Short Term Cash Account                    |                      | Northern Trust     |
| Harvest Midstream                       | 9/28/2020            | Harvest Midstream  | Short Term Investment Funds                |                      | Northern Trust     |
| HBK Fund II                             | 11/1/2013            | Northern Trust     | Stone Harbor Emerging Markets Debt         | 8/8/2012             | Stone Harbor       |
| Henderson Smallcap Growth               | 7/22/2015            | Northern Trust     | TAO Contingent                             | 4/16/2020            | TPG Sixth Street   |
| H.I.G Bayside Loan Opportunities Fund V | 7/24/2019            | H.I.G. Capital     | TCW Securitized Opportunities              | 2/3/2016             | TCW                |
| Hudson Bay                              | 6/7/2019             | Northern Trust     | Transition Equity                          |                      | Northern Trust     |
| Indus Pacific Opportunities             | 6/30/2014            | Northern Trust     | Transition Fixed Income                    |                      | Northern Trust     |
| Invesco Real Estate III                 | 6/30/2013            | Invesco            | TSSP Adjacent Opportunities Partners       | 11/17/2017           | TPG Sixth Street   |
| Invesco Real Estate IV                  | 12/18/2015           | Invesco            | Vista Equity Partners                      | 7/24/2020            | Vista Equity       |
| J.P. Morgan Strategic Property          | 7/2/2014             | J.P. Morgan        | Warren Equity                              | 4/1/2021             | Warren             |
| Landmark Real Estate Partners VIII      | 4/29/2018            | Landmark           | Wellington Commodities                     | 9/10/2013            | Wellington         |
| Level Equity Growth Partners V          | 11/1/2021            | Level Equity       | Western Asset Core Plus                    | 5/31/2004            | Northern Trust     |
| Level Equity Opportunities Fund 2021    | 11/1/2021            | Level Equity       | Western Asset High Yield Fixed income      | 5/31/2005            | Northern Trust     |
| LGT Crown                               | 2/1/2021             | LGT                |  |                      |                    |



| Policy & Custom Index Composition  |  |
|------------------------------------|--|
| Policy Index: 7/1/2021-Present     | 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   |
| 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

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

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

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

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

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

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

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

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

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: 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:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

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

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

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

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

## Disclaimer

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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 §6254.26)**

**(CA Gov. Code §6255)**

**(CA Gov. Code §54957.5)**

**DO NOT REPRODUCE**

**DO NOT DISTRIBUTE**





# CHIEF EXECUTIVE OFFICER'S REPORT

KCERA | DOMINIC D. BROWN | FEBRUARY 2022



## OFFICE UPDATE

- AON Contract Complete – Services will begin immediately
- RFP Status – General Investment Consultant and Actuary
- Staffing – Recruitments ongoing for Accountant, Retirement Services Analyst, Retirement Services Specialist, and Retirement Services Technician
  - Board-approved Reorganization is being implemented with County Human Resources
- *Alameda* Decision – Final analysis is being completed for presentation to the Board

# OPERATIONS ACTIVITY

- Member Services
  - 26 new retirements and calculations
  - 58 death benefit calculations
  - 9 service-credit purchase calculations
  - 90 retirement estimates
  - 135 new active members
  - 102 terminations with disposition packets
  - 24 in-person appointments
  - 164 walk-ins
  - 852 phone calls
  - 204 emails
- Accounting & Reporting
  - 1099R
  - Quarterly and Annual Payroll Tax Forms
- Information Technology
  - Annual contribution correction
  - 1099R
  - Some district plan sponsors are switching payroll providers

## UPCOMING EVENTS

- Finance Committee – Next meeting will be scheduled after regular March meeting to continue SRBR discussions
- Administrative Committee – Meeting is being scheduled for later this month to discuss CEO goals and disability conflicts management
- Investment Committee – Meeting will be scheduled later this month
- KCERA Property, Inc. – No meetings currently scheduled
- Board of Retirement – Next regular monthly meeting will be on March 9



# CIO REPORT

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INVESTMENT PROGRAM UPDATE | February 2022

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# Rebalancing

## JANUARY ACTIVITY

- Public Equity
  - -40M Parametric S&P 500



Public Equity shifted from a modest overweight to a modest underweight vs. the adjusted policy target. *Adjusted policy target is the Public Equity Policy target (37%), plus any underweight in Private Equity (~3%).*

| Asset Class          | Actual | Target | Difference |
|----------------------|--------|--------|------------|
| Public Equity        | 38.7%  | 37%    | +1.7%      |
| Fixed Income         | 22.5%  | 24%    | -1.5%      |
| Core                 | 11.9%  | 14%    | -2.1%      |
| Credit               | 5.8%   | 6%     | -0.2%      |
| Emerging Market Debt | 4.7%   | 4%     | +0.7%      |
| Commodities          | 6.0%   | 4%     | +2.0%      |
| Midstream            | 5.7%   | 5%     | +0.7%      |
| Hedge Funds          | 10.1%  | 10%    | +0.1%      |
| Alpha Pool           | 4.9%   | 5%     | -0.1%      |
| Core Real Estate     | 5.5%   | 5%     | +0.5%      |
| Opportunistic        | 2.8%   | 0%     | +2.8%      |
| Private Markets      | 7.9%   | 15%    | -7.1%      |
| Cash                 | -4.1%  | -5%    | +0.9%      |

## Positioning

### ACTUAL VS POLICY TARGET

Public equity: reduced exposure; overweight vs. policy target but underweight vs. adjusted policy target.

Fixed Income: Core Fixed Income dipped below policy range; monitoring exposure.

Private Markets continues to be a key focus; the allocation should reach 15% target around 2026.

Private Market underweights continues to be reallocated to other asset classes...

Private Equity >>> Public Equity

Private Credit and Private Real Estate >>> **EM Debt, Commodities, Midstream, and Opportunistic.**  
*Historically, Private Credit and Private Real Estate underweights were allocated to Core Fixed Income.*

Cash: modest overweight.

# Key Initiatives



## Enhancing return while managing risk

- Capital Efficiency
  - Analysis of multi-beta exposure, and reserve sizing requirements
- Multi-asset and tactical asset allocation research
- Opportunistic investments
- Private Markets
  - Continued program build-out
- Tail hedge research



# Investment Committee Meetings

**Next meeting late February/early March**

Topics to be discussed include:

- Private market fund recommendation

*The last IC meeting was held on February 4<sup>th</sup>.*





# CLO Report February 2022

**Jennifer Esquivel Zahry, Chief Legal Officer**  
**Phillip Jenkins, Deputy Chief Legal Officer**  
**Maggie Peralta-Lee, Senior Paralegal**  
**Irma Jimenez, Senior Legal Secretary**

## Policy Review Project

- Actuarial Funding Policy
- Declining Employer Payroll Policy
- Employer Termination Policy
- Regular Interest and Excess Interest Crediting Policy
- Election Procedure Policy
- Placement Agent Policy
- Legislative Policy
- Securities Litigation Policy

# Policy Review Project

- Administration of Special Allowances Initiated by KCERA Plan Sponsors
- Administrative Appeals Policy
- Overpayment/Underpayment-Contributions Policy
- Overpayment/Underpayment-Benefits Policy
- **Post-Retirement Employment Policy**
- Rules of Procedure for Disability Retirement
- SRBR Policy

# FEBRUARY CALENDAR

|                                 | Pending CLO<br>Review |
|---------------------------------|-----------------------|
| Operational Contracts           | 6                     |
| Investment/ Custodial Documents | 6                     |
| Disability Matters              | 4                     |
| Community Property Matters      | 6                     |
| PRA Requests                    | 2                     |
| Staff Inquiries                 | 14                    |
| Administrative Appeals          | 2                     |
| Board/Committee Meetings        | 2                     |
| Special Projects                | 3                     |