San Joaquin County Employees
Retirement Association

A G E N D A

BOARD MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
FRIDAY, FEBRUARY 11, 2022
AT 9:00 AM
Location: SJCERA Board Room, 6 S. El Dorado Street, Suite 400, Stockton, California

In order to accommodate appropriate COVID-19 protocols and social distancing, no more than ten (10) members of the public will be allowed in the Board Room during the Board Meeting. In accordance with current State mandates, all attendees must wear appropriate face coverings.

The public may also attend the Board meeting live via Zoom by (1) clicking here https://us02web.zoom.us/j/89742194217 and following the prompts to enter your name and email, or (2) calling (669) 219-2599 or (669) 900-9128 and entering Meeting ID 89742194217#.

Persons who require disability-related accommodations should contact SJCERA at (209) 468 -9950 or KendraF@sjcera.org at least forty-eight (48) hours prior to the scheduled meeting time.

1.0 ROLL CALL

2.0 PLEDGE OF ALLEGIANCE

3.0 MEETING MINUTES 4

3.01 Minutes for the Board Meeting of January 21, 2022

3.02 Board to consider and take possible action on minutes

4.0 PUBLIC COMMENT

4.01 The public is welcome to address the Board during this time on matters within the Board's jurisdiction, following the steps listed below. Speakers are limited to three minutes, and are expected to be civil and courteous. Public comment on items listed on the agenda may be heard at this time, or when the item is called, at the discretion of the Chair.

If joining via Zoom, Public Comment can be made in the following ways:

PC or Mac: select "Participants" in the toolbar at the bottom of your screen, then select the option to raise or lower your hand.

Mobile Device: select the "More" option in the toolbar at the bottom of your screen, then select the option to raise or lower your hand.

Tablet: select the icon labeled "Participants," typically located at the top right of your screen, then select the hand icon next to your device in the Participants column.

If dialing in from a phone for audio only, dial *9 to "raise your hand."

If attending in person, members of the public are encouraged to complete a Public Comment form, which can be found near the entry to the Board Room.

Except as otherwise permitted by the Ralph M. Brown Act (California Government Code Sections 54950 et seq.), no deliberation, discussion or action may be taken by the Board on items not listed on the agenda. Members of the Board may, but are not required to: (1) briefly respond to statements made or questions posed by persons addressing the Board; (2) ask a brief question for clarification; or (3) refer the matter to staff for further information.

5.0 CONSENT ITEMS

5.01 Service Retirement (16) 8

5.02 General (2)

01 Retiree Cost-of-Living Adjustment (COLA) as of April 1, 2022 10

02 Spousal Notification Resolution Pursuant to Government Code Section 31760.3 15

5.03 Board to consider and take possible action on consent calendar items

6.0 CONSULTANT REPORTS PRESENTED BY DAVID SANCEWICH OF MEKETA INVESTMENT GROUP

6.01 Monthly Investment Performance Updates

01 Manager Performance Flash Report - December 2021 20

02 Capital Markets Outlook and Risk Metrics - January 2022 25

6.02 2022 Capital Markets Expectations 59

6.03 Board to receive and file reports

7.0 DISCOUNT RATE REVIEW

7.01 Presentation by Graham Schmidt, Consulting Actuary 85

01 Cheiron presentation link below
https://presentation.cheiron.us/presentation/view/SJCERA022021?token=MN01

8.0 STAFF REPORTS

8.01 Legislative Summary Report - None; No changes since 11/2021

8.02 Trustee and Executive Staff Travel

01 Conferences and Events Schedule for 2022 130

02 Summary of Pending Trustee and Executive Staff Travel 131

03 Summary of Completed Trustee and Executive Staff Travel - None

8.03 CEO Report 132

01 Declining Employer Payroll Report 138

8.04 Report from Committee(s)

01 Committee Chair and staff will provide a brief summary of the outcome of the:

a CEO Performance Review Committee - February 7, 2022

9.0 CORRESPONDENCE

9.01 Letters Received

9.02 Letters Sent

9.03 Market Commentary/Newsletters/Articles

01 Bridgewater The Evolution of Institutional Investors' Exposure to Cryptocurrencies and Blockchain Technologies January 2022 142

02 Milliman Public Pension Funding Index Q4 investment performance January 2022 148

03 Pensions & Investments Fresno County Employees ups private equity pacing to $125 million per year January 2022 150

04 Reuters U.S. public pension funds seen turning to more aggressive investment January 2022 151

05 Investment Executive Canadian DB pensions returned 8.9% in 2021 January 2022 152

06 NCPERS Public Retirement Systems Study February 2022 154

10.0 COMMENTS

10.01 Comments from the Board of Retirement

11.0 CLOSED SESSION

11.01 Personnel Matters
California Government Code Section 54957
Employee Disability Retirement Application(s) (0)

11.02 Public Employee Performance Evaluation
California Government Code Section 54957
Title: Retirement Administrator/Chief Executive Officer

11.03 Conference with Legal Counsel - Pending Litigation
California Government Code Section 54956.9(d)(1)
1 Case

12.0 CALENDAR

12.01 Board Meeting March 11, 2022 at 9:00 AM

13.0 ADJOURNMENT

M I N U T E S

BOARD MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
FRIDAY, JANUARY 21, 2022
AT 9:01 AM
Location: SJCERA Board Room, 6 S. El Dorado Street, Suite 400, Stockton, California

1.0 ROLL CALL

1.01 **MEMBERS PRESENT**: Phonxay Keokham, Emily Nicholas, Jennifer Goodman, Robert Rickman (out at 11:51 AM), Chanda Bassett, JC Weydert, Steve Moore, Raymond McCray (presiding, beginning at 9:30 AM), and Michael Restuccia (presiding, out at 9:30 AM)

MEMBERS ABSENT: Michael Duffy

STAFF PRESENT: Chief Executive Officer Johanna Shick, Assistant Chief Executive Officers Kathy Herman and Brian Mckelvey, Retirement Investment Officer Paris Ba (via Zoom), Management Analyst III Greg Frank, Department Information Systems Analyst II Lolo Garza, Information Systems Manager Adnan Khan, and Administrative Secretary Kendra Fenner

OTHERS PRESENT: Deputy County Counsel Jason Morrish, and David Sancewich, Judy Chambers, and Aleem Naqvi of Meketa Investment Group

2.0 PLEDGE OF ALLEGIANCE

2.01 Led by Robert Rickman

3.0 MEETING MINUTES

3.01 Minutes for the Board Meeting of December 10, 2021

3.02 **The Board voted unanimously (7-0) to approve the Minutes of the Board Meeting of December 10, 2021. (Motion: Goodman; Second: Keokham; Abstain: Rickman)**

4.0 PUBLIC COMMENT

4.01 There was no public comment.

5.0 CONSENT ITEMS

5.01 Service Retirement (35)

5.02 General (2)

01 Annual Trustee Education Report

02 Earning Codes Retirement-Eligible Ratification Report

5.03 **The Board voted unanimously (8-0) to approve the Consent Calendar Items. (Motion: McCray; Second: Bassett)**

6.0 INVESTMENT MANAGER PRESENTATION

6.01 Presentation by Laura Fahrney and John Shimp of Ridgemont Equity Partners

7.0 CLOSED SESSION

THE CHAIR CONVENED CLOSED SESSION AT 9:54 A.M. AND ADJOURNED THE CLOSED SESSION AND RECONVENED THE OPEN SESSION AT 11:34 A.M.

7.01 Purchase or Sale of Pension Fund Investments
California Government Code Section 54956.81

7.02 Threat to Public Service or Facilities
California Government Code Section 54957

7.03 Personnel Matters
California Government Code Section 54957
Employee Disability Retirement Application(s) (0)

7.04 Public Employee Performance Evaluation
California Government Code Section 54957
Title: Retirement Administrator/Chief Executive Officer

7.05 Counsel noted there was nothing to report out of closed session

8.0 REPORT OF CLOSED SESSIONS

8.01 On November 5, 2021, the Board unanimously approved a proxy vote in favor of consolidation of the structure of the Prologis Targeted U.S. Logistics Fund, L.P. platform and an election to alter the Class A Incentive Period for SJCERA's Class A units.

9.0 CONSULTANT REPORTS PRESENTED BY DAVID SANCEWICH OF MEKETA INVESTMENT GROUP

9.01 Monthly Investment Performance Updates

01 Manager Performance Flash Report - November 2021

02 Capital Markets Outlook and Risk Metrics - December 2021

9.02 Board accepted and filed reports

10.0 STAFF REPORTS

10.01 Pending Retiree Accounts Receivable Report - Fourth Quarter 2021

10.02 Disability Quarterly Report - Statistics

10.03 Legislative Summary Report - None; No changes since 11/2021

10.04 Trustee and Executive Staff Travel

01 Conferences and Events Schedule for 2022

a CALAPRS GA

b Pension Bridge Annual Conference

02 Summary of Pending Trustee and Executive Staff Travel

a Travel Requiring Approval (1)

03 Summary of Completed Trustee and Executive Staff Travel - None December 2021

a Summary of Pension Bridge Alternative Conference November 2021

10.05 CEO Report

In addition to the written report, CEO Shick made the following comments: 1) The Civil Service Commission has approved the updates and changes to the SJCERA job descriptions, 2) Two staff members are retiring, ACEO Kathy Herman and Retirement Technician Mary Chris Johnson, 3) Graham Schmidt of Cheiron, Consulting Actuary, is anticipating a three percent COLA; official recommendation will be brought to the Board next month, 4) Welcomed new ACEO Brian McKelvey, and 5) Commended staff on achieving all the 2021 Action Plan goals despite challenges posed by COVID -19 and the additional workload of implementing the *Alameda* decision and pension administration system. She noted these achievements were accomplished while running six percent under budget, achieving a 96 percent customer satisfaction rating, and earning a preliminary investment return of greater than 11 percent.

01 2021 Action Plan Results

02 Updated Strategic Plan

03 Revised Action Plan

10.06 **Board accepted and filed reports and voted unanimously (6-0) to approve one pending travel request (Motion: Bassett; Second: Keokham)**

11.0 CORRESPONDENCE

11.01 NCPERS Monitor December 2021

11.02 CFA Institute Research Foundation Cryptoassets

11.03 Research Affiliates Inflation is Here! What Now? January 2022

12.0 COMMENTS

12.01 Trustee Keokham welcomed SJCERA's new ACEO Brian McKelvey

12.02 Trustee Restuccia welcomed Supervisor Robert Rickman to the Board

12.03 Trustee Bassett stated paragraphs c and d on page 10 of the 2021 Action Report are duplicated on page 11

12.04 Trustee Goodman asked if the 19 Court employees on the Disability Quarterly Report should be reflected as Sheriff Department employees

12.05 Trustee Nicholas thanked CEO Shick for stating in her written report that Mosquito and Vector Control District has determined there is a requirement to meet and confer prior to adoption or implementation of a 2 percent COLA.

13.0 CALENDAR

13.01 CEO Performance Review Committee February 4, 2022, at 11:00 AM

13.02 Board Meeting February 11, 2022, at 9:00 AM

14.0 ADJOURNMENT

14.01 There being no further business the meeting was adjourned at 12:04 PM. The Board took a break from 11:10 AM until 11:17 AM.

Respectfully Submitted:

____

Michael Restuccia, Chair

Attest:

____

Raymond McCray, Secretary

San Joaquin County Employees Retirement Association

February 2022

5.01 Service Retirement — Consent

01 **MICHELLE ABELONG** — Nursing Assistant, Hosp Med-Surg Intensive Care

Member Type: General
Years of Service: 15y 05m 08d
Retirement Date: 11/12/2021

02 **FAY M BENKLE** — Staff Nurse IV - Inpatient, Hosp Intensive Care Nursery

Member Type: General
Years of Service: 18y 01m 25d
Retirement Date: 12/10/2021

03 **FAY M BENKLE** — DRO split, Hosp

Member Type: General
Years of Service: 03y 05m 29d
Retirement Date: 12/10/2021
Comments: This portion was from a DRO split

04 **MIKE C BOUR** — Employment Training Spec II, HSA - Gain

Member Type: General
Years of Service: 32y 06m 14d
Retirement Date: 1/1/2022

05 **PAUL J BRENNAN** — Probation Unit Supervisor, Juv Probation-YOBG

Member Type: Safety
Years of Service: 26y 01m 12d
Retirement Date: 12/18/2021

06 **CARLA A CORVEY** — Administrative Assistant I, Public Works-Road Main-Central

Member Type: General
Years of Service: 22y 01m 14d
Retirement Date: 12/20/2021

07 **CHRISTINE N EDWARDS** — Social Worker IV, HSA - Services Staff

Member Type: General
Years of Service: 16y 03m 23d
Retirement Date: 1/1/2022

08 **MARK L FINE** — Deputy Dir Bldg Inspection, Community Development Services

Member Type: General
Years of Service: 30y 02m 05d
Retirement Date: 1/1/2022

09 **LARRY A MARCHETTI** — Appraiser III, Assessor

Member Type: General
Years of Service: 32y 11m 14d
Retirement Date: 12/31/2021

10 **THUYKIEU T NGUYEN** Eligibility Work
HSA

Member Type: General
Years of Service: 04y 08m 22d
Retirement Date: 12/31/2021
Comments: Incoming reciprocity and concurrent retirement with CalPers

11 **RHONDA L POLK** Psychiatric Technician
Mental HealthPHF-Inpatient Fac

Member Type: General
Years of Service: 12y 05m 00d
Retirement Date: 1/1/2022

12 **SUSAN E RAMIREZ** Assist Mgr Housekeeping Srvs
Hosp Environmental Services

Member Type: General
Years of Service: 30y 00m 05d
Retirement Date: 12/12/2021

13 **TONI Y REISWIG** Office Secretary
HSA - Clerical Support

Member Type: General
Years of Service: 24y 00m 22d
Retirement Date: 1/1/2022

14 **PAULA P SOTO** Community Social Services Dir
Aging - Community Services

Member Type: General
Years of Service: 33y 02m 23d
Retirement Date: 1/1/2022

15 **THOMAS TAING** Junior Engineer
Public Works

Member Type: General
Years of Service: 00y 11m 20d
Retirement Date: 1/1/2022
Comments: Incoming reciprocity and concurrent retirement with Calpers

16 **ANITA M VALTIERRA** Department Payroll Specialist
Public Works - Personnel-Trng

Member Type: General
Years of Service: 16y 04m 15d
Retirement Date: 12/18/2021

17 **RAQUEL M YOUNG** Office Assistant Specialist
Sheriff - Records - Custody

Member Type: General
Years of Service: 06y 10m 03d
Retirement Date: 12/23/2021

Board of Retirement Meeting
San Joaquin County Employees' Retirement Association

Agenda Item 5.02-01

February 11, 2022

SUBJECT: 2022 Retiree Cost-of-Living Adjustment (COLA)

SUBMITTED FOR: _X_ CONSENT ___ ACTION ___ INFORMATION

RECOMMENDATION

The Board shall review and adopt the actuary's (Cheiron's) determination of a 3 percent Cost-of-Living Adjustment.

PURPOSE

To determine if there has been an increase or decrease in the applicable cost of living, and the resulting applicable COLA, as defined by statute.

DISCUSSION

In accordance California Government Code 31870.1, the Board is required to determine, on an annual basis, before April 1, whether there has been an increase or decrease in the cost of living in the Bureau of Labor Statistics Consumer Price Index (CPI) for All Urban Consumers for that particular County. Because the Bureau of Labor Statistics does not publish a CPI for San Joaquin County, SJCERA uses the CPI for the San Francisco-Oakland-Hayward area. Cheiron has determined that the CPI for All Urban Consumers in the San Francisco-Oakland-Hayward area increased by 3.4 percent.

Pursuant to statute, members' retirement benefits must be adjusted by a COLA equivalent to the CPI percentage change rounded to the nearest one-half of one percent, up to a maximum of 3 percent. In years when the change in the CPI is greater than the statutory annual maximum COLA of 3 percent, the percentage over the 3 percent limit is "banked" for use in future years when the COLA is less than 3 percent.

Applying the statutory requirements to this year's facts, the 3.4 percent CPI change, rounded to the nearest half-percent, results in a 3.5 percent COLA. Thus, SJCERA would apply the maximum 3 percent COLA to retirees' May 1, 2022 retirement benefit and credit 0.5 percent to their accumulated carry-over balances (their "COLA bank") as of April 1, 2022.

ATTACHMENT

Annual COLA update from Cheiron dated January 21, 2022
Government Code 31870.1

JShick

JOHANNA SHICK
Chief Executive Officer

Via Electronic Mail

January 21, 2022

Ms. Johanna Shick
Chief Executive Officer
San Joaquin County Employees' Retirement Association
6 El Dorado Street, Suite 700
Stockton, CA 95202

Re: Cost-of-Living Adjustment (COLA) as of April 1, 2022

Dear Ms. Shick:

Pursuant to the scope of retainer services under Cheiron's agreement to provide actuarial services to SJCERA, we have computed the cost-of-living adjustment (COLA) percentages to be used by the Association as of April 1, 2022. The calculations outlined herein have been performed in accordance with 31870.1 of the County Employees Retirement Law of 1937.

Background

The cost-of-living-adjustment (COLA) is determined annually based on increases in the Consumer Price Index (CPI) for All Urban Consumers in the San Francisco-Oakland-Hayward area, using a base period of 1982-1984. The ratio of the annual averages for the prior calendar years is calculated and rounded to the nearest one-half percent. The method for calculating the annual average is to determine the average for all months of data provided by the Bureau of Labor and Statistics (e.g., the sum of six bi-monthly CPI amounts divided by six).

COLA Calculations

The annual average CPIs described above were 310.6 and 300.4 for 2021 and 2020, respectively. This represents an increase of 3.40%, which is subsequently rounded to 3.50%. As a point of comparison, the annual U.S. City Average CPI increased by 4.70% over the same time period.

SJCERA members are subject to the provisions of Section 31870.1, which limits annual COLA increases to 3.0% annually. Therefore, members should receive an increase in benefits of 3.0%, based on the current year change in the CPI. Members' accumulated carry-over balances as of April 1, 2022 will increase 0.5% from their balances on April 1, 2021. The enclosed exhibit summarizes the COLA calculations and carry-over balances.

Please contact us if you have any questions regarding these calculations.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, FCA, MAAA, EA	Timothy S. Doyle, ASA, MAAA, EA
Consulting Actuary	Associate Actuary

Attachment

cc: Anne D. Harper, FSA, MAAA, EA

SAN JOAQUIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

EXHIBIT A

COST-OF-LIVING ADJUSTMENTS (COLA)

As of April 1, 2022

Maximum Annual COLA: 3.0%

Initial Retirement Date	April 1, 2021		Increase in the Annual Average CPI [1]		April 1, 2022		
	Accumulated Carry-Over w/o PPP [2] (A)	Accumulated Carry-Over w/PPP Adjust. (B)	Actual (C)	Rounded (D)	**COLA (E)**	Accumulated Carry-Over w/o PPP (F)	Accumulated Carry-Over w/PPP Adjust. (G)
On or Before 04/01/1970	70.0%	12.5%	3.40%	3.5%	**3.0%**	70.5%	13.0%
04/02/1970 to 04/01/1971	67.5%	12.5%	3.40%	3.5%	**3.0%**	68.0%	13.0%
04/02/1971 to 04/01/1972	65.5%	12.5%	3.40%	3.5%	**3.0%**	66.0%	13.0%
04/02/1972 to 04/01/1973	64.5%	12.5%	3.40%	3.5%	**3.0%**	65.0%	13.0%
04/02/1973 to 04/01/1974	64.0%	12.5%	3.40%	3.5%	**3.0%**	64.5%	13.0%
04/02/1974 to 04/01/1975	61.0%	12.5%	3.40%	3.5%	**3.0%**	61.5%	13.0%
04/02/1975 to 04/01/1976	54.0%	12.5%	3.40%	3.5%	**3.0%**	54.5%	13.0%
04/02/1976 to 04/01/1977	47.0%	12.5%	3.40%	3.5%	**3.0%**	47.5%	13.0%
04/02/1977 to 04/01/1978	44.5%	12.5%	3.40%	3.5%	**3.0%**	45.0%	13.0%
04/02/1978 to 04/01/1979	40.0%	12.5%	3.40%	3.5%	**3.0%**	40.5%	13.0%
04/02/1979 to 04/01/1980	33.5%	12.5%	3.40%	3.5%	**3.0%**	34.0%	13.0%
04/02/1980 to 04/01/1981	28.0%	12.5%	3.40%	3.5%	**3.0%**	28.5%	13.0%
04/02/1981 to 04/01/1982	16.0%	12.5%	3.40%	3.5%	**3.0%**	16.5%	13.0%
04/02/1982 to 04/01/1983	6.0%	N/A	3.40%	3.5%	**3.0%**	6.5%	N/A
04/02/1983 to 04/01/1984	3.5%	N/A	3.40%	3.5%	**3.0%**	4.0%	N/A
04/02/1984 to 04/01/1985	3.5%	N/A	3.40%	3.5%	**3.0%**	4.0%	N/A
04/02/1985 to 04/01/1986	1.0%	N/A	3.40%	3.5%	**3.0%**	1.5%	N/A
04/02/1986 to 04/01/2021	0.0%	N/A	3.40%	3.5%	**3.0%**	0.5%	N/A
04/02/2021 to 04/01/2022	0.0%	N/A	3.40%	3.5%	**3.0%**	0.5%	N/A

[1] All Urban Consumers, San Francisco-Oakland-Hayward Area (1982-84 base). (G.C. 31870.1)
For a full description of the Consumer Price Index visit the Bureau of Labor Statistics' website http://stats.bls.gov/cpi/cpifaq.htm

[2] Purchasing Power Protection (PPP) benefits were implemented in 2000 (75% level) and 2001 (80% level) for allowances with an "initial retirement date" of 04/01/1982 or earlier. A "one-time" permanent increase was added to the monthly allowance amount to restore purchasing power to 80% of the purchasing power of the original allowance, determined as of 4/01/2001. These monthly allowances, including the PPP benefit, are adjusted each year by the annual COLA. (PPP reference: G.C. Section 31874.3)

Column A: The COLA Bank as of April 1, 2021, without adjustment for the PPP benefits. For allowances with an Initial Retirement Date on or before 04/01/1982, the values in this column and Column F represent what the total loss of purchasing power would be without the PPP benefits.

Column B: The COLA Bank as of April 1, 2021, with adjustment to reflect implementation of PPP benefits for allowances with an Initial Retirement Date on or before 04/01/1982.

Column E: The cost-of-living adjustment, effective April 1, 2022, to be applied to allowances included in each Initial Retirement Date period.

Column F: The COLA Bank as of April 1, 2022, available for future use, without adjustment for the PPP benefits. For allowances with an Initial Retirement Date on or before 04/01/1982, the values in this column represent what the total loss of purchasing power would be without the PPP benefits. The values in this column equal the value of Column A, less the difference between Columns D and E.

Column G: The COLA Bank as of April 1, 2022, available for future use, with adjustment to reflect implementation of the PPP benefits for allowances with an Initial Retirement Date on or before 04/01/1982. The values in this column equal the value of Column B less the difference between Columns D and E.

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TITLE 3. GOVERNMENT OF COUNTIES [23000 - 33205] *(Title 3 added by Stats. 1947, Ch. 424.)*

DIVISION 4. EMPLOYEES [31000 - 33017] *(Division 4 added by Stats. 1947, Ch. 424.)*

PART 3. RETIREMENT SYSTEMS [31200 - 33017] *(Part 3 added by Stats. 1947, Ch. 424.)*

CHAPTER 3. County Employees Retirement Law of 1937 [31450 - 31898] *(Chapter 3 ac 424.)*

ARTICLE 16.5. Cost of Living Adjustment [31870 - 31874.6] *(Article 16.5 added by Stats. 1965, Ch. 15*

31870.1. The board shall before April 1 of each year determine whether there has been an incı the cost of living as provided in this section. Notwithstanding Section 31481 or any other prov (commencing with Section 31450), every retirement allowance, optional death allowance, or a payable to or on account of any member, of this system or superseded system who retires or or died shall, as of April 1st of each year, be increased or decreased by a percentage of the tc being received found by the board to approximate to the nearest one-half of 1 percent, the pe increase or decrease in the cost of living as of January 1st of each year as shown by the then Labor Statistics Consumer Price Index for All Urban Consumers for the area in which the coun such change shall not exceed 3 percent per year; however, the amount of any cost-of-living ii any year which is not met by the maximum annual change of 3 percent in allowances shall be met by increases or decreases in allowances in future years; except that no decrease shall re below the amount being received by the member or his beneficiary on the effective date of th application of this article, whichever is later.

(Amended by Stats. 1978, Ch. 900.)

Agenda Item 5.02-02

February 11, 2022

SUBJECT: Request to the San Joaquin County Board of Supervisors to Adopt a Spousal Notification Resolution Pursuant to Government Code Section 31760.3

SUBMITTED FOR: _X_ CONSENT ___ ACTION ___ INFORMATION

RECOMMENDATION

Staff recommends that the Board request the San Joaquin County Board of Supervisors adopt Government Code Section 31760.3 regarding spousal notification when selecting benefits or beneficiaries.

PURPOSE

Government Code Section 31760.3 ensures that any changes a member makes to his or her selection of benefits or beneficiary designation for benefits is made after notice to the member's spouse. Although SJCERA currently requests spousal consent in these circumstances as a matter of long-standing practice, if it is not provided, staff cannot require it unless the Board of Supervisors adopts Government Code Section 31760.3 to be operative in the County.

DISCUSSION

Government Code Section 31760.3 (attached) is intended to protect a spouse's interest in the member's retirement benefits. It would require spousal consent whenever a member requests a refund of employee contributions after separation from service, an election of an optional settlement, or the removal of a spouse as beneficiary at any time. There are exceptions to the consent requirement in certain situations, such as when the spouse cannot be found or where the spouse is incapacitated, but the member must declare under penalty of perjury that the spousal notification is not needed or not possible. The declaration provides a level of protection for the County and the Retirement Association in the event that legal disputes arise between the member and his or her spouse.

Adoption of Section 31760.3 by the County Board of Supervisors would be consistent with various federal and state community property laws affecting distributions from SJCERA.

ATTACHMENTS

Government Code Section 31760.3
Resolution 2022-02-01 Spousal Consent

Jason R. Morrish
Deputy County Counsel

Government Code §31760.3. Notification of current spouse of selection of benefits or change of beneficiary by member; Requirement of signature of current spouse

The sole purpose of this section is to notify the current spouse of the selection of benefits or change of beneficiary made by a member. Nothing in this section is intended to conflict with community property law. An application for a refund of the member's accumulated contributions, an election of optional settlement, or a change in beneficiary designation shall contain the signature of the current spouse of the member, unless the member declares, in writing under penalty of perjury, any of the following:

(a) The member is not married.

(b) The current spouse has no identifiable community property interest in the benefit.

(c) The member does not know, and has taken all reasonable steps to determine, the whereabouts of the current spouse.

(d) The current spouse has been advised of the application and has refused to sign the written acknowledgment.

(e) The current spouse is incapable of executing the acknowledgment because of incapacitating mental or physical condition.

(f) The member and the current spouse have executed a marriage settlement agreement pursuant to Part 5 (commencing with Section 1500) of Division 4 of the Family Code which makes the community property law inapplicable to the marriage.

This section shall not be operative in any county until such time as the board of supervisors shall, by resolution adopted by majority vote, make this section applicable in the county.

RESOLUTION TITLE: **REQUEST TO THE SAN JOAQUIN COUNTY BOARD OF SUPERVISORS TO ADOPT A SPOUSAL NOTIFICATION RESOLUTION PURSUANT TO GOVERNMENT CODE SECTION 31760.3**

RESOLUTION NO.: **2022-02-01**

WHEREAS, San Joaquin County Ordinance 485 established the San Joaquin County Employees' Retirement Association (SJCERA) as a public sector defined benefit retirement system pursuant to the County Employees' Retirement Law of 1937 (California Government Code Title 3, Division 4, Part 3, Chapter 3 and 3.9, Sections 31450-31899.10), effective June 28, 1946; and

WHEREAS, California Government Code Section 31760.3 exists for the sole purpose of notifying the current spouse of the selection of benefits or change of beneficiary made by a member; and

WHEREAS, California Government Code Section 31760.3 is not operative in any county until such time as the Board of Supervisors adopts a resolution by majority vote to make the section applicable in the county; and

WHEREAS, the Board of Retirement believes that the requirements of California Government Code Section 31760.3 are consistent with federal and state community property laws and beneficial to SJCERA's members and beneficiaries.

NOW, THEREFORE, BE IT RESOLVED that:

1. The recitals set forth above are true and correct and incorporated into this Resolution by reference.

2. The Board desires California Government Code Section 31760.3 pertaining to spousal notification of selection of SJCERA benefits and beneficiary changes to be applicable in San Joaquin County and hereby requests that the San Joaquin County Board of Supervisors adopt a resolution by majority vote to make the section applicable in the county pursuant to its terms.

3. Following passage and approval of this Resolution, SJCERA staff is directed to promptly submit it to the San Joaquin County Board of Supervisors for consideration at that Board's earliest opportunity.

PASSED AND APPROVED by the Board of Retirement of the San Joaquin County Employees' Retirement Association on the 11th day of February 2022.

AYES:

NOES:

ABSENT:

ABSTAIN:

____
MICHAEL RESTUCCIA, Chair

Attest:

____
RAYMOND McCRAY, Secretary

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] — December 2021

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
TOTAL PLAN[1]			$ 4,062,388,398	100.0%	100.0%	3.2	4.1	13.6	13.6	11.7	8.8	8.0	Apr-90
Policy Benchmark [4]						*1.5*	*2.9*	*11.3*	*11.3*	*11.5*	*9.3*	*7.8*	
Difference:						1.7	1.2	2.3	2.3	0.2	-0.5	0.2	
75/25 Portfolio [5]						*3.0*	*4.9*	*12.7*	*12.7*	*17.1*	*12.2*	*7.8*	
Difference:			.			0.2	-0.8	0.9	0.9	-5.4	-3.4	0.2	
Broad Growth			$ 3,073,260,491	75.7%	75.0%	4.0	5.4	17.7	17.7	14.3	10.8	8.8	Jan-95
Aggressive Growth Lag[2]			$ 311,786,826	7.7%	10.0%	8.2	8.2	25.3	39.4	16.7	15.3	-3.2	Feb-05
MSCI ACWI +2%Lag						*1.3*	*3.2*	*13.4*	*22.8*	*13.1*	*11.4*	*0.0*	
Difference:						6.9	5.0	11.9	16.6	3.6	3.9	-3.2	
BlackRock Global Energy&Power Lag[3]	*$50,000*	*Global Infrastructure*	$ 22,706,488	0.6%		3.4	3.4	6.7	8.0	--	--	9.9	Jul-19
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*13.1*	*30.5*	*--*	*--*	*19.2*	
Difference:						7.3	3.9	-6.4	-22.5	--	--	-9.3	
Ocean Avenue II Lag[3]	*$40,000*	*PE Buyout FOF*	$ 38,704,604	1.0%		10.6	10.6	47.7	84.6	33.2	31.8	17.4	May-13
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*13.1*	*30.5*	*15.4*	*12.8*	*11.2*	
Difference:						14.5	11.1	34.6	54.1	17.8	19.0	6.2	
Ocean Avenue III Lag[3]	*$50,000*	*PE Buyout FOF*	$ 51,341,899	1.3%		16.4	16.4	39.6	56.0	28.5	29.6	25.3	Apr-16
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*13.1*	*30.5*	*15.4*	*12.8*	*12.4*	
Difference:						20.3	16.9	26.5	25.5	13.1	16.9	12.9	
Ocean Avenue IV Lag[3]	*$50,000*	*PE Buyout*	$ 36,893,083	0.9%		3.6	3.6	17.5	42.1	--	--	33.0	Dec-19
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*13.1*	*30.5*	*--*	*--*	*21.9*	
Difference:						7.5	4.1	4.4	11.6	--	--	11.1	
Morgan Creek III Lag[3]	*$10,000*	*Multi-Strat FOF*	$ 6,571,365	0.2%		-13.5	-13.5	-11.3	-4.0	-10.4	-0.3	-3.2	Feb-15
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*13.1*	*30.5*	*15.4*	*12.8*	*11.8*	
Difference:						-9.6	-13.0	-24.4	-34.5	-25.8	-13.1	-15.0	
Morgan Creek V Lag[3]	*$12,000*	*Multi-Strat FOF*	$ 9,473,506	0.2%		8.5	8.5	12.2	26.8	15.1	13.6	14.2	Jun-13
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*13.1*	*30.5*	*15.4*	*12.8*	*11.2*	
Difference:						12.4	9.0	-0.9	-3.7	-0.3	0.8	3.0	
Morgan Creek VI Lag[3]	*$20,000*	*Multi-Strat FOF*	$ 26,828,214	0.7%		8.6	8.6	23.2	45.1	23.6	20.4	11.2	Feb-15
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*13.1*	*30.5*	*15.4*	*12.8*	*11.8*	
Difference:						12.5	9.1	10.1	14.6	8.2	7.6	-0.6	
Stellex Capital Partners II Lag[3]	*$50,000*	*Multi-Strat FOF*	$ 4,689,279	0.1%		-4.4	-4.4	--	--	--	--	-15.3	Jul-21
MSCI ACWI +2% Lag						*-3.9*	*-0.5*	*--*	*--*	*--*	*--*	*2.8*	
Difference:						-0.5	-3.9	--	--	--	--	-18.1	
Opportunistic Private Real Estate													
Greenfield V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 227,258	0.0%		0.2	0.2	-0.7	-2.7	-17.0	-3.5	-3.1	Jul-08
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*8.9*	
Difference:						-6.3	-6.5	-15.5	-17.5	-24.2	-11.1	-12.0	
Greenfield VI[3]	*$20,000*	*Opportunistic Pvt. RE*	$ 171,705	0.0%		9.5	9.5	-32.5	-49.3	-41.8	-29.6	-12.8	Apr-12
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*13.2*	
Difference:						3.0	2.8	-47.3	-64.1	-49.0	-37.2	-26.0	
Greenfield VII[3]	*$19,100*	*Opportunistic Pvt. RE*	$ 9,301,411	0.2%		1.0	1.0	13.7	26.4	14.5	14.2	13.2	Oct-14
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*12.4*	
Difference:						-5.5	-5.7	-1.1	11.6	7.3	6.6	0.8	
Grandview[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 20,316,979	0.5%		-0.2	-0.2	19.4	24.8	22.3	--	10.4	Apr-18
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*--*	*10.8*	
Difference:						-6.7	-6.9	4.6	10.0	15.1	--	-0.4	
Miller Global Fund VI[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 481,237	0.0%		66.0	66.0	142.3	165.0	-7.0	0.1	0.1	May-08
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*8.9*	
Difference:						59.5	59.3	127.5	150.2	-14.2	-7.5	-8.8	
Miller Global Fund VII[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 273,467	0.0%		-85.1	-85.1	-87.9	-85.9	-52.4	-35.5	-6.1	Dec-12
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*12.7*	
Difference:						-91.6	-91.8	-102.7	-100.7	-59.6	-43.1	-18.8	

[1] Returns are preliminary and are finalized during each quarterly reporting cycle. Monthly returns since previous quarter are provided by the managers. Market values are provided by Northern Trust.

[2] Total class returns are as of 12/31/21, and lagged 1 quarter.

[3] Manager returns are as of 12/31/21, and lagged 1 quarter. Since Inception date reflects one quarter lag.

[4] 4/1/20 to present benchmark is **32%** MSCI ACWI IMI, **10%** BB Aggregate Bond Index, **17%** *50%* BB High Yield/*50%* S&P Leveraged Loans, 6% NCREIF ODCE +1% lag; **10%** T-Bill +4%, **10%** MSCI ACWI +2%, **15%** CRO Custom Benchmark. Prior to 4/1/20 benchmark is legacy policy benchmark.

[5] 4/1/20 to present **75%** MSCI ACWI, **25%** BB Global Aggregate. Prior to 4/1/20 60% MSCI ACWI, 40% BB Global Aggregate.

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] December 2021

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Opportunistic Private Real Estate (continued)													
Walton Street V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 2,071,307	0.1%		0.5	0.5	0.9	1.8	-11.6	-8.8	-0.3	Nov-06
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*9.9*	
Difference:						-6.0	-6.2	-13.9	-13.0	-18.8	-16.4	-10.2	
Walton Street VI[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 4,919,114	0.1%		3.2	3.2	10.0	9.2	-1.6	2.1	7.2	Jul-09
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*11.7*	
Difference:						-3.3	-3.5	-4.8	-5.6	-8.8	-5.5	-4.5	
Value-Added Private Real Estate													
AG Core Plus IV[3]	*$20,000*	*Value-Added Pvt. RE*	$ 19,298,414	0.5%		4.3	3.4	11.1	15.4	9.3	9.9	5.8	Sep-15
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*11.8*	
Difference:						-2.2	-3.3	-3.7	0.6	2.1	2.3	-6.0	
Almanac Realty VI[3]	*$30,000*	*Value-Added Pvt. RE*	$ 3,609,976	0.1%		2.1	2.1	12.2	4.9	-10.3	-4.9	22.1	Feb-13
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*13.2*	
Difference:						-4.4	-4.6	-2.6	-9.9	-17.5	-12.5	8.9	
Berkeley Partners Fund V, LP	*$40,000*	*Value-Added Pvt. RE*	$ 9,285,074	0.2%		19.1	19.1	33.1	41.9	--	--	41.9	Aug-20
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	--	--	*18.1*	
Difference:						12.6	12.4	18.3	--	--	--	23.8	
Stockbridge RE III[3]	*$45,000*	*Value-Added Pvt. RE*	$ 35,179,678	0.9%		17.0	17.0	40.6	46.8	16.6	--	12.6	Jul-18
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	--	*10.6*	
Difference:						10.5	10.3	25.8	32.0	9.4	--	2.0	
Traditional Growth[2]			$ 1,542,824,271	38.0%	32.0%	4.3	6.8	20.6	20.6	17.9	12.6	9.7	Jan-95
MSCI ACWI IMI Net						*4.0*	*6.1*	*18.2*	*18.2*	*21.1*	*15.1*	*8.5*	
Difference:						0.3	0.7	2.4	2.4	-3.2	-2.5	1.2	
Global Equity			$ 1,487,410,391	36.6%									
Northern Trust MSCI World IMI		*All Cap Global*	$ 1,343,292,580	33.1%		4.1	7.3	21.4	21.4	--	--	25.5	Sep-20
MSCI World IMI Net						*4.2*	*7.1*	*21.0*	*21.0*	--	--	*25.0*	
Difference:						-0.1	0.2	0.4	0.4	--	--	0.5	
SJCERA Transition		*All Cap Global*	$ 3,262	0.0%		NM	NM	NM	NM	--	--	NM	Jul-20
Emerging Markets			$ 144,114,549										
GQG Active Emerging Markets		*Emerging Markets*	$ 65,051,537	1.6%		1.9	-0.2	-1.5	-1.5	--	--	11.6	Aug-20
MSCI Emerging Markets Index Net						*1.9*	*-1.3*	*-2.5*	*-2.5*	--	--	*11.9*	
Difference:						0.0	1.1	1.0	1.0	--	--	-0.3	
PIMCO RAE Fundamental Emerging Markets		*Emerging Markets*	$ 79,063,012	1.9%		5.6	0.4	16.5	16.5	10.5	8.8	5.5	Apr-07
MSCI Emerging Markets Index						*1.9*	*-1.2*	*-2.2*	*-2.2*	*11.3*	*10.3*	*4.7*	
Difference:						3.7	1.6	18.7	18.7	-0.8	-1.5	0.8	
REITS			$ 55,413,880	1.4%									
Invesco All Equity REIT		*Core US REIT*	$ 55,413,880	1.4%		10.1	15.8	42.2	42.2	17.9	11.3	10.1	Aug-04
FTSE NAREIT Equity Index						*8.8*	*16.3*	*43.2*	*43.2*	*18.4*	*10.8*	*9.9*	
Difference:						1.3	-0.5	-1.0	-1.0	-0.5	0.5	0.2	

[1] Returns are preliminary and are finalized during each quarterly reporting cycle. Monthly returns since previous quarter are provided by the managers. Market values are provided by Northern Trust.

[2] MSCI ACWI IMI Net as of 4/1/2020, MSCI ACWI Gross prior.

[3] Manager returns are as of 12/31/21, and lagged 1 quarter. Since Inception date reflects one quarter lag.

NM = Returns not meaningful

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] December 2021

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Stabilized Growth			$ 1,218,649,394	30.0%	33.0%	2.7	3.0	9.3	9.3	9.8	7.5	4.3	Jan-05
Risk Parity			$ 449,917,115	11.1%		1.8	3.4	9.9	9.9	13.6	9.1	5.4	
T-Bill +4%						*0.3*	*1.0*	*4.1*	*4.1*	*5.0*	*5.2*	*4.5*	
Difference:						1.5	2.4	5.8	5.8	8.6	3.9	0.9	
Bridgewater All Weather		*Risk Parity*	$ 222,437,674	5.5%		2.3	4.3	11.7	11.7	12.6	8.7	6.1	Mar-12
T-Bill +4%						*0.3*	*1.0*	*4.1*	*4.1*	*5.0*	*5.2*	*5.4*	
Difference:						2.0	3.3	7.6	7.6	7.6	3.5	0.7	
PanAgora Diversified Risk Multi-Asset		*Risk Parity*	$ 227,479,441	5.6%		1.3	2.6	8.3	8.3	14.5	9.6	9.0	Apr-16
T-Bill +4%						*0.3*	*1.0*	*4.1*	*4.1*	*5.0*	*5.2*	*5.1*	
Difference:						1.0	1.6	4.2	4.2	9.5	4.4	3.9	
Liquid Credit			$ 237,288,542	5.8%		1.1	0.1	2.5	2.5	5.1	3.8	2.3	Oct-06
50% BB High Yield, 50% S&P/LSTA Leveraged Loans						*1.3*	*0.7*	*5.2*	*5.2*	*7.2*	*5.3*	*5.9*	
Difference:						-0.2	-0.6	-2.7	-2.7	-2.1	-1.5	-3.6	
Neuberger Berman		*Global Credit*	$ 106,585,329	2.6%		1.3	0.1	2.4	2.4	--	--	5.3	Feb-19
33% ICE BofA HY Constrained, 33% S&P/LSTA LL, 33% JPM EMBI Glbl Div.						*1.3*	*0.3*	*2.9*	*2.9*	*--*	*--*	*5.5*	
Difference:						0.0	-0.2	-0.5	-0.5	--	--	-0.2	
Stone Harbor Absolute Return		*Absolute Return*	$ 130,703,213	3.2%		0.9	0.0	2.5	2.5	4.4	3.3	2.9	Oct-06
3-Month Libor Total Return						*0.0*	*0.0*	*0.2*	*0.2*	*1.3*	*1.4*	*1.4*	
Difference:						0.9	0.0	2.3	2.3	3.1	1.9	1.5	
Private Credit Lag[2]			$ 341,870,687	8.4%		1.6	1.6	6.2	8.0	3.6	2.9	3.5	
50% BB High Yield, 50% S&P/LSTA Leveraged Loans						*0.3*	*1.0*	*4.5*	*9.8*	*5.5*	*5.6*	*6.0*	
Difference:						1.3	0.6	1.7	-1.8	-1.9	-2.7	-2.5	
BlackRock Direct Lending Lag[3]	*$100,000*	*Direct Lending*	$ 51,001,686	1.3%		2.4	2.4	6.1	8.8	--	--	9.6	May-20
CPI +6% Annual Blend[5]						*0.8*	*2.4*	*10.0*	*11.7*	*--*	*--*	*16.5*	
Difference:						1.6	0.0	-3.9	-2.9	--	--	-6.9	
Mesa West RE Income III Lag[3]	*$45,000*	*Comm. Mortgage*	$ 31,041	0.0%		-14.9	-14.9	-11.9	-21.5	-6.6	-0.4	1.2	Sep-13
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*9.0*	*8.9*	*11.2*	
Difference:						-15.7	-17.3	-21.9	-33.2	-15.6	-9.3	-10.0	
Mesa West RE Income IV Lag[3]	*$75,000*	*Comm. Mortgage*	$ 29,459,557	0.7%		2.6	2.6	6.7	7.9	7.7	--	7.6	Mar-17
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*9.0*	*--*	*9.0*	
Difference:						1.8	0.2	-3.3	-3.8	-1.3	--	-1.4	
Crestline Opportunity II Lag[3]	*$45,000*	*Opportunistic*	$ 18,787,084	0.5%		0.4	0.4	13.4	14.1	1.1	3.8	5.2	Nov-13
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*9.0*	*8.9*	*9.0*	
Difference:						-0.4	-2.0	3.4	2.4	-7.9	-5.1	-3.8	
Davidson Kempner Distr Opp V Lag[3]	*$50,000*	*Opportunistic*	$ 34,480,593	0.0%		1.6	1.6	15.9	25.5	--	--	39.8	Oct-20
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*--*	*--*	*11.4*	
Difference:						0.8	-0.8	5.9	13.8	--	--	28.4	
Oaktree Lag	*$50,000*	*Leveraged Direct*	$ 32,102,053	0.8%		3.5	3.5	11.5	15.7	15.0	--	10.8	Mar-18
CPI +6% Annual Blend[6]						*0.8*	*2.4*	*10.0*	*11.7*	*9.5*	*--*	*9.2*	
Difference:						2.7	1.1	1.5	4.0	5.5	--	1.6	
HPS EU Asset Value II Lag[3]	*$50,000*	*Direct Lending*	$ 20,406,329	0.5%		1.8	1.8	5.1	8.2	--	--	0.6	Aug-20
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*--*	*--*	*11.2*	
Difference:						1.0	-0.6	-4.9	-3.5	--	--	-10.6	
Raven Opportunity II Lag[3]	*$45,000*	*Direct Lending*	$ 10,414,168	0.3%		11.6	11.6	8.0	7.6	-2.5	-2.5	-3.1	Aug-14
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*9.0*	*8.9*	*8.9*	
Difference:						10.8	9.2	-2.0	-4.1	-11.5	-11.4	-12.0	
Raven Opportunity III Lag[3]	*$50,000*	*Direct Lending*	$ 50,211,888	1.2%		4.3	4.3	8.0	11.1	7.6	5.1	3.2	Nov-15
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*9.0*	*8.9*	*8.9*	
Difference:						3.5	1.9	-2.0	-0.6	-1.4	-3.9	-5.7	

[1] Returns are preliminary and are finalized during each quarterly reporting cycle. Monthly returns since previous quarter are provided by the managers. Market values are provided by Northern Trust.

[2] Total class returns are as of 12/31/21, and lagged 1 quarter.

[3] Manager returns are as of 12/31/21, and lagged 1 quarter. Since Inception date reflects one quarter lag.

[4] 9% Annual until 7/1/2018 then CPI +6% Annual thereafter.

[5] 50% Bloomberg High Yield/50% S&P Leveraged Loan until 12/31/20 then CPI +6% Annual thereafter. Benchmark lagged one quarter.

[6] MSCI ACWI + 2% until 12/31/20 then CPI +6% Annual thereafter. Benchmark lagged one quarter

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] December 2021

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Private Credit Lag (continued)													
Medley Opportunity II Lag[3]	*$50,000*	*Direct Lending*	$ 9,904,617	0.2%		-3.2	-3.2	4.0	8.3	-9.3	-7.6	-1.3	Jul-12
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*9.0*	*8.9*	*9.0*	
Difference:						-4.0	-5.6	-6.0	-3.4	-18.3	-16.5	-10.3	
White Oak Summit Peer Fund Lag[3]	*$50,000*	*Direct Lending*	$ 36,744,876	0.9%		-4.4	-4.4	-2.2	-0.5	3.4	5.6	5.7	Mar-16
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*9.0*	*8.9*	*8.9*	
Difference:						-5.2	-6.8	-12.2	-12.2	-5.6	-3.3	-3.2	
White Oak Yield Spectrum Master V Lag[3]	*$50,000*	*Direct Lending*	$ 48,326,795	1.2%		0.4	0.4	1.7	1.7	--	--	-0.1	Mar-20
CPI +6% Annual Blend[4]						*0.8*	*2.4*	*10.0*	*11.7*	*--*	*--*	*9.8*	
Difference:						-0.4	-2.0	-8.3	-10.0	--	--	-9.9	
Principal US[3]	*$25,000*	*Core Pvt. RE*	$ 35,153,936	0.9%		5.0	5.0	11.4	13.3	6.4	7.3	7.8	Jan-16
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*11.2*	
Difference:						-1.5	-1.7	-3.4	-1.5	-0.8	-0.3	-3.4	
Prologis Logistics[3]	*$35,000*	*Core Pvt. RE*	$ 82,714,166	2.0%		12.4	12.4	22.5	29.7	17.6	18.4	7.8	Dec-07
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*9.2*	
Difference:						5.9	5.7	7.7	14.9	10.4	10.8	-1.4	
RREEF America II[3]	*$45,000*	*Core Pvt. RE*	$ 51,087,248	1.3%		5.9	5.9	11.9	12.8	5.9	7.3	7.8	Jul-16
NCREIF ODCE + 1% Lag Blend						*6.5*	*6.7*	*14.8*	*14.8*	*7.2*	*7.6*	*10.9*	
Difference:						-0.6	-0.8	-2.9	-2.0	-1.3	-0.3	-3.1	
Diversifying Strategies			$ 792,728,224	19.5%	25.0%	0.3	-0.6	0.7	0.7	3.5	2.7	6.3	Oct-90
Principal Protection			$ 330,858,456	8.1%	10.0%	0.1	-0.1	0.1	0.1	3.6	3.3	6.3	Oct-90
BB Aggregate Bond Index						*-0.3*	*0.0*	*-1.5*	*-1.5*	*4.8*	*3.6*	*5.9*	
Difference:						0.4	-0.1	1.6	1.6	-1.2	-0.3	0.4	
Dodge & Cox		*Core Fixed Income*	$ 216,782,099	5.3%		0.2	-0.3	-0.8	-0.8	6.0	4.6	7.1	Oct-90
BB Aggregate Bond Index						*-0.3*	*0.0*	*-1.5*	*-1.5*	*4.8*	*3.6*	*5.9*	
Difference:						0.5	-0.3	0.7	0.7	1.2	1.0	1.2	
DoubleLine Capital		*MBS*	$ 114,076,357	2.8%		-0.2	0.1	2.0	2.0	4.1	3.8	4.9	Feb-12
BB Aggregate Bond Index						*-0.3*	*0.0*	*-1.5*	*-1.5*	*4.8*	*3.6*	*2.8*	
Difference:						0.1	0.1	3.5	3.5	-0.7	0.2	2.1	

[1] Returns are preliminary and are finalized during each quarterly reporting cycle. Monthly returns since previous quarter are provided by the managers. Market values are provided by Northern Trust.

[2] Total class returns are as of 12/31/21, and lagged 1 quarter.

[3] Manager returns are as of 12/31/21, and lagged 1 quarter. Since Inception date reflects one quarter lag.

[4] 9% Annual until 7/1/2018 then CPI +6% Annual thereafter.

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] December 2021

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Crisis Risk Offset			$ 461,869,768	11.4%	15.0%	0.5	-0.9	1.1	1.1	3.3	2.3	6.3	Jan-05
CRO Custom Benchmark [2]						*0.0*	*2.1*	*3.5*	*3.5*	*7.3*	*5.1*	*5.4*	
Difference:						0.5	-3.0	-2.4	-2.4	-4.0	-2.8	0.9	
Long Duration			$ 155,475,526	3.8%		-1.5	2.3	-4.7	-4.7	8.1	6.0	3.9	
BB US Long Duration Treasuries						*-1.4*	*3.1*	*-4.6*	*-4.6*	*8.8*	*6.5*	*4.9*	
Difference:						-0.1	-0.8	-0.1	-0.1	-0.7	-0.5	-1.0	
Dodge & Cox Long Duration		*Long Duration*	$ 155,475,526	3.8%		-1.5	2.3	-4.7	-4.7	8.1	6.0	3.9	Feb-16
BB US Long Duration Treasuries						*-1.4*	*3.1*	*-4.6*	*-4.6*	*8.8*	*6.5*	*4.9*	
Difference:						-0.1	-0.8	-0.1	-0.1	-0.7	-0.5	-1.0	
Systematic Trend Following			$ 183,283,621	4.5%		1.2	-3.2	7.3	7.3	5.6	1.3	8.0	
BTOP50 Index						*1.0*	*1.8*	*10.2*	*10.2*	*7.3*	*3.2*	*4.6*	
Difference:						0.2	-5.0	-2.9	-2.9	-1.7	-1.9	3.4	
Mt. Lucas Managed Futures - Cash		*Systematic Trend Following*	$ 94,386,507	2.3%		0.9	-4.8	12.0	12.0	3.9	0.2	7.5	Jan-05
BTOP50 Index						*1.0*	*1.8*	*10.2*	*10.2*	*7.3*	*3.2*	*4.6*	
Difference:						-0.1	-6.6	1.8	1.8	-3.4	-3.0	2.9	
Graham Tactical Trend		*Systematic Trend Following*	$ 88,897,114	2.2%		1.6	-1.3	2.7	2.7	7.2	2.2	0.5	Apr-16
SG Trend Index						*0.5*	*-1.3*	*9.1*	*9.1*	*8.2*	*3.8*	*1.6*	
Difference:						1.1	0.0	-6.4	-6.4	-1.0	-1.6	-1.1	
Alternative Risk Premia			$ 123,110,621	3.0%		2.0	-1.4	0.0	0.0	-5.0	-1.6	6.8	
5% Annual						*0.4*	*1.2*	*5.0*	*5.0*	*5.0*	*5.0*	*6.3*	
Difference:						1.6	-2.6	-5.0	-5.0	-10.0	-6.6	0.5	
AQR Style Premia		*Alternative Risk Premia*	$ 30,222,118	0.7%		12.1	3.0	24.0	24.0	-6.3	-4.7	-3.9	May-16
5% Annual						*0.4*	*1.2*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	
Difference:						11.7	1.8	19.0	19.0	-11.3	-9.7	-8.9	
PE Diversified Global Macro		*Alternative Risk Premia*	$ 33,464,750	0.8%		-6.0	-5.9	-10.3	-10.3	-10.4	-5.5	-3.8	Jun-16
5% Annual						*0.4*	*1.2*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*	
Difference:						-6.4	-7.1	-15.3	-15.3	-15.4	-10.5	-8.8	
Lombard Odier		*Alternative Risk Premia*	$ 59,423,753	1.5%		2.2	-0.9	-3.3	-3.3	--	--	-3.5	Jan-19
5% Annual						*0.4*	*1.2*	*5.0*	*5.0*	*--*	*--*	*5.0*	
Difference:						1.8	-2.1	-8.3	-8.3	--	--	-8.5	
Cash[3]			$ 140,418,193	3.5%	0.0%	0.0	0.0	0.1	0.1	0.7	0.8	2.4	Sep-94
US T-Bills						*0.0*	*0.0*	*0.1*	*0.1*	*1.0*	*1.1*	*2.3*	
Difference:						0.0	0.0	0.0	0.0	-0.3	-0.3	0.1	
Northern Trust STIF		*Collective Govt. Short Term*	$ 170,193,477	4.2%		0.0	0.0	0.1	0.1	0.8	0.9	2.6	Jan-95
US T-Bills						0.0	0.0	0.1	0.1	1.0	1.1	*2.3*	
Difference:						0.0	0.0	0.0	0.0	-0.2	-0.2	0.3	
Parametric Overlay[4]		*Cash Overlay*	$ 55,981,490	1.4%		0.0	0.0	0.0	0.0	--	--	0.0	Jan-20

[1] Returns are preliminary and are finalized during each quarterly reporting cycle. Monthly returns since previous quarter are provided by the managers. Market values are provided by Northern Trust.

[2] Benchmark is (1/3) BB Long Duration Treasuries, (1/3) BTOP50 Index, (1/3) 5% Annual.

[3] Includes lagged cash.

[4] Given daily cash movement returns may vary from those shown above.

Capital Markets Outlook & Risk Metrics

As of January 31, 2022

Capital Markets Outlook

Markets

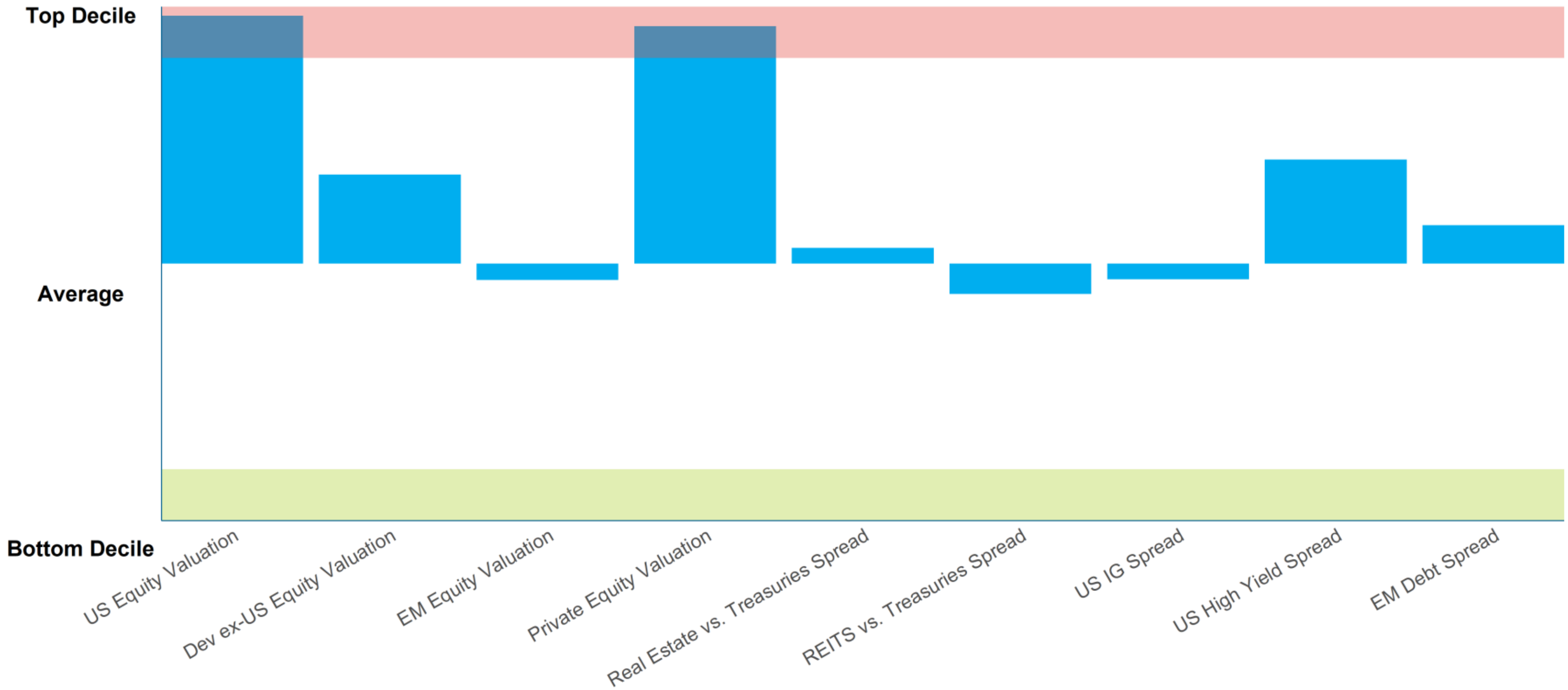
- Global equity and bond markets generally posted negative returns in January as the prospect of a reversal of easy monetary policy loomed closer.
- US equity markets declined across all styles and size, though large cap stocks and value stocks performed better than growth and small cap stocks.
- While non-US stocks lagged the US in 2021, they performed slightly better than US equities in January.
- In spite of negative returns in China and emerging markets, they outperformed developed markets.
- Outside the US, value stocks outperformed growth and large cap generally performed better than small cap.
- Fixed income markets posted negative returns in the US and in non-US markets across the credit spectrum.
- Despite continued inflation pressure and strong returns in 2021, TIPS posted losses in January.
- REITs and public infrastructure followed the equity markets with declines.
- Commodities and natural resources were the rare assets that delivered solid gains.
- US inflation hit a forty-year high in December, reaching 7.1% year-on-year. The Federal Reserve announced an early and accelerated exit from its asset-purchase program and communicated the likelihood of future rate hikes to address inflation.

Capital Markets Outlook

Markets

- In China, the central bank cut the reserve requirement twice in late 2021. In 2022 authorities have taken additional steps to support the real estate market, including directives for banks to lend to developers to complete current projects. Authorities are focused on supporting and stabilizing growth in 2022. The IMF now forecasts that China will grow at slightly less than 5% in 2022, down from 8% in 2021.
- While COVID continues to spread in developed and emerging markets, the Omicron variant has thus far proved to be less severe than the Delta variant. Some countries in Europe are exiting all lockdown measures in early 2022, while other countries appear to be focused on COVID-zero policies.

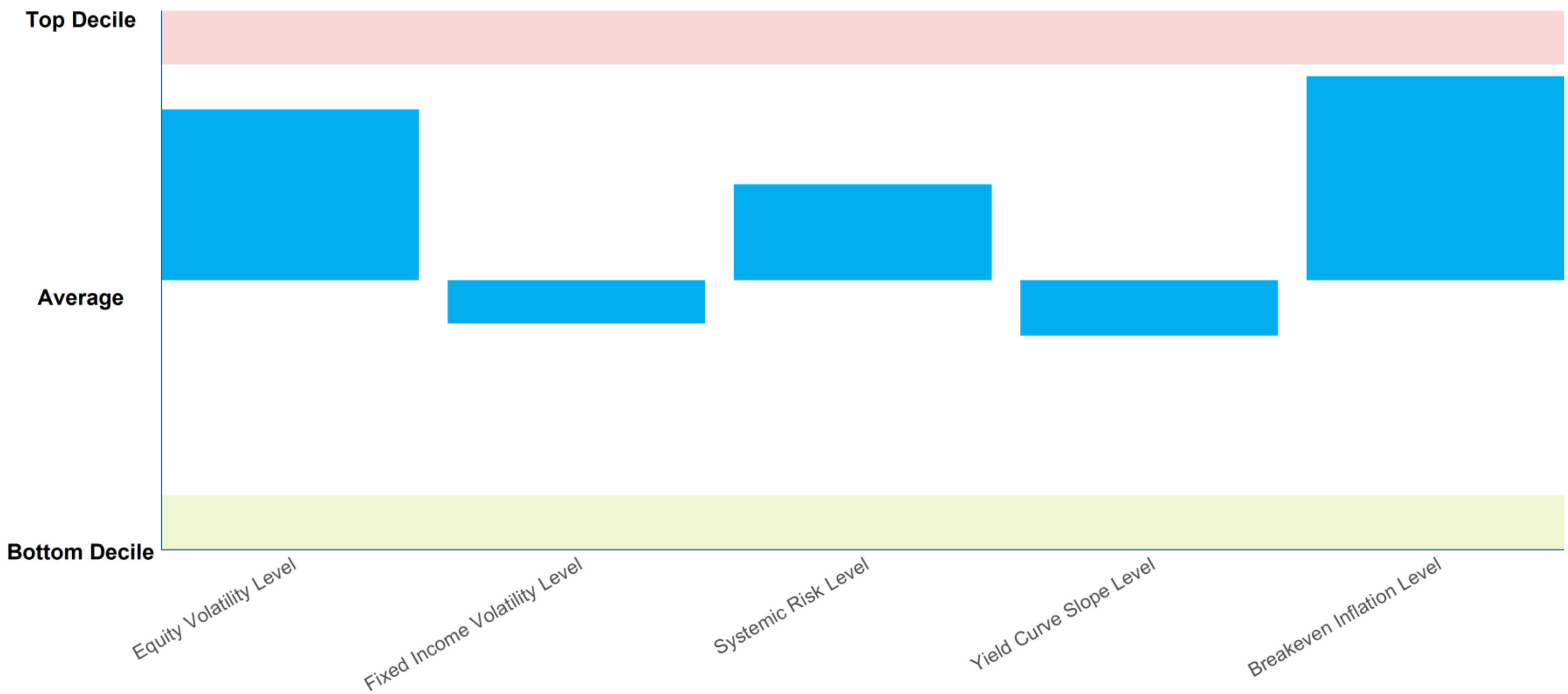
Risk Overview/Dashboard (1)
(As of January 31, 2022)[1]



- Dashboard (1) summarizes the current state of the different valuation metrics per asset class relative to their own history.

[1] With the exception of Private Equity Valuation, that is YTD as of December 31, 2020.

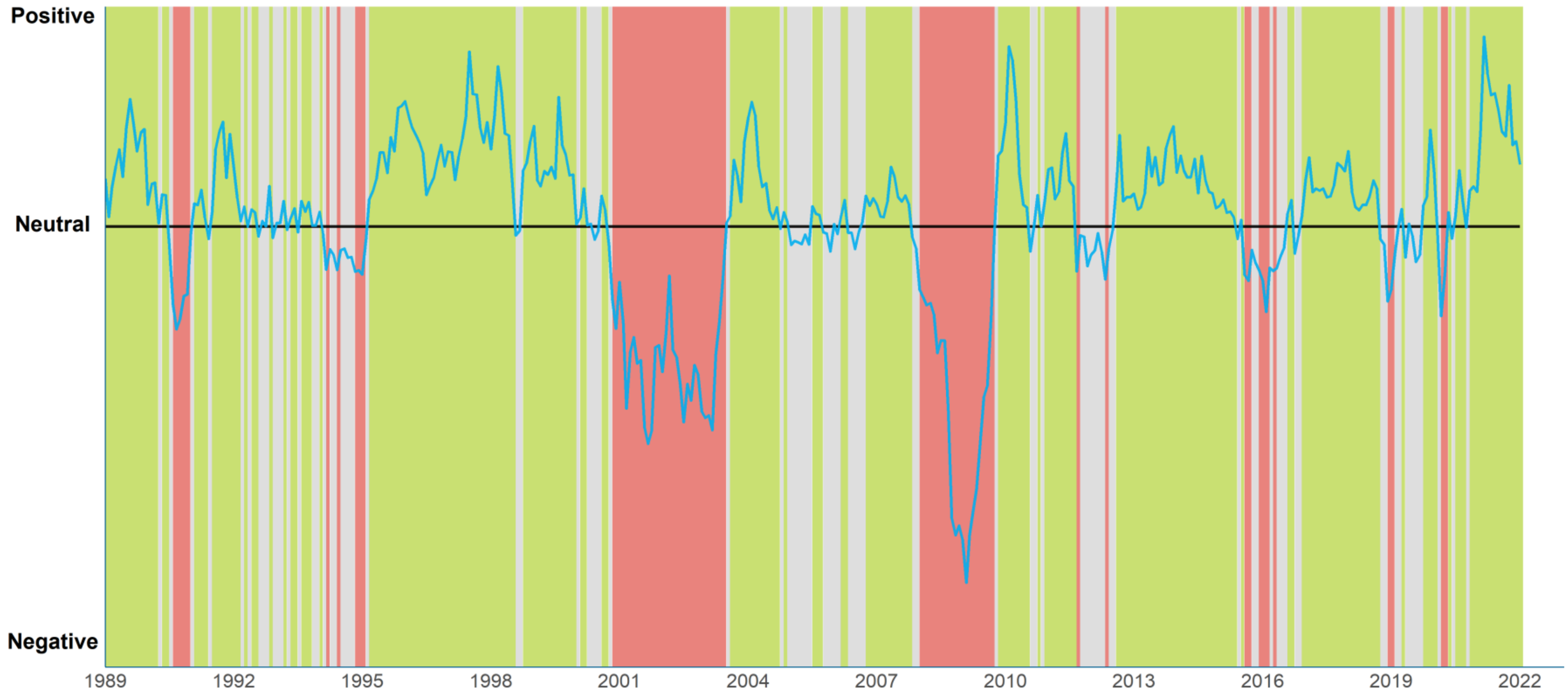
Risk Overview/Dashboard (2)
(As of January 31, 2022)



- Dashboard (2) shows how the current level of each indicator compares to its respective history.

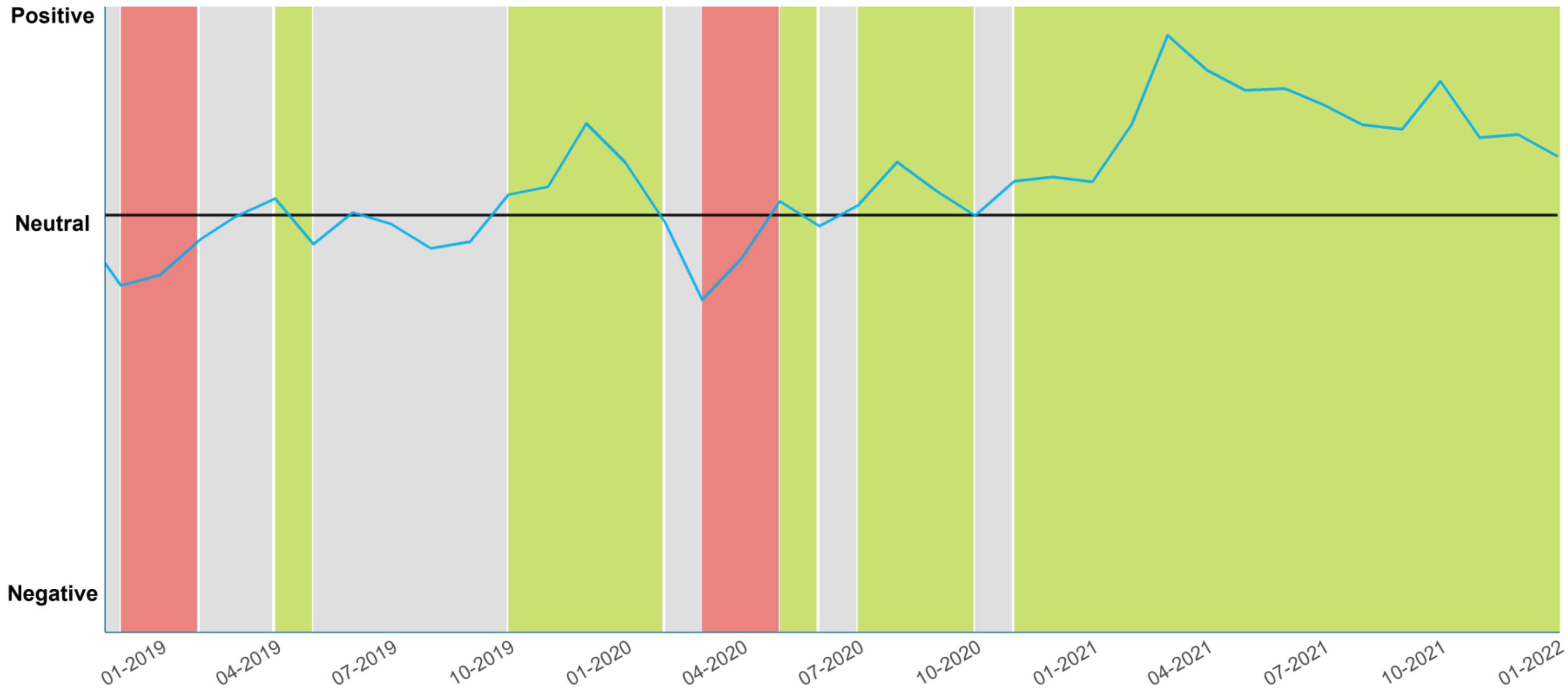
Market Sentiment Indicator (All History)

(As of January 31, 2022)

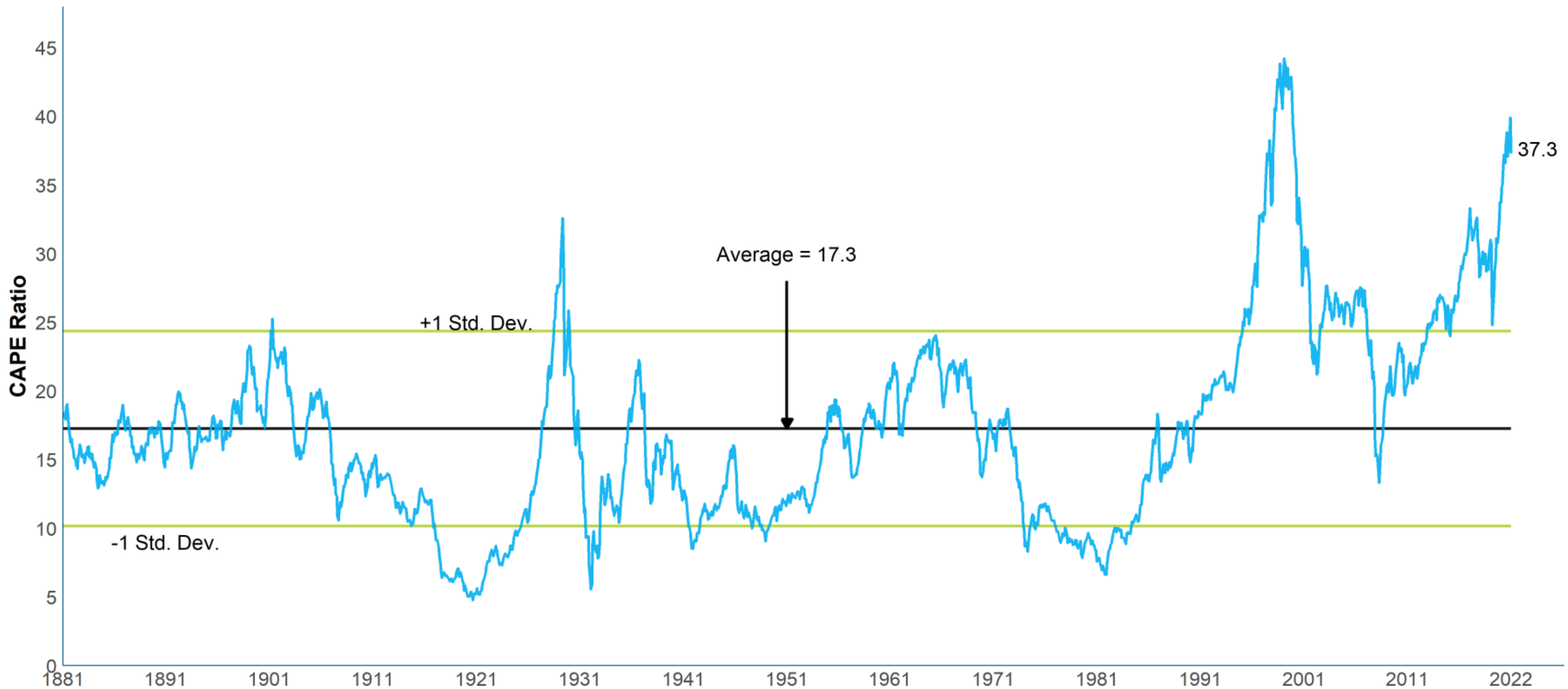


Market Sentiment Indicator (Last Three Years)

(As of January 31, 2022)



US Equity Cyclically Adjusted P/E[1]
(As of January 31, 2022)



- This chart details one valuation metric for US equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

[1] US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group.

Small Cap P/E vs. Large Cap P/E[1]
(As of January 31, 2022)

- This chart compares the relative attractiveness of small cap US equities vs. large cap US equities on a valuation basis. A higher (lower) figure indicates that large cap (small cap) is more attractive.

[1] Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month "as reported" earnings.

Growth P/E vs. Value P/E[1]

(As of January 31, 2022)

- This chart compares the relative attractiveness of US growth equities vs. US value equities on a valuation basis. A higher (lower) figure indicates that value (growth) is more attractive.

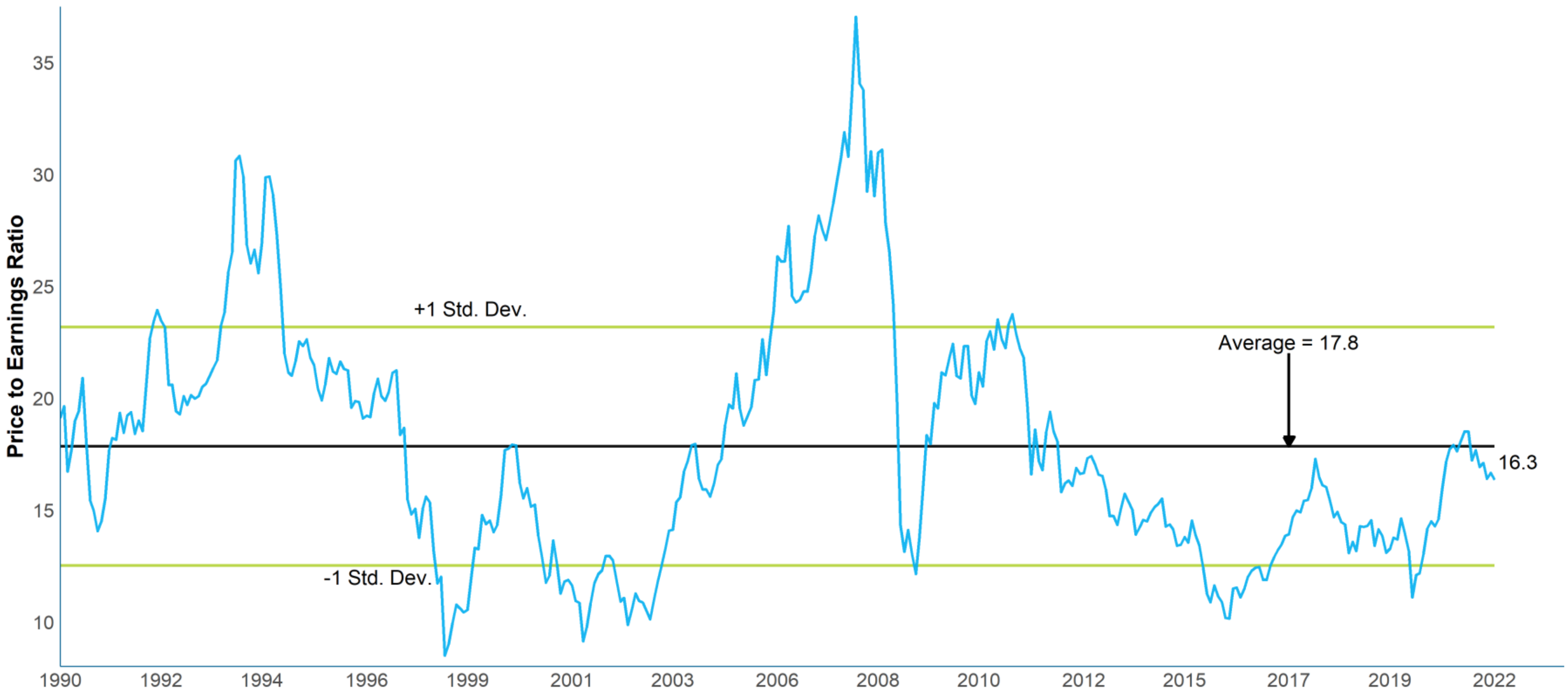
[1] Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.

Developed International Equity Cyclically Adjusted P/E[1]
(As of January 31, 2022)

- This chart details one valuation metric for developed international equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

[1] Developed International Equity (MSCI EAFE Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.

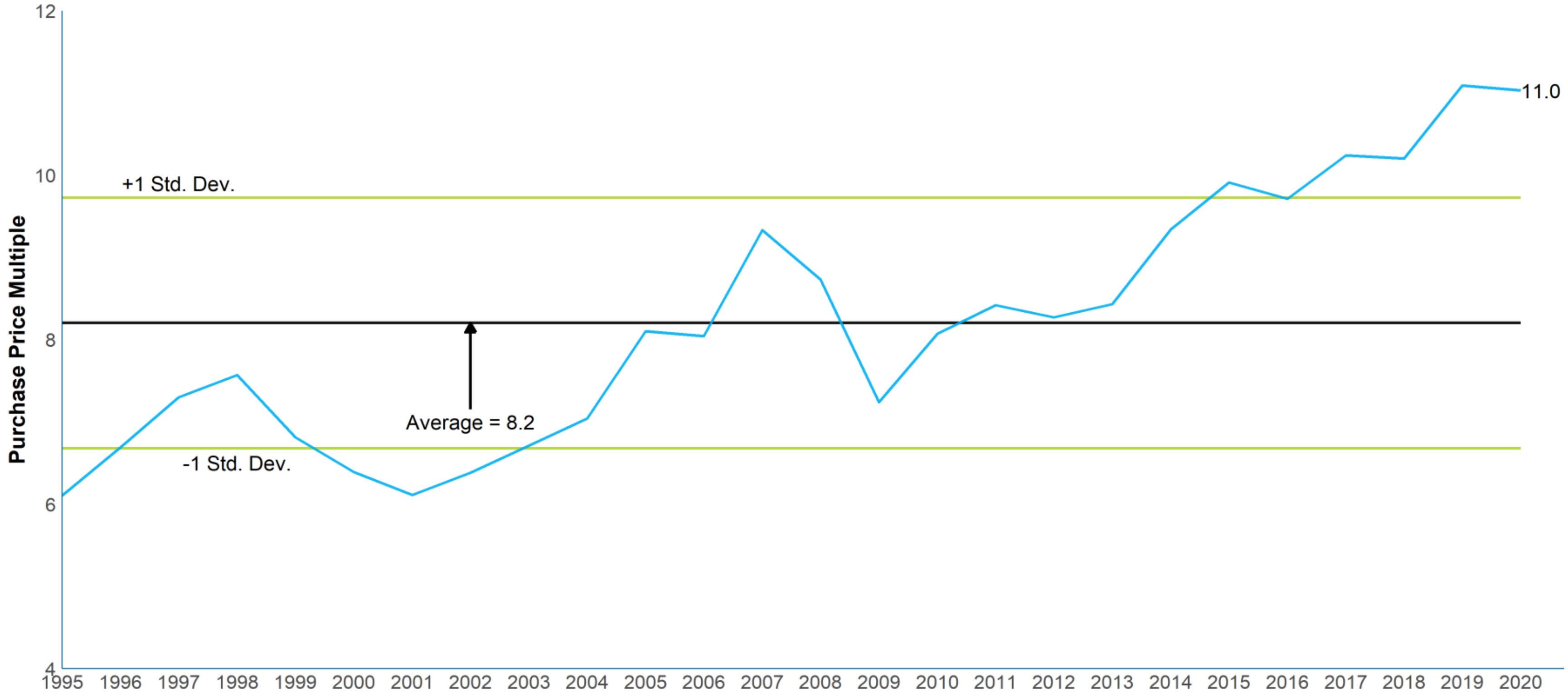
Emerging Market Equity Cyclically Adjusted P/E[1]
(As of January 31, 2022)



- This chart details one valuation metric for emerging markets equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

[1] Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.

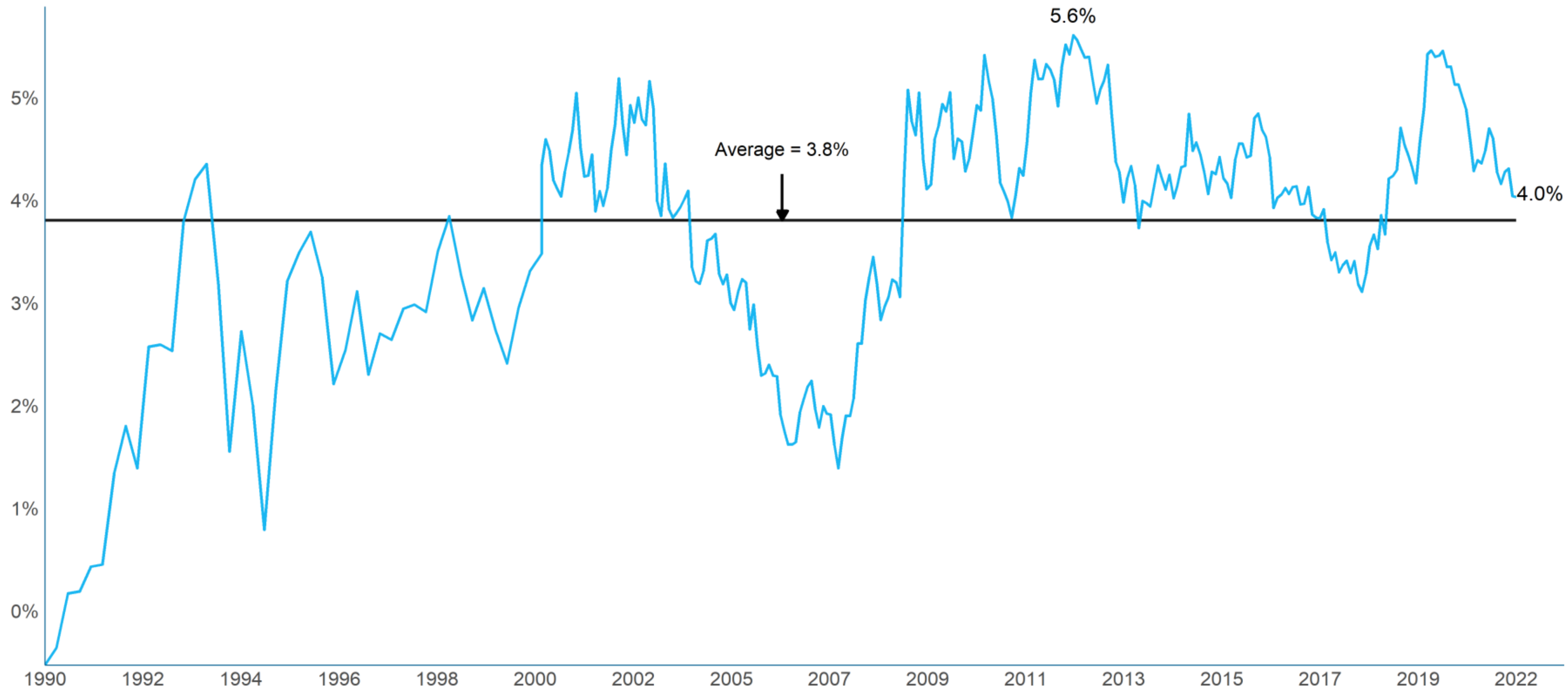
Private Equity Multiples[1]
(As of February 28, 2021)[2]



- This chart details one valuation metric for the private equity market. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

[1] Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.
[2] Annual Data, as of December 31, 2020

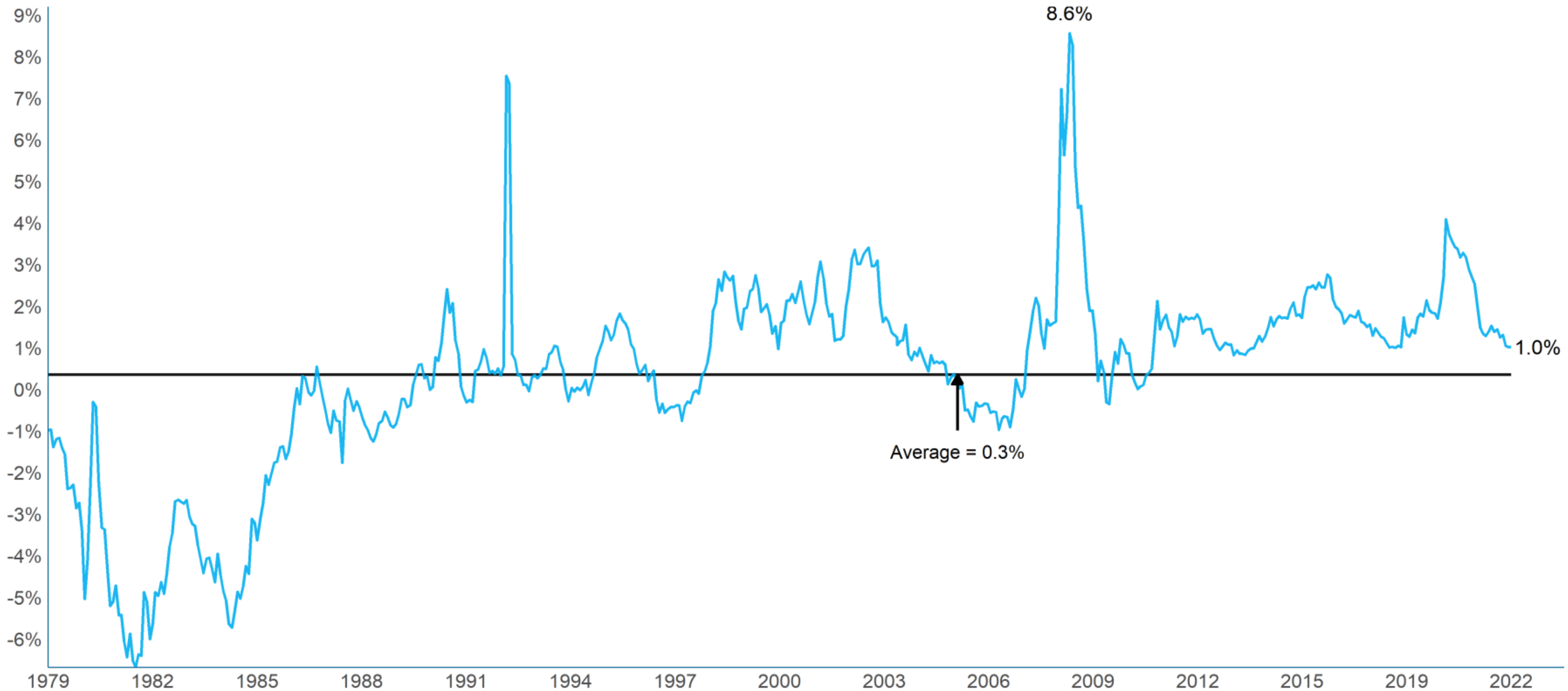
Core Real Estate Spread vs. Ten-Year Treasury[1]
(As of January 31, 2022)



- This chart details one valuation metric for the private core real estate market. A higher (lower) figure indicates cheaper (more expensive) valuation.

[1] Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.

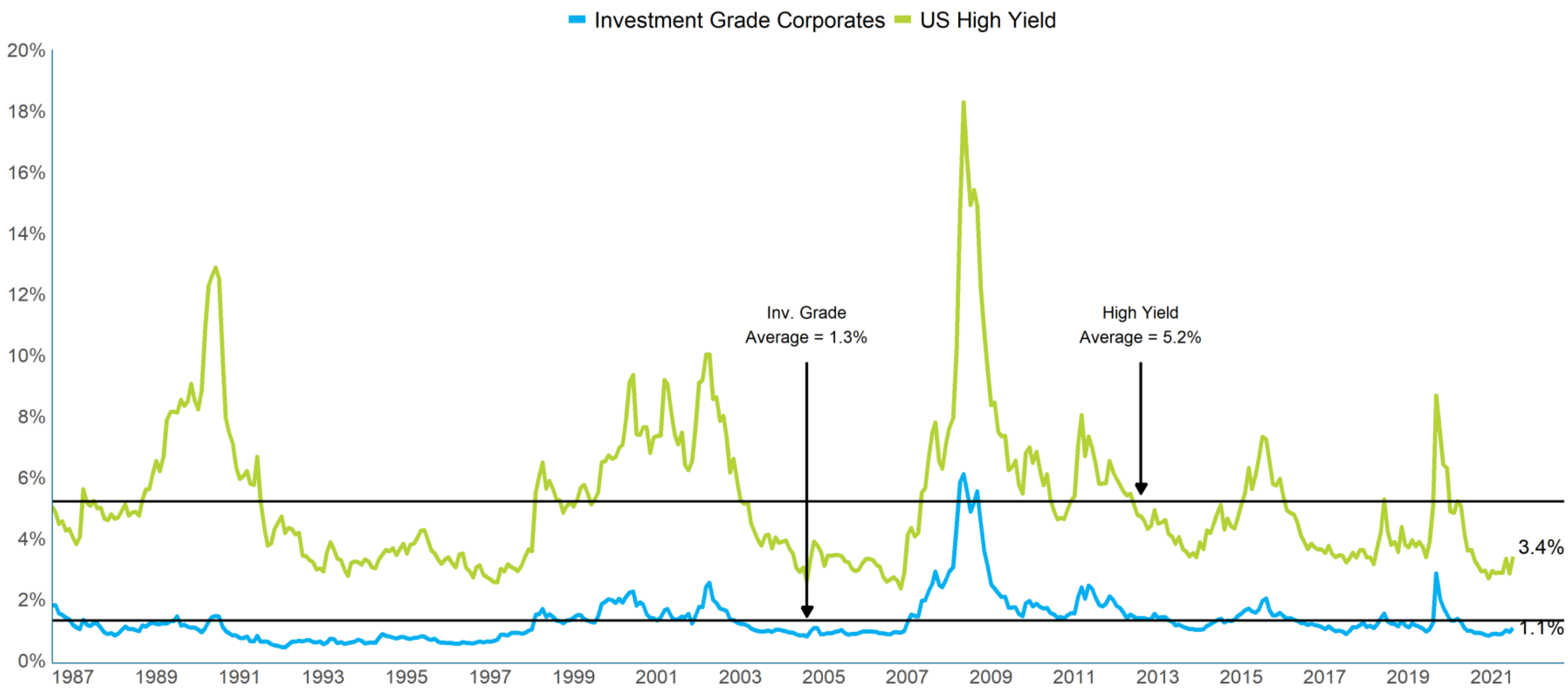
REITs Dividend Yield Spread vs. Ten-Year Treasury[1]
(As of January 31, 2022)



- This chart details one valuation metric for the public REITs market. A higher (lower) figure indicates cheaper (more expensive) valuation.

[1] REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.

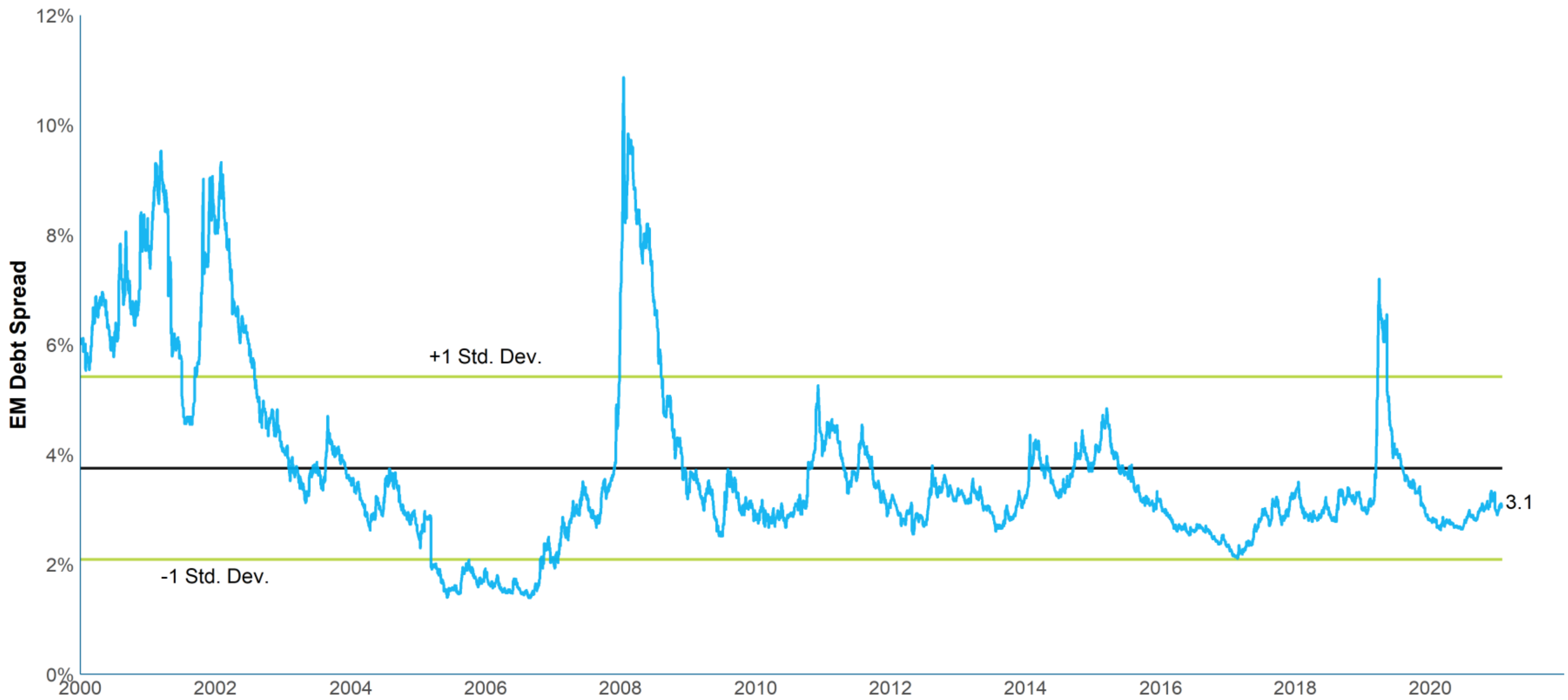
Credit Spreads[1]
(As of January 31, 2022)



- This chart details one valuation metric for the US credit markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

[1] Credit Spreads – Source: Bloomberg. High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year US Treasury yield.

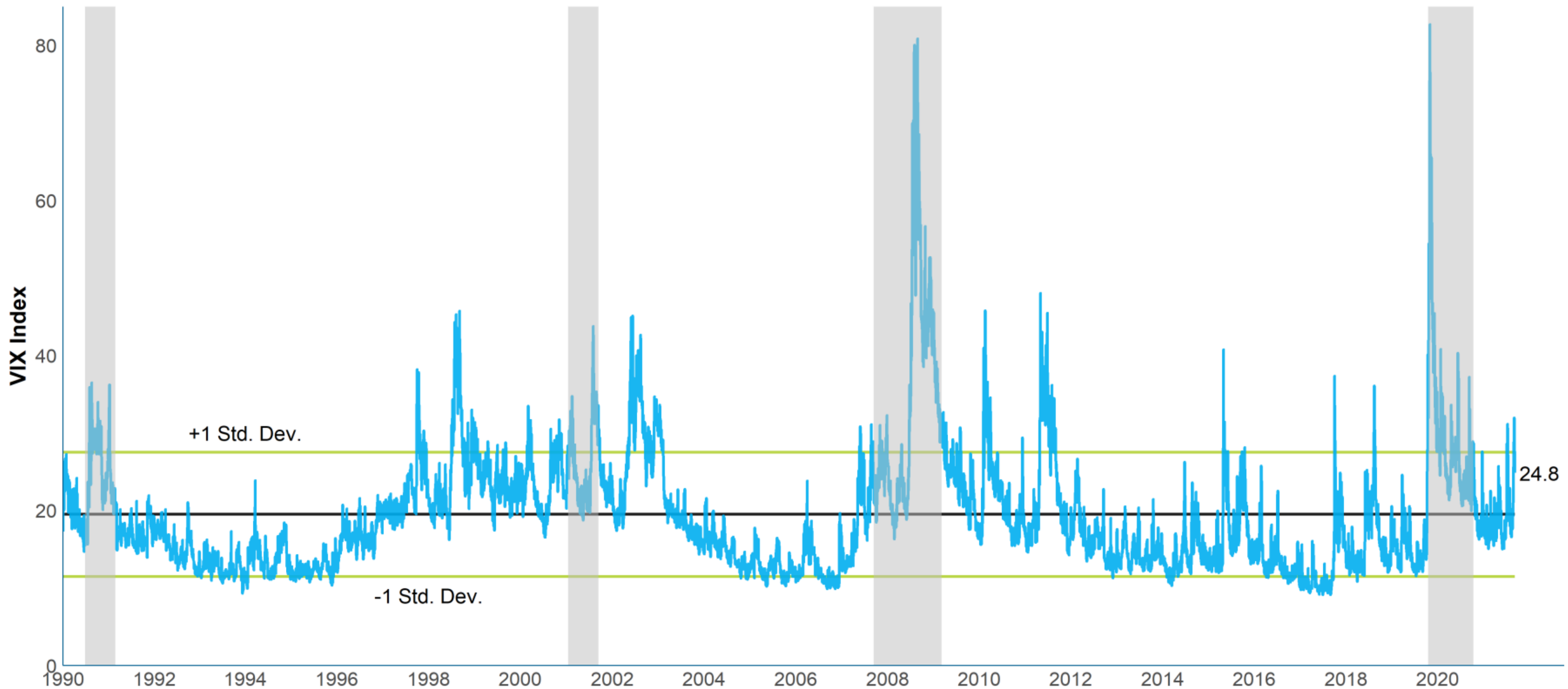
Emerging Market Debt Spreads[1]
(As of January 31, 2022)



- This chart details one valuation metric for the EM debt markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

[1] EM Spreads – Source: Bloomberg. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.

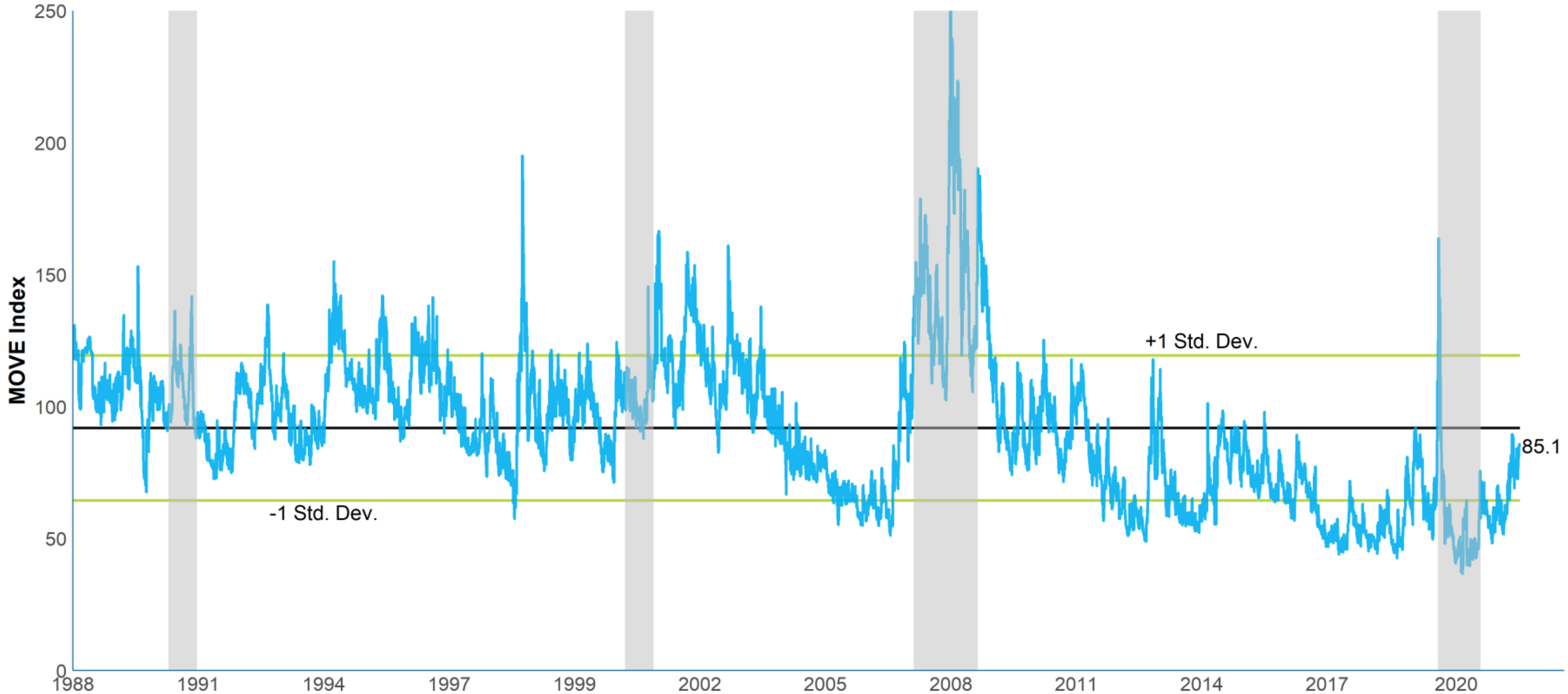
Equity Volatility[1]
(As of January 31, 2022)



- This chart details historical implied equity market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

[1] Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.

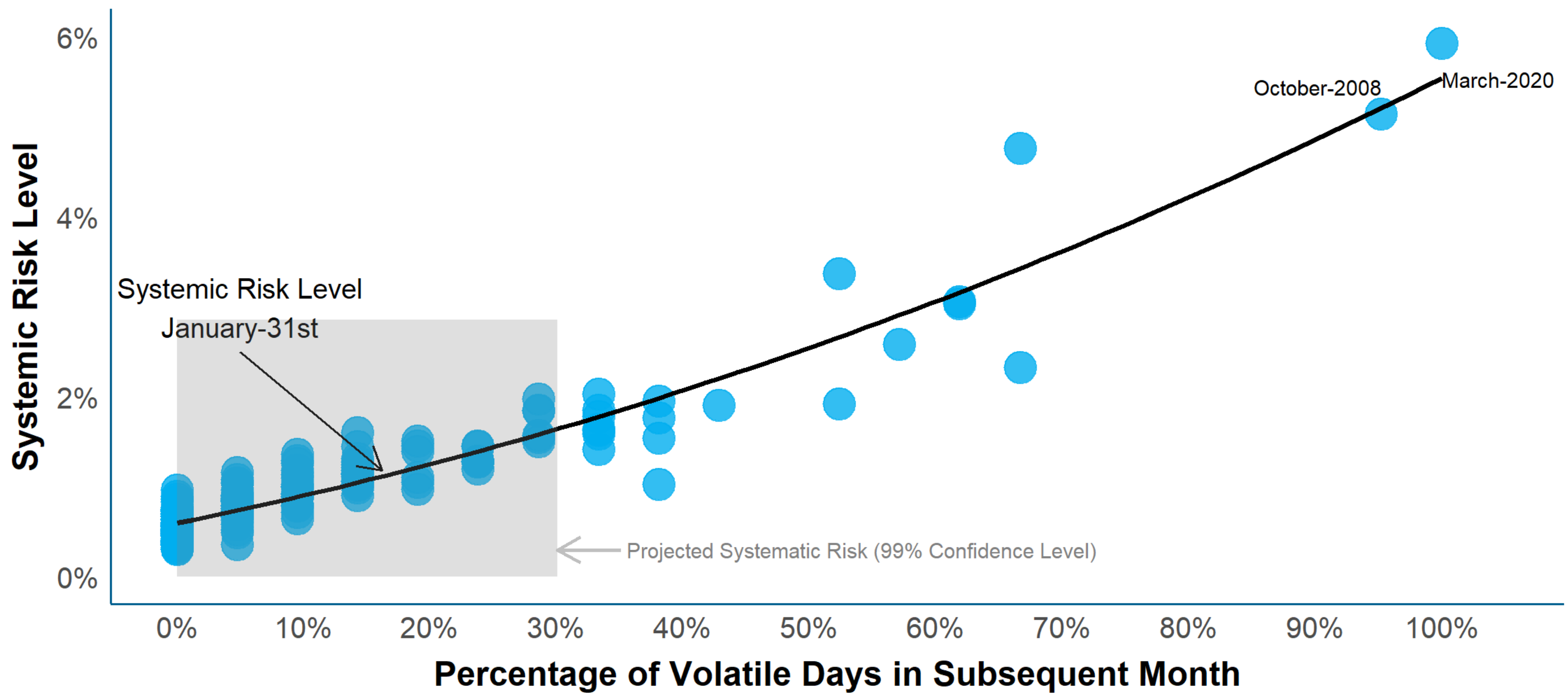
Fixed Income Volatility[1]
(As of January 31, 2022)



- This chart details historical implied fixed income market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

[1] Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Fixed Income Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.

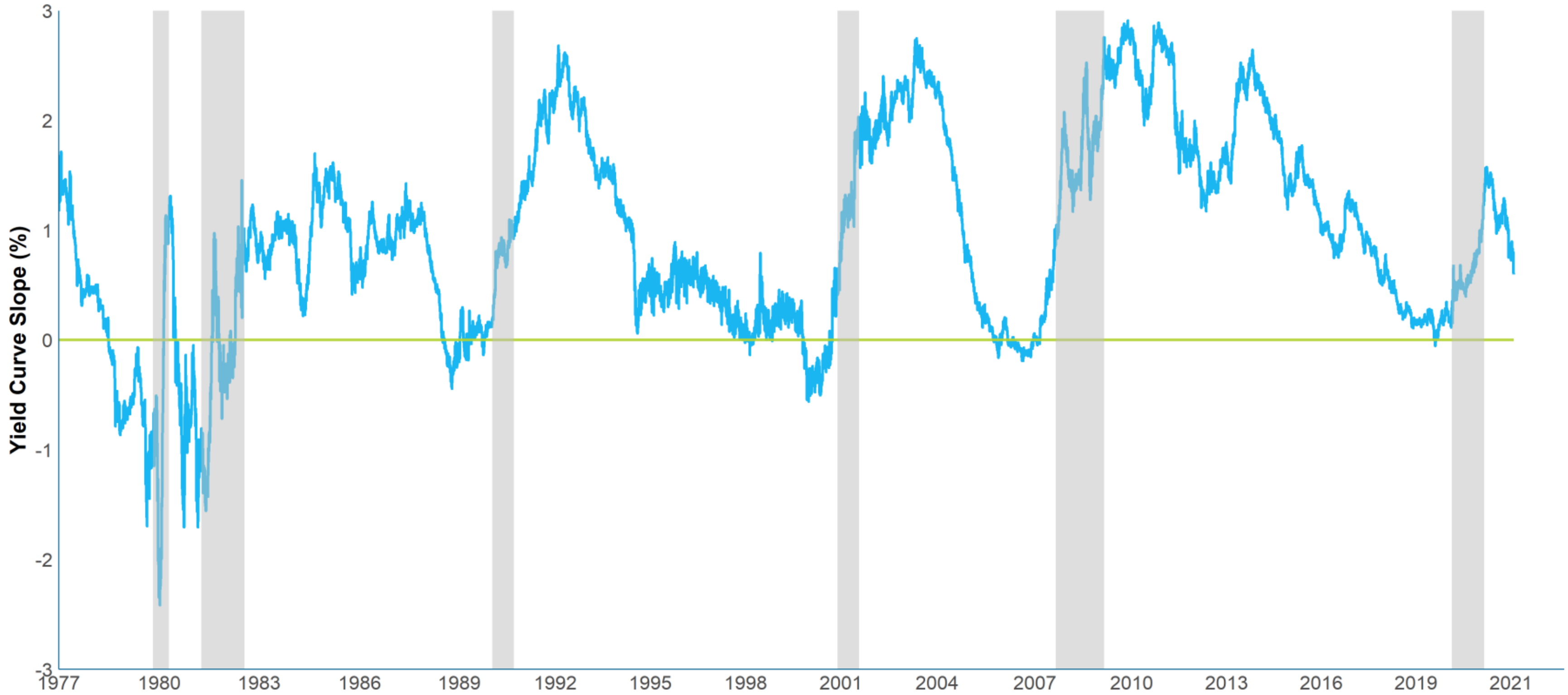
Systemic Risk and Volatile Market Days[1]
(As of January 31, 2022)



- Systemic Risk is a measure of 'System-wide' risk, which indicates herding type behavior.

[1] Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.

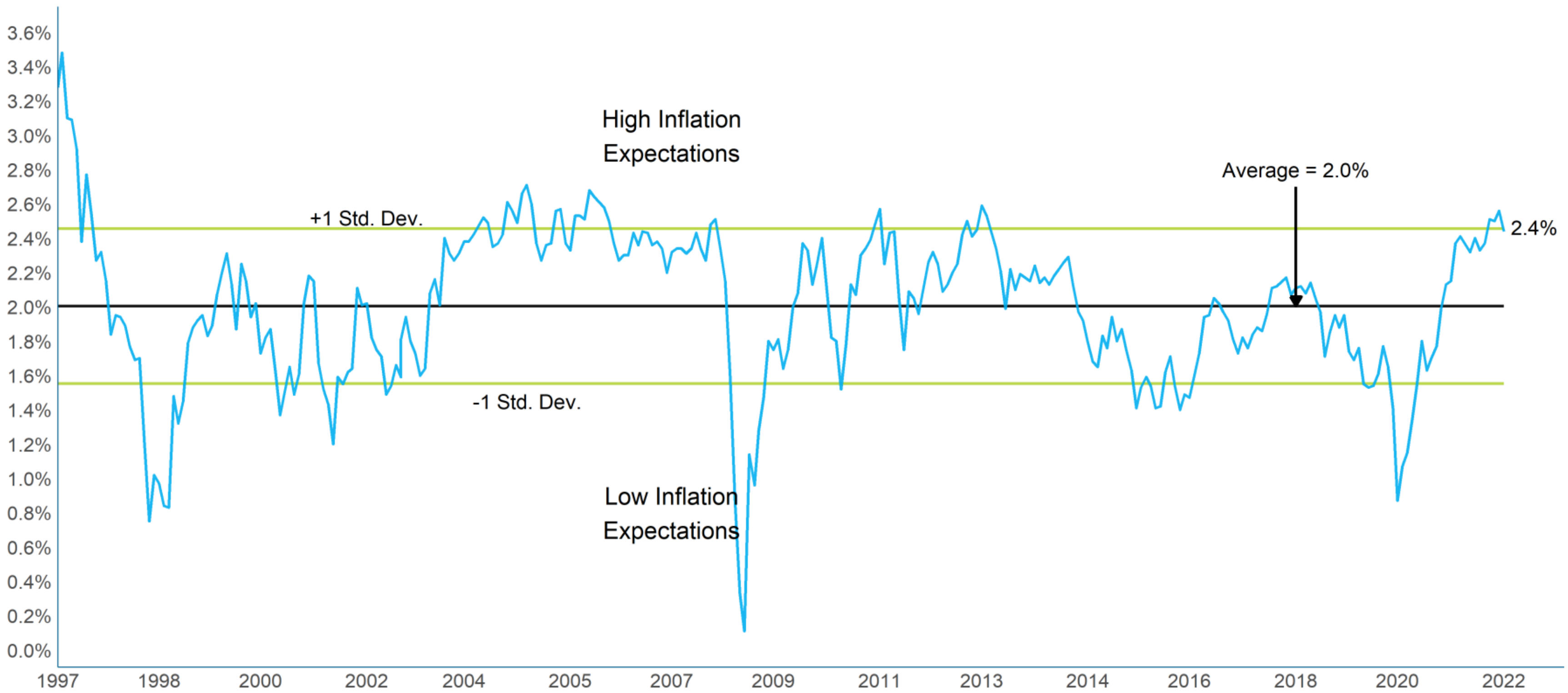
Yield Curve Slope (Ten Minus Two)[1]
(As of January 31, 2022)



- This chart details the historical difference in yields between ten-year and two-year US Treasury bonds/notes. A higher (lower) figure indicates a steeper (flatter) yield curve slope.

[1] Yield Curve Slope (Ten Minus Two) – Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.

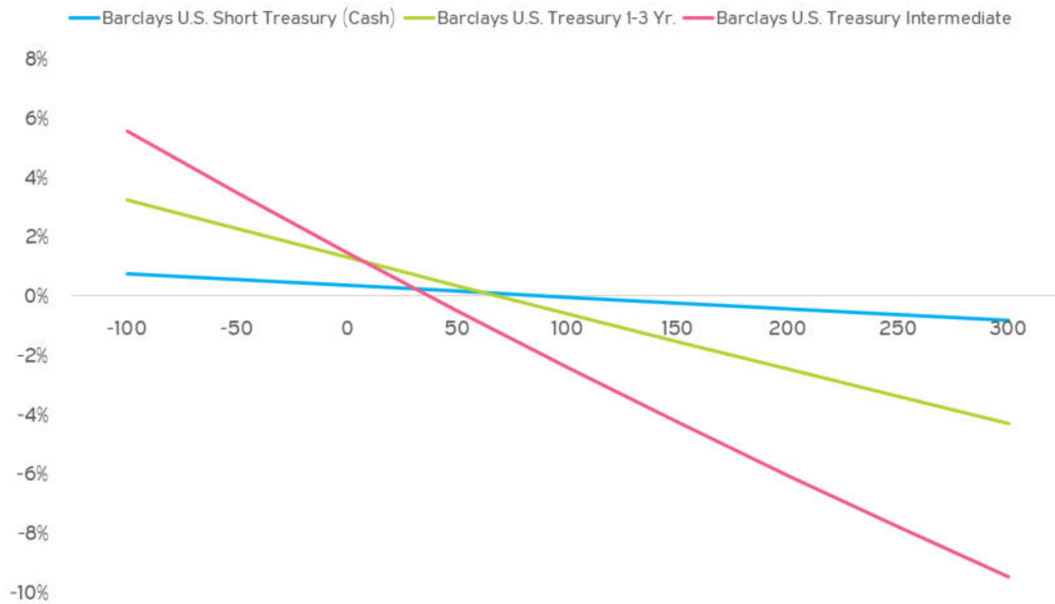
Ten-Year Breakeven Inflation[1]
(As of January 31, 2022)



- This chart details the difference between nominal and inflation-adjusted US Treasury bonds. A higher (lower) figure indicates higher (lower) inflation expectations.

[1] Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).

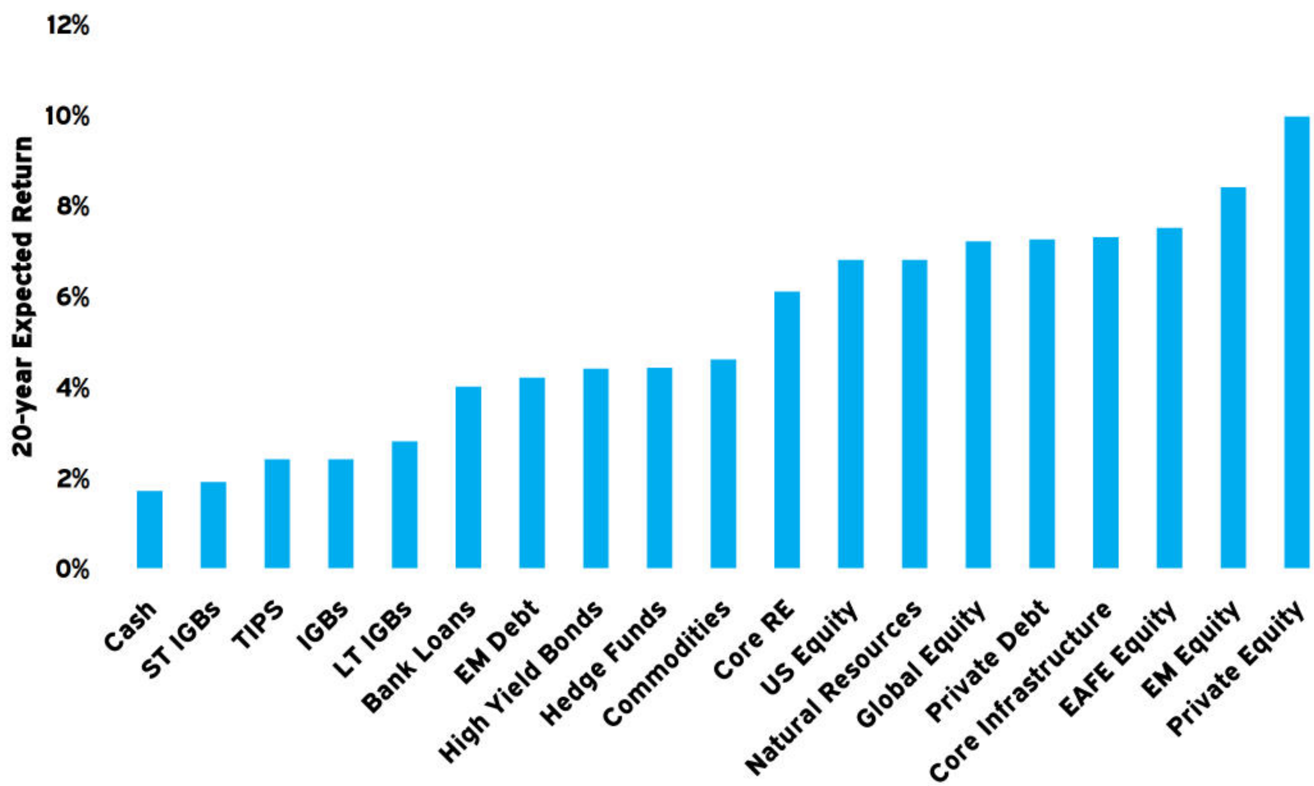
Total Return Given Changes in Interest Rates (bps)[1]
(As of January 31, 2022)



	Total Return for Given Changes in Interest Rates (bps)									Statistics	
	-100	-50	0	50	100	150	200	250	300	Duration	YTW
Barclays US Short Treasury (Cash)	0.7%	0.5%	0.3%	0.1%	-0.1%	-0.3%	-0.4%	-0.6%	-0.8%	0.40	0.34%
Barclays US Treasury 1-3 Yr.	3.2%	2.2%	1.3%	0.3%	-0.6%	-1.6%	-2.5%	-3.4%	-4.3%	1.92	1.28%
Barclays US Treasury Intermediate	5.5%	3.5%	1.4%	-0.5%	-2.4%	-4.3%	-6.1%	-7.8%	-9.5%	3.99	1.44%
Barclays US Treasury Long	22.5%	11.8%	2.1%	-6.5%	-14.1%	-20.6%	-26.1%	-30.6%	-34.1%	18.29	2.14%

[1] Data represents the expected total return from a given change in interest rates (shown in basis points) over a 12-month period assuming a parallel shift in rates. Source: Bloomberg, and Meketa Investment Group.

Long-Term Outlook – 20-Year Annualized Expected Returns[1]



- This chart details Meketa's long-term forward-looking expectations for total returns across asset classes.

[1] Source: Meketa Investment Group's 2022 Annual Asset Study.

Appendix

Data Sources and Explanations[1]

- US Equity Cyclically Adjusted P/E on S&P 500 Index – Source: Robert Shiller and Yale University.
- Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month "as reported" earnings.
- Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.
- Developed International Equity (MSCI EAFE) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.
- Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.
- Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.
- Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.

[1] All Data as of January 31, 2022, unless otherwise noted.

Appendix

Data Sources and Explanations[1]

- REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.
- Credit Spreads – Source: Bloomberg High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index.
  - Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year Treasury Yield.
- EM Debt Spreads – Source: Bloomberg, and Meketa Investment Group. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.
- Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.
- Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.
- Systemic Risk and Volatile Market Days – Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.
- Systemic Risk, which measures risk across markets, is important because the more contagion of risk that exists between assets, the more likely it is that markets will experience volatile periods.

[1] All Data as of January 31, 2022, unless otherwise noted.

Appendix

Data Sources and Explanations[1]

- Yield Curve Slope (Ten Minus Two) – Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.
- Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).

[1] All Data as of January 31, 2022, unless otherwise noted.

Meketa Market Sentiment Indicator

Explanation, Construction and Q&A

Meketa has created the MIG Market Sentiment Indicator (MIG-MSI) to complement our valuation-focused Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long-lived market trends of economic growth risk, either towards a risk-seeking trend or a risk-aversion trend.

This appendix explores:

- What is the Meketa Market Sentiment Indicator?
- How do I read the indicator graph?
- How is the Meketa Market Sentiment Indicator constructed?
- What do changes in the indicator mean?

Meketa has created a market sentiment indicator for monthly publication (the MIG-MSI – see below) to complement Meketa's Risk Metrics.

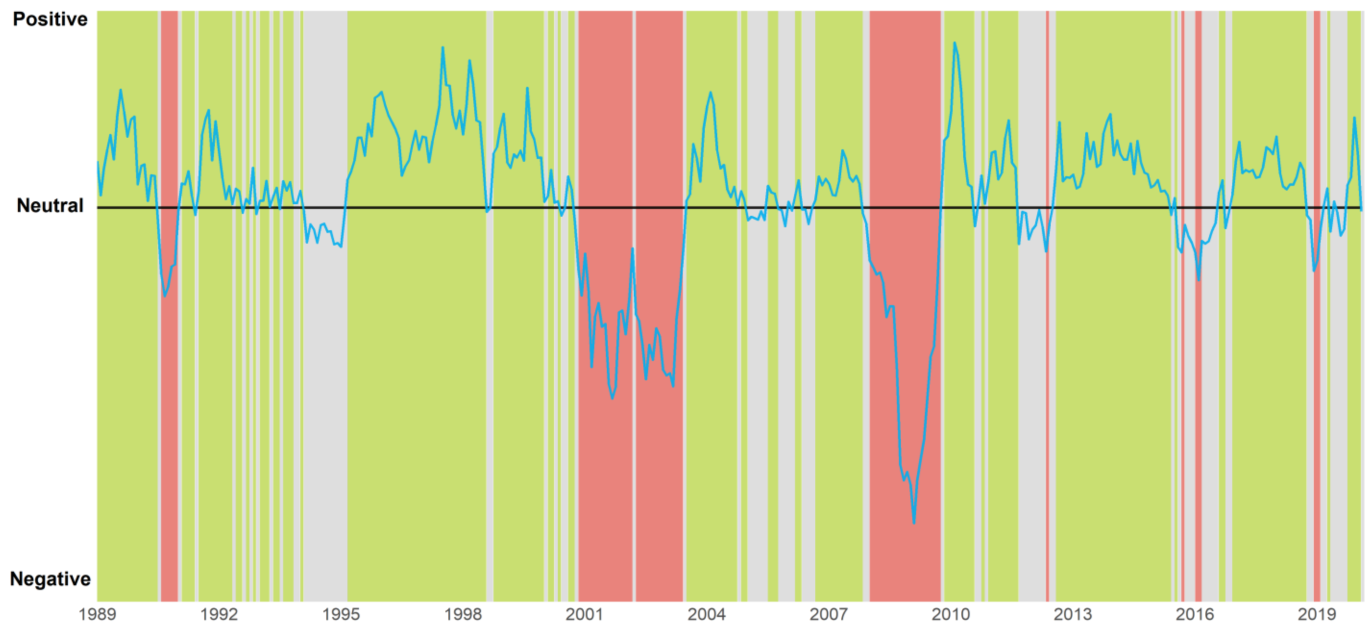
- Meketa's Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market correction take place. The MIG-MSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation-based concerns. Once the MIG-MSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, Meketa believes the Risk Metrics and MIG-MSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the Meketa MIG-MSI:

What is the Meketa Market Sentiment Indicator (MIG-MSI)?

- The MIG-MSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets and is the largest risk exposure that most portfolios bear. The MIG-MSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

How do I read the Meketa Market Sentiment Indicator graph?

- Simply put, the MIG-MSI is a color-coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the MIG-MSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the MIG-MSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.
- Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



How is the Meketa Market Sentiment Indicator (MIG-MSI) Constructed?

- The MIG-MSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:
  - Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months).
  - Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration US Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight).
  - Both measures are converted to Z-scores and then combined to get an "apples to apples" comparison without the need of re-scaling.
- The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure[1]. The color reading on the graph is determined as follows:
  - If both stock return momentum and bond spread momentum are positive = GREEN (positive).
  - If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive).
  - If both stock return momentum and bond spread momentum are negative = RED (negative).

[1] Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.
"Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010. *http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf*

What does the Meketa Market Sentiment Indicator (MIG-MSI) mean? Why might it be useful?

- There is strong evidence that time series momentum is significant and persistent. Across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12-month period. The MIG-MSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

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MEKETA INVESTMENT GROUP

San Joaquin County Employees' Retirement Association ("SJCERA")

February 11, 2022

2022 Capital Markets Expectations

Setting Capital Market Expectations

- Capital Markets Expectations are the inputs needed to conduct MVO.
  - MVO is the traditional starting point for determining asset allocation.
- Consultants (including Meketa) generally set them once a year.
  - Our results are published in January, based on December 31 data.
- This involves setting long-term expectations for a variety of asset classes for:
  - Returns
  - Standard Deviation
  - Correlations (i.e., covariance)
- Our process relies on both quantitative and qualitative methodologies.

Asset Class Definitions

- We identify asset classes and strategies that are appropriate for long-term allocation of funds, and that also are investable.
- Several considerations influence this process:
  - Unique return behavior,
  - Observable historical track record,
  - A robust market,
  - And client requests.
- We then make forecasts for each asset class.
  - We created inputs for 97 “asset classes” in 2022.

Building 10-year forecasts

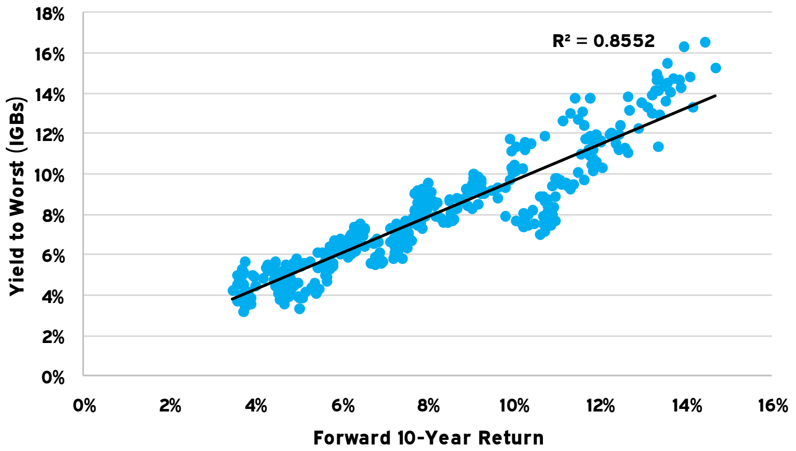
- Our first step is to develop 10-year forecasts based on fundamental models.
  - Each model is based on the most important factors that drive returns for that asset class:

Asset Class Category	Major Factors
Equities	Dividend Yield, GDP Growth, Valuation
Bonds	Yield to Worst, Default Rate, Recovery Rate
Commodities	Collateral Yield, Roll Yield, Inflation
Infrastructure	Public IS Valuation, Income, Growth
Natural Resources	Price per Acre, Income, Public Market Valuation
Real Estate	Cap Rate, Yield, Growth
Private Equity	EBITDA Multiple, Debt Multiple, Public VC Valuation
Hedge Funds and Other	Leverage, Alternative Betas

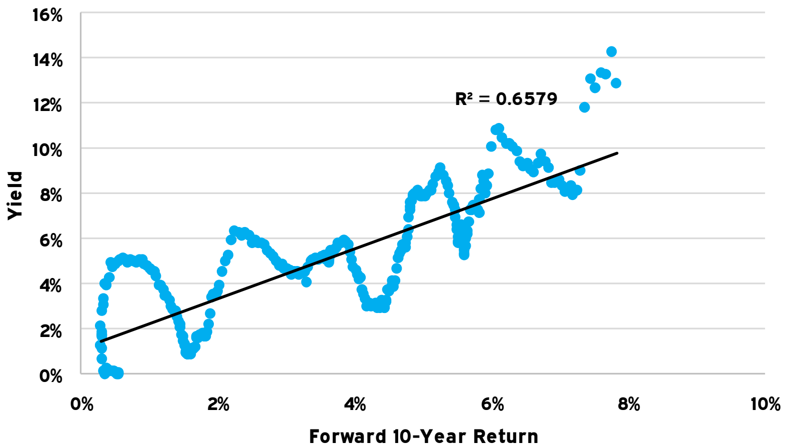
  - The common components are income, growth, and valuation.

Some factors are naturally more predictive than others

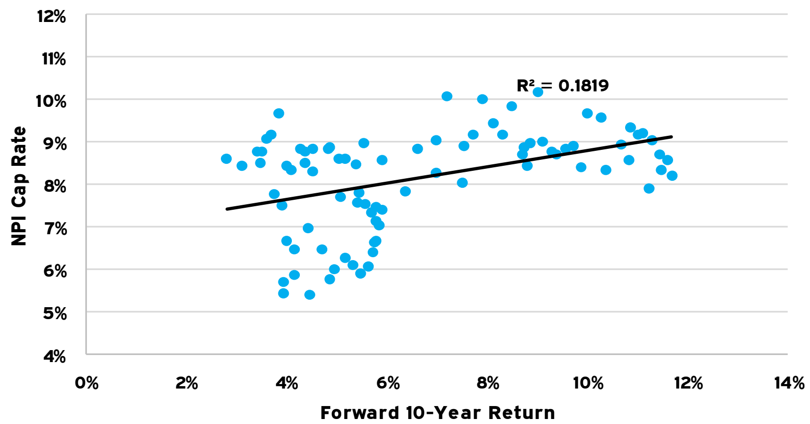
Investment Grade Bonds
Yield to Worst vs. Forward 10-Year Returns



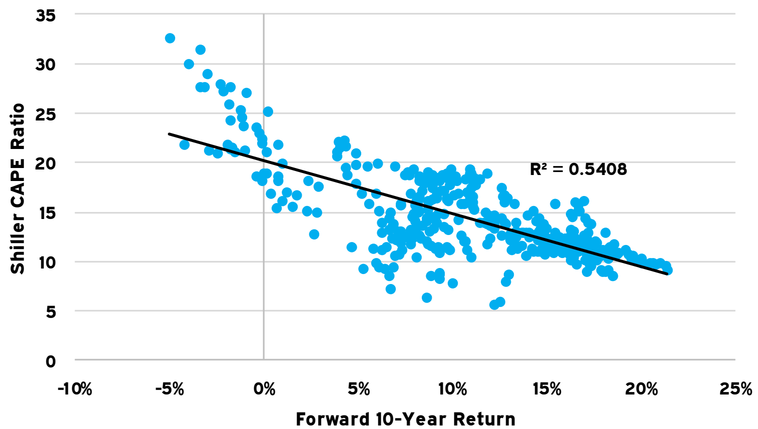
Cash (90-day T-Bill)
Yield vs. Forward 10-Year Returns



Core Real Estate
Cap Rates vs. Forward 10-Year Returns



US Equities
Shiller CAPE vs. Forward 10-Year Returns



10-year Model Example: Equities

- We use a fundamental model for equities that combines income and capital appreciation.

E(R)=Dividend Yield + Expected Earnings Growth + Multiple Effect + Currency Effect

- Meketa Investment Group evaluates historical data statistically to develop expectations for dividend yield, earnings growth, the multiple effect and currency effect.
- Our models assume that there is a reversion toward mean pricing over this timeframe.

10-year Model Example: Bonds

- The short version for investment grade bond models is:

  E(R)=Current YTW (yield to worst)

- Our models assume that there is a reversion to the mean for spreads (though not yields).
- For TIPS, we add the real yield of the TIPS index to the breakeven inflation rate.
- As with equities, we make currency adjustments when necessary for foreign bonds.
- For bonds with credit risk, Meketa Investment Group estimates default rates and loss rates in order to project an expected return:

  E(R)= YTW - (Annual Default Rate × Loss Rate)

Moving from 10-year to 20-year Forecasts

- Our next step is to combine our 10-year forecasts with projections for years 11-20 for each asset class.
- We use a risk premia approach to forecast 10-year returns in ten years (i.e., years 11-20).
  - We start with an assumption (market informed, such as the 10-year forward rate) for what the risk free rate will be in ten years,
  - We then add a risk premia for each asset class.
  - We use historical risk premia as a guide, but many asset classes will differ from this, especially if they have a shorter history.
  - We seek consistency with finance theory (i.e., riskier assets will have a higher risk premia assumption).
- Essentially, we assume mean-reversion over the first ten years (where appropriate), and consistency with CAPM thereafter.
- The final step is to make any qualitative adjustments.
  - The Investment Policy Committee reviews the output and may make adjustments.

The other inputs: standard deviation and correlation

- Standard deviation:
  - We review the trailing fifteen-year standard deviation, as well as skewness.
  - Historical standard deviation serves as the base for our assumptions.
  - If there is a negative skew, we increased the volatility assumption based on the size of the historical skewness.

Asset Class	Historical Standard Deviation (%)	Skewness	Assumption (%)
Bank Loans	7.7	-2.7	10.0
FI/L-S Credit	6.8	-2.5	9.0

  - We also adjust for private market asset classes with “smoothed” return streams.
- Correlation:
  - We use trailing fifteen-year correlations as our guide.
  - Again, we make adjustments for “smoothed” return streams.
- Most of our adjustments are conservative in nature (i.e., they increase the standard deviation and correlation).

Comparing the Results from 2022 to 2021

Rate Sensitive

	2022 E(R) (%)	2021 E(R) (%)	Δ From 2021 (%)	Notes
Cash Equivalents	1.7	1.1	0.6	higher future yields expected
Short-term Investment Grade Bonds	1.9	1.3	0.6	higher future yields
Investment Grade Bonds	2.4	1.8	0.6	higher yields
Intermediate Government Bonds	1.9	1.4	0.5	higher yields
Long-term Government Bonds	2.8	2.5	0.3	higher yields offset by losses from future rate increases
Mortgage Backed Securities	2.5	1.8	0.7	higher yields
Investment Grade Corporate Bonds	3.0	2.3	0.7	higher yields
Long-term Corporate Bonds	3.7	3.2	0.5	higher yields
Short-term TIPS	1.9	1.4	0.5	higher inflation expectations
TIPS	2.4	1.8	0.6	higher inflation expectations & higher real yields
Long-term TIPS	3.2	2.9	0.3	higher inflation expectations
Global ILBs	2.3	1.9	0.4	higher future yields
Foreign Bonds	2.3	1.7	0.6	higher yields
US Inflation	*2.2*	*2.1*	*0.1*	*Higher economist and market projections*

Credit

	2022 E(R) (%)	2021 E(R) (%)	Δ From 2021 (%)	Notes
High Yield Bonds	4.4	4.2	0.2	higher yields partly offset by tighter spreads
Higher Quality High Yield	4.2	3.8	0.4	higher yields partly offset by tighter spreads
Bank Loans	4.0	4.0	0.0	higher prices and tighter spreads
Collateralized Loan Obligations(CLOs)	4.2	4.2	0.0	higher prices/lower yields
Emerging Market Bonds (major)	4.2	3.7	0.5	higher yields
Emerging Market Bonds (local)	4.6	3.9	0.7	higher yields
Private Debt	7.3	6.8	0.5	higher yields
Direct Lending	7.1	6.7	0.4	higher yields
Specialty Finance	7.3	NA	NA	*New asset class*
Mezzanine Debt	7.2	6.9	0.3	higher yields
Distressed Debt	7.7	7.0	0.7	higher yields

Equities

	2022 E(R) (%)	2021 E(R) (%)	Δ From 2021 (%)	Notes
US Equity	6.8	6.8	0.0	higher earnings offset by higher prices
US Small Cap	7.4	7.1	0.3	
Developed Non-US Equity	7.5	7.1	0.4	lower earnings growth offset by lower prices
Dev. Non-US Small Cap	7.4	7.0	0.4	
Emerging Market Equity	8.4	8.1	0.3	lower earnings growth offset by lower prices & higher dividends
Emerging Market Small Cap	8.2	8.2	0.0	
Frontier Market Equity	8.7	8.9	-0.2	lower earnings growth and higher prices
Global Equity	7.2	7.1	0.1	lower earnings mostly offset by lower prices
Low Volatility Equity	6.5	6.4	0.1	
Private Equity	10.0	9.1	0.9	
Buyouts	9.8	9.0	0.8	Higher earnings and multiples have not expanded as much as public markets
Growth Equity	10.1	NA	NA	*New asset class*
Venture Capital	10.3	9.6	0.7	Higher earnings and pricing has not expanded as much as public markets

Comparing the Results from 2022 to 2021

Real Estate & Infrastructure

	2022 E(R) (%)	2021 E(R) (%)	Δ From 2021 (%)	Notes
Real Estate	7.4	6.9	0.5	lower REIT yields, slightly less attractive pricing in private markets
REITs	7.1	7.2	-0.1	lower REIT yields
Core Private Real Estate	6.1	5.5	0.6	Flat cap rates offset by higher future rates
Value-Added Real Estate	8.1	7.7	0.4	slightly less attractive pricing offset by higher future rates
Opportunistic Real Estate	9.6	9.2	0.4	slightly less attractive pricing offset by higher future rates
Infrastructure	7.7	*NA*	*NA*	*New aggregate*
Infrastructure (Public)	7.4	7.4	0.0	worse pricing (depending on the index)
Infrastructure (Core Private)	7.3	7.0	0.3	slightly more expensive offset by higher future rates
Infrastructure (Non-Core Private)	9.3	9.0	0.3	slightly more expensive offset by higher future rates

Natural Resources & Commodities

	2022 E(R) (%)	2021 E(R) (%)	Δ From 2021 (%)	Notes
Natural Resources (Public)	7.7	7.3	0.4	strong earnings rebound but questions about the future
Natural Resources (Private)	8.5	8.3	0.2	higher prices offset by higher real income
Energy	8.9	9.0	-0.1	more expensive
Mining	8.5	8.2	0.3	more expensive offset by and higher future rates
Timberland	6.8	6.3	0.5	slightly higher real income and higher future rates
Farmland	7.2	6.6	0.4	slightly higher real income and higher future rates
Sustainability	9.3	8.8	0.5	and higher future rates
Gold Mining	8.2	7.9	0.3	mining slightly more expensive
Gold (Metal)	2.8	2.3	0.5	higher inflation expectations
Commodities	4.6	3.7	0.9	higher cash yield and inflation expectations

Alternative Strategies (Other)

	2022 E(R) (%)	2021 E(R) (%)	Δ From 2021 (%)	Notes
Hedge Funds	4.4	4.3	0.1	revised to include CTAs & adjusted current asset weights
Long-Short	4.1	3.8	0.3	higher cash yield
Event Driven	5.2	4.9	0.3	higher cash and distressed debt yields
Global Macro	5.0	4.3	0.7	higher yields
CTA – Trend Following	4.8	4.7	0.1	assuming lower signal benefits (due to arbitrage)
Fixed Income/L-S Credit	3.8	3.4	0.4	higher yields offset by tighter spreads
Relative Value/Arbitrage	5.1	4.6	0.5	steeper curve for carry trade offset by lower convert arb yields
Insurance Linked Strategies	5.0	4.6	0.4	higher coupon offset by higher expected loss
Risk Parity (10% vol)	5.2	4.0	1.2	higher yields and leverage
TAA	4.5	4.1	0.4	higher yields
Alternative Risk Premia	4.6	4.1	0.5	higher cash yield

2021 Peer Survey

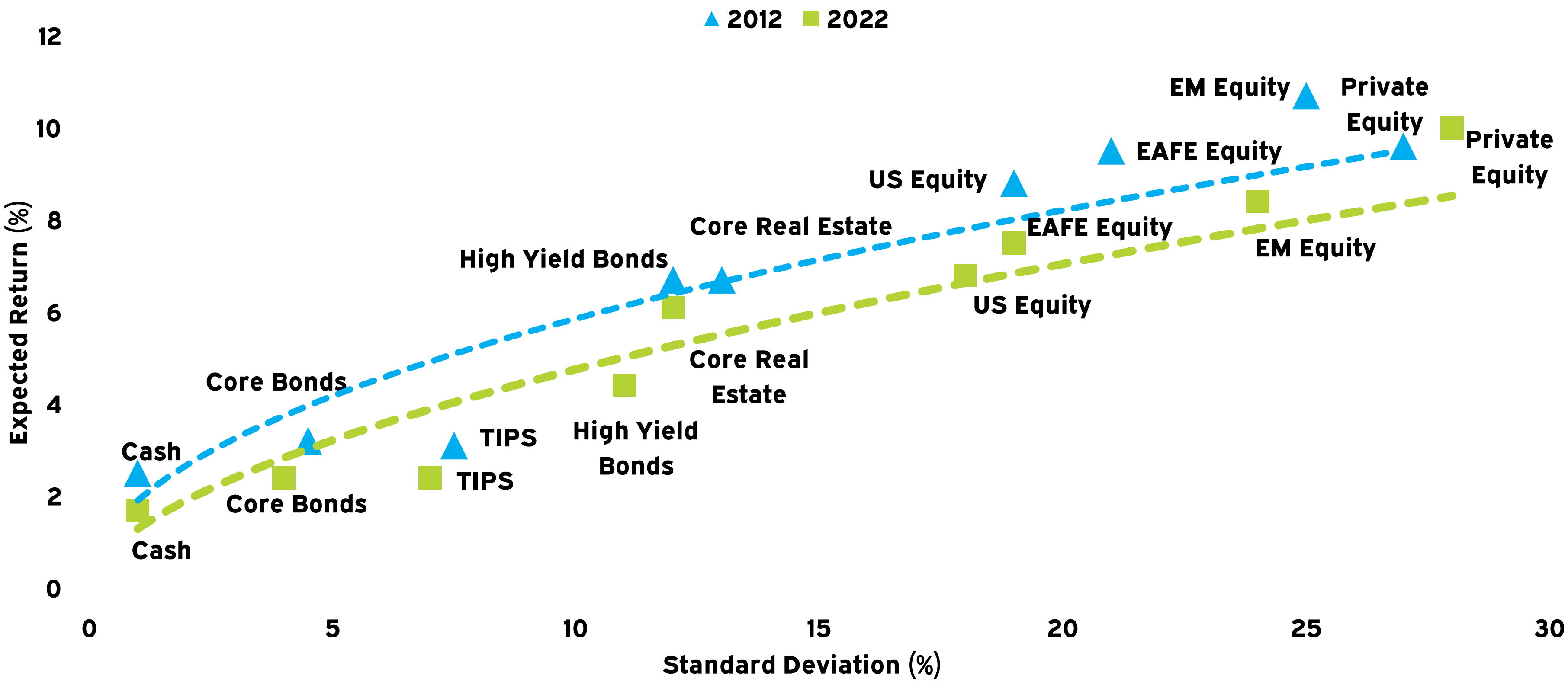
- Annually, Horizon Actuarial Services, LLC publishes a survey of capital market assumptions that they collect from various investment advisors.[1]
- The Horizon survey is a useful tool to determine whether a consultant's expectations for returns (and risk) are reasonable.

Asset Class	10-Year Average (%)	Meketa 10-Year (%)	20-Year Average (%)	Meketa 20-Year (%)
Cash Equivalents	1.2	0.7	1.9	1.1
TIPS	1.6	1.2	2.4	1.8
US Core Bonds	2.1	1.2	3.2	1.8
US High Yield Bonds	3.8	3.3	5.0	4.2
Emerging Market Debt	4.2	3.9	5.3	3.8
Private Debt	6.5	6.6	6.9	6.8
US Equity (large cap)	5.8	5.2	6.7	6.8
Developed Non-US Equity	6.4	6.7	7.1	7.1
Emerging Non-US Equity	7.2	7.5	7.8	8.1
Private Equity	8.8	8.0	9.6	9.1
Real Estate	5.5	6.5	6.2	6.9
Infrastructure	6.2	7.1	6.8	7.0
Commodities	3.1	3.4	4.0	3.7
Hedge Funds	4.5	3.4	5.3	4.3
Inflation	2.1	2.3	2.2	2.1

[1] The 10-year horizon included all 39 respondents, and the 20-year horizon included 24 respondents. Figures are based on Meketa's 2021 CMEs.

The Big Picture: Less Return for the Same Risk[1]

- The relationship between long-term return expectations and the level of risk accepted is not static.
- We anticipate investors will have to take on greater levels of risk than they have historically if they want to achieve the returns they have in the past.



[1] Expected return and standard deviation are based upon Meketa Investment Group's 2012 and 2022 Capital Markets Expectations.

Summary Data

Return and Risk Data

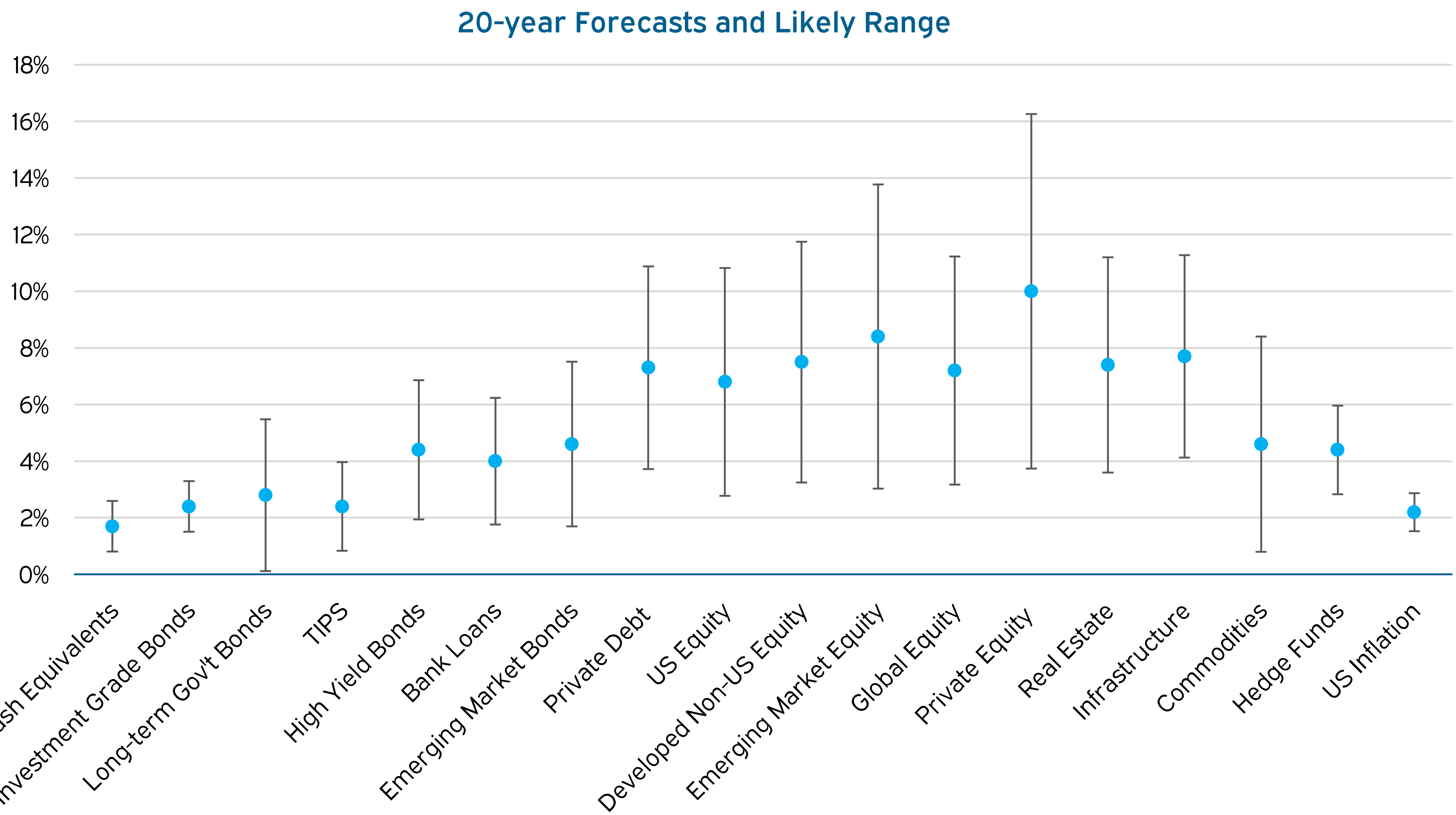
Asset Class	10-year Expected Return (%)	20-year Expected Return (%)	Standard Deviation (%)	20-year Risk Premia[1] (%)
Cash Equivalents	1.1	1.7	1.0	-0.5
Investment Grade Bonds	1.7	2.4	4.0	0.4
Long-term Government Bonds	1.4	2.8	12.0	1.15
TIPS	1.6	2.4	7.0	0.5
High Yield Bonds	3.3	4.4	11.0	2.8
Bank Loans	2.7	4.0	10.0	2.5
Emerging Market Debt (local)	5.0	4.6	13.0	1.5
Private Debt	6.7	7.3	16.0	5.0
US Equity	5.4	6.8	18.0	5.5
Developed Non-US Equity	6.7	7.5	19.0	5.5
Emerging Non-US Equity	8.1	8.4	24.0	6.0
Global Equity	6.1	7.2	18.0	5.6
Private Equity	8.9	10.0	28.0	8.2
Real Estate	6.3	7.4	17.0	5.6
Infrastructure	7.1	7.7	16.0	5.6
Commodities	4.3	4.6	17.0	2.0
Hedge Funds	3.4	4.4	7.0	2.8
Inflation	2.6	2.2	3.0	

[1] Risk Premia are calculated relative to the market's projection for the yield on the 10-year Treasury in ten years.

Correlation Data

	Inv. Grade Bonds	Long-term Gov't Bonds	TIPS	High Yield Bonds	US Equity	Dev. Non-US Equity	Em. Market Equity	Private Equity	Real Estate	Commod.	Infra.	Hedge Funds
Investment Grade Bonds	1.00											
Long-term Government Bonds	0.83	1.00										
TIPS	0.76	0.53	1.00									
High Yield Bonds	0.22	-0.22	0.41	1.00								
US Equity	0.02	-0.31	0.20	0.74	1.00							
Developed Non-US Equity	0.09	-0.28	0.26	0.76	0.89	1.00						
Emerging Market Equity	0.14	-0.23	0.34	0.76	0.77	0.87	1.00					
Private Equity	0.00	-0.10	0.05	0.70	0.85	0.80	0.75	1.00				
Real Estate	0.20	0.05	0.10	0.50	0.50	0.45	0.40	0.45	1.00			
Commodities	0.00	-0.29	0.31	0.55	0.53	0.61	0.65	0.30	0.15	1.00		
Infrastructure	0.29	0.09	0.31	0.64	0.63	0.65	0.58	0.50	0.57	0.41	1.00	
Hedge Funds	0.03	-0.34	0.26	0.77	0.86	0.87	0.85	0.60	0.45	0.69	0.65	1.00

20-Year Return Expectations



2021 Peer Survey

- Annually, Horizon Actuarial Services, LLC publishes a survey of capital market assumptions that they collect from various investment advisors.[1]
- The Horizon survey is a useful tool to determine whether a consultant's expectations for returns (and risk) are reasonable.

Asset Class	10-Year Average (%)	Meketa 10-Year (%)	20-Year Average (%)	Meketa 20-Year (%)
Cash Equivalents	1.2	0.7	1.9	1.1
TIPS	1.6	1.2	2.4	1.8
US Core Bonds	2.1	1.2	3.2	1.8
US High Yield Bonds	3.8	3.3	5.0	4.2
Emerging Market Debt	4.2	3.9	5.3	3.8
Private Debt	6.5	6.6	6.9	6.8
US Equity (large cap)	5.8	5.2	6.7	6.8
Developed Non-US Equity	6.4	6.7	7.1	7.1
Emerging Non-US Equity	7.2	7.5	7.8	8.1
Private Equity	8.8	8.0	9.6	9.1
Real Estate	5.5	6.5	6.2	6.9
Infrastructure	6.2	7.1	6.8	7.0
Commodities	3.1	3.4	4.0	3.7
Hedge Funds	4.5	3.4	5.3	4.3
Inflation	2.1	2.3	2.2	2.1

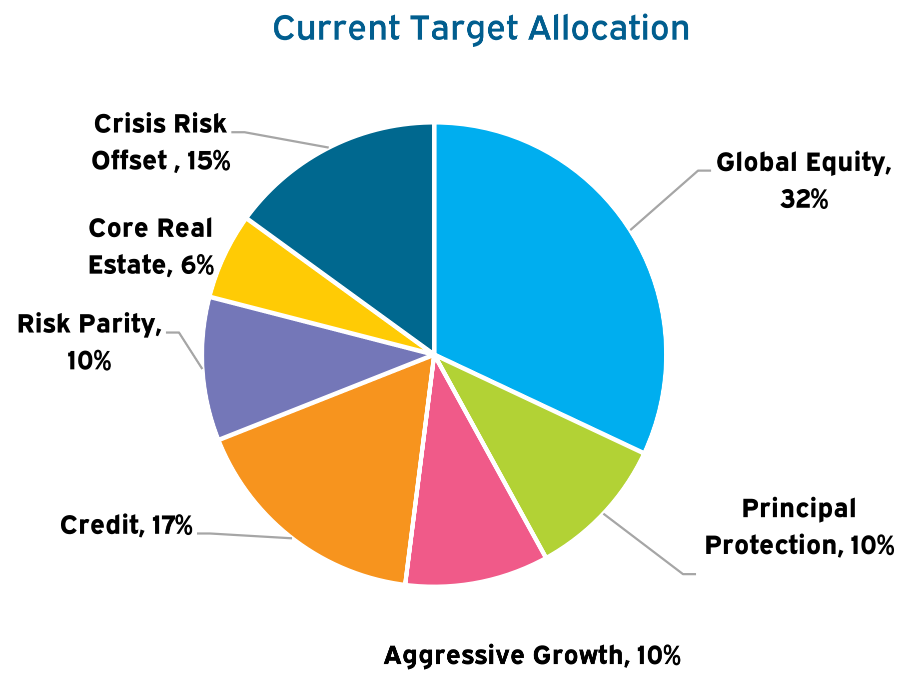
[1] The 10-year horizon included all 39 respondents, and the 20-year horizon included 24 respondents. Figures are based on Meketa's 2021 CMEs.

MEKETA

SJCERA Current Policy

Approved long-term policy mix:

▪ *Global Equity*	*32%*
▪ *Principal Protection*	10%
▪ *Aggressive Growth*	10%
▪ Credit	17%
▪ Risk Parity	10%
▪ *Core Real Estate*	6%
▪ *Crisis Risk Offset*	15%



Changes made in 2019:

- Implemented an Aggressive Growth *Class*
- *Reduced Crisis Risk Offset Class*
- *Increased Global Equity and Credit Exposure*

SJCERA Current Policy

2022 Return/Risk Assumptions - Meketa

Risk-based Class/Component	Asset Class/Strategy	Expected Geometric Compound Nominal Annual Return Meketa 20-year	Expected Risk of Nominal Returns (Standard Deviation) 2022
Aggressive Growth	Private Equity	10.00	28.00
	Non-Core RE	8.80	23.00
Traditional Growth	Global Equity	7.20	18.00
	US REITS	7.10	26.00
Stabilized Growth	Risk Parity	5.20	11.00
	Liquid Credit	4.40	11.00
	Private Credit	7.30	16.00
	Core Real Estate	6.10	12.00
Principal Protection	Core Fixed Income	2.40	4.00
Crisis Risk Offset	Long Treasuries	2.80	12.00
	Alternative Risk Premia	4.60	6.00
	Systematic Trend Following	4.80	15.00
	Cash	*1.70*	*1.00*
	Inflation	*2.20*	*3.00*
SJCERA Total		**6.55**	**10.73**

Disclaimers

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Discount Rate Review

San Joaquin County Employees' Retirement Association

February 11, 2022

Graham Schmidt

Liabilities

How do we calculate liabilities?

Economic Assumptions

Characteristics

Capital Market Assumptions

Projections

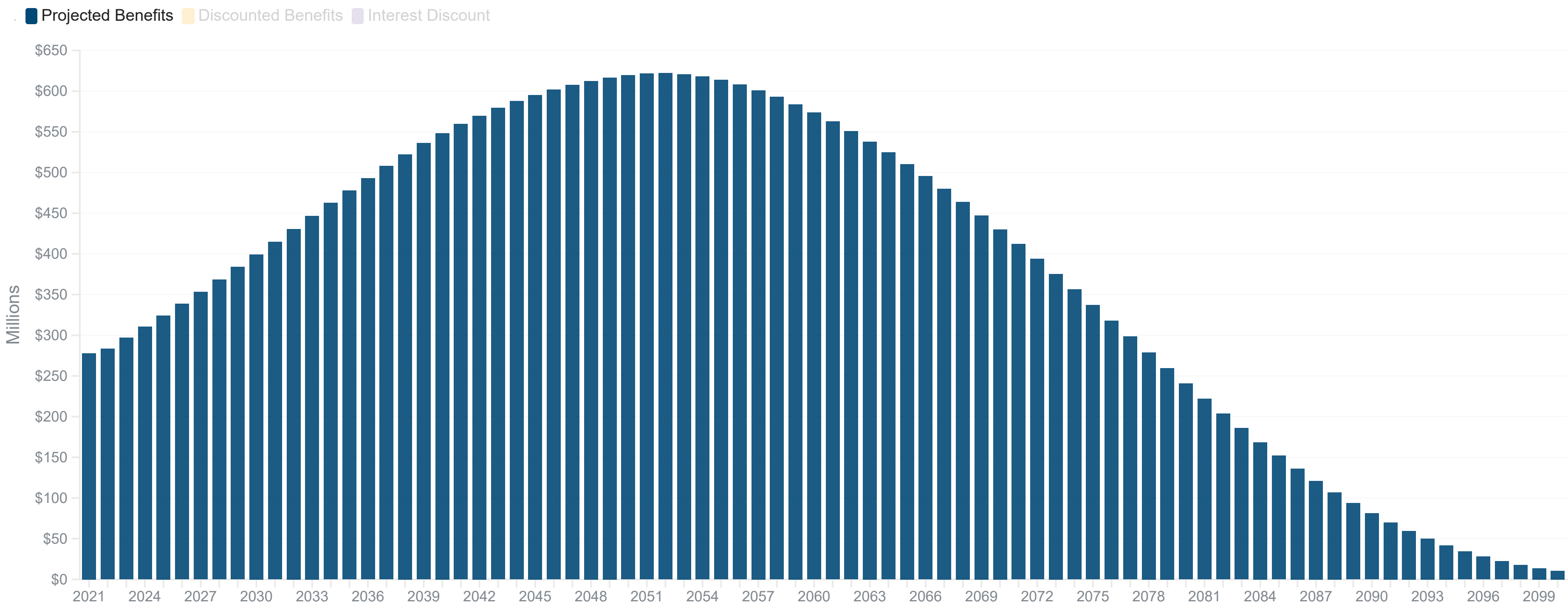
Employer Rates

Employee Rates

Funding Status

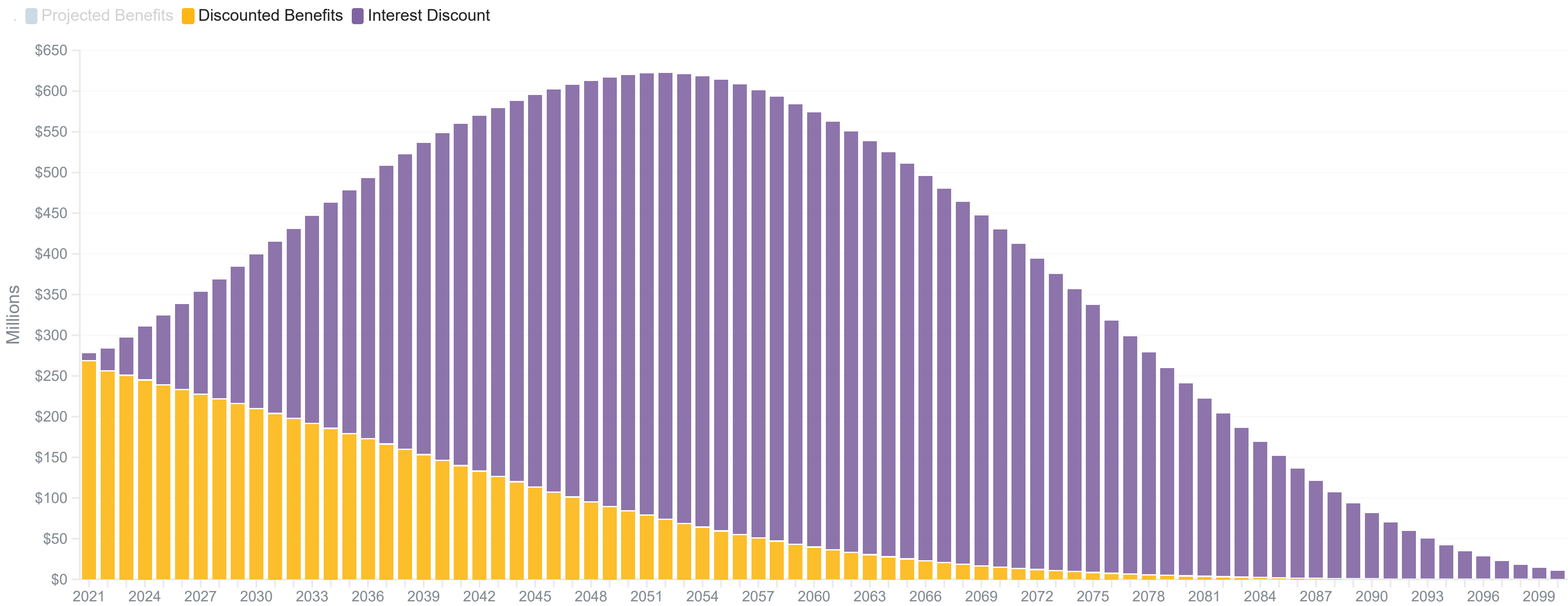
How are liabilities calculated?

To calculate liabilities, we first project benefit payments for current the population (including **active** and **inactive** members)

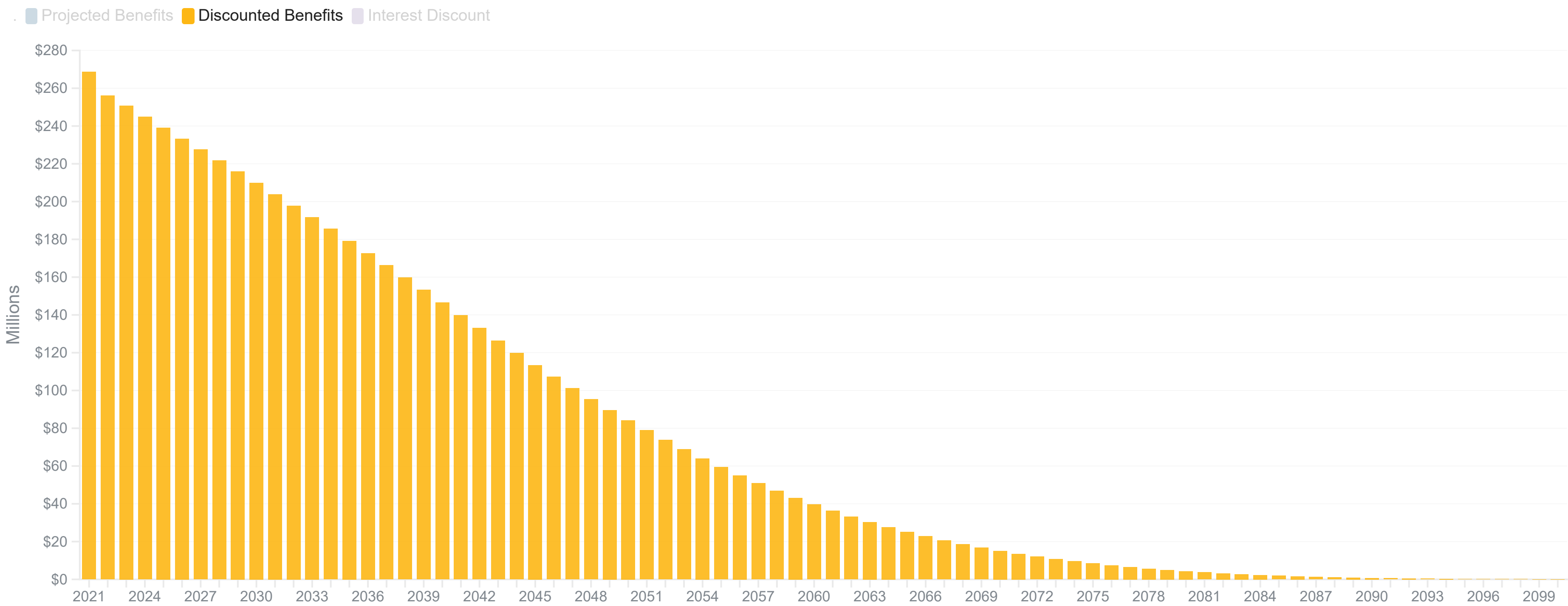


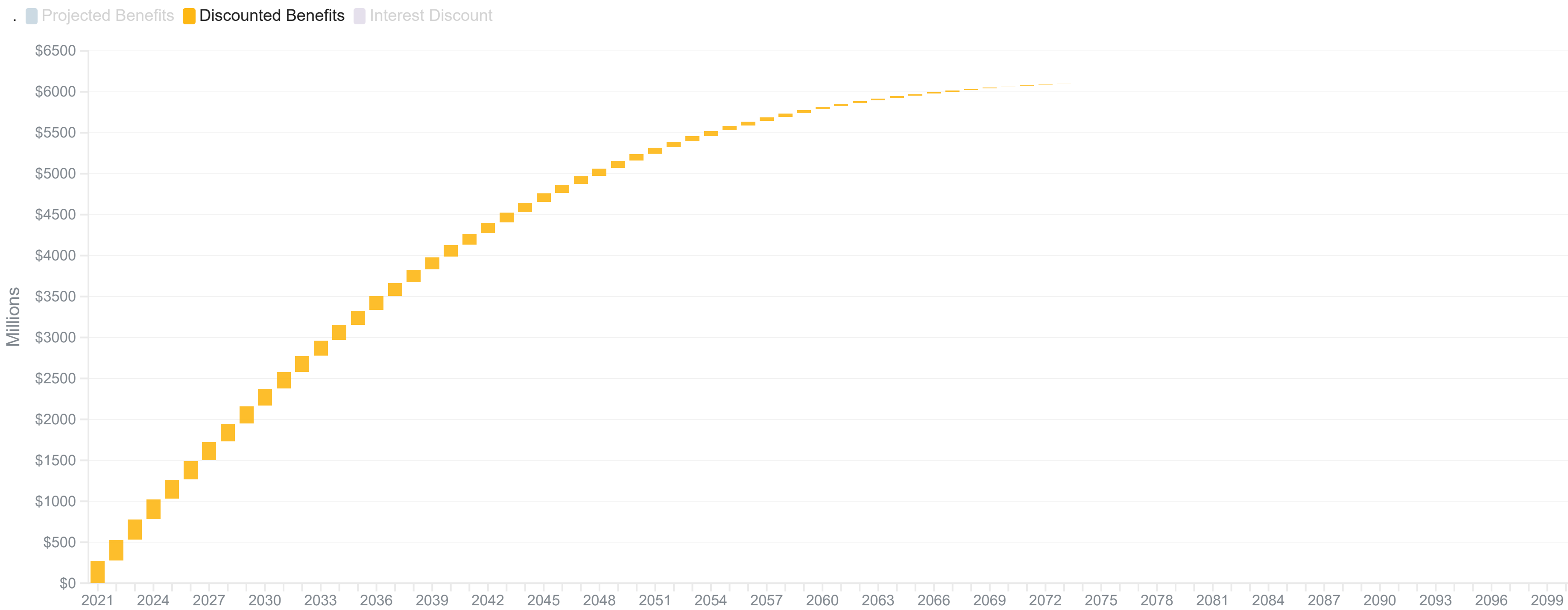
CHEIRON

Now we apply an **interest discount**, which reduces the value of future benefits because of the **time value of money**



Reducing by the interest discount leaves us with the **value in today's dollars**




Projected Benefits
Discounted Benefits
Interest Discount
Millions
$6500
$6000
$5500
$5000
$4500
$4000
$3500
$3000
$2500
$2000
$1500
$1000
$500
$0
2021
2024
2027
2030
2033
2036
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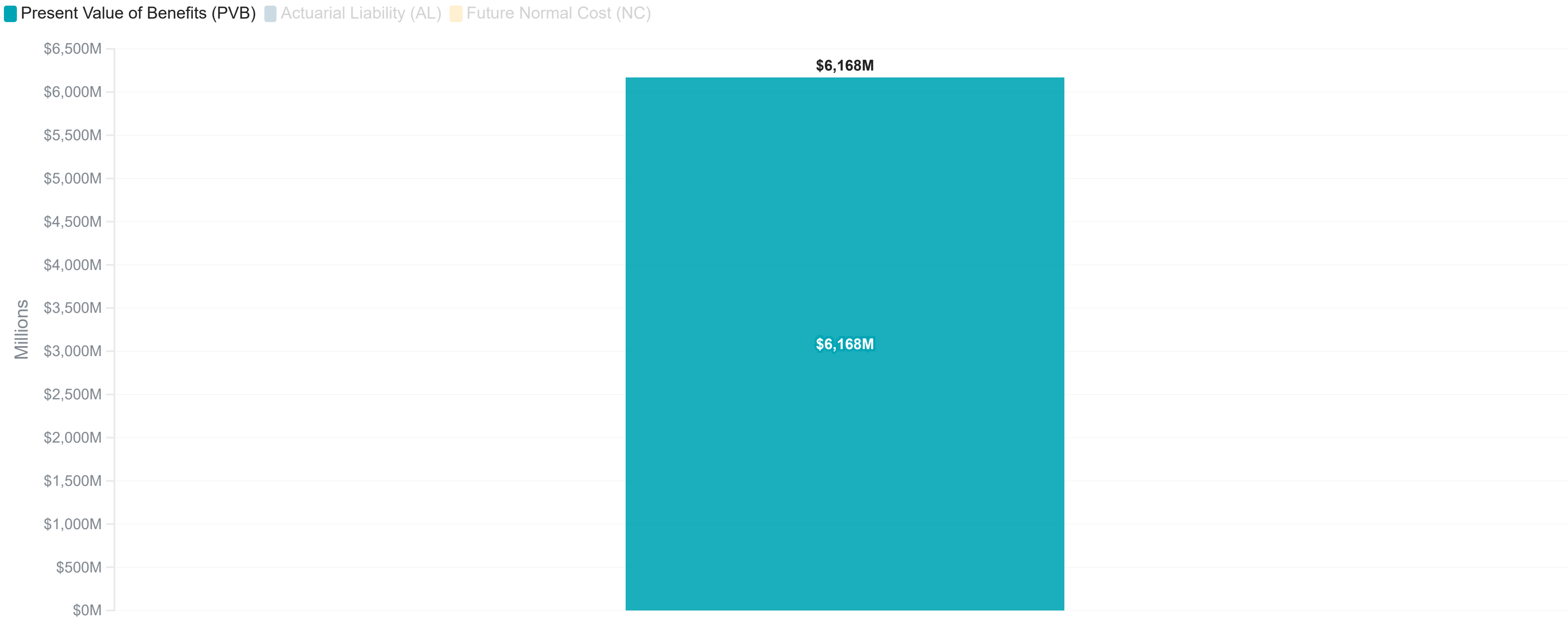
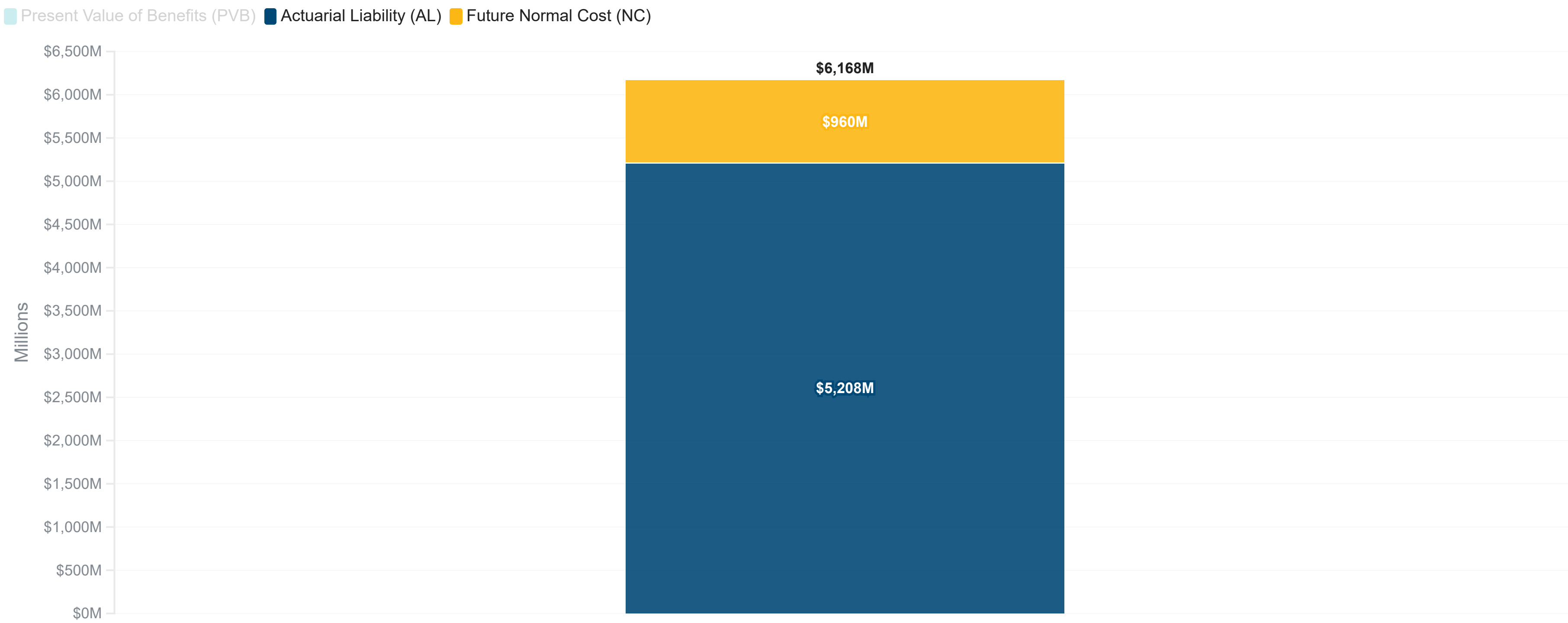
2099

And express as a single sum - the **Present Value of Benefits** - as of the measurement date



The present value of benefits can be split into the portion already earned or accrued (the **Actuarial Liability**) and the portion that has yet to be earned by the current active members (the **Future Normal Cost**)



To project the cashflows of the Plan - both the benefit payments and the assets needed to fund those payments - we need **actuarial assumptions**

Types of Economic Assumptions

"Long" term

Risk vs. Reward

Return on Assets

Current: 7.00%

Assumed annual return on investments; net of investment expenses

Inflation Rate

Current: 2.75%

Price inflation; building block for other assumptions

Wage Growth

Current: 3.00%

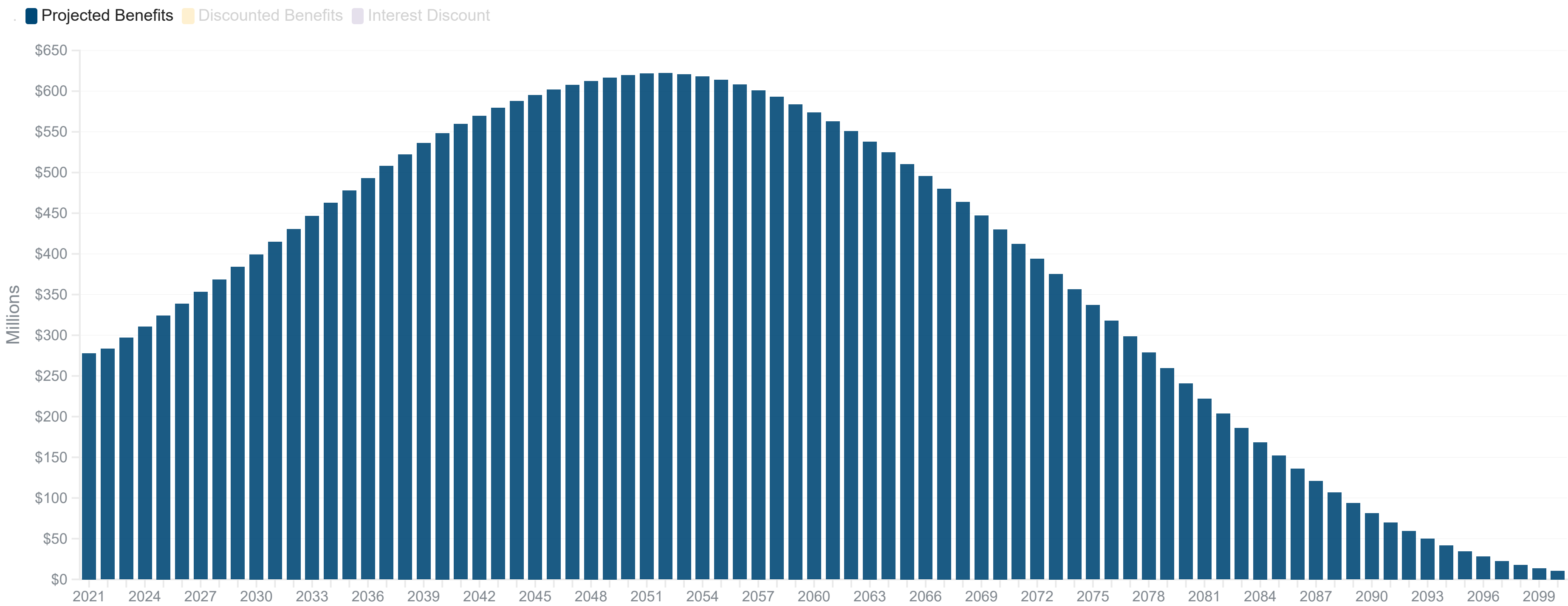
Price inflation plus real wage growth

COLA Rates

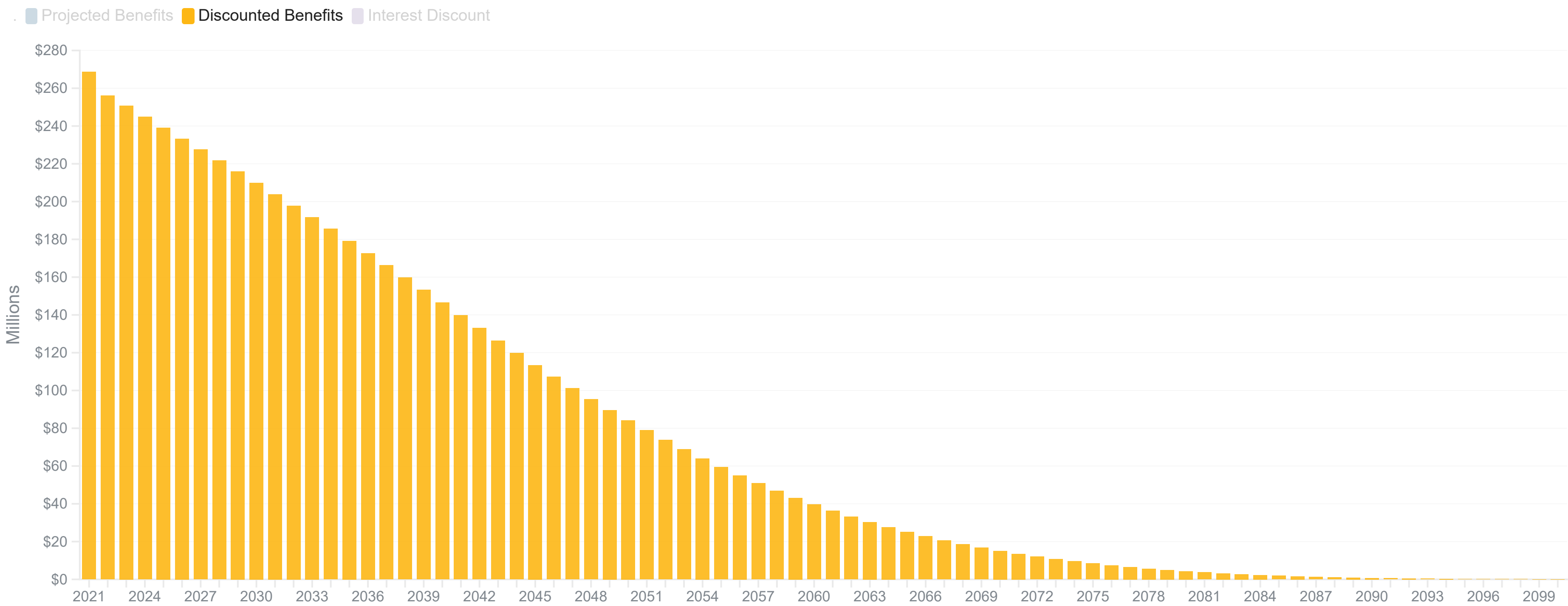
Current: 2.60%

Increases in post-retirement COLAs; affected by caps and banking provisions

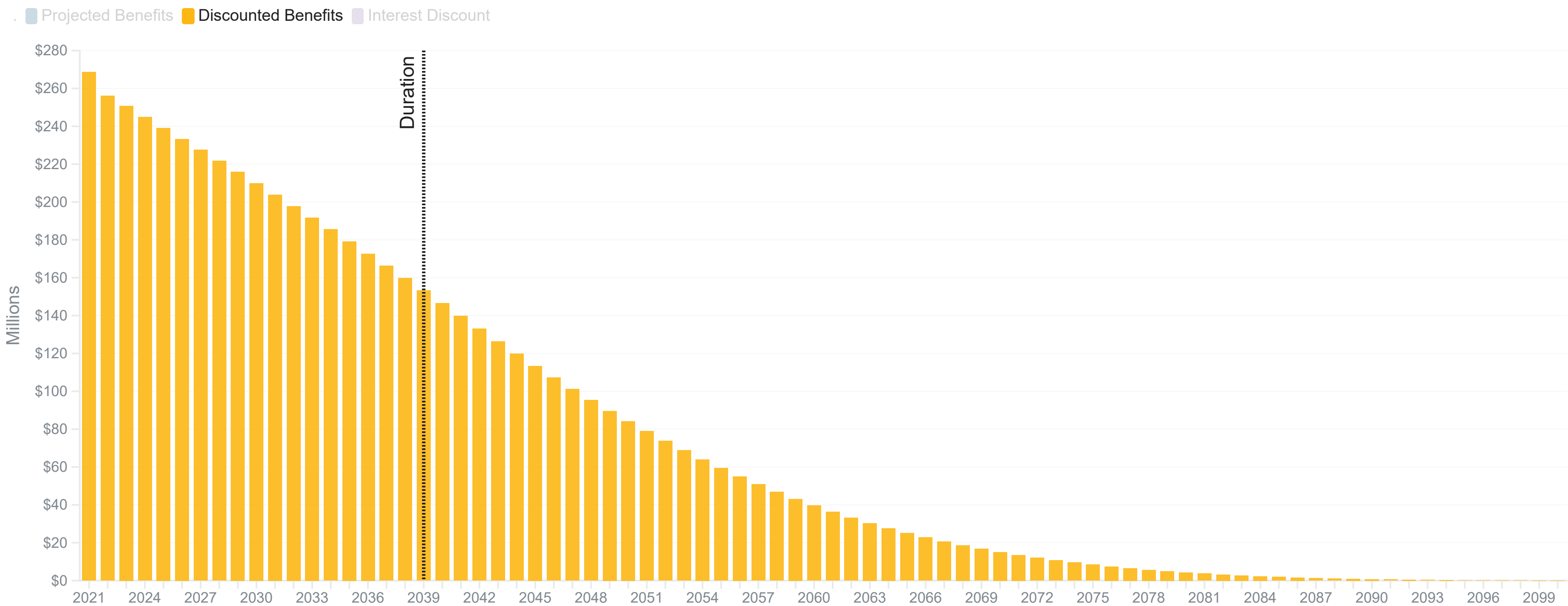
What do we mean by long-term? For the actuarial valuation, these assumptions are used to project benefits for the next 80+ years



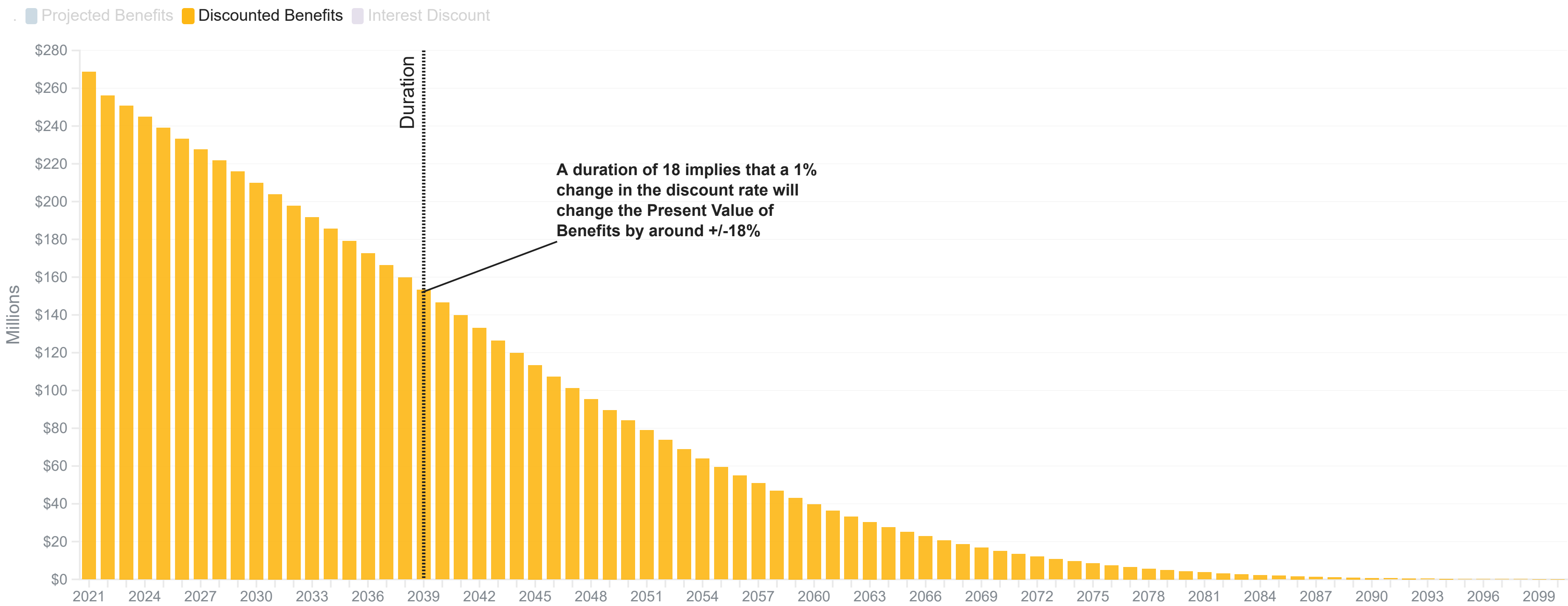
However, some benefits matter more than others, because of discounting



One measurement to keep in mind when defining "long-term" is the **duration** of the Plan's projected benefits, which is related to the weighted-average timing of discounted benefit payments

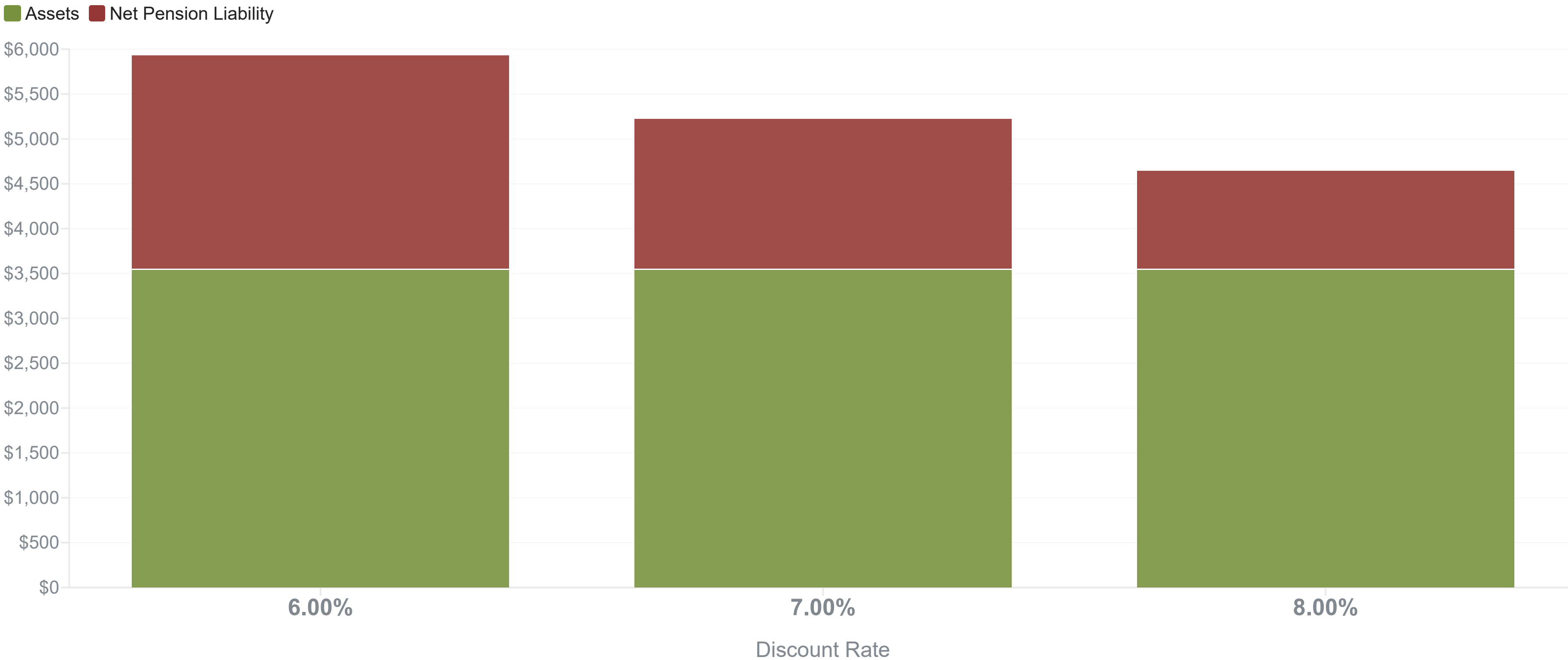


The duration also provides information on how sensitive the liabilities are to a change in the discount rate



Higher expected returns produce lower measures of liability and lower contribution rates

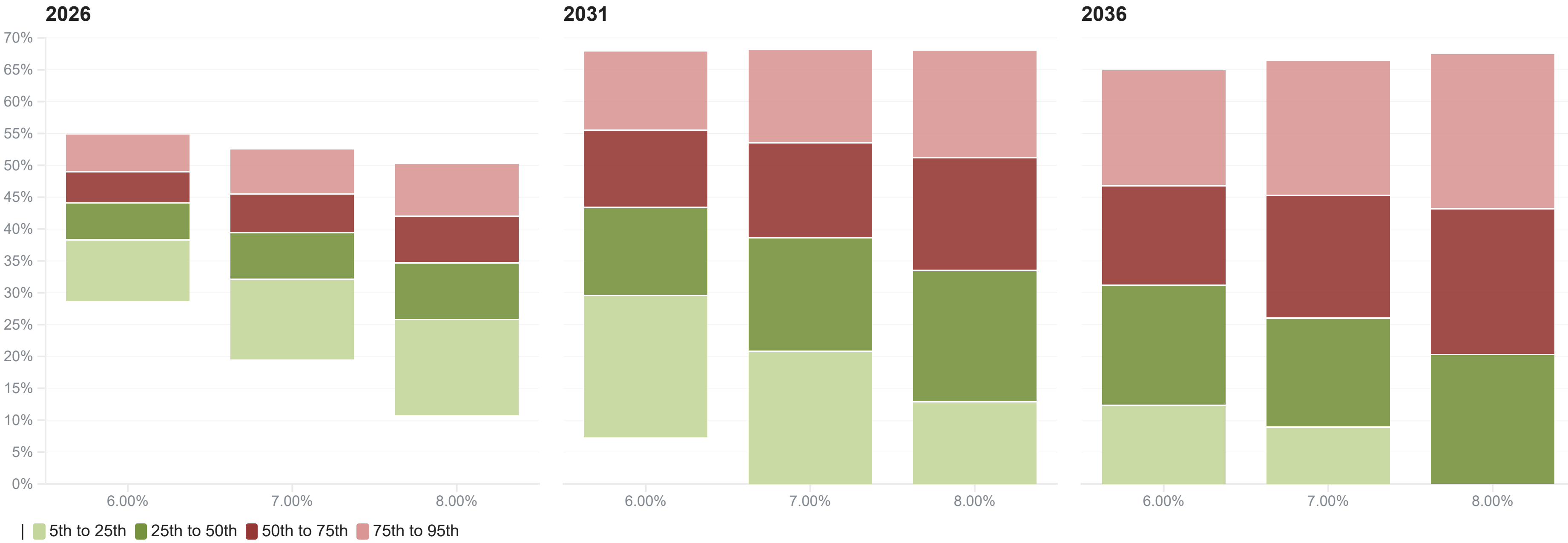
Assets and Unfunded Liability



But if the higher returns are achieved through taking more investment risk, the likely range of potential contribution rates is expected to widen over time

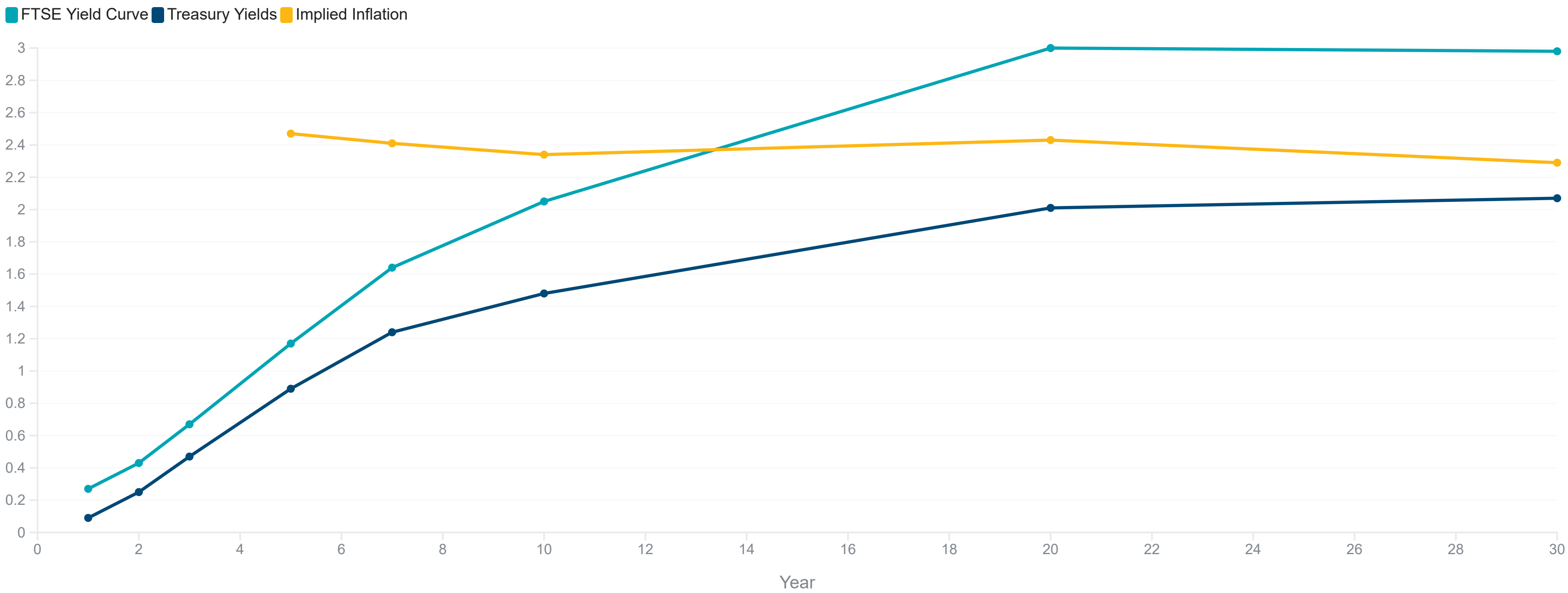
Range of Projected Employer Contribution Rates

Different Discount Rates and Levels of Investment Risk

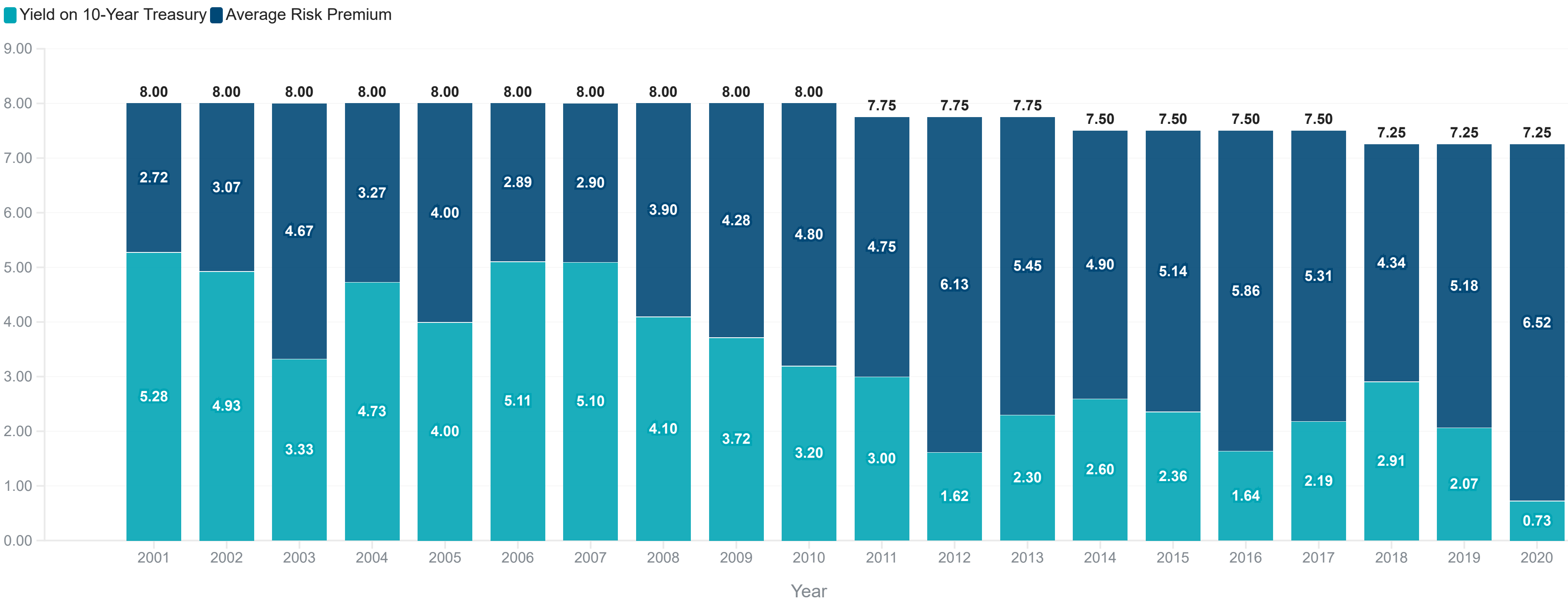



Yield curves and inflation
Trends in Risk Premium
Review of Capital Market Assumptions

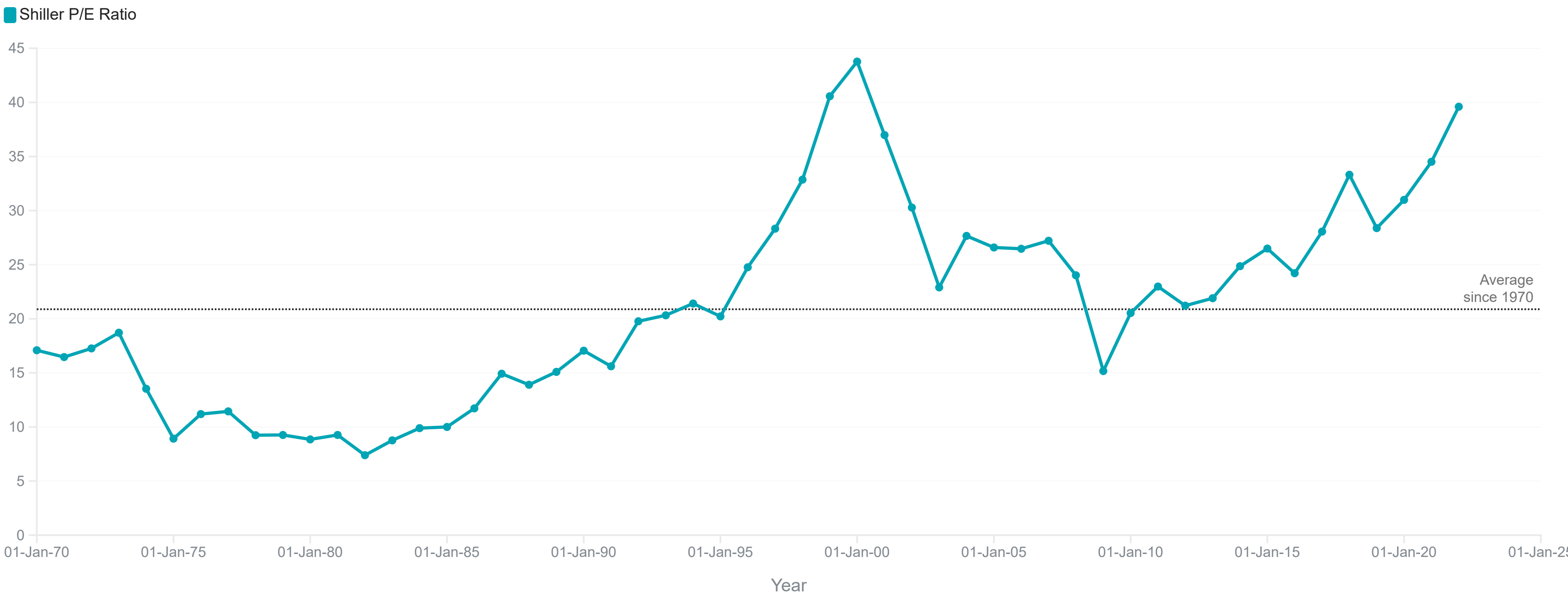
Unlike demographic assumptions, which are generally based on recent history, economic assumptions are developed using forward-looking indicators



A major factor driving reductions in the expected return is the decline in the risk-free rate, which means plans need to take more risk to achieve the same return. Below we show the median discount rates from the Public Plan Database, compared to the risk-free rate and risk premium needed to achieve the assumption.



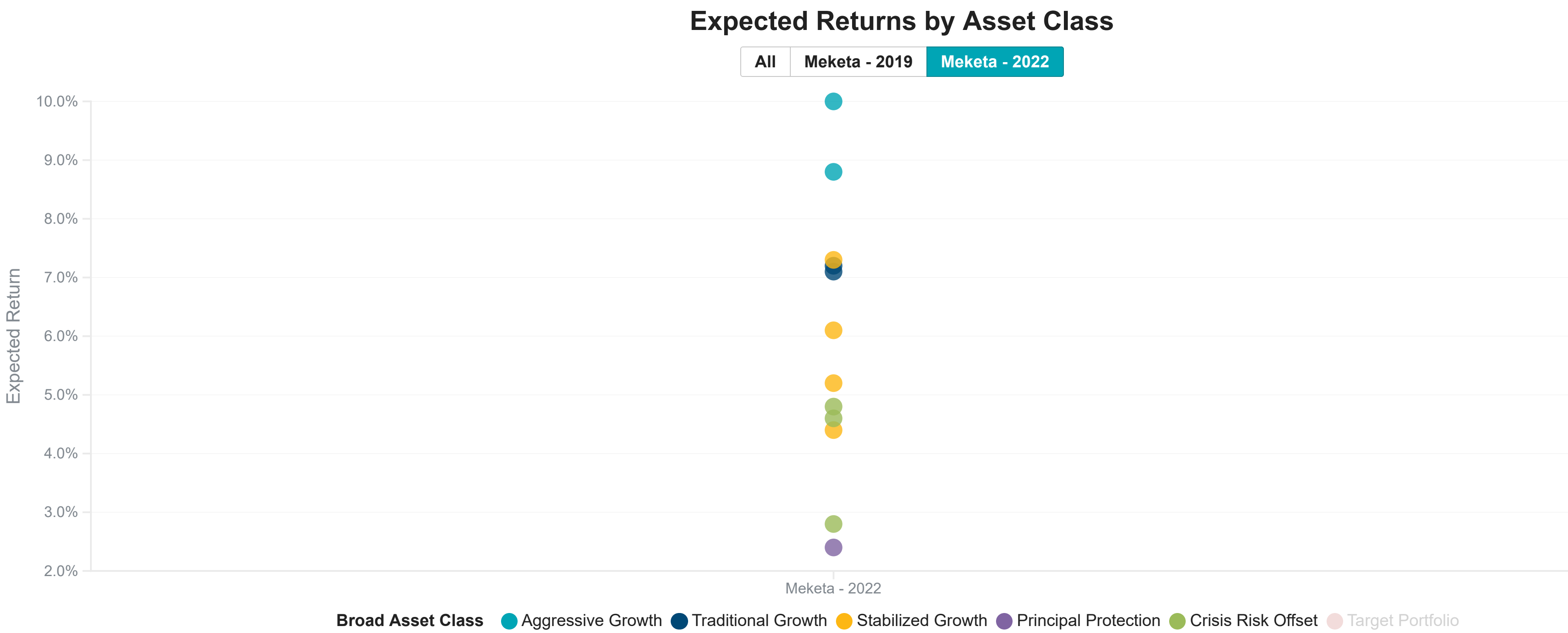
Capital market assumptions have also fallen for many asset classes. For example, expected returns on equities have fallen because of increases in Price/Earnings ratios well above historical averages.



Source: http://www.econ.yale.edu/~shiller/data.htm

CHEIRON

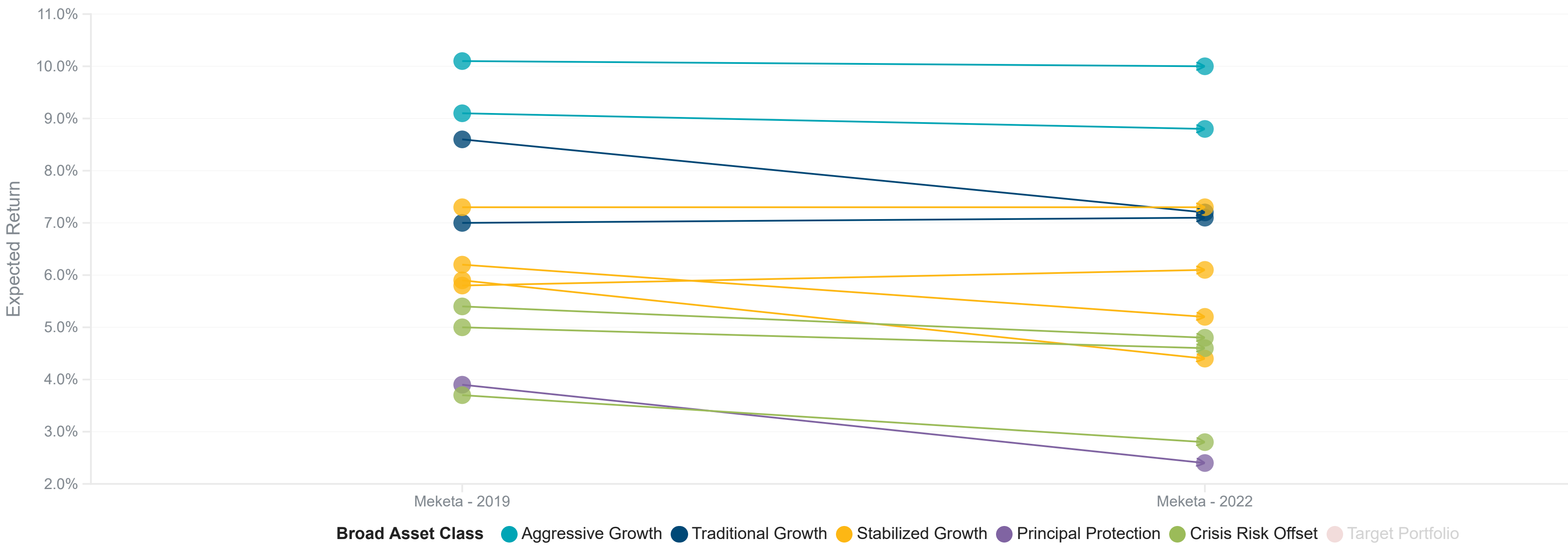
To develop the expected return we start with the expectations by asset class. Here are the most recent expected nominal 20-year compound returns by class from the Plan's investment consultant, Meketa.



The expected returns for many asset classes have declined significantly since the last experience study was performed in 2019

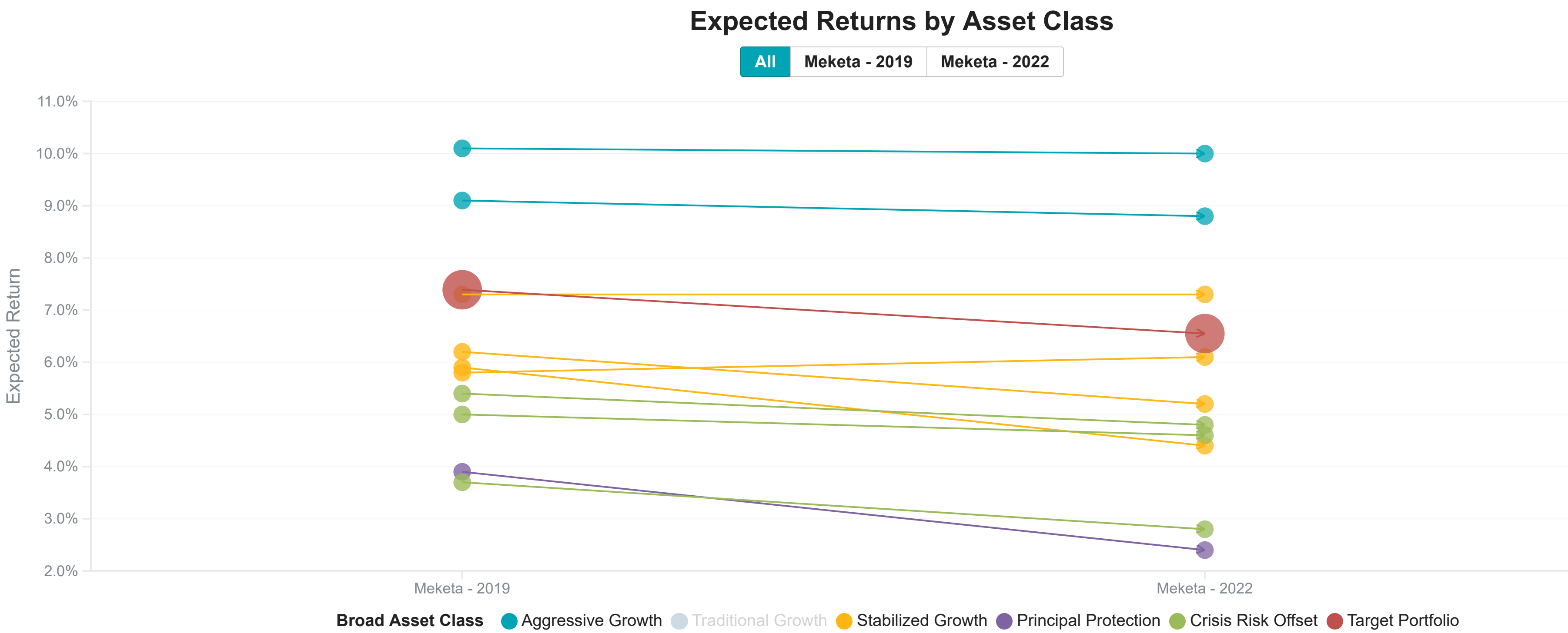
Expected Returns by Asset Class

All | Meketa - 2019 | Meketa - 2022



CHEIRON

Focusing on the return for the current target portfolio as a whole, the expected 20-year return has declined by over 0.8%

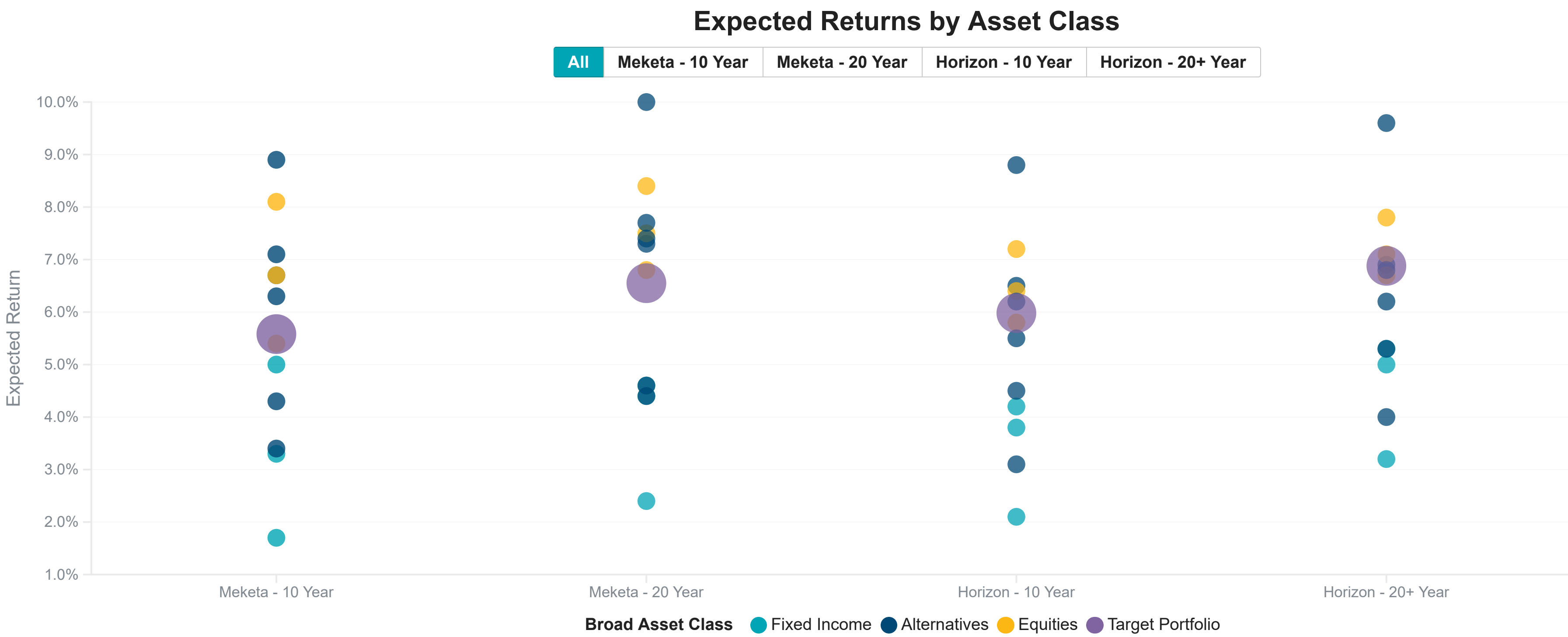


Here we compare the 2022 assumptions from Meketa under different time horizons to the results from a 2021 survey of investment consultants performed by Horizon Actuarial Services

Expected Returns by Asset Class

All | Meketa - 10 Year | Meketa - 20 Year | Horizon - 10 Year | Horizon - 20+ Year

Again, we calculate the expected return for the SJCERA target portfolio as a whole, based on a weighted blend of the returns for each class, adjusted for correlations

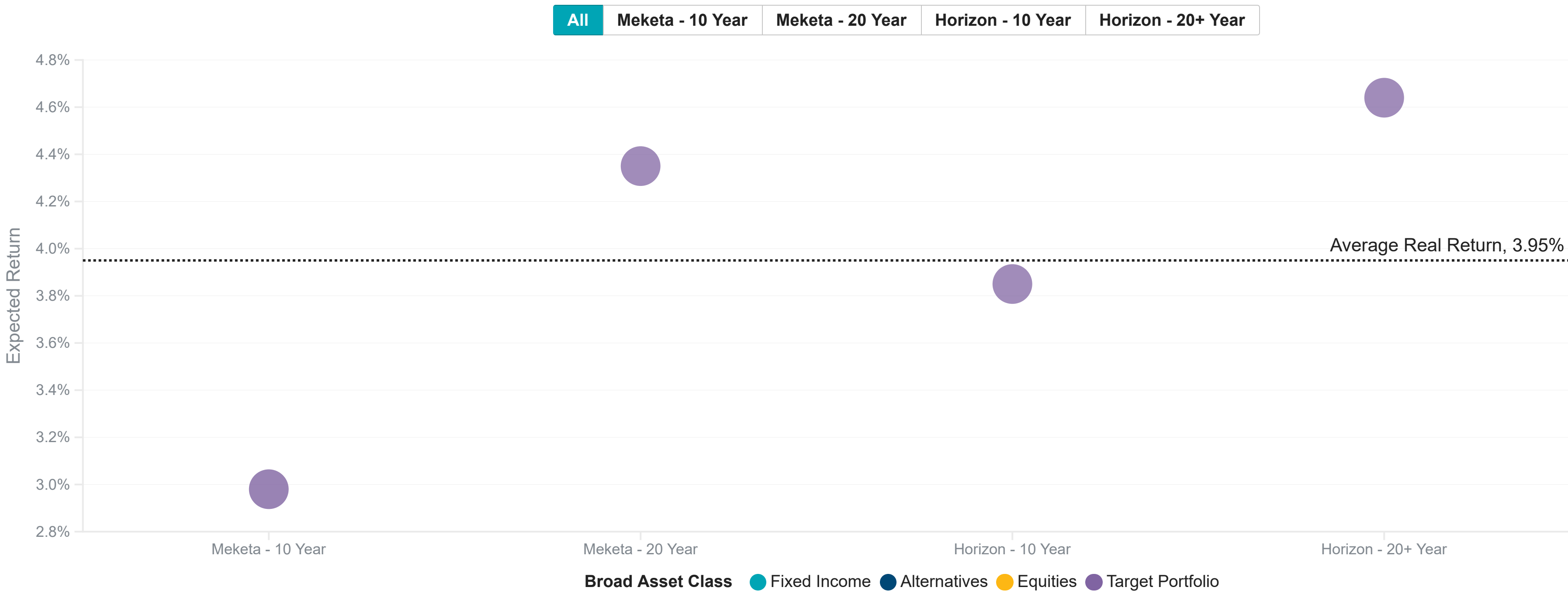


Focusing on the overall portfolio returns, the average nominal return across all assumption sets is 6.25%, compared to the current assumption of 7%

Expected Returns by Asset Class

If we back out the inflation assumption from the nominal return - averaging 2.3% across all sets - we get the expected **real return** (i.e. the return above inflation), which averages just under 4%, compared to the current assumption of 4.25%

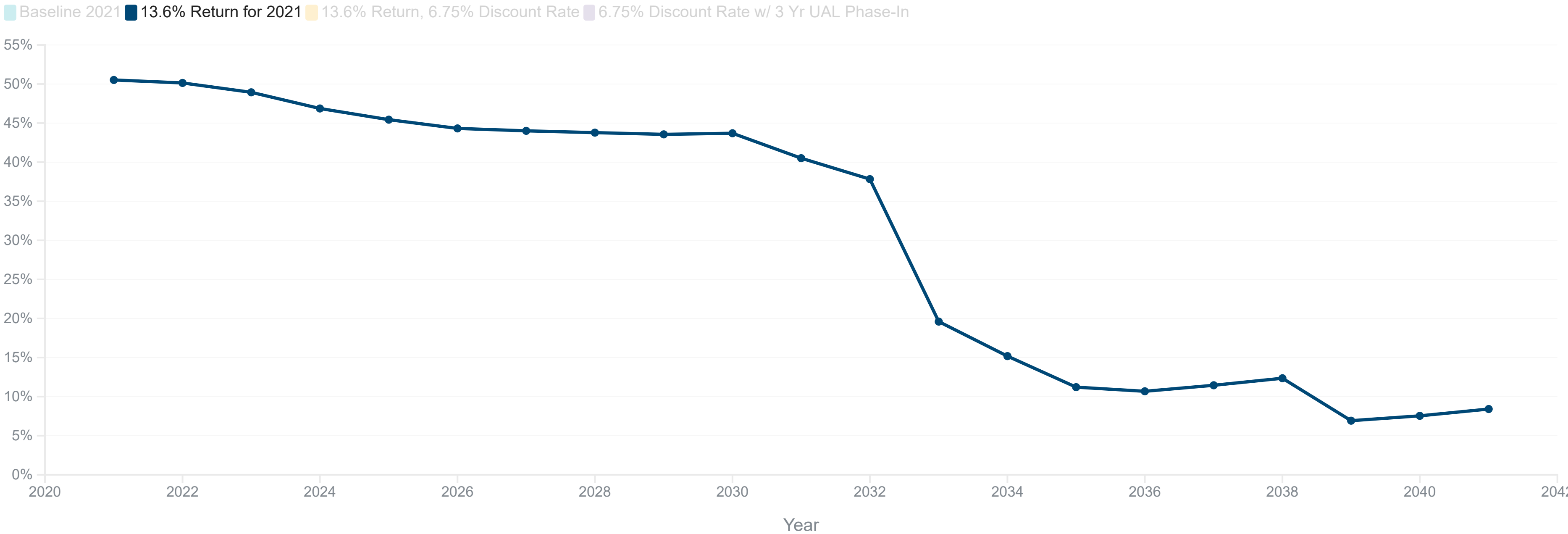
Expected Returns by Asset Class



The following slides review various projections using the preliminary asset return for 2021 of 13.6%, as well as if the discount rate is lowered to 6.75% (for a real return of 4%) with no other changes to assumptions

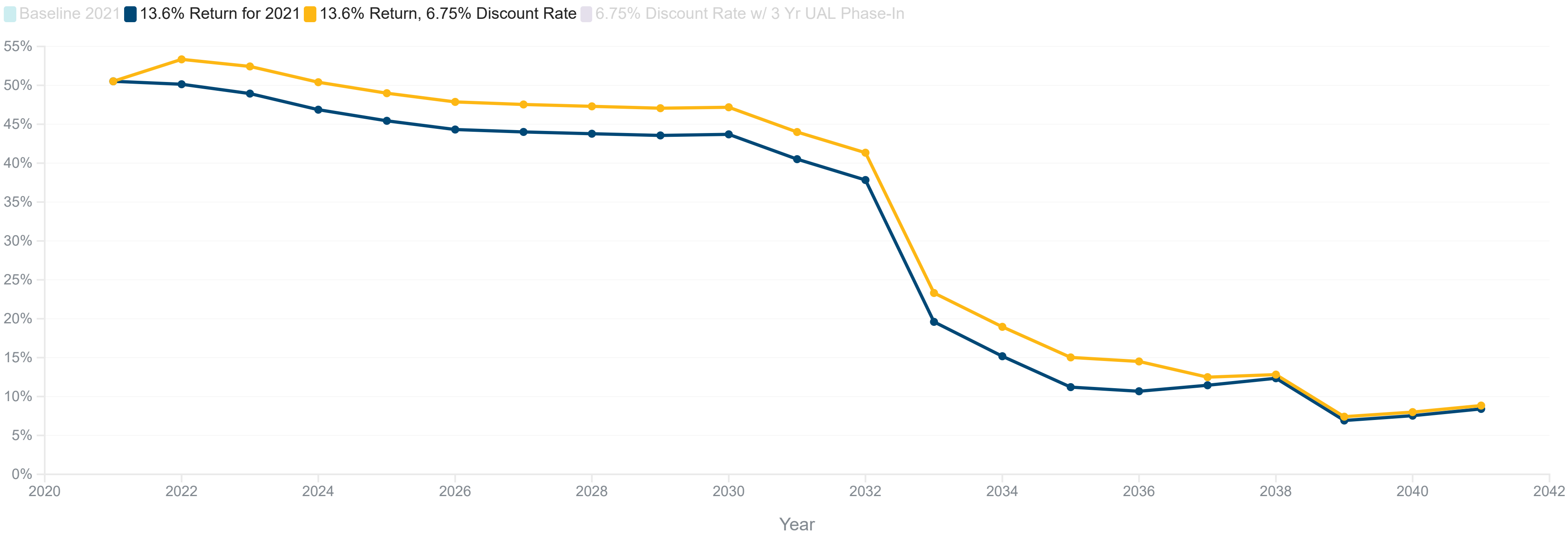
This graph shows the projected aggregate employer contribution rates based on the current economic assumptions - assumed return of 7.00%, inflation at 2.75% and 3.00% payroll growth - and with a preliminary 13.6% return for 2021 (net of investment expenses)

SJCERA



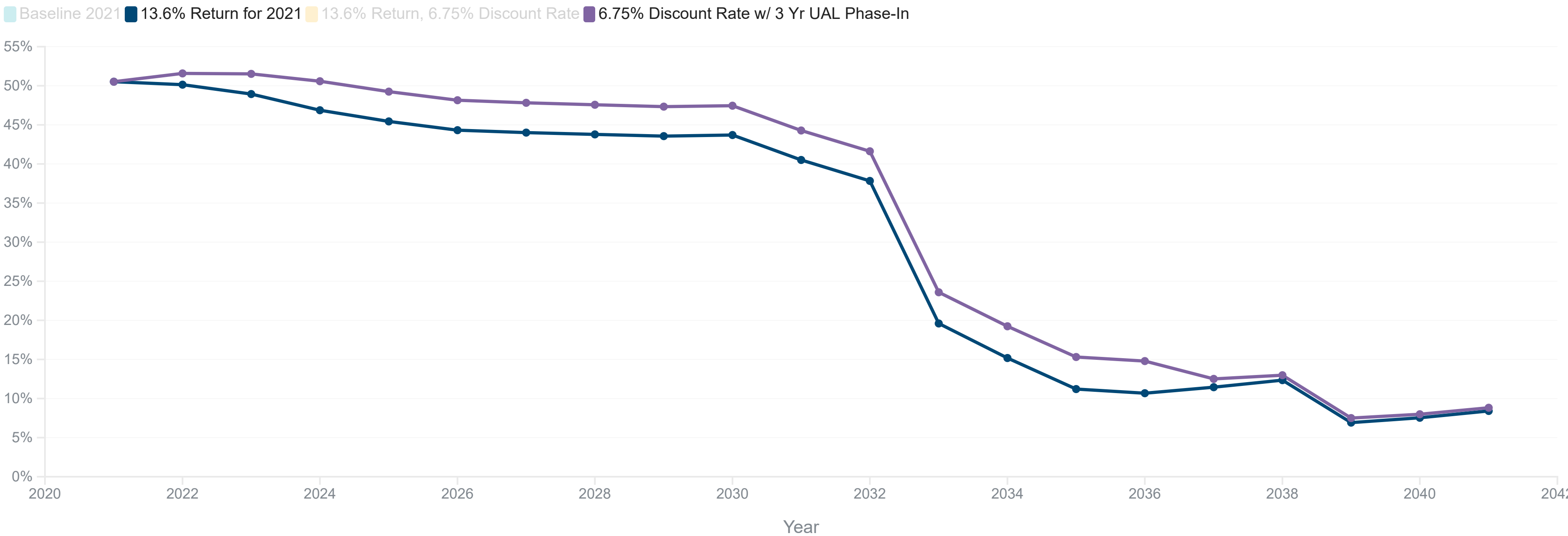
Next we show the same projection compared to a scenario where the discount rate is reduced from 7.00% to 6.75% effective with the 1/1/2022 actuarial valuation

SJCERA



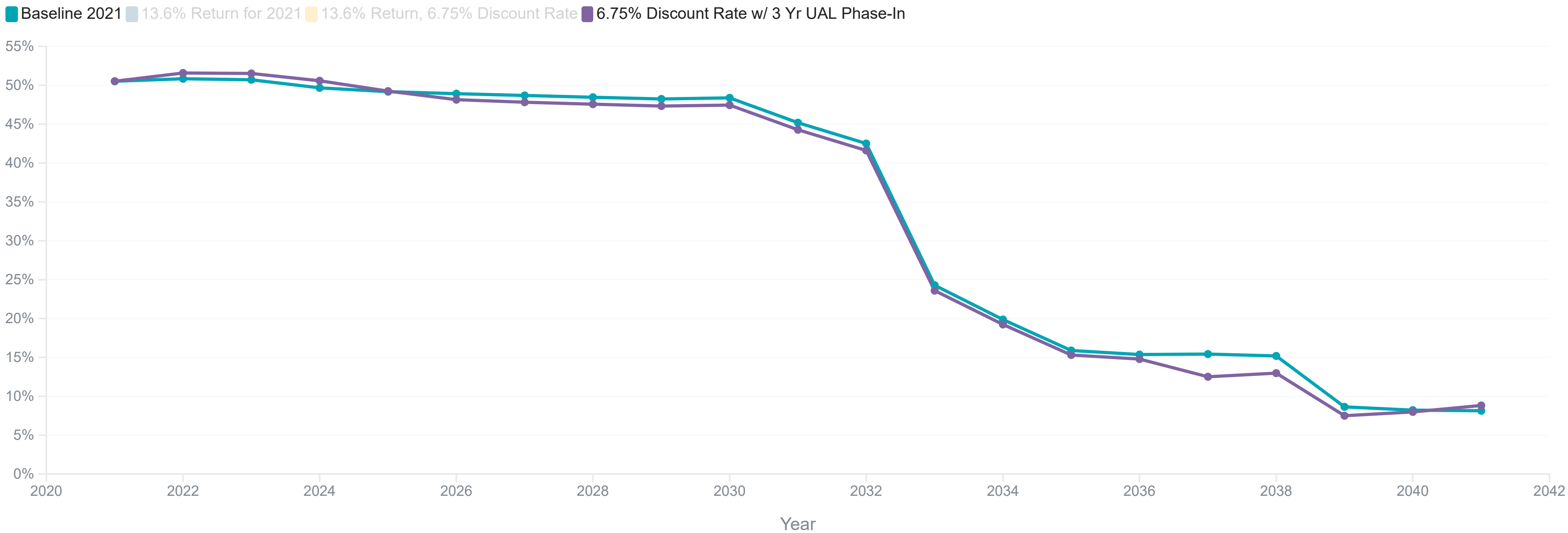
Here's how the projected cost would look if the change in UAL rate from the assumption change were phased-in over a three year period (consistent with past practice)

SJCERA



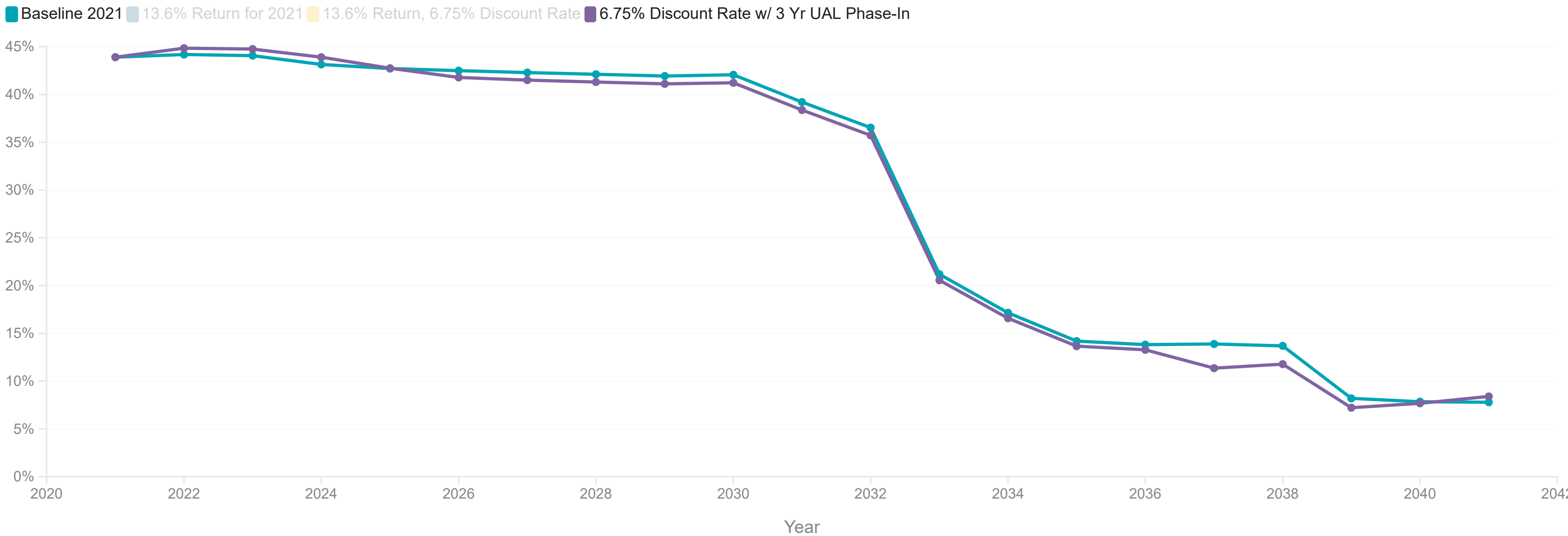
We note that these rates are quite similar to the baseline projected costs from the 2021 AVR (based on a 7.0% assumed return for 2021)

SJCERA



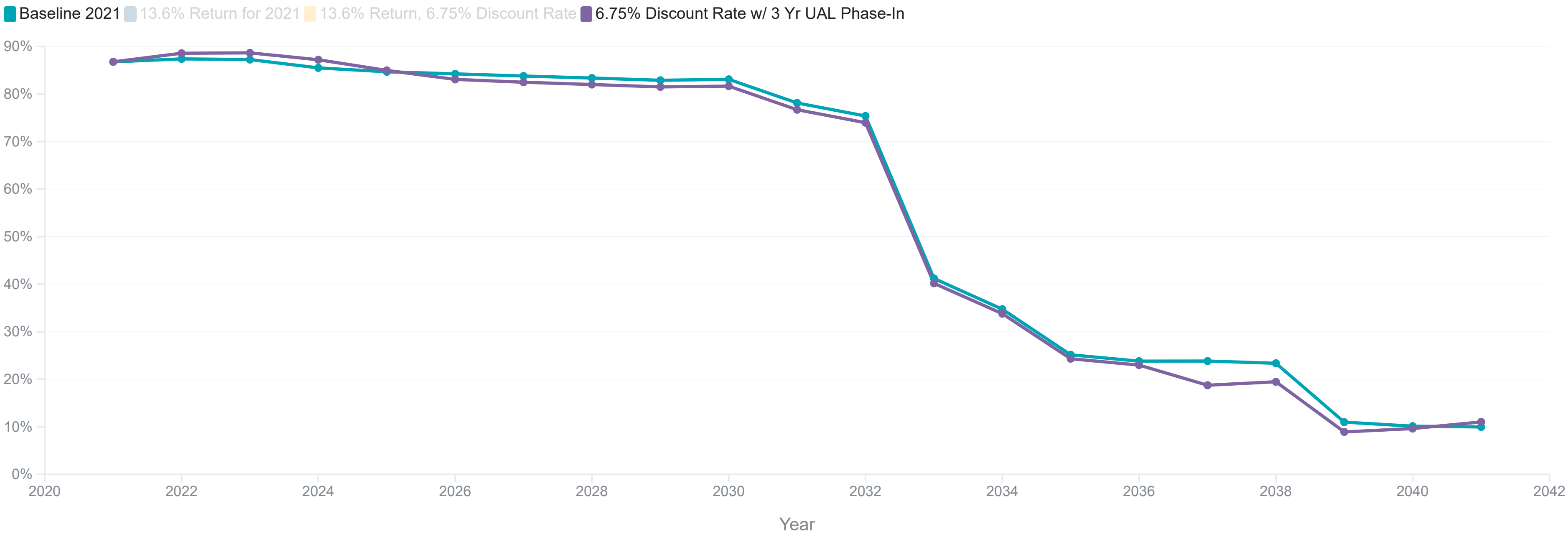
Below is the same comparison for the General employer rates

General



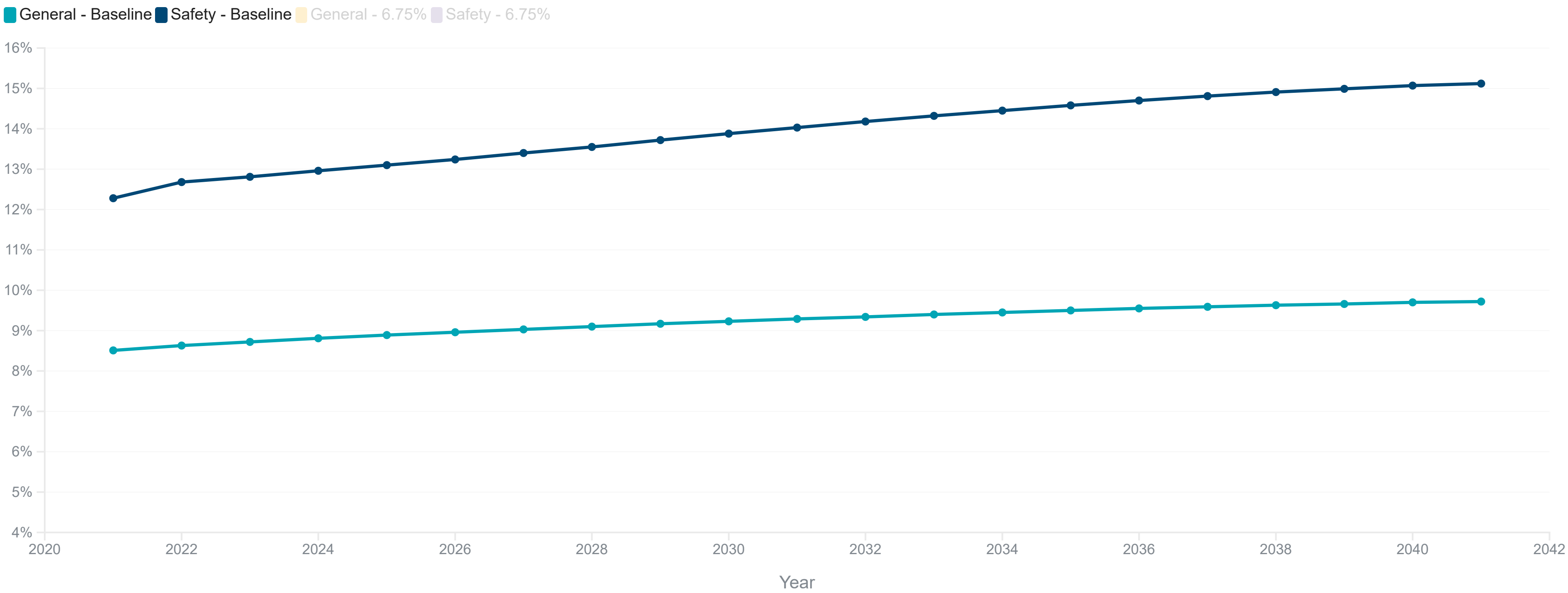
As well as the Safety employer rates

Safety

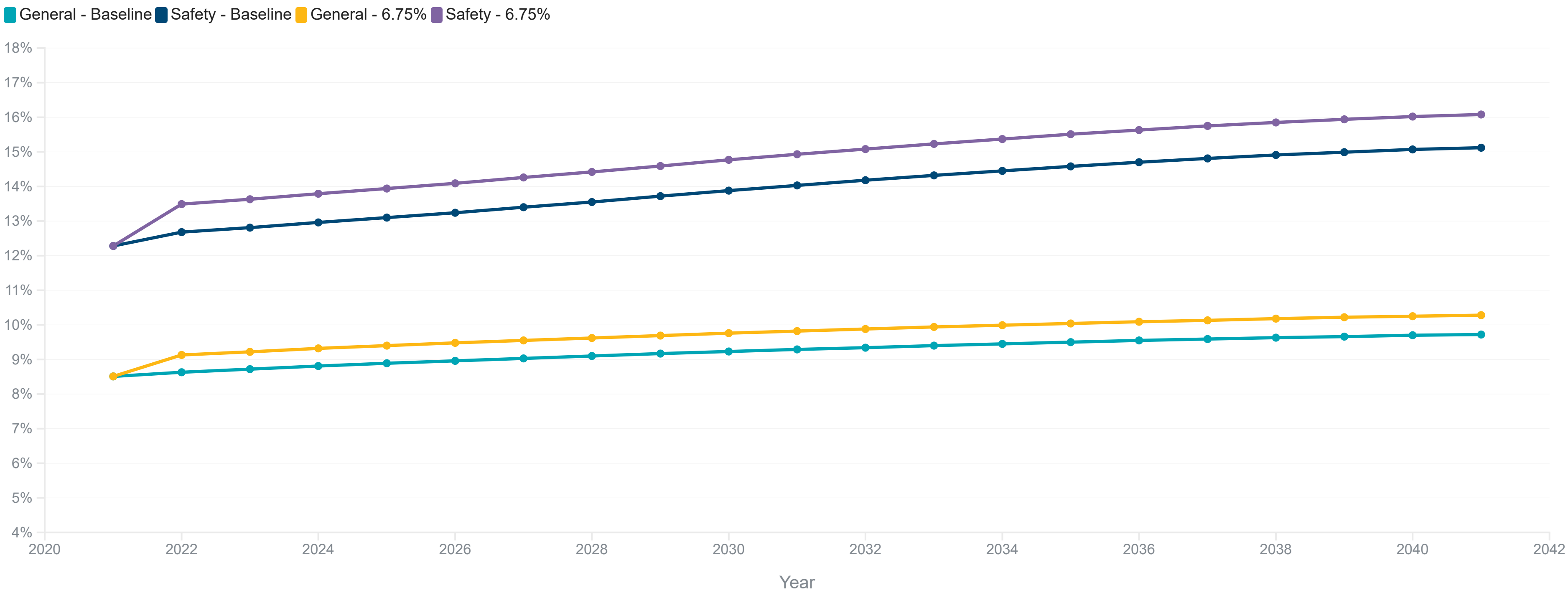


CHEIRON

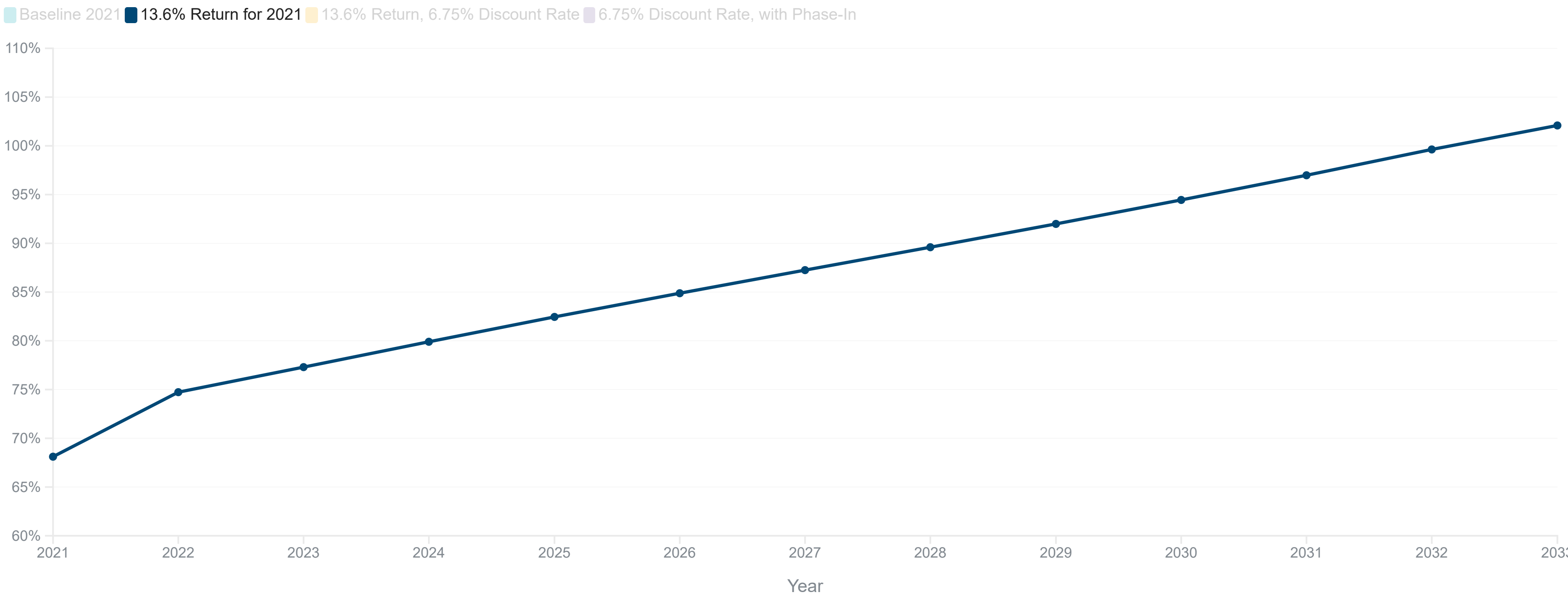
The member contribution rates are also affected by the economic assumptions. The baseline projection shows steadily increasing average member contribution rates as the Tier 1 employees are replaced by Tier 2 (PEPRA) members.



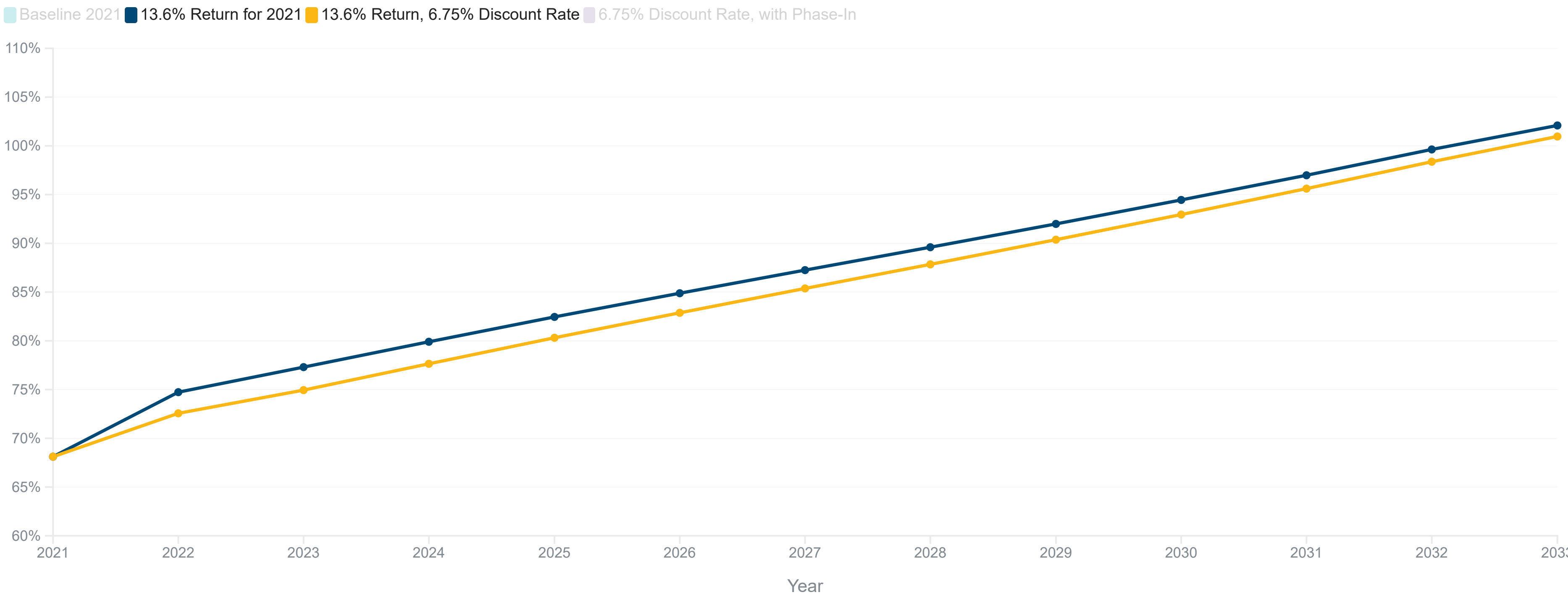
Lower discount rates increase the Normal Cost, increasing the member contribution rates



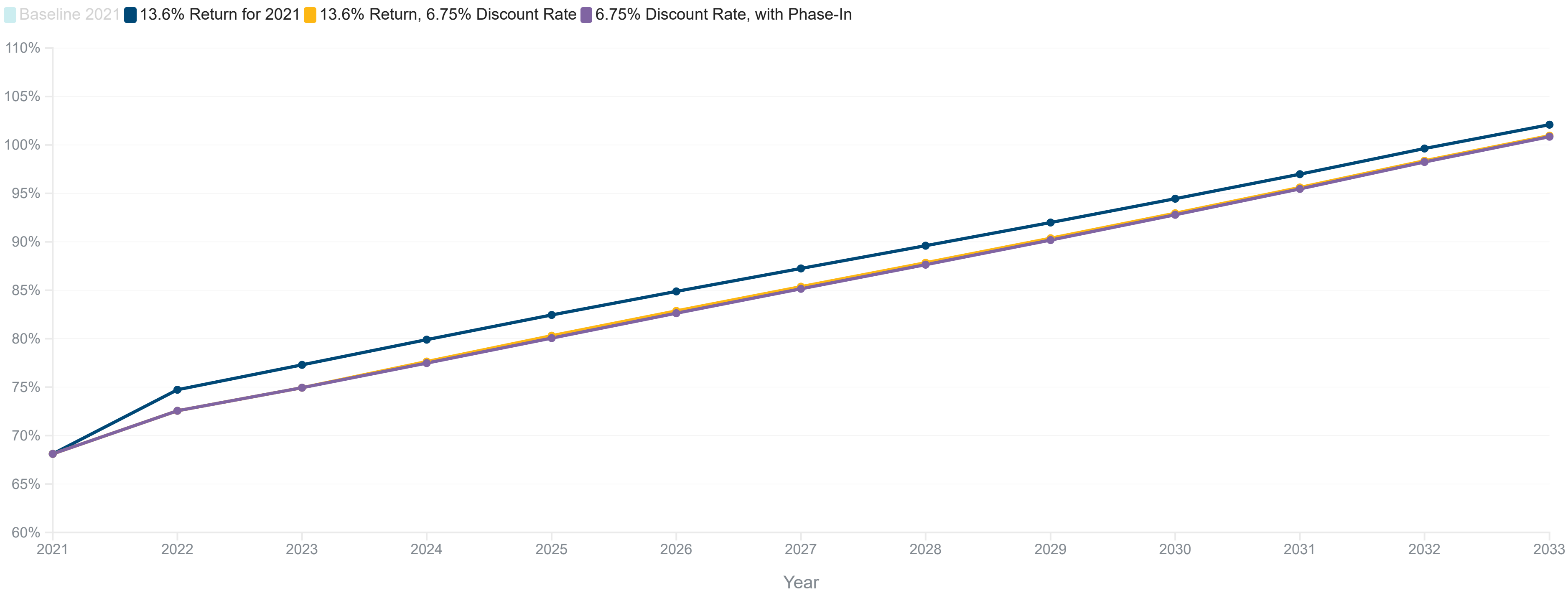
Finally, we show the projections of funded status (using the **market value** of assets). The baseline projection based on a 13.6% return shows significant improvement in the funded status between 2021 and 2022.



Lowering the discount rate to 6.75% reduces the projected funded ratio by 2.2% in the first year, but is still expected to achieve 100% funding within 11 years if all assumptions are met

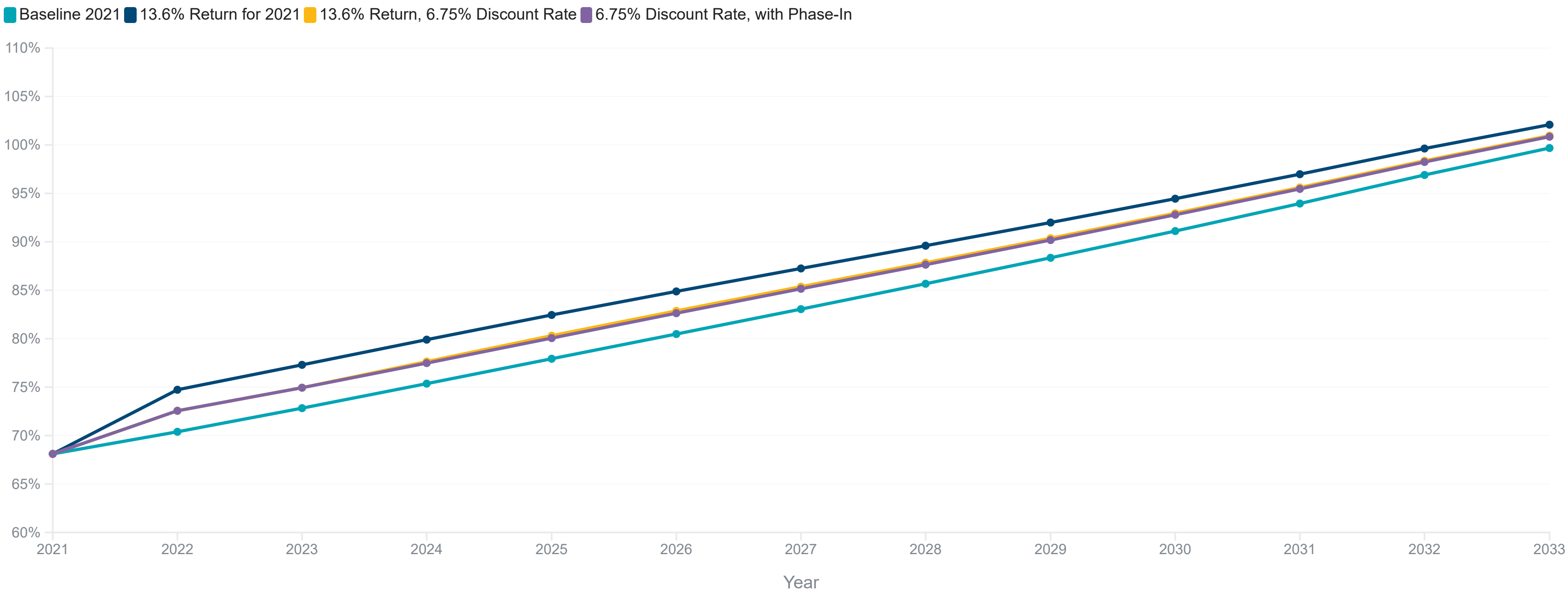


As can be seen here, a decision to phase-in the change in the UAL payment over three years is not expected to have a significant impact on the projected funded ratio



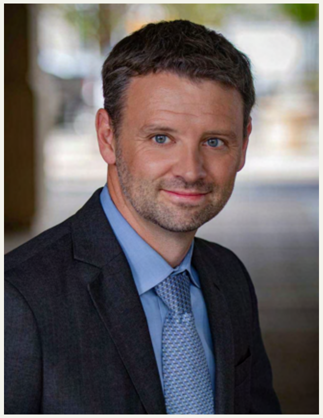
CHEIRON

Under all three scenarios, the projected funded position is stronger than that shown in the prior year AVR, because of the 2021 investment gain



SJCERA Consulting Team

Click card for bio or to contact



Graham Schmidt
Consulting Actuary

Lafayette, CA

Anne Harper
Principal Consulting Actuary

San Diego, CA

Timothy Doyle
Consulting Actuary

Portland, OR

Purpose:

The purpose of this report is to present a review of the economic assumptions for the San Joaquin County Employees' Retirement System (SJCERA)

Intended Users:

This presentation was prepared for the SJCERA Retirement Board for the purposes described herein. This presentation is not intended to benefit any third party. Other users of this presentation are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Reliance:

In preparing our presentation, we relied on information (some oral and some written) supplied by SJCERA. This information includes, but is not limited to, the Plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. The data and actuarial assumptions used (unless modified within this communication) are described in our January 1, 2021 actuarial valuation report.

Variance:

Future results may differ significantly from the current projections presented in this presentation due to such factors as the following: plan experience different from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

2022 CONFERENCES AND EVENTS SCHEDULE 2022

EVENT DATES 2022 BEGIN	END	EVENT TITLE	EVENT SPONSOR	LOCATION	REG. FEE	WEBLINK FOR MORE INFO	EST. BOARD EDUCATION HOURS
Feb 11	Feb 11	Administrators' Round Table	CALAPRS	Webinar	$50	calaprs.org	5 hrs*
Feb 18	Feb 18	Attorneys Round Table	CALAPRS	Webinar	$50	calaprs.org	4 hrs*
Mar 5	Mar 8	General Assembly 2022	CALAPRS	San Diego, CA	$150	calaprs.org	10.5*
Mar 15	Mar 15	Investments Round Table	CALAPRS	Webinar	$50	calaprs.org	4 hrs*
Mar 30	Apr 1	Advanced Principles of Pension Governance for Trustees	CALAPRS	Los Angeles, CA	$500	calaprs.org	9 hrs*
Apr 18	Apr 20	Pension Bridge Annual Conference	Pension Bridge	San Francisco, CA	N/A	Pension Bridge	14.4 hrs*
Apr 29	Apr 29	Trustees Round Table	CALAPRS	Webinar	$50	calaprs.org	5 hrs*
May 10	May 13	SACRS Spring Conference	SACRS	Rancho Mirage, CA	$120	sacrs.org	11 hrs*
Nov 8	Nov 11	SACRS Fall Conference	SACRS	Long Beach, CA	$120	sacrs.org	11 hrs*

** Estimates based on prior agendas*

SAN JOAQUIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

SUMMARY OF PENDING TRUSTEE AND EXECUTIVE STAFF TRAVEL

2022 Event Dates	Sponsor / Event Description	Location	Traveler(s)	Estimated Cost	BOR Approval Date
Mar 5 - 8	CALAPRS General Assembly	San Diego, CA	McKelvey, Shick	$4,000	N/A
Apr 18 - 20	Pension Bridge Annual Conference	San Francisco, CA	McCray	$1,750	1/21/22

San Joaquin County Employees' Retirement Association

February 4, 2022

TO: Board of Retirement

FROM: Johanna Shick
Chief Executive Officer

SUBJECT: Chief Executive Officer Report

Changing of the Guard
March will be a momentous month at SJCERA: about 15 percent of our staff (three people) will be retiring. Last month, you met Brian McKelvey, SJCERA's incoming Assistant CEO (ACEO)—he will be taking the lead on ACEO responsibilities at the February Board meeting. Outgoing ACEO, Kathy Herman, will attend the meeting briefly to say her farewells to Board members—many of whom she has worked with closely during her tenure. Also retiring are Benefits Supervisor Marta Gonzalez and Retirement Technician Mary Chris Johnson. Brian is already determining how to best fill Marta's position, and Margarita Arce and Leonor Gonzalez started on January 31; once trained, they will fill Mary Chris's position and one additional budgeted Technician position.

Strengthen the long-term financial health of the Retirement Plan

a. Evaluate the appropriateness of actuarial assumptions

i. *Conduct Actuarial Experience Study*

Staff has worked with Consulting Actuary, Graham Schmidt, of Cheiron to prepare a draft schedule of deliverables starting with the February 11 Board meeting presentation on SJCERA's economic assumptions—in particular, the assumed rate of return and the effect it has on employer contribution rates and funded status. Because we are doing both an Actuarial Experience study (which could cause us to change our assumptions based on actual experience of the plan) and a full Asset Liability Study this year (which could change our asset allocation, which, in turn could change our discount rate assumption), there are a number of factors that could cause SJCERA to change its actuarial assumptions. Given that, it's a bit soon for the Board to make a firm decision about the discount rate; however, having the presentation and discussion in February helps our employers make informed decisions in planning their 2022-2023 retirement contribution budget estimates.

Looking ahead, we have tentatively scheduled Graham to present the experience study findings on the demographic assumptions and the preliminary valuation results at the June meeting. The final actuarial valuation is scheduled to be presented to the Board in August.

b. Review and confirm or refresh asset allocation

i. *Conduct Asset-Liability Study to assess Board's risk tolerance and the level of risk needed to meet the actuarial assumptions*

Asset-liability related education, information and exercises will be a regular (monthly or nearly monthly) agenda item this year. We kick it off in February, with the Capital Market Expectations (CME) presentation. These expectations are required inputs for mean variance optimization (MVO), which is a tool designed to help investors optimally allocate among different assets by considering the trade-off between risk and return. Generally, MVO is the starting place for designing and analyzing asset allocation options.

Looking ahead to the Board meetings through July, our tentative schedule of events follows. March: Educational Session; April: Statistics/Analysis of Current Strategic Asset Allocation; May: Risk Definition and Voting; June: Strategic Asset Allocation Options—Presentation and Selection; July: Strategic Asset Allocation Portfolio Implementation plan/memo.

ii. *Deliver target investment return*

SJCERA Officially in the 4 Billion Club! The Flash Report, which provides investment return details as of December 31, 2021, confirms SJCERA's asset grew 13.6 percent net year-to-date (almost double our assumed rate of return of 7 percent), bringing our assets under management (AUM) to a new all-time high of $4.06 billion. This bodes well for improving our funded ratio again this year.

Meketa's Personnel Change. Private markets analyst Aleem Naqvi left Meketa for another opportunity in January 2022. Aleem was the Private markets analyst that worked with Judy Chambers and David Sancewich on SJCERA's account. Judy and David will continue to oversee the relationship, and they are working to bring a new analyst up to speed on SJCERA portfolio. Two other Meketa staff departures were recently in the news; however, neither of these affect SJCERA and Meketa reports the turnover rate and timing is consistent with company's historical trends. It is not anticipated that this personnel change will affect Meketa's investment guidance or SJCERA's results as the principals and thought leaders assigned to SJCERA remain the same.

Raven Opportunity Fund II Imminent Liquidation. Raven requested the Limited Partner Advisory Committee's (LPAC) consent to sell the last asset in Opportunity Fund II (a film library asset) early. SJCERA is one of the two members of the LPAC. After discussing with Raven, Investment Consultant David Sancewich and staff determined it was to SJCERA's advantage to allow the earlier liquidation of this asset. In accordance with SJCERA's *Investment Role and Responsibilities* policy, which authorizes staff to take actions such as these on time-sensitive, routine requests or administrative items related to SJCERA's investment program, I signed the consent form in January.

White Oak Yield Spectrum Fund V Update. SJCERA received an anonymous letter regarding one of the White Oak Yield Spectrum Fund V investments - a UK coal company called Atlantic Carbon. Atlantic Carbon has recently defaulted on one of their loans, and White Oak has taken Atlantic Carbon to court, where they expect reasonable recovery from the assets. SJCERA staff and Meketa are aware of the situation, and are monitoring it closely.

Modernize the operations infrastructure

a. Implement Pension Administration System (PAS)

i. *Contract with PAS Vendor*

Linea Solutions and SJCERA are reviewing the final requirements documents and plan to release both the PAS RFP and the Data Conversion RFP on February 10. Although the RFPs allow any qualified vendor to submit proposals, Linea will be sending the RFPs directly to a targeted list of pension solution vendors and data conversion vendors in expectation of their participation. Once proposals have been received, SJCERA staff will critically review the responses, conduct vendor interviews, and take the necessary steps to complete the selection process.

b. Enhance the member experience

i. *Complete improvements to website architecture and functionality*

Website design options and site map have been completed by Rolling Orange and are being reviewed by staff. SJCERA plans to reach out to participating employers and members to elicit feedback on design and site map options. Users' feedback will help us design the site and incorporate content in ways our employers and members understand and can easily navigate.

   ii. *Other member experience enhancement efforts*
   Staff emailed all active members encouraging them to enroll in the February 3, 2022 Understanding Your Retirement Benefit webinar, a 60-minute presentation explaining the SJCERA retirement benefit including what it means to be vested, how the benefit is calculated, how to purchase service credit and more. A copy of the email is attached for your reference.

c. Improve the employer experience
To assist employers with budgeting their 2022-2023 retirement contributions, I encouraged them to attend (in person or via Zoom) the February 11 Board meeting to hear the discount rate presentation. If the Board were to lower the rate in light of current capital market expectations, it would likely increase the amount employers need to budget for retirement contributions. A copy of the email is attached for your reference.

Align resources and organizational capabilities

a. Develop and implement a workforce planning process
   i. *Address project staffing and training needs*
   The Board-approved budget included filling one additional (previously vacant) technician position in preparation for the reallocation of other staff member's time to the project. That position has now been filled and training has begun. Staff anticipates additional resources will be needed as the project progresses and those resources will need to be engaged with sufficient orientation/training time to ensure productivity during peak project workload periods.

b. Enhance education and development across all levels of the organization
   i. *Offer training and development opportunities intended to strengthen SJCERA's on-boarding and succession planning*
   Employee engagement is heightened by excellent communication. In line with that, I provided SJCERA's managers and supervisors the nine key phrases identified as vital to enhancing engagement in a study of 250,000 Chief Human Resource Officers and Management Executives.

c. Implement practices to support Board continuity and evolution
To provide context for decision making, and to respond to the Board's previously expressed interest in developing an awareness of other retirement systems' actions, staff has provided a number of articles and studies reporting on other retirement systems. (This is the time of year when these types of reports and articles are published, so there is a fair amount of reading material included with the February meeting's materials). I draw your attention to two in particular: the *2021 NCPERS Public Retirement Systems Study* and the *Public Pension Funding Index* both of which provide comparative information on a national basis. The NCPERS study is more comprehensive, including 156 state and local pension funds, and includes information about actuarial assumptions (such as assumed rate of return, and inflation, which will be discussed at the February meeting), plan design (such as COLA, the pay types included in calculations), and investment performance. The *Public Pension Funding Index* reports on the 100 largest systems and focuses primarily on investment performance and funding.

Maintain Business Operations

a. Mailed IRS Form 1099-R to members timely
The 1099-R team successfully produced and arranged for the mailing of 1099-R forms by January 26. Kudos to Finance Officer Carmen Murillo, Investment Accountant Eve Cavender, Accounting Technician II Marissa Smith, and Information Systems Specialist II Jordan Regevig on a job well done (and for which they were named Employees of the Month)! The County mail room praised the team for hitting their production deadlines, noting that "so many departments are struggling this year." SJCERA's small but mighty team rose to the challenge again—despite increased COVID related

absences, many employees new in position, and a myriad of other challenges, the team produced SJCERA's annually required tax forms ahead of the January 31 deadline. Impressive!

b. Legislative report pending relevant bill introductions
The State Legislature reconvened on January 3 and the last day for new bills to be introduced is February 18. Management Analyst III Greg Frank's search for new bills did not yield anything significant this early in the legislative season. The SACRS-proposed legislation will be introduced prior to the February 18 deadline; half in an Assembly annual cleanup bill, with the remainder proposed by Assemblymember Cooper. We anticipate having a full Legislative Report at the March Board meeting.

c. Board of Retirement Safety member election preparations underway
Management Analyst III, Greg Frank, has begun initial work with the Registrar of Voters' Office for the upcoming Board of Retirement Safety Member election. In general, candidacy paperwork becomes available for pick up at the Registrar of Voters' Office in mid-April and must be submitted by early May. The election occurs in June, and the new term of office begins July 1.

d. Declining Employer Payroll Report
In compliance with SJCERA's *Declining Employer Payroll* policy, Management Analyst III, Greg Frank prepared the attached, annual Declining Employer Payroll report. It is staff's assessment that employers continue to enroll new hires and any reduction in payroll is either immaterial or not expected to be long-lasting. As a result, it is staff's opinion that the data does not require the Board to determine whether a "triggering event" has occurred.

Manage Emerging Organizational Needs

a. Participating in facility ownership transition discussions
As you're aware, the County recently purchased the building in which SJCERA's office is located. ACEO Brian McKelvey and I met with Connie Hart, Assistant Director of General Services, to discuss the transition. She invited SJCERA to have a representative on the design team, so that if there are enhancements the County intends to make to the rest of the building that would also benefit SJCERA (such as enhanced electrical, HVAC, or other items), we have the opportunity to make those requests known. We were also informed that the District Attorney's Office intends to start using their portion of the parking garage. As I write this report, they have not yet exercised that option; however, visitor parking should still be available for trustees, for those that drive to Board meetings.

Conclusion

The sentiment I expressed in 2018 still holds true today: SJCERA's experienced, long-term trustees and staff combined with the fresh perspectives of new trustees and staff makes for a strong, dynamic team. The knowledge of our history (our roots) provides stability, while the questions raised by newcomers provide opportunities to grow and improve. In the words of Pauline R. Kezer, "Continuity gives us roots; change gives us branches, letting us stretch and grow and reach new heights."

New trustees and new staff alike are jumping right in, and we are working hard to help everyone get oriented. Thank you one and all for your contributions to SJCERA and your service to our members.

Subject: [EXT] Retirement in 60 Minutes – Unexpected Opportunity
Date: Wednesday, February 2, 2022 at 3:45:19 PM Pacific Standard Time
From: ISD Service Desk [ISD]
To: ISD Service Desk [ISD]
Attachments: image001.png

Sent on behalf of Johanna Shick, Chief Executive Officer, SJCERA:
(Sent to all County Employees)

Retirement in 60 Minutes – Unexpected Opportunity
February 3, 2022 – 9:00 A.M. virtual presentation explaining your SJCERA retirement benefit

Still time to register! Normally this seminar is full, but you can take advantage of this last minute opportunity and learn more about your retirement benefits.

Click here to **register for the February 3, 2022 seminar** or visit the **Active Members - Seminars page** to register for events offered on other dates.

You will receive the Zoom link via email immediately after you complete your registration. The seminar can be accessed via zoom on your computer or mobile device. Save the email with the Zoom link to access the seminar. This 60 minute virtual seminar is for those full-time civil service County employees and employees of SJCERA's other participating employers who would like to learn more about their retirement benefits. How is your retirement benefit funded? How long does it take to be vested? How is the benefit calculated? Is it possible to buy service credit? These and many more questions will be answered during this informative, interactive session.

Thank you,

ISD Service Desk
Information Systems Division
San Joaquin County
209-953-HELP (4357)

Subject: Budgeting & the 2/11 Board of Retirement meeting
Date: Thursday, February 3, 2022 at 11:59:56 AM Pacific Standard Time
From: Johanna Shick
To: jwilverding@sjgov.org, beriley@sjcourts.org, Phillip Merlo, jsschroeder@sjgov.org, okhweiss@sjmosquito.org, spinkerton@sjgov.org, spinkerton@sjgov.org, tpcd@att.net, jcapper1@lmfire.org, ewalder@wmfire.org
CC: Regalo, Sandra [CAO], Hopkins, Brandi [HR], sbohrer@sjcourts.org, migreen@sjcourts.org, lcourtright@sjcourts.org, emnicholas@sjmosquito.org, sragsdale@sjgov.org, lmadoski@lmfire.org, hsalazar@lmfire.org, Yolanda Palermo
Attachments: image001.jpg

Dear SJCERA employers,
I am pleased to report that SJCERA's preliminary net-of-fee 2021 investment return, is 13.6%, nearly double our assumed rate of return of 7%. While one strong year is not a cure-all, it's a good step toward improving the funded status of the retirement system. This is a marathon, not a sprint!

Many of you are in the process of planning your 2022-2023 fiscal year budgets. At its February 11 meeting, the Board of Retirement will hear a presentation and discuss whether to retain the current assumed rate of return (also referred to as "discount rate") or change it. The current rate of 7% annually, is higher than the industry's current capital market expectations (CMEs). Based on the CMEs, SJCERA's investment consultant estimates that SJCERA's current portfolio will earn, on average, 6.55% annually during the upcoming 20-year period. Lowering the assumed rate of return, generally increases contribution rates; however, any increase in rates would be offset (at least in part) by actuarial gains, such as higher than expected investment returns.

I encourage you to attend (either in person or via Zoom) the February 11 Board meeting so that you have the opportunity to hear the Board presentation/discussion and have an opportunity to provide comments. I am hopeful the presentation (which will include impact on cost for employers) will be helpful in developing your 2022-2023 retirement contribution budget estimates. Board materials and a link to the meeting are scheduled to be posted on SJCERA's website by end of day Friday, February 4.

As always, if you have any questions, please feel free to contact me.

Best regards,

Johanna

SAN JOAQUIN C E R A

Johanna Shick
Chief Executive Officer
6 South El Dorado Street, Suite 400 | Stockton, CA 95202
Office 209.468.2163 | Fax 209.468.0480 | www.SJCERA.org

San Joaquin County Employees' Retirement Association: 75 Years as Your Trusted Financial Steward

February 4, 2022

TO: Board of Retirement

THROUGH: Johanna Shick, CEO

FROM: Greg Frank, MA III

SUBJECT: Declining Employer Payroll Report

Background
The purpose of the Board's Declining Employer Payroll policy is to establish guidelines by which SJCERA intends to assure that a participating employer experiencing a declining active member payroll would continue to satisfy its obligation to timely pay all unfunded actuarial accrued liabilities (UAAL).

Currently, SJCERA's employers pay contributions based on a percentage-of-payroll. If an employer's covered payroll is declining or is expected to decline over time, a different methodology to fund the UAAL would need to be determined. The policy directs the CEO to work with staff, the actuary, and participating employers to obtain the information needed to annually report if there are any declining payroll triggering events. This memo is intended to fulfill the annual reporting requirement.

Recommendation
No action required at this time. My analysis identified no triggering events and all SJCERA participating employers have made their required contribution payments with three employers (the County, the Superior Court, and the Mosquito and Vector Control District) making additional contributions.

It is further recommended for staff and counsel to monitor the incorporation process of Mountain House Community Service District for any potential future impacts.

Summary of Analysis
The policy defines two types of triggering events: (1) Ceasing to enroll new hires and (2) A material and expected to be long-lasting reduction in SJCERA-covered payroll. Analysis of each follows.

1) *Triggering event resulting from ceasing to enroll new hires.*

   To analyze if employers are ceasing to enroll new hires, I compared the active member data (from SJCERA's Comprehensive Annual Financial Report) to employer full-time equivalent (FTE) data (from employer documents). Allocated FTE data includes filled and funded vacant positions, along with part-time positions converted to FTEs. Vacant positions and part-time employees are not included in SJCERA's member data. I would expect to see the percentage of members to FTEs to either increase or remain fairly stable. If the percentage of members to FTEs begins decreasing, additional investigation may be required to determine if the employer is avoiding hiring employees into retirement-eligible positions.

   It is not a perfect comparison because employer FTE data is reported on a fiscal year end of June 30 and SJCERA's member data is on the calendar year end of December 31. The majority of employers have an increase in both Members and FTEs from 2017 to 2020. The primary driver of employers who have a decline in FTEs is a result of turnover and not due to the elimination of positions, the cessation of hiring employees into SJCERA-eligible positions, or the exclusion of eligible employees from SJCERA enrollment. As the chart below indicates, the number of Total Members compared to Total FTEs ranges between 81.1 percent to 85.5 percent for 2017 to 2020.

The only known issue of employers ceasing to enroll new hires was identified in 2018 and that situation has been resolved. When staff became aware that a special district was not enrolling new full-time employees hired after January 1, 2007, the two employees were enrolled and the employer paid the past due contributions.

We have been notified that Mountain House Community Services District is in the process of incorporating. Government Code 31468 defines district to include, "…any city…and any other political subdivision…formed or created under the constitution or laws of this state and located or having jurisdiction wholly or partially within the county." Government Code 31557 states, "In the case of districts for which the board of supervisors is not the governing body, the governing body adopts by a two-thirds vote, a resolution providing for the inclusion of the district in the retirement association and the board, by majority vote, consents thereto." Mountain House representatives have indicated they intend to continue their participation in SJCERA.

The County Hospital and Dignity Health have signed a letter of intent to enter into a long-term affiliation. The County has indicated there is no current plan for ownership change, and therefore, existing Hospital employees would remain County employees and members of SJCERA. While it is anticipated that new hires would also be County employees, should changing circumstances during or after negotiations and or the long-term affiliation potentially affect new hires' employment or membership in SJCERA, I would suggest hiring Cheiron to do a study regarding the impact of ceasing to enroll new hires.

	Member to FTE Comparison							
Employer	**2017**	2017-18 Annual % Change	**2018**	2018-19 Annual % Change	**2019**	2019-20 Annual % Change	**2020**	Avg. Annual % Change
County								
Members[1]	5,812	3.6%	6,021	-0.8%	5,970	0.2%	5,980	1.0%
FTEs (Allocated)[2]	7,036	1.1%	7,114	1.9%	7,252	2.7%	7,447	1.9%
Member/FTEs	82.6%		84.6%		82.3%		80.3%	
Superior Court								
Members	299	-0.3%	298	4.7%	312	-5.8%	294	-0.6%
FTEs	314	-2.5%	306	5.7%	324	-0.8%	321	0.8%
Member/FTEs	95.2%		97.4%		96.4%		91.6%	
Lathrop Manteca Fire District (LMFD)								
Members	35	25.7%	44	9.1%	48	-2.1%	47	11.4%
FTEs	36	4.2%	38	20.0%	45	4.4%	47	10.2%
Member/FTEs	97.2%		117.3%		106.7%		100.0%	
Mosquito & Vector Control District (MVCD)								
Members	34	5.9%	36	0.0%	36	-2.8%	35	1.0%
FTEs	36	-2.8%	35	2.9%	36	-2.8%	35	-0.9%
Member/FTEs	94.4%		102.9%		100.0%		100.0%	
Mountain House Community Services District (MHCSD)								
Members	23	17.4%	27	3.7%	28	-3.6%	27	5.8%
FTEs	20	17.5%	24	12.8%	27	7.5%	29	14.2%
Member/FTEs	115.0%		114.9%		105.7%		94.7%	
Waterloo Morada Fire District (WMFD)								
Members	17	-5.9%	16	6.3%	17	17.6%	20	5.9%
FTEs	16	12.5%	18	-5.6%	17	11.8%	19	6.3%
Member/FTEs	106.3%		88.9%		100.0%		105.3%	
Tracy Public Cemetery								
Members	6	0.0%	6	16.7%	7	14.3%	8	11.1%
FTEs	6	0.0%	6	16.7%	7	0.0%	7	5.6%
Member/FTEs	100.0%		100.0%		100.0%		114.3%	
Historical Society								
Members	1	300.0%	4	0.0%	4	0.0%	4	100.0%
FTEs	2	100.0%	4	0.0%	4	0.0%	4	33.3%
Member/FTEs	50.0%		100.0%		100.0%		100.0%	
Law Library								
Members	2	-50.0%	1	100.0%	2	0.0%	2	0.0%
FTEs	2	-50.0%	1	100.0%	2	-50.0%	1	-16.7%
Member/FTEs	100.0%		100.0%		100.0%		200.0%	
Total Members	**6,229**	**3.6%**	**6,453**	**-0.4%**	**6,424**	**-0.1%**	**6,417**	**1.0%**
Total FTEs	**7,468**	**1.0%**	**7,545**	**2.2%**	**7,713**	**2.5%**	**7,909**	**2.0%**
Member/FTEs	**83.4%**		**85.5%**		**83.3%**		**81.1%**	

[1] – Members data from Comprehensive Annual Financial Report Schedule of Participating Employers
[2] – FTE data is from annual employer reports (if available) or provided directly by the employer

2) *Triggering event resulting from a material and expected long-lasting reduction in SJCERA-covered payroll.*

Per the Pensionable Payroll chart below, there is no long-lasting reduction in covered payroll and all employers have had an increase in pensionable payroll from 2017 to 2020, with a Total Average Annual Percent Change of 2.7 percent.

As noted above in the discussion about the County Hospital and Dignity Health, no reduction in SJCERA covered-payroll is anticipated if both existing and future hire employees remain County employees and members of SJCERA. However, if circumstances change, I would suggest hiring Cheiron to do a study regarding the impact of a reduction in pensionable payroll.

	Pensionable Payroll[1]							
Employer	**2017**	2017-18 Annual % Change	**2018**	2018-19 Annual % Change	**2019**	2019-20 Annual % Change	**2020**	Avg. Annual % Change
County	399,071,707	2.3%	408,148,298	3.7%	423,208,843	1.6%	429,994,745	2.6%
Superior Court	18,342,308	5.4%	19,328,951	5.1%	20,315,771	-3.9%	19,521,004	2.1%
LMFD	2,782,703	18.6%	3,298,967	6.5%	3,513,665	6.5%	3,743,525	11.5%
MVCD	2,432,592	-0.1%	2,429,420	7.2%	2,603,914	4.9%	2,732,383	4.1%
MHCSD	1,757,811	13.2%	1,990,698	12.6%	2,241,456	7.5%	2,408,599	12.3%
WMFD	1,094,499	-0.4%	1,090,298	8.9%	1,187,062	17.6%	1,395,677	9.2%
Tracy Public Cemetery	260,460	4.0%	270,936	11.1%	301,079	14.7%	345,388	10.9%
Historical Society	125,613	8.3%	136,012	70.3%	231,608	-1.2%	228,822	27.4%
Law Library[2]			69,867	53.4%	107,186	-19.0%	86,791	12.1%
Total	**425,867,693**	2.6%	**436,763,447**	3.9%	**453,710,584**	1.5%	**460,456,934**	2.7%

1 – The pensionable payroll information is taken from the annual GASB 67/68 reports
2 – The Law Library 2017 pensionable payroll has been excluded from the chart because the unfilled Director position skews the percentages

The member and pensionable payroll information for 2021 are not yet available and consequently will be included in next year's report.

Bridgewater®
Daily Observations
January 14, 2022

(203) 226-3030

Karen Karniol-Tambour
Ross Tan
Dina Tsarapkina
Joe Sondheimer
Will Barnes

The Evolution of Institutional Investors' Exposure to Cryptocurrencies and Blockchain Technologies

Exploring the different ways institutions are gaining exposure to cryptocurrencies and how these exposures are likely to play out over time.

While cryptocurrencies have been in a drawdown of late, these declines are coming after huge rallies; Bitcoin and Ether remain 4 times and 10 times respectively more valuable than they were just 18 months ago. These run-ups took place during a time of unprecedented liquidity, as trillions of dollars of central banks' money printing made its way to households via fiscal policies. Over this period, the liquidity of cryptocurrencies significantly increased as many new players entered the markets, and new exchanges, instruments, and service providers to support digital asset investing have continued to mature. **Although these remain small markets relative to the most liquid markets in the world, we believe crypto markets are now large enough to allow for positions in sizes relevant to institutional investors.**

Looking ahead, we are following how flows into cryptocurrencies evolve in an environment of much less liquidity (and even real tightening). While any asset will have its ups and downs, we are closely tracking whether institutional investors begin to adopt the asset class into their portfolios. **At a high level, we see institutional investors as still being at the very early stages of developing exposures, but adoption looks likely to pick up in the coming years.** The pace of adoption so far has been rapid , especially in smaller institutions (e.g., family offices), such that it bears watching closely. We see institutional investors beginning to access these markets in a few distinct ways for different purposes:

1. **Outright exposure to cryptocurrencies:** This is the most relevant to watch, since it could grow significantly in size and impact the overall risk and asset allocation of large institutions. The most liquid and common cryptocurrency for outright direct exposure is Bitcoin, which, as we've written previously, is a potential "digital gold" asset. There is also growing interest and liquidity in Ethereum, a blockchain-based computing platform, whose native currency, Ether, is required as "fuel" to power the decentralized apps on its network—akin to a "digital oil." Exposure by smaller institutions (e.g., family offices) has grown rapidly. For the largest institutional investors, exposure is much lower but rising, with adoption still held back in part by significant operational and regulatory concerns.
2. **Exposure to arbitrage and money-making opportunities:** The size of potential opportunities in any pool of liquidity can be measured by how often it trades and how high its volatility is. The crypto ecosystem has quickly emerged as a sizable pool of liquidity from this perspective, so we are seeing players step in to trade it. In turn, it is slowly becoming a part of institutional investors' alpha risk budget as they begin to gain access to these opportunities through their holdings of hedge funds expanding into this area as well as some new crypto-specific funds.
3. **Exposure to technological growth via venture capital or equities:** A large number of new businesses utilizing blockchain tech are being formed, and institutional investors are increasingly investing in them through venture capital or the few listed public equities in the space. This is generally an easy way to gain exposure, as it fits neatly into existing investment mandates and competencies. That said, venture and a few specific public equity names can only be a relatively small part of large institutions' asset allocations.

Below, we size each of these activities. We begin with our assessment of the size of the market.

Size of the Market and Paths to Exposure

Below, we give a rough sense of the allocation share that Bitcoin and Ether could have in a liquid institutional portfolio relative to other assets. In assessing liquidity, we take into account market cap, trading activity, and other relevant characteristics. We have normalized each market relative to US equities, the single most liquid and accessible market in the world. **Cryptocurrencies are still far from being huge markets, but Bitcoin and Ether are now large and liquid enough that institutional investors could access them in relevant size.** For example, we think that Bitcoin is about 1.4% as liquid as US equities; this would entail holding a much smaller capital position in the liquid mix, but its high volatility means that a relatively small allocation in dollar terms would still give meaningful exposure on a risk-adjusted basis. As a result, our rough estimate would be that an institutional investor could build a liquid cryptocurrency allocation that is comparable in risk exposure to gold or inflation-linked bonds.

	Liquidity vs US Equities	Volatility	Volatility-Adjusted Liquidity vs US Equities
Crypto	**2.0%**		**11.1%**
Bitcoin	1.4%	75%	7.6%
Ethereum	0.6%	75%	3.4%
Gold	**8.0%**	**14%**	**7.9%**
IL Bonds	**31.9%**		**16.9%**
USA TIPS	15.4%	7%	8.1%
GBR ILs	9.6%	8%	5.7%
EUR ILs	6.8%	6%	3.1%
US Long Rates	**84.1%**	**6%**	**36.6%**
US Equities	**100.0%**	**14%**	**100.0%**

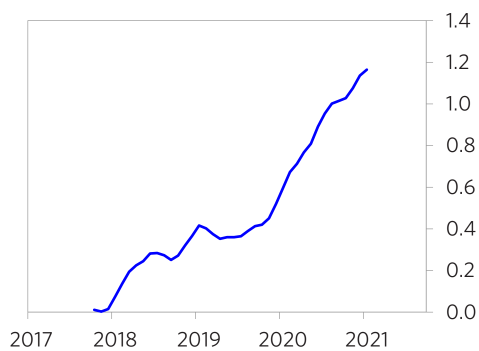
However, cryptocurrencies are still operationally difficult for large institutional investors to access. Holding cryptocurrencies outright requires the development of new operational pathways and approvals for institutional investors. Spot bitcoin (and related derivatives) traded via crypto exchanges or over-the-counter (OTC) with specialist brokers are the most liquid instruments. However, these come with risks around custody and newer counterparties and require setup of new operational and execution capabilities. In contrast, futures-based ETFs and Bitcoin CME futures are available through existing institutional pathways but represent a small share of the total liquidity. The CME futures also often trade at a premium to spot and have an associated basis risk (that has often ranged well above 10% annualized). As a publicly traded security, the Grayscale Bitcoin Trust is an easily accessible and well-regulated product. However, it is a closed-end fund that is not redeemable for actual bitcoin, creating material basis risk, and it is currently trading at a sizable discount to NAV. It also charges 2% annual management fees, high for a passive product. There are also other similar fund products that passively track Bitcoin, Ether, or a broader basket of crypto, but these all involve meaningful fees and/or have limited liquidity. As such, unless the SEC approves a spot bitcoin ETF, accessibility for large institutional investors will remain constrained by the development of custody and counterparty services.

	Liquidity	**Risks**		**Costs**		
Instrument		Basis Volatility	Operating	Setup	Current Basis	Fees
Spot Bitcoin	High	-	Middle	High	-	Middle
Bitcoin CME Futures	Middle	16%	Low	Low	+2%	Low
Bitcoin Futures ETF	Middle	16%	Low	Low	+2%	Middle
Grayscale Bitcoin Trust	Low	24%	Low	Low	-20%	High

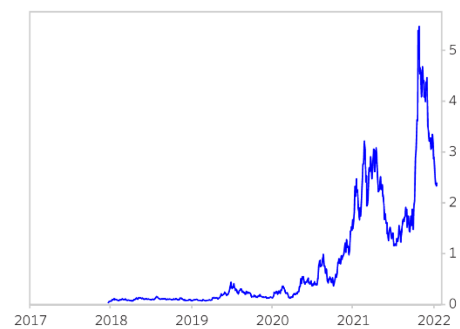
Our Rough Assessment of the Size of Direct Exposure by Institutional Investors

On net, we estimate that ~1 million bitcoin (around 5% of total issued supply, ~$42 billion by current prices) are now held by institutional-level players via custodial intermediaries. CME Bitcoin futures, which have ranged between ~$1-5 billion outstanding over the past year, are small in comparison. This includes both larger institutions and smaller institutions such as family offices, as well as some particularly high-net-worth individuals. Custodial intermediaries are a popular option for such players, as it removes the technological, security, and infrastructure hurdles associated with cryptocurrencies and allows them to have exposure to the asset directly without relying on structured products, which have fees, or actively managing an outright position through futures.

Estimated Institutional Spot Holdings of BTC (Mln)



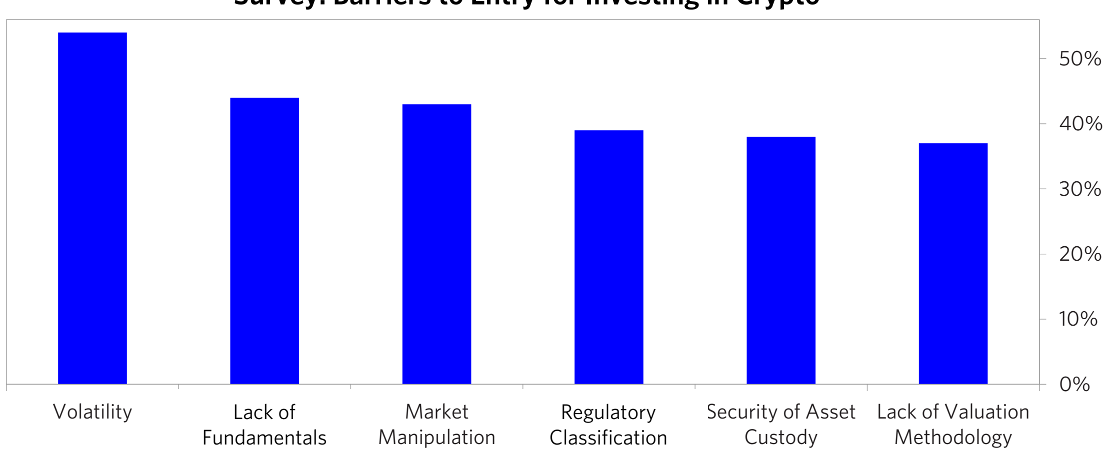
CME BTC Futures Open Interest (USD, Bln)



Going Forward, Direct Allocations by Institutions Are Likely to Rise

There has been a meaningful uptick in interest toward gaining some exposure to Bitcoin and crypto over the past year or so, across all levels of institutional investors. When we look at what is holding institutions back, some of the barriers cited in surveys are about the nature of the asset class (e.g., it is volatile, hard to value, etc.), and others are more structural (e.g., custody issues and regulatory uncertainty). However, the surveys also indicate that a majority of respondents are interested in digital assets, with nearly 8 in 10 institutions surveyed by Fidelity responding that crypto and digital assets "have a place in a portfolio." We see outright exposures to crypto from large allocators as likely to grow over time, as institutional-quality investment products and service providers continue to develop at a fast pace and more investors and their stakeholders continue along their processes of exploring the asset class. The investment by many of the major Wall Street banks over the last year in building out new trading desks and infrastructure for Bitcoin and crypto is another indication of expectations that institutional adoption of crypto will grow over the longer term.

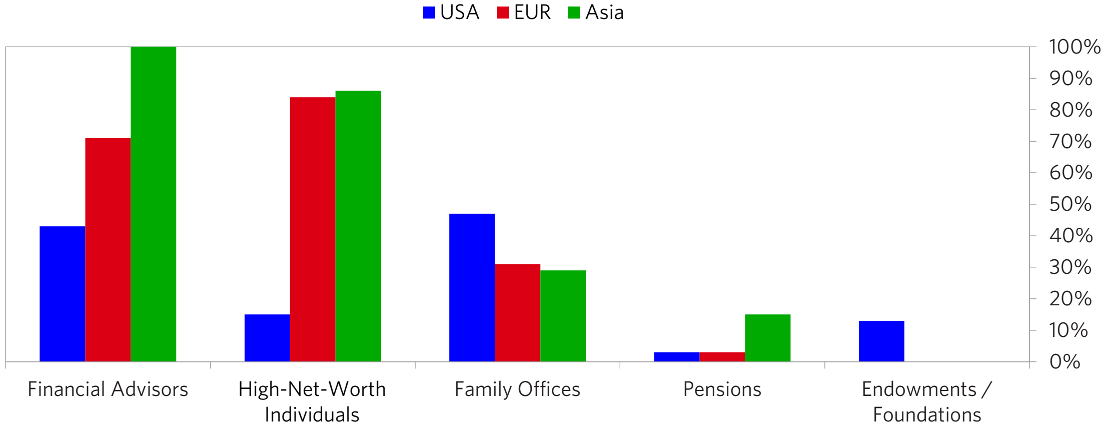
Survey: Barriers to Entry for Investing in Crypto



Source: Fidelity Institutional Digital Assets Survey

At the tip of the spear, a growing and meaningful share of less-constrained institutional investors, such as family offices, have already begun to allocate a small portion of their assets to outright crypto exposure. As shown below, well over half of high-net-worth investors in Europe and Asia have access to digital assets, directly or through financial advisors. The number is lower in the US but still sizable. Additionally, about half of US family offices and about 30% of family offices in Europe and Asia already hold digital assets.

Current Adoption of Cryptocurrencies by Investor Type



Source: Fidelity Institutional Digital Assets Survey

The Growth in Crypto Arbitrage and Money-Making Opportunities for Institutional Investors

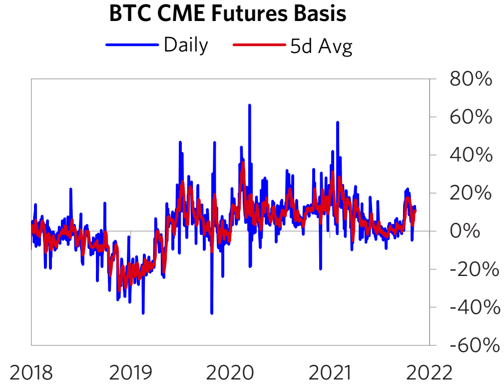
The size of potential opportunities in any pool of liquidity can be measured by how often it trades and how high its volatility is. As shown above, the crypto ecosystem has quickly emerged as a sizable pool of liquidity from this perspective, so we are seeing players step in to trade it.

Traditional hedge funds have started to tiptoe into the space as opportunities have grown. According to PWC's survey for 2020, 21% of traditional hedge fund respondents had some allocation to crypto (~3% of AUM on average), with most intending to deploy more capital at some point in the future. A Fidelity survey similarly found that about 15% of traditional hedge funds now have a crypto allocation. The types of hedge funds that have made crypto allocations are mostly either quantitative/high-frequency trading (HFT) funds or long-short equity funds.

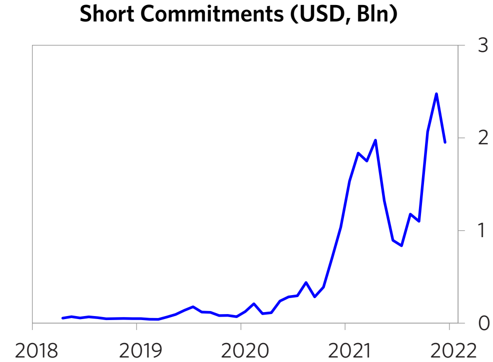
For quant/HFT funds, the opportunity is to extend their existing market-making and statistical arbitrage processes into markets that now have meaningful volumes but remain much more inefficient and offer much higher spreads than traditional assets. For long-short equity funds, their engagement in Bitcoin and crypto has also often been via an extension of strategies such as factor-based investing, tail-risk hedging/asymmetric bets, or stock-picking.

One strategy that is currently popular among hedge funds is the market-neutral "cash and carry" trade. As noted above, Bitcoin CME futures frequently trade at a sizable premium to spot, driven by the lack of dollar funding within the crypto markets relative to demand by speculators for additional leverage. Buying spot bitcoin and selling CME futures has collected an ~10% annualized return since mid-2019 (the start of the recent crypto bull cycle). The charts below show the premiums over time and the size of the short positions by hedge funds that are likely engaging in this trade.

BTC CME Futures Basis

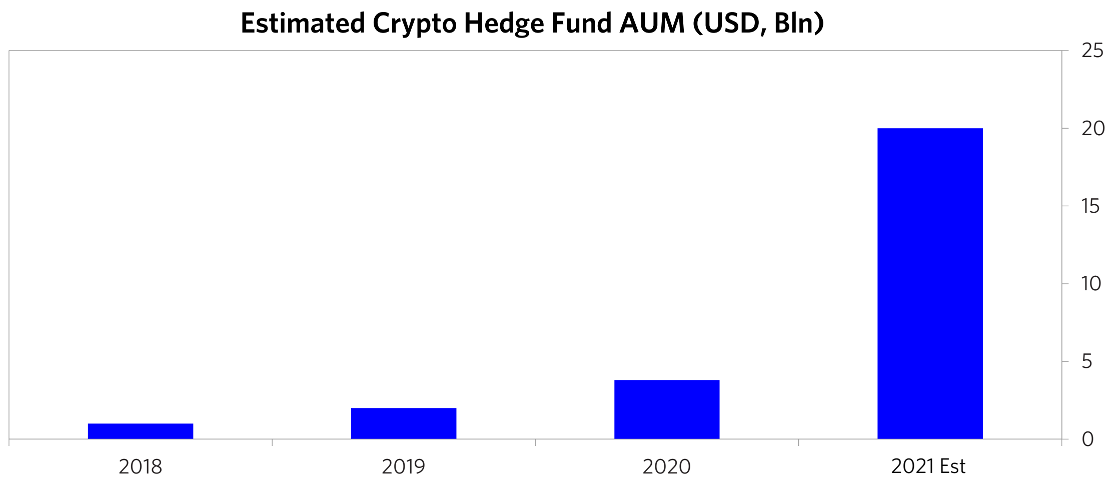


Leveraged Fund Bitcoin Futures Short Commitments (USD, Bln)



Up until early 2021, a similar trade was available through the Grayscale Bitcoin Trust (GBTC), enabled by the idiosyncrasies of the product. GBTC shares had been trading at a persistent premium to NAV for many years, but accredited investors could subscribe in primary placements for new GBTC shares issued at NAV, with a six-month lockup before secondary market sales were enabled. Hedge funds engaging in this strategy would borrow bitcoin to exchange for GBTC, then sell those GBTC shares for a 10-20% premium to spot bitcoin price after six months, pocketing the difference. However, this opportunity has unraveled since 2021, as the supply of GBTC grew rapidly from funds crowding in, while retail demand for GBTC shares on the secondary market faded due to competition from other Bitcoin products and instruments.

Crypto-specific hedge funds are also starting to emerge, specializing in strategies primarily intended to access crypto assets directly on native platforms and, in some cases, bridge inefficiencies between crypto-linked assets in traditional finance and their corresponding on-chain products. As shown below, estimates of total AUM remain relatively modest, at about ~$20 billion. Many of the largest crypto-native active managers have both hedge fund and VC arms, which can often entail both overlaps and some synergies but makes it difficult to cleanly attribute AUM. Some of the largest crypto funds are also now effectively "prop shops" that do not accept outside capital.



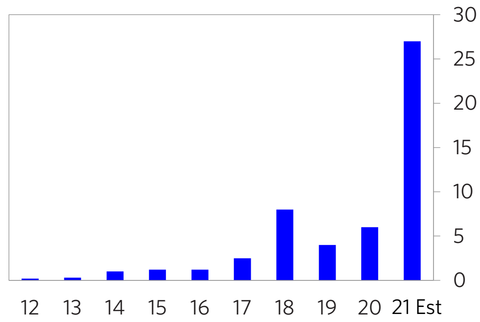
Source: PWC Crypto Hedge Fund Survey; 2021 estimate is Bridgewater's

Crypto hedge funds, which specialize in digital assets generally, come in one of two flavors—those that focus on higher-risk directional strategies and those that favor more market-neutral strategies, such as high-frequency trading, market-making, and arbitrage. There are also an increasing number of funds focusing on strategies that are more niche or idiosyncratic to crypto, such as "farming" yield across decentralized finance protocols (DeFi) or trading non-fungible tokens (NFTs). Crypto hedge funds can, by design, move quickly to take advantage of new alpha opportunities in the space as they arise, though the custodial and compliance risks entailed in doing so are unlikely to be acceptable for larger institutions.

Indirect Exposure via Venture Capital or Public Equities

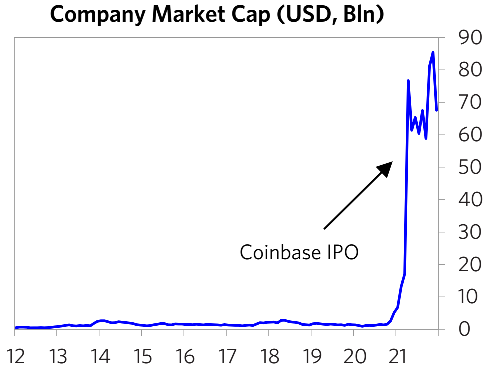
Many entrepreneurs are betting that blockchain technologies will become a backbone of much of the global economy over time and are building businesses using these technologies. These range from new crypto asset exchanges to DeFi protocols that are seeking to rebuild traditional finance functionality in these new technologies to many other industries being reimagined (e.g., digital art, gaming, social networks, sharing-economy platforms). For institutional investors, investing in these companies provides exposure to the potential of distributed ledger technologies—or indirect exposure to the cryptocurrencies themselves in some cases. Exposure is small relative to their large balance sheets but easy to do, as they often already have buckets carved out for VC, and a few large IPOs in the last year or so created public equities that can provide exposure. As shown below, venture funding for cryptocurrency and blockchain companies more than quadrupled to over $25 billion in 2021, and a number of high-profile IPOs in the space monetized large gains for early investors and created public equity exposure opportunities. Crypto exchanges are a particularly popular growth investment for institutions, and we've seen several large investors take stakes in FTX, Gemini, and of course the publicly listed Coinbase.

Global VC Investment Spending in Crypto & Blockchain (USD, Bln)



Source: Pitchbook

Publicly Traded Crypto & Blockchain Company Market Cap (USD, Bln)



Public Pension Funding Index, 4th quarter 2021

By Rebecca A. Sielman
21 January 2022

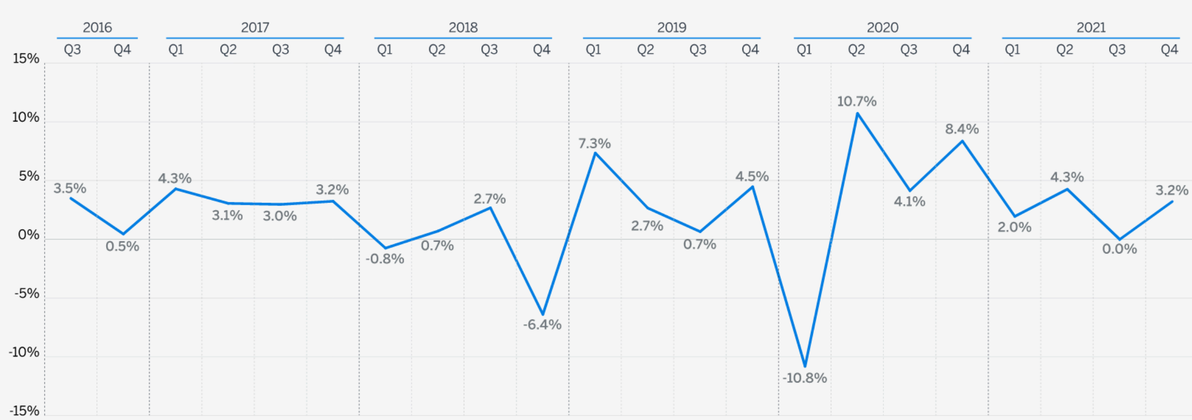
Q4 investment performance of 3.21% improves funded status by $86 billion in Q4 2021

While investment performance was lackluster in the third quarter (Q3) of 2021, Q4 brought new high-water marks for both assets and liabilities for public pensions. The estimated funded status of the 100 largest U.S. public pension plans increased from 83.9% at the end of September 2021 to 85.5% at the end of December 2021, as measured by the Milliman 100 Public Pension Funding Index (PPFI). The deficit between the estimated assets and liabilities shrank to $833 billion at the end of December 2021, down from $919 billion at the end of September 2021. Plans are now at the highest funding levels since the PPFI began in September 2016.

FIGURE 1: FUNDED STATUS

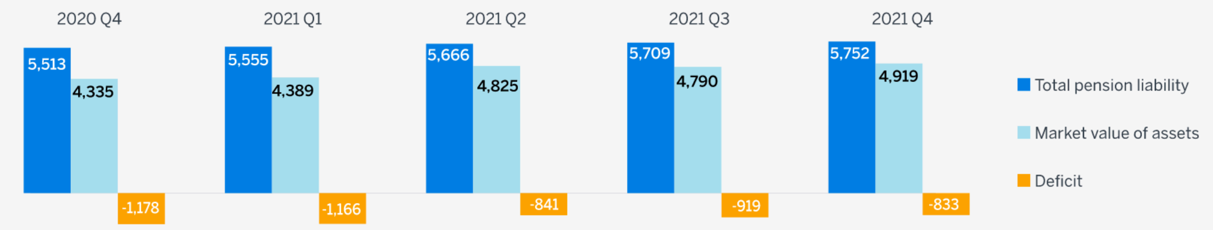
In aggregate, we estimate the PPFI plans experienced investment returns of 3.21% in Q4, with individual plans' estimated returns ranging from 0.57% to 6.80%. The overall annualized return for the 12 months ending December 31, 2021, was 9.7%. The Milliman 100 PPFI asset value increased from $4.790 trillion at the end of Q3 2021 to a PPFI high of $4.919 trillion at the end of Q4 2021. The plans gained market value of approximately $153 billion, which was offset by approximately $24 billion flowing out, as benefits paid out exceeded contributions coming in from employers and plan members.

FIGURE 2: QUARTERLY INVESTMENT RETURNS



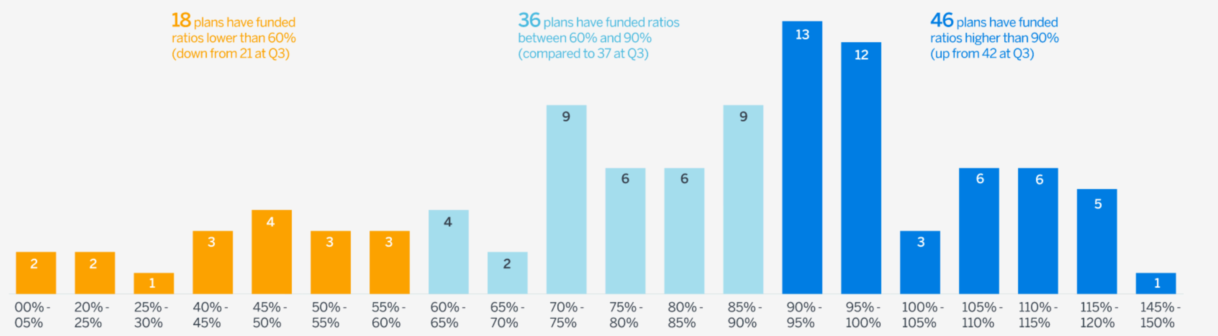
The total pension liability (TPL) continues to grow and stood at an estimated $5.752 trillion at the end of Q4 2021, up from $5.709 trillion at the end of Q3 2021. Just as pension assets grow over time with investment income and shrink over time as benefits are paid, so too does the TPL grow over time with interest and shrink as benefits are paid. The TPL also grows as active members accrue pension benefits.

FIGURE 3: QUARTERLY FUNDED STATUS



Funded ratios for individual plans improved across the board this quarter, with 46 plans now above the 90% funded mark; 42 plans stood above this benchmark at the end of Q3 2021. Meanwhile, at the lower end of the spectrum, three plans moved above 60% funded, bringing the total number of plans under this mark to 18, down from 21 at Q3 2021.

FIGURE 4: FUNDED RATIOS AT DECEMBER 31, 2021



This quarterly update reflects adjustments made as of the end of June 2021 as part of Milliman's annual Public Pension Funding Study, found here: https://www.milliman.com/ppfs. The adjustments reflect updated publicly available asset and liability information gathered for the annual study.

Fresno County Employees ups private equity pacing to $125 million per year

ROB KOZLOWSKI

Getty Images/iStockphoto

Fresno County (Calif.) Employees' Retirement Association will commit $125 million to private equity funds per year for the next three years, said Douglas Kidd, investment officer.

The $6.2 billion pension fund's board approved increasing its private equity pacing plan to $125 million from $100 million per year for the period at its Jan. 19 board meeting, Mr. Kidd confirmed.

Discretionary private equity consultant Hamilton Lane selects private equity fund investments for the pension fund and does not issue RFPs.

The new pacing plan reflects the board's decision Dec. 1 to increase its target to private equity to 8% from 6%. Also at that meeting, the board approved increases to the targets for domestic equities to 29% from 28% and real assets to 12% from 11% and a decrease for the fixed income target to 22% from 26%.

As of Sept. 30, the pension fund's actual allocation to private equity was 6.5%.

REUTERS

U.S. public pension funds seen turning to more 'aggressive' investment - report

Mon, January 31, 2022, 3:11 AM·2 min read

NEW YORK (Reuters) - U.S. public pension funds will likely have to switch to more aggressive investment strategies in the coming years to fill funding gaps despite assets held by sovereign investors having grown to record levels amid the 2021 equity market boom, a new report said.

On average, the difference between assets and liabilities at U.S. public pension funds, known as the "funded ratio," remains "unsatisfactory" at less than 75%, sovereign investor specialist Global SWF said in a report.

To boost returns, many will likely have to focus on alternative assets, including private equity and private credit, Diego Lopez at Global SWF told Reuters.

"Certain pockets of real assets including logistics properties and infrastructure may also benefit from increased interest, and hedge funds will continue to be an important part of US [public pension funds'] portfolios."

Assets held by sovereign wealth and public pension funds globally rose to a record $31.9 trillion in 2021, thanks to rising U.S. stock and oil prices, and investments rose to their highest for several years, Global SWF said in a previous report.

For pension funds, that means they have more assets to cover future liabilities.

For instance, the California Public Employees' Retirement System (CalPERS), which manages the largest U.S. public pension fund, grew its assets more than $92 billion in the fiscal year ending in June 2021, according to its 2020-21 financial report.

That growth boosted the funded ratio of its Public Employees' Retirement Fund to an estimated 80% at the end of June last year from 70% a year earlier. CalPERS declined to comment.

But the U.S. national average for funded ratios - calculated as a comparison between public pension funds' actuarial valuation of their assets and liabilities - remains below 75%, with a $1.3 trillion shortfall, Global SWF said.

"To make things worse, the working population is expected to decrease from 64% to 57% by the end of the 21st century," it said, which is likely to exacerbate that funding gap.

(Reporting by Davide Barbuscia; Editing by Mark Porter)

IE INVESTMENT EXECUTIVE

Canadian DB pensions returned 8.9% in 2021

Despite a positive 2021, Canadian DB pension plan returns were lower than in 2020

By: IE Staff | January 31, 2022 | 12:18

iStockphoto.com / Olivier Le Moal

IE Staff

Canadian defined-benefit (DB) pension plans registered a 4.5% median return in the fourth quarter of 2021, concluding the year with an 8.9% annual return, according to RBC Investor &

Treasury Services.

While Q4 median pension plan returns for the RBC Investor & Treasury Services All Plan Universe increased by 3.9 percentage points over the third quarter, annual returns fell by 0.3 percentage points compared to 2020.

"Despite increased volatility over concerns about the omicron variant and mounting inflationary pressures, Canadian pension plan returns were significantly boosted by their exposure to equities," said Niki Zaphiratos, managing director of asset owners and client coverage in Canada for RBC Investor & Treasury Services, in a statement. "New Covid-19 variants, the Russia-Ukraine crisis and imminent interest rate hikes – stemming from global shortages of workers and resulting inflationary pressures – introduce the potential for further volatility. Plan sponsors will have considerable risk factors to navigate in 2022."

Canadian equities in All Plan Universe returned 6.5% in Q4 2021, and ended the year with a 27% annual return. (The TSX Composite index also returned 6.5% in Q4, but only gained 25.1% over the year.)

Foreign equities in the universe didn't fare as well, returning 5.3% in Q4 and 17.1% annually. They also underperformed the MSCI World index, which returned 7.5% in Q4 and 20.8% in 2021. RBC noted that the strong Canadian dollar hampered local currency returns for unhedged pension plans.

Canadian fixed-income assets registered a 2.7% gain in Q4 2021, but returns for the year were down by 1.9%. The pension plans outperformed the FTSE Canada Universe Bond index, which returned 1.5% for the quarter and -2.5% for the year. During the fourth quarter, longer-dated bonds benefited from a flattening yield curve and, as a result, outperformed shorter-dated bonds.

2021 NCPERS
Public Retirement Systems Study

February 2022

Study conducted by the
National Conference on Public Employee Retirement Systems and
Cobalt Community Research

Contents

This study reviews funds' current fiscal condition and steps they are taking to ensure fiscal and operational integrity.

Overview

Over the last 11 years, funds have continued to take a serious look at the concerns and challenges that face public pensions. They continue to take significant actions to address them.

Executive Summary

From September to December 2021, the National Conference on Public Employee Retirement Systems (NCPERS) undertook a comprehensive study exploring the retirement practices of the public sector. In partnership with Cobalt Community Research, NCPERS has collected and analyzed the most current data available on funds' fiscal condition and steps they are taking to ensure fiscal and operational integrity.

The *2021 NCPERS Public Retirement Systems Study* includes responses from 156 state and local government pension funds with more than 17.7 million active and retired members and assets exceeding $2.6 trillion. Statewide and local pension funds were represented in roughly equal measure (47 percent and 53 percent, respectively).

NCPERS is the largest trade association for public-sector pension funds, representing approximately 500 funds throughout the United States and Canada. The membership is a unique network of public trustees, administrators, public officials, and investment professionals who collectively oversee nearly $3 trillion in retirement funds managed on behalf of seven million retirees and nearly 15 million active public servants including firefighters, law enforcement officers, teachers, and other public servants.

Founded in 1941, NCPERS is the principal trade association working to promote and protect pensions by focusing on advocacy, research, and education for the benefit of public-sector pension stakeholders.

To access the interactive *2021 NCPERS Public Retirement Systems Study* dashboard, please contact Amanda Rok, communication and social media manager, at Amanda@NCPERS.org.

To view previous editions of this report, please visit: www.NCPERS.org/surveys.

About Cobalt Community Research

Cobalt Community Research is a national 501 c (3) nonprofit, nonpartisan coalition that helps local governments, schools, and membership organizations affordably engage their communities through high-quality data, benchmarking, geofencing, and community engagement. Cobalt is headquartered in Charlotte, Michigan.

2021 Executive Summary

1. Reporting funds saw, on average, one-year returns of around 14.0 percent. The five-year and 10-year averages were above the assumed rate of return. The 20-year returns fell slightly below the assumed rate of return as the strong performance of the late 1990s continued to roll off the average 20-year returns reported by the funds. Those funds that responded in both 2021 and 2020 reported five-year and 10-year returns above the assumed rate of return as well, and these funds reported an average one-year return of 15.8 percent. As a result, funded levels for those funds rose by 0.6 percent to 72.3 percent. Funds overall reported a funding level of 74.7 percent for 2021.

2. Funds continue the trend toward more conservative actuarial assumptions. The average investment assumed rate of return for responding funds is 7.07 percent, compared with 7.26 percent last year. The inflation assumption remained 2.7 percent. The amortization period also tightened from 22.9 years in 2020 to 21.8 years in 2021. Overall, the percentage of funds with closed/fixed amortization periods rose from 69 percent to 74 percent.

3. The overall average expense for all respondents to administer the funds and to pay investment management fees fell to 54 basis points (100 basis points equals 1 percentage point). This is down from 60 basis points in the prior year. According to the *2021 Investment Company Fact Book*, the average expense of most hybrid funds is 59 basis points.

4. The average cost-of-living adjustment (COLA) offered to members was 1.7 percent, which is the same as last year. Many responding funds did not offer a COLA in the most recent fiscal year.

5. Exclusion of overtime in the calculation of a retirement benefit has continued to increase. In 2020, about 51 percent of reporting funds excluded overtime from the calculation. In 2021, this increased to 54 percent.

6. Funds significantly increased oversight practices in 2021. Overall, funds report increased implementation of death audits, actuarial audits, administrative tools used to manage member data, and asset allocation studies. Plans also report increased consideration of enhanced online and mobile member account access.

7. Unlike 2020, more than half of reporting funds say that they anticipate having a problem or are anticipating a problem attracting and retaining skilled staff. This percentage grew to 56 percent in 2021, compared with 28 percent in 2020.

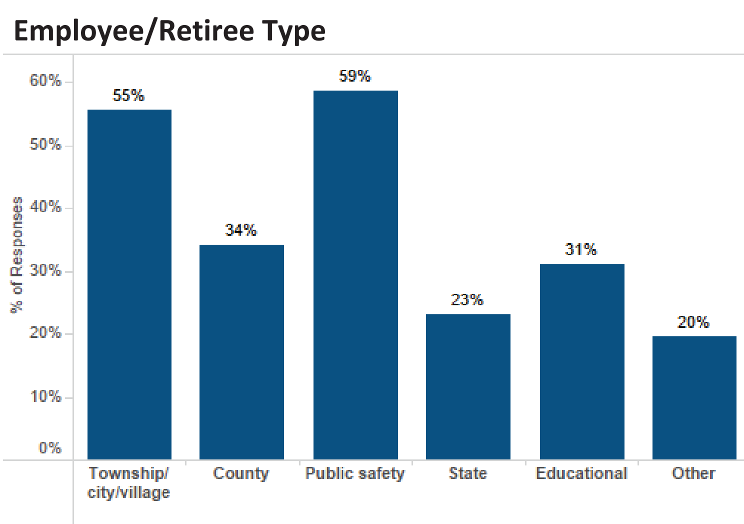
8. Funds' confidence in their readiness to address retirement trends and issues over the next two years has remained strong with a rating of 8.0 on a 10-point scale, which is the same as in 2020. Those funds reporting in both 2020 and 2021 saw an increase in that rating from 7.7 to 7.9.

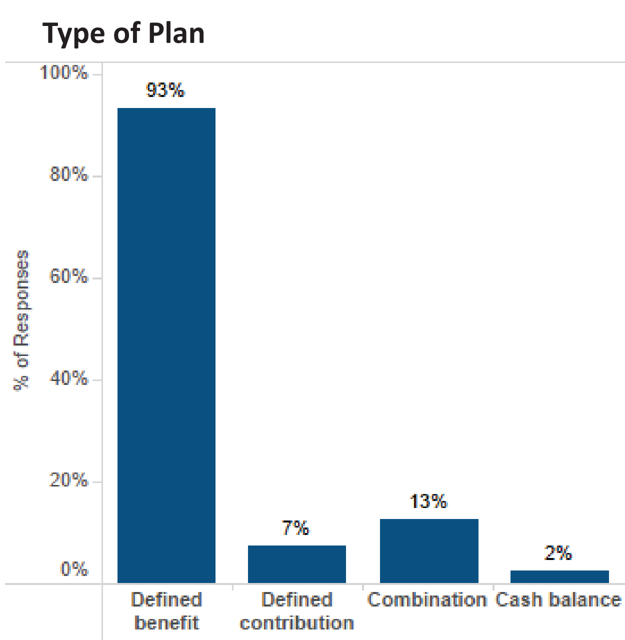
Who Responded

Overall, 156 public retirement funds responded to the *2021 NCPERS Public Retirement Systems Study*. There were 138 respondents in 2020. Of the 156 respondents, 86 also completed the study in 2020.

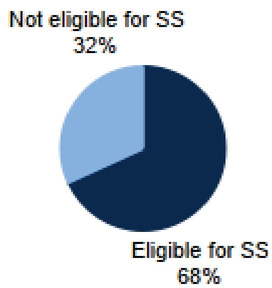
About 55 percent of all 2021 responding funds serve township, city, and village employees and beneficiaries. About 59 percent of the responding funds serve police and fire employees. The top graph below shows the distribution of employee types served by the funds. The bottom graph shows response by type of plan provided. Totals may exceed 100 percent because of multiple responses.

The overall distribution of the groups served by responding funds is similar to prior years; however, police/fire funds were a larger proportion of the response compared with last year.





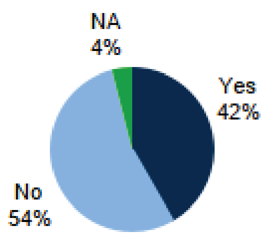
Members' Social Security Eligibility



About 68 percent of responding funds have members who are eligible for Social Security, and 32 percent have members who are not eligible. In this report, breakdowns are presented for funds whose members are or are not eligible for Social Security.

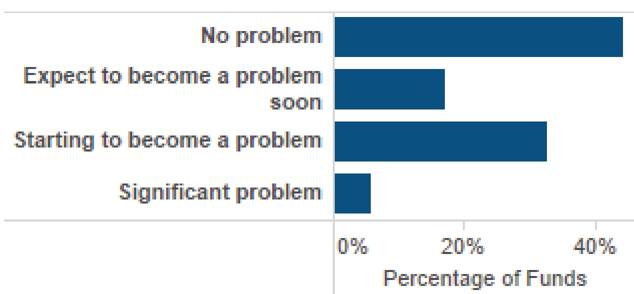
Funds whose members are not eligible for Social Security tend to offer higher levels of benefits to make up for the loss of income typically supplemented by Social Security.

Inclusion of Overtime in Benefit Calculation



Inclusion of overtime in the calculation of a retirement benefit has been an area of interest to public funds. In 2021, 54 percent of respondent funds do not include overtime in the benefit calculation, which is 3 percentage points higher than last year.

Attracting/Retaining Skilled Staff



For 2021, respondents note that they are having more of a problem attracting and retaining skilled staff as people retire. About 56 percent say they are starting to experience or anticipate a problem in this area, compared with 28 percent last year.

Fund Confidence

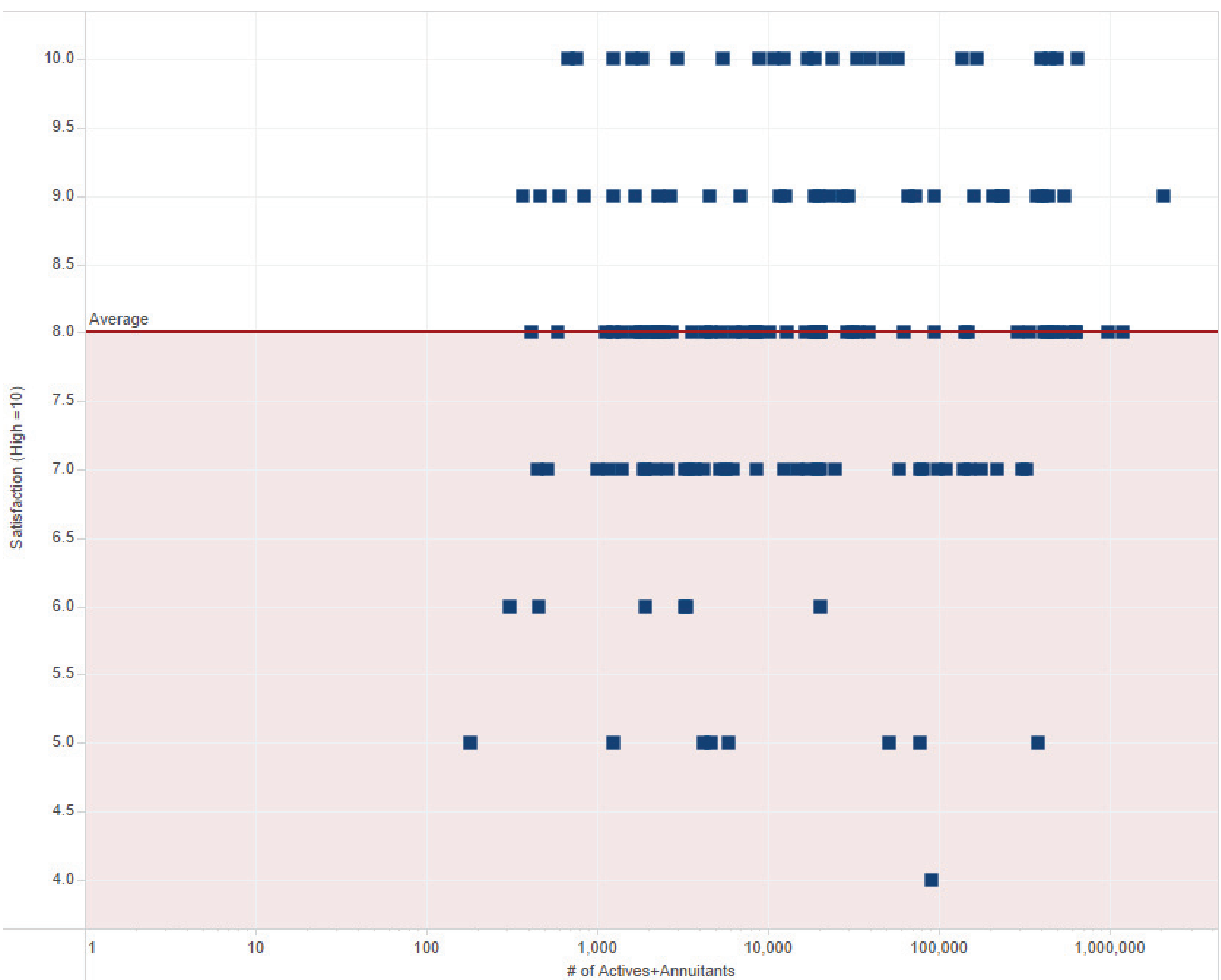
The study asked respondents, “How satisfied are you with your readiness to address retirement trends and issues over the next two years?” Respondents provided an overall “confidence” rating of 8.0 on a 10-point scale (very satisfied = 10). This is unchanged from last year and well above the 7.4 in 2011. The responses of funds that also participated in last year’s study were 7.9 in 2021 compared with 7.7 in 2020.

Over the last 11 years, responding funds have generally become increasingly confident in their ability to adapt to and address issues in the volatile environment surrounding public pensions.

Responding funds have been proactive in making changes to their plan assumptions and benefits to ensure sustainability.

Funds with members eligible and members ineligible for Social Security responded with a rating of 7.8 and 8.0, respectively. Large funds (more than 100,000 participants) rated their confidence the highest, with an average score of 8.1.

Fund Confidence



Expenses

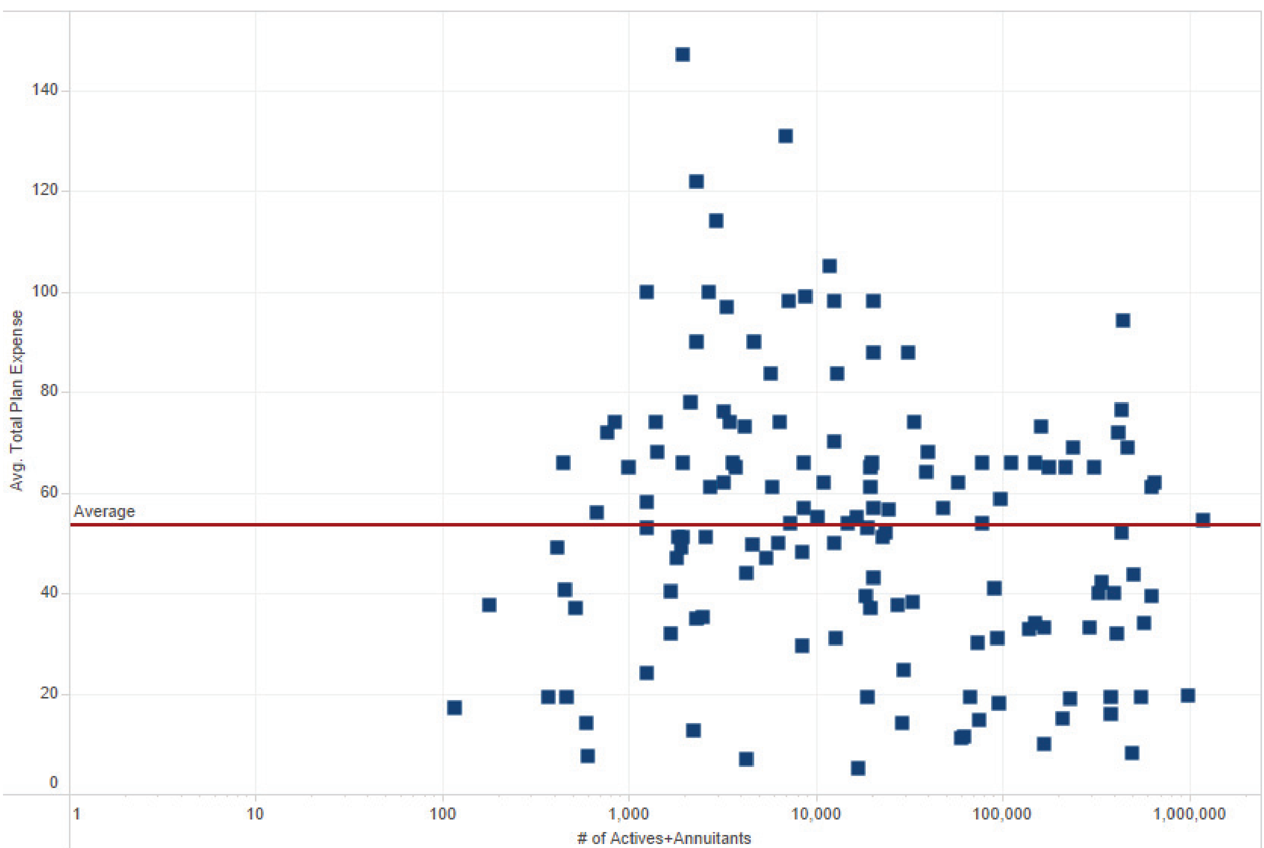
The overall average expense for all respondents to administer the funds and to pay investment management fees is 54 basis points (100 basis points equals 1 percentage point). This is below the 60 basis points in the prior year.

According to the *2021 Investment Company Fact Book*, the average expense of hybrid funds is 59 basis points.

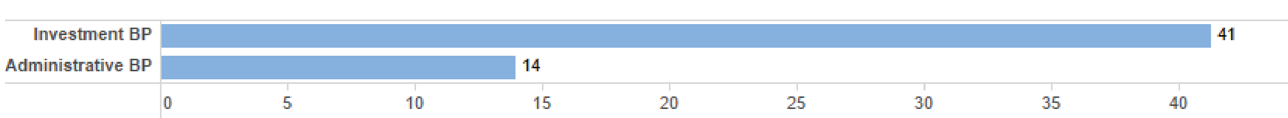
The top graph below shows the distribution of total expenses (in basis points) on the vertical axis and the size of the fund (by total participants) on the horizontal. The red line represents the average expense.

The bottom graph shows the average administrative and investment expenses. Note: The averages below do not total the average expenses because not all funds reported both investment and administrative numbers.

Total Expenses by Size of Fund

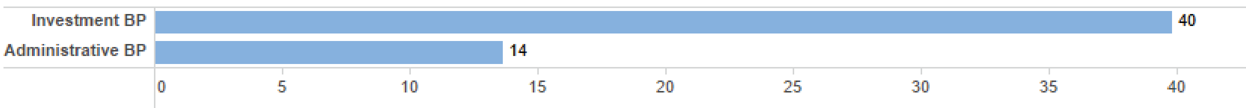


Average Fund Expenses (Basis Points)

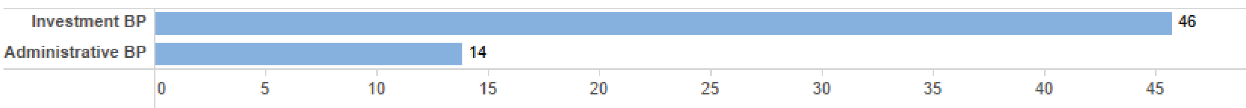


Below are average expenses broken out by funds whose members are and are not eligible for Social Security. Total expenses are 52 and 58, respectively. Note: The averages below do not total the average expenses because not all funds reported both investment and administrative numbers.

Average Fund Expenses: Social Security Eligible (Basis Points)

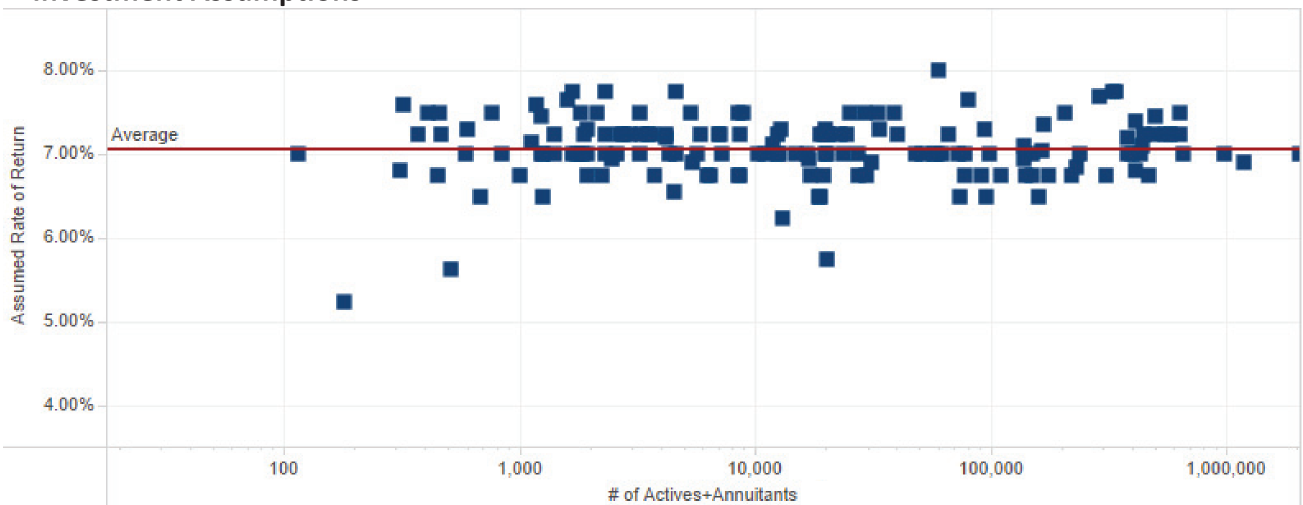


Average Fund Expenses: Not Social Security Eligible (Basis Points)



Actuarial Assumptions

Investment Assumptions



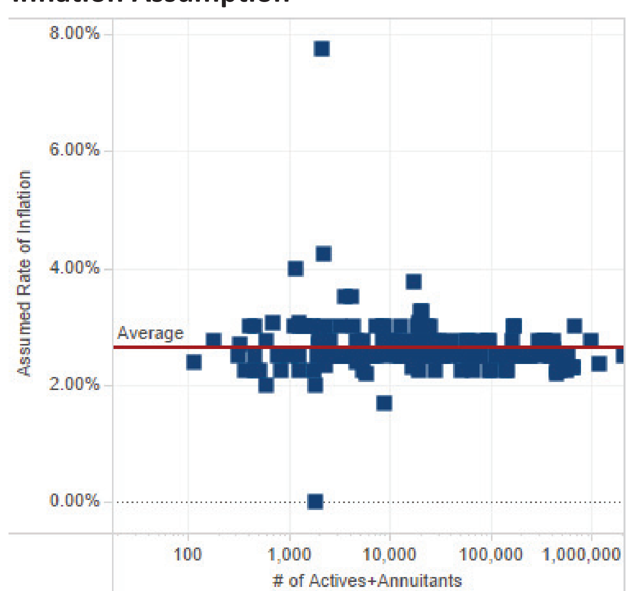
Retirement funds employ a long-term planning horizon to ensure that liabilities are fully funded at the time they are due to be paid. To set contribution rates and measure progress toward meeting their financial obligations, funds make actuarial assumptions to estimate the likely investment and demographic experience over that time horizon.

Such assumptions have powerful effects on the funded level of a plan and on required contributions to pay for future benefits. Overly optimistic assumptions (high market returns, lower-than-expected retirement rates) tend to increase a plan's funded level and reduce the contribution rates an employer is obligated to pay today. Conversely, overly pessimistic assumptions reduce the funded level and increase short-term contribution rates.

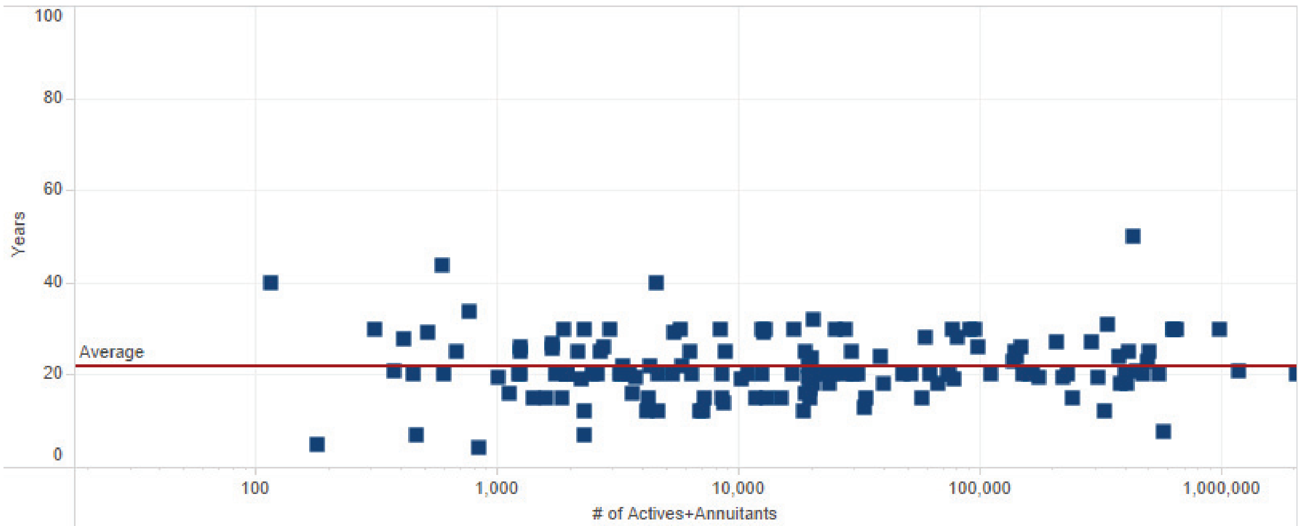
The average investment assumed rate of return for responding funds is 7.07 percent, compared with 7.26 percent last year. Plans that responded both years saw the assumed rate fall 0.08 percentage point to 7.14 percent.

Inflation Assumption

The aggregated assumed rate of inflation is 2.7 percent, which is the same as last year.



Amortization Period



Pension funds are designed to fund liabilities over a period of time, which ensures long-term stability and makes annual budgeting easier through more predictable contribution levels.

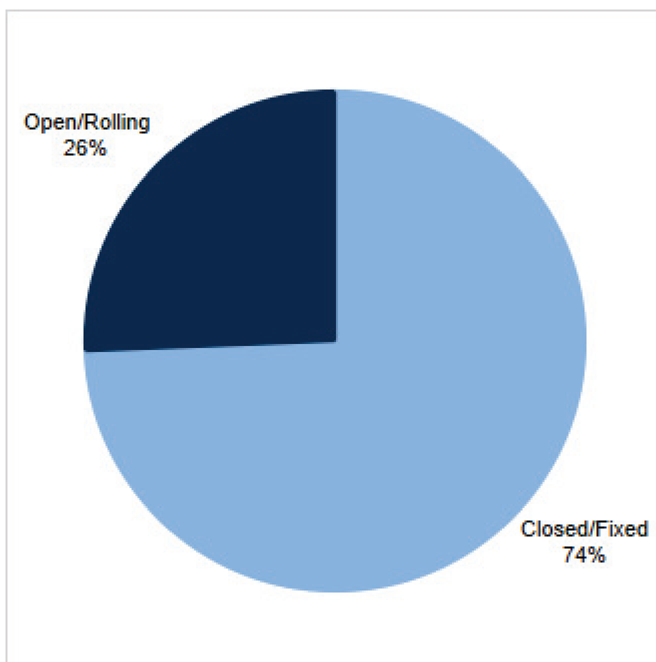
For responding funds, that period of time averages 21.8 years, down from 22.9 years in 2020. Funds that responded both years saw a reduction in the period of time by about 1.3 years.

Groups can tighten their amortization period by adjusting the period in years or using a fixed (or closed) method that pays all liabilities in a fixed time frame.

Open (or rolling) amortization periods are used to determine the actuarially required payment, but they are recalculated each year. The same number of years is used in determining the payment each year. Overall, the percentage of closed/fixed funds rose from 69 percent to 74 percent.

Larger funds are much more likely to have closed/fixed amortization periods – about 84 percent are closed.

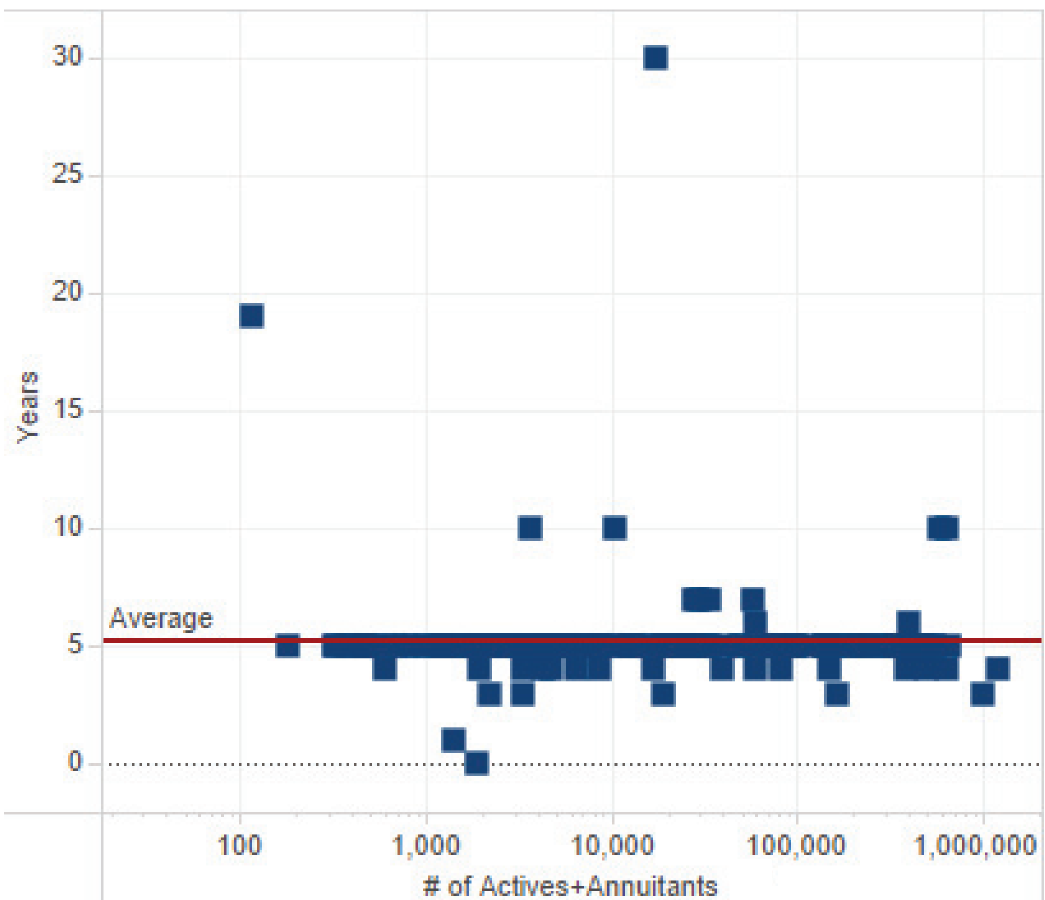
Type of Amortization Period



The investment-smoothing period is a key factor in calculating the assets currently held by the fund and the contribution levels required to continue moving toward full funding over the amortization period. By smoothing investments, funds dampen sharp changes in short-term investment returns. This helps stabilize contribution levels over time without undermining the long-term integrity of the funding mechanism.

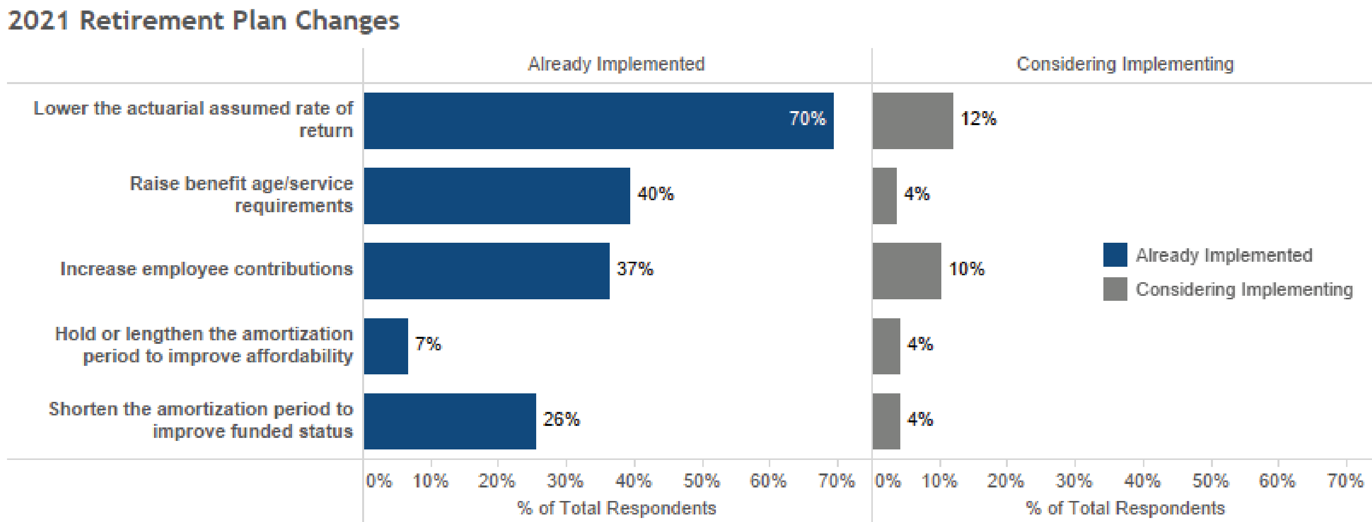
The average investment-smoothing period for respondents decreased from 5.3 to 5.2 years, but it dipped to 4.9 among participants in both the 2021 and 2020 studies. The distribution of responding funds on the graph below shows that the majority have smoothing periods of five years or shorter. For funds with Social Security-eligible members, the smoothing period was 5.3 years. Funds with members who are not Social Security eligible have an average smoothing period of 4.6 years. Large plans average 5.1 years.

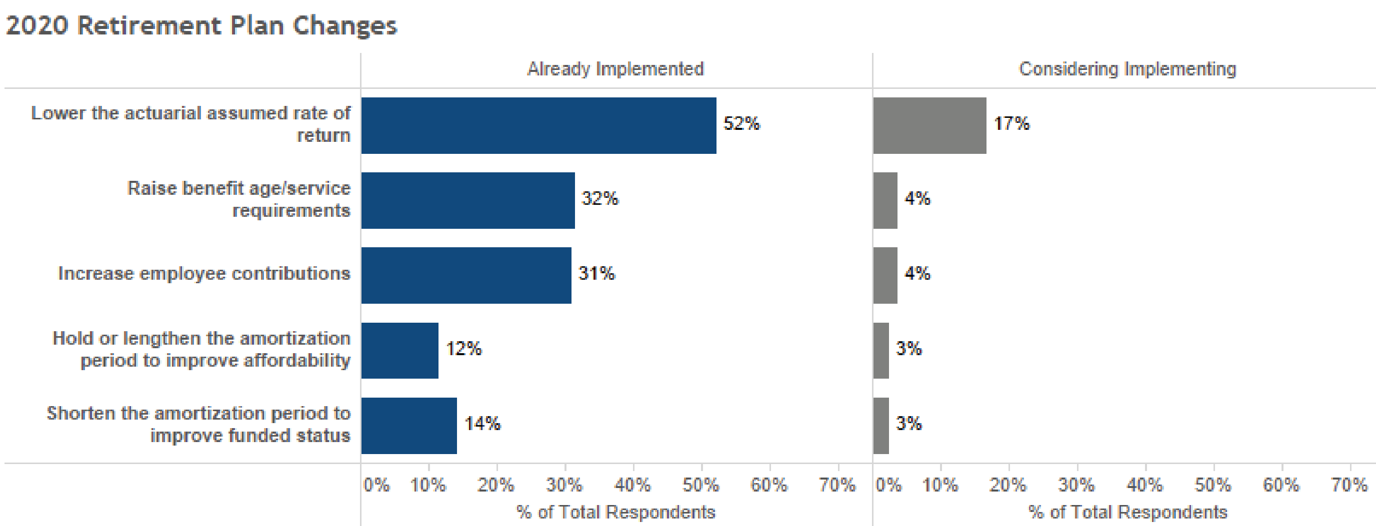
Investment Smoothing



Trends in Plan Changes

As changes emerge in the political, economic, and demographic landscape, funds adapt their design and assumptions to respond and to maintain their sustainability. Funds in 2021 showed increased implementation and interest in lowering the assumed rate of return, raising benefit age/service requirements, and increasing employee contributions.

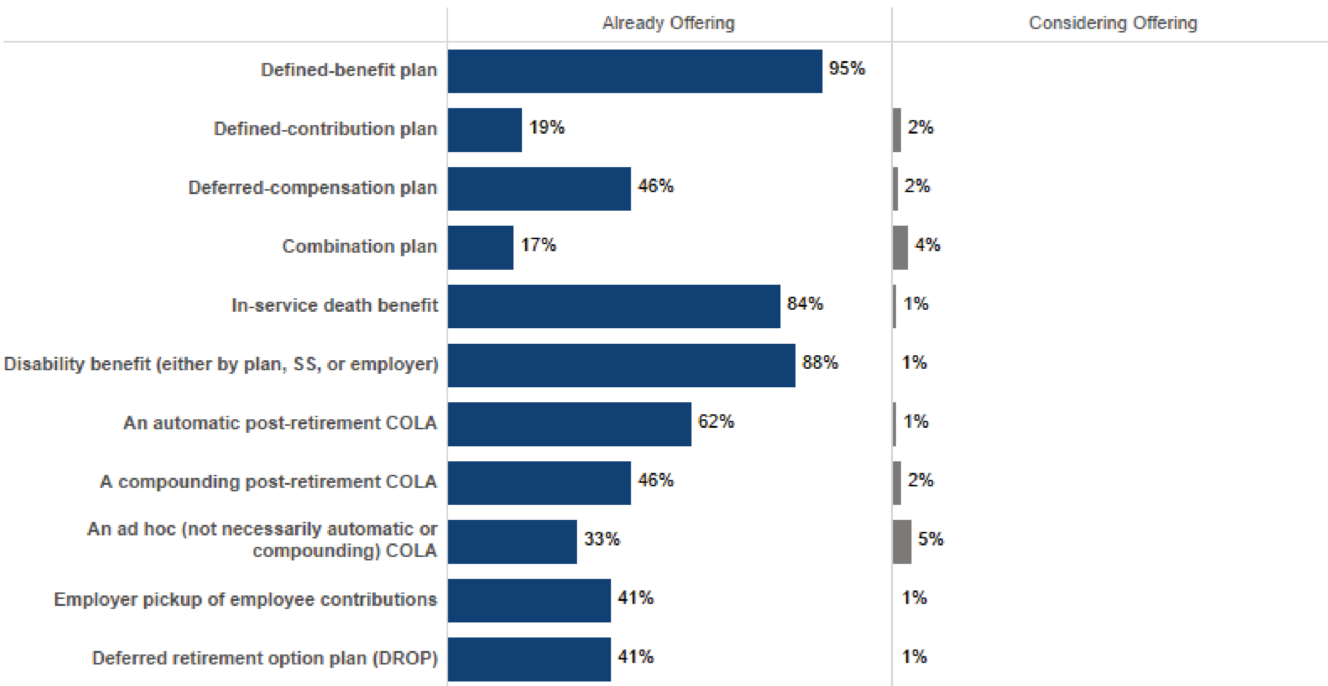




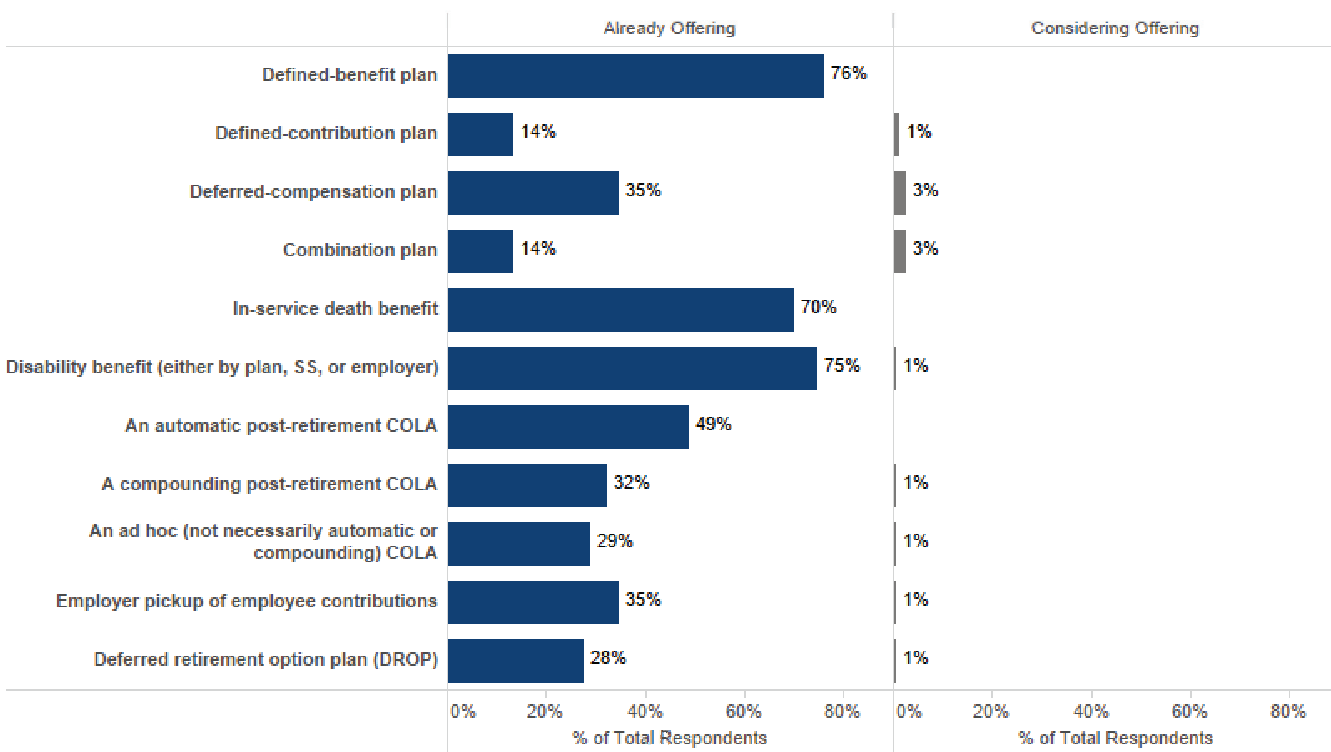
Trends in Retirement Benefits

There remains minimal activity in terms of responding funds considering offering additional benefits to their members, although 5 percent of respondents are considering offering an ad hoc cost-of-living adjustment (COLA). Most funds provide a defined-benefit plan, a disability benefit, an in-service death benefit, and some variation of a COLA.

2021 Retirement Benefits



2020 Retirement Benefits

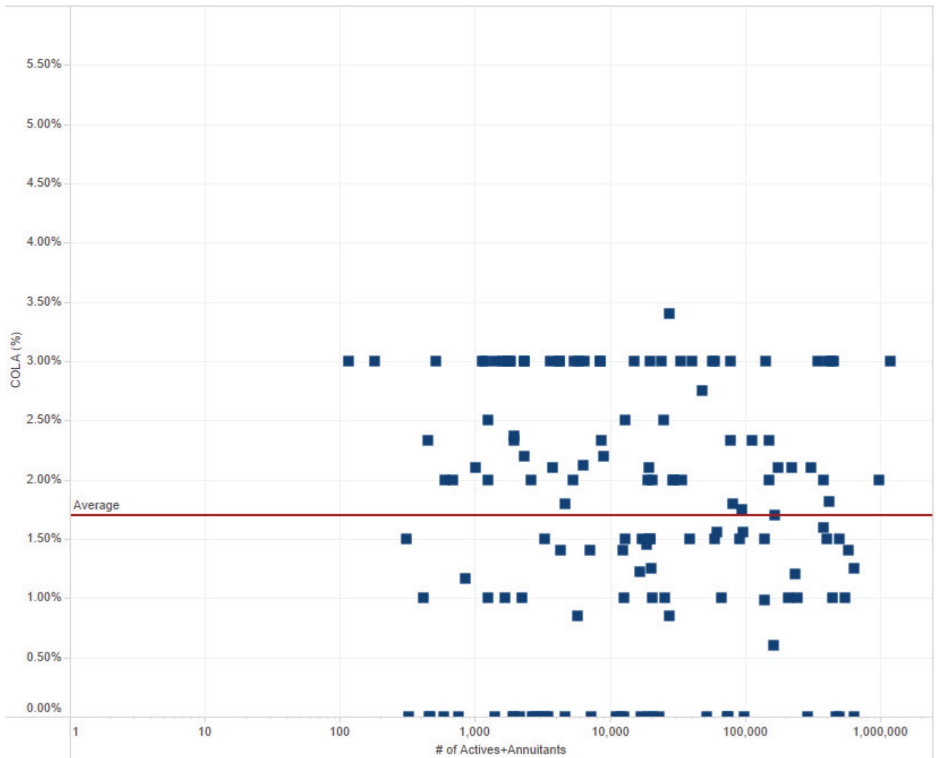


Cost-of-Living Adjustments

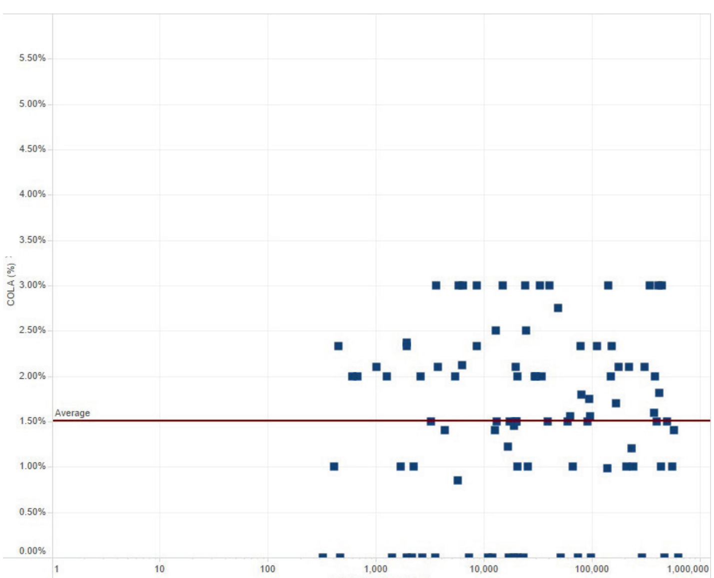
The top chart below shows the distribution of funds offering various percentages of cost-of-living adjustments (COLAs). The aggregated average COLA offered to members was 1.7 percent, which is the same as last year. Many responding funds did not offer a COLA in the most recent fiscal year.

Funds with members who are not eligible for Social Security tend to offer higher COLAs (2.2 percent) than those with members who are eligible for Social Security (1.5 percent). Small funds have an average COLA that is 0.2 percentage point higher than large funds.

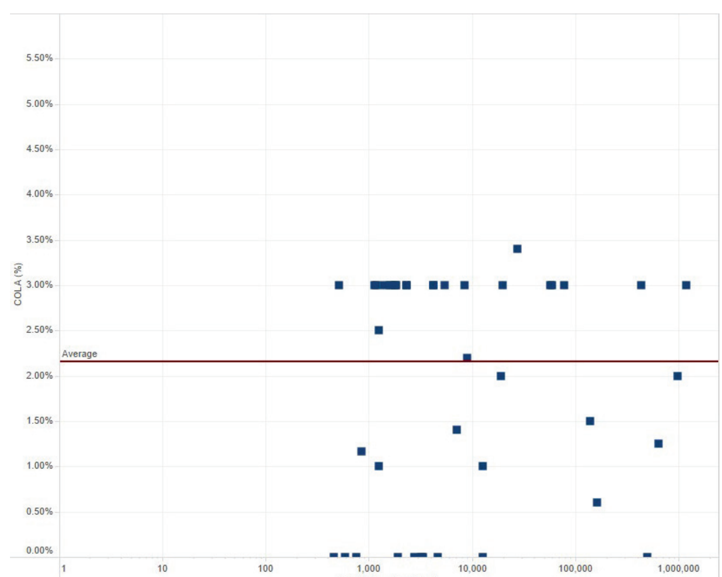
Overall Cost-of-Living Adjustment Offerings



Social Security Eligible

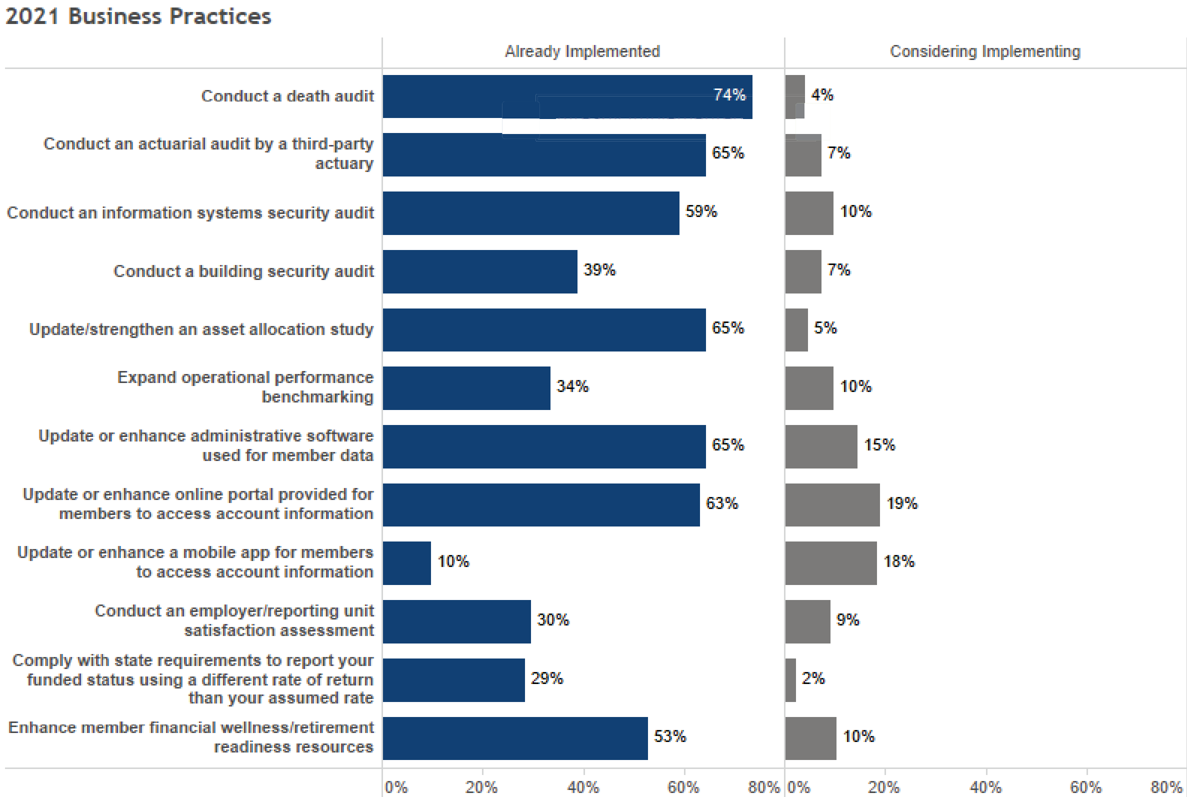


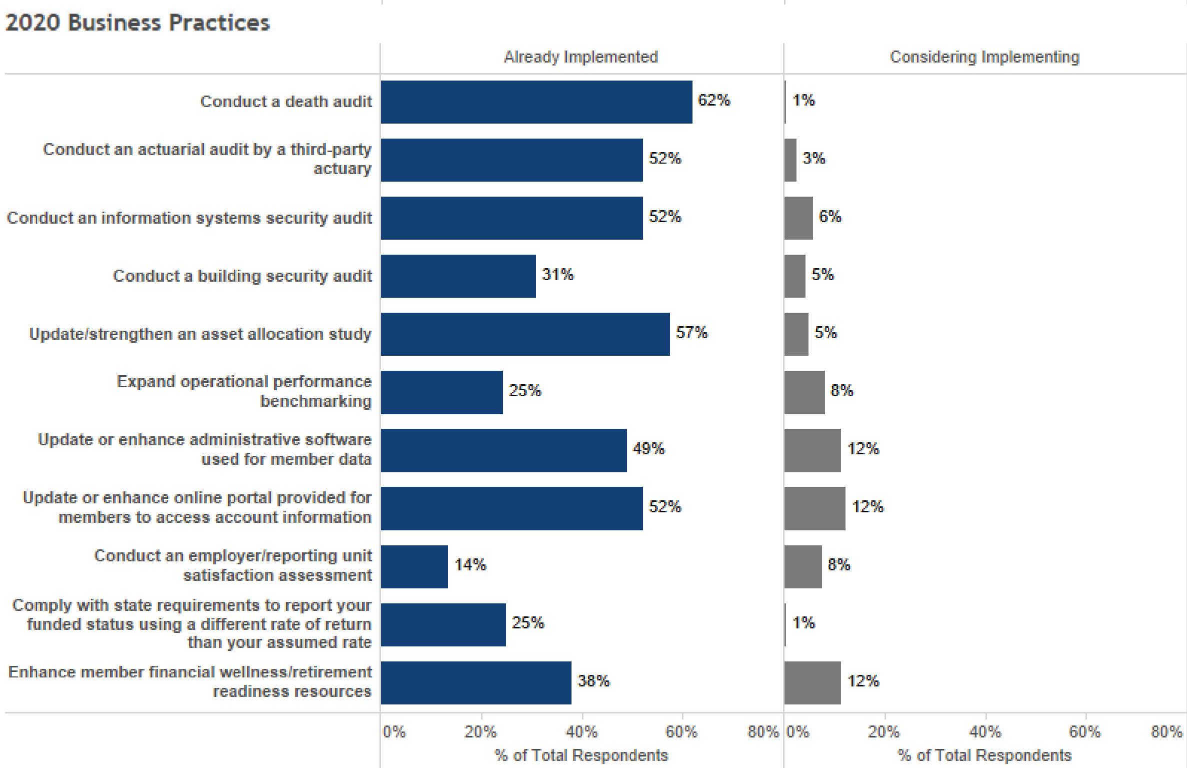
Not Social Security Eligible



Trends in Business Practices

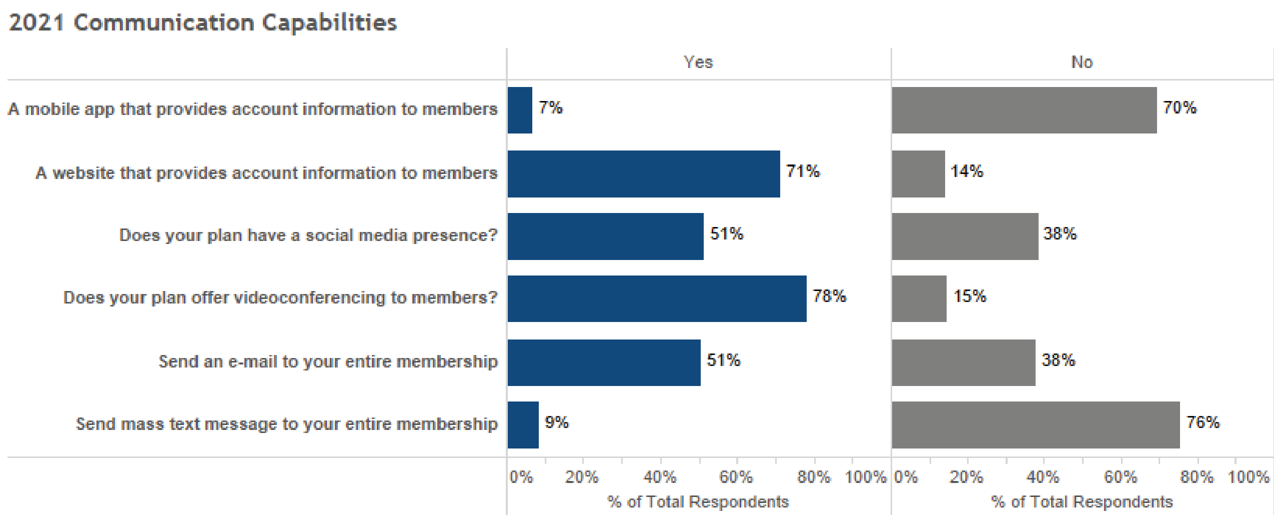
Conducting a death audit, conducting an actuarial audit, enhancing administrative tools used for member data, and asset allocation studies were the most commonly implemented business practices. The practices under consideration include enhancing online and mobile member account access.

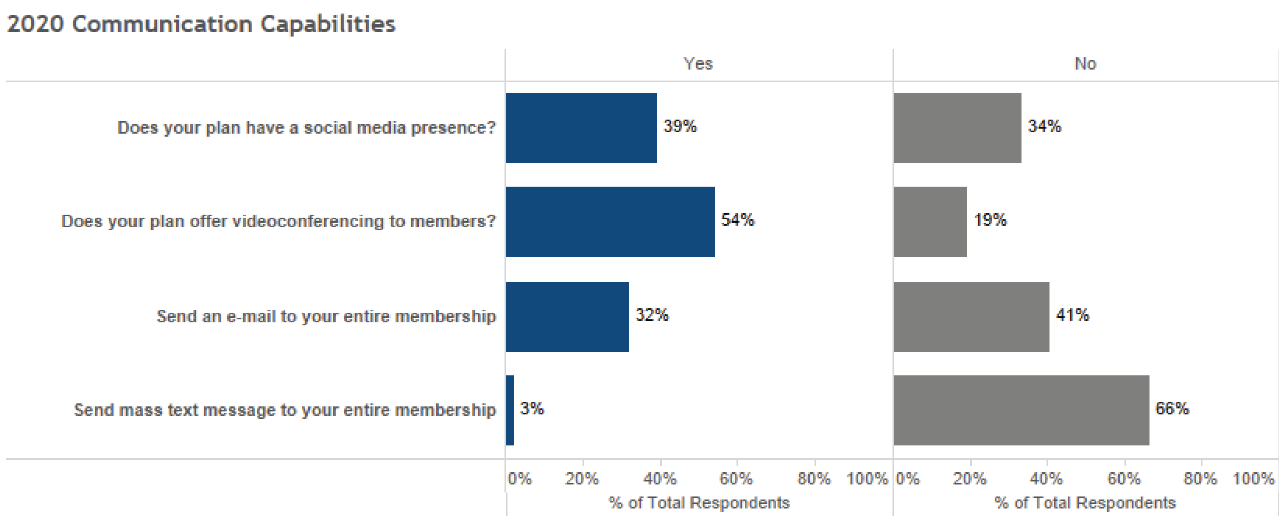




Trends in Communication

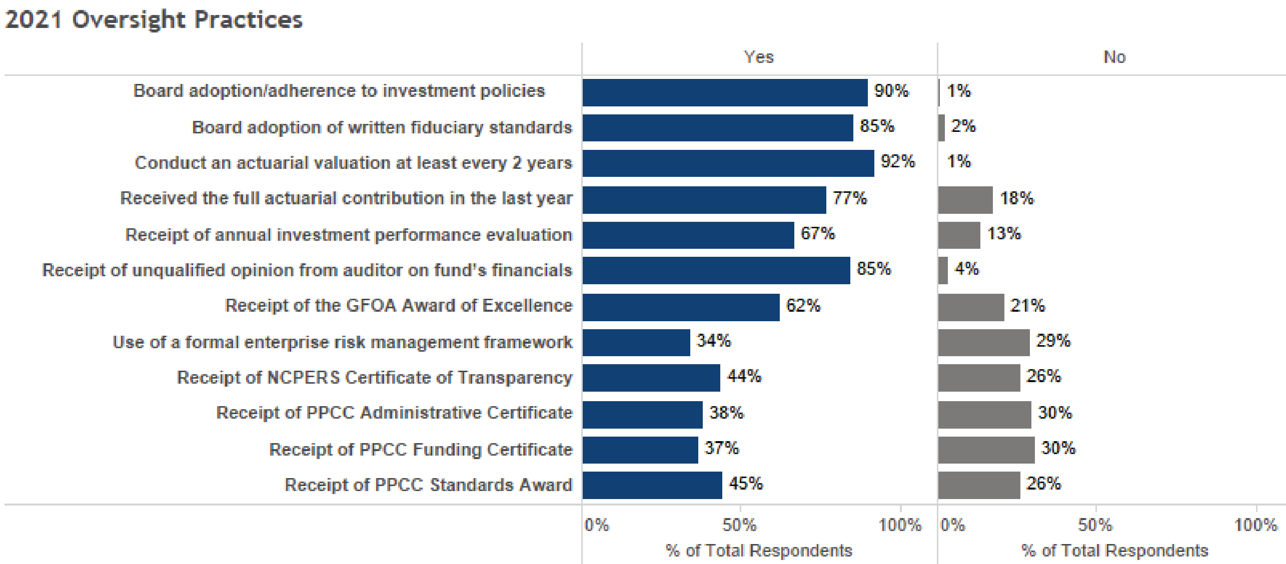
Overall, many responding funds have expanded and continue to provide live videoconferencing to members and social media presence. Many also have expanded capabilities to send e-mail and text messages to the entire membership. While many funds provide account information to members on the website, very few are offering this service through a mobile app.

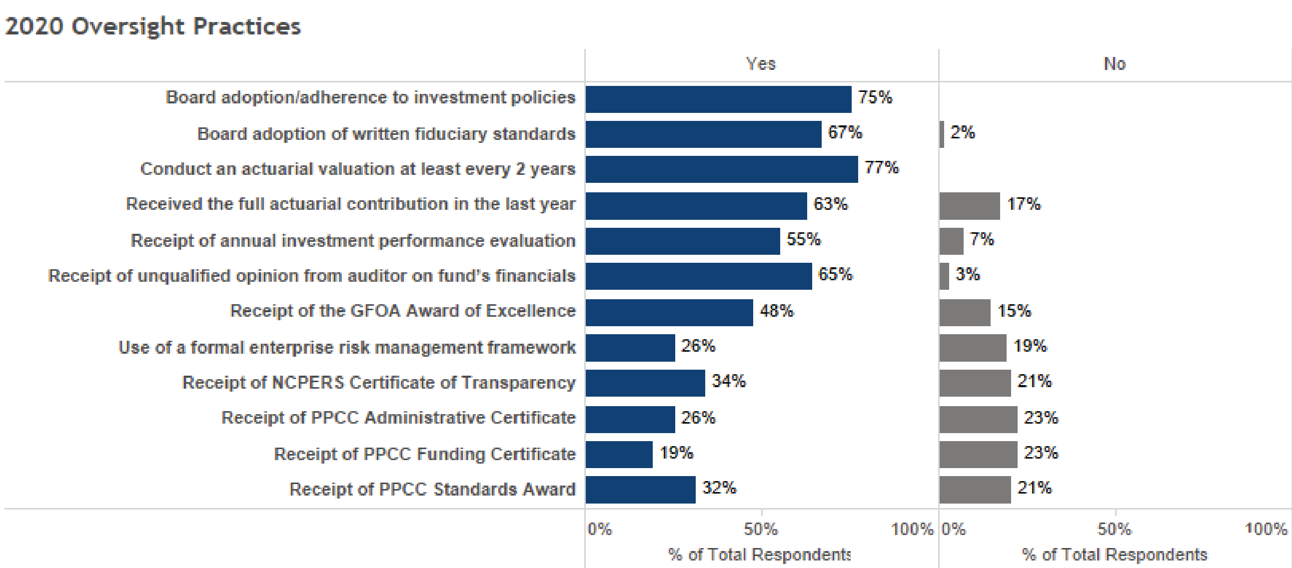




Trends in Oversight Practices

Overall, responding funds showed higher levels of oversight compared to last year in most areas. Practices were very similar to 2020 for those funds that responded in both 2021 and 2020.





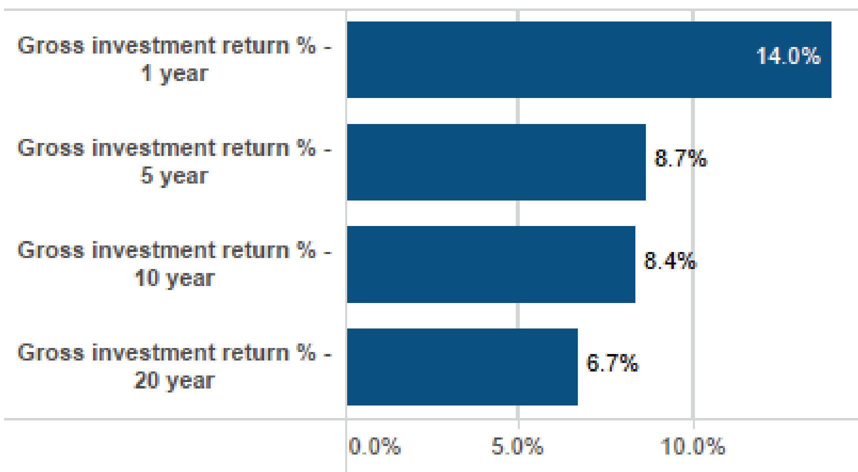
Note: GFOA = Government Finance Officers Association; PPCC = Public Pension Coordinating Council.

Investment Returns

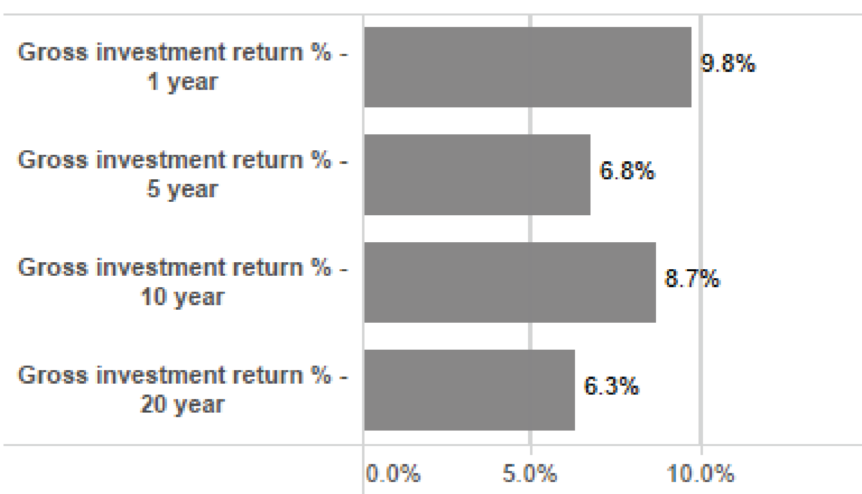
Reporting funds saw, on average, one-year returns of around 14.0 percent. The five-year and 10-year average was above the assumed rate of return, while the 20-year average returns slightly underperformed assumptions. The 20-year returns fell below the average assumed rate of return as the strong performance of the late 1990s continued to roll off the average. Those funds that responded in both 2021 and 2020 show similar patterns, although this cohort saw, on average, one-year returns around 15.6 percent.

It is important to note that not all responding funds have the same fiscal year-end date. The timing of a fiscal year-end accounts for a significant share of the difference in investment experience between funds. Funds that have a December fiscal year-end date saw one-year returns of 12.5 percent, and those that have a June fiscal year-end date saw one-year returns of 15.8 percent.

2021 Study Investment Returns

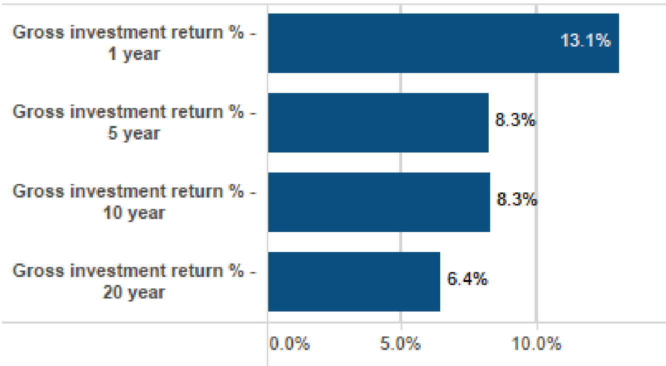


2020 Study Investment Returns

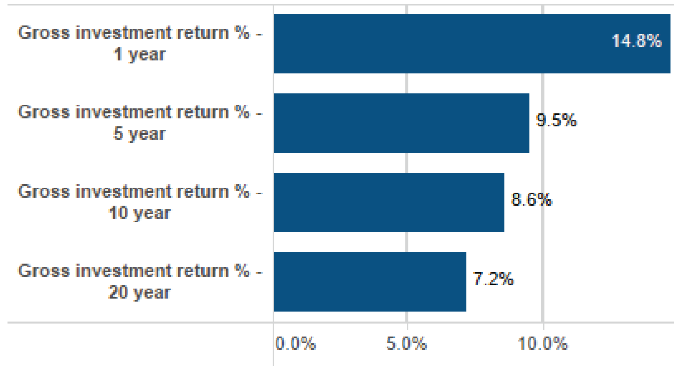


Funds with members who are Social Security eligible reported lower one-year returns than funds with members who are not Social Security eligible.

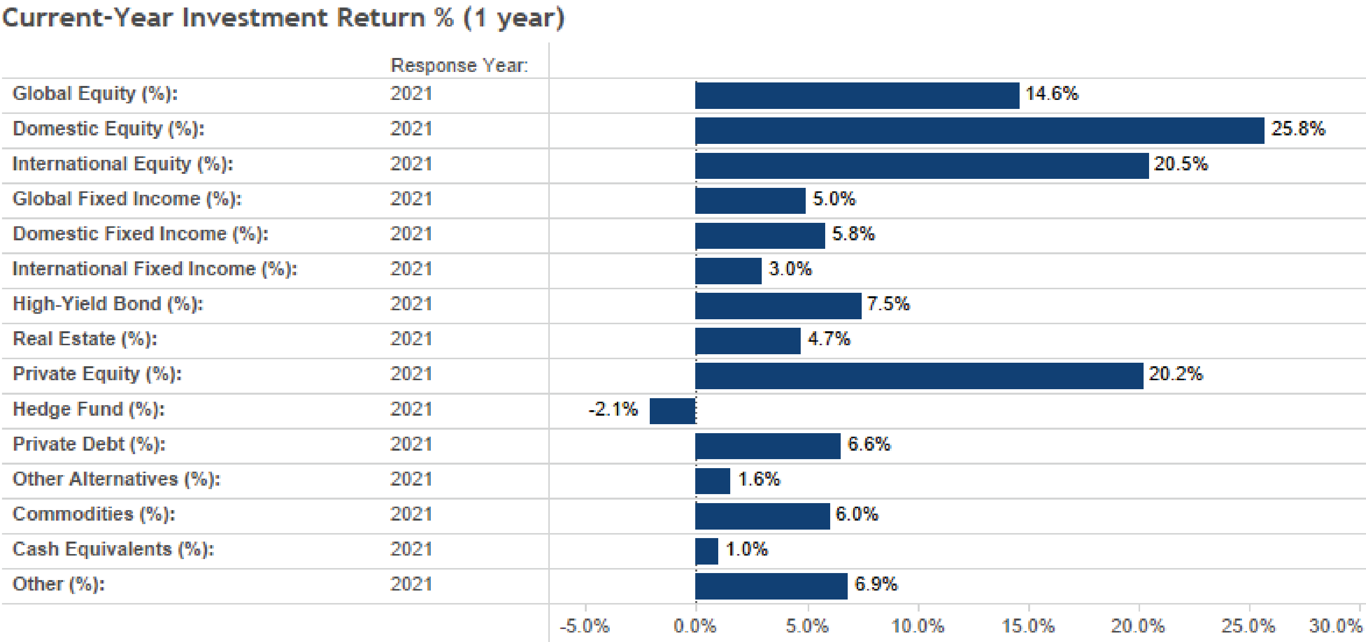
2021 Returns: Social Security Eligible



2021 Returns: Not Social Security Eligible



The graph below shows the one-year investment returns based on the various asset classes in which responding funds are invested. Domestic equity, international equity, and private equity saw the largest returns.

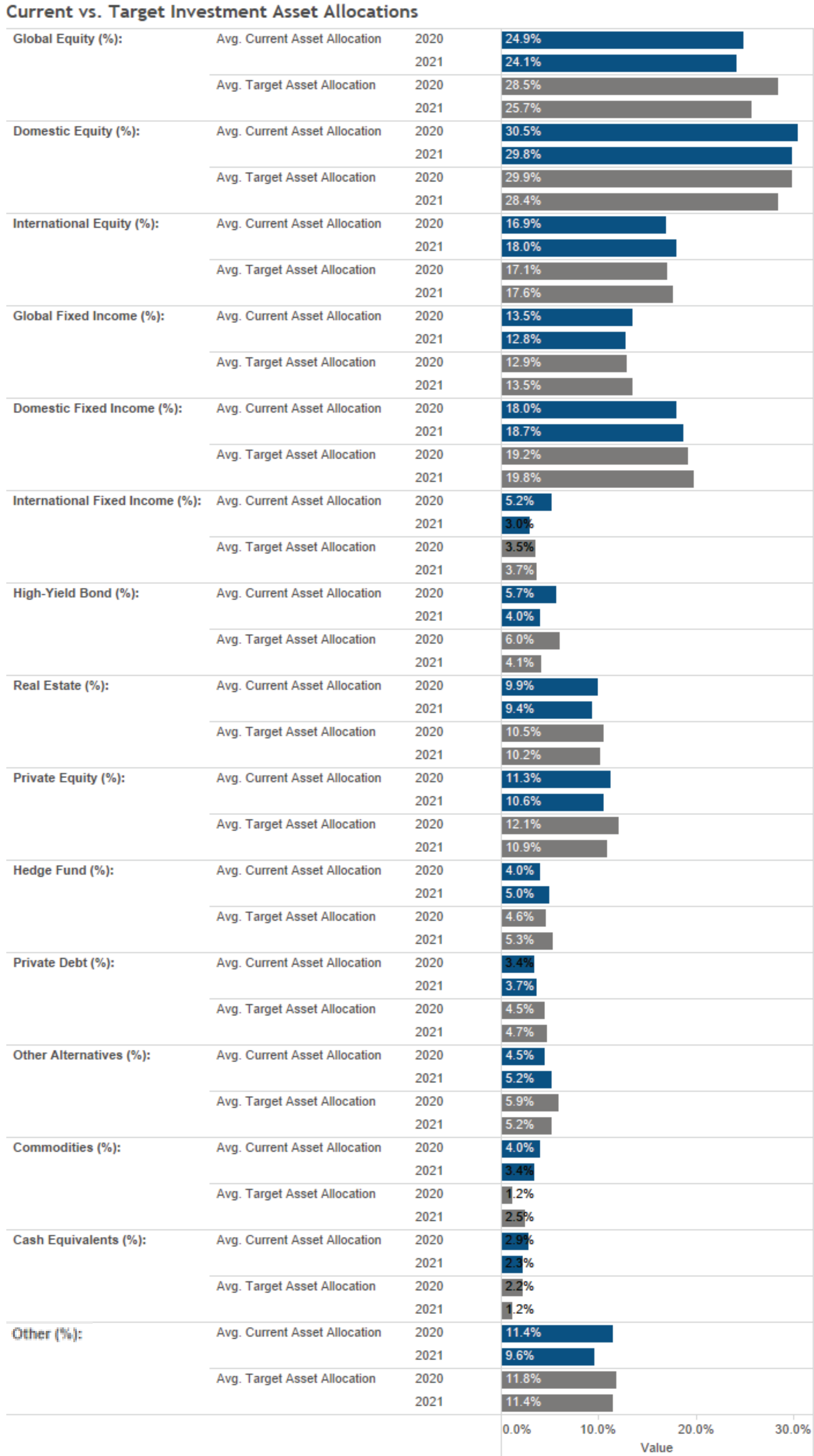


Investment Asset Allocation

Responding funds had similar allocations to asset classes as they did in 2020.

Note: Average allocations in each asset class do not total to 100 percent because of how individual allocations were reported.

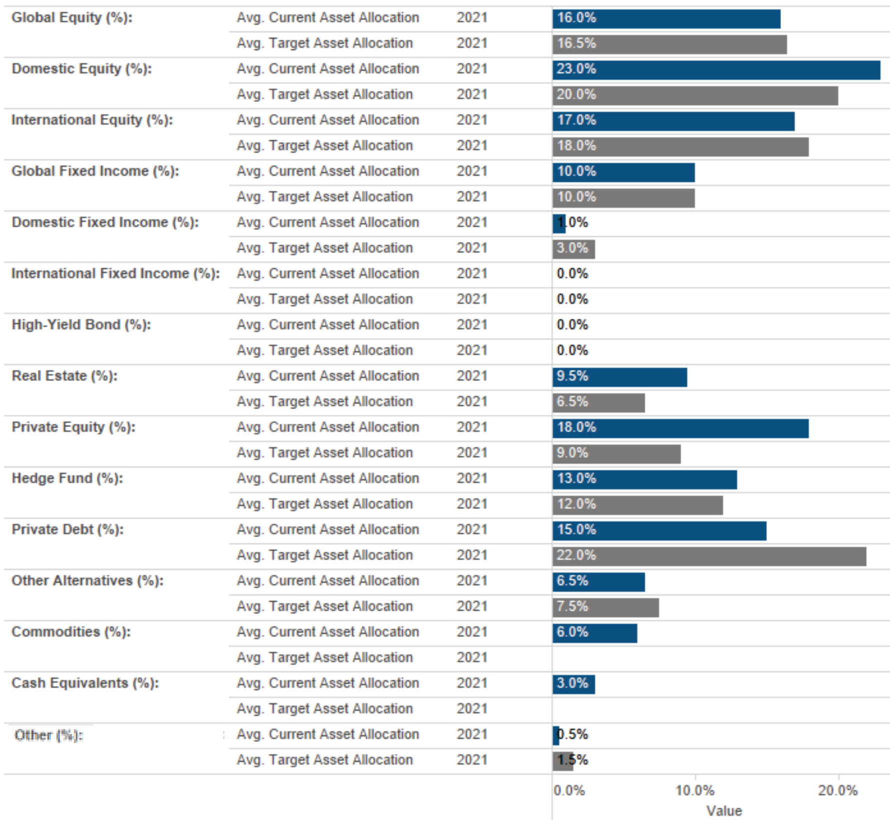
Current vs. Target Investment Asset Allocations



Below are two graphs that show the asset allocations for those funds that reported higher-than-average one-year and 10-year investment returns, respectively.

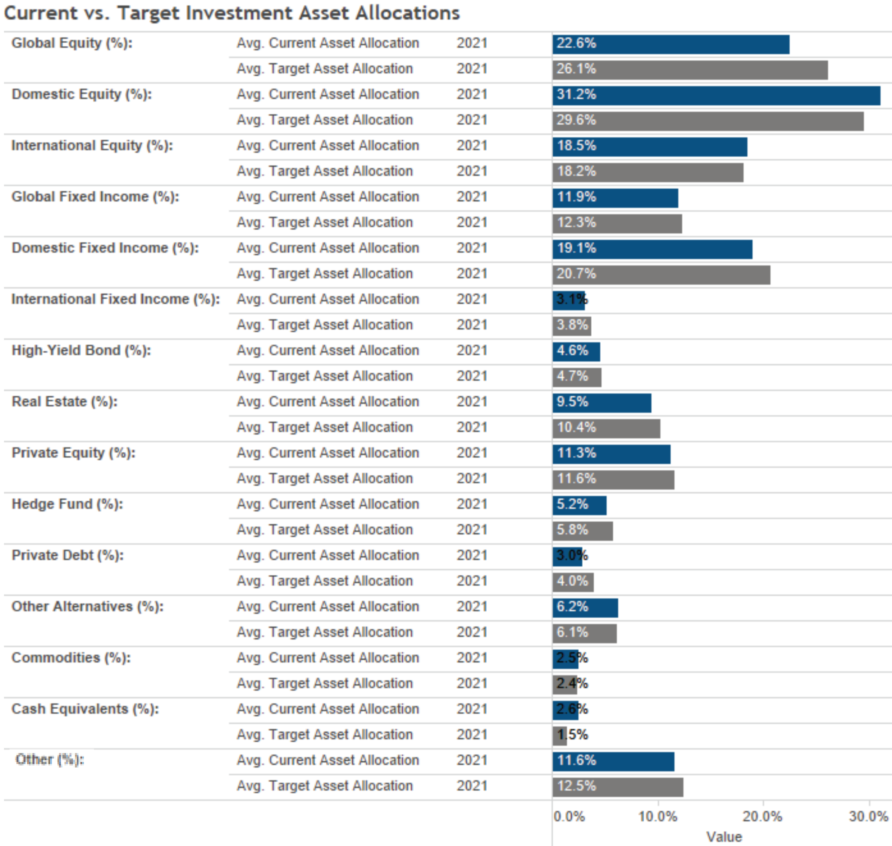
Highest One-Year Return

Current vs. Target Investment Asset Allocations



Highest 10-Year Return

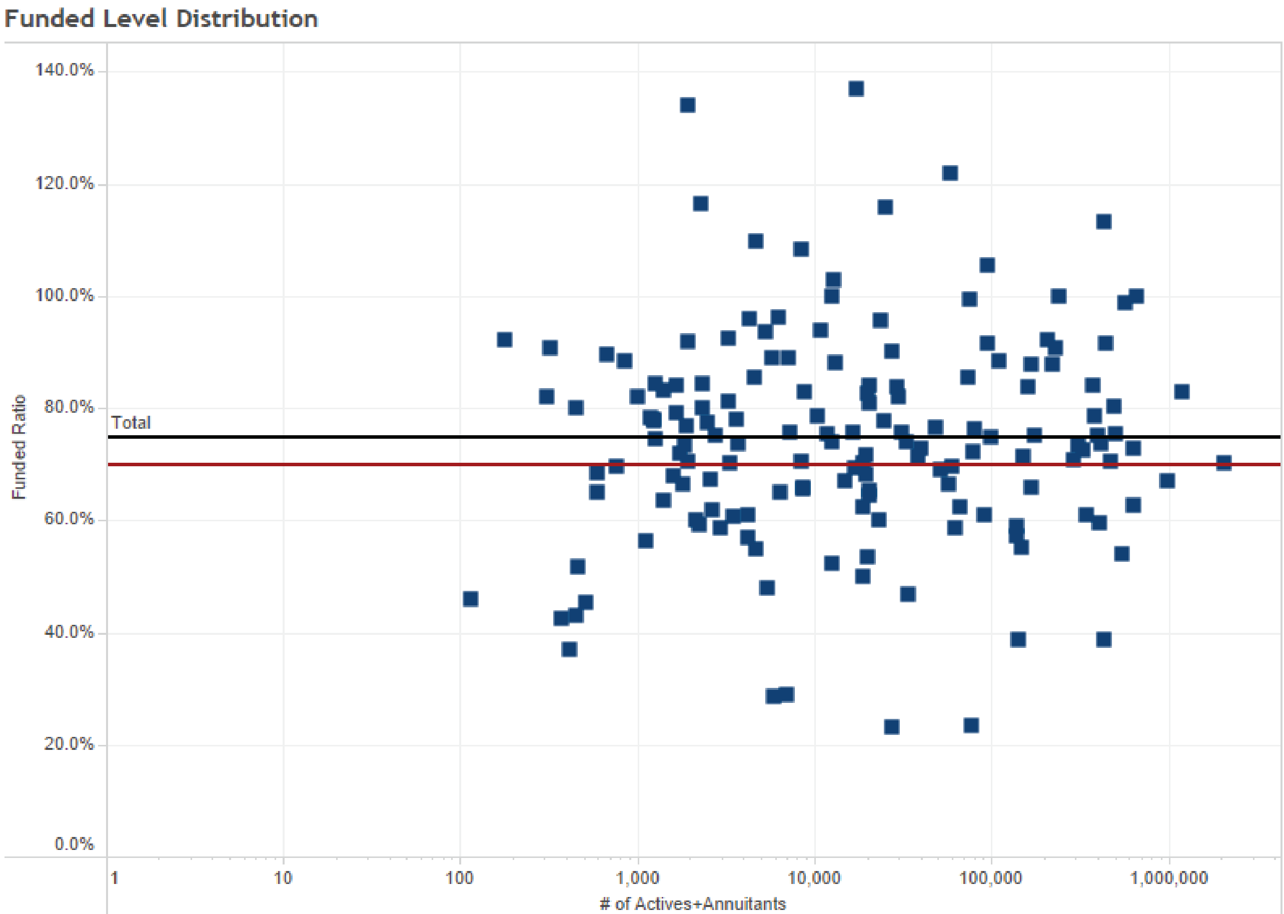
Current vs. Target Investment Asset Allocations



Funding Levels

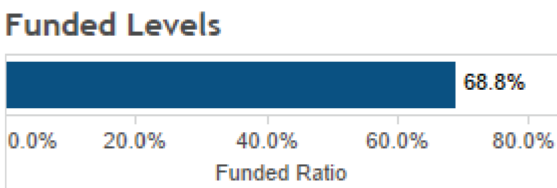
The average funded level is 74.7 percent, down from 75.1 percent in 2020; however, funds reporting both years saw funded levels increase by 0.6 percent to 72.3 percent.

The graph below shows the distribution of funded levels and fund size. The vertical axis shows the level of funding, and the horizontal axis shows the size of the fund by total active and retired participants. The black center line denotes the average of 74.7 percent, and the red center line denotes the 70 percent funding target that Fitch Ratings considers to be adequate.

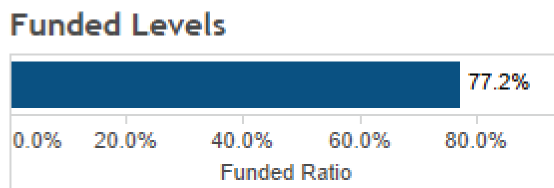


Many funds include members who are not eligible to receive Social Security at the time of retirement. Such funds often have higher benefit levels to offset the loss of this source of retirement income. Those funds that include such members report an average funded level of 68.8 percent, which is below the 74.7 percent reported in the 2020 study. Similarly, funds with members who are eligible for Social Security saw funding levels rise from 76.6 percent reported in 2020 to 77.2 percent in 2021.

Not Social Security Eligible

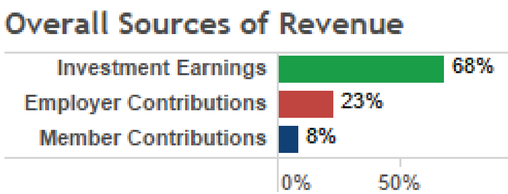


Social Security Eligible

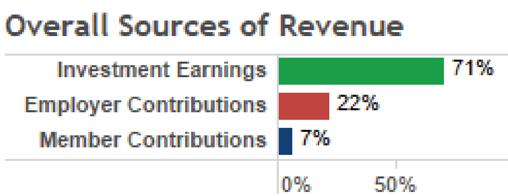


Sources of Funding

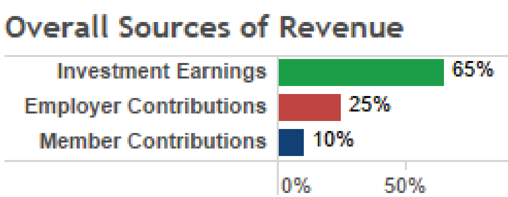
Overall Sources of Revenue



Social Security Eligible



Not Social Security Eligible



Contribution Rates as a Percentage of Payroll – All Respondents

Percentage of Payroll

	2020	2021
Member Contributions	9%	8%
Employer Contributions	20%	23%
All Contributions	29%	32%

Contribution Rates – Respondents in Both Years

Percentage of Payroll

	2020	2021
Member Contributions	9%	9%
Employer Contributions	20%	23%
All Contributions	29%	31%

Income used to fund pension programs generally comes from three sources: member contributions, employer contributions, and investment returns. The chart to the left shows the proportion of funding provided by each of these sources based on reported data.

Investment returns are by far the most significant source of revenue (68 percent). Employer contributions rose by 3 percentage points compared with last year, and member contributions fell by 1 percentage point.

The graphs to the left also show revenue sources for funds whose members are and are not eligible for Social Security.

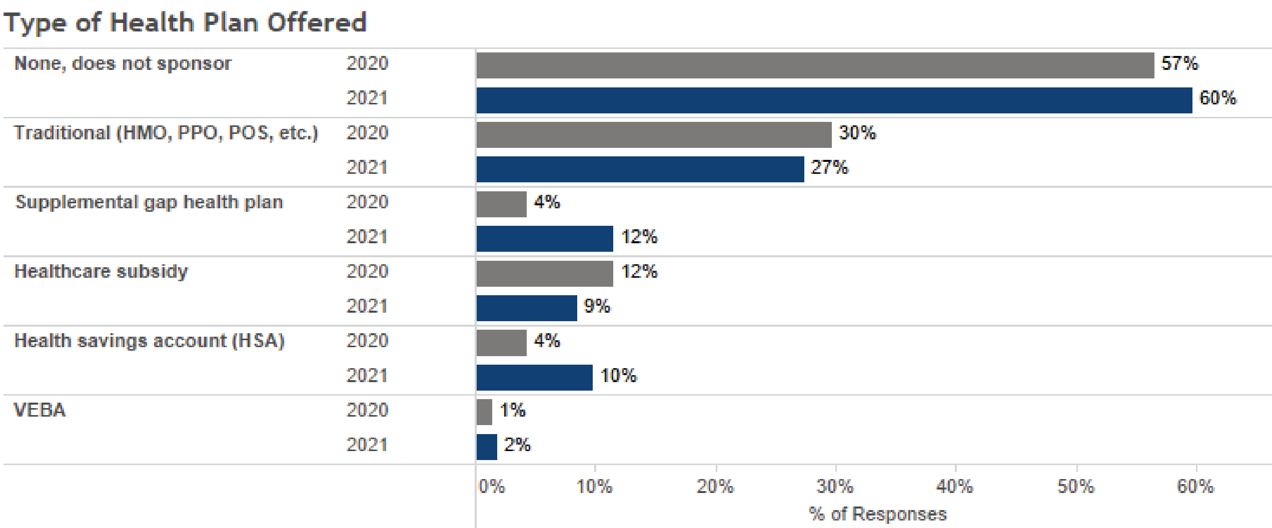
Funds whose members are eligible for Social Security show income sourced from employer contributions rose by 2 percentage points and member contributions rose by 1 percentage point. Funds whose members are not eligible for Social Security also showed an increase in income sourced by employer contributions by 5 percentage points while member contributions dipped by 1 percentage point.

The tables to the left show contribution rates as a percentage of payroll. The top table shows contribution rates for all survey responses, while the bottom table shows responses for those who participated in both 2021 and 2020. Contribution rates were slightly higher for employers in 2021.

Health Plans

Responding funds were asked whether the plan sponsor offers a health plan. In 2021, coverage declined. About 60 percent of funds did not sponsor a plan, compared with 57 percent in 2020. For funds responding in both study years, we saw coverage increase slightly. For this cohort, traditional coverage, supplemental gap health plans, and health savings accounts (HSAs) increased slightly.

What type of health plan does your pension plan sponsor?



Note: Voluntary employees' beneficiary association (VEBA)

Reducing Liability

Respondents were asked to share strategies they have put in place to reduce accrued actuarial liabilities beyond traditional amortization. Below is a text cloud showing the words that appear most often in respondents' comments. Larger words appear more often. The themes relating to these words are listed to the left, and the verbatim comments are provided below.

Contribute – Funds have increased contributions, ensure actuarially-required contributions are received, received supplemental contributions/revenue streams to reduce liability

Increase – Funds have increased contribution levels directly from employers and members (legislation or policy), have increased plan sustainability

Rate – Funds have reduced the assumed rate of return/payroll growth, reduced the discount rate assumption, changed contribution rates

Verbatim Comments

- Currently attempting changes to COLA via legislation; directing all contributions to fund pension and none to fund health care; evaluating the need for benefit plan design changes for future new hires
- 1. Lowered the assumed rate of return and payroll growth. 2. Interest on a Member's DROP Account will be decreased to 3.3%, compounded annually, for DROP participation on or after January 1, 2021. 3. If a member retired prior to January 1, 2021, DROP interest is reduced to 3.3% per year beginning January 1, 2021, until age 70 (0.0% after age 70). 4. If a member retires on or after January 1, 2021, DROP Interest is reduced to 0.0% immediately after retirement. 5. Extend the Average Salary period from three years to five years. Average Salary will not be less than the three-year Average Salary as of December 31, 2020. 6. Effective January 1, 2021, implemented a Tier II for new members: -Normal retirement age 54/20 -Average salary - highest 60 months - Benefit multiplier - 3.0% first 21 years -Longevity benefit - None - DROP - 55/20 Eligibility, 5 year max Additional City contributions increased from 16.75% to 20.25%
- A new tier was enacted in 2010 to reduce plan liability and increase plan sustainability. To date, approximately 52% of active membership is in the new tier. The Board has adopted a modified asset allocation and has systematically reduced the investment return assumption. While the assumption decrease does increase liability numbers in the short term, over the long term, we believe it is a prudent approach to plan funding.
- Actual contributions exceeded the actuarial determined contributions for 2020, increasing the ratio of assets to actuarial accrued liability.
- Actuarially required contribution received each year from Plan Sponsor and investment return
- Additional contributions from members and plan sponsor

Verbatim Comments, continued

- Additional payments in years of returns in excess of the expected rate of return
- ALM, risk mitigation, discount rate reduction, shortened amortization
- Alternative funding methods by employers
- Asked Plan Sponsor to increase Employer Contribution rate 2% incrementally over next 5 years to obtain ADEC level
- Changes in employer contribution rates
- COAERS has updated its investment strategy, governance, and process to create what is known internally as the "Austin model." The Board has articulated a set of Investment Beliefs to guide its decision making and emphasized value creation. The Board adopted meaningful improvements to the Investment Policy, including the establishment of a new Investment Implementation Policy to guide more clearly the specifics of this important aspect of value creation. The Board authorized a new Premier List process for the selection of investment managers which has also added significant value to the Fund.
- Contributions>ADC
- Eliminate COLAs until 100% funding reached; reduce benefits (Tier II for members hired after 9/1/2012); raise contribution rates for employers and employees
- Employee and member contributions are projected to be sufficient. The Plan has always been adequately funded.
- Employee and member contributions are projected to be sufficient. The State of Nebraska also contributes 2% of the member salary.
- Employer additional contributions using available cash or by financing.
- Ensure the full actuarial determined employer contribution is received each and every month. Avoid adding to the UAAL by adding new or enhanced benefit provisions and tightening up provisions such as disability retirement.
- For our disability plan, obtained legislation to increase contribution and give the board authority to raise contributions as needed in the future.
- Funding Policy that funds at least the ADC but does not lower the contribution rate from the prior year until at least 105% funded.
- Funding policy to contribute the ARC
- Implemented a closed amortization period
- Implemented a funding policy
- Implemented good legislation and were able to lower the ER rate 4% while improving funding status.
- In 2017 the board adopted a dedicated gains policy that capitalizes on years of high investment return to reduce the AROR without increasing the UAAL. In 2021, the MPSERS board included a provision in this policy to reduce the AROR to no lower than 6.0%
- Increase employer and employee contributions. Statutorily reduce funding period one year each year until it get to 20 years.
- Increase of employer contributions effective 7/1/2020. Police/Fire 41%; General Employee 24%
- Increase of member contributions
- Increased contribution rates, new cheaper tier of membership.
- Increased contributions, "froze" old benefits and started with a new plan that includes decreased benefits, charge a small fee to members for terminating, locally a new fire station is being built which will increase employee contributions, cutoff COLA for new members, ended the DROP for all members after frozen date.
- Increased diversification
- Increased employer/employee contributions; changed asset allocation
- Increased the employees' pay, which in turn increased the employees' contribution into the plan
- IPERS has a Contribution Rate Funding Policy that can be found here: https://ipers.org/sites/default/files//2021-06/Contribution%20Rate%20Funding%20Policy%20Revised%202013%20%28Final%29.pdf
- Legislation in 2019 allowed for an Employer Incentive Fund (EIF) that allows for employers to receive a 25% match if they put funds into their Side Accounts. The State put in $67m and that triggered approximately $480m in employer funds deposited to side accounts. EIF will be funded on an ongoing basis from a portion of State Lottery Sports Betting revenue.
- Lowered the AARR/Reduced Interest paid on PROP accounts/Closed PROP to new retirees/Increased contributions
- Maine has in its constitution that the UAL that existed in 1996 in our State/Teacher Plan must be retired by 2028 and that new unfunded liabilities cannot be created except by experience loss
- None - We have increased the UAAL as we have lowered the assumed rate of return
- None, current actuarial projections show the Plan will be fully funded in less than 10 years
- Not applicable; funded on the aggregate method
- Our fund is governed by Illinois State Statue which means there is really nothing we can do to reduce the unfunded liability. In 2023 we are due to start receiving the actuarially determined contributions which will help with reducing the unfunded liability.
- Pension Liability Surtax. Discounting future surtax proceeds (beginning in 2031) as a present value asset to artificially boost assets to lower the employer contribution.
- Plan sponsor covering Plan expenses, contribution rate for EE and ER, possible for ER to give more than EE
- Plan sponsor contributes more than the actuarial required amount, increased vesting requirements by two years, increased retirement age, increased contribution rate for employees, revised investment allocations
- Plan sponsors are lobbying state legislators to obtain dedicated funding source (additional sales tax for the City and County)
- Plan sponsors are making supplemental contributions to pay down the bulk of the unfunded liability. Additionally, the Board of Retirement lowered the assumed rate of return.
- Recommendation to the employer to institute a UAAL buydown program or policy, effectively to make contributions greater than actuarially required
- Reduce investment fees; employers paying additional contributions towards UAL; reduced investment assumption rate; apply new restrictions on pensionable earnings; optimizing investment portfolio

Verbatim Comments, continued

- Reduced benefits, increased contributions and risk-sharing contributions to increase if funded status not improved enough
- Reducing the amortization period by 1 each year until 2026, then switching to a rolling 15-year period. Annually the Board of trustees reviews our funding policy. Funding rate changed in 2019.
- SDCERS has set an employer UAL contribution floor equal to the UAL contribution from the 06/30/18 valuation until the plan is 100% funded
- State contributions under state law are too low to begin reducing the unfunded liability. The TRS Board certifies both the amount required under state law and the amount required under an actuarial process (different cost method, shorter amortization) that begins to reduce the unfunded liability. This approach is needed because our funded status is too low.
- Statutorily increased employer and employee contributions. Statutory cap on amortization period requiring it to be reduced at least one year per year until it reaches 20 years.
- STRS Ohio continues to phase-in changes from the 2013 pension reform plan to strengthen the financial condition of the pension fund. Further, the COLA reduction to 0% in 2017 continues to have a positive impact on the UAAL. This fall, STRS Ohio began its Actuarial Experience Review, conducted by the system's actuarial consultant every five years. The experience review looks at all economic and demographic assumptions the system uses and compares them to the system's actual experience over the past five years. The study helps the board decide the assumptions used to evaluate the funded status. The board voted to lower the actuarial investment return assumption to 7.00% from 7.45%, for the June 30, 2021, valuation and will continue to evaluate this rate during the experience review.
- Submitted legislation to increase contributions
- Taking a deep dive into the Plan elements and provisions in order to make strategic cuts that provide a positive impact but also protect vested benefits
- The California Legislature and the Governor enacted the CalSTRS Funding Plan, a joint commitment set forth in statute to achieve full funding by 2046
- The City makes an additional fixed contribution to eliminate the unfunded liability in 4 years
- The Governor and General Assembly have focused on reducing plan costs and liabilities with a multipronged approach that included: Accelerating repayment of deferred contributions, estimated to save $60.5 million over six years; funding 100% of actuarially determined contribution rates earlier than anticipated, saving $232 million over 20 years.
- The Kansas Legislature has approved additional employer contributions totaling $304 million in the past 5 years. In addition, they have approved the sale of pension funding bonds to increase the assets in the Trust Fund. KPERS has received bond proceeds totaling $440 million in 2004, $1.0 billion in 2015, and $500 million in 2021.
- The Kentucky General Assembly has stated their intent to full fund the pension plan going forward. The state budget has been adopted that fully funds the pension plan through fiscal year 2022.
- The PERS Board continues to monitor and update its funding policy to address the system's unfunded accrued liability
- The plan sponsor issued pension obligation bonds in 2017
- The Plan Sponsor received legislative authority to proceed with a pension obligation bond issuance if market conditions are favorable
- The State of Iowa will provide a supplemental contribution amount of $5.0 million each fiscal year until the plan reaches an 85% funded ratio
- This plan has been closed to new entrants and will be fully funded in 7 years
- Utilize a conservative return assumption and a conservative amortization schedule
- We are a regional retirement system. Our individual employer units have been invited to make additional payments toward their unfunded liability.
- We are using a closed end 25-year layer amortization period
- We changed the amortization from open to closed
- We closed the amortization period and reduced the investment rate of return assumption. We are considering further lowering of the rate of return assumption.
- We have an provision in PERA statute that modifies contributions and benefit amounts to address keeping us on track to our goal of full funding
- We have moved to a fully closed amortization period, with future gains/losses amortized over a 20-year period
- We implemented a funding policy in 2014 that establishes a new tier with each year's valuation and the tier can be amortized over a period not to exceed 20 years and with each subsequent valuation the maximum amortization period is 20 years minus the number of years since the tier was established
- We use a contribution rate stabilization reserve fund for further reinforce the aggressive amortization schedule in place
- We've held the contribution rate higher than the actuarial calculated contribution rate. This practice is adopted until the fund reaches 110% funded status
- Work with stakeholders to present funding legislation for next legislative year

Innovations and Best Practices

In the study, respondents were asked to share a success story regarding best practices or innovations that other plans might like to learn about. Below is a text cloud showing the words that appear most often in respondents' comments. Larger words appear more often. The themes relating to these words are listed to the left, and the verbatim comments are provided below.

Member – Member data, member administration, member portals, member contact, member education

Educate – Education and communication efforts, financial wellness, topic videos/modules

Plan – Modification and creation of plans, long-term plans

Verbatim Comments

- After we launched a major upgrade to our pension administration software, we tested its integrity with a daylong emergency preparedness drill in which IPERS staff worked remotely to ensure that our essential functions could be completed in the event of an emergency at our headquarters. Overall, the drill proved successful, although we gained valuable insights that will challenge us to continue to refine and enhance our processes and technology infrastructure. IPERS' Investment Board also approved the system's first internally managed investment program intended to systematically invest in Alternative Risk Premia.
- Automatic enrollment for state employees and growing number of local employees in the Deferred Compensation 457 plan. New employees can opt out, but the default is to be enrolled @3% of wages in a target date fund appropriate for their age. 97% stick rate; we think this will improve outcomes for public employees who otherwise wouldn't enroll. First introduced for state employees in the 2016 legislative session; slowly expanding amongst cities, counties and school districts.
- CalSTRS administers a three-part hybrid system that includes traditional DB, CB and voluntary DC plans
- Contributions>ADC
- Currently working on enhancing the funding policy. Intent is to expand perspective thru long-term plan to fund to the PVB, not just the AAL. This will help manage plans with funding ratios significantly above 100% of AAL.
- De-commingling of Investment Accounts and Portal access for Beneficiary accounts
- Flexible remote work capabilities has sure been well received by staff

Verbatim Comments, continued

- Gemini is a multi-year initiative that encompasses a complete re-write of our pension administration system. The current system has been in use since 2003. It has become increasingly difficult to update and maintain. The PAS is the backbone of our organization and performs all of our core functions for 427,000 members and 990 school districts and employers, such as recording contributions and service, processing benefits, generating monthly member payroll and supporting the portals that our members and their employers use to work with TRS. In order to be able to launch its new defined contribution retirement plan, the System must upgrade the current frequency in which school districts and other employers report member information to TRS. Instead of an annual report, employers will now be required to report member data at the end of each pay period. This change to pay-period reporting will be the first aspect of Gemini to be developed, tested and implemented.
- Improved service levels by developing and implementing a Contact Center to respond to all forms of member and retiree contact
- In 2014 implemented a hybrid plan that also contains cost controls including a reserve account that will help offset future cost increases. The difference between the actuarially determined contribution and statutory rate is deposited into a reserve account and can be used to keep the employer contribution rates from increasing beyond the statutory rate in future years. The other cost controls are implemented automatically if certain negative experience (extreme negative experience) occurs and causes the plan to fall below funding thresholds or the cost of the plan to exceed 9% for the employer.
- In 2019 IMRF won the Malcolm Baldrige National Quality Award, the first public pension fund in the nation to receive this prestigious award
- In 2020, the Board updated its Funding Policy to establish new funding goals and objectives. The Board set forth funding principles including an ADEC consistent of the normal cost plus the amount needed to amortize the UAAL over a closed 25-year period beginning on December 31, 2020. Each future valuation allows for the establishment of liability gain and loss layers, to be amortized over 15-year closed periods.
- In an effort to extend the solvency of the health care fund, the OPERS Board approved significant changes in the delivery of health care for pre-Medicare retirees to begin January 1, 2022. The new model will replace the long-standing group plan with a Health Reimbursement Arrangement (HRA) model funded by OPERS through monthly allowances to retirees. The HRA model allows retirees the opportunity to select and fund an individual health plan most suitable to their needs. This model, in many forms, replicates the current model provided to over 100,000 Medicare retirees. Education and communication efforts with our members and retirees throughout the year were focused on the retiree health care program to make sure they understood the funding model, the issues we face, and the solutions that were being discussed. Our entire Member Services staff completed a comprehensive training on the Affordable Care Act (ACA) in preparation of the transition of our pre-Medicare retirees to the private market in 2022. The training included education on qualifying for a premium tax credit and plans available on healthcare.gov. Included in the training were several hands-on activities requiring the employees to search for plans on healthcare.gov for different personas and answer detailed questions on the outcomes.
- In July 2021, we implemented an Improved monthly direct deposit advices that provide a wide variety of information relating to each pensioner's elected benefit option, beneficiaries, optionees, COLA basis, next COLA receipt date, healthcare coverage elections & monthly premiums, Power of Attorney on file. Providing this information on the monthly direct deposit advices reduced pensioner call volume by 40%
- In July of this year, MERS rolled out a new financial wellness tool to all MERS participants called Financial Fitness. Financial Fitness is a one-stop financial tool that brings all of a participant's financial information to one place. The tool pulls in all of a participant's current retirement plans with MERS, and with a few simple clicks, they can add any or all of their outside accounts (bank, investments, health savings accounts (HSAs), loans, etc.) and view them in one organized place. The tool has guided workouts help participants see if they're on track across five categories - emergency savings, debt management, retirement planning, insurance management and HSAs (if applicable). With easy, intuitive workouts, Financial Fitness helps build financial confidence by asking participants to complete the workouts and then calculates a score based on the results of those workouts. Participants can also use the tools to explore, set and reach financial goals (retirement, education, vacation, down payment for house, etc.), and day-to-day budgeting assistance, where participants can see what they are earning and spending along with suggestions that help them save more each month.
- Initiated scanning project, converting paper retiree files to searchable electronic records stored in SharePoint environment
- Investment strategic asset allocation change to a Functionally Focused Portfolio approach including a large increase in target allocation to private equity, private credit, and infrastructure to be managed in a fund-of-one structure
- Inviting new employees to special seminar
- LACERS implemented an on-line retirement application portal for Members to complete and submit retirement applications electronically. Required documents can be submitted securely in electronic format. Brief topic videos educate and guide Members in completing the applications.
- Lower the assumed rate of return when VAAL rates are falling precipitously to strengthen the plan and smooth the return
- Membership education has been pushed to the forefront as the Board faces additional pressures, whether at a National, State or Local level. The time to inform your members is not in the face of a problem, but when things are going well. It is inevitable these funds will make changes over the decades, positive or negative. A sound understanding of the Fund is crucial as they are complex, and standards of sustainability are ever changing. Information in times of crisis is not able to be assimilated and often perceived to be backed by a hidden agenda. Generic, unbiased, open communication throughout the year also helps create a larger pool of qualified members when Trustee turnover takes place.
- New Online Portal for retirees and active members of the Plan. Allows members to access their pension information online

Verbatim Comments, continued

- Transitioning Medicare-eligible population to the Medicare exchange
- Pension Reform:
  The Governor and General Assembly have focused on reducing plan costs and liabilities with a multipronged approach that included:
  - Implementing plan design changes (VRS Plan 2 for all employees and the Hybrid Retirement Plan nonpublic safety employees that have lowered future benefit costs). The Hybrid Retirement Plan is the dominant plan for all new hires except public safety employees. The Hybrid combined defined benefit and defined contribution plan:
  - Reduces future benefit costs
  - Introduces risk-sharing between employer and employee
  - Lowers defined benefit risk to employers by approximately one-third

  myVRS Financial Wellness:
  - In its quest to help members plan for tomorrow, today, VRS launched an innovative online program in 2017 to provide financial wellness education for its members, as well as free educational resources for citizens of the Commonwealth. The System continues to promote this education opportunity and enhance the materials that are available.
  - Recognizing that many VRS members would like to improve their knowledge but do not have access to personal finance education, VRS seized an opportunity to integrate financial wellness content on the public website and with the retirement planning tools within the agency's secure myVRS online member portal. VRS partnered with service provider, iGrad, creator of Enrich financial literacy content, to develop myVRS Financial Wellness.
  - VRS appears to be the first state retirement system to offer financial wellness content through its public website and personalized content – based on the member's profile – through a secure member portal. The program is aimed at helping members make informed and educated decisions on everyday financial matters while saving for the future and retirement security. Users find tools, tips and time-savers that help them with debt and credit management, personal budgeting, spending habits, saving for goals, student loan repayment and career-development strategies.

  Advancements in Technology and Security:
  - VRS continued the Modernization journey. Successfully transitioned retirement processing and disbursements to a cloud-based environment and decommissioned the legacy mainframe, including the transfer of over 400 million records.
  - Successfully disbursed more than 200,000 payments to retirees and beneficiaries under the new system in May 2019.

  myVRS Online Self-service Member Portal Enhancements:
  - Enhancements to myVRS will enable members to complete their retirement applications online. The online system provides the user with regular feedback and embedded education to enhance the user experience.
  - Continue to enhance the online Self-service portal to allow members and retirees to update and manage beneficiaries, change bank account information for direct deposits, and update Health Insurance Credit information."
- TRS's Personalized Medicine project, a wellness program for retired teachers that also has the potential to save and extend lives. The pilot program tests DNA to determine whether medications being taken - or that may be taken - will be effective.
- Utilization of PBI location services has helped us find terminated non-vested and terminated vested members
- Utilizing social media, i.e., TEAMS, ZOOM for monthly meetings and individual and group training
- WCERS has negotiated lower fees/ consolidated recordkeepers from 5 to 1/ transparency of investment fees included on statement/ added a retirement counselor for the Deferred Compensation & Defined Contribution plan/ conduct NEO retirement meetings via Zoom/ Host webinars for participants with Retirement Counselor & Advisor/ remote work schedules/ added Auto Attendant to route calls to appropriate team member / 457 Roth option added
- We added an Alternative Investment Asset class beginning in calendar year 2021 which we expect to generate strong investment returns
- We are merging plans to increase efficiency and minimize actuarial risk. In addition, we have extensively increased our communication with our members throughout multiple channels
- We conducted our first virtual member and employer training programs. They were well-received and will continue alongside in person meetings. We are also implementing a Member Self-Service Portal. It will allow active/inactive members to view their account balance among other information. It will provide retirees with access to their payment information and 1099R information.
- We have experience studies done every 5 years by statute. The innovation is that we have two actuarial firms to peer review the experience study so that we can get a comprehensive review and analysis of best practices. Our consulting actuary as well as both of the peer reviewing actuaries report to the Boards of Control
- We have incorporated risk sharing in our Participating Local District Consolidated Plan along with an automatic temporary COLA reduction mechanism to prevent contribution rates from exceeding certain caps
- We have recently added private debt and private equity as new asset classes in our Investment Policy
- We have worked with the plan sponsor creating education modules that are assigned specific to the firefighters. Much like required learning modules for cyber security awareness that all employees must take, we've created modules related to the Pension System, the calculation of benefits, and disability pension benefit and process. We're currently working on a fourth module that explains the annual valuation process and understanding what funding level means. It is difficult to educate the firefighters due to their work schedule. The modules have been a way to educate the mass in a short period of time (1-3 months). The modules can be re-reviewed and accessible 24/7 through the City's (plan Sponsor) intranet site.

Verbatim Comments, continued

- We implemented an annual pre-retirement seminar as well as a "know your plan" seminar for new hires. We conduct an annual death audit, ask new board members to attend a conference before coming on the board and have a meeting with the administrator to walk over all of their duties, expectations, and cover any concerns they may have. We also implemented conducting actuarial valuations annually which has really helped our plan keep an "eye" on things.
- We perform actuarial "stress tests" annually. We perform "experience studies" every three years as opposed to our past practice of every five years
- We replaced in-person retirement counseling with virtual retirement workshops resulting in reaching 200-500 members at a time instead of up to 12
- We started doing vulnerability testing in-house. This will supplement our IT security audits that are done on annual basis
- Would love to learn what others are doing as I am new to this role and open to any innovative ideas

Appendix A: Other Investments

Respondents were asked to specify what "other" asset classes they invested in. Below is a text cloud showing the words that appear most often in respondents' comments. Larger words appear more often. The themes relating to these words are listed to the left, and the verbatim comments are provided below.

Equity – Diversified equity, equity allocation to Canadian companies, equity options, opportunistic, private equity

Real – Real assets, real estate

Assets – Real assets, dynamic assets

Verbatim Comments

- (*) Core/Core Plus Fixed Income = 2.4%, United States Treasury = (3.0%), and Public Credit = 26.4% (**) Real Assets = 14.8%, Liquid Real Return = 20.8%, Absolute Return - Diversifying = 13.0%, Absolute Return - Growth = 30.4%, and Opportunities = 19.3%
- Absolute Return; Real Assets
- Actual/Target/Return: Private Real Assets 2.0%/4%/27.6%, Public Real Assets 6.1%/4%/29.3%
- All of the above are from 6/30/2020 same as actuarial valuation date
- Credit strategies, multi-asset public strategies, Private investment partnerships
- Current Asset Allocation & Target are Private Credit. Investment returns are all net; other is private credit measured in IRR
- Diversified Equity
- Diversifying Strategies
- Dynamic Assets
- Economically Targeted Investments
- EM Debt/Risk Mitigation/Unique Strategies
- Emerging International
- Emerging Markets Fixed Income
- Equity allocation to Canadian companies
- Equity options, Opportunistic, Public Infrastructure
- Global Asset Allocation
- GTAA
- Infrastructure

Verbatim Comments, continued

- Liquid Alternatives and Infrastructure
- LOW VOLATILITY12.7; MLP 6.44; ///TARGET LOW VOLATILITY 13. MLP 7.0///RETURN. LOW VOL .03, MLP -17
- Master Limited Partnership
- Midstream 5%, Capital Efficiency Alpha pool 5%, Opportunistic 0%
- Midstream energy infrastructure
- MLP's
- MLPs & Public Real Assets
- Multi Asset
- Multi Asset Class
- Multi-asset
- Opportunistic - Real Estate, Credit Funds, Equity funds
- Other Alternatives = Natural Resources, Infrastructure / Other = Emergency Markets
- Other alternatives = timberland; other = Evergreen & non-evergreen, opportunistic credit
- Other alternatives are Real Assets
- Other Alternatives is Infrastructure and Other is Farmland
- Other Alternatives is Listed Infrastructure
- Other consist of TIPS and REITS
- Other form of cash equivalent
- Other includes Opportunistic Credit, Natural Resources and Multi-Asset.
- Other real assets (other than real estate)
- Preferred/ Convertible Bonds
- Real Assets
- Real Assets (Infrastructure, Timber, Farmland)
- Real Assets including Real Estate, Agriculture, Timber, Energy, Minerals, Infrastructure
- Real Assets, Midstream Energy, Gold (Total Plan levered target of 120.1%)
- Real Estate Debt
- REITs, MLPs, Systematic Trend Following, S&P ATM PutWrite
- Risk Diversifiers
- Risk Mitigating Strategies: 8.4%, 10.0%, 7.8%; Inflation Sensitive: 3.3%, 6.0%, 1.1%; Innovative Strategies: 0.3%, 0.0%, (2.7%)
- Risk Parity
- Risk Parity and Crisis Risk Offset
- Risk Parity, Other Pension Assets, and Rebalancing
- Risk-Based Asset Allocation as of 6/30/2021 (Actual/Target): Broad Growth (74.1%/68.0%), Principal Protection (4.5%/8.0%), Crisis Risk Offset (14.0%/16.0%), Real Return (2.4%/8.0%), Opportunities (0.2%/0.0%), Other (4.7%/0.0%)
- Short Term Investments
- Strategic Investments (Global Asset Allocation)
- Timber
- Timber (1.5% Assets Return 4.87%) & Infrastructure (4.1% Assets Return 14.96%) Numbers in this chart are as of June 30, 2021
- TIPS, Global Inflation Linked Bonds, Infrastructure, Timber
- We are part of the State of MA-PRIT Fund

National Conference on Public Employee Retirement Systems
The Voice for Public Pensions

Cobalt Community Research

2022 NCPERS PUBLIC RETIREMENT SYSTEMS STUDY

Please share your feedback so we can continue to provide the most up-to-date data addressing retirement issues for public pension plans across the nation. Your most recent Comprehensive Annual Financial Report will help answer most questions.

If you administer more than one plan, copy this survey for each and note the name of the fund. If you are a multiple employer plan, use aggregate numbers from your CAFR and respond to questions in the generally applicable way for most of your plans.

Please enter your ID number from the cover email: ______

Plan name: ______

What type of plan is this? (**Mark all that apply.**)

- ☐ *Defined Benefit Plan (Traditional Pension Plan)*
- ☐ *Defined Contribution Plan (Mandatory Retirement Account)*
- ☐ *Combination Plan (Blends Defined Benefit & Defined Contribution)*
- ☐ *Cash Balance Plan*

Plan Statistics

1. Fund statistics **from most recently completed fiscal year** (if applicable). Please do not use commas, dollar signs or percentage marks in the field - it is numeric only.

Total number of members (actives + deferred + retirees + beneficiaries): ______

Total number of staff who administer the fund (full-time equivalent): ______

Fiscal year of your CAFR referenced for this survey (MM/DD/YYYY): ______

Market value of plan assets ($ in thousands from actuarial valuation): ______

Total pension assets (a) ($ in thousands from actuarial valuation): ______

Total pension liability (b) ($ in thousands from actuarial valuation): ______

Current funded ratio (a divided by b) (%): ______

Cost of Living Adjustment (COLA) offered by plan in last fiscal year (%): ______

Did your plan receive the full (100%) actuarially determined contribution in the last fiscal year? ☐ *Yes* ☐ *No*

Member contributions as percent of payroll (%): ______

Employer contributions as percent of payroll (%): ______

Investment manager expenses (basis points): ______

Administrative expenses (basis points): ______

Investment assumption/discount rate (%): ______

Inflation assumption (%): ______

Investment smoothing period (years): ______

Amortization period (years): ______

Type of amortization period: ☐ *Open/Rolling* ☐ *Closed/Fixed*

Investment return % (1 year): ______

Investment return % (5 year): ______

Investment return % (10 year): ______

Investment return % (20 year): ______

Are these investment returns Net or Gross? ☐ *Net* ☐ *Gross*

Current and Target Asset Allocation / Investment Return

2. For each of the asset classes below, please specify your *CURRENT* and *TARGET* asset allocation and your *1 YEAR INVESTMENT RETURN* (%) for each asset class. Please note: percentages for asset allocation should equal 100%. If your target assets are a range, please use middle of the range.

CURRENT asset allocation:		*TARGET* asset allocation:		*Gross investment return % (1 yr):*	
Global Equity (%):		Global Equity (%):		Global Equity (%):	
Domestic Equity (%):		Domestic Equity (%):		Domestic Equity (%):	
International Equity (%):		International Equity (%):		International Equity (%):	
Global Fixed Income (%):		Global Fixed Income (%):		Global Fixed Income (%):	
Domestic Fixed Income (%):		Domestic Fixed Income (%):		Domestic Fixed Income (%):	
International Fixed Income (%):		International Fixed Income (%):		International Fixed Income (%):	
High Yield Bond (%):		High Yield Bond (%):		High Yield Bond (%):	
Real Estate (%):		Real Estate (%):		Real Estate (%):	
Private Equity (%):		Private Equity (%):		Private Equity (%):	
Hedge Fund (%):		Hedge Fund (%):		Hedge Fund (%):	
Private Debt (%):		Private Debt (%):		Private Debt (%):	
Other Alternatives (%):		Other Alternatives (%):		Other Alternatives (%):	
Commodities (%):		Commodities (%):		Commodities (%):	
Cash Equivalents (%):		Cash Equivalents (%):		Cash Equivalents (%):	
Other (specify asset below) (%):		Other (specify asset below) (%):		Other (specify asset below) (%):	

Are these investment returns Net or Gross? ☐ *Net* ☐ *Gross*

If you entered an "Other" asset class above, please specify the other class(es) in which your fund is currently invested:

3. Which ***retirement benefits*** below does your plan offer or is considering offering? Please skip individual items below if not applicable.

	Already Offering	Considering Offering
Defined Benefit Plan (traditional pension plan in which the benefit is defined by a formula based on service and average wages)	☐	☐
Defined Contribution Plan (retirement account such as a 403(b) or 401(k) in which an employer's contribution is specified and employee participation is generally mandatory)	☐	☐
Deferred Compensation Plan (tax-deferred retirement savings account such as a 457 in which employee participation is voluntary)	☐	☐
Combination Plan (blends Defined Benefit and Defined Contribution elements)	☐	☐
In-service death benefit	☐	☐
Disability benefit provided either within the plan, by Social Security or by employer	☐	☐
An automatic post-retirement adjustment of payments (e.g. COLA)	☐	☐
A compounding post-retirement adjustment of payments (e.g. COLA)	☐	☐
An ad hoc (not necessarily automatic or compounding) post-retirement adjustment of payments (e.g. COLA)	☐	☐
Employer pick up of employee contributions	☐	☐
Deferred Retirement Option Plan (DROP - in all forms)	☐	☐

4. Which *retirement plan changes* below have been implemented or are being considered by the plan or plan sponsors? Please skip individual changes below if not applicable.

	Already Implemented	Considering Implementing
Lower the actuarial assumed rate of return	☐	☐
Raise benefit age/service requirements	☐	☐
Increase employee contributions	☐	☐
Hold or lengthen the amortization period to improve affordability	☐	☐
Shorten the amortization period to improve funded status	☐	☐

5. Which *business practices* below have been implemented or are being considered by the plan or plan sponsors? Please skip individual items below if not conducted.

	Already Implemented	Considering Implementing
Conduct a death audit	☐	☐
Conduct an actuarial audit by a third party actuary (includes replication of valuation and opinion on actuarial assumptions)	☐	☐
Conduct an information systems security audit	☐	☐
Conduct a building security audit	☐	☐
Update/strengthen an asset allocation study	☐	☐
Expand operational performance benchmarking	☐	☐
Update or enhance administrative software used for member data	☐	☐
Update or enhance online portal provided for members to access account information	☐	☐
Update or enhance a mobile app for members to access account information	☐	☐
Conduct an employer/reporting unit satisfaction assessment	☐	☐
Comply with new State statutory or regulatory requirements to report your funded status based on a rate of return different from your assumed rate of return	☐	☐
Enhance member financial wellness/retirement readiness resources	☐	☐

6. Which of the following *communication methods* does your plan or plan sponsor have?

	Yes	No
A website that provides account information to members	☐	☐
A mobile app that provides account information to members	☐	☐
Capacity to send a mass text message to your entire membership	☐	☐
Capacity to send an e-mail to your entire membership	☐	☐
Does your plan have a social media presence?	☐	☐
Does your plan offer video conferencing to members (Zoom, Teams, WebEx, etc.)?	☐	☐

7. Which *oversight practices* below have been implemented? Please skip individual practices below if not conducted.

	Yes	No
Receipt of the GFOA Award of Excellence for the most recent award cycle	☐	☐
Receipt of NCPERS Certificate of Transparency	☐	☐
Receipt of PPCC Standards Award	☐	☐
Receipt of PPCC Administrative Certificate	☐	☐
Receipt of PPCC Funding Certificate	☐	☐
Receipt of an unqualified opinion from the auditor on the fund's financial statements, internal controls, and compliance with applicable laws and regulations	☐	☐
Conduct an actuarial valuation at least every 2 years	☐	☐
Board adoption and adherence to written investment policies	☐	☐
Board adoption of written fiduciary standards	☐	☐
Receipt of annual investment performance evaluation from an outside independent investment review entity	☐	☐
Use of a formal enterprise risk management framework	☐	☐

8. How satisfied are you with your plan's readiness to address retirement trends and issues over the next 2 years?

Very Dissatisfied= 1	2	3	4	5	6	7	8	9	Very Satisfied= 10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

9. If you have an unfunded accrued actuarial liability, what strategies have you put in place to reduce it beyond traditional amortization?

10. Think about best practices. Please share a success story or plan innovation you are considering that other plans may like to learn about:

11. Which categories best describe your innovation or best practice story above? (**Please mark all that apply.**)

☐ *Retirement benefit* ☐ *Business practice* ☐ *Oversight practice*
☐ *Plan change* ☐ *Communication/ engagement practice* ☐ *Investment*

Questions about your fund (your responses will be confidential)

12. What type of employees/beneficiaries does your fund serve? (**Please mark all that apply.**)

☐ *Local (township/city/village)* ☐ *Public safety* ☐ *Educational*
☐ *County* ☐ *State* ☐ *Other*

13. What type of health plan does your pension plan sponsor? (**Please mark all that apply.**)

☐ *None, does not sponsor (skip to Q15)* ☐ *Healthcare subsidy*
☐ *Traditional (HMO, PPO, POS, etc.)* ☐ *Health Savings Account (HSA)*
☐ *Supplemental gap health plan* ☐ *Voluntary Employees' Beneficiary Association (VEBA)*

14. Who is eligible for the health plan? (**Please mark all that apply.**) ☐ *Retirees* ☐ *Beneficiaries*

15. Are your members eligible for Social Security coverage? ☐ *Yes* ☐ *No*

16. Are your members eligible for Medicare coverage? ☐ *Yes* ☐ *No*

17. Do you include overtime in the calculation of the retirement benefit? ☐ *Yes* ☐ *No* ☐ *N/A*

18. Does your plan allow Board Members the ability to participate via teleconference or webconference (Zoom, Teams, Webex) and vote? ☐ *Yes* ☐ *No*

19. How is your fund's current ability to attract and retain skilled employees as your staff retire? ☐ *Significant problem* ☐ *Expect to become a problem soon* ☐ *Starting to become a problem* ☐ *No problem*

20. Which role(s) best describe your relationship to the fund? (**Please mark all that apply.**) ☐ *Staff* ☐ *Plan consultant* ☐ *Board member/ trustee* ☐ *Other*

21. May we contact you if we have additional questions? ☐ *Yes* ☐ *No*

22. Please provide your name and email so we may provide access to the interactive comparison dashboard.

23. Please note who we should contact for future surveys and provide their name and email:

This concludes the study. Thank you for your time and cooperation.

For more information:

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