A G E N D A

BOARD MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
FRIDAY, DECEMBER 9, 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/82938741911 and following the prompts to enter your name and email, or (2) calling (669) 219-2599 or (669) 900-9128 and entering Meeting ID 82938741911#.

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 MEETING MINUTES

3.01 Minutes for the Board Meeting of November 4, 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.

11.02 Board to consider and take possible action on any new travel request

11.03 Legislative Summary Report - None; No changes since 11/2022

11.04 CEO Report 217

11.05 Board to receive and file reports

12.0 CORRESPONDENCE

12.01 Letters Received (0)

12.02 Letters Sent (0)

12.03 Market Commentary/Newsletters/Articles

01 Capital Group 220
Rising yields put bond markets
back on a road to normal
September 1, 2022

02 Itau USA Asset Management, Inc 227
Why Emerging Markets Debt (EMD) Teach-in Presentation
September 2022

03 Milliman 262
Public Pension Funding Index
October 2022

04 Invesco 265
Emerging Market Marco Insights
Unlocking EM debt opportunities could
hinge on the next three to six months
November 2022

05 PIMCO 269
Risk-Off, Yield-On
November 2022

06 Standard & Poor's Global Ratings 275
Pension Brief: A Closer Look at a New Actuarial
Liability Measure and What it Means for U.S.
Public Finance Issuers
November 15, 2022

07 ai.cio.com 279
Final DOL Rule Permits ESG in
ERISA Plans
November 23, 2022

08 NCPERS 282
Monitor
November 2022

13.0 COMMENTS

13.01 Comments from the Board of Retirement

14.0 CALENDAR

14.01 Board Meeting January 20, 2023 at 9:00 AM

14.02 CEO Performance Review Committee, TBD

14.03 Board Meeting February 10, 2023 at 9:00 AM

15.0 ADJOURNMENT

M I N U T E S

REGULAR MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
FRIDAY, NOVEMBER 4, 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, Jennifer Goodman, Robert Rickman (Out at 9:47 a.m.) Chanda Bassett, JC Weydert, Steve Moore, Raymond McCray and Michael Restuccia, presiding.
MEMBERS ABSENT: Michael Duffy
STAFF PRESENT: Chief Executive Officer Johanna Shick, Assistant Chief Executive Officer Brian McKelvey, Retirement Investment Officer Paris Ba, Management Analyst III Greg Frank, Information Systems Analyst II Lolo Garza, Information Systems Specialist II Jordan Regevig, Administrative Secretary Elaina Petersen
OTHERS PRESENT: Deputy County Counsel Jason Morrish, David Sancewich, Judy Chambers (Via Zoom) and Luke Riela (Via Zoom) of Meketa

2.0 PLEDGE OF ALLEGIANCE

2.01 Led by Chanda Bassett

3.0 APPROVAL OF MINUTES

3.01 Minutes for the Board Meeting of October 5, 2022

3.02 Minutes for the Special Board Meeting of October 6, 2022

3.03 The Board voted unanimously (8-0) to approve the Minutes of Board Meeting of October 5, 2022 and the Minutes of the Special Board Meeting of October 6, 2022. (Motion: Bassett; Second:Goodman)

4.0 PUBLIC COMMENT

4.01 There was no public comment

5.0 CONSENT ITEMS

5.01 Service Retirements (10)

5.02 General (1)

01 Return to active membership - Maria A. Alcala

5.03 The Board voted unanimously (8-0) to approve the Consent Calendar items (Motion: Bassett; Second: Keokham)

6.0 PRIVATE EQUITY MANAGER PRESENTATIONS

6.01 Presentation by Gaurav Bhandari, Tobin Whamond and Sang Gupta of Long Arc Capital

6.02 Presentation by Matt Wilson and Tim Hsu of Oaktree

7.0 CLOSED SESSION

THE CHAIR CONVENED CLOSED SESSION AT 10:14 A.M. AND ADJOURNED CLOSED SESSION AND RECONVENED OPEN SESSION AT 12:09 P.M.

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

County Counsel noted there was nothing to report out of Closed Session on this item.

7.02 Personnel Matters
California Government Code Section 54957
Employee Disability Retirement Application(s) (1)

01 Stacey Smith
Eligibility Worker II
Nonservice-Connected Disability

The Board voted unanimously (7-0) to grant the application for nonservice-connected disability retirement (Motion: Keokham; Second: Bassett)

7.03 Conference with Real Property Negotiator - California Government Code Section 54956.8

01 Property: 6 S. El Dorado Street, Suite 400
Stockton, California 95202

Negotiating parties: Johanna Shick, Chief Executive Officer, SJCERA
Connie Hart, Assistant Director General Services, San Joaquin County

Under negotiation: Lease price and terms

County Counsel noted there was nothing to report out of Closed Session on this item.

8.0 INVESTMENT CONSULTANT REPORTS

8.01 Presentation by David Sancewich of Meketa Investment Group

01 Monthly Investment Performance Updates

a Manager Performance Flash Report

b Economic and Market Update

8.02 Pacing Studies

01 Presentation by David Sancewich, Judy Chambers and Luke Riela of Meketa Investment Group

a Private Equity

b Real Estate

c Credit

02 The Board voted unanimously (7-0) to approve the three Pacing Plans (Motion: Keokham; Second: Bassett)

8.03 Roundtable Summary

01 Memo from Meketa

02 Roundtable Evaluation Results

8.04 The Board received and filed reports.

9.0 EVALUATION OF CONSULTANTS

9.01 Consulting Actuary

9.02 Investment Consultant

9.03 The Board received and filed reports

10.0 STAFF REPORTS

10.01 Trustee and Executive Staff Travel

01 Conferences and Events Schedule

02 Summary of Pending Trustee and Executive Staff Travel

03 Summary of Completed Trustee and Executive Staff Travel

10.02 The Board received and filed reports

10.03 Legislative Report

10.04 CEO Report

10.05 The Board received and filed reports

11.0 SACRS BUSINESS MEETING

11.01 SACRS Business Meeting Packet - November 11, 2022

11.02 The Board received and filed report. There was no SACRS Business Meeting vote to discuss.

12.0 CORRESPONDENCE

12.01 Letters Received (0)

12.02 Letters Sent (0)

12.03 Market Commentary/Newsletters/Articles

01 Research Affiliates
ESG Is a Preference, Not a Strategy
January 2022

02 Research Affiliates
No Excuses: Plan Now for Recession
June 2022

03 Stone Harbor
Laying Out the Path to a “Softish” Landing
September 2022

04 FundFire
BlackRock EXEC Warns ESG Politicization Threatens Neutrality of Capital Markets
October 3, 2022

05 NCPERS Monitor
October 2022

06 SACRS Magazine
Summer 2022

07 NCPERS
PERSist
Fall 2022

13.0 COMMENTS

13.01 Trustee McCray asked to have education on ESG Issues outlined in the Research Affiliates Article and also requested an update on the portfolio's expected performance in light of increased earning on cash and short term bonds.

13.02 Trustee Bassett requested augmenting the quarterly due diligence report by providing manager profile presentation on a few managers the Board hasn't had contact with recently.

14.0 CALENDAR

14.01 Administrative Committee Meeting November 22, 2022, at 9:00 a.m.

14.02 Board Meeting December 9, 2022 at 9:00 a.m.

14.03 Board Meeting January 20, 2023 at 9:00 a.m.

15.0 ADJOURNMENT

15.01 There being no further business the meeting was adjourned at 12:42 p.m.

Respectfully Submitted:

____

Michael Restuccia, Chair

Attest:

____

Raymond McCray, Secretary

San Joaquin County Employees Retirement Association

December 2022

5.01 Service Retirement — Consent

01 DEBRA J ANDRIESSEN — Child Support Program Manager, Child Support Svs

Member Type: General
Years of Service: 05y 03m 25d
Retirement Date: 10/5/2022
Comments: Incoming reciprocity and concurrent retirement with SCERS.

02 LINDA A BUCK — Deferred Member, N/A

Member Type: General
Years of Service: 08y 08m 29d
Retirement Date: 10/1/2022
Comments: Incoming reciprocity and concurrent retirement with CalPERS. Deferred from SJCERA since May 2006.

03 KRISTINE M CAVANAGH — Deferred Member, N/A

Member Type: General
Years of Service: 05y 00m 05d
Retirement Date: 10/1/2022
Comments: Deferred from SJCERA since March 2015.

04 MORINE CODNER — Deferred Member, N/A

Member Type: General
Years of Service: 03y 04m 29d
Retirement Date: 10/1/2022
Comments: Outgoing reciprocity and concurrent retirement with CalPERS. Deferred from SJCERA since June 2011.

05 DAVID A DAVIS — Crafts Worker III, Hosp Plant Maintenance

Member Type: General
Years of Service: 28y 01m 17d
Retirement Date: 10/11/2022

06 CHERIE A FLORES — Employment Training Spec II, HSA - Gain

Member Type: General
Years of Service: 17y 06m 05d
Retirement Date: 10/3/2022

07 TIMOTHY L PELICAN — AgricIturalCommissioner, Agricultural Commissioner

Member Type: General
Years of Service: 07y 11m 29d
Retirement Date: 10/1/2022
Comments: Incoming reciprocity and concurrent retirement with StanCERA and CalPERS.

08 NATALIE G PIPER — Deferred Member, N/A

Member Type: General
Years of Service: 06y 05m 05d
Retirement Date: 6/21/2022
Comments: Tier 2 member - eligible to retire with 5 years of service. Deferred from SJCERA since March 2022.

09 STEPHEN J POSTHAUER — Biomedical EquipTechnician II, Hosp Biomedical Engineering

Member Type: General
Years of Service: 05y 05m 24d
Retirement Date: 10/1/2022
Comments: Tier 2 member - eligible to retire with 5 years of service.

10 **ELIZABETH L STOCKMAN**

EEDD Intake & Referral Spec II
Employment - Economic Developm

Member Type: General
Years of Service: 22y 08m 17d
Retirement Date: 10/17/2022

SILVER ROCK
TACTICAL ALLOCATION STRATEGY

DECEMBER 9, 2022 | SAN JOAQUIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Organization Overview

INVESTMENT OFFERINGS

SILVER ROCK

- **Credit-focused** asset management firm with evergreen offerings, draw-down vehicles, co-investments, and a structured corporate credit and CLO platform
- **$6 billion+ AUM** on behalf of a high quality and stable institutional investor base
- **Core of experienced investment team** in place for over 12 years, initially exclusive to a Los Angeles-based ultra high-net-worth family and their related entities
- **Robust and tested** infrastructure and operations

STRATEGIES

PRIVATE CREDIT

SILVER ROCK CAPITAL PARTNERS LP

TACTICAL ALLOCATION STRATEGY

PUBLIC CREDIT

SILVER ROCK FINANCIAL LP

OPPORTUNISTIC CREDIT STRATEGY

CORE CREDIT STRATEGY

LEVERED LOANS STRATEGY

LIQUID CREDIT STRATEGY

STRUCTURED CORPORATE CREDIT

SILVER ROCK MANAGEMENT LLC

CLO PLATFORM

Organization Overview

ORGANIZATIONAL CHART | As of September 30, 2022

SILVER ROCK

SILVER ROCK EXECUTIVES

Carl Meyer
Chief Executive Officer & Chief Investment Officer

Michael Haberkorn
Co-Portfolio Manager, Public Credit

Vinay Kumar
Head of Private Credit

Andrea Bollyky
Global Head of Investor Relations & Business Development

Patrick Hunnius
General Counsel & Chief Compliance Officer

Amit Devgan
Chief Financial Officer

INVESTMENT PROFESSIONALS

Carl Meyer
- *Chief Investment Officer*

Michael Haberkorn
- *Co-Portfolio Manager, Public Credit*

Vinay Kumar
- *Head of Private Credit*

Tim Milton
- *Portfolio Manager, CLO Platform*

Mark Afrasiabi
- *Research*

Imran Ahmed
- *Research*

Allen Fu
- *Research*

Olivia Guo
- *Research*

Pratyusha Gupta
- *Research*

Praneet Kandula
- *Research*

Jonathan Krause
- *Research*

Mitchell Schinbein
- *Research*

Eric Weiss
- *Research*

Jason Gonzalez
- *Research*

Vamsi Sanagavarapu
- *Research*

Jason Seo
- *Research*

Andrew Zheng
- *Research*

Erich Mueller
- *Quantitative & Risk Analytics*

Evan Cascio
- *Trading*

IR & BUSINESS DEV

- **Andrea Bollyky**
  Global Head of Investor Relations & Business Development
- **Bridget McKenna**
- **1 additional professional**

LEGAL & REGULATORY

- **Patrick Hunnius**
  General Counsel & Chief Compliance Officer
- **Yochun Katie Lee**
- **1 additional professional**

OPERATIONS & ACCOUNTING

- **Amit Devgan**
  Chief Financial Officer
- **Julie Pham**
- **7 additional professionals**

DIVERSITY AND INCLUSION | As of September 30, 2022

SILVER ROCK

Silver Rock values the diversity of our employees

Silver Rock seeks to hire the most talented professionals from ethnically diverse, religious, and educational backgrounds to facilitate the innovation of investment ideas and successful management of our organization

We recruit, hire, train, promote, and make every effort to provide fair and equal treatment on the basis of merit

We pledge to treat all employees fairly, regardless of actual or perceived race, color, religion, sex, gender, or other basis protected by law

MANAGEMENT COMPANY OWNERSHIP

SILVER ROCK CAPITAL PARTNERS, LP

55% owned by Women and/or Ethnically Diverse

DIVERSITY, EQUITY & INCLUSION INITATIVES

COMMUNICATION

TRANSPARENCY

MENTORSHIP

ENGAGEMENT

DYNAMIC INVESTMENT APPROACH

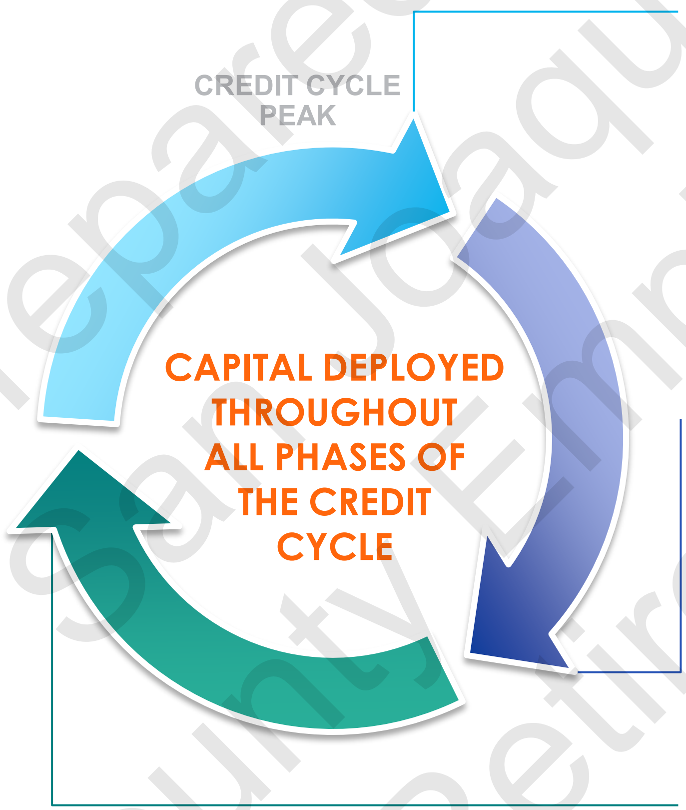
SILVER ROCK
CAPITAL PARTNERS

Hybrid approach targeting bespoke private credit and dislocated public credit investments

Focused on bespoke credit-oriented special situations and targeted liquid credit investments during periods of dislocation

Invests throughout credit cycle by providing capital solutions including growth capital, transformative capital and liquidity injections across major illiquid strategies

Unique structuring and sourcing capabilities with experience gained over 10 years, Silver Rock's investment team is uniquely positioned to provide creative structuring solutions using the full capital structure



STAGE 1:
PEAK CREDIT & LATE CYCLE

STAGE 2:
DOWNTURN & CONTRACTION

STAGE 3:
RECOVERY & EXPANSION

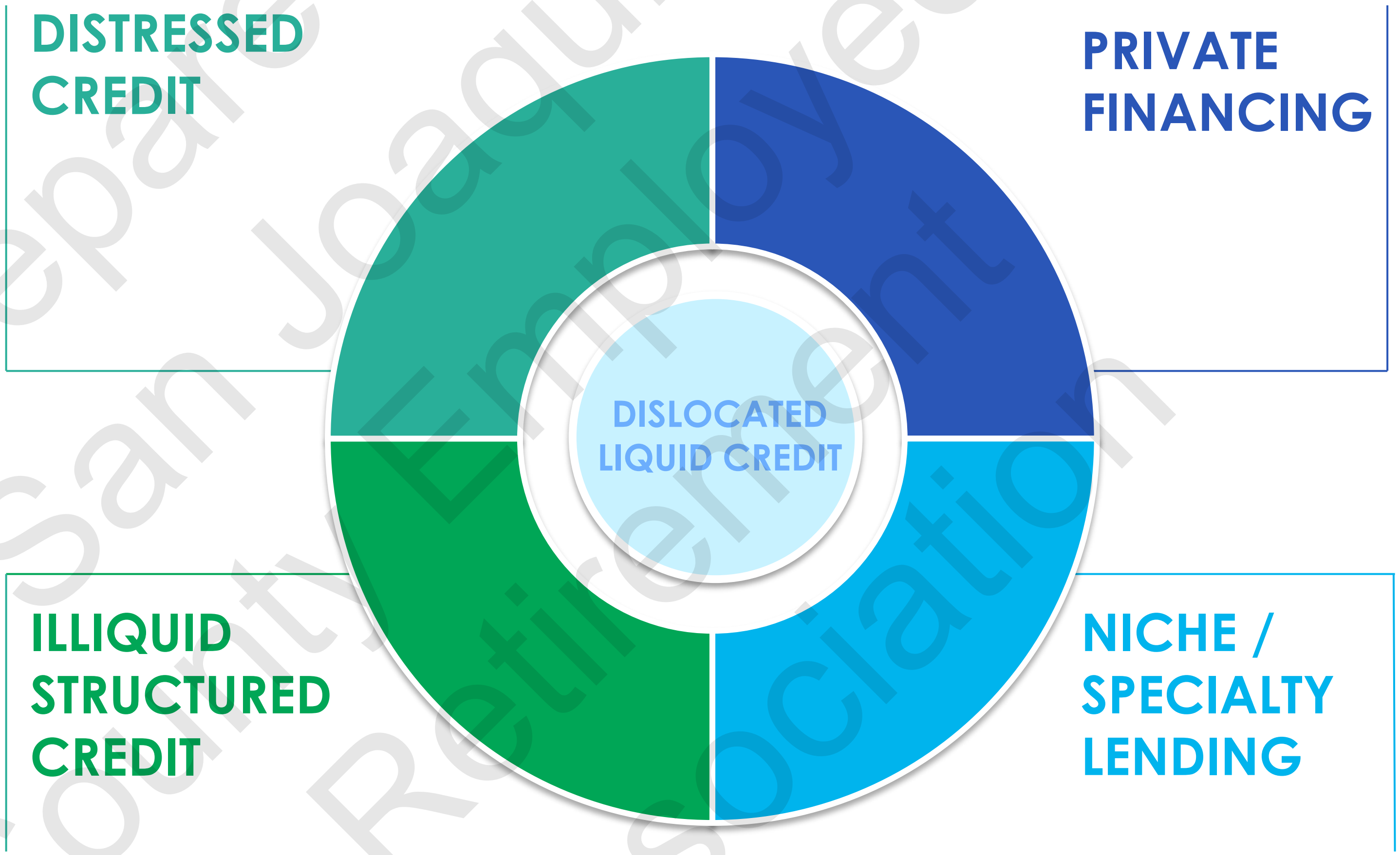
Tactical Allocation Strategy
CREDIT CATEGORIES

Special situations and capital solutions across illiquid and dislocated liquid credit categories

Invest across four major illiquid credit categories and targeted liquid credit investments during periods of dislocation

Sourced from Silver Rock's deep industry resources and long-standing relationships with founders, entrepreneurs, private equity and venture capital sponsors

Focus on strong covenants and considerations of the goals and objectives for all stakeholders



Tactical Allocation Strategy

EXPERIENCED INVESTMENT TEAM

SILVER ROCK CAPITAL PARTNERS

Deep, experienced, and tenured team responsible for sourcing, structuring and rigorous investment underwriting

Matrix approach to ensure collaboration from the bottoms-up and top-down with the ability to invest across the capital structure in a variety of situations and liquidity profiles

Sector focused Research Analysts are responsible for covering multiple sectors and provide relative value perspective across public and private credit

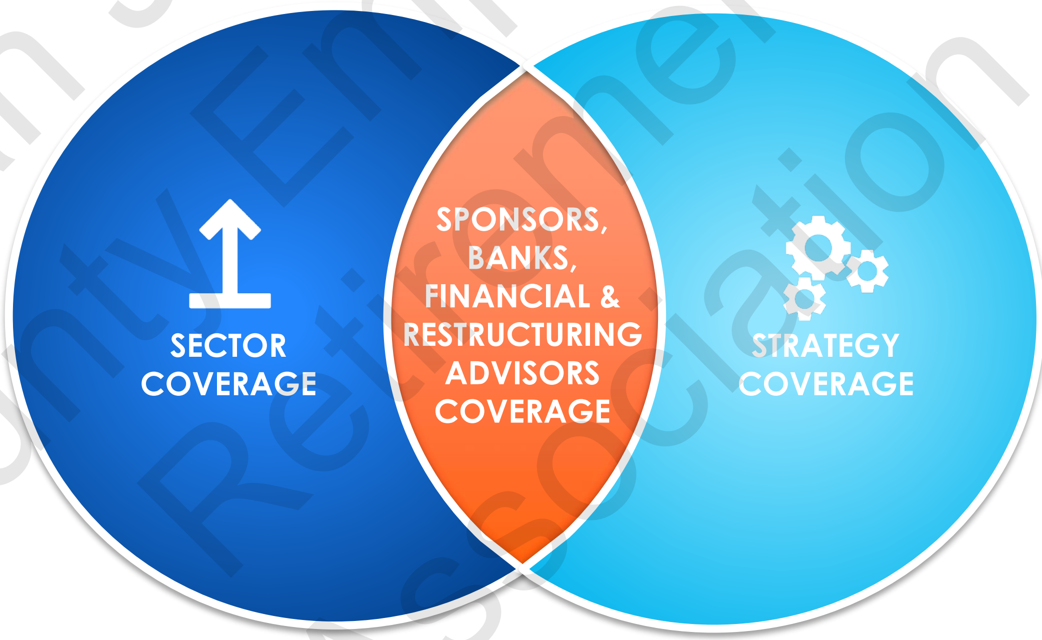
Strategy focused Analysts collaborate to provide granular private credit expertise and creative structuring solutions

Analysts maintain coverage responsibilities across sponsors, banks, financial & restructuring advisors

INVESTMENT COMMITTEE

Vinay Kumar	Carl Meyer	Michael Haberkorn
Head of Private Credit	*Chief Investment Officer*	*Co-Portfolio Manager, Public Credit*

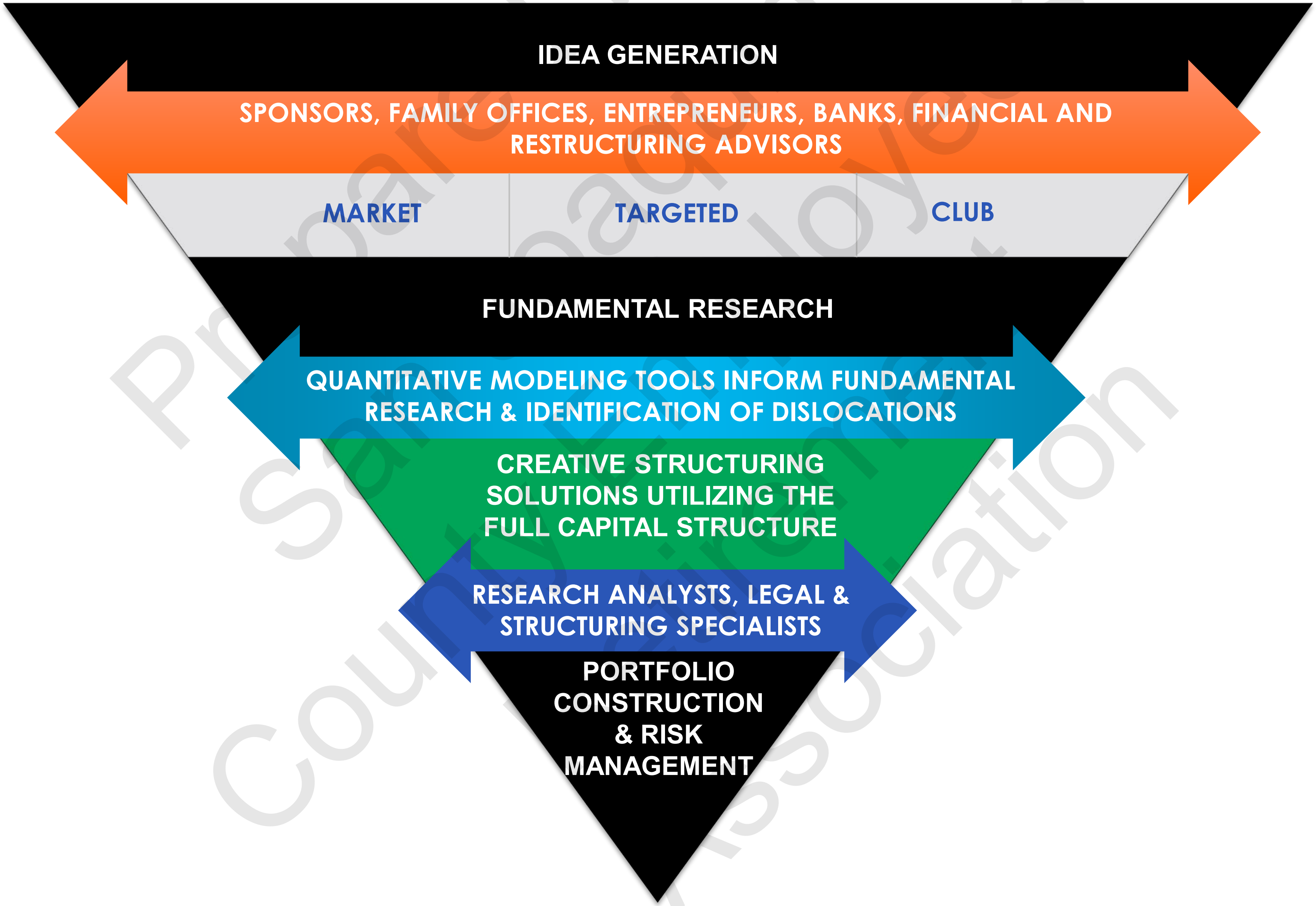
INVESTMENT TEAM



Tactical Allocation Strategy

INVESTMENT PROCESS

CAPITAL SOLUTIONS AND MARKET DISLOCATIONS



Tactical Allocation Strategy

SUMMARY OF TERMS – VINTAGE '22

SILVER ROCK
CAPITAL PARTNERS

CAPITAL RAISE

Target Fundraise:
- $3 billion

Anticipated Closing Schedule:
- January 1, 2023
- April 1, 2023

KEY TERMS

Vehicles Available
- Commingled (Onshore and Offshore Feeders)
- Fund-of-One (Evergreen or Vintage Specific)
- SMA (Evergreen or Vintage Specific)

Structure
- Class A: Managed in accordance with Silver Rock Tactical Allocation Strategy
- Class B: Mechanism to facilitate participation in co-investment opportunities

Minimum Investment
- Commingled: $10mm
- Fund-of-One / SMA: $200mm

Vintage Term
- 5 years
- Investment: 3 years with a single one-year extension with LP approval
- Harvest: 2 years with a single one-year extension with LP approval
- Distributions: Quarterly during harvest period

Management Fee
- 1.50%* charged on invested capital

Incentive Fee/Carried Interest
- 15% European waterfall*

Preferred Return
- Hurdle of 7% with full catch up

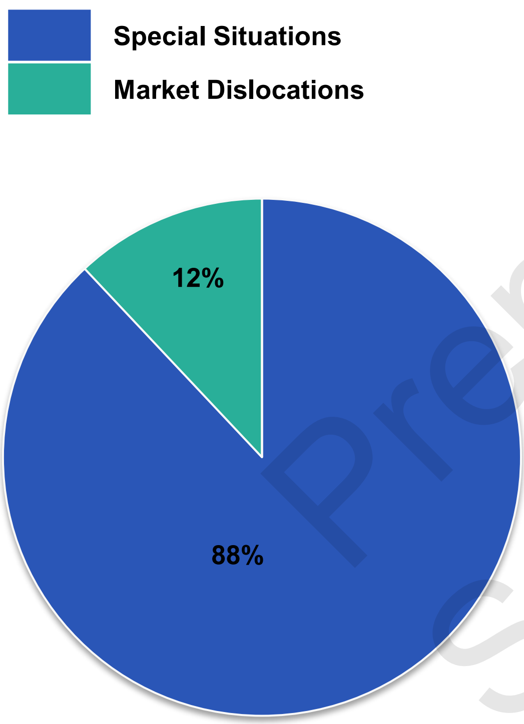
Co-Investments
- Co-investment offered at a maximum 1:3 ratio to commitment
- Commingled: Blind pool offering through Class B
- Fund-of-One / SMA: Deal specific or blind pool through Class B

** Negotiable – discounts available based on size of account.*

Silver Rock Tactical Allocation Strategy - Vintage '19

PORTFOLIO | As of September 30, 2022

SILVER ROCK



PORTFOLIO ALLOCATION PERCENTAGES

Geography refers to primary geographic region.

NOTE: *See additional disclaimers at the end of this report. Information provided for the representative Silver Rock Tactical Allocation Strategy Vintage '19 fund-of-one Class A as of September 30, 2022. (1) Structure combining preferred equity with significant covenants, warrants, and/or bespoke terms.*

PRESENTER BIOGRAPHIES

SILVER ROCK

VINAY KUMAR

Head of Private Credit & Investment Committee Member

Vinay Kumar is Head of Private Credit and Investment Committee member for Silver Rock's private credit strategies. Mr. Kumar has nearly 20 years of experience in the financial services industry. Mr. Kumar joined Silver Rock in 2010 while it managed assets exclusively for an ultra-high net worth family office. Mr. Kumar has deep experience investing in both public and private investments across the capital structure and long-standing relationships with founders, entrepreneurs, sponsors, and advisors. Prior to joining Silver Rock, he was a Senior Analyst at Serengeti Asset Management. He began his career at Goldman Sachs in TMT Investment Banking, Capital Markets, and the Special Situations Group where he focused on investing the firm's balance sheet in TMT assets. Mr. Kumar received his MBA from Harvard Business School and his Bachelor's Degree in Economics from Duke University, with high distinction.

BRIDGET MCKENNA

Investor Relations

Bridget McKenna has 18 years of experience in the financial services industry. Ms. McKenna joined Silver Rock in 2019. Prior to joining Silver Rock, Ms. McKenna was Vice President on the business development team at Nuveen, the investment management division of TIAA. From 2010 through 2016, Ms. McKenna was Vice President on the Client Relations and Business Development team at Aetos Capital where she worked with both institutional investors and consultants on customized alternative solutions across the liquidity spectrum. From 2005 to 2010, Ms. McKenna was a senior research analyst at Segal Advisors and started her career at Fidelity Investments. Ms. McKenna earned a B.A. from Providence College, magna cum laude, in 2004. She is a CFA Charterholder.

DISCLAIMERS

SILVER ROCK

All references to “Silver Rock” and “Organization” include Silver Rock Financial LP (“SRF”) and its relying advisers, which includes Silver Rock Capital Partners, LP. This presentation does not constitute an offer to sell, or a solicitation of an offer to buy, the limited partnership interests of any fund managed by Silver Rock. No such offer or solicitation will be made prior to the delivery of confidential offering memoranda and other materials relating to the matters described herein. Before making an investment decision with respect to such interests, potential investors are advised to carefully read the relevant funds’ confidential offering memorandum, limited partnership agreement, and related subscription documents (collectively, the “Offering Documents”), and to consult with their tax, legal and financial advisors. This presentation contains a preliminary summary of the purpose of a proposed investment vehicle and certain business terms; this summary does not purport to be complete and is qualified and superseded in its entirety by reference to a more detailed discussion contained in the Offering Documents. The General Partner or the Investment Manager has the ability in its sole discretion to change the strategy described herein and does not expect to update or revise this presentation except by means of the Offering Documents.

The presentation was prepared using certain assumptions which are based on current events and market conditions and as such are subject to change without notice and we assume no obligation to update the information. Changes to the portfolio or the assumptions and/or consideration of additional or different factors may have a material impact on the results presented. Not all assumptions have been considered in compiling this data. Actual events are difficult to predict and may differ from those assumed for purposes of this presentation. There is no representation or guarantee regarding the reliability, accuracy, or completeness of this material, and neither Silver Rock nor their respective members, officers or employees will be liable for any damages including loss of profits which result from reliance on this material.

There are certain risks associated with an investment in private funds. For example, such funds can experience volatile results and an investor or limited partner could lose some or all of his investment. A fund investment is very speculative and involves a high degree of risk, and is not suitable for all investors. Further, such an investment is illiquid, due to restrictions on transfer, the lack of registration and the absence of a current or expected secondary market for fund interests or shares. Investment strategies may include non performing/distressed illiquid assets, employ leverage and/or a shorting strategy. High management fees and an incentive fee or allocation may cause the manager to take greater risks than it ordinarily would without such fees. This is not a complete description of the risks associated with a hedge fund investment. Individual investor performance may vary by investor. To the extent that target returns are included, there is no assurance that such targets can be achieved or that actual results will not differ, perhaps materially, from such target returns.

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CAPITAL PARTNERS

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ANDREA BOLLYKY
Global Head of Investor Relations & Business Development
T: 212.207.3061 E: ABollyky@Silver-Rock.com

MEKETA INVESTMENT GROUP

San Joaquin County Employees' Retirement Association (SJCERA)

Q3 2022

Quarterly Report

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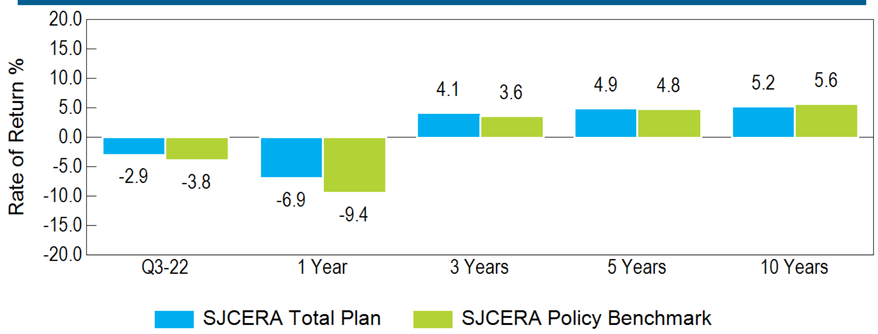
Introduction

Return Summary



Summary of Cash Flows	Third Quarter	One Year
Beginning Market Value	$3,767,288,432	$3,846,903,836
Net Cash Flow	$8,330,707	$86,668,468
Net Investment Change	-$109,162,207	-$267,115,373
Ending Market Value	$3,666,456,931	$3,666,456,931

	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs	25 Yrs
SJCERA Total Plan - Net	**-2.9**	**-6.9**	**4.1**	**4.9**	**5.2**	**3.3**	**5.9**	**5.4**
SJCERA Total Plan - Gross	**-2.8**	**-6.3**	**4.7**	**5.5**	**6.0**	**4.1**	**6.6**	**5.9**
SJCERA Policy Benchmark[2]	*-3.8*	*-9.4*	*3.6*	*4.8*	*5.6*	*4.2*	*6.5*	*5.7*
Over/Under (vs. Net)	0.9	2.5	0.5	0.1	-0.4	-0.9	-0.6	-0.3
InvMetrics Public DB > $1B Net Median[1]	*-4.0*	*-10.7*	*4.7*	*5.1*	*7.0*	*5.2*	*7.2*	*6.2*

[1] Investment Metrics Total Fund Public Universe >$1 Billion, net of fees.
[2] Policy Benchmark composition is listed in the Appendix.

Introduction

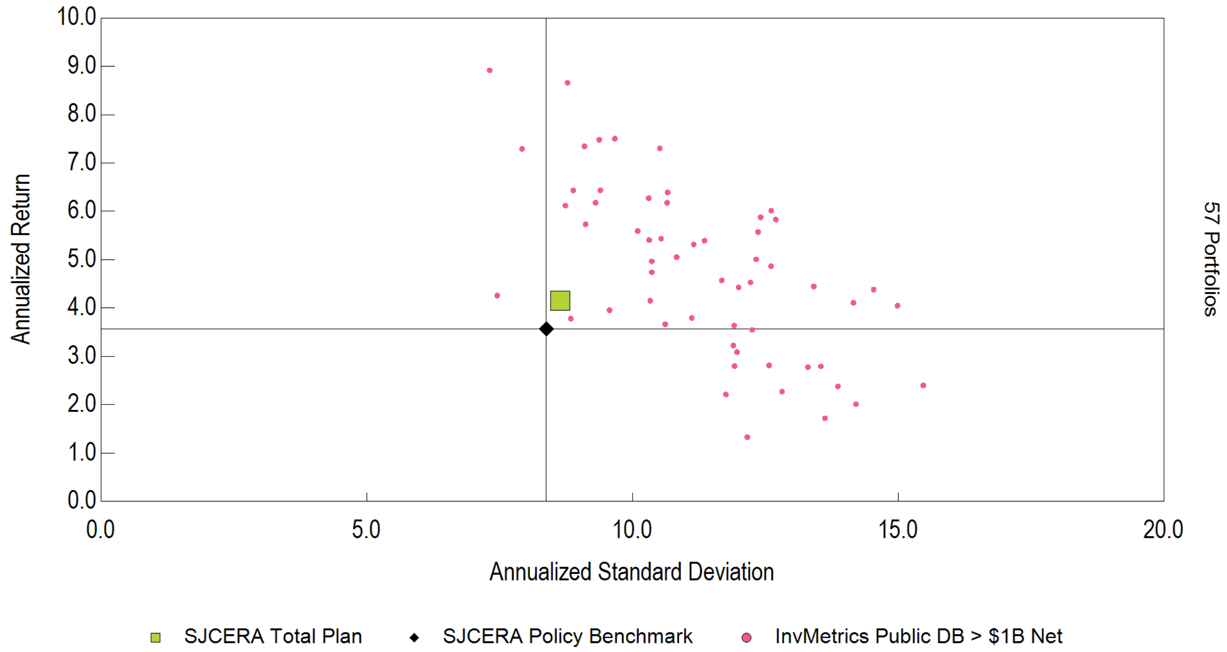
The SJCERA Total Portfolio had an aggregate value of $3.66 billion as of September 30, 2022. During the latest quarter, the Total Portfolio decreased in value by $100.8 million, and over the one-year period, the Total Portfolio decreased by $180.4 million. The movements over the quarter and one-year periods were primarily driven by investment returns. In October 2022 the IMF revised yet again its growth expectations lower due to the ongoing war in Ukraine, tighter financial conditions globally, and weaker conditions in China. The 3.2% global number is consistent with the July estimate, but still above the long-term average (3.0%) with the dynamic of emerging economy growth being higher than developed markets. The US experienced a notable downgrade (1.6% versus 2.3%) given the Fed becoming increasingly hawkish. The euro area forecast, however, was revised upward (3.1% versus 2.6%) on fiscal stimulus expectations. China received a downgrade (3.2% versus 3.4%) given the lingering impact from tight COVID-19 restrictions and local real estate risks.

Recent Investment Performance

The Total Portfolio outperformed the policy benchmark for the quarter, 1-, 3- and 5-year periods by 0.9%. 2.5%, 0.5% and 0.1% respectively, and the Median Public Fund for the quarter and 1-year periods by 1.1% and 3.8%, respectively. Over the 10-, 15-, 20- and 25-year periods, the portfolio trailed its benchmark by (0.4%), (0.9%), (0.6%), and (0.3%), respectively, and trailed the Median Public Fund by for the 3-, 5-, 10-, 15-, 20-, and 25-year periods by (0.6%), (0.2%), (1.8%), (1.9%), (1.3%), and (0.8%), respectively. The portfolio earned higher risk adjusted returns, as measured by the Sharpe Ratio, than the Median Public Fund over the 1-, 3- and 5-year periods but fell short of the median by (0.1%) over the 10-year period.

Risk-Adjusted Return vs Peers	1 Yr	3 Yrs	5 Yrs	10 Yrs
SJCERA Total Plan - Net	**-6.9**	**4.1**	**4.9**	**5.2**
Risk Adjusted Median	-9.9	3.6	3.8	5.3
Excess Return	3.0	0.5	1.1	-0.1

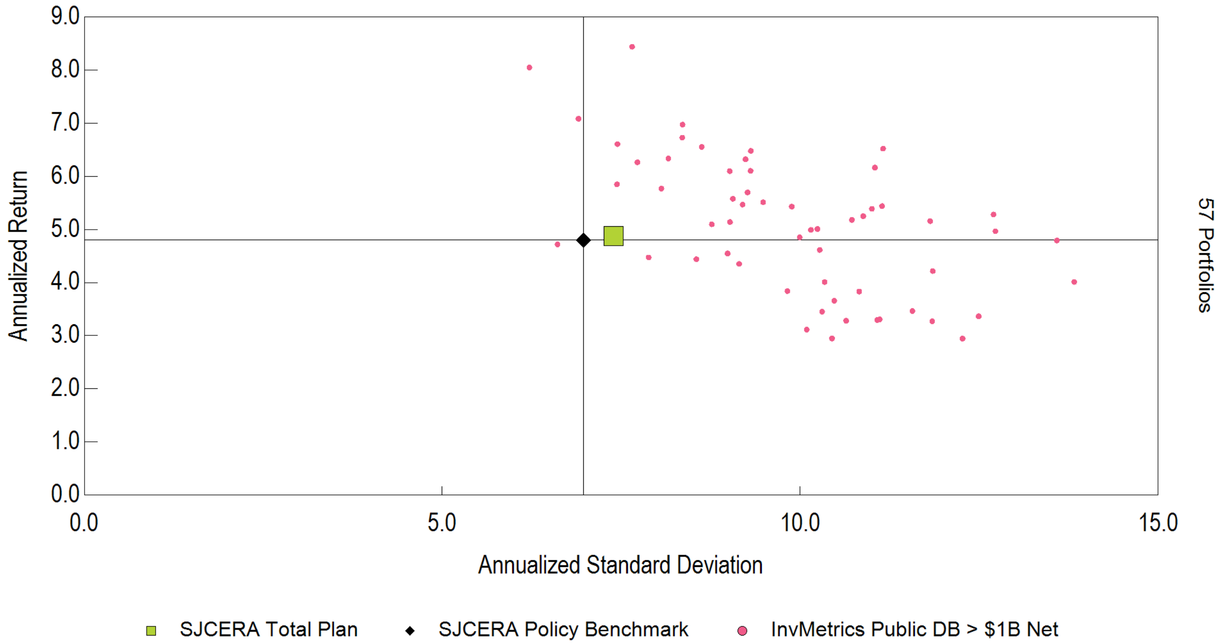
Total Fund Risk/Return Analysis
Latest 3 Years



	Anlzd Return[1]	Anlzd Standard Deviation	Sharpe Ratio[2]
SJCERA Total Plan	4.15%	8.64%	0.42
SJCERA Policy Benchmark	3.57%	8.38%	0.37
InvMetrics Public DB > $1B Net Median[3]	4.74%	11.36%	0.37

[1] Returns are net of fees.
[2] Computed as annualized return less the risk free rate, divided by the annualized standard deviation.
[3] Investment Metrics Total Fund Public Universe >$1 Billion, net of fees.

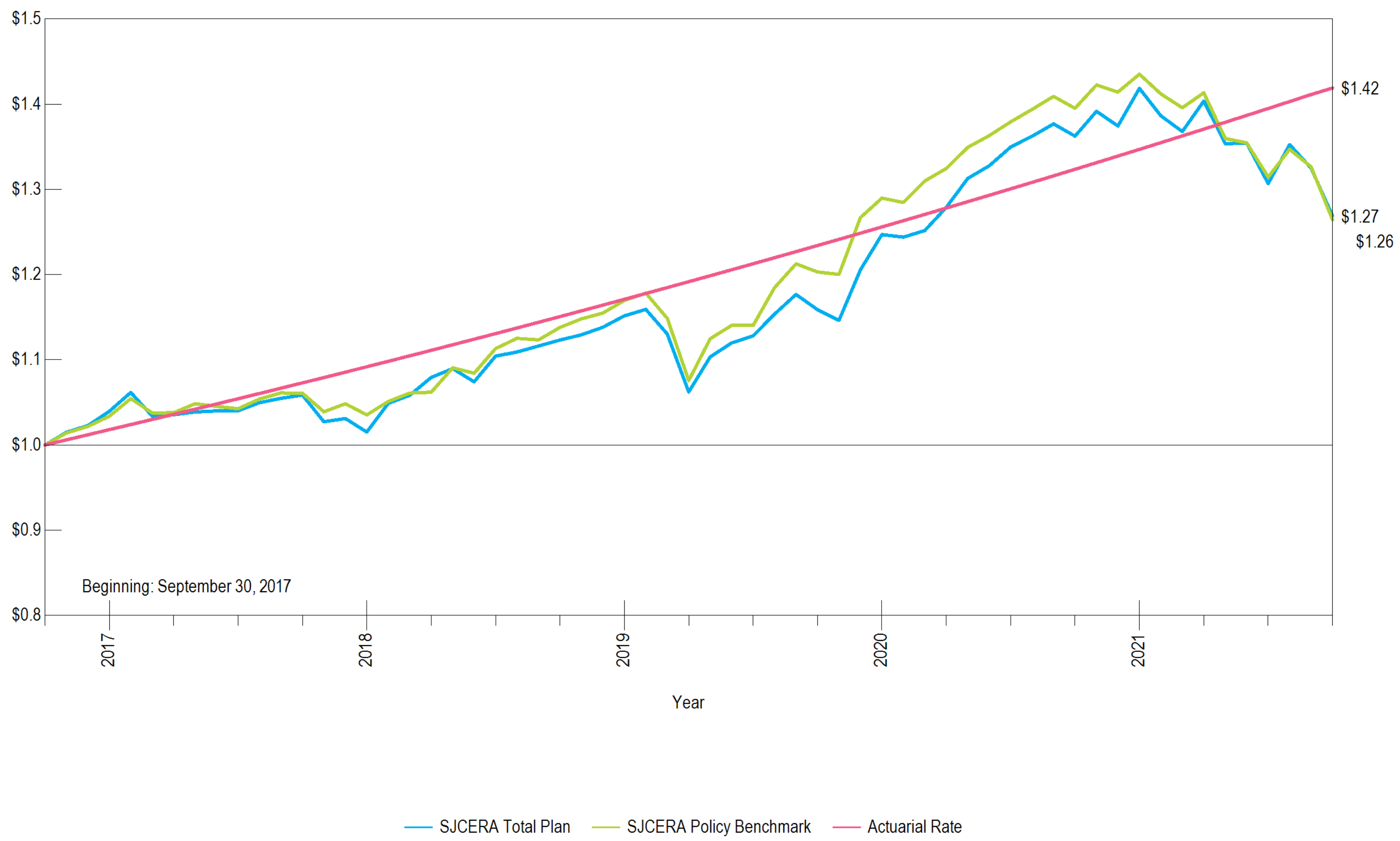
Total Fund Risk/Return Analysis
Latest 5 Years



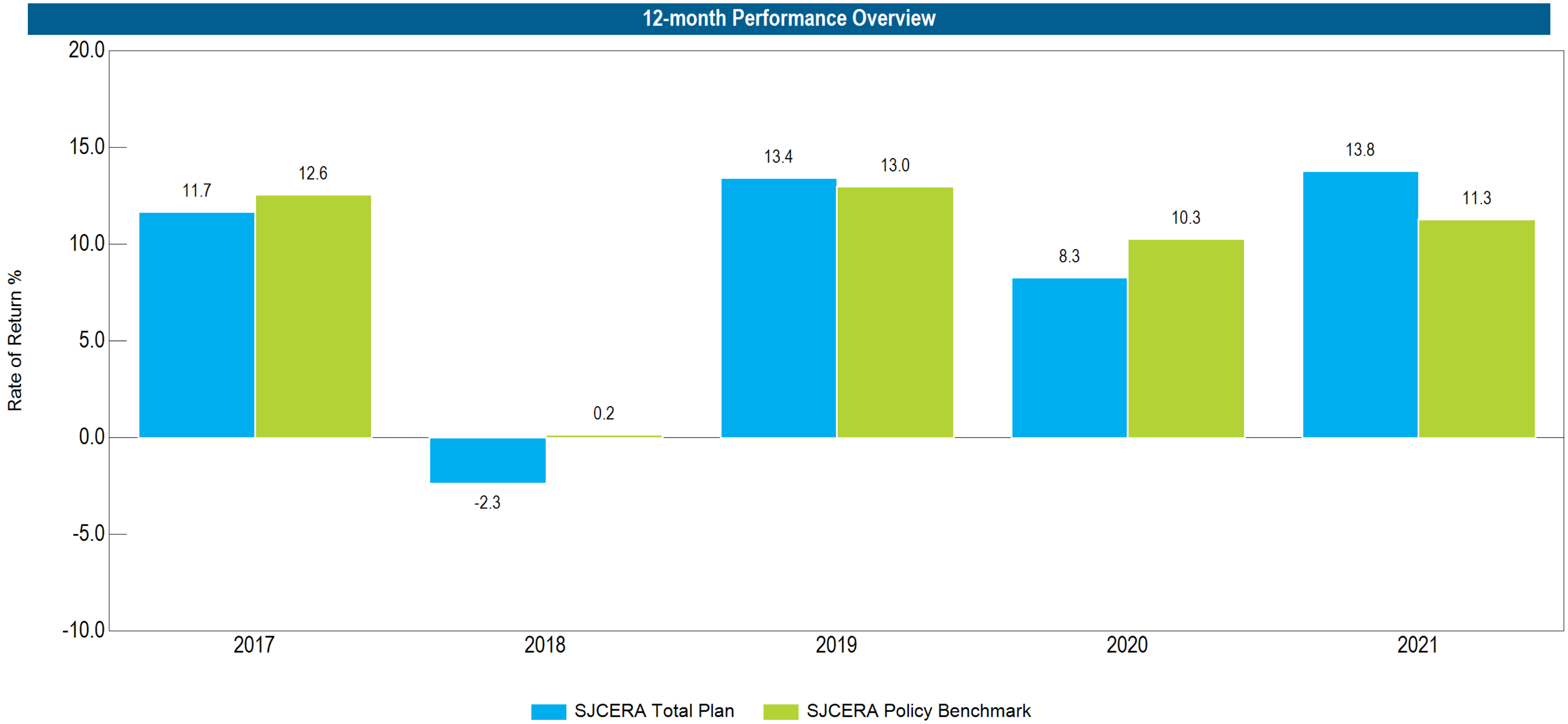
	Anlzd Return[1]	Anlzd Standard Deviation	Sharpe Ratio[2]
SJCERA Total Plan	4.88%	7.40%	0.51
SJCERA Policy Benchmark	4.80%	6.97%	0.53
InvMetrics Public DB > $1B Net Median[3]	5.14%	9.99%	0.39

[1] Returns are net of fees.
[2] Computed as annualized return less the risk free rate, divided by the annualized standard deviation.
[3] Investment Metrics Total Fund Public Universe >$1 Billion, net of fees.

Growth of a Dollar - Latest 5 Years



[1] 6.75% Acturial Rate from 9/1/2022 to present. 7.0% Actuarial Rate from 1/1/2020 to 8/31/2022. 7.25% Actuarial Rate from 1/1/2018 to 12/31/2019. 7.4% Actuarial Rate from 8/1/2016-12/31/2017. 7.5% Actuarial Rate from 1/1/2012-7/31/2016; previously 8.0%

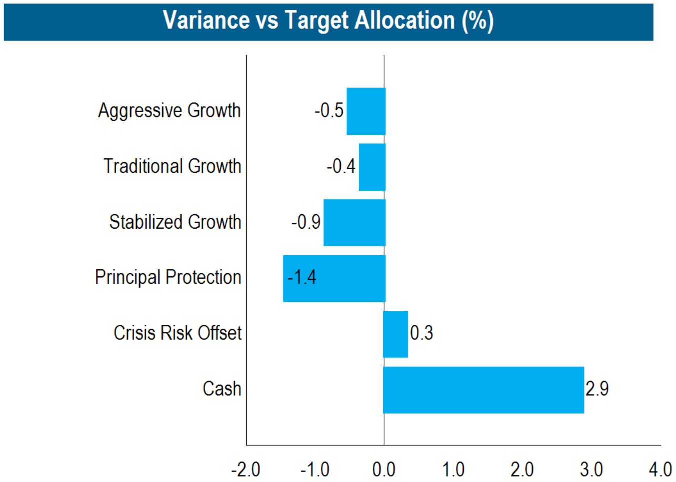


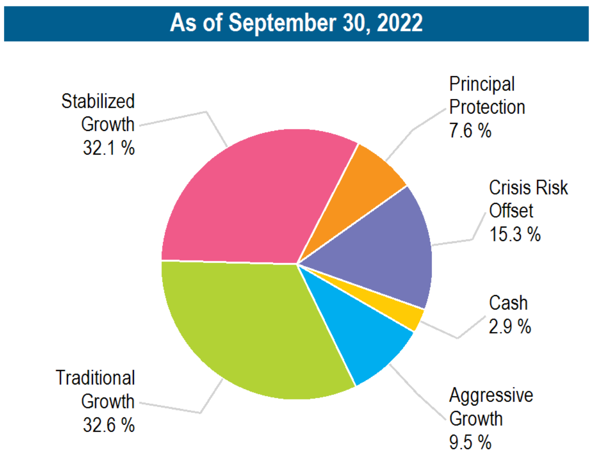
12-month absolute results have been positive over four of the last five calendar year periods, net of fees. The SJCERA Total Portfolio outperformed the policy target benchmark during two of these five periods, net of fees.

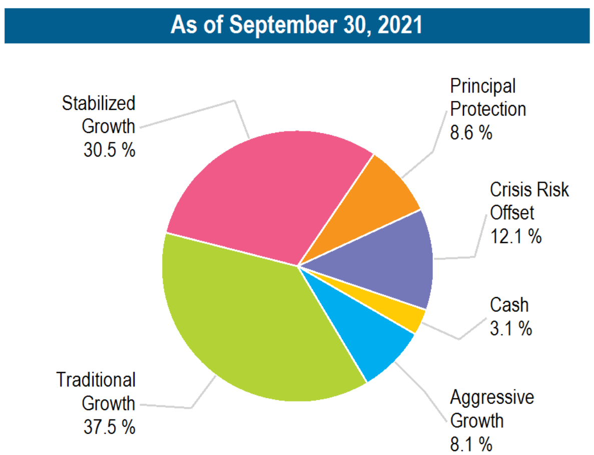
Portfolio Review

Asset Allocation vs. Target	Current	Current	Policy	Difference*
Broad Growth	**$2,722,443,453**	**74.3%**	**76.0%**	**-1.7%**
Aggressive Growth	$347,216,882	9.5%	10.0%	-0.5%
Traditional Growth	$1,196,949,520	32.6%	33.0%	-0.4%
Stabilized Growth	$1,178,277,051	32.1%	33.0%	-0.9%
Diversified Growth	**$838,850,418**	**22.9%**	**24.0%**	**-1.1%**
Principal Protection	$276,994,820	7.6%	9.0%	-1.4%
Crisis Risk Offset	$561,855,599	15.3%	15.0%	0.3%
Cash[2]	**$105,163,061**	**2.9%**	**0.0%**	**2.9%**
Cash	$105,163,061	2.9%	0.0%	2.9%
Total[1]	**$3,666,456,931**	**100.0%**	**100.0%**	

*Difference between Policy and Current Allocation







[1] Market values may not add up due to rounding.
[2] Cash asset allocation includes Parametric Overlay.

Asset Class Performance Net-of-Fees | As of September 30, 2022

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
SJCERA Total Plan	**3,666,456,931**	**100.0**	**-2.9**	**-6.9**	**4.1**	**4.9**	**5.2**
SJCERA Policy Benchmark[2]			*-3.8*	*-9.4*	*3.6*	*4.8*	*5.6*
Broad Growth	**2,722,443,453**	**74.3**	**-3.6**	**-8.7**	**4.9**	**5.5**	**6.2**
Aggressive Growth Lag	**347,216,882**	**9.5**	**2.0**	**28.1**	**20.3**	**17.5**	**13.2**
Aggressive Growth Blend			*-5.4*	*6.4*	*13.0*	*10.7*	*9.8*
Traditional Growth	**1,196,949,520**	**32.6**	**-6.4**	**-20.1**	**2.0**	**3.2**	**6.7**
MSCI ACWI IMI Net			*-6.6*	*-21.2*	*4.2*	*4.9*	*7.8*
Stabilized Growth	**1,178,277,051**	**32.1**	**-2.1**	**-3.3**	**4.3**	**5.0**	**3.5**
SJCERA Stabilized Growth Benchmark[4]			*1.6*	*1.7*	*4.3*	*4.7*	*5.4*
Diversifying Strategies	**838,850,418**	**22.9**	**-0.1**	**2.5**	**2.0**	**3.4**	**3.5**
Principal Protection	**276,994,820**	**7.6**	**-4.1**	**-12.4**	**-3.0**	**0.0**	**2.1**
Bloomberg US Aggregate TR			*-4.8*	*-14.6*	*-3.3*	*-0.3*	*0.9*
Crisis Risk Offset Asset Class	**561,855,599**	**15.3**	**2.0**	**13.9**	**5.4**	**5.6**	**5.5**
CRO Benchmark[3]			*-2.0*	*-1.8*	*2.3*	*3.9*	*3.7*
Cash and Misc Asset Class	**89,189,078**	**2.4**	**0.5**	**0.6**	**0.5**	**0.9**	**0.6**
ICE BofA 91 Days T-Bills TR			*0.5*	*0.6*	*0.6*	*1.1*	*0.7*

[1] Market values may not add up due to rounding.
[2] Policy Benchmark composition is listed in the Appendix.
[3] 30% ICE BofAML 3 month US T-Bill + 4%, 52% 50% BB High Yield/50% S&P Leverage Loans, 18% NCREIF ODCE + 1% Lag.
[4] (1/3) BB Long Duration Treasuries, (1/3) BTOP50 Index, (1/3) 5% Annual.

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Aggressive Growth Lag[2]	**347,216,882**	**100.0**	**2.0**	**28.1**	**20.3**	**17.5**	**13.2**
Aggressive Growth Blend			*-5.4*	*6.4*	*13.0*	*10.7*	*9.8*
Blackrock Global Energy and Power Lag[2]	26,940,131	7.8	0.4	9.3	15.1	--	--
MSCI ACWI +2% Blend			*-15.1*	*-13.6*	*8.8*	--	--
Lightspeed Venture Ptnrs Select V Lag[2]	6,298,385	1.8	-4.4	--	--	--	--
MSCI ACWI +2% Blend			*-15.1*	--	--	--	--
Morgan Creek III Lag[2]	4,420,354	1.3	-13.5	-36.3	-21.2	-8.7	--
MSCI ACWI +2% Blend			*-15.1*	*-13.6*	*8.8*	*8.2*	--
Morgan Creek V Lag[2]	7,951,657	2.3	1.0	16.6	13.9	13.7	--
MSCI ACWI +2% Blend			*-15.1*	*-13.6*	*8.8*	*8.2*	--
Morgan Creek VI Lag[2]	26,572,205	7.7	-5.3	19.0	19.9	20.1	--
MSCI ACWI +2% Blend			*-15.1*	*-13.6*	*8.8*	*8.2*	--
Ocean Avenue II Lag[2]	38,945,844	11.2	4.8	40.5	37.4	34.7	--
MSCI ACWI +2% Blend			*-15.1*	*-13.6*	*8.8*	*8.2*	--
Ocean Avenue III Lag[2]	57,563,388	16.6	6.1	52.6	29.7	37.4	--
MSCI ACWI +2% Blend			*-15.1*	*-13.6*	*8.8*	*8.2*	--
Ocean Avenue IV Lag[2]	49,980,563	14.4	4.2	33.6	--	--	--
MSCI ACWI +2% Lag[2]			*-15.1*	*-13.6*	--	--	--
Non-Core Real Assets Lag[2,3]	109,656,117	31.6	0.4	24.0	15.7	10.2	9.8
NCREIF ODCE +1% lag (blend)[2]			*4.8*	*29.6*	*12.8*	*10.6*	*11.2*
Stellex Capital Partners II Lag[2]	18,888,238	5.4	9.9	14.2	--	--	--
MSCI ACWI +2% Lag[2]			*-15.1*	*-13.6*	--	--	--

[1] Market values may not add up due to rounding.
[2] Lagged 1 quarter.
[3] Trailing Non-Core real estate performance includes returns provided by prior real estate consultant from inception through Q419.

Aggressive Growth

During the latest three-month period ending September 30, 2022, all nine of SJCERA's aggressive growth portfolios with returns outperformed their MSCI ACWI +2% Blended benchmark. Non-core real assets trailed by 3.4%. Please note that returns data for this asset class is lagged one quarter and the benchmark returned 4.8% for the trailing quarter.

BlackRock Global Energy and Power, a recently added fund with a focus on infrastructure, outperformed its target benchmark over the quarter, 1- and 3-year periods by 15.5%, 22.9% and 6.3%, respectively.

Lightspeed Venture Partners Select V, the newest manager in the asset class, outperformed its target benchmark over the quarter by 10.7%.

Morgan Creek III outperformed its benchmark by 1.6% for the quarter. The manager lagged its benchmark over the 1-, 3- and 5-year periods by (22.7%), (30.0%) and (16.9%), respectively.

Morgan Creek V outperformed its benchmark over the quarter, 1-, 3- and 5-year periods by 16.1%, 30.2%, 5.1% and 5.5%, respectively.

Morgan Creek VI produced a quarterly return of negative (5.3%), outperforming its benchmark by 9.8%. It also led for the 1-, 3- and 5-year periods by 32.6%, 11.1% and 11.9%, respectively.

Ocean Avenue II, outperformed its benchmark for the quarter, 1-, 3- and 5-year periods by 19.9%, 54.1%, 28.6% and 26.5%, respectively.

Ocean Avenue III, outperformed its benchmark for the quarter, 1-, 3- and 5-year periods by 21.2%, 66.2%, 20.9% and 29.2%, respectively.

Ocean Avenue IV, outperformed its benchmark for the quarter and 1-year periods by 19.3% and 47.2%, respectively.

Non-Core Private Real Assets underperformed its NCREIF ODCE +1% benchmark over the quarter, 1-, 5- and 10-year periods by (4.4%), (5.6%), (0.4%) and (1.4%), respectively. However, the sub-asset class outperformed its benchmark over the 3-year time period by 2.9%.

Stellex II, outperformed its benchmark during the quarter and 1-year period by 25% and 27.8%, respectively.

Asset Class Performance Net-of-Fees | As of September 30, 2022

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Traditional Growth	**1,196,949,520**	**100.0**	**-6.4**	**-20.1**	**2.0**	**3.2**	**6.7**
MSCI ACWI IMI Net			*-6.6*	*-21.2*	*4.2*	*4.9*	*7.8*
SJCERA Transition	2,812	0.0					
Northern Trust MSCI World	1,035,933,442	86.5	-6.2	-20.0	--	--	--
MSCI World IMI Net USD			*-6.1*	*-20.3*	--	--	--
PIMCO RAE Emerging Markets	66,177,393	5.5	-6.4	-21.4	0.9	-0.3	1.9
MSCI Emerging Markets			*-11.6*	*-28.1*	*-2.1*	*-1.8*	*1.0*
GQG Active Emerging Markets	54,078,139	4.5	-6.6	-23.8	--	--	--
MSCI Emerging Markets			*-11.6*	*-28.1*	--	--	--
Invesco REIT	40,757,734	3.4	-10.7	-15.3	-2.2	3.4	6.2
FTSE NAREIT Equity REIT			*-9.9*	*-16.4*	*-2.0*	*2.9*	*6.3*

[1] Market values may not add up due to rounding.

Traditional Growth

During the latest three-month period ending September 30, 2022, the traditional growth asset class outperformed its MSCI ACWI IMI benchmark by 0.2% and with two of the four managers outperforming their benchmarks.

Northern Trust MSCI World, the Plan's new Passive Global Equity manager, underperformed its benchmark over the past quarter by (0.1%) but outperformed over the 1-year period by 0.3%.

PIMCO RAE Fundamental - Emerging, one of SJCERA's Active Emerging Markets Equity managers, outperformed its MSCI Emerging Markets Index benchmark for the quarter, 1-, 3-, 5- and 10-year trailing time periods by 5.2%, 6.7%, 3.0%, 1.5% and 0.9%, respectively.

GQG, the Plan's new Active Emerging Markets Equity manager was opened during the third quarter of 2020 and outperformed its MSCI Emerging Markets benchmark by 5% for the quarter and 4.3% for the 1-year period.

Invesco, the Plan's Core US REIT manager, underperformed the FTSE NAREIT Equity REIT Index for the quarter, 3- and 10-year periods by (0.8%), (0.2%) and (0.1%), respectively; however, it outperformed its benchmark's performance for the trailing 1- and 5-year periods by 1.1% and 0.5% respectively.

Asset Class Performance Net-of-Fees | As of September 30, 2022

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Stabilized Growth	**1,178,277,051**	**100.0**	**-2.1**	**-3.3**	**4.3**	**5.0**	**3.5**
SJCERA Stabilized Growth Benchmark[2]			*1.6*	*1.7*	*4.3*	*4.7*	*5.4*
Risk Parity Asset Class	**339,507,264**	**28.8**	**-10.7**	**-25.6**	**-3.7**	**0.6**	**-0.4**
ICE BofAML 3mo US TBill+4%			*1.5*	*4.6*	*4.6*	*5.2*	*4.7*
Bridgewater All Weather	170,112,510	14.4	-10.5	-24.0	-2.9	0.5	1.7
Bridgewater All Weather (blend)			*1.5*	*4.6*	*4.6*	*5.2*	*5.4*
PanAgora Diversified Risk Multi Asset	169,394,754	14.4	-10.9	-27.2	-4.5	0.6	--
ICE BofAML 3mo US TBill+4%			*1.5*	*4.6*	*4.6*	*5.2*	--
Liquid Credit	**215,321,844**	**18.3**	**0.0**	**-9.4**	**-0.5**	**1.1**	**2.0**
50% BB US HY/50% S&P LSTA Lev Loan			*0.4*	*-8.4*	*0.9*	*2.3*	*3.8*
Neuberger Berman	91,531,303	7.8	-1.7	-14.3	-1.8	--	--
33% ICEBofAMLUSHY /33%JPMEMBI Global Div /33% S&P LSTALevLoan			*-1.3*	*-13.8*	*-1.9*	--	--
Stone Harbor Absolute Return	123,790,540	10.5	1.2	-5.4	0.5	1.4	2.2
ICE BofA-ML LIBOR			*0.4*	*0.4*	*0.7*	*1.3*	*0.9*
Private Credit Lag	**371,469,315**	**31.5**	**0.5**	**7.6**	**4.8**	**3.6**	**4.8**
Custom Credit Benchmark			*-7.1*	*-7.9*	*1.2*	*2.5*	*4.1*
Blackrock Direct Lending Lag	84,095,995	7.1	1.6	5.5	--	--	--
CPI + 6% BLK Blend			*-3.7*	*2.3*	--	--	--
Crestline Opportunity II Lag	17,514,360	1.5	-1.3	0.4	2.2	1.8	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	*6.8*	*7.5*	--
Davidson Kempner Long-Term Distressed Opportunities Fund V, L.P. Lag	47,921,839	4.1	-2.2	6.0	--	--	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	--	--	--

[1]Market values may not add up due to rounding.
[2]30% ICE BofAML 3 month US T-Bill + 4%, 52% 50% BB High Yield/50% S&P Leverage Loans, 18% NCREIF ODCE +1% Lag.

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
HPS European Asset Value II, LP Lag	34,342,706	2.9	1.8	8.3	--	--	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	*--*	*--*	*--*
Medley Opportunity II Lag	4,378,784	0.4	0.0	-12.8	-9.9	-10.4	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	*6.8*	*7.5*	*--*
Mesa West IV Lag	21,063,965	1.8	-2.3	3.6	6.2	7.1	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	*6.8*	*7.5*	*--*
Oaktree Middle-Market Direct Lending Lag	32,376,435	2.7	2.9	16.9	19.0	--	--
Credit Oaktree Blend			*-3.7*	*2.3*	*8.3*	*--*	*--*
Raven Opportunity III Lag	57,419,823	4.9	5.8	19.3	9.9	10.1	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	*6.8*	*7.5*	*--*
White Oak Summit Peer Lag	27,705,821	2.4	-7.5	-8.9	0.2	3.0	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	*6.8*	*7.5*	*--*
White Oak Yield Spectrum Master V Lag	44,649,587	3.8	0.2	2.8	--	--	--
Credit Blend S&P/LSTA Lev Loan +3%			*-3.7*	*2.3*	*--*	*--*	*--*
Private Core Real Assets Lag	251,978,629	21.4	5.6	40.0	20.2	16.6	15.5
NCREIF ODCE +1% lag (blend)[2]			*4.8*	*29.6*	*12.8*	*10.6*	*11.2*

[1] Market values may not add up due to rounding.
[2] NCREIF ODCE Net + 1% 10/1/2012-present. NCREIF Property Index previously.

Stabilized Growth

During the latest three-month period ending September 30, 2022, eleven of SJCERA's fifteen Stabilized Growth managers outperformed their benchmarks while the other four underperformed. Several managers in this asset class are in the process of investing capital and may underperform as assets are invested (typically known as the J-curve effect). Included in this group is private core real assets, which also outperformed its benchmark for the quarter.

Bridgewater All Weather, one of the Plan's Risk Parity managers, underperformed its benchmark over all time periods shown. For the quarter, 1-, 3-, 5- and 10-year periods it lagged by (12.0%), (28.6%), (7.5%), (4.7%) and (3.7%), respectively.

PanAgora DRMA, one of the Plan's Risk Parity managers, underperformed its T-Bill +4% benchmark over the quarter, 1-, 3- and 5-year time periods by (12.4%), (31.8%), (9.1%) and (4.6%), respectively.

Neuberger Berman, one of the Plan's Liquid Credit managers, outperformed its benchmark for the 3-year time period by 0.1%, but underperformed for the quarter and trailing 1-year periods by (0.4%) and (0.5%), respectively.

Stone Harbor, the Plan's Absolute Return Fixed Income manager, underperformed its ICE BofAML LIBOR index over the 1- and 3-year periods by (5.8%) and (0.2%), respectively, but outperformed over the quarter, 5- and 10-year periods by 0.8%, 0.1% and 1.3%, respectively.

BlackRock Direct Lending, one of the Plan's newer Private Credit managers, outperformed its CPI +6% BLK Blend benchmark over the quarter and 1-year periods by 5.3% and 3.2%, respectively.

Crestline Opportunity II, the Plan's Credit, Niche Alternatives and Hedge Fund Secondaries manager, outperformed its benchmark over the quarter by 2.4%; however, it trailed its benchmark over the 1-, 3- and 5-year periods by (1.9%), (4.6%) and (5.7%), respectively.

Davidson Kempner, the Plan's newest Private Credit manager, was opened during the fourth quarter of 2020 and outperformed its benchmark by 1.5% and 3.7% for the trailing quarter and 1-year periods, respectively.

Stabilized Growth (Continued)

HPS EU, one of the Plan's newer Direct Lending managers, was opened during the third quarter of 2020 and outperformed its benchmark for the quarter and 1-year periods by 5.5% and 6.0%, respectively.

Medley Opportunity II, one of the Plan's Direct Lending managers, produced a flat estimated quarterly return, outperforming its benchmark by 3.7%. That said, it lagged its benchmark over the 1-, 3- and 5-year time periods by (15.1%), (16.7%) and (17.9%), respectively.

Mesa West RE Income IV, one of the Plan's Commercial Mortgage managers, outperformed its benchmark over the quarter and 1-year periods by 1.4% and 1.3%, respectively but lagged by (0.6%) and (0.4%) over the 3-year and 5-year periods, respectively.

Oaktree, a Middle-Market Direct Lending manager, outperformed its benchmark for the quarter, 1- and 3-year trailing time periods by 6.6%, 14.6% and 10.7%, respectively.

Raven Capital II, one of the Plan's Direct Lending managers, has been liquidated.

Raven Capital III outperformed its annual target for the quarter, 1-,3- and 5-year periods by 9.5%, 17%, 3.1% and 2.6%, respectively.

White Oak Summit Peer, one of the Plan's Direct Lending managers, underperformed its index over the trailing quarter, 1-, 3- and 5-year time periods by (3.8%), (11.2%), (6.6%) and (4.5%), respectively.

White Oak Yield Spectrum Master V led its benchmark over the quarter and 1-year periods by 3.9% and 0.5% respectively.

Private Core Real Assets, outperformed its NCREIF ODCE +1% benchmark over the trailing quarter, 1-, 3-, 5- and 10-year time periods by 0.8%, 10.4%, 7.4%, 6.0% and 4.3%, respectively.

Asset Class Performance Net-of-Fees | As of September 30, 2022

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Principal Protection	**276,994,820**	**100.0**	**-4.1**	**-12.4**	**-3.0**	**0.0**	**2.1**
Bloomberg US Aggregate TR			*-4.8*	*-14.6*	*-3.3*	*-0.3*	*0.9*
Dodge & Cox Fixed Income	188,236,226	68.0	-3.9	-13.5	-1.7	0.8	2.2
Bloomberg US Aggregate TR			*-4.8*	*-14.6*	*-3.3*	*-0.3*	*0.9*
DoubleLine	6,018	0.0	-76.1	-76.7	-37.4	-23.2	-10.3
Bloomberg US Aggregate TR			*-4.8*	*-14.6*	*-3.3*	*-0.3*	*0.9*
Loomis Sayles	88,752,576	32.0	-4.6	--	--	--	--
Bloomberg US Aggregate TR			*-4.8*	--	--	--	--

[1] Market values may not add up due to rounding.

Principal Protection

During the latest three-month period ending September 30, 2022, two of SJCERA's Principal Protection managers outperformed the Bloomberg US Aggregate Index benchmark and the third underperformed the Bloomberg US Agg for the quarter.

Dodge & Cox, the Plan's Core Fixed Income manager, earned a negative quarterly return of (3.9%), outperforming the US Agg by 0.9%. It led its benchmark by 1.1%, 1.6%, 1.1% and 1.3% for the trailing 1-, 3-, 5- and 10-year periods, respectively.

DoubleLine, the Plan's Mortgage-Backed Securities manager, provided a negative quarterly return of (76.1%), underperforming its benchmark by (71.3%). The manager also underperformed its benchmark over the trailing 1-, 3-, 5- and 10-year time periods by (62.1%), (34.1%), (22.9%) and (9.4), respectively.

Loomis Sayles, the Plan's newest Principal Protection manager, was funded in Q1 2022 and outperformed the US Agg during Q3 by 0.2%.

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Crisis Risk Offset Asset Class	**561,855,599**	**100.0**	**2.0**	**13.9**	**5.4**	**5.6**	**5.5**
CRO Benchmark[2]			*-2.0*	*-1.8*	*2.3*	*3.9*	*3.7*
Long Duration	**112,506,053**	**20.0**	**-9.2**	**-26.0**	**-8.3**	**-1.7**	**--**
Bloomberg US Treasury Long TR			*-9.6*	*-26.6*	*-8.5*	*-1.6*	*--*
Dodge & Cox Long Duration	112,506,053	20.0	-9.2	-26.0	-8.3	-1.7	--
Bloomberg US Treasury Long TR			*-9.6*	*-26.6*	*-8.5*	*-1.6*	*--*
Systematic Trend Following	**259,858,746**	**46.3**	**4.3**	**37.3**	**16.8**	**10.5**	**9.0**
BTOP 50 (blend)			*2.3*	*21.0*	*10.4*	*7.8*	*4.9*
Graham Tactical Trend	124,862,473	22.2	2.2	38.6	13.4	10.3	--
SG Trend			*5.1*	*33.8*	*14.7*	*11.5*	*--*
Mount Lucas	134,996,273	24.0	6.4	36.1	20.1	10.5	8.3
BTOP 50 (blend)			*2.3*	*21.0*	*10.4*	*7.8*	*4.9*
Alternative Risk Premium	**189,490,799**	**33.7**	**6.6**	**25.2**	**2.2**	**3.8**	**3.3**
5% Annual (blend)			*1.2*	*5.0*	*5.0*	*5.0*	*7.2*
AQR Style Premia	49,016,187	8.7	-7.4	19.5	0.4	-3.1	--
5% Annual			*1.2*	*5.0*	*5.0*	*5.0*	*--*
Lombard Odier	58,168,912	10.4	0.1	-3.0	-4.2	--	--
5% Annual			*1.2*	*5.0*	*5.0*	*--*	*--*
P/E Diversified Global Macro	82,305,700	14.6	23.3	75.5	7.6	8.8	--
5% Annual			*1.2*	*5.0*	*5.0*	*5.0*	*--*

[1] Market values may not add up due to rounding.
[2] (1/3) BB Long Duration Treasuries, (1/3) BTOP50 Index, (1/3) 5% Annual.

Crisis Risk Offset

During the latest three-month period ending September 30, 2022, three out of six of SJCERA's Crisis Risk Offset managers outperformed their respective benchmarks. Collectively, the six managers outperformed the Crisis Risk Offset benchmark by 4% for the quarter.

Dodge & Cox Long Duration produced a negative quarterly return of (9.2%), outperforming the Bloomberg US Long Duration Treasuries by 0.4%. The manager also outperformed its benchmark over the 1- and 3-year periods by 0.6% and 0.2% respectively. It lagged its benchmark for the 5-year period by (0.1%).

Graham Tactical Trend, one of the Plan's Systematic Trend Following managers, underperformed the SG Trend Index for the quarter, 3- and 5-year periods by (2.9%), (1.3%) and (1.2%), respectively, but outperformed for the trailing 1-year period by 4.8%.

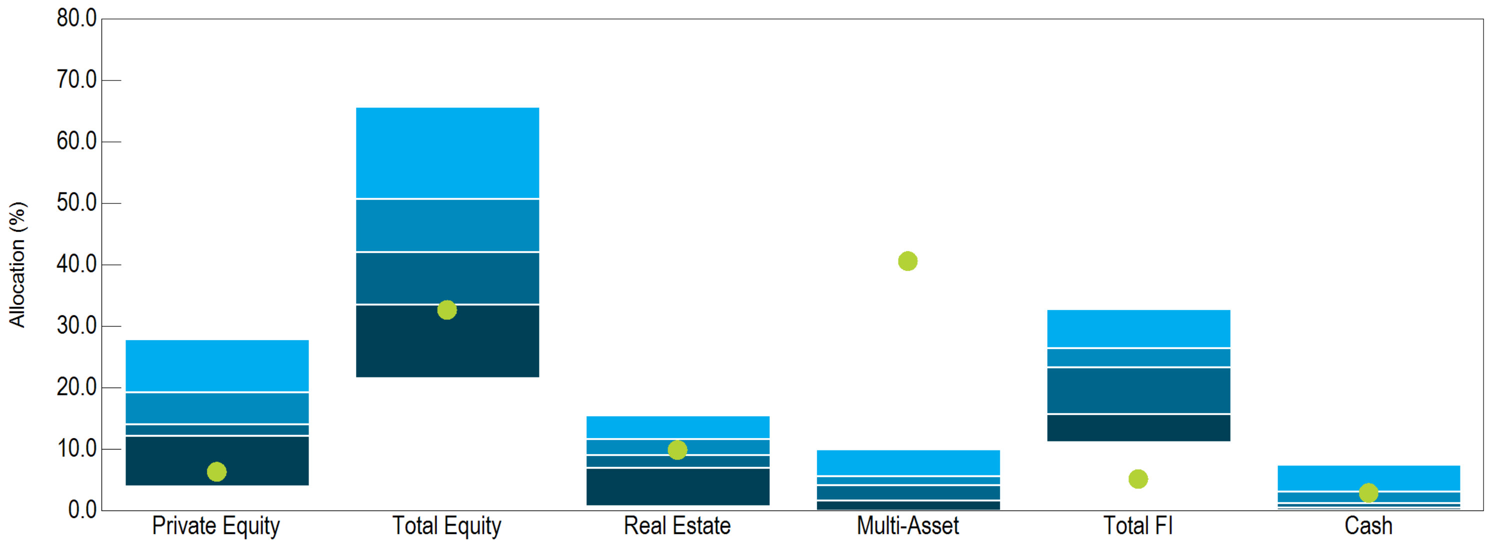
Mount Lucas, one of the Plan's Systematic Trend Following managers, outperformed the Barclays BTOP 50 Index for the quarter, 1-, 3-, 5- and 10-year periods by 4.1%, 15.1%, 9.7%, 2.7% and 3.4%, respectively.

AQR, one of the Plan's Alternative Risk Premium managers, underperformed its 5% Annual target for the quarter, 3- and 5-year periods by (8.6%), (4.6%) and (8.1%), respectively. It outperformed its benchmark for the trailing 1-year and period by 14.5%.

Lombard Odier, an Alternative Risk Premium manager, underperformed its 5% Annual benchmark over the quarter, 1- and 3-year periods by (1.1%), (8.0%) and (9.2%), respectively.

P/E Diversified, one of the Plan's Alternative Risk Premium managers, outperformed its 5% Annual target for the quarter, 1-, 3-, and 5-year periods by 22.1%, 70.5%, 2.6% and 3.8%, respectively.

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



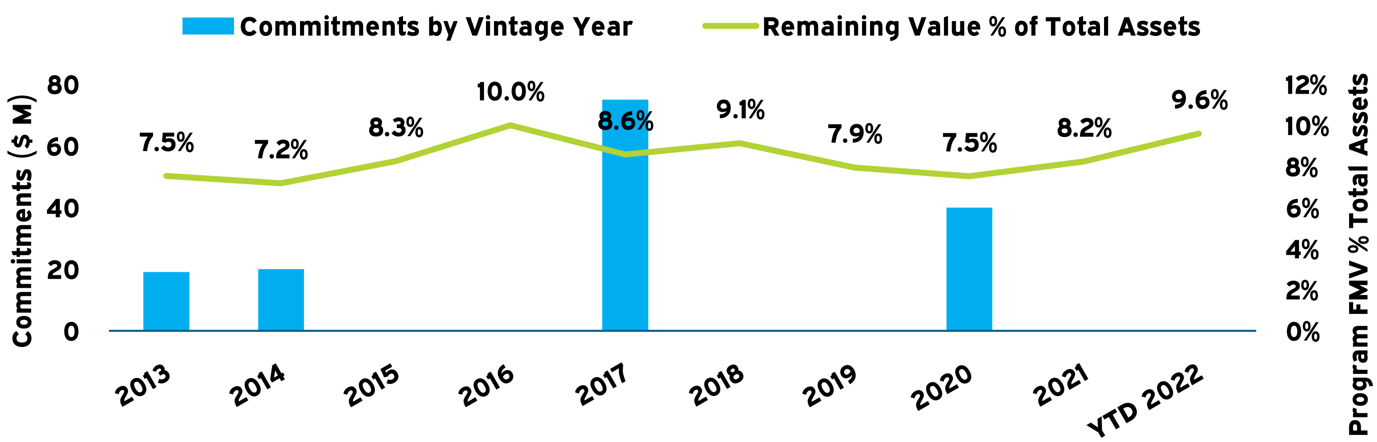
Allocation (Rank)	Private Equity		Total Equity		Real Estate		Multi-Asset		Total FI		Cash	
5th Percentile	27.9		65.8		15.5		10.0		32.8		7.5	
25th Percentile	19.4		50.8		11.7		5.7		26.6		3.2	
Median	14.1		42.2		9.2		4.2		23.4		1.3	
75th Percentile	12.3		33.6		7.1		1.7		15.8		0.6	
95th Percentile	4.0		21.6		0.8		0.0		11.2		0.1	
# of Portfolios	44		58		51		20		58		56	
SJCERA Total Plan	6.3	(92)	32.6	(80)	9.9	(37)	40.6	(1)	5.1	(99)	2.9	(29)

Real Estate Program

September 30, 2022

Introduction

The Retirement Association's target allocation towards real estate assets is 10-12%. As of June 30, 2022, the Retirement Association had invested with eighteen real estate managers (three private open-end and fifteen private closed-end). The aggregate reported value of the Retirement Association's real estate investments was $361.6 million at quarter-end.



Program Status

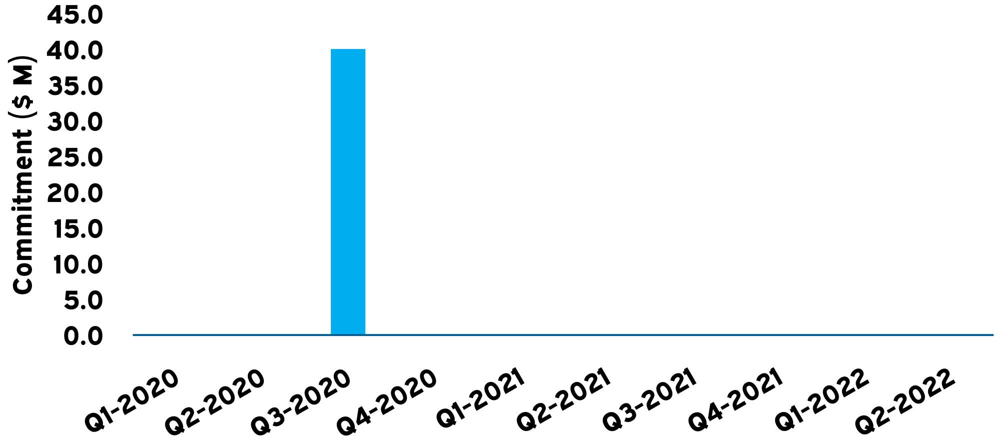
No. of Investments	18
Committed ($ M)	501.6
Contributed ($ M)	449.0
Distributed ($ M)	370.1
Remaining Value ($ M)	361.6

Performance Since Inception

	Program
DPI	0.82x
TVPI	1.63x
IRR	8.3%

Commitments

Recent Quarterly Commitments

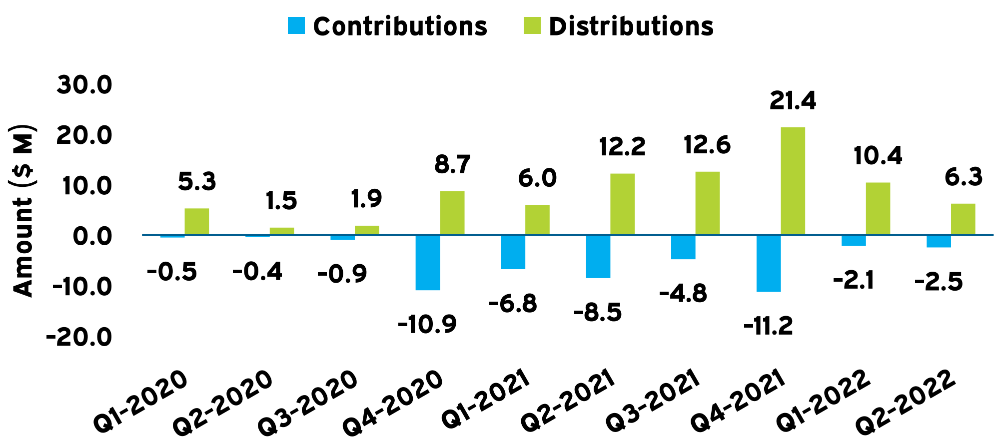


Commitments This Quarter

Fund	Strategy	Region	Amount (MM)
None to report.			

Cash Flows

Recent Quarterly Cash Flows



Largest Contributions This Quarter

Fund	Vintage	Strategy	Region	Amount ($M)
Greenfield VIII	2017	Opportunistic	North America	2.05
Berkeley V	2020	Value-Added	North America	0.30
Prologis Logistics	1970	Core	North America	0.12

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount ($M)
AG Core Plus IV	2014	Value-Added	North America	1.45
Berkeley V	2020	Value-Added	North America	1.37
Greenfield VII	2013	Opportunistic	North America	1.31

Significant Events

→ In April 2022, AG Core Plus Realty Fund IV closed on the sale of two assets, including Villas at Bunker Hill, a 398-unit garden style apartment community in Houston, Texas, which generated a 19% gross IRR and a 1.9x gross multiple for the fund. The second disposition represented the remaining class A multifamily property in Forth Worth, Texas of the Brazos and Watervue Apartments portfolio, resulting in a 30% gross IRR and 2.0x gross multiple for the fund.

→ Greenfield Acquisition Partners VII sold two Dallas office assets in the second quarter, including TriWest Plaza, which generated a -15% gross IRR and a 0.5x gross multiple, and Greystone, which generated a 2.8% gross IRR and 1.1x gross multiple. Fund VII's debt position in Sandman Motel was also fully realized in the second quarter resulting in a 26.9% gross IRR and 2.0x gross multiple.

→ During the second quarter, Prologis Targeted US Logistics Fund's net asset value per unit increased to $3,514.9, representing appreciation of 5.7% from the prior quarter. The valuation increase was largely driven by unrealized gains from the fund's real estate investments, as there continues to be increased demand and low vacancy rates in the industrial market.

→ During the second quarter, Berkeley Partners Value Industrial Fund V closed on six acquisitions, totaling $33.1 million of equity commitments. The new investments comprise three Massachusetts assets, including one development project, in addition to three other properties in Dallas, Philadelphia, and Atlanta.

→ RREEF America REIT II earned a total gross return of 6.4% for the second quarter, comprised of 0.9% income and 5.5% appreciation. This significant appreciation was primarily attributed to the fund's strategic overweight in the industrial sector, which was written up approximately $492 million in aggregate, as well as similar success in the residential sector, which was written up approximately $308 million. All assets were externally appraised during the second quarter.

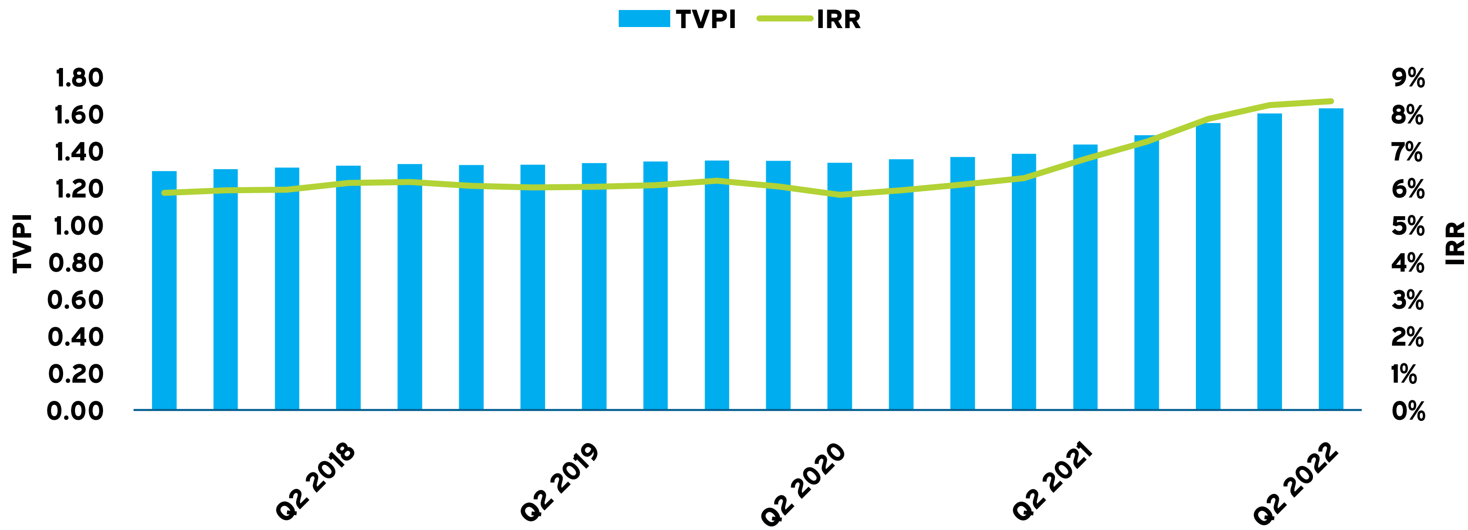
By Strategy

Group	Number	Committed ($ M)	Contributed ($ M)	Unfunded ($ M)	Distributed ($ M)	Remaining Value ($ M)	Exposure ($ M)	DPI (X)	TVPI (X)	IRR (%)
Core	3	120.5	125.4	0.0	31.2	252.0	252.0	0.25	2.26	9.9
Opportunistic	9	204.1	182.3	23.2	215.9	32.7	56.0	1.18	1.36	5.9
Value-Added	6	177.0	141.3	38.6	123.0	76.9	115.5	0.87	1.42	10.4
Total	18	501.6	449.0	61.8	370.1	361.6	423.5	0.82	1.63	8.3

By Vintage

Group	Number	Committed ($ M)	Contributed ($ M)	Unfunded ($ M)	Distributed ($ M)	Remaining Value ($ M)	Exposure ($ M)	DPI (X)	TVPI (X)	IRR (%)
Open-end	3	120.5	125.4	0.0	31.2	252.0	252.0	0.25	2.26	9.9
2005	1	15.0	14.5	0.5	17.6	0.0	0.5	1.21	1.21	3.4
2006	1	30.0	30.0	0.0	20.4	1.3	1.3	0.68	0.73	-3.5
2007	4	96.0	84.0	12.0	115.8	6.3	18.3	1.38	1.45	7.4
2011	2	50.0	38.3	11.7	47.2	4.0	15.8	1.23	1.34	9.5
2012	2	36.0	33.9	2.9	48.9	0.1	3.0	1.45	1.45	12.5
2013	1	19.1	18.3	0.8	27.7	4.2	5.1	1.52	1.75	13.6
2014	1	20.0	19.0	1.8	14.3	12.2	13.9	0.75	1.39	8.7
2017	2	75.0	63.4	13.1	45.0	53.9	67.0	0.71	1.56	20.9
2020	1	40.0	22.3	19.0	2.0	27.6	46.7	0.09	1.32	NM
Total	18	501.6	449.0	61.8	370.1	361.6	423.5	0.82	1.63	8.3

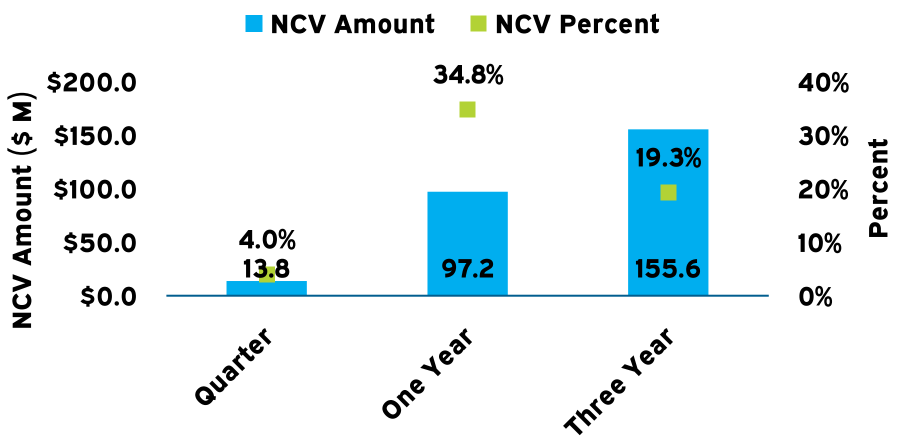
Since Inception Performance Over Time



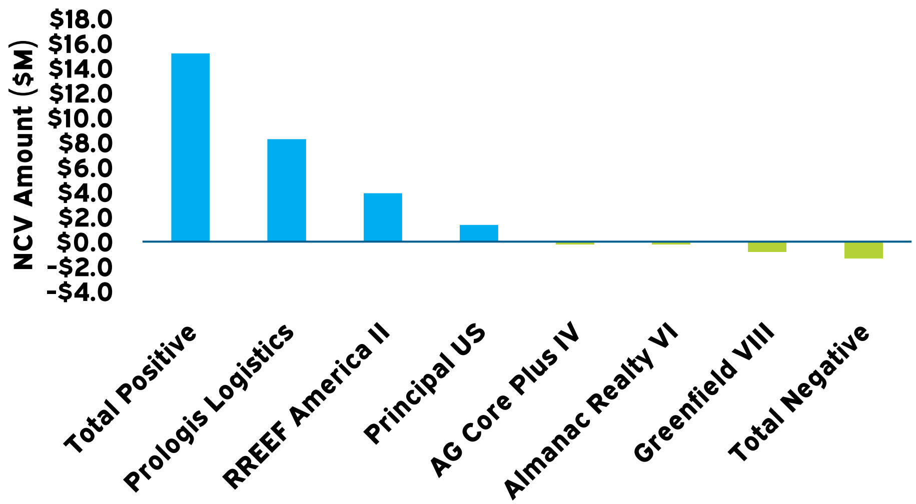
Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	34.4	18.4	13.6	12.6	8.3
Public Market Equivalent	-13.0	-1.4	0.5	2.3	2.9

Periodic NCV



1 Quarter Drivers Of NCV

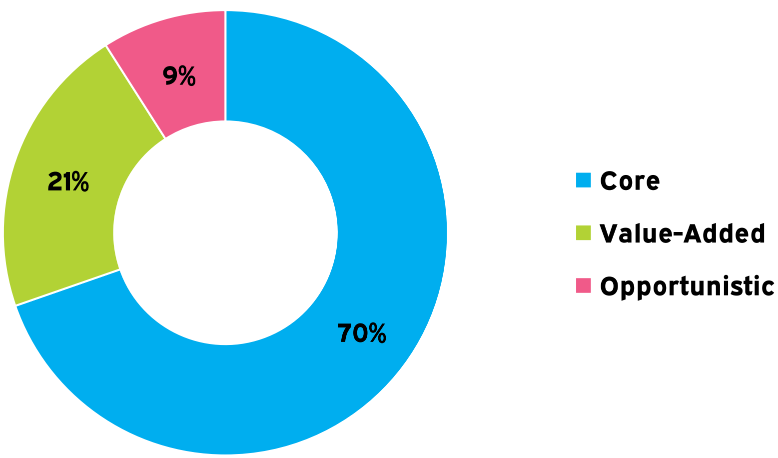


Fund Performance: Sorted By Vintage And Strategy

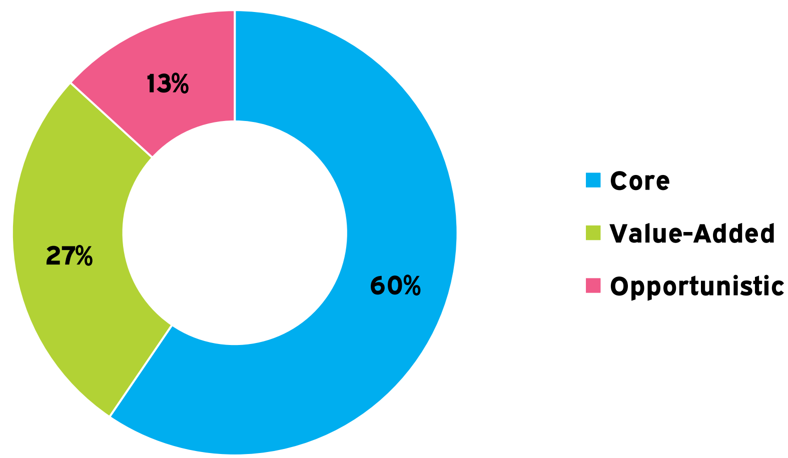
By Investment	Vintage	Strategy	Committed ($ M)	Contributed ($ M)	Unfunded ($ M)	Distributed ($ M)	Remaining Value ($ M)	TVPI (X)	IRR (%)
Principal US	Open-end	Core	25.0	25.0	0.0	0.0	46.5	1.86	9.4
Prologis Logistics	Open-end	Core	50.5	55.4	0.0	21.6	138.2	2.88	9.9
RREEF America II	Open-end	Core	45.0	45.0	0.0	9.6	67.3	1.71	10.0
Miller GLobal Fund V	2005	Opportunistic	15.0	14.5	0.5	17.6	0.0	1.21	3.4
Walton Street V	2006	Opportunistic	30.0	30.0	0.0	20.4	1.3	0.73	-3.5
Greenfield V	2007	Opportunistic	30.0	29.6	0.4	40.4	0.2	1.37	8.3
Miller Global VI	2007	Opportunistic	30.0	21.1	8.9	33.3	0.1	1.58	7.8
Walton Street VI	2007	Opportunistic	15.0	13.3	1.7	15.2	5.9	1.59	8.2
Colony Realty III	2007	Value-Added	21.0	20.0	1.0	26.9	0.0	1.35	5.3
Greenfield VI	2011	Opportunistic	20.0	19.2	0.8	26.2	0.0	1.37	9.6
Almanac Realty VI	2011	Value-Added	30.0	19.1	10.9	21.0	4.0	1.31	9.2
Miller Global VII	2012	Opportunistic	15.0	12.1	2.9	16.0	0.1	1.33	14.4
Colony Realty IV	2012	Value-Added	21.0	21.7	0.0	32.9	0.0	1.51	11.9
Greenfield VII	2013	Opportunistic	19.1	18.3	0.8	27.7	4.2	1.75	13.6
AG Core Plus IV	2014	Value-Added	20.0	19.0	1.8	14.3	12.2	1.39	8.7
Greenfield VIII	2017	Opportunistic	30.0	24.3	7.2	19.1	20.8	1.64	25.3
Stockbridge RE III	2017	Value-Added	45.0	39.1	5.9	25.9	33.1	1.51	18.3
Berkeley V	2020	Value-Added	40.0	22.3	19.0	2.0	27.6	1.32	NM
Total			501.6	449.0	61.8	370.1	361.6	1.63	8.3

By Strategy

Percent of FMV

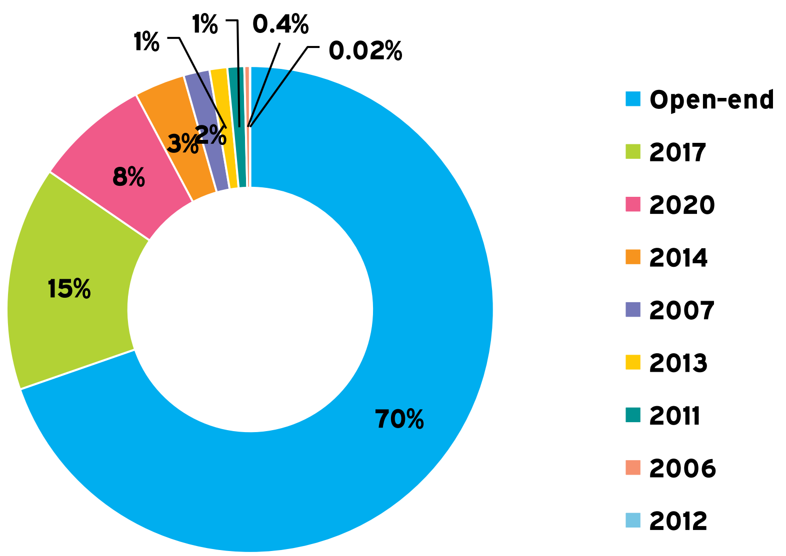


Percent of Exposure

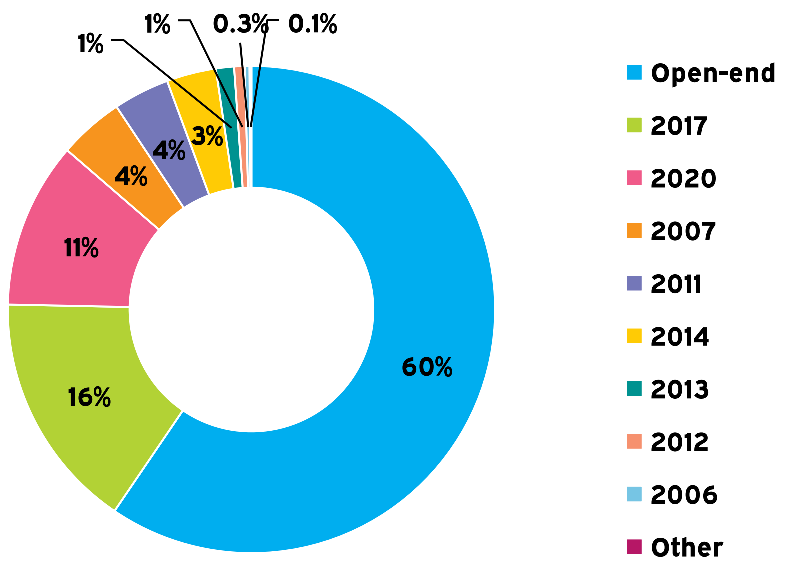


By Vintage

Percent of FMV

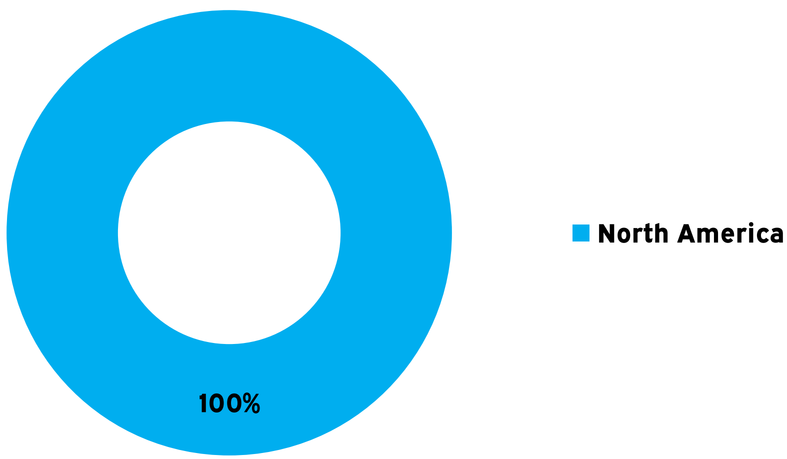


Percent of Exposure

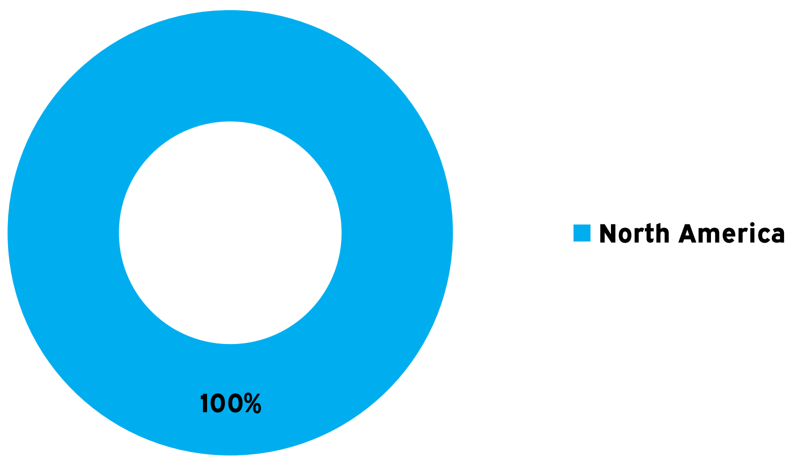


By Geographic Focus

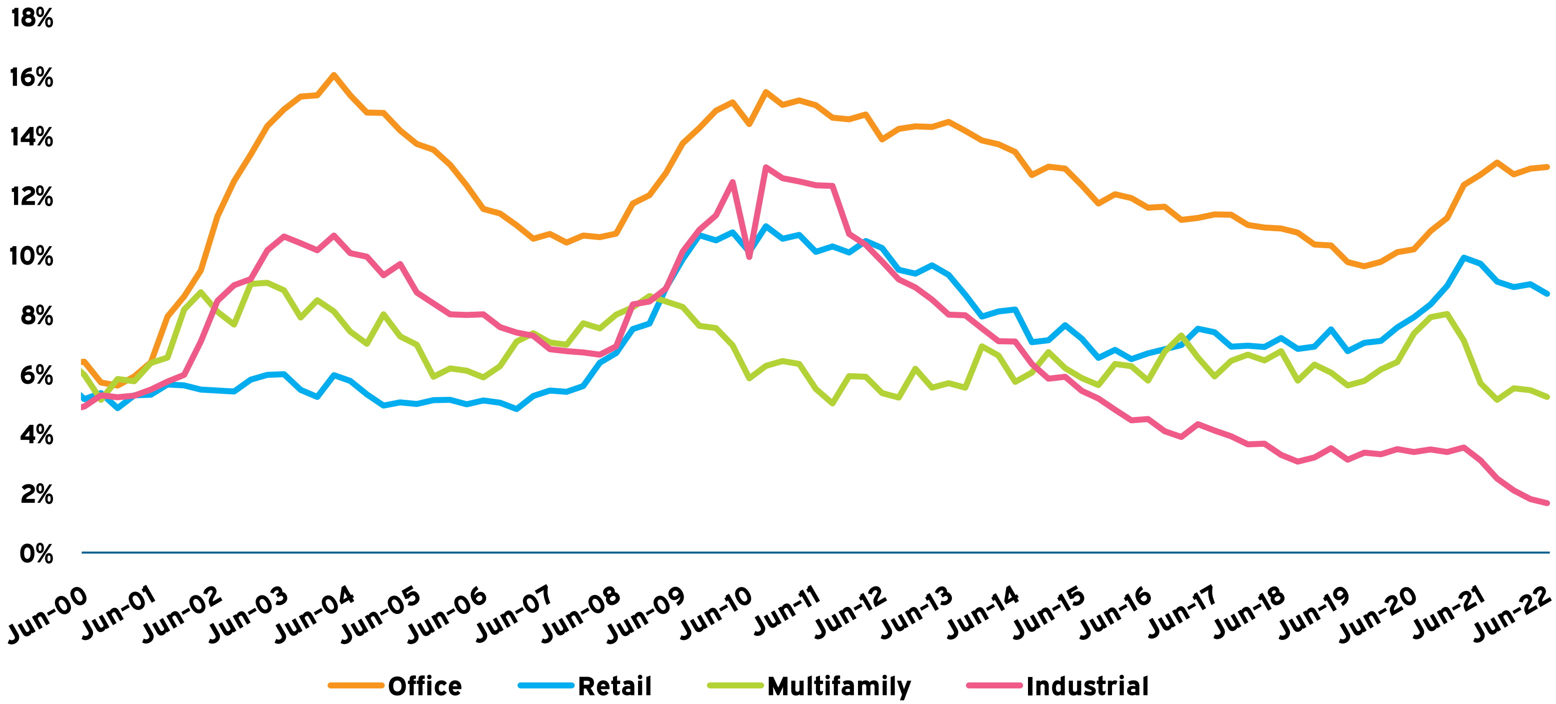
Percent of FMV



Percent of Exposure



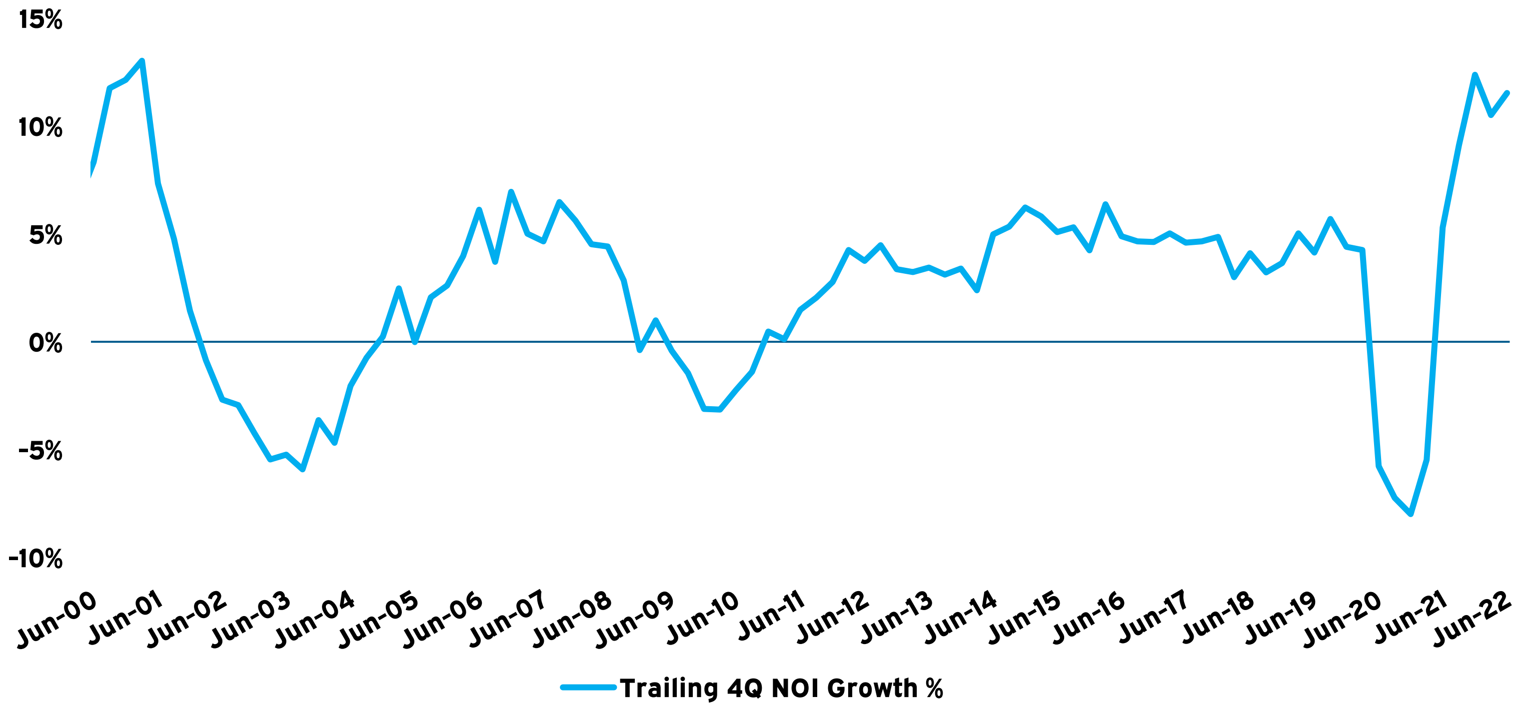
Real Estate Fundamentals
Vacancy by Property Type[1]



In the second quarter of 2022, vacancy rates increased for office, while vacancy rates for multifamily, industrial and retail decreased. Retail saw the largest decrease in vacancy rates, moving down 32 basis points. Multifamily vacancies decreased 22 basis points in Q2 2022, and industrial vacancies fell another 14 basis points to set a new all-time low at 1.7%. Office vacancies increased slightly by 6 basis points in Q2 2022 to 13.0%. Compared to one year ago, vacancy rates in industrial decreased 144 basis points, retail decreased 101 basis points, multifamily decreased 46 basis points., and office increased 26 basis points. Overall, the vacancy rate across all property types decreased 110 basis point from Q2 2021.

[1] Source: NCREIF

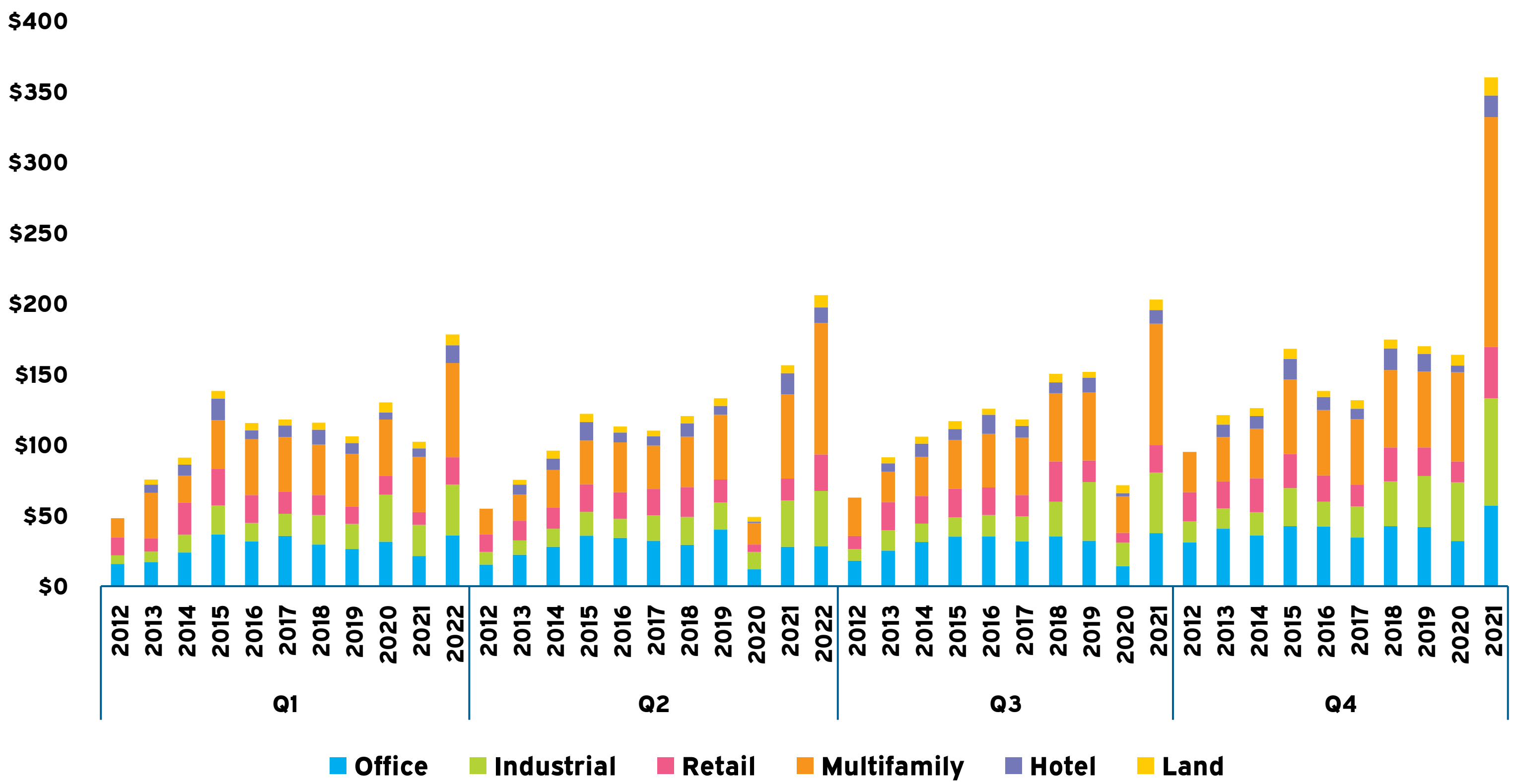
NOI Growth[1]



The trailing twelve-month rate of NOI growth increased slightly in Q2 2022 to 11.5%. Resilient demand and near immediate take-up of new supply in both the industrial and multifamily sectors underpinned the continued NOI growth. Industrial NOI growth is trending at 12.6% for the trailing year ending Q2 2022. Office NOI growth has moved out of negative territory to a positive 2.7% year-over-year, and Apartment NOI (a sector with "gross" rents, compared to "net" rents in other property types) experienced positive NOI growth at 22.3% year-over-year as occupancy levels and rental rate growth improved. Retail NOI growth continues to improve from pandemic lows, now at 13.6% year-over-year.

[1] Source: NCREIF

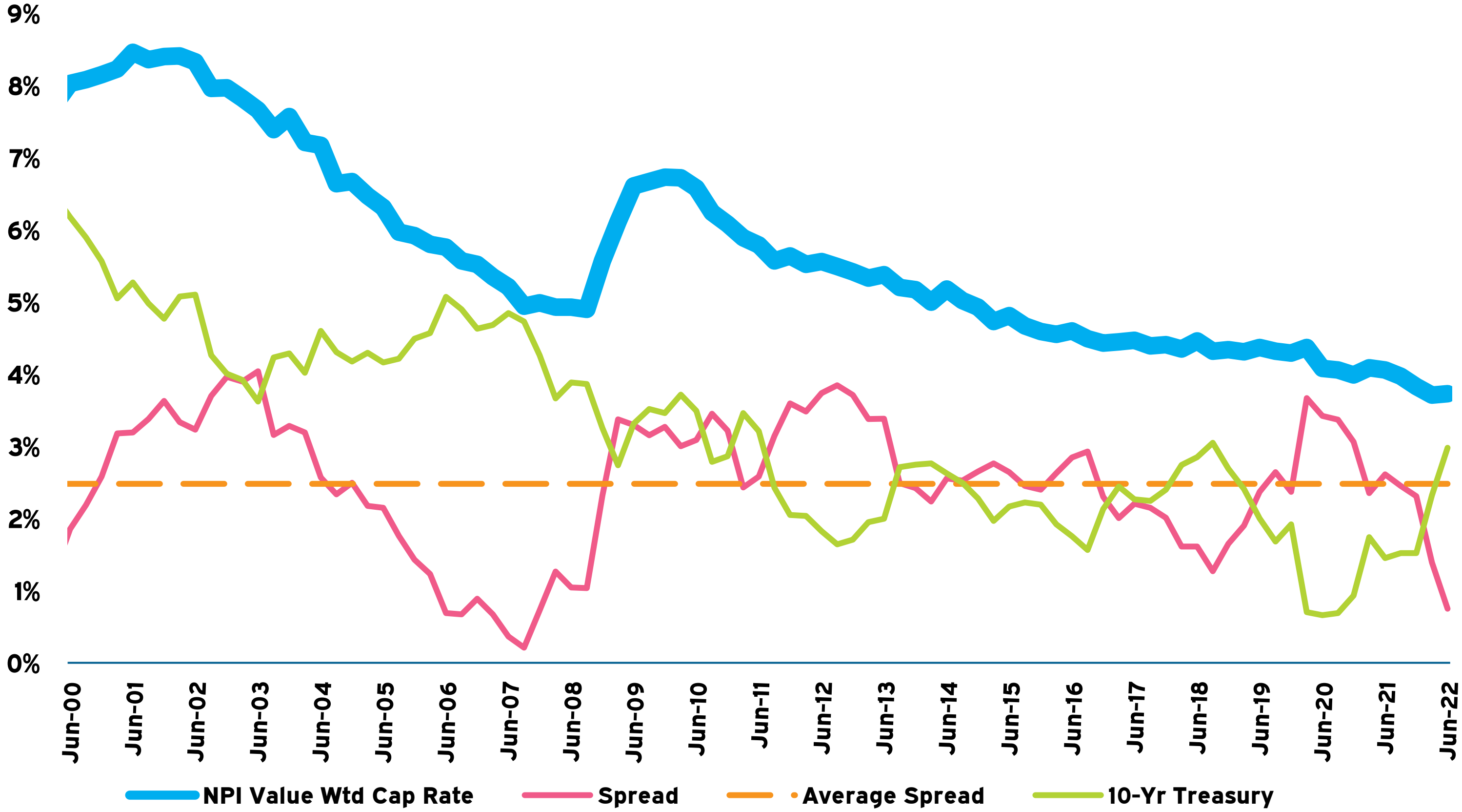
Transaction Volume ($bn)[1]



Private real estate transaction volume for properties valued over $2.5 million for Q2 2022 was up significantly from Q2 2021 to $206 billion. Compared to a year ago, most property types saw increases in transaction volume: retail (+68%), multifamily (+56%), land (+49%), and industrial (+19%). Office transaction volume was effectively flat, and hotel transaction volume was down 28%. Multifamily and industrial properties made up the largest percentages of total transaction volume during the quarter, at 45% and 19%, respectively.

[1] Source: PREA

Real Estate Capital Markets
Cap Rates vs. 10-Year Treasury[1]



The NPI Value Weighted Cap Rate was unchanged in Q2 2022 at 3.7%. The 10-year Treasury yield increased by 66 basis points in Q2 2022 to 3.0%. The spread between cap rates and treasury yields (75 basis points) is now well below the long-term average spread of 251 basis points.

[1] Source: NCREIF and US Department of the Treasury

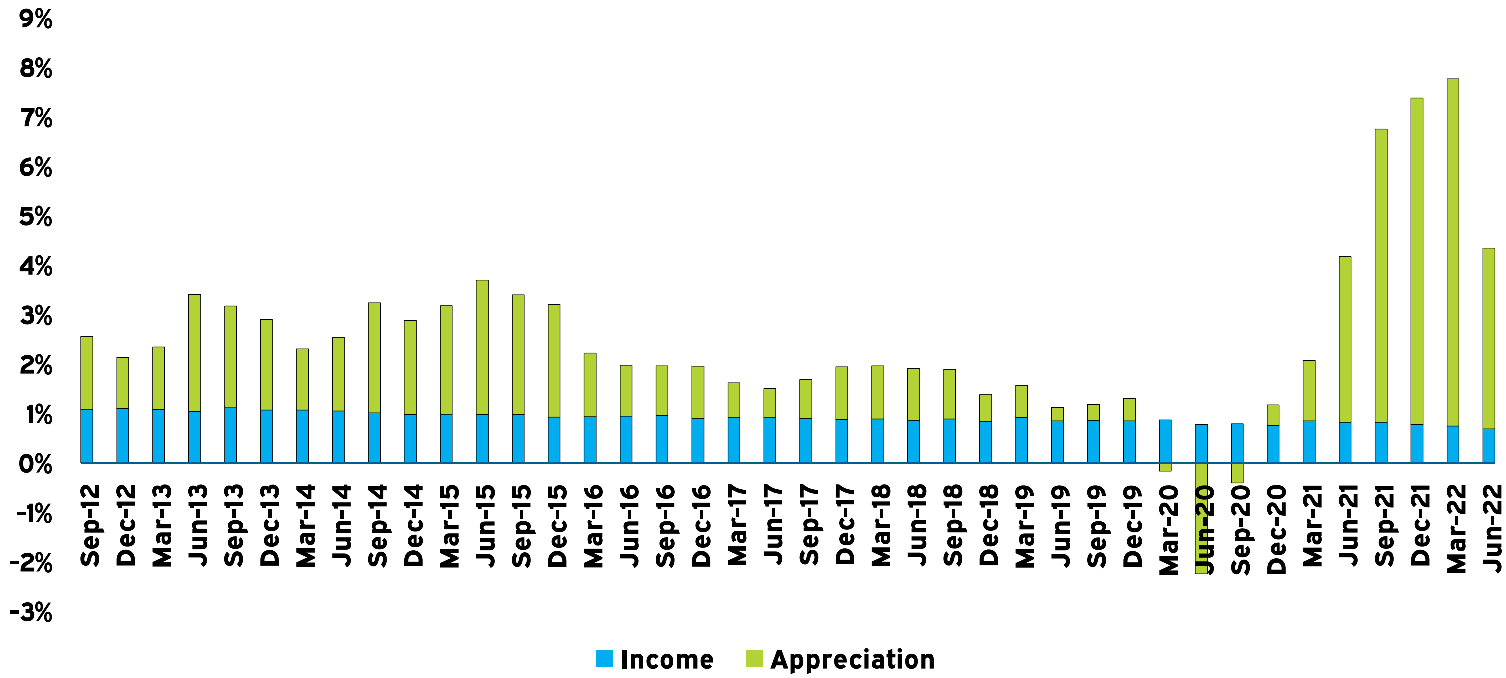
Trailing Period Returns[1]

As of June 30, 2022	1 Year	3 Years	5 Years	10 Years
NFI-ODCE (EW, net)	28.9%	12.3%	10.1%	10.5%
NFI-ODCE (VW, net)	28.3	11.7	9.6	10.2
NCREIF Property Index	21.5	10.2	8.9	9.7
NAREIT Equity REIT Index	-5.9	5.3	6.7	8.3

Private real estate indices were positive in Q2 2022 and continue to be positive over the 1-year, 3-year, 5-year, and 10-year time horizons. The NFI-ODCE Equal Weight Index posted another strong quarter in Q2 2022 and private core real estate vastly outperformed the public index over the trailing one-year period. Indeed, private core real estate has outperformed the public index for all periods presented. Public real estate performance continues to be volatile, returning -14.7% in Q2 2022, after posting a 12.0% return in the same quarter one year ago.

[1] Source: NCREIF

ODCE Return Components [1]
(Equal Weight, Net)



The NFI-ODCE Equal Weight return in Q2 2022, while quite strong at 4.4%, represented a significant decrease from the prior quarter's record setting return of 7.8%. Small upward adjustments to the discount rate, used in valuations to reflect increasing interest rates and the cost of debt financing, chipped away at the appreciation component of returns (+3.7% in Q2 versus 7.0% in Q1). The income component of the quarterly return has been fairly consistent around 0.7%.

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[1] Source: NCREIF

Below are details on specific terminology and calculation methodologies used throughout this report:

Committed	The original commitment amount made to a given fund. Some funds may be denominated in non-USD currencies, and such commitment amounts represent the sum of fund contributions translated to USD at their daily conversion rates plus the unfunded balance translated at the rate as of the date of this report.
Contributed	The amount of capital called by a fund manager against the commitment amount. Contributions may be used for new or follow-on investments, fees, and expenses, as outlined in each fund's limited partnership agreement. Some capital distributions from funds may reduce contributed capital balances. Some funds may be denominated in non-USD currencies, and such aggregate contributions represent the sum of each fund contribution translated to USD at its daily conversion rate.
Distributed	The amount of capital returned from a fund manager for returns of invested capital, profits, interest, and other investment related income. Some distributions may be subject to re-investment, as outlined in each fund's limited partnership agreement. Some funds may be denominated in non-USD currencies, and such aggregate distributions represent the sum of each fund distribution translated to USD at its daily conversion rate.
DPI	Acronym for "Distributed-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculation equals Distributed divided by Contributed. DPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa.
Exposure	Represents the sum of the investor's Unfunded and Remaining Value.
IRR	Acronym for "Internal Rate of Return", which is a performance measurement for Private Market investments. IRRs are calculated by Meketa based on daily cash flows and Remaining Values as of the date of this report. IRRs for funds and groupings of funds are net of all fund fees and expenses as reported by fund managers to Meketa.
NCV	Acronym for "Net Change in Value", which is a performance measurement for Private Market investments. The performance calculation equals the appreciation or depreciation over a time period neutralized for the impact of cash flows that occurred during the time period.
NM	Acronym for "Not Meaningful", which indicates that a performance calculation is based on data over too short a timeframe to yet be meaningful or not yet possible due to inadequate data. Meketa begins reporting IRR calculations for investments once they have reached more than two years since first capital call. NM is also used within this report in uncommon cases where the manager has reported a negative Remaining Value for an investment.

Public Market Equivalent ("PME")	A calculation methodology that seeks to compare the performance of a portfolio of private market investments with public market indices. The figures presented in this report are based on the PME+ framework, which represents a net IRR value based on the actual timing and size of the private market program's daily cash flows and the daily appreciation or depreciation of an equivalent public market index. Meketa utilizes the following indices for private market program PME+ calculations: Infrastructure: Dow Jones Brookfield Global Infrastructure Index Natural Resources: S&P Global Natural Resources Index Private Debt: Meryl Lynch High Yield Master II Bond Index Private Equity: MSCI ACWI Investable Market Index Real Assets (excluding Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index and S&P Global Natural Resources Index Real Assets (including Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index, S&P Global Natural Resources Index, and Dow Jones U.S. Select Real Estate Securities Index Real Estate: Dow Jones U.S. Select Real Estate Securities Index
Remaining Value	The investor's value as reported by a fund manager on the investor's capital account statement. All investor values in this report are as of the date of this report, unless otherwise noted. Some funds may be denominated in non-USD currencies, and such remaining values represent the fund's local currency value translated to USD at the rate as of the date of this report.
TVPI	Acronym for "Total Value-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculations represents Distributed plus Remaining Value, then divided by Contributed. TVPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa.
Unfunded	The remaining balance of capital that a fund manager has yet to call against a commitment amount. Meketa updates unfunded balances for funds to reflect all information provided by fund managers provided in their cash flow notices. Some funds may be denominated in non-USD currencies, and such unfunded balances represent the fund's local currency unfunded balance translated to USD at the rate as of the date of this report.

Capital Markets Outlook & Risk Metrics

As of September 30, 2022

Capital Markets Outlook

Markets

→ Global equities and bonds sold-off in September reflecting the deteriorating economic outlook as major central banks hiked interest rates, effectively threatening to tip the global economy into recession in order to suppress inflationary pressures.

→ The Russian-Ukrainian war continued to drive natural gas prices higher, and incremental political escalation of hostilities between Russia and the west cumulated in considerable damage to the vital Nordstream 1 pipeline.

→ China stands out in its efforts to ease policy to support the floundering real estate sector and bolster domestic demand as it has been forced to slow the rapid depreciation of the renminbi against major trade partners. Despite these efforts, they have yet to boost domestic spending or resolve the real estate crisis.

→ US equities posted negative returns in September but outperformed developed non-US and emerging market indices, and value outperformed growth in most regions.

→ Broad emerging market equities outperformed Chinese equities. Buffeted by a strong US dollar, rising inflation, and falling global growth, investors repriced equities based on deteriorating fundamentals.

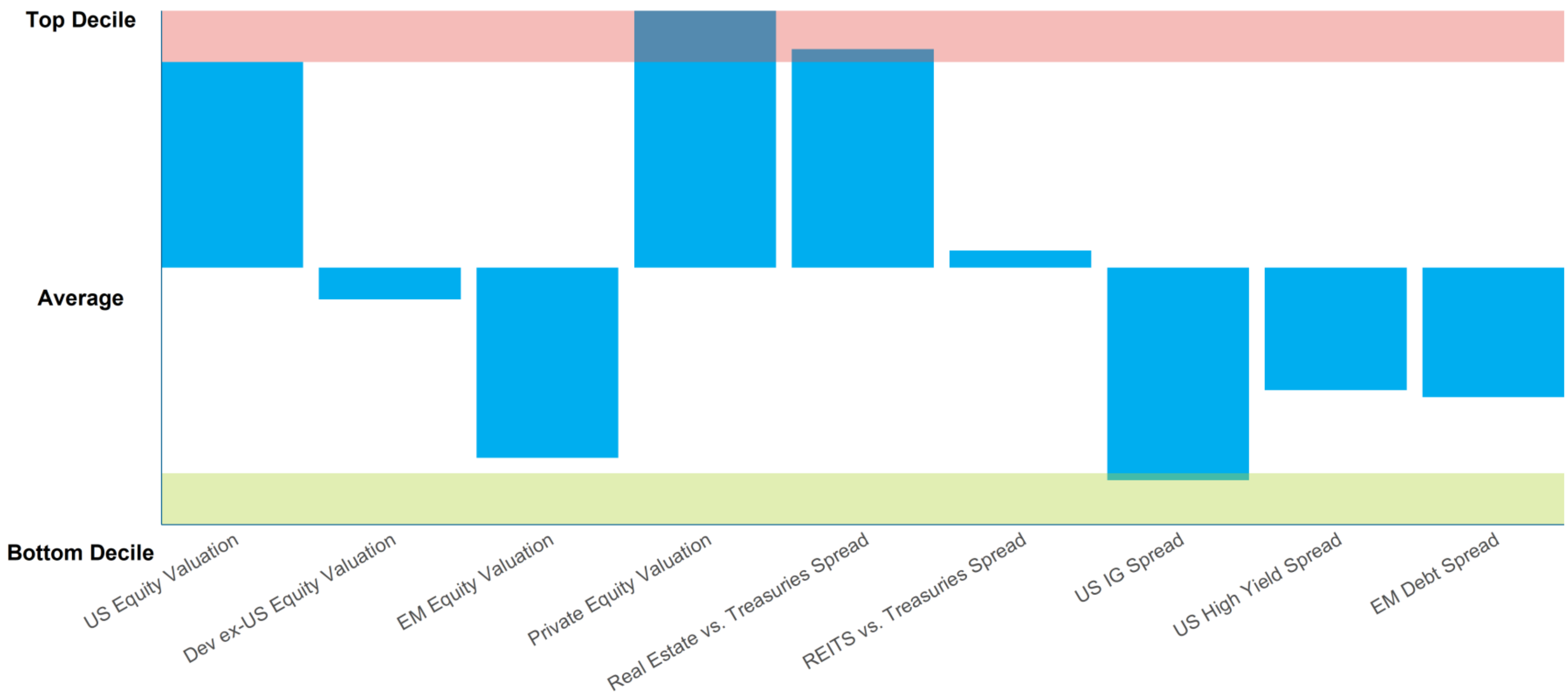
→ The UK suffered a brief but severe dislocation in its bond market requiring the new government to retreat from its fiscal reform package and for the Bank of England to intervene in the bond markets.

→ US fixed income markets posted losses, although high yield and short-duration TIPS fared better than the Bloomberg Aggregate.

→ After benefiting from higher commodity prices earlier in the year, commodities and public natural resources suffered negative returns as deteriorating economic growth outlook repriced estimates for future demand for energy, industrial metals, and lumber.

Risk Overview/Dashboard (1)

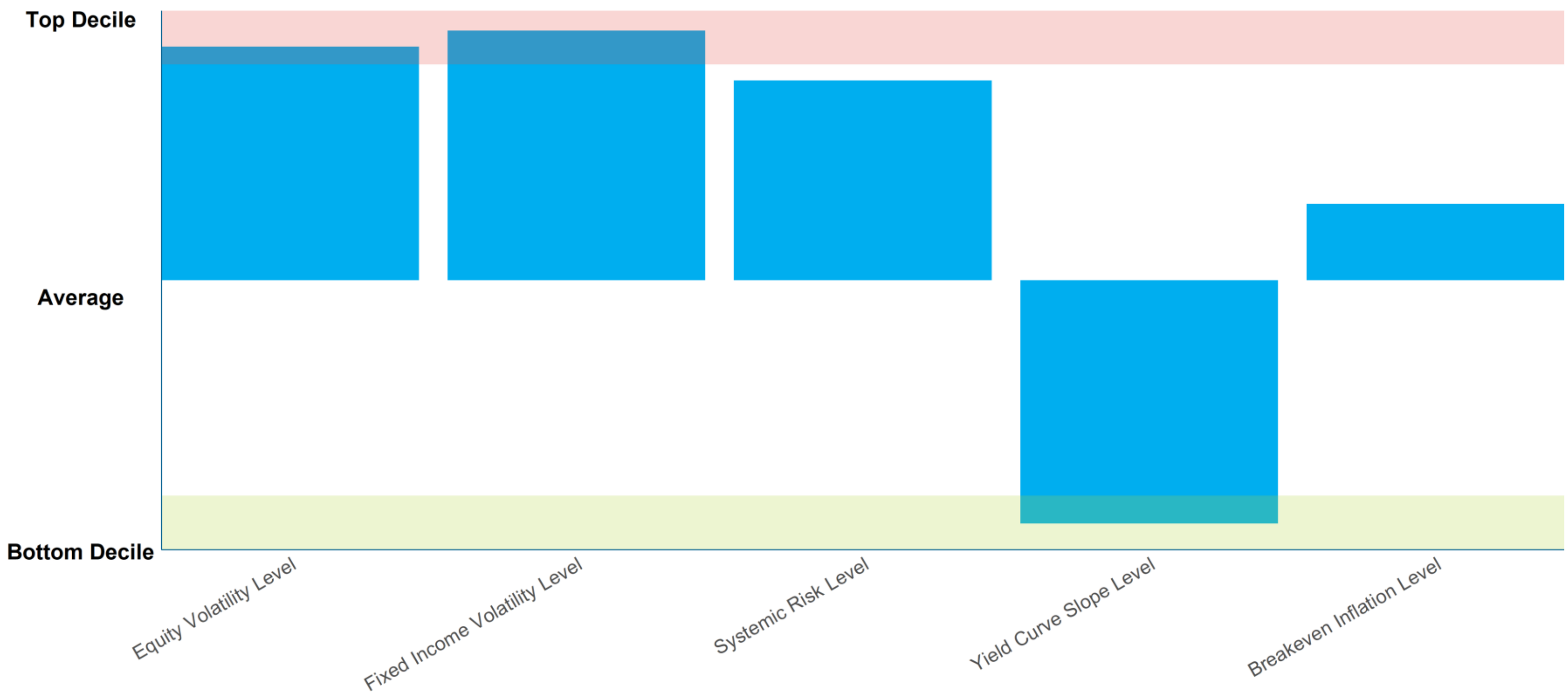
(As of September 30, 2022)[1]



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

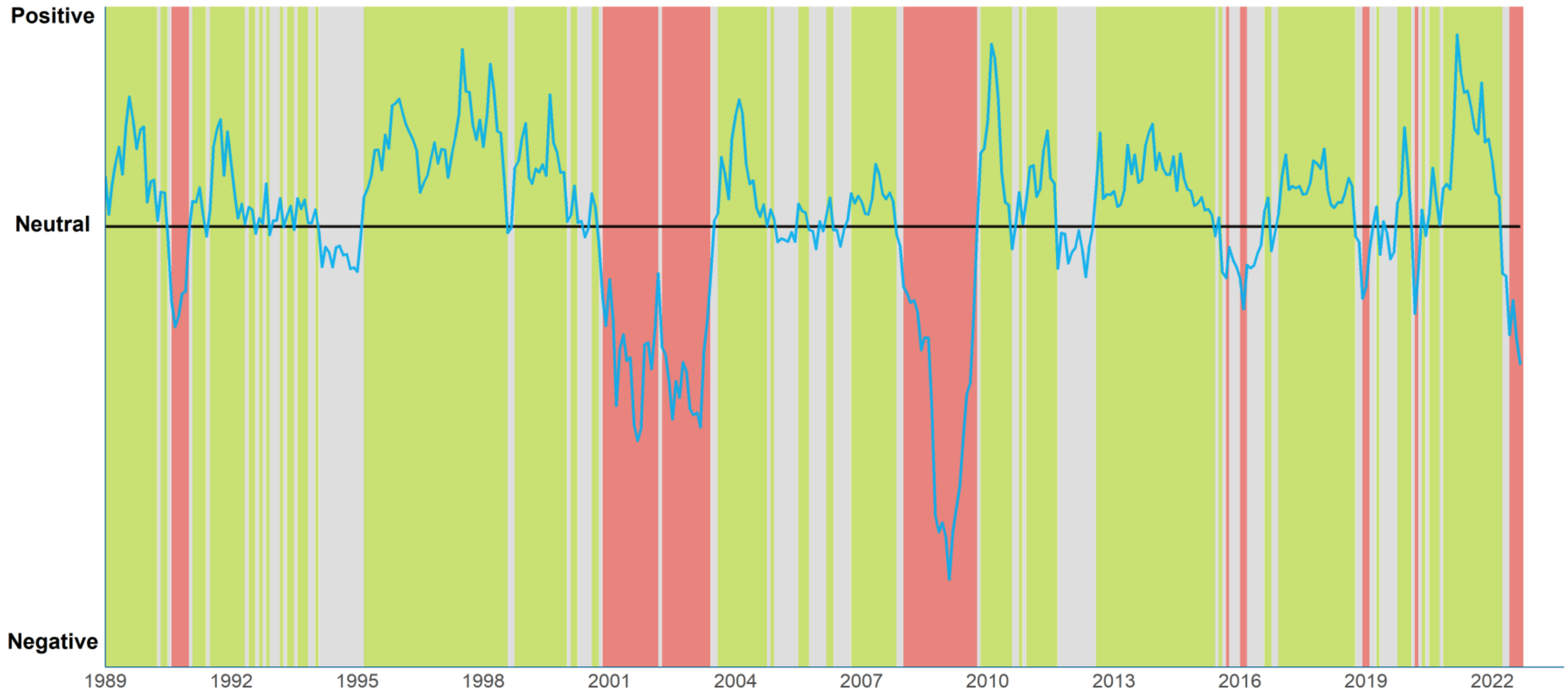
[1] With the exception of Private Equity Valuation, that is YTD as of December 31, 2021.

Risk Overview/Dashboard (2)
(As of September 30, 2022)

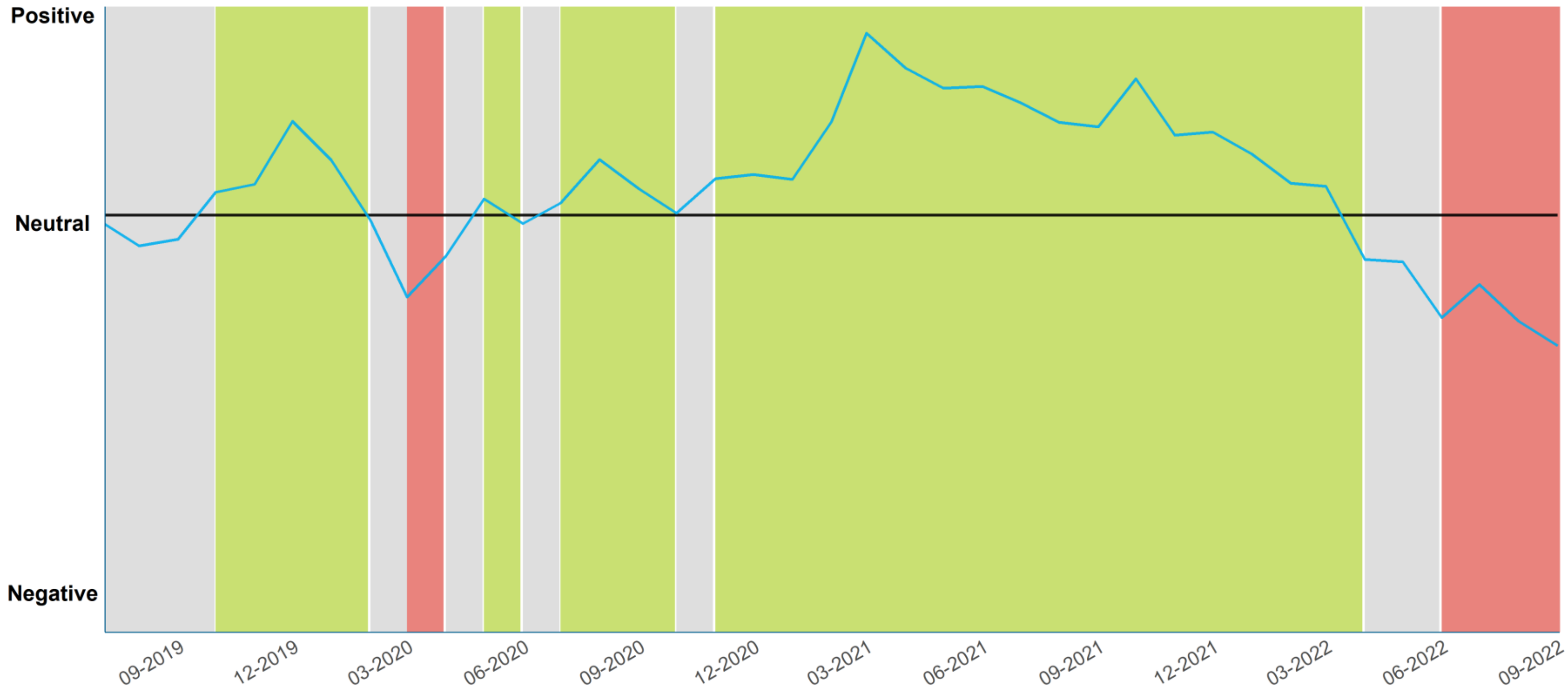


→ Dashboard (2) shows how the current level of each indicator compares to its respective history.

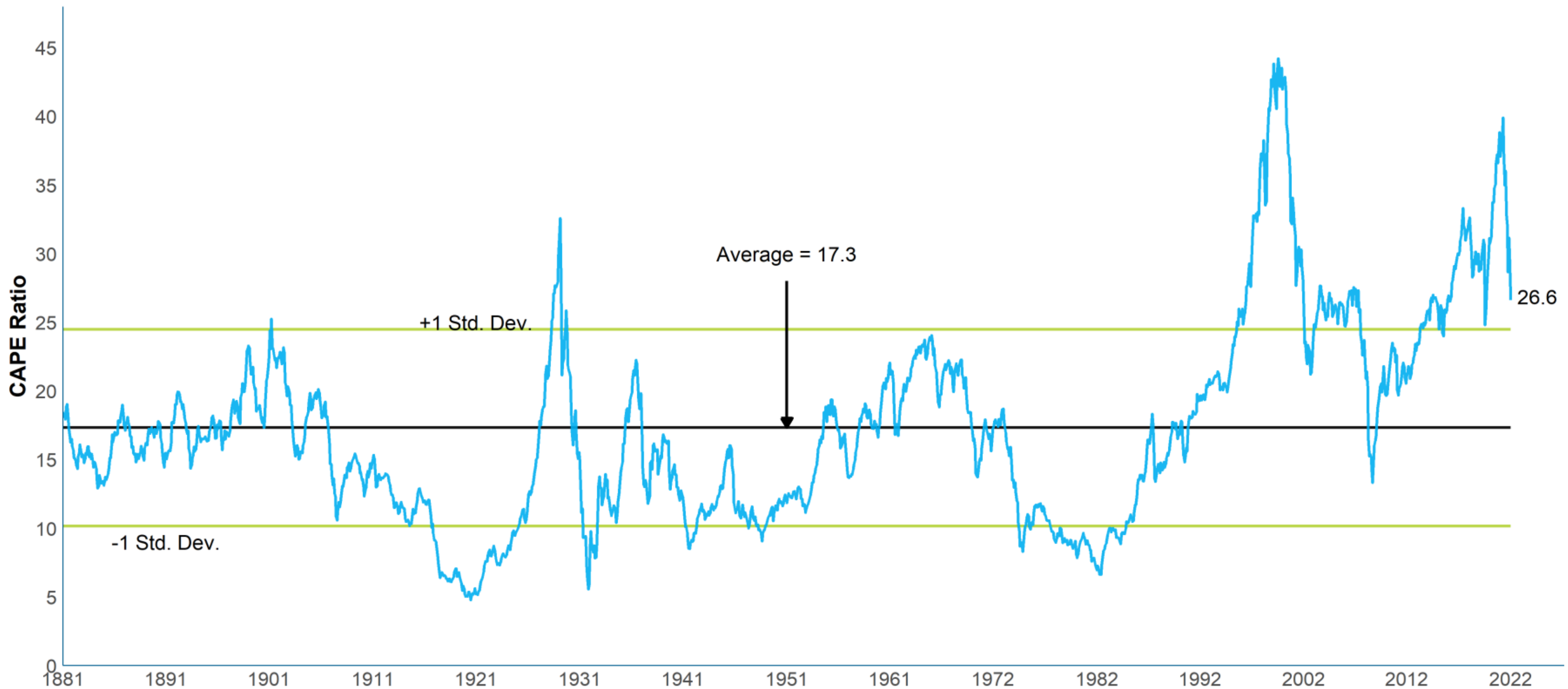
Market Sentiment Indicator (All History)
(As of September 30, 2022)



Market Sentiment Indicator (Last Three Years)
(As of September 30, 2022)



US Equity Cyclically Adjusted P/E[1]
(As of September 30, 2022)



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

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

Small Cap P/E vs. Large Cap P/E[1]
(As of September 30, 2022)

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

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

Growth P/E vs. Value P/E[1]
(As of September 30, 2022)

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

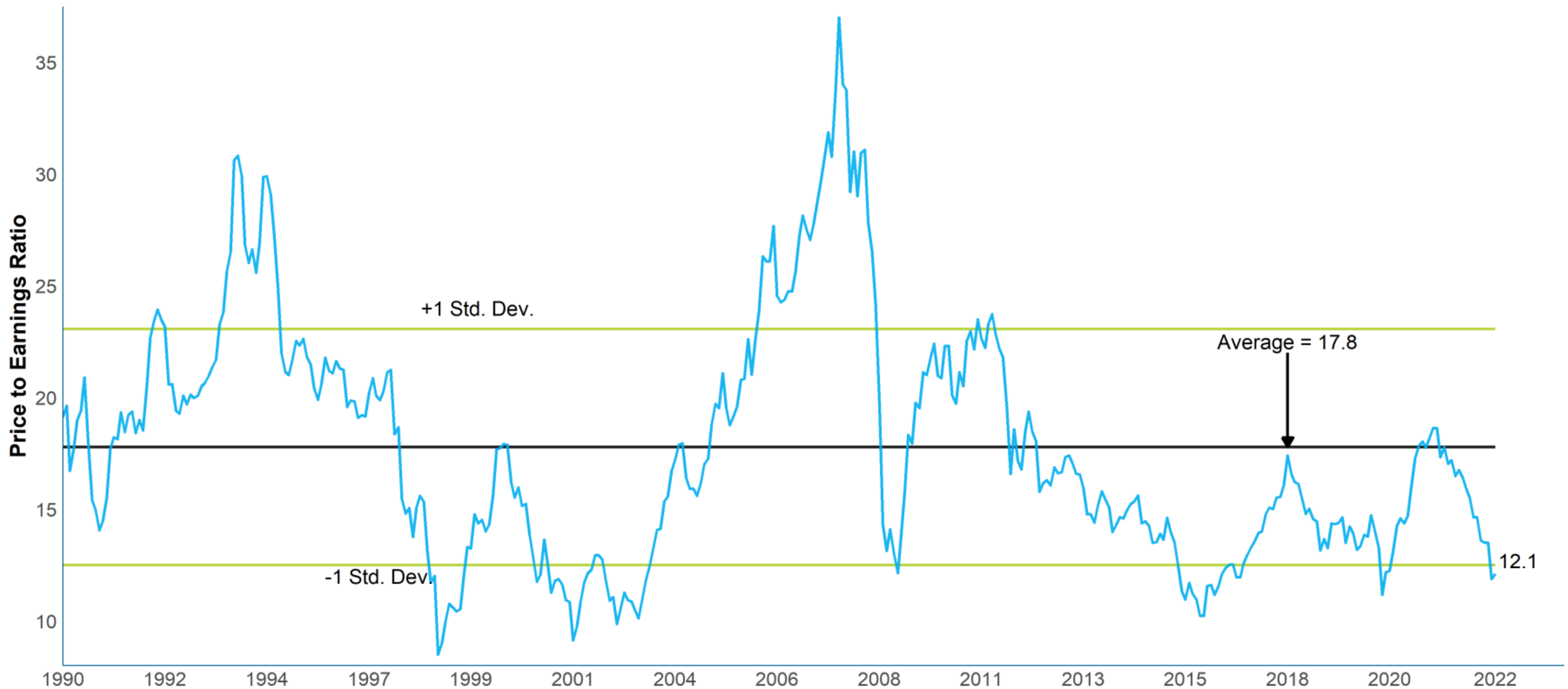
[1] Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.

Developed International Equity Cyclically Adjusted P/E[1]
(As of September 30, 2022)

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

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

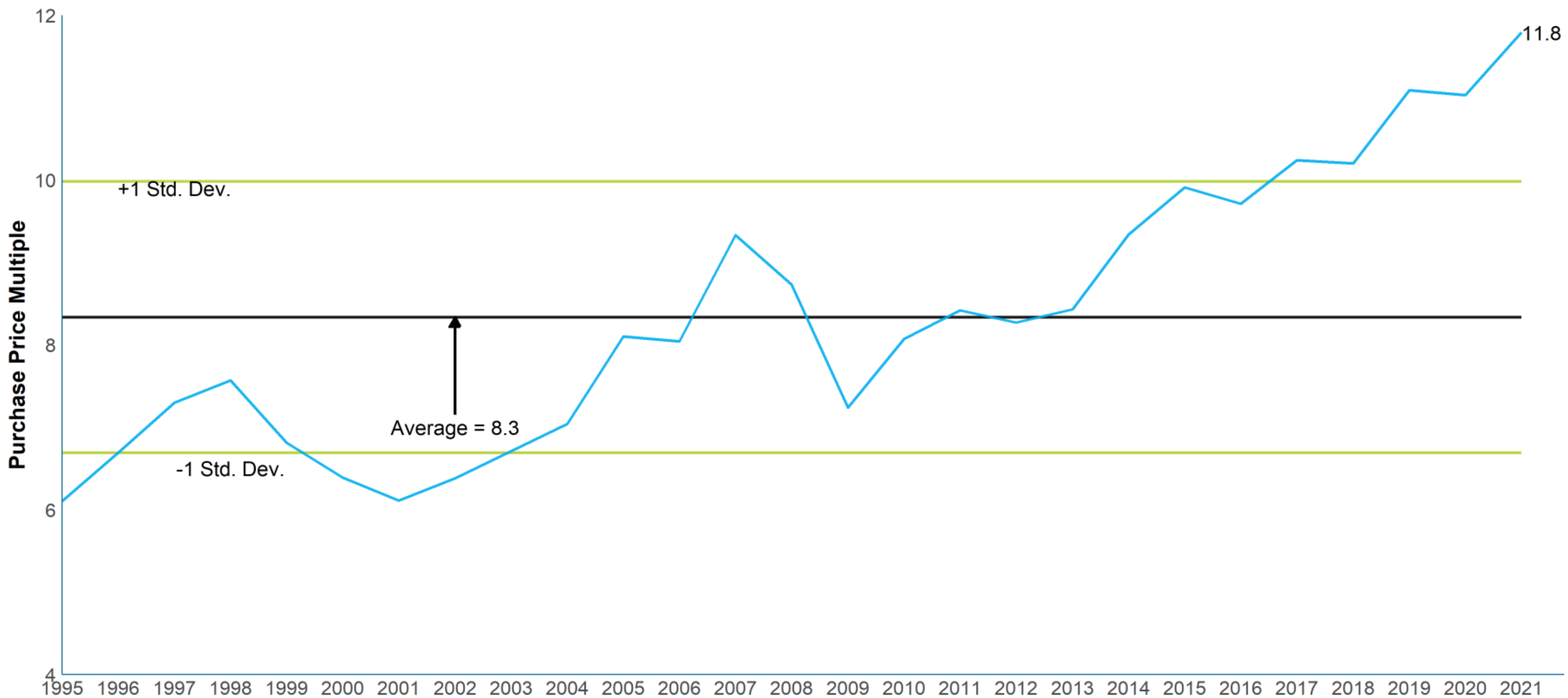
Emerging Market Equity Cyclically Adjusted P/E[1]
(As of September 30, 2022)



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

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

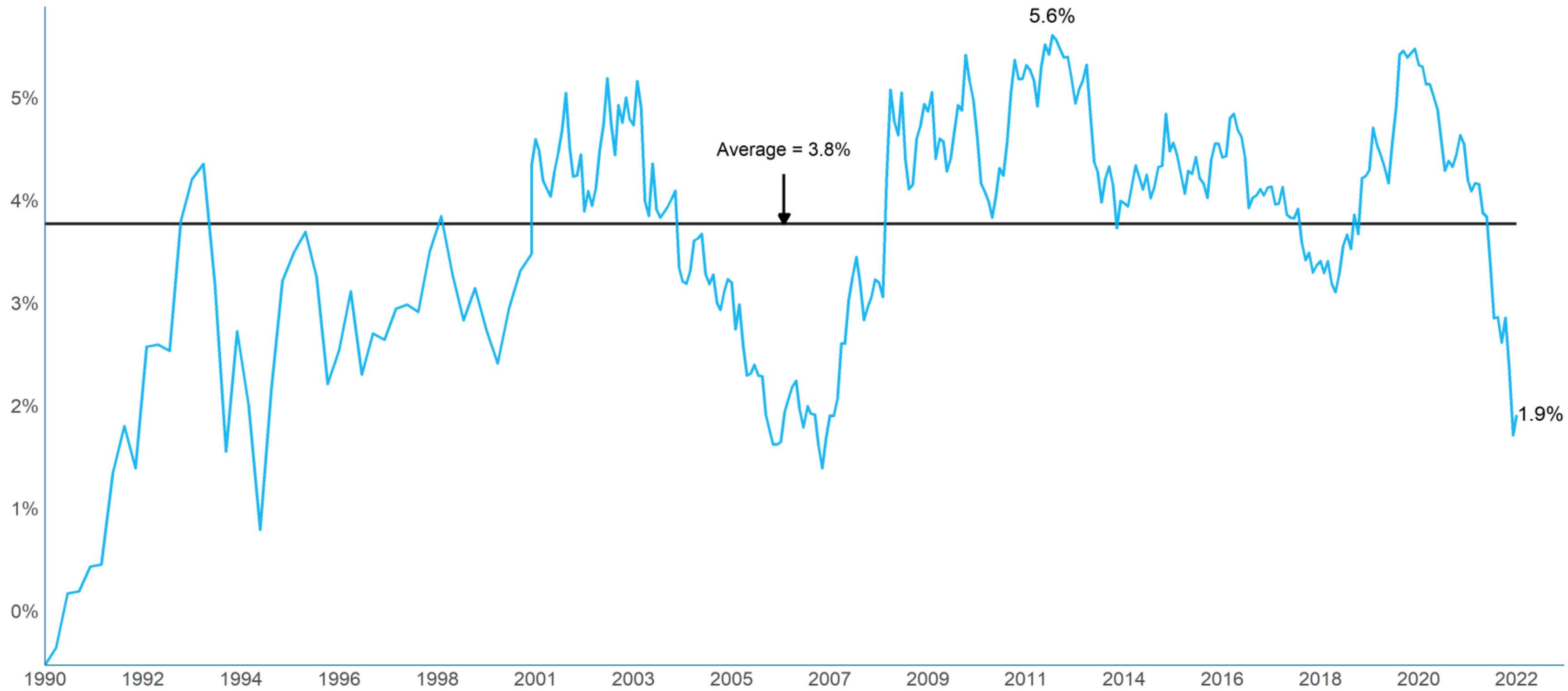
Private Equity Multiples[1]
(As of September 30, 2022)[2]



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

[1] Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.
[2] Annual Data, as of December 31, 2021

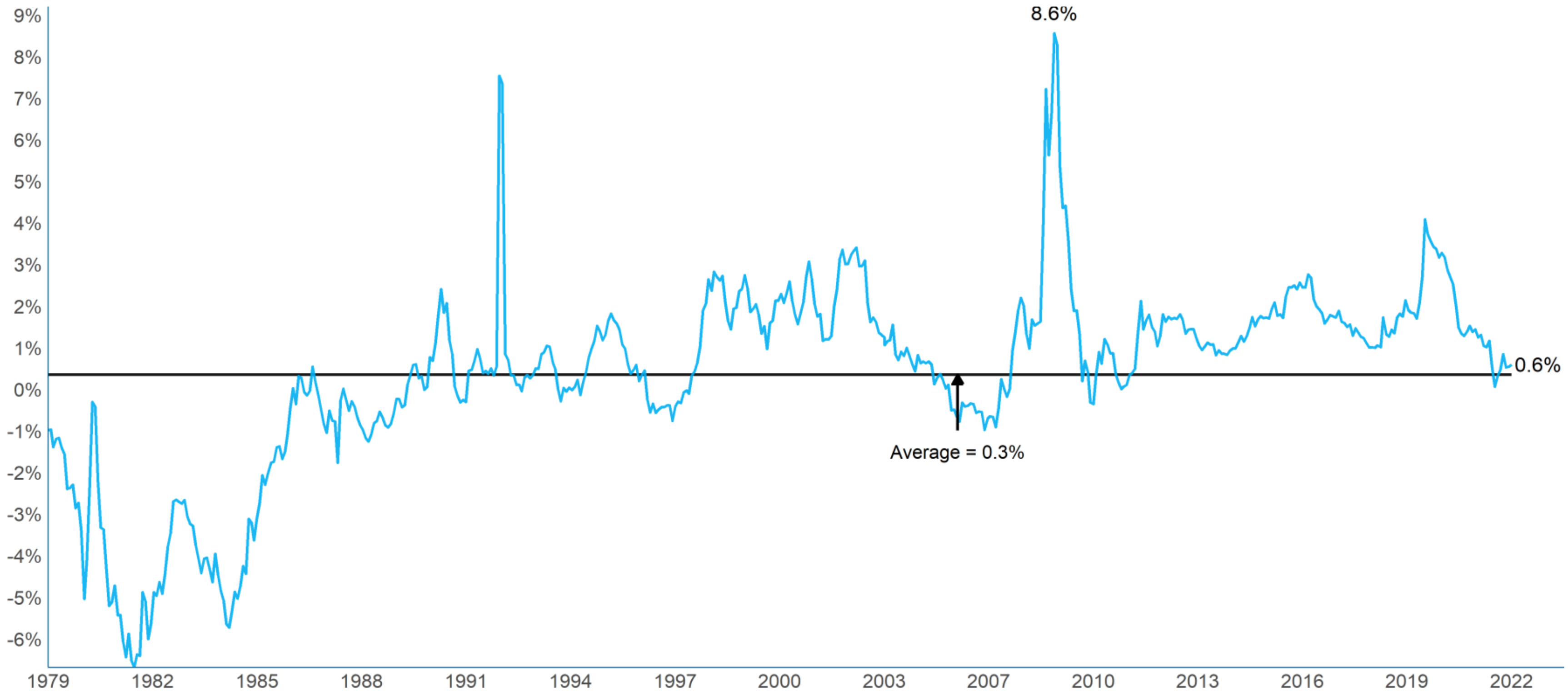
Core Real Estate Spread vs. Ten-Year Treasury[1]
(As of September 30, 2022)



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

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

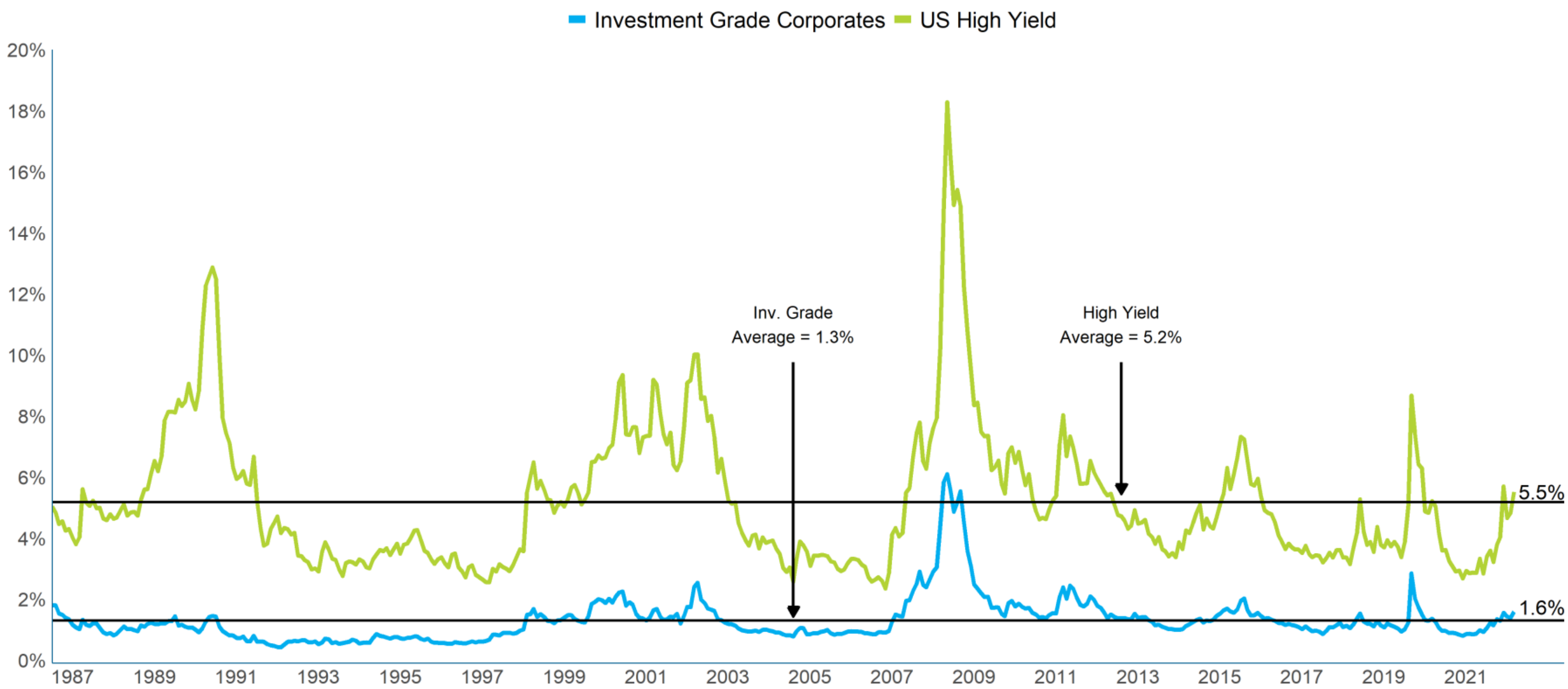
REITs Dividend Yield Spread vs. Ten-Year Treasury[1]
(As of September 30, 2022)



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

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

Credit Spreads[1]
(As of September 30, 2022)



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

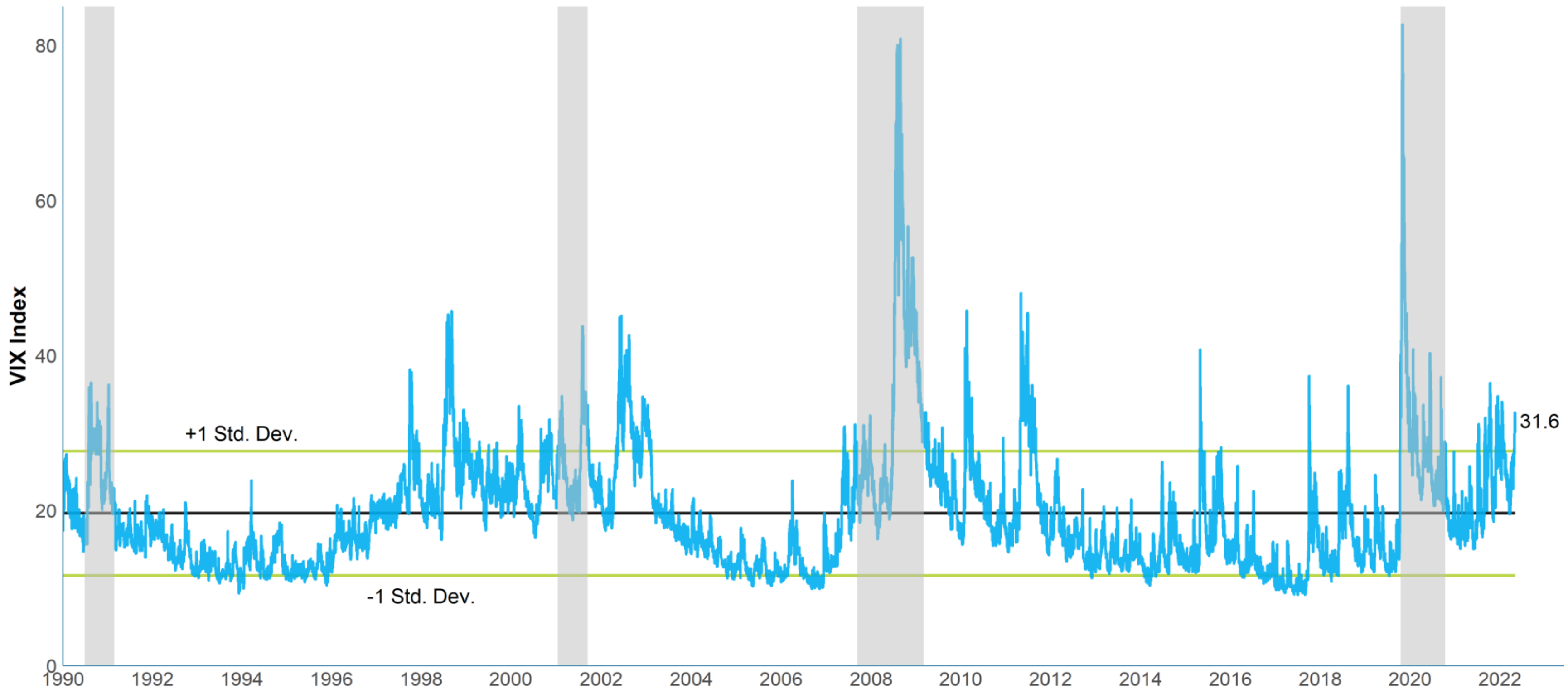
[1] Credit Spreads – Source: Bloomberg. High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year US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

Emerging Market Debt Spreads[1]
(As of September 30, 2022)

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

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

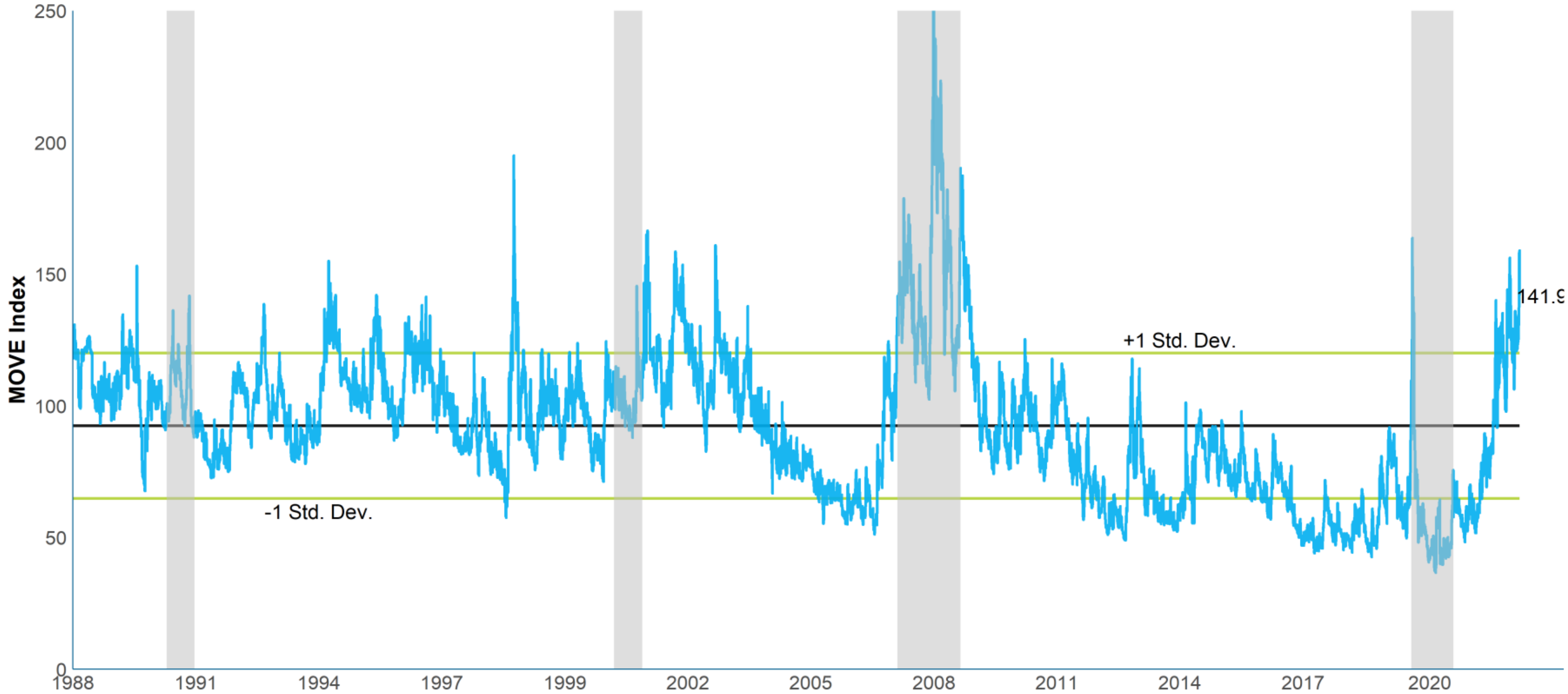
Equity Volatility[1]
(As of September 30, 2022)



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

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

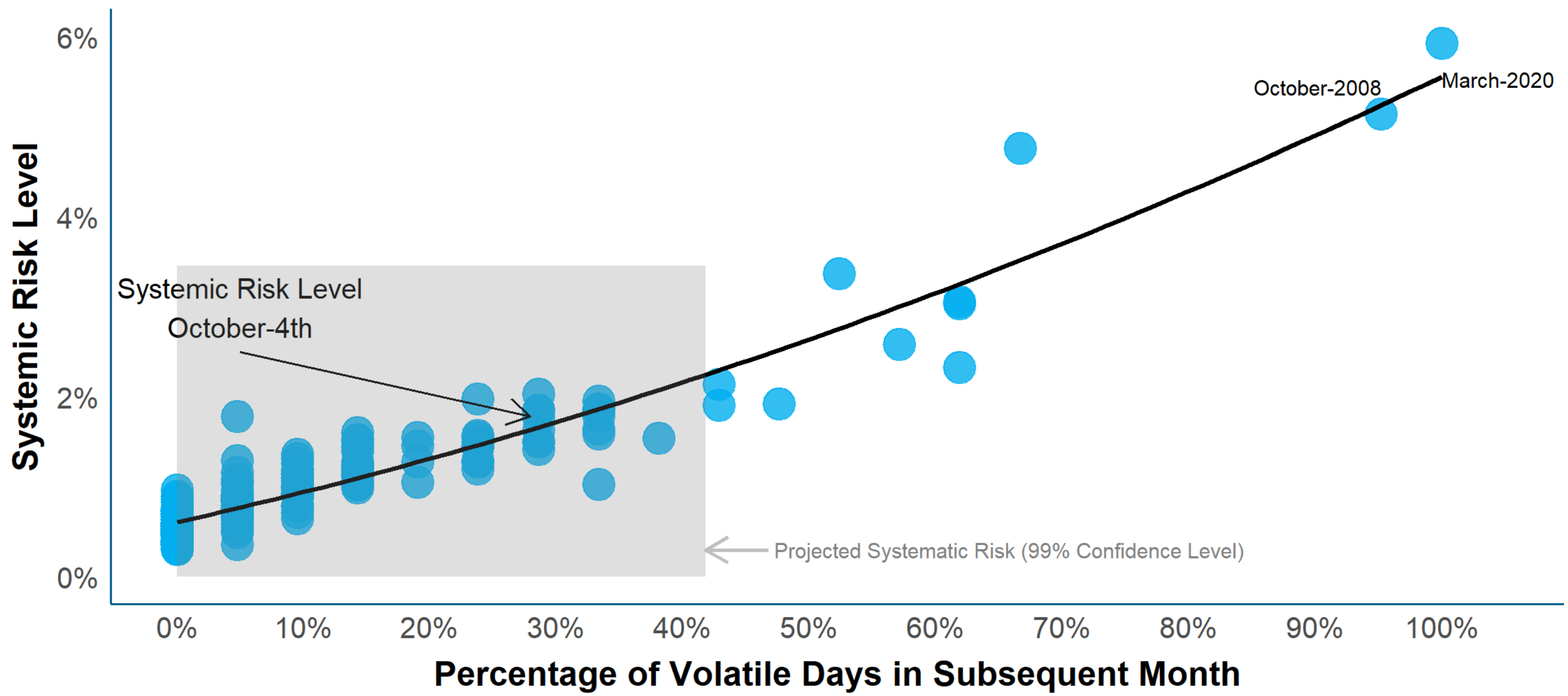
Fixed Income Volatility[1]
(As of September 30, 2022)



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

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

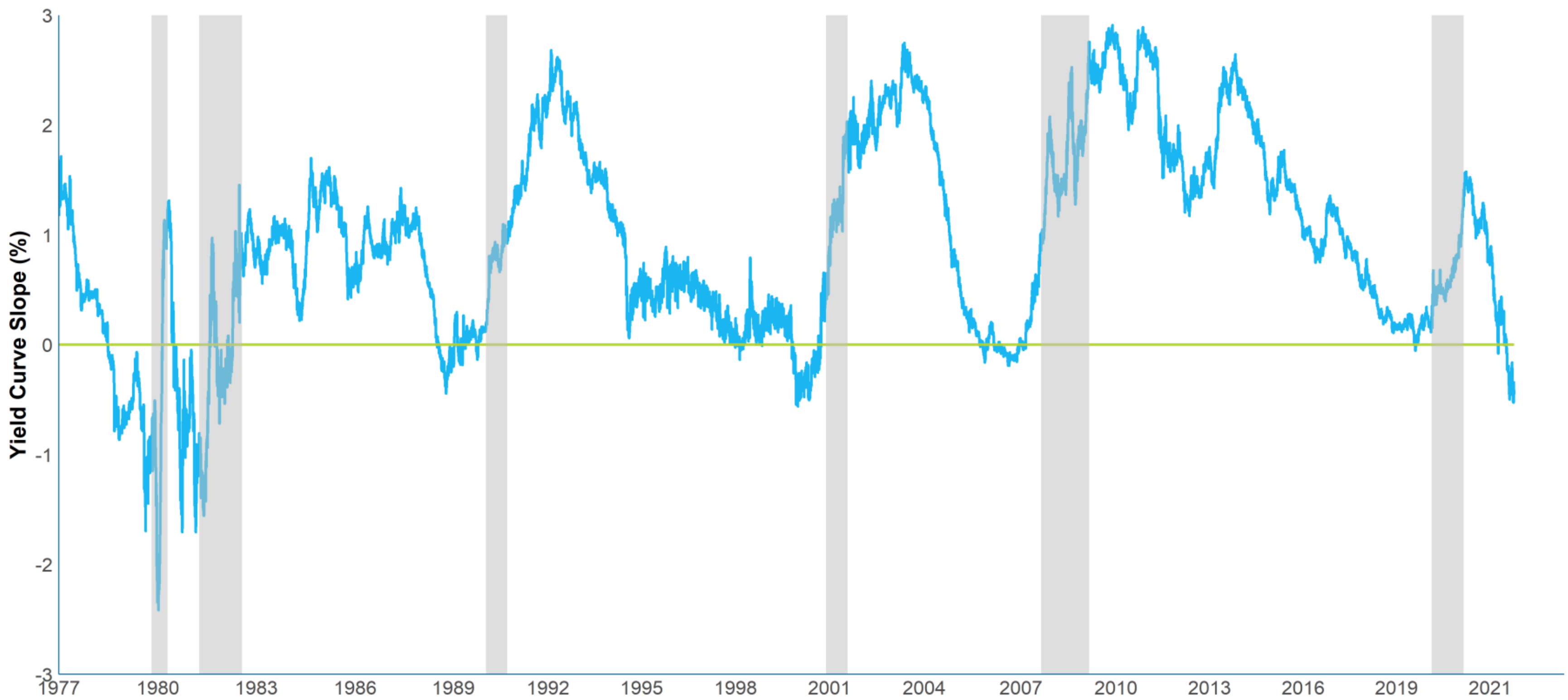
Systemic Risk and Volatile Market Days[1]
(As of September 30, 2022)



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

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

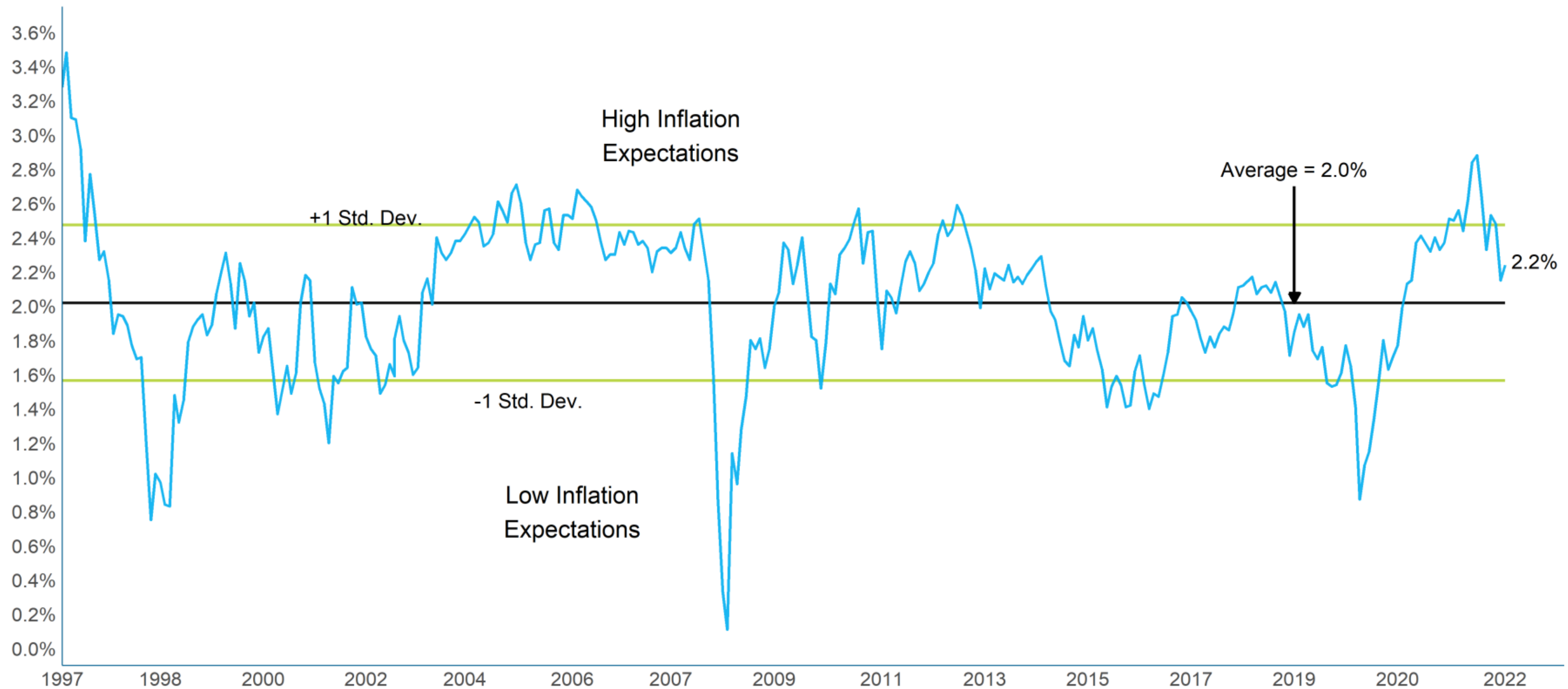
Yield Curve Slope (Ten Minus Two)[1]
(As of September 30, 2022)



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

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

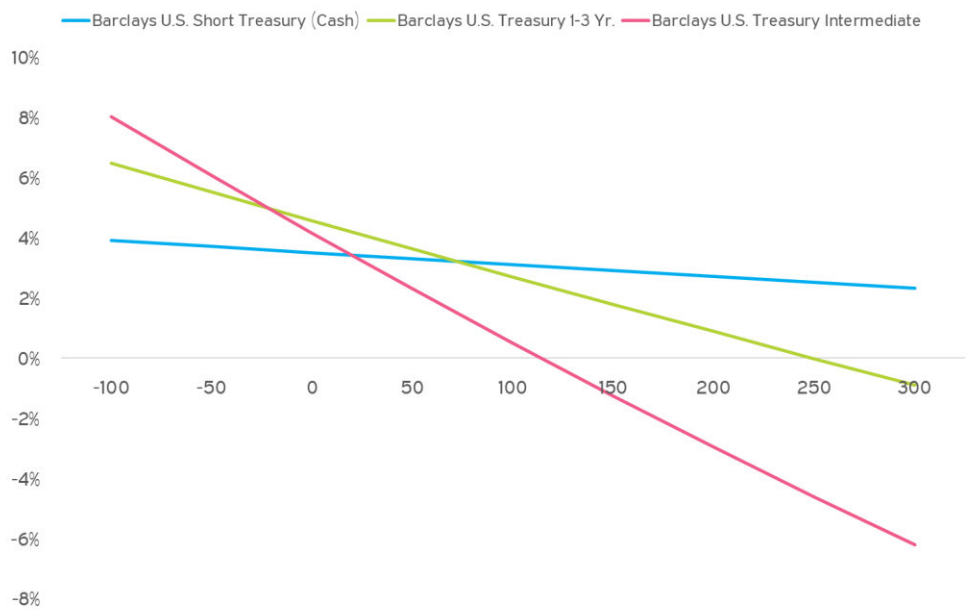
Ten-Year Breakeven Inflation[1]
(As of September 30, 2022)



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

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

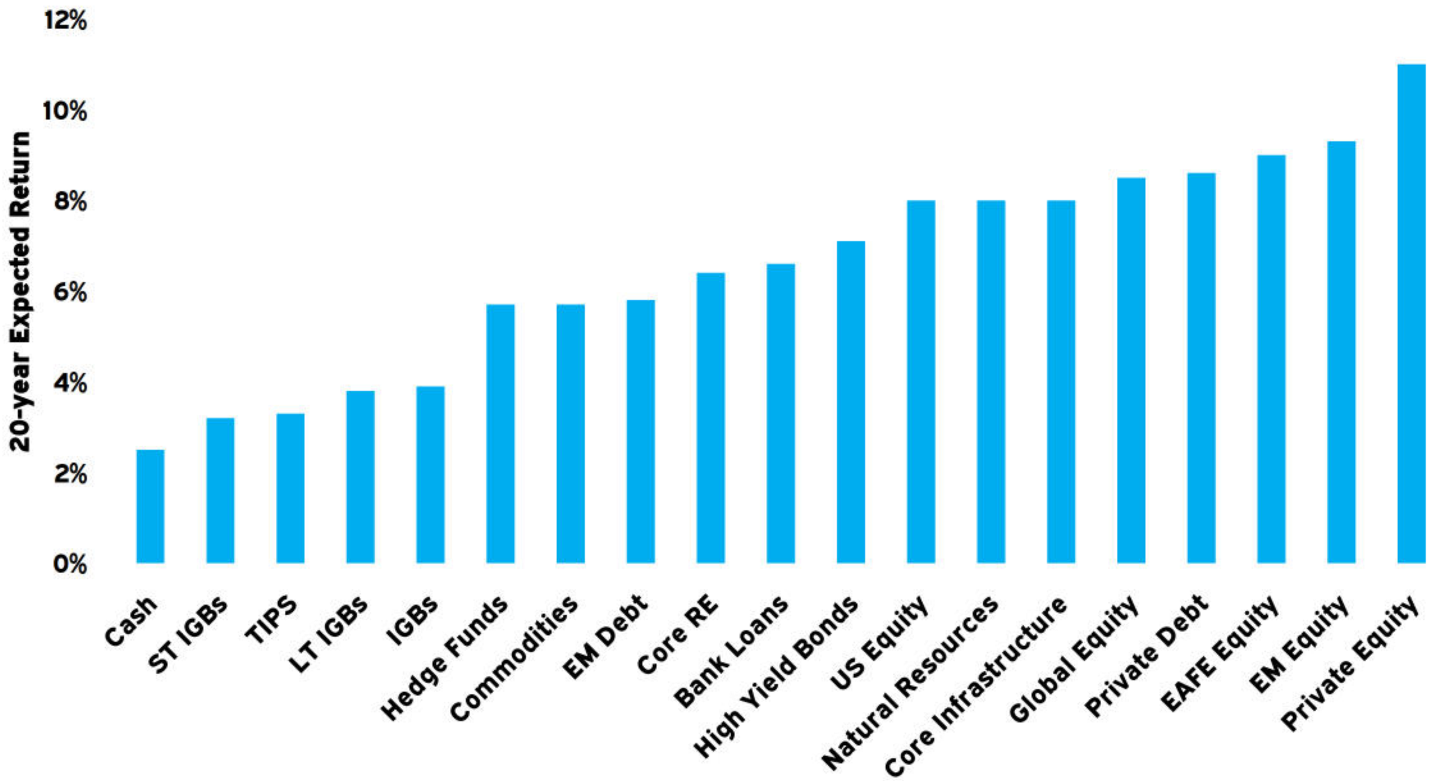
Total Return Given Changes in Interest Rates (bps)[1]
(As of September 30, 2022)



	Total Return for Given Changes in Interest Rates (bps)									Statistics	
	-100	-50	0	50	100	150	200	250	300	Duration	YTW
Barclays US Short Treasury (Cash)	3.9%	3.7%	3.5%	3.3%	3.1%	2.9%	2.7%	2.5%	2.3%	0.40	3.51%
Barclays US Treasury 1-3 Yr.	6.5%	5.5%	4.6%	3.6%	2.7%	1.8%	0.9%	0.0%	-0.9%	1.89	4.57%
Barclays US Treasury Intermediate	8.0%	6.1%	4.2%	2.3%	0.5%	-1.3%	-3.0%	-4.6%	-6.2%	3.77	4.16%
Barclays US Treasury Long	22.1%	12.6%	4.0%	-3.7%	-10.6%	-16.6%	-21.8%	-26.0%	-29.4%	16.35	4.00%

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

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



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

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

Appendix

Data Sources and Explanations[1]

→ US Equity Cyclically Adjusted P/E on S&P 500 Index – Source: Robert Shiller and Yale University.

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

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

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

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

→ Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.

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

[1] All Data as of September 30, 2022, unless otherwise noted.

Appendix

Data Sources and Explanations[1]

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

→ Credit Spreads – Source: Bloomberg High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index.

- Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year Treasury Yield.

→ EM Debt Spreads – Source: Bloomberg, and Meketa Investment Group. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.

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

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

→ Systemic Risk and Volatile Market Days – Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.

→ Systemic Risk, which measures risk across markets, is important because the more contagion of risk that exists between assets, the more likely it is that markets will experience volatile periods.

[1] All Data as of September 30, 2022, unless otherwise noted.

Appendix

Data Sources and Explanations[1]

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

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

[1] All Data as of September 30, 2022, unless otherwise noted.

Meketa Market Sentiment Indicator

Explanation, Construction and Q&A

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

This appendix explores:

→ What is the Meketa Market Sentiment Indicator?

→ How do I read the indicator graph?

→ How is the Meketa Market Sentiment Indicator constructed?

→ What do changes in the indicator mean?

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

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

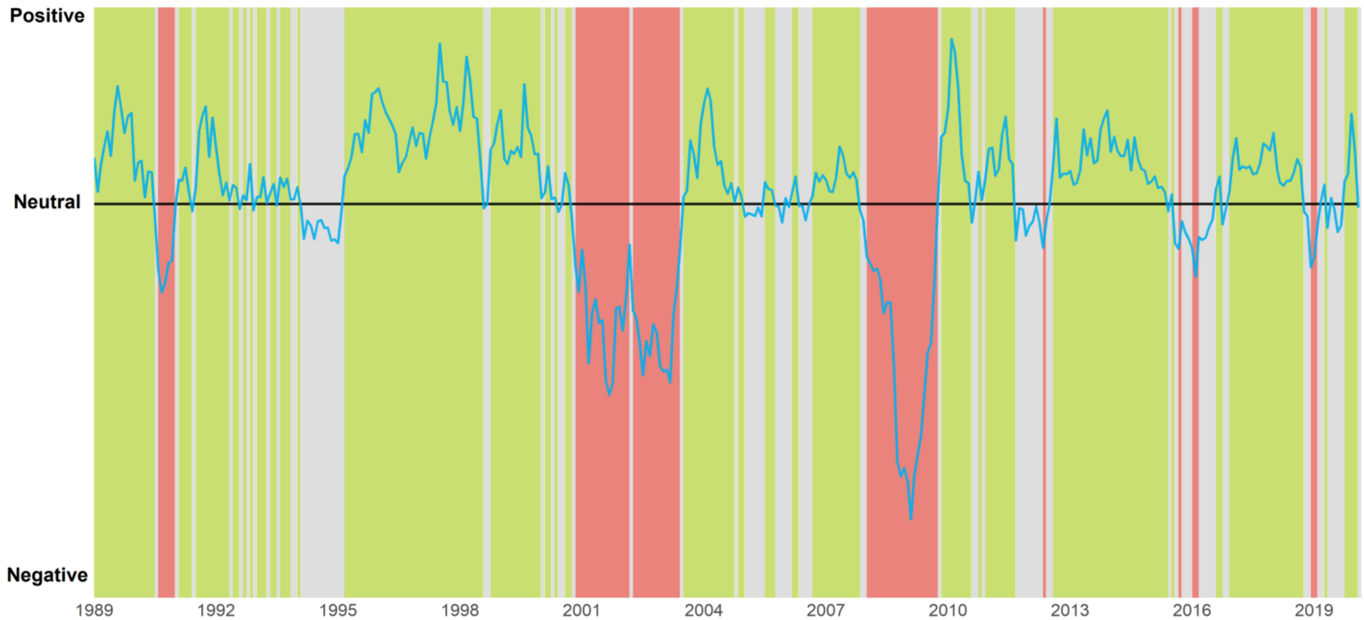
What is the Meketa Market Sentiment Indicator (MIG-MSI)?

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

How do I read the Meketa Market Sentiment Indicator graph?

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

→ Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



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

→ The MIG-MSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

- Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months).
- Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration US Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight).
- Both measures are converted to Z-scores and then combined to get an "apples to apples" comparison without the need of re-scaling.

→ The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure[1]. The color reading on the graph is determined as follows:

- If both stock return momentum and bond spread momentum are positive = GREEN (positive).
- If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive).
- If both stock return momentum and bond spread momentum are negative = RED (negative).

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

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

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

Economic and Market Update

Data as of September 30, 2022

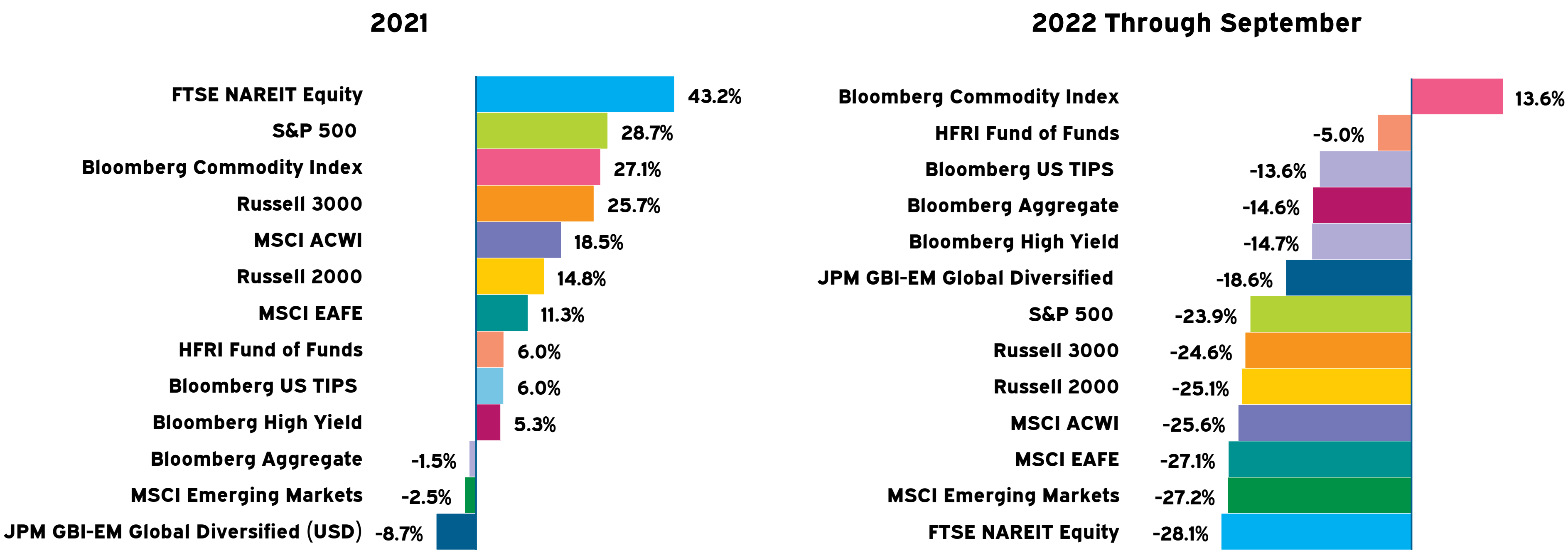
Commentary

→ After a strong July, global markets sold off in August and September, leading to quarterly declines as slower growth and higher inflation weighed on sentiment.

- The Federal Reserve maintained its aggressive tightening campaign with future hikes expected as US inflation continues to surprise to the upside and labor markets remain tight.
- In Europe, inflation hit a multi-decade high on energy prices. In the UK, Liz Truss became the new prime minister with her government quickly announcing a fiscal package in September. The proposal was poorly received by markets, as it undermined efforts of the central bank to lower inflation.
- Equity markets significantly declined for the month leading to quarterly losses with international markets declining the most. The war in Ukraine has elevated prices in Europe, while tight COVID-19 policies, slowing growth, and property market issues have weighed on China. Continued US dollar strength has been a further headwind.
- For the quarter, in a reversal of the prior trend, growth outpaced value across the capitalization spectrum but continued to trail year-to-date.
- Interest rates rose significantly across the US yield curve for the month and quarter with the curve remaining inverted (ten-year yield minus the two-year yield) by 44 basis points. This is by far the worst start to a calendar year for bond investors.

→ 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 asset classes declined significantly in August and September as it became clear further policy tightening would be taken to try to control inflation. Except for commodities, all major assets classes have experienced significant declines year-to-date.

[1] Source: Bloomberg and FactSet. Data is as of September 30, 2022.

Domestic Equity Returns[1]

Domestic Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-9.2	-4.9	-23.9	-15.5	8.2	9.2	11.7
Russell 3000	-9.3	-4.5	-24.6	-17.6	7.7	8.6	11.4
Russell 1000	-9.3	-4.6	-24.6	-17.2	7.9	9.0	11.6
Russell 1000 Growth	-9.7	-3.6	-30.7	-22.6	10.7	12.2	13.7
Russell 1000 Value	-8.8	-5.6	-17.8	-11.4	4.4	5.3	9.2
Russell MidCap	-9.3	-3.4	-24.3	-19.4	5.2	6.5	10.3
Russell MidCap Growth	-8.5	-0.7	-31.5	-29.5	4.3	7.6	10.8
Russell MidCap Value	-9.7	-4.9	-20.4	-13.6	4.5	4.7	9.4
Russell 2000	-9.6	-2.2	-25.1	-23.5	4.3	3.6	8.5
Russell 2000 Growth	-9.0	0.2	-29.3	-29.3	2.9	3.6	8.8
Russell 2000 Value	-10.2	-4.6	-21.1	-17.7	4.7	2.9	7.9

US Equities: Russell 3000 Index fell 9.3% for September and 4.5% for the quarter.

→ US stocks fell sharply during September and finished down for the third quarter.

→ Each of the 11 sectors declined in September with six sectors (Real Estate, Communication Services, Technology, Utilities, Materials, and Industrials) falling by 10% or more. Health Care stocks fared best and declined 3.1%. For the quarter all sectors were down except for consumer discretionary and energy.

→ For the second straight month, value stocks outperformed growth stocks in the large cap segment of the market, while the reverse was true in the small cap segment. The underperformance of technology stocks, which account for 43% of the large cap growth market, drove this dynamic.

[1] Source: Bloomberg. Data is as of September 30, 2022.

Foreign Equity Returns[1]

Foreign Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-10.0	-9.9	-26.5	-25.2	-1.5	-0.8	3.0
MSCI EAFE	-9.4	-9.4	-27.1	-25.1	-1.8	-0.8	3.7
MSCI EAFE (Local Currency)	-6.2	-3.6	-14.5	-11.1	2.5	2.8	7.4
MSCI EAFE Small Cap	-11.5	-9.8	-32.1	-32.1	-2.2	-1.8	5.3
MSCI Emerging Markets	-11.7	-11.6	-27.2	-28.1	-2.1	-1.8	1.0
MSCI Emerging Markets (Local Currency)	-9.4	-8.2	-20.8	-21.5	1.1	1.1	4.5
MSCI China	-14.6	-22.5	-31.2	-35.4	-7.2	-5.5	2.4

International equities (MSCI EAFE) fell 9.4%, while emerging markets (MSCI EM) returned -11.7% in September leading to quarterly declines of similar amounts.

→ Non-US developed market stocks again broadly 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 globally continue to weigh on sentiment.

→ Emerging market equities were deep in the red for the month, driven by China's (-14.6%) on-going property market issues and strict COVID-19 policies. The upcoming National Communist Party Congress in China in October is highly anticipated.

→ The strength of the US dollar continued as a headwind to international equities for the month and year-to-date, both in developed and emerging markets.

[1] Source: Bloomberg. Data is as of September 30, 2022.

Fixed Income Returns[1]

Fixed Income	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-4.3	-4.5	-14.9	-14.9	-3.1	-0.2	1.2	5.2	6.2
Bloomberg Aggregate	-4.3	-4.8	-14.6	-14.6	-3.3	-0.3	0.9	4.8	6.4
Bloomberg US TIPS	-6.6	-5.1	-13.6	-11.6	0.8	1.9	1.0	4.3	6.9
Bloomberg High Yield	-4.0	-0.6	-14.7	-14.1	-0.5	1.6	3.9	9.7	4.6
JPM GBI-EM Global Diversified (USD)	-4.9	-4.7	-18.6	-20.6	-7.1	-3.9	-2.4	7.6	4.8

Fixed Income: The Bloomberg Universal declined 4.3% in September and 4.5% for the quarter.

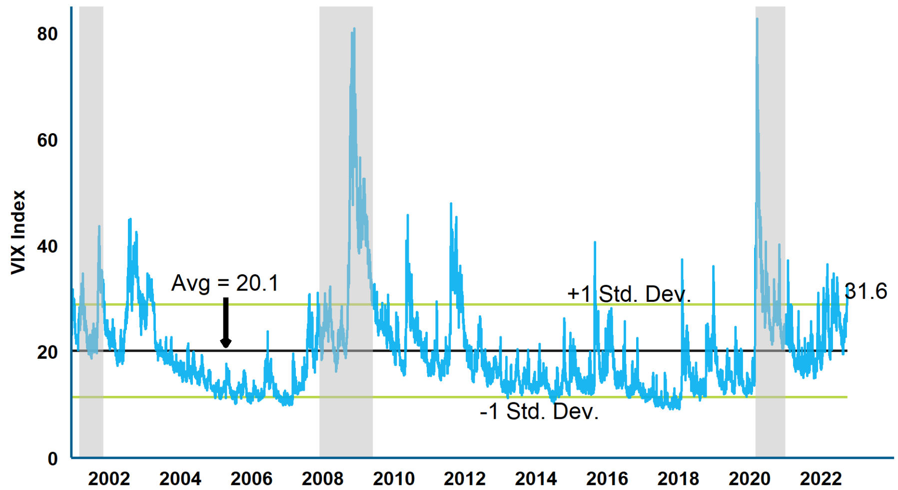
→ A sharp rise in bond yields driven by central banks confirming commitments to fight inflation weighed on fixed income in September leading to declines for the quarter as well. Year-to-date the US bond market is off by far to its worst calendar year start on record.

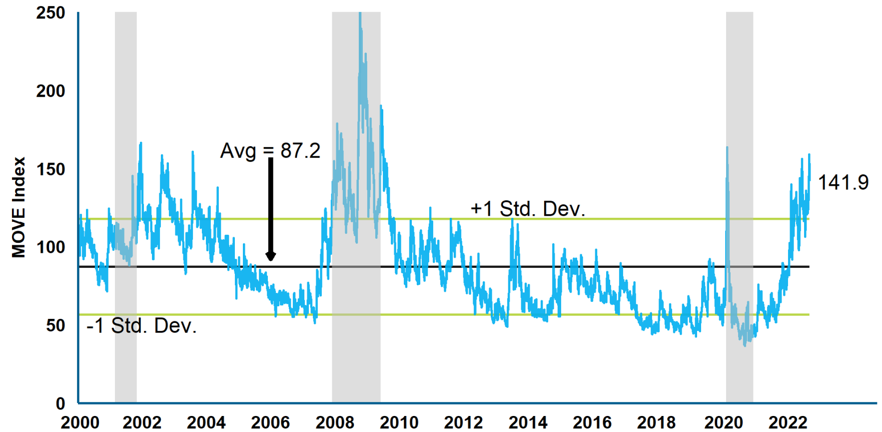
→ TIPS declined the most for the month and quarter as investors' confidence grew that tighter monetary policy would ultimately get inflation under control.

→ Riskier US bonds declined the least with the high yield index falling slightly less than the broad US bond market (-4.0% versus -4.3%). Emerging market bonds finished down close to 5% for the month with significant declines year-to-date.

[1] Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of September 30, 2022.

Equity and Fixed Income Volatility[1]



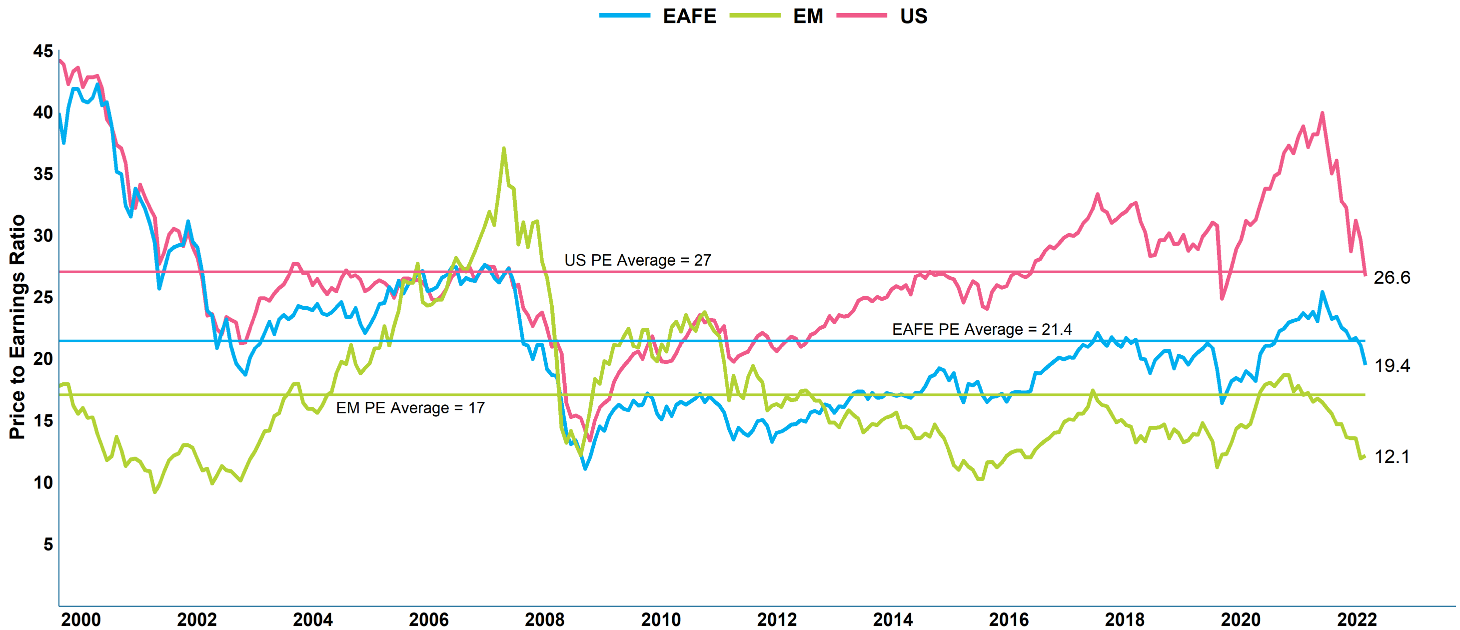


→ Volatility in equities (VIX) and fixed income (MOVE) rose in September and finished higher overall for the quarter as the Federal Reserve and other central banks made it clear that they were committed to aggressively tightening monetary policy to fight high inflation.

→ Fixed income volatility remains particularly high due to the uncertain path of short-term interest rates given stubbornly high inflation. Issues related to the UK's announcement to offer tax breaks despite the central bank's efforts to fight inflation also contributed to volatility in fixed income markets.

[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 September 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]

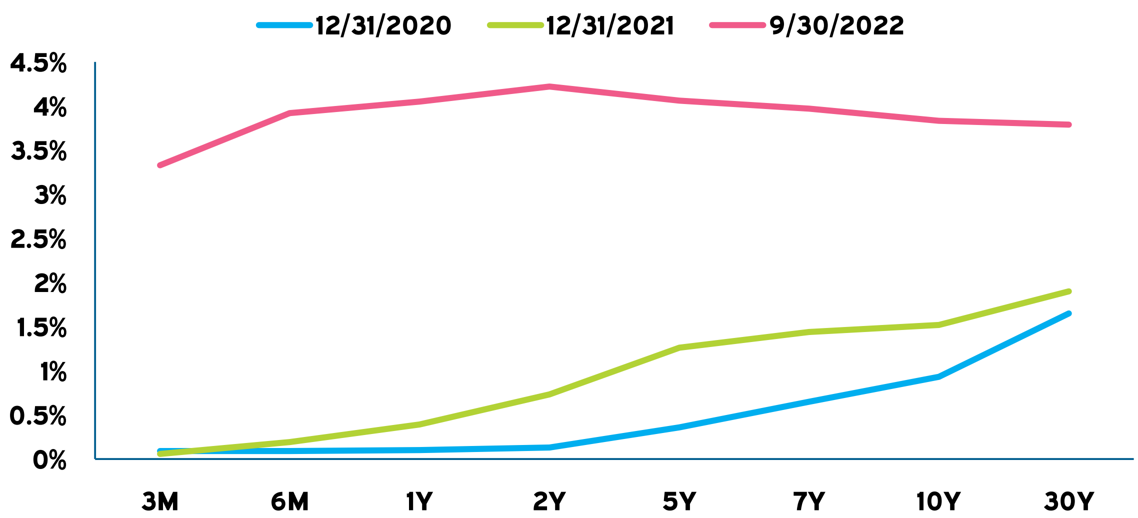


→ September price declines brought US equity price-to-earnings ratios slightly below the long-term (21st Century) average.

→ International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well 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 September 30, 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 far higher than at the start of the year.

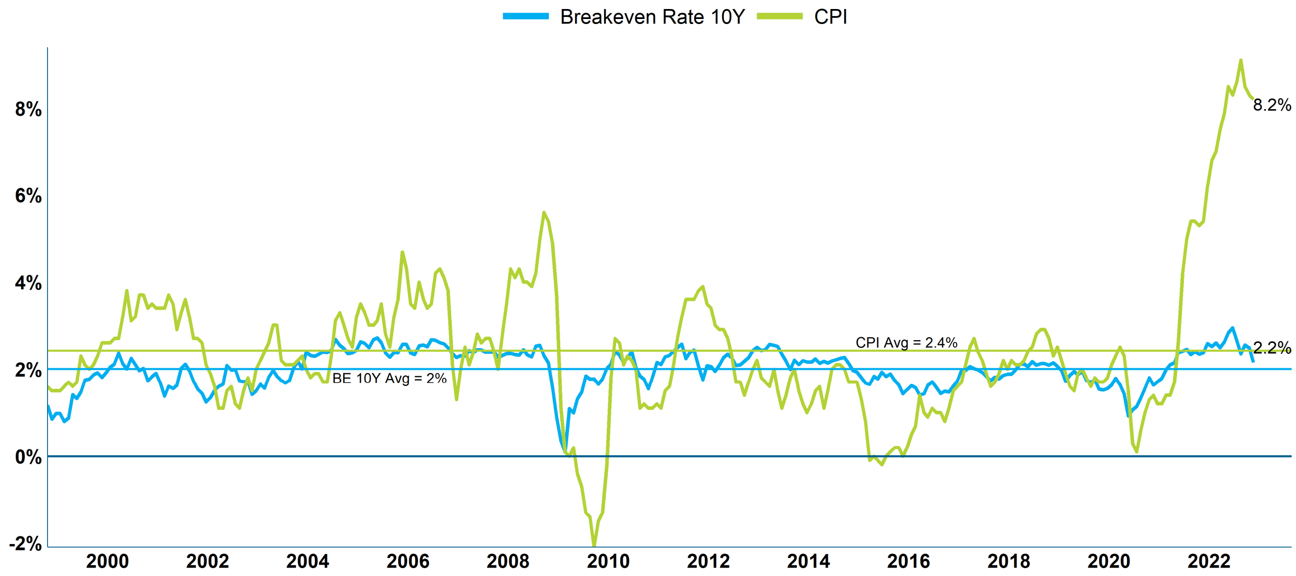
→ In September, rates rose across the yield curve, finishing the quarter significantly higher. Yields on two-year Treasuries increased 0.79% just in the month of September bring the quarterly increase to 1.32%, while ten-year Treasuries rose 0.64% for the month and 0.82% for the quarter.

→ The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.0% and 3.25%. This was the fifth increase this year and the third consecutive increase of this amount.

→ The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.44%. Inversions in the yield curve have historically often preceded recessions.

[1] Source: Bloomberg. Data is as of September 30, 2022.

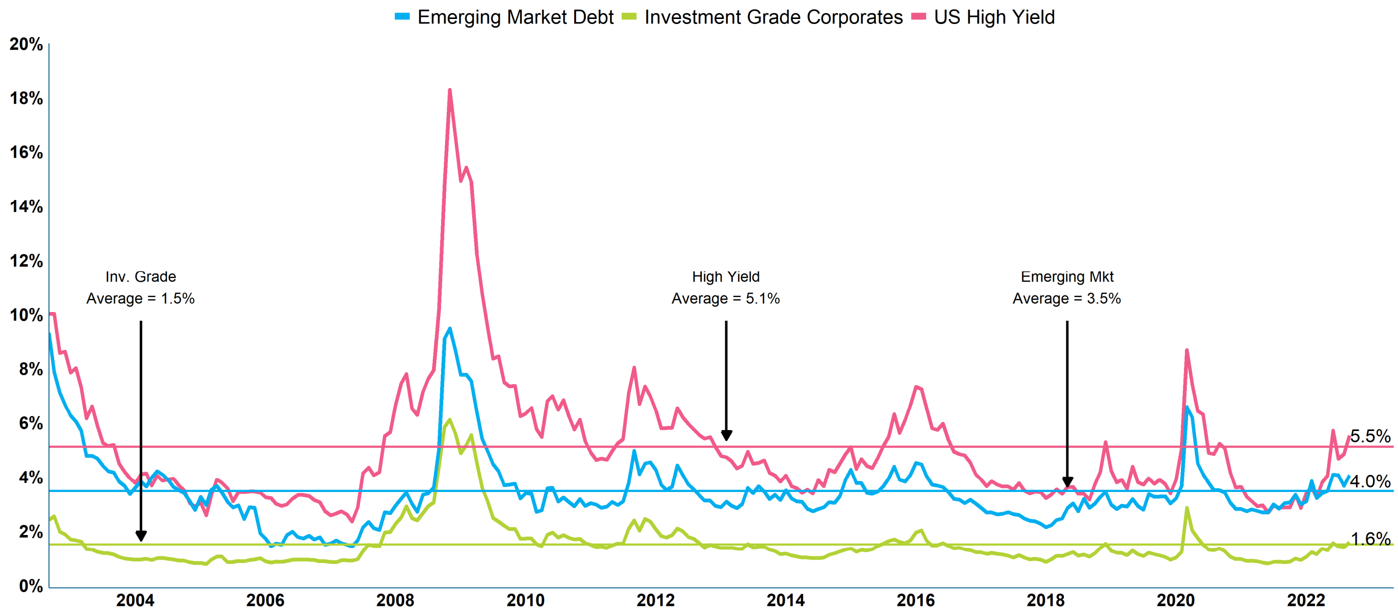
Ten-Year Breakeven Inflation and CPI[1]



- → Inflation expectations (breakevens) declined for the month and finished the quarter slightly below the long-run average on the belief that tighter monetary policy would lower long-run inflation.
- → Trailing twelve-month CPI declined in September (8.2% versus 8.3%) but surprised markets by coming in above expectations.
- → Over the last year rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

[1] Source: Bloomberg. Data is as of September 30, 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]



→ Credit spreads (the spread above a comparable maturity Treasury) widened in September, finishing the quarter above long-term averages. Fears related to the impact of tighter monetary policy on economic growth was a key driver of wider spreads.

→ In the US, spreads for high yield increased sharply (5.5% versus 4.8%), with investment grade spreads rising more modestly (1.6% versus 1.4%). Emerging market spreads also increased (4.0% versus 3.6%).

[1] Sources: Bloomberg. Data is as of September 30, 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

In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

→ The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).

→ In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.

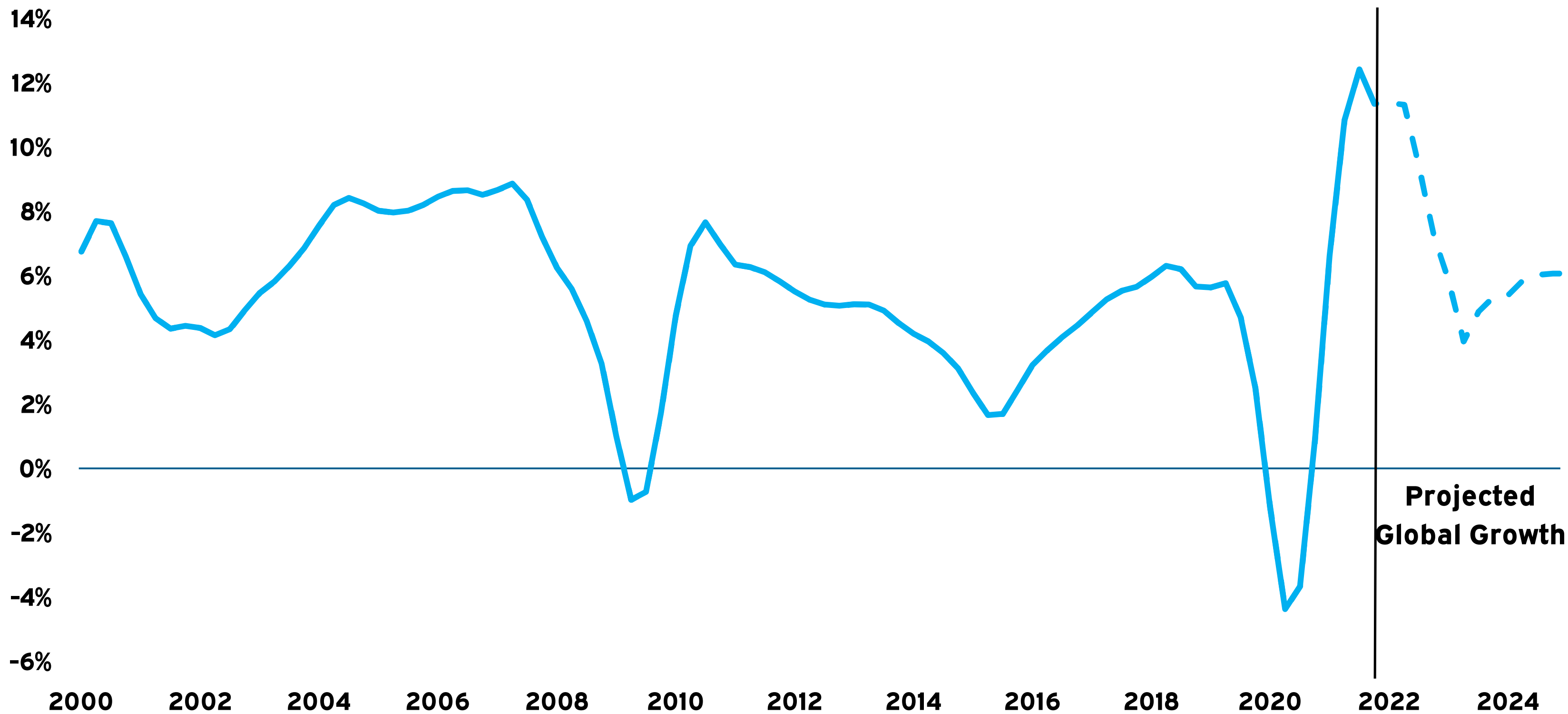
→ Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.

→ The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

	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	2.7	3.2	8.8	6.5	3.6
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6
US	1.6	1.0	2.1	8.1	3.5	2.0
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3
Japan	1.7	1.6	0.8	2.0	1.4	0.4
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3
China	3.2	4.4	7.3	2.2	2.2	2.4

[1] Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.

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



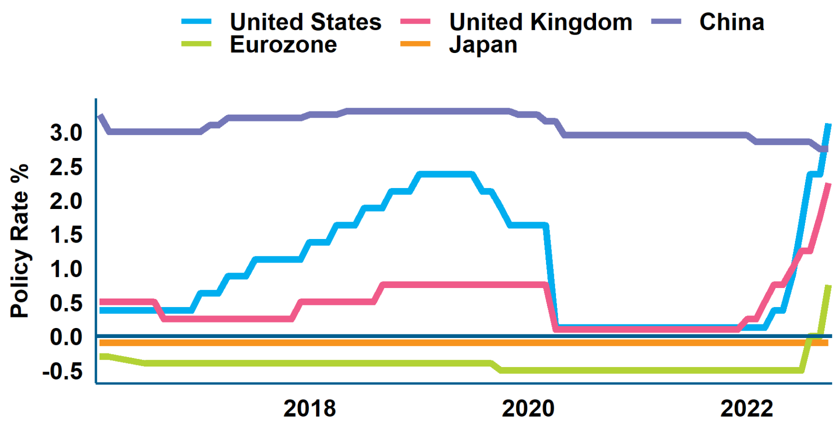
→ Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.

→ The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

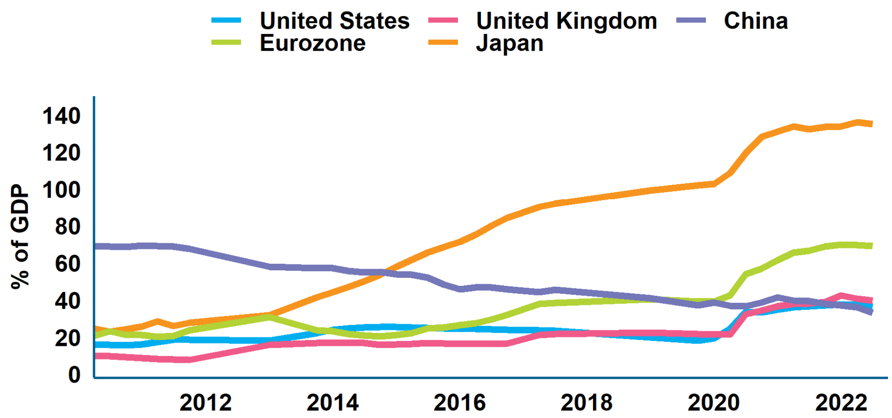
[1] Source: Oxford Economics (World GDP, US$ prices & PPP exchange rate, nominal, % change YoY). Updated September 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.

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.

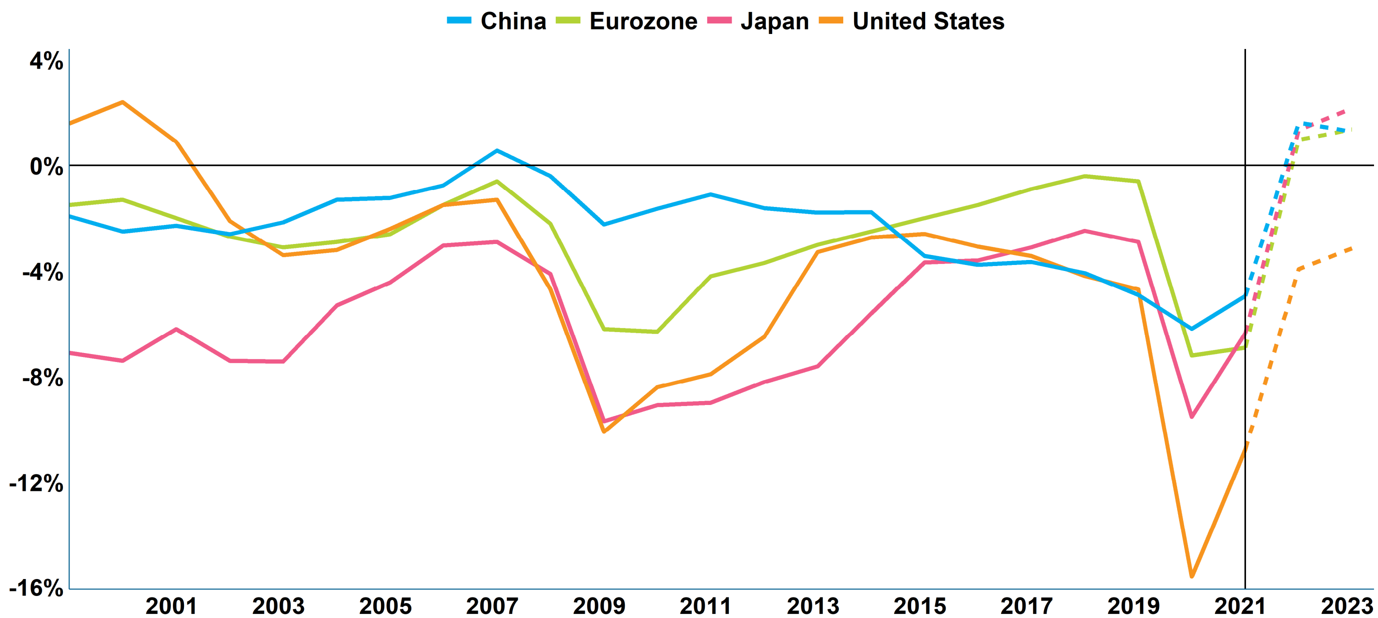
→ The pace of withdrawing support varies across central banks with the US taking a more aggressive approach. The UK is also aggressively increasing rates, but recent talks of easing fiscal policy (this ultimately did not happen) created significant volatility that spilled over into other markets.

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

→ 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.

[1] Source: Bloomberg. Policy rate data is as of September 30, 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]



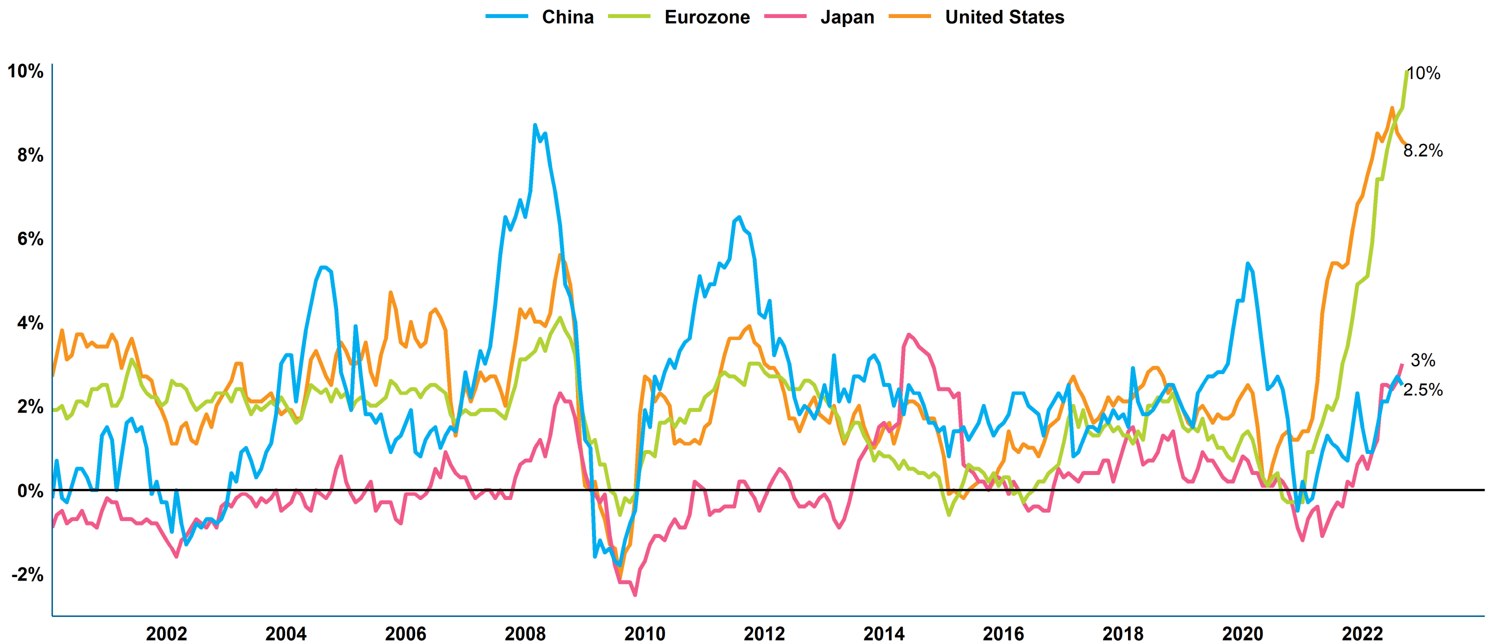
→ Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.

→ As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.

→ Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen in the UK.

[1] Source: Bloomberg. Data is as of September 30, 2022. Projections via IMF Forecasts from October 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

Inflation (CPI Trailing Twelve Months)[1]

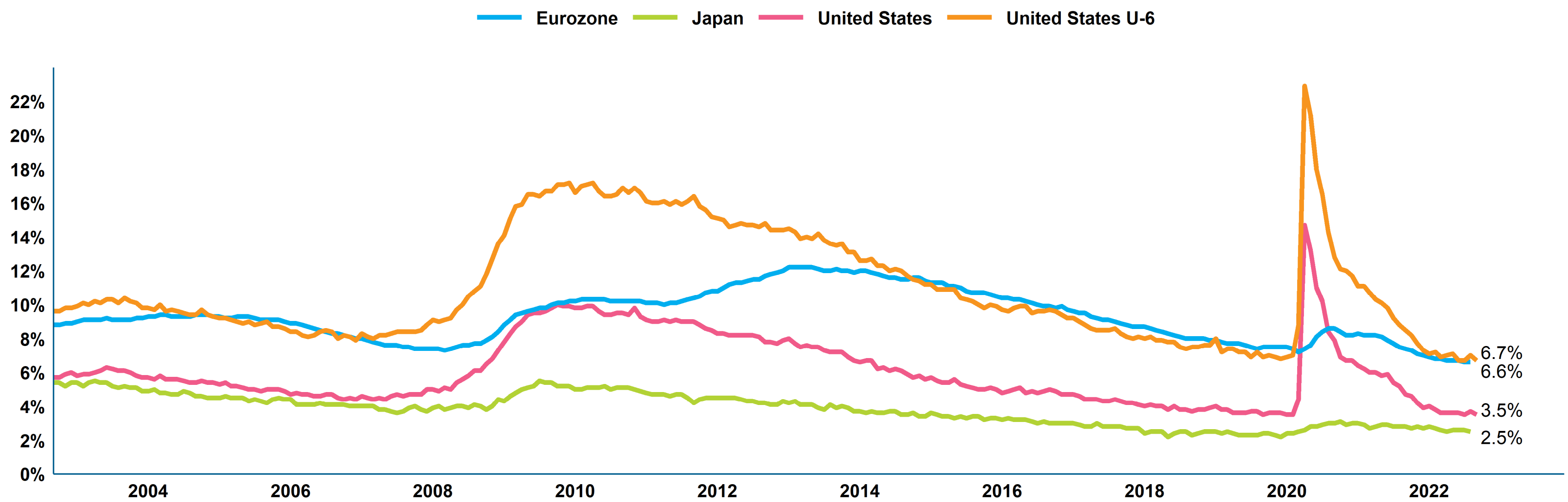


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.

→ 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 September 2022. The most recent data for Japan and China is as of August 31, 2022.

Unemployment[1]



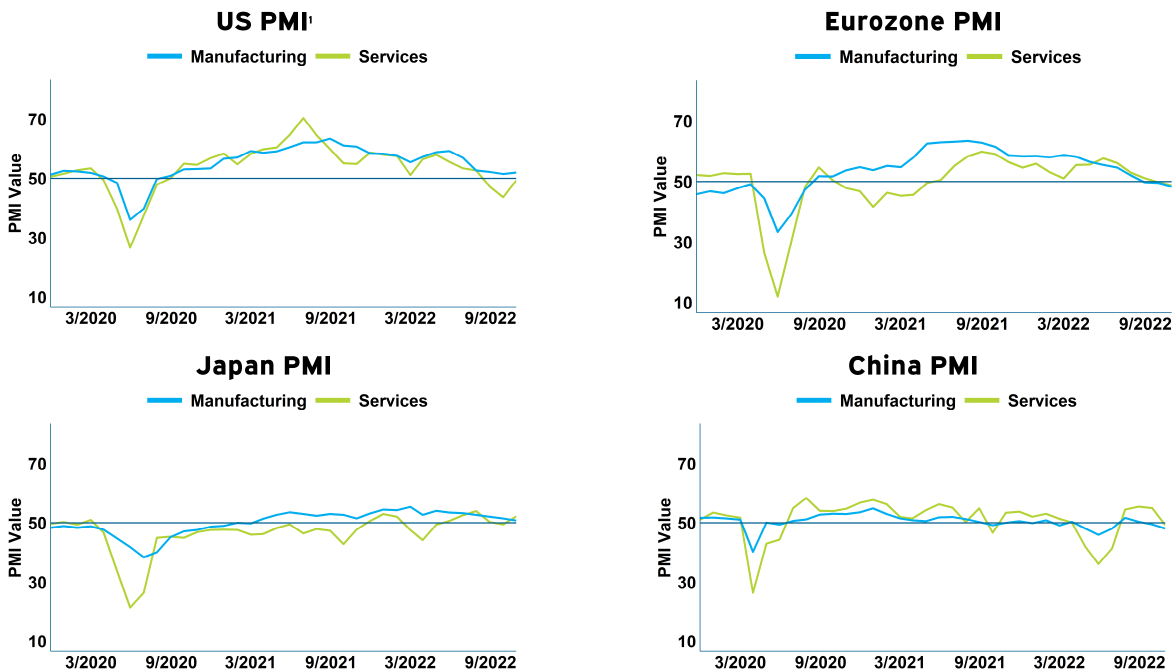
→ As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.

→ 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 pre-pandemic (3.5%) levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 6.7%.

→ The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

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

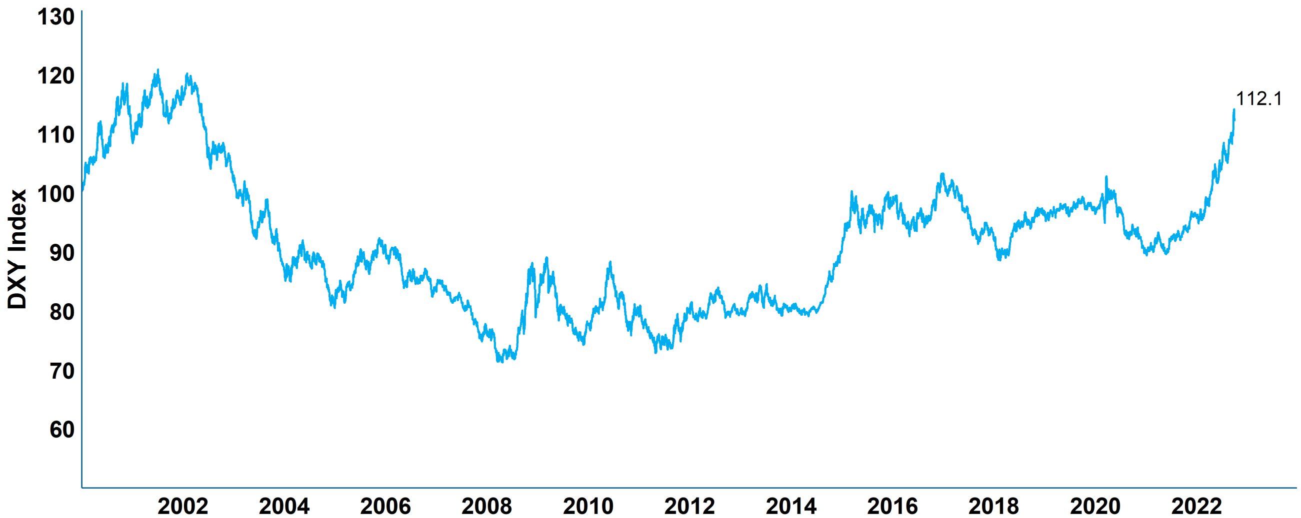
Global PMIs



- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- → Service sector PMIs, except Japan, are all in contraction territory. The US service sector recovered somewhat but remains in negative territory due to weak demand, a sharp decline in new orders, and softening employment.
- → Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone and China in contraction territory.

[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 September 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies[1]



- → The US dollar continued to strengthen in September, increasing 7.1% overall for the quarter and 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, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflation.

[1] Source: Bloomberg. Data as of September 30, 2022.

Summary

Key Trends in 2022:

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

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

→ Expect growth to slow globally in 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.

→ In the US 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 to below long-term averages.

→ Outside the US, equity valuations remain lower in both emerging and developed markets, but major 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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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security).

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta*(market return-Risk Free Rate)].

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about is future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays $5 a year interest on each $100 par value. To figure its current yield, divide $5 by $95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay $100 for the bond that can be bought now for $95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{\text{5\% (discount)}}{\text{5 (yrs. to maturity)}} = \begin{array}{l}\text{1\% pro rata, plus} \\ \text{5.26\% (current yield)}\end{array} = \text{6.26\% (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.

MEKETA
INVESTMENT GROUP

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MEMORANDUM

TO: SJCERA Board of Retirement
FROM: Meketa Investment Group
DATE: December 9, 2022
RE: SJCERA Manager Certification Update: 3Q 2022 Overview and Responses

Summary of Responses

Meketa reviewed the SJCERA Quarterly Manager Certification Updates for the quarter ending June 30, 2022, from all funded managers. ***In Meketa's opinion, the manager information reported for the quarter presents no significant concerns to the SJCERA portfolio***. Meketa's opinion is based on the written responses and on Meketa's conversations with managers that reported senior investment personnel or management departures.

The managers' responses indicate that[1]:

→ All funded managers reported:
- Registered Investment Advisor in Good Standing, or are exempt,
- Compliance with Plan Investment Policy,
- Compliance with SJCERA's Manager Guidelines, or N/A,
- Reconciliation against the custodian, or N/A,
- Compliance with own internal risk management policies and procedures, and
- Delivered current ADV, SSAE-16 or equivalent Annual Financial Audits, as available.

→ Seven managers reported litigation or regulatory investigation information:
Almanac, Angelo Gordon, BlackRock, HPS, Loomis Sayles, PIMCO and White Oak.

→ Eleven managers reported investment team changes:
AQR, Angelo Gordon, Crestline, Dodge & Cox, GQG, HPS, Invesco, Oaktree, Ocean Avenue, Parametric and Stellex.

→ Four managers reported material management changes:
GQG, Northern Trust, PIMCO and White Oak.

→ Two managers reported material business changes:
Parametric and Stone Harbor.

→ Bridgewater and Graham chose not to provide responses to the SJCERA compliance questionnaire and directed Meketa to a standard quarterly business or compliance updates.

[1] Managers' responses to footnoted ("*") questions begin on page 6.

SJCERA Overview of Investment Mgr. Compliance Report

Manager	Sub-Segment	Q1 RIA in Good Standing	Q2 Complied with Plan IPS	Q3 Complied w/ Mgr. Guidelines	Q4 Reconciled With Custodian	Q5 Litigation	Q6 Investment Personnel Changes	Q7 Mgmt. Changes	Q8 Material Business Changes	Q9 Complied Internal Risk Mgmt.	Q10 Sent Fncl Stmnts
Aggressive Growth											
BlackRock	Global Infrastructure	Yes	Yes	Yes	Yes	Yes*	No	Yes*	No	Yes	Yes
Ocean Avenue	PE Buyout FOF	Yes	Yes	Yes	Yes	No	Yes*	No	No	Yes	Yes
Morgan Creek	Multi-Strat FOF	Yes	Yes	Yes	N/A*	No	No	No	No	Yes	Yes
Stellex Capital II	PE – Special Situations	Yes	Yes	Yes	Yes	No	Yes*	No	No	Yes	Yes
AG Core Plus	Pvt. Non-Core RE	Yes	Yes	Yes	N/A*	Yes*	Yes*	Yes*	No	Yes	Yes
Almanac Realty	Pvt. Non-Core RE	Yes	Yes	Yes	N/A*	Yes*	No	No	No	Yes	Yes
Berkeley Partners	Value Add RE	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Greenfield	Pvt. Non-Core RE	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Miller Global	Pvt. Non-Core RE	Yes	Yes	Yes	Yes	No	No	Yes*	No	Yes	Yes
Stockbridge	Pvt. Non-Core RE	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Walton Street	Pvt. Non-Core RE	Yes	Yes	Yes	N/A*	No	No	No	No	Yes	Yes
Traditional Growth											
Northern Trust	All Cap Global	Yes	Yes	Yes	Yes	No*	No	Yes*	No	Yes	Yes
GQG	Emerging Mkts.	Yes	Yes	Yes	Yes	No	Yes*	No*	No	Yes	Yes
PIMCO	Emerging Mkts.	Yes	Yes	Yes	Yes	Yes*	No*	Yes*	No	Yes	Yes
Invesco	REITS	Yes	Yes	Yes	Yes	No*	Yes*	Yes*	No	Yes	Yes
Stabilized Growth											
Bridgewater[1]	Risk Parity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PanAgora	Risk Parity	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Neuberger Berman	Opp. Credit	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Stone Harbor	Abs. Return	Yes	Yes	Yes	Yes	No	No	No	Yes*	Yes	Yes
BlackRock	Direct Lending	Yes	Yes	Yes	Yes	Yes*	No	Yes*	No	Yes	Yes
Crestline	Opportunistic	Yes	Yes	Yes	N/A*	No	Yes*	No	No	Yes	Yes
Davidson Kempner[2]	Opportunistic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medley[2]	Direct Lending	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mesa West	Comm. Mortgage	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Oaktree	Leveraged Direct	Yes	Yes	Yes	N/A*	No*	Yes*	No	No*	Yes	Yes
HPS	Direct Lending	Yes	Yes	Yes	Yes	Yes*	Yes*	No	No	Yes	Yes
Raven Capital	Direct Lending	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
White Oak	Direct Lending	Yes	Yes	Yes	Yes	Yes*	No	Yes*	No	Yes	Yes
Principal	Pvt. Core RE	Yes	Yes	Yes	N/A*	No*	No	No*	No	Yes	Yes
Prologis Targeted US	Pvt. Core RE	N/A*	Yes	Yes	N/A*	No*	No	No*	No	Yes	Yes
DWS / RREEF	Pvt. Core RE	Yes	Yes	Yes	N/A*	No	No	No*	No	Yes	Yes

SJCERA Overview of Investment Mgr. Compliance Report (continued)

Manager	Sub-Segment	Q1 RIA in Good Standing	Q2 Complied with Plan IPS	Q3 Complied w/ Mgr. Guidelines	Q4 Reconciled With Custodian	Q5 Litigation	Q6 Investment Personnel Changes	Q7 Mgmt. Changes	Q8 Material Business Changes	Q9 Complied Internal Risk Mgmt.	Q10 Sent Fncl Stmnts
Principal Protection											
Dodge & Cox	Core Fixed Income	Yes	Yes	Yes	Yes	No	Yes*	No	No*	Yes	Yes
Loomis Sayles	Core Fixed Income	Yes	Yes	Yes	Yes	Yes*	No	No	No*	Yes	Yes
Crisis Risk Offset℠											
Dodge & Cox	Long Duration	Yes	Yes	Yes	Yes	No	Yes*	No	No*	Yes	Yes
Mount Lucas	Syst. Trend Following	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Graham[1]	Syst. Trend Following	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
AQR	Alt. Risk Premia	Yes	Yes	Yes	Yes	No	Yes*	No*	No	Yes	Yes
PE Investments	Alt. Risk Premia	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Lombard Odier	Alt. Risk Premia	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Overlay											
Parametric	PIOS Overlay Prgm	Yes	Yes	Yes	Yes	No*	Yes*	Yes*	Yes*	Yes	Yes
Consultant											
Meketa	Consultant	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes

* Detailed written response provided below.
1) Bridgewater and Graham chose not to provide responses to the SJCERA compliance questionnaire and instead directed Meketa to a standard quarterly business update.
2) Manager declined to provide *written* responses.

Performance Information through September 30, 2022								
		Inception			Ann. Excess (bps)		Peer Ranking	
Manager	Sub-Segment	Date	Status	Benchmark	3 Yrs	5 Yrs	3 Yrs	5 Yrs
Aggressive Growth								
BlackRock	Global Infrastructure	7/2019	Good Standing	MSCI ACWI +2%	n/a	n/a	n/a	n/a
Ocean Avenue II[1]	PE Buyout FOF	5/2013	Good Standing	MSCI ACWI +2%	2,860	2,650	n/a	n/a
Ocean Avenue III[1]	PE Buyout FOF	4/2016	Good Standing	MSCI ACWI +2%	2,090	2,920	n/a	n/a
Ocean Avenue IV	PE Buyout FOF	12/2019	Good Standing	MSCI ACWI +2%	n/a	n/a	n/a	n/a
Morgan Creek III[1]	Multi-Strat FOF	2/2015	Good Standing	MSCI ACWI +2%	-3,000	-1,690	n/a	n/a
Morgan Creek V[1]	Multi-Strat FOF	6/2013	Good Standing	MSCI ACWI +2%	510	550	n/a	n/a
Morgan Creek VI[1]	Multi-Strat FOF	2/2015	Good Standing	MSCI ACWI +2%	1,110	1,190	n/a	n/a
Stellex Capital II	PE – Special Situations	7/2021	Good Standing	MSCI ACWI +2%	n/a	n/a	n/a	n/a
AG Core Plus IV[3]	Pvt. Non-core RE	2014	Good Standing	Private RE Benchmark	-770	-480	n/a	n/a
Almanac Realty VI[3]	Pvt. Non-core RE	2011	Good Standing	Private RE Benchmark	-2,500	-2,040	n/a	n/a
Berkeley Partners V[3]	Pvt. Non-core RE	2020	Good Standing	Private RE Benchmark	n/a	n/a	n/a	n/a
Greenfield V[3]	Pvt. Non-core RE	2007	Good Standing	Private RE Benchmark	-2,690	-1,770	n/a	n/a
Greenfield VI[3]	Pvt. Non-core RE	2011	Good Standing	Private RE Benchmark	-5,500	-4,760	n/a	n/a
Greenfield VII[3]	Pvt. Non-core RE	2013	Good Standing	Private RE Benchmark	-80	60	n/a	n/a
Grandview[3]	Pvt. Non-core RE	2018	Good Standing	Private RE Benchmark	1,100	n/a	n/a	n/a
Miller Global VI[3]	Pvt. Non-core RE	2007	Good Standing	Private RE Benchmark	-1,440	-730	n/a	n/a
Miller Global VII[3]	Pvt. Non-core RE	2012	Good Standing	Private RE Benchmark	-3,680	-3,070	n/a	n/a
Stockbridge III[3]	Pvt. Non-core RE	2017	Good Standing	Private RE Benchmark	590	n/a	n/a	n/a
Walton Street V[3]	Pvt. Non-core RE	2005	Good Standing	Private RE Benchmark	-3,040	-2,640	n/a	n/a
Walton Street VI[3]	Pvt. Non-core RE	2007	Good Standing	Private RE Benchmark	-1,220	-980	n/a	n/a
Traditional Growth								
Northern Trust	All Cap Global	10/2020	Good Standing	MSCI ACWI IMI	n/a	n/a	n/a	n/a
GQG	Emerging Mkts.	8/2020	Good Standing	MSCI Emerging Markets	n/a	n/a	n/a	n/a
PIMCO	Emerging Mkts.	4/2007	Good Standing	MSCI Emerging Markets	300	150	55	61
Invesco	REITS	8/2004	Good Standing	FTSE EPRA/NAREIT ex-US Equity	-20	50	87	84
Stabilized Growth								
Bridgewater[2]	Risk Parity	3/2012	Good Standing	Bridgewater All Weather Blend	-750	-470	n/a	n/a
PanAgora	Risk Parity	4/2016	Good Standing	T-Bill +4%	-910	-460	n/a	n/a
Neuberger Berman[1]	Opp. Credit	2/2019	Good Standing	33% HY Const./33% S&P LSTA LL/ 33% JPMEMBI Glbl Div.	10	n/a	n/a	n/a
Stone Harbor[1]	Abs. Return	4/2008	Good Standing	3-Month Libor	-20	10	n/a	n/a
BlackRock	Direct Lending	05/2020	Good Standing	Custom Credit Benchmark	n/a	n/a	n/a	n/a

[1] Data is lagged 1 quarter.

[2] Bridgewater and Graham chose not to provide responses to the SJCERA compliance questionnaire and instead directed Meketa to a standard quarterly business update.

[3] Annual Excess returns for Private Non-Core Real Estate are as of 06/30/2022, lagged 1 quarter.

Performance Information through September 30, 2022								
		Inception			Ann. Excess (bps)		Peer Ranking	
Manager	Sub-Segment	Date	Status	Benchmark	3 Yrs	5 Yrs	3 Yrs	5 Yrs
Stabilized Growth (continued)								
Crestline[1]	Opportunistic	11/2013	Good Standing	CPI +6%	-460	-570	n/a	n/a
Davidson Kempner[1]	Opportunistic	10/2020	Good Standing	CPI +6%	n/a	n/a	n/a	n/a
Medley[1]	Direct Lending	7/2012	Good Standing	CPI +6%	-1,670	-1,790	n/a	n/a
Mesa West IV[1]	Comm. Mortgage	3/2017	Good Standing	CPI +6%	-60	-40	n/a	n/a
Oaktree[1]	Leveraged Direct	3/2018	Good Standing	MSCI ACWI +2%	1,070	n/a	n/a	n/a
HPS	Direct Lending	8/2020	Good Standing	CPI +6%	n/a	n/a	n/a	n/a
Raven Capital II[1]	Direct Lending	8/2014	Good Standing	CPI +6%	n/a	n/a	n/a	n/a
Raven Capital III[1]	Direct Lending	8/2015	Good Standing	CPI +6%	-90	0	n/a	n/a
White Oak[1]	Direct Lending	3/2016	Good Standing	CPI +6%	-660	-440	n/a	n/a
White Oak[1]	Direct Lending	3/2020	Good Standing	CPI +6%	n/a	n/a	n/a	n/a
Principal[3]	Pvt. Core RE	10/2015	Good Standing	Private RE Benchmark	-410	-370	n/a	n/a
Prologis Targeted US[3]	Pvt. Core RE	9/2007	Good Standing	Private RE Benchmark	1,210	1,010	n/a	n/a
DWS / RREEF[3]	Pvt. Core RE	4/2016	Good Standing	Private RE Benchmark	-260	-300	n/a	n/a
Principal Protection								
Dodge & Cox	Core Fixed Income	10/1990	Good Standing	BB Aggregate Bond	20	-10	9	8
Loomis Sayles	Core Fixed Income	4/2022	Good Standing	BB Aggregate Bond	n/a	n/a	n/a	n/a
Crisis Risk Offset[1]								
Dodge & Cox	Long Duration	2/2016	Good Standing	BB US Long Duration Treasury	20	-10	n/a	n/a
Mount Lucas	Sys. Trend Following	1/2005	Good Standing	BTOP50 Index	970	270	n/a	n/a
Graham[2]	Sys. Trend Following	4/2016	Good Standing	SG Trend	-130	-120	n/a	n/a
AQR	Alt. Risk Premia	5/2016	Good Standing	5% Annual	-460	-810	n/a	n/a
P/E Investments	Alt. Risk Premia	7/2016	Good Standing	5% Annual	260	380	n/a	n/a
Lombard Odier	Alt. Risk Premia	1/2019	Under Review	5% Annual	-920	n/a	n/a	n/a
Other								
Northern Trust	Govt. Short Term	1/1995	Good Standing	US T-Bills	-10	-20	n/a	n/a
Parametric	Long Duration	1/2020	Good Standing	n/a	n/a	n/a	n/a	n/a

[1] Data is lagged 1 quarter.

[2] Bridgewater and Graham chose not to provide responses to the SJCERA compliance questionnaire and instead directed Meketa to a standard quarterly business update.

Manager Responses to Highlighted Questions

This section includes the verbatim text of the manager's response to any highlighted questions to provide more detail to the table above.

Almanac Custodian Reconciliation

No. The Fund relies on the audit exception to the Custody Rule by providing audited financials within 120 days.

Almanac Litigation

From time to time, Neuberger Berman and its employees are the subject of, or parties to examinations, inquiries and investigations conducted by US federal and state regulatory and other law enforcement authorities, non-US regulatory and other law enforcement authorities and self-regulatory organizations, including, but not limited to, the Securities and Exchange Commission ("SEC"), Financial Industry Regulatory Authority ("FINRA"), the National Futures Association ("NFA"), and the Municipal Securities Rulemaking Board (the "MSRB"). Neuberger Berman routinely cooperates freely with such examinations, inquiries and investigations. Neuberger Berman is also involved, from time to time, in civil legal proceedings and arbitration proceedings concerning matters arising in connection with the conduct of its business. Neuberger Berman believes that none of these matters either individually or taken together, will have a material adverse impact on the firm's business. All material proceedings in which there has been a final determination against any of Neuberger Berman's US registered investment advisers or its broker-dealer are disclosed in such affiliate's Form ADV Part 1 (if a registered investment adviser), Form BD (if a registered broker-dealer) or NFA Basic (if a CFTC registrant), each of which is publicly available through the SEC at http://www.adviserinfo.sec.gov, FINRA at http://www.finra.org, or the NFA at www.nfa.futures.org, respectively.

With regard to current litigation related specifically to Almanac Realty Investors, on September 14, 2020, an action was filed in Wisconsin state court (the "Wisconsin Action") related to Vanta Commercial Properties, LLC, formerly T. Wall Properties L.L.C. ("Vanta"), a former portfolio investment (exited in November 2017) of Almanac Realty Securities V, L.P. ("ARS V"), a private fund managed by NBAA, the successor in interest to Almanac Realty Investors, LLC ("ARI"). The plaintiffs in that action (the "Wisconsin Plaintiffs") allege nine "Counts"—all of which arise out of or relate to operating agreement of Vanta – and name ARS V, ARI and other entities and individuals associated with Almanac as defendants. The principal allegations are that the defendants engaged in a "Scheme," involving Vanta's officers and directors, to liquidate Vanta's real estate holdings without the approval of the board of directors required under the operating agreement. Defendants believe the lawsuit is without merit and are vigorously defending the action, including by bringing suit in Delaware Court of Chancery (the "Delaware Action") to enjoin the Wisconsin Plaintiffs from pursuing the Wisconsin Action. The Wisconsin Plaintiffs agreed to a voluntary stay of the Wisconsin Action pending the resolution of the Delaware Action, which the Wisconsin court entered on December 2, 2020.

ARS V (among others) filed the Delaware Action on October 30, 2020, seeking to enjoin the Wisconsin Plaintiffs from pursuing the Wisconsin Action in its entirety in view of an exclusive and mandatory forum-selection provision contained in the Vanta operating agreement. On April 22, 2021 via letter opinion, the Court of Chancery granted the motion of ARS V (and the other Delaware plaintiffs) to permanently enjoin the Wisconsin Plaintiffs from pursuing eight of the nine Counts in the Wisconsin Action; the Court

Manager Responses to Highlighted Questions (continued)

later denied the motion as to the one remaining Count via letter opinion on May 19, 2021 and entered a final order as to both letter opinions on May 26, 2021 (the "Final Order"). Following the issuance of the Final Order, the defendants in the Delaware Action (i.e., Wisconsin Plaintiffs) appealed the Final Order to the Delaware Supreme Court. On December 15, 2021, the Delaware Supreme Court affirmed the Final Order in a summary order.

On December 30, 2021, the Wisconsin Plaintiffs filed a motion seeking to lift the stay of the Wisconsin Action and to file an amended complaint that purports to assert the one non-enjoined Count following affirmance of the Final Order in the Delaware Action. On February 11, 2022, the Wisconsin Plaintiffs filed a First Amended Complaint. Also, on February 11, 2022 and following a scheduling conference, the Wisconsin Court entered an order directing Almanac to file a motion to dismiss on or before March 3, 2022, and setting a further scheduling conference for April 5, 2022. On March 3, 2022, Almanac moved to dismiss VAT's remaining claim in the Wisconsin Litigation. On August 5, 2022, the Wisconsin Court granted the Motion to Dismiss in part (as to two individual defendants), denied it in part (as to all other defendants except Almanac Realty Investors, LLC), and withheld ruling as to Almanac Realty Investors, LLC pending plaintiffs' filing of a second amended complaint and further briefing. The Wisconsin Court ordered the plaintiffs in the Wisconsin Litigation to file a second amended complaint by September 6,2022.On August 19, 2022, Almanac filed a petition for leave to appeal the Wisconsin Court's order denying the Motion to Dismiss with the Wisconsin Court of Appeals. On September 12, 2022, the Wisconsin Court of Appeals granted Almanac's petition for leave to appeal. On September 19, 2022, VAT filed a notice of appeal of the Wisconsin Court's order granting the Motion to Dismiss with the Wisconsin Court of Appeals. The appeals remain pending, and the Wisconsin Court has not set further deadlines in view of the appeals.

Angelo Gordon Custodian Reconciliation

N/A – this Fund does not have a custodian.

Angelo Gordon Litigation

Please see attached summary of current litigation. We do not believe that any of the litigation is material to the management of our business.

Summary of Angelo, Gordon Related Litigation

As of August 22, 2022

Angelo, Gordon & Co., L.P. (the "firm"), its affiliates, or funds or entities managed by the firm are named parties in the following pending proceedings:

Culligan Soft Water Company v. Clayton Dubilier & Rice, LLC, et al.

In 2012, the firm and a firm affiliate were named as defendants in a New York lawsuit regarding the 2004 acquisition of Culligan Soft Water Company ("Culligan") by the private equity firm Clayton Dubilier & Rice LLC ("CDR"). The firm and its affiliate were named as defendants in connection with their 2010 purchase of portions of Culligan's debt. This is a derivative action by Culligan's minority shareholders to recover the funds which they allege CDR removed from the Company through the issuance of illegal dividends and

Manager Responses to Highlighted Questions (continued)

payments in management and consulting fees, director fees and other compensation to itself and its affiliates which were paid for in part by the refinancing of Culligan's debt.

The Bankruptcy Court granted the Liquidators' Chapter 15 Petition in July 2021 which resulted in an automatic stay of all proceedings against Culligan. In response to the Bankruptcy Court Order, the New York trial court stayed the action and denied each of defendants' motions to dismiss without prejudice to renew once the Bankruptcy Court's automatic stay is lifted or the Bermuda bankruptcy proceeding is resolved. Similarly, the Appellate Division ordered that defendants' appeals are held in abeyance pending the lifting of the Bankruptcy Court stay.

In September 2021, Plaintiffs filed an application before the Bankruptcy Court to lift the stay of proceedings. Plaintiffs argued that the automatic stay is not necessary because the derivative litigation does not impact Culligan's liquidation negatively and the Chapter 15 proceeding was brought in bad faith by the Liquidators. The Liquidators opposed on the grounds that the application was an inappropriate attempt to relitigate the Chapter 15 proceeding, the derivative litigation is impacting the liquidation negatively, Plaintiffs have not shown there is any merit to the derivative litigation, and the Chapter 15 proceeding was filed in good faith. The Bankruptcy Court heard oral argument on Plaintiff's application in January 2022 and the parties await the Court's ruling.

Employment Litigation

On May 13, 2019, a former employee ("Plaintiff") of the firm filed a Confidential Charge of Discrimination with the United States Equal Employment Opportunity Commission ("EEOC") alleging discrimination, sexual harassment, hostile work environment, and retaliation. On February 7, 2022, the EEOC issued a "Dismissal and Notice of Rights" declining to take further action on Plaintiff's May 2019Chargeand providing Plaintiff with notice of Plaintiff's right to initiate legal proceedings in federal or state court within ninety days. Plaintiff took no action upon the EEOC Notice. Plaintiff also filed a civil action on November 27, 2019, in the Circuit Court of Cook County, Illinois (the "Lawsuit"), asserting breach of contract and negligent supervision claims against an affiliate of the firm (the "Company") and asserting separate tort claims against another former employee of the firm. The parties entered into a confidential settlement of this matter and filed a stipulation of dismissal with the Court on August 8, 2022.

On April 28, 2022, a former employee ("Claimant") of a firm affiliate ("AGE") made a claim against AGE and several employees of AGE and the firm ("Respondents") with the UK Employment Tribunal. Claimant alleges discrimination on the basis of religion or belief (ethical veganism), race (Scottish) and claimed disability (asthma and oral allergy syndrome), as well as a claim under the Employment Rights Act 1996 relating to Claimant's alleged failure to receive two pay slips. On June 22, 2022, Respondents filed their Grounds of Resistance denying Claimant's claims in their entirety.

Manager Responses to Highlighted Questions (continued)

Consumer Financial Protection Bureau v. The National Collegiate Master Student Loan Trust, et al.

On September 22, 2017, certain of the firm's affiliated funds, along with other noteholders and deal parties, filed a motion to intervene in Delaware federal court (the "CFPB Action") for the purpose of objecting to a proposed consent judgment dated September 18, 2017 (the "PCJ") between the Consumer Financial Protection Bureau and the purported equity owner ("VCG") of fifteen National Collegiate Student Loan Trusts ("NCSLTs") that would have subjected the trusts to various fines, penalties and oversight, and permitted VCG to control the assets and cashflow of the trusts. Certain of the firm's affiliated funds and other similarly situated noteholders (together, the "Noteholder Group") were granted permission to intervene and participated in discovery in the CFPB Action. Due in large part to the Noteholder Group's efforts, the Delaware Court rejected and vacated the PCJ on May 31, 2020. The CFPB Action against the NCSLTs is ongoing, but the Noteholder Group is not participating directly. The case is currently stayed pending appeal of certain legal issues concerning the CFPB's statutory authority to bring legal action against the trusts.

Also, contemporaneous with the CFPB Action, the Noteholder Group has participated in a suite of related litigation in the Delaware Court of Chancery concerning the administration of the NCSLTs. Initially, the Noteholder Group succeeded in having a Special Master appointed to oversee administration of the trusts, with that Special Master subsequently issuing a series of rulings favorable for noteholders. On November 13, 2018, the Noteholder Group and US Bank (as trustee) commenced a lawsuit against VCG.

(the "Noteholder Action") alleging breach of contract and fiduciary duty by VCG, both directly (on behalf of the Noteholder Group) and derivatively (on behalf of the NCSLTs). On January 21, 2020, the Noteholder Action was consolidated for discovery purposes with several other NCSLT-related actions pending in Delaware Chancery Court, and the Court set a schedule to litigate issues common to all cases (the "Common Issues Action") before allowing any individual case to proceed. On August 19, 2020, the Noteholder Group secured, for the benefit of all noteholders, an order from Third Circuit Court of Appeals invalidating an attempt by VCG to install a VCG affiliate to service trust loans. On August 27, 2020, the Delaware Chancery Court issued a 154-page opinion adjudicating various common issues and holding that VCG owed fiduciary duties to the Noteholder Group (and other NCSLT noteholders) in connection with any exercise of control over trust collateral. In late 2021, the Common Issues Action was stayed to allow the parties to discuss settlement. Those settlement discussions are ongoing.

Cheney v. AG-JCM Wells Avenue Property Owner, LLC, et al.

In 2020, certain AG entities were named as defendants in a Massachusetts personal injury lawsuit relating to an incident at a real estate portfolio property in Newton, Massachusetts. Defendants currently await receipt of plaintiff's medical records with respect to the alleged injury as they prepare to take depositions.

Wells Fargo Bank, National Association v. Margate Funding I, Ltd., et al.

Manager Responses to Highlighted Questions (continued)

On September 21, 2021, Angelo Gordon Management LLC ("AGM") and certain other noteholders (or their investment advisors) were named as defendants in an interpleader action, brought by the trustee for Margate Funding I, Ltd. (the "CDO"), for the purpose of adjudicating the parties' respective rights in proceeds from the sale of CDO collateral (the "Disputed Funds"). At issue is the March 2021 sale by the CDO's collateral manager Macquarie Investment Managements Advisers (the "Manager") of nine Collateral Debt Securities ("Disputed Securities") under the terms of the governing Indenture.

AGM and certain other holders of junior notes (the "Holder Group") have taken the position, in response to the trustee's complaint, that the Disputed Securities should not have been sold in March 2021 because they did not qualify as "Defaulted Securities" under the CDO Indenture and/or because the Manager failed to exercise the requisite discretion before selling them. In particular, the Holder Group objects to the sale of four Disputed Securities that the Manager admitted to AGM were not properly classified as "Defaulted" and should not have been sold. Because the Holder Group's junior notes would have benefitted from continued interest payments had the Disputed Securities not been sold, the Holder Group has asked the Court to fashion a remedy that places the Holder Group in the same position had the Disputed Securities not been sold wrongfully from the Trust.

Pacific Investment Management Company, LLC ("PIMCO"), advisor to the CDO's senior noteholders, contends that the Disputed Securities were properly sold as "Defaulted," and that regardless of any error by the Manager, the Disputed Securities could have been sold under the Indenture on other grounds. PIMCO has asked the Court to order the Trustee to distribute the Disputed Funds according to the unambiguous terms of the Indenture.

All parties, including AGM and the Holder Group, are completing their production of documents in May 2022. Depositions and other fact discovery are scheduled to conclude on June 16, 2022.

Genesis Real Estate Asset Management S.p.A. v. Angelo Gordon Realty Acquisitions Cooperatieve U.A., et. al.

In April 2022, Angelo Gordon Realty Acquisitions Cooperatieve U.A. and certain of its affiliates (collectively, "AG") were named as defendants in a lawsuit brought by Genesis Real Estate Asset management S.p.A. ("Genesis") before the Tribunal of Milan, Italy. The lawsuit asserts claims relating to alleged breaches of obligations set out under multiple 2018 agreements, as well as claims against individual directors of certain AG entities relating to those breaches and relating to alleged damage to Genesis' reputation. The first hearing is set for November 16, 2022.

Angelo Gordon Investment Personnel Change

In July 2022, an associate left the US Real Estate team in Los Angeles office.

Angelo Gordon Management Level Changes

None.

AQR Litigation

Yes.

Manager Responses to Highlighted Questions (continued)

The State of Connecticut - Department of Banking ("State of CT") conducted an onsite exam of AQR Investments, LLC ("AQR Investments") in late May 2019. AQR Investments is an affiliated broker-dealer of AQR Capital Management, LLC ("AQR"). AQR Investments' activities are limited to marketing of the AQR mutual funds and certain private funds. The exam was largely focused on AQR Investments' supervisory policies and procedures. In May 2022, the State of CT issued a Letter of Caution related to purported deficiencies of securities notice of exemption filings for certain of AQR's sponsored private funds under Section 36b-16 of the Connecticut Uniform Securities Act (the "Act"). While the Firm respectfully disagreed with the State of CT's interpretation of the requirements under the Act, AQR voluntarily made the necessary filings to the State of CT in accordance with their request and the matter is closed.

Except as noted above, to the best of our knowledge, neither AQR nor any of AQR's Principals or employees is or has been the subject of a legal proceeding, a government inquiry, or any regulatory actions during the quarter ending September 30, 2022, that would materially impact AQR's financial condition, its management of client assets or its provision of investment advisory services. AQR routinely engages.

in correspondence with, and from time to time receives document requests and inquiries from, the US Securities and Exchange Commission, the US Commodity Futures Trading Commission, the US Department of Labor and other regulatory and law enforcement agencies from various US and non-US jurisdictions. At this time, we are not aware of any inquiries or investigations that would have a material adverse effect on AQR's ability to conduct its business. Please note the historical matters set forth in Item 11 of AQR's Part 1 of Form ADV.

AQR Investment Personnel Change

Within our Macro Strategies Group* investment team, which supports the strategy, there have been no senior-level (Managing Director and above) investment professional additions and there has been one senior-level (Managing Director and above) investment professional departure over the past quarter ending September 30, 2022.

* The Macro and Multi-Strategy (MMS) investment team has been re-named the Macro Strategies Group, managing our managed futures, risk parity, multi-strategy and macro products. It is important to note that there are no changes to how the investment teams are operating.

AQR Management Level Changes

None.

BlackRock Litigation

Yes. As a global investment manager, BlackRock, Inc., and its various subsidiaries including BlackRock Financial Management, Inc. ("BFM") may be subject to regulatory oversight in numerous jurisdictions including examinations and various requests for information. BFM's regulators routinely provide it with comment letters at the conclusion of these examinations in which they request that BFM correct or modify certain of its practices. In all such instances, BFM has addressed, or is working to address, these requests to ensure that it continues to operate in compliance with applicable laws, statutes and regulations.

Manager Responses to Highlighted Questions (continued)

BFM also receives subpoenas or requests for information in connection with regulatory inquiries and/or investigations by its various regulators, some of which are ongoing. None of these matters has had or is expected to have any adverse impact on BFM's ability to manage its clients' assets. Please refer to BlackRock's Form ADV and SEC disclosures for additional information on regulatory matters concerning BFM or BlackRock as a whole.

BlackRock, Inc. and its various subsidiaries, including BFM, also have been subject to certain business litigation that has arisen in the normal course of their business. Our litigation has included a variety of claims, some of which are investment-related. None of BlackRock's prior litigation has had, and none of its pending litigation currently is expected to have, an adverse impact on BlackRock's ability to manage client accounts.

BlackRock Investment Personnel Changes

None

Regarding SJCERA's Global Energy & Power Infrastructure Fund mandate, there are no changes to report.

BlackRock Management Level Changes

None

Crestline Custodian Reconciliation

The investment is not held at a custodian. SJCERA's investment is administered and reconciled by the Fund's independent administrator: SEI Global Services, Inc.

Crestline Investment Personnel Changes

Departures

→ Ricky Simon, Senior Associate responsible for underwriting and asset management departed the team on 7/1/2022. Samantha Romero has taken over these responsibilities.

Additions

→ Samantha Romero was hiredon7/5/2022 as a Senior Associate for the investment team and responsible for underwriting and asset management.

→ Nick Martino was hired on 8/1/2022 as a Director for the investment team and responsible for underwriting and asset management.

Manager Responses to Highlighted Questions (continued)

→ Natalie Cipriani was hired on 8/4/2022 as a Senior Analyst for the investment team and responsible for underwriting and asset management.

→ JD Hasley was hired on 9/6/2022 as an Analyst for the investment team and responsible for underwriting and asset management.

→ Zach Webb was hired on 9/12/2022 as an Analyst for the investment team and responsible for underwriting and asset management.

Dodge & Cox Investment Personnel Changes

Turnover

Dodge & Cox has experienced an extremely low level of personnel turnover throughout our history. In the third quarter 2022, there were two additions to the investment team and no departures. Justin Carr, Derivatives Trader/Analyst, and Blair Vorsatz, Portfolio Strategy Analyst, joined the firm in 3Q22.

Dodge & Cox Material Business Changes

There have been no material changes during the quarter.

In mid-March 2020, Dodge & Cox begun operating in a work-from-home model – in the US and in London. We made this decision in order to follow the guidance of the Governor of California, San Francisco's Mayor, and public health officials in the US and UK, and to do our part to help slow the spread of COVID-19.

Since that time, our Return-to-Office Steering Committee, comprised of senior leaders from our Investment, Client Service, Communications, Legal, Human Capital and Operations teams, has met regularly to consider the factors that would enable us to begin transitioning our teams back into the office. As part of its work, the Committee continues to monitor developments related to virus mutations and the rollout, availability, and effectiveness of COVID-19 vaccines. We have returned to the office on March 28, 2022.

Our policy of curtailing business travel remains in effect.

We remain focused on three primary goals:

→ Protecting the health and well-being of our colleagues and their families,

→ Actively managing portfolios in the pursuit of long-term returns, and

→ Serving our clients by staying in close touch and remaining focused on their long-term goals.

We continue to conduct research, make investment decisions, execute trades, and run our operations to meet our clients' needs. All of our teams are now meeting and collaborating in-person as well as virtually, using videoconference, conference calls, and other technology tools.

Manager Responses to Highlighted Questions (continued)

Our teams are also in continuous contact with our third-party providers that support our operations to ensure they have taken the necessary steps to continue to provide services to our firm; we continue to receive outstanding support. We regularly review our vendors' business continuity plans and risk mitigation practices.

DWS / RREEF Custodian Reconciliation

N/A. The Fund does not provide custodial services. Shares of the fund are uncertificated.

DWS / RREEF Management Level Changes

None

GQG Investment Personnel Changes

Yes. In Q2 2022, GQG added one investment analyst to the team. Additionally, one investment analyst left the firm.

Effective July 1, 2022, three of our senior investment analysts designated as Deputy Portfolio Managers were elevated to the position of Portfolio Manager for all strategies, alongside the Chief Investment Officer and current Portfolio Manager, Rajiv Jain. The identification and analysis of securities remains a collective, collaborative effort across the entire Investment Team. Investment decisions, however, are typically made collaboratively by the Portfolio Managers, although Rajiv Jain as Chief Investment Officer retains the ability to act unilaterally on any portfolio decision.

None of the changes describe above are anticipated to have a material impact to the portfolio(s) or to the investment management services provided by GQG.

3Q 2022 Departures:

Date	Title	Responsibilities	Years @ Firm	Reason	Replaced by
9/31/22	Senior Analyst	Analyst	1.7	*	Responsibilities assumed by Investment Team

**As a matter of policy, we do not comment on the reason for an individual employee's departure. As a growing firm, we are extremely thoughtful in our hiring process and spend considerable time on building our team with a focus on character and culture. We feel we have been quite successful in this effort, with very few exceptions. When an employment relationship with GQG transitions, we are supportive of former employees in finding other opportunities.*

3Q 2022 Additions:

Name / Distinction	Title	Responsibilities	Joined Team
Frankie Lam, MBA	Investment Analyst	Analyst	8/22

Manager Responses to Highlighted Questions (continued)

GQG Management Level Changes

Effective July 1, 2022, GQG's Chief of Staff retired. The Chief of Staff's responsibilities were assumed by other firm personnel.

HPS Litigation

Yes, however, to our knowledge, there is not any litigation or governmental regulatory proceedings involving the Firm that HPS believes will have a material adverse effect upon the Firm.

HPS Investment Personnel Changes

There has been one hire of a Vice President on the dedicated Asset Value1 team during the third quarter of 2022. There have been no departures from the dedicated Asset Value team during the third quarter of 2022.

Invesco Investment Personnel Changes

Lindsay Carson was promoted to Associate Portfolio Manager.

Miller Investment Personnel Changes

None

Miller Management Level Changes

None

Morgan Creek Custodian Reconciliation

N/A

Mount Lucas Material Organizational Changes

None

Loomis Sayles Litigation

LITIGATION & REGULATORY MATTERS UPDATE – Q3 2022

While neither Loomis, Sayles & Company, L.P. ("Loomis Sayles" or the "Firm"), nor to the best of its knowledge, any of its affiliates, is a party to any litigation, administrative action or regulatory matters that would have a material impact on its ability to conduct Loomis Sayles' investment management business, Loomis Sayles is a party to the following, unless otherwise noted, none of which are deemed to be material:

Manager Responses to Highlighted Questions (continued)

Litigation Matter involving Loomis Sayles

Loomis Sayles is defendant in a civil complaint initially filed in April 2014. The complaint alleges that Loomis Sayles misclassified a software engineer as an independent contractor, when he should have been an employee of Loomis Sayles under applicable Massachusetts statute. The complaint purports to represent a class of unnamed technology contractors the plaintiff claims were misclassified as contractors. In its answer, Loomis Sayles denied all the allegations. Loomis Sayles believes the plaintiff's case has no merit, and intends to vigorously defend its position in this matter. The plaintiff represented and certified that he was an employee in fact of a sub vendor, and his employer represented and certified to Loomis Sayles that it complied with all state and federal tax and employment laws applicable to the employment of this individual. Depositions began in January 2015. Discovery ended in late May 2015 and dispositive motions, including a motion for class certification by the plaintiff and a motion for summary judgment by Loomis Sayles, were filed at the end of June 2015. A hearing on various motions was held in September 2016. The judge denied plaintiff's motion for class certification and Loomis Sayles' motion for summary judgment. In April 2018, the trial judge issued a directed verdict in Loomis Sayles' favor, and the plaintiff appealed the verdict in May 2018. The Massachusetts Court of Appeals heard oral arguments in the case in September 2019 and in January 2020 reversed the directed verdict, remanding the case for retrial. In February 2020, Loomis Sayles appealed this decision to the Massachusetts Supreme Judicial Court. The appeal was denied, and preparations are underway for a retrial. The retrial is scheduled to begin in September 2022.

Litigation Matters involving Loomis Sayles' Affiliates

Loomis Sayles' parent company, Natixis Investment Managers, LLC ("Natixis LLC"), holds a number of investment management companies that are operationally independent of Loomis Sayles, and Loomis Sayles has little or no knowledge with respect to litigation or regulatory matters involving affiliates controlling or under common control with Loomis Sayles. The below matter are those of which Loomis Sayles does have knowledge:

On February 18, 2021, Loomis Sayles' parent company, Natixis LLC, was the subject of a class action complaint filed in the US District Court in the District of Massachusetts. The complaint alleges a breach of fiduciary duty under ERISA, claiming principally favoritism toward NIM's use of affiliated funds, including funds managed by Loomis Sayles, in the Natixis LLC 401(k) plan. The law firm representing the plaintiffs has filed similar lawsuits against industry peers. Natixis LLC believes the lawsuit is entirely without merit, and it intends to vigorously defend itself against the claims. The complaint does not involve Loomis Sayles or Loomis Sayles' 401(k) plan.

On June 24, 2021, Natixis ("Natixis"), the French bank that owns our parent company, was found guilty by a French criminal court of communication of misleading information, based on language regarding Natixis' exposure to the sub-prime crisis in a 2007 press release. The French court has ordered Natixis to pay a 7.5 million euros fine. No officers, directors or employees of Natixis were charged in connection with the proceeding. Natixis was first referred for trial in France in June 2019 in connection with the press release issued by Natixis in November 2007 at the start of the financial crisis.

Only a short paragraph of the press release was questioned, relating to Natixis' exposure to the subprime crisis. Neither the previous nor the subsequent communication of the bank was criticized. The press release

Manager Responses to Highlighted Questions (continued)

in question did not relate to any of Natixis' subsidiary businesses engaged in advisory or broker-dealer activities. The referral resulted from an investigation launched in 2009 by the Paris public prosecutor's office into a complaint filed by certain minority shareholders of Natixis coordinated by the Association to Defend Minority Shareholder Rights (Association De Défense Des Actionnaires Minoritaires – Adam). Natixis remains convinced that that the financial information it disseminated, in all sincerity, was appropriate to the situation. The press release in question was issued at the beginning of the subprime crisis when no one at the time (neither the banks, nor regulators, nor rating agencies), had any idea of the extent and consequences of the crisis. . Natixis has decided to appeal this judgment. Pursuant to the appeal, the case would be entirely reexamined by a new judge, on matters of both fact and law. Under French law, there are no legal consequences to Natixis or its affiliates for a guilty verdict in this case. Loomis Sayles updated the disclosure in its Form ADV, Part 1. This matter does not involve any activities of Loomis Sayles and will not have any impact on our business activities.

Regulatory Contact involving Loomis Sayles
In December 2021, Loomis Sayles received a subpoena from the Securities and Exchange Commission ("SEC") concerning certain trades in a fixed income security that occurred on a specific day in 2017, and Loomis Sayles submitted the materials requested in the subpoena to the SEC. The subpoena stated that it related to a non-public fact finding inquiry and that it was not an indication that any violation of law had occurred. In May 2022, Loomis Sayles received a letter from the SEC stating that the SEC had concluded its investigation and does not intend to recommend an enforcement action in this matter.

Northern Trust Litigation

As one of the world's largest asset managers, NTI is occasionally named as a defendant in asset management-related litigation. NTI is not currently party to any litigation that has had (or will have) a material effect on its ability to perform services for its clients. At this time, there are no significant pending cases.

Furthermore, NTI occasionally receives requests for information from government and regulatory agencies. NTI frequently does not know if such requests are related to a formal government or regulatory investigations or, assuming an investigation is underway, whether NTI is a target of such investigation or simply thought to be in possession of information pertinent to such investigation. NTI is not currently involved in any government or regulatory investigation or proceeding that would have a material impact on its ability to provide advisory services to its clients.

Northern Trust Management Level Changes

SENIOR MANAGEMENT CHANGES

As a result of the constantly changing landscape of asset management, we believe the occasional organizational changes are a natural progression and necessary in order to adapt to new market and regulatory environments. The most recent changes to senior personnel are the following:

Manager Responses to Highlighted Questions (continued)

2022

1. September; Co-Head of Fixed Income Colin Robertson retired.
2. September; Tom Swaney, Co-Head of Fixed Income, is named Chief Investment Officer – Global Fixed Income.
3. September; Mike Hunstad, Head of Quantitative Strategies, is named Chief Investment Officer – Global Equities.
4. September; Chris Shipley, Head of Fundamental Equities, is promoted into the newly created role of Chief Investment Strategist – North America.

Oaktree Custodian Reconciliation

Not applicable.

Oaktree Litigation

As a leading global investment manager, Oaktree and its affiliates, investment professionals, and portfolio companies are routinely involved in litigation in the ordinary course of their business and investing activities. In some cases, Oaktree or its officers are simply named as additional defendants in litigation arising out of the business activities of portfolio companies, such as landlord/tenant disputes and personal injury claims brought against entities owned by Oaktree's real estate funds. Other claims involve Oaktree and its professionals more directly, such as bankruptcy or restructuring disputes arising out of the investment activities of Oaktree's distressed debt and control investing funds. In addition, Oaktree is subject to the authority of a number of US and non-US regulators, including the US Securities and Exchange Commission ("SEC") and the Financial Industry Regulatory Authority ("FINRA"), and those authorities regularly conduct examinations of Oaktree and make other inquiries. No litigation or regulatory action to date has had a material adverse financial impact upon Oaktree or any of the funds it manages and Oaktree is not aware of any pending litigation or regulatory enforcement action that might reasonably be expected to have such an effect.

On November 11, 2021, the SEC initiated a routine examination of Oaktree Capital Management L.P. and Oaktree Fund Advisors, LLC. The exam is ongoing.

Oaktree Personnel Changes

Below, please find the investment professionals (vice president and above) who have departed from the US.
Private Debt team during the quarter ending September 30, 2022.

Manager Responses to Highlighted Questions (continued)

Join Date	Departure Date	Name	Title[1] / Role	Reason for Departure
07/2008	07/2022	Matias Stitch	Managing Director, Research Analyst	Left to pursue other endeavors

[1] *Title at the time of departure.*

In July 2022, it was announced that Raj Makam will be promoted to lead portfolio manager of the US Private Debt strategy, following the announcement of co-portfolio manager Bill Casperson's retirement slated for March 2023. In September 2022, Mr. Makam was joined by newly appointed assistant portfolio manager, Christina Lee,who joined Oaktree in 2009 and has been a key contributor to the US Private Debt team's investment activities.Peter Chang, assistant portfolio manager of USPD's Mezzanine Funds, will depart in January 2023 to pursue anew opportunity in portfolio management.

Ocean Avenue Investment Personnel Changes

No—However two analysts and an associate were hired during the quarter.

Parametric Litigation

Parametric is part of Morgan Stanley Investment Management, the asset management division of Morgan Stanley. The distinct investment brands of Eaton Vance Management, Parametric, Atlanta Capital and Calvert, have from time to time, been plaintiffs or defendants in various lawsuits and arbitrations that are incidental to their businesses and are or were handled in the ordinary course of business. From time to time, Parametric and its affiliates are subject to periodic audits, regulatory and governmental examinations, information-gathering requests, investigations, and proceedings both formal and informal which have the potential to result in findings, conclusions, recommendations or various forms of sanction. Parametric believes that these actions have not and will not have a material adverse effect on its consolidated financial condition, liquidity, results of operations or the ability to manage client assets.

Parametric Investment Personnel Changes

During the third quarter of 2022, Dale Rosenthal, Director, Research, joined the team as a new hire. Nick Tunell, Portfolio Manager, left the firm.

Parametric Management Level Changes

None

Parametric Material Business Changes

As announced in March, over the course of 2022, Parametric will recalibrate its approach to the Australian market to bring it in line with the sales/service approach similar to what it has in the EMEA region. This will include increasing leverage of its MSIM (Morgan Stanley Investment Management) support teams and a reconfiguration of the Parametric direct resourcing model. The firm remains committed to its clients and prospects in the Australian market.

Manager Responses to Highlighted Questions (continued)

On June 30, 2022, Jim Evans began his transition to retirement as he stepped down from the role as Co-Head of Parametric's Fixed Income. Jon Rocafort became the sole Head of Fixed Income Solutions and replaced Jim on Parametric's Executive Committee. Jim reports to Jon and continues to remain involved with the firm's Fixed Income Solutions team supporting the new leadership, consulting with clients, working on product development and mentoring early-career employees. Jim expects to retire sometime in 2023.

Parametric, in coordination with Morgan Stanley, continues to navigate the COVID-19 pandemic successfully – with a focus on the health and safety of its employees, maintaining high levels of investment performance and client service, and the continuity of the business operations as the highest priorities. Parametric has made significant investments in technologies that allow employees to collaborate effectively across locations and in a hybrid work format, which will support its teams as the firm transitions out of the pandemic period.

PIMCO Litigation

During the period, PIMCO has not been the subject of any lawsuit or regulatory proceeding that could reasonably be expected to have had a material adverse effect on PIMCO's ability to provide investment management services.

Notwithstanding the foregoing, PIMCO notes the following litigation matters:

- → On April 18, 2018, PIMCO and PIMCO Investments LLC were named in a complaint filed in the US Virgin Islands. In addition to PIMCO and PI, the complaint names certain BlackRock entities as defendants (together, the "Defendants"). The complaint alleges, among other things, that the Defendants engaged in a coordinated effort designed to damage the business operations of Ocwen, the mortgage servicing company, which had certain business relationships with Altisource Asset Management Corporation, both companies in which the plaintiffs hold equity interests. On August 8, 2018, the plaintiffs filed an amended complaint. The substance of the allegations in the amended complaint are the same as the original complaint. PIMCO believes the claims are without merit and intends to vigorously defend the matter.
- → On September 24, 2019, a lawsuit was filed against PIMCO, PIMCO Investments LLC and two PIMCO employees in Orange County Superior Court by a former PIMCO employee. The lawsuit alleges, among other things, discrimination and unequal pay based on gender, race, and disability status. The complaint also alleges fraud in connection with a flexible work request and other employment opportunities. The allegations in the complaint are not accurate and PIMCO will demonstrate that the employee was treated and compensated fairly.
- → On December 17, 2019, PIMCO was named as a defendant in a lawsuit filed in Louisiana state court. The lawsuit was filed by creditors to a Midwest-based agriculture company, the majority equity holders of which are two PIMCO-managed private funds. We believe that the claims asserted are without merit and expect the case to be defended vigorously.

Manager Responses to Highlighted Questions (continued)

→ On August 3, 2020, three PIMCO employees, who served as directors of a Florida-headquartered company, were named in a complaint filed in Florida state court by the company's prior controlling equity owner. The complaint was amended on August 31, 2020 to also name PIMCO as a defendant. The complaint alleges claims for tortious interference of contract, aiding and abetting breach of fiduciary duty, and defamation, related to a Stockholders Agreement, to which the Plaintiff and a subsidiary of a PIMCO-managed private fund are parties. PIMCO is not a party to the Stockholders Agreement and believes the claims are without merit and intends to defend the case vigorously.

→ On November 18, 2020, a lawsuit was filed against PIMCO and several PIMCO employees in Orange County Superior Court by two former PIMCO employees. The lawsuit alleges, among other things, discrimination and unequal pay based on gender and disability status, and retaliation. On February 18, 2021, an amended complaint was filed, adding three former PIMCO employees as additional plaintiffs, and a second amended complaint was subsequently filed on August 12, 2021. The allegations in the complaint are not accurate and PIMCO will demonstrate that the employees were treated and compensated fairly.

→ On September 22, 2021, PIMCO was named as a defendant in an amended complaint filed in the Southern District of New York. Wells Fargo, as trustee, filed the action related to the sale of defaulted securities by a CDO. Certain PIMCO-managed funds own the CDO's senior notes and, as such, PIMCO – in its capacity as investment manager – has been named as a defendant in the interpleader action to represent the interests of the senior noteholders. The complaint contains no allegations of wrongdoing by PIMCO or any PIMCO-managed investment vehicle.

→ On May 13, 2022, a lawsuit was filed against PIMCO, PIMCO Investments, and several PIMCO employees in Orange County Superior Court by a former PIMCO employee and a former independent contractor ("Plaintiffs"). The lawsuit alleges, among other things, discrimination and unequal pay based on race and disability status, and retaliation. The allegations in the complaint are not accurate and PIMCO will demonstrate that the Plaintiffs were treated and compensated fairly.

With respect to regulatory matters, as a registered investment adviser, PIMCO is in frequent contact with its regulators. Please note however, that as a general practice, PIMCO does not comment on pending regulatory matters.

PIMCO Investment Personnel Changes

There have been no changes to the investment team.

Manager Responses to Highlighted Questions (continued)

PIMCO Management Level Changes

Lost - PIMCO Investment Professionals

Date	Name	Title	Department	Years at PIMCO	Reason	Office
Sept-22	Jonathan Dabinett	Executive Vice President	Account Management – Client Service	10	Other*	London
Aug-22	Chris Flick	Executive Vice President	Portfolio Management	20	Other*	Newport
July-22	Rama Nambinadom	Executive Vice President	Analysts	20	Other*	Newport
July-22	Kent Smith	Executive Vice President	Portfolio Management	14	Other*	Newport

**PIMCO deems any reason for departure outside of a transfer to a PIMCO affiliate as confidential information.*

Prologis Registered Investment Advisor Status

No. Investment advisors are required to register with the SEC as a Registered Investment Advisor ("RIA") if they are in the business of providing advice or issuing reports or analyses regarding securities. The SEC has stated that direct interests in real estate are not securities. Prologis' vehicles invest in real estate directly. For example, USLF does not invest in the stock of other real estate companies or in other public or private funds that own real estate – USLF invests in real estate directly. Because USLF invests in real estate directly and because the SEC has stated that direct real estate investments are not securities, we have with the advice of external legal counsel determined that Prologis is not required to register as an RIA.

The ultimate parent company of Prologis is Prologis, Inc. which is a publicly traded company on the NYSE. As a publicly traded company, Prologis is subject to SEC reporting and the corporate governance and legal requirements applicable to other US public companies. In addition, the general partner of USLF is Prologis, L.P., which is the operating subsidiary through which Prologis Inc. carries out the vast majority of its operations. Prologis, L.P. is large and well-capitalized.

Prologis Custodian Reconciliation

Not applicable.

Manager Responses to Highlighted Questions (continued)

Prologis Litigation

Prologis, Inc. is a publicly traded company with global operations. In the normal course of business, from time to time, Prologis may be involved in legal actions and environmental matters relating to the ownership and operations of its properties. Management does not expect that the liabilities, if any, that may ultimately result from such legal actions would have a material adverse effect on the financial position, results of operations or cash flows of Prologis. Except as has been previously disclosed in public filings, as of March 21, 2022, there were no material pending legal proceedings to which Prologis is a party or of which any of its properties is the subject, the determination of which Prologis anticipates would have a material adverse effect upon its financial condition and results of operations.

Prologis Investment Personnel Changes

None

Prologis Management Level Changes

None

Stellex Investment Personnel Changes

Mark Redman was hired as a Managing Director to the investment team.

Stone Harbor Material Organizational Changes

There have not been any material changes to Stone Harbor's business during the quarter, however it is important to note that effective July 1, 2022, pursuant to a restructuring among Virtus fixed income affiliates, Stone Harbor began operating as a division of Virtus Fixed Income Advisers, LLC ("VFIA"), an SEC registered investment adviser. As a division of VFIA, Stone Harbor maintains its distinct investment process and philosophy, portfolio management teams, investment culture and brand.

Walton Street Custodian Reconciliation

SJCERA is invested in commingled funds and not a separate account. As the Funds are invested solely in real estate and real estate related investments, reconciliation to a custodian is not applicable.

White Oak Litigation

Yes. Other than as noted below, there is no present or pending regulatory action or litigation brought by or against the firm or any of its principals or investment professionals, other than routine regulatory examinations and legal proceedings in connection with the normal course of originating and managing a portfolio of direct loans.

Manager Responses to Highlighted Questions (continued)

We had reported previously that White Oak was involved in an arbitration proceeding with an institutional client. White Oak terminated the relationship with that client in 2018 and had been attempting to make a distribution of the client's assets to the client in accordance with the termination provisions of the client's Investment Management Agreement ("IMA") since that time. Among other things, the client questioned in the arbitration whether White Oak had observed its "Most Favored Nation" (MFN) covenant in the IMA. On August 4, 2021, the arbitrator found in White Oak's favor on the MFN issue, but found, among other things, that White Oak had violated ERISA with respect to other conduct, such as by including a never-invoked indemnification clause in certain fund agreements.

The client claimant subsequently filed an action in the Southern District of New York to confirm the arbitrator's award, and White Oak petitioned to vacate the arbitrator's award in part. On March 17, 2022, the Court denied White Oak's petition to vacate and granted the client's petition to confirm the arbitration award. The Court decision and the arbitration award both recognize that White Oak had unsuccessfully attempted to return the client's assets after White Oak terminated the IMA, and that White Oak should not be penalized for the client's failure to notify White Oak where to send those assets. The Court explained that the client is entitled to receive the net asset value of its investments with White Oak as of August 4, 2021, which was the date of the final arbitration award, and explained that White Oak may return assets to the client, instead of cash. Those assets were distributed to the client on September 3, 2021 in accordance with the Arbitrator's award. However, the Court has questioned whether White Oak retained control over the assets that were distributed to the client. The client was also seeking in the arbitration and court proceeding a refund of the management fees it had paid to White Oak under the IMA. However, the Court made clear in its decision that White Oak is entitled to retain the management fees it earned under the IMA, except for a "Day One" management fee White Oak earned. The Court confirmed the Arbitrator's findings that White Oak had violated ERISA, and confirmed the Arbitrator's award of attorneys' fees and prejudgment interest.

On April 11, 2022, the client moved to correct the judgment to include five different categories of relief in the judgment, which motion White Oak opposed. On July 14, 2022, the Court granted the client's motion and the Clerk entered a corrected judgment identifying the specific amounts of attorneys' fees, Day One management fee and prejudgment interest on that Day One fee owed. The amended judgment also orders (a) White Oak to pay 9% prejudgment interest on the August 4, 2021 net asset value of the client's investment starting in September 2018, (b) the disgorgement of unidentified profits and (c) the removal of White Oak as fiduciary and investment manager, which already occurred when White Oak returned the client's assets on September 3, 2021. White Oak intends to seek reconsideration of the Court's order confirming (a) 9% prejudgment interest on the August 4, 2021 net asset value of the client's investments, and (b) disgorgement of profits.

Manager Responses to Highlighted Questions (continued)

On March 31, 2022 – after the Court's March 17, 2022 judgment was entered – the US Supreme Court held that a federal court does not have federal question jurisdiction to confirm or vacate an arbitration award simply because the underlying arbitration proceeding involved a federal question, such as alleged violations of ERISA law, which was the basis upon which the client alleged federal court jurisdiction to confirm the arbitration award. As a result, on April 13, 2022, White Oak filed a motion to vacate the judgment, arguing that the Court lacked jurisdiction as a result of the US Supreme Court decision. The client filed its response on May 6, 2022 arguing that there are independent grounds for federal question jurisdiction. On June 21, 2022, the Court issued a decision finding that the Court had two independent bases for federal question jurisdiction, and therefore denied White Oak's motion to vacate for lack of jurisdiction. White Oak intends to file a notice of appeal (as White Oak had originally planned to do before the Supreme Court decision was issued). On appeal, White Oak will challenge both the corrected judgment itself, which confirmed the arbitration award, and the Court's decision finding that the Court had jurisdiction. White Oak has appealed the Court's decisions. On September 8, 2022, the plaintiff filed a motion with the Court to recover the attorneys' fees and costs the plaintiff incurred in the Court proceeding to confirm the arbitration award, which motion White Oak will oppose.

In addition, on July 2, 2022, White Oak's former client filed a lawsuit in the Southern District of New York against White Oak's co-founders, Andre Hakkak and Barbara McKee. The former client's claims against Mr. Hakkak and Ms. McKee are duplicative of the claims that the former client raised against White Oak in the arbitration, which are discussed above. In the lawsuit, the former client alleges that Mr. Hakkak and Ms. McKee personally violated ERISA and participated in the breaches alleged against White Oak in the arbitration. Mr. Hakkak and Ms. McKee dispute the former client's claims, including that they violated ERISA or assisted White Oak in violating ERISA, and dispute that they have any liability to the former client.

White Oak Management Level Changes

Yes. During Q3 2022, the following occurred at the Managing Director level and above at White Oak Global Advisors (this does not include changes at White Oak's financing affiliates or affiliated entities).

Joiner: CFO (Financial Operations)

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SJCERA Quarterly Manager Review Schedule

Manager	Strategic Class	Sub-Segment	Under Review	Last Rvw	Next Rvw	Most Recent Visit to Meketa/SJCERA	Mgr. Meeting with SJCERA	Mgr. Location
Angelo Gordon	Aggressive Growth	Value Added Real Estate				Oct-22		New York, NY
Almanac Reality VI	Aggressive Growth	Value Added Real Estate		May-21				New York, NY
AQR	Diversifying Strategies	Alternative Risk Premia		Jul-19		10/6/2022		Stamford, CT
BlackRock	Stabilized Growth, PC	Direct Lending				3/18/2019*		San Francisco, CA
BlackRock	Aggressive Growth	Infrastructure				10/6/2022	8/22/2019	New York, NY
Berkeley Partners	Aggressive Growth	Private Real Estate				10/16/2020	8/14/2020	San Francisco, CA
Bridgewater (AW)	Stabilized Growth, RP	Risk Parity				7/29/2020	10/6/2017	Westport, CT
Crestline	Stabilized Growth, PC	Opportunistic				7/22/2020	6/7/2019	Fort Worth, TX
Davidson Kempner	Stabilized Growth, PC	Opportunistic		Oct-21		8/11/2020		New York, NY
Dodge & Cox	Diversifying Strategies, PP	Core Fixed Income		Oct-21		10/6/2022		San Francisco, CA
Dodge & Cox	Diversifying Strategies, CRO	Long Duration				6/3/2020		San Francisco, CA
GQG	Traditional Growth	Emerging Markets				10/16/2020		San Francisco, CA
Graham	Diversifying Strategies, CRO	Systematic Trend Following				10/6/2022		Rowayton, CT
Greenfield/Grandview V, VI, VII	Aggressive Growth	Opportunistic Real Estate		Oct-21		10/6/2022		Greenwich, CT
HPS EU	Stabilized Growth, PC	Direct Lending		Mar-20		8/3/2017*		New York, NY
Invesco	Traditional Growth	REITs, Core US		Oct-21		10/6/2022		Atlanta, GA
Lombard	Diversifying Strategies	Alternative Risk Premia	May-22		Feb-23	10/19/2020		New York, NY
Loomis Sayles	Principal Protection	Core Fixed Income				10/6/2022		Kansas City, MO
Lightspeed	Aggressive Growth	Private Equity				10/6/2022		Menlo Park, CA
Medley	Stabilized Growth, PC	Direct Lending		Aug-22		3/12/2015		San Francisco/New York
Mesa West III & IV	Stabilized Growth, PC	Comm. Mortgage		Oct-21		10/6/2022	8/22/2019	Los Angeles, CA
Miller Global VI, VII	Aggressive Growth	Opportunistic Real Estate		Mar-20				Denver, CO
Morgan Creek III, V, & VI	Aggressive Growth	Multi-Strat FOF		Oct-21		8/22/2019	8/22/2019	Chapel Hill, NC
Mount Lucas	Diversifying Strategies, CRO	Systematic Trend Following		May-18		10/6/2022	2/12/2021	Newton, PA
Northern Trust	Traditional Growth	MSCI World IMI				*10/6/2022*		Chicago, IL
Northern Trust	Cash	Collective Govt. Short Term				*10/6/2022*		Chicago, IL
Neuberger Berman	Stabilized Growth, LC	Global Credit		Oct-21		10/6/2022		Chicago, IL
Oaktree	Stabilized Growth, PC	Leveraged Direct Lending				10/6/2022		New York, NY
Ocean Avenue	Aggressive Growth	PE Buyout FOF		Oct-21		*10/6/2022*		Santa Monica, CA
P/E Diversified	Diversifying Strategies	Alternative Risk Premia		Oct-21		10/6/2022		Boston, MA
PanAgora	Stabilized Growth, RP	Risk Parity		Mar-18		10/6/2022		Boston, MA
Parametric	Cash	Cash Overlay				10/27/2020*		Minneapolis, MN
PIMCO (RAE)	Traditional Growth	Emerging Markets				10/6/2022	8/22/2019	Newport Beach, CA
Principal US	Stabilized Growth, RE	Core Real Estate				10/6/2022		Des Moines, IA
Prologis	Stabilized Growth, RE	Core Real Estate				10/6/2022		San Francisco, CA
Raven III	Stabilized Growth, PC	Direct Lending		Apr-18			2/23/2018	New York, NY
Ridgemont	Aggressive Growth	Private Equity				10/6/2022		Charlotte, NC
RREEF America II	Stabilized Growth, RE	Core Real Estate		Mar-20				Kansas City, MO
Stellex Capital	Aggressive Growth	Private Equity		Oct-21			5/8/2020	New York, NY
Stockbridge RE III	Aggressive Growth	Value Added Real Estate		Jul-22				San Francisco, CA
Stone Harbor	Stabilized Growth, LC	Absolute Return		Oct-21		10/6/2022	2/3/2021	New York, NY
Walton Street	Aggressive Growth	Opportunistic Real Estate		Mar-20				Chicago, IL
White Oak Summit Peer	Stabilized Growth, PC	Direct Lending				7/24/2020		San Francisco, CA
White Oak Yield Spectrum	Stabilized Growth, PC	Direct Lending		Feb-19		7/24/2020	6/7/2019	San Francisco, CA

**General Meketa Review*   LC = Liquid Credit; PC = Private Credit; PP = Principal Protection; CRO = Crisis Risk Offset; RP = Risk Parity;

Managers Approved - Waiting to be funded

Liquidated Managers

Liquidated Managers			Date Terminated	
KBI	Global Equity	Global Equity -Terminated	2016	Dublin, Ireland
Bridgewater	Risk Parity	Real Assets - Terminated	2016	Westport, CT
Parametric	Risk Parity	Risk Parity - Terminated	2016	Minneapolis, MN
Legato	Global Equity	Small Cap Growth -Terminated	2017	San Francisco, CA
Marinus	Credit	Credit HF - Terminated	2018	Westport, CT
Bridgewater	Crisis Risk Offset	Pure Alpha - Terminated	2019	Westport, CT
Stone Harbor	Credit	Bank Loans - Temrinated	2019	New York, NY
Prima	Principal Protection	Commercial MBS - Terminated	2020	Scarsdale, NY
BlackRock x4	Global Equity	US Equity x2; Non-US Developed; Non-US REIT -Terminated	2020	San Francisco, CA
Capital Prospects	Global Equity	Global Equity -Terminated	2020	Stamford, CT
PIMCO (RAFI)	Global Equity	Global Equity -Terminated	2019	Newport Beach, CA
DoubleLine	Principal Protection	Principal Protection -Terminated	2022	Los Angeles, CA
Raven	Opportunity Fund II	Stablized Growth - Fund Liquidated	2022	New York, NY

San Joaquin County Employees' Retirement Association (SJCERA)

Preliminary Monthly Flash Report (Net)[1] — October 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]			$ 3,758,174,289	100.0%	100.0%	2.5	-3.8	-8.3	-6.5	4.8	5.1	7.5	Apr-90
Policy Benchmark [4]						*2.8*	*-3.6*	*-9.5*	*-8.7*	*4.2*	*5.1*	*7.3*	
Difference:						-0.3	-0.2	1.2	2.2	0.6	0.0	0.2	
75/25 Portfolio [5]						*4.4*	*-8.0*	*-20.6*	*-19.7*	*3.5*	*4.3*	*6.8*	
Difference:						-1.9	4.2	12.3	13.2	1.3	0.8	0.7	
Broad Growth			$ 2,802,241,600	74.6%	76.0%	3.4	-4.8	-10.5	-8.2	5.6	5.9	8.1	Jan-95
Aggressive Growth Lag[2]			$ 343,391,882	9.1%	10.0%	2.0	2.0	18.3	28.1	20.3	17.5	-2.1	Feb-05
MSCI ACWI +2%Lag						*-1.8*	*-5.4*	*3.1*	*6.4*	*13.0*	*10.7*	*0.0*	
Difference:						3.8	7.4	15.2	21.7	7.3	6.8	-2.1	
BlackRock Global Energy&Power Lag[3]	*$50,000*	*Global Infrastructure*	$ 26,940,131	0.7%		0.4	0.4	5.7	9.3	--	--	9.4	Jul-19
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-13.3*	*-13.6*	--	--	*9.5*	
Difference:						8.6	15.5	19.0	22.9	--	--	-0.1	
Ocean Avenue II Lag[3]	*$40,000*	*PE Buyout FOF*	$ 37,280,844	1.0%		4.8	4.8	27.1	40.5	37.4	34.7	18.9	May-13
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-13.3*	*-13.6*	*8.8*	*8.2*	*8.6*	
Difference:						13.0	19.9	40.4	54.1	28.6	26.5	10.3	
Lightspeed Venture Ptr Select V Lag[3]	*$40,000*	*Growth-Stage VC*	$ 6,298,385	0.2%		--	-4.4	--	--	--	--	-4.4	Jun-22
MSCI ACWI +2% Lag						--	*-15.1*	--	--	--	--	*-8.9*	
Difference:						--	10.7	--	--	--	--	4.5	
Ocean Avenue III Lag[3]	*$50,000*	*PE Buyout FOF*	$ 57,563,388	1.5%		6.1	6.1	31.1	52.6	29.7	37.4	27.4	Apr-16
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-13.3*	*-13.6*	*8.8*	*8.2*	*8.4*	
Difference:						14.3	21.2	44.4	66.2	20.9	29.2	19.0	
Ocean Avenue IV Lag[3]	*$50,000*	*PE Buyout*	$ 49,980,563	1.3%		4.2	4.2	29.0	33.6	--	--	34.9	Dec-19
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-13.3*	*-13.6*	--	--	*10.0*	
Difference:						12.4	19.3	42.3	47.2	--	--	24.9	
Morgan Creek III Lag[3]	*$10,000*	*Multi-Strat FOF*	$ 4,420,354	0.1%		-13.5	-13.5	-26.4	-36.3	-21.2	-8.7	-6.8	Feb-15
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-13.3*	*-13.6*	*8.8*	*8.2*	*8.5*	
Difference:						-5.3	1.6	-13.1	-22.7	-30.0	-16.9	-15.3	
Morgan Creek V Lag[3]	*$12,000*	*Multi-Strat FOF*	$ 7,951,657	0.2%		1.0	1.0	7.4	16.6	13.9	13.7	13.8	Jun-13
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-13.3*	*-13.6*	*8.8*	*8.2*	*8.6*	
Difference:						9.2	16.1	20.7	30.2	5.1	5.5	5.2	
Morgan Creek VI Lag[3]	*$20,000*	*Multi-Strat FOF*	$ 24,772,205	0.7%		-5.3	-5.3	9.6	19.0	19.9	20.1	11.4	Feb-15
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-13.3*	*-13.6*	*8.8*	*8.2*	*8.5*	
Difference:						2.9	9.8	22.9	32.6	11.1	11.9	2.9	
Stellex Capital Partners II Lag[3]	*$50,000*	*Special Situations PE*	$ 18,888,238	0.5%		9.9	9.9	19.5	14.2	--	--	1.0	Jul-21
MSCI ACWI +2% Lag						*-8.2*	*-15.1*	*-7.0*	*-13.6*	--	--	*-3.5*	
Difference:						18.1	25.0	26.5	27.8	--	--	4.5	
Non-Core Private Real Assets Lag[3]	*$341,100*	*Private Real Estate*	$ 109,296,117	2.9%		0.4	0.4	14.3	24.0	15.7	10.2	-1.7	Nov-04
MSCI ACWI +2% Lag						*4.6*	*4.8*	*21.5*	*29.6*	*12.8*	*10.6*	*9.3*	
Difference:						-4.2	-4.4	-7.2	-5.6	2.9	-0.4	-11.0	
Opportunistic Private Real Estate			$ 32,726,576	0.7%									
Greenfield V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 219,212	0.0%		-0.4	-0.4	-1.9	-1.8	-10.8	-3.8	-0.5	Jul-08
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*10.1*	
Difference:						-5.9	-5.9	-25.9	-35.0	-26.9	-17.7	-10.6	
Greenfield VI[3]	*$20,000*	*Opportunistic Pvt. RE*	$ 30,434	0.0%		-12.6	-12.6	-20.1	-12.5	-38.9	-33.7	-14.2	Apr-12
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*14.5*	
Difference:						-18.1	-18.1	-44.1	-45.7	-55.0	-47.6	-28.7	
Greenfield VII[3]	*$19,100*	*Opportunistic Pvt. RE*	$ 4,248,546	0.1%		2.9	2.9	15.0	16.2	15.3	14.5	13.9	Oct-14
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*14.2*	
Difference:						-2.6	-2.6	-9.0	-17.0	-0.8	0.6	-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] Total class returns are as of 9/30/22, and lagged 1 quarter.

[3] Manager returns are as of 9/30/22, 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] — October 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*	$ 20,793,003	0.6%		-4.1	-4.1	20.4	20.2	27.1	--	23.0	Apr-18
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*14.1*	
Difference:						-9.6	-9.6	-3.6	-13.0	11.0	--	8.9	
Miller Global Fund VI[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 115,858	0.0%		34.6	34.6	46.7	143.6	1.7	6.6	2.8	May-08
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*10.1*	
Difference:						29.1	29.1	22.7	110.4	-14.4	-7.3	-7.3	
Miller Global Fund VII[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 66,192	0.0%		6.6	6.6	276.6	-43.8	-20.7	-16.8	9.9	Dec-12
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*14.3*	
Difference:						1.1	1.1	252.6	-77.0	-36.8	-30.7	-4.4	
Walton Street V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 1,334,204	0.0%		-1.6	-1.6	-19.1	-18.7	-14.3	-12.5	-5.1	Nov-06
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*10.9*	
Difference:						-7.1	-7.1	-43.1	-51.9	-30.4	-26.4	-16.0	
Walton Street VI[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 5,919,127	0.2%		3.3	3.3	14.6	18.3	3.9	4.1	7.9	Jul-09
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*12.8*	
Difference:						-2.2	-2.2	-9.4	-14.9	-12.2	-9.8	-4.9	
Value-Added Private Real Estate			$ 76,929,541	2.0%									
AG Core Plus IV[3]	*$20,000*	*Value-Added Pvt. RE*	$ 12,168,738	0.3%		-1.8	-1.8	3.1	7.6	8.4	9.1	5.6	Sep-15
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*13.5*	
Difference:						-7.3	-7.3	-20.9	-25.6	-7.7	-4.8	-7.9	
Almanac Realty VI[3]	*$30,000*	*Value-Added Pvt. RE*	$ 4,008,828	0.1%		-5.7	-5.7	-0.1	2.0	-8.9	-6.5	20.3	Feb-13
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*14.5*	
Difference:						-11.2	-11.2	-24.1	-31.2	-25.0	-20.4	5.8	
Berkeley Partners Fund V, LP	*$40,000*	*Value-Added Pvt. RE*	$ 27,616,766	0.7%		2.9	2.9	17.5	39.9	--	--	33.9	Aug-20
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	--	--	*24.4*	
Difference:						-2.6	-2.6	-6.5	6.7	--	--	9.5	
Stockbridge RE III[3]	*$45,000*	*Value-Added Pvt. RE*	$ 33,135,209	0.9%		1.5	1.5	15.2	34.9	22.0	--	14.0	Jul-18
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	--	*14.3*	
Difference:						-4.0	-4.0	-8.8	1.7	5.9	--	-0.3	
Traditional Growth[2]			$ 1,278,351,275	34.0%	33.0%	6.8	-7.0	-20.1	-18.8	3.4	4.2	8.5	Jan-95
MSCI ACWI IMI Net						*6.2*	*-7.5*	*-21.1*	*-20.2*	*5.3*	*5.7*	*7.3*	
Difference:						0.6	0.5	1.0	1.4	-1.9	-1.5	1.2	
Global Equity			$ 1,236,824,754	32.9%									
Northern Trust MSCI World IMI		*All Cap Global*	$ 1,113,724,330	29.6%		7.5	-6.8	-19.8	-18.6	--	--	3.8	Sep-20
MSCI World IMI Net						*7.3*	*-6.8*	*-20.2*	*-18.9*	--	--	*3.4*	
Difference:						0.2	0.0	0.4	0.3	--	--	0.4	
SJCERA Transition		*All Cap Global*	$ 2,837	0.0%		NM	NM	NM	NM	--	--	NM	Jul-20
Emerging Markets			$ 123,097,587										
GQG Active Emerging Markets		*Emerging Markets*	$ 54,796,546	1.5%		1.3	-5.9	-22.6	-24.0	--	--	-4.4	Aug-20
MSCI Emerging Markets Index Net						*-3.1*	*-14.1*	*-29.4*	*-31.0*	--	--	*-8.0*	
Difference:						4.4	8.2	6.8	7.0	--	--	3.6	
PIMCO RAE Fundamental Emerging Markets		*Emerging Markets*	$ 68,301,041	1.8%		3.2	-4.8	-19.2	-18.7	0.8	-0.2	3.7	Apr-07
MSCI Emerging Markets Index						*-3.1*	*-14.1*	*-29.4*	*-31.0*	*-4.4*	*-3.1*	*1.8*	
Difference:						6.3	9.3	10.2	12.3	5.2	2.9	1.9	
REITS			$ 41,526,521	1.1%									
Invesco All Equity REIT		*Core US REIT*	$ 41,526,521	1.1%		1.9	-16.0	-25.3	-18.7	-1.9	3.6	7.9	Aug-04
FTSE NAREIT Equity Index						*4.9*	*-13.4*	*-24.6*	*-18.5*	*-0.9*	*4.1*	*7.7*	
Difference:						-3.0	-2.6	-0.7	-0.2	-1.0	-0.5	0.2	

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

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

[3] Manager returns are as of 9/30/22, 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] — **October 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			$ 1,180,498,443	31.4%	33.0%	0.8	-4.1	-5.3	-3.0	4.5	5.0	3.8	Jan-05
Risk Parity			$ 346,878,888	9.2%		2.2	-15.3	-26.5	-25.1	-3.2	0.5	2.7	
T-Bill +4%						*0.5*	*1.6*	*4.1*	*4.8*	*4.6*	*5.2*	*4.6*	
Difference:						1.7	-16.9	-30.6	-29.9	-7.8	-4.7	-1.9	
Bridgewater All Weather		*Risk Parity*	$ 173,905,347	4.6%		2.2	-15.3	-25.5	-23.4	-2.5	0.6	2.7	Mar-12
T-Bill +4%						*0.5*	*1.6*	*4.1*	*4.8*	*4.6*	*5.2*	*5.4*	
Difference:						1.7	-16.9	-29.6	-28.2	-7.1	-4.6	-2.7	
PanAgora Diversified Risk Multi-Asset		*Risk Parity*	$ 172,973,541	4.6%		2.1	-15.3	-27.5	-26.7	-3.9	0.4	2.7	Apr-16
T-Bill +4%						*0.5*	*1.6*	*4.1*	*4.8*	*4.6*	*5.2*	*5.1*	
Difference:						1.6	-16.9	-31.6	-31.5	-8.5	-4.8	-2.4	
Liquid Credit			$ 217,662,969	5.8%		1.1	-1.5	-8.4	-8.5	-0.2	1.2	1.6	
50% BB High Yield, 50% S&P/LSTA Leveraged Loans						*1.8*	*-1.7*	*-7.4*	*-6.8*	*1.6*	*2.6*	*5.1*	
Difference:						-0.7	0.2	-1.0	-1.7	-1.8	-1.4	-3.5	
Neuberger Berman		*Global Credit*	$ 92,226,868	2.5%		0.8	-4.0	-13.7	-13.6	-1.5	--	0.1	Feb-19
33% ICE BofA HY Constrained, 33% S&P/LSTA LL, 33% JPM EMBI Glbl Div.						*1.3*	*-3.5*	*-12.9*	*-12.7*	*-1.4*	*--*	*0.5*	
Difference:						-0.5	-0.5	-0.8	-0.9	-0.1	--	-0.4	
Stone Harbor Absolute Return		*Absolute Return*	$ 125,436,101	3.3%		1.3	0.5	-4.1	-4.3	0.8	1.6	2.5	Oct-06
3-Month Libor Total Return						*0.2*	*0.5*	*0.6*	*0.6*	*0.7*	*1.3*	*1.4*	
Difference:						1.1	0.0	-4.7	-4.9	0.1	0.3	1.1	
Private Credit Lag[2]			$ 364,402,134	9.7%		0.5	0.5	6.0	7.6	4.8	3.6	3.7	
50% BB High Yield, 50% S&P/LSTA Leveraged Loans						*-4.4*	*-7.1*	*-8.8*	*-7.9*	*1.2*	*2.5*	*5.1*	
Difference:						4.9	7.6	14.8	15.5	3.6	1.1	-1.4	
BlackRock Direct Lending Lag[3]	*$100,000*	*Direct Lending*	$ 84,095,995	2.2%		1.6	1.6	1.6	5.5	---	---	7.8	May-20
S&P/LSTA Leveraged Loans +3% Blend[5]						*-1.9*	*-3.7*	*-3.7*	*2.3*	*---*	*---*	*11.0*	
Difference:						3.5	5.3	5.3	3.2	---	---	-3.2	
Mesa West RE Income IV Lag[3]	*$75,000*	*Comm. Mortgage*	$ 21,063,965	0.6%		-2.3	-2.3	1.0	3.6	6.2	7.1	6.7	Mar-17
S&P/LSTA Leveraged Loans +3% Blend[4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	*6.8*	*7.5*	*7.6*	
Difference:						-0.4	1.4	1.1	1.3	-0.6	-0.4	-0.9	
Crestline Opportunity II Lag[7]	*$45,000*	*Opportunistic*	$ 17,514,360	0.5%		-1.3	-1.3	0.0	0.4	2.2	1.8	4.7	Nov-13
S&P/LSTA Leveraged Loans +3% Blend[4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	*6.8*	*7.5*	*8.1*	
Difference:						0.6	2.4	0.1	-1.9	-4.6	-5.7	-3.4	
Davidson Kempner Distr Opp V Lag[3]	*$50,000*	*Opportunistic*	$ 47,921,839	0.0%		-2.2	-2.2	4.3	6.0	--	--	25.9	Oct-20
S&P/LSTA Leveraged Loans +3% Blend[4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	*--*	*--*	*6.9*	
Difference:						-0.3	1.5	4.4	3.7	--	--	19.0	
Oaktree Lag	*$50,000*	*Leveraged Direct*	$ 32,376,435	0.9%		2.9	2.9	13.0	16.9	19.0	--	12.0	Mar-18
S&P/LSTA Leveraged Loans +3% Blend[4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	*8.3*	*--*	*7.5*	
Difference:						4.8	6.6	13.1	14.6	10.7	--	4.5	
HPS EU Asset Value II Lag[3]	*$50,000*	*Direct Lending*	$ 29,977,885	0.8%		1.8	1.8	6.4	8.3	--	--	3.3	Aug-20
S&P/LSTA Leveraged Loans +3% Blend[4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	*--*	*--*	*7.1*	
Difference:						3.7	5.5	6.5	6.0	--	--	-3.8	
Raven Opportunity III Lag[3]	*$50,000*	*Direct Lending*	$ 57,419,823	1.5%		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 9/30/22, and lagged 1 quarter.
[3] Manager returns are as of 9/30/22, 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] October 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	-12.8	-9.9	-10.4	-2.2	Jul-12
S&P/LSTA Leveraged Loans +3% Blend [4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	*6.8*	*7.5*	*8.2*	
Difference:						1.9	3.7	-9.8	-15.1	-16.7	-17.9	-10.4	
White Oak Summit Peer Fund Lag[3]	*$50,000*	*Direct Lending*	$ 26,989,447	0.7%		-7.5	-7.5	-4.7	-8.9	0.2	3.1	4.2	Mar-16
S&P/LSTA Leveraged Loans +3% Blend [4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	*6.8*	*7.5*	*7.8*	
Difference:						-5.6	-3.8	-4.6	-11.2	-6.6	-4.4	-3.6	
White Oak Yield Spectrum Master V Lag[3]	*$50,000*	*Direct Lending*	$ 42,663,601	1.1%		0.2	0.2	2.4	2.8	---	--	0.9	Mar-20
S&P/LSTA Leveraged Loans +3% Blend [4]						*-1.9*	*-3.7*	*-0.1*	*2.3*	---	--	*6.8*	
Difference:						2.1	3.9	2.5	0.5	---	--	-5.9	
Core Private Real Estate Lag			$ 251,554,452	6.7%									
Principal US[3]	*$25,000*	*Core Pvt. RE*	$ 46,513,274	1.2%		3.0	3.0	21.6	27.7	12.0	10.2	10.3	Jan-16
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*13.5*	
Difference:						-2.5	-2.5	-2.4	-5.5	-4.1	-3.7	-3.2	
Prologis Logistics[3]	*$35,000*	*Core Pvt. RE*	$ 138,171,607	3.7%		5.8	5.8	34.2	49.4	28.2	24.0	13.9	Dec-07
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*10.3*	
Difference:						0.3	0.3	10.2	16.2	12.1	10.1	3.6	
RREEF America II[3]	*$45,000*	*Core Pvt. RE*	$ 67,293,747	1.8%		6.9	6.9	24.6	32.0	13.5	10.9	10.6	Jul-16
NCREIF ODCE + 1% Lag Blend						*5.5*	*5.5*	*24.0*	*33.2*	*16.1*	*13.9*	*13.4*	
Difference:						1.4	1.4	0.6	-1.2	-2.6	-3.0	-2.8	
Diversifying Strategies			$ 839,667,493	22.3%	24.0%	0.1	0.5	3.2	2.9	2.5	3.0	6.2	Oct-90
Principal Protection			$ 273,714,168	7.3%	9.0%	-1.2	-7.8	-13.3	-13.3	-3.5	-0.2	5.7	Oct-90
BB Aggregate Bond Index						*-1.3*	*-8.2*	*-15.7*	*-15.7*	*-3.8*	*-0.5*	*5.3*	
Difference:						0.1	0.4	2.4	2.4	0.3	0.3	0.4	
Dodge & Cox		*Core Fixed Income*	$ 186,301,242	5.0%		-1.0	-7.5	-14.1	-14.2	-2.2	0.5	6.4	Oct-90
BB Aggregate Bond Index						*-1.3*	*-8.2*	*-15.7*	*-15.7*	*-3.8*	*-0.5*	*5.3*	
Difference:						0.3	0.7	1.6	1.5	1.6	1.0	1.1	
Loomis Sayles		*Core Fixed Income*	$ 87,406,896	2.3%		-1.5	-8.3	-4.4	--	--	--	-12.8	Mar-22
BB Aggregate Bond Index						*-1.3*	*-8.2*	*-4.7*	--	--	--	*-12.9*	
Difference:						-0.2	-0.1	0.3	--	--	--	0.1	
DoubleLine Capital		*MBS*	$ 6,030	0.0%		NM	NM	NM	NM	NM	NM	NM	Feb-12

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[3] Manager returns are as of 9/30/22, 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] — October 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			$ 565,953,325	15.1%	15.0%	0.7	5.1	15.8	15.2	6.4	5.1	6.9	Jan-05
CRO Custom Benchmark [2]						*-1.5*	*-3.4*	*-5.1*	*-5.0*	*2.1*	*3.4*	*4.9*	
Difference:						2.2	8.5	20.9	20.2	4.3	1.7	2.0	
Long Duration			$ 106,704,310	2.8%		-5.2	-16.4	-31.4	-30.8	-9.6	-2.7	-2.2	
BB US Long Duration Treasuries						*-5.5*	*-16.9*	*-32.8*	*-32.0*	*-10.0*	*-2.7*	*-1.7*	
Difference:						0.3	0.5	1.4	1.2	0.4	0.0	-0.5	
Dodge & Cox Long Duration		*Long Duration*	$ 106,704,310	2.8%		-5.2	-16.4	-31.4	-30.8	-9.6	-2.7	-2.2	Feb-16
BB US Long Duration Treasuries						*-5.5*	*-16.9*	*-32.8*	*-32.0*	*-10.0*	*-2.7*	*-1.7*	
Difference:						0.3	0.5	1.4	1.2	0.4	0.0	-0.5	
Systematic Trend Following			$ 263,131,875	7.0%		1.3	9.8	43.5	37.0	18.1	10.2	9.8	
BTOP50 Index						*0.7*	*6.3*	*19.9*	*18.1*	*11.6*	*7.3*	*5.5*	
Difference:						0.6	3.5	23.6	18.9	6.5	2.9	4.3	
Mt. Lucas Managed Futures - Cash		*Systematic Trend Following*	$ 133,373,028	3.5%		-1.2	8.4	41.3	32.5	21.3	9.9	9.3	Jan-05
BTOP50 Index						*0.7*	*6.3*	*19.9*	*18.1*	*11.6*	*7.3*	*5.5*	
Difference:						-1.9	2.1	21.4	14.4	9.7	2.6	3.8	
Graham Tactical Trend		*Systematic Trend Following*	$ 129,758,847	3.5%		3.9	11.3	45.9	42.0	15.1	10.4	6.4	Apr-16
SG Trend Index						*0.2*	*10.2*	*35.8*	*30.0*	*16.5*	*10.3*	*6.2*	
Difference:						3.7	1.1	10.1	12.0	-1.4	0.1	0.2	
Alternative Risk Premia			$ 196,117,140	5.2%		3.5	14.6	31.4	36.8	4.5	3.4	8.3	
5% Annual						*0.4*	*1.2*	*4.1*	*5.0*	*5.0*	*5.0*	*6.2*	
Difference:						3.1	13.4	27.3	31.8	-0.5	-1.6	2.1	
AQR Style Premia		*Alternative Risk Premia*	$ 55,869,854	1.5%		14.0	11.4	32.2	50.0	5.0	-1.2	0.8	May-16
5% Annual						*0.4*	*1.2*	*4.1*	*5.0*	*5.0*	*5.0*	*5.0*	
Difference:						13.6	10.2	28.1	45.0	0.0	-6.2	-4.2	
PE Diversified Global Macro		*Alternative Risk Premia*	$ 82,305,700	2.2%		0.0	30.5	86.4	82.7	10.6	6.6	6.7	Jun-16
5% Annual						*0.4*	*1.2*	*4.1*	*5.0*	*5.0*	*5.0*	*5.0*	
Difference:						-0.4	29.3	82.3	77.7	5.6	1.6	1.7	
Lombard Odier		*Alternative Risk Premia*	$ 57,941,586	1.5%		-0.4	0.1	-2.5	0.8	-4.4	--	-3.4	Jan-19
5% Annual						*0.4*	*1.2*	*4.1*	*5.0*	*5.0*	--	*5.0*	
Difference:						-0.8	-1.1	-6.6	-4.2	-9.4	--	-8.4	
Cash[3]			$ 100,291,214	2.7%	0.0%	0.2	0.6	0.8	0.9	0.5	0.9	2.3	Sep-94
US T-Bills						*0.2*	*0.6*	*0.8*	*0.8*	*0.6*	*1.2*	*2.3*	
Difference:						0.0	0.0	0.0	0.1	-0.1	-0.3	0.0	
Northern Trust STIF		*Collective Govt. Short Term*	$ 117,899,644	3.1%		0.2	0.5	0.8	0.8	0.5	0.9	2.5	Jan-95
US T-Bills						0.2	0.6	0.8	0.8	0.6	1.2	*2.3*	
Difference:						0.0	-0.1	0.0	0.0	-0.1	-0.3	0.2	
Parametric Overlay[4]		*Cash Overlay*	$ 15,973,982	0.4%		0.0	0.0	0.0	0.0	--	--	0.0	Jan-20

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

[3] Includes lagged cash.

[5] **60%** MSCI ACWI, **40%** BB Universal

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

MEKETA

INVESTMENT GROUP

Economic and Market Update

October 31, 2022 Report

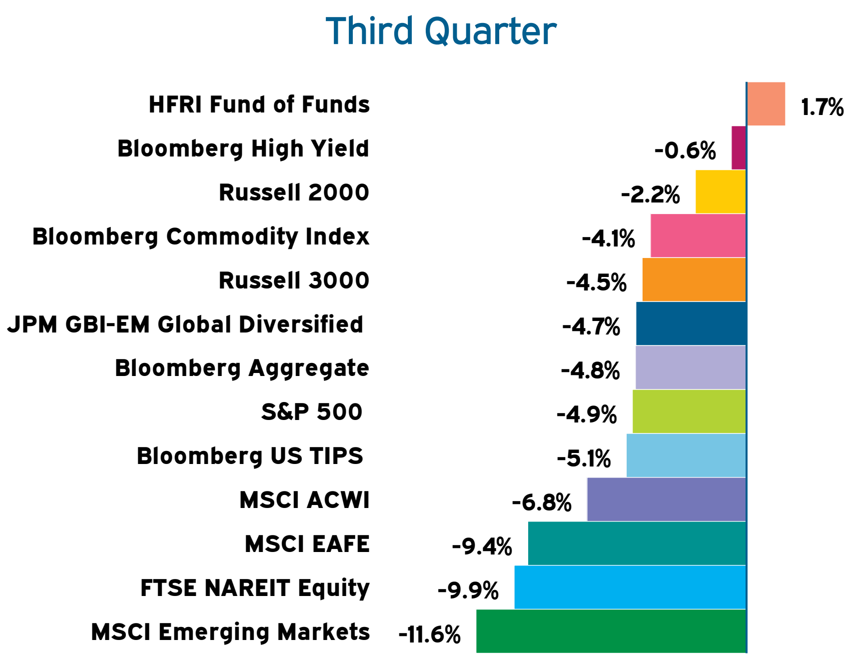
Commentary

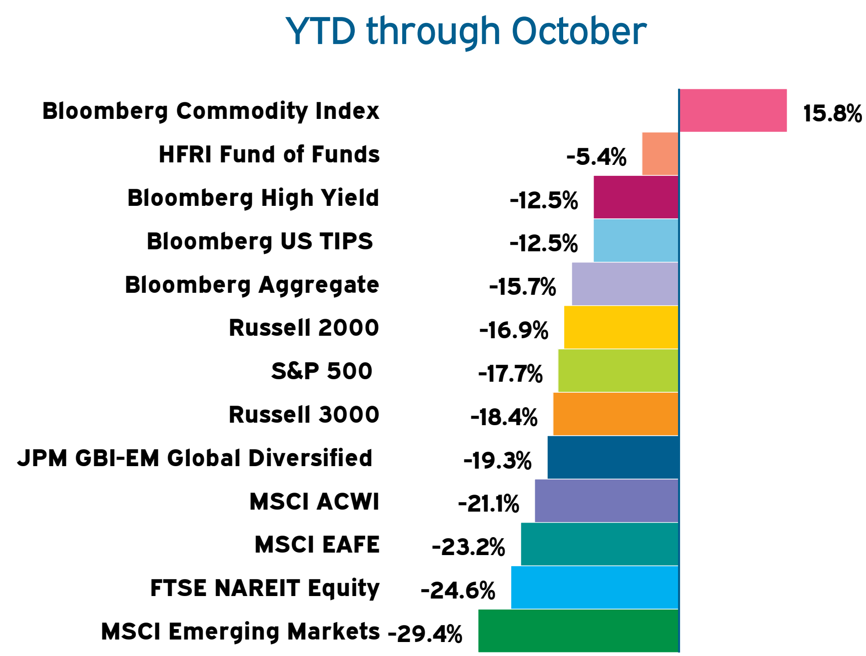
→ Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.

- After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
- In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
- In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
- US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
- Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.

→ Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.

Index Returns[1]





- → After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.
- → Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

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

Domestic Equity Returns[1]

Domestic Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

US Equities: Russell 3000 Index rose 8.2% for October.

→ US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.

→ Most sectors rose in October, but there was wide dispersion. Energy's 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.

→ Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

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

Foreign Equity Returns[1]

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

→ Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan's continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.

→ China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20th Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

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

Fixed Income Returns[1]

Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8

Fixed Income: The Bloomberg Universal declined 1.1% in October.

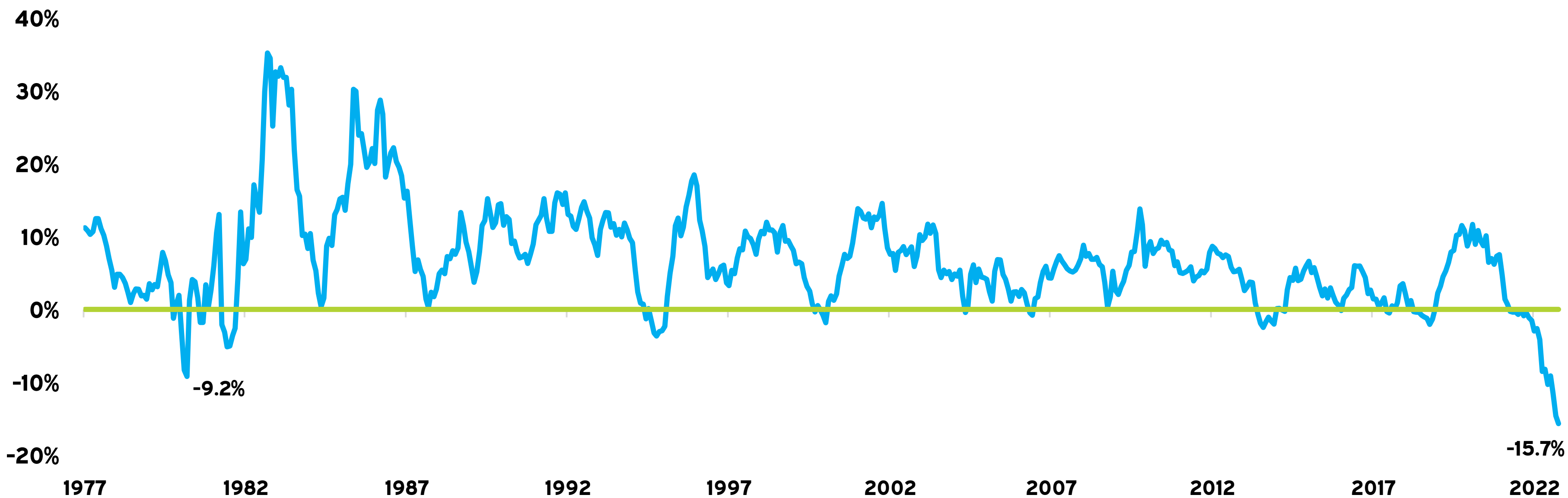
→ A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record.

→ TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.

→ Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

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

Bloomberg US Aggregate
Rolling One-year Returns[1]

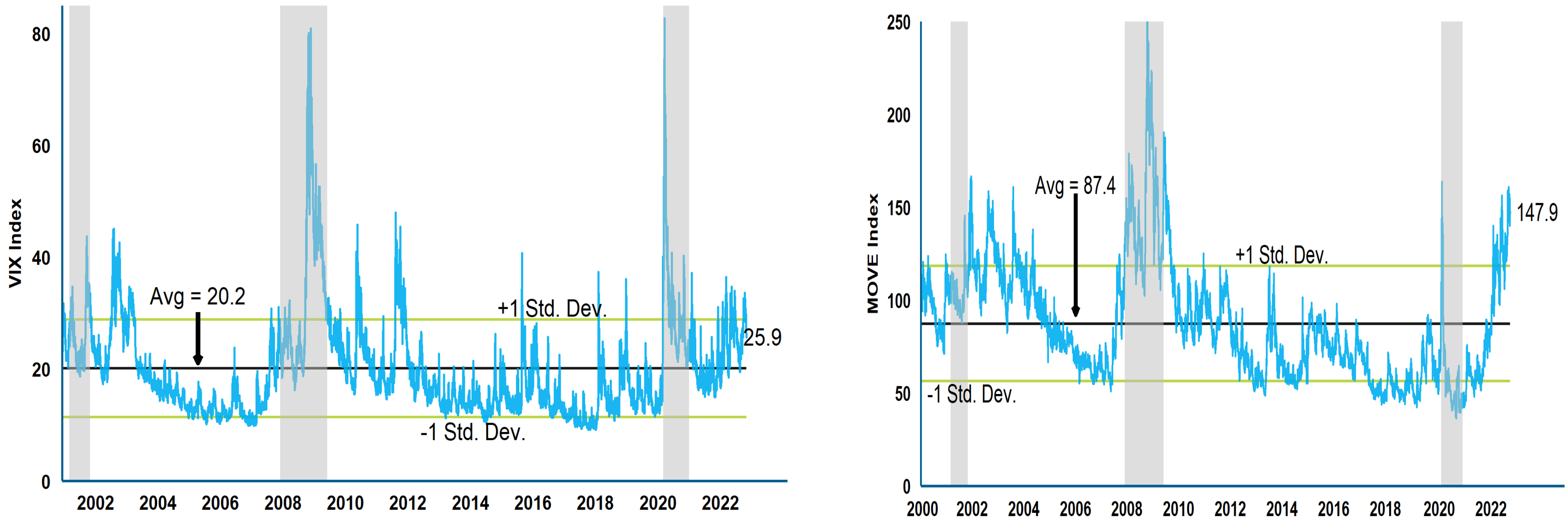


→ This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.

→ Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

[1] Source: Bloomberg. Data is as of 10/31/2022.

Equity and Fixed Income Volatility[1]

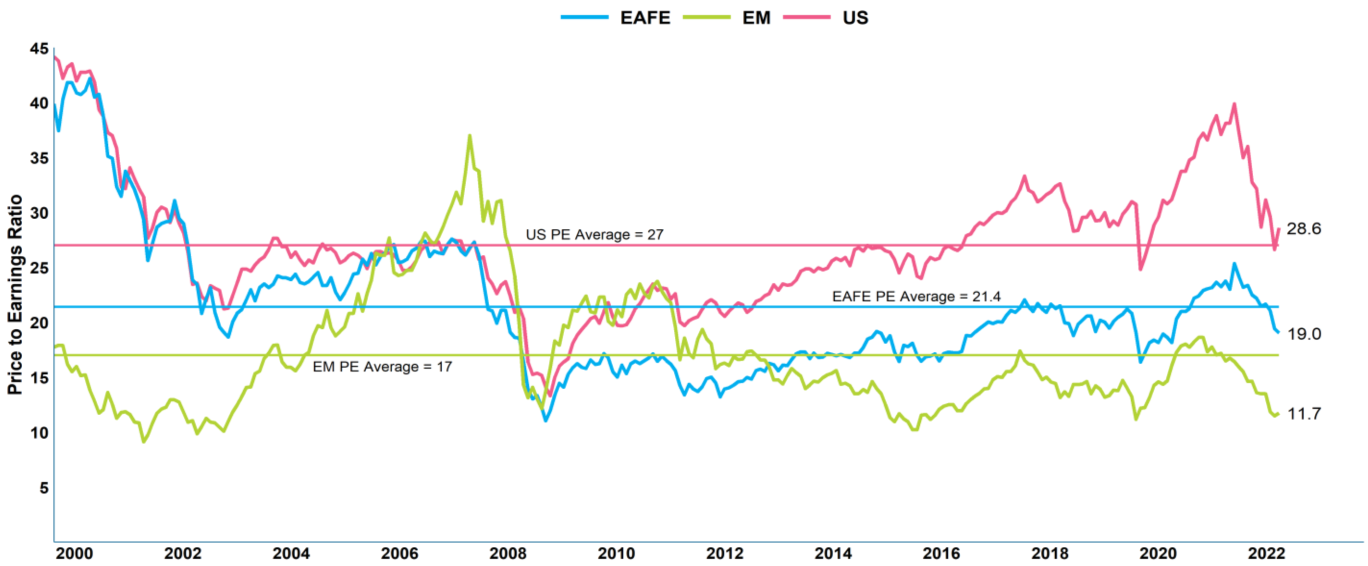


→ Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.

→ Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

[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 October 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

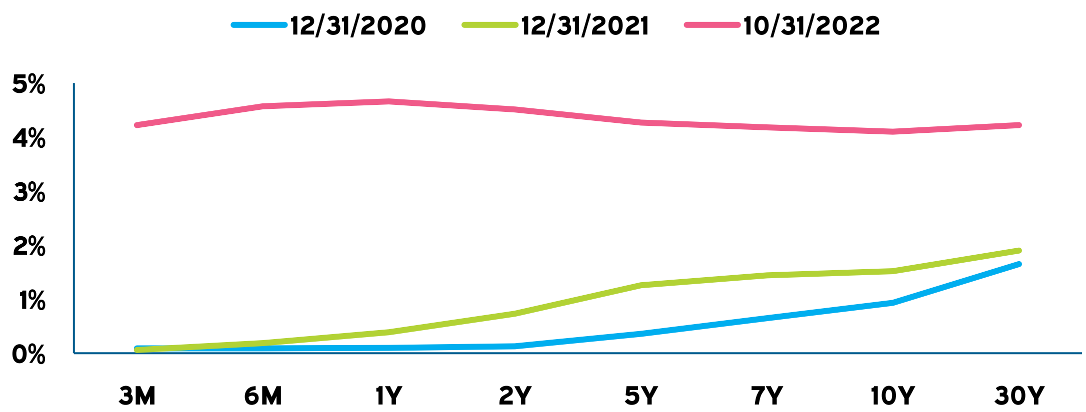
Equity Cyclically Adjusted P/E Ratios[1]



- → October's US equity rally brought the market's price-to-earnings ratio to slightly above the long-term (21st century) average.
- → International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- → Price declines have been the main driver of recent multiple compression as earnings have remained resilient. Concerns remain over whether earnings strength will continue in the face of slowing growth.

[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 October 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 far higher than at the start of the year.

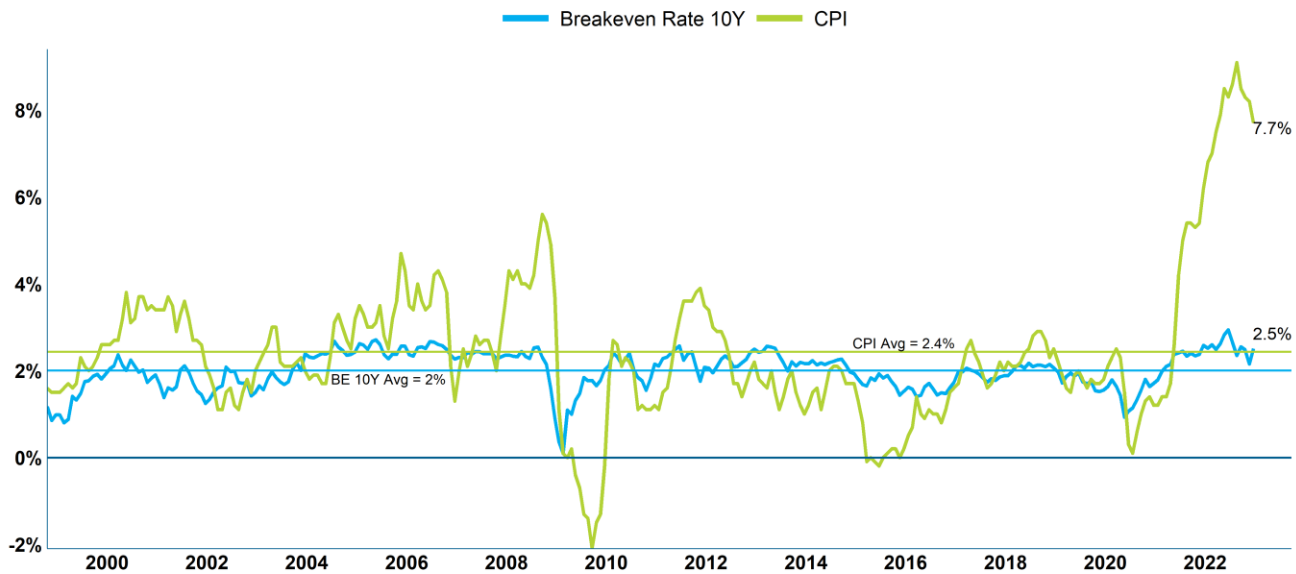
→ In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten- year Treasury yields climbed from 3.8% to 4.1%.

→ The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.

→ The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.41%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

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

Ten-Year Breakeven Inflation and CPI[1]



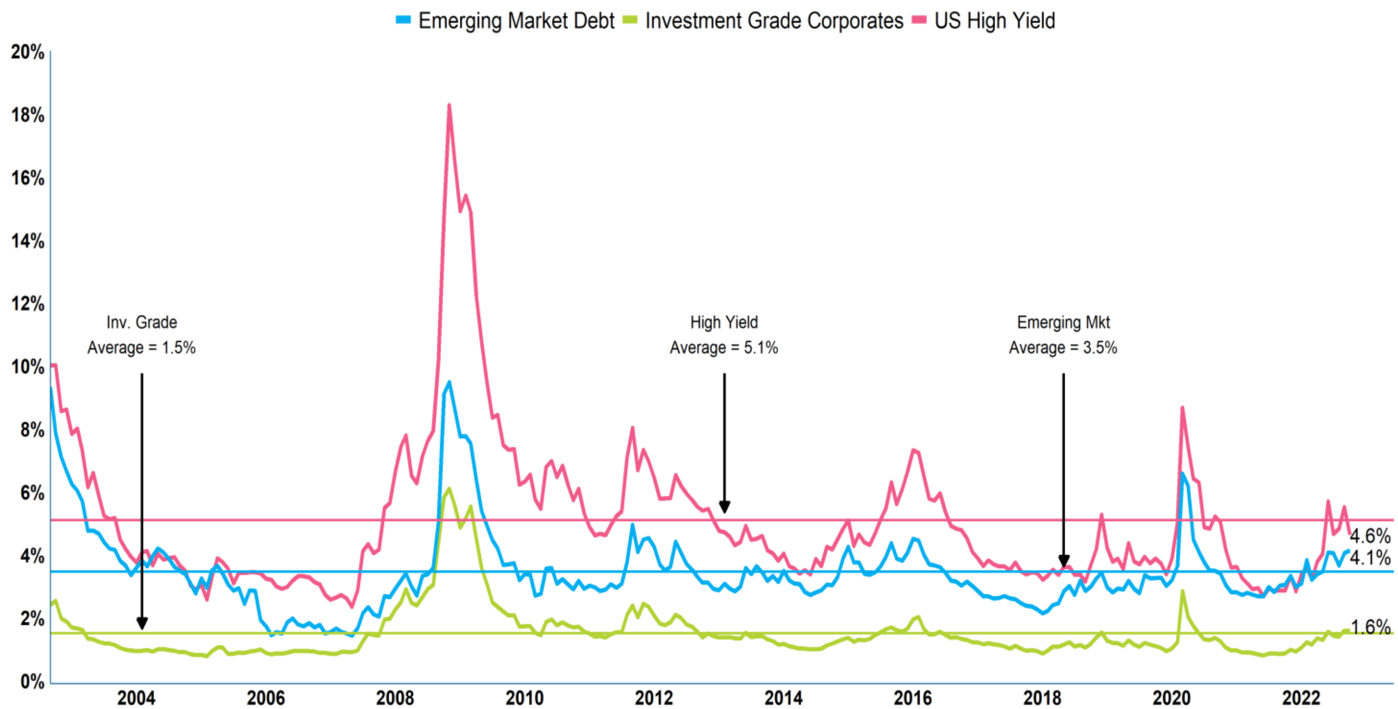
→ Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.

→ Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.

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

[1] Source: Bloomberg. Data is as of October 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]



→ High yield spreads (the added yield above a comparable maturity Treasury) fell in October to below their long-run average as below investment grade credit largely outperformed Treasuries in the risk-on environment.

→ Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

[1] Sources: Bloomberg. Data is as of October 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

In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

→ The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).

→ In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.

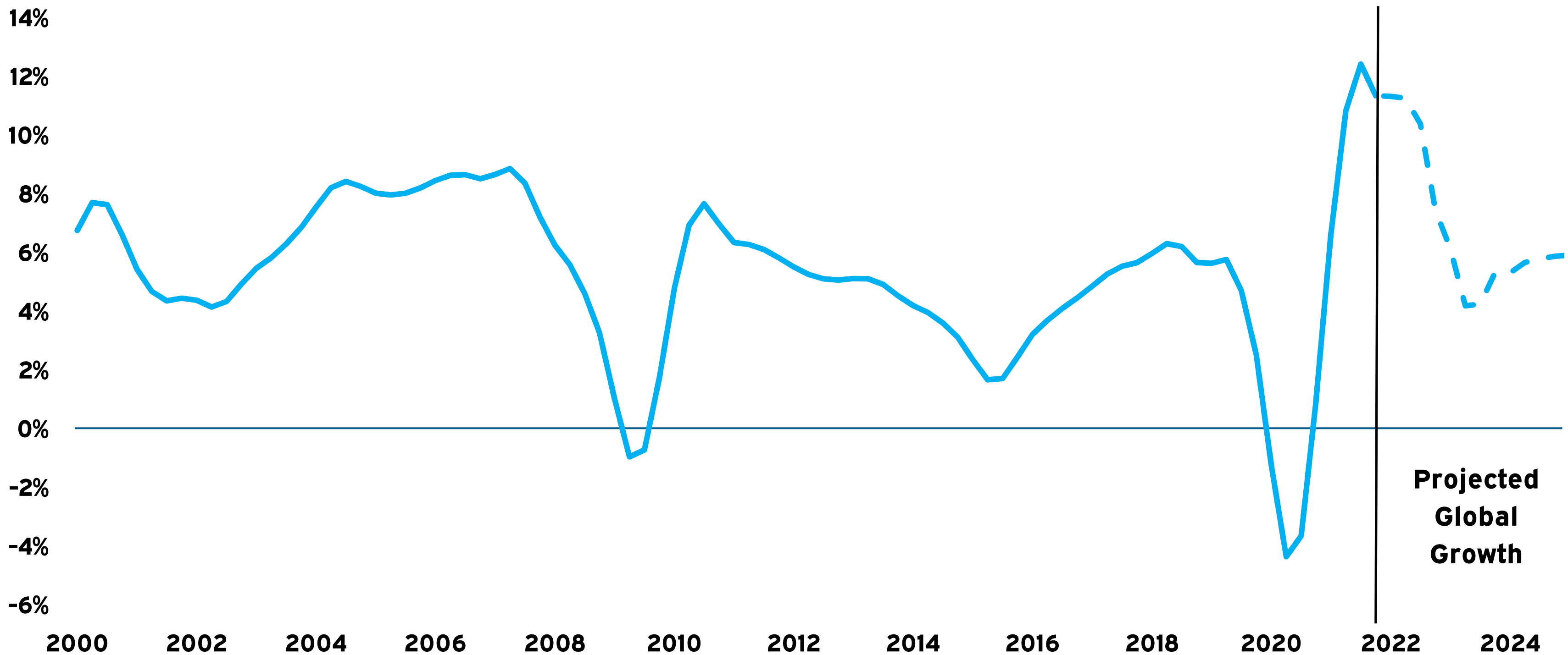
→ Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.

→ The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

	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	2.7	3.2	8.8	6.5	3.6
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6
US	1.6	1.0	2.1	8.1	3.5	2.0
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3
Japan	1.7	1.6	0.8	2.0	1.4	0.4
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3
China	3.2	4.4	7.3	2.2	2.2	2.4

[1] Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.

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



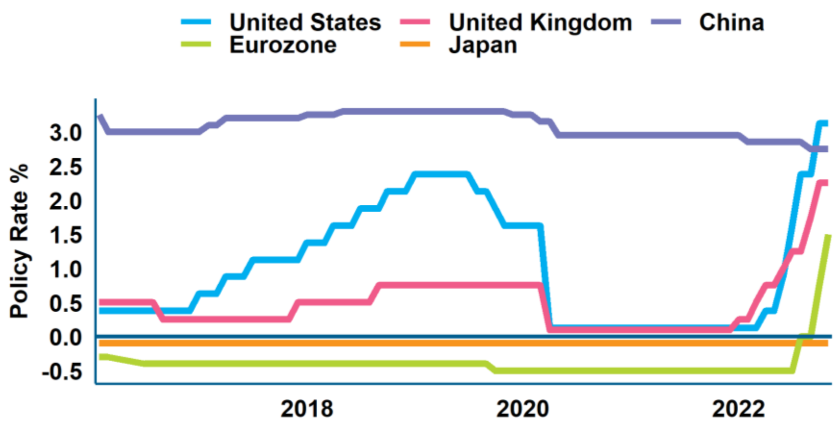
→ Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.

→ The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

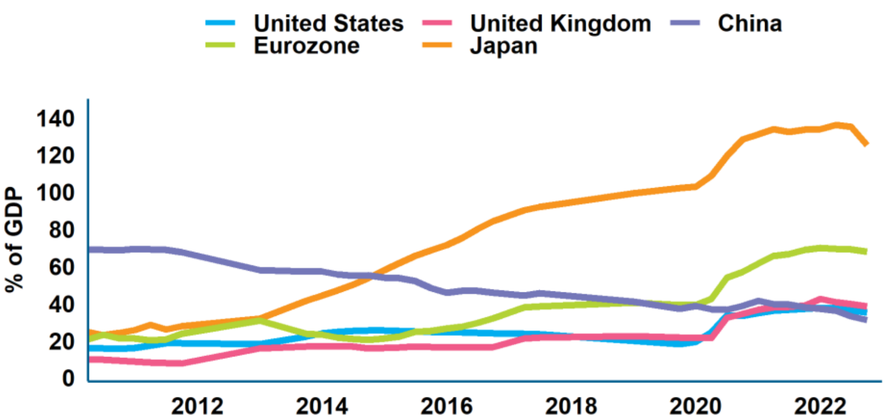
[1] Source: Oxford Economics (World GDP, US$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.

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.

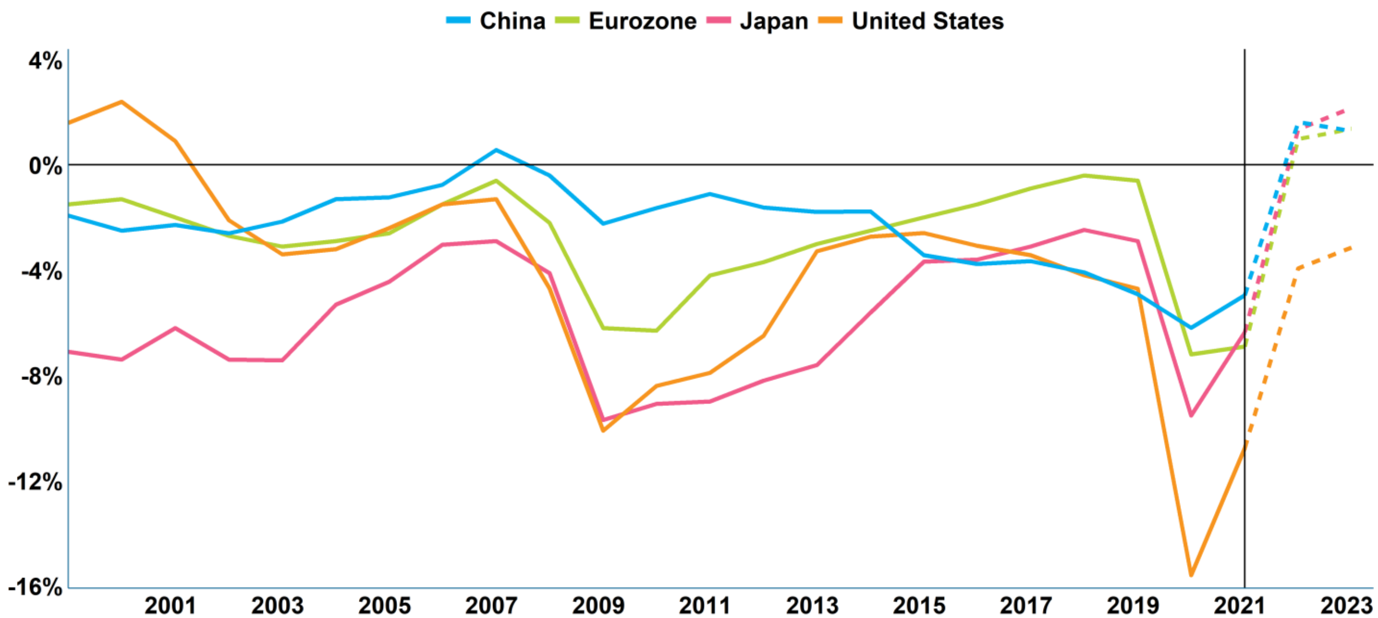
→ The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.

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

→ 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.

[1] Source: Bloomberg. Policy rate data is as of October 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 September 30, 2022.

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



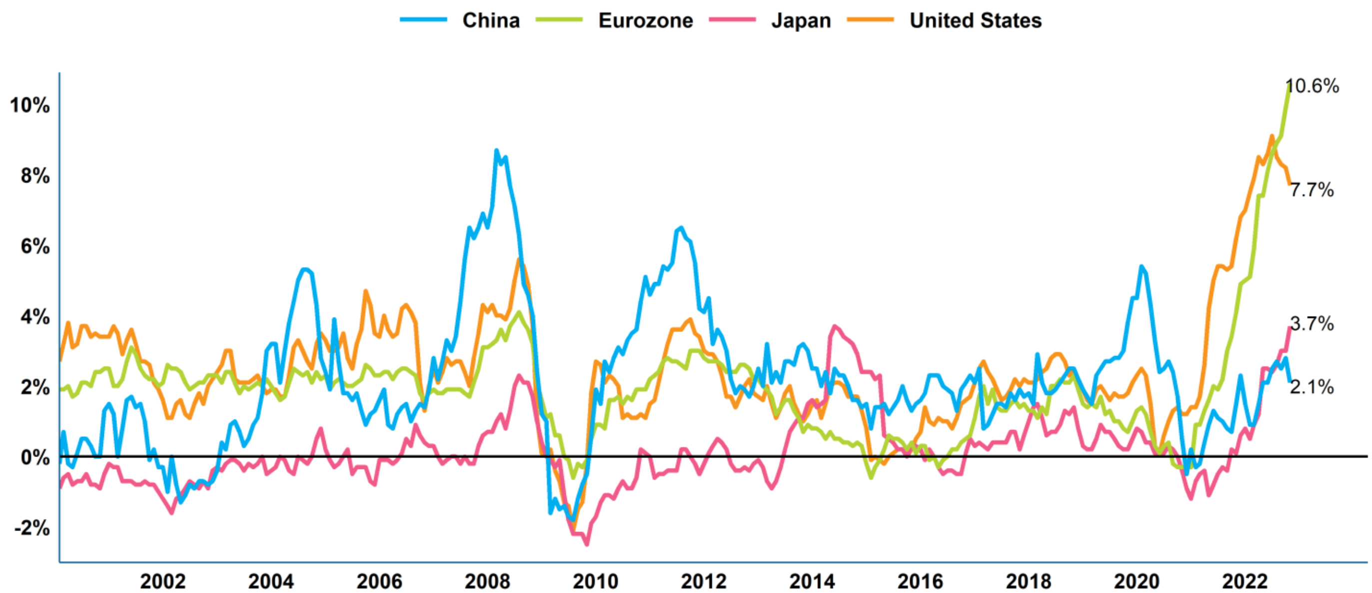
→ Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.

→ As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.

→ Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

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

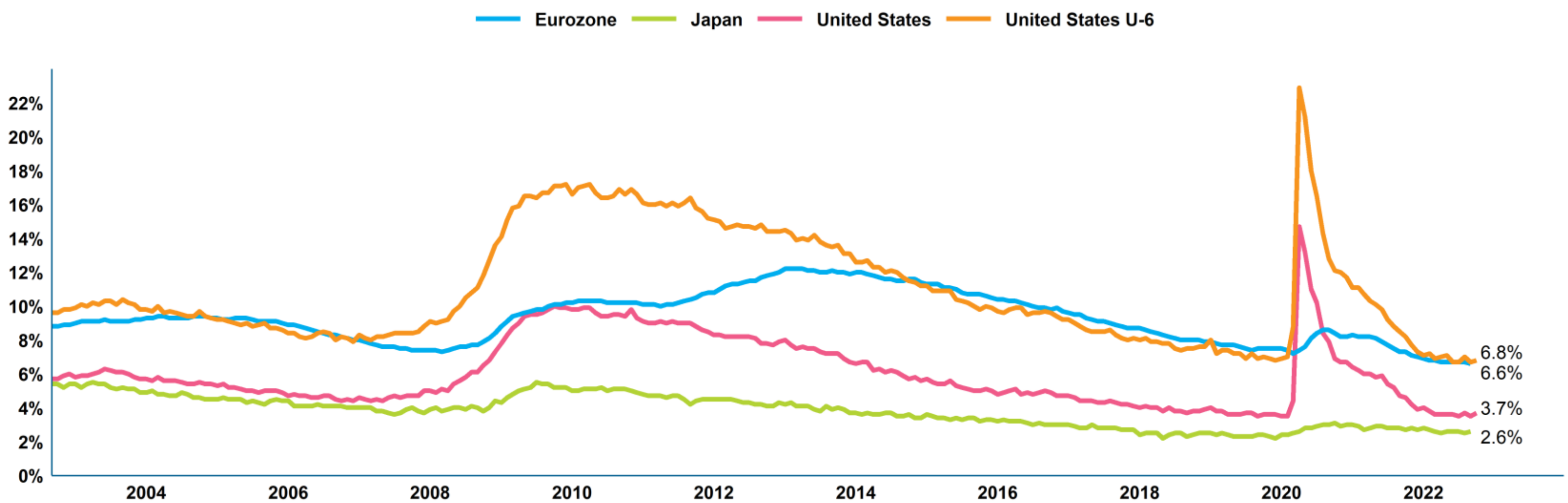
Inflation (CPI Trailing Twelve Months)[1]



- → 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.
- → Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- → Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

[1] Source: Bloomberg. Data is as of October 2022.

Unemployment[1]



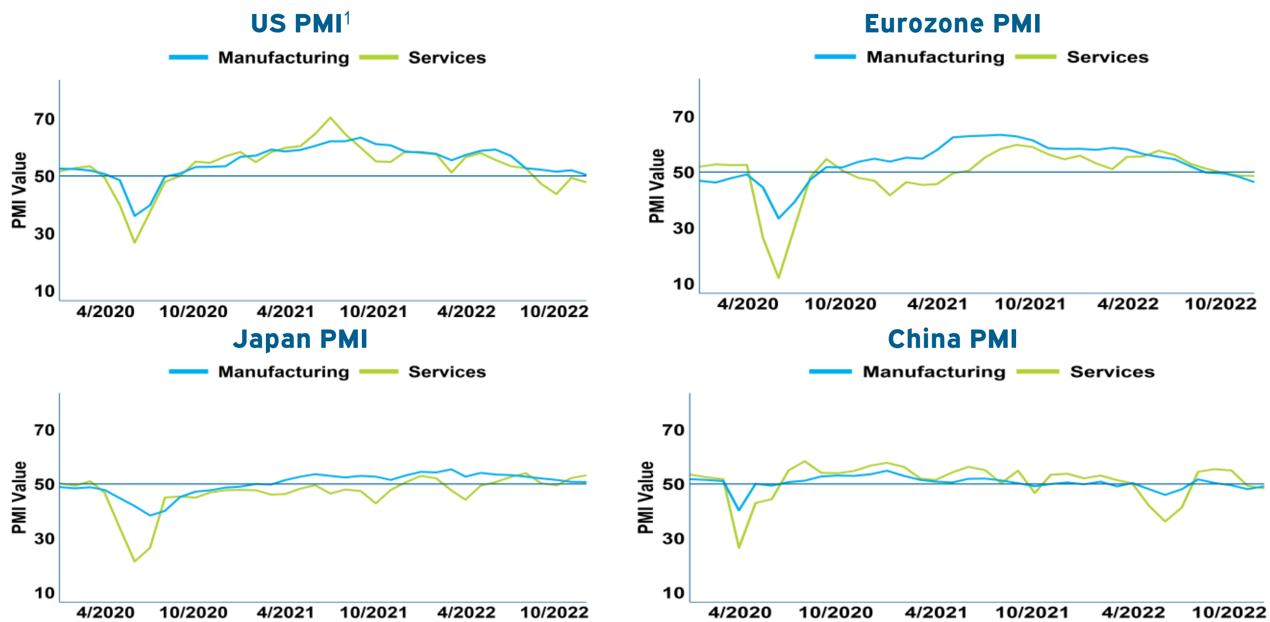
→ As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.

→ 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, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.

→ The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

[1] Source: Bloomberg. Data is as October 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of September 30, 2022.

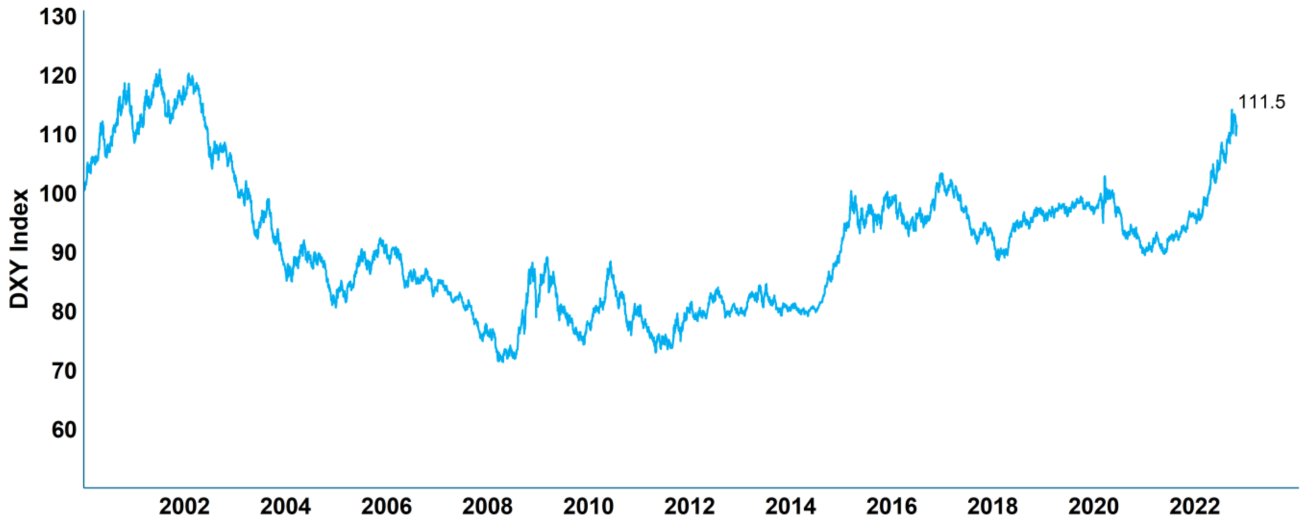
Global PMIs



- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- → Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- → Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

[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 October 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies[1]



→ Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.

→ 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, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

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

Summary

Key Trends in 2022:

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

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

→ Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.

→ In the US 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 to below long-term averages, largely driven by prices declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.

→ Outside the US, equity valuations remain lower in both emerging and developed markets, but major 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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MEMORANDUM

TO: SJCERA Board of Retirement
FROM: Meketa Investment Group
DATE: December 9, 2022
RE: Proposed 2023 Strategic Investment Plan

Approximately once a year, Meketa outlines the projects on which we expect to work closely with SJCERA to complete over the next 12+ months. The Proposed 2023 Investment Program Plan, presented as Table 1 on the following page, identifies the major strategic projects and expected completion dates planned for 2023. The biggest project(s) is continued search and education of the private market classes as a result of the 2022 asset liability study. Additionally, Meketa and SJCERA staff will work on updating the various investment policies. In addition, Meketa will be educating the SJCERA Board on investment topics throughout the year. Meketa will also work with the Staff and Board to complete more routine tasks and projects inherent in the management of an institutional investment portfolio. Meketa welcomes any suggestions and/or modifications to the proposed projects and/or timeline.

The investment projects completed in 2022 are presented in Table 2 on page 3. Most of the work that Meketa conducted directly with the Board in 2022 was an asset-liability study. This study changed the long-term target allocations of the portfolio, resulting in updated pacing studies for all three of the private market portfolios (Private Equity, Real Estate, and Private Credit). In collaboration with SJCERA Staff, Meketa will be working on the 2023 roundtable. Additionally, Meketa will continue to conduct on-site reviews and manager due diligence with the SJCERA Board.

Table 1: Proposed 2023 Investment Program Plan

Task	Expected Completion	Comments	Status Update
Priority Projects			
2023 Capital Market Assumptions	1Q2023	Return and risk expectations given the 2023 capital market outlook	
Capital Markets - Portfolio Risk Review	2Q 2023	Discussion and review of SJCERA portfolio with 2022 Meketa capital market assumptions	
Private Equity Market and Portfolio Review	3Q2023	Review of the Private Equity class and evaluation of current managers and weightings.	
Private Equity Manager Search	3-4Q2023	Potential changes as a result of Private Equity review	
Policy Benchmark Review	1Q2023	Review of the policy and asset class benchmarks	
Real Estate Market and Portfolio Review	2Q2023	Review of the Real Estate class and evaluation of current managers and weightings.	
Real Estate Manager Search	2023	Search for Private Real Estate managers as a result of the 2022 Pacing study	
CRO Asset Class Review	2Q2023	Education, review and potential changes to the Trend Following, Risk Premia and Long Duration components.	
Investment Policy Review	2023	Update of various policies regarding cash and ESG language	
Other Projects			
Educational Topics (Inflation, ESG, Fixed Income)	2023	Various educational topics for the SJCERA Board (DB plan outlook, peer review, etc.)	
Review of SJCERA Fees	2Q2023	Manager rankings and ILPA fee report	
SJCERA Annual Investment Roundtable	October 2023	Meketa will work with Board and Staff to develop a theme for the 2023 event	
2023 Pacing study	4Q2023	Updated pacing study for commitments of private investments, including Private Equity, Real Estate and Private Credit	
Private Credit Manager Search	2023	Search for new Private Credit managers as a result of the 2022 pacing study	
SJCERA Manager Due Diligence Review	2023	Ongoing manager due diligence with Board presentations and Meketa on-sites; status report quarterly.	In Progress

Table 2: Investment Projects Completed in 2022

Task	Expected Completion	Comments	Status Update
Priority Projects			
2022 Capital Market Assumptions	1Q2022	Return and risk expectations given the 2022 capital market outlook.	Completed
Asset Liability Review	1Q-3Q 2022	In conjunction with SJCERA's actuary, conduct an asset liability study	Completed
Private Equity Manager Search(s)	2022	Several searches conducted for Private Equity in 2022	Completed
Policy Benchmark Review	1Q2022	Review of the policy and asset class benchmarks	Completed
Real Estate Market and portfolio review	2Q2022	Review of the Real Estate class and evaluation of current managers and weightings.	Completed
Capital Markets - Portfolio Risk Review	1Q 2022	Discussion and review of SJCERA portfolio with 2022 Meketa capital market assumptions	Completed
CRO Asset Class Review	2022	Education, review and potential changes to the Trend Following, Risk Premia and Long Duration components.	2023
Real Estate Manager search	2022	Search conducted in 2022 for a new Real Estate Manager	Completed
Investment Policy Review	2022	Review and update of the Strategic Asset allocation policy. Changes as a result of the Asset Liability study. New Policy targets	Completed
Other Projects			
Educational Topics (Inflation, Blockchain)	2022	Various educational topics for the SJCERA Board (DB plan outlook, etc.)	Actuarial Concepts and Inflation Completed
Review of SJCERA Fees	2Q2022	Manager rankings and ILPA fee report	Completed
SJCERA Annual Investment Roundtable	October 2022	Annual Offsite with SJCERA members and investment partners	Completed
2022 Pacing study	4Q2022	Updated pacing study for commitments of private investments, including Private Equity, Real Estate and Private Credit	Completed
Private Credit Manager Search	2022	Search for a Private Credit manager	Completed
SJCERA Manager Due Diligence Review	2022	Ongoing manager due diligence with Board presentations and Meketa on-sites; status report quarterly.	In Progress

DS/mn

Board of Retirement
San Joaquin County Employees' Retirement Association

Agenda Item 10.0

December 9, 2022

SUBJECT: SJCERA 2023 Proposed Administrative Budget
January 1 through December 31, 2023

SUBMITTED FOR: ___ CONSENT _X_ ACTION __ INFORMATION

RECOMMENDATION

Staff recommends the Board approve the proposed 2023 Administrative Budget and Resolution 2022-12-01 titled "Annual Administrative Budget for 2023".

Staff will likely bring a mid-year budget adjustment in 2023 for temporary help regarding the implementation of the Pension Administration System (PAS).

PURPOSE

To establish an administrative budget for calendar year 2023.

DISCUSSION

2022 Projected/Actual Expenses

The 2022 projected expenses of $5,744,848 include actual expenditures through September 2022 and projected expenditures through year-end. The 2022 projected expenses are 18.4 percent ($1,299,677) less than the 2022 budget of $7,044,525. Professional and Specialized Services savings of $1,071,712 make up 82.5 percent of the difference. The remaining savings is primarily from the Salaries and Benefits ($123,234).

The 2022 projected expenses are expected to exceed the 2021 actuals by 48.7 percent, primarily due to the purchase of the legacy PAS. See the "5 Year Trend Analysis" for additional details.

2023 Budget Compared to 2022 Projected/Actual Expenses

The 2023 budget is 17.4 percent ($1,006,207) greater than the 2022 projected expenses. The primary changes reflected in the proposed 2023 budget, as compared to 2022 projected expenses, follow.

Salaries and Benefits

The 2023 proposed Salaries and Benefits budget increased $382,029 (12 percent) and the primary drivers are as follows:

- Increase of $264,671 in salaries:
    - Requesting County HR to create a Retirement Services Manager position (estimated at $99,555)
    - Raises due to step increases and new MOU contracts ($194,000)
- Increase of $109,705 in “Retirement – Employer Share” from increased salaries described above.

Services and Supplies

The 2023 budget for Services and Supplies is $583,065 higher than the 2022 projected expenses. The primary drivers are as follows:

- Net increase of $516,817 in Professional Services as follows:
    - Increase of $244,344 for hiring Linea as the PAS consultant
    - Increase of $199,006 for hiring MBS for data conversion/cleansing project
    - Increase of $62,330 for the next phase of the cyber security assessment
    - Increase of $61,453 for disability processing
    - Increase of $56,250 for hiring financial consultant

  The increases above are partially offset by the following decreases:
    - Decrease of $92,295 for IGI services due to purchase of software
    - Decrease of $50,000 for disaster recovery
- Increase of $32,667 in County-Wide Indirect charges due to two-year true-up allocation in 2023

Fixed Assets

The 2023 budget for PC Equipment and Upgrades is $36,113 higher than the 2022 projected expenses primarily due to the workstation upgrades (new staff computers and related equipment) and the disaster recovery redesign due to the transition to the Windows infrastructure.

<u>Administrative Budget Adjustments</u>

Government Code section 31580.2 excludes from the administrative expense limit, expenditures for “computer software, computer hardware and computer technology consulting services in support of these computer products.” Other excluded expenditures consist of the cost for SJCERA’s administration of the retiree health plan eligibility, enrollment, and premium collection and remittance. Health costs are reimbursed through the administrative fee incorporated into the premium renewal rates for retiree health, dental, and vision plans for each plan year. The administrative fees received for the retiree health plan, offset a portion of salary expense.

The adjustment to the 2023 budget for excluded expenditures is shown on the Proposed 2023 Administrative Budget Summary (Attachment I). Detail for these adjustments is presented on the 2023 Budget Adjustments (Attachment II). These adjustments total $2,274,202, resulting in an adjusted 2023 Budget of $4,476,852.

Costs outside of the administrative budget count as a direct charge to the fund and include: investment management fees, investment consulting services, master custody fees, actuarial services, and legal services.

Statutory Administrative Expense Limit

Government Code section 31580.2 limits the administrative budget to 0.21 percent of the Accrued Actuarial Liability (AAL).

The proposed 2023 Adjusted Budget (less exclusions) of $4,476,852 is 0.084 percent of SJCERA's AAL as determined by the actuary in our January 1, 2022 valuation. This is less than half of the amount allowed by statute. Even if the excluded items were included, the proposed 2023 Total Budget of $6,751,055 is still well under at 0.127 percent.

The 2022 Adjusted Budget was 0.084 percent of the AAL determined by the actuary as of January 1, 2021. Actual expenses for 2022 will be measured against the AAL as of January 1, 2023, which will be reported by the actuary in Fall 2023.

ATTACHMENTS

Attachment I - Proposed 2023 Administrative Budget Summary
Attachment II - 2023 Budget Adjustments

JOHANNA SHICK
Chief Executive Officer

GREG FRANK
Management Analyst III

ATTACHMENT I

SJCERA

Proposed Administrative Budget Summary

2023

As presented to the Board of Retirement on December 9, 2022

SJCERA ADMINISTRATIVE BUDGET SUMMARY **January - December 2023**

Positions	2022 Allocated	2022 Actual	2023 Budget	2023 Allocated
Chief Executive Officer	1	1	1	1
Asst. Chief Executive Officer	1	1	1	1
Retirement Investment Officer	1	1	1	1
Departmental Info System Mngr	1	1	1	1
Retirement Financial Officer	1	1	1	1
Management Analyst III	1	1	1	1
Retirement Benefits Manager	0	0	1	1
Retirement Benefits Supervisor	1	0	0	1
Accountant III	1	1	1	1
Retirement Services Officer	2	1	1	2
Retirement Services Associate	2	2	2	2
Retirement Services/Technician	5	5	5	5
Information Systems Analyst II	1	1	1	1
Information Systems Specialist II	1	1	1	1
Accounting Technician I/II	1	1	1	1
Administrative Secretary	1	1	1	1
Communications Officer	1	1	1	1
Jr. Admin Asst.	1	0	0	1
Senior / Office Assistant	1	0	0	1
Total Positions:	24	20	21	25

		2022 Approved Budget	2022 Projected Actuals	2023 Total Budget	2023 Adjustments	2023 Adjusted Budget (Less Exclusions)
	Salaries and Benefits:					
6001000000	Salaries & Wages - Regular	$ 1,828,802	$ 1,742,551	$ 2,007,222		
6001100000	Salaries - Cafeteria/Deferred Comp	96,919	98,284	95,208		
6001200000	Salaries - Car Allowance	7,020	7,020	7,020		
6001210000	Admin Benefits (Vacation sell back)	51,902	44,729	15,024		
6010100000	Unemployment Comp Insurance	1,380	870	1,560		
6020000000	Retirement - Employer Share	818,922	791,752	901,457		
6020600000	Health Insurance for Retirees - SLB	30,000	24,152	30,000		
6030000000	Social Security-OASDI	110,640	103,321	117,946		
6030100000	Social Security-Medicare	28,272	25,754	30,266		
6040000000	Life Insurance	1,313	1,197	1,358		
6050000000	Health Insurance	272,000	284,723	297,000		
6070000000	Dental Insurance	8,075	7,172	8,849		
6080000000	Vision Care	1,360	1,080	1,490		
6003000001	Overtime	0	767	1,000		
	Subtotal:	**$ 3,256,606**	**$ 3,133,372**	**$ 3,515,401**	**$ (78,362) ***	**$ 3,437,039**
	Services & Supplies:					
6201000000	Office Expense	$ 16,000	$ 19,364	$ 20,300		$ 20,300
6202000000	SJC Mail Serv & Postage	14,500	14,950	15,500		15,500
6203000000	Office Exp–Subscriptns & Periodicals	1,600	2,880	3,000		3,000
6206000000	Telephone	15,500	15,229	16,000		16,000
6209000000	Membership Dues	7,750	7,297	8,000		8,000
6211000000	Maintenance – Equipment	8,500	7,236	15,000		15,000
6217000000	Travel / Training	57,500	43,200	67,050	(12,250)	54,800
6220000000	Professional and Specialized Services	1,954,505	882,793	1,399,610	(943,790)	455,820
6223000000	Publications and Legal Notices	0	0	0		0
6226016000	Software and Related Licenses	116,300	109,147	83,300	(83,300)	0
6243000000	Food	4,950	5,017	6,200		6,200
6264000000	Rent – Structure & Grounds	220,114	219,114	225,210		225,210
6269000000	Small Tools & Instruments	0	0	0		0
6295220700	Information Syst Div–Indirect Chrgs	8,000	3,397	6,000		6,000
6295232000	Insurance – Workers Compensation	6,000	5,500	6,000		6,000
6295236000	Insurance – Liability & Fudiciary	131,450	123,633	137,983		137,983
6295999900	County Wide – Indirect Cost Chrgs	65,000	32,333	65,000		65,000
	Subtotal:	**$ 2,627,669**	**$ 1,491,088**	**$ 2,074,153**	**$ (1,039,340)**	**$ 1,034,813**

** Adjustment for Retiree Health Administration 3/4 of one FTE for Retirement Tech*

		2022 Approved Budget	2022 Projected Actuals	2023 Total Budget	2023 Adjustments	2023 Adjusted Budget (Less Exclusions)
	Fixed Assets:					
6451000000	Equipment & Furniture	$ 6,500	$0	$ 5,000		$ 5,000
6453310100	P.C. Equipment & Upgrades	1,153,750	1,120,387	1,156,500	$ (1,156,500)	0
	Subtotal:	**$ 1,160,250**	**$ 1,120,387**	**$ 1,161,500**	**$ (1,156,500)**	**$ 5,000**
	Total Administrative Budget	**$ 7,044,525**	**$ 5,744,848**	**$ 6,751,055**	**$ (2,274,202)**	**$ 4,476,852**

Total Admin Limit is 0.21% of Actuarial Accrued Liability (AAL): $5,323,788,814 x 0.21% = $10,936,106	**$ 11,179,957**	**$ 11,179,957**	**$ 11,179,957**		**$ 11,179,957**
(as of 1/1/22)	**0.132%**	**0.108%**	**0.127%**		**0.084%**

SJCERA ADMINISTRATIVE ACTUALS **5 Year Trend Analysis**

	2018	% Inc	2019	% Inc	2020	% Inc	2021	% Inc	Projected 2022	% Inc
Salaries	1,564,429		1,532,974		1,620,868		1,647,813		1,743,318	
Cafeteria Allowance	113,935		98,878		101,260		91,419		98,284	
Car Allow	7,020		7,020		7,020		7,020		7,020	
Vacation Buyback	13,635		15,675		17,149		12,660		44,729	
Unemployment Ins	2,301		2,233		1,163		416		870	
Retirement	627,166		643,589		716,829		742,490		791,752	
Health Ins(Retirees)	21,193		25,688		28,848		22,566		24,152	
SS OASDI	87,957		86,156		93,630		93,321		103,321	
SS Medicare	22,866		22,119		23,995		23,998		25,754	
Life Insurance	1,053		1,102		1,101		1,141		1,197	
Health Insurance	213,005		253,971		261,209		258,567		284,723	
Dental Insurance	6,873		7,762		7,139		7,461		7,172	
Vision Care	936		1,329		1,018		1,054		1,080	
Salaries & Benefits	**2,682,368**	13.3%	**2,698,496**	0.6%	**2,881,229**	6.8%	**2,909,926**	1.0%	**3,133,372**	7.7%
Office Expense	20,324		22,285		14,090		16,895		19,364	
SJC Mail Service	13,741		14,365		14,105		16,700		14,950	
Subs & Periodicals	5,051		2,087		1,816		2,093		2,880	
Telephone	18,147		20,678		19,824		14,169		15,229	
Memberships	7,899		6,935		6,845		5,268		7,297	
Maint – Equip	13,134		3,812		6,806		15,159		7,236	
Rents–Copy Mach	15,100		0		0		0		0	
Travel \ Training	49,808		46,102		40,966		12,430		43,200	
Prof Serv	502,520		377,760		347,926		499,722		882,793	
Public & Notices	0		0		0		0		0	
Software & Lic	103,124		29,262		156,274		36,996		109,147	
Food	7,236		5,503		1,450		380		5,017	
Rent	234,401		203,827		208,923		214,018		219,114	
Tools & Instru	0		0		0		0		0	
ISD–Indirect Chrgs	0		0		0		3,511		3,397	
Insurance – WC	5,523		4,483		4,947		5,258		5,500	
Insurance – Liab/Fid	73,636		82,614		85,847		121,517		123,633	
County – Ind Costs	72,393		58,748		38,421		(32,856)		32,333	
Service & Supplies	**1,142,037**	-1.3%	**878,460**	-23.1%	**948,239**	7.9%	**931,262**	-1.8%	**1,491,088**	60.1%
Equip & Furn	49,115		0		0		3,440		0	
P.C. Equip & Upgrade	15,187		69,019		4,564		17,750		1,120,387	
Fixed Assets	**64,302**	235.4%	**69,019**	7.3%	**4,564**	-93.4%	**21,190**	364.3%	**1,120,387**	5187.3%
Total Actuals	**3,888,707**	9.7%	**3,645,975**	-6.2%	**3,834,032**	5.2%	**3,862,378**	0.7%	**5,744,848**	48.7%

POSITION TITLE	Incumbent	Union Code/Tier	SALARY	CAR ALLOW/ Parking	CAFETERIA	DEFERRED COMP	VAC CASH OUT	UN-EMPLOY-MENT	RETIREMENT	SLB (ACTIVES)	OASDI	MEDICARE	LIFE INS	HEALTH	DENTAL	VISION	EARNINGS	BENEFITS	TAX	TOTAL POSITION COST
Chief Executive Officer (5)	Johanna Shick	A / T1	260,419.61	7,020.00	24,022.96	13,371.98	15,024.21	224.60	138,296.16	N/A	9,932.40	4,444.06	64.69				319,858.76	138,360.85	14,601.06	472,820.67
Asst. Chief Executive Officer (3 to 4)	Brian McKelvey	B / T1	181,022.01		24,022.96	3,620.44	0.00	153.78	92,524.12	N/A	9,932.40	2,973.15	64.69				208,665.41	92,589.81	13,059.34	314,314.55
Retirement Investment Officer (5)	Paris Ba	B / T2	119,254.20		24,022.96	2,385.08	0.00	107.46	56,923.69	N/A	9,031.06	2,077.52	64.69				145,662.24	56,988.38	11,216.04	213,866.66
Retirement Financial Officer (5)	Carmen Murillo	C / T1	114,036.39			1,140.36		85.53	51,457.57	N/A	7,140.96	1,653.53	64.69	16,500.00	491.63	82.80	115,176.75	68,596.69	8,880.01	192,653.45
Dept Info Systems Manager (5)	Adnan Khan	C / T1	142,853.88			1,428.54		107.14	64,461.12	N/A	8,945.51	2,071.38	64.69	16,500.00	491.63	82.80	144,282.42	81,600.24	11,124.03	237,006.69
Mgmt Analyst III (5)	Greg Frank	C / T1	119,254.20			1,192.54		89.44	54,309.44	N/A	7,467.70	1,729.19	64.69	16,500.00	491.63	82.80	120,446.74	71,448.55	9,286.32	201,181.62
Retirement Serv Manager	**Vacant**	R / T1	99,555.00					74.67	44,889.35	N/A	6,172.41	1,443.55	64.69	16,500.00	491.63	82.80	99,555.00	62,028.46	7,690.62	169,274.09
Accountant III (5)	Eve Cavender	F / T2	89,396.58					67.05	35,490.44	N/A	5,542.59	1,296.25	64.69	16,500.00	491.63	82.80	89,396.58	52,629.55	6,905.89	148,932.02
Retirement Services Officer (5)	Melinda De Oliveira	F / T1	89,788.40					67.34	40,485.59	N/A	5,566.88	1,301.93	64.69	16,500.00	491.63	82.80	89,788.40	57,624.70	6,936.15	154,349.26
Dept Info Sys Spec II (5)	Jordon Regevig	F / T1	73,549.19					55.16	33,163.33	N/A	4,560.05	1,066.46	64.69	16,500.00	491.63	82.80	73,549.19	50,302.44	5,681.67	129,533.31
Dept Info Sys Analyst II (5)	Eulogio Garza	E / T2	104,989.04					78.74	41,680.65	N/A	6,509.32	1,522.34	64.69	16,500.00	491.63	82.80	104,989.04	58,819.76	8,110.40	171,919.20
Retirement Services Assoc (5)	Ron Banez	F / T2	69,021.42					51.77	27,401.50	N/A	4,279.33	1,000.81	64.69	16,500.00	491.63	82.80	69,021.42	44,540.62	5,331.90	118,893.94
Retirement Serv Assoc (underfill RSO)	Andrea Bonilla	F / T2	69,021.42					51.77	27,401.50	N/A	4,279.33	1,000.81	64.69	16,500.00	491.63	82.80	69,021.42	44,540.62	5,331.90	118,893.94
Retirement Technician (3 to 4)	Bethany Vavzincak	G / T2	54,223.86					40.67	21,526.87	N/A	3,361.88	786.25	64.69	16,500.00	491.63	82.80	54,223.86	38,665.98	4,188.79	97,078.64
Retirement Technician (2 to 3)	Leonor Sonley	G / T2	52,490.47					39.37	20,838.72	N/A	3,254.41	761.11	64.69	16,500.00	491.63	82.80	52,490.47	37,977.83	4,054.89	94,523.19
Retirement Technician (5)	Margarita Arce	G / T2	58,182.80					43.64	23,098.57	N/A	3,607.33	843.65	64.69	16,500.00	491.63	82.80	58,182.80	40,237.68	4,494.62	102,915.11
Retirement Technician (5)	Kathleen Goodwin	G / T1	58,182.80					43.64	26,234.62	N/A	3,607.33	843.65	64.69	16,500.00	491.63	82.80	58,182.80	43,373.74	4,494.62	106,051.16
Accounting Tech II (5)	Marissa Smith	G / T1	67,012.01					50.26	30,215.72	N/A	4,154.74	971.67	64.69	16,500.00	491.63	82.80	67,012.01	47,354.83	5,176.68	119,543.52
Administrative Secretary (5)	Elaina Petersen	G / T1	59,057.57					44.29	26,629.06	N/A	3,661.57	856.33	64.69	16,500.00	491.63	82.80	59,057.57	43,768.17	4,562.20	107,387.94
Retirement Technician (2 to 3)	Vickie Monegas	G / T2	50,420.87					37.82	20,017.09	N/A	3,126.09	731.10	64.69	16,500.00	491.63	82.80	50,420.87	37,156.20	3,895.01	91,472.08
Administrative Assistant I (2 to 3)	Kendra Fenner	G / T2	61,490.49					46.12	24,411.72	N/A	3,812.41	891.61	64.69	16,500.00	491.63	82.80	61,490.49	41,550.84	4,750.14	107,791.47
Retirement Board - Pd Memb - PerMtg			14,000.00														14,000.00	-	-	14,000.00
Retiree SLB										30,000.00							-	30,000.00	-	30,000.00
			2,007,222.21	7,020.00	72,068.88	23,138.95	15,024.21	1,560.24	901,456.84	30,000.00	117,945.70	30,266.36	1,358.44	297,000.00	8,849.25	1,490.40	2,124,474.25	1,240,155.93	149,772.30	3,514,402.48
																				-
			200,722.22																	

SALARIES & WAGES-REGULAR	2,007,222.21
SALARIES-CAFETERIA	95,207.83
SALARIES-CAR ALLOWANCE	7,020.00
ADMINISTRATION BENEFITS	15,024.21
SALARIES-LEAVE TIME PAYOFF	-
UNEMPLOYMENT COMP INSURANCE	1,560.24
RETIREMENT-EMPLOYER SHARE	901,456.84
HLTH INSUR FOR RETIREES-SLB (ACTIVE 'EES)	30,000.00
SALARIES/BENES - EXTRA HELP	-
SOCIAL SECURITY-OASDI	117,945.70
SOCIAL SECURITY-MEDICARE	30,266.36
LIFE INSURANCE	1,358.44
HEALTH INSURANCE	297,000.00
DENTAL INSURANCE	8,849.25
VISION CARE	1,490.40
OVERTIME	1,000.00
TOTAL	**3,515,401.48**
	999.00

Office Expense – General **6201000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Office Supplies & Printing Services	Office Max, Bus Cards, ID Badges, etc.	13,650.00	16,854.11	17,500.00
	Boise orders; Co Purchasing; etc.			
	Death Certificates, People Finders,			
	1099R & envelope printing;			
	Annual Member Statement Printing;			
Document Destruction	Shred It	2,350.00	2,510.00	2,800.00
TOTAL:		**$ 16,000.00**	**$ 19,364.11**	**$ 20,300.00**

5 yr Average 18,591

Office Expense - Postage **6202000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Postage	Member mass mailings	$ 14,500.00	$ 14,949.69	$ 15,500.00
	Office, Health Plan, Special Mailings, returned mail			
	Federal Express			
	County Support (Mailroom)			
TOTAL:		**$ 14,500.00**	**$ 14,949.69**	**$ 15,500.00**

5 yr Average 14,772

Office Expense - Subscriptions & Periodicals **6203000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Various Subscriptions & Periodicals	Zoom, WSJ, The Record,	$ 1,600.00	$ 2,880.00	$ 3,000.00
	P&I, PRJ			
	'37 Act Updates			
TOTAL:		**$ 1,600.00**	**$ 2,880.00**	**$ 3,000.00**

5 yr Average 2,785

SJCERA
2023 BUDGET
Services & Supplies

Telephone **6206000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Communications		$ 15,500.00	$ 15,228.67	$ 16,000.00
ie: County; Telecomm; AT& T				
TOTAL:		**$ 15,500.00**	**$ 15,228.67**	**$ 16,000.00**

5 yr Average 17,609

Membership Dues **6209000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
SACRS	Annual Dues	$ 4,250.00	$ 4,000.00	$ 4,250.00
CALAPRS	Annual Dues	2,250.00	2,000.00	2,250.00
Miscellaneous Membership Dues	Includes:	1,250.00	1,296.51	1,500.00
	NCPERS			
	GFOA			
	Pub Pensions Forum			
	American Express Annual Fee			
TOTAL:		**$ 7,750.00**	**$ 7,296.51**	**$ 8,000.00**

5 yr Average 6,849

Maintenance - Equipment * **6211000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Comfort Air	Air Cond - Computer Rm	$ 1,500.00	$ 508.00	$ 1,500.00
Sound Equip	Meeting & Control Room Equip	2,500.00	380.00	7,500.00
Misc Equipment Maintenance including:	Door Locks (Digital)	500.00	2,384.08	1,000.00
	Scanner Maint / Warranty			
	Alarm System Maint			
	Time Stamp Machine			
	Durst (office equip)			
	TP Wireless Link			
Copier		$ 4,000.00	$ 3,964.00	$ 5,000.00
TOTAL:		**$ 8,500.00**	**$ 7,236.08**	**$ 15,000.00**

5 yr Average 9,229

*This category not entirely based on estimated-actual as repair/maintenance of equipment cannot always be anticipated

Travel / Training **6217000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
SACRS	Spring/Fall Conf & Registration Fee	25,000.00	27,420.00	32,500.00
CALAPRS	General Assembly & Registration	9,000.00	1,916.45	9,000.00
Mileage Reimbursement	Trustee Board Meetings	1,250.00	2,187.00	2,300.00
Staff Training/Conferences	Non-investment related;	$ 10,000.00	$ 8,916.00	$ 11,000.00
	roundtables, mileage, etc.			
Subtotal	**$54,800.00**			
Trustee Training / Investment Manager Meetings	SACRS/UC Berkeley; IREI, Pension Bridges, Annual Manager Meetings	12,250.00	2,760.49	12,250.00
***Investment Subtotal**	**$12,250.00**			
TOTAL:		**$ 57,500.00**	**$ 43,199.94**	**$ 67,050.00**

5 yr Average 38,501

** See "ADJUSTMENTS" worksheet - these are excluded from statutory limit*

Professional & Specialized Services **6220000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Disability Processing	Hearing Officer Fees	$ 200,000.00	$ 113,547.33	$ 175,000.00
	Medical Examinations			
	Applicant Med Mileage			
	Court Reporter, Copy Serv			
PAS RFP & Consulting	Linea	355,598.00	350,000.00	594,346.67
Project Management	Contract help	220,000.00	0.00	0.00
Office Laypout		10,000.00	5,532.00	5,000.00
Data Conversion/Cleansing	MBS	589,797.00	13,937.00	212,943.00
Brown Armstrong	Annual Financial Audit	60,670.00	60,670.00	60,670.00
Finance Consultant		0.00	0.00	56,250.00
Registrar of Voters	Member Elections - Elected General #2	12,000.00	2,000.00	12,000.00
NT Retiree Payroll	Treasury Passport/Inserts	97,500.00	101,049.00	105,000.00
IRON Mountain	Back-up tapes/Escrow Acct	2,000.00	0.00	0.00
Verizon & Mobile Service	Internet Service & iPads	20,500.00	20,549.00	22,000.00
Mindwrap	Workflow setup and training	10,000.00	0.00	10,000.00
Computer Link	Mac hardware	1,500.00	0.00	1,500.00
AT&T	Backup Internet Circuit	0.00	1,275.48	1,500.00
Mainspring	FileMaker support	0.00	0.00	15,000.00
IG, Inc.	IT Contractor/Consultants	80,000.00	7,000.00	10,000.00
IG, Inc.	Core 37 Upgrade	95,895.00	95,295.00	0.00
ISD Network Support	Network Consultant	3,500.00	2,401.00	3,500.00
Disaster Recovery	Professional services	56,250.00	50,000.00	0.00
Cyber Network/Direct Defense	IT Security Audit	85,000.00	22,670.00	85,000.00
Web Hosting	In Motion Web Hosting	200.00	179.88	0.00
DropBox		3,600.00	3,450.00	3,900.00
Rolling Orange	Web content mgmt	37,095.00	23,450.00	10,000.00
Publication Design & Videos	CAFR/PAFR/Annual Stmts/Fact Sheets/Video	10,000.00	6,000.00	10,000.00
Misc. Professional Svcs	Alamo Burglar Alarm	3,400.00	3,787.00	6,000.00
	Sound System Rental			
	Domain registration			
TOTAL:		**$ 1,954,505.00**	**$ 882,792.69**	**$ 1,399,609.67**

5 yr Average 522,144

Publications & Legal Notices 6223000000

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Publications or legal notice	Want-ads	$0.00	$0.00	$0.00
	Brown Act compliance manual			
	Newspaper legal notices			
TOTAL:		$ -	$ -	$ -

Software and Related Licenses **6226016000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Mindwrap	Optix Maintenance	$ 18,000.00	$ 16,557.00	$ 18,000.00
IGI	Renewals	70,000.00	70,000.00	0.00
CDWG	Palo Alto Firewall (3yr-2023)	0.00	0.00	24,000.00
M365	Office365, Azure	0.00	0.00	25,000.00
Filemaker	Client license renewal (2yr)	15,000.00	12,588.00	0.00
Other Software Support/License		13,300.00	10,001.73	16,300.00
	Vicomsoft			
	IT Solutions/Kerio License			
	Anti-Virus Protection			
	Software Support:			
	Pantheon			
	Intuit Online			
	Adobe Creative Suite			
	VMware			
	Comodo			
	Carbon Copy			
	Zoom			
	Adobe Acrobat			
	CrowdStrike (ISD)			
	Cisco Umbrella			
	Other Software Licenses			
TOTAL:		$116,300.00	$ 109,146.73	$ 83,300.00

5 yr Average 86,960

Food **6243000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Annual Investment Roundtable	Breakfast/Lunch	3,750.00	4,417.13	5,000.00
Board/Committee Meetings	coffee; occasional lunches	1,200.00	600.00	1,200.00
TOTAL:		**$ 4,950.00**	**$ 5,017.13**	**$ 6,200.00**

5 yr Average 3,917

Rent - Structures & Grounds **6264000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
SPE FO Holdings, LLC	Lease - 4th Floor	220,114.24	219,114.24	225,209.92
	(Per Lease Agreement)			
** Actual expenses includes additional HVAC costs per lease agreement when staff is onsite outside normal building hours (Saturday afternoon or Sunday)*				
TOTAL:		**$220,114.24**	**$ 219,114.24**	**$225,209.92**

5 yr Average 216,057

Small Tools and Instruments **6269000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Misc Small Office Equip*		$0.00	$0.00	$0.00
TOTAL:		**$ -**	**$ -**	**$ -**

5 yr Average 0

*note: replacement equip. (calculators, typewriter, etc) cannot be anticipated and budget is not based on current year actual expenditure

Information System Division Direct Charge **6295220700**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
ISD Services	Interface connections, maint.	$8,000.00	$ 3,396.85	$6,000.00
TOTAL:		**$ 8,000.00**	**$3,396.85**	**$6,000.00**

5 yr Average 1,382

Insurance - Worker's Compensation **6295232000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
County Worker's Comp		$ 6,000.00	$ 5,500.00	$ 6,000.00
TOTAL:		**$ 6,000.00**	**$ 5,500.00**	**$ 6,000.00**

5 yr Average 5,142

Insurance - Liability & Fiduciary **6295236000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
General Liability Insurance	December renewal	$ 6,000.00	$ 5,757.60	$6,000.00
Fiduciary Liability Insurance	August renewal	123,200.00	115,387.00	129,233.44
Cyber Liability	June renewal	$ 2,250.00	$ 2,488.10	$ 2,750.00
TOTAL:		**$131,450.00**	**$ 123,632.70**	**$137,983.44**

5 yr Average 97,449

SJCERA
2023 BUDGET
Services & Supplies

County Wide - Indirect Cost Charges **6295999900**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Auditor-Controller				
Human Resources				
Treasurer-Tax Collector				
County Counsel				
Purchasing/Support Srvs				
Facilities Management				
Information Systems				
Labor Relations				
Total all - billed together by Auditor-Controller		$ 65,000.00	$ 32,333.00	$ 65,000.00
Billed Quarterly				
TOTAL:		**$ 65,000.00**	**$ 32,333.00**	**$65,000.00**

5 yr Average 33,808

Equipment & Furniture **6451000000**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Office furniture		$6,500.00	$0.00	$5,000.00
**note: fixed assets are defined as furniture/equipment with a unit cost of $1,000 or more.*				
TOTAL:		**$6,500.00**	**$0.00**	**$5,000.00**

5 yr Average 10,511

PC Equipment & Upgrades **6453310100**

Item	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed
Disaster Recovery	Options & Pre-requisitions	18,750.00	15,000.00	35,000.00
Workstation Upgrades	New staff computers (2023)	0.00	0.00	45,000.00
Server Infrastructure	Windows Virtual Server	95,000.00	83,389.12	9,500.00
Co-location Servers Hosting	Contingency plan-building upgrades	0.00	0.00	28,000.00
Back-up system upgrade	Baracuda server upgrade	7,500.00	5,892.00	7,500.00
Network equip & wireless bridge	Core network switch replacement	0.00	0.00	4,000.00
Server Room Hardware	KVM switch	5,000.00	4,628.61	5,000.00
Legacy data archive equip	Microfiche	7,500.00	0.00	7,500.00
Other	Hardware as needed	20,000.00	11,477.38	15,000.00
	iPad, APC batteries			
	Maint kit, adapters,			
	Monitors, Wifi upgrade			
	Extron conference bridge			
IGI Legacy System	Purchase of Core-37	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00
(Note: For budget purposes only, account number 6453300700, Standard Network Software, is being rolled up into this account)				
TOTAL:		$1,153,750.00	$1,120,387.11	$1,156,500.00

5 yr Average 245,381

ATTACHMENT II

SJCERA

Administrative Budget Adjustments

2023

As presented to the Board of Retirement on December 9, 2022

SJCERA
2023 BUDGET

ADJUSTMENTS

	Comments	2022 Budget	2022 Estimated/Actual	2023 Proposed	
SALARIES & BENEFITS:					
Adjustment for Retiree Health, 3/4 of one FTE for Payroll Tech				78,362.35	**$78,362**
Investment Related - DUE DILIGENCE / TRAINING:					
Trustee Training & Conf	UC Berkeley, Investment Conferences (IREI, Pension Bridges)	12,250.00	2,760.49	12,250.00	
Information Technology Related (various budget items):					
Linea	PAS RFP	355,598.00	350,000.00	594,346.67	
MBS	Data Conversion/Cleansing	589,797.00	13,937.00	212,943.00	
IG, Inc.	IT Contractor/Consultants	80,000.00	7,000.00	10,000.00	
MainSpring	FileMaker Support	0.00	0.00	15,000.00	
Rolling Orange	Website Development	37,095.00	23,450.00	10,000.00	
Computer Link & AT&T	Mac hardware & backup internet	1,500.00	0.00	3,000.00	
Mindwrap	Workflow setup and training	10,000.00	0.00	10,000.00	
ISD Network Support	IT Security Audit	3,500.00	2,401.00	3,500.00	
Mindwrap	Optix Maintenance	18,000.00	16,557.00	18,000.00	
CDWG	Palo Alto Firewall	0.00	0.00	24,000.00	
M365	Office365, Azure	0.00	0.00	25,000.00	
Cyber Network Defense		85,000.00	22,670.00	85,000.00	
Other Software Support/License		13,300.00	10,001.73	16,300.00	**$1,039,340**
FIXED ASSETS: **Information Technology Related:**					
Disaster Recovery		18,750.00	15,000.00	35,000.00	
Workstation Upgrades	New staff computers	0.00	0.00	45,000.00	
Server Infrastructure	Windows Virtual Server	95,000.00	83,389.12	9,500.00	
Co-location Server Hosting	Contingency plan	0.00	0.00	28,000.00	
Back-up system upgrade	Baracuda server upgrade	7,500.00	5,892.00	7,500.00	
Network/wireless bridge	Core network switch	0.00	0.00	4,000.00	
Server Room Hardware	KVM Switch	5,000.00	4,628.61	5,000.00	
Legacy data archive equip	Microfiche	7,500.00	0.00	7,500.00	
IGI Legacy System	Purchase of Core-37	1,000,000.00	1,000,000.00	1,000,000.00	
Other	Recovery	20,000.00	11,477.38	15,000.00	**$1,156,500**
TOTAL ADJUSTMENTS					**$2,274,202**
FUND EXPENSES (Not Part of Administrative Budget)					
Vivian Shultz	Disability Counsel		59,500.00		
County Counsel	Counsel to the Board		162,903.49		
Rimon Law	Investment Counsel		93,457.00		
Buchalter	Tax Counsel		6,536.00		
Cheiron	Actuarial Services		212,343.00		
Nossaman	Fiduciary & Inv Counsel		140,650.00		
Northern Trust	Custodial Fees		160,000.00		
Meketa	Investment Consultant		344,167.00		
Investment Management Fees*			27,000,000.00		
TOTAL:			**29,748,720.82**		

*Investment Management fees - some are deducted from SJCERA account balances, some are paid by SJCERA pursuant to invoices. All are direct charged to the fund and are not part of the Administrative Budget.

2022 RETIREE HEALTH ADMINISTRATION ADJUSTMENT

		Health	Dental	Vision	Total
2021	**Members ***	1,430	1,320	1,731	4,481
	Amt per Mem	*4.10*	*0.75*	*0.32*	*5.17*
	Rate Increase (%)	0.0%	0.0%	0.0%	0.0%
	Monthly Total	5,863	990	554	7,407
	Annual Total	70,356	11,880	6,647	**88,883**

Direct Overhead (3/4 FTE of Payroll Tech)	**76,675**
	-1.7%
Variance	**12,208**

*Based on October Payroll Numbers (includes special districts)

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2023 RETIREE HEALTH ADMINISTRATION ADJUSTMENT

		Health	Dental	Vision	Total
2022	**Members ***	1,404	1,417	1,782	4,603
	Amt per Mem	*4.10*	*0.75*	*0.32*	*5.17*
	Rate Increase (%)	0.0%	0.0%	0.0%	-99.9%
	Monthly Total	5,756	1,063	570	7,389
	Annual Total	69,077	12,753	6,843	**88,673**

Direct Overhead (3/4 FTE of Payroll Tech)	**78,362**
	2.2%
Variance	**10,310**

*Based on October Payroll Numbers (includes special districts)

RESOLUTION TITLE: ANNUAL ADMINISTRATIVE BUDGET FOR 2023

RESOLUTION NO.: 2022-12-01

WHEREAS, the Board of Retirement has the authority, pursuant to California Government Code Section 31580.2, to establish a budget to meet the administrative needs of the retirement system; and

WHEREAS, effective January 1, 2011, California Government Code section 31580.2 limits the funding for administrative budgets to 0.21 percent of actuarial accrued liability of the retirement system; and

WHEREAS, the 2023 Total Budget totals $6,751,055 and is 0.127 percent of the actuarial accrued liability (AAL) as reported by the Board's retained actuary in the annual actuarial valuation as of January 1, 2022; and

WHEREAS, the 2022 Adjusted Budget totals $4,476,852 and is 0.084 percent of the AAL.

NOW, THEREFORE, BE IT RESOLVED that the Board approves the 2023 Administrative Budget, shown as "Attachment I" and made a part of this resolution and directs the Chief Executive Officer to implement this budget.

PASSED AND APPROVED by the Board of Retirement of the San Joaquin County Employees' Retirement Association on the 9th day of December, 2022.

AYES:

NOES:

ABSENT:

ABSTAIN:

MICHAEL RESTUCCIA, Chair

RAYMOND McCRAY, Secretary

2023 CONFERENCES AND EVENTS SCHEDULE

2023 EVENT DATES		EVENT TITLE	EVENT SPONSOR	LOCATION	REG. FEE	WEBLINK FOR MORE INFO	EST. BOARD EDUCATION HOURS
Jan 17	Jan 19	2023 Visions, Insights & Perspectives Americas	IREI	Rancho Palos Verdes, CA	$0	IREI.com	TBD
Jan 22	Jan 24	Legislative Conference	NCPERS	Washington, DC	$615	ncpers.org	TBD
Jan 23	Jan 24	Pension Communications Summit	NCPERS	Washington, DC	$350	ncpers.org	TBD
Jan 25	Jan 25	Approving Key Decisions	Board Smart	Online webinar	$0	contact Elaina for link	TBD
Feb 28	Mar 1	Pension Bridge ESG 2023	With Intelligence	Los Angeles, CA	TBD	with.intelligence.com	TBD
Mar 8	Mar 8	7th Annual Real Estate West Forum	Markets Group	San Francisco, CA	$0	Invite by email	TBD
May 9	May 12	SACRS Spring Conference	SACRS	San Diego, CA	TBD	sacrs.org	*11
Mar 30	Mar 31	Advanced Principles of Pension Governance for Trustees	CALAPRS	Los Angeles, CA	TBD	calaprs.org	*9
Nov 7	Nov 10	SACRS Fall Conference	SACRS	Rancho Mirage, CA	TBD	sacrs.org	*11

** Estimates based on prior agendas*

SAN JOAQUIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

SUMMARY OF PENDING TRUSTEE AND EXECUTIVE STAFF TRAVEL

2022-2023 Event Dates	Sponsor / Event Description	Location	Traveler(s)	Estimated Cost	BOR Approval Date
Jan 17-19	IREI 2023 Visions, insights & Perspectives America	Rancho Palos Verdes, CA	Michael Restuccia	$700.00	Pending Approval

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	$3,332	N/A
Sep 6-8	IREI Fall Advisory Board Meeting	Pasadena, CA	Mike Restuccia	$1,000	$461.03	10/05/2022
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	$1,868.88	N/A
Oct 28	CALAPRS Trustees Round Table	Webinar	Mike Restuccia, Emily Nicholas	$100	$100	N/A
Nov 8-11	SACRS Fall Conference	Long Beach	JC Weydert, Chanda Bassett, Emily Nicholas, Brain McKelvey	$6,946	TBD	N/A
Nov 10	2022 Midterm Elections Results	Webinar	Michael Restuccia, Phonxay Keokham	$0	$0	N/A

San Joaquin County Employees' Retirement Association

December 2, 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 Investment Manager Line Up*
  - *Consider prospective Private Credit manager*. In accordance with SJCERA's pacing plan for the Private Credit asset class, Silver Rock, a Private Credit manager that focuses on Special Situations and Dislocated Credit, will present at the December Board meeting.
  - *Education opportunities for Emerging Market Debt and High Yield*. Given where yields have moved in the fixed income market, it is an opportune time to learn more about the asset class. Two areas, which have seen the most valuation dislocation, are particularly interesting: Emerging Market Debt (with about a 10 percent index yield) and High Yield (with about a 9 percent index yield). Included as part of the December Board meeting reading material is a presentation from Itaú Asset Management "Why Emerging Market Debt", which provides a good introduction to the topic. This presentation has been provided to the Canadian Pension Plan (over $500 billion AUM), British Columbia pension ($160 billion AUM) and San Jose pension for discussion and potential allocation to Emerging Market Debt.

- *Deliver target investment return*
  Calendar year 2022 investment losses anticipated across the industry. Nationwide, pension plans are experiencing investment losses. Included in your materials (under Market Commentary/Newsletters/Articles) is a report from Milliman indicating that the aggregate investment return of the 100 largest US public pension plans as of September 30 is negative 6.6 percent, with an estimated range of negative 3.3 percent to negative 9.6 percent. Milliman anticipates the funded ratios of these plans as of September 30 dipped to 69.3 percent as a result of these returns (compared to 85.5 percent as of December 31, 2021.) While SJCERA's performance is unique to our asset allocation and its implementation, our performance is also negative year-to-date, at negative 6.9 percent as of September 30, 2022 (compared to our benchmark of negative 9.4 percent). Absent a significant market rally in December, the Board should anticipate an annual return below our return assumption of 6.75 percent. However, the Board's decision to reduce the assumed rate from 7 percent to 6.75 percent will help dampen the effect on our funded ratio. SJCERA's calendar year returns will be presented to the Board in March 2023, and the actuarial valuation as of 1/1/2023 is scheduled to be presented in August 2023. During times like this, it's important to remember we are long-term investors. We do not need to achieve the assumed rate of return every year; we need to achieve it on average over the long term. Riding out turbulent markets and avoiding reactionary changes contributes meaningfully to long term success.

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*
  Assistant CEO Brian McKelvey and Linea Solutions confirmed the original list of nine conditions necessary to implement a full-service member portal, and identified two additional requirements. Brian will develop an implementation plan that ensures the timelines for completing these 11 requirements (listed below) mesh with the timelines for the Data Clean Up/Conversion and PAS projects.

  Conditions identified as necessary to enable a full-service member portal

  1. Develop and implement a member & employer communications plan
  2. Develop and implement *Acceptable Use Policy* for member portal
  3. Develop and implement *Password Requirements* policy and procedure
  4. Obtain personal email addresses for all members
  5. Implement user validation & verification methodologies
  6. Implement multi-factor authentication methodology and tool
  7. Evaluate and procure electronic signature tool
  8. Define and implement file sharing upload and download capabilities
  9. Define functionality road map for day one and beyond
  10. Define and document member portal functionality processes and error management
  11. Develop and deploy member portal training for members and staff to include instructional videos, online help, customer service scripts, FAQ, etc.

Improve technology for business operations

- *Refine new PAS requirements to support business processes and performance measurements*
  While Linea Solutions was on-site November 15-18, staff had five, multi-hour meetings to review high-level PAS goals and requirements, areas for refinement, and held high level "philosophical" discussions that have impact on the PAS design and development. Philosophical discussions centered around minimized-customization, member portal functionality and integration, workflow automation, and identification of decisions SJCERA needs to have in place before the PAS project in February.

  Linea will provide a detailed PAS project plan in December and work with staff to execute it beginning in January 2023. This plan will include in-depth review of functional requirements, key design decisions, and the pre-work needed for the PAS project to start quickly.

Align resources and organizational capabilities

Develop and implement a workforce planning process

- *Implement strategies designed to support staff and maintain morale during PAS project*
  On November 17, Carmen Murillo, Melinda DeOliveira, Brian McKelvey, Ron Banez, Elaina Petersen and Jordan Regevig brainstormed more than 25 ideas to support staff and maintain morale during the PAS implementation project. Topics of discussion included milestone completion events, rewards and recognition activities, staff cross training, and hiring temporary staffing to backfill operational activities to allow more staff to participate on the project. In December, the team, led by Brian McKelvey, will establish a schedule of events, rewards, and recognition activities and an initial temporary staffing plan that corresponds with the project lifecycle. One of the first activities will be the naming of the new system that will encourage all staff to submit a creative and relevant name for the new Pension Administration System.

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

Both the CALAPRS Benefits Roundtable and the Investment Roundtable are scheduled for December 2. SJCERA's benefits team members Ron Banez, Andrea Bonilla, Kathleen Goodwin and Bethany Vavzincak and investment officer Paris Ba are attending.

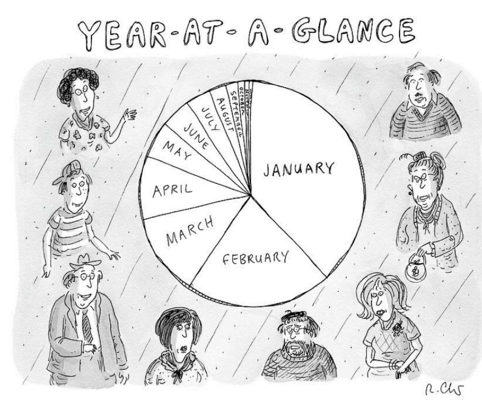
Employee of the Month
Congratulations to Retirement Services Associate Ron Banez for being selected as Employee of the Month for November! Ron was recognized for consistently taking a leadership role on the data conversion and clean-up project, where his SJCERA business operations knowledge is invaluable. In this role, he coordinates meetings, interacts daily with the data conversion vendor, and organizes and manages SJCERA's data cleanup efforts. He took ownership of the COVID earnings code cleanup, which affected more than 400 members. His initiative and "get it done" attitude is deeply appreciated and is adding value across the projects and as well as SJCERA's operations. Well done Ron, we applaud your leadership and steady, hard work!

Maintain Business Operations
Provide Excellent Customer Service
A few quotes from our members:

- Kathleen was very nice to respond quickly to my request.
- Since initiating this retirement process, every staff has been exceptionally helpful, knowledgeable, responsive, and professional with special recognition to Leonor Sonley and Vickie Monegas. Haven't experienced this level of professionalism with other businesses/organizations across various industries. Thank you!
- Melinda has been very helpful. I have called her several times over the last three years with retirement questions. She was always able to answer my questions or got back to me with an answer. I am finally retiring and confident it will go smoothly because I trust Melinda. She has been pleasant during every interaction. Her knowledge of the retirement system is outstanding.

Year-End Projects in Process
Throughout November, the IT and Finance staff (Lolo Garza, Jordon Regevig, Carmen Murillo, Eve Cavender, and Marissa Smith) worked collaboratively with SJCERA's legacy PAS vendor, IGI, to design, develop, and test the requirements of the new IRS *Form W-4P* (tax election) form and bridge calculation. The bridge calculation eliminates the need for retirees to submit a new tax election form by recalculating their existing tax withholding in accordance with the new methodology. The W-4P implementation has been completed and is ready for the January 1 payroll.

The Finance staff (Carmen Murillo, Eve Cavender, and Marissa Smith) initiated data analysis in November and will continue through early January to ensure IRS *Form 1099-R* information is accurate and delivered to members before the January 31 mailing deadline.



Conclusion
Another year has flown by. I can't believe it's been almost six years since I joined the SJCERA team! As I look back over 2022, we have much to be proud of: we hired ACEO, Brian McKelvey; completed our asset liability study and actuarial experience study; adopted a new strategic asset allocation; improved our funded ratio by nearly 10 percent; implemented cyber security audit recommendations; rolled out a new website; initiated our pension administration system and data clean-up/data conversion projects; secured our legacy pension system; and completed implementation of the *Alameda* decision. Every year, I am impressed with the teamwork and the accomplishments attained above and beyond our normal day-to-day work. Next year looks to be an equally exciting and accomplished year. As we wind down 2022, I wish you each a safe, healthy, and happy holiday season and a bright new year.

CAPITAL GROUP®

Rising yields put bond markets back on a road to normal

Rising inflation and slowing global growth are two dominant themes casting a pall over the current market environment. With increasing geopolitical uncertainty, tightening monetary policy, supply chain challenges and higher commodity prices at play, a period of global stagflation could potentially be on the horizon.

Navigating the foggy road to normal has never been more challenging, but with a long-term lens one can better understand the strong normalizing effect that disinflationary forces such as rising debt levels, technological advancements and aging demographics could have. Having a clear understanding of these can help investors better find their way.

Investing in fixed income during a time of a high inflation and rising rates can seem worrisome. However, today's starting yields offer an attractive entry point for investors. Yields across fixed income sectors are sharply higher than their lows over the past few years. For example, investment-grade (BBB/Baa and above) corporate bonds currently offer a yield of 4.70%, which is higher than the 3.53% yield offered by high-yield corporate bonds during their recent lows.

Rising yields reflect more income potential across bond markets

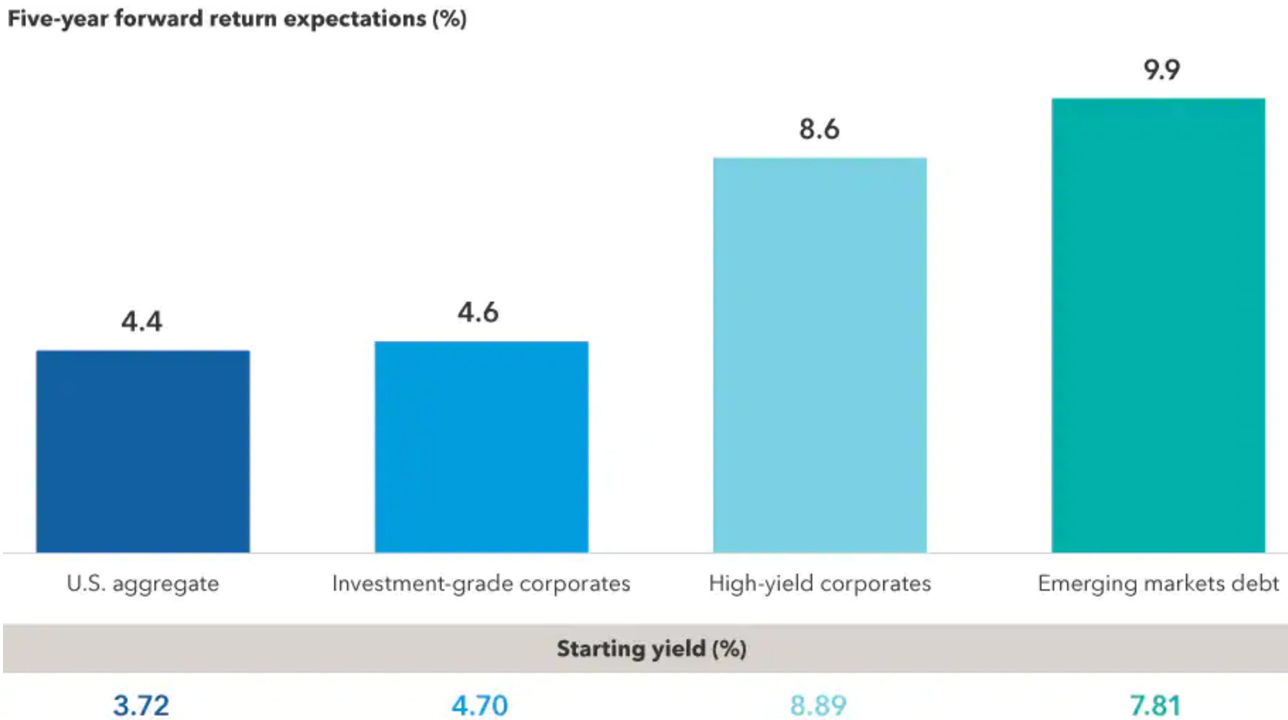
Yields of key fixed income markets (%)

Sectors	Recent low	Change	6/30/22
U.S. aggregate	1.02	+2.70	3.72
Investment-grade corporates	1.74	+2.96	4.70
High-yield corporates	3.53	+5.36	8.89
Emerging markets debt	4.36	+3.45	7.81
Municipal bonds	0.86	+2.35	3.21

Sources: Bloomberg Index Services Ltd., JP Morgan. As of 6/30/22. Sector yields above include Bloomberg U.S. Aggregate Index, Bloomberg U.S. Corporate Investment Grade Index, Bloomberg U.S. Corporate High Yield Index, 50% J.P. Morgan EMBI Global Diversified Index/50% J.P. Morgan GBI-EM Global Diversified Index blend and Bloomberg Municipal Bond Index. Period of time considered from 2020 to present. Dates for lows from top to bottom in chart shown are: 8/4/20, 12/31/20, 7/6/21, 1/4/21 and 7/27/21.

At current yields, history suggests higher total returns over the next few years. This means that investors could benefit from holding bonds across fixed income asset classes, including investment grade, high yield and emerging markets. This higher income can offer more of a cushion for total returns over time, even if price movements remain volatile. In fact, a greater portion of investors' income needs could potentially be met with traditional fixed income than would have been the case in recent years.

Historically, at current yield levels, longer term returns have been strong



Sources: Capital Group, Bloomberg, J.P. Morgan. Yields and monthly return data as of June 30, 2022, going back to January 2000 for all sectors except emerging markets debt, which goes back to January 2003. Sector yields above include Bloomberg U.S. Aggregate Index, Bloomberg U.S. Corporate Investment Grade Index, Bloomberg U.S. Corporate High Yield Index, 50% J.P. Morgan EMBI Global Diversified Index/50% J.P. Morgan GBI-EM Global Diversified Index blend. Past results are not predictive of results in future periods.

Despite current volatility, the broad credit universe provides ample opportunities for investors to add value through bottom-up research and security selection in each of the four primary credit sectors – high yield, investment grade, emerging markets and securitized debt (or debt backed by auto loans, credit card receivables or other assets). Keeping a long-term view and employing balance can help smooth the way.

Notably, investment-grade corporate bonds have become more attractive as corporate fundamentals continue to improve, with relative debt levels falling across both European and U.S. investment-grade bonds. Valuations also look attractive as global investment-grade corporate yield has increased alongside higher government bond yields and wider spreads.

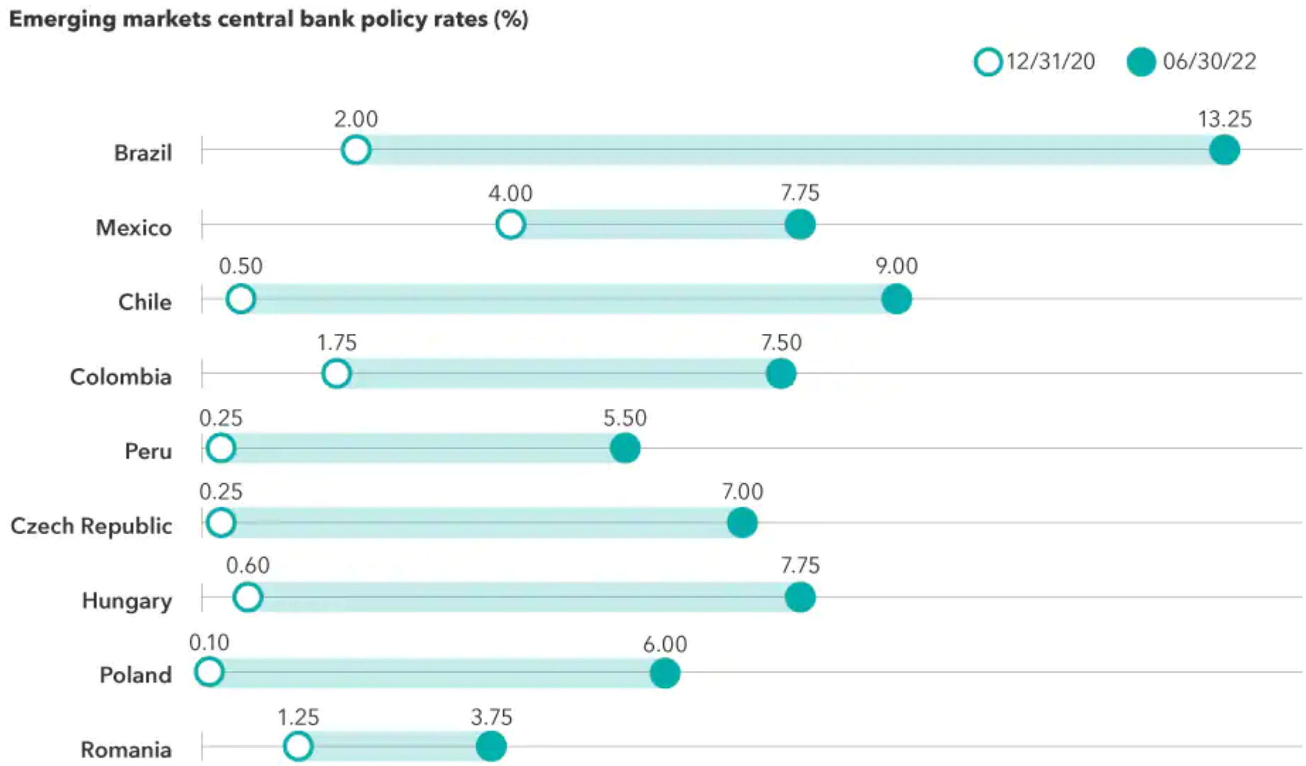
U.S. high-yield fundamentals have also been improving. The credit quality of the market has improved with a higher proportion of BB-rated companies and a lower share of CCC-rated bonds, which could potentially make the market more resilient to a slowdown in growth. Defaults are currently very low, and although they may pick up should we enter a recession, we believe the yield cushion and active security selection can offset the potential risks. Yields have also become more attractive, moving from the low levels reached in 2021 to 7.5% currently. However, as volatility is expected to remain high and a higher degree of uncertainty in the economy persists, we position our credit portfolios defensively focusing on fundamentals and bottom-up research.

The emerging market debt (EMD) universe has broadened and deepened significantly in the last few decades and, as the asset class has developed, it has become more appealing to a broader investor base. Issuance has increased thereby improving liquidity. That said, rising inflation, slowing global growth, tightening U.S. monetary policy and a soaring U.S. dollar have all weighed on the sector.

The Russia-Ukraine conflict has created an additional headwind relative to other comparably rated developed market corporate debt. However, there is reason to be optimistic about the future of emerging markets. Current yield levels can provide significant cushion to further volatility.

Emerging local currency debt has been the fastest-growing segment of the EMD asset class for quite some time and is now the largest part of the universe. We have a preference for local currency bonds. Compared with developed markets, EM central banks are much more advanced in their policy tightening. In addition, the increase in core inflation in emerging markets has generally been more modest than in developed markets. More aggressive rate hikes coupled with more muted inflation suggest good value in EM duration. In most of these markets hedging costs are high, so our duration exposure is primarily on an unhedged basis.

Many EM countries have aggressively hiked interest rates



Sources: Capital Group, Bloomberg, JPMorgan, Morningstar. As of 6/30/22.

Overall EM currencies remain undervalued, but selectivity remains crucial in assessing mainly those currencies from commodity exporters countries. We still have a constructive view on commodity prices because supply shortages haven't been alleviated. In many cases, supply issues have actually deteriorated yet global activity is still reasonable. As such there is still a structural tailwind for commodity prices.

Securitized credit can also offer a diverse array of investment opportunity across asset-backed, commercial real estate, non-agency mortgage and collateralized leveraged loan sub-sectors. Many of the fundamental drivers of these sectors are distinct from corporate and sovereign credit. This brings diversity to a portfolio.

We are currently finding good value in the single-asset single-borrower (SASB) market. These niche investments create more concentrated risks than traditional commercial mortgage-backed securities (CMBS), but the market largely consists of very high-quality properties and lends itself to deep, property-specific fundamental research. This presents an opportunity for investors to gain access to specific assets that they find attractive. This sector is under-researched by many market participants, and this enables our team of securitized credit analysts to identify numerous mispriced investment opportunities.

Uncertainty will remain in markets for the foreseeable future, and the investment environment will be challenging for investors globally. However, there will continue to be opportunities for active managers with strong research capabilities to navigate these headwinds, and allocations to fixed income assets will remain as crucial as ever.

This commentary has been republished here with permission from Global Investor Group, publisher of Global Investor magazine. Additional charts and data were added by the Capital Ideas staff.

Mike Gitlin *is head of fixed income at Capital Group. He has 28 years of investment industry experience (as of 12/31/2021) and has been with Capital Group for seven years. He holds a bachelor's degree from Colgate University.*

Investing outside the United States involves risks, such as currency fluctuations, periods of illiquidity and price volatility, as more fully described in the prospectus. These risks may be heightened in connection with investments in developing countries.

The return of principal for bond funds and for funds with significant underlying bond holdings is not guaranteed. Fund shares are subject to the same interest rate, inflation and credit risks associated with the underlying bond holdings. Investments in mortgage-related securities involve additional risks, such as prepayment risk, as more fully described in the prospectus. Higher yielding, higher risk bonds can fluctuate in price more than investment-grade bonds, so investors should maintain a long-term perspective. Bond ratings, which typically range from AAA/Aaa (highest) to D (lowest), are assigned by credit rating agencies such as Standard & Poor's, Moody's and/or Fitch, as an indication of an issuer's creditworthiness.

The Bloomberg U.S. Aggregate Index represents the U.S. investment-grade fixed-rate bond market.

The Bloomberg U.S. Corporate Investment Grade Index represents the universe of investment grade, publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements.

The Bloomberg U.S. Corporate High Yield Index covers the universe of fixed-rate, non-investment-grade debt.

The Bloomberg Municipal Bond Index is a market-value-weighted index designed to represent the long-term investment-grade tax-exempt bond market.

The 50% J.P. Morgan EMBI Global Diversified Index/50% J.P. Morgan GBI-EM Global Diversified Index blend is a uniquely weighted emerging market debt benchmark that tracks total returns for U.S. dollar-denominated bonds issued by emerging market sovereign and quasi-sovereign entities in addition to the universe of regularly traded, liquid fixed-rate, domestic currency emerging market government bonds to which international investors can gain exposure. The 50%/50% JP Morgan EMBI Global/JP Morgan GBI-EM Global Diversified blends the JP Morgan EMBI Global Index with the JP Morgan GBI-EM Global Diversified Index by weighting their cumulative total returns at 50% each. This assumes the blend is rebalanced monthly.

The market indexes are unmanaged and, therefore, have no expenses. Investors cannot invest directly in an index.

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Itaú USA Asset Management, Inc.

Why Emerging Markets Debt (EMD) Teach-in Presentation

September, 2022

Agenda

1. Why Emerging Markets Debt (EMD) Teach-In
2. Why EMD? An Asset Allocation Perspective
3. Investing in EMD: Managing a Portfolio
3. APPENDIX

1

Why Emerging Markets Debt (EMD*)Teach-In

ItaúAssetManagement

*For the purposes of this material EMD refers to Emerging Markets Hard Currency Debt. Please see additional details on slide 12

What are Emerging Markets

Prior to 1980's, countries defined by lower household income, less developed financial structures and, for the most part, importers of capital investment (portfolio and Foreign Direct Investment) were called Less Developed Economies (LCD's) or Developing Economies.

In the early 1980's, the term Emerging Market Economies (EME) was employed to replace LCD term* as it carried negative connotations, particularly after the 1980's debt crises.

Today, Emerging Market definition remains ambiguous (as in, what determines if an economy has "emerged" or even more difficult, if an economy has gone from developed to emerging) but there are some broad definitions that can help us.

*Allegedly, the World Bank economists coined the term in 1981 in order to attract institutional investors into these markets but the investors disliked the term LCD

Source: Itaú Asset Management, as of August 31, 2022.

What are Emerging Markets

Part I: a Dictionary Definition

Emerging Market Economy Definition (Bloomberg Dictionary)*

An emerging market economy is one in which the country is becoming a developed nation and is determined through many socio-economic factors. An emerging market economy is a nation's economy that is progressing toward becoming advanced, as shown by some liquidity in local debt and equity markets and the existence of some form of market exchange and regulatory body*.

WHAT COUNTS AS an emerging market? Broadly speaking, an economy that is not too rich, not too poor and not too closed to foreign capital**.

In our view, an Emerging Market is defined by market development and not by ratings.

*Bloomberg Dictionary
**The Economist October 5th, 2017 edition
Source: Itaú Asset Management, as of August 31, 2022, unless otherwise indicated.

What are Emerging Markets

Part II: a Market Definition

MSCI-EM Definition of Emerging Market*

An initial construction of MSCI Emerging + Frontier Markets Workforce Index consists of countries from the EFM (Emerging + Frontier Markets) universe (reference Index). The methodology ranks all countries in the reference Index universe and selects the top 65% of the countries with the highest youth population (%) based on data obtained from five years ago as mentioned in Appendix I. The eligible countries are then selected subject to their satisfying three criteria described below:

- Net secondary school enrollment level must be greater than 80% of the World average of the most recent year ;
- Rural population percentage not more than 20% higher than the World average of the most recent year;
- Agricultural employment not more than 20% higher than the World average of the most recent year.

Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates*.

JP Morgan EMBIG Fixed Income Benchmarks**:

Country and instrument selection process: JP Morgan adheres to a strict set of rules for selecting countries and instruments for inclusion in the EMBI Global/Diversified.

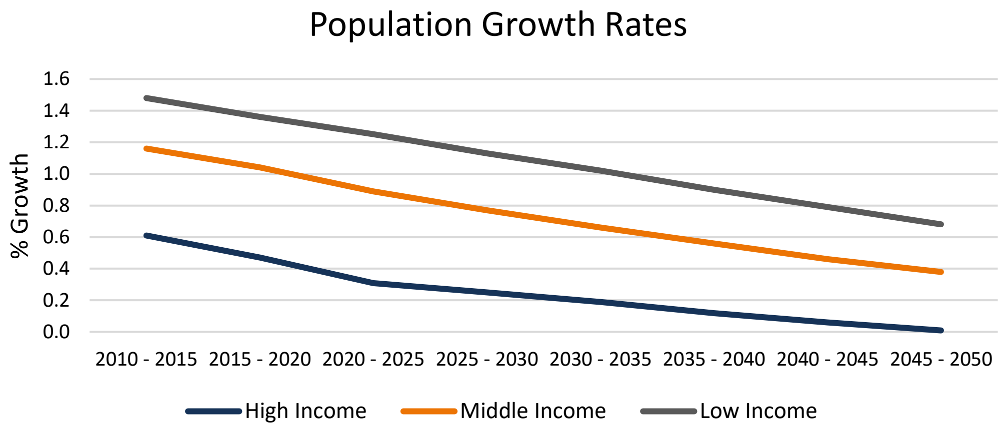
Defining the universe of eligible countries: A country's GNI per capita must be below the Index Income Ceiling (IIC) for three consecutive years to be eligible for inclusion to the EMBI Global/Diversified.

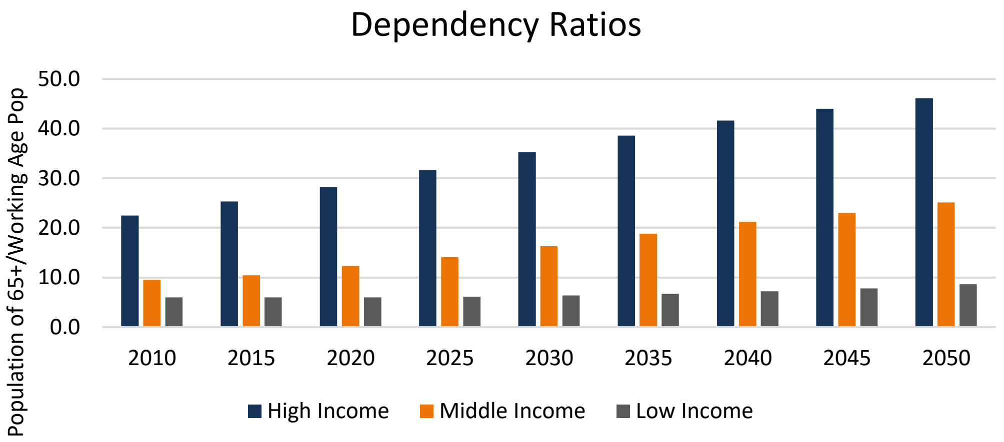
J.P. Morgan defines the Index Income Ceiling as the GNI per capital level that is adjusted every year by the growth rate of the World GNI per capita, Atlas method (current US$), provided by the World Bank annually. An existing country may be considered for removal from the index if its GNI per capita is above the Index Income Ceiling (IIC) for three consecutive years and the country's long term foreign currency sovereign credit rating (the available ratings from all three agencies: S&P, Moody's & Fitch) is A-/A3/A- (inclusive) or above for three consecutive years. The annual update to the IIC takes place every January on a rolling three-year basis. Each yearly refresh will incorporate the latest GNI per capita (inclusive of revisions) published by the World Bank for the last three consecutive years. Once a country is included or excluded from the EM index suite based on the JPM IIC rule, its eligibility will remain unchanged for the next three consecutive years, irrespective of any World Bank revisions

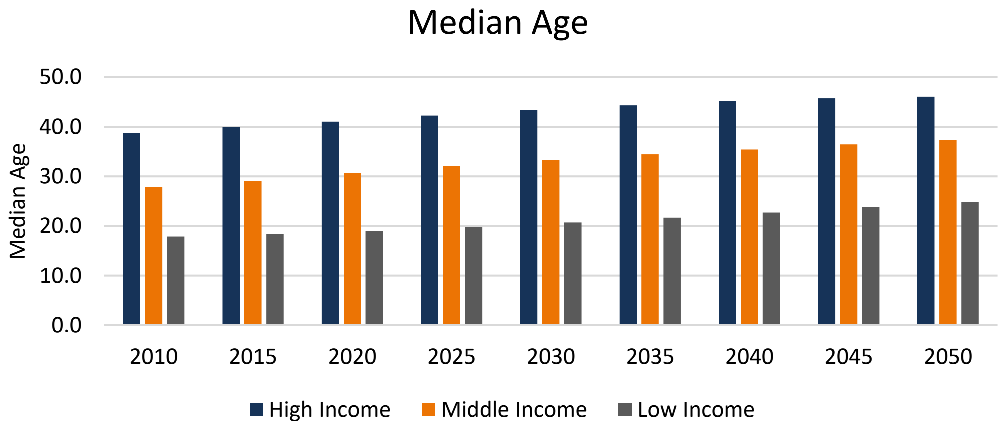
*Source: MSCI Emerging + Frontier Markets Workforce Index Methodology July 2021.
** Source: JP Morgan Global Index Research EMBI Global and EMBI Global Diversified December 24, 2015.
Source: Itaú Asset Management, as of August 31, 2022, unless otherwise indicated.

Why EM? Demographics, Demographics, Demographics

Population growth and Dependency ratios means that DM economies will need to drawdown assets AND achieve higher investment returns. Demographics indicate that those returns will likely come from EM.

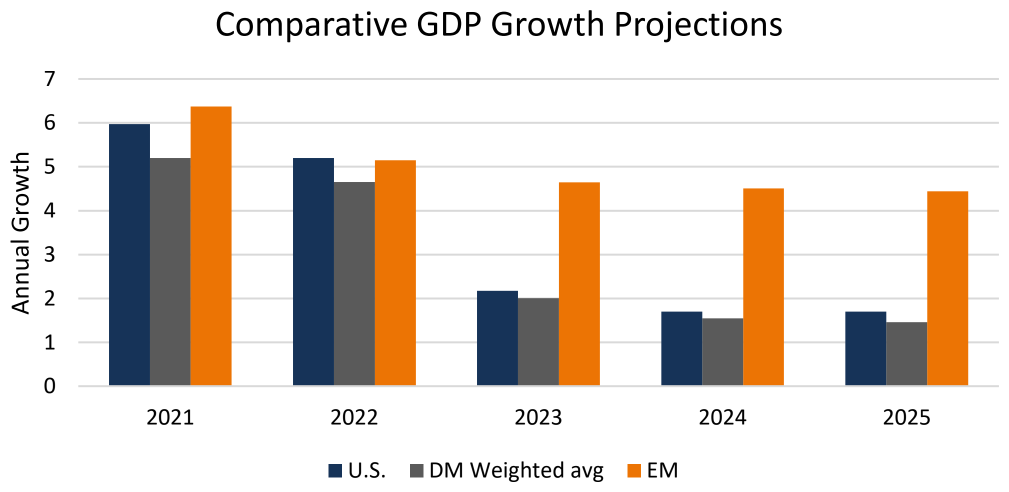


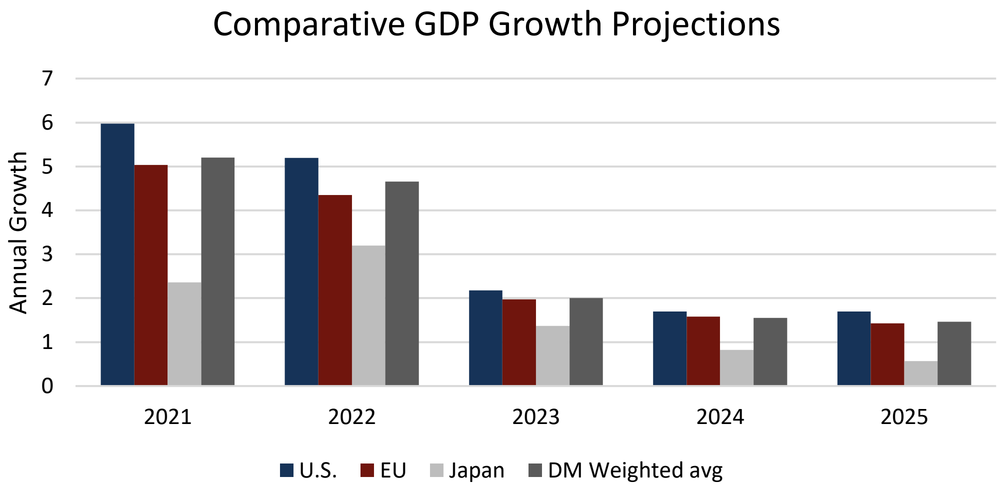




Source: Itaú USA Asset Management and U.N. Population Stats (2020), as of August 31, 2022.

Why EM? Growth in EM is expected to be higher than DM



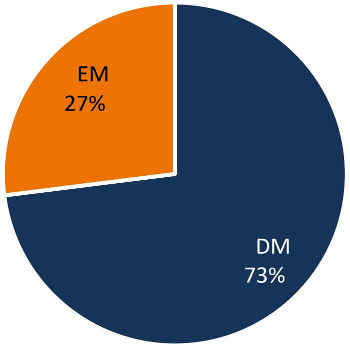


Gross Govt Debt (% of GDP)	2020	2021	2022	2023	2024	2025
Developed Markets	121.6	119.3	119.3	119.1	118.8	118.6
Emerging Markets	63.4	64.8	65.9	66.9	67.6	68.1
Investment (% of GDP)	2020	2021	2022	2023	2024	2025
Developed Markets	22.3	22.4	23.1	23.1	23.0	23.0
Emerging Markets	33.1	33.2	33.5	33.7	33.7	33.6

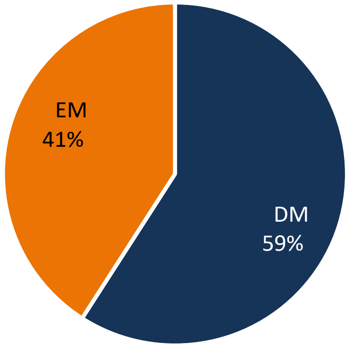
Source: IMF/World Bank World Economic Outlook April 19, 2022.

Why EM? Under-Invested and Under-Levered

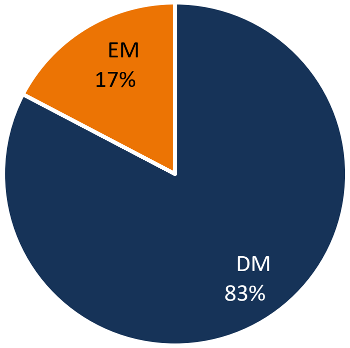
Equity Market Cap



GDP Share



Government Bond Debt %



	GDP Share	Equity Market Cap*	Govt Bond % of Total
World	100%	100%	100%
DM	59%	73%	83%
EM	41%	27%	17%
US	24%	41%	38%
Europe	15%	15%	26%
Japan	5%	6%	12%
China	18%	11%	15%
Other DM	14%	12%	1%
EM Asia	7%	14%	5%
Latam	5%	1%	1%
CEMEA	9%	1%	1%
Other EM	2%	0%	0%

*SIFMA "GLOBAL EQUITY PRIMER" 11/2021

Source: World Bank/IMF Statistical Database as of April 29, 2022, unless otherwise indicated.

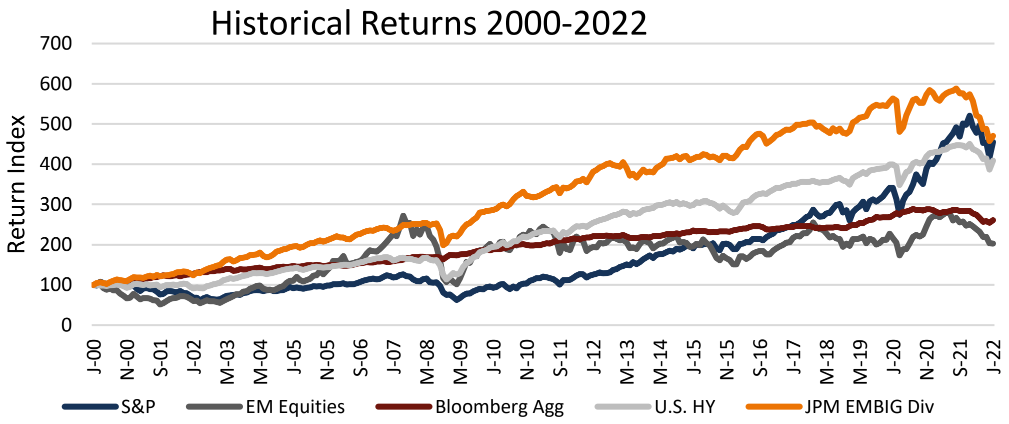
Why EM? Potential Diversified Returns

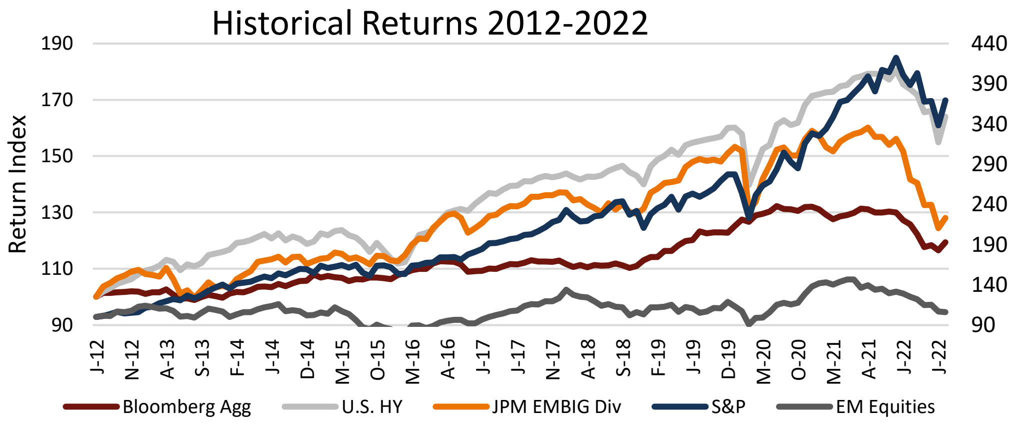
EM assets perform in line (or better) than IG but with a different return distribution, aiding diversification.

2000 to 2022	S&P	EM Equities	Bloomberg Agg	U.S. HY	EMBIG Div
Average Annual Return	7.9%	5.4%	4.3%	6.7%	7.3%
Volatility	15.3%	21.1%	3.6%	9.4%	8.8%
Ratio	0.52	0.26	1.19	0.72	0.83

2012 to 2022	S&P	EM Equities	Bloomberg Agg	U.S. HY	EMBIG Div
Average Annual Return	14.0%	1.8%	1.8%	5.2%	2.8%
Volatility	13.9%	15.7%	3.6%	7.2%	8.5%
Ratio	1.01	0.12	0.51	0.72	0.33

2000 to 2012	S&P	EM Equities	Bloomberg Agg	U.S. HY	EMBIG Div
Average Annual Return	3.0%	8.3%	6.4%	8.0%	10.9%
Volatility	16.2%	24.6%	3.6%	10.8%	9.0%
Ratio	0.19	0.34	1.76	0.74	1.22





Since 2000, EMD has outperformed U.S. IG and US HY, with lower volatility than S&P and HY. That is including the most recent period of underperformance

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.

Source: Bloomberg, JP Morgan and Itaú USA Asset management as of August 31, 2022.

How to Invest in EM?

1. Public Equities
   a. ADR's
   b. Local Equities

2. Public Debt
   a. Hard Currency Debt (Sovereign)
   b. Local Currency Debt (Sovereign)
   c. Corporate Debt (Hard currency and Local Currency)

3. Private Debt
4. Private Equity

Source: Itaú USA Asset Management, as of August 31, 2022.

How to Invest in EM? Public Debt

1. Hard Currency debt (EMD)
   a) Bonds issued by sovereigns, quasi-sovereigns and corporates denominated in a DM nation currency (typically, USD and EUR, but also, in JPY, CHF, CNY and occasionally other currencies).
   b) They specifically do not have the direct FX exposure of the issuer's country.
   c) Governing law is typically New York, London or financial center of issuing country. Governing law can be for specific buyers (for example, Formosa bonds are in USD but under Taiwanese legal and settlement structures).
   d) Typically cleared through multi-lateral clearing agencies (Euroclear, DTC, etc).

2. Local Currency Debt (EMLC)
   a) Bonds issued by sovereigns, quasi-sovereigns and corporates denominated in the currency of the issuing country.
   b) The bonds carry exposure to the currency of the issuer's country.
   c) Some countries will issue in USD if USD is a permissible transactional FX (such as in Peru).
   d) Inflation-linked instruments are typically issued in local currency.
   e) Instruments are usually settled via Euroclear or local settlement agencies (or both). "Euroclearbility" has been trending higher as issuers seek to broaden their buyer base.

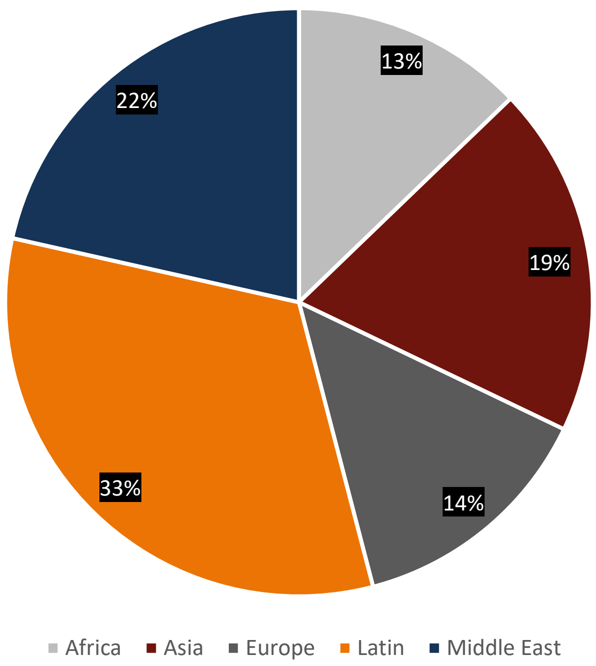
Hard currency and Local currency debt are often comingled into "blended mandates" **however** they are best understood as **different allocations and asset classes**. Also, they are typically managed against different benchmarks.

Source: Itaú USA Asset Management, as of August 31, 2022.

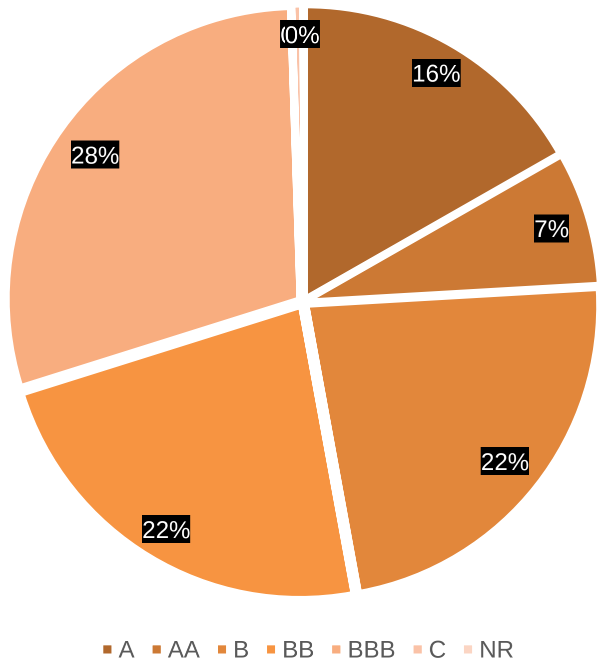
How to Invest in EM? Hard currency debt

JP Morgan EMBIG Diversified[1] is the most used EM Hard Currency index with over 80% of dedicated benchmark market share.

Weights by Geographic Region[2]



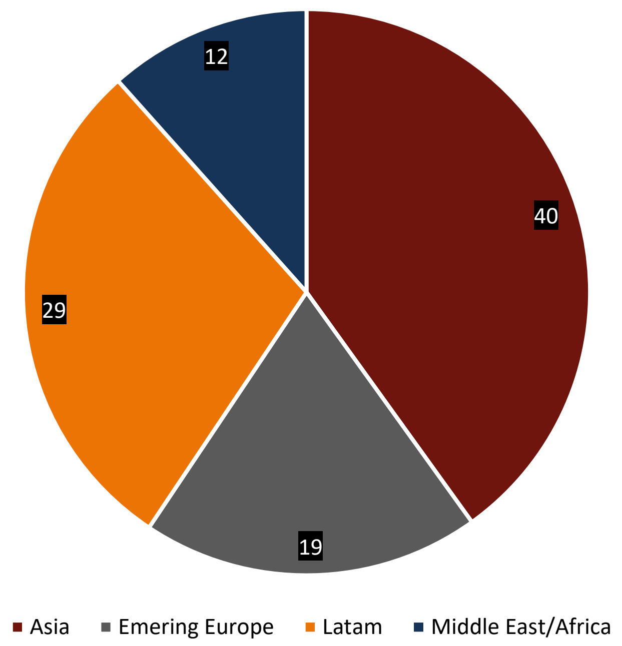
Weights by Rating[2]



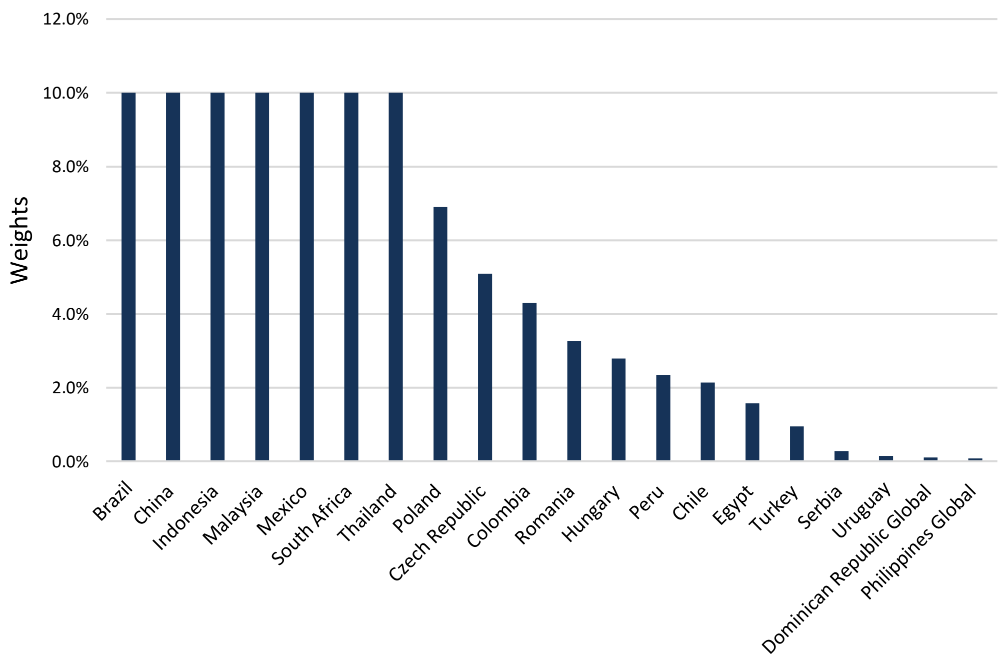
1 JP Morgan: EMBIG Diversified index August 31, 2022. Please see index description on slide 35.
Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

How to Invest in EM? Local currency debt

Geographic Weights of GBI-EM[1]



GBI-EM Diversified Country Weights[1]



Local currency debt has fewer issuers (and is more concentrated).
LCD also has exposure to the currencies of the issuer (short-USD)

1 JP Morgan: GBI-EM Diversified index. Please see index description on slide 35.
Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

Why EMD? EM Debt vs U.S. Assets

Returns From 2002-2022

	S&P	EM Equities	US Agg	US HY	**EMD**	**EMLC**
Average Annual Return	10.72%	8.39%	3.31%	7.59%	6.45%	4.71%
Volatility	14.50%	20.52%	3.67%	9.16%	8.80%	11.75%
Ratio	0.74	0.41	0.90	0.83	**0.73**	**0.40**

Correlation from 2002-2022

	S&P	*EM Equities*	*US Agg*	*US HY*	*EMD*	*EMLC*
S&P	1.0					
EM Equities	0.7	1.0				
US Agg	0.1	0.1	1.0			
US HY	0.7	0.7	0.3	1.0		
EMD	0.6	0.7	0.6	0.8	1.0	
EMLC	0.6	0.8	0.4	0.6	0.8	1.0

S&P 500 Total Return Index, MSCI-EM Total Return Index, BB US Aggregate Fixed Income Index, BB US Corporate HY Index, JPM EMBIG Diversified, JPM GBI-EM Diversified.

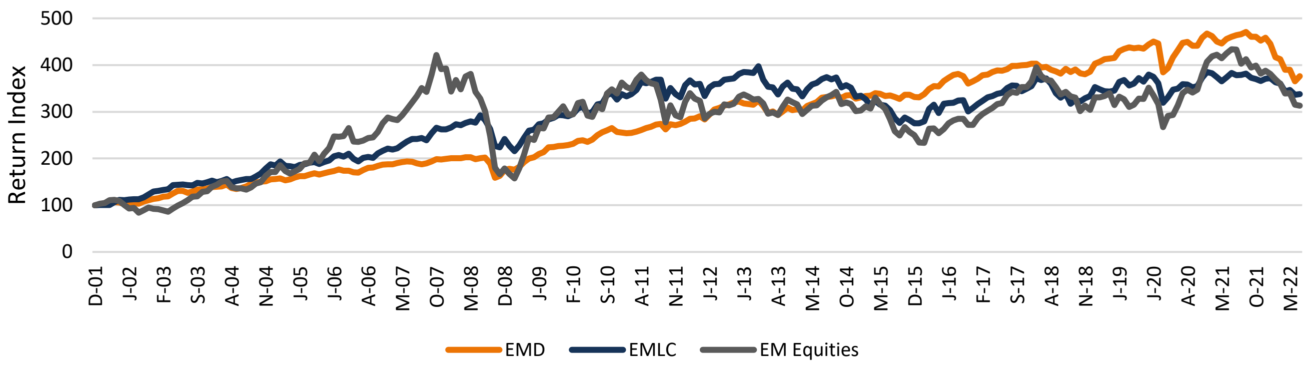
On average, EMD provides returns similar to U.S. HY with correlation similar to U.S. IG.

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.

Source: Itaú USA Asset Management, JP Morgan and Bloomberg, as of August 31, 2022.

Why EM Debt? Hard Currency (EMD) vs Local Currency Debt (EMLC)

Historical Returns 2000-2022



2001 to 2022	EMD	EMLC	EM Equities
Average Annual Return	6.9%	6.6%	7.7%
Volatility	8.9%	11.9%	20.5%
Ratio	0.77	0.56	0.38

2012 to 2022	EMD	EMLC	EM Equities
Average Annual Return	3.3%	0.8%	2.1%
Volatility	8.4%	11.5%	16.3%
Ratio	0.40	0.07	0.13

2001 to 2012	EMD	EMLC	EM Equities
Average Annual Return	10.6%	12.8%	13.7%
Volatility	9.2%	12.1%	24.2%
Ratio	1.15	1.06	0.56

Benchmark	EMD	EMLC
Currency	USD	Various (all ex-USD)
Market Cap	$1.2 Trillion	$2.7 Trillion
Total Number of Issuers	160	20
Total Number of Securities	943	300
Average Rating	Baa3/BBB-	Baa2/BBB+
Duration	7.04	4.66
Average Life	12.13	7.17
Yield to Maturity	8.2	7.26

Source: JP Morgan EMBIG Monitor July 2022

Correlations

	EMD	*EMLC*	*EM Equities*
EMD	1.00		
EMLC	0.74	1.00	
EM Equities	0.66	0.76	1.00

EM hard currency (EMD) vs Local currency (EMLC):

1. EMD tends to outperform EMLC with lower volatility.
2. EMLC tends to have lower correlation to USD assets than EMD but it is not clear that investors are rewarded for unhedged EMLC exposure.
3. EMLC can be a valuable alpha source, but it is more difficult to use as a structural allocations.

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.
Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

2

Why EMD? An Asset Allocation Perspective

ItaúAssetManagement

An Asset Allocation Perspective: Why EMD?

1. **Diversification.** EMD offers attractive diversification to other public assets

2. **Marginal Returns.** EMD can offer similar returns to U.S. HY with lower correlations to equities.

3. **Liquidity.** Liquidity in EMD also tends to be better than U.S. HY due to a combination of issue sizes, availability of active repo/sec lending markets.

4. **Ease of specialization and Portfolio Customization.** Some examples of client-driven customizations:

- Rating Restrictions to exclude lower rated issuers
- Issuance size restrictions
- Geographic limitations, i.e. no Russia/China/Turkey
- No Quasi-sovereigns

Source: Itaú USA Asset Management, as of August 31, 2022.

Asset Allocator point of view: Why EMD?

Returns* From 2002-2022

	S&P	EM Equities	U.S Agg	U.S. HY	EMD	EMLC
Average Annual Return	10.72%	8.93%	3.31%	7.59%	**6.45%**	**4.71%**
Volatility	14.50%	20.52%	3.67%	9.16%	**8.80%**	**11.75%**
Ratio	0.74	0.41	0.90	0.83	**0.73**	**0.40**

Returns* From 2002-2006

	S&P	EM Equities	U.S Agg	U.S. HY	EMD	EMLC
Average Annual Return	14.17%	30.24%	3.80%	12.66%	**12.83%**	**13.52%**
Volatility	8.37%	17.04%	3.79%	4.98%	**6.59%**	**8.38%**
Ratio	1.69	1.78	1.00	2.54	**1.95**	**1.61**

Returns* from 2007-2009

	S&P	EM Equities	U.S Agg	U.S. HY	EMD	EMLC
Average Annual Return	-3.78%	8.15%	5.97%	7.29%	**7.30%**	**11.03%**
Volatility	19.91%	32.65%	4.17%	17.17%	**12.92%**	**13.69%**
Ratio	-0.19	0.25	1.43	0.42	**0.56**	**0.81**

Returns* from 2010-2022

	S&P	EM Equities	U.S Agg	U.S. HY	EMD	EMLC
Average Annual Return	13.07%	1.54%	2.52%	6.06%	**4.24%**	**0.43%**
Volatility	14.45%	17.36%	3.50%	7.33%	**8.17%**	**12.04%**
Ratio	0.90	0.09	0.72	0.83	**0.52**	**0.04**

*S&P 500 Total Return Index, MSCI-EM, BB US Fixed Income Aggregate Index, BB US HY Corp, JPM EMBIG Diversified

Correlation from 2000-22

	S&P	*EM Equity*	*U.S Agg*	*U.S. HY*	*EMD*	*EMLC*
S&P	1.0					
EM Equity	0.7	1.0				
US Treasury	0.1	0.1	1.0			
US IG Corp	0.7	0.7	0.3	1.0		
US HY	0.6	0.7	0.6	0.8	1.0	
EMD	0.6	0.8	0.4	0.6	0.8	1.0

Correlation 2000-06

	S&P	*EM Equity*	*U.S Agg*	*U.S. HY*	*EMD*	*EMLC*
S&P	1.0					
EM Equity	0.7	1.0				
US Treasury	0.0	0.0	1.0			
US IG Corp	0.5	0.4	0.4	1.0		
US HY	0.3	0.4	0.8	0.6	1.0	
EMD	0.4	0.6	0.4	0.6	0.6	1.0

Correlation 2007-09

	S&P	*EM Equity*	*U.S Agg*	*U.S. HY*	*EMD*	*EMLC*
S&P	1.0					
EM Equity	0.8	1.0				
US Treasury	0.3	0.3	1.0			
US IG Corp	0.8	0.8	0.3	1.0		
US HY	0.7	0.7	0.7	0.8	1.0	
EMD	0.8	0.8	0.6	0.7	0.8	1.0

Correlation 2010-22

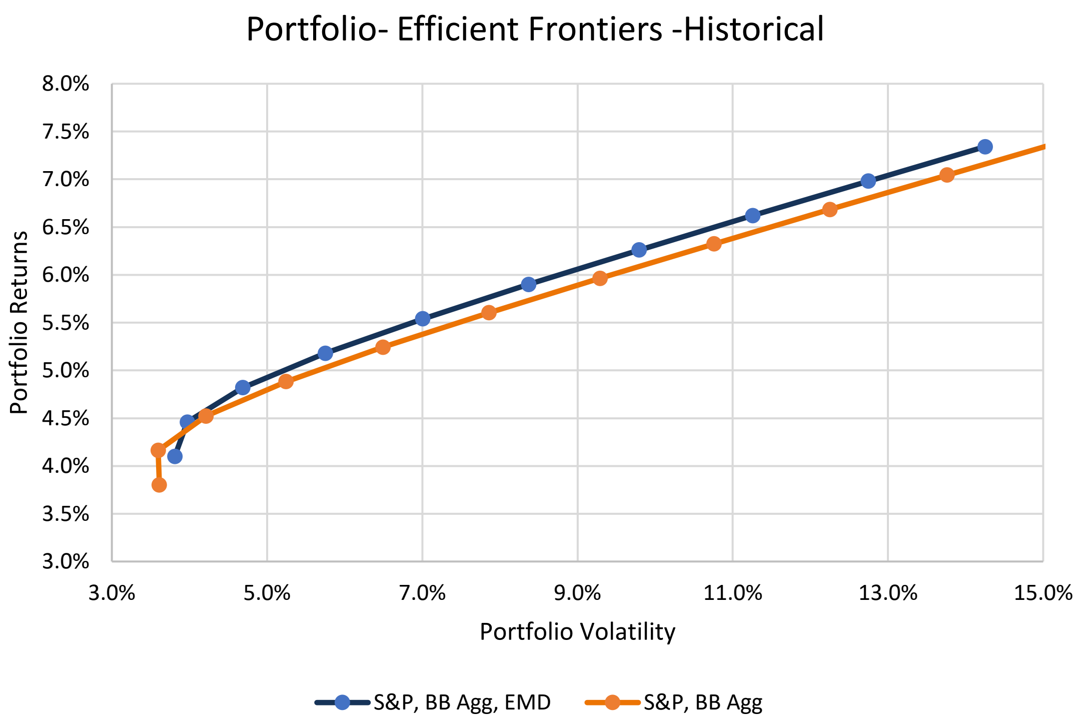
	S&P	*EM Equity*	*U.S Agg*	*U.S. HY*	*EMD*	*EMLC*
S&P	1.0					
EM Equity	0.7	1.0				
US Treasury	0.1	0.1	1.0			
US IG Corp	0.8	0.7	0.3	1.0		
US HY	0.6	0.7	0.5	0.8	1.0	
EMD	0.5	0.8	0.3	0.7	0.8	1.0

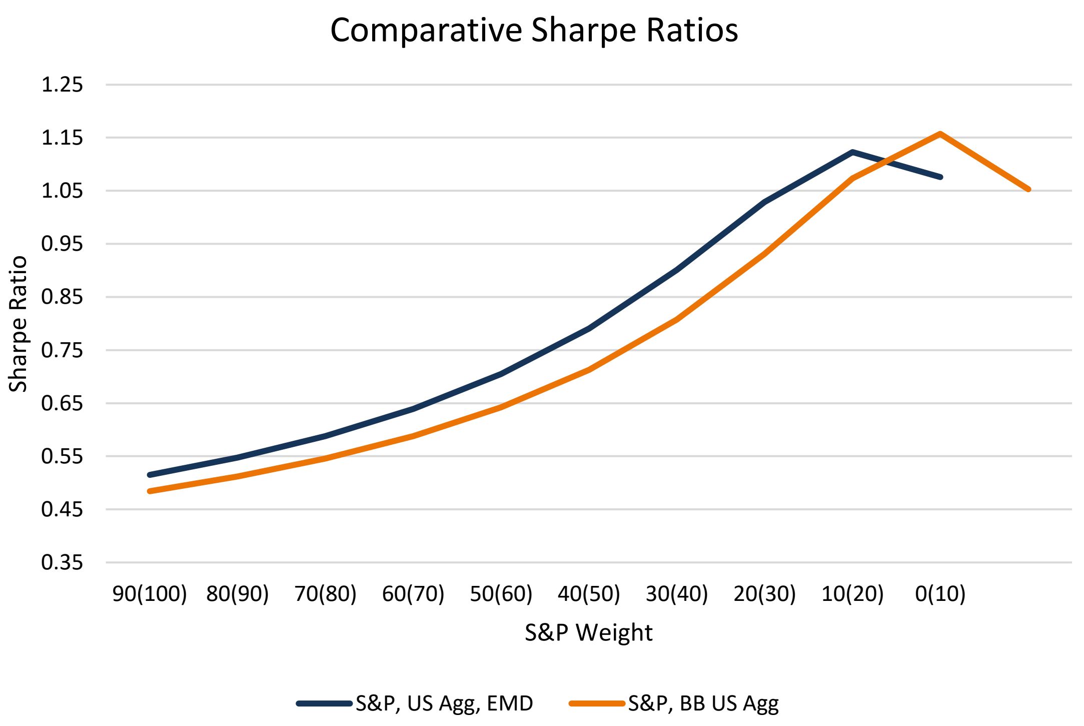
Correlation of monthly Returns JP Morgan, Bloomberg as of August 31, 2022

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.

Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

An Asset Allocation Perspective: Why EMD?





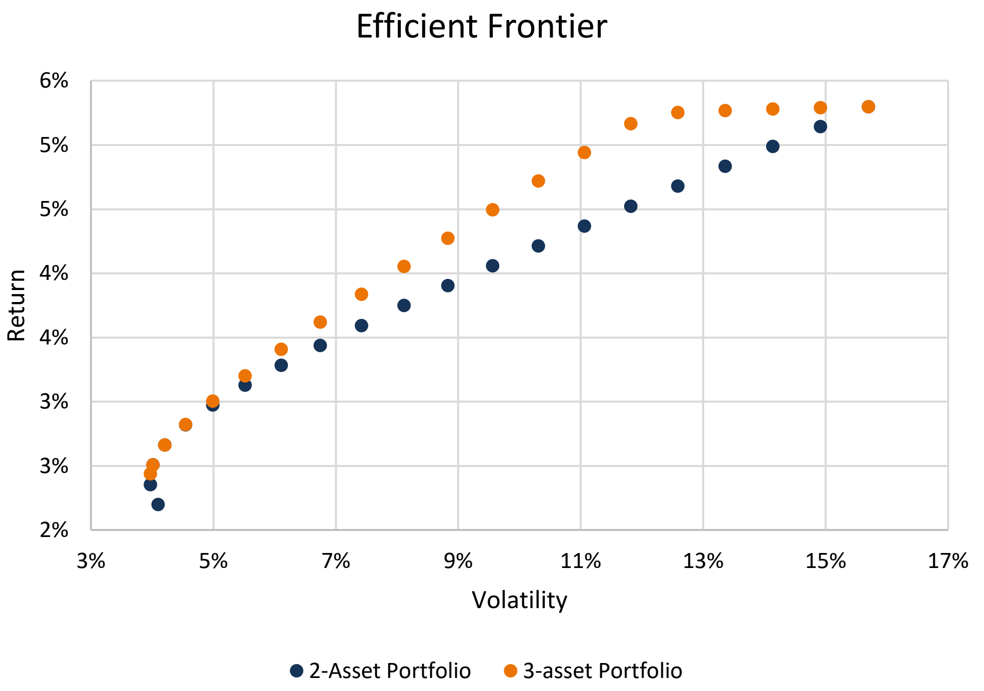
Adding Emerging Market Debt (USD) shifted the efficient frontier slightly up and to the left

Adding a 10% allocation to an S&P+Bloomberg Agg portfolio improved the Sharpe ratios for all points (weights of equities and fixed income).

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.

Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

An Asset Allocation Perspective: Why EMD?



A small allocation to EMD results in lower volatility for a range of Return targets

A small allocation to EMD results in higher returns for a range of Volatility targets

2-Asset Portfolio

Target Return	3%	4%	5%	6%
Portfolio Volatility	**7.6%**	**11.1%**	**14.5%**	**15.7%**
S&P Weight	30%	60%	90%	100%
BB Agg Weight	70%	40%	10%	0%

3-Asset Portfolio

Target Return	3%	4%	5%	6%
Portfolio Volatility	**7.3%**	**10.8%**	**14.2%**	**15.4%**
S&P Weight	20%	50%	80%	90%
BB Agg Weight	70%	40%	10%	0%
EMD Weight	10%	10%	10%	10%

10-year Return Assumptions*

	Returns	Volatility	Sharpe
S&P	5.3	15.7	0.31
MXEF	6.1	25.3	0.23
UST	1.5	6.8	0.16
US Agg	2.2	4.1	0.44
US HY	3.1	11.2	0.24
EMD	5.2	12.6	0.38
30-day Tbill	0.4	1.2	

* Varus investment Consultant as of December 31, 2021.

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.

Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

An Asset Allocation Perspective:
EMD Performance during and after a “crisis”

Identifying FSTE-All selloffs of 3.5% or more over certain periods

		EMD	HY	U.S. IG	FTSE-All	SPX	MXEF
	May 2006	-1.8%	0.0%	-0.2%	-4.2%	-2.9%	-10.8%
Sub-prime/Bear	Nov 07 -Mar 08	1.0%	-4.9%	0.6%	-15.4%	-14.6%	-17.6%
GFC	Jun 08- Feb 09	-12.3%	-26.4%	-5.5%	-67.8%	-58.7%	-80.1%
Greek Crisis	May-June 2010	0.4%	-2.3%	1.6%	-13.0%	-13.2%	-10.1%
Sob Debt Crisis	May-Sep 2011	0.5%	-6.6%	3.4%	-23.4%	-17.3%	-29.6%
Taper Tantrum	May-June 2013	-8.5%	-3.2%	-5.1%	-3.7%	1.0%	-9.7%
	jan/14	-0.7%	0.7%	1.8%	-4.1%	-3.5%	-6.6%
Rate Hikes Begin	Aug -Sep 2015	-2.2%	-4.3%	0.2%	-10.8%	-8.5%	-12.5%
2018 Delloff	Q4 2018	-1.2%	-4.6%	-0.2%	-13.4%	-13.8%	-7.6%
Covid Crisis	Jan - March 2020	-13.3%	-12.8%	-3.4%	-23.2%	-20.6%	-25.7%

Correlation table: 2000 - 2022

	S&P	*EM Equities*	*Bloomberg Agg*	*U.S. HY*	*EM debt*
S&P	1.00				
EM Equities	0.75	1.00			
Bloomberg Agg	0.00	0.07	1.00		
U.S. HY	0.67	0.71	0.23	1.00	
EM debt	0.54	0.65	0.56	0.74	1.00

Correlation of monthly returns 2000 - 2022: Bloomberg , as of August 31, 2022

- During significant global market distress (i.e. GFC, Covid); EM sells off along with everything else but to a much less extent than equities.
- During other market corrections, EM either does not sell off, or sells off much less (Taper tantrum being the exception).
- EM also recovers faster than competing asset classes post crisis.

Post-crisis recoveries

	EMD	HY	U.S. IG	FTSE-All	MXEF
May-06	5.3%	2.2%	3.5%	3.0%	3.1%
Sub-prime/Bear	1.1%	4.7%	0.0%	6.4%	9.4%
GFC	13.2%	22.0%	7.0%	29.5%	47.1%
Greek Crisis	8.0%	6.6%	4.6%	13.8%	16.7%
Sob Debt Crisis	4.7%	6.5%	2.0%	6.9%	5.0%
Taper Tantrum	1.3%	2.3%	0.8%	7.4%	5.1%
Jan-14	5.6%	2.9%	2.3%	5.6%	6.2%
Rate Hikes Begin	1.3%	-2.0%	-0.6%	4.9%	0.6%
2018 Delloff	6.8%	7.1%	5.1%	11.2%	9.5%
Covid Crisis	11.8%	9.9%	8.8%	17.7%	16.5%

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.
Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

3 Investing in EMD: Managing a Portfolio

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EMD Asset Allocation Process

1. Determining the size of allocation based upon risk tolerance
2. Choose Index-based returns or Absolute value Returns
3. Benchmark selection
4. Indexing or Active mgmt.
5. Oversight and control
6. Timing

Source: Itaú USA Asset Management, as of August 31, 2022.

EMD portfolio Investment Process:
How does Itaú USA Asset Management, INC. Invest in EM?

1. Determine risk measures
    A. Tracking Error, VaR, Volatility
    B. DtS, Scenario risks
2. Measure global risk appetite
    A. Global investment flows (in/out of EMD)
    B. Global risk measures (VIX, option vols, etc.)
3. Calculate 'valuations'
    A. Quantitative valuation measures
    B. Qualitative valuation measures
    C. Other (ESG, etc).
4. Create 'model' portfolio
5. Optimize
6. Allocate risk among assets
7. Monitor risks

Source: Itaú USA Asset Management, as of August 31, 2022.

EMD portfolio Investment Process:
How does Itaú USA Asset Management, INC. Invest in EM?

Global Risk Appetite Model

1. Measure of Global Risk Appetite for Long and Short horizons
2. Determine long/short Option-Adjusted Spread (OAS)
3. Determine long/short USD

Asset Risk Premia

1. Compare "premia" available from competing assets
2. Measure historical premia in EMD space
3. Measure volatilities

Country Rank Models

1. Rank issuers (countries) by quantitative macro and qualitative factors
2. Rank by valuation factors
3. Rank by forecast of above
4. Allows for comparison across ratings/sectors

Scenario Risk Control

1. "Crisis" analysis
2. Optimization for multi-year periods

Portfolio Construction

Risk Control

1. Construct portfolio using rank/valuation and OAS
2. Vol/TE to size relative positions.

Source: Itaú USA Asset Management, as of August 31, 2022.

Some sources of Alpha

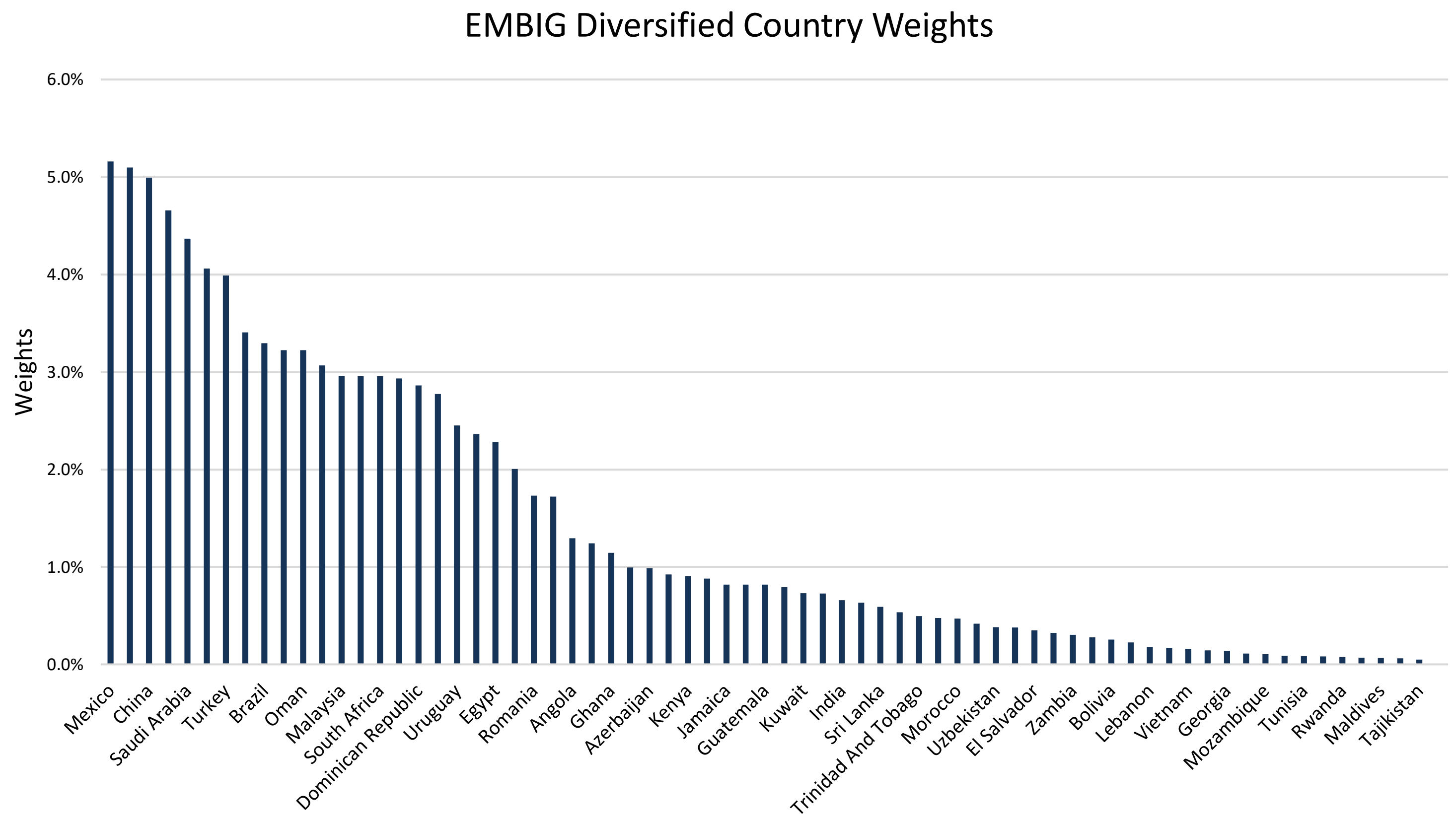
1. Each position is measured for contribution to both Marginal and Total Risk
2. Alpha positions each contribute to total alpha in uncorrelated way
3. Key Sources of Alpha:
   a. Country Selection
   b. Asset Substitution
   c. Curve Optimization
   d. Currency opportunity
   e. Volatility overlay

Source: Itaú USA Asset Management, as of August 31, 2022.

4 APPENDIX

ItaúAssetManagement

Hard currency debt



Algeria Angola Argentina Armenia Azerbaijan Bahrain Belarus Belize Bolivia Brazil Bulgaria Cameroon Chile China Colombia Costa Rica Cote d Ivoire Croatia Dominican Republic Ecuador Egypt El Salvador Ethiopia Gabon Georgia Ghana Greece Guatemala Honduras Hungary India Indonesia Iraq Jamaica Jordan Kazakhstan Kenya Kuwait Latvia Lebanon Lithuania Malaysia Mexico Mongolia Morocco Mozambique Namibia Nigeria Oman Pakistan Panama Papua New Guinea Paraguay Peru Philippines Poland Qatar Romania Russia Saudi Arabia Senegal Serbia Slovak Republic South Africa South Korea Sri Lanka Suriname Tajikistan Tanzania Thailand Trinidad & Tobago Tunisia Turkey UAE Ukraine Uruguay Uzbekistan Venezuela Vietnam Zambia

JP Morgan: EMBIG Diversified index as of August 31, 2022. Please see index description on page 35.

Market cap weighted indices are dominated by the largest issuers.

Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

Asset Allocator point of view: Why EMD?

Returns* From 2000-2022

	S&P	EM Equities	UST	U.S. IG	U.S. HY	EMD
Average Annual Return	7.93%	5.39%	4.00%	5.25%	6.72%	**7.30%**
Volatility	15.27%	21.06%	4.48%	5.86%	9.37%	**8.82%**
Ratio	0.52	0.26	0.89	0.90	0.72	**0.83**

Returns* From 2000-2006

	S&P	EM Equities	UST	U.S. IG	U.S. HY	EMD
Average Annual Return	2.89%	11.18%	6.14%	7.01%	7.28%	**12.69%**
Volatility	14.27%	20.95%	4.84%	4.78%	8.03%	**7.57%**
Ratio	0.20	0.53	1.27	1.46	0.91	**1.68**

Returns* from 2007-2009

	S&P	EM Equities	UST	U.S. IG	U.S. HY	EMD
Average Annual Return	-3.78%	8.15%	6.12%	5.92%	7.29%	**7.30%**
Volatility	19.91%	32.65%	5.65%	9.04%	17.17%	**12.92%**
Ratio	-0.19	0.25	1.08	0.65	0.42	**0.56**

Returns* from 2010-2022

	S&P	EM Equities	UST	U.S. IG	U.S. HY	EMD
Average Annual Return	13.07%	1.54%	2.10%	3.87%	6.06%	**4.24%**
Volatility	14.45%	17.36%	3.95%	5.51%	7.33%	**8.17%**
Ratio	0.90	0.09	0.53	0.70	0.83	**0.52**

*S&P Total Return Index, MSCI-EM, BB US Fixed Income Aggregate Index, BB US HY Corp, JPM EMBIG Diversified

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.
Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

Correlation from 2000-22

	S&P	*EM Equity*	*U.S. Treasury*	*U.S. IG Corp*	*U.S. HY*	*EMD*
S&P	1.00					
EM Equity	0.75	1.00				
US Treasury	-0.28	-0.21	1.00			
US IG Corp	0.31	0.38	0.57	1.00		
US HY	0.67	0.71	-0.15	0.59	1.00	
EMD	0.54	0.65	0.24	0.76	0.74	1.00

Correlation 2000-06

	S&P	*EM Equity*	*U.S Treasury*	*U.S. IG Corp*	*U.S. HY*	*EMD*
S&P	1.00					
EM Equity	0.75	1.00				
US Treasury	-0.35	-0.27	1.00			
US IG Corp	-0.08	0.02	0.86	1.00		
US HY	0.48	0.61	-0.07	0.35	1.00	
EMD	0.39	0.53	0.36	0.61	0.57	1.00

Correlation 2007-09

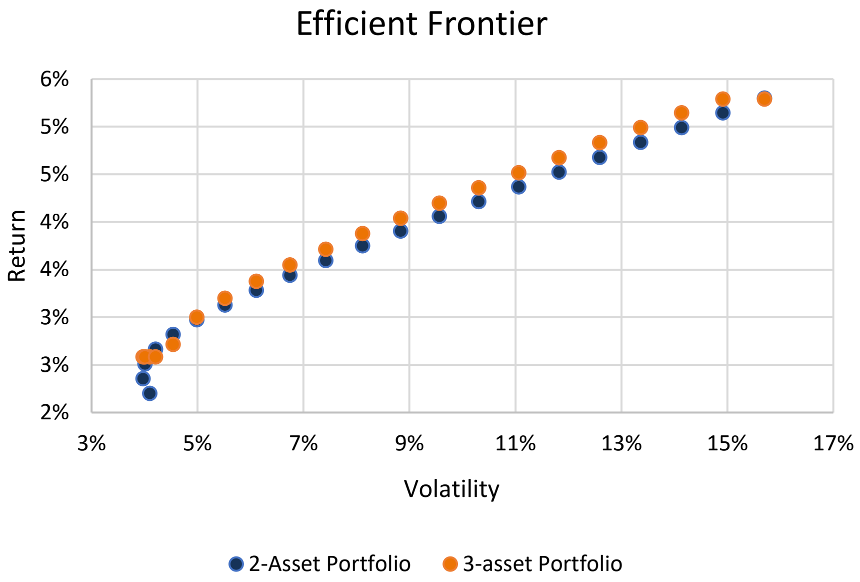
	S&P	*EM Equity*	*U.S. Treasury*	*U.S. IG Corp*	*U.S. HY*	*EMD*
S&P	1.00					
EM Equity	0.84	1.00				
US Treasury	-0.14	-0.17	1.00			
US IG Corp	0.54	0.61	0.26	1.00		
US HY	0.77	0.77	-0.34	0.67	1.00	
EMD	0.70	0.74	0.14	0.84	0.82	1.00

Correlation 2010-22

	S&P	*EM Equity*	*U.S. Treasury*	*U.S. IG Corp*	*U.S. HY*	*EMD*
S&P	1.00					
EM Equity	0.73	1.00				
US Treasury	-0.27	-0.22	1.00			
US IG Corp	0.38	0.42	0.58	1.00		
US HY	0.77	0.74	-0.07	0.67	1.00	
EMD	0.58	0.66	0.19	0.78	0.80	1.00

Correlation of monthly Returns JP Morgan, Bloomberg as of August 31,2022.

Asset Allocator point of view: Why EMD? (Using CMA's)



		Weights		
Volatility	Return	SPX	Agg	EMD
4.0%	2.4%	7.7%	92.3%	0.0%
4.0%	2.5%	10.0%	90.0%	0.0%
4.2%	2.7%	15.0%	85.0%	0.0%
4.5%	2.8%	17.9%	79.8%	2.3%
5.0%	3.0%	18.8%	73.8%	7.4%
5.5%	3.2%	19.7%	67.2%	13.0%
6.1%	3.4%	20.7%	60.4%	18.9%
6.7%	3.6%	21.7%	53.3%	25.0%
7.4%	3.8%	22.7%	46.2%	31.1%
8.1%	4.1%	23.7%	38.9%	37.4%
8.8%	4.3%	24.8%	31.6%	43.6%
9.6%	4.5%	25.9%	24.3%	49.8%
10.3%	4.7%	26.9%	16.9%	56.2%
11.1%	4.9%	27.9%	9.5%	62.6%
11.8%	5.2%	28.9%	2.1%	69.1%
12.6%	5.3%	53.9%	0.0%	46.1%
13.4%	5.3%	69.1%	0.0%	30.9%
14.1%	5.3%	80.7%	0.0%	19.3%
14.9%	5.3%	90.8%	0.0%	9.2%
15.7%	5.3%	100.0%	0.0%	0.0%

Applying MR and optimization:
For each point of volatility on for the 2-asset portfolio (S&P and BB Agg), 10% allocation to EMD increases returns at all points.

For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.

Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022

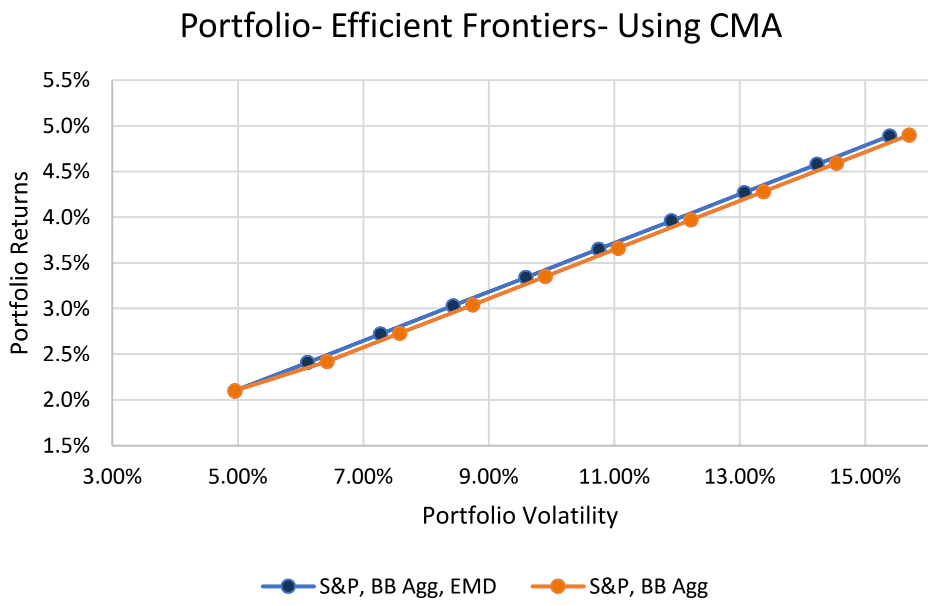
Why EMD: Using CMA's to estimate efficient Portfolio

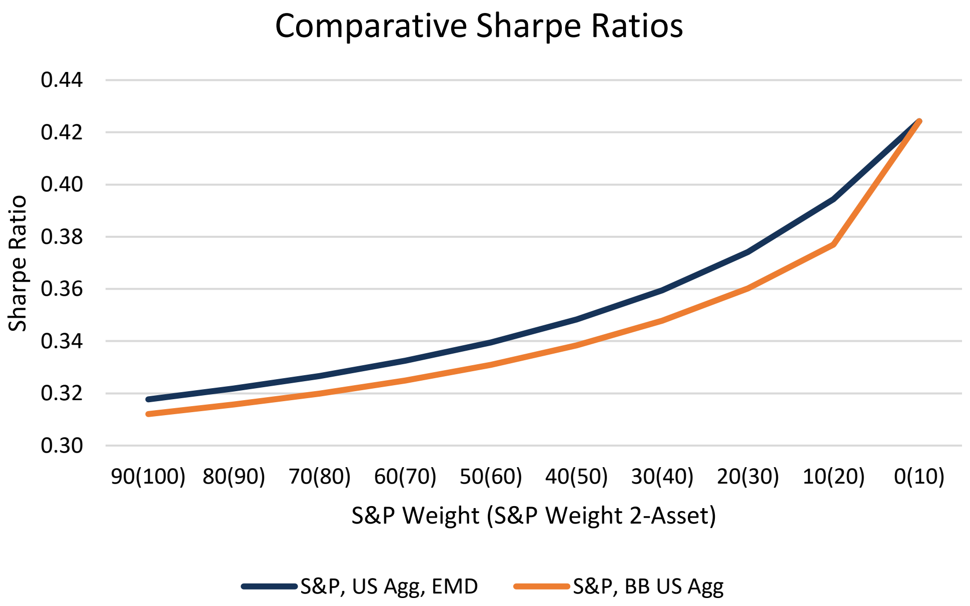
10-year Return Assumptions*

	Returns	Volatility	Sharpe
S&P	5.3	15.7	0.31
MXEF	6.1	25.3	0.23
UST	1.5	6.8	0.16
US Agg	2.2	4.1	0.44
US HY	3.1	11.2	0.24
EMD	5.2	12.6	0.38
30-day Tbill	0.4	1.2	

*Source: Verus Investment Consultant December 2021

Adding EMD to a portfolio is expected to continue to improve return and risk profile





For additional information about S&P, EM Equities, Bloomberg Agg, U.S. HY, EMD, EMLC, SPX, MXEF and FTSE-All referenced throughout the material, please see Index Description on page 35.

Source: Itaú USA Asset Management and Bloomberg, as of August 31, 2022, unless otherwise indicated.

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Index Description

S&P and SPX refers to S&P 500 Total Return Index
S&P 500 Total Return Index. Calculated intraday by S&P based on the price changes and reinvested dividends of SPX <INDEX> with a starting date of Jan 4, 1988.

EM Equities and MXEF refers to MSCI Emerging Markets Index
The MSCI Emerging Markets Index captures large and mid cap representation across 27 Emerging Markets (EM) countries. With 1,418 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.*EM countries include Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates

Bloomberg Agg Refers to Bloomberg U.S. Aggregate Bond Index
The Bloomberg US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency). (Future Ticker: I00001US)

U.S HY Refers to Bloomberg U.S. Corporate High Yield Bond Index
The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded.

EMD or JPM EMBIG Diversified refers to JP Morgan EMBI Global Diversified
The Emerging Market Bond Index Global Diversified (EMBIGD) is a uniquely weighted USD-denominated emerging markets sovereign index. It has a distinct diversification scheme which allows a more even weight distribution among the countries in the index.

FTSE-All Refers to FTSE All World Equity Index
The FTSE All-World Index is a market-capitalisation weighted index representing the performance of the large and mid cap stocks from the FTSE Global Equity Index Series and covers 90-95% of the investable market capitalisation. The index covers Developed and Emerging markets and is suitable as the basis for investment products, such as funds, derivatives and exchange-traded funds.

EMLC refers to JP Morgan Global Bond Index- Emerging Markets Diversified Unhedged in USD
The Government Bond–Emerging Market Index(GBI-EM) series, launched in June 2005, the first comprehensive global emerging markets index of local government bond debt that tracks local currencybonds issued by emerging market governments.

Milliman

INDEX

Public Pension Funding Index October 2022

September markets decrease public pension funded ratio from 75.0% to 69.3%

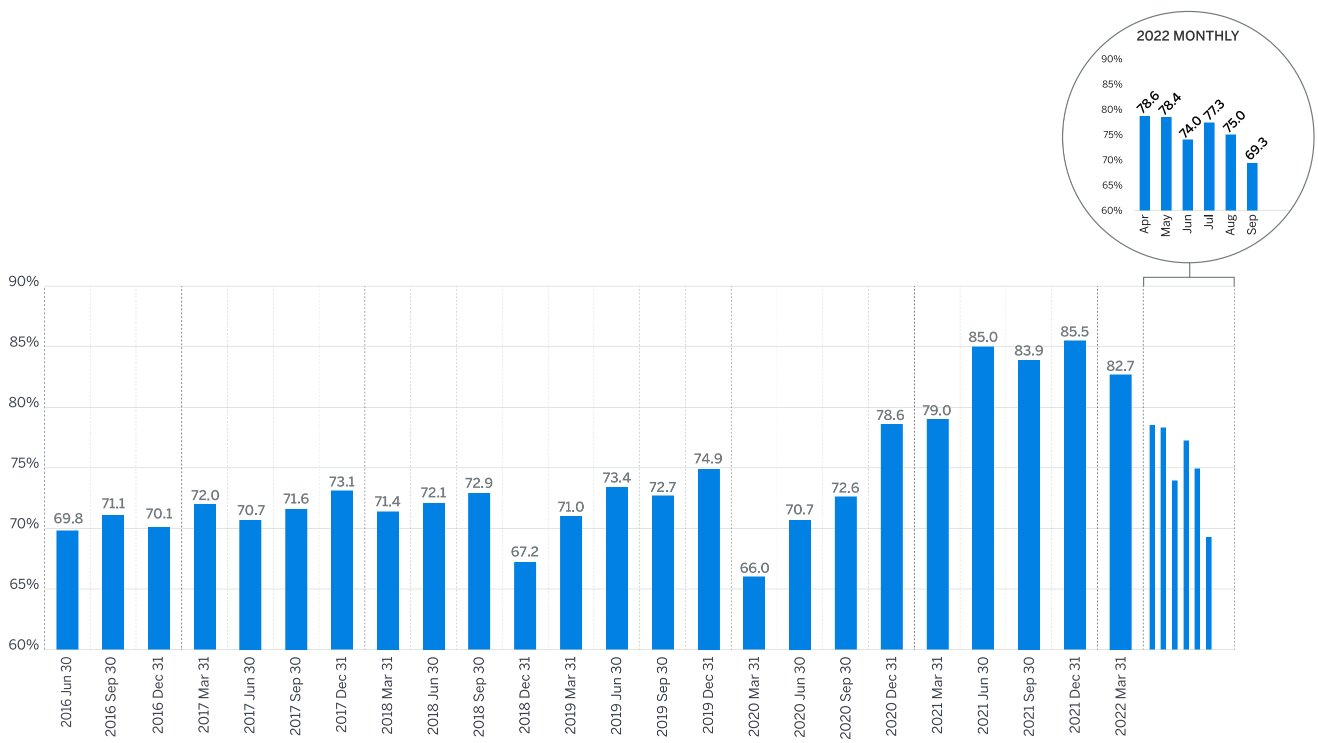
By Richard L. Gordon and Rebecca A. Sielman

21 October 2022

Continued slump in September markets causes $341 billion drop in funded status

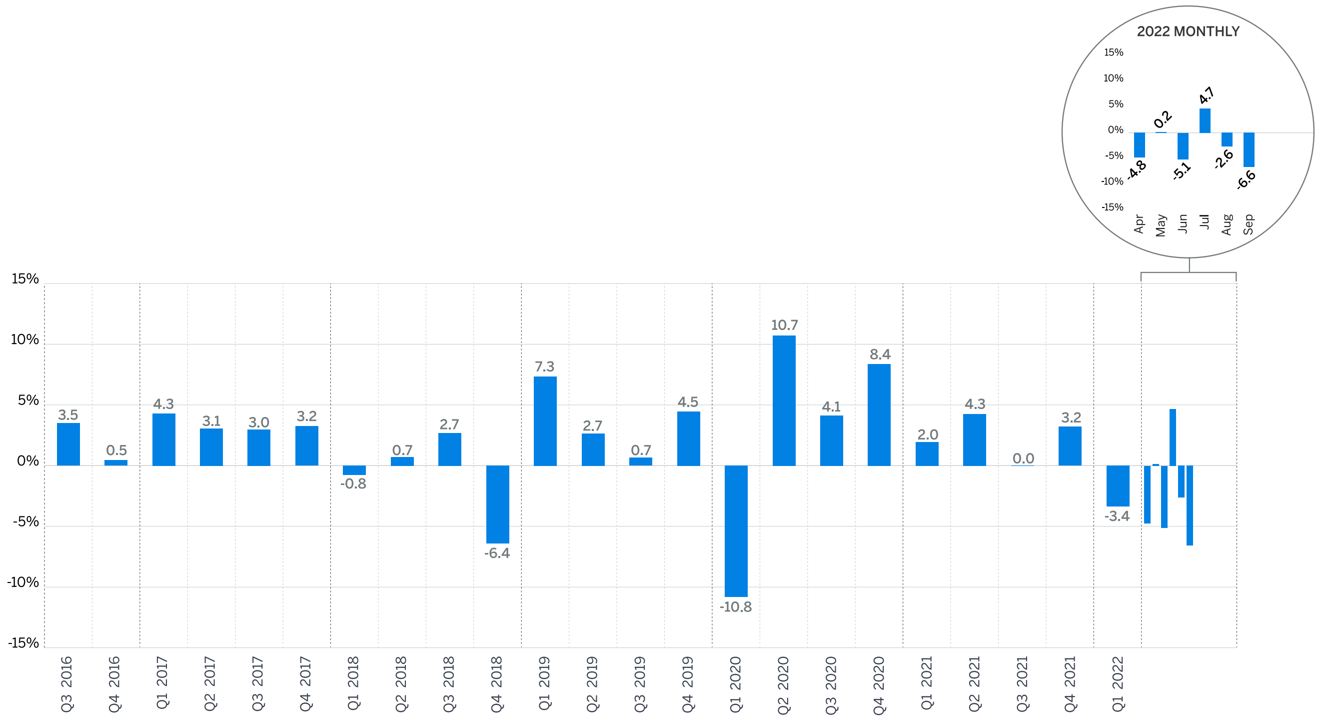
Very poor market performance during September 2022 lowered the estimated funded status of the 100 largest U.S. public pension plans from 75.0% as of August 31, 2022, to 69.3% as of September 30, 2022, as measured by the Milliman 100 Public Pension Funding Index (PPFI). The deficit between the estimated assets and liabilities rose during September, from $1.467 trillion at the beginning of the month to $1.808 trillion at the end of the month.

Figure 1: PPFI funded ratio



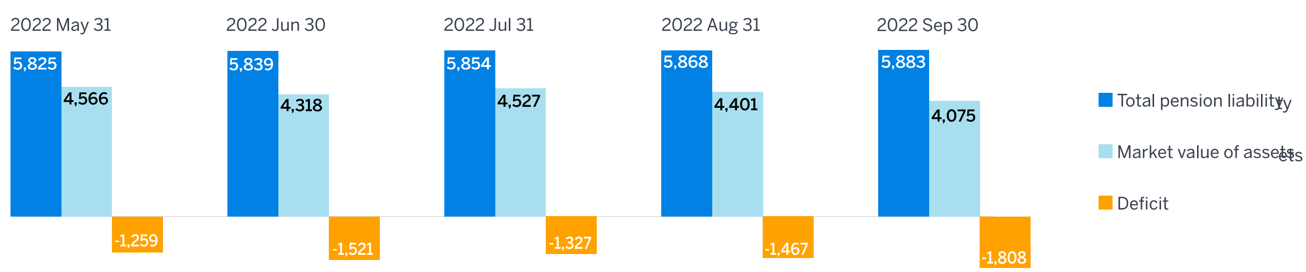
In aggregate, we estimate the PPFI plans experienced investment returns of -6.6% in September, with individual plans' estimated returns ranging from -9.6% to -3.3%. The Milliman 100 PPFI asset value decreased from $4.401 trillion as of August 31, 2022, to $4.075 trillion as of September 30, 2022. During September, the plans lost market value of approximately $318 billion, on top of an approximately net negative cash flow of $8 billion.

Figure 2: PPFI investment returns



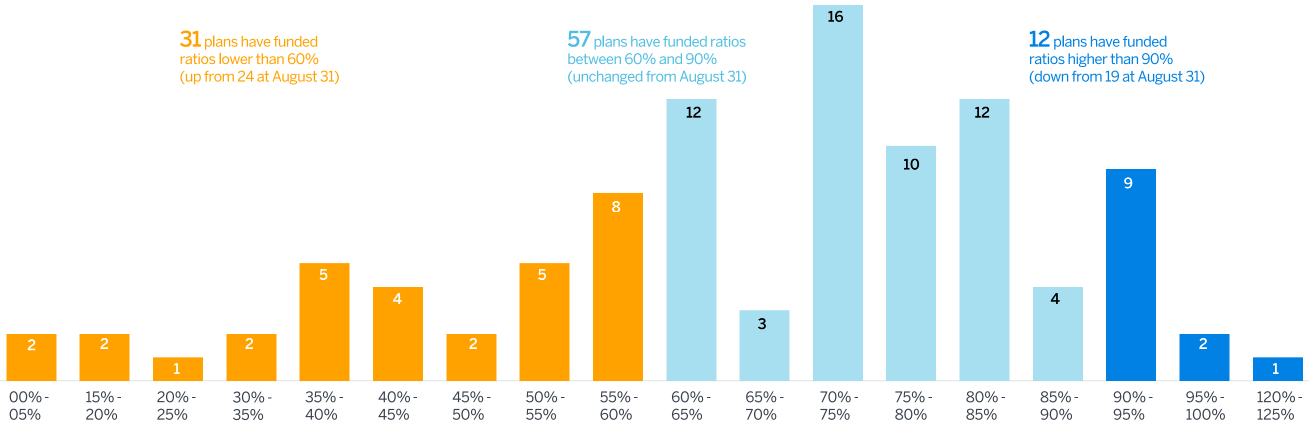
The total pension liability (TPL) continues to grow and stood at an estimated $5.883 trillion as of September 30, 2022, up from $5.868 trillion as of August 31, 2022. Just as pension assets grow over time with investment income and shrink over time as benefits are paid, so too does the TPL grow over time with interest and shrink as benefits are paid. The TPL also grows as active members accrue pension benefits.

Figure 3: PPFI funded status



September's market decline pushed seven plans below the 90% funded mark at September 30, 2022; now 12 plans still stand above this benchmark compared to 19 at the end of August 31, 2022, and 46 at the close of 2021. Meanwhile, at the lower end of the spectrum, seven plans fell below 60% funded, bringing the total number of plans under this mark to 31, up from 24 at August 31, 2022, and 18 at the close of 2021.

Figure 4: Funded ratios at September 30, 2022



About the Public Pension Funding Index

This update is an estimate based on Milliman's annual Public Pension Funding Study and updated for market returns from June 30, 2021, to September 39, 2022. The 2021 annual study reflects adjustments made as of the end of June 30, 2021, to reflect updated publicly available asset and liability information gathered for the annual study.

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Emerging Market Macro Insights

Monthly report

Invesco Fixed Income

November 2022

Jason Martin
Portfolio Strategist,
Invesco Fixed Income

Gerald Evelyn
Client Portfolio Manager,
Invesco Fixed Income

With contributions from Mohit Patel, Associate Product Manager, Invesco Fixed Income

Overview

- The overall EM asset class has performed poorly year-to-date, but EM local debt has done well on a relative basis.
- We believe the next three to six months will be critical to the performance of EM local debt, as markets watch for signs of moderating inflation and slowing interest rate hikes.
- In Egypt, we favor hard currency over local currency debt but are watching the Egyptian pound and reform measures to fight inflation, as we weigh their relative attractiveness.

Unlocking EM debt opportunities could hinge on the next three to six months

The absolute return of the emerging market (EM) asset class is down year-to-date, but EM local debt has done well on a relative basis. It has outperformed EM hard currency and some other US duration-sensitive asset classes like longer-term US Treasuries. In terms of EM currencies, they have performed well in 2022 versus developed market currencies, except versus the US dollar. All major EM currencies, for example, have posted positive returns year-to-date, from a total return perspective, compared to the euro, except the Taiwanese dollar, Hungarian forint, Colombian peso and South Korean won. The Brazilian real and Mexican peso have performed particularly well, returning a whopping 39.7% and 29.3%, respectively, in euro terms.[1] EM interest rates have generally tracked the path of US 5-year Treasuries, though from different starting levels and magnitudes.

With the Fed's hiking cycle likely to end in the next few months, China likely to gradually reopen, geopolitical tensions likely to ease, and US dollar strength likely to temper, global interest rate volatility should begin to ebb and could provide active managers with fertile ground for alpha generation in EM local debt in 2023. However, we believe the next three to six months will likely be critical – especially for early signs of moderating inflation and subsequently greater transparency on the pace of monetary tightening across developed and developing markets.

Market pulse

We have continued to see a steady pace of rate hikes in Asia over the past month, with 50 basis point hikes in Indonesia and Korea. In Latin America, Brazil remained on hold, where the central bank suggested that rates would stay higher for longer at the peak of the cycle. Forward looking real rates are starting to look attractive, in our view. Colombia was effectively forced into a unanimous 100 basis point rate hike after political uncertainty caused a large depreciation in its currency. Unfortunately, this decision was still viewed as a disappointment and, with no meeting in November, the market will likely wait to see the policy response in December. Chile and Peru slowed their pace of hikes to 50 and 25 basis points, respectively. Peru posted strong disinflationary data in October, and we expect the central bank's rate setting board to end its tightening cycle at 7.00%.

While only Poland had a policy rate decision in Central and Eastern Europe (CEE) in October, the region was anything but calm. The National Bank of Poland decided to remain on hold versus market expectations of a 25-basis point hike and provided forward guidance suggesting an impending end to the cycle as in the Czech Republic and Hungary, who had communicated a similar message in September. Hungary's decision to end its cycle at a policy rate of 13% was quickly challenged by the market and the National Bank of Hungary had to introduce a new policy tool, effectively hiking short-term rates to 18%, to help stabilize the currency.[2]

An interesting observation in EM is that the early hikers (mostly in Latin America and some CEE countries) have generally continued to do well from a growth perspective. While their respective inflation data are now moderating, and

1. Source: Bloomberg L.P. Data from Jan. 1, 2022 to Nov. 13, 2022.
2. Source: Bloomberg L.P. Data as of Oct. 14, 2022.

many have indicated an end to their hiking cycles, we believe it will be important to monitor their inflation and growth paths over the next two quarters. If inflation moderates, many of the early hikers could face significantly positive real interest rates, allowing them room to reverse monetary policy if growth declines more than expected. Current market consensus is that Brazil and Chile will be able to cut rates first, and potentially as early as the first quarter of 2023. Others, however, may be forced to resume their hiking cycles, including Poland and the Czech Republic, if inflation remains elevated.

Country spotlight: Egypt IMF package announced

In November a more than USD3 billion International Monetary Fund (IMF) package was announced. In the prior month, the Egyptian pound had depreciated by around 19.5 to 23.0 (roughly 17% depreciation).[3] The Global Debt Team has favored hard currency over local currency interest rates and we maintain this view as the IMF package disappointed market expectations and caused interest rate curves in local currency to sell off and steepen. Additionally, the Egyptian Central Bank hiked interest rates by 200 basis points to 18% at the same time the package was announced and rates on local Treasury bills could rise as high as 20%. The key catalysts that will likely determine the relative attractiveness of hard currency versus local currency Egyptian debt going forward will likely be the impact of the pound's depreciation and the reform program to fight inflation in 2023.

3. Source: Bloomberg L.P. Data from Oct. 1, 2022 to Oct. 31, 2022.

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The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested.

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The risks of investing in securities of foreign issuers, including emerging market issuers, can include fluctuations in foreign currencies, political and economic instability, and foreign taxation issues.

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All data as of November 15, 2022, unless otherwise stated. All data is USD, unless otherwise stated.

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PIMCO

Risk-Off, Yield-On

With interest rates higher amid a challenging macro environment, we see a compelling case for bond allocations and are cautious about higher-risk investments.

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EXECUTIVE SUMMARY

- We believe caution is warranted during a period of elevated inflation and an economic slowdown. And yet, the volatility in financial markets over the course of 2022 has created attractive investment opportunities, in our view.
- We see a compelling case for bonds. Alongside what we see as attractive yield potential, fixed income also looks favorable from a macroeconomic perspective – bonds historically tend to be resilient in a recession.
- We believe investors should be thoughtful and selective when approaching investments in equities, real assets, and other higher-risk markets. We assess a range of market and macro factors to inform our thinking on when and how to re-engage more broadly with risk assets.

An extreme shift in macroeconomic conditions over the course of 2022 and the corresponding impact on financial markets have significantly altered the relative attractiveness of asset classes.

Markets are moving away from a "TINA" world (where "there is no alternative" to equities) to one in which fixed income is increasingly appealing.

Yet, as we navigate a period of elevated inflation and an economic slowdown, our starting point is one of caution. PIMCO's business cycle models forecast a recession across Europe, the U.K., and the U.S. in the next year, and the major central banks are pressing ahead with policy tightening despite increasing strain in financial markets. The economy in developed markets is also under growing pressure as monetary policy works with a lag, and we expect this will translate into pressure on corporate profits.

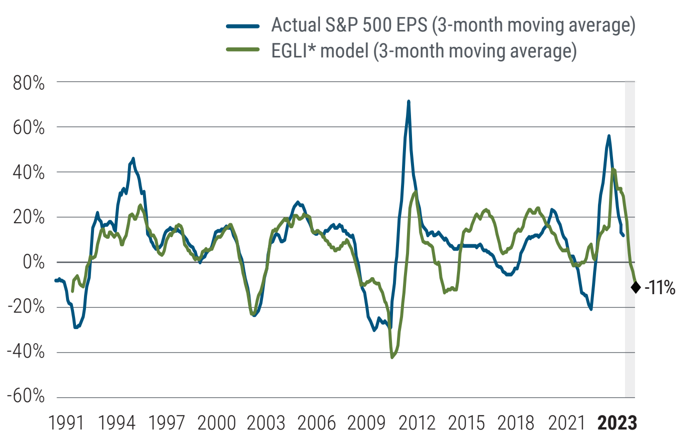
We therefore maintain an underweight in equity positioning, disfavor cyclical sectors, and prefer quality across our asset allocation portfolios. The return potential in bond markets appears compelling given higher yields across maturities. As we look toward the next 12 months and the eventual emergence of a post-recession, early cycle environment, we will assess a range of market and macro factors to inform our thinking on when and how to re-engage with risk assets.

KEY MARKET SIGNALS

We will watch for several conditions to shift before we would consider risk assets as attractive investments again. First, in order to gain confidence around estimates of fair value, we need convincing evidence that inflation has peaked and that the “risk-free” interest rate has stabilized. While the U.S. Federal Reserve remains focused on taming inflation, there still may be upside risk to the hiking path as the central bank weighs the risk of a hard landing.

Next, we believe corporate earnings estimates globally remain too high and will have to be revised downward as companies increasingly acknowledge deteriorating fundamentals. At the time of this writing, Bloomberg’s consensus 2023 earnings growth estimate for the S&P 500 is 6%, or 8% excluding the energy sector. In addition, consensus estimates embed expectations of expanding profit margins, even though revenue is likely to slow along with demand while costs stay elevated. Bloomberg’s consensus estimates for earnings growth stand in contrast to the −11% growth suggested by PIMCO’s Earnings Growth Leading Indicator – see Figure 1. Historically, earnings per share (EPS) estimates have declined by 15% on average during recessions; this would indicate a mild recession could see a smaller drawdown in the mid-single-digits. In summary, only when rates stabilize and earnings gain ground would we consider positioning for an early cycle environment across asset classes, which would likely include increasing allocations to risk assets.

Figure 1: PIMCO’s proprietary EPS leading indictor signals contracting earnings growth

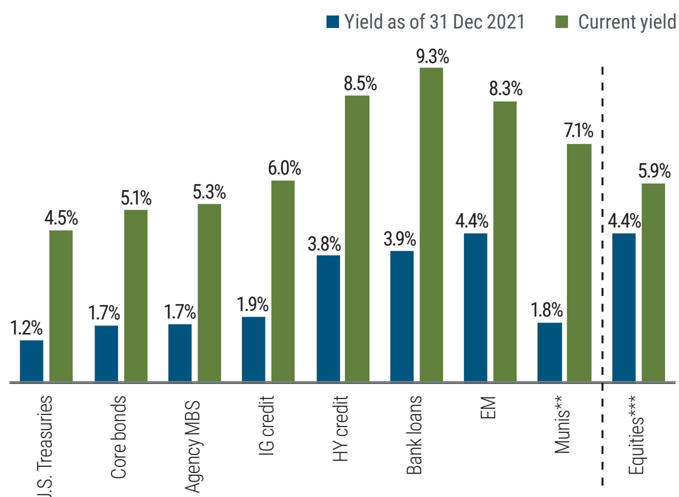


Source: Bloomberg, PIMCO calculations as of 14 October 2022. EPS = earnings per share. *EGLI = PIMCO’s Earnings Growth Leading Indicator, a proprietary measure using various economic indicators and market data to forecast the annual earnings growth of the S&P 500.

CROSS-ASSET VALUATION CONSIDERATIONS

For asset allocation portfolios, a major consequence of higher rates is that the equity tailwind of “TINA” (there is no alternative) has moved to an equity headwind of “TARA” (there are reasonable alternatives). The era of unconventional monetary policy following the global financial crisis reached its zenith during the COVID-19 pandemic, with the market value of negative-yielding global debt peaking at more than $18 trillion, according to Bloomberg. At the end of 2021, a U.S. investor had to venture into emerging market U.S.-dollar-denominated debt to find an asset class in line with the S&P earnings yield. Only 11 months later, an investor can target a higher absolute yield in global investment grade bonds without even accounting for the riskier profile of equities. The earnings yield in equities has lagged the move higher in rates, which in our view is another sign that equities are expensive, making other assets relatively more attractive – see Figure 2.

Figure 2: The increase in yields* for fixed income has created more attractive alternatives for equities



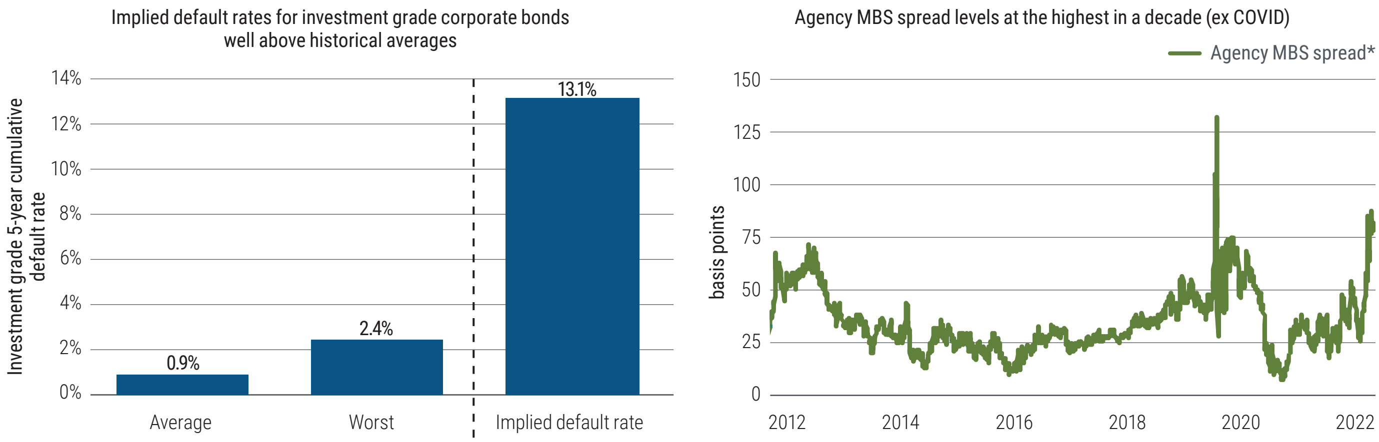
Source: PIMCO, Bloomberg as of 24 October 2022. Index proxies for asset classes displayed are as follows: U.S. Treasuries: Bloomberg U.S. Treasury Index, Core bonds: Bloomberg U.S. Aggregate Index, Agency MBS (mortgage-backed securities): Bloomberg MBS Fixed Rate Index, IG (investment grade) credit: Bloomberg Global Aggregate Credit Index (USD Hedged), HY (high yield) credit: ICE BofAML U.S. HY BB-B Rated Index, Bank loans: JP Morgan Liquid Loan Index, EM (emerging markets): J.P. Morgan EMBI Global, Munis: Bloomberg Municipal Bond Index, Equities: S&P 500 Index.

*Yield to worst, which is the yield resulting from the most adverse set of circumstances from the investor’s point of view, or the lowest of all possible yields.

**Municipal yields are the tax equivalent yields, or the yield to worst adjusted by the highest marginal tax rate (40.8%). Tax equivalent yield is intended for U.S. domiciled investors and is the return that a taxable bond would need to equal the yield on a comparable federal tax-exempt municipal bond. The yield to worst for municipals is 1.1% as of 31 December 2021 and 4.2% as of 24 October 2022.

***Yield for equities is forward earnings yield for the S&P 500 Index.

Figure 3: Underlying fundamentals and attractive valuations create opportunties in fixed income in this economic environment



Source: PIMCO, Bloomberg as of 25 October 2022. Agency MBS is represented by the Bloomberg U.S. MBS Index, Investment grade credit is represented by the ICE BofA U.S. Corporate Index. Implied default rate is computed assuming a 40% recovery rate.
*Option-adjusted spread.

Alongside the higher yield potential, fixed income also looks more attractive in the context of our macroeconomic views. Figure 3 shows how U.S. household and corporate balance sheets are relatively healthy, especially when measured against wide investment grade spreads over U.S. Treasuries that imply a five-year default rate of 13% (assuming a 40% recovery rate), well above the worst realized default rate of 2.4% for a five-year period. Spreads for U.S. agency mortgage-backed securities (MBS), which overall are AAA rated assets, are at the widest levels in the last decade outside of the liquidity crisis in 2020 during the pandemic. In contrast, equity earnings expectations still have not priced in the risk of recession. And looking ahead, we believe investments in fixed income would tend to be resilient in a recession, when central banks typically cut policy rates.

THE SECULAR SHIFT TOWARD RESILIENCE

In our view, fixed income has also become more attractive relative to equities when looking over the secular (longer-term) horizon. As the economy transitions from decades of globalization to a more fractured world in which governments and companies focus on building resilience, we expect a reversal of some of the previous era's tailwinds for equity returns. Indeed, as highlighted in PIMCO's latest *Secular Outlook*, "Reaching for Resilience," we believe companies will need to build more robust supply chains through geographical diversification and re-shoring. Capital expenditures and inventory levels will both increase as businesses shift from "just in time" to "just in case." The prioritization of resilience over efficiency will tend to pressure corporate margins, reversing the long-standing improvement in return on equity derived from cost reductions made possible by globalized supply chains. Simultaneously, after a 20-year period of declining effective tax rates, we believe tax burdens in many countries will rise as corporate tax increases are passed, windfall taxes come into the mainstream, and governments move toward a global minimum tax.

Given the uncertainties in the longer-term global macro outlook, investors are likely to require higher equity risk premia, putting pressure on equity multiples. In contrast, starting bond yields, which tend to be a good indicator of future returns, have increased significantly, implying attractive long-term return potential. Thus, over the secular horizon, fixed income should become structurally more attractive than equities, which have benefitted from a low rate environment for the last two decades.

ASSET ALLOCATION THROUGH RECESSION AND RECOVERY

After a year of sustained central-bank-induced drawdowns across most asset classes, and with many investors pushed to broadly de-risk portfolios in both duration and equities, the coming months could bring crucial events that break the trend.

Our base case of an economic slowdown or recession would bring demand destruction and ease inflationary pressures, which also implies that the U.S. fed funds rate may peak in early 2023. If the Fed is able to pause or even cut rates in an environment of decelerating inflation, this could limit the depth of a U.S. recession and chart a path toward a more normal economic environment, in which different asset classes tend to respond in different ways through the stages of the business cycle (instead of responding in generally the same way – i.e., poorly – as they have in 2022). Investors should therefore consider not just how to position for entering a recession, but how to invest as the recession progresses, and what indicators to watch as they consider increasing their exposure to risk assets. The typical business cycle and hiking cycle playbooks can be a useful guide, but it is also important to consider the differences in this cycle.

Figure 4 shows the historical (since 1975) behavior of key asset classes throughout the typical business and hiking cycle: During economic expansions, company earnings tended to grow, driven by consumer spending and investment, so that equities and credit had the strongest performance. During recessions, investors moved into more defensive asset classes like government bonds or cash. Splitting the cycle into sixths gives even greater granularity on asset class timing, since the market would often price the next phase of the cycle before it began.

Figure 4 shows how in a transition from late-phase expansion to recession, credit was usually the first risk asset to underperform, followed by equities and commodities. Credit was also the first risk asset to recover, starting in the middle of a recession and through early expansion. Duration (i.e., investments in interest-rate-sensitive assets such as sovereign bonds, as represented by the 10-year U.S. Treasury in Figure 4) has not usually provided much buffer to a portfolio in the very early stages of a recession, and only outperformed when the recession deepened. Understanding this behavior is key to repositioning portfolios throughout the business cycle. In contrast, Fed rate cycles have displayed a lower correlation to equity performance historically, but had a more direct impact on rates and the U.S. dollar.

Figure 4: Historical asset class Sharpe ratios by phases of the business cycle and hiking cycle

Asset class Sharpe ratios by business cycle phase

Phase	Equities	Credit	10-yr Treasury	Oil	Gold	USD
Expansion - First Third	0.63	0.76	0.46	0.27	(0.07)	0.01
Expansion - Second Third	0.58	0.26	0.19	(0.01)	(0.20)	(0.15)
Expansion - Final Third	0.42	(0.21)	(0.06)	0.35	0.32	0.09
Recession - First Third	(1.78)	(0.77)	0.04	0.27	(0.56)	(0.14)
Recession - Second Third	(0.68)	1.03	1.98	(2.55)	(0.27)	0.34
Recession - Final Third	1.72	2.15	0.59	(0.18)	0.99	0.88

Asset class Sharpe ratios by Fed cycle phase

Phase	Equities	Credit	10-yr Treasury	Oil	Gold	USD
Cutting	0.41	1.28	1.70	(0.27)	0.19	0.01
Hiking	0.38	(0.22)	(0.20)	0.56	0.24	0.28
Neutral	0.74	0.62	0.41	0.18	0.04	(0.11)
Cycle average	**0.55**	**0.49**	**0.61**	**0.13**	**0.16**	**0.03**

Source: PIMCO, Bloomberg, NBER (U.S. National Bureau of Economic Research) as of 17 October 2022. Sharpe ratios are calculated using data since 1975. Equities are represented by the S&P 500 Index, Credit is represented by the Bloomberg U.S. Corporate Total Return Index, USD (U.S. dollar) is represented by the DXY Index. Recessions and expansions are defined by NBER

While acknowledging that history is never a perfect guide, we believe that despite the unusually rapid 2020–2022 cycle, we could see more typical behavior in the coming cycle. As a recession begins and inflation slows, duration is likely the first asset class to be poised for outperformance, especially in rate-sensitive countries like Australia and Canada as well as select emerging markets that are ahead in the hiking cycle. In the U.S., unlike previous cycles, we do not expect a rapid transition from Fed hikes to rate cuts and the ensuing market support. But even without a significant rate rally, U.S. Treasury yields are already high enough to offer compelling return just from the income alone. In addition, a stabilization in rates could draw more investors back into the asset class.

Once a recession is underway and the initial deleveraging is mostly done, we expect high quality investment grade credit spreads would also begin to tighten. This year, the initial condition of corporate balance sheets is generally healthy, and we view a default wave as unlikely, especially considering the Fed's continuing focus on financial stability and functioning credit markets.

Finally, high yield credit and equities generally only rally late in a recession and early in an expansion, once the credit markets have stabilized sufficiently that companies can begin to re-leverage in pursuit of growth while rising employment supports consumer sentiment. To reach that rally point, equity valuations will need to adjust to a level appropriate to the level of the fed funds rate, real yields, and the broader earnings outlook, so that they offer a risk premium consistent with a recessionary environment.

FINAL TAKEAWAY

The swift change in macroeconomic conditions over the course of 2022 has brought caution to the fore. Simultaneous drawdowns in equities and bond markets not experienced in decades have many investors waiting for more certainty on the path of interest rates and the severity of a looming recession.

At PIMCO, we believe caution is warranted during a period of elevated inflation and an economic slowdown. And yet, the volatility in financial markets over the course of 2022 has created several compelling investment opportunities. Most notably, we see ample evidence that both the near- and long-term case for fixed income is strong today. Higher starting yields have increased long-term return potential, while higher-quality bonds should resume their role as a reliable diversifier against equities if a recession materializes. We believe investors should be cautious and selective when approaching investments in equities, real assets, and other higher-risk markets, seeking the best relative opportunities both within and across asset classes. In addition, it will be critical to position portfolios to withstand additional volatility and capitalize on dislocations through the next business cycle.

As we emerge from the "TINA" environment that has characterized much of the last decade, the menu has expanded and investors should be encouraged about the opportunities on the horizon.

PIMCO

The “risk-free” rate can be considered the return on an investment that, in theory, carries no risk. Therefore, it is implied that any additional risk should be rewarded with additional return. All investments contain risk and may lose value.

Past performance is not a guarantee or a reliable indicator of future results.

Investing in the **bond market** is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and low interest rate environments increase this risk. Reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. Income from **municipal bonds** is exempt from U.S. federal income tax and may be subject to state and local taxes and at times the alternative minimum tax. Investing in **foreign-denominated and/or -domiciled securities** may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. **Mortgage- and asset-backed securities** may be sensitive to changes in interest rates, subject to early repayment risk, and their value may fluctuate in response to the market’s perception of issuer creditworthiness; while generally supported by some form of government or private guarantee, there is no assurance that private guarantors will meet their obligations. **High yield, lower-rated securities** involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. **Bank loans** are often less liquid than other types of debt instruments and general market and financial conditions may affect the prepayment of bank loans, as such the prepayments cannot be predicted with accuracy. There is no assurance that the liquidation of any collateral from a secured bank loan would satisfy the borrower’s obligation, or that such collateral could be liquidated. **Commodities** contain heightened risk, including market, political, regulatory and natural conditions, and may not be appropriate for all investors. **Equities** may decline in value due to both real and perceived general market, economic and industry conditions. **Diversification** does not ensure against loss.

Statements concerning financial market trends or portfolio strategies are based on current market conditions, which will fluctuate. There is no guarantee that these investment strategies will work under all market conditions or are appropriate for all investors and each investor should evaluate their ability to invest for the long term, especially during periods of downturn in the market. Investors should consult their investment professional prior to making an investment decision. Outlook and strategies are subject to change without notice.

The credit quality of a particular security or group of securities does not ensure the stability or safety of an overall portfolio. The quality ratings of individual issues/issuers are provided to indicate the credit-worthiness of such issues/issuer and generally range from AAA, Aaa, or AAA (highest) to D, C, or D (lowest) for S&P, Moody’s, and Fitch respectively.

The **option adjusted spread (OAS)** measures the spread over a variety of possible interest rate paths. A security’s OAS is the average earned over Treasury returns, taking multiple future interest rate scenarios into account. The Sharpe Ratio measures the risk-adjusted performance. The risk-free rate is subtracted from the rate of return for a portfolio and the result is divided by the standard deviation of the portfolio returns.

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S&P Global Ratings

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Pension Brief: A Closer Look At A New Actuarial Liability Measure And What It Means For U.S. Public Finance Issuers

November 15, 2022

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What Is The New Actuarial Liability Measure?

The Actuarial Standards Board (ASB), which sets and monitors actuarial practices in the U.S., is mandating that effective Feb. 15, 2023, actuarial funding reports include a new liability measure called the low-default-risk obligation measure (LDROM). This new liability measure supplements the actuarial funding recommendations in the report.

There are multiple definitions of pension liability that might be useful for analyzing an issuer's finances. Here are a few such definitions:

- Total pension liability (TPL): Reported in financial audits, this accounting liability is based on a discount rate typically equal to the assumed asset return, although it could be lower if funding discipline is poor.
- Actuarial accrued liability (AAL): Included in the actuarial funding valuation, the actuary uses this to guide their contribution recommendations. This funding liability is typically based on a discount rate equal to the assumed asset return.
- Low-default-risk obligation measure (LDROM): To be included in the actuarial funding valuation and based on a very low discount rate derived from low-default-risk fixed income securities. The impact of a lower discount rate is a higher liability calculation.

LDROM: What It Is And What It Isn't

The LDROM could provide additional information regarding the security of benefits that members have earned as of the measurement date. Plan sponsors have flexibility to define LDROM in multiple ways, as long as the discount rate is very low. For example, it could be defined such that neither benefit accruals nor assets are projected to grow for the employee population, similar to how corporate liability is calculated, which would provide a point-in-time measure of liability. However, S&P Global Ratings expects that LDROM will generally be calculated with projected benefit accruals, but without expected asset growth--essentially the funding calculation (AAL) but with the lower discount rate. This could be used to hypothetically indicate what future costs might be if the plan were to practically eliminate market risk from its asset profile.

We foresee that the inclusion of LDROM could result in some confusion and potential misunderstanding, as it will have the lowest funded ratio, which is likely to generate discussion and could be misconstrued as a true measure of funded status. Although LDROM could be a valuable tool in risk and benefit security discussions, it does not represent a real-word expectation of future funding needs, so a ratio of assets to LDROM may be less of a "funded ratio" than a tool for risk analysis. For S&P Global Ratings to view a low discount rate as a conservative assumption, it would expect to see less volatile investments, and that is not necessarily the case with LDROM. Given the ongoing nature of governmental entities, the inherent revenue and expenditure flexibility to absorb minor variations in benefit costs, and the long time frame over which benefits are accrued and paid, S&P Global Ratings does not expect U.S. public finance issuers to adopt nearly risk-free pension funding practices.

How Will S&P Global Ratings Use This Information In Determining Ratings?

When assessing benefit obligations and their associated funded status, we analyze the TPL as reported in a plan or issuer's audit. Under guidelines set by the Governmental Accounting Standards Board that are applicable for all public sector plans, the TPL best suits the purpose of measuring expected future obligations while being comparable across the public sector. We have detailed our views on differing approaches to the discount rate in our article, "Looking Forward: The Application Of The Discount Rate In Funding U.S. Government Pensions," published Sept. 13, 2018, on RatingsDirect.

Our focus on the actuarial funding valuation, within ratings, is primarily toward the expected contributions, and associated assumptions and methods in the calculation, that might help us assess funding discipline and future budgetary stress for an issuer.

We incorporate additional information, including the LDROM and any other useful information that is provided outside of the audit, on a credit-specific basis. Conceptually, a plan's assets are invested to provide the long-term assumed return, typically near 7% for public plans in the U.S., and the LDROM might be a useful way to measure market risk in the pension trust by comparing it to the AAL, assuming it's defined according to our expectations noted above. This could then be used as an illustration of market-driven contribution volatility risk for a specific issuer, which could aid in credit risk analysis because a plan's funded level, if based on risky investments, could quickly turn in down markets.

Additional Complications With The LDROM As A Risk Metric

As a risk metric, there could be complications with the LDROM calculation for variable or risk-sharing benefits that the plan actuary is expected to discuss in detail. Examples of state pension plans with variable benefits include:

- South Dakota Retirement System: If the funded ratio were to fall below 100%, the cost-of-living adjustment (COLA) would be lowered to reach 100% funding.
- Tennessee Consolidated Retirement System: COLAs, as well as active and employer contributions, may be adjusted to maintain full funding.
- Wisconsin Retirement System: Benefit levels, as well as active and employer contributions, may be adjusted to maintain full funding.

The LDROM for the above plans might not reflect these variable risk-sharing attributes if the only change is the discount rate, and so would require further discussion from the actuary to fully understand market risk to an issuer sponsoring such a plan. For more detail on risk-sharing plans, see "Pension Spotlight: Risk Sharing Dilutes Pension Burden For Five States," published April 21, 2021.

Related Research

- Pension Spotlight: Risk Sharing Dilutes Pension Burden For Five States, April 21, 2021
- Looking Forward: The Application Of The Discount Rate In Funding U.S. Government Pensions, Sept. 13, 2018

This report does not constitute a rating action.

Final DOL Rule Permits ESG in ERISA Plans

The DOL published a final rule that makes it easier for sponsors to take ESG factors into account in investments and shareholder activism, reversing a Trump-era rule.
November 23, 2022

The Department of Labor published the final rule on ESG investment in ERISA-governed plans Tuesday, solidifying long-awaited permission to use environmental, social and governance analysis in retirement investing, but not making it mandatory. Even as the decision came down, however, there are still details to be worked out for real-world implementation, according to multiple ERISA attorneys.

As legal authority for the rule, the DOL cites Executive Orders 14030, which directed the federal government to protect pensions from climate risk, and Executive Order 13990, which instructed federal agencies to evaluate Trump-era regulations that could be obstacles to improving the environment.

The new rule is a reversal of a rule published in the closing days of President Donald Trump's term that intended to prevent consideration of ESG factors in investment choices for ERISA plans. In March 2021, the DOL under President Joe Biden announced it would review that rule and not enforce it in the meantime. The new rule clarifies that ESG factors may be considered in investment choices, among other changes.

One such change was that the Trump-era rule did not allow qualified default investment alternatives (QDIA) to take ESG into account, whereas the new rule permits it, according to Alex Ryan, a partner at the law firm Willkie Far & Gallagher.

Plans may also consider "collateral benefits" as a tiebreaker if both investments in question would equally serve the interests of the plan, whereas the Trump-era rule required the investments to be economically indistinguishable, which is a higher standard.

This new standard allows non-financial concerns to be used as a "tiebreaker," though Elizabeth Goldberg, a partner at the law firm Morgan Lewis, says those sorts of situations are relatively rare.

The new rule also allows plan sponsors to include investment menu options that take participants non-financial interests and preferences into account, as long as those menu options are still prudent. This provision is intended to increase plan participation by allowing sponsors to provide investment incentive beyond economic returns.

It is not clear, however, how participant preferences are to be measured in order to support a prudent investment option that might not have been included absent those expressed preferences.

Bradford Campbell, a partner at the law firm Faegre Drinker, says it is unclear if a sponsor should wait for explicit requests, or if it should send out surveys to gauge participant interest in certain funds.

Goldberg says these options still cannot sacrifice returns or take on additional risks, but it will take more time for it to become clear what sponsors can consider adequate participant demand or interest.

David Levine, co-chair of the Groom Law Group's plan sponsor practice, agrees that it will take some time for the precise meaning of the rule to be understood. When asked if participant demand for certain investments could be a defense against possible ERISA-related litigation, his response was that all involved will "have to see how this plays out."

Ryan says the DOL has not spelled out a process for sponsors to solicit or receive participant preferences for this purpose, and it ultimately may vary from employer to employer. This menu provision might provide some cover for sponsors who like to consider employee preference in investment options.

Several industry actors came out quickly in support of the new rule.

Charlie Nelson, the chief growth officer at Voya Financial said the menu provision could help firms attract competitive talent since many younger workers are seeking ESG-informed retirement options. Ceres, a sustainability non-profit, said that the new rule makes it easier to invest in ESG, which is a positive because climate risk impacts financial performance.

The Insured Retirement Institute said it had been concerned about the initial rule proposal but is glad to see that the group's recommendation of permitting ESG strategies rather than requiring them was ultimately accepted.

Campbell of Faegre Drinker explains that the perceived neutrality of the final rule, as opposed to the proposal, makes it less likely to be revoked or significantly modified by a future Republican administration.

He noted however, that this depends in part on who the next Republican president might be. Having already tried to remove ESG considerations from ERISA plans, Trump could do so again if he were elected in 2024, Campbell says. Since this new regulation is a formal rule, instead of interpretative guidance, it would be more difficult to reverse, as any anti-ESG administration would have to go through the normal notice and comment process to approve a new rule.

Goldberg concurs and adds that the rule adds some useful clarity for her foreign clients whose domestic laws require fiduciaries to account for ESG. Notable members of the Republican Party do not agree that this new rule is "neutral," however. Rep. Virginia Foxx, R-North Carolina and the ranking member of the House Committee on Education and Labor, released a statement

Tuesday in which she said the Biden administration was prioritizing political considerations over retirement security.

"The Biden administration's new rule jeopardizes the financial security of many retirement savers, especially workers and retirees who may be put into ESG investments by default," she said in the statement. "The new rule overturns the strong protections implemented by the Trump administration, which guarded retirement savers from investment managers seeking to advance social and political objectives unrelated to the financial benefits to workers and retirees. The Biden administration is choosing its climate and social agenda over retirees and workers. This is bad news."

On the Democratic side of the aisle, Sen. Patty Murray, D-Washington and the chair of the Senate HELP Committee, said in an emailed statement that, "Financial security is about planning for the future, and you just can't plan for the future if you aren't allowed to consider the environmental, social, and governance factors that are shaping it."

Tags: 401(k), DOL, EBSA, ERISA, ESG, investment menu

By Paul Mulholland

https://www.ai-cio.com/news/final-dol-rule-permits-esg-in-erisa-plans/?apos=1_art&utm_source=newsletter&utm_medium=email&utm_campaign=CIOAlert&oly_enc_id=3792C1395467B1W

THE NCPERS
MONITOR
The Latest in Legislative News
November 2022

In This Issue

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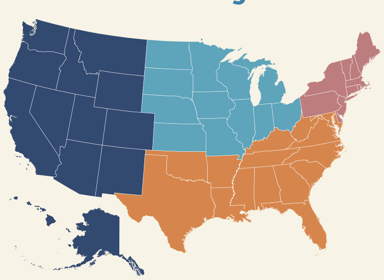
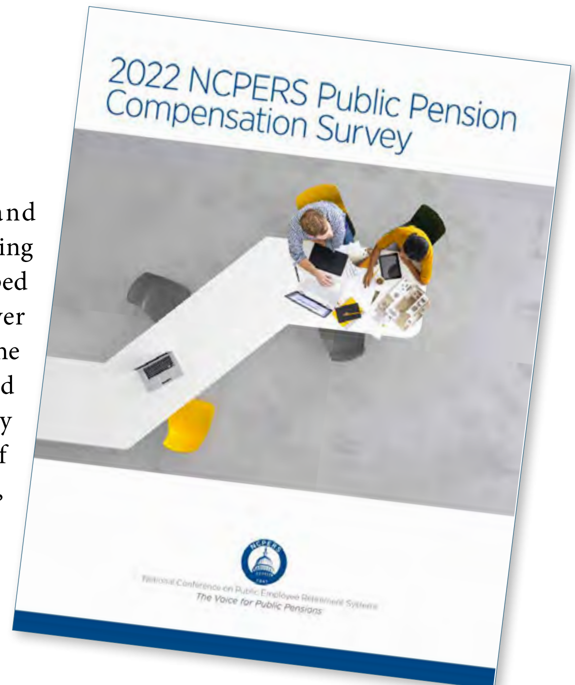


2022 Public Pension Compensation Survey Now Available



The COVID-19 pandemic and historic levels of workers quitting their jobs have rapidly reshaped the American workplace over the last few years. At the same time, the makeup of the workforce has changed dramatically. Nearly 29 million baby boomers retired in 2020, an increase of more than 3 million from the year prior, according to Pew Research Center.

During this era known as "the Great Resignation," recruiting and retaining talent have been significant challenges across industries. In the most recent NCPERS Public Retirement Systems Study, 56 percent of reporting funds said they anticipate having a problem attracting and retaining skilled staff.

And—according to NCPERS newly released Public Pension Compensation Survey—that number has only continued to rise, with nearly 63 percent of respondents indicated that attracting and retaining skilled staff is a problem or is expected to become a problem soon.

The inaugural Public Pension Compensation Survey, conducted by Cobalt Community Research, was developed in response to the growing staffing challenges many public pension funds are experiencing. The report and corresponding interactive Tableau dashboard are intended to help funds benchmark their compensation and benefits packages against their peers.

The 2022 Public Pension Compensation Survey features in-depth data from 153 funds representing over 9 million active and retired individuals and almost 12,000 staff positions. The inaugural survey includes information on benefits provided to staff, union participation rates for senior executives, and detailed compensation data for executive staff, broken down by fund assets and employee tenure.

Last month, NCPERS hosted a webinar (available on demand) to explore the key findings from the survey and the current landscape for hiring in the public sector. William SaintAmour, Executive Director, Cobalt Community Research, discussed the survey methodology and shared insights from the report. The positions with the highest salaries are the chief investment officer (CIO) and the deputy CIO, while executive directors received the third highest salary overall, he noted. Many pension funds are also leaning into remote work as an employee benefit, with nearly sixty percent of survey respondents offering remote work and/or a flexible schedule.

Panelists agreed that flexibility is key to being able to attract and retain staff. “We're really pushing remote hybrid work arrangements within Oregon PERS. And we're seeing, particularly in the last few months, some very good quality candidates that are applying for our jobs because of that,” said Kevin Olineck, Director, Oregon Public Employees Retirement System.

Turning to recruitment strategies, Dan Cummings, EVP and Denver Managing Director, EFL Associates, noted that work in the public sector can be very fulfilling, and mission-driven work is very important for many professionals. He suggested that public pension systems showcase their entire compensation and benefits packages when hiring, thinking more in terms of ‘total rewards' such as professional development, flexibility, retirement benefits, or public service.

The 2022 Public Pension Compensation Survey can help public pensions evaluate their compensation and benefits packages to remain competitive with peers. With the interactive Tableau dashboard, funds are able to filter data in a number of ways to help optimize the mix of funds to which they would like to compare themselves. Filters include elements such as the type of participants served, size of fund by participant, number of systems administered, number of fund staff, number of fund investment staff, and how assets are managed.

NCPERS members can order a copy of the report and get access to the interactive dashboard by submitting this form to info@ncpers.org. Survey participants receive complimentary access to the report and dashboard. Please direct any questions or feedback about the survey to lizzy@ncpers.org. ◆

Public Pension Communications: Advocacy During Ongoing Political, Market Turbulence

Photo illustration © 2022, istock.com

October was National Retirement Security Month, created to raise awareness about what Americans need to guarantee each worker a secure retirement. However, research continues to show that Americans are feeling less optimistic about their retirement.

Workers' retirement confidence has hit a five-year low, according to the Bank of America 2022 Workplace Benefits Report. Only 56 percent of employees are confident that they will be able to reach their retirement goals. As defined benefit pensions become increasingly rare in the private sector, it's clear there is a growing retirement crisis—and it will likely get worse.

Only 56 percent of employees are confident that they will be able to reach their retirement goals.

Despite the mountain of evidence demonstrating that defined benefit pensions are a cost-effective tool to ensure retirement security and support employee retention rates, the media continues to paint a one-sided picture of long-term sustainability and value of pensions. As the voice for public pensions, NCPERS is here to set the record straight.

In September, Bloomberg published an op-ed arguing that pensions are overrated and workers should fully transition to 401(k) accounts. NCPERS quickly responded with research-backed points illustrating that DB pensions are broadly supported by Americans across party lines and are in fact *more* cost-effective for employers and taxpayers than defined contribution plans.

As the Pennsylvania Public School Employees' Retirement System faced a barrage of attacks from *The Philadelphia Inquirer* this year, NCPERS published a letter to the editor in the newspaper calling them out for their 'fishing expedition' that destroyed careers and ultimately ended with no charges following an investigation by the Department of Justice.

And, as Forbes contributor Edward Siedle continued to show his bias against public pensions in a recent article claiming that 94 percent of America's state and local government pensions are gambling on cryptocurrencies, we responded again with the facts. After dissecting the data, only 8 out of the more than 5,000 US-based public pension plans were part of the figure Siedle referenced.

With continued market turbulence and the midterms right around the corner, it's no surprise that there has been an uptick in negative sentiment towards public pensions in the news. As Tony Roda notes in this issue of *The Monitor*, the attacks on the funding levels of public pensions are imminent, and it is more important than ever for public pensions to have concise and consistent messaging on plan sustainability.

In addition to responding to misinformation and bias in the media on behalf of its members, NCPERS provides resources for communications professionals in the public pension community. The newly formed Communications Roundtable held its first virtual meeting last month, bringing together nearly 30 communications professionals to discuss day-to-day challenges, get advice from peers, and share best practices for internal and external communications strategies.

On January 23-24, we'll be hosting the inaugural Pension Communications Summit in Washington, DC. The agenda will be set by fellow public pension communications professionals—members of NCPERS Communications Roundtable—and will feature peer-to-peer learning, networking opportunities, and hands-on training from industry experts. Learn more and register here.

Now is the time to ensure you have a strong external communications strategy prepared as we face continued political and market turbulence. If you have any questions about the Pension Communications Summit or the Communications Roundtable, please contact our Director of Communications, Lizzy Lees, at lizzy@ncpers.org.

Positioning for the 118th Congress

By Tony Roda

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The Congressional midterm elections of a first term president are typically negative for the party of the president, not always, but in recent history, yes. In President Trump's midterm, the Republicans lost 40 House seats and its majority. In President Obama's first midterm, his party lost 62 House seats and its majority. However, given the crosscurrents in our political climate today and the always important factors of voter enthusiasm and turnout, Republicans have been tempering their predictions. One Member of the House GOP leadership recently said that he thought a 20-30 seat pickup would be a very good night. Republicans need only to pick up five seats in the upcoming midterm elections to take the majority in the House.

In the Senate, it's a jump ball. Today's 50-50 Senate split could well be replicated after the November 8 elections or it could be a one or two seat majority in either direction. As of this writing, there appears to be an equal number of seats currently held by Democrats and Republicans that are too close to call.

One of the more interesting parts of working with Congress is that every two years the voters cast ballots that decide the political complexion of the next Congress. We are forced to play the hand that the voters deal us. For purposes of the public pension community and its positioning for the 118th Congress, which will be sworn on January 3, we should plan that the voters will deal us a Republican majority in at least one chamber of Congress. This way, we will be prepared for all eventualities.

Part of this preparation will be developing the key messages that our community can use in the upcoming policy debates. For example, it will be critical for the plan community to have a concise and consistent message on plan sustainability. We know that attacks will be coming on the funding levels of state and local governmental defined benefit plans. A working group on messaging is being assembled by the key stakeholders in Washington, D.C. This group will seek the input of public plans throughout the country as it crafts the key talking points and collects supporting data.

It is not a secret that over recent years public pension plans have faced more challenges in Republican-controlled Congresses. For more than a decade, Republicans introduced the Public Employee Pension Transparency Act (PEPTA), which would require for the first time that state and local governmental plan sponsors report their funded status to the federal Treasury Department. In 2017, a provision to specifically apply the Unrelated Business Income Tax (UBIT) to state and local governmental plans was approved by the House but did not become law. Other proposals, including those aimed at imposing funding requirements similar to those in place for private sector pension plans, have been discussed. Some of these proposals could be structured to offer federal assistance, provided the public pension plan took certain restrictive steps on funding, benefits, or discount rates. Also, the use of bankruptcy to allow states to get out from under their pension liabilities has been discussed in Congress and by think tanks. Finally, in the next Congress, we expect oversight hearings on states' use of federal assistance under the American Rescue Plan Act (ARPA), which will include an analysis on whether any of the funds were deposited into a state pension fund. Use of the federal monies for this purpose was specifically prohibited under ARPA.

Be aware, however, that the new Congress could bring opportunities as well. This is not just a half glass empty situation. We've had strong GOP support for removing the direct payment requirement under the Healthcare Enhancement for Local Public Safety (HELPS) Act, which is currently pending in the SECURE Act 2.0. I believe we could get traction on this issue again if the current Congress doesn't finalize the legislation. We will also be working to increase the current annual exclusion cap under HELPS from its current level of $3,000, and index that cap, as well as working to create a new tax credit for retired first responders for health care premiums, S. 4267, introduced by Sen. Michael Bennet (D-CO). This new legislation needs a Republican cosponsor in the Senate and a House companion bill. In addition, if the current Congress does not act on the Social Security Windfall Elimination Provision (WEP), we will be back at it again in the next Congress. Given the political climate and likelihood of a GOP-controlled House next year, it is important to note that the House legislation to repeal both WEP and the Government Pension Offset (GPO), H.R. 82, in this current Congress was introduced by a Republican, Rep. Rodney Davis of Illinois. While Rep. Davis will not be returning to Congress next year, this demonstrates that the WEP-GPO issues are bipartisan in nature.

The November 8 election will bring changes to Washington. Elections always do, and the public pension community will be prepared to take advantage of opportunities where they are presented and play tough defense where needed. As always, NCPERS will keep you informed of significant developments as they occur. ◆

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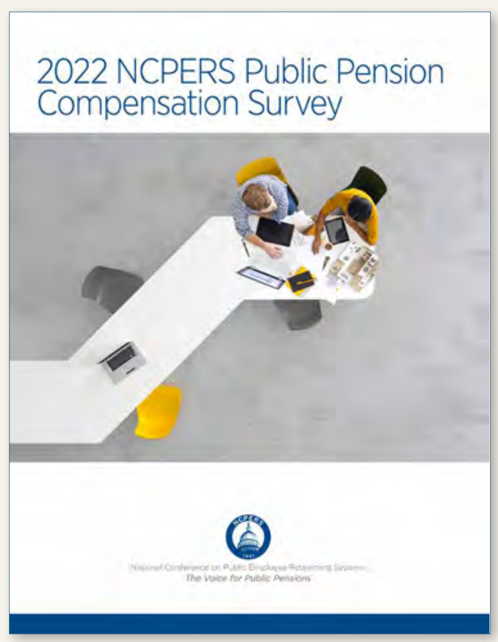
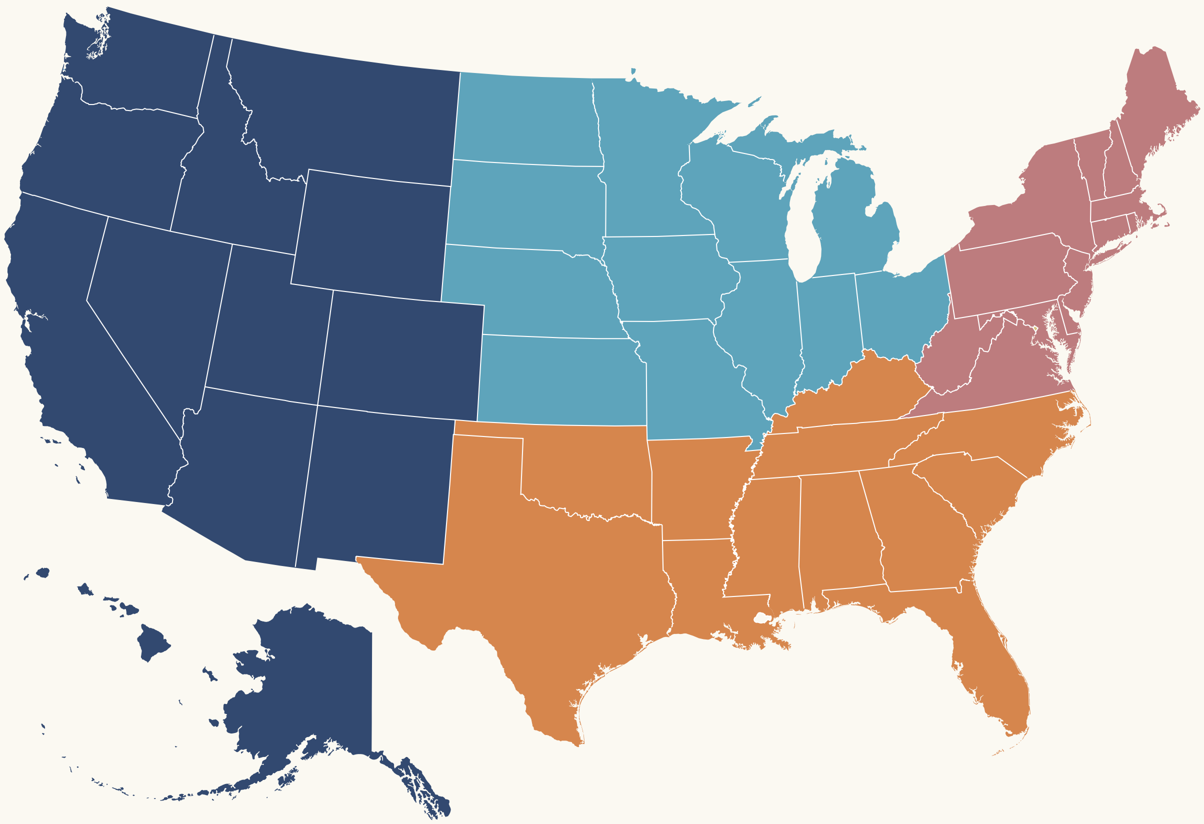


This month, we will highlight New Jersey, Missouri, Florida, and Oregon.



NORTHEAST: New Jersey

New Jersey's Assembly on October 3 unanimously approved a bill, A4641, that would make it easier to strip former government workers of their pension benefits if they are convicted of a crime.

Companion legislation was introduced in the state Senate on October 13. At press time, it was pending before the Senate's State Government, Wagering, Tourism & Historic Preservation Committee.

The measures would require pension forfeiture upon conviction of certain crimes, alter the factors determining honorable service, and open pension to garnishment upon conviction of select offenses.

If enacted into law, the legislation would expand the list of offenses that automatically disqualify public employees from receiving those benefits. Currently, New Jersey law stipulates 23 offenses that automatically cost public employees their pensions. The legislation would expand the list to encompass any job-related conviction for first- and second-degree crimes, a broad class of offenses that generally carry prison time, NJ.com reported. The effect would be to take more pension decisions out of the hands of the state's retirement boards.

The legislation was developed in response to a news investigation that found nearly 100 former state, county and local employees were receiving monthly retirement checks after being convicted of crimes. Governor Phil Murphy, a Democrat, has said that he is open to tightening the state's pension rules based on the news reports.

Tom Bruno, who heads the board of the Public Employees' Retirement System, was quoted by NJ.com as saying he would support expanding the list of disqualifying crimes, although he emphasized he had not reviewed the specific proposal.

"I think it is completely fair to do that, as long as everyone knows this is what it is," Bruno told NJ.com.

MIDWEST: Missouri

Ratcheting up anti-ESG rhetoric, State Treasurer Scott Fitzpatrick announced October 18 that Missouri State Employees' Retirement System (MOSERS) has pulled a $500 million investment portfolio from BlackRock Inc.

The move came after the MOSERS board of trustees in June directed staff to abstain from voting the plan's proxies, which it said BlackRock refused to do. "As a result, MOSERS proceeded with, and has now completed, the sale of all of its equity holdings with BlackRock," Fitzpatrick said in a news release.

Fitzpatrick said that BlackRock had elevated environmental, social and governance investment considerations above fiduciary duty, and attacked the company for pursuing a "left wing social and political agenda."

"This is the right thing to do for Missouri state employees who rely on the assets managed by MOSERS for their retirement," Fitzpatrick said. "We should not allow asset managers such as BlackRock, who have demonstrated that they will prioritize advancing a woke political agenda above the financial interests of their customers, to continue speaking on behalf of the state of Missouri."

BlackRock spokesman Ed Sweeney told Bloomberg News that the firm offers choices to clients on how to invest and that the company has attracted $248 billion in net new long-term assets this year.

"While the actions of some elected officials have attracted media headlines, they do not reflect the totality of our clients' investment decisions," Sweeney said in an emailed statement responding to Missouri's move.

While a number of states are actively pursuing investment policies that emphasize ESG considerations, there has been backlash as well.

SOUTH: Florida

Two North Miami Beach pension plans have filed a lawsuit seeking federal securities class action status against the multinational bank Barclays Plc on grounds that it harmed them by overselling $17.6 billion in unregistered securities. The case is seeking damages for holders of Barclays American depositary receipts from Feb. 18, 2021 to March 25, 2022.

The complaint alleges that the North Miami Beach Police Officers' and Firefighters' Retirement Plan and the North Miami Beach General Employees' Retirement Plan suffered "significant losses and damages" due to Barclays' error. Barclays disclosed in March that it had exceeded issuances permitted under a shelf registration, and in July disclosed additional details about the financial fallout.

The North Miami Beach retirement plans described the alleged harm in a 43-page complaint against Barclays filed September 23 in the U.S. District Court for the Southern District of New York. Prices of Barclay's American depositary receipts (ADRs) dropped and its costs mounted due to the errors. (ADRs are stocks that trade on U.S. exchanges but represent shares in a foreign corporation. They are intended to make it easier for U.S. investors to invest internationally.)

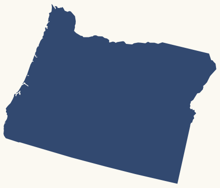
The court has set a November 22 deadline for receiving motions to serve as lead plaintiffs in the class, and ordered that the appointment should be made by December 7. A status conference has been scheduled for December 15.

In petitioning for class action status, the retirement plans alleged that Barclays made "materially false and misleading" assurances in its annual reports that its internal controls over financial reporting were effective. It also said the bank overstated profit, and understated operating and "litigation and conduct" expenses, by failing to disclose the overissuance in its 2021 earnings releases.

"The failure to have controls in place to account for the number of securities issued against the number of securities registered is such an elementary failure of internal control that is so obvious as to be deliberately reckless," the complaint said.

Barclays offered to buy back the excess securities, and on July 28 it announced it had reserved $1.73 billion related to the overissuance.

WEST: Oregon



State and local governments across the state will contribute more to Oregon's public pension fund in the next two years, but healthy 2021 investment earnings held the increases in check.

The new rates adopted September 30 by the board of the Oregon Public Employees Retirement System (PERS) cover the next two-year budget cycle, which runs from July 1, 2023, to June 30, 2025. The average collared base employer contribution rates will rise by 1.07% of pay on July 1, while average collared net employer contribution rates will increase 0.68% of pay. "Collared" means that that increases or decreases are limited during any two-year cycle.

Milliman, the actuary for PERS, said a decrease in the investment return assumption to 6.9% increased normal cost rates. The fund assumed a 7.2% return in the previous two-year cycle; the assumption has been trending down steadily from 8% in the 2013-2015 cycle.

The new employer contribution rates would have been higher had it not been for strong investment returns, exceeding 20% in 2021, Milliman noted in its presentation to the board. An updated rate collaring policy adopted mid-2021 resulted in no decrease in average collared base rates related to unfunded actuarial liability. Larger 2023-2025 side account offsets from strong 2021 returns lessened the net contribution rate increase.

PERS is now funded at 80%, but the figure rises to 86% if side accounts by some member governments are included. Two years previously, PERS was at 72% without side accounts and 79% with side accounts. Not all employers have side accounts, which are funds set aside to cover part of a government employer's pension liability, the Portland Tribune noted.

The board changed its policy in 2021 to prioritize increasing the funded status of the system to 90%. ◆

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Calendar of Events 2023

January

Legislative Conference

January 22–24
Renaissance Washington, DC
Washington, DC

Pension Communications Summit

January 23–24
Renaissance Washington, DC
Washington, DC

May

NCPERS Accredited Fiduciary (NAF) Program

May 20–21
New Orleans, LA

Trustee Educational Seminar (TEDS)

May 20–21
New Orleans, LA

Annual Conference & Exhibition (ACE)

May 21–24
New Orleans, LA

June

Chief Officers Summit

June 26–28
Chicago, IL

View all upcoming NCPERS conferences at www.ncpers.org/future-conferences.

The Voice for Public Pensions

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