San Joaquin County Employees
Retirement Association

A G E N D A

BOARD MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
WEDNESDAY, OCTOBER 5, 2022
AT 9:00 AM
Location: SJCERA Board Room, 6 S. El Dorado Street, Suite 400, Stockton, California.

The public may also attend the Board meeting live via Zoom by (1) clicking here https://us02web.zoom.us/j/89170386040 and following the prompts to enter your name and email, or (2) calling (669) 219-2599 or (669) 900-9128 and entering Meeting ID 89170386040#.

Persons who require disability-related accommodations should contact SJCERA at (209) 468 -9950 or ElainaP@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 APPROVAL OF MINUTES

3.01 Minutes for the Board Meeting of September 9, 2022 4

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.

03 Pensions & Investments — 104
Investors in for rude awakening on alts returns
September 19, 2022

04 Pensions & Investments — 108
Fed Hikes Interest Rates 75 Basis Points
Now Targets Year-End Funds Rate of 4.4 percent
September 21, 2022

05 NCPERS Monitor — 112
September 2022

06 Research Affiliates — 123
Necessary Trade-Offs: Climate vs. Investment Objectives
September 2022

9.0 COMMENTS

9.01 Comments from the Board of Retirement

10.0 CLOSED SESSION

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

10.02 Personnel Matters
California Government Code Section 54957
Employee Disability Retirement Application(s) (4)

11.0 CALENDAR

11.01 Investment Round Table October 6, 2022, at 8:00 AM

11.02 Board Meeting November 4, 2022, at 9:00 AM

11.03 Administrative Committee Meeting November 22, 2022, at 9:00 AM

11.04 Board Meeting December 9, 2022, at 9:00 AM

12.0 ADJOURNMENT

M I N U T E S

BOARD MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
FRIDAY, SEPTEMBER 9, 2022
AT 9:00 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, Michael Duffy, Chanda Bassett, JC Weydert, Steve Moore, Raymond McCray and Michael Restuccia, presiding.
MEMBERS ABSENT: Jennifer Goodman, Robert Rickman
STAFF PRESENT: Chief Executive Officer Johanna Shick, Assistant Chief Executive Officer Brian McKelvey, Retirement Investment Officer Paris Ba (Via Zoom), Management Analyst III Greg Frank, Information Systems Manager Adnan Khan, Information Systems Analyst II Lolo Garza, Administrative Secretary Elaina Petersen
OTHERS PRESENT: Deputy County Counsel Jason Morrish, Graham Schmidt of Cheiron, David Sancewich and Erik White (Via Zoom) of Meketa

2.0 PLEDGE OF ALLEGIANCE

2.01 Led by Michael Duffy

3.0 APPROVAL OF MINUTES

3.01 Minutes for the Board Meeting of August 12, 2022

3.02 The Board voted unanimously (7-0) to approve the Minutes of the Board Meeting of August 12, 2022. (Motion: Bassett; Second: Duffy)

4.0 PUBLIC COMMENT

4.01 There was no public comment

5.0 CONSENT ITEMS

5.01 Service Retirement (15)

5.02 The Board voted unanimously (7-0) to approve the Consent Calendar items. (Motion: Weydert; Second: Bassett)

6.0 ACTUARIAL VALUATION REPORT AND 2023 RETIREMENT CONTRIBUTION RATES

6.01 Presented by Graham Schmidt of Cheiron

01 Annual Actuarial Valuation Report as of January 1, 2022

6.02 The Board received and filed report

6.03 Resolution 2022-09-01 titled “2023 Retirement Contribution Rates”

6.04 The Board voted unanimously (7-0) to approve the retirement contribution rates for 2023 and adoption of Resolution 2022-09-01. (Motion: McCray; Second: Keokham)

7.0 IMPLEMENTATION OF LOW-DEFAULT-RISK OBLIGATION MEASURE

7.01 Presentation by Graham Schmidt of Cheiron

01 Cheiron Advisory: LDROM for Public Plans
https://cheiron.us/cheironHome/viewArtAction.do?artID=379

7.02 The Board received and filed report

8.0 INVESTMENT CONSULTANT REPORTS

8.01 Presentation by David Sancewich of Meketa Investment Group

01 Quarterly Reports from Investment Consultant for Period Ended June 30, 2022

a Investment Performance Report

b Manager Certification Report

c Manager Review Schedule

02 Monthly Investment Performance Updates

a Manager Performance Flash Report - July 2022

b Economic and Market Update - Data as of July 31, 2022

8.02 The Board received and filed reports

9.0 STAFF REPORTS

9.01 Trustee and Executive Staff Travel

01 Conferences and Events Schedule for 2022

02 Summary of Pending Trustee and Executive Staff Travel

03 Summary of Completed Trustee and Executive Staff Travel

9.02 The Board received and filed reports

9.03 Legislative Summary Report

9.04 CEO Report

In addition to the written report, CEO Shick reported: (1) SJCERA has a new website online and praised Communications Officer Kendra Fenner and Information Systems Specialist II Jordan Regevig for their outstanding work. (2) she has meetings with seven of SJCERA'S nine participating employers for their input on 2023 Action Plan goals and to ask how SJCERA can serve them better.

9.05 The Board received and filed reports

10.0 CORRESPONDENCE

10.01 Letters Received (0)

10.02 Letters Sent (0)

10.03 Market Commentary/Newsletters/Articles

01 Fin News
Despite Global Turmoil, Here's Why Investors Shouldn't
Write Off Emerging Markets: Meketa
July 18, 2022

02 Fundfire
Low Inflation Won't Return Pimco Economist Says
August 23, 2022

03 Fundfire
Pension Funds Cut Stakes in Office Buildings in Favor of Warehouses, Labs
August 26, 2022

04 Meketa Investment Group
Whitepaper
Non-Core Real Estate
August 2022

05 NCPERS Monitor
August 2022

06 Institutional Investor
Evidence that Private Equity Managers Inflate Fund Values When Raising Money
August 30, 2022

11.0 COMMENTS

11.01 Comments from members of the Board: Trustee Michael Duffy praised the new SJCERA website. Trustee Phonxay Keokahm remarked the new system was modern and looks great. Trustee Chanda Bassett asked if the new website system captured what visitors are viewing, what is most popular. Assistant Chief Executive Officer Brian McKelvey said Google Analytics will be used to look at that data. Trustee JC Weydert asked for more information regarding Hawaii's Investment approach, and raised concerns about ESG investing, noting power shortages in Europe and the amount of fossil fuel it takes to build batteries for electric cars. There are more studies that need to be done on environmental impact.

12.0 CLOSED SESSION

THE CHAIR CONVENED CLOSED SESSION AT 10:29 A.M. AND ADJOURNED THE CLOSED SESSION AND RECONVENED THE OPEN SESSION AT 10:32 A.M.

12.01 Personnel Matters
California Government Code Section 54957
Employee Disability Retirement Application(s) (2)

01 Consent items

a Yolanda Henry
Child Support Supervisor
Child Support Service

The Board voted unanimously (7-0) to accept the findings and recommendation of the Administrative Law Judge and approve the application for service-connected disability retirement. (Motion: Duffy; Second: Bassett)

b Donald R. Jackson
Tree Crew Worker
Public Works-Road Main Central

The Chair pulled this item from the agenda at staff's request; no discussion or action.

13.0 CALENDAR

13.01 Board Meeting October 5, 2022, at 9:00 AM

13.02 Investment Round Table October 6, 2022, at 8:00 AM

13.03 Board Meeting November 4, 2022, at 9:00 AM

14.0 ADJOURNMENT

14.01 There being no further business the meeting was adjourned at 10:33 AM. The Board took a break from 10:25 AM to 10:29 AM.

Respectfully Submitted:

____
Michael Restuccia, Chair

Attest:

____
Raymond McCray, Secretary

San Joaquin County Employees Retirement Association

October 2022

5.01 Service Retirement Consent

01 SABRINA R ARAGON — Family Services Worker, HSA - Admin Support

Member Type: General
Years of Service: 22y 01m 26d
Retirement Date: 8/19/2022

02 LORENE BACON — Deferred Member, N/A

Member Type: General
Years of Service: 02y 11m 08d
Retirement Date: 8/2/2022
Comments: Deferred from SJCERA since February 1996. Outgoing reciprocity and concurrent retirement with SBCERS.

03 LORENE BACON — Deferred Member, N/A

Member Type: Safety
Years of Service: 04y 00m 22d
Retirement Date: 8/2/2022
Comments: Deferred from SJCERA since February 1996. Outgoing reciprocity and concurrent retirement with SBCERS.

04 RYAN A BIEDERMANN — Sheriffs Captain, Sheriff-Stockton Unified Court

Member Type: Safety
Years of Service: 20y 04m 24d
Retirement Date: 8/24/2022

05 JOHN D BURCH — Emergency Med Srvs Administr, Emergency Medical Services

Member Type: General
Years of Service: 24y 08m 29d
Retirement Date: 8/1/2022

06 BONITA L CLARK — Outpatient Clinic Assistant, Hosp Orthopedic Clinic

Member Type: General
Years of Service: 29y 11m 20d
Retirement Date: 8/28/2022

07 CAROL R GALLEGO — Senior Office Assistant, Mental Health - Clerical

Member Type: General
Years of Service: 11y 00m 15d
Retirement Date: 8/16/2022

08 WILLIAM G GRIFFITH — Engineering Assistant III, Public Works - Engnr Bridge

Member Type: General
Years of Service: 19y 09m 12d
Retirement Date: 8/27/2022

09 ANDREA B GUINNANE — Deferred Member, N/A

Member Type: General
Years of Service: 20y 05m 08d
Retirement Date: 8/11/2022
Comments: Deferred from SJCERA since May 2022.

San Joaquin County Employees Retirement Association

October 2022

10 **BERNARD W JORRICK** — Park Worker, Parks - Recreation

Member Type: General
Years of Service: 24y 08m 04d
Retirement Date: 8/3/2022

11 **ROBERT D MCCLELLON** — Environmental Hlth- Prgm Coord, Environmental Health

Member Type: General
Years of Service: 28y 09m 01d
Retirement Date: 8/27/2022

12 **DEBRA K MENDOZA** — Correctional Officer, Sheriff-AB109-Jail Beds

Member Type: Safety
Years of Service: 25y 08m 11d
Retirement Date: 8/15/2022

13 **GUILLERMINA PANTOJA** — Staff Nurse IV - Ambulatory, Hosp Childrens Advocacy Center

Member Type: General
Years of Service: 19y 06m 17d
Retirement Date: 8/1/2022

14 **JULIA B ROCHE** — Staff Nurse IV - Inpatient, Hosp Labor-Del-Rcvry-Post Part

Member Type: General
Years of Service: 33y 05m 05d
Retirement Date: 8/18/2022

15 **CHRISTINE S ROSADO** — Eligibility Worker II, HSA - Eligibility Staff

Member Type: General
Years of Service: 29y 03m 16d
Retirement Date: 8/1/2022

16 **BONNIE M TURINA** — Senior Office Assistant, Public Health - WIC

Member Type: General
Years of Service: 14y 10m 26d
Retirement Date: 8/1/2022

17 **SUSAN M TYLER** — Legal Process Clerk III, Court-Oper-Criminal-Stkn

Member Type: General
Years of Service: 14y 07m 23d
Retirement Date: 8/6/2022

18 **WILLIAM A WESTON** — Deputy Sheriff II, Sheriff-Stockton Unified Court

Member Type: Safety
Years of Service: 32y 00m 13d
Retirement Date: 8/22/2022

19 **MARION C WOLFE** Deferred Member
N/A

Member Type: General
Years of Service: 06y 09m 02d
Retirement Date: 8/14/2022
Comments: Deferred from SJCERA since March 2020.

Board of Retirement Meeting
San Joaquin County Employees' Retirement Association

Agenda Item 5.02-01

October 5, 2022

SUBJECT: Proposed Board Calendar for 2023

SUBMITTED FOR: ___ CONSENT _X_ ACTION ___ INFORMATION

RECOMMENDATION

Staff recommends the Board adopt the proposed 2022 meeting calendar.

PURPOSE

To establish the calendar of scheduled meetings of the Board and its standing Committees for calendar year 2023.

DISCUSSION

In October, the Board of Retirement (BOR) adopts its meeting calendar for the following year.

SJCERA's Bylaws specify the meetings of the Board shall be held once each month. On the proposed 2023 calendar, all Board meetings are scheduled on the second Friday of the month beginning at 9:00 a.m. with modifications for the following months.

- The January Board meeting is scheduled for the third Friday to accommodate holiday schedules and allow sufficient time to submit Board materials.
- The May Board meeting is scheduled for the first Friday to accommodate the semi-annual SACRS Conference.
- The June Board meeting is scheduled for the first Friday of the month to ensure sufficient time to submit the BOR-approved, audited financial statements to the Board of Supervisors and accommodate their meeting schedule, and still meet the State Auditor-Controller's and the GFOA's filing deadlines.
- The October Board meeting is scheduled for the second Wednesday to accommodate the Annual Investment Roundtable. Based on Board request the date was moved.
- The November Board meeting is scheduled for the first Friday to accommodate the semi-annual SACRS Conference.

ATTACHMENT

2023 Proposed SJCERA Board of Retirement Meeting Calendar

JShick

JOHANNA SHICK
Chief Executive Officer

Elaina Petersen

ELAINA PETERSEN
Administrative Secretary

2023 - SJCERA BOARD OF RETIREMENT MEETING CALENDAR

MONTH	DATE	Periodic Items / Other Events	MONTH	DATE	Periodic Items / Other Events
JAN	**20**	**Board Meeting**	**JUL**	**14**	**Board Meeting**
		Earnings Code Ratification			Mid-Year Administrative Budget Report
		Fourth Quarter Operations Reports*			Second Quarter Operations Reports*
		Trustee Education Compliance Report			Election of Board Officers
		2022 Action Plan Results			Investment Fee Transparency Report
		Benchmark Review			Annual Policy Review
				TBD	SACRS UC Berkeley
FEB	**10**	**Board Meeting**			
		Notice of CPI/Set Retiree COLA			
		Declining ER Payroll Report	**AUG**	**11**	**Board Meeting**
	TBD	**CEO Performance Review Committee**			Actuarial Value & Adoption of Contribution Rates
					Board Committee Assignments
MAR	**10**	**Board Meeting**			
		Fourth Quarter Inv Reports	**SEP**	**8**	**Board Meeting**
		Capital Market Assumptions			Second Quarter Inv Reports
	TBD	**Audit Committee Meeting**		**TBD**	CALAPRS Principles of Pension Governance for Trustees, Pepperdine
	4-7	CALAPRS General Assembly, Monterey			
	TBD	CALAPRS Advanced Principles of Pension Governance for Trustees, UCLA			
APR	**14**	**Board Meeting**	**OCT**	**11**	**Board Meeting**
		First Quarter Operations Reports*			Adoption of Board Calendar for next year
	TBD	**CEO Performance Review Committee**			Third Quarter Operations Reports*
					2024 Action Plan
				12	**Special Meeting - Investment Roundtable**
MAY	**5**	**Board Meeting**			
	9-12	SACRS Spring Conf, San Diego	**NOV**	**3**	**Board Meeting**
	TBD	**Audit Committee Meeting**			Actuary Consultants Evaluation Results
				TBD	**Administrative Committee Meeting**
				7-10	SACRS Fall Conference, Rancho Mirage
JUN	**2**	**Board Meeting**			
		First Quarter Inv Reports			
		Auditor's Annual Report / CAFR	**DEC**	**8**	**Board Meeting**
		Mid Year Action Plan Results			Third Quarter Inv Reports
	TBD	RPESJC Picnic			Annual Administrative Budget
	TBD	**Administrative Committee Meeting**			
				TBD	RPESJC Holiday Lunch

Unless otherwise noted on the agenda, Board Meetings convene at 9:00 a.m.

* Disability App Status Report and Pending Retiree Accounts Receivable Report

Notes: **January meeting is on the third Friday to accommodate holiday schedules and allow sufficient time to submit Board materials.**
May meeting is on the first Friday due to the SACRS Spring Conference.
June meeting is on the first Friday due to BOS meeting schedule.
October meeting is on the second Wednesday due to the Investment Roundtable.

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] August 2022

	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]			$ 3,821,680,457	100.0%	100.0%	-2.0	-2.1	-6.6	-3.7	5.9	6.0	7.6	Apr-90
Policy Benchmark [4]						*-3.8*	*-4.3*	*-9.7*	*-8.0*	*4.9*	*5.4*	*7.3*	
Difference:						1.8	2.2	3.1	4.3	1.0	0.6	0.3	
75/25 Portfolio [5]						*-3.7*	*-5.4*	*-16.9*	*-15.9*	*6.1*	*5.7*	*7.0*	
Difference:						1.7	3.3	10.3	12.2	-0.2	0.3	0.6	
Broad Growth			$ 2,881,690,037	75.4%	76.0%	-2.7	-2.5	-8.5	-4.7	7.4	7.0	8.2	Jan-95
Aggressive Growth Lag[2]			$ 349,286,195	9.1%	10.0%	4.4	4.4	16.2	36.0	20.4	17.6	-2.2	Feb-05
MSCI ACWI +2%Lag						*4.8*	*1.2*	*8.9*	*19.2*	*16.7*	*12.4*	*0.0*	
Difference:						-0.4	3.2	7.3	16.8	3.7	5.2	-2.2	
BlackRock Global Energy&Power Lag[3]	*$50,000*	*Global Infrastructure*	$ 27,148,199	0.7%		2.3	2.3	5.3	10.6	10.1	--	10.1	Jul-19
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*16.6*	*--*	*16.6*	
Difference:						-0.1	7.1	3.1	0.7	-6.5	--	-6.5	
Ocean Avenue II Lag[3]	*$40,000*	*PE Buyout FOF*	$ 39,897,241	1.0%		3.7	3.7	21.3	48.4	37.7	33.8	18.9	May-13
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*16.6*	*12.3*	*10.8*	
Difference:						1.3	8.5	19.1	38.5	21.1	21.5	8.1	
Lightspeed Venture Ptr Select V Lag[3]	*$40,000*	*Growth-Stage VC*	$ 6,591,123	0.2%		--	--	--	--	--	--	--	Jun-22
MSCI ACWI +2% Lag						*--*	*--*	*--*	*--*	*--*	*--*	*--*	
Difference:						--	--	--	--	--	--	--	
Ocean Avenue III Lag[3]	*$50,000*	*PE Buyout FOF*	$ 54,261,818	1.4%		9.1	9.1	23.6	53.9	29.2	35.8	27.4	Apr-16
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*16.6*	*12.3*	*11.7*	
Difference:						6.7	13.9	21.4	44.0	12.6	23.6	15.7	
Ocean Avenue IV Lag[3]	*$50,000*	*PE Buyout*	$ 52,263,369	1.4%		5.3	5.3	23.8	39.5	--	--	36.7	Dec-19
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*--*	*--*	*18.3*	
Difference:						2.9	10.1	21.6	29.6	--	--	18.4	
Morgan Creek III Lag[3]	*$10,000*	*Multi-Strat FOF*	$ 5,108,214	0.1%		-3.4	-3.4	-14.9	-27.0	-17.8	-5.7	-5.2	Feb-15
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*16.6*	*12.3*	*11.3*	
Difference:						-2.4	4.8	-14.1	-34.3	-33.4	-17.4	-16.0	
Morgan Creek V Lag[3]	*$12,000*	*Multi-Strat FOF*	$ 7,870,853	0.2%		-0.2	-0.2	6.4	19.7	14.4	13.8	14.1	Jun-13
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*16.6*	*12.3*	*10.8*	
Difference:						-2.4	4.8	4.3	10.0	-2.2	1.5	3.3	
Morgan Creek VI Lag[3]	*$20,000*	*Multi-Strat FOF*	$ 28,055,200	0.7%		-0.7	-0.7	15.7	41.1	24.7	22.0	12.7	Feb-15
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*16.6*	*12.3*	*11.3*	
Difference:						-2.4	4.8	14.3	32.2	8.4	9.8	1.5	
Stellex Capital Partners II Lag[3]	*$50,000*	*Special Situations PE*	$ 15,128,729	0.4%		11.4	11.4	8.7	-7.9	--	--	-7.9	Jul-21
MSCI ACWI +2% Lag						*2.4*	*-4.8*	*2.2*	*9.9*	*--*	*--*	*5.1*	
Difference:						9.0	16.2	6.6	-17.8	--	--	-13.0	
Non-Core Private Real Assets Lag[3]	*$341,100*	*Private Real Estate*	$ 112,961,449	3.0%		3.8	3.8	13.8	36.3	15.6	10.7	-1.8	Nov-04
MSCI ACWI +2% Lag						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*9.2*	
Difference:						-3.4	-3.6	-2.1	7.8	4.2	0.7	-11.0	
Opportunistic Private Real Estate			$ 32,747,632	0.7%									
Greenfield V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 222,600	0.0%		-0.1	-0.1	-1.3	-2.0	-7.9	-5.7	-3.1	Jul-08
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*9.8*	
Difference:						-7.3	-7.5	-17.2	-30.5	-19.3	-15.7	-12.9	
Greenfield VI[3]	*$20,000*	*Opportunistic Pvt. RE*	$ 34,815	0.0%		-1.4	-1.4	0.0	-38.1	-40.4	-31.5	-13.0	Apr-12
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*14.3*	
Difference:						-8.6	-8.8	-15.9	-66.6	-51.8	-41.5	-27.3	
Greenfield VII[3]	*$19,100*	*Opportunistic Pvt. RE*	$ 5,422,943	0.1%		0.9	0.9	12.9	26.7	17.2	15.4	13.9	Oct-14
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*13.9*	
Difference:						-6.3	-6.5	-3.0	-1.8	5.8	5.4	0.0	

[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 6/30/22, and lagged 1 quarter.

[3] Manager returns are as of 6/30/22, and lagged 1 quarter. Since Inception date reflects one quarter lag.

[4] 8/1/22 to present benchmark is 32% MSCI ACWI IMI, 9% BB Aggregate Bond Index, **16%** *50%* BB High Yield/*50%* S&P Leveraged Loans, 7% NCREIF ODCE +1% lag; **10%** T-Bill +4%, **10%** MSCI ACWI +2%, **15%** CRO Custom Benchmark. Prior to 8/1/22 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] August 2022

	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)													
Grandview[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 19,658,666	0.5%		-0.4	-0.4	25.3	41.8	30.5	--	25.7	Apr-18
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	--	*13.5*	
Difference:						-7.6	-7.8	9.4	13.3	19.1	--	12.2	
Miller Global Fund VI[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 86,092	0.0%		0.0	0.0	81.0	115.4	-6.1	1.1	0.7	May-08
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*9.8*	
Difference:						-7.2	-7.4	65.1	86.9	-17.5	-8.9	-9.1	
Miller Global Fund VII[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 45,087	0.0%		0.0	0.0	-85.5	-88.3	-51.2	-36.0	-6.1	Dec-12
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*14.0*	
Difference:						-7.2	-7.4	-101.4	-116.8	-62.6	-46.0	-20.1	
Walton Street V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 1,544,898	0.0%		-7.0	-7.0	-17.4	-17.5	-15.1	-12.1	-5.1	Nov-06
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*10.7*	
Difference:						-14.2	-14.4	-33.3	-46.0	-26.5	-22.1	-15.8	
Walton Street VI[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 5,732,531	0.2%		2.4	2.4	14.6	16.5	2.7	3.8	7.8	Jul-09
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*12.6*	
Difference:						-4.8	-5.0	-1.3	-12.0	-8.7	-6.2	-4.8	
Value-Added Private Real Estate			$ 79,183,076	2.1%									
AG Core Plus IV[3]	*$20,000*	*Value-Added Pvt. RE*	$ 13,858,156	0.4%		1.7	1.7	9.6	14.1	9.8	10.5	6.1	Sep-15
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*13.5*	
Difference:						-5.5	-5.7	-6.3	-14.4	-1.6	0.5	-7.4	
Almanac Realty VI[3]	*$30,000*	*Value-Added Pvt. RE*	$ 4,249,408	0.1%		2.6	2.6	8.2	17.7	-7.2	-5.1	21.6	Feb-13
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*14.3*	
Difference:						-4.6	-4.8	-7.7	-10.8	-18.6	-15.1	7.3	
Berkeley Partners Fund V, LP	*$40,000*	*Value-Added Pvt. RE*	$ 27,886,236	0.7%		9.7	9.7	36.0	45.1	--	--	38.0	Aug-20
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	--	--	*24.4*	
Difference:						2.5	2.3	20.1	16.6	--	--	13.6	
Stockbridge RE III[3]	*$45,000*	*Value-Added Pvt. RE*	$ 33,189,276	0.9%		4.4	4.4	32.9	52.8	21.8	--	14.5	Jul-18
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	--	*13.7*	
Difference:						-2.8	-3.0	17.0	24.3	10.4	--	0.8	
Traditional Growth[2]			$ 1,321,569,896	34.6%	33.0%	-3.9	-5.7	-17.4	-15.4	6.3	5.7	8.7	Jan-95
MSCI ACWI IMI Net						*-3.6*	*-5.6*	*-17.8*	*-16.2*	*8.5*	*7.5*	*7.5*	
Difference:						-0.3	-0.1	0.4	0.8	-2.2	-1.8	1.2	
Global Equity			$ 1,275,031,264	33.4%									
Northern Trust MSCI World IMI		*All Cap Global*	$ 1,143,432,296	29.9%		-4.4	-5.6	-17.7	-15.3	--	--	5.6	Sep-20
MSCI World IMI Net						*-4.1*	*-5.5*	*-17.8*	*-15.6*	--	--	*5.2*	
Difference:						-0.3	-0.1	0.1	0.3	--	--	0.4	
SJCERA Transition		*All Cap Global*	$ 2,886	0.0%		NM	NM	NM	NM	--	--	NM	Jul-20
Emerging Markets			$ 131,596,082										
GQG Active Emerging Markets		*Emerging Markets*	$ 58,301,537	1.5%		0.1	-7.7	-17.6	-20.8	--	--	-1.8	Aug-20
MSCI Emerging Markets Index Net						*0.4*	*-6.5*	*-17.5*	*-21.8*	--	--	*-1.5*	
Difference:						-0.3	-1.2	-0.1	1.0	--	--	-0.3	
PIMCO RAE Fundamental Emerging Markets		*Emerging Markets*	$ 73,294,545	1.9%		2.2	-7.2	-13.3	-15.9	5.4	1.5	4.3	Apr-07
MSCI Emerging Markets Index						*0.5*	*-6.3*	*-17.2*	*-21.5*	*3.1*	*1.0*	*3.2*	
Difference:						1.7	-0.9	3.9	5.6	2.3	0.5	1.1	
REITS			$ 46,538,632	1.2%									
Invesco All Equity REIT		*Core US REIT*	$ 46,538,632	1.2%		-5.8	-3.9	-16.0	-7.9	2.8	6.0	8.6	Aug-04
FTSE NAREIT Equity Index						*-6.0*	*-5.1*	*-18.2*	*-10.0*	*3.3*	*5.6*	*8.3*	
Difference:						0.2	1.2	2.2	2.1	-0.5	0.4	0.3	

[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 6/30/22, 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] August 2022

	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			$ 1,210,833,946	31.7%	33.0%	-2.2	-0.6	-3.3	-0.1	5.6	5.8	3.9	Jan-05
Risk Parity			$ 382,736,461	10.0%		-6.6	-7.4	-18.9	-18.9	0.2	2.9	3.5	
T-Bill +4%						*0.5*	*1.2*	*3.0*	*4.4*	*4.6*	*5.2*	*4.5*	
Difference:						-7.1	-8.6	-21.9	-23.3	-4.4	-2.3	-1.0	
Bridgewater All Weather		*Risk Parity*	$ 191,419,215	5.0%		-6.8	-6.8	-18.0	-16.9	0.9	2.9	3.7	Mar-12
T-Bill +4%						*0.5*	*1.2*	*3.0*	*4.4*	*4.6*	*5.2*	*5.4*	
Difference:						-7.3	-8.0	-21.0	-21.3	-3.7	-2.3	-1.7	
PanAgora Diversified Risk Multi-Asset		*Risk Parity*	$ 191,317,246	5.0%		-6.4	-8.0	-19.9	-20.7	-0.6	2.8	4.4	Apr-16
T-Bill +4%						*0.5*	*1.2*	*3.0*	*4.4*	*4.6*	*5.2*	*5.0*	
Difference:						-6.9	-9.2	-22.9	-25.1	-5.2	-2.4	-0.6	
Liquid Credit			$ 221,112,169	5.8%		0.1	-1.2	-7.0	-7.1	0.6	1.7	1.7	
50% BB High Yield, 50% S&P/LSTA Leveraged Loans						*-0.4*	*-1.0*	*-6.2*	*-5.2*	*2.1*	*3.1*	*5.2*	
Difference:						0.5	-0.2	-0.8	-1.9	-1.5	-1.4	-3.5	
Neuberger Berman		*Global Credit*	$ 95,484,529	2.5%		-0.6	-2.0	-10.6	-11.0	-0.2	--	1.1	Feb-19
33% ICE BofA HY Constrained, 33% S&P/LSTA LL, 33% JPM EMBI Glbl Div.						*-0.6*	*-2.1*	*-10.3*	*-10.5*	*-0.4*	--	*1.3*	
Difference:						0.0	0.1	-0.3	-0.5	0.2	--	-0.2	
Stone Harbor Absolute Return		*Absolute Return*	$ 125,627,640	3.3%		0.6	-0.6	-4.0	-3.9	1.2	1.8	2.5	Oct-06
3-Month Libor Total Return						*0.2*	*0.3*	*0.3*	*0.3*	*0.7*	*1.3*	*1.3*	
Difference:						0.4	-0.9	-4.3	-4.2	0.5	0.5	1.2	
Private Credit Lag[2]			$ 368,280,562	9.6%		1.6	1.6	5.7	9.1	4.8	3.9	3.8	
50% BB High Yield, 50% S&P/LSTA Leveraged Loans						*-0.5*	*-2.5*	*-1.8*	*1.3*	*4.4*	*4.4*	*5.7*	
Difference:						2.1	4.1	7.5	7.8	0.4	-0.5	-1.9	
BlackRock Direct Lending Lag[3]	*$100,000*	*Direct Lending*	$ 78,977,871	2.1%		0.9	0.9	0.9	6.2	--	--	8.7	May-20
S&P/LSTA Leveraged Loans +3% Blend [5]						*0.3*	*0.6*	*0.6*	*10.6*	--	--	*14.4*	
Difference:						0.6	0.3	0.3	-4.4	--	--	-5.7	
Mesa West RE Income IV Lag[3]	*$75,000*	*Comm. Mortgage*	$ 21,943,892	0.6%		0.7	0.7	3.4	8.1	7.8	8.2	7.5	Mar-17
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	*9.0*	*8.8*	*8.8*	
Difference:						0.4	0.1	-0.4	-2.5	-1.2	-0.6	-1.3	
Crestline Opportunity II Lag[7]	*$45,000*	*Opportunistic*	$ 17,738,175	0.5%		-1.2	-1.2	1.3	6.9	2.1	2.7	5.0	Nov-13
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	*9.0*	*8.8*	*8.9*	
Difference:						-1.5	-1.8	-2.5	-3.7	-6.9	-6.1	-3.9	
Davidson Kempner Distr Opp V Lag[3]	*$50,000*	*Opportunistic*	$ 49,020,155	0.0%		2.9	2.9	6.7	14.3	--	--	31.8	Oct-20
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	--	--	*10.3*	
Difference:						2.6	2.3	2.9	3.7	--	--	21.5	
Oaktree Lag	*$50,000*	*Leveraged Direct*	$ 33,312,534	0.9%		3.7	3.7	9.8	16.9	18.3	--	12.0	Mar-18
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	*11.2*	--	*9.0*	
Difference:						3.4	3.1	6.0	6.3	7.0	--	3.0	
HPS EU Asset Value II Lag[3]	*$50,000*	*Direct Lending*	$ 30,464,813	0.8%		3.2	3.2	4.5	7.8	--	--	2.7	Aug-20
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	--	--	*10.2*	
Difference:						2.9	2.6	0.7	-2.8	--	--	-7.5	
Raven Opportunity III Lag[3]	*$50,000*	*Direct Lending*	$ 54,263,543	1.4%		1.8	1.8	8.1	14.8	8.1	8.8	4.2	Nov-15
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	*9.0*	*8.8*	*8.8*	
Difference:						1.5	1.2	4.3	4.2	-0.9	0.0	-4.6	

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[2] Total class returns are as of 6/30/22, and lagged 1 quarter.
[3] Manager returns are as of 6/30/22, and lagged 1 quarter. Since Inception date reflects one quarter lag.
[4] 9% Annual until 6/30/2018; CPI +6% Annual 7/1/2018 - 3/31/2022; S&P/LSTA Leveraged Loans +3% 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] August 2022

	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*	$ 4,378,784	0.1%		0.0	0.0	-9.9	-12.7	-11.4	-10.1	-2.3	Jul-12
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	*9.0*	*8.8*	*8.9*	
Difference:						-0.3	-0.6	-13.7	-23.3	-20.4	-18.9	-11.2	
White Oak Summit Peer Fund Lag[3]	*$50,000*	*Direct Lending*	$ 33,150,287	0.9%		0.2	0.2	3.0	-0.9	3.4	5.1	5.7	Mar-16
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	*9.0*	*8.8*	*8.8*	
Difference:						-0.1	-0.4	-0.8	-11.5	-5.6	-3.7	-3.1	
White Oak Yield Spectrum Master V Lag[3]	*$50,000*	*Direct Lending*	$ 45,030,508	1.2%		1.5	1.5	2.3	3.2	--	--	0.9	Mar-20
S&P/LSTA Leveraged Loans +3% Blend [4]						*0.3*	*0.6*	*3.8*	*10.6*	*--*	*--*	*9.3*	
Difference:						1.2	0.9	-1.5	-7.4	--	--	-8.4	
Core Private Real Estate Lag			$ 238,704,754	6.2%									
Principal US[3]	*$25,000*	*Core Pvt. RE*	$ 45,152,344	1.2%		7.3	7.3	23.9	28.4	11.3	10.0	10.2	Jan-16
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*13.1*	
Difference:						0.1	-0.1	8.0	-0.1	-0.1	0.0	-2.9	
Prologis Logistics[3]	*$35,000*	*Core Pvt. RE*	$ 130,605,773	3.4%		11.8	11.8	41.2	57.9	27.6	23.5	9.7	Dec-07
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*10.0*	
Difference:						4.6	4.4	25.3	29.4	16.2	13.5	-0.3	
RREEF America II[3]	*$45,000*	*Core Pvt. RE*	$ 63,378,443	1.7%		5.4	5.4	23.5	28.0	11.5	9.8	9.9	Jul-16
NCREIF ODCE + 1% Lag Blend						*7.2*	*7.4*	*15.9*	*28.5*	*11.4*	*10.0*	*13.0*	
Difference:						-1.8	-2.0	7.6	-0.5	0.1	-0.2	-3.1	
Diversifying Strategies			$ 840,509,779	22.0%	24.0%	0.6	-0.6	3.3	2.5	1.6	3.4	6.3	Oct-90
Principal Protection			$ 289,215,514	7.6%	9.0%	-2.5	-1.9	-8.3	-9.0	-1.4	0.9	5.9	Oct-90
BB Aggregate Bond Index						*-2.8*	*-2.0*	*-10.8*	*-11.5*	*-2.0*	*0.5*	*5.5*	
Difference:						0.3	0.1	2.5	2.5	0.6	0.4	0.4	
Dodge & Cox		*Core Fixed Income*	$ 196,560,475	5.1%		-2.4	-1.9	-9.4	-10.3	-0.3	1.7	6.6	Oct-90
BB Aggregate Bond Index						*-2.8*	*-2.0*	*-10.8*	*-11.5*	*-2.0*	*0.5*	*5.5*	
Difference:						0.4	0.1	1.4	1.2	1.7	1.2	1.1	
Loomis Sayles		*Core Fixed Income*	$ 92,649,030	2.4%		-2.8	-2.0	-4.4	--	--	--	-7.5	Mar-22
BB Aggregate Bond Index						*-2.8*	*-2.0*	*-4.7*	*--*	*--*	*--*	*-7.8*	
Difference:						0.0	0.0	0.3	--	--	--	0.3	
DoubleLine Capital		*MBS*	$ 6,009	0.0%		NM	NM	NM	NM	NM	NM	NM	Feb-12

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[2] Total class returns are as of 6/30/22, and lagged 1 quarter.

[3] Manager returns are as of 6/30/22, and lagged 1 quarter. Since Inception date reflects one quarter lag.

[4] 9% Annual until 6/30/2018; CPI +6% Annual 7/1/2018 - 3/31/2022; S&P/LSTA Leveraged Loans +3% thereafter.

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] August 2022

	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			$ 551,294,265	14.4%	15.0%	2.4	0.1	12.8	11.9	3.8	5.1	6.8	Jan-05
CRO Custom Benchmark [2]						*-0.8*	*-0.8*	*-2.5*	*-1.2*	*2.1*	*3.9*	*5.1*	
Difference:						3.2	0.9	15.3	13.1	1.7	1.2	1.7	
Long Duration			$ 121,822,412	3.2%		-4.5	-3.1	-21.7	-22.1	-6.6	-0.5	-0.3	
BB US Long Duration Treasuries						*-4.4*	*-3.3*	*-22.7*	*-22.6*	*-6.8*	*-0.4*	*0.4*	
Difference:						-0.1	0.2	1.0	0.5	0.2	-0.1	-0.7	
Dodge & Cox Long Duration		*Long Duration*	$ 121,822,412	3.2%		-4.5	-3.1	-21.7	-22.1	-6.6	-0.5	-0.3	Feb-16
BB US Long Duration Treasuries						*-4.4*	*-3.3*	*-22.7*	*-22.6*	*-6.8*	*-0.4*	*0.4*	
Difference:						-0.1	0.2	1.0	0.5	0.2	-0.1	-0.7	
Systematic Trend Following			$ 252,478,616	6.6%		5.3	1.0	37.7	35.7	13.8	9.5	9.7	
BTOP50 Index						*1.7*	*-0.4*	*14.7*	*17.3*	*7.9*	*6.5*	*5.2*	
Difference:						3.6	1.4	23.0	18.4	5.9	3.0	4.5	
Mt. Lucas Managed Futures - Cash		*Systematic Trend Following*	$ 131,454,998	3.4%		6.8	-0.2	39.3	38.5	16.9	9.8	9.3	Jan-05
BTOP50 Index						*1.7*	*-0.4*	*14.7*	*17.3*	*7.9*	*6.5*	*5.2*	
Difference:						5.1	0.2	24.6	21.2	9.0	3.3	4.1	
Graham Tactical Trend		*Systematic Trend Following*	$ 121,023,618	3.2%		3.8	2.4	36.1	32.8	10.6	9.1	5.4	Apr-16
SG Trend Index						*4.0*	*2.0*	*28.2*	*28.9*	*10.6*	*9.5*	*5.4*	
Difference:						-0.2	0.4	7.9	3.9	0.0	-0.4	0.0	
Alternative Risk Premia			$ 176,993,237	4.6%		3.4	1.0	18.6	18.4	-0.3	2.7	7.7	
5% Annual						*0.4*	*1.2*	*3.3*	*5.0*	*5.0*	*5.0*	*6.2*	
Difference:						3.0	-0.2	15.3	13.4	-5.3	-2.3	1.5	
AQR Style Premia		*Alternative Risk Premia*	$ 49,476,377	1.3%		-1.4	-15.4	17.1	20.6	1.7	-2.8	-1.1	May-16
5% Annual						*0.4*	*1.2*	*3.3*	*5.0*	*5.0*	*5.0*	*5.0*	
Difference:						-1.8	-16.6	13.8	15.6	-3.3	-7.8	-6.1	
PE Diversified Global Macro		*Alternative Risk Premia*	$ 68,462,425	1.8%		8.5	17.1	55.1	56.0	0.0	5.7	3.8	Jun-16
5% Annual						*0.4*	*1.2*	*3.3*	*5.0*	*5.0*	*5.0*	*5.0*	
Difference:						8.1	15.9	51.8	51.0	-5.0	0.7	-1.2	
Lombard Odier		*Alternative Risk Premia*	$ 59,054,435	1.5%		2.1	1.2	-0.6	-2.8	-3.7	--	-3.0	Jan-19
5% Annual						*0.4*	*1.2*	*3.3*	*5.0*	*5.0*	*--*	*5.0*	
Difference:						1.7	0.0	-3.9	-7.8	-8.7	--	-8.0	
Cash[3]			$ 74,953,208	2.0%	0.0%	0.2	0.4	0.5	0.5	0.5	0.8	2.3	Sep-94
US T-Bills						*0.2*	*0.2*	*0.4*	*0.4*	*0.6*	*1.1*	*2.3*	
Difference:						0.0	0.2	0.1	0.1	-0.1	-0.3	0.0	
Northern Trust STIF		*Collective Govt. Short Term*	$ 86,889,743	2.3%		0.1	0.3	0.4	0.4	0.5	0.8	2.5	Jan-95
US T-Bills						0.2	0.2	0.4	0.4	0.6	1.1	*2.3*	
Difference:						-0.1	0.1	0.0	0.0	-0.1	-0.3	0.2	
Parametric Overlay[4]		*Cash Overlay*	$ 24,527,433	0.6%		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.

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Economic and Market Update

August 2022 Report

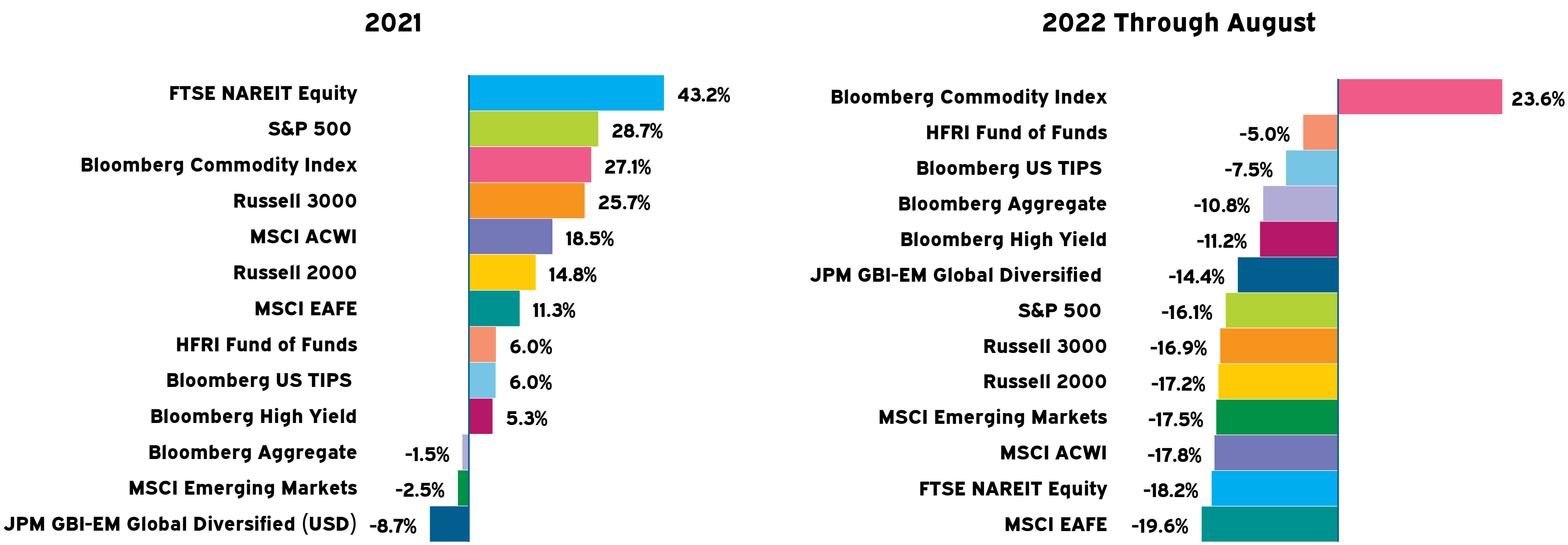
Commentary

→ After posting strong results in July, global markets resumed their sell-off in August on mounting concerns that policy rates would go much higher to contain inflation, increasing the risk of recession.

- The hopes for a so-called Fed pivot were dashed by a brief address at the Jackson Hole Conference by the Chairman of the Federal Reserve, Jerome Powell. In his speech he indicated that the Fed was prepared to hike rates much higher even if unemployment rates rose and economic growth cooled.
- Emerging market equities significantly outperformed for the month as inflationary fears and hawkish rhetoric from the Federal Reserve particularly weighed on developed market equities.
- Except for small-cap, value stocks outperformed growth stocks, reflecting expectations for higher rates and lower economic growth.
- Interest rates rose across the US yield curve with the curve remaining inverted (ten-year yield minus the two-year yield) by 30 basis points.

→ Persistently high inflation and the likely increased pace of the policy response, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China will all have considerable consequences for the global economy.

Index Returns[1]



→ Except for emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes appreciated in 2021.

→ After a brief rally in July, most major markets resumed declines in August as it became clear significant further policy tightening would be taken to try to bring inflation under control. Except for commodities, all major assets classes have experienced declines year-to-date through August.

[1] Source: Bloomberg and FactSet. Data is as of August 31, 2022.

Domestic Equity Returns[1]

Domestic Equity	August (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-4.1	4.8	-16.1	-11.2	12.4	11.8	13.1
Russell 3000	-3.7	5.3	-16.9	-13.3	11.9	11.3	12.8
Russell 1000	-3.8	5.1	-16.9	-13.0	12.1	11.6	13.0
Russell 1000 Growth	-4.7	6.8	-23.2	-19.1	14.5	14.8	15.1
Russell 1000 Value	-3.0	3.5	-9.8	-6.2	8.8	7.9	10.5
Russell MidCap	-3.1	6.4	-16.5	-14.8	9.3	9.2	11.6
Russell MidCap Growth	-3.3	8.6	-25.1	-26.7	7.0	10.2	12.1
Russell MidCap Value	-3.1	5.3	-11.8	-7.8	9.5	7.5	10.8
Russell 2000	-2.0	8.2	-17.2	-17.9	8.6	6.9	10.0
Russell 2000 Growth	-0.9	10.2	-22.3	-25.3	5.9	6.7	10.2
Russell 2000 Value	-3.2	6.2	-12.2	-10.2	10.4	6.6	9.5

US Equities: Russell 3000 Index fell 3.7% for August.

→ US stocks fell during August, with the technology, healthcare, and real estate sectors declining the most. The continued rise of interest rates affected valuations in these areas.

→ Energy stocks fared better than the overall market, posting positive returns for the month as fuel prices remained elevated.

→ Value stocks outperformed growth stocks in the large cap segment of the market, while the reverse was true in the small cap segment. A rebound in small cap biotechnology stocks contributed to this dynamic.

[1] Source: Bloomberg. Data is as of August 31, 2022.

Foreign Equity Returns[1]

Foreign Equity	August (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-3.2	0.1	-18.3	-19.5	2.9	1.7	4.5
MSCI EAFE	-4.7	0.0	-19.6	-19.8	2.4	1.6	5.0
MSCI EAFE (Local Currency)	-2.3	2.8	-8.8	-6.5	5.9	4.7	8.3
MSCI EAFE Small Cap	-4.4	1.9	-23.3	-26.0	2.8	1.2	7.1
MSCI Emerging Markets	0.4	0.2	-17.5	-21.8	2.7	0.6	2.9
MSCI Emerging Markets (Local Currency)	1.2	1.3	-12.5	-15.8	4.9	3.2	5.9
MSCI China	0.2	-9.3	-19.5	-28.2	-2.2	-2.3	4.6

International equities (MSCI EAFE) fell 4.7%, while emerging markets (MSCI EM) rose 0.4% in August.

→ Non-US developed market stocks again trailed the US for the month, leading to the steepest declines year to date. High inflation in Europe, particularly related to gas and electricity, the ongoing war in Ukraine, and relatively slower growth continue to weigh on sentiment.

→ Emerging market equities posted a small monthly gain, significantly outperforming developed markets. China gained 0.2% as supportive policy continued to be balanced by strict COVID-19 policies.

→ A strong US dollar remained an additional headwind to international equities for the month, particularly in developed markets.

[1] Source: Bloomberg. Data is as of August 31, 2022.

Fixed Income Returns[1]

Fixed Income	August (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-2.6	-0.2	-11.1	-11.9	-1.8	0.6	1.6	4.4	6.4
Bloomberg Aggregate	-2.8	-0.5	-10.8	-11.5	-2.0	0.5	1.4	4.0	6.6
Bloomberg US TIPS	-2.7	1.6	-7.5	-6.0	2.6	3.2	1.7	3.6	7.3
Bloomberg High Yield	-2.3	3.5	-11.2	-10.6	1.0	2.6	4.5	8.4	4.7
JPM GBI-EM Global Diversified (USD)	-0.1	0.2	-14.4	-19.4	-5.2	-3.0	-1.7	7.2	5.0

Fixed Income: The Bloomberg Universal declined 2.6% in August.

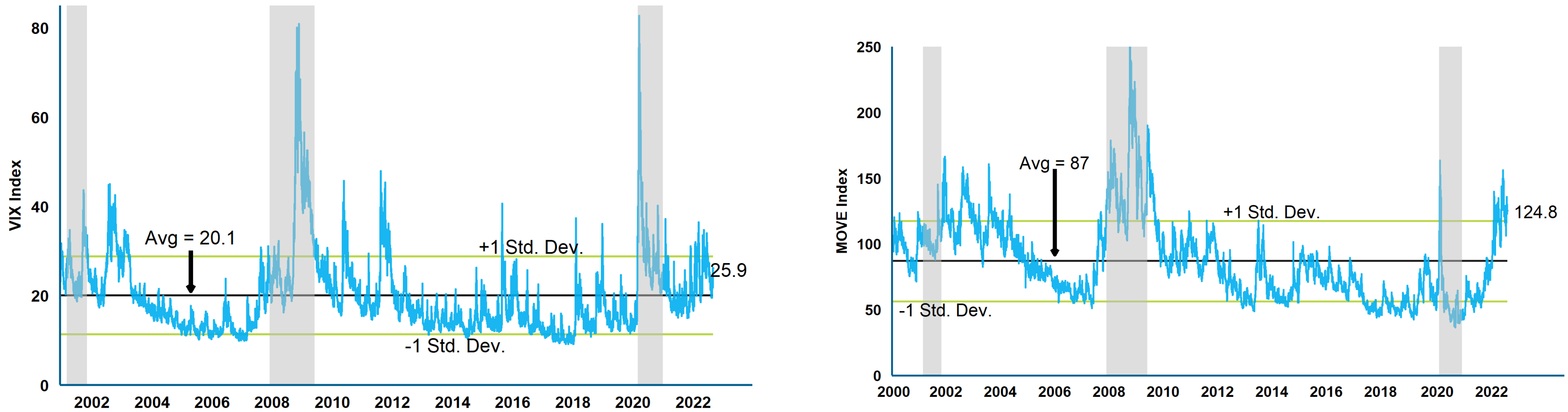
→ A sharp rise in bond yields driven by central banks confirming their commitment to fight inflation broadly weighed on fixed income in August.

→ For the month, the US ten-year Treasury note yield rose from 2.6% to 3.2%, while the two-year Treasury increased from 2.9% to 3.5%.

→ Riskier bonds declined the least with the high yield index falling slightly less than the broad US bond market (2.3% versus 2.8%). Emerging market bonds finished only down slightly.

[1] Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of August 31, 2022.

Equity and Fixed Income Volatility[1]

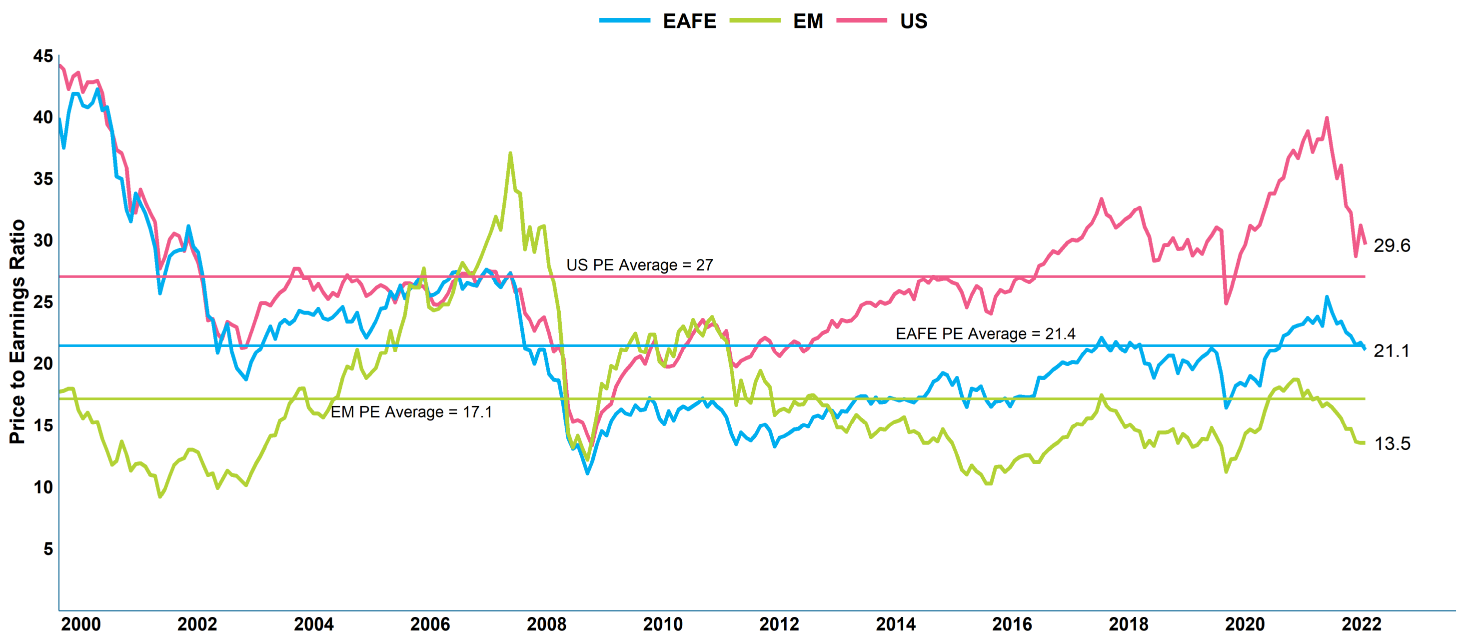


→ Volatility in equities (VIX) and fixed income (MOVE) rose in August as the Federal Reserve clarified that they will likely continue to aggressively tighten monetary policy to fight high inflation.

→ Fixed income volatility remains high due to the uncertain path of short-term interest rates.

[1] Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of August 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

Equity Cyclically Adjusted P/E Ratios[1]

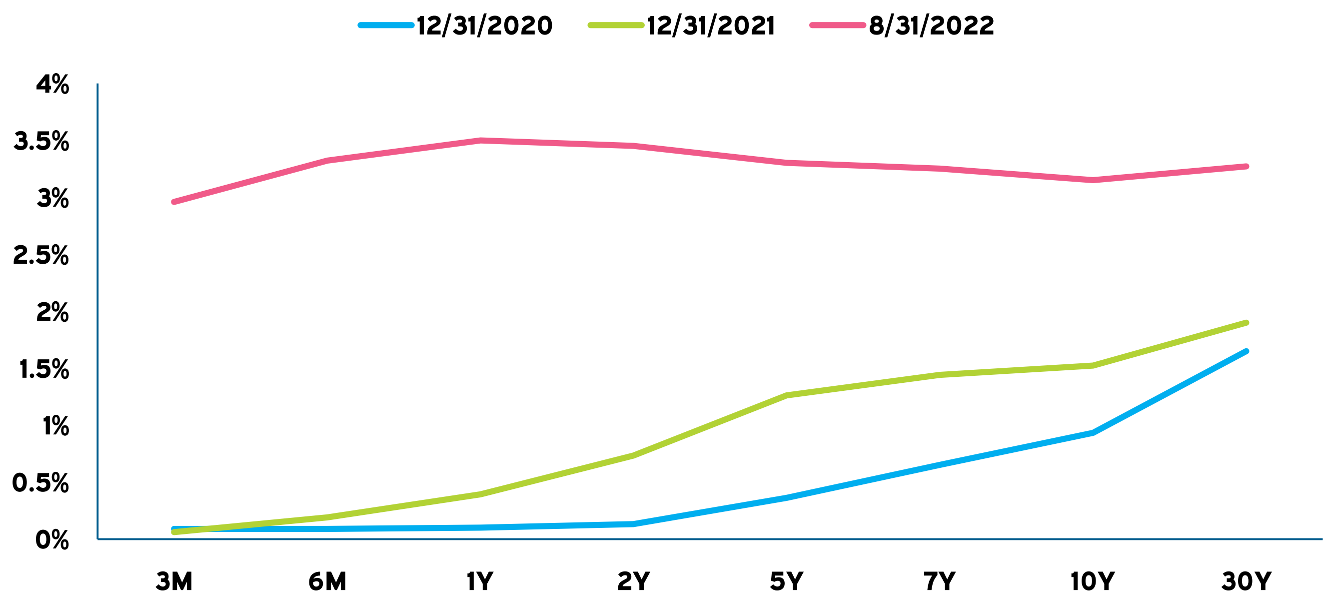


→ In spite of August price declines the US equity price-to-earnings ratio remains above the long-term average, but well off the recent peak.

→ International developed market valuations remain below the US and are slightly below their own long-term average, with those for emerging markets the lowest and under the long-term average.

[1] US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of August 31, 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.

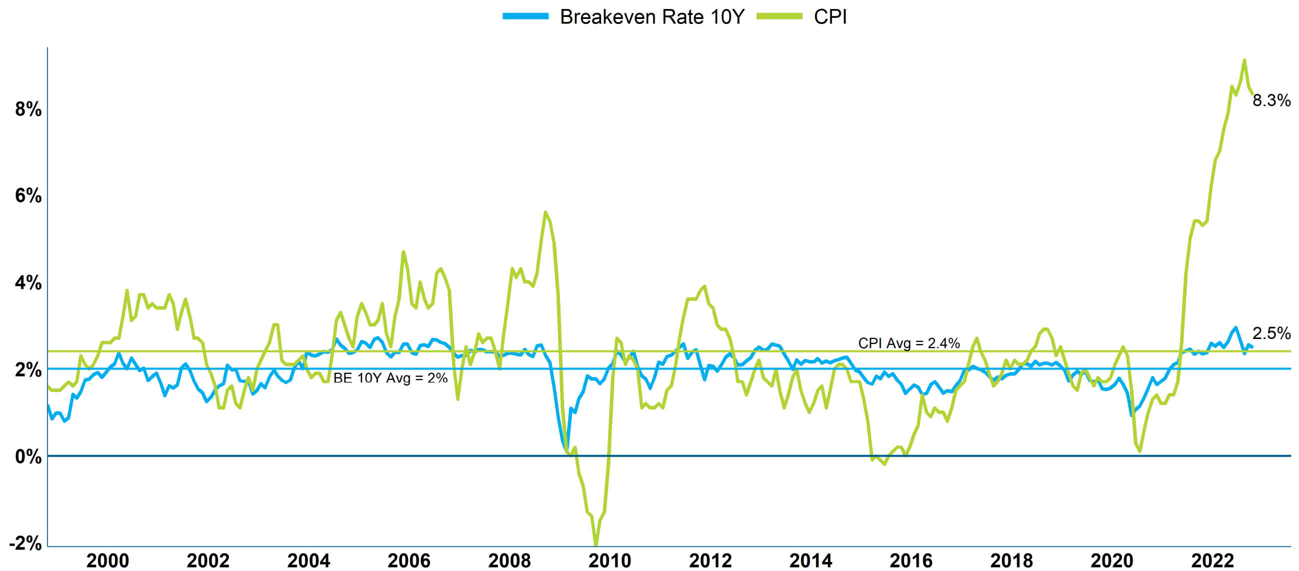
US Yield Curve[1]



- → Rates across the yield curve remain much higher than at the start of the year.
- → In August, rates rose across the yield curve as hopes of a Fed "pivot" were dashed by Chair Powell delivering a message that the FOMC was committed to reducing inflation despite the potential impacts to growth.
- → The yield spread between two-year and ten-year Treasuries remained negative, finishing August at -0.30%. Inversions in the yield curve have historically often preceded recessions.

[1] Source: Bloomberg. Data is as of August 31, 2022.

Ten-Year Breakeven Inflation and CPI[1]



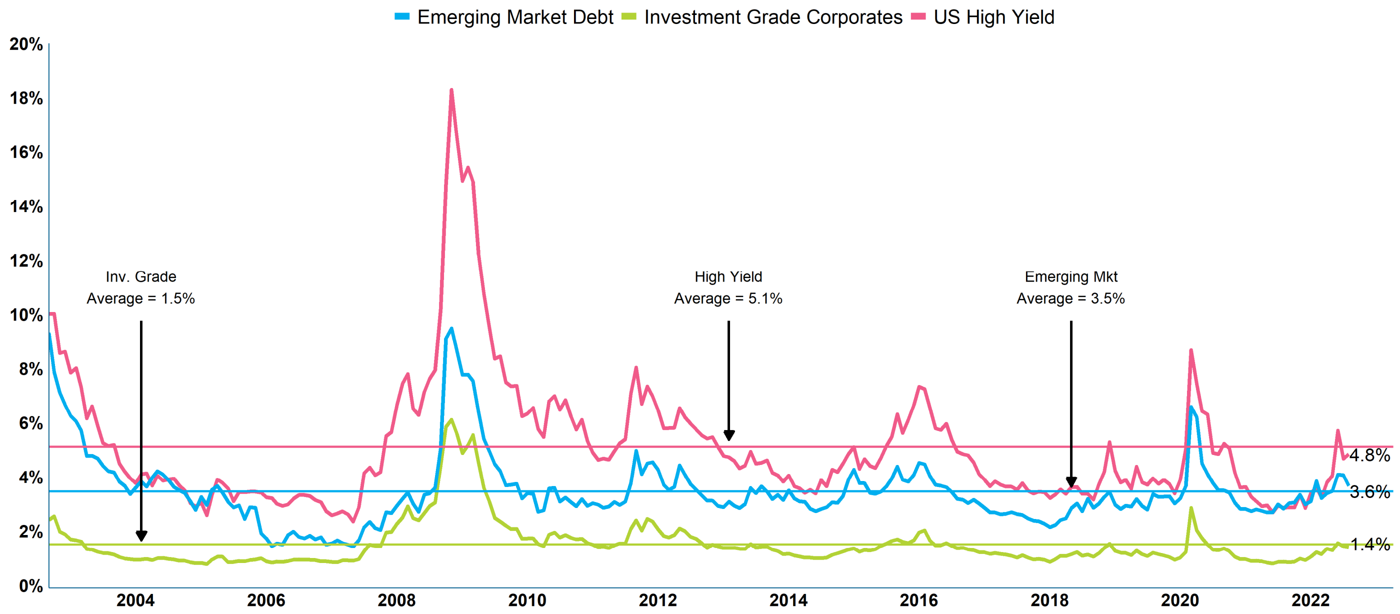
→ In August, inflation expectations (breakevens) declined slightly on the prospects tighter monetary policy would lower-long-run inflation.

→ Trailing twelve-month CPI declined in August (8.3% versus 8.5%) but surprised markets by coming in above expectations. Despite recent declines in energy prices inflation levels in the US remain well above the long-term average with widespread pricing pressures.

→ Over the last year rising prices for energy (particularly oil), food, housing, and for new and used cars, remain key drivers of higher inflation.

[1] Source: Bloomberg. Data is as of August 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.

Credit Spreads vs. US Treasury Bonds[1]



- → Investment grade corporates in the US outpaced Treasuries for the month, while in emerging markets corporate bonds saw positive results and government bonds were generally weaker.
- → Credit spreads (the spread above a comparable maturity Treasury) had mixed results in August but remain largely around historical averages.
- → In the US, spreads for high yield increased slightly (4.8% versus 4.7%), while investment grade spreads remained the same (1.4%). Emerging market spreads declined (3.6% versus 4.0%).

[1] Sources: Bloomberg. Data is as of August 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

Global Economic Outlook

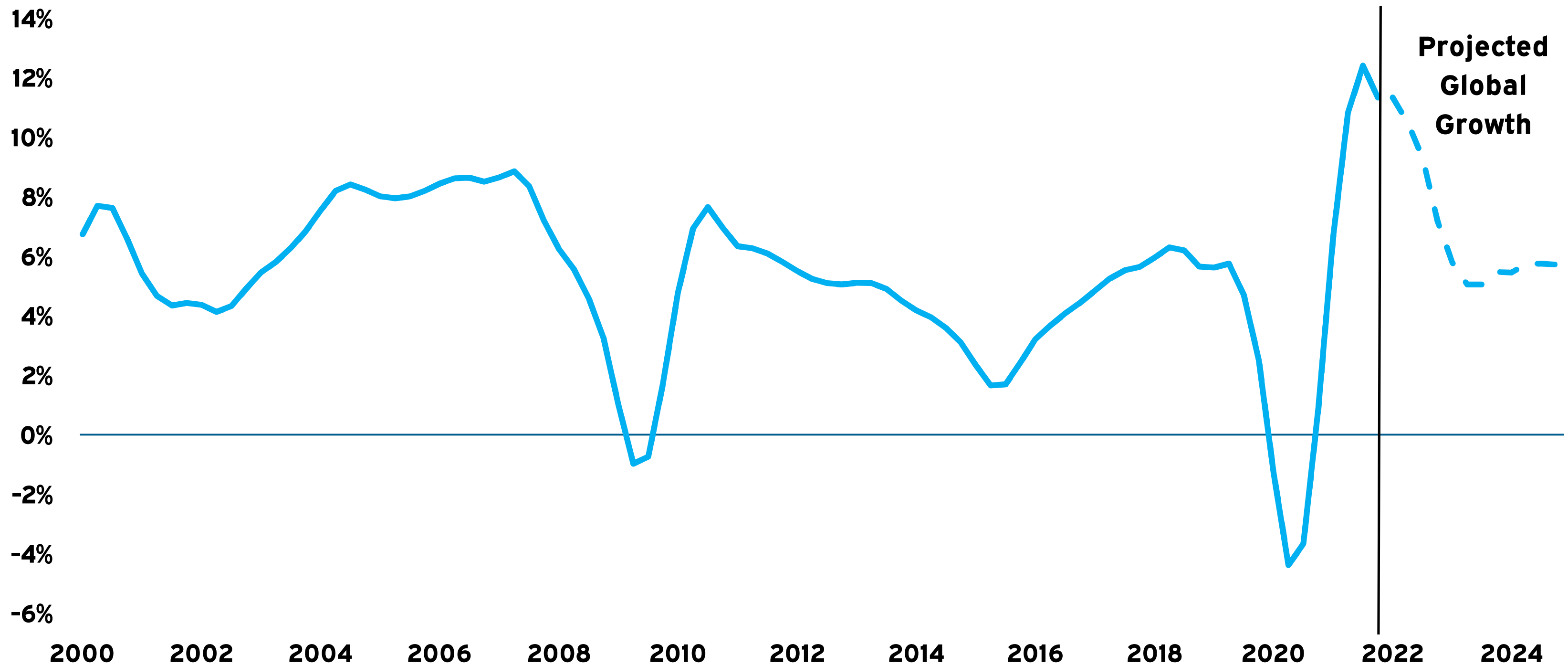
The IMF significantly lowered global growth forecasts again in their latest projections, driven by the economic impacts of persistent inflation in energy and food prices.

- → The IMF forecasts global GDP growth to come in at 3.2% in 2022 (0.4% below the prior estimate) and 2.9% in 2023 (0.7% below the prior estimate).
- → In advanced economies, GDP is projected to increase 2.5% in 2022 and 1.4% in 2023. The US saw another downgrade in the 2022 (2.3% versus 3.7%) and 2023 (1.0% versus 2.3%) growth forecasts largely due to policy tightening happening faster than previously expected given persistently high inflation. The euro area saw a downgrade too in expected growth (2.6% versus 2.8%) in 2022 and in 2023 (1.2% versus 2.3%) as rising energy prices particularly weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and next.
- → Growth projections for emerging markets are higher than developed markets, at 3.6% in 2022 and 3.9% in 2023. China's growth was downgraded for 2022 (3.3% versus 4.4%) and 2023 (4.9% versus 5.1%) given tight COVID-19 restrictions and continued property sector problems.
- → The global inflation forecast was significantly increased for 2022 (7.4% versus 3.8%).

	Real GDP (%)[1]			Inflation (%)[1]		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.9	3.0	7.4	4.8	3.5
Advanced Economies	2.5	1.4	1.6	5.7	2.5	1.5
US	2.3	1.0	2.1	7.7	2.9	1.9
Euro Area	2.6	1.2	0.9	5.3	2.3	1.2
Japan	1.7	1.7	0.5	1.0	0.8	0.5
Emerging Economies	3.6	3.9	4.2	8.7	6.5	5.1
China	3.3	4.9	6.7	2.1	1.8	2.1

[1] Source: IMF World Economic Outlook. Real GDP forecasts from July 2022 Update. Inflation forecasts are as of the April 2022 Update." Actual 10 Year Average" represents data from 2012 to 2021.

Global Nominal Gross Domestic Product (GDP) Growth[1]

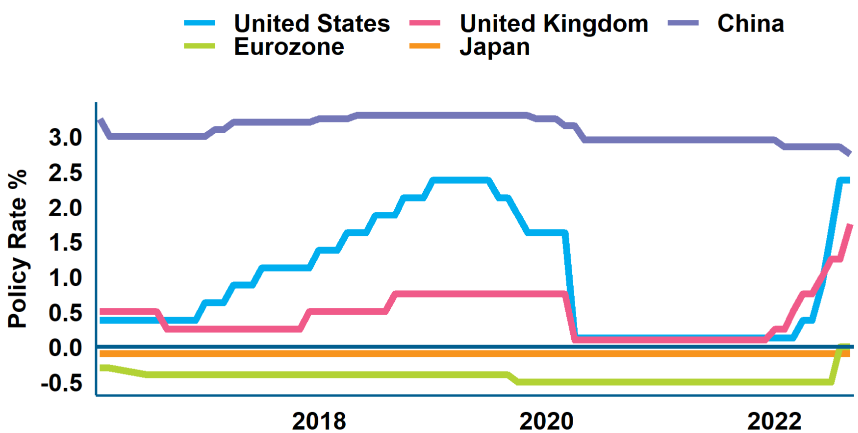


- → Global economies are expected to slow in 2022 compared to 2021 with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- → The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

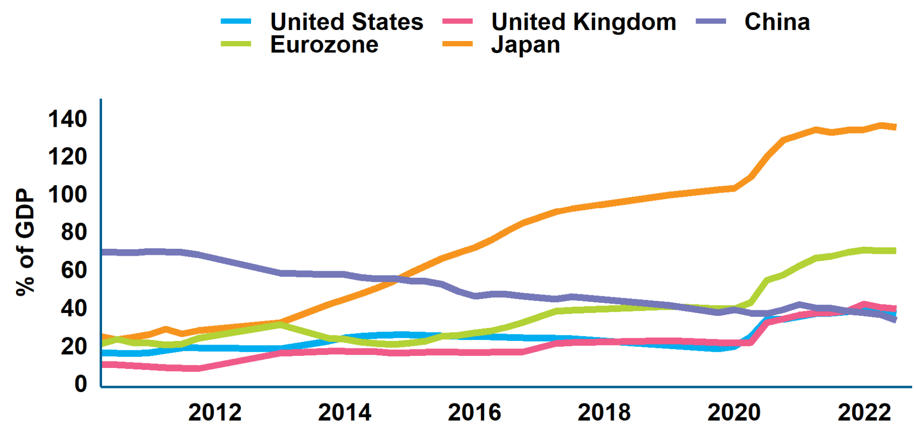
[1] Source: Oxford Economics (World GDP, US$ prices & PPP exchange rate, nominal, % change YoY). Updated August 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.

Central Bank Response[1]

Policy Rates



Balance Sheet as % of GDP



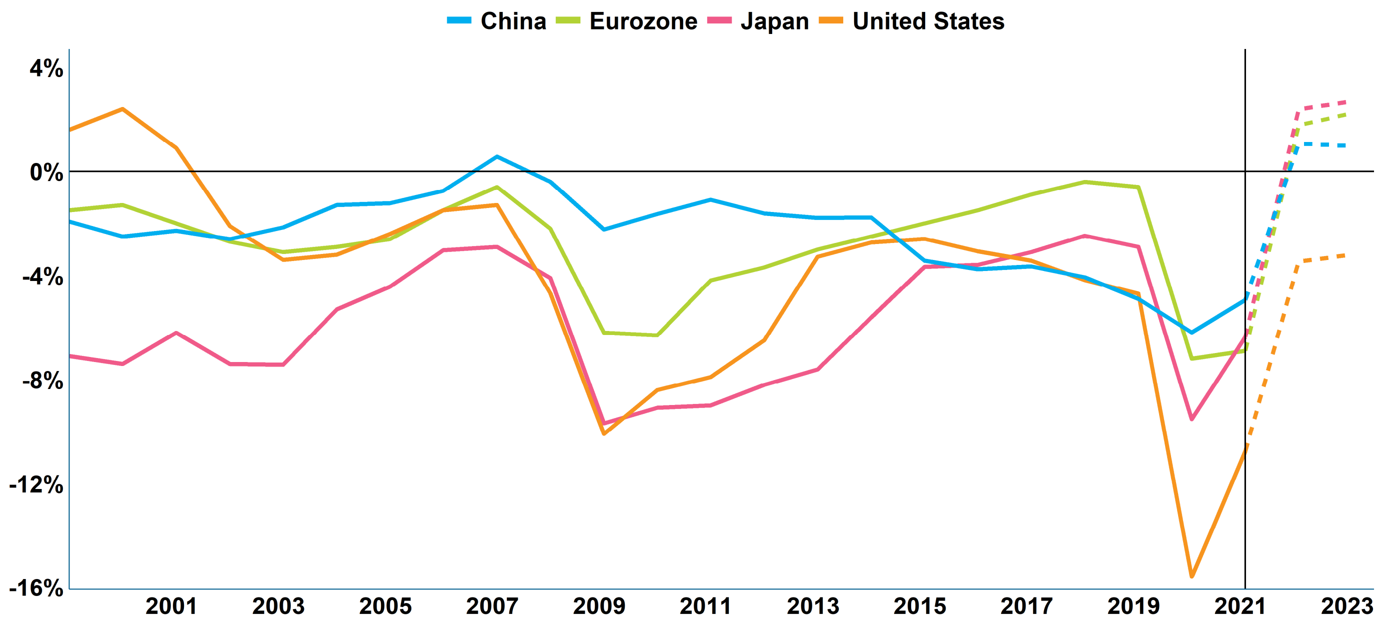
→ After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.

→ The pace of withdrawing support varies across central banks with the US taking a more aggressive approach. The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

→ The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.

[1] Source: Bloomberg. Policy rate data is as of August 31, 2022. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of June 30, 2022.

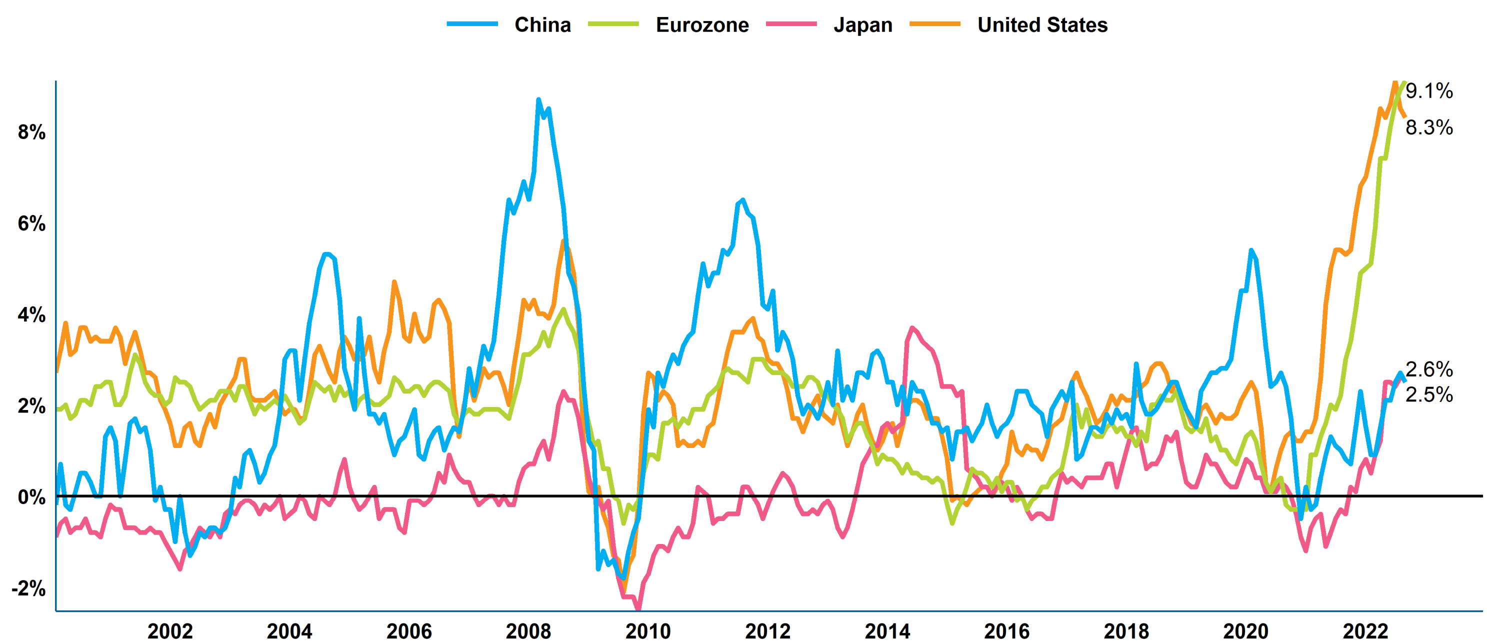
Budget Surplus / Deficit as a Percentage of GDP[1]



- → Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- → As fiscal stimulus programs end, and economic recoveries continue, deficits should improve in the coming years.

[1] Source: Bloomberg. Data is as of August 31, 2022. Projections via IMF Forecasts from April 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

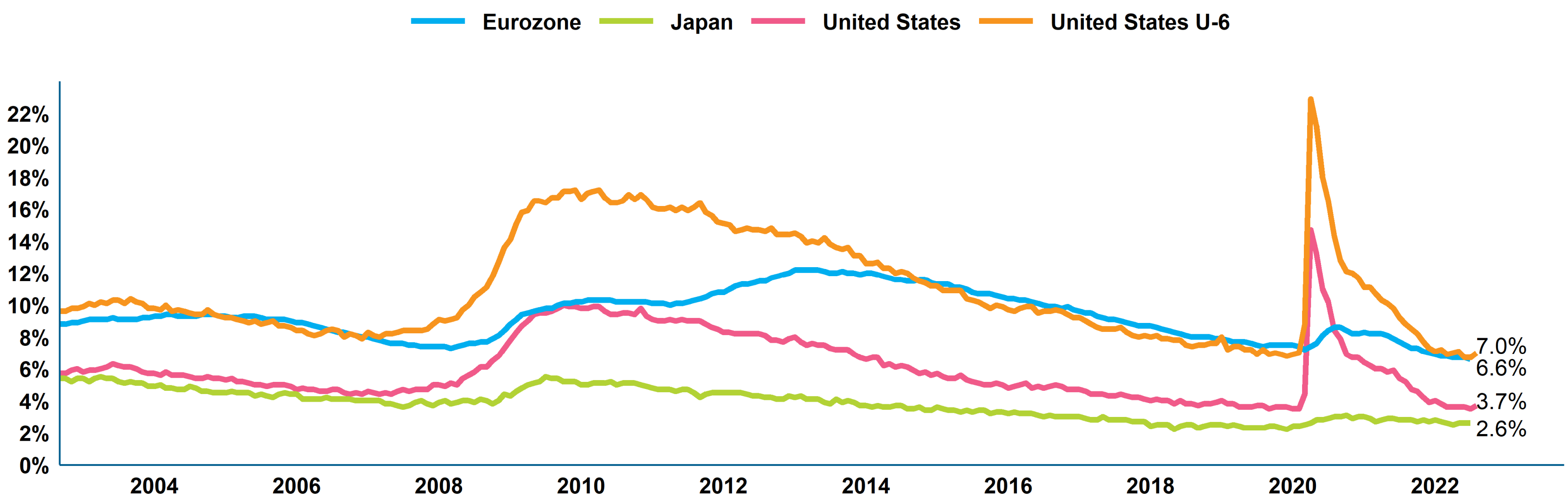
Inflation (CPI Trailing Twelve Months)[1]



- → Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- → Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key global drivers of inflation.

[1] Source: Bloomberg. Data is as of August 2022. The most recent data for Japan is as of July 31, 2022.

Unemployment[1]

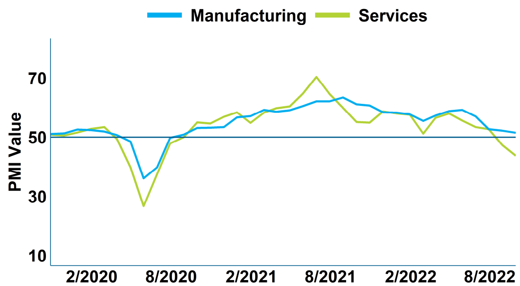


- → As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- → Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, declined to close to pre-pandemic levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 7.0%.

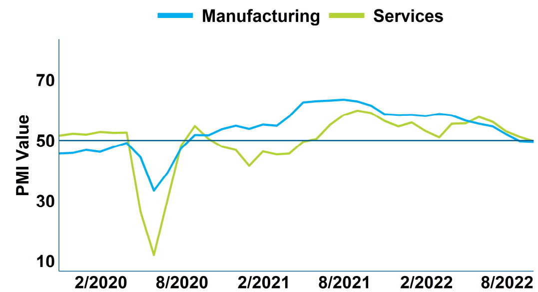
[1] Source: Bloomberg. Data is as of August 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of July 31, 2022.

Global PMIs

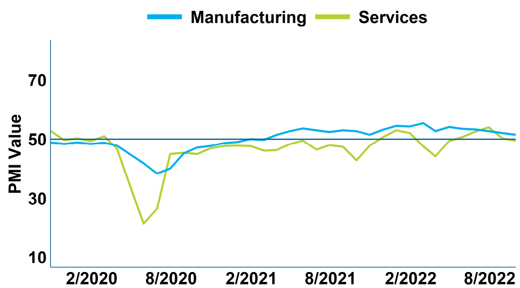
US PMI[1]



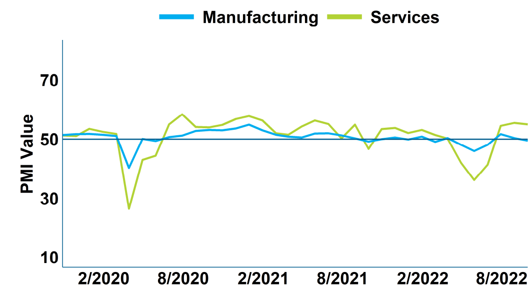
Eurozone PMI



Japan PMI



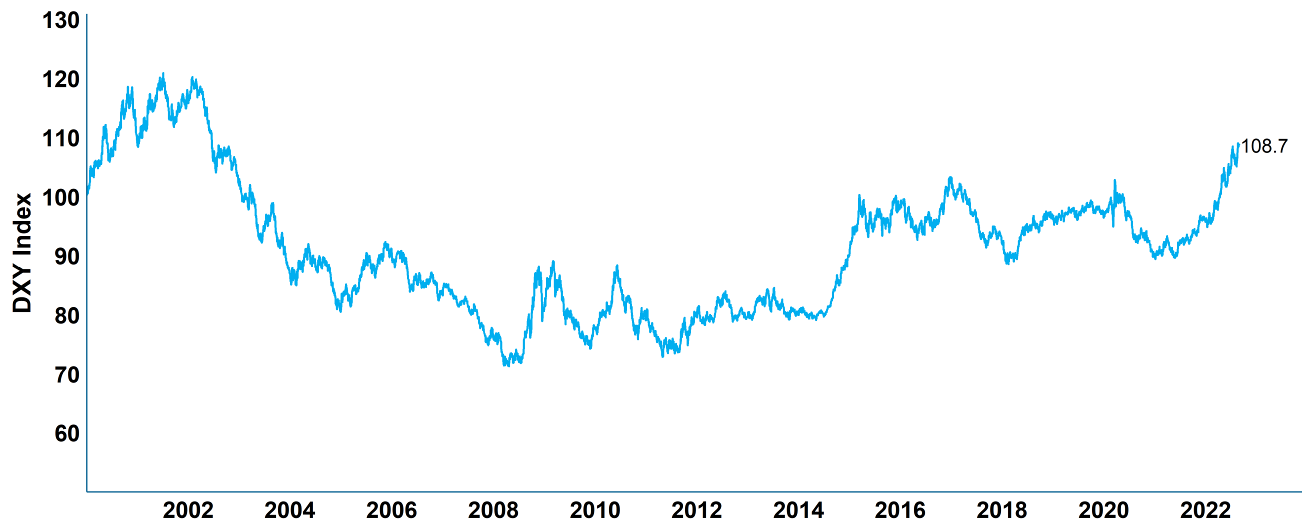
China PMI



- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced some pressures recently.
- → Service sector PMIs, except for China, are all in contraction territory. The US experienced the largest decline driven by lower output due to weak demand, a sharp decline in new orders, and softening employment.
- → Manufacturing PMIs dropped recently across China and developed markets given declines in demand and inflationary pressures.

[1] Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of August 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies[1]



- → The US dollar continued to strengthen in August reaching levels not seen in two decades. The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar's strength this year.
- → The euro, yen, and yuan have all experienced significant declines versus the dollar this year, adding to inflation and slowing growth concerns.

[1] Source: Bloomberg. Data as of August 31, 2022.

Summary

Key Trends in 2022:

→ The impacts of record high inflation will remain key going forward, with volatility likely to remain high.

→ The pace of monetary policy tightening globally will be much faster than previously expected, with the risk of overtightening.

→ Expect growth to slow globally in 2022 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.

→ The end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.

→ Valuations have significantly declined in the US, approaching long-term averages.

→ Outside the US, equity valuations remain lower in both emerging and developed markets, but risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

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

2022 Credit Review

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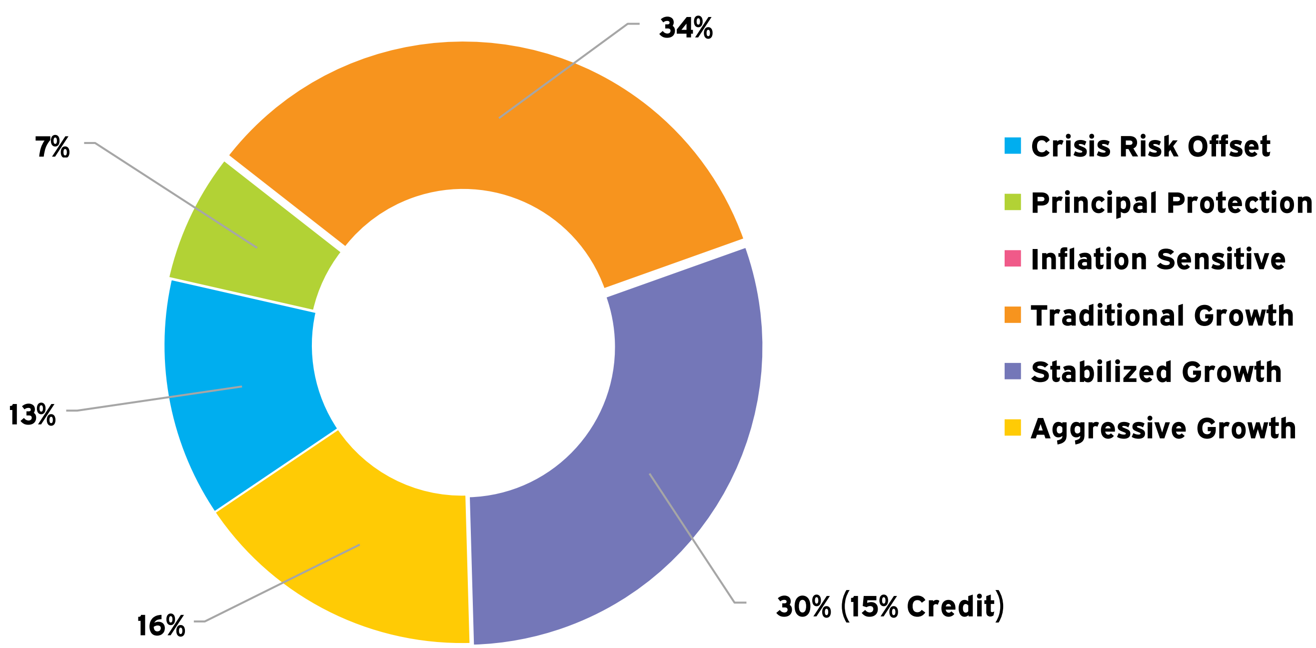
Section 1: High Level Overview of Credit in Stabilized Growth

In 2Q 2022, SJCERA approved a new long-term allocation policy…

SJCERA's Long-term Allocation Policy



…and SJCERA's Credit portfolio slightly decreases into new policy allocations.

Broad Growth	Target Allocation
Aggressive Growth	16.0%
Traditional Growth	34.0%
Stabilized Growth	
Risk Parity	6.0%
Credit	15.0%
Core Real Assets	9.0%

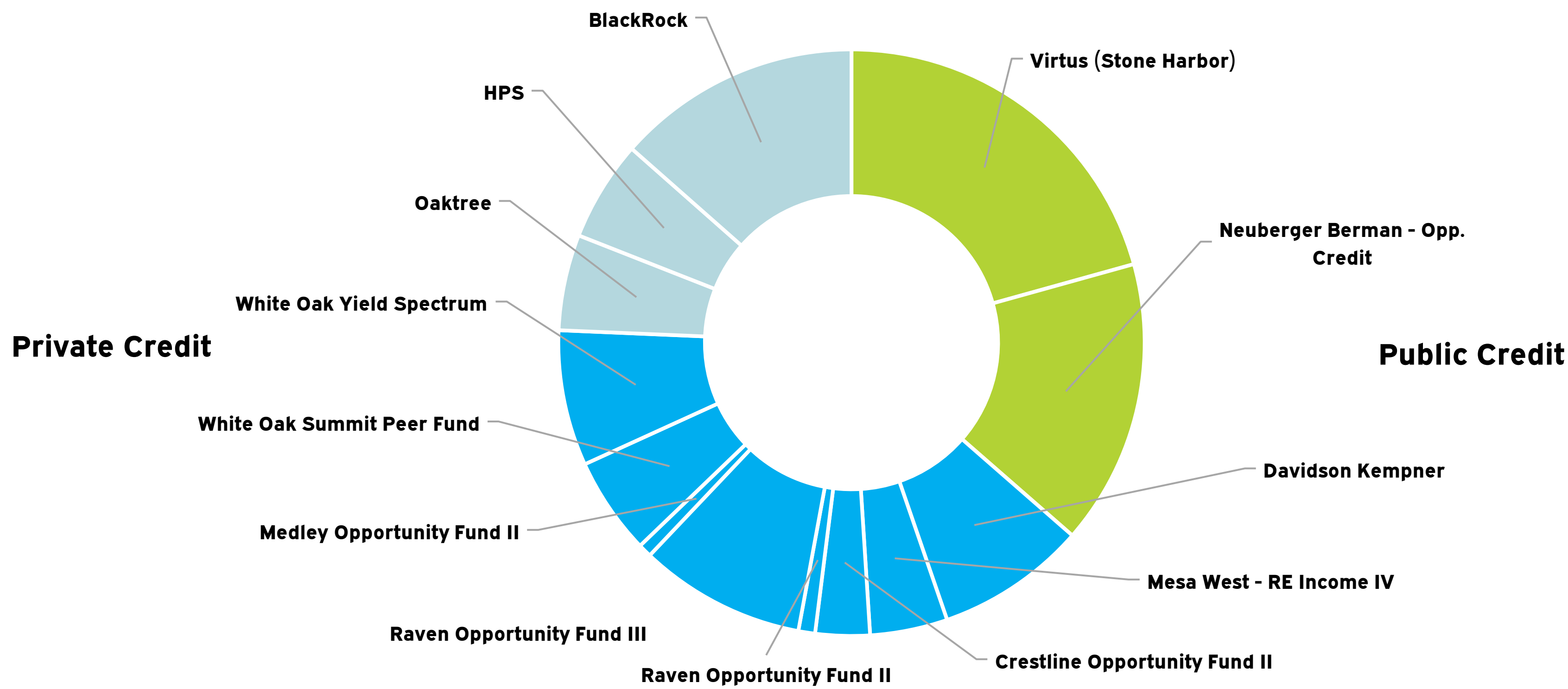
→ SJCERA segregates the portfolio into more purpose-driven strategic classes:

- Two segments:
  - **Broad Growth strategies:** Aggressive Growth (Private Equity and non-core Real Estate), Traditional Growth (Public Equites), Stabilized Growth (Risk Parity, Credit, and Core Real Estate)
  - **Diversifying strategies:** Principal Protection and CRO.
  - Objective: increase risk transparency; better clarify roles.

→ **Rationale: improved visibility into major fixed income risk drivers; clearer delineation of fixed-income class' roles: principal protection, income production.**

→ **Credit** is set to have a 15% long-term target allocation (role: income production).

SJCERA's Credit Allocation - March 2022



→ 11 mandates; 9 are managed by different firms.
→ Mandates range from public credit to direct/specialty lending.
→ Assets are differentiated by public and private.

Section 2: Public Credit

Public Credit Overview

→ Exposure to Credit helps stabilize equity-oriented returns.

- During normal times – credit can be complimentary to equities.
- During bad times – essentially the same risk.

→ Higher Yield and Return than other major fixed income segments.

→ Provides Yield and Income.

→ Major segments of publicly-traded Global Credit Market:

- Investment-grade Credit
- High Yield
- Emerging Market Debt
- Bank Loans

→ Currently Neuberger and Virtus (Stone Harbor) invest across these various public segments.

Neuberger Berman

Sector Exposure as of June 30, 2022

	Neuberger	Custom Benchmark
US Treasury	11.8%	0.0%
Developed Market IG Credit	4.75%	0.0%
Securitized	4.06	0.0%
Developed Market HY Credit	28.6%	33.0%
Senior Floating Rate Loans	26.7%	33.3%
Emerging Market Debt	23.8%	33.7%

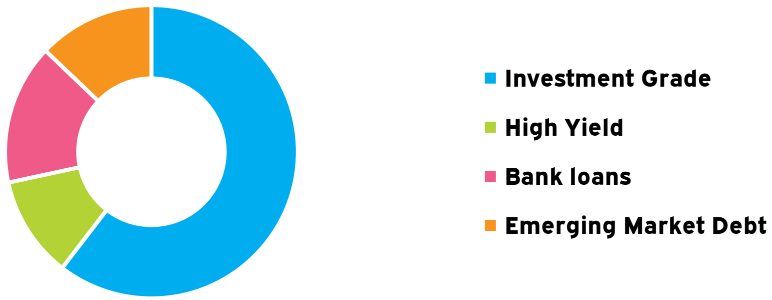
Portfolio Statistics as of June 30, 2022

	Neuberger	Custom Benchmark
Weighted Average Duration (YRS)	4.03	3.95
Maturity (YRS)	7.63	7.3.7
Yield to Maturity (%)	7.45	7.84
Yield to Worst (%)	7.51	7.84
S&P Rating	BB+	BB-
Moodys Rating	Ba1	Ba3
Weighted Average Coupon	4.50	5.21

Custom Benchmark: 33.34% S&PLSTA Leveraged Loan Index
33.33% BoA ML U.S. High Yield Constrained Index
33.33% JP Morgan EMBI Global Diversified Index

Virtus (Stone Harbor)

June 30, 2022 Sector Allocation



Portfolio Statistics as of June 30, 2022

	Stone Harbor
Weighted Average Duration (YRS)	0.27
Maturity (YRS) *(WAL)*	6.49
Yield to Maturity (%)	5.56
Yield to Worst (%)	5.56
S&P Rating	BBB
Moodys Rating	Baa2
Weighted Average Coupon	3.69

Section 3: Private Credit

What is private credit?

Private credit is a broad opportunity set that includes both origination-based strategies as well as asset sales. The former focuses on providing illiquid financing to borrowers who cannot access the broadly syndicated credit markets, while the latter are opportunistic strategies that capitalize on monetizing discounts.

Sources of Return		
Illiquidity Premium	Sourcing/Asset Management	Scarcity of capital/ non-economic sellers

Risk in private credit primarily ties to capital loss rather than volatility. Market beta and interest rate sensitivity are also considerations.

	LIQUID CREDIT	PRIVATE CREDIT	PRIVATE EQUITY
LIQUIDITY	Liquid	Less liquid	Illiquid
INVESTMENT TERM	<1 year	2-5 years	7+ years
FUND LIFE	Evergreen	5-7 years	10-12 years
DISTRIBUTIONS	Daily/Quarterly	Income distributions during investment period	During harvest
MANAGEMENT FEES	Paid on NAV	Typically paid on invested capital	Typically paid on committed capital
INCENTIVE FEES	Yearly incentive fees; no hurdle rate	Incentive fees paid on realizations; hurdle rate	Incentive fees paid on realizations; hurdle rate
J-CURVE	N/A	Modest	Severe
VALUE CREATION	Market analysis/trading	Sourcing, underwriting, asset management	Operational improvement, asset management
MONETIZATION	Trading	Cash flow/ Work-out	IPO/Sale

Private equity-like structure with better liquidity and alignment of interests

SJCERA Private Credit Program Review

→ Initial commitment began in 2010.

→ Two partnerships approved in 2020.

- $50 million to Davidson Kempner Distresses Opp. V.
- $50 million to White Oak Yield Spectrum Master.

→ Private credit is currently 10% of the total portfolio as part of the Credit allocation.

- Current actual allocation at approximately 9.6%.
- Market value of $368.2 million as of June 30, 2022.

→ The Program has approved commitments across nine firms.

- Mesa West Capital and BlackRock (Tennebaum Capital) have the largest commitments with a total of $100 million and $75 million committed.
- BlackRock accounts for approximately 20% of the market value.

SJCERA Commitment List

Since Inception Partnership Commitments

Partnership	Vintage Year	Commitment	Strategy
Medley Opportunity Fund II	2010	$50 million	Direct Lending
Crestline Opportunity Fund II	2012	$45 million	Direct Lending and Secondary
Mesa West Real Estate Income III	2012	$45 million	Real Estate Debt
Raven Asset-Based Opportunity II	2014	$45 million	Asset Based Lending
Raven Asset Based Opportunity III	2015	$50 million	Asset Based Lending
Mesa West Real Estate Income IV	2016	$75 million	Real Estate Debt
White Oak Summit Peer Fund	2016	$50 million	Direct Lending
Oaktree Mid-Market Lending Fund	2018	$50 million	Direct Lending
HPS European Asset Value Fund II	2019	$50 million	Direct Lending
BlackRock TCP Direct Lending Fund IX	2019	$100 million	Direct Lending
Davidson Kempner Fund V	2020	$50 million	Distressed
HPS EU Asset Value	2020	$50 million	Asset Based Lending
White Oak Yield Spectrum Master	2020	$50 million	Specialty Finance
Total Program	---	$710 million	---

Future Growth

→ Additional activity required to achieve the target allocation over longer term.

- Also providing vintage year diversification

→ Growth of a private credit program a function of several factors:

- Commitment pace
- Rate of investment by underlying managers
- Investment growth
- Investment liquidations/distributions
- Opportunity set

→ Percentage allocation to private credit impacted by Total Portfolio growth.

- Slower Total Portfolio growth = larger private credit allocation
- Faster Total Portfolio growth = smaller private credit allocation

Section 3: Summary

2022 Credit Plan

→ 2022 pacing study

- Conduct a 2022 Pacing study under the new target allocations.

→ Commit to two to three partnerships during the year.

- Provides diversification across vintage year and firm.

→ Continue to update pacing targets on an annual basis.

- Update actual private credit cash flows and market values.
- Incorporates volatility of the public markets and Total Portfolio growth.

WE HAVE PREPARED THIS REPORT (THIS “REPORT”) FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE “RECIPIENT”).

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE “FORWARD - LOOKING STATEMENTS,” WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS “MAY,” “WILL,” “SHOULD,” “EXPECT,” “AIM”, “ANTICIPATE,” “TARGET,” “PROJECT,” “ESTIMATE,” “INTEND,” “CONTINUE” OR “BELIEVE,” OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

CONFERENCES AND EVENTS SCHEDULE

EVENT DATES BEGIN	END	EVENT TITLE	EVENT SPONSOR	LOCATION	REG. FEE	WEBLINK FOR MORE INFO	EST. BOARD EDUCATION HOURS
Oct 17	Oct 18	Nossaman's 2022 Public Pensions & Investments Fiduciaries' Forum	Nossaman's	Los Angeles, CA	$750	nossaman.com	5.66 hrs
Oct 22	Oct 23	NCPERS University-Accredited Fiduciary Program	NCPERS	Nashville, TN	$855	ncpers.org	14 hrs*
Oct 28	Oct 28	Trustees Round Table	CALAPRS	Webinar	$50	calaprs.org	4 hours*
Nov 8	Nov 11	SACRS Fall Conference	SACRS	Long Beach, CA	$120	sacrs.org	11 hrs*
Jan 25	Jan 25	Approving Key Decisions	Board Smart	Online webinar	$0	contact Elaina for link	TBD

** 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**
Oct 28	CALAPRS Trustees Round Table	Webinar	Mike Restuccia, Jennifer Goodman, Emily Nicholas	$150	N/A
Nov 8-11	SACRS Fall Conference	Long Beach	JC Weydert, Ray McCray, Chanda Bassett, Emily Nicholas, Brain McKelvey	$6,946	N/A

SAN JOAQUIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

SUMMARY OF COMPLETED TRUSTEE AND EXECUTIVE STAFF TRAVEL

Event Dates 2022	Sponsor / Event Description	Location	Traveler(s)	Estimated Cost	Actual Cost	Event Report Filed
Feb 11	CALAPRS Administrators' Roundtable	Webinar	McKelvey, Shick	$100	$100	N/A
Feb 18	CALAPRS Attorneys' Roundtable	Webinar	Morrish	$50	$50	N/A
Mar 5 - 8	CALAPRS General Assembly	San Diego, CA	McKelvey, Shick	$4,000	$1,798.50	N/A
Apr 29	Special Virtual Trustee Round Table	Virtual Conference	Moore, Bassett, Weydert, McKelvey	$200	$200	N/A
May 10 - 13	SACRS Spring Conference	Rancho Mirage, CA	Weydert, Keokham, McKelvey, Morrish	$6,800	$5,979	N/A
May 27	CALAPRS Attorneys' Roundtable	Webinar	Morrish	$50	$50	N/A
Jun 24	CALAPRS Administrators' Round Table	Webinar	Johanna Shick, Brian McKelvey	$100	$100	N/A
Jun 27-29	NCPERS - 2022 Chief Officers Summit	San Francisco	Brian McKelvey	$1,750	$1,552.00	8/12/22
Jul 17-20	SACRS UC Berkeley Program	Berkeley, CA	JC Weydert	$4,500	$4,160.65	N/A
Aug 29 - Sep 1	Principles of Pension Governance for Trustees	Tiburon, CA	Moore	$3,200	$3,200	N/A
Sep 6-8	IREI Fall Advisory Board Meeting	Pasadena, CA	Mike Restuccia	$1,000	$461.03	Due
Sep 23	Attorneys Round Table	Webinar	Jason Morrish	$50	$50	N/A
Sep 28-30	CALAPRS Administrators' Institute 2022	Long Beach, CA	Johanna Shick	$1,800	TBD	N/A

From Mike Restuccia

IREI Editorial Board Meeting
September 6th through September 8th, 2022

The attendance was 10 consultants, 5 corporate providers, 2 funds to funds, 11 public funds, and others. The attendance breakdown was 54% capital seekers and 36% capital providers/influencers. this resulted in a 0.87:1 ratio. The goal is a 1:1 ratio,

20 investors that contributed data control $1.3 trillion in AUM and $165.9 billion in RE AUM
36 investment managers control $6.3 trillion in AUM and $1.5 trillion in RE AUM

The role of the editorial advisory board is:

- Represents the readership of Institutional Real Estate Americas
- Meets annually to help define the most important issues and challenges that are keeping them up at night
- Engages in intimate facilitated discussions to help flesh out those key issues and challenges
- Thereby helping to establish the editorial direction for the publication
- Provides feedback on what we're doing and how we're doing in meeting the information needs of the market
- Provides additional input and advice throughout the year on key feature articles as they're being developed

The was a consensus that we are in a recession, and it will continue at least through 2023 since rates will stay high which will stagnant RE values. Because of this a holding pattern to RE should be the strategy, except there are exceptions.

The biggest macro theme long term is Climate Risk and ESG second is the "demographic cliff" with the aging population.

The groups priority for discussion because of unknowns was Office and single-family rentals, which Blackhawk has taken the market on the SFR rentals.

As expected, the most attractive property type for investment currently is Industrial/warehouse and secondly SFR rentals.

Europe will have RE problems first and then will come to the US or will be at the same time.
There was a concern how to quantify risk, especially when it comes to other countries primarily China and Taiwan.

RE should still be an asset to be invested in and should be considered a portfolio stabilizer/diversifier. Sector selection will be extremely important which class to buy and which to sell. Location will continue to be a primary concern.

Apartment REITS are now selling at a discount and should be considered as an investment

Separate accounts verses funds were discussed. Separate funds appear to give control but not necessarily since the market changes take away the control, it is market driven.

Some funds are still investing in Office, primarily construction but want a solid takeout loan in place, occupancy metrics will drive that process.

A lot of discussion if people are going back to the office to work, many in the room have decided they will not and have not been forced too yet. Many companies are offering jobs and the attraction is you can work from home. As we all know, many are working from different states because technology has allowed that.

RE analysts continue to look at and it is difficult to get data where people live vs where they work, so it is difficult to determine demand for space.

Some have experienced labor in Mexico is cheaper than China for some products.

Good time to be a RE lender since they are getting rates 6%-9% and relatively safe with good loan to values and DCR are still good.

An analysis of each property type was discussed in breakout groups. Some of the issues on each property type sound conflicting but make sense when thought through.

Apartments
High demand and low supply, depending on location. Rents will increase. Risks are affordability and the government intervention

Data Centers
Strong current demand, good long-term leases. This is a non-traditional sector. The buildings are a good potential for retrofit if needed. Possibly too much money flowing to this sector currently

Healthcare/Medical
Good due to aging population, increase in healthcare costs. Negative is a fragment of ownership, Medicare, insurance company changes, parking requirements.

Hotel
Good since leases are short term and can change quickly with inflation. Negative is reduced corporate travel with zoom and other technology, recession Airbnb etc.

Industrial/Warehouses
Strong demand with e-commerce, which is big and growing, increase can be in cold storage. Negatives could be supply chain issues and lack of truckers and supply is above average in certain markets.

Life Science/R&D
Currently high occupancy, good due to continuing tech innovations. This is a market and tenant specific property. Could get over supplied very quickly since it could be an office or other building conversions.

Office
Provides a place for collaboration, training in person, mentorship. High quality desired, problems are working at home/offsite can continue to have a negative impact.

Retail
Occupancy for grocery anchored is at an all-time high. Highly functional and subject to mixed use. Is threatened by e-commerce and a recession which would lead to a consumer pullback in spending. Big box stores have repositioned some of these buildings to fulfillment centers.

Senior Housing
Good, people aging and living longer, and many are affluent. Historically it has been underserved but market is growing. Problems can be getting skilled staff. Leasing continues to be slow. Amenities are important and changing since it is an emotional decision. A negative is also if there is another pandemic, people may choose to stay in their homes and not move out. Another threat is people live longer and can’t continue to afford the facility.

Single Family Rental
It has great long-term demand fundamentals. There continues to be a limited supply for rent and work from home places a strong demand on single family homes. Seems to be low institutional ownership, funds however own quite a big chunk. Shortfall is no long-term data on this type of rental.

Board of Retirement Meeting

San Joaquin County Employees' Retirement Association

Agenda Item 7.03

October 5, 2022

SUBJECT: Pending Member Accounts Receivable – 3rd Quarter

SUBMITTED FOR: ___ CONSENT __ ACTION __X_ INFORMATION

RECOMMENDATION

This report is submitted for the Board's information.

PURPOSE

To report the quarterly summary of pending accounts receivables for SJCERA retired or deferred members as of September 30, 2022.

DISCUSSION

This quarter's Pending Accounts Receivable Report, below, includes all receivables owed by either retirees, beneficiaries or deferred members.

QUARTERLY SUMMARY REPORT OF PENDING ACCOUNTS RECEIVABLE - SJCERA MEMBERS

3rd Quarter - July through September 2022

	Action Date	Total Receivable	Payments Began	Current Balance	Current Payment	Payment Description	Payment End Date	First Reported To Board
1	07/15/09	$11,475.48	05/01/11	$6,143.93	$163.00	Fixed Dollar Amount	10/01/25	Jul-11
2	09/01/12	$13,580.90	02/01/14	$4,937.93	$297.00	Fixed Dollar Amount	11/01/24	Apr-14
3	05/19/02	$35,537.23	11/01/15	$14,931.02	$293.14	Fixed Dollar Amount	12/01/27	Jan-16
4	03/11/21	$12,035.49	06/01/21	$6,675.49	$335.00	Fixed Dollar Amount	05/01/24	Apr-21
Total Accounts Receivable as of 9/30/2022				**$32,688.37**				

No new receivables in the third quarter of 2022.

BRIAN MCKELVEY
Asst. Chief Executive Officer

Board of Retirement Meeting
San Joaquin County Employees' Retirement Association

Agenda Item 7.04

DATE **October 5, 2022**

SUBJECT: **Correction of Errors or Omissions Quarterly Report**

SUBMITTED FOR: ___ **CONSENT** ___ **ACTION** _X_ **INFORMATION**

RECOMMENDATION

This report is submitted for the Board's information.

PURPOSE

To report the quarterly corrections of errors or omissions in accordance with SJCERA's *Correction of Errors or Omissions* policy.

DISCUSSION

Section III.E of the *Correction of Errors or Omissions* policy grants the CEO, or designee, authority to, "…agree to receive less than the full amount of repayment. Options for recovery in those instances include, but are not limited to…waiving interest…." Section V.A goes on to require the CEO, or designee, to "…report to the Board quarterly regarding corrections of errors or omissions under this policy. Minor errors, such as contribution errors remedied by way of one-time payroll adjustments, need not be included in the CEO's report to the Board under this section."

This memo reports to the Board that in July, the CEO authorized waiving interest owed on underpaid contributions for member Terry Kitaguchi. Member contribution rates are based on a member's age. Mr. Kitaguchi is a reciprocal member, and the reciprocal retirement system uses a flat member age of 27 for all members; whereas SJCERA operates under Government Code section 31620.5, which requires calculating the entry age based on the member's age upon entering membership, rounded to their nearest birthday. Unfortunately, staff did not notice this discrepancy in 2011 when Mr. Kitaguchi entered SJCERA membership, and therefore he paid a lower contribution rate based on an entry age of 27 rather than age 43. The error was discovered recently when Mr. Kitaguchi left employment and deferred his retirement.

Staff calculated the total amount of contributions and interest owed to be $11,161.29. Because the underpayment of contributions resulted from a staff error about which the member could not reasonably have known, the CEO authorized waiving interest in the amount of $3,630.47. On July 25, 2022, Mr. Kitaguchi paid the total amount of underpaid contributions owed, excluding interest.

BRIAN MCKELVEY
Asst. Chief Executive Officer

Pending Disability Application Statistics
3rd Quarter 2022
Open Cases

SJCERA received 7 disability applications during Q3 2022

Time Elapsed From Application Date	
01 - 03 Months	5
04 - 06 Months	5
07 - 09 Months	0
10 - 12 Months	3
13 - 15 Months	2
16 - 18 Months	1
19 - 21 Months	0
22 - 24 Months	0
Over 24 Months	0
Total	**16**

Break Down By Application Type	
Service-Connected	12
Nonservice Connected	3
Service & Nonservice Connected	1
Total	**16**

Breakdown By Department	Service	Nonservice	Service & Nonservice	Total	SJCERA Members	Ratio
Courts	0	1	0	1	288	0.35%
EEDD	1	0	0	1	60	1.67%
Health Services Agency	2	1	0	3	1,022	0.29%
Probation	2	0	0	2	246	0.81%
Public Works	3	1	0	4	339	1.18%
Sheriff	4	0	1	5	804	0.62%
Totals	12	3	1	16	2,759	0.58%
Total SJCERA Active Members For All Departments As of 09/25/2022					**6,384**	**0.25%**
Total Number of Department Groups					**6**	

2022 Total Cases Resolved = 8

Goal #1 - 100% of applications that do not require a hearing will go to the Board within 9 months
Goal #2 - 80% of applications requiring a hearing will go to the Board within 18 months

Goal #1	50%	Completed within 9 months
Goal #2	100%	Completed with Hearing within 18 months

Of the eight cases that have been resolved in 2022, six were completed without a hearing. Of those six cases, three were completed within the 9-month Goal # 1 period. The two cases that required a hearing were completed within the 18-month goal defined in Goal #2 as both hearings were completed during Q2 2022. Staff and our disability attorney continue to meet weekly and are taking action to ensure all cases are moving through the process as timely as possible.

Calendar Year Comparison
1/1 to 12/31

	2017	2018	2019	2020	2021	Q3 2022
New	37	41	13	7	16	7
Granted	27	21	19	10	8	4
Denied	6	3	2	4	3	2
Dismissed	11	4	6	2	0	0
Withdrawn	5	0	4	0	0	0
Total Closed	49	28	31	16	11	6

2022 LEGISLATION

Last Updated: 9/22/2022

BILL NO.	AUTHOR	DESCRIPTION	LAST ACTION DATE	LOC	SPONSOR
Legislation Impacting SJCERA:					
AB 551	Rodriguez	Current law, until January 1, 2023, establishes a disability retirement presumption that is applicable to the members of various public employee retirement systems who are employed in certain firefighter, public safety officer, and health care job classifications, among others, who test positive for COVID-19, as specified. The law requires, if the member retires for disability on the basis, in whole or in part, of a COVID-19-related illness, that it be presumed that the disability arose out of, or in the course of, the member's employment, unless rebutted. This bill would extend the operation of the provisions described above until January 1, 2024.	09/13/22	Enrolled	
AB 1824	Cooper	This bill represents the annual omnibus bill to propose technical "housekeeping" amendments to the CERL and PERL. This bill would 1) allow members to designate a corporation, trust, or estate to receive their last check upon death, 2) modify existing law's requirement that the retirement date not be earlier than the date the application is filed or 60 days after the filing, by allowing the Board to adopt an alternative number of days, 3) require any computation for absence related to death benefit calculation be based on the compensation held by member at beginning of absence, and 4) make other non-substantive changes to the CERL.	09/02/22	**Chaptered**	SACRS
AB 1944	Lee/Garcia	This bill would amend the Brown Act to 1) require the agenda identify any member of the legislative body that would participate remotely, 2)require an updated agenda reflecting all of the members participating remotely, if a member elects to participate remotely after the agenda is published, 3) authorize, upon determination of majority vote by legislative body, a member to be exempt from identifying the address of the member's teleconference location or having the location accessible to the public, beginning January 1, 2024, if from a location that is not a public place, provided a quorum participates at the physical location, and 4) require legislative body that elects to use teleconferencing to provide a video stream accessible to members of the public and an option for members to address the body remotely during the public comment period. This bill would repeal these provisions on January 1, 2030.	06/22/22	Senate Hearing postponed by Committee	

BILL NO.	AUTHOR	DESCRIPTION	LAST ACTION DATE	LOC	SPONSOR
AB 1971	Cooper	This bill would: 1) allow a member to purchase service credit for an uncompensated leave of absence due to the serious illness of a family member, 2) authorize the board to grant members subject to a temporary mandatory furlough the same service credit and FAC calculation as they would have received if there had been no furlough; 3) authorize a member retired for service to serve on a part-time governmental board or commission without reinstatement to membership, provided compensation does not exceed $60,000 annually, 4) authorize a member retired for service who is subsequently granted a disability retirement to change the type of optional or unmodified allowance that they elected at the time the service retirement was granted, 5) a member retired for service who subsequently files an application for disability retirement and, if eligible for disability, would require adjustments to be made in the retirement allowance retroactive to the disability retirement, and 6) require reclassifying a disability retiree's benefit to a service retirement in the same amount if they are subsequently determined not to be incapacitated and the employer will not reinstate them.	08/29/22	Enrolled Presented to Governor	SACRS
AB 2449	Rubio	Existing law, until January 1, 2024, authorizes a local agency to use teleconferencing without complying with specified teleconferencing requirements when a declared state of emergency is in effect. This bill would authorize, until January 1, 2026, a local agency to use teleconferencing without complying with those specified teleconferencing requirements if at least a quorum of the members of the legislative body participates in person from a singular location clearly identified on the agenda that is open to the public and situated within the local agency's jurisdiction. The state of emergency circumstances for remote participation would be contingent upon an action by the legislative body. This bill would further allow the legislative body to take action on member's request to participate in a meeting remotely due to emergency circumstances if there was insufficient time to place the proposed action on the posted agenda.	09/13/22	**Chaptered**	

BILL NO.	AUTHOR	DESCRIPTION	LAST ACTION DATE	LOC	SPONSOR
AB 2493	Chen	This bill would authorize a county retirement system to adjust retirement payments based on disallowed compensation for peace officers and firefighters of that system. The bill would provide that if the retirement system determines that the compensation reported for a peace officer or firefighter is disallowed compensation, the system would require the employer to discontinue reporting the disallowed compensation. This bill would apply to determinations made on or after July 30, 2020. This bill would authorize a retirement system that has initiated a process prior to July 1, 2022 to permanently adjust the benefit of affected members to reflect the exclusion of disallowed compensation in lieu of specified provisions that this bill would enact. This bill would authorize an employer to submit to a retirement system to review if proposed compensation in a MOU is pensionable. This bill is not intended to alter existing laws including the *Alameda* decision. CERL defines "compensation earnable" by a member, for purposes of calculating benefits, to mean the average compensation for the period under consideration upon the basis of the average number of days ordinarily worked by persons in the same grade or class, and the same rate of pay. This bill would authorize a retirement system, to the extent it has not defined "grade", to mean a number of employees considered together because they share the same similarities in job duties, schedules, unit recruitment requirements, collective bargaining units, or other work-related grouping. **Note - While this bill, as amended, does not directly affect SJCERA, the bill is still seen as problematic because it incorporates CalPERS' regulatory definition of "compensation earnable" into CERL, which is anticipated to increase litigation risk regarding what should be (and should not be) included in retirement allowance calculations. This point has been raised with legislators by several systems.*	08/31/22	Assembly Concurrence in Senate Amendments Pending	
AB 2647	Levine	This bill would require a local agency to make agendas and other writings distributed to the members of the governing board available for public inspection at a public office or location that the agency designates or post the writings on the local agency's internet website in a position and manner that makes it clear that the writing relates to an agenda item for an upcoming meeting.	08/29/22	Enrolled	
SB 1100	Cortese	This bill would authorize the presiding member of the legislative body conducting a meeting to remove an individual for willfully interrupting the meeting. The bill would require removal to be preceded by a warning by the presiding member, that the individual is disrupting the proceedings, a request that the individual failure to cease their behavior may result in removal, and a reasonable opportunity to cease the disruptive behavior.	08/22/22	**Chaptered**	
SB 1328	McGuire, Cortese	This bill would prohibit boards of specified state and local public retirement systems from making additional or new investments in prohibited companies, as defined, domiciled in Russia or Belarus, as defined, companies that the United States government has designated as complicit in the aggressor countries', as defined, war in Ukraine, or companies that supply military equipment to the aggressor countries, and to liquidate the investments of the board in those companies.	06/21/22	Assembly PE & R and APPR. Comm. Hearing postponed by Committee	
Other Bills of Interest:					

BILL NO.	AUTHOR	DESCRIPTION	LAST ACTION DATE	LOC	SPONSOR
AB 1722	Cooper	PERL, until January 1, 2023, provides state safety members who retire for industrial disability a retirement benefit equal to the greatest amount resulting from three possible calculations. This bill would delete the January 1, 2023 termination date which would make the provision operative in perpetuity.	09/18/22	**Chaptered**	
AB 1795	Fong	This bill would require state bodies to provide all persons the ability to participate both in-person and remotely in any meeting and to address the body remotely.	2/18/22	Assembly G.O. Comm.	
SB 850	Laird	This bill, for purpose of the additional percentage of the special death benefit for service-connected deaths provided under PERL, would require that payment be made to the person having custody of the member's child or children, if the member does not have a surviving spouse or if the surviving spouse dies before each child marries or reaches ate 22. Provisions of this bill would be retroactive to January 1, 2013.	08/29/22	**Chaptered**	
SB 1114	Newman	This bill would make nonsubstantive changes to the PERL (spot bill).	02/23/22	Senate RLS Comm.	
SB 1168	Cortese	This bill would require PERS, beginning on July 1, 2023, to increase the $500 lump sum death benefit to $2,000.	08/26/22	**Chaptered**	
SB 1173	Gonzalez/ Wiener	This bill would prohibit the boards of PERS & STRS from making new investments or reinvestments of funds in fossil fuel companies and require liquidation of fossil fuel investments by July 1, 2027.	06/20/22	Assembly PE & R and JUD Comm. Hearing postponed by Committee	
SB 1420	Dahle	This bill would require a PERS agency that increases the compensation of a member who was previously employed by a different agency to bear all the actuarial liability for the action, if it results in an increase beyond what would have been reasonably expected for the member.	04/27/22	Senate L, PE & R Comm. (Failed, reconsideration granted)	
Federal Legislation:					
HR 2954	Neal	Called the "Securing a Strong Retirement Act of 2022", this bill would (1) increase RMD age to 75 from 72 over the next decade, (2) provide greater latitude to decide to recoup inadvertent overpayments, (3) permit first responders to exclude service-connected disability pension payments from gross income after reaching retirement age, and (4) expand the Employee Plans Compliance Resolution System (EPCRS) to allow more types of errors to be corrected through self-correction.	03/30/22	Senate Finance Comm.	
HR 3684	DeFazio	Called the "Infrastructure Investment and Jobs Act", better known as the $1 trillion infrastructure bill, includes a crypto tax-reporting provision requiring digital asset brokers to report their users' annual transactions to the IRS effective year-end 2022.	11/15/21	Became Public Law No. 117-58	
HR 4728	Takano	To amend the Fair Labor Standards Act to reduce the standard workweek from 40 hours per week to 32 hours per week.	07/27/21	House Comm. on Education and Labor	

BILL NO.	AUTHOR	DESCRIPTION	LAST ACTION DATE	LOC	SPONSOR
2022 TENTATIVE State Legislative Calendar					
Feb 18	Last day for new bills to be introduced				
Apr 7	Spring Recess begins upon adjournment				
May 27	Last day for bills to be passed out of the house of origin				
Jun 15	Budget Bill must be passed by midnight				
Jul 1 - Aug 1	Summer Recess upon adjournment provided budget bill passed				
Aug 25	Last day to amend bills on the floor				
Aug 31	Last day for each house to pass bills; Final Study Recess begins upon adjournment				
Sept 30	**Last day for Governor to sign or veto bills.**				

San Joaquin County Employees'
Retirement Association

September 22, 2022

TO: Board of Retirement

FROM: Johanna Shick
Chief Executive Officer

SUBJECT: Chief Executive Officer Report

Strengthen the long-term financial health of the Retirement Plan

Review and confirm or refresh asset allocation

- *Optimize Strategic Asset Allocation policy in light of studies and market projections.*
  - *Review fixed income and other asset classes*

    As previously noted, the fixed income asset allocation review was completed in February 2022. At the October meeting, the asset class review for Credit will be presented.

  - *Conduct a pacing study of private market assets*

    With the pacing studies for Private Equity, Real Estate, and Private Credit at the November Board meeting, this goal will be complete.

Optimize the investment manager lineup

- *Conduct a review of current managers and mandates to better align with our Strategic Asset Allocation policy*

  Recommendations on optimizing the lineup of investment managers, assessing managers' and mandates' alignment with our Strategic Asset Allocation policy and goals, occurs following the asset class review. Credit manager recommendations are expected later this year. In 2023, we are scheduled to perform asset class reviews for Global Equity and Crisis Risk Offset.

Modernize the operations infrastructure

Enhance the member experience

- *Identify the conditions necessary to enable a full-service member portal, and develop and initiate a plan to fulfill those conditions*

  Staff identified nine initial technical, policy, and data conditions necessary to allow SJCERA to implement a full-service member portal. Staff and Linea Solutions will expand this list and document details on each condition in October with expected completion in November 2022.

Align resources and organizational capabilities

Enhance education and development across all levels of the organization

- *Offer training and development opportunities intended to strengthen SJCERA's on-boarding and succession planning*

  Brian McKelvey, Adnan Khan, Lolo Garza, Jordan Regevig, Melinda DeOliveira, Ron Banez, Carmen Murillo, Eve Cavender, Greg Frank, Kendra Fenner and I, (staff regularly asked to lead projects) completed the five-session Franklin-Covey Project Management training. The team found the training and tools helpful and recommended adopting this methodology for all staff-led projects. They recommended providing an abbreviated version of the training to introduce the tools to all staff because, at some point, everyone will be asked to lead or contribute to a project. Retirement Services Officer Melinda DeOliveira volunteered to lead the effort to create and present the abbreviated training. Thank you for your leadership Mel!

Employee of the Month

Congratulations to Employee of the Month, Retirement Technician Vickie Monegas in recognition of her initiative and leadership! Vickie does double duty at SJCERA: she works as a Retirement Technician and also serves as SJCERA's Safety Officer. As Safety Officer she monitors and resolves safety issues and provides safety-related presentations at our monthly all-staff meetings. Her monthly presentations are topical (e.g., discussing heat exhaustion and heat stroke this summer), and she exceeds expectations by providing additional information and services. For example, she identified our defibrillators needed replacing, thoroughly researched new models, prices and warranties, purchased the best option for our needs, and arranged for staff to attend CPR and defibrillator training. Additionally, Vickie distributes safety information between meetings. For example, she recently advised staff to stay indoors due to dangerously poor air quality resulting from a nearby fire. Thank you, Vickie, for keeping SJCERA employees safe and ensuring the organization remains in compliance with safety guidelines!

Implement practices to support Board continuity and evolution

Staff made the Board aware of a free governance webinar hosted by Board Smart (affiliated with governance consulting firm Funston Advisory Services) entitled, "Setting Direction and Then Prudently Delegating." Public retirement systems are patient, long-term investors. Organizationally, we also need to understand the key capabilities needed for the future to be both resilient and agile. This webinar discussed how Boards can plan strategically, determine goals and objectives, appreciate risks, and develop policies to guide the implementation of the strategic direction, including identifying the role of the Board, and how staff can provide effective support. Panelists Sue Cox, Trustee and Governance Committee Chair, and Scott Simon, Executive Director, with Missouri DOT and Patrol Employees' Retirement System (MPERS), and Dearld Snider, Executive Director, of Public School and Education Employee Retirement Systems of Missouri (PSRS/PEERS) shared their systems' experiences.

Three SJCERA trustees have registered for the CALAPRS Trustee Roundtable October 28. Both the webinar and the roundtable help support Board continuity and evolution by providing trustees current information needed to effectively govern the organization. Additionally, I encourage trustees to invite people who may make good future trustees to attend Board meetings to gain insight about what we do.

Maintain Business Operations

Improve Information Technology

Information Systems Manager Adnan Khan and Information Systems Analyst II Lolo Garza have been working with County Information Systems Division (ISD) to identify the requirements and develop an implementation plan for upgrading our email and office suite of tools to Microsoft M365. With the implementation of the Windows Infrastructure, the latest versions of industry standard tools are now available to the organization. M365 provides additional email security, and upgraded Microsoft Office tools will improve organizational efficiencies and collaboration. Staff is working to implement M365 by the end of the calendar year.

Provide Excellent Customer Service.

A few quotes from our members:

- "I had to make several changes to my health insurance. Leonor did the work, then I brought up another situation which required her to redo some things. She looked into my questions and handled the matter quickly, in very helpful and professional way."
- "Margarita was very helpful and professional from start to finish. Pleasant over the phone, sent information when she said she would, and was quick to respond when I had a follow up question."
- "She (Kathleen) was so helpful! She let me know all the methods I could use to change my address!! She made it so easy. I appreciate her! That's how I should represent a company!!"

Employer Relations

Employer Meetings. As mentioned last month, I reached out to each of our employers to solicit their feedback and suggestions for improvement so that I can incorporate that as I develop SJCERA's 2023

Action Plan. Overall, the feedback has been very positive. Employers appreciate the communication they receive from SJCERA, the fact that I am reaching out to them to solicit input, and they report they find SJCERA staff helpful and responsive. A summary of the meetings conducted since my last report follows.

- *Historical Society and Museum.* On September 6, I spoke with Executive Director Phillip Merlo who expressed satisfaction with SJCERA's information and services, and shared upcoming plans for the Historical Society. Unlike employees of some other special districts, Historical Society employees attend the County's New Employee Orientation (NEO); however, the impression is the online NEO format does not provide as much information about SJCERA. Communications Officer Kendra Fenner has contacted County Human Resources staff to review the SJCERA-related content included in NEO.

- *Mountain House Community Services District*. On September 8, Assistant CEO Brian McKelvey and I met with General Manager Steve Pinkerton and District Clerk Nicole Adamo. Steve treated us to a tour of their beautiful facility and is a wealth of information about the district, it's history, and plans for the future. They anticipate the district's incorporation will be included in either the June or November 2023 election, and we reviewed what SJCERA will need to document their continuation as a participating employer. Overall, their comments about SJCERA were positive. Their suggestions were primarily about member communications: make the benefit formula and contribution rate information more accessible on the website, and provide their employees more information about retirement. I suggested they provide new hires the *Retirement Plan* fact sheet, and SJCERA will present at their January all-staff meeting and at least annually thereafter.

- *Law Library.* On September 12, I met with Law Library Director Jack Schroeder, the Library's one full-time employee. As an independent governmental entity, they are not included in the County's New Employee Orientation program, so this meeting provided an opportunity for me to provide education about the benefit. Law Libraries statewide have experienced declining funding due to decreased court filing fees. They have been successful in seeking supplemental state funding recently; however, they continue to look for a more permanent, stable funding source. SJCERA and the Library will continue to monitor the situation. I provided information about SJCERA's *Declining Employer Payroll* policy and offered to present to their Board if needed.

- *San Joaquin County.* On September 14, Brian and I met with Chief Administrative Officer (CAO) Jay Wilverding, Assistant CAO Sandy Regalo, and Chief Deputy County Administrator Brenda Kiely. They were complimentary of staff's responsiveness and helpfulness, and are pleased with SJCERA's recent investment returns. They emphasized the importance of continuing to work with our investment consultant to obtain good results and avoid missing opportunities. We discussed the impact the PAS project will have on Information Services Division (ISD) and the Auditor-Contoller's office, as well the expectation that these efforts will improve the quality of incoming data and result in efficiencies.

  Additionally, I solicited input from two key County departments: The Auditor-Controller's Office and the ISD. On September 16, Retirement Services Officer Melinda DeOliveira and I met with Payroll Administrator Lori Rolleri to discuss her input regarding death notification, retirement date notification, sick leave conversion, and member communications related to the timing of the first retirement payment. Brian and I met with ISD Director Mark Thomas on September 16 as well, and discussed our remaining 2022 and upcoming 2023 goals (including anticipated PeopleSoft changes as a result of the pension administration project) and their effect on ISD.

- *Superior Court.* On September 14, Superior Court reported they find SJCERA staff responsive and helpful—whenever they have a question or issue, they are able to quickly get the answer via phone or email. They are satisfied with our service and did not have suggestions for improvement.

- *Mosquito and Vector Control District*. On September 16, I met with MVCD Manager Omar Khweiss. His comments about SJCERA were positive, and his primary recommendations were related to employer and member communications. In particular, he asked what they, as an employer, could do to help staff's transition to retirement go as smoothly as possible (which suggests the opportunity for an *Employer Notice)*. He also suggested SJCERA post retirement seminar videos online for after-hours viewing (a goal we already have planned for 2023), and raised some questions about the annual member statements that point to possible improvements to that communications piece.

- *Waterloo Morada Fire District*. On September 26, I am scheduled to meet with Fire Chief Eric Walder, and Administrative Secretary Yolanda Palermo. I look forward to hearing their input.

These meetings have been interesting and informative, and have also provided an opportunity for me to provide education about a variety of topics, including understanding the benefit, actuarial funding, investing, and contribution rates. Each employers' input was considered in developing the 2023 Action plan, which is provided with this report.

Sick Leave Bank Administration--Waterloo-Morada Fire District. Having clarified the roles and responsibilities (as reported in my August report), Melinda DeOlivera led the project team on implementing the necessary changes. Many thanks to the core members of the project team, including Accounting Technician II Marissa Smith and Communications Officer Kendra Fenner for bringing this project to a successful close. WMFD provided input on the member letter, which has now been sent to the affected members. In total, there were six members affected.

Board of Supervisor's Presentation November 8. In compliance with Government Code section 31453(a), the 2023 contribution rates must be provided to the Board of Supervisors (BOS) for their formal adoption at least 45 days before the rates' effective date of January 1. The contribution rates are scheduled to be on the November 8 BOS agenda and the CAO's office asked that I also provide the Board an update on funded status progress.

<u>Improve Branding.</u> Kendra Fenner has been hard at work freshening up and strengthening SJCERA's branding. With the launch of the website and the placement of the logo in the SJCERA lobby, she is well on her way to doing just that. As a side benefit, the decal on the glass entry wall also improves safety: periodically visitors unfamiliar with our office walk into the glass panel. Adding the decal to the glass helps direct attention to the doors.

Conclusion
It's only been three weeks since my last report (and only two weeks since our September Board meeting), but clearly there's been a lot of productive activity from both an operations perspective and (with Board meetings on both October 5 and 6) a Board meeting perspective.

I know we are all looking forward to the presentations and discussions at the October 6 Investment Round Table. Each year, this educational event provides a great opportunity to probe our managers for more in-depth insights and to further strengthen our relationships with the employers and labor representatives in attendance. May the learning and ideas abound!

Slides from Board Smart Webinar: Setting Direction and Then Prudently Delegating

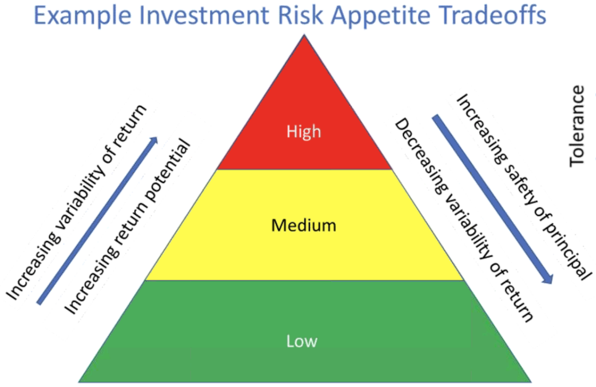
Summary and Questions

1. Set planning horizon and assign responsibilities
2. Identify key issues / gain situational insight
3. Think strategically
4. Oversee the development of the strategic plan
5. Set goals, risk appetite, and tolerances
6. Align compensation and incentives
7. Prudently delegate authorities and resources to the executive and staff

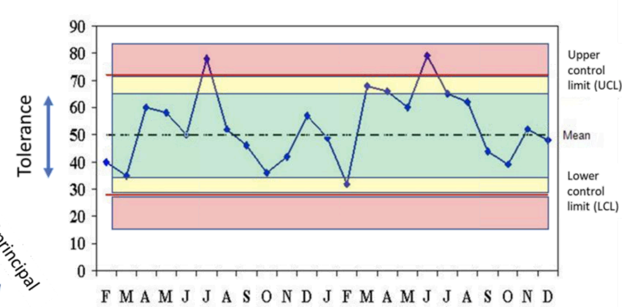
5. Set goals, risk appetite and tolerances

Risk appetite = Risks OF the goals

Example Investment Risk Appetite Tradeoffs



Risk tolerance = Risks TO the goals



Risk is the potential for an unacceptable difference between actual and expected performance regardless of cause

How much variability in performance is the board willing to tolerate?

Board Smart

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7. Prudently delegate authorities and resources

1. Prudence standards apply to Board delegation
   - Complex and time-consuming functions
   - Can be imprudent to not delegate
   - Obtain benefits of dedicated expertise
   - Internal and external delegation
2. Exercise reasonable care, skill and caution
   - Selection, direction and monitoring of delegates
   - Prudent delegation may reduce Board liability exposure
3. Appropriate policies and processes are essential

- The board sets the standards
- Functions are staffed by skilled practitioners and resourced appropriately.
- Boards differ in the authority and resources they delegate to the executive.
- Delegation should be both explicit and intentional.

Board Smart

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Role of the Executive & Staff

1. Direct and Control Operations
   - Exercise delegated authority and deploy resources
   - Execute board-approved direction within policy
   - Approve key decisions below a specified threshold
   - Ensure compliance with laws, policies & contracts
2. Record and Report Performance and Risk
   - Expected vs. actual performance
   - Identify exceptions and their root causes with preventive / detective / corrective actions
   - Escalate exceptions with policy implications
3. Research and Recommend Policy Options
   - Research / investigate policy issues
   - Identify options and related pros and cons
   - Collaborate with the board's independent advisors
   - Recommend direction and policy adjustments
4. Engage and Consult Key Stakeholders
   - Members / beneficiaries
   - Employers
   - Legislature / Oversight Bodies
   - Public / Media
5. Reasonably Assure Reliability
   - Performance is as expected unless otherwise notified

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2023 Action Plan

San Joaquin County Employees' Retirement Association

1. **Strengthen the long-term financial health of the Retirement Plan**
    a. **Evaluate the appropriateness of actuarial assumptions**
        i. Implement adopted assumption changes

    b. **Review and confirm or refresh asset allocation**
        i. Initiate implementation of new asset allocation policy
        ii. Conduct benchmark review and implement new benchmarks as appropriate

    c. **Determine the future vision for the investment program operating model**
        i. Define and document SJCERA's views on environmental, social, and governance (ESG) matters for the organization and the investment portfolio
        ii. Define and document SJCERA's approach to proxy voting
        iii. Evaluate SJCERA's policy on liquidity/cash, and refresh as appropriate

    d. **Optimize the investment manager lineup**
        i. Conduct Global Equity and Crisis Risk Offset asset class reviews, assessing managers'/mandates' alignment with our Strategic Asset Allocation policy and goals
        ii. Evaluate the portfolio for investment efficiency (e.g., fees, risk, return, consolidation)

2. **Modernize the operations infrastructure**
    a. **Implement Pension Administration System (PAS)**
        i. Finalize assessment of and manage project risks
        ii. Complete refinement of business requirements on planned processes
        iii. Complete mapping documentation on planned processes
        iv. Deliver project milestones as scheduled on PAS project plan
        v. Program/test planned processes in PAS
        vi. Update/revise system-generated letters for planned processes
        vii. Maintain functionality of legacy PAS until new PAS is implemented and stabilized

    b. **Enhance the member experience**
        i. Improve content and organization of website
        ii. Develop and implement online member education videos on prioritized topics
        iii. Develop and initiate a plan to fulfill the conditions necessary to enable a full-service member portal

    c. **Improve technology for business operations**
        i. Adopt industry standard business processes wherever possible
            1. Document adoption of standard industry practices in PAS requirements
            2. Implement off-site back-up and infrastructure solutions, and investigate further cloud presence
            3. Plan transition from Mac to Windows

        ii. Adopt contemporary risk management, disaster recovery and business continuity practices
            1. Implement Phase 1 of Enterprise-Wide Risk Management (EWRM) plan
            2. Implement Phase 2 recommendations from 2021 cyber-security and disaster recovery plan assessments, including annual security assessment

    d. **Improve employer experience**
        i. Increase outreach and education to payroll/personnel staff at employers and/or County departments
        ii. Expand Employer Notice library

3. Align resources and organizational capabilities

a. **Develop and implement a workforce planning process**

i. Address project staffing and training needs

1. Implement a detailed project staffing plan based on the PAS project plan, that identifies which staff will be pulled onto the project at which phase, who will be assigned to cover their duties, and whether temporary staff will be needed
2. Implement strategies designed to support staff and maintain morale during PAS project

b. **Enhance education and development across all levels of the organization**

i. Offer training and development opportunities intended to strengthen staff's depth and breadth of knowledge and experience

ii. Document annual procedures and link to annual work plan

c. **Create a foundation of performance metrics and measurements**

i. Include performance metric requirements in PAS business requirements

ii. Identify and establish best use of existing performance measures

NORTHERN TRUST

CAPITAL MARKET ASSUMPTIONS

FIVE-YEAR OUTLOOK: 2023 EDITION

Published August 10, 2022

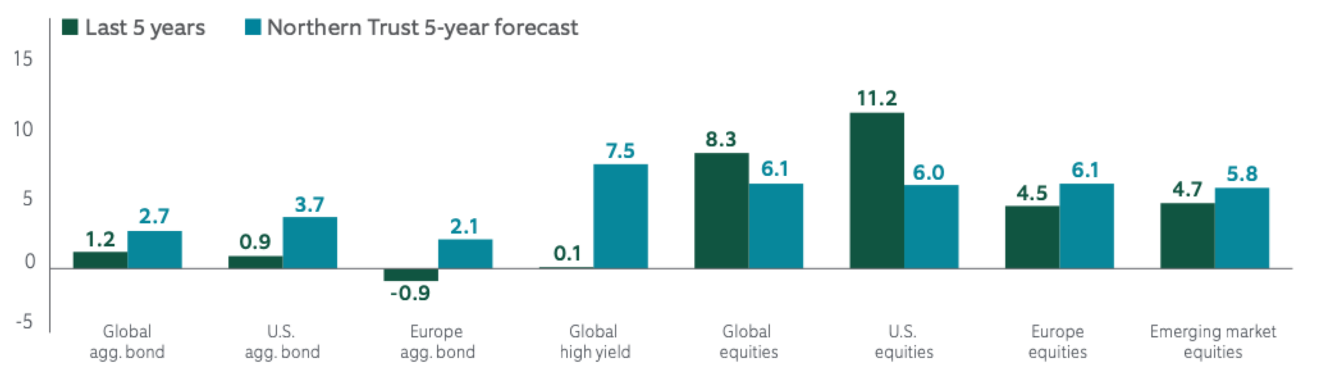
We expect financial market returns over the next five years to be modestly below long-term historical averages. Fixed income returns will likely be helped by higher yield starting points but capped by flatter global yield curves. We believe equity returns will be helped by today's lower valuations but hurt by slow growth and the impact of higher interest rates on profit margins and valuation upside.

Our return forecasts are created using our "forward-looking, historically aware" process, wherein historical returns and relationships are subjected to our forward-looking themes. We expect **Slow Growth Transitions** as we go through an **Inflation Recalibration** and expect a **Monetary Drought** — certainly when compared to the recent central bank flood. Globalization will likely evolve into **Regional Rebuilding Blocs** focused on energy security, but the **Green Transition is Still a Go**. Lastly, with interest rates **Not So Negative**, we finally exit a very odd period in economic and market history.

EXHIBIT 1: COME TOGETHER

We expect future returns to converge — both across regions and against historical averages.

Total Annualized Return (%)



Source: Northern Trust Asset Management, Bloomberg. Annualized return data in local currency from 6/30/2017 to 6/30/2022. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Past performance is not indicative of future results.

2023 THEMES & ASSET CLASS RETURNS OVERVIEW

Our five-year themes identify the trends we see affecting the markets and economy over the next five years, providing the foundation for our asset class outlooks.

Slow Growth Transitions

Slow transitions — pandemic to endemic; globalization to regionalization; and fossil fuels to renewables — represent economic challenges for a global economy already facing debt and demographic headwinds. Slow transitions will likely lead to continued slow growth.

Inflation Recalibration

Automation and digitization are still impactful disinflationary forces, but can take time to overcome the recent shocks of stressed global supply chains, tight commodity markets and depressed labor supply. Recalibration will likely take much of the five-year horizon.

Monetary Drought

The post-Global Financial Crisis monetary flood has evaporated — and the next five years may bring much drier conditions. The past couple years of quasi-modern monetary theory policy — partially responsible for high inflation — will unlikely repeat soon.

Regional Rebuilding Blocs

Globalization is evolving into regional systems driven by security needs — both economic and military. While this economic deglobalization may move slowly, we think decisions on whether — or how best — to deglobalize portfolios will come more quickly.

Green Transition Still a Go

The rising costs and insecurity of energy supplies have led policymakers to prioritize meeting energy demand in the near term even if it means increasing carbon emissions. But, over the medium term, climate initiatives remain an important consideration.

Not So Negative

Higher interest rates — including a move out of negative territory for Europe and Japan — bring investors closer to positive real (after inflation) cash returns. Good for economic functioning (and savers), but a headwind for risk asset valuations.

Fixed Income

Fixed income forecasts are getting a boost from a higher yield starting point, but remain subdued by historical standards. Flat yield curves mean more dependence on coupon payments (versus price appreciation). We expect high yield returns to benefit from wider credit spreads amid stable fundamentals.

Equities

Equity forecasts are helped by a lower valuation starting point, but face headwinds from a lower valuation ceiling and some margin compression — mostly driven by the end of the zero/negative monetary policy era. Absolute returns are decent, but return premiums are lower this year.

Real Assets

Less valued during the years of *Stuckflation*, real assets have become an important component of the portfolio. All real assets should do well in the five-year environment we predict, but natural resources are particularly attractive given both near- and long-term commodity needs.

Alternatives

Private investments are providing attractive premiums over public market counterparts. Hedge funds recently have shown more potential to provide alpha. The wide return dispersion among strategies means the manager selection process remains paramount.

SLOW GROWTH TRANSITIONS

Debt and demographic headwinds continue to limit economic growth. Retirement parties are now more common as baby boomers exit the workforce, and debt is structurally high (pandemic stimulus increased global debt by 30 percentage points in 2020).[1] But we've written about this for years. Newly affecting the global economy are the slow transitions taking place, including pandemic to endemic; globalization to regionalization; and fossil fuels to renewables. Two of these are sufficiently important to warrant a theme. The transition from globalization to regionalization — gaining momentum as a result of the pandemic and geopolitical strains — sacrifices efficiency for security (see *Regional Rebuilding Blocs*, page 6). Meanwhile, the transition from fossil fuels to renewables (see *Green Transition Still a Go*, page 7) may lower economic growth potential. The transition has slowed at the moment but is likely to regain traction.

Newly affecting the global economy are the slow transitions taking place, including pandemic to endemic; globalization to regionalization; and fossil fuels to renewables.

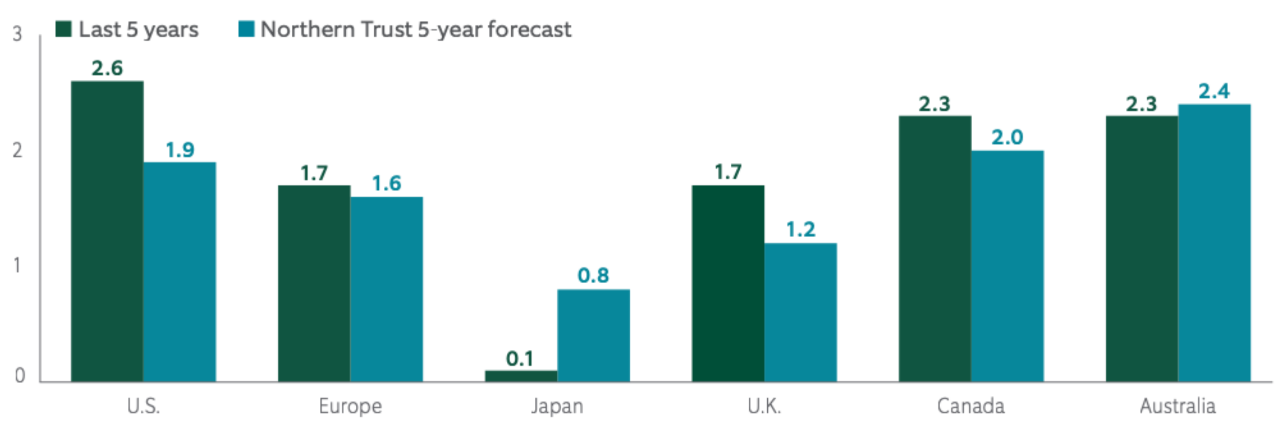
The West has largely moved into the endemic stage of COVID-19, but periodic case spikes can still derail consumer sentiment and keep workers out of the labor market. China's path to endemic status has been more obstacle-ridden. Low vaccine efficacy has left many vulnerable to COVID, while China's zero-COVID strategy has left its economy vulnerable to a slowdown. Nature is a powerful force (and is proving more powerful than lockdown strategies), meaning China's transition to endemic will likely be slow and sporadic. This further impairs China's economic growth profile — a growth profile already in structural decline due to a maturing economy and aging demographics (including a shrinking workforce).

We expect 2.6% annualized real global economic growth over the next five years. Our 1.9% U.S. forecast marks a slowdown from the past five years but still is ahead of most other advanced economies (largely due to better demographics). Our 3.7% China forecast is also a slowdown from the past five years (due to growing structural challenges). In general, the more exposed a country is to slow transitions and debt and demographic headwinds, the greater the economic pressure. This puts younger, resource-rich economies (e.g., Canada, Australia) in better shape than older, energy-dependent economies (e.g., Europe, Japan).

EXHIBIT 2: GOOD WHILE IT LASTED

We think the past two years' stimulus-boosted growth will revert to previous slow form.

Annualized Real GDP Growth (%)



Source: Northern Trust Asset Management, Bloomberg. Data from 3/31/2017 to 3/31/2022.

INFLATION RECALIBRATION

No economic variable evolved more rapidly than inflation over the past year. Global supply chain complexities and worker shortages coming out of the pandemic left a bigger mark than expected. Yet many investors and policymakers still believed that the global economy's "transitory inflation" simply caught a case of "long transitory" — and was still moving back toward equilibrium on its own but at a slightly slower pace than previously expected. This all changed with the war in Ukraine. The inflation genie escaped the bottle, and it will take effort to put the genie back.

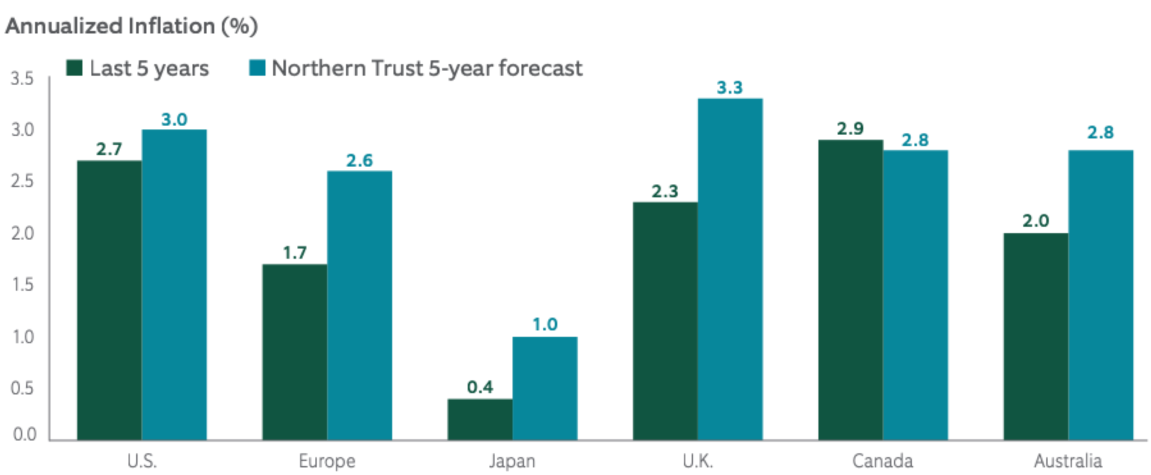
While we expect inflation to take time to move back toward central banks' targets, we do believe the worst has passed.

The war's biggest inflationary impact has been through commodities — and it may last for years. Before the war, Russia supplied 12% of global oil and 17% of global natural gas exports; Russia and Ukraine together supplied 29% of global wheat and 19% of global corn exports.[2] This supply is at risk of disruption — both in the short term (planting/harvesting/exporting) and in the longer term (persistent Russian boycotts). The latter is more important for our five-year horizon, as it further entangles already-snarled global supply chains. It has also notably widened the already-growing "West-East" divide, jump-starting a fairly dramatic rebuilding of infrastructure and trade partnerships (see *Regional Rebuilding Blocs*, page 6).

The inflationary challenges captured by *Regional Rebuilding Blocs* were mostly absent during the *Stuckflation* era. But the other key drivers of *Stuckflation* — automation and digitization — are still around. In fact, they have been further incentivized by recent staffing shortages (remedied by kiosks, apps and, eventually, driverless vehicles) and rising travel costs (prompting more work from home and virtual meetings). Therefore, while getting inflation back in the bottle will probably take time, it will be a much more pleasant experience than the last time inflation hit current levels (1979) and then-Fed Chair Paul Volcker was forced to raise short-term interest rates to 20%. So while we expect a *Monetary Drought* (see next page) — certainly in contrast to the monetary flood of the past decade — we don't expect a monetary dust bowl. And while we expect inflation to take time to move back toward target (see Exhibit 3), we do believe the worst has passed.

EXHIBIT 3: THE END OF AN ERA

The Stuckflation regime is over, replaced by a period of recalibration back toward target levels.



Source: Northern Trust Asset Management, Bloomberg. Data from 3/31/2017 to 3/31/2022. All regions use headline Consumer Price Index as the inflation metric.

MONETARY DROUGHT

As inflation and growth threats have shifted decisively away from deflation to stagflation, the focus of central banks has shifted decisively from accommodating loose fiscal policy back to maintaining price stability. The proverbial monetary flood has largely evaporated, and a drought is upon us. Consequences arising from this shift are significant. Politicians can no longer rely on central bank support for their spending plans or even ensuring low debt servicing costs through suppressed interest rates. The global economy — and all its actors (from the business community to the consumer) — must adjust to higher nominal yields (and higher real yields) when making investment and consumption decisions. At the same time, financial markets must contemplate a world of tighter financial conditions and the absence of the "central bank put" wherein monetary policy would come to the rescue every time the markets stumbled.

Financial markets must contemplate a world of tighter financial conditions.

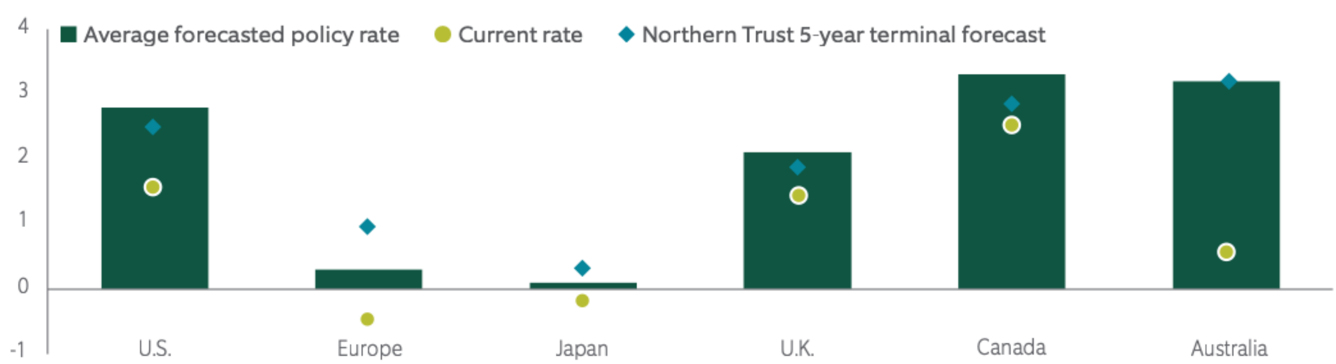
Currently, high-single-digit inflation rates and expectations for a multi-year period return to the 2% target simply don't provide central banks as much room to maneuver on recent ambitions (climate, inequality). Instead, central banks must be singularly focused on ensuring inflation comes back down to target and that inflation expectations remain firmly anchored. Everything else in the current environment is secondary at best — and in direct conflict at worst. On the bright side, the credibility of central banks is still holding firm and expectations are for them to succeed in bringing inflation to heel over the next couple of years — as seen in breakeven rates (the fixed income markets' assessment of future inflation). But those looking for central banks to "make it rain" shouldn't hold their breath.

The "terminal" forecasts found in Exhibit 4 represent where we believe policy rates will be at the end of the five-year period, which can somewhat obscure our year-by-year policy expectations from start to end. For instance, we expect the Fed will end the five-year period at 2.5% but will push rates up over the next year before slowly coming down. The average policy rate (green bars) takes into account our forecasted trajectory (2.8% in the case of the Fed), providing a better indication of the average monetary policy environment expected over the five-year horizon.

EXHIBIT 4: NOT BEING VERY SUPPORTIVE

Central bank policy trajectory and the resulting short-term interest rates are taking a more restrictive turn.

Central Bank Policy Rates (%)



Source: Northern Trust Asset Management, Bloomberg. Data as of 6/30/2022.

REGIONAL REBUILDING BLOCS

Russia's invasion of Ukraine is the latest development in the globalization saga — an event with major geopolitical implications that has highlighted the importance of economic and military security. A spotlight has been cast on the need to limit dependencies on strategic adversaries and on imports in general — the latter already in focus due to the pandemic. Europe stands out given its high level of imports (roughly twice the percentage of economic output versus the U.S. and China — and with a sizable portion of these imports coming from China and Russia). Europe's policy realignment has been most pronounced, but ongoing broader "West-East" tensions will remain a key focal point, while we expect large emerging market countries (think India) to aim to work with both sides.

The rebuilding process covers a number of areas, including military capabilities, semiconductors, fossil fuels, clean energy and related rare earths, as well as supply chain reorientations.

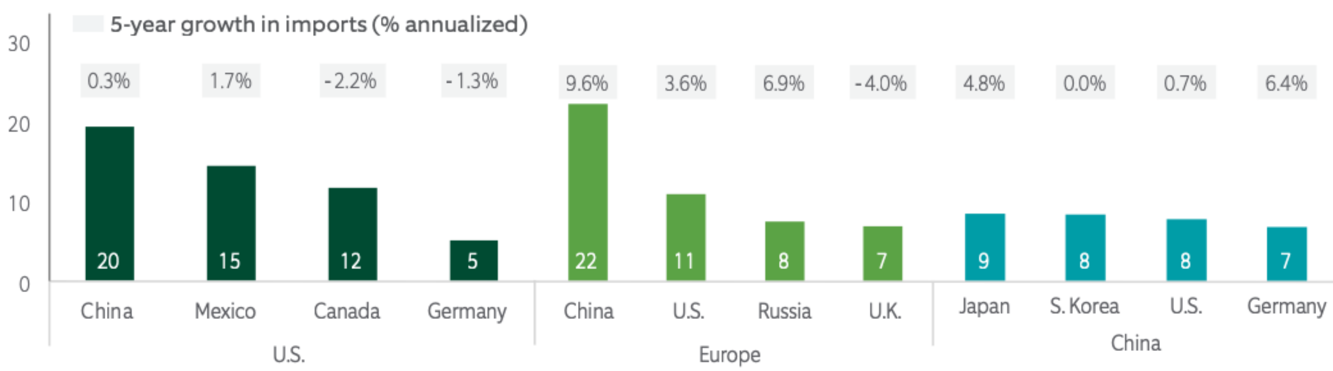
Viewing security both economically and militarily, two key elements are energy supply and technology. Emphasis on energy security will affect demand for all energy types — both fossil fuels and clean energy (see *Green Transition Still a Go*, page 7). Meanwhile, the technology component accelerates an earlier trend of countries recognizing the importance of technological advantage and self-sufficiency. The "rebuilding" process addressing these needs covers many areas, including military capabilities, semiconductors, fossil fuels, clean energy and related rare earths, as well as supply chain reorientations. However, going this route comes with associated costs. Companies may lose focus on resiliency should supply chains heal and memories of pandemic supply chain disruptions fade — though the severity of new security concerns may help them remember.

This rebuilding will take time. But, while tasks such as building energy infrastructure or rerouting supply chains are multi-year initiatives, investment portfolios may change more quickly. A case in point is that while companies exiting Russia operations are still ongoing, Russia was excluded from major equity indexes within weeks of invading. Overall, this rebuilding trend may flow through to financial markets in a number of ways, but the most likely avenue is upward pressure on inflation (and resulting headwinds to corporate profit margins). Ultimately, the rebuilding will require major capital investment to largely uphold the prior economic status quo.

EXHIBIT 5: RECONSIDERING TRADE RELATIONS

Geopolitical considerations have moved to the forefront as countries rethink trade dependencies.

Import Breakdown by Country (% of total imports)



Source: Northern Trust Asset Management, OEC, Eurostat. Import data as of most recently available calendar year (2020 for U.S. and China, 2021 for Europe).

GREEN TRANSITION STILL A GO

Russia's attack on Ukraine is reverberating around the world in many different ways. A new geopolitical landscape has presented itself alongside new security concerns. And the green transition is right in the middle of it all, albeit with diverging short- and medium-term effects and regional approaches. In the short term, Russia's energy supply weaponization means politicians must ensure energy demand can be met — whatever the source. We think this will delay the green transition. Meanwhile, the invasion has pushed fossil fuel prices higher and spurred a renewed focus on energy security. Those forces may propel private and public investment in renewables and energy conservation beyond decarbonization merits alone. This will likely accelerate the green transition in the medium- to long-term.

Digging deeper, we expect the approach to the green transition to diverge by region. In Europe and Asia — where a significant part of the fossil fuel supply comes from external sources — the short-term focus is on meeting energy demand regardless of the carbon footprint of each energy source. Liquefied natural gas is being imported, and coal-fired power plants are increasing production. At the same time, however, high prices of fossil fuels are spurring massive public and private investment in renewables and conservation. Even more, governments are signaling they understand the role renewables and nuclear power must play in achieving energy security. As a result, despite the short-term delay, the green transition is bolstered in the medium term by the fallout from Russia's invasion.

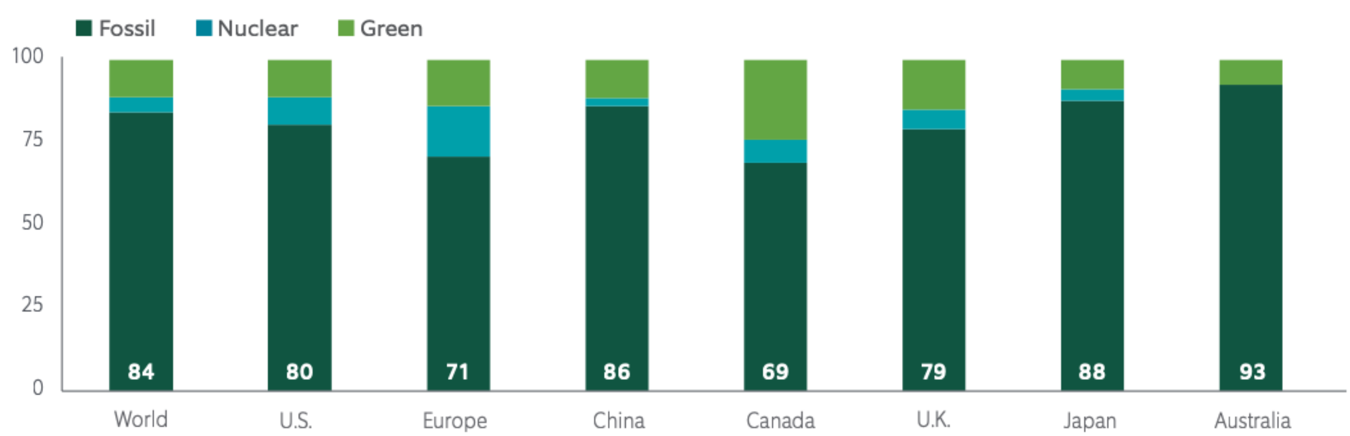
The U.S. green transition is more politically charged, with energy security issues elsewhere used as justification by some to stay committed to "made in America" fossil fuels versus renewables. Despite the debate, Democrats led the passing of a sizeable climate package recently thought dead, accelerating the U.S.'s green transition (though more modestly than previously sought). Unanimous Republican opposition threatens the pace of transition beyond the current administration. However, with supply and demand likely to keep fossil fuel prices high, the resulting cost-parity equation will likely facilitate a continued natural shift toward renewables — particularly in areas like wind and solar as well as electric vehicles.

With supply and demand likely to keep fossil fuel prices high, the resulting cost-parity equation will likely facilitate a continued natural shift toward renewables.

EXHIBIT 6: WHERE DO THEY GET THE ENERGY?

Fossil fuels still dominate energy portfolios — but we believe green (and nuclear) sources will continue to grow.

Energy Mix by Country (%)



Source: Northern Trust Asset Management, International Energy Agency. Data as of 2019, the most recently available data. Data labels show percent fossil fuels.

NOT SO NEGATIVE

The post-Global Financial Crisis (GFC) era of ultra-accommodative policy has come to a close as central banks have sharply pivoted to tightening in the wake of higher inflation. Nearly all central banks have exited zero/negative interest rate policy — with the Bank of Japan the lone holdout. We expect yield curves to remain relatively flat compared to history, but this still leaves interest rates higher than observed in most of the past decade. The percentage of negative-yielding debt has dropped from over 25% in 2020 to 3% more recently (see Exhibit 7). Even though expected cash returns still imply slightly negative rates on a real (after inflation) basis, the departure from negative rates should help economic functioning and provide a return to normalcy to a variety of economic actors, including savers and financial institutions. Longer term, this is likely a positive from an economic standpoint, but it's important to note uncertainty around central bank reaction functions is high as policymakers must adapt to the new backdrop, balancing growth and inflation considerations amid ongoing geopolitical shifts.

Nearly all central banks have exited zero/negative interest rate policy — with the Bank of Japan the lone holdout.

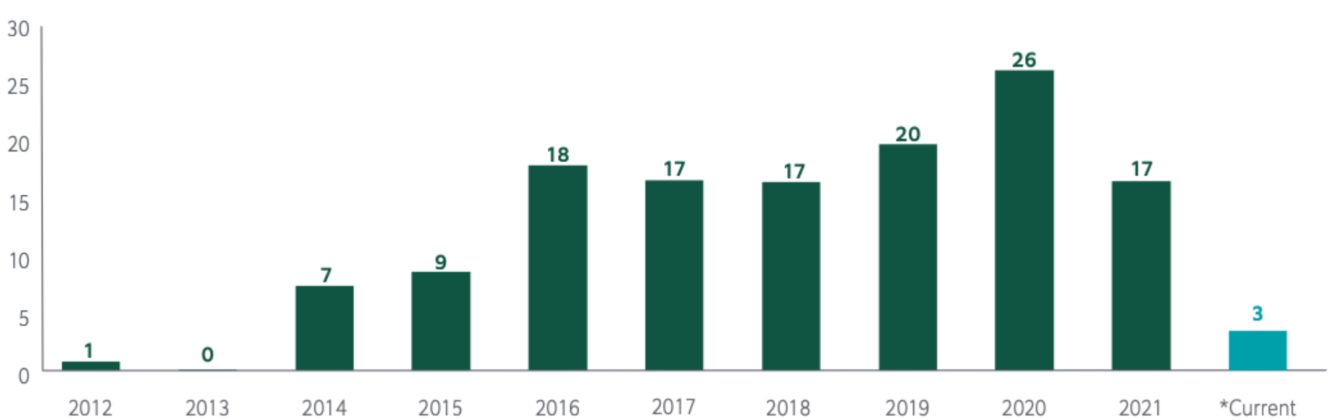
The most direct implication of this paradigm shift is higher expected returns from cash — both in the absolute sense and relative to other asset classes versus recent years. On the surface, this may not appear significant as our risk asset forecasts still outpace both cash and fixed income. However, this is a key distinction versus the prior post-GFC environment because investors now must consider a different opportunity set of risk and reward across the spectrum of asset classes.

The change in approach for central banks, as well as increased geopolitical uncertainty, may increase volatility for the risk asset outlook. This element plus higher interest rates are likely to cap the upside for equity valuations, while demand for risk assets in different market backdrops may evolve given we expect the opportunity cost of holding cash and fixed income versus risk assets to be much lower than in the past decade. Risk assets should still provide positive returns broadly speaking, but those specific asset classes that provide additional facets of exposure such as yield, volatility reduction or inflation protection may be more attractive to investors.

EXHIBIT 7: NEGATIVE YIELDS IN THE REARVIEW MIRROR

The central bank shift to tighter policy lowers the expected return premium for risk assets versus cash.

Percentage of Negative-Yielding Global Investment Grade Debt (% of total)



Source: Northern Trust Asset Management, Bloomberg. Year-end data from 2012 through 2021; *Current as of 6/30/2022.

FIXED INCOME

Fixed income forecasts are mostly driven by expectations for interest rates and credit spreads. We forecast interest rates across the duration spectrum, separated into "real" and inflationary components (together representing nominal interest rates). We then forecast credit spreads across the credit-rating spectrum, grouped into investment grade and speculative grade (high yield) categories.

Inflation Recalibration will likely put some pressure on profit margins, but high yield's improved quality mix and benign maturity schedule should keep the default rate at or even modestly below long-run averages.

Interest Rate Expectations

While *Inflation Recalibration* and *Monetary Drought* set the stage for short-end rates to move (and stay) higher, *Slow Growth Transitions* will likely cap longer term rates at fairly low levels by most historical comparisons. U.S. rates in particular should also be capped by demographics and insatiable fixed income demand globally. Exhibit 8 shows a simplified (3-month to 10-year) yield curve, comparing our five-year interest rate forecasts against market expectations and current levels in the U.S., Germany (proxying Europe) and Japan. We expect U.S. interest rates to stay the highest of the major regions — but all rates to finally be positive.

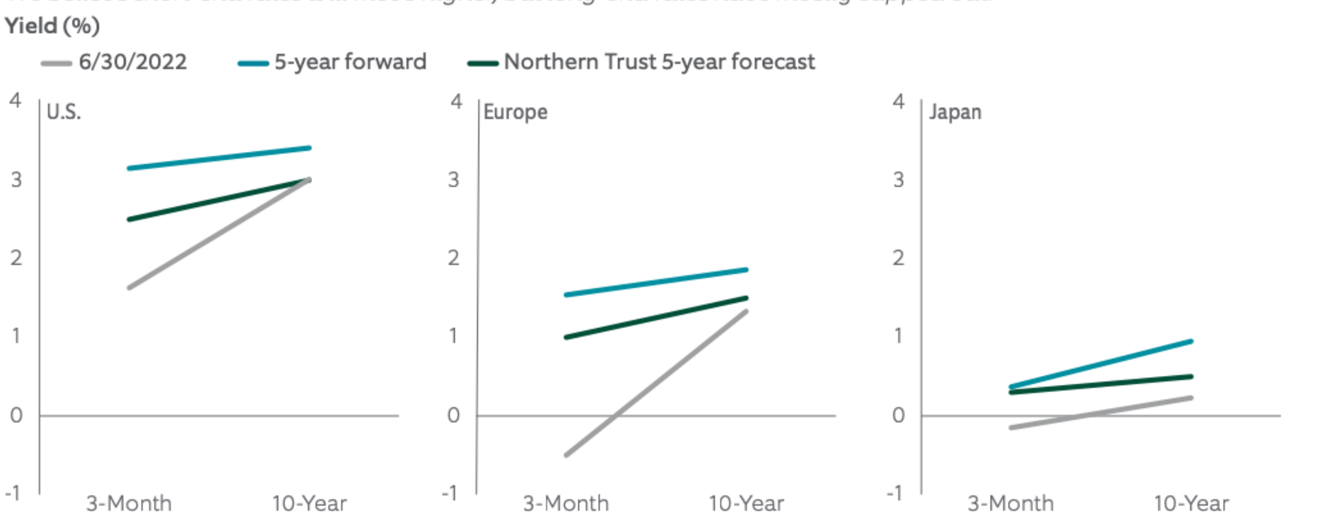
Credit Spread Expectations

Credit spreads may stay near long-run averages as stable-to-solid fundamentals face modest drag from *Slow Growth Transitions*. *Inflation Recalibration* will likely put some pressure on profit margins, but high yield's improved quality mix and benign maturity schedule should keep the default rate at or even modestly below long-run averages. We expect default rates to move up from current record low levels as growth prospects slow — accompanied by some credit spread widening in certain areas amid a backdrop defined by *Monetary Drought*.

Depending on the asset class, some of these expectations are more important than others. Cash forecasts are solely based on the expected progression of short-term interest rates over the next five years. Other forecasts are more complex, contemplating a variety of factors, all in the context of what is priced in.

EXHIBIT 8: LOWER FOR NO LONGER (BUT NOT HIGH EITHER)

We believe short-end rates will move higher, but long-end rates have mostly capped out.



Source: Northern Trust Asset Management, Bloomberg, as of 6/30/2022. German yields, often cited as the euro area benchmark, are used as a proxy for Europe.

We expect returns to match yield to maturities.

Cash Return Forecasts

As we leave zero/negative interest rate policy in a more sustained way, cash return forecasts have moved higher across the board. We forecast a 2.8% return in the U.S., even higher returns in Canada (3.3%) and Australia (3.2%), and lower (but positive) returns in the U.K. (2.1%), Europe (0.3%) and Japan (0.1%).

Inflation-Linked Return Forecasts

With *Stuckflation* moving to *Inflation Recalibration* and inflation expectations more aligned with current market pricing, inflation-linked bond returns are expected to closely mirror Treasury returns of similar duration. Specific forecasts range from 3.4% and 3.5% on the high side (U.S. and Canada, respectively) to 0.1% on the low side (Japan). Europe (2.2%) and the U.K. (3.3%) fall within this range.

Investment Grade Return Forecasts

Over the past 40 years, the five-year annualized U.S. investment grade return has bested the starting-point yield by a 0.6% annual average. This "outperformance" has been driven by generally positive yield curves and the perpetual nature of fixed income indexes (new higher yielding bonds replace lower yielding maturing bonds). Today's yield curves are mostly flat (taking away that "roll yield"), while our interest rate forecasts mostly match market expectations (reducing the potential for capital appreciation). All said, we expect returns to match yield to maturities.

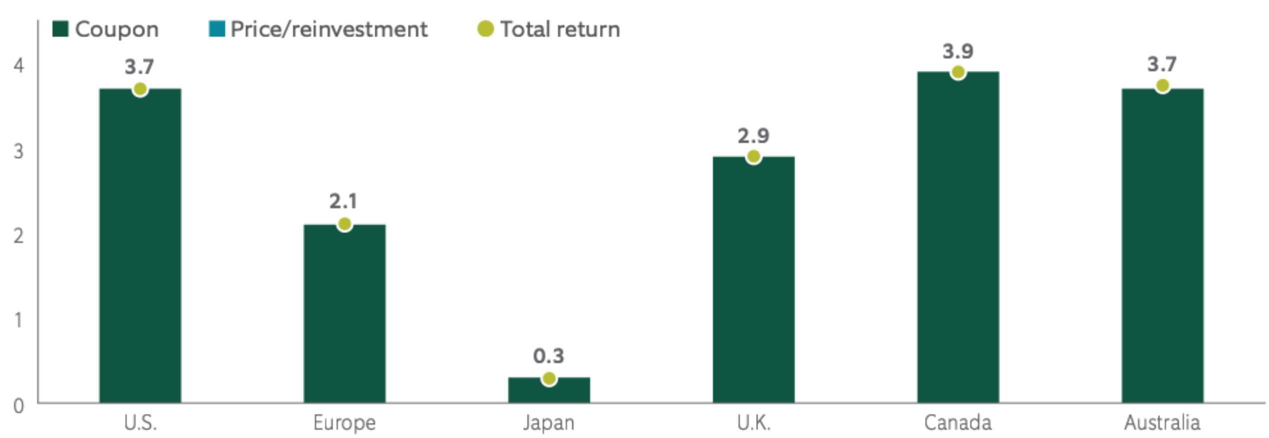
High-Yield Return Forecasts

Credit (default) risk shows most in high yield, where five-year returns have trailed starting-point yields by a historical average of 1.3%. Over the next five years, *Slow Growth Transitions* may act as a headwind — but better index quality, solid interest coverage ratios and reduced issuance may prevent a materially worse outcome. A 2% cut to the June 30 yield of 9.5% results in a 7.5% global high yield forecast.

EXHIBIT 9: CLIPPING COUPONS

Flat yield curves and appropriately priced securities mean returns will likely match yield to maturities.

Northern Trust Five-Year Annualized Investment-Grade Fixed Income Return Forecast by Country (%)



Source: Northern Trust Asset Management, Bloomberg. Coupon return calculated as yield to worst on 6/30/2022.

EQUITIES

We begin our equity forecasting process with a quantitative analysis to understand which variables have driven equity returns over time. Of the variables analyzed, cash flow yields (cash flow over share price) best predict future returns. Analyzing developed market equity data going back to 1970, cash flow yields have explained 36% of next-five-year (and 80% of next-10-year) total return variability. This year, our quantitative process predicts a 4.5% annualized return. Historically, we have forecasted a higher return, benefiting from an expectation that valuations would move higher in a low interest rate world. With our *Not So Negative* theme, valuations have lost some of that low interest rate support — but how much?

Meanwhile, a shorter data set limits the quantitative analysis of emerging market equities. The data we do have (starting in 1987) shows emerging markets have a 0.7 correlation to developed markets, with a 1.6% annualized excess return.[3] But, more recently, this return premium has been negative — will this continue?

Our forward-looking thematic views — applied to the key equity forecast building blocks listed below — help us answer the questions posed above.

Our forward-looking thematic views are applied to the key equity forecast building blocks.

Key Forecast Building Blocks

1. **Revenue growth** is based on our nominal economic growth forecasts weighted by each equity index's geographic exposures.

2. **Profit translation** represents companies' ability to turn revenues into per-share earnings through profit margins and share count (repurchases/issuance).

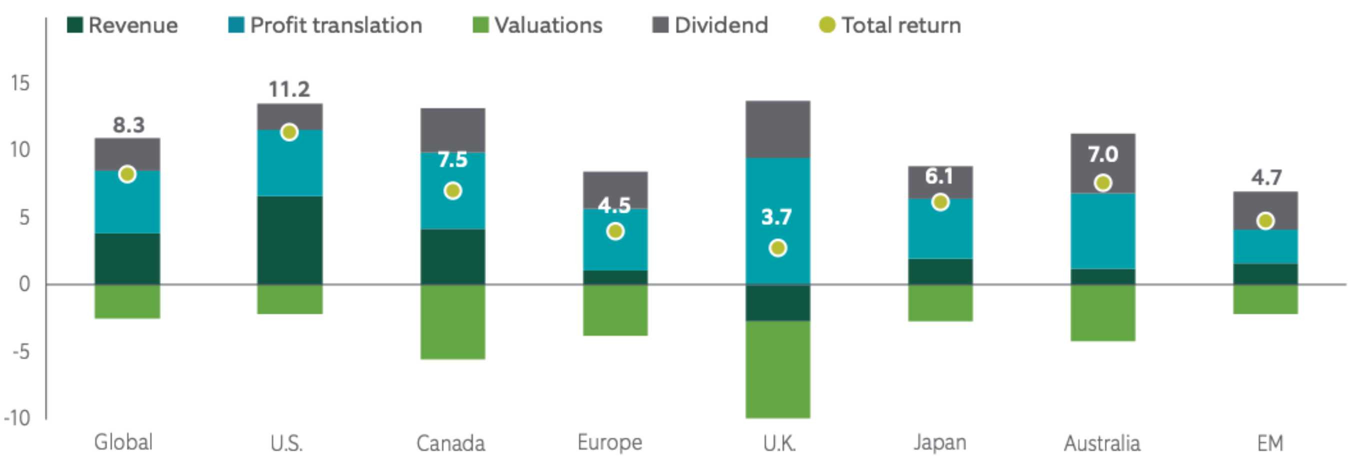
3. **Valuation impact** is based on expected changes in price-to-earnings ratios, which better align with our "building block" forecasting approach than the cash flow yields we use in our quantitative process (the two are highly correlated).

4. **Dividend yield** estimates are based on current levels, adjusted based on any expected changes to the amount of cash companies return to shareholders.

EXHIBIT 10: PAST FIVE-YEAR RETURNS WERE STRONG

Mostly decent revenues and strong profit translation overcame some valuation headwinds.

Five-Year Annualized Equity Return Contribution by Country (%)



Source: Northern Trust Asset Management, Bloomberg. Data from 6/30/2017 through 6/30/2022. EM is emerging markets. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Past performance is not indicative of future results.

Developed Market Return Forecasts

Our five-year annualized forecast for developed market equities is 6.2% — compared to the 8.8% return of the past five years. Interestingly, higher inflation increases the revenue opportunity set — as company sales are driven by nominal (not real) growth rates. In fact, we expect better revenue growth the next five years (5.1%, annualized, as are all other growth rates below) than the last five (4.0%) — thanks to this inflationary push. But what matters is the bottom line — and the same inflationary forces helping revenues also hurt expense control and ultimately determine profit margins. With profit margins at historically high levels (11.8%), we anticipate some deterioration in the tougher environment ahead. Accordingly, we lowered profit margin expectations to ~11% — still above the historical average of 8.7% (data from 2005). All said, profit translation is a swing factor in the last five years versus the next five — a 5.0% boost turns into a 2.4% drag. Valuations — due partly to *Not So Negative* — are coming off the highs of recent years. But we still (perhaps conservatively) expect equilibrium valuations (we forecast ~15x forward earnings) to be above current levels (14.5x) and historical averages (14.7x). Therefore, valuations should provide a 0.8% boost to total returns. Adding a 2.1% annual dividend yield leads to the 6.2% total return forecast.

With developed market corporate profit margins at historically high levels, we anticipate some deterioration in the more challenging environment ahead.

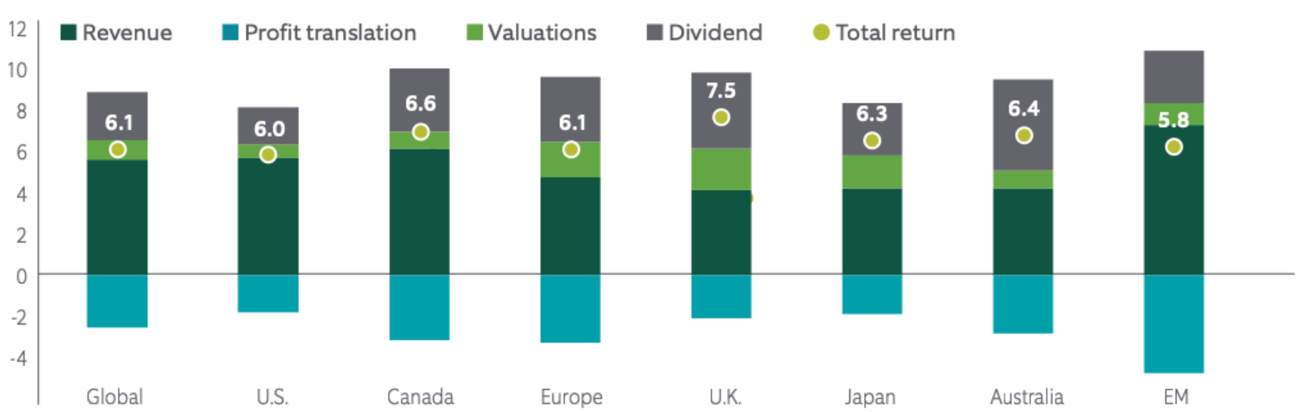
Emerging Market Return Forecasts

Emerging market (EM) equity discussions revolve around China — not just how its ~35% weight affects broader asset class returns, but also how to think of China in a global portfolio (with solutions ranging from separating it from other EM countries to omitting it). Uncertainties — both economic and financial — prompt us to expect low valuations (~11x forward earnings) will largely remain, offering a small 1% tailwind. Meanwhile, potential revenue growth remains high (6.9%), but chronic and continued share dilution and aforementioned profit margin pressures take a good cut (-4.5%). With a 2.4% dividend yield, we arrive at a 5.8% forecast.

EXHIBIT 11: NEXT-FIVE-YEAR FORECASTS ARE LOWER — BUT ACCEPTABLE

We think high profit margins will shrink, but lower valuations will revert higher — allowing decent returns.

Northern Trust Five-Year Annualized Equity Return Forecast by Country (%)



Source: Northern Trust Asset Management. EM is emerging markets.

REAL ASSETS

The industry term "real assets" is clumsy. The primary real assets (global natural resources, real estate and listed infrastructure) are financial instruments; as such, they aren't technically real assets. But they do play key roles in the investment portfolio. Natural resources can provide protection against unexpected inflation, while real estate and listed infrastructure offer additional risk exposures for additional portfolio diversification and higher yields than traditional equities.

Our real asset forecast process starts with a review of historical relationships in order to identify key return drivers. Because our real assets are equity-based, they all have statistically significant exposure to the market. But other return drivers are also present, as outlined in Exhibit 12 — including term (interest rate risk), and credit (default risk). The betas in Exhibit 12 indicate the return accrued to the asset class for every 1% move in the factor. For instance, on average and all else equal, listed infrastructure captures 0.9% for every 1% move in the market factor.

Multiplying the factor betas (the risk exposures described above) by our factor return expectations provides a quantitatively driven baseline forecast for review in the context of our forward-looking themes. For instance, the 6.0% global listed infrastructure forecast comprises contributions from market (global equity) and term (interest rate) risk exposures of 3.1% and 0.2%, respectively — plus our 2.8% cash forecast (originally stripped out of the factor return above).

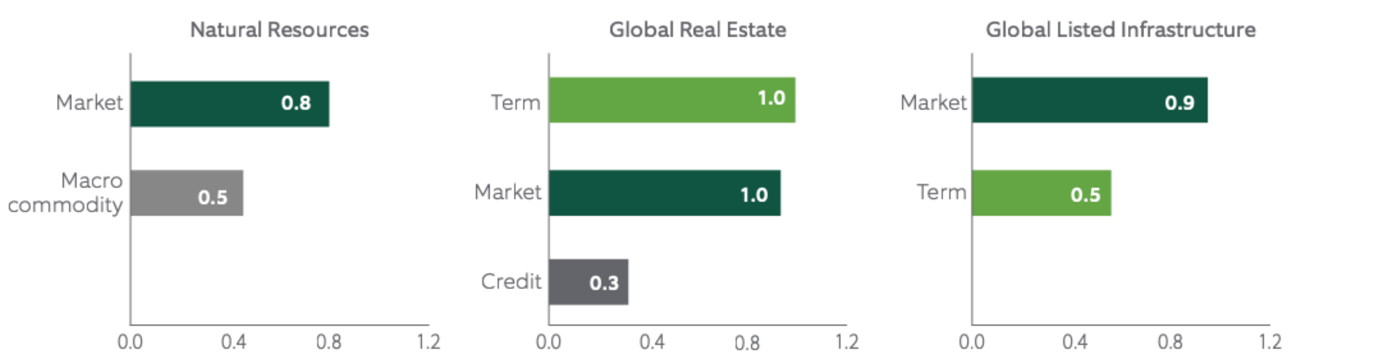
This historically based quantitative analysis is subject to our forward-looking thematic views. The next page focuses on what our themes mean for the asset class relationships to the various risk factors (the betas in Exhibit 12) and ultimate return forecasts. Any modifications to the quantitative model results are captured by a qualitative return adjustment (shown in Exhibit 13). This year, we applied a qualitative overlay to natural resources and global real estate.

Natural resources can provide protection against unexpected inflation, while real estate and listed infrastructure offer additional risk exposures for additional portfolio diversification and higher yields than traditional equities.

EXHIBIT 12: UNDERSTANDING EXPOSURES

All real assets have notable market (equity) exposure, but with a mix of other exposures also present.

Real Asset Factor Exposure (Beta)



Source: Northern Trust Asset Management, Bloomberg. Regressions calculating factor exposure (beta) run from 12/31/2002 to 3/31/2022. Term exposure is defined as the return premium associated with taking on maturity risk; that is, of investing in longer term bonds. Macro commodity exposure is defined as the return premium associated with commodity spot exposure. Past performance is not indicative of future results. Beta indicates the return accrued to the asset class for every 1% move in the factor.

Natural Resources

Natural resources are a clear beneficiary of the Russia-Ukraine war. A meaningful portion of supply taken offline (*Inflation Recalibration*) and increased demand to secure critical resources (*Regional Rebuilding Blocs*) should support commodity prices for years. And these impacts are just the icing on the cake. Reduced investment has underpinned tight commodity markets for years now. *Green Transition Still a Go* may continue to cap longer term financial incentives for capital investment in "dirty" resources, but it does at least recognize the need for an "all of the above" energy strategy. *Slow Growth Transitions* are unlikely to outweigh these tailwinds, which warrant a +1% adjustment when taken together.

A meaningful portion of supply taken offline and increased demand to secure critical resources should support commodity prices for years.

Global Real Estate

Office space remains challenged by the work-from-home trend and the retail property sector by e-commerce. However, such challenges are creating opportunity. Less-needed office and retail space will continue to be repurposed into spaces with higher return on investment (fulfillment centers, residential spaces). But repurposing takes time, and *Not So Negative* interest rates may act as somewhat of a drag. So, as the global real estate recovery story gains traction, we maintain a -1% adjustment.

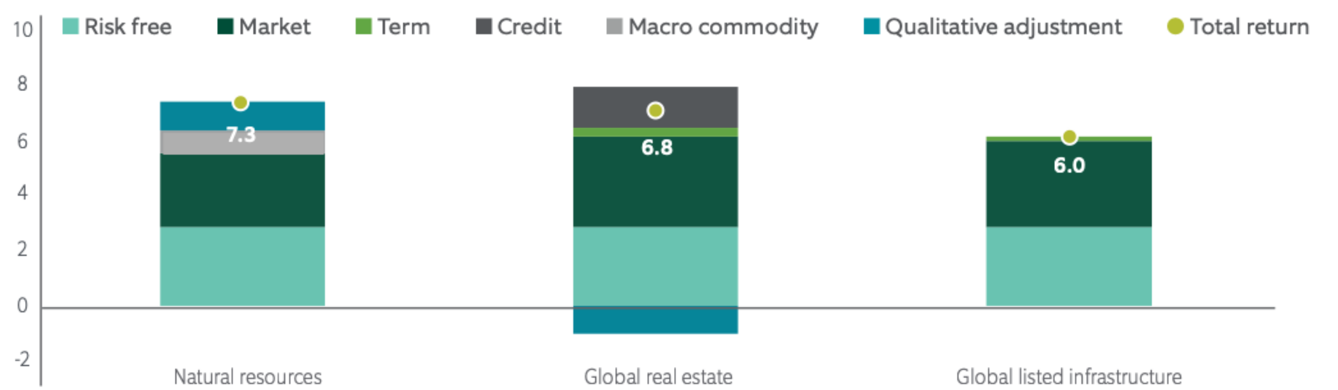
Global Listed Infrastructure

Listed infrastructure's historical downside protection properties will likely be valued in a potentially higher-volatility regime (*Not So Negative*). Elevated commodity prices should provide some support for the asset class (~60% energy and utilities). Its remaining composition (industrials) stands to benefit from the reshuffling of supply chains (*Regional Rebuilding Blocs*). Higher interest rates may weigh on the asset class a bit, but with those higher rates will also come more attractive income yields.

EXHIBIT 13: DIVERSIFICATION ON DISPLAY

Real assets should shine in a more uncertain and higher inflationary risk regime.

Northern Trust Five-Year Annualized Real Assets Return Forecast (%)



Source: Northern Trust Asset Management, Bloomberg.

ALTERNATIVES

The value of private investments and hedge funds lies in their ability to provide nontraditional exposures and greater "alpha" (risk-adjusted outperformance). There is an inherent difficulty (and conflict of interest) in forecasting alphas (effectively, we are forecasting our own alpha-finding abilities). Therefore, we simply assume our alternative investments will maintain the broad industry's historically realized alpha, as determined through risk factor modeling.

Private equity, broadly speaking, continues to offer material return premiums.

Private Investments

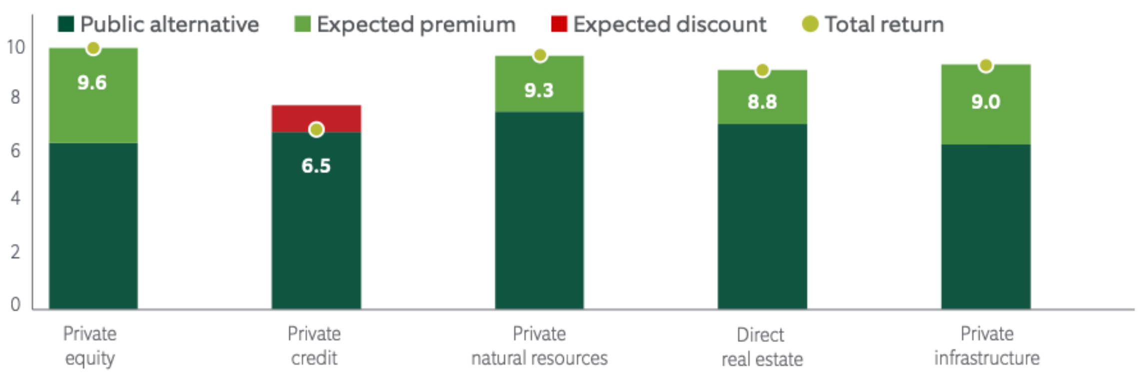
The private investment universe spans the capital structure (from credit to equity) and across all risk assets. We develop our private investment forecasts in the form of return premiums to associated public market return forecasts (e.g., private credit versus high yield). This premium is derived from the respective alphas, which are found by regressing the respective private market returns on their public market counterparts. Importantly, we capture delayed appraisals through a series of lagged market independent variables in the regression model.

Private equity, broadly speaking, continues to offer material return premiums. Our 9.6% return forecast is driven by a 3.5% return premium, which was a 2% "haircut" from the historically realized 5.5% return premium — done to address the (we believe modest) concerns over the increased amount of money flowing in to capture potentially reduced investment opportunities. We believe attractive opportunities remain, but they are capturing higher prices so that a haircut is warranted. Using a similar approach, we calculate return premiums across private real assets. We assign a 2% premium to our public equity-based natural resources forecast to arrive at a 9.3% total return expectation. Direct real estate also earns a 2% premium (8.8% total return forecast), while private infrastructure earns a 3% premium (9.0%). The private credit data implies a 2% premium — but adding that to our already-elevated (for uniquely public market reasons) high yield forecast is the wrong comparison at the moment. Our 6.5% private credit forecast is more appropriately compared to our 9.6% private equity forecast.

EXHIBIT 14: FOUR PREMIUMS AND A DISCOUNT

Private credit — still an attractive income provider — has a difficult comparison with high yield.

Northern Trust Five-Year Annualized Private Investments Return Forecast (%)



Source: Northern Trust Asset Management, Bloomberg.

Hedge Funds

While private investments are compared against public counterparts, hedge funds are compared against the entire portfolio. We isolate average hedge fund alpha by stripping out risk exposures (betas) that can be cheaply captured in the traditional portfolio. These betas include market (and a lagged market factor), credit (default risk) and term (interest rate risk). We use data going back to 2002, the earliest available data for all relevant asset classes and risk factors. Hedge fund strategies can benefit the portfolio through "true" alpha (truly adjusting for all risk exposures) or through "esoteric beta" (risk exposures not available to the average investor). We are only adjusting for those cheaply captured betas, so any esoteric beta will be grouped with alpha (as it effectively is in this case). The average hedge fund has provided a historical alpha of 0.9% — which, when added to the risk exposure return contribution, equals a 5.4% forecast.

The long-term alpha masks an interesting evolution of hedge fund alpha over time. We calculated alpha by decade in Exhibit 15. Alpha generation had been in decline, falling from an annualized 7.1% in the 1990s to 3.0% in the 2000s — and then barely positive (0.4%) in the 2010s. But, thus far this decade, alpha has increased to 3.8%. The blend of more alpha and lower return premiums (as cash returns creep higher) has increased hedge funds' potential role in the diversified portfolio for cases where hedge fund investing is appropriate.

The average hedge fund has provided a historical alpha of 0.9%.

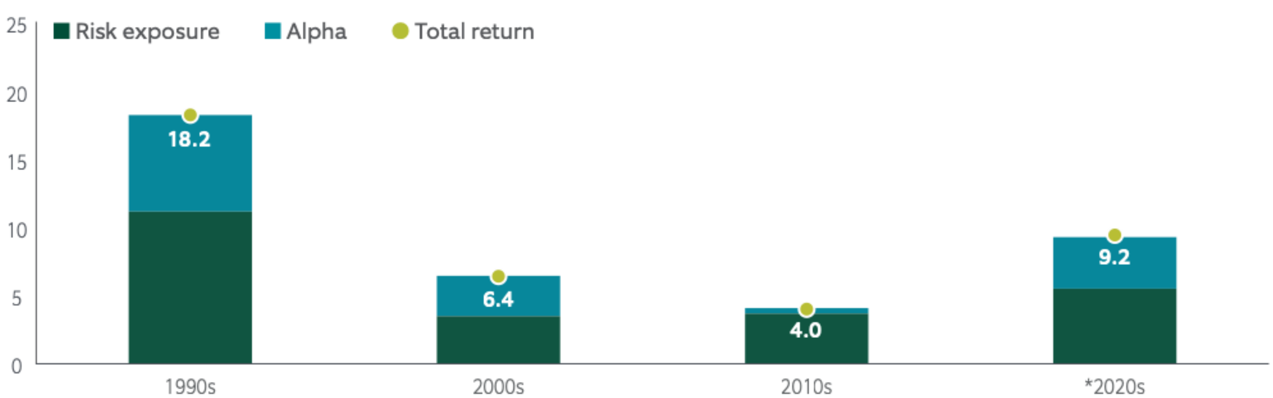
A Note on Alternative Forecasts

Alternative asset class indexes — generally an average of a universe of strategies — are not "accessible" the way the public indexes are. Further, alpha generation of the strategies in these indexes (often the biggest contributor to strategy return) can vary widely. We provide alternatives forecasts with the full admission that the manager/strategy selection process will largely dictate alternative asset returns. In that sense, our alternative forecasts can also be thought of as what to expect in the market outlook we envision.

EXHIBIT 15: ALPHA THROUGH THE DECADES

Only a couple years in, this decade has seen better alpha generation than the previous decade.

Hedge Fund Return Contribution by Decade (%)



Source: Northern Trust Asset Management, Bloomberg. Data from 12/31/1990 to 3/31/2022. *2020s through 3/31/2022. Past performance is no guarantee of future results.

HOW HAVE WE DONE?

We are frequently asked about the accuracy of our five-year forecasts. In response, we offer Exhibit 16 to compare our five-year forecasts from five years ago versus actual results. We review our accuracy across the major asset classes: cash, fixed income (both investment grade and high yield) and equities (both developed and emerging markets). We then aggregate and review at the portfolio level — including the risk asset portfolio, the risk-control portfolio and the strategic asset allocation portfolio (SAA, a balanced mix of the two component portfolios). In addition, on the next page we provide the five-year actual returns alongside the five-year forecasts from our 2017 effort across all asset classes and all regions within each asset class.

At the portfolio level, too-optimistic risk-control forecasts more than offset too-pessimistic risk asset forecasts.

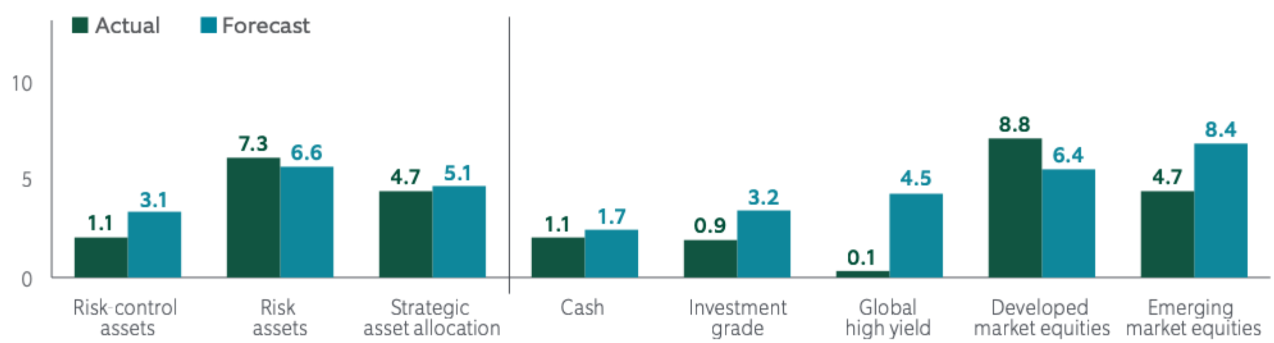
Our five-year forecasts from 2017 proved too optimistic in the fixed income arena. Nearly all of the fixed income shortfall was a consequence of the past year's rising interest rates — at this time last year, four years into the forecast, global investment grade was on pace for a 3.9% total return (versus our 3.2% forecast) while global high yield had earned 5.2% annually (versus our 4.5% forecast). In equity markets, our 2017 five-year forecast was too pessimistic on developed market returns (mostly due to the strong U.S. equity returns coming in at 11.2% versus a 5.9% forecast) and too optimistic on emerging market equities.

At the portfolio level, too-optimistic risk-control forecasts more than offset too-pessimistic risk asset forecasts, which put our 5.1% 2017 SAA forecast somewhat above the 4.7% actual. The risk asset portfolio's actual return (7.3%) outpaced our forecast (6.6%) thanks partly to the 11.2% U.S. equity return — but also to the strength of natural resources (earning an 8.9% return against an already-elevated 7.4% return forecast); at the time of that forecast, natural resources (NR) had earned a -1.6% return annually the previous five years. A couple of "lessons learned" here: 1) NR has fulfilled its role in a five-year period characterized by growing (and ultimately problematic) inflation pressures; 2) as the saying goes, past performance does not guarantee future results.

EXHIBIT 16: BOGGED DOWN BY BONDS

The past year of rising interest rates has resulted in missed forecasts in fixed income markets.

Five-Year Annualized Returns 2017-2022 (%)



Source: Northern Trust Asset Management, Bloomberg. Actual return data from 6/30/2017 - 6/30/2022. Forecasted returns as of 6/30/2017. Risk-control assets = cash, investment-grade fixed income and Treasury inflation-protected securities. Risk assets = high yield bonds, U.S. equities, developed ex-U.S. equities, emerging market equities, global natural resources, global real estate and global listed infrastructure. SAA = Strategic Asset Allocation. SAA is made up of a combination of risk-control and risk assets. Returns are displayed in local currency. Past performance does not guarantee future results.

DETAILED FIVE-YEAR ASSET CLASS RETURN FORECASTS

All Returns in % Annualized				5-Year Return Forecasts by CMA Year						5-Year Actual Return
		Asset Class	Proxy Index	2023	2022	2021*	2019	2018	2017	
Fixed Income	U.S.	Cash	3-Month U.S. T-Bill	2.8	0.3	0.1	1.1	2.2	1.7	1.1
		Inflation linked	Bloomberg U.S. TIPS	3.4	2.2	2.4	2.6	2.9	3.0	3.2
		Investment grade	Bloomberg U.S. Aggregate	3.7	2.4	2.3	3.0	3.6	3.2	0.9
		High yield	Bloomberg U.S. High Yield	7.4	3.5	5.5	5.0	4.9	4.8	2.1
		Municipal	Bloomberg Municipal	3.2	2.0	2.6	2.4	3.2	3.2	1.5
	Canada	Cash	3-Month Canada T-Bill	3.3	0.2	0.2	0.7	1.6	1.3	1.0
		Inflation linked	FTSE Canada Real Return Bond	3.5	2.0	2.2	2.0	2.3	2.5	0.7
		Investment grade	FTSE Canada Universe	3.9	2.4	1.9	2.6	2.9	2.5	0.2
		High yield	BofAML Canadian High Yield	6.0	3.8	5.2	4.5	4.5	4.5	4.0
	Europe	Cash	3-Month German Bunds	0.3	-0.4	-0.5	-0.3	-0.3	-0.2	-0.7
		Inflation linked	Bloomberg Euro Inf. Linked	2.2	1.0	1.5	1.0	1.2	1.5	2.3
		Investment grade	Bloomberg Euro Aggregate	2.1	1.0	1.0	1.2	1.8	1.5	-0.9
	U.K.	Cash	3-Month Gilts	2.1	0.2	0.1	0.3	0.9	0.5	0.5
		Inflation linked	Bloomberg Inflation Linked Gilt	3.3	1.0	1.3	2.2	1.7	1.6	-0.5
		Investment grade	Bloomberg Sterling Aggregate	2.9	1.5	1.3	2.2	2.5	2.5	-0.6
	Japan	Cash	3-Month JGB	0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.2
		Inflation linked	Bloomberg Inflation Linked JGB	0.1	0.2	0.5	0.2	0.5	0.8	0.8
		Investment grade	Bloomberg Japanese Aggregate	0.3	0.2	0.2	0.2	0.5	0.7	-0.3
	Aus.	Cash	3-Month Australia Gov't Bond	3.2	0.3	0.2	0.8	2.5	2.4	1.0
		Investment grade	Bloomberg Australian Composite	3.7	1.5	1.2	2.2	3.5	3.2	0.7
	Global	Inflation linked	Bloomberg Global Inflation Linked	2.9	1.5	1.8	2.0	2.0	2.2	2.5
		Investment grade	Bloomberg Global Aggregate	2.7	1.6	1.6	2.1	2.7	2.2	1.2
		High yield	Bloomberg Global High Yield	7.5	4.0	5.6	4.8	4.6	4.5	0.1
Equities	Developed markets	U.S.	MSCI United States	6.0	4.3	4.7	5.7	5.8	5.9	11.2
		Canada	MSCI Canada	6.6	5.2	4.5	4.5	5.5	6.0	7.5
		Europe	MSCI Europe ex U.K.	6.1	4.7	5.4	6.0	6.3	7.2	4.5
		U.K.	MSCI United Kingdom	7.5	6.2	5.6	7.4	6.3	6.6	3.7
		Japan	MSCI Japan	6.3	4.1	3.8	4.5	6.0	6.0	6.1
		Australia	MSCI Australia	6.4	4.7	5.8	5.7	7.7	7.7	7.0
	Agg.	Developed markets	MSCI World	6.2	4.5	4.8	5.7	6.0	6.4	8.8
		Emerging markets	MSCI Emerging Markets	5.8	5.3	5.4	6.1	8.3	8.4	4.7
		Global equities	MSCI All Country World	6.1	4.6	4.9	5.8	6.2	6.9	8.3
Real	Global	Natural resources	S&P Global Natural Resources	7.3	5.0	3.6	6.1	7.2	7.4	8.9
		Listed real estate	MSCI ACWI IMI Core Real Estate	6.8	5.1	6.3	6.3	6.0	6.1	2.5
		Listed infrastructure	S&P Global Infrastructure	6.0	5.5	5.8	5.8	5.4	5.8	4.8
Alts		Private equity	Cambridge Global Private Equity	9.6	7.6	7.9	7.7	8.0	8.4	N/A
		Private credit	Cambridge Global Private Credit	6.5	6.0	7.6	6.8	6.6	6.5	N/A
		Hedge funds	HFRI Fund Weighted Comp	5.4	2.9	2.6	3.7	4.3	4.4	5.7

*Naming convention of five-year outlook was changed to the forward year, so the 2021 edition was published in 2020. For each CMA edition, the five-year forecast period is as follows in parentheses: 2023 (6/30/2022-6/30/2027), 2022 (6/30/2021-6/30/2026), 2021 (6/30/2020-6/30/2025), 2019 (6/30/2019-6/30/2024), 2018 (6/30/2018-6/30/2023), 2017 (6/30/2017-6/30/2022). Forecasts listed here represent total return forecasts for primary asset classes, annualized using geometric averages. Forecasted returns are based on estimates and reflect subjective judgments and assumptions. They are not necessarily indicative of future performance, which could differ substantially. Five-year actual returns are listed in local currency (with the exception of real assets, which are in USD) and annualized for the five-year period ending 6/30/2022. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Past performance is no guarantee of future results.

ABOUT THE CMA PROCESS

Every year, Northern Trust's Capital Market Assumptions (CMA) Working Group gathers to develop long-term financial market forecasts. The team adheres to a forward-looking, historically aware approach. This involves understanding historical relationships between asset classes and the drivers of those asset class returns, but also debating how these relationships will evolve in the future. Our forward-looking views are encapsulated in our annual list of CMA themes, which — combined with our quantitative analysis — guides our expectations for five-year asset class returns.

The CMA return forecasts are combined with other portfolio construction tools (standard deviation, correlation, etc.) to annually review and/or update the recommended strategic asset allocations for all Northern Trust managed portfolios and multi-asset class products.

The CMA Working Group is composed of senior professionals from across Northern Trust globally, including top-down investment strategists, bottom-up research analysts and client-facing investment professionals. CMA Working Group members are listed here.

ABOUT NORTHERN TRUST

Principles that Endure

Through our expertise and dedication, we transform the plans of the world's most successful individuals, families and institutions into action to help our clients reach their most ambitious goals. Spanning decades and generations, our longevity comes from the recognition that we are more than a financial institution. We are active participants in our communities, global leaders in business and philanthropy and thoughtful architects of innovative employee benefit and support programs.

Founded in Chicago in 1889, Northern Trust has a global presence with offices in 23 U.S. states and Washington, D.C., and across 23 locations in Canada, Europe, the Middle East and the Asia-Pacific region. As of June 30, 2022, Northern Trust had assets under custody/administration of US $13.7 trillion, and assets under management of US $1.3 trillion. For more than 130 years, Northern Trust has earned distinction as an industry leader for exceptional service, financial expertise, integrity and innovation.

Footnotes

[1] Source: Brookings Institution, 2020

[2] Source: JP Morgan, Bloomberg, 2020

[3] Correlation and excess return were calculated using the MSCI World Index and MSCI Emerging Markets Index, from 12/31/1987 to 6/30/2022.

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Pensions&Investments

September 08, 2022 10:52 AM

SEC chairman backs CFTC getting some crypto authority

BRIAN CROCE

CQ-Roll Call, Inc via Getty Imag

SEC Chairman Gary Gensler.

SEC Chairman Gary Gensler is open to Congress expanding another regulator's oversight for cryptocurrency tokens that are not securities.

While the majority of cryptocurrency tokens are securities and should register with the Securities and Exchange Commission, SEC Chairman Gary Gensler is open to Congress expanding another regulator's crypto oversight authority for non-securities.

"To the extent the Commodities Future Trading Commission needs greater authorities about those crypto non-security tokens to oversee and regulate them and the related intermediaries, I look forward to working with Congress to achieve that goal," Mr. Gensler said Thursday at an event hosted by the Practicing Law Institute. "But consistent with maintaining the regulation of crypto security tokens — the thousands of tokens — and the related intermediaries, at the SEC."

RELATED ARTICLE

CFTC chairman pushes for greater crypto authority

As digital assets have become more popular in recent years, the debate as to how regulators should classify them has ramped up.

Mr. Gensler said that of the nearly 10,000 tokens in the crypto market, the vast majority are securities, though the largest token, bitcoin, has the properties of a commodity. He has asked the SEC's staff to work with entrepreneurs to get their tokens registered and regulated, where appropriate, as securities. He also repeated his call for crypto exchanges to register with the agency.

"Nothing about the crypto markets is incompatible with the securities laws," Mr. Gensler said. "Investor protection is just as relevant regardless of the underlying technologies. We're technology-neutral but we're not public policy-neutral."

Several bills have been introduced in the House and Senate this year that would grant the CFTC greater authority to oversee the crypto market, including the Digital Commodities Consumer Protection Act of 2022, which was introduced by leaders of the Senate Agriculture Committee in August. The committee will mark up the bill, which would require all digital commodity platforms, including trading facilities, brokers, dealers and custodians, to register with the CFTC, at a hearing Sept. 14.

CFTC Chairman Rostin Behnam, who has asked Congress for additional crypto oversight powers, will testify at the hearing. Currently, the CFTC can regulate only derivatives, such as futures, options and swaps.

Crypto proponents favor the commodity designation because there are less stringent regulatory requirements associated with it.

While Mr. Gensler said he looks forward to working with Congress on various legislative initiatives, it is important that lawmakers maintain "the robust authorities" the SEC currently has. "Let's ensure that we don't inadvertently undermine securities laws," he added.

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Inline Play

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Pensions&Investments

September 19, 2022 12:00 AM

Investors in for rude awakening on alts returns

Quarter lag muddies picture on fiscal-year performance numbers

Arleen Jacobius

Alternative investments proved to be the top-performing sectors in the wild ride of a fiscal year, but bad news is coming when managers report their actual June 30 returns this fall, industry insiders said.

The rosy numbers are not expected to hold. Most investors report alternative investment returns as of a quarter earlier than the rest of the portfolio, and consultants and managers anticipate the actual June 30 data and beyond to reflect significant write-downs across private markets.

For example, real estate investors expect total returns to plunge to 4.4% in calendar year 2023 from an estimated 8.8% in 2022, according to the results of the Pension Real Estate Association's third-quarter consensus forecast survey of the U.S. commercial real estate market, released Sept. 13. The appreciation return of the NCREIF Property Index, reflecting property values, is expected to plummet to 0.1% in 2023 from 4.7% in 2022.

The issue all stems from an anomaly in the reporting. Many institutional investors close their investment books for the fiscal years ended June 30 in July, months before their alternative investment managers have turned in their returns for those periods. So, investors' fiscal-year returns include returns from alternatives — ranging from private equity and private credit to real estate and infrastructure — that are lagged behind by a quarter while still reporting public markets as of June 30.

With stocks and bonds taking a beating in the second half of the fiscal year, alternative investments actually reported as of March 31 looked pretty good. But industry executives warn that private markets assets are not invulnerable to the downturn in markets.

"One piece of bad news" is that private market assets will be repriced, Allan Emkin, San Diego- based managing principal of Meketa Investment Group, told CalSTRS' investment committee on Aug. 31.

In the next three or four quarters, there will be write-downs in private market assets to reflect what has happened in the public markets "because they are not immune to what happens in the general economy or to the capital markets at large, and that has not yet been reflected in the portfolio," he said.

June 30 data and beyond to reflect significant write-downs across private markets.

And alternatives are a big part of CalSTRS' portfolio, with 16.3% invested in real estate, 15.7% in private equity and 5.4% in inflation sensitive, which includes infrastructure, as of June 30.

The June 30 numbers for alternative investment portfolios will be included in the pension fund's financial statements, said Christopher J. Ailman, CIO of the $311.7 billion California State Teachers' Retirement System, West Sacramento, during the same meeting. Staff will bring the first draft of the full financial statements to the board in November.

CalSTRS earned a net -1.3% for the fiscal year ended June 30, outperforming its -2.2% benchmark. The three best-performing sectors for the fiscal year were private market asset classes: real estate returned 26.2%, underperforming its benchmark of 27.3%; private equity at 23.7% internal rate of return, slightly outperforming its 23% benchmark; and inflation sensitive at 17.5%, well above its 12.9% benchmark. The returns for all three asset classes are as of March 31.

"We know the assets are going to be written down, but by how much?" Mr. Ailman said.

2 sets of numbers

Endowments and some pension plans will go back and restate their June 30 private markets performance with a "trued up" figure for June 30 later in the year, he said.

"It's confusing because there are two sets of numbers," Mr. Ailman said. But those June 30 numbers will be captured in next year's returns, he added.

The difference between the reported fiscal-year returns for a pension fund's private market asset classes and when those returns are "trued up" later in the year can vary, said Mindy Selby, CalSTRS spokeswoman, in a Sept. 13 email in response to questions.

The private market returns are "derived from the estimated projections performed using a public market index," she said.

CalSTRS' investment book of record is closed by early July, a standard practice for private assets that report on a lag, Ms. Selby said.

"To be consistent, we ensure that four quarters' valuation are captured over a reporting period," Ms. Selby said.

However, CalSTRS' financial statements — its comprehensive annual financial report — "capture the best estimate for the June 30 values," she added.

For the $444.4 billion California Public Employees' Retirement System, Sacramento, the annual comprehensive financial report to be released sometime later this year will include private market performance figures through June 30, said spokesman Joe D'Anda in an email. "If this leads to a material difference in the fiscal year returns, it will be noted," he said.

The fiscal-year returns reported by CalPERS in July are preliminary, he said. But the returns in the financial statements are official and used as the basis of employer valuations and contribution rates, Mr. D'Anda said.

As of June 30, CalPERS had 15.8% invested in real assets, 2.8 percentage points above its target allocation, and 12% in private equity, 4 percentage points above its target.

CalPERS returned -6.1% in the fiscal year ended June 30, exceeding its -7% benchmark.

Overweight private equity

The Oregon Investment Council, which oversees the $93.3 billion Oregon Public Employees Retirement Fund, Salem, was also overweight private equity — 8 percentage points over its 20% target as of June 30, boosting its returns, said Paola Nealon, managing principal at the council's general investment consultant Meketa, at the council's Sept. 7 meeting. However, she cautioned that OPERF's returns do not reflect potential write-downs in the private markets given the quarter lag. The pension fund earned a net 6.3% return for the fiscal year ended June 30, outpacing its -0.7% benchmark. It is the highest public pension fund return Pensions & Investments has reported out of 70 plans.

Greg MacKinnon, director of research of the Pension Real Estate Association, said he wasn't surprised that real estate market participants in the most recent consensus forecast survey "are expecting something of a drop-off in performance next year."

"Multifamily and, especially, industrial, had stellar years in 2021 and continued to be strong through the first half of 2022," he said in an email. "It would be hard to repeat that performance for another year, especially given macro conditions."

With the Federal Reserve raising interest rates at a quick pace to combat inflation, the economy is in worse shape than it was at the beginning of 2022, he said.

And real estate, across all sectors, is tied to economic growth, Mr. MacKinnon said.

"So, one should expect returns to be more muted than they have been over the last 18 months," he said. On top of that, the outlook for office usage is uncertain, which is gradually being reflected in market valuations, Mr. MacKinnon said.

The result is "you get lower overall return forecast for 2023 than for this year," he said. Although he added total returns are expected to start to pick up a bit in 2024, Mr. MacKinnon noted.

Even so, the annual return for the four years ended 2026 are expected to be more than 2 percentage points below the 2022 return, PREA's survey shows.

"Real estate as well as the broader capital markets have been on quite a ride," said Scott Dennis, Dallas-based CEO of Invesco Real Estate, a division of Invesco Ltd.

The real estate industry is coming off a period where the NCREIF Open-End Diversified Core Equity index returns were running in the high 20% range, Mr. Dennis said.

"That's been great ... from a return perspective, but that is not sustainable," he said.

While the real estate investment trust market had dropped 20% right away this year, the private real estate side has not yet reflected the markdowns due to a lag in valuations, which are done by third parties, Mr. Dennis said. If the markets continue as they are with rising interest rates, there will be valuation markdowns in the third and fourth quarter of 2022, going into the first quarter of 2023, he said.

Private equity to drop

Private equity returns are also expected to be lower when the June 30 numbers are revealed, consultants say.

"Private equity valuations tend to follow the public markets," because one method for valuing private investments are public market comparisons, said Adam Bragar, New York-based head of the U.S. private equity practice of Willis Towers Watson PLC.

But not all sectors will fare the same, he said. Greater declines are expected in certain areas such as venture capital, particularly later-stage venture capital in which managers depend on initial public offerings for exits. With public markets softening, there is less likelihood venture capital-backed companies will go public. This will negatively affect valuations because if a company cannot go public, it will have to raise another round of financing, which is likely to value the company at flat or lower than past financing rounds, Mr. Bragar said.

Mega buyout investments will likewise be more negatively affected because there are few alternatives to an IPO exit for these very large companies, he said.

Potential buyers for mega companies are more limited than for smaller companies, Mr. Bragar said. There's a lower likelihood of another private equity firm having the capital required to acquire the company, he said. What's more, other large companies that might have been potential buyers in the past may not want to make the acquisition when their own valuation is down, Mr. Bragar said.

However, Willis Towers Watson focuses on the lower end of the middle market and "companies in our portfolio continue to perform relatively well," Mr. Bragar said.

That is not to say that private equity valuations won't go down.

"I don't think any of our clients are … not expecting markdowns across their (private equity) portfolios," Mr. Bragar said. "Those adjustments in valuations will be more muted than the public markets … none of the market write-downs have been greater than what has happened in the public markets."

Pensions&Investments

September 21, 2022 02:11 PM

Fed hikes interest rates 75 basis points; now targets year-end funds rate of 4.4%

PALASH GHOSH

Bloomberg

The Federal Reserve on Friday agreed to a request from Treasury Secretary Steven Mnuchin to return unused funds from emergency lending programs.

The Federal Reserve hiked rates by another 75 basis points, as expected, as the central bank seeks to quell inflation.

The Federal Reserve hiked interest rates by 75 basis points for the third consecutive meeting on Wednesday, boosting the target range for the federal funds rate to a range of 3% to 3.25%, in a continuing bid to tamp down inflation.

The Federal Open Market Committee, which concluded its two-day meeting on Wednesday, had previously increased rates by 75 basis points in June and July, following a 50-basis-point hike in May and a 25-basis-point increase in March.

In its accompanying statement, the Federal Open Market Committee said it "anticipates that ongoing increases in the target range will be appropriate."

The committee's median projection for the federal funds rate at the end of the year is now 4.4%, up from the 3.4% projection at the June meeting. The committee's median projection for the federal funds rate at the end of next year is now 4.6%, up from 3.8% projection in the June meeting.

The FOMC also cited "modest growth in spending and production" and that "job gains have been robust in recent months, and the unemployment rate has remained low." But the committee also said that inflation "remains elevated, reflecting supply and demand imbalances related to the pandemic, higher food and energy prices, and broader price pressures."

As it did at the prior meeting, the FOMC commented that the war in Ukraine is "causing tremendous human and economic hardship" and that war-related events are also "creating additional upward pressure on inflation and are weighing on global economic activity."

The committee added that it is "strongly committed" to returning inflation to its 2% objective.

Wednesday's rate hike, the fifth in as many meetings, was widely expected, based on the CME Group's FedWatch tool, which indicated earlier in the day that there was an 82% probability that the Fed would increase rates by 75 basis points at the meeting.

The decision to hike rates also followed a report from the U.S. Bureau of Labor Statistics on Sept. 13 that consumer prices jumped 8.3% from a year ago in August, compared with economists' expectations of an 8.1% rise, according to financial data firm FactSet Research Systems Inc. Consumer prices rose by 8.5% in July and surged by 9.1% year-over-year in June, the largest 12-month increase since the 12 months ended November 1981.

RELATED ARTICLE

Fed sees 'more restrictive' rates possible if inflation persists

Fed Chairman Jerome H. Powell said at a news conference Wednesday that the Fed continues to see "risks to inflation as weighted to the upside."

He also said it might be appropriate to slow down the pace of rate hikes at some point.

Anders Persson, Charlotte-based CIO for global fixed income at Nuveen, said by email that the Fed "remains hawkish and committed to fighting inflation to the exclusion of any other goals, which argues for higher yields, flatter curves and wider credit spreads across fixed income markets."

The biggest surprise, Mr. Persson noted, came in the summary of economic projections. The median dot plot shows an expected fed funds rate of 4.4% at year-end and 4.6% at the end of 2023, higher than the market was pricing.

"Inflation is now expected to be even higher in the near term, with core (personal consumption expenditures) inflation expected to end the year at +4.5% and remain elevated at +3.1% next year," he added.

Seamus Smyth, New York-based chief economist at Virtus Investment Partners, said by email the rate decision "shows that they expect to continue hiking rates, and that there will be a bigger hit to growth, but they still see a relatively restrained increase in the unemployment rate — even if they are willing to run the risk of a recession, they aren't yet penciling it in."

Virtus has $155 billion in assets under management.

David Wagner, the Cincinnati-based portfolio manager at Aptus Capital Advisors, said by email that with respect to the impact on institutional investors, that the market has been driven by macro factors, specifically inflation expectations and Fed policy.

"Given the continued unknown of inflation and its effect on the overall demand aspect of the economy, we would assume that (institutional investors) would begin to think outside the box as to where returns can be derived from moving forward, given the potential for a new prolonged return environment," he said. "We believe that collared income strategies that have the ability to take advantage of single security implied volatility is a perfect example of a strategy that can provide yield and downside protection in an uncertain environment. We love the idea of differentiated liquid alternative investments."

Mr. Persson added that institutional bond investors are facing "fresh challenges" as fixed-income returns "will be adversely affected by this combination of higher rates and slower growth."

Andrzej Skiba, head of U.S. fixed income at RBC Global Asset Management, said in a client note: "We expected 75bp at the meeting today, followed by another 75bp in November from the Fed." He also said that at this stage, "we would not expect U.S. recession to be very deep, reflecting the strength of the consumer, solid labor market and strong corporate balance sheets. We're entering this slowdown in the best shape we had in a very long time."

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September 2022

In This Issue

Telling the Whole Story About Public Pension Health

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"Average Public Pension Assumed Rate of Return Hits 40-Year Low." "Here's How Badly the Market Crash Has Hurt Pension Funds." These are just a few of the negative headlines swirling around the news this month.

Unsurprisingly, the media is latching onto the negative returns that many pension funds across the country experienced this fiscal year. While of course this underperformance is not ideal, it certainly doesn't tell the whole story.

At last month's Public Pension Funding Forum, how pensions can tell "the whole story" about the performance and health of a plan was a recurring theme, as panelists discussed fiscal sustainability, how to measure the condition of defined benefit plans, strategies for stabilizing unfunded liabilities, and more.

At the event, University of Illinois at Springfield Professor Kenneth Kriz discussed the psychological concept of anchoring: where people tend to rely too heavily on one number or a single piece of information when making decisions. And whether it's looking at funding ratios or pension fund returns, so often the media, policymakers, and the public latch onto these numbers without the context or additional data points needed to develop informed judgements.

So while journalists may be anchoring on the immediate returns, pension funds remain focused on the long term. Given the market's volatility and rising interest rates, many funds are maintaining a conservative outlook for investments to ensure fiscal sustainability. In fact, a recent [report](#) from the National Association of State Retirement Administrators examined 131 funds and found that more than half have reduced their investment return assumption since fiscal year 2020.

During the Public Pension Funding Forum, investment strategies for volatile times was another key topic. Justin Barton, President and CIO of UCLA Investment Company, shared advice with attendees: it all comes down to good governance. "What's most important is the investment policy, especially in a volatile period… it really is about understanding what your risk tolerance is and taking a long-term view. Avoid chasing performance, good or bad."

The media will likely continue to write attention-grabbing headlines focused on the metrics that are easiest to understand. But as the voice of public pensions, NCPERS will continue to produce research on how to measure the sustainability of public pensions and provide guidance for its members on how to communicate with the media and stakeholders proactively about fund performance.

NCPERS' recently released report, "Measuring Public Pension Health: New Metrics and New Approaches," could be the basis for a new way of thinking about and communicating the overall health of a public pension in a standardized, easy-to-understand format.

Developed through discussions with the Pension Accounting Working Group, the report envisions a scorecard with a standardized summary of pension valuation results, as well as three new metrics: scaled liability, UAL stabilization payment, and risk-weighted asset value. The scorecard examines the plan's condition, the actions taken by its managers, and the policies it pursues. Ultimately, this could be an important tool for educating policymakers and the public about the health of public pensions through more uniform reporting and analysis.

Through advocacy, research, and education, NCPERS will continue to tell the whole story about public pensions. ◆

Supporting Public Safety Employees and Retirees: The Importance of In-Person Meetings

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Last month marked our first full year of in-person meetings since the COVID-19 pandemic began. As we wrapped up the 2022 Public Pension Funding Forum in Los Angeles, I couldn't help but reflect on the importance of bringing together members of the public pension community.

Often, I see the learning continue beyond the educational sessions at our events. Whether it's catching up with old friends over drinks or making a new connection that will be a vital resource down the road—the knowledge-sharing and sense of community within NCPERS' membership is impressive.

Next month, we'll host the Public Safety Conference in person for the first time since 2019.

In these long three years, what it means to be a police officer, a firefighter, or a first responder has changed dramatically. Professions that already had inherent risk took on additional challenges: COVID-19 exposure on the frontlines; facing protests and political unrest; cities overhauling budgets with new calls for what public safety means; responding to increasing rates of violent crime in cities; and unprecedented issues with hiring and retention, to name a few.

At the same time, households across the country are facing new realities tied to rapidly rising rents and record levels of inflation. And the uncertainties so many of us have faced in recent years just show how vital it is that public servants continue to have access to secure retirement and benefits programs.

Next month, we'll host the Public Safety Conference in person for the first time since 2019.

As much as the world has changed since we met in New Orleans for the 2019 Public Safety Conference, many public safety plans, plan sponsors, and employees are ultimately still focused on the same key issues: effectively and efficiently delivering benefits to public safety plan participants; practicing good governance and risk management; meeting plan benchmarks and ensuring sustainability; and staying informed about the latest issues impacting the retirement and benefits of public safety employees.

Of course all of these issues will be addressed at this year's event in Nashville, but we've also made a concerted effort to tailor the program even further to address the unique and unprecedented challenges that public safety employees have faced—and will face—in the coming years. After three years apart, it's more important than ever to connect with and learn from peers as we work to develop solutions for these shared challenges.

The preliminary agenda already has plenty of opportunities for peer-to-peer training, networking, and learning from the experience of fellow public safety pension plan employees. Representatives from the Missouri Local Government Employees Retirement System (LAGERS) will share strategies for effectively communicating with dissenters and stakeholders about the necessity of public pension plans. You'll hear from the Police and Firemen's Retirement System of New Jersey about their path to pension reform. Keep an eye out for more event updates as the schedule is finalized.

Also in Nashville this year, we'll be hosting the fall class of NCPERS Accredited Fiduciary (NAF) program in conjunction with the Public Safety Conference. This trustee accreditation program is specifically designed for individuals involved in public pension governance. This important educational program is broken out into four modules: Governance and the Board's Role; Investment and Finance; Legal, Risk Management and Communication; and Human Capital.

Early bird pricing for both the NAF program and Public Safety Conference ends September 30. I hope you'll join us in Nashville next month.

Register by September 30 for Early-Bird Registration Rates.

Fall Congressional Forecast

By Tony Roda

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Congress is moving toward final consideration of a measure to revise our nation's tax laws affecting retirement plans and their participants. Earlier this year, the full House approved H.R. 2954, which is that chamber's version of the SECURE Act 2.0. More recently, the Senate Committee on Finance and the Committee on Health, Education, Labor, and Pensions approved versions of the legislation. The original SECURE Act was enacted at the end of 2019.

A key provision in the Senate Finance Committee's bill would streamline an existing tax exclusion for retired first responders. NCPERS and many of its members have collaborated on this effort to improve the Healthcare Enhancement for Local Public Safety Act (HELPS). NCPERS has been in contact with committee counsels and leadership staff in the Senate and House.

The HELPS exclusion allows eligible retired public safety officers to exclude from gross income up to $3,000 in annual distributions from a governmental retirement plan to pay qualified health care insurance or long-term care premiums, provided the payment of premiums is made directly by the retirement plan to the provider of the health or long-term care plan. However, since its enactment, the direct payment requirement has caused administrative headaches for many retirement plans and has resulted in some plans choosing to not implement HELPS. Retired public safety officers covered by a plan that does not implement HELPS are ineligible for the tax benefit.

The provision in the Senate bill, which was championed by Senators Sherrod Brown (D-OH), John Thune (R-SD), Mark Warner (D-VA), and Chuck Grassley (R-IA), would change the direct payment requirement from mandatory to optional and create an alternative to the current method, namely allowing the retirement system to make the distribution to the retired public safety officer. The retiree could then make the premium payment to the provider and remain eligible for the tax exclusion.

There is also renewed attention in the House on a perennial issue for public employees – the Windfall Elimination Provision (WEP). The WEP penalty reduces your Social Security benefit if you also earn a retirement benefit from non-Social Security employment. Roughly 25 percent of state and local government employees across the U.S. are not covered by Social Security. Many of these workers will also separately earn a Social Security-covered benefit, particularly those in public safety and education, whose work schedules often allow them to hold a second job that is covered by Social Security.

Legislation has been introduced since the 1980s to fully repeal WEP and its sister penalty, the Government Pension Offset (GPO), which affects spousal and survivor benefits. In this current 117th Congress, the full repeal bills are H.R. 82 by Rep. Rodney Davis (R-IL) and S. 1302 by Sen. Sherrod Brown (D-OH).

H.R. 82 has reached the 290-cosponsorship threshold necessary for expedited floor consideration under the Consensus Calendar. However, the committee of jurisdiction, the Ways and Means Committee, could preempt the Consensus Calendar by taking certain actions. Committee leaders are currently analyzing their options.

Complicating matters is that other forms of WEP and GPO legislation are pending before the Committee. Congressman John Larson (D-CT), the Chairman of the Subcommittee on Social Security, has introduced H.R. 5723, Social Security 2100: A Sacred Trust, which would repeal both WEP and GPO for five years. This legislation is a comprehensive reform of the Social Security program, including increases in payroll taxes and benefit enhancements. The main challenge with the Larson bill is that it only has Democratic support, thereby making passage in the House difficult but, in the Senate, impossible.

Two other pieces of legislation deal only with WEP but, if reconciled, could gain enough traction for House passage and the possibility of approval by the Senate. House Ways and Means Committee Chairman Richard Neal (D-MA) has introduced H.R. 2337, and Committee Ranking Member Kevin Brady (R-TX) has introduced H.R. 5834. The bills take a similar approach – (1) provide current retirees who are being impacted by WEP a monthly rebate ($150 in Neal's bill; $100 in Brady's bill), and (2) begin utilizing a new proportional formula instead of WEP. The Brady bill would give future retirees ages 21 and over the better of the new formula or WEP. This type of provision is commonly referred to as a "hold harmless" provision. Chairman Neal's bill would extend the hold harmless treatment in perpetuity.

Discussions between Congressmen Neal and Brady are ongoing and, as mentioned earlier, finding a bipartisan compromise in the House is essential for the bill to have any chance of passage in the Senate. Congressman Brady is the key to achieving this bipartisanship, and his retirement at the end of the Congress places even greater urgency on the need to act this year.

Finally, let's shift focus to the midterm elections. In my experience, rarely, if ever, are there elections without surprises. A few months ago, Republicans were extremely confident in their chances to wrest control of both chambers of Congress from the Democrats. Now, that confidence has eroded, particularly regarding their Senate prospects. The Senate is currently deadlocked at 50-50, with two Independent Senators caucusing with the Democrats. The 50-50 split plus a Democratic presidential administration, with Vice President Kamala Harris as the tiebreaking vote, allows Senate Democrats to exercise the powers of the majority -- chair committees and set the agenda for the floor.

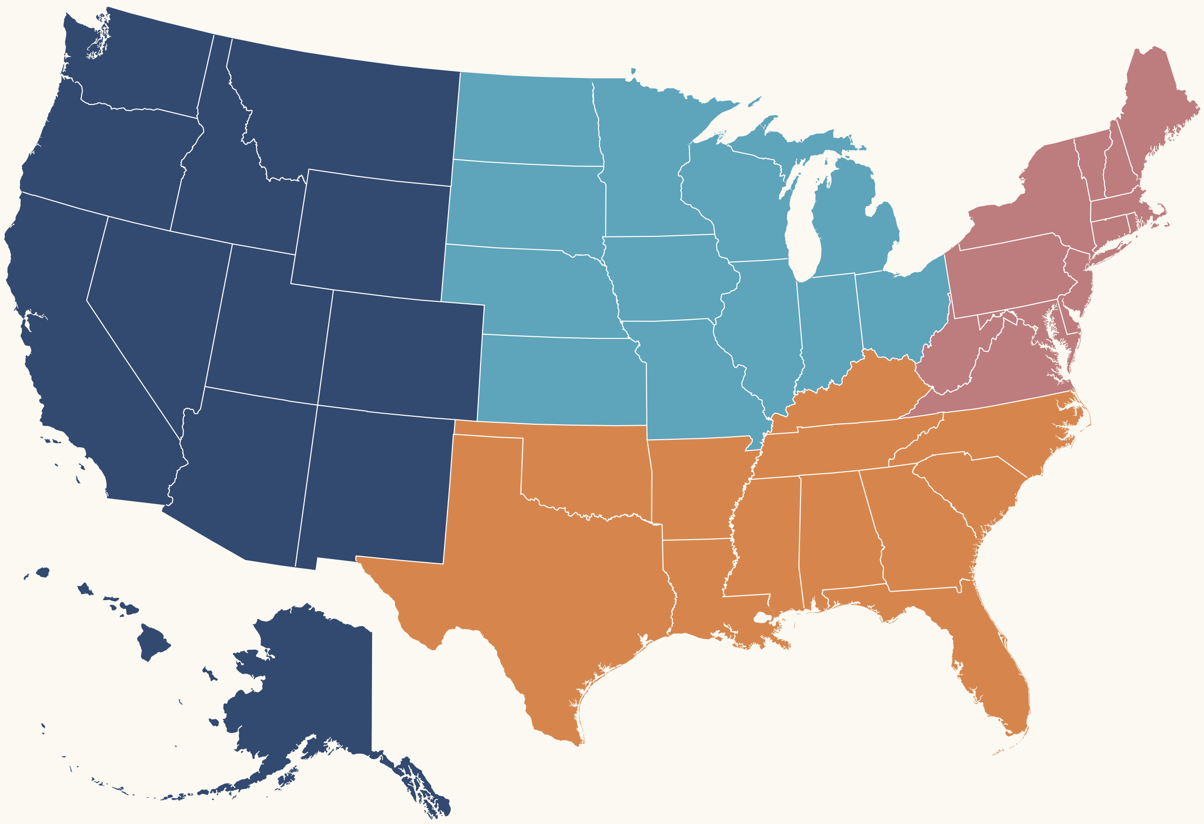
What's causing the erosion in confidence among Senate Republicans? Primarily, their candidates in Pennsylvania (open seat), Georgia (Democratic incumbent), Wisconsin (GOP incumbent), Arizona (Democratic incumbent), and Ohio (open seat) are underperforming in the polls and expected competitive races in Democratic-held seats in Nevada and New Mexico have yet to materialize.

Senate Minority Leader Mitch McConnell (R-KY) recently said that he thought the chances of a Republican takeover were better in the House than in the Senate because of candidate quality. Republicans are now trying to broaden the playing field by putting dollars into races against Democratic Senators Michael Bennet (CO) and Maggie Hassan (NH). The proof will be in the pudding, as they say, with Election Day looming large on the fall calendar.

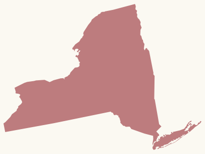
Please be assured that NCPERS will continue to keep its members informed on the latest developments regarding HELPS, WEP, and any other matters affecting state and local governmental pension plans. ◆

Tony Roda is a partner at the Washington, D.C. law and lobbying firm Williams & Jensen, where he specializes in federal legislative, regulatory, and fiduciary matters affecting state and local governmental pension plans. He represents NCPERS and statewide, county, and municipal pension plans in California, Colorado, Georgia, Kentucky, Ohio, Tennessee, and Texas. He has an undergraduate degree in government and politics from the University of Maryland, J.D. from the Catholic University of America, and LL.M (tax law) from the Georgetown University Law Center.

This month, we will highlight New York, Florida, Michigan and Colorado.



NORTHEAST: New York



The New York State Common Retirement Fund announced it is scrutinizing 28 integrated oil and gas companies to assess their readiness to transition to a low carbon economy.

State Comptroller Thomas P. DiNapoli, who announced the initiative on August 12, said companies such as ExxonMobil, Chevron, Shell, and BP will come under the microscope as part of the fund's continuing efforts to mitigate investment risks from climate change. "As investors, we will carefully review these companies and may restrict investments in those that do not have viable plans to adapt," he said in a news release.

DiNapoli's announcement was issued as part of a progress report on the fund's Climate Action Plan, which is a centerpiece of his strategy to transition the fund's $272 billion portfolio to net zero greenhouse gas emissions by 2040. In it, he noted that the fund has increased its sustainable and climate solutions investments to nearly $16 billion.

The New York State Common Retirement Fund has been in the vanguard as pension funds examine the long-term implications of their fossil fuel investments. In the past year, the New York State Common Retirement Fund completed a review of shale oil and gas companies, which led to its decision to restrict investments in or divest from 21 companies. Counting previous reviews of oil sands and coal companies, the fund has divested from 55 firms that, in DiNapoli's words, "failed to demonstrate transition readiness."

Institutions worldwide have divested $40.57 trillion in fossil fuel investments, according to the Global Divestment Commitments Database. That figure reflects divestments by 1,546 institutions, 11.9 percent of which are pension funds. The website identifies 15 U.S. state and local public pension plans—located in California, Maryland, Minnesota, New York, Rhode Island and the District of Columbia—that have taken some steps toward divestment. And that's not the full scope. Maine, for example, has ordered its public pension fund to sell off fossil-fuel holdings by 2026.

Some other states, however, are pulling in the opposite direction. (See Florida article) And even in deep-blue California, which has largely divested from thermal coal companies, support for broader, mandatory divestiture is not a slam dunk. A bill requiring California State Teachers' Retirement System and the California Public Employees' Retirement System to divest from fossil fuels failed to advance in the state Legislature in June.

SOUTH: Florida

Florida Governor Ron DeSantis is ratcheting up efforts to resist shareholder initiatives on climate change and diversity.

In a plan he unveiled at a July 27 press conference, DeSantis said Florida will push back against what he denounced as "ESG Financial Fraud," referring to environmental, social and governance considerations in investing.

"The leveraging of corporate power to impose an ideological agenda on society represents an alarming trend," DeSantis said. "From Wall Street banks to massive asset managers and big tech companies, we have seen the corporate elite use their economic power to impose policies on the country that they could not achieve at the ballot box."

At the same time, DeSantis declared his intention to work with "likeminded states to leverage the investment power of state pension funds through shareholder advocacy to ensure corporations are focused on maximizing shareholder value, rather than the proliferation of woke ideology."

DeSantis proposed legislation for the 2023 session that would prohibit State Board of Administration (SBA) fund managers from considering ESG factors when investing the state's money. The bill would also require SBA fund managers to only consider maximizing the return on investment on behalf of Florida's retirees.

While a number of states are reducing fossil fuel investments (see New York article), others are resisting these efforts.

West Virginia, for example, has announced it will not enter into new business with five financial institutions that it determined were boycotting the fossil fuel industry: BlackRock Inc., JP Morgan Chase & Co., Goldman Sachs, Morgan Stanley, and Wells Fargo & Co. Texas has prohibited its state retirement and investment funds from doing business with companies that the Texas Comptroller determines to be "boycotting" fossil fuels. And the American Legislative Exchange Council has disseminated model legislation targeting banks that divest from fossil fuel companies. The ALEC bill has influenced initiatives in Louisiana and Oklahoma.

MIDWEST: Michigan

Detroit Mayor Mike Duggan petitioned the U.S. Bankruptcy Court to allow city pension funds to be replenished over 30 years, stretching out the 20-year schedule that is currently in place.

Detroit has a $131 million annual pension bill due in July 2023, and revising the amortization schedule would reduce the payment.

The Police and Fire Retirement System of the city of Detroit is opposed to the 10-year extension, according to a report in the Detroit Free Press.

"Trustees have heard from our actuarial and other financial advisors that have run numerous what-if scenarios based on multiple funding models including 30-year, 20-year and others," PFRS Chairman Dean Pincheck told the newspaper in a statement. "The 30-year model may be better for city budgets but is not in the best interest of retirees."

The city's lawsuit asserts that actuarial mistakes in Detroit's 2013 bankruptcy agreement caused accrued liabilities in two legacy pension plans of about $500 million.

The lawsuit asks that PFRB be required to honor the 30-year period envisioned by Bankruptcy Judge Steven Rhoads, rather than the 20-year repayment plan that PFRS adopted in November 2021, to begin in the 2024 fiscal year.

The city was given a "pension holiday" break from payments to PFRS and the city's General Retirement System for nearly 10 years as part of a restructuring plan after the historic bankruptcy in 2013, the Detroit Free Press noted.

In his budget proposal in March, Duggan warned the city would have to slash the city budget to make the 20-year payments and would take the issue to bankruptcy court, the Detroit Free Press reported. He previously said that if the bankruptcy ruling failed, we would go to the state legislature for help.

WEST: Colorado

Retired teachers helped to close a staffing gap in Colorado schools in the 2021-22 school year, filling a total of 181 positions, according to a report from the Colorado Department of Education. Nearly two-thirds of the retirees took jobs in rural schools, where the need was greatest.

In all, about 2 percent of teaching positions were hired through a shortage mechanism, which included retired educators as well as hiring long-term substitutes, alternative licensure program candidates and emergency authorization candidates, according to the report.

In the spring of 2022, Governor Jared Polis signed two bipartisan measures that made it easier for retired teachers to return to the classroom. One measure waived the number of days that they would work as substitute teachers; the other allowed classroom teachers, aides, bus drivers, food service workers and nurses to return to work for up to six years while still receiving their full pension benefits.

Despite the impact of the shortage mechanism, 440 of the states 55,482 teaching positions remained vacant for the entire school years. Colorado's teacher shortage predates the pandemic, but is now more widespread.

Retired teachers have an important role to play at a time when many classroom jobs are being filled by teachers with little or no classroom experience. "Rural schools loved it because it gave the opportunity to bring in people who knew the community, knew the kids, knew where the bathrooms were, and didn't need to find a place to live," State Representative Barbara MacLachlan told Chalkbeat Colorado, an education news service, when the bill was passed in the spring. MacLachlan, a Democrat from Durango, sponsored the retiree bills. ◆

Calendar of Events 2022

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October

NCPERS Accredited Fiduciary (NAF) Program
October 22 – 23
Nashville, TN

Public Safety Conference
October 23 – 26
Nashville, TN

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ARTICLE

Necessary Trade-Offs: Climate vs. Investment Objectives for Value Strategies

September 2022

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Key Points

- We illustrate the types of trade-offs investors with dual social and investment objectives must make in their portfolios. We use the example of a carbon reduction constraint on a value manager.
- In our example, we find that the preference for a low carbon intensity level in a value strategy leads to impractically high levels of concentration and illiquidity. Trade-offs in both the amount of carbon reduction and in the ability to achieve a deep-value bias are a necessary part of meeting these dual objectives.
- Regardless of the choice of dual objectives, investors should set realistic expectations when they seek to combine value investing and climate investing.

Many of us aspire to "do good" through the choices we make in our personal and professional lives. Sustainable investing, also called socially responsible investing, impact investing, and environmental, social, and governance (ESG) investing, is viewed by many investors as offering an opportunity to positively influence issues important to them, such as climate change, diversity, and wealth inequality. Investors who seek to "do good" through their investment choices can potentially face trade-offs in their portfolios' characteristics and outcomes.

"Investors should set realistic expectations when they seek to combine value investing and climate investing."

We illustrate the types of trade-offs investors with dual social and investment objectives must make in their portfolios when considering a carbon reduction constraint on a value manager. Companies with attractive valuation multiples typically have high-carbon profiles (e.g., in 2021, a typical value portfolio had a carbon intensity level higher than three times the market average). Therefore, the opportunity set of low-carbon deep-value companies is very limited. The result is that the preference for a low carbon intensity level in a value strategy easily leads to impractically high levels of concentration and illiquidity. Trade-offs in both the amount of carbon reduction and in the ability to achieve a deep-value bias are a necessary part of meeting these dual objectives.

Our findings indicate that investors should set realistic expectations when they seek to combine value investing and climate investing.[1]

research affiliates

A Brief Description of Our Analysis

We chose to analyze a carbon reduction constraint because carbon emissions data tend to be more measurable and quantifiable than other ESG metrics, which suffer from lack of disclosure, inconsistency of definition, and subjectivity by the ratings provider as to relevance and reporting standards. In addition, the much narrower goal of carbon reduction, as opposed to broad ESG investing, introduces significant disparities across sectors. Similarly, whereas we chose to focus on value investing because its relationship with carbon emissions brings forward the most noteworthy observations, the analysis can be applied to other equity factors

Sector Bias in Low-Carbon Investing

The primary source of greenhouse gas (GHG) emissions is the burning of fossil fuels, which is highly correlated with certain types of business activity (i.e., different sectors have very different carbon emission profiles). For example, energy and utility companies tend to create much more carbon dioxide than financial companies. Consequently, a social objective of a reduced-carbon profile leads to making significant active sector bets. Utilities, followed by basic materials, are the top sector contributors to GHG emissions, accounting for almost two-thirds of total annual emissions in the global developed markets. In contrast, the telecommunications, technology, and health care sectors each contribute less than 1% to total annual GHG emissions. The carbon intensity measure shows a similar pattern of the various carbon exposures of the sectors regardless of the scalar (revenues or EVIC) used.[2]

The sectors' carbon profiles have a significant impact on an investment portfolio. A low-carbon investing objective necessarily and strongly pushes asset allocations away from utilities (and basic materials and energy) companies and into technology (and telecom and financial) companies or other sectors with a low-carbon footprint. From 2016 to 2021, our study period, the very-high-carbon and very-low-carbon sectors became remarkably cheap and expensive, respectively. In this environment, if a decarbonization requirement is in place, a value strategy struggles to maintain the desired position in undervalued companies.

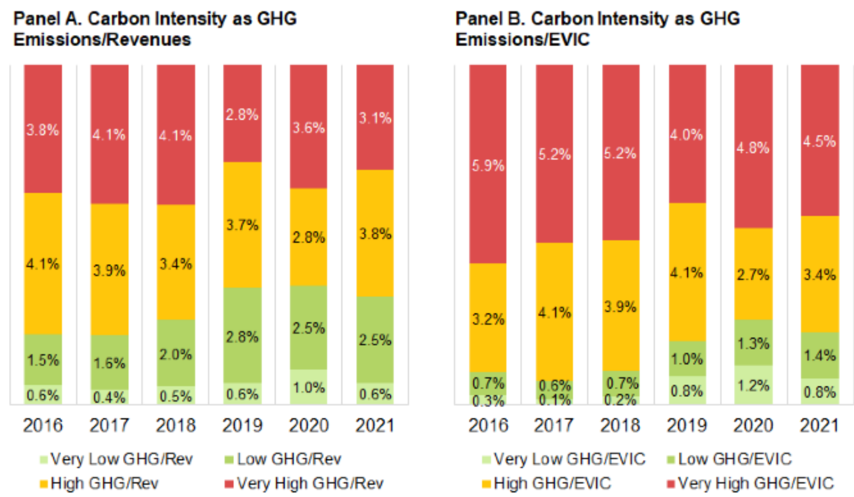
Low Carbon Intensity vs. Deep-Value Objective

To put the relationship of valuation and carbon intensity in context, we examine the carbon intensity levels of companies that have a high fundamentals-to-market ratio (aka a deep-value stock). For each year in our sample, we rank all stocks in the starting universe by composite valuation ratio from high to low, then select the top 10% of total market value (approximately 30% by count). We break down this selection into tiers of carbon intensity. Companies that have log of carbon intensity *greater* than one standard deviation above or below the market average are considered *very high* or *very low*, respectively, and those with log of carbon intensity *less* than one standard deviation above or below the market average are considered *high* or *low*, respectively.

> *"Investors should be conscious of how their social responsibility objective can impact their portfolio's investment performance, while also being conscious of how meeting their investment performance target can impact their ESG goal."*

The opportunity set of deep-value low-carbon stocks is extremely limited. From 2016 to 2021, 3% or less, on average, of the total market value of the 10% deepest-value stocks had attractive valuations and below-average carbon intensity.

Market-Value Weight of Deep-Value Companies by Tiers of Carbon Intensity, 2016–2021



Source: Research Affiliates, LLC, based on data from Worldscope, Datastream, and ISS ESG.
Note: The methodology is to select the top 10% by market value of the developed-market large and mid-sized company universe by high composite-valuation ratio and then break down by tiers of carbon intensity. Companies that have log of carbon intensity *more* than one standard deviation above or below the universe average are considered *very high* or *very low*, respectively, and companies that have log of carbon intensity less than one standard deviation above or below the universe average are considered *high* or *low*, respectively.

The majority of value companies have a high level of carbon intensity. On average, 7.2% of the 10% of market value representing the deepest-value (i.e., highest composite valuation) companies have either high or very high carbon intensity when measured by revenues and 8.5% when measured by EVIC. This finding illustrates the challenge imposed by the desire to decarbonize a deep-value portfolio—from 2016 to 2021 only 3% or less, on average, of the total market value of the 10% deepest-value stocks had attractive valuations and below-average carbon intensity. The opportunity set is extremely limited.

Carbon Intensity's Relationship with Size and Momentum

By their nature, the size and momentum factors suggest entirely different relationships with carbon intensity. Small-sized companies correlate strongly with deep-value companies because the size characteristic (market capitalization) is in the denominator of the fundamentals-to-market ratios. In contrast, high-momentum (high short-term return) stocks gravitate away from a deep-value classification as their prices outpace the trend of their fundamentals.

We find that carbon intensity is inversely related to company size, a relationship that is statistically significant using both revenues and EVIC as the denominator.[3] This observation is intuitively appealing because larger companies have more resources to invest in improving efficiency and raising productivity for every unit of carbon pollution. Carbon intensity is also significantly and inversely related to recent stock returns.

In examining changes in carbon intensity, we find that GHG emissions depend on lines of business, which tend to change very little from year to year. A significant revision of carbon intensity is possibly caused by a big change in the scalar, whether revenues or EVIC. A decarbonization process reallocates to companies with decreasing carbon intensity. Holding all else constant, this process sells out of companies with decreasing revenues or EVIC and buys into those with increasing revenues or EVIC. Because the change in EVIC is driven mostly by the change in market capitalization, the decarbonization process resembles a strategy that buys stocks with strong momentum.

In summary, lowering carbon intensity leads to larger size and stronger momentum characteristics in an investment portfolio. Both compete against classifying the portfolio as deep value.

Decarbonization Portfolio Analysis

We apply a simple, straightforward process for constructing a deep-value low-carbon strategy and demonstrate what such a portfolio would look like. Our starting point, or baseline, is a naïvely constructed value strategy. To create the baseline portfolio we rank the universe of large and mid-sized companies in the developed markets by their composite valuation and allocate to the cheapest 10% of stocks based on market-cap weights. (The appendix describes our empirical analysis.)

We attempt to lower the baseline portfolio's carbon intensity using an iterative process of reallocating weights from those companies with high carbon intensity to their lower carbon intensity counterparts.[4] We limit reallocations to only those stocks in the baseline portfolio in order to preserve the value characteristics of the portfolio. Whether measured by the price-to-book ratio or the composite valuation ratio, the carbon-constrained value strategies stay within 28% and 36% as cheap as the universe's price-to-fundamentals multiple.

To construct the portfolios, we first set target carbon intensity at 100% of the market-cap-weighted average of the starting universe and then progressively lower the target to 50% of the universe average. In 2021, the carbon intensity of the universe, which is the reference for setting the carbon intensity target, is 164 t $CO2$/\$M of revenues. As expected, the naïve value strategy has high average carbon intensity, at 130% of the universe average, or 209 t $CO2$/\$M. When measured with EVIC, however, in 2021 carbon intensity is 60 t $CO2$/\$M for the universe and 208 t $CO2$/\$M for the naïve value strategy (3.45 times the universe). For the value strategies, the carbon intensity relative to the universe is always higher when intensity is measured as GHG Emissions/EVIC.

The 100% target is appropriate for investors who wish to preserve as many value portfolio characteristics as possible, while not producing more than the market average of carbon pollution. The universe-average targets of 70% and 50% are related to two benchmarks proposed by the EU TEG: the Climate Transition Benchmark (CTB) and Paris-Aligned Benchmark (PAB). The 70% target adheres to the CTB requirement and the 50% target adheres to the more stringent PAB requirement. The 50% target is also similar to the target level of a CTB-compliant strategy five years after inception, because the EU TEG guideline also calls for a 7% year-over-year reduction in carbon intensity.[5]

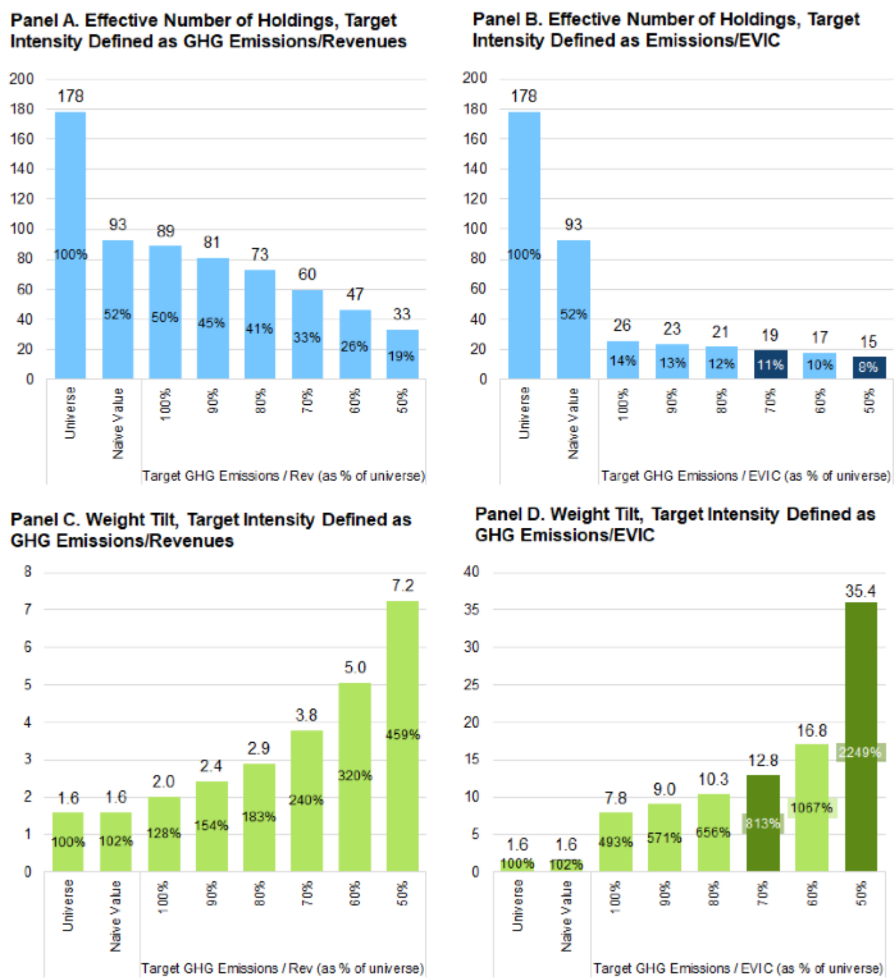
The iterative-weight updating process steers portfolios toward low carbon with little constraints. In theory we should be able to achieve the decarbonization targets without harming the portfolio's valuation. Because of scarce availability of low-carbon and deep-value companies, the decarbonization bias leads, however, to impractical portfolio characteristics. These portfolio characteristics—high concentration and low liquidity—are the key drivers of the transaction costs required to maintain the value strategies.

As of March 31, 2021, the naïve value strategy had 93 effective holdings, a concentration level roughly double that of the universe. Concentration increased further with lower target carbon intensity. At 70% and 50% of the universe average (the levels required by the EU CTB and EU PAB, respectively), when we measure carbon intensity by GHG Emissions/EVIC, the effective number of holdings is reduced to only 19 and 15, respectively. In other words, allocations are limited to effectively less than 20 holdings in order to comply with the EU benchmarks, despite a starting universe of more than 600 holdings in the naïve value strategy.

The weight tilt, defined as the average deviation from the trading-volume weight of the holdings, is a measure of portfolio illiquidity and increases with higher allocations to less-liquid holdings. The universe and the naïve value strategy are weighted by market capitalization, which is highly correlated to liquidity, resulting in a low weight tilt of 1.6 as of March 31, 2021. The weight tilt increases rapidly with increasing restrictions on carbon, rising to 12.8 and 35.4 for the 70% and 50% targets, respectively, which comply with the EU benchmarks. Assuming a similar average turnover rate, the costs of rebalancing the value strategy at these decarbonization levels are 8 times (12.8/1.6) and 22 times (35.4/1.6) more costly than the naïve value strategy![6] If the expected excess return of the baseline value strategy is not more than 8 times or 22 times the expected transaction costs, the expected excess return is completely eroded by the low-carbon restrictions.[7] In such a case, the investment objective and the social objective of this strategy cannot coexist.

Scarce availability of deep-value low-carbon companies leads a decarbonization bias in a value strategy to produce portfolios with high concentration and less-liquid holdings.

Portfolio Characteristics of Decarbonized Value Strategies as of March 31, 2021



Source: Research Affiliates, LLC, based on data from Worldscope, Datastream, and ISS ESG.

Note: The starting universe is the large and mid-sized companies in developed markets. The naïve value strategy is the top 10% cheapest market value of the starting universe by composite valuation ratio, weighted by market capitalization. Panels A and B show the effective number of holdings (concentration) of decarbonized value portfolios, with the target measured as GHG Emissions/Revenues and GHG Emissions/EVIC, respectively. Panels C and D show the weight tilt (liquidity) of decarbonized value portfolios, with the target measured as GHG Emissions/Revenues and GHG Emissions/EVIC, respectively. The data for the two carbon-intensity targets that comply with EU TEG CTB and PAB are highlighted.

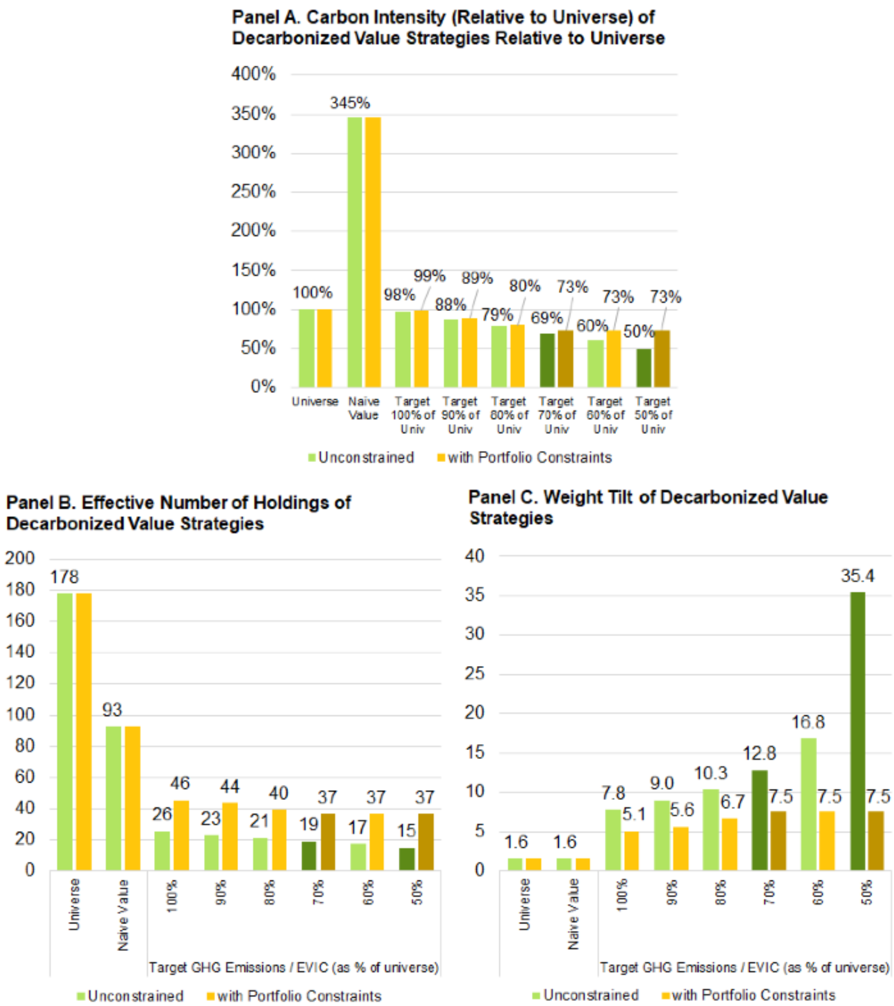
The effective number of holdings = $(\sum_i \omega_i^2)^{-1}$ and the weight tilt = $\sum_i (\omega_i \frac{\omega_i}{\omega_{adv,i}})$, where ω_i and $\omega_{adv,i}$ are the final strategy weights and the volume weights of the portfolio, respectively.

Next, we use a similar weight-updating process, but impose two common construction constraints to keep the portfolios from being too concentrated in illiquid holdings: we limit the weight of a single holding to 1) no more than 5% and 2) no more than 10 times its volume weight.

The newly introduced implementation constraints are able to improve the characteristics related to transaction costs, so that running the value strategy becomes more practical. For example, as of March 31, 2021, the expected transaction cost of targeting 50% of universe intensity is 5 times, rather than 22 times, that of the baseline strategy (weight tilt = 7.5, ~ 5x of baseline). Unfortunately, when carbon reduction targets are measured using EVIC, because the baseline portfolio has immense carbon intensity of 345%, meeting the 70% and 50% targets is too difficult and the improvements are rendered unimportant. When targets are measured using revenues, however, the resulting portfolios are able to successfully meet the targets.

Common portfolio construction constraints that limit concentration and illiquidity make running a value strategy with a decarbonization objective more practical. When carbon reduction targets are measured using EVIC, however, the 70% and 50% targets cannot be met.

Carbon and Portfolio Characteristics of Decarbonized (CI = GHG Emissions/EVIC) Value Strategies with Implementation Constraints as of March 31, 2021



Source: Research Affiliates, LLC, based on data from Worldscope, Datastream, and ISS ESG.

Note: The starting universe is the large and mid-sized companies in developed markets. The naive value strategy is the top 10% cheapest market value of the starting universe by composite valuation ratio, weighted by market capitalization. Panel A shows the carbon intensity measured as GHG Emissions/EVIC; the decarbonization process fails to lower intensity below 70% of the universe intensity. Panels B and C show decarbonized portfolio's effective number of holdings (concentration) and weight tilt (liquidity). The data for the two carbon-intensity targets that comply with the EU TEG CTB and PAB targets are highlighted.

The effective number of holdings = $(\sum_i \omega_i^2)^{1}$ and the weight tilt = $\sum_i(\omega_i \frac{\omega_i}{\omega_{adv,i}})$, where ω_i and $\omega_{adv,i}$ are the final strategy weights and the volume weights of the portfolio, respectively.

The Trade-Off between Doing Good and Doing Well

Achieving a climate objective together with an investment objective (value) is not a trivial task. An investor seeking to satisfy both should consider relaxing their climate objective while making practical adjustments to the style- or factor-investing methodology they have selected to meet their investment objective. In the case of a carbon intensity reduction objective, one possible trade-off is to use revenues (or other fundamental metrics) as the denominator for the carbon intensity calculation, because removing price in the formula can reduce the shift away from cheap stocks. The investor could also select a more-relevant benchmark, such as a value index, for the 30% or 50% carbon reduction target. Doing so could help style managers and investors remain authentic to their investment objective, while working to address their concerns about global warming.

When considering climate investing, investors should be conscious of how their social responsibility objective can impact their portfolio's investment performance, while also being conscious of how meeting their investment performance target can impact their carbon reduction goal. Only through a detailed analysis of how best to balance the two goals, followed by a thoughtful portfolio construction process, can investors set realistic carbon reduction and investment goals to reach their preferred balance between "doing good" and "doing well."

Appendix: Empirical Parameters

Our analysis includes large and mid-sized companies in the developed markets over the six-year period 2016–2021 for which we observe more than a 90% overlapping market value between our equity universe and the carbon emissions data. We use greenhouse gas emissions data for the companies in our study provided by Institutional Shareholder Services (ISS), which collects publicly available self-reported GHG emissions data and supplements it with analysts' reviews and estimations. ISS follows a year-end (December 31) reporting cycle. We lag the annual ISS dataset by three months and merge it with the investable equity universe defined as the top 86% of market value of each country.

We use *carbon footprint* to measure a company's carbon emissions. Following the GHG Protocol, we define this metric as the sum of direct emissions (Scope 1) and indirect emissions (Scope 2) derived from purchased energy carriers. To account for the fact that larger companies produce more GHG than smaller companies, we calculate a company's *carbon intensity*, defined as the company's direct and indirect GHG emissions scaled by the size of its business.

Two methods are commonly used to scale carbon emissions. The first is *total revenues generated*, adopted by a primary climate risk-assessing agency and an investment benchmark administrator.[8] The second method is *enterprise value including cash* (EVIC), which was proposed by the EU TEG. The Technical Expert Group (TEG, 2019) provides guidelines for the EU in designing investment benchmarks.[9]

Endnotes

1. We provide a full explanation of our analysis and findings in Chow and Li (2022).
2. Brightman et al. (2022) examine the two carbon emissions scalars of revenues and EVIC to determine if one is a better measure for investors to use. They find the two methods are largely equivalent and both are acceptable for investment purposes as long as companies are compared with their region and sector peers.
3. We examine the dependency of carbon on factor characteristics in our data sample by testing the level and change of carbon intensity as dependent variables on market capitalization, composite valuation ratio, and prior one-year return skipping one month, as representing the characteristics of the size, value, and momentum factors, respectively.
4. We provide details of how the portfolio weights are scaled in Chow and Li (2022).
5. The initial carbon requirement for the CTB benchmark is 70% of universe average. It shrinks to below 50% of universe average after five years of annual 7% reduction ($70\% * (1 - 7\%)^5 = 49\%$). The initial PAB requirement is stringent, but it can be met through exclusions of fossil fuel and electricity producers with high GHG emissions, which is not recommended for CTB benchmarks.
6. Li et al. (2019) present a framework to estimate transaction costs of managing systematic rebalancing strategies with the characteristics of the strategy. According to their model, transaction costs increase with turnover rate and weight tilt and decrease with the aggregated volume of the selected stocks.
7. In this paper we use an overly naïve value strategy. For reference, the transaction costs of managing $10B of a commercially available concentrated value strategy in the developed markets is 0.27%, according to Li et al. (2019).
8. https://www.spglobal.com/spdji/en/documents/additional-material/faq-trucost.pdf
   https://www.spglobal.com/spdji/en/documents/additional-material/spdji-esg-carbon-metrics.pdf
9. EU TEG anticipates reviewing its guidelines every three years. The latest available guidelines are dated September 30, 2019.

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