A G E N D A

BOARD MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
FRIDAY, MARCH 12, 2021
AT 9:00 AM
Location: Via Zoom

In accordance with current state and local emergency proclamations and orders, this Board Meeting will be held virtually via Zoom Client.

The public may only attend the meeting by (1) clicking here https://us02web.zoom.us/j/89023753012 and following the prompts to enter your name and email, or (2) calling (669) 219-2599 or (669) 900-9128 and entering Meeting ID **89023753012**#.

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

1.0 ROLL CALL

2.0 PLEDGE OF ALLEGIANCE

3.0 APPROVAL OF MINUTES

3.01 Approval of the minutes for the Board Meeting of February 12, 2021 4

3.02 Board to approve minutes

4.0 PUBLIC COMMENT

4.01 Persons wishing to address the Board of Retirement should follow the steps below. Speakers are limited to three minutes and are expected to be civil and courteous.

If joining via Zoom from your PC or Mac, and you wish to make a Public Comment, please select "Participants" found in the toolbar at the bottom of your screen. From there you will see the option to raise and lower your hand.

If joining via Zoom from your mobile device, and you wish to make a Public Comment, please select the "More" option found in the toolbar at the bottom of your screen. From there you will see the option to raise and lower your hand.

If joining via Zoom from your tablet such as an iPad, and you wish to make a Public Comment, please click on the icon labeled "Participants" typically located at the top right of your screen and then tap the hand icon next to your device in the participants column to raise your digital hand.

If dialing in from a phone for audio only and you wish to make a Public Comment, please dial *9 to "raise your hand".

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

5.0 CONSENT ITEMS

5.01 Service Retirement (26) 8

5.02 General

02 NCPERS	The Monitor	February 2021	175
03 Research Affiliates	As Duration Dies Equities Rise	March 2021	185

11.0 COMMENTS

11.01 Comments from the Board of Retirement

12.0 CLOSED SESSION

12.01 PURCHASE OR SALE OF PENSION FUND INVESTMENTS
CALIFORNIA GOVERNMENT CODE SECTION 54956.81

12.02 PERSONNEL MATTERS
CALIFORNIA GOVERNMENT CODE SECTION 54957
EMPLOYEE DISABILITY RETIREMENT APPLICATION(S) (2)

12.03 CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION
CALIFORNIA GOVERNMENT CODE SECTION 94956.9(d)(1)

13.0 CALENDAR

13.01 Board Meeting, April 9, 2021 at 9:00 AM

14.0 ADJOURNMENT

San Joaquin County Employees Retirement Association

M I N U T E S

BOARD MEETING
SAN JOAQUIN COUNTY EMPLOYEES RETIREMENT ASSOCIATION
BOARD OF RETIREMENT
FRIDAY, FEBRUARY 12, 2021
AT 9:00 AM
Location: Via Zoom

1.0 ROLL CALL

1.01 **MEMBERS PRESENT**: Phonxay Keokham, Emily Nicholas, Jennifer Goodman, Michael Duffy (out at 11:45 a.m.), Katherine Miller, Chanda Bassett, Adrian Van Houten, Margo Praus, Raymond McCray, and Michael Restuccia presiding

MEMBERS ABSENT: None

STAFF PRESENT: Chief Executive Officer Johanna Shick, Assistant Chief Executive Officer Kathy Herman, Retirement Investment Office, Paris Ba, Accounting Manager Carmen Murillo, Management Analyst III Greg Frank, Department Information Systems Analyst II Lolo Garza, Information Systems Specialist II Jordan Regevig, Retirement Services Associate Andrea Bonilla, and Administrative Secretary Kendra Fenner

OTHERS PRESENT: Deputy County Counsel Jason Morrish, David Sancewich and Ryan Lobdell of Meketa Investment Group, Graham Schmidt of Cheiron, Ashley Dunning of Nossaman LLP, and Disability Counsel Vivian Shultz

2.0 PLEDGE OF ALLEGIANCE

2.01 Led by Michael Restuccia

3.0 APPROVAL OF MINUTES

3.01 Approval of the minutes for the Board Meeting of January 8, 2021

3.02 Approval of the minutes for the CEO Performance Review Committee of January 29, 2021

3.03 **The Board voted 8-0 to approve the minutes for the Board Meeting of January 8, 2021 and the CEO Performance review Committee Meeting of January 29, 2021. (Motion: Bassett; Second: McCray; Abstain: Nicholas)**

4.0 PUBLIC COMMENT

4.01 Gene Neely of Lathrop Manteca Fire District commented on agenda item 7.0 and thanked the Board for the discussion. He stated it was very informative and he supports the Board's work in keeping the fund sustainable.

4.02 Adriene Thompson, retired SJCERA member, commented on agenda item 7.0 stating she was directly affected by the Alameda decision. While she understands the need for sustainability, recruitment salaries are low and contractors do not pay into the retirement system. She thought it would be interesting to see the cost of those contracted workers.

5.0 CONSENT ITEMS

5.01 Service Retirement (21)

5.02 General (1)

01 Retiree Cost-of-Living Adjustment (COLA) as of April 1, 2021

5.03 **The Board voted unanimously (9-0) to approve the Consent Items. (Motion: Bassett; Second: Van Houten)**

6.0 COMMITTEE REPORTS

6.01 CEO Performance Review Committee Meeting - January 29, 2021

01 Committee Chair Goodman stated the committee met in closed session and there was nothing to report out.

6.02 Alameda Decision Ad Hoc Committee Meeting - January 21, 2021

01 Memo from Committee - February 12, 2021

Committee Chair Bassett reported the committee worked diligently to get through the pay codes and thanked staff and counsel for their contributions. She also stated the committee has completed its work.

7.0 ALAMEDA DECISION TIER 2B EDUCATION SESSION

7.01 Board discussed and directed staff to obtain feedback from employers, making sure they understand the impact this will have on them, provide additional specific examples and bring their findings back to the Board for consideration.

8.0 CONSULTANT REPORTS PRESENTED BY DAVID SANCEWICH OF MEKETA INVESTMENT GROUP

8.01 **Monthly Investment Performance Updates**

01 Receive and File Manager Performance Flash Report - December 2020

02 Receive and File Capital Markets Outlook and Risk Metrics - January 2021

8.02 **Benchmark Review**

01 **The Board accepted the consultant's recommendation and voted unanimously (9-0) to approve the benchmark changes. (Motion: McCray; Second: Bassett)**

8.03 **2021 Capital Market Assumptions Expected Return**

8.04 Board accepted and filed reports

9.0 INVESTMENT RETURN REVIEW AND COST PROJECTIONS

9.01 Presentation by Graham Schmidt, Consulting Actuary

10.0 STAFF REPORTS

10.01 **Legislative Summary Report - None**

10.02 **Trustee and Executive Staff Travel**

01 Conferences and Events Schedule for 2021

a CALAPRS General Assembly

02 Summary of Pending Trustee and Executive Staff Travel

03 Summary of Completed Trustee and Executive Staff Travel

10.03 Board accepted and filed reports

10.04 CEO Report

CEO Shick highlighted the following from the CEO Report: staff has adjusted benefits for approximately 30% of the 127 retirees affected by the Alameda decision; social distancing allowed SJCERA to reach more than 340 members at the most recent benefits webinar; the Communication Officer interviews have been completed and an announcement regarding the selected applicant and start date is expected shortly.

01 Declining Employer Payroll Report

11.0 CORRESPONDENCE

11.01 Letters Received

11.02 Letters Sent

11.03 Market Commentary/Newsletters/Articles

01	NCPERS	The Monitor	January 2021
02	NCPERS		2020 Public Retirement Systems Study

12.0 COMMENTS

12.01 The Chair disbanded the Alameda Decision Ad Hoc Committee.

13.0 CLOSED SESSION

THE CHAIR CONVENED CLOSED SESSION AT 11:25 A.M. AND ADJOURNED THE CLOSED SESSION AND RECONVENED THE OPEN SESSION AT 12:32 P.M.

13.01 PERSONNEL MATTERS
CALIFORNIA GOVERNMENT CODE SECTION 54957
EMPLOYEE DISABILITY RETIREMENT APPLICATIONS (2)

01 Disability Retirement Consent (2)

Counsel reported that in Closed Session the Board took the following action on personnel matters:

a Probation Unit Supervisor
Service-Connected Disability

The Board voted unanimously (9-0) to accept the findings and recommendation of the Administrative Law Judge and deny the application for a Service-Connected Disability Retirement. (Motion: McCray; Second: Van Houten)

b Correctional Officer
Service-Connected Disability

The Board voted unanimously (9-0) to grant the applicant a Service-Connected Disability Retirement. (Motion: McCray; Second: Van Houten)

13.02 CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION
CALIFORNIA GOVERNMENT CODE SECTION 54956.9(d)(4)
Initiation of Litigation - 1 Case

01 *Counsel noted there was nothing to report from closed session regarding this subject.*

13.03 PUBLIC EMPLOYEE PERFORMANCE EVALUATION
CALIFORNIA GOVERNMENT CODE SECTION 54957
TITLE: RETIREMENT ADMINISTRATOR/CHIEF EXECUTIVE OFFICER

01 *Counsel noted there was nothing to report from closed session regarding this subject.*

14.0 CALENDAR

14.01 Board Meeting, March 12, 2021 at 9:00 AM

14.02 Audit Committee Meeting, March 12, 2021 upon adjournment of the Board Meeting

15.0 ADJOURNMENT

15.01 There being no further business the meeting was adjourned at 12:34 p.m.

Respectfully Submitted:

____
Michael Restuccia, Chair

Attest:

____
Raymond McCray, Secretary

5.01 Service Retirement — Consent

01 **SHERRI A ASAKAWA** — Deferred Member, N/A

Member Type: General
Years of Service: 04y 01m 09d
Retirement Date: 2/1/2021
Comments: Outgoing reciprocity and concurrent retirement with CalPERS

02 **JACQUELINE M BAGATTA** — Deputy Director-SJGH Nursing, Hosp Nursing Administration

Member Type: General
Years of Service: 26y 07m 09d
Retirement Date: 2/1/2021

03 **LISA D BROWN** — Senior Office Assistant, HSA - Clerical Support

Member Type: General
Years of Service: 26y 04m 25d
Retirement Date: 1/25/2021

04 **JACKIE A BULL** — Office Systems Specialist, Health Care Srvcs- PH IT

Member Type: General
Years of Service: 06y 02m 28d
Retirement Date: 1/23/2021

05 **JAVIER CEDANO** — Juvenile Detention Unit Suprv, Juvenile Detention

Member Type: Safety
Years of Service: 21y 05m 22d
Retirement Date: 1/3/2021

06 **JEFF J CLARK** — Deputy Sheriff II, Sheriff-French Camp Unif Court

Member Type: Safety
Years of Service: 30y 01m 02d
Retirement Date: 1/18/2021

07 **TERRI L COURTNEY** — Social Worker Supervisor II, HSA - Services Staff

Member Type: General
Years of Service: 22y 05m 29d
Retirement Date: 1/30/2021

08 **ROBERT V ELLIOTT** — Board of Supervisors, Board of Supervisors

Member Type: General
Years of Service: 07y 10m 06d
Retirement Date: 1/6/2021

09 **LOURDES M FAULKNER** — Eligibility Worker II, HSA - Eligibility Staff

Member Type: General
Years of Service: 25y 08m 06d
Retirement Date: 1/16/2021

10 **SUSAN N FILIOS** Legislative Assistant
Board of Supervisors

Member Type: General
Years of Service: 06y 00m 28d
Retirement Date: 1/30/2021

11 **DIANE L GARTNER** Accounting Technician I
Behavioral Health Admin

Member Type: General
Years of Service: 31y 01m 20d
Retirement Date: 1/23/2021

12 **SHIRLEY A GONZALEZ** Child Support Officer II
Child Support Svs

Member Type: General
Years of Service: 28y 11m 07d
Retirement Date: 1/30/2021

13 **MATTHEW R GRIEGER** Deferred Member
N/A

Member Type: General
Years of Service: 16y 02m 03d
Retirement Date: 11/5/2020
Comments: Outgoing reciprocity and concurrent retirement with CalPERS

14 **PAWN HYMAN** Deferred Member
N/A

Member Type: General
Years of Service: 13y 04m 20d
Retirement Date: 2/5/2021

15 **DONALD R JACKSON** Tree Crew Worker
Public Works

Member Type: General
Years of Service: 12y 02m 12d
Retirement Date: 2/1/2021

16 **SUNDRA D JAYNES** Deferred Member
N/A

Member Type: General
Years of Service: 17y 05m 21d
Retirement Date: 2/4/2021

17 **ANDY M KAMSTRA** Crafts Worker III
Hosp Plant Maintenance

Member Type: General
Years of Service: 22y 07m 11d
Retirement Date: 1/16/2021

18 **RODNEY A KAWANO** Senior Deputy County Administr
County Administrator

Member Type: General
Years of Service: 28y 08m 17d
Retirement Date: 2/1/2021
Comments: Outgoing reciprocity and concurrent retirement with TCERA

19 KATHLEEN A LAGORIO — Executive Assistant, Superior Court

Member Type: General
Years of Service: 05y 01m 28d
Retirement Date: 1/23/2021
Comments: Outgoing reciprocity and concurrent retirement with StanCERA.

20 STEPHANIE A LAROCCA — Deferred Member, N/A

Member Type: General
Years of Service: 00y 10m 08d
Retirement Date: 12/31/2020

21 JOHN I MAGUIRE — Deferred Member, N/A

Member Type: General
Years of Service: 06y 11m 26d
Retirement Date: 1/17/2021

22 KATHLEEN PARISH — Chief Mental Health Clinician, Mental Health-Adult Outpatient

Member Type: General
Years of Service: 07y 06m 06d
Retirement Date: 1/2/2021

23 MARK C RICHMOND — Lieutenant, Sheriff - Detectives

Member Type: Safety
Years of Service: 25y 10m 27d
Retirement Date: 1/15/2021

24 RACHEL N ROJAS — Senior Office Assistant, HSA - Clerical Support

Member Type: General
Years of Service: 15y 04m 19d
Retirement Date: 1/29/2021
Comments: Outgoing reciprocity and concurrent retirement with CalPERS

25 ROBERTA L SCHRAMEK — Nursing Dept Mgr - Inpatient, Hosp Nursing Administration

Member Type: General
Years of Service: 26y 00m 04d
Retirement Date: 2/1/2021

26 MILLETTE S SIOSON-MARTINEZ — Information Systems Anlyst III, Information Systems Div - ISF

Member Type: General
Years of Service: 30y 05m 19d
Retirement Date: 1/30/2021

Agenda Item 5.02-01

March 12, 2021

SUBJECT: AMENDMENT TO REGISTRAR OF VOTERS' CANDIDATE STATEMENT OF QUALIFICATIONS FORM FOR BOARD OF RETIREMENT ELECTIONS

SUBMITTED FOR: ___ CONSENT _X_ ACTION ___ INFORMATION

RECOMMENDATION

Approve resolution 2021-03-01, "Amendment to Registrar of Voters' Candidate Statement of Qualifications Form for Board of Retirement Elections."

PURPOSE

To revise the Candidate Statement of Qualifications instructions provided by the San Joaquin County Registrar of Voters (ROV) to candidates for Board of Retirement elections.

DISCUSSION

Pursuant to SJCERA's bylaws and a resolution of the San Joaquin County Board of Supervisors, the ROV administers and conducts elections for the second, third, seventh, eighth and alternate members of the Board of Retirement. Presently, the instructions to Candidates provide no guidance regarding the contents of the optional Statement of Qualifications each candidate may file, aside from "occupation and a brief description of your education and qualifications."

The California Elections Code provides a baseline for the conduct of SJCERA elections under the Board of Supervisors' resolution. The Candidate Statement of Qualifications provided by the ROV does not expressly address the unique non-political concerns of SJCERA with respect to a description of a candidate's education and qualifications.

The resolution clarifies candidate statements for all SJCERA elections may not refer to other candidates, campaign promises, or make any other statements or declarations contrary to law. The resolution is intended to preempt potentially false or misleading statements to the SJCERA electorate, such as those that have occurred in other CERL Board elections. ROV has requested Board of Retirement direction in order to make the suggested change.

JShick

JOHANNA SHICK
Chief Executive Officer

San Joaquin County Employees' Retirement Association — **Board of Retirement Resolution**

RESOLUTION TITLE: **AMENDMENT TO REGISTRAR OF VOTERS' CANDIDATE STATEMENT OF QUALIFICATIONS FORM FOR BOARD OF RETIREMENT ELECTIONS**

RESOLUTION NO. **2021-03-01**

WHEREAS, the Board of Retirement ("Board") for the San Joaquin County Employees' Retirement Association ("SJCERA") administers SJCERA for the benefit of its members and their beneficiaries; and

WHEREAS, pursuant to Government Code Sections 31525, 31526 and 31527, the Board may make regulations, set policy and develop procedures to administer the system; and

WHEREAS, Section 5.2(B) of SJCERA's Bylaws currently provide elections for the second, third, seventh, eighth and alternate members of the Board of Retirement shall be conducted pursuant to Government Code Sections 31520.1, 31520.5 and 31520.6 and San Joaquin County Board of Supervisors Resolution R-04-68; and

WHEREAS, the Board desires to clarify the instructions provided to candidates by the Registrar of Voters for Board of Retirement elections with respect to the contents of the optional Candidate Statement of Qualifications.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the inclusion of the following additional statement in the Instructions to Candidate in the Registrar of Voters' Candidate Statement of Qualifications form: "Statement may not include references to other candidates, campaign promises or any assertions or declarations contrary to law. Neither the San Joaquin County Employees' Retirement Association nor the Registrar of Voters shall be responsible for the validity of the statement or its contents."

BE IT FURTHER RESOLVED this resolution shall be forwarded to the San Joaquin County Registrar of Voters for the conduct and administration of future Board of Retirement elections.

PASSED AND ADOPTED by the Board of Retirement of the San Joaquin County Employees' Retirement Association on the 12th day of March 2021.

AYES:

NOES:

____

MICHAEL RESTUCCIA, Chair

ABSENT:

ABSTAIN:

Attest:

____

RAYMOND McCRAY, Secretary

Board of Retirement Meeting
San Joaquin County Employees' Retirement Association

Agenda Item 5.02-02

March 12, 2021

SUBJECT: SACRS Voting Proxy Form

SUBMITTED FOR: _X__ CONSENT ___ ACTION ___ INFORMATION

RECOMMENDATION

Staff recommends the Board maintain SJCERA's current list of SACRS Voting Delegates.

PURPOSE

To provide SACRS with the list of voting delegates who are authorized to vote on behalf of SJCERA.

DISCUSSION

The SACRS Administrator is requesting all retirement systems to submit their voting proxy by April 15, 2021.

SJCERA's current list of voting delegates, as reflected on the attached voting proxy form, will remain in effect unless changed by the Board. At least one voting delegate or alternate voting delegate must attend the Friday, May 14 virtual SACRS Business Meeting.

Alternatively, if the Board wishes to modify the list of voting delegates, the Board may select a new slate of voting delegates, which staff will submit to SACRS by April 15.

ATTACHMENTS

SACRS Voting Proxy Form

J Shick

JOHANNA SHICK
Chief Executive Officer

SACRS VOTING PROXY FORM

The following are authorized by the San Joaquin County Retirement Board to vote on behalf of the County Retirement System at the upcoming SACRS Conference
(if you have more than one alternate, please attach the list of alternates in priority order):

Chair – Michael Restuccia	Voting Delegate
Vice Chair – Michael Duffy	Alternate Voting Delegate
Secretary – Raymond McCray	Second Alternate Voting Delegate
CEO – Johanna Shick	Third Alternate Voting Delegate

These delegates were approved by the Retirement Board on 07/10/2020.

This Voting Proxy supersedes that approved by the Retirement Board on 09/11/2018 and is to remain in effect until superseded or revoked.

The person authorized to fill out this form on behalf of the Retirement Board:

Signature: J Shick

Print Name: Johanna Shick

Position: Clerk of the Board

Date: July 10, 2020

Please send your system's voting proxy by July 31, 2020 to Sulema H. Peterson, SACRS Administrator at Sulema@sacrs.org.

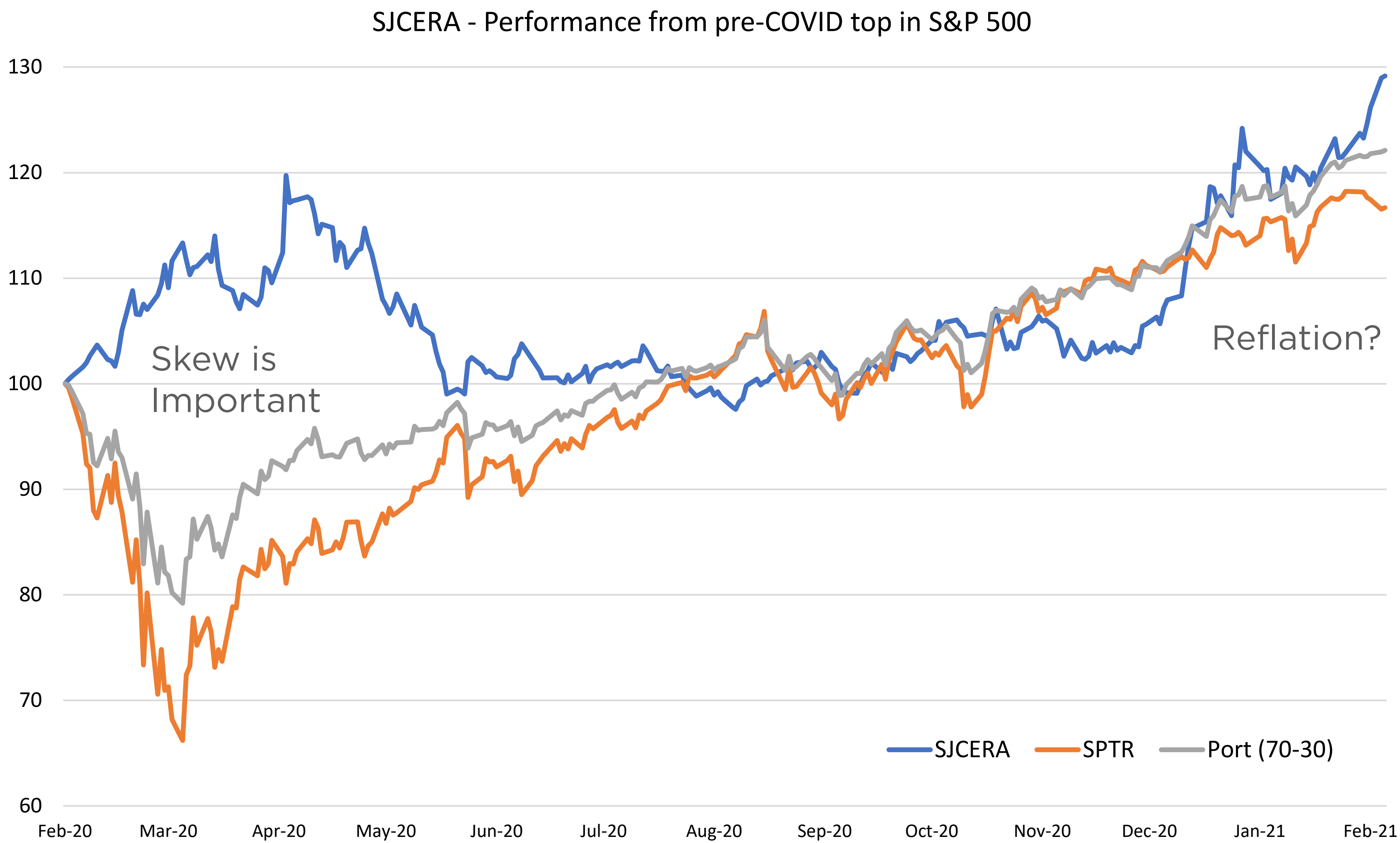
MT LUCAS

SAN JOAQUIN COUNTY
EMPLOYEES RETIREMENT ASSOCIATION

BOARD OF RETIREMENT

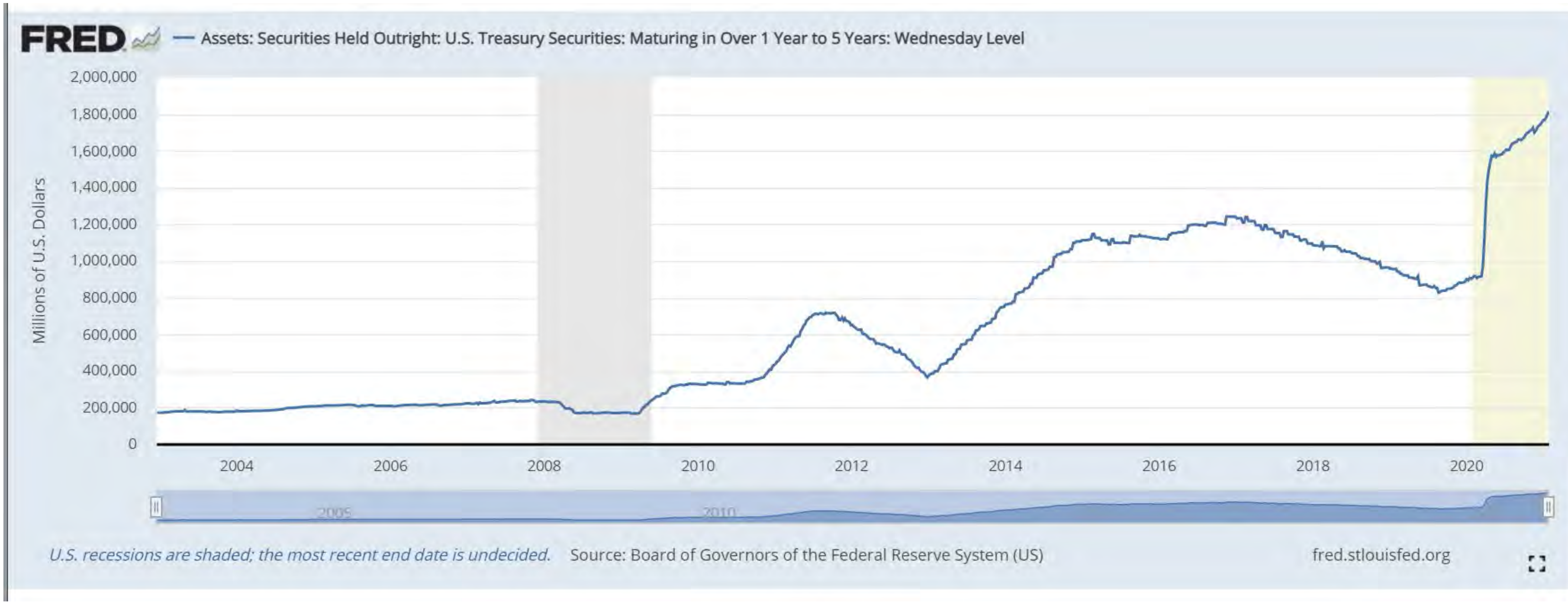
MARCH 12, 2021

AN ADVERTISEMENT FROM YOUR SPONSOR.....

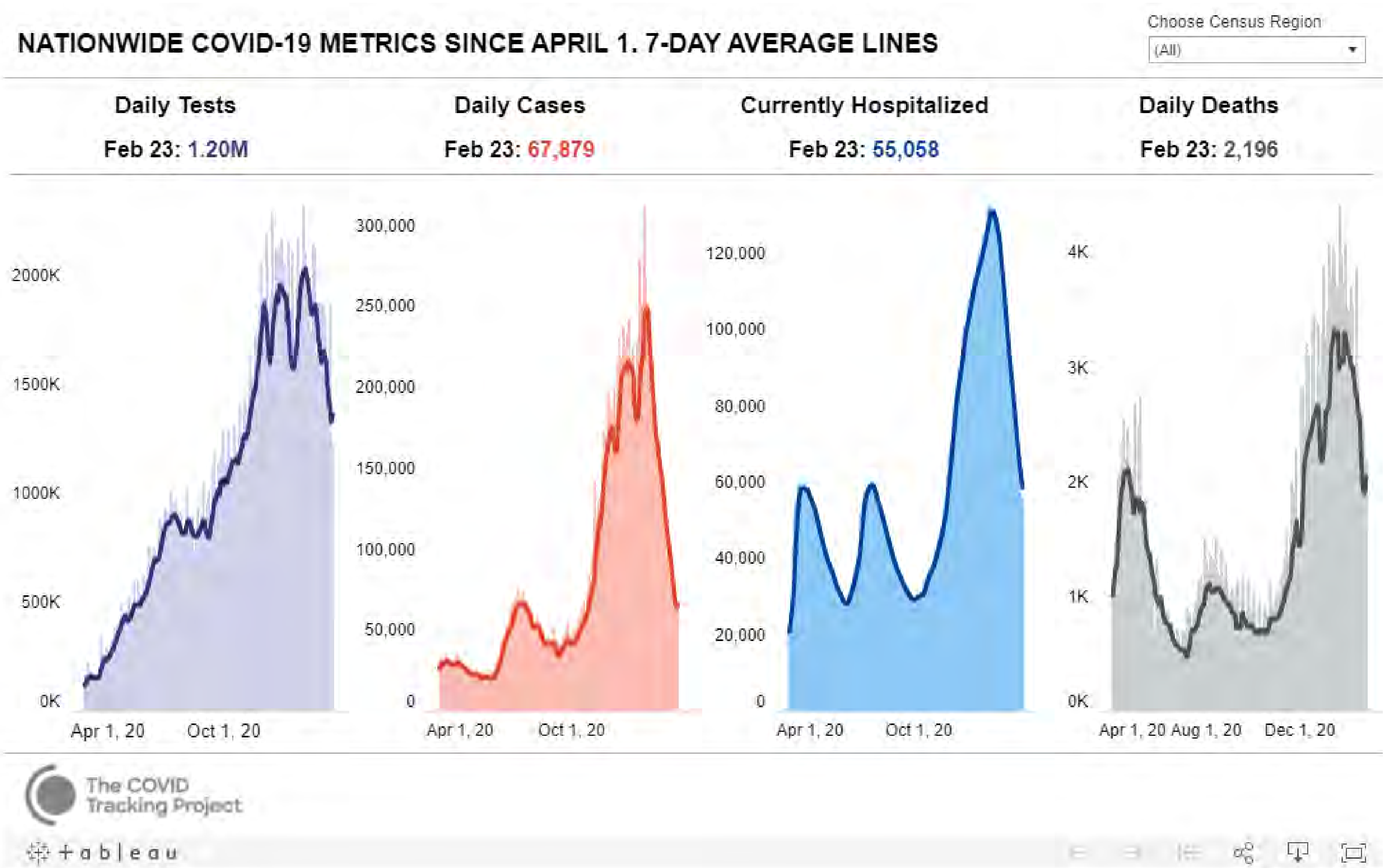


Past performance is not indicative of future results. The S&P 500 index is an unmanaged index consisting of 500 stocks chosen by the Index Committee of the Standard and Poor's Corporation that generally represents the Large Cap sector of the U.S. stock market. Returns for the S&P 500 index reflect the reinvestment of all dividends. The 70-30 portfolio represents a hypothetical 70% allocation to the S&P 500 TR and 30% allocation to the SJCERA Managed Futures account, rebalanced monthly. Source: Mount Lucas, Bloomberg

THE FED HAS THE PEDAL THROUGH THE FLOOR



Source: fred.stlouisfed.org



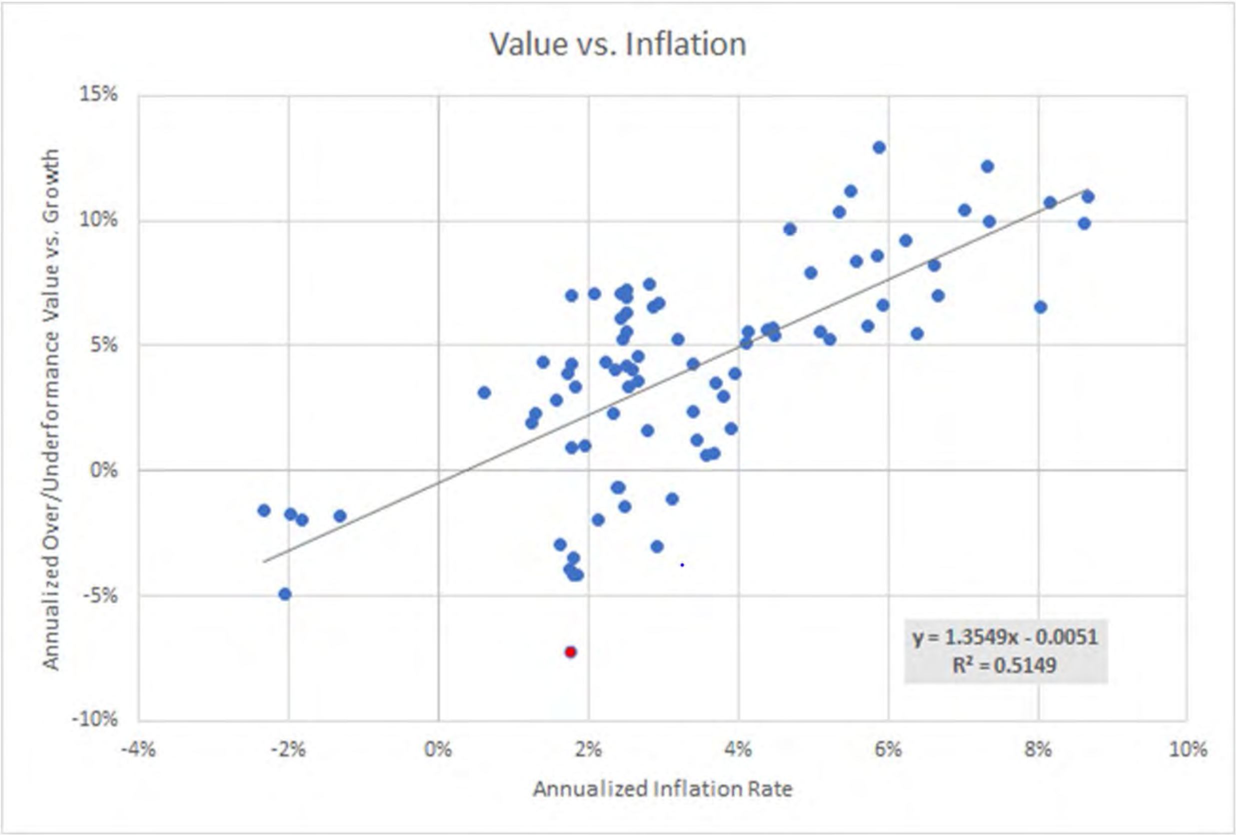
Source: The COVID Tracking Project (Data as of February 23, 2021): https://covidtracking.com/data/charts/us-all-key-metrics

Possible Outcomes

- Higher than expected growth, both here and abroad
- Rotation into Value Stocks
- Fall in bond prices with rising inflation expectations (tough on “bond-like” stocks)
- Higher commodity prices
- Weaker dollar
- Better bond environment in time

Value Stocks

- Spread between value and growth at historic highs
- Reflated pricing power favors value stocks



Source: Bureau of Labor Statistics: (https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-202012.pdf

Bonds May Fall in this Cycle

- End of a huge bull market in bonds
- Trend can be on the short side of the bonds if the next move in rates is up!

Source: Mount Lucas

MT LUCAS

Fall in bond prices with rising inflation expectations (tough on "bond-like" stocks)

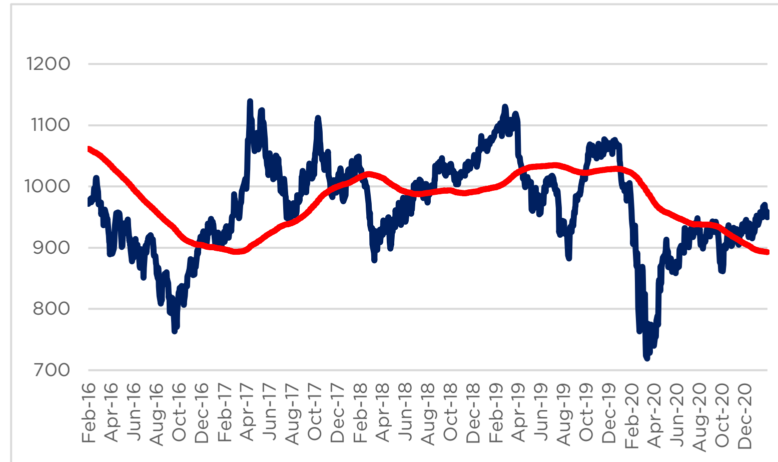
5 Year Inflation Swap

Source: Bloomberg

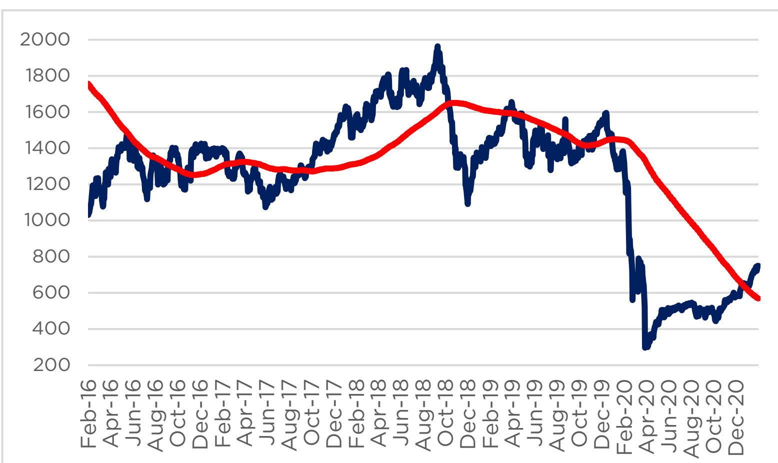
Commodity Prices are on the Rise

Corn

Cattle



Crude Oil



Copper

Source: Mount Lucas

Will the Dollar Weaken?

- Toughest call – certainly the consensus view. Growth outside the US may drive the dollar lower
- Trend recently for weaker dollar

Source: Mount Lucas

REFLATION!

- Next few months of inflation numbers will be hot. Hard to think the reflation trade melts before then
- Strong growth in the cards as pent-up demand meets declining virus
- Growth to value rotation for now
- Strong commodity demand in a low inventory world.
- Better bond world coming

Image source: https://latest.13d.com/which-markets-are-telling-the-real-truth-regarding-reflation-and-market-expectations-442027442fbd

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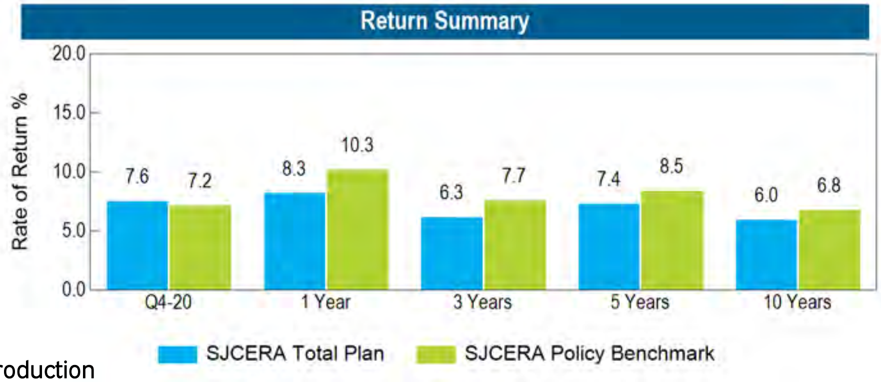
MEKETA
INVESTMENT GROUP

San Joaquin County Employees' Retirement Association (SJCERA)

Q4 2020

Quarterly Report

Introduction



Summary of Cash Flows

	Fourth Quarter	One Year
Beginning Market Value	$3,244,486,466	$3,220,072,013
Net Cash Flow	$8,095,927	$13,731,036
Net Investment Change	$249,023,461	$267,802,804
Ending Market Value	$3,501,605,853	$3,501,605,853

Introduction

The SJCERA Total Portfolio had an aggregate value of $3.5 billion as of December 31, 2020. During the latest quarter, the Total Portfolio increased in value by $257.1 million, and over the one-year period, the Total Portfolio increased by $281.5 million. The increase over the quarter and one-year periods was primarily due to positive investment returns despite negative underlying macroeconomic data due to the COVID-19 pandemic. "Advance" estimates of real U.S. GDP showed a quarter-over-quarter (annualized) increase of 7.4% for the fourth quarter of 2020 vs. a 25.1% increase in the third quarter of 2020. Full year U.S. GDP growth is forecasted to decline by (4.3%). Most asset classes increased in December 2020, especially riskier assets, possibly influenced by progress on a US fiscal package, the passing of the US presidential election, and positive developments regarding a COVID-19 vaccine. 10- and 30-year treasuries had negative returns for December, which were weighed down by a steepening yield curve.

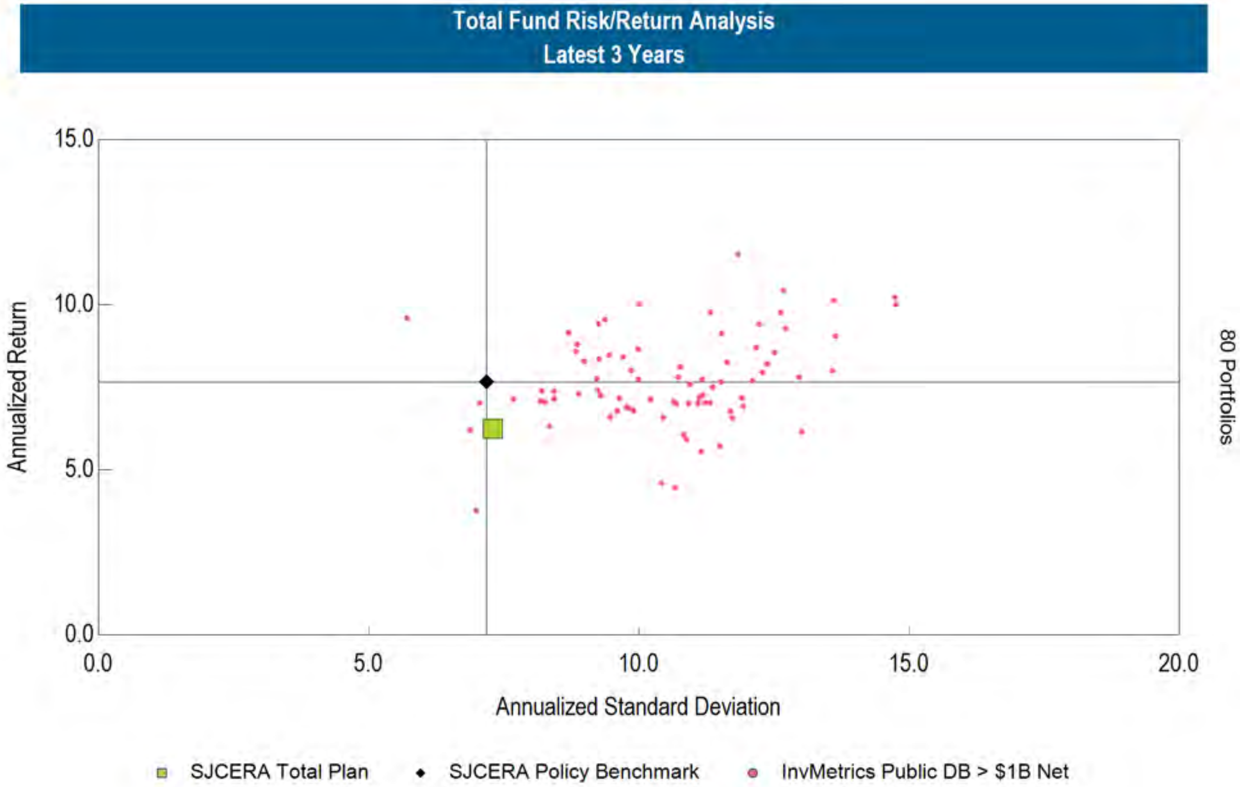
US fiscal authorities had already released $2.4+ trillion in directed stimulus and monetary policy and a further $1.9 trillion in stimulus has been outlined by the incoming Biden Administration. The package includes additional direct payments, enhanced unemployment benefits, a $15 dollar minimum wage, extending further the eviction moratorium, and state and local aid. Many are looking to expected improvements in earnings growth, as the US economy continues to reopen, to justify market levels, with historically low interest rates also providing support. Returns for US stocks, as measured by the Russell 1000, and US Treasuries, as measured by the Barclays Long US Government bond index, for the fourth quarter of 2020 were 13.7% and -(3.0%), respectively. Commodities were up 10.2% for the quarter, as measured by the Bloomberg Commodity Index and global equity returns, as measured by the MSCI ACWI IMI, were up 15.7% for the quarter ended December 31, 2020.

Recent Investment Performance

The Total Portfolio outperformed the policy benchmark for the quarter by 0.4% but underperformed the Median Public Fund by (2.5%) over the same period. Over the 1-, 3-, 5-, 10-, 15-, 20-, and 25-year periods, the portfolio has trailed its benchmark by (2.0%), (1.4%), (1.1%), (0.8%), (1.2%), (0.3%), and (0.1%), respectively, and trailed the Median Public Fund by (2.5%), (1.1%), (1.6%), (1.8%), (1.9%), (0.8%), and (0.6%), respectively. However, the portfolio earned higher risk adjusted returns, as measured by the Sharpe Ratio, than the Median Public Fund over the 3- and 5-year time periods.

	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs	25 Yrs
SJCERA Total Plan - Net	**7.6**	**8.3**	**6.3**	**7.4**	**6.0**	**4.6**	**5.4**	**6.7**
SJCERA Total Plan - Gross	**7.8**	**8.8**	**6.9**	**8.1**	**6.8**	**5.3**	**5.9**	**7.2**
SJCERA Policy Benchmark	*7.2*	*10.3*	*7.7*	*8.5*	*6.8*	*5.8*	*5.7*	*6.8*
Over/Under (vs. Net)	0.4	-2.0	-1.4	-1.1	-0.8	-1.2	-0.3	-0.1
InvMetrics Public DB > $1B Net Median	*10.1*	*10.8*	*7.4*	*9.0*	*7.9*	*6.5*	*6.2*	*7.3*

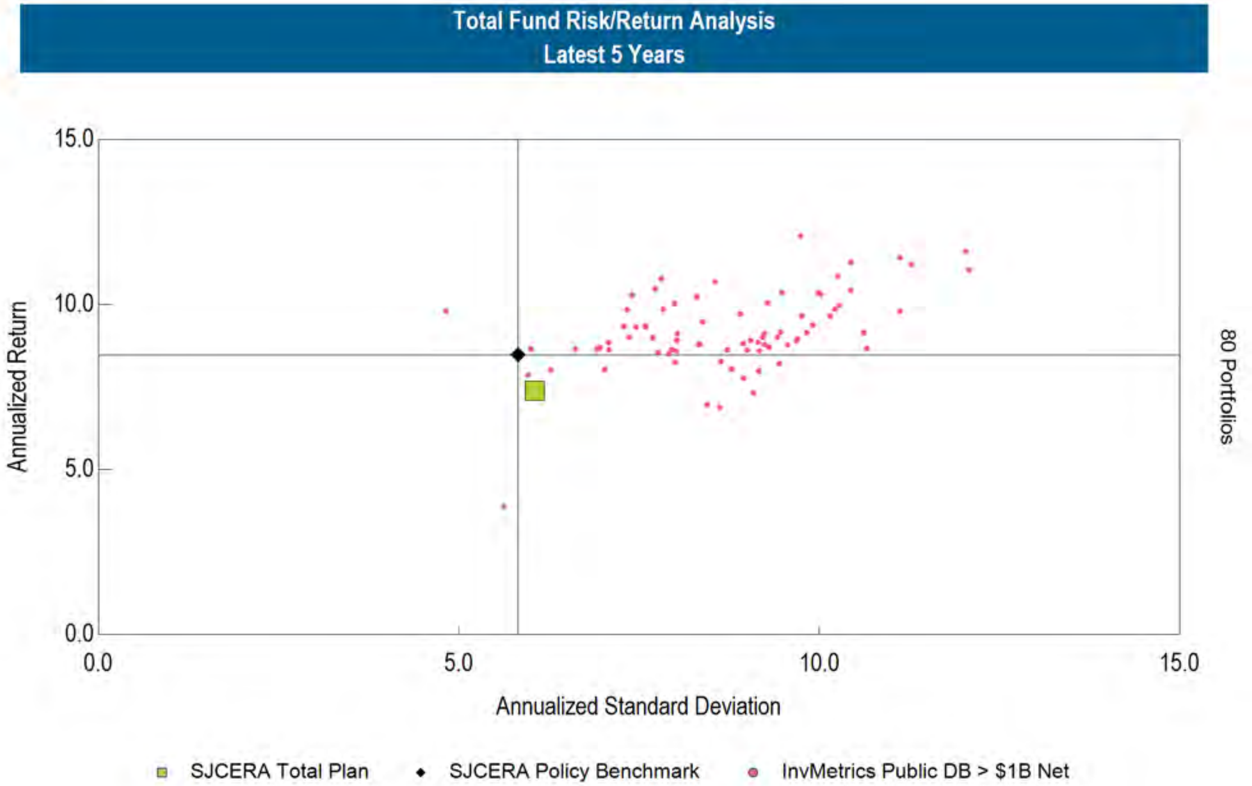
Investment Metrics Total Fund Public Universe >$1 Billion, net of fees.
Policy Benchmark composition is listed in the Appendix.



	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio [1]
SJCERA Total Plan	6.25%	7.30%	0.65
SJCERA Policy Benchmark	7.66%	7.18%	0.86
InvMetrics Public DB > $1B Net Median [2]	7.44%	10.71%	0.58

Returns are net of fees.

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

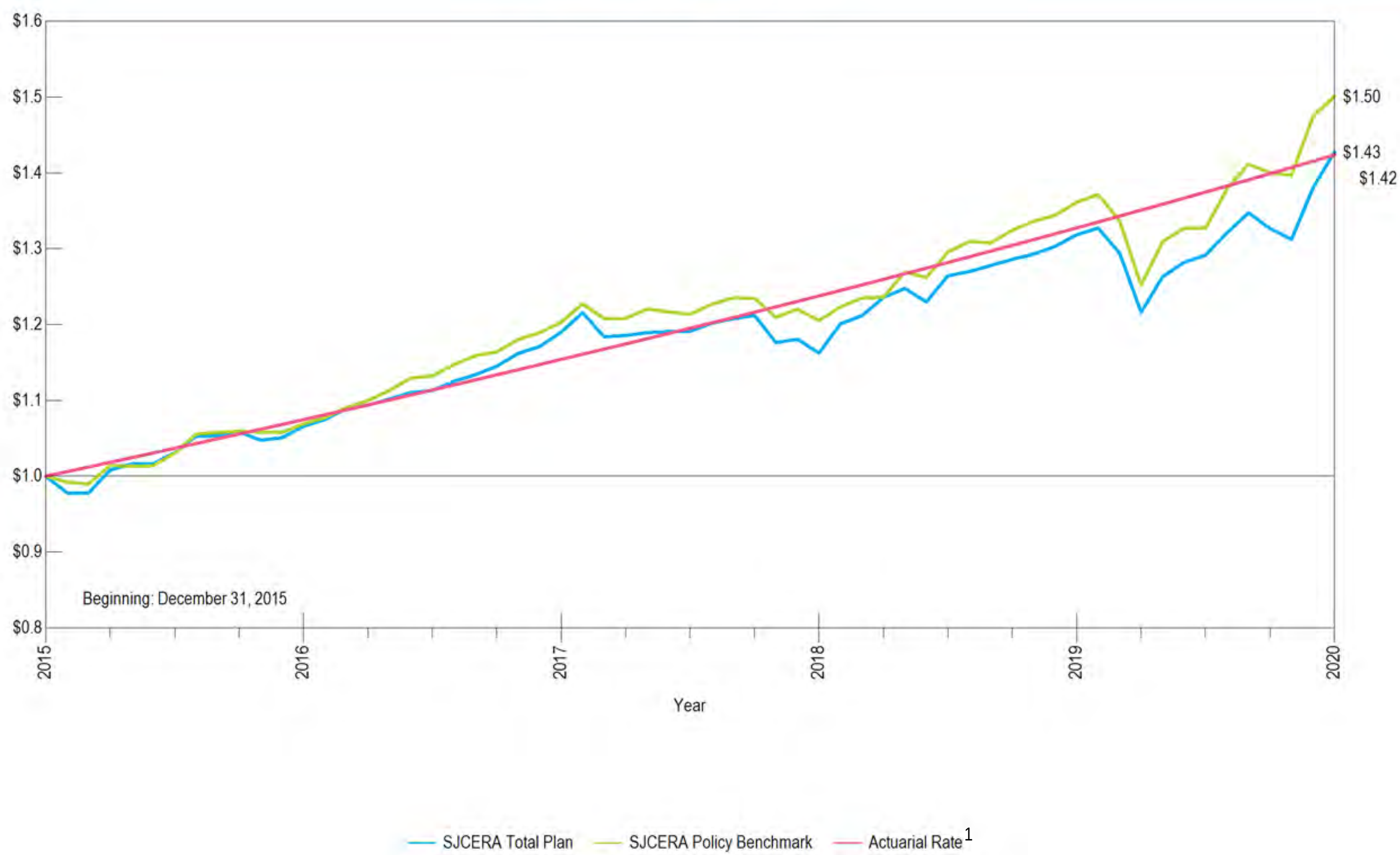


	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio[1]
SJCERA Total Plan	7.38%	6.06%	1.03
SJCERA Policy Benchmark	8.46%	5.82%	1.26
InvMetrics Public DB > $1B Net Median[2]	9.00%	8.84%	0.92

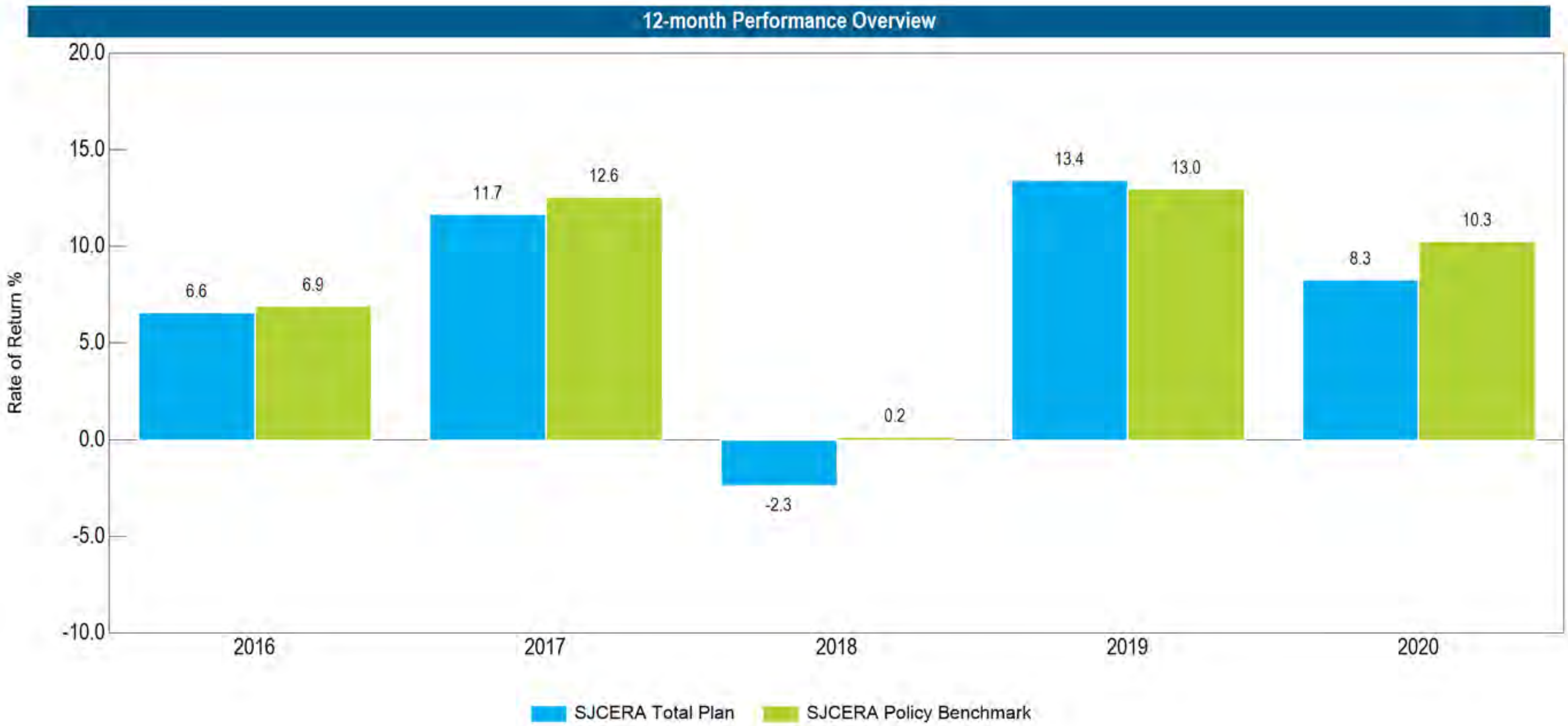
Returns are net of fees.

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

Growth of a Dollar - Latest 5 Years



1. 7.0% Actuarial Rate from 1/1/2020 to present. 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 three of the last five calendar year periods, net of fees. The SJCERA Total Portfolio outperformed the policy target benchmark during one of these five periods, net of fees.

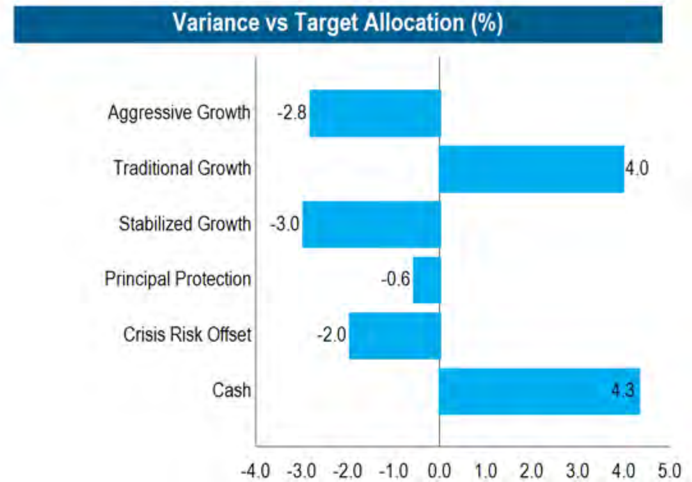
7.0% Actuarial Rate from 1/1/2020 to present. 7.25% Actuarial Rate from 1/1/2018 to 12/31/2019. 7.4% Actuarial Rate from 8/1/2016-12/31/2017. 7.5% Actuarial Rate from 1/1/2012-7/31/2016; previously 8.0%

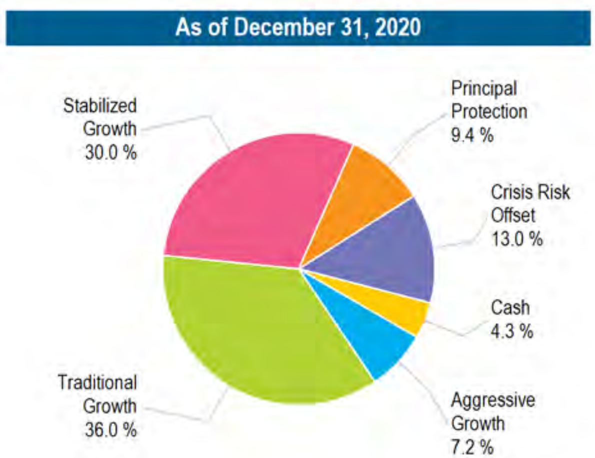
Portfolio Review

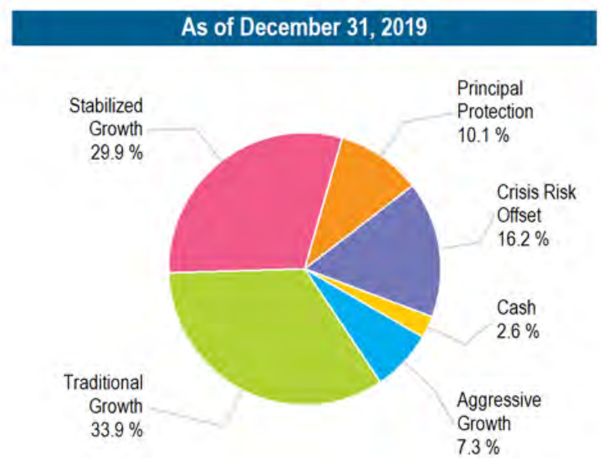
Asset Allocation vs. Target

	Current	Current	Policy	Difference*
Broad Growth	**$2,562,760,868**	**73.2%**	**75.0%**	**-1.8%**
Aggressive Growth	$251,595,426	7.2%	10.0%	-2.8%
Traditional Growth	$1,259,644,196	36.0%	32.0%	4.0%
Stabilized Growth	$1,051,521,247	30.0%	33.0%	-3.0%
Diversified Growth	**$787,408,277**	**22.5%**	**25.0%**	**-2.5%**
Principal Protection	$330,529,281	9.4%	10.0%	-0.6%
Crisis Risk Offset	$456,878,995	13.0%	15.0%	-2.0%
Cash [2]	**$151,436,709**	**4.3%**	**0.0%**	**4.3%**
Cash	$151,436,709	4.3%	0.0%	4.3%
Total [1]	**$3,501,605,853**	**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 December 31, 2020

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
SJCERA Total Plan[1]	**3,501,605,853**	**100.0**	**7.6**	**8.3**	**6.3**	**7.4**	**6.0**
SJCERA Policy Benchmark[2]			*7.2*	*10.3*	*7.7*	*8.5*	*6.8*
Broad Growth	**2,562,760,868**	**73.2**	**10.2**	**8.2**	**7.1**	**9.1**	**6.8**
Aggressive Growth Lag	**251,595,426**	**7.2**	**7.0**	**4.6**	**9.0**	**8.2**	**11.6**
MSCI ACWI +2% Blend			*8.8*	*13.2*	*8.6*	*8.8*	*8.9*
Traditional Growth	**1,259,644,196**	**36.0**	**15.4**	**8.7**	**7.2**	**10.9**	**8.0**
MSCI ACWI IMI Net			*15.7*	*18.0*	*11.0*	*13.1*	*9.8*
Stabilized Growth	**1,051,521,247**	**30.0**	**5.2**	**8.5**	**6.4**	**7.1**	**4.3**
Diversifying Strategies	**787,408,277**	**22.5**	**0.1**	**4.6**	**3.3**	**2.5**	**4.7**
Principal Protection	**330,529,281**	**9.4**	**2.0**	**2.7**	**4.2**	**4.2**	**4.8**
BBgBarc US Aggregate TR			*0.7*	*7.5*	*5.3*	*4.4*	*3.8*
Crisis Risk Offset Asset Class	**456,878,995**	**13.0**	**-1.1**	**5.2**	**2.6**	**1.0**	**6.5**
CRO Benchmark[4]			*1.5*	*9.3*	*5.9*	*4.5*	*5.5*
Cash and Misc Asset Class	**108,278,286**	**3.1**	**0.0**	**0.3**	**1.1**	**1.0**	**0.5**
ICE BofA 91 Days T-Bills TR			*0.0*	*0.7*	*1.6*	*1.2*	*0.6*

1. Market values may not add up due to rounding.
2. Policy Benchmark composition is listed in the Appendix.
3. 50% BC High Yield, 50% S&P Leveraged Loans
4. (1/3) BC Long Duration Treasuries, (1/3) BTOP50 Index, (1/3) 5% Annual.

Asset Class Performance Net-of-Fees | As of December 31, 2020

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Aggressive Growth Lag [1 2]	**251,595,426**	**100.0**	**7.0**	**4.6**	**9.0**	**8.2**	**11.6**
MSCI ACWI +2% Blend			*8.8*	*13.2*	*8.6*	*8.8*	*8.9*
Blackrock Global Energy and Power Lag [2]	10,508,546	4.2	0.2	2.6	--	--	--
MSCI ACWI +2% Blend			*8.8*	*13.2*	--	--	--
Morgan Creek III Lag [2]	7,294,473	2.9	1.8	-19.9	-4.6	-2.4	--
MSCI ACWI +2% Blend			*8.8*	*13.2*	*8.6*	*8.8*	--
Morgan Creek V Lag [2]	10,853,870	4.3	10.9	4.3	11.0	9.2	--
MSCI ACWI +2% Blend			*8.8*	*13.2*	*8.6*	*8.8*	--
Morgan Creek VI Lag [2]	23,118,259	9.2	7.5	8.8	15.4	9.7	--
MSCI ACWI +2% Blend			*8.8*	*13.2*	*8.6*	*8.8*	--
Ocean Avenue II Lag [2]	40,233,755	16.0	19.7	11.7	16.7	16.6	--
MSCI ACWI +2% Blend			*8.8*	*13.2*	*8.6*	*8.8*	--
Ocean Avenue III Lag [2]	55,242,527	22.0	3.8	1.6	28.2	--	--
MSCI ACWI +2% Blend			*8.8*	*13.2*	*8.6*	--	--
Ocean Avenue IV Lag [2]	10,946,023	4.4	8.4	27.4	--	--	--
MSCI ACWI +2% Lag			*8.8*	*13.2*	--	--	--
Non-Core Real Assets Lag [2 3]	93,397,973	37.1	4.6	4.1	2.4	3.7	9.4
NCREIF ODCE +1% lag (blend)			*0.5*	*1.5*	*5.3*	*6.7*	*10.1*

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 December 31, 2020, two of SJCERA's aggressive growth managers outperformed their MSCI ACWI +2% Blended benchmark. Note that returns data for this asset class is lagged one quarter.

BlackRock Global Energy and Power, a recently added fund to the Aggressive Growth asset class, underperformed its target benchmark over the quarter by (8.6%) and produced a 1-year return of 2.6%, underperforming its benchmark by (10.6%).

Morgan Creek III produced a quarterly return of 1.8%, underperforming its target benchmark by (7.0%). The manager also underperformed its benchmark over the 1-, 3-, and 5-year periods by (33.1%), (13.2%), and (11.2%), respectively.

Morgan Creek V outperformed its benchmark over the quarter, 3-, and 5-year periods by 2.1%, 2.4%, and 0.4%, respectively, and underperformed for the 1-year period by (8.9%).

Morgan Creek VI underperformed its benchmark over the quarter and 1-year periods by (1.3%) and (4.4%), respectively, and outperformed for the 3- and 5-year periods by 6.8% and 0.9%, respectively.

Ocean Avenue II, a Private Equity Buyout fund-of-funds manager, outperformed its benchmark for the quarter, 3-, and 5-year periods by 10.9%, 8.1%, and 7.8%, respectively, and underperformed its benchmark by (1.5%) over the 1-year periods.

Ocean Avenue III, a Private Equity Buyout fund-of-funds manager, trailed its benchmark for the quarter and 1-year periods by (5.0%) and (11.6%), respectively, and outperformed over the 3-year period by 19.6%.

Ocean Avenue IV earned a quarterly return of 8.4%, underperforming its benchmark by (0.4%) and outperformed the benchmark by 14.2% for the 1-year period.

Non-Core Private Real Assets outperformed its benchmark over the quarter and 1-year periods by 4.1% and 2.6%, respectively. It lagged its benchmark over the 3-, 5 -, and 10-year periods by (2.9%), (3.0%), and (0.7%), respectively.

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Traditional Growth[1]	**1,259,644,196**	**100.0**	**15.4**	**8.7**	**7.2**	**10.9**	**8.0**
MSCI ACWI IMI Net			*15.7*	*18.0*	*11.0*	*13.1*	*9.8*
SJCERA Transition[2]	442,264	0.0					
Northern Trust MSCI World	1,086,429,414	86.2	15.2	--	--	--	--
MSCI World IMI Net USD			*15.1*	--	--	--	--
PIMCO RAE Emerging Markets	67,892,770	5.4	26.3	1.6	0.4	11.7	2.0
MSCI Emerging Markets Gross			*19.8*	*18.7*	*6.6*	*13.2*	*4.0*
GQG Active Emerging Markets	66,032,133	5.2	15.9	--	--	--	--
MSCI Emerging Markets			*19.7*	--	--	--	--
Invesco REIT	38,847,614	3.1	4.6	-10.2	3.1	5.0	8.2
FTSE NAREIT Equity REIT			*11.6*	*-8.0*	*3.4*	*4.8*	*8.3*

1. Market values may not add up due to rounding.
2. Returns not meaningful.

Traditional Growth

During the latest three-month period ending December 31, 2020, the traditional growth asset class underperformed its MSCI ACWI IMI benchmark by (0.3%) with this being the first quarter with data for all four managers after the Plan reduced the number of managers in this asset class from eight.

Northern Trust MSCI World, the Plan's new Passive Global Equity manager, was opened during the third quarter of 2020 and outperformed its benchmark for the fourth quarter of 2020 by 0.1%.

PIMCO RAE Fundamental - Emerging, one of SJCERA's Active Emerging Markets Equity manager, outperformed the MSCI Emerging Markets Index over the quarter by 6.5% and underperformed its benchmark over the 1-, 3-, 5-, and 10-year periods by (17.1%), (6.2%), (1.5%), and (2.0%) respectively.

GQG, the Plan's new Active Emerging Markets Equity manager, was opened during the third quarter of 2020. It outperformed its MSCI Emerging Markets benchmark by 0.2% for the fourth quarter of 2020.

Invesco, the Plan's Core US REIT manager, underperformed the FTSE NAREIT Equity REIT Index over the quarter, 1-, 3-, and 10-year periods by (7.0%), (4.2%), (0.3%), and (0.1%), respectively, and outperformed its benchmark over the 5-year period by 0.2%.

Asset Class Performance Net-of-Fees | As of December 31, 2020

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Stabilized Growth [1]	**1,051,521,247**	**100.0**	**5.2**	**8.5**	**6.4**	**7.1**	**4.3**
Risk Parity Asset Class	**409,233,348**	**38.9**	**8.9**	**11.6**	**7.7**	**9.2**	**2.9**
ICE BofAML 3mo US TBill+4%			*1.0*	*4.7*	*5.7*	*5.2*	*4.7*
Bridgewater All Weather	199,175,722	18.9	8.2	9.6	6.7	8.3	--
Bridgewater All Weather (blend)			*1.0*	*4.7*	*5.7*	*5.2*	--
PanAgora Diversified Risk Multi Asset	210,057,626	20.0	9.6	13.6	8.6	--	--
ICE BofAML 3mo US TBill+4%			*1.0*	*4.7*	*5.7*	--	--
Liquid Credit	**218,054,142**	**20.7**	**4.9**	**3.7**	**4.1**	**4.8**	**3.5**
50% BBgBC US HY/50% S&P LSTA Lev Loan [3]			*5.1*	*5.1*	*5.1*	*6.9*	*5.6*
Neuberger Berman	90,752,684	8.6	5.6	5.7	--	--	--
33% ICEBofAMLUSHY /33%JPMEMBI Global Div /33% S&P LSTALevLoan			*5.3*	*4.8*	--	--	--
Stone Harbor Absolute Return	127,301,457	12.1	4.5	2.4	3.1	4.3	3.1
ICE BofA-ML LIBOR			*0.1*	*1.1*	*1.9*	*1.5*	*0.9*
Private Credit Lag	**264,705,514**	**25.2**	**1.8**	**0.0**	**1.2**	**2.3**	**4.5**
Custom Credit Benchmark [2]			*4.4*	*2.2*	*3.7*	*5.4*	*5.4*
Blackrock Direct Lending Lag	14,637,063	1.4	4.0	--	--	--	--
Custom Credit Benchmark [2]			*4.4*	--	--	--	--
Crestline Opportunity II Lag	20,770,292	2.0	1.7	-6.7	-2.2	2.0	--
Credit Blend CPI +6%			*2.4*	*7.4*	*8.0*	*8.4*	--
Davidson Kempner Long-Term Distressed Opportunities Fund V, L.P. Lag	5,454,652	0.5	--	--	--	--	--
Credit Blend CPI +6%			--	--	--	--	--
HPS European Asset Value II, LP Lag	2,657,609	0.3	7.9	--	--	--	--
Credit Blend CPI +6%			*2.4*	--	--	--	--

1. Market values may not add up due to rounding.
2. NCREIF ODCE Net + 1% 10/1/2012-present. NCREIF Property Index previously.
3. 50% BBgBC High Yield, 50% S&P Leveraged Loans.

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Medley Opportunity II Lag	11,750,156	1.1	-9.9	-19.9	-15.5	-8.5	--
Credit Blend CPI +6%			*2.4*	*7.4*	*8.0*	*8.4*	--
Mesa West III Lag	2,163,970	0.2	-0.5	-3.9	4.7	6.6	--
Credit Blend CPI +6%			*2.4*	*7.4*	*8.0*	*8.4*	--
Mesa West IV Lag	46,154,019	4.4	1.4	7.6	8.2	--	--
Credit Blend CPI +6%			*2.4*	*7.4*	*8.0*	--	--
Oaktree Middle-Market Direct Lending Lag	9,995,355	1.0	5.8	17.6	--	--	--
MSCI ACWI +2% Blend			*8.8*	*13.2*	--	--	--
Raven Opportunity II Lag	11,793,860	1.1	1.2	-20.2	-0.5	-3.9	--
Credit Blend CPI +6%			*2.4*	*7.4*	*8.0*	*8.4*	--
Raven Opportunity III Lag	43,949,728	4.2	3.4	2.1	7.8	3.1	--
Credit Blend CPI +6%			*2.4*	*7.4*	*8.0*	*8.4*	--
White Oak Summit Peer Lag	45,691,444	4.3	1.7	4.7	6.4	--	--
Credit Blend CPI +6%			*2.4*	*7.4*	*8.0*	--	--
White Oak Yield Spectrum Master V Lag	49,687,366	4.7	2.0	--	--	--	--
Credit Blend CPI +6%			*2.4*	--	--	--	--
Private Core Real Assets Lag[1]	159,528,243	15.2	2.1	4.5	8.8	9.8	14.4
NCREIF ODCE +1% lag (blend)			*0.5*	*1.5*	*5.3*	*6.7*	*10.1*

1. Market values may not add up due to rounding.
2. Policy Benchmark composition is listed in the Appendix.
3. 50% BC High Yield, 50% S&P Leveraged Loans
4. (1/3) BC Long Duration Treasuries, (1/3) BTOP50 Index, (1/3) 5% Annual.
5. Trailing Core real estate performance includes returns provided by prior real estate consultant from inception through Q419.

Stabilized Growth

During the latest three-month period ending December 31, 2020, six of SJCERA's sixteen Stabilized Growth managers outperformed their benchmarks while the eight of the remaining managers underperformed their respective benchmarks. One manager, Davidson Kempner, was added to the asset class during this quarter and does not have a return for the period. Several of the 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).

Bridgewater All Weather, one of the Plan's Risk Parity managers, outperformed its benchmark over the quarter, 1-, 3-, and 5-year periods by 7.2%, 4.9%, 1.0%, and 2.9%, respectively.

PanAgora DRMA, one of the Plan's Risk Parity managers, outperformed its T-Bill +4% benchmark over the quarter, 1-, and 3-year periods by 8.6%, 8.9%, and 2.9%, respectively

Neuberger Berman, one of the Plan's Liquid Credit managers, outperformed its blended benchmark for the quarter and 1-year periods by 0.3% and 0.9%, respectively.

Stone Harbor, the Plan's Absolute Return Fixed Income manager, outperformed the 3-month ICE BofAML LIBOR index over the quarter, 1-, 3-, 5-, and 10-year periods by 4.4%, 1.3%, 1.2%, 2.8%, and 1.2%, respectively.

BlackRock Direct Lending, one of the Plan's newer Private Credit manager, underperformed its Custom Credit benchmark by (0.4%) for the quarter.

Crestline Opportunity II, the Plan's Credit, Niche Alternatives, and Hedge Fund Secondaries manager, trailed its benchmark over the quarter, 1-, 3-, and 5-year periods by (0.7%), (14.1%), (10.2%), and (6.4%), respectively.

Davidson Kempner, the Plan's newest Private Credit manager, was opened during the fourth quarter of 2020 and therefore does not have a long enough historical return series to present data for the period.

HPS EU, one of the Plan's newer Direct Lending manager, was opened during the third quarter of 2020 and outperformed its Credit Blend CPI +6% benchmark for the fourth quarter of 2020 by 5.5%.

Medley Opportunity II, one of the Plan's Direct Lending managers, produced a negative quarterly return of (9.9%) and trailed its CPI +6% annual return target over all time periods measured. It lagged its benchmark over the quarter, 1-, 3-, and 5-year periods by (12.3%), (27.3%), (23.5%), and (16.9%), respectively.

Mesa West RE Income III, one of the Plan's Commercial Mortgage managers, produced a negative quarterly return of (0.5%), underperforming its CPI +6% annual benchmark by (2.9%). It also underperformed its benchmark over the 1-, 3-, and 5-year periods by (11.3%), (3.3%), and (1.8%), respectively.

Mesa West RE Income IV, one of the Plan's Commercial Mortgage managers, produced a quarterly return of 1.4%, underperforming its CPI +6% annual benchmark by (1.0%). Over the 1- and 3-year periods, the fund outperformed its benchmark by 0.2% and 0.2%, respectively.

Stabilized Growth (Continued)

Oaktree, a Middle-Market Direct Lending manager, trailed its MSCI ACWI +2% Blended benchmark over the quarter by (3.0%) and outperformed over the 1-year period by 4.4%.

Raven Capital II, one of the Plan's Direct Lending managers, produced a quarterly return of 1.2% and trailed its target over the quarter, 1-, 3-, and 5-year periods by (1.2%), (27.6%), (8.5%), and (12.3%), respectively.

Raven Capital III outperformed its CPI +6% annual target over the quarter by 1.0% and trailed its benchmark over the 1-, 3-, and 5-year periods by (5.3%), (0.2%), and (5.3%), respectively.

White Oak Summit Peer, one of the Plan's Direct Lending managers, underperformed its CPI +6% index over the quarter, 1-, and 3-year periods by (0.7%), (2.7%), and (0.6%), respectively.

White Oak Yield Spectrum Master V underperformed its CPI +6% benchmark by (0.4%) for the quarter.

Core Private Real Estate, investing in Private Core Real Assets, outperformed its Private RE Benchmark for the quarter, 1-, 3-, 5-, and 10-year periods by 1.6%, 3.0%, 3.5%, 3.1%, and 4.3%, respectively.

Asset Class Performance Net-of-Fees | As of December 31, 2020

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Principal Protection[1]	**330,529,281**	**100.0**	**2.0**	**2.7**	**4.2**	**4.2**	**4.8**
BBgBarc US Aggregate TR			*0.7*	*7.5*	*5.3*	*4.4*	*3.8*
Dodge & Cox Fixed Income	118,102,197	35.7	2.5	9.3	6.3	5.8	5.1
BBgBarc US Aggregate TR			*0.7*	*7.5*	*5.3*	*4.4*	*3.8*
DoubleLine	111,091,311	33.6	1.0	3.3	4.2	4.3	--
BBgBarc US Aggregate TR			*0.7*	*7.5*	*5.3*	*4.4*	--
PRIMA Mortgage Investment Trust Lag	101,335,773	30.7	2.5	-4.7	1.9	2.6	3.9
BBgBarc US Aggregate Lagged			*0.6*	*7.0*	*5.2*	*4.2*	*3.6*

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

Principal Protection

During the latest three-month period ending December 31, 2020, all three of SJCERA's three Principal Protection managers outperformed the Blmbg. Barc. US Aggregate Index.

Dodge & Cox, the Plan's Core Fixed Income manager, earned a quarterly return of 2.5%, outperforming its benchmark by 1.8%. The portfolio also outperformed its benchmark over the 1-, 3-, 5-, and 10-year periods by 1.8%, 1.0%, 1.4%, and 1.3%, respectively.

DoubleLine, the Plan's Mortgage Backed Securities manager, provided a quarterly return of 1.0%, outperforming its benchmark by 0.3%. The manager underperformed its benchmark by (4.2%), (1.1%), and (0.1%) over the 1-, 3-, and 5-year time periods, respectively.

Prima Capital, the Plan's Commercial Mortgage manager, outperformed its benchmark over the quarter and 10-year periods by 1.9% and 0.3%, respectively. It trailed the benchmark in the 1-, 3-, and 5-year periods by (11.7%), (3.3%), and (1.6%), respectively.

Asset Class Performance Net-of-Fees | As of December 31, 2020

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Crisis Risk Offset Asset Class[1]	**456,878,995**	**100.0**	**-1.1**	**5.2**	**2.6**	**1.0**	**6.5**
CRO Benchmark[2]			*1.5*	*9.3*	*5.9*	*4.5*	*5.5*
Long Duration	**162,968,976**	**35.7**	**-2.7**	**16.9**	**9.4**	--	--
BBgBarc US Treasury Long TR			*-3.0*	*17.7*	*9.9*	--	--
Dodge & Cox Long Duration	162,968,976	35.7	-2.7	16.9	9.4	--	--
BBgBarc US Treasury Long TR			*-3.0*	*17.7*	*9.9*	--	--
Systematic Trend Following	**170,829,101**	**37.4**	**11.0**	**7.1**	**0.5**	**-3.3**	**5.5**
BTOP 50 (blend)			*6.5*	*5.1*	*2.2*	*0.3*	*3.1*
Graham Tactical Trend	86,586,061	19.0	8.4	1.9	1.1	--	--
SG Trend			*8.5*	*6.3*	*2.6*	--	--
Mount Lucas	84,243,040	18.4	13.9	12.8	-0.2	-5.5	4.2
BTOP 50 (blend)			*6.5*	*5.1*	*2.2*	*0.3*	*3.1*
Alternative Risk Premium	**123,080,918**	**26.9**	**-12.6**	**-10.4**	**-3.4**	**-1.8**	**3.7**
5% Annual (blend)			*1.2*	*5.0*	*5.0*	*5.0*	*7.4*
AQR Style Premia	24,368,496	5.3	-4.2	-27.1	-17.6	--	--
5% Annual			*1.2*	*5.0*	*5.0*	--	--
Lombard Odier	61,425,622	13.4	-8.6	-7.3	--	--	--
5% Annual			*1.2*	*5.0*	--	--	--
P/E Diversified Global Macro	37,286,801	8.2	-22.6	-13.5	-5.3	--	--
5% Annual			*1.2*	*5.0*	*5.0*	--	--

1. Market values may not add up due to rounding.
2. 50% BC High Yield, 50% S&P Leveraged Loans
3. (1/3) BC Long Duration Treasuries, (1/3) BTOP50 Index, (1/3) 5% Annual.

Crisis Risk Offset

During the latest three-month period ending December 31, 2020, four of the six of SJCERA's Crisis Risk Offset managers trailed their respective benchmarks.

Dodge & Cox Long Duration produced a negative quarterly return of (2.7%), outperforming the Blmbg. Barc. US Long Duration Treasuries by 0.3%. The manager underperformed its benchmark over the 1- and 3-year periods by (0.8%) and (0.5%), respectively.

Graham, one of the Plan's Systematic Trend Following managers, produced a quarterly return of 8.4%, underperforming the SG Trend Index by (0.1%). The fund also underperformed its benchmark over the 1- and 3-year periods by (4.4%) and (1.5%), respectively.

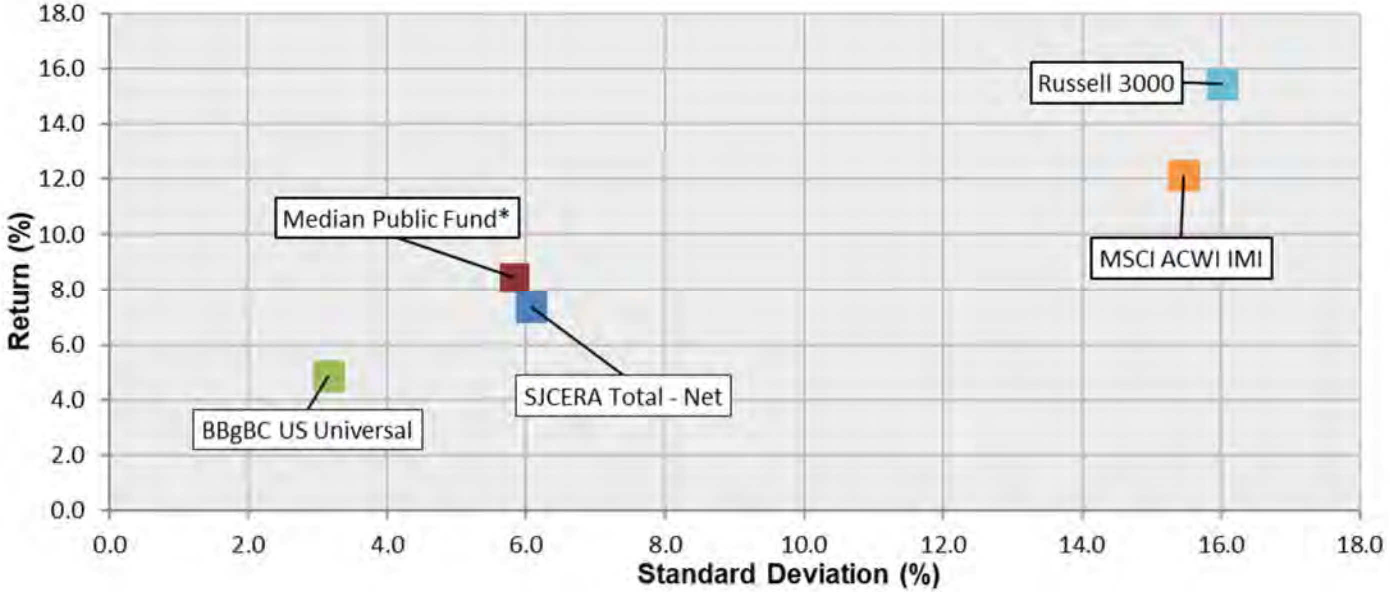
Mount Lucas, one of the Plan's Systematic Trend Following managers, produced a quarterly return of 13.9%, outperforming the Barclays BTOP 50 Index by 7.4%. The fund also outperformed its benchmark over the 1- and 10-year periods by 7.5% and 1.1%, respectively, while underperforming the benchmark index by (2.4%) and (5.8%) over the 3- and 5-year periods, respectively.

AQR, one of the Plan's Alternative Risk Premium managers, posted a negative quarterly return of (4.2%), trailing its 5% Annual target by (5.4%). Over the 1- and 3-year periods, the manager also trailed its benchmark by (32.1%) and (22.6%), respectively.

Lombard Odier, the newest of the Alternative Risk Premium class managers, earned a negative quarterly return of (8.6 %), trailing its 5% Annual target benchmark by (9.8%). The manager also underperformed its benchmark over the 1-year period by (10.3%).

P/E Diversified, one of the Plan's Alternative Risk Premium managers, underperformed its 5% Annual target for the quarter, 1-, and 5-year periods by (23.8%), (18.5%), and (10.3%), respectively.

SJCERA Total Fund
5-Year Annualized Risk/Return (Net of Fees)

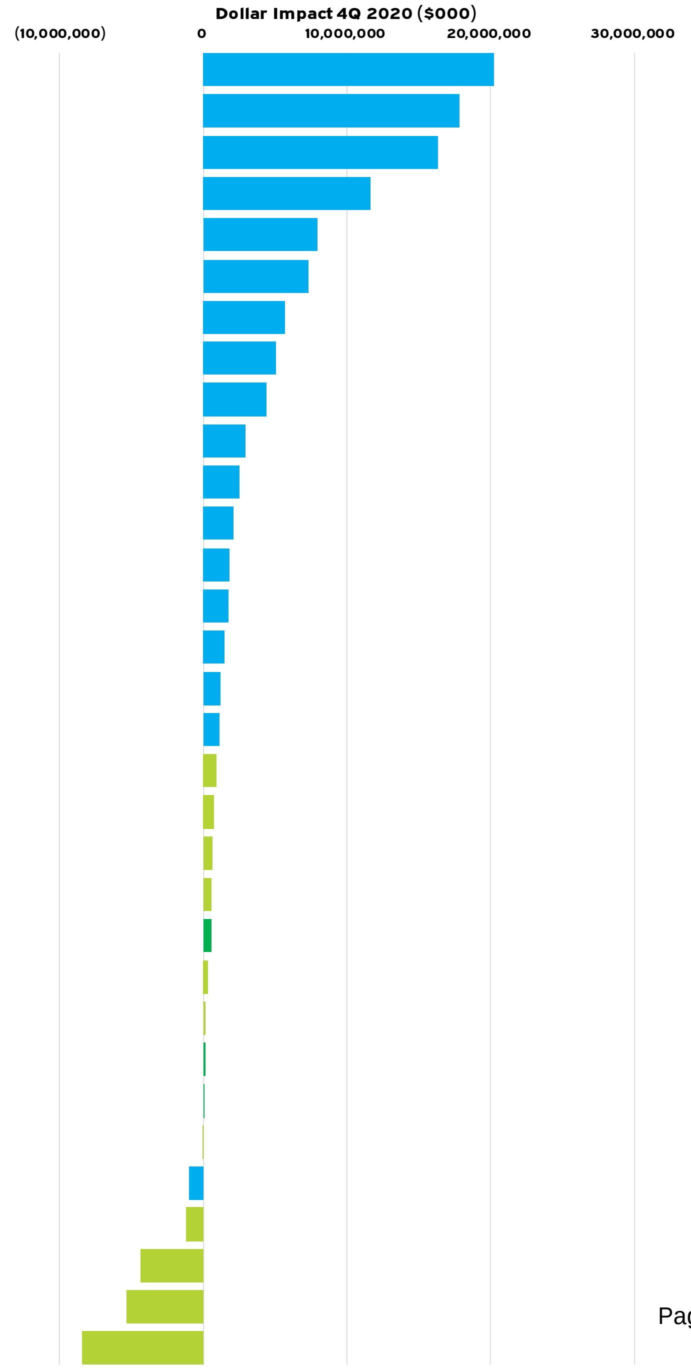


	Anlzd Return	Anlzd Std. Dev.	Sharpe Ratio
SJCERA Total - Net	7.39	6.06	1.03
Median Public Fund*	9.00	8.84	0.92
BBgBC US Universal	4.87	3.15	1.19
Russell 3000	15.43	16.02	0.89
MSCI ACWI IMI	12.15	15.47	0.71

* InvMetrics Public DB > $1B Net

SJCERA Total Plan
As of December 31, 2020

Manager/Mandate	Manager Return	Benchmark Return	Dollar Impact	Benchmark Added Value	Manager BNAV
12/31/2020			2,046,067,733		2,046,067,733
SJCERA Total Policy Benchmark	7.6%	7.2%			
PanAgora Diversified Risk Multi Asset T-bill + 4%	9.6%	1.0%	20,218,047		210,057,626
PIMCO RAE Emerging Markets MSCI Emerging Markets	26.3%	19.8%	17,877,524		67,892,770
Bridgewater All Weather T-bill + 4%	8.2%	1.0%	16,368,261		199,175,722
Mount Lucas BTOP 50	13.9%	6.5%	11,681,982		84,243,040
Ocean Avenue II MSCI ACWI +2% Blend	19.7%	8.8%	7,927,257		40,233,755
Graham Tactical Trend SG Trend Index	8.4%	8.5%	7,302,668		86,586,061
Stone Harbor Absolute Return 3-Month Libor TR USD	4.5%	0.1%	5,690,375		127,301,457
Neuberger Berman Global Credit Hybrid	5.6%	5.3%	5,082,150		90,752,684
Private Core Real Estate Private Real Estate Benchmark	2.8%	0.5%	4,423,718		159,528,243
Dodge & Cox Fixed Income BB Aggregate	2.5%	0.7%	2,940,745		118,102,197
PRIMA BB Aggregate (lagged)	2.5%	0.6%	2,514,141		101,335,773
Ocean Avenue III MSCI ACWI +2% Blend	3.8%	8.8%	2,094,244		55,242,527
Invesco REIT FTSE NAREIT Index	4.6%	11.6%	1,804,472		38,847,614
Morgan Creek VI MSCI ACWI +2% Blend	7.5%	8.8%	1,726,240		23,118,259
Raven III CPI + 6% Annual	3.4%	2.4%	1,488,138		43,949,728
Morgan Creek V MSCI ACWI +2% Blend	10.9%	8.8%	1,184,917		10,853,870
DoubleLine BB Aggregate	1.0%	0.7%	1,103,137		111,091,311
Ocean Avenue IV MSCI ACWI +2% Blend	8.4%	8.8%	920,998		10,946,023
White Oak Summit Peer CPI + 6% Annual	1.7%	2.4%	769,444		45,691,444
Mesa West IV CPI + 6% Annual	1.4%	8.8%	624,464		46,154,019
Oaktree MSCI ACWI +2% Blend	5.8%	8.8%	584,628		9,995,355
BlackRock Direct Lending Custom Credit Benchmark	4.0%	4.4%	581,970		14,637,063
Crestline Opportunity II CPI + 6% Annual	1.7%	2.4%	342,710		20,770,292
Raven II CPI + 6% Annual	1.2%	2.4%	137,045		11,793,860
Morgan Creek III MSCI ACWI +2% Blend	1.8%	8.8%	131,009		7,294,473
BlackRock Global Energy & Power MSCI ACWI +2% Blend	0.2%	8.8%	19,126		10,508,546
Mesa West III CPI + 6% Annual	-0.5%	2.4%	(10,560)		2,163,970
AQR 5% Annual	-4.2%	1.2%	(1,012,998)		24,368,496
Medley Opportunity II CPI + 6% Annual	-9.9%	2.4%	(1,161,738)		11,750,156
Dodge & Cox Long Duration BB US Long Duration Treasuries	-2.7%	-3.0%	(4,383,865)		162,968,976
Lombard Odier 5% Annual	-8.6%	1.2%	(5,309,631)		61,425,622
P/E Diversified Global Macro 5% Annual	-22.6%	1.2%	(8,442,477)		37,286,801
Total Portlolio MV as of 12/31/2020			3,500,481,241		



SJCERA Total Plan
As of December 31, 2020

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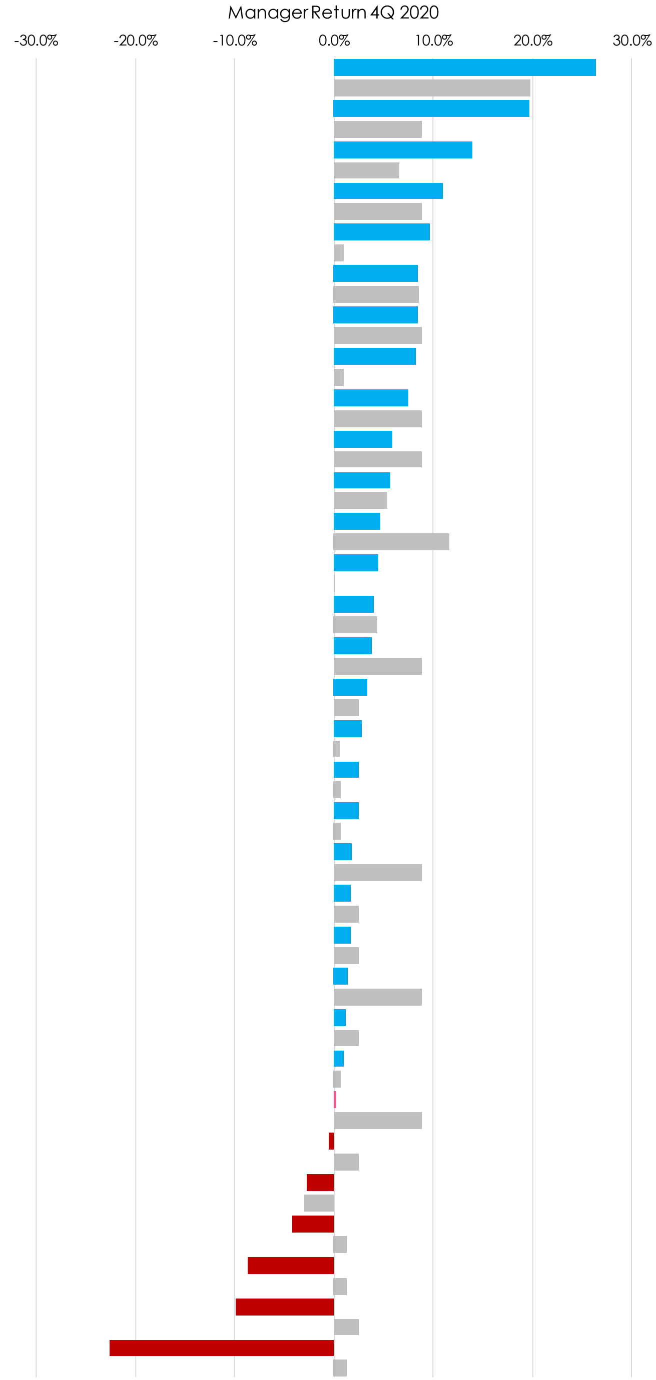


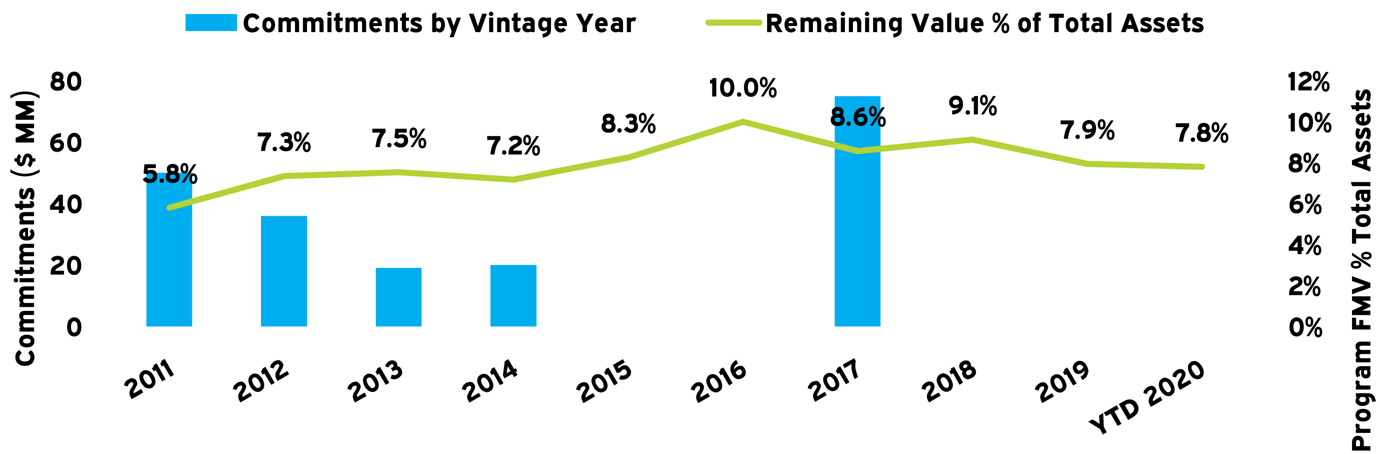
Real Estate Program

September 30, 2020

Introduction

The Retirement Association's target allocation towards real estate assets is 10-12%.

As of September 30, 2020, the Retirement Association had invested with seventeen real estate managers (three private open-end and fourteen private closed-end). The aggregate reported value of the Retirement Association's real estate investments was $252.9 million, or 7.8% of the total Fund, as of September 30, 2020.



Program Status

No. of Investments	17
Committed ($ MM)	461.6
Contributed ($ MM)	403.7
Distributed ($ MM)	292.5
Remaining Value ($ MM)	252.9

Performance Since Inception

	Program	Peer Universe
DPI	0.72x	0.85x
TVPI	1.35x	1.26x
IRR	5.9%	5.8%

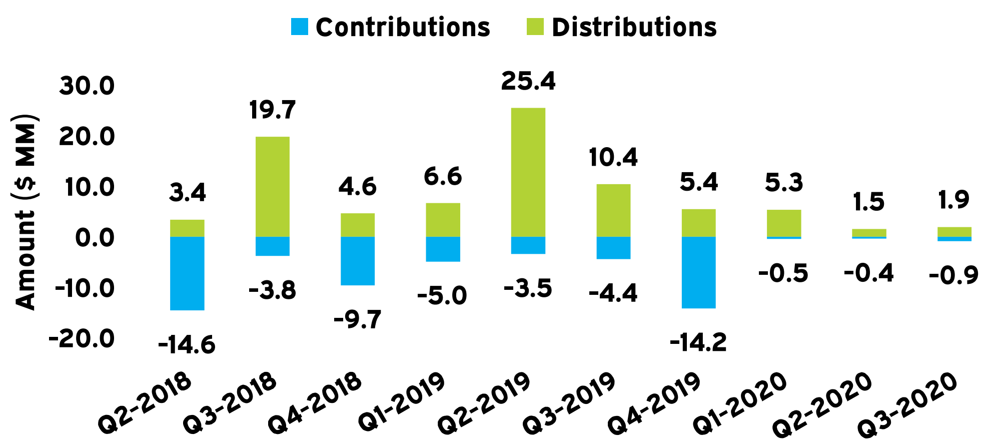
Commitments

Recent Quarterly Commitments

No new real estate commitments have been made since Q4 2017.

Cash Flows

Recent Quarterly Cash Flows



Largest Contributions This Quarter

Fund	Vintage	Strategy	Region	Amount ($MM)
Prologis Logistics	1970	Core	North America	0.93

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount ($MM)
Prologis Logistics	1970	Core	North America	0.93
Stockbridge RE III	2017	Value-Added	North America	0.65
RREEF America II	2002	Core	North America	0.28

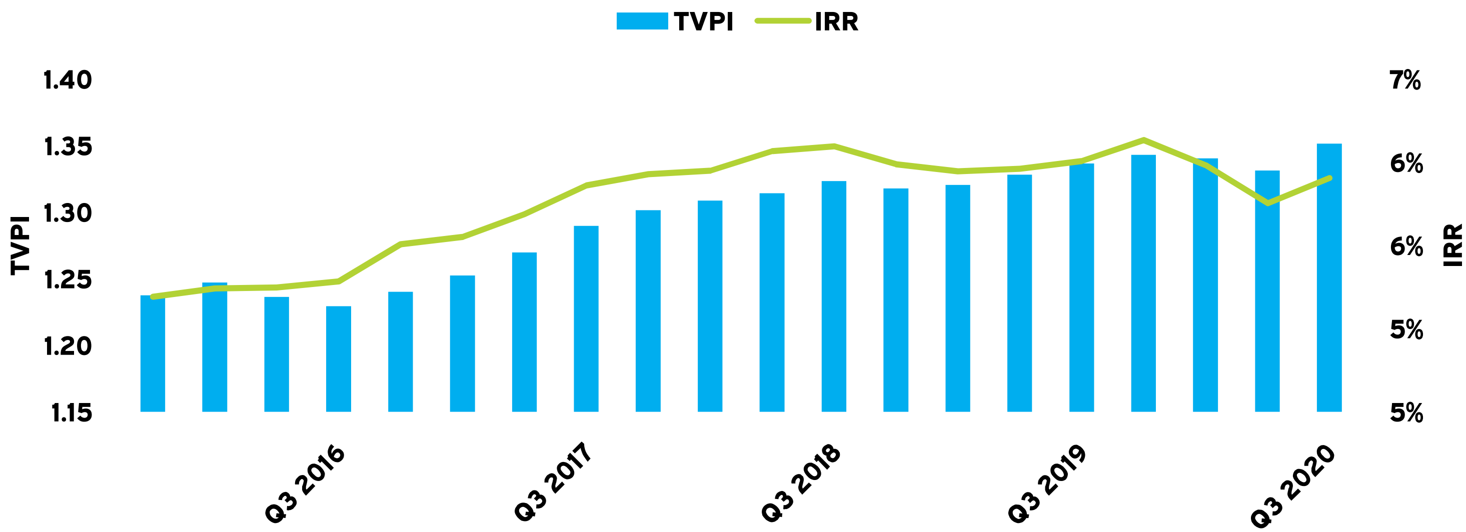
By Strategy

Group	Number	Committed ($ MM)	Contributed ($ MM)	Unfunded ($ MM)	Distributed ($ MM)	Remaining Value ($ MM)	Exposure ($ MM)	DPI (X)	TVPI (X)	IRR (%)
Core	3	120.5	121.4	0.0	23.5	159.5	159.5	0.19	1.51	6.2
Opportunistic	9	204.1	173.8	31.3	183.5	41.4	72.7	1.06	1.29	5.1
Value-Added	5	137.0	108.5	30.0	85.5	52.0	81.9	0.79	1.27	7.5
Total	**17**	**461.6**	**403.7**	**61.2**	**292.5**	**252.9**	**314.1**	**0.72**	**1.35**	**5.9**

By Vintage

Group	Number	Committed ($ MM)	Contributed ($ MM)	Unfunded ($ MM)	Distributed ($ MM)	Remaining Value ($ MM)	Exposure ($ MM)	DPI (X)	TVPI (X)	IRR (%)
Open-end	3	120.5	121.4	0.0	23.5	159.5	159.5	0.19	1.51	NM
2005	2	45.0	44.5	0.0	37.2	2.4	2.4	0.84	0.89	-1.5
2007	4	96.0	84.0	12.0	114.6	5.6	17.6	1.36	1.43	7.3
2011	2	50.0	38.3	11.7	47.1	4.1	15.8	1.23	1.34	9.7
2012	2	36.0	33.8	3.0	48.6	0.5	3.4	1.44	1.45	12.6
2013	1	19.1	18.3	0.8	14.9	13.3	14.1	0.82	1.54	12.1
2014	1	20.0	19.0	1.8	3.1	20.1	21.8	0.16	1.22	7.2
2017	2	75.0	44.5	31.9	3.5	47.5	79.5	0.08	1.15	8.7
Total	**17**	**461.6**	**403.7**	**61.2**	**292.5**	**252.9**	**314.1**	**0.72**	**1.35**	**5.9**

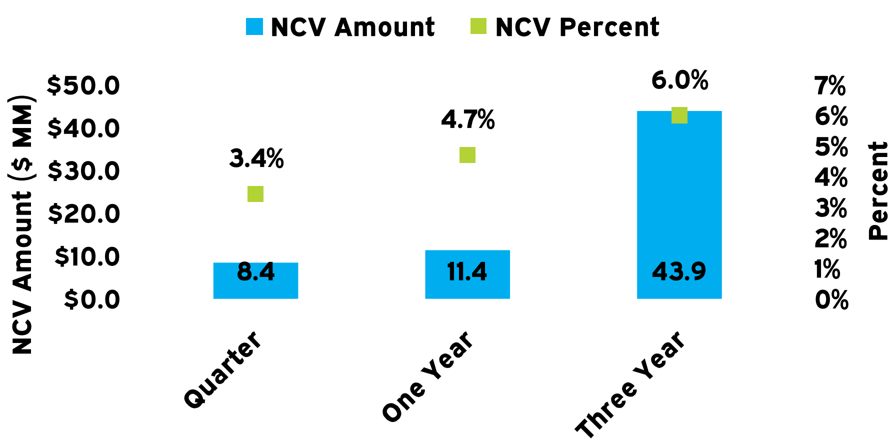
Since Inception Performance Over Time



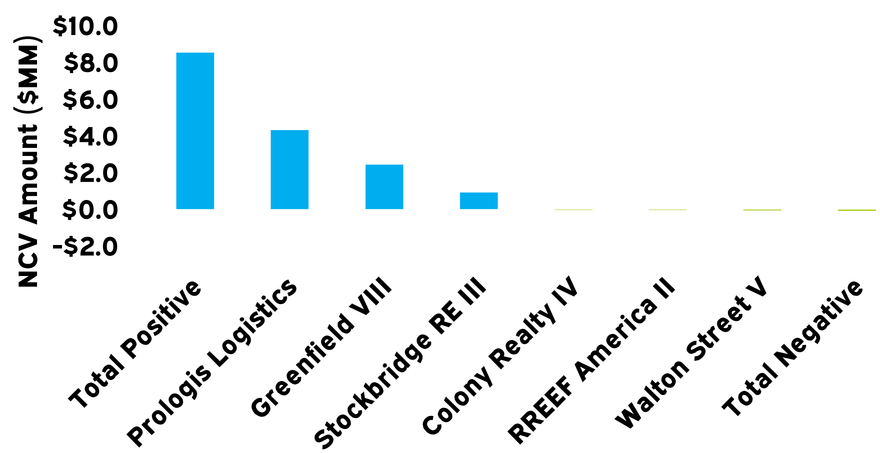
Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	4.7	6.0	7.4	11.6	5.9
Public Market Equivalent	-22.5	-1.9	2.1	6.3	6.4

Periodic NCV



1 Quarter Drivers Of NCV



MEKETA

San Joaquin County Employees' Retirement Association Real Estate Program

Time Weighted Performance | As of September 30, 2020

	3Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
Private Real Estate	3.0	4.3	5.9	7.4	12.0	-9.2	6/30/2005
Private Core Real Estate	2.1	4.5	8.9	10.5	13.5	4.6	6/30/2007
Private Non-Core Real Estate	4.6	4.1	2.2	4.3	10.4	-11.5	6/30/2005
Miller Global V	-35.9	-59.6	-18.7	-9.8	6.1	-16.3	7/05/2005
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	10.5	
Colony Realty III	6.7	-1.2	-8.2	-4.3	4.6	17.9	9/30/2009
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	11.3	
Greenfield VIII	13.8	36.3	NA	NA	NA	5.6	1/17/2018
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	8.9	
AG Core Plus IV	2.0	4.8	7.7	7.2	NA	4.1	6/23/2015
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	11.3	
Greenfield VII	1.1	4.3	10.3	11.9	NA	11.2	7/08/2014
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	11.9	
Greenfield VI	3.7	-42.3	-32.1	-19.2	NA	-7.2	1/24/2012
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	12.9	
RREEF America REIT II	0.0	2.3	5.5	NA	NA	6.7	4/01/2016
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	9.8	
Colony Realty IV	-5.8	3.2	-0.7	3.7	NA	13.0	12/11/2012
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	12.8	
Miller Global VI	92.1	-71.9	-30.0	-16.3	-2.0	-7.2	2/28/2008

San Joaquin County Employees' Retirement Association Real Estate Program

Time Weighted Performance | As of September 30, 2020

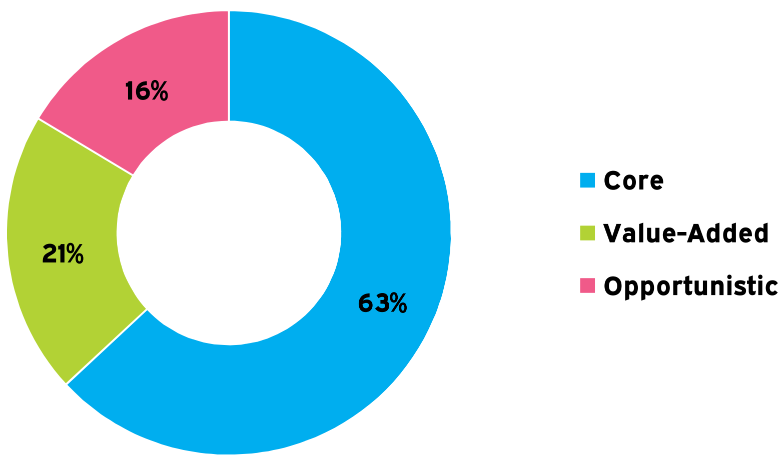
	3Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	8.4	
Miller Global VII	68.8	-6.2	-11.6	-2.3	NA	23.2	9/04/2012
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	12.4	
Walton Street VI-Q	0.3	-10.1	-1.6	-0.5	10.1	7.0	4/27/2009
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	9.7	
Principal US Property	0.0	0.2	4.9	7.1	NA	7.1	10/09/2015
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	10.6	
Prologis Targeted U.S.	4.5	8.1	13.8	15.2	15.9	6.3	9/30/2007
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	8.9	
Walton Street V	-1.8	-17.4	-14.6	-8.6	2.0	-4.4	8/08/2006
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	9.6	
Greenfield V	0.0	-24.4	-6.1	-5.3	3.3	-3.1	4/04/2008
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	8.3	
Almanac Realty VI	0.6	-28.8	-11.6	-1.0	NA	24.3	11/20/2012
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	12.9	
Stockbridge Value III	3.4	3.7	NA	NA	NA	1.3	4/20/2018
NCREIF ODCE Value Weight +1%	1.3	4.6	8.4	9.9	13.6	8.4	

Fund Performance: Sorted By Vintage And Strategy

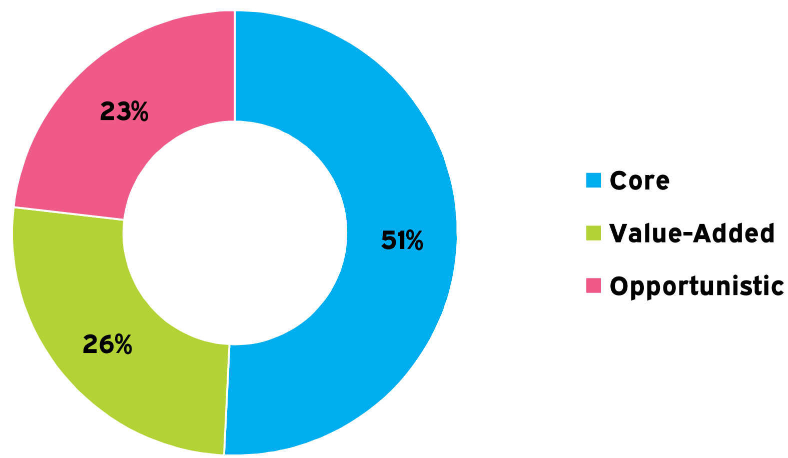
By Investment	Vintage	Strategy	Committed ($ MM)	Contributed ($ MM)	Unfunded ($ MM)	Distributed ($ MM)	Remaining Value ($ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Principal US	Open-end	Core	25.0	25.0	0.0	0.0	33.8	1.35	NM	6.4	NM
Prologis Logistics	Open-end	Core	50.5	51.4	0.0	16.9	75.2	1.79	NM	6.2	NM
RREEF America II	Open-end	Core	45.0	45.0	0.0	6.6	50.5	1.27	NM	6.1	NM
Miller GLobal Fund V	2005	Opportunistic	15.0	14.5	0.0	17.6	0.0	1.21	1.02	3.3	0.4
Walton Street V	2005	Opportunistic	30.0	30.0	0.0	19.7	2.4	0.74	1.02	-3.3	0.4
Greenfield V	2007	Opportunistic	30.0	29.6	0.4	40.4	0.2	1.37	1.18	8.3	3.2
Miller Global VI	2007	Opportunistic	30.0	21.1	8.9	32.3	0.4	1.55	1.18	7.5	3.2
Walton Street VI	2007	Opportunistic	15.0	13.3	1.7	15.2	4.7	1.50	1.18	7.9	3.2
Colony Realty III	2007	Value-Added	21.0	20.0	1.0	26.7	0.2	1.35	1.18	5.3	3.2
Greenfield VI	2011	Opportunistic	20.0	19.2	0.8	26.1	0.2	1.37	1.46	9.7	12.0
Almanac Realty VI	2011	Value-Added	30.0	19.1	10.9	21.0	3.8	1.30	1.46	9.7	12.0
Miller Global VII	2012	Opportunistic	15.0	12.0	3.0	15.9	0.2	1.34	1.44	14.7	11.2
Colony Realty IV	2012	Value-Added	21.0	21.7	0.0	32.7	0.2	1.51	1.44	11.9	11.2
Greenfield VII	2013	Opportunistic	19.1	18.3	0.8	14.9	13.3	1.54	1.32	12.1	9.4
AG Core Plus IV	2014	Value-Added	20.0	19.0	1.8	3.1	20.1	1.22	1.34	7.2	10.4
Greenfield VIII	2017	Opportunistic	30.0	15.8	15.6	1.5	19.9	1.35	1.13	17.2	8.0
Stockbridge RE III	2017	Value-Added	45.0	28.7	16.3	2.0	27.6	1.03	1.13	2.3	8.0
Total			**461.6**	**403.7**	**61.2**	**292.5**	**252.9**	**1.35**	**1.26**	**5.9**	**5.8**

By Strategy

Percent of FMV

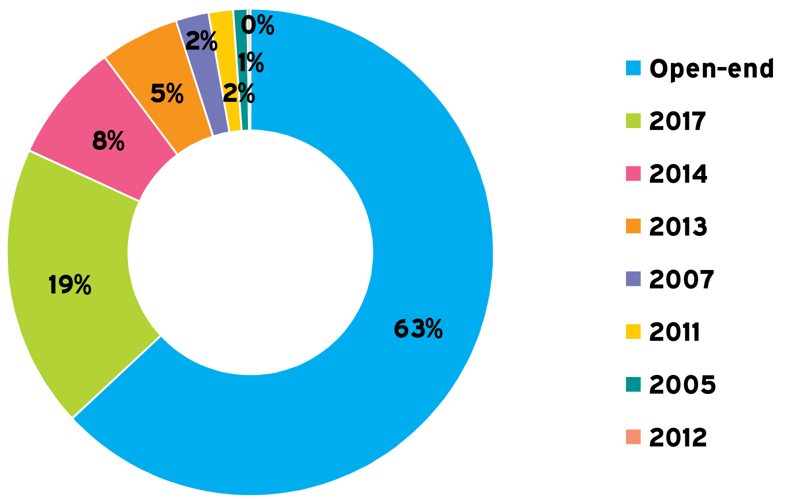


Percent of Exposure

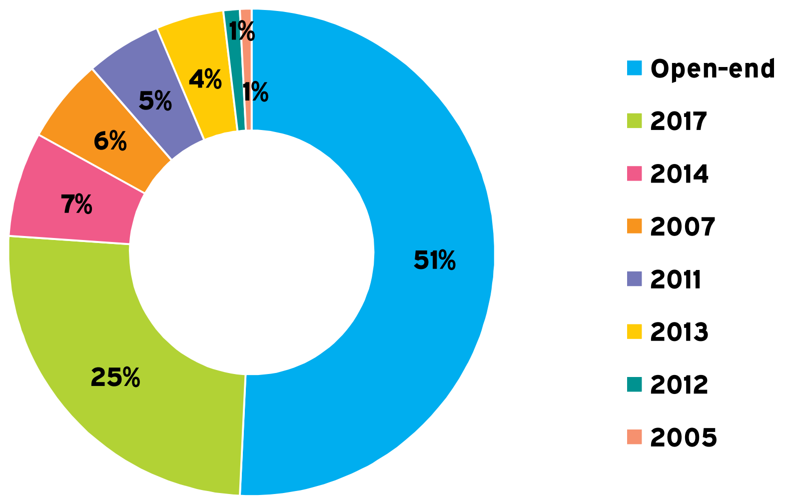


By Vintage

Percent of FMV

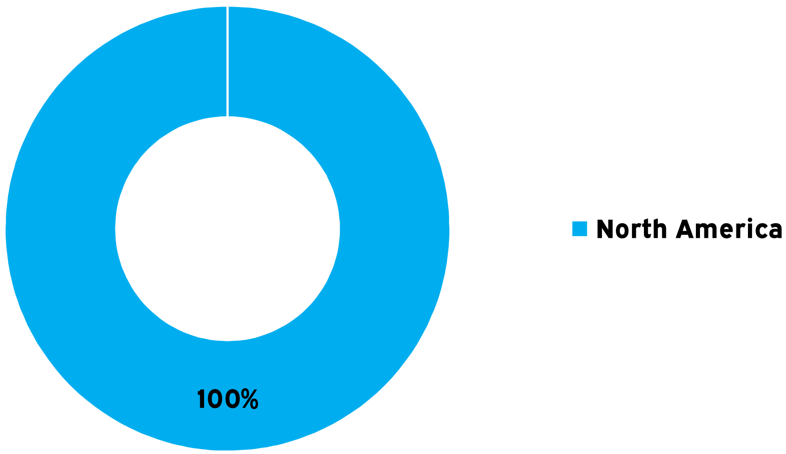


Percent of Exposure

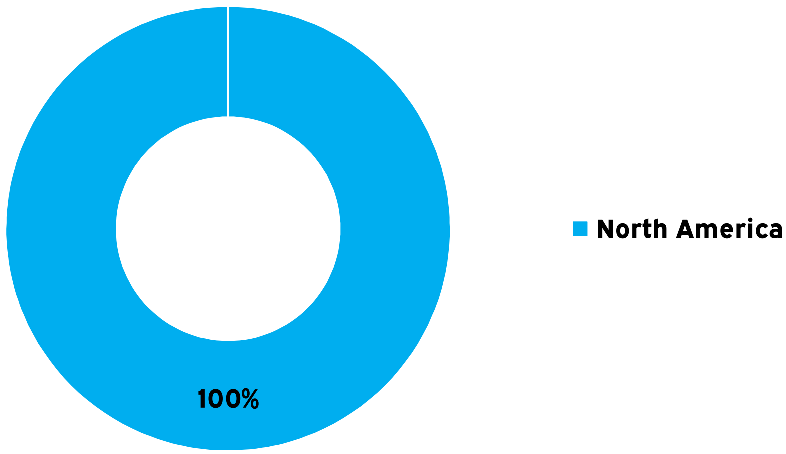


By Geographic Focus

Percent of FMV



Percent of Exposure



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. Program-level DPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
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. Program-level IRRs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
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.

Peer Universe	The performance for a set of comparable private market funds. The peer returns used in this report are provided by Thomson ONE, based on data from Cambridge Associates as of the date of this report. Program-level peer universe performance represents the pooled return for a set of funds of corresponding vintages and strategies across all regions globally. Fund-level peer performance represents the median return for a set of funds of the same vintage and the program's set of corresponding strategies across all regions globally. Data sets that include less than five funds display performance as "NM". Meketa utilizes the following Thomson ONE strategies for peer universes: Infrastructure: Infrastructure Natural Resources: Private Equity Energy, Upstream Energy & Royalties, and Timber Private Debt: Subordinated Capital, Credit Opportunities, Senior Debt, and Control-Oriented Distressed Private Equity (including Private Debt): Venture Capital, Growth Equity, Buyout, Subordinated Capital, Credit Opportunities, Senior Debt, and Control-Oriented Distressed Private Equity (excluding Private Debt): Venture Capital, Growth Equity, and Buyout Real Assets (excluding Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, and Timber Real Assets (including Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, Timber, and Real Estate Real Estate: Real Estate
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: Barclays Capital U.S. Corporate High Yield 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. Program-level TVPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
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.

MEKETA
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MEMORANDUM

TO: SJCERA Board of Retirement
FROM: Meketa Investment Group
DATE: March 12, 2021
RE: SJCERA Manager Certification Update: 4Q 2020 Overview and Responses

Summary of Responses

Meketa reviewed the SJCERA Quarterly Manager Certification Updates for the quarter ending December 31, 2020, 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,
  - 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, BlackRock, HPS, Medley, PIMCO, Principal, and White Oak.
- Five managers reported investment team changes: Crestline, Dodge & Cox, Invesco, Northern Trust, and Walton Street.
- Five managers reported material management changes: Colony, Graham, GQG, Northern Trust, and PIMCO.
- Three managers reported material business changes: Medley, Parametric, and Prima.
- Bridgewater and Graham chose not to provide responses to the SJCERA compliance questionnaire and directed Meketa to a standard quarterly business or compliance updates.
- No responses were received from Angelo Gordon and Davidson Kempner.

[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	No	No	Yes	Yes
Ocean Avenue	PE Buyout FOF	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Morgan Creek	Multi-Strat FOF	Yes	Yes	Yes	N/A*	No	No	No	No	Yes	Yes
AG Core Plus***	Pvt. Non-core RE	--	--	--	--	--	--	--	--	--	--
Almanac Realty	Pvt. Non-core RE	Yes	Yes	Yes	N/A*	Yes*	No	No*	No*	Yes	Yes
Colony Capital	Pvt. Non-core RE	Yes	Yes	Yes	Yes	No*	No	Yes*	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	No	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	Yes*	No	No	Yes	Yes
Traditional Growth											
Northern Trust	All Cap Global	Yes	Yes	Yes	Yes	No	Yes*	Yes*	No	Yes	Yes
GQG	Emerging Mkts.	Yes	Yes	Yes	Yes	No	No	Yes*	No	Yes	Yes
PIMCO	Emerging Mkts.	Yes	Yes	Yes	Yes	Yes*	No	Yes*	No	Yes	Yes
Invesco	REITS	Yes	Yes	Yes	Yes	No	Yes*	No	No	Yes	Yes
Stabilized Growth											
Bridgewater**	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; Bank Loans	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
BlackRock	Direct Lending	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Crestline	Opportunistic	Yes	Yes	Yes	Yes	Yes*	No	No	No	Yes	Yes
Medley	Direct Lending	Yes	Yes	Yes	N/A*	Yes	Yes*	No	No	Yes	Yes
Mesa West	Comm. Mortgage	Yes	Yes	Yes	Yes	Yes*	No	No	Yes*	No	Yes
Oaktree	Leveraged Direct	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
HPS	Direct Lending	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Raven Capital	Direct Lending	Yes	Yes	Yes	Yes	Yes*	No	No	No	Yes	Yes
White Oak	Direct Lending	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Principal	Pvt. Core RE	Yes	Yes	Yes	Yes	Yes*	No	No	No	Yes	Yes
Prologis Targeted US	Pvt. Core RE	Yes	Yes	Yes	N/A*	Yes*	No	No	No*	Yes	Yes
RREEF / DWS	Pvt. Core RE	N/A*	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
DoubleLine	MBS	Yes	Yes	N/A*	Yes	No	No	No	No	N/A*	Yes
Prima	Comm. Mortgage	Yes	Yes	Yes	Yes	No	No	No	Yes*	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**	Syst. Trend Following	Yes	Yes	Yes	Yes	No	No	Yes*	No	Yes	Yes
AQR	Alt. Risk Premia	Yes	Yes	Yes	Yes	No	No	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	No	No	Yes*	No	No
Consultant											
Meketa	Consultant	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes

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

Manager	Sub-Segment	Inception Date	Status	Benchmark	Ann. Excess (bps) 3 Yrs	Ann. Excess (bps) 5 Yrs	Peer Ranking 3 Yrs	Peer Ranking 5 Yrs
Performance Information through December 31, 2020								
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%	810	780	n/a	n/a
Ocean Avenue III[1]	PE Buyout FOF	4/2016	Good Standing	MSCI ACWI +2%	1,960	n/a	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%	-1,320	-1,120	n/a	n/a
Morgan Creek V[1]	Multi-Strat FOF	6/2013	Good Standing	MSCI ACWI +2%	240	40	n/a	n/a
Morgan Creek VI[1]	Multi-Strat FOF	2/2015	Good Standing	MSCI ACWI +2%	680	90	n/a	n/a
AG Core Plus IV[3]	Pvt. Non-core RE	2014	Good Standing	Private RE Benchmark	240	50	n/a	n/a
Almanac Realty VI[3]	Pvt. Non-core RE	2011	Good Standing	Private RE Benchmark	-1,690	-770	n/a	n/a
Colony Realty III[3]	Pvt. Non-core RE	2007	Good Standing	Private RE Benchmark	-1,350	-1,100	n/a	n/a
Colony Realty IV[3]	Pvt. Non-core RE	2012	Good Standing	Private RE Benchmark	-3,330	-2,120	n/a	n/a
Greenfield V[3]	Pvt. Non-core RE	2007	Good Standing	Private RE Benchmark	-1,140	-1,200	n/a	n/a
Greenfield VI[3]	Pvt. Non-core RE	2011	Good Standing	Private RE Benchmark	-3,740	-2,590	n/a	n/a
Greenfield VII[3]	Pvt. Non-core RE	2013	Good Standing	Private RE Benchmark	500	520	n/a	n/a
Grandview[3]	Pvt. Non-core RE	2018	Good Standing	Private RE Benchmark	n/a	n/a	n/a	n/a
Miller Global V[3]	Pvt. Non-core RE	2005	Good Standing	Private RE Benchmark	-2,400	-1,650	n/a	n/a
Miller Global VI[3]	Pvt. Non-core RE	2007	Good Standing	Private RE Benchmark	-3,530	-2,300	n/a	n/a
Miller Global VII[3]	Pvt. Non-core RE	2012	Good Standing	Private RE Benchmark	-1,690	-900	n/a	n/a
Stockbridge III[3]	Pvt. Non-core RE	2017	Good Standing	Private RE Benchmark	n/a	n/a	n/a	n/a
Walton Street V[3]	Pvt. Non-core RE	2005	Good Standing	Private RE Benchmark	-1,990	-1,530	n/a	n/a
Walton Street VI[3]	Pvt. Non-core RE	2007	Good Standing	Private RE Benchmark	-690	-720	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	-620	-150	n/a	n/a
Invesco	REITS	8/2004	Good Standing	FTSE EPRA/NAREIT ex-US Equity	-30	20	n/a	n/a
Stabilized Growth								
Bridgewater[2]	Risk Parity	3/2012	Good Standing	Bridgewater All Weather Blend	100	310	n/a	n/a
PanAgora	Risk Parity	4/2016	Good Standing	T-Bill +4%	290	n/a	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.	n/a	n/a	n/a	n/a
Stone Harbor[1]	Abs. Return	4/2008	Good Standing	3-Month Libor	130	280	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 3/31/2020, lagged 1 quarter.

Performance Information through December 31, 2020								
					Ann. Excess (bps)		Peer Ranking	
Manager	Sub-Segment	Inception Date	Status	Benchmark	3 Yrs	5 Yrs	3 Yrs	5 Yrs
BlackRock	Direct Lending	05/2020	Good Standing	Custom Credit Benchmark	n/a	n/a	n/a	n/a
Crestline[1]	Opportunistic	11/2013	Good Standing	CPI +6%	-1,020	-640	n/a	n/a
Medley[1]	Direct Lending	7/2012	Good Standing	CPI +6%	-2,350	-1,690	n/a	n/a
Mesa West III[1]	Comm. Mortgage	9/2013	Good Standing	CPI +6%	-330	-180	n/a	n/a
Mesa West IV[1]	Comm. Mortgage	3/2017	Good Standing	CPI +6%	30	n/a	n/a	n/a
Oaktree[1]	Leveraged Direct	3/2018	Good Standing	MSCI ACWI +2%	n/a	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%	-850	-1,230	n/a	n/a
Raven Capital III[1]	Direct Lending	8/2015	Good Standing	CPI +6%	-20	n/a	n/a	n/a
White Oak[1]	Direct Lending	3/2016	Good Standing	CPI +6%	-160	n/a	n/a	n/a
Principal[3]	Pvt. Core RE	10/2015	Good Standing	Private RE Benchmark	-40	n/a	n/a	n/a
Prologis Targeted US[3]	Pvt. Core RE	9/2007	Good Standing	Private RE Benchmark	870	890	n/a	n/a
RREEF / DWS[3]	Pvt. Core RE	4/2016	Good Standing	Private RE Benchmark	20	n/a	n/a	n/a
Principal Protection								
Dodge & Cox	Core Fixed Income	10/1990	Good Standing	BB Aggregate Bond	100	140	n/a	n/a
DoubleLine	MBS	2/2012	Good Standing	BB Aggregate Bond	-110	-10	n/a	n/a
Prima	Comm. Mortgage	4/2008	Good Standing	BB Aggregate Bond*	-330	-160	n/a	n/a
Crisis Risk Offset[1]								
Dodge & Cox	Long Duration	2/2016	Good Standing	BB US Long Duration Treasury	-50	n/a	n/a	n/a
Mount Lucas	Sys. Trend Following	1/2005	Good Standing	BTOP50 Index	-240	-580	n/a	n/a
Graham[2]	Sys. Trend Following	4/2016	Good Standing	SG Trend	-150	n/a	n/a	n/a
AQR	Alt. Risk Premia	5/2016	Good Standing	5% Annual	-2,260	n/a	n/a	n/a
P/E Investments	Alt. Risk Premia	7/2016	Good Standing	5% Annual	-1,030	n/a	n/a	n/a
Lombard Odier	Alt. Risk Premia	1/2019	Good Standing	5% Annual	n/a	n/a	n/a	n/a
Other								
Northern Trust	Govt. Short Term	1/1995	Good Standing	US T-Bills	-50	-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.

On December 17, 2018, the SEC announced that NB Alternatives Advisers LLC ("NBAA"), without admitting or denying any wrongdoing, consented to the entry of an order (the "Order") by the SEC focused solely on certain expense allocations relating to Dyal Capital Partner's Business Services Platform (the "BSP"), a team within Dyal focused on providing client development, talent management, operational advisory and other services to the partner managers in which the Dyal Funds invest. No other businesses of NBAA utilize the BSP (or a similar model) nor allocate the expense associated with the BSP to NBAA advised funds. The SEC Order had no finding of intentional wrongdoing or fraud, and found that the issues relating to the BSP expenses ceased in 2017. NBAA agreed as part of the settlement to pay a disgorgement amount to certain Dyal funds covering 2012 - 2016, and to pay a civil monetary penalty to the SEC.

With regard to current litigation related specifically to Almanac Realty Investors, on September 14, 2020, an action was filed in Wisconsin state court 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 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 to remove the case to Delaware. The plaintiff in the Wisconsin action has agreed to a voluntary stay of the Wisconsin action pending the resolution of the Delaware action.

The Neuberger Berman Group 401(k) Plan Investment Committee ("IC") has elected to settle a class-action litigation related to a now-closed fund that was previously offered in the 401(k) plan. The proposed settlement amount is for $17 million dollars, and as part of the settlement all claims relating to the litigation against the IC and firm will be released. The IC continues to deny all allegations of wrongdoing and denies all liability for the allegations and claims made in the litigation. The Firm remains proud of its 401(k) Plan, which offers participants a broad range of investment options, including leading third-party managers and a brokerage window. NBAA was not a party to the litigation.

Almanac Management Level Changes

Although there have been no significant personnel changes at the management level of the firm during the quarter, please note that on December 23rd, 2020, Neuberger Berman and its Dyal Capital Partners business, and the Owl Rock Capital Group, a private credit provider, announced that they had entered into a definitive business combination agreement with Altimar Acquisition Corporation, to form Blue Owl Capital Inc., an alternative asset management firm that will have over $45.0 billion in assets under management. Following the closing of the agreement, Neuberger Berman will own a meaningful minority equity position in Blue Owl Capital Inc. and will have representation on its Board of Directors. There is no guarantee that the pending transaction will close, or will do so pursuant to the terms discussed herein.

Almanac Material Business Changes

Neuberger Berman has coordinated and implemented a global response to COVID-19 (Novel Coronavirus) through the actions of the Operational Risk Team and Business Continuity Management ("BCM") Team. This team is partnering with over 60 Business Continuity Coordinators ("BCC"), covering each location and business function across the group, and is hosting regular calls with the global senior management team and the BCCs to provide updates on the COVID-19 situation and discuss issues that arise accordingly. Neuberger Berman has senior management engaged, monitoring the evolving situation and drives key decision making. The team is responsible for team designs and planning for events, including health pandemics, natural disasters, data security breaches, acts of terrorism, political unrest, and power and transportation outages. These actions have resulted in minimal impact to operations and no impact on our clients.

The Fund was historically managed by Almanac Realty Investors, LLC ("ARI"), and effective January 31, 2020, in connection with the acquisition of ARI, all existing management agreements were in effect assigned to NB Alternatives Advisers LLC.

AQR Management Level Changes

While not material in nature, please note the below change to key personnel for the quarter:

- Bill Cashel, Principal and Head of our Advisor Solutions Group ("ASG"), has departed from AQR at the end of 2020.

BlackRock Litigation

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

On 20 April 2015, BlackRock Advisors, LLC ("BAL") reached a settlement with the Securities and Exchange Commission ("SEC") regarding BlackRock's handling of a former portfolio manager's personal investments and involvement in a family business, Rice Energy LP and related entities. As part of the settlement, BAL agreed to pay a $12 million penalty and retained an independent compliance consultant to review BlackRock's policies and procedures regarding the outside activities of BlackRock's employees. There was neither an allegation by the SEC of any loss to any BlackRock investors, nor did this settlement have any adverse impact on BlackRock's ability to manage its clients' funds.

On 17 January 2017, BlackRock, Inc. reached an agreement with the SEC resolving a matter regarding a provision in an old version of BlackRock's form employee separation agreement that the SEC believed violated Dodd Frank's whistleblower provisions. The settlement with the SEC included a $340,000 payment and BlackRock agreed it would not include the provision in future agreements. In addition, BlackRock agreed to notify by letter, certain former employees who signed the agreement between October 2011 and March 2016.

On 25 April 2017, BlackRock Fund Advisors ("BFA") reached an agreement with the SEC resolving a matter regarding whether one BFA-managed ETF (the iShares MSCI Russia Capped ETF) was covered by certain exemptive relief the SEC previously granted BFA and other iShares funds. BFA, which did not admit or deny any of the SEC's findings, agreed to resolve the matter for a civil monetary penalty of $1.5 million.

BlackRock, Inc. and its various subsidiaries, including BTC, 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.

In past years, BlackRock has acquired organizations that provide investment-related services, including, but not limited to, State Street Research & Management Company, Merrill Lynch Investment Managers, the fund of funds business of Quellos Group, LLC, and Barclays Global Investors. This response does not address any regulatory or litigation matters that arose out of conduct within the acquired organizations prior to their acquisition by BlackRock. It also does not address regulatory or litigation matters unrelated to BlackRock or BTC's investment management responsibilities.

Colony Litigation

None as it relates to Colony Realty Partners III & IV. Colony Capital is involved in various litigation matters arising in the ordinary course of its business. Although Colony Capital is unable to predict with certainty the eventual outcome of any litigation, in the opinion of management, the legal proceedings are not expected to have a material adverse effect on Colony Capital's financial position or results of operations.

Colony Management Level Changes

Yes, Mark Hedstrom resigned as Chief Operating Officer and Executive Vice President of Colony Capital, Inc. and as Vice President of Colony Realty Partners, LLC effective as of December 23, 2020.

Crestline Reconciliation with Custodian

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

The investment team welcomed one addition during 4Q 2020:

- Jane Lynch, Analyst – Jane's primary responsibilities are underwriting and asset management.

Dodge & Cox Investment Personnel Changes

Turnover

Dodge & Cox has experienced an extremely low level of personnel turnover throughout our history. There was one fixed income investment professional who departed during the quarter.

- Larrisa K. Roesch (Vice President, Client Portfolio Manager, Client Portfolio Counselor, and Liability Hedging Business Lead) retired in December 2020 after 23 years with Dodge & Cox. We had informed SJCERA of Larissa's planned retirement in our 2Q20 response, and had indicated her client responsibilities would be transitioned to other team members over the second half of 2020, which was accomplished. Since joining Dodge & Cox in 1997, Larissa was an important contributor to the firm and the Fixed Income department in myriad ways. She served as a member of the U.S. Fixed Income Investment Committee ("U.S. FIIC"), Credit Sector Committee ("CSC"), and Liability Hedging Implementation Team ("LHIT"), while also working with institutional clients of the firm and providing valued mentorship to new employees.

There were also two retirements from our equity team during the quarter:

- Wendell W. Birkhofer (Senior Vice President, Client Portfolio Manager, and Client Portfolio Counselor) retired in December 2020 after 33 years with Dodge & Cox.
- Richard Callister (Vice President and Global Industry Analyst) retired in December 2020 after 18 years with Dodge & Cox.

There were no additions to the investment team during the quarter.

Succession Planning

Dodge & Cox operates the firm and all Investment Committees on a team basis, with significant input on management and investment issues from a wide range of experienced individuals. We believe that a team-based approach—a hallmark of Dodge & Cox—naturally incorporates succession planning for key functions. A deep and experienced group of individuals is responsible for firm management, investment strategy, and client service. As a result of our team-based approach, management succession and transition issues have been handled smoothly for 90 years.

Please see **Exhibit A** – Experienced, Integrated, and Stable Investment Team and Exhibit B – Employee Update – Investment Professionals for more information.

Dodge & Cox Management Level Changes

There have been no significant management level personnel changes at Dodge & Cox in the last quarter. However, on January 15, 2021, Dodge & Cox announced changes to our leadership team, three of our Investment Committees, and several other leadership roles within the firm. Please see Exhibit C — Dodge & Cox Firm Announcement.

DoubleLine Compliance with Manager Guidelines

DoubleLine does not have its own guidelines for the account, but DoubleLine does impose broader portfolio compliance restrictions on all of its accounts based on situations such as information wall restricted lists or conflicts of interest that can arise or apply.

GQG Management Level Changes

In Q4 2020, Suzanne Chmura, Chief Compliance Officer, departed the firm. Her responsibilities were assumed by the Global Chief Compliance Officer, Sal DiGangi. In Q4, GQG hired a Deputy Compliance Officer. 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.

Graham Management Level Changes

There were no changes to key personnel during the Reference Period. Please note that in September 2020, after 17 years with GCM, Robert Murray, Vice Chairman, announced his retirement effective February 2021.

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.

Invesco Investment Personnel Changes

Effective September 3, 2020, portfolio manager ("PM") Darin Turner will be joining Joe Rodriguez as co-CIO for the IRE listed real assets business. Further, PM Mark Blackburn will take on the new role of Director of Risk Management and Portfolio Analytics within the IRE listed real assets business. Lastly, PM Paul Curbo will be retiring from the Firm and the investment management industry on April 1, 2021. Mr. Curbo's leadership role with the North American real estate securities team will transition to PM Grant Jackson.

Medley Litigation

December 2017 - AWL Class Actions. Medley LLC, Medley Capital Corporation, Medley Opportunity Fund II LP, Medley Management, Inc., Medley Group, LLC, Brook Taube, and Seth Taube (the "Medley Defendants") were named as defendants, along with other various parties, in a putative class action lawsuit captioned as Royce Solomon, Jodi Belleci, Michael Littlejohn, and Giulianna Lomaglio v. American Web Loan, Inc., AWL, Inc., Mark Curry, MacFarlane Group, Inc., Sol Partners, Medley Opportunity Fund, II, LP, Medley LLC, Medley Capital Corp., Medley Management, Inc., Medley Group, LLC, Brook Taube, Seth Taube, DHI Computing Service, Inc., Middlemarch Partners, and John Does 1-100, filed December 15, 2017, amended on March 9, 2018, and amended a second time on February 15, 2019, in the United States District Court for the Eastern District of Virginia, Newport News Division, as Case No. 4:17cv145 (hereinafter, "Class Action 1") . Medley Opportunity Fund II LP and Medley Capital Corporation were also named as defendants, along with various other parties, in a putative class action lawsuit captioned George Hengle and Lula Williams v. Mark Curry, American Web Loan, Inc., AWL, Inc., Red Stone, Inc., Medley Opportunity Fund II LP, and Medley Capital Corporation, filed February 13, 2018, in the United States District Court, Eastern District of Virginia, Richmond Division, as Case No. 3:18-cv-100 ("Class Action 2"). Medley Opportunity Fund II LP and Medley Capital Corporation were also named as defendants, along with various other parties, in a putative class action lawsuit captioned John Glatt, Sonji Grandy, Heather Ball, Dashawn Hunter, and Michael Corona v. Mark Curry, American Web Loan, Inc., AWL, Inc., Red Stone, Inc., Medley Opportunity Fund II LP, and Medley Capital Corporation, filed August 9, 2018 in the United States District Court, Eastern District of Virginia, Newport News Division, as Case No. 4:18-cv-101 ("Class Action 3") (together with Class Action 1 and Class Action 2, the "Virginia Class Actions"). Medley Opportunity Fund II LP was also named as a defendant, along with various other parties, in a putative class action lawsuit captioned Christina Williams and Michael Stermel v. Red Stone, Inc. (as successor in interest to MacFarlane Group, Inc.), Medley Opportunity Fund II LP, Mark Curry, Brian McGowan, Vincent Ney, and John Doe entities and individuals, filed June 29, 2018 and amended July 26, 2018, in the United States District Court for the Eastern District of Pennsylvania, as Case No. 2:18-cv-2747 ("Pennsylvania Class Action").

On October 26, 2020, Medley Opportunity Fund II LP and Medley Capital Corporation were served with a new complaint in a putative class action lawsuit captioned Charles P. McDaniel v. Mark Curry, American Web Loan, Inc., Red Stone, Inc., Medley Opportunity Fund II LP, and Medley Capital Corporation, filed October 22, 2020, in the Circuit Court of Ohio County, West Virginia, as Case No. 20-C-169 (the "West Virginia Class Action"). (Together with the Virginia Class Actions and the Pennsylvania Class Action, the "Class Action Complaints").

The plaintiffs in the Virginia and Pennsylvania Class Action Complaints filed their putative class actions alleging claims under the Racketeer Influenced and Corrupt Organizations Act, and various other claims arising out of the alleged payday lending activities of American Web Loan. The claims against Medley Opportunity Fund II LP, Medley LLC, Medley Capital Corporation, Medley Management, Inc., Medley Group, LLC, Brook Taube, and Seth Taube (in Class Action 1, as amended); Medley Opportunity Fund II LP and Medley Capital Corporation (in Class Action 2 and Class Action 3); and Medley Opportunity Fund II LP (in the Pennsylvania Class Action) allege that those defendants in each respective action exercised control over, or improperly derived income from, and/or obtained an improper interest in, American Web Loan's payday lending activities as a result of a loan to American Web Loan. The plaintiff in the West Virginia Class Action Complaint filed his putative class action alleging claims arising West Virginia state law's regulating interest rates and other fees in connection with consumer lending activities.

The loan was made by Medley Opportunity Fund II LP in 2011. American Web Loan repaid the loan from Medley Opportunity Fund II LP in full in February of 2015, more than 1 year and 10 months prior to any of the loans allegedly made by American Web Loan to the alleged class plaintiff representatives in Class Action 1. In Class Action 2, the alleged class plaintiff representatives had not alleged when they received any loans from American Web Loan. In Class Action 3, the alleged class plaintiff representatives claim to have received loans from American Web Loan at various times from February 2015 through April 2018. In the Pennsylvania Class Action, the alleged class plaintiff representatives claim to have received loans from American Web Loan in 2017.

By orders dated August 7, 2018 and September 17, 2018, the Court presiding over the Virginia Class Actions consolidated those cases for all purposes. On October 12, 2018, Plaintiffs in Class Action 3 filed a notice of voluntary dismissal of all claims, and on October 29, 2018, Plaintiffs in Class Action 2 filed a notice of voluntary dismissal of all claims.

On April 16, 2020, the parties to Class Action 1 reached a settlement reflected in a Settlement Agreement (the "Settlement Agreement") that has been publicly filed in Class Action 1 (ECF No. 414-1). The Settlement Agreement was subject to court approval. At a hearing on November 4, 2020, the court denied the plaintiffs' motion to approve the settlement and ordered the parties to mediation in front of Judge Novak of the Eastern District of Virginia in December of 2020.

On October 29, 2020, the parties to the Pennsylvania Class Action reached a settlement pursuant to which AWL agreed to pay the plaintiffs $200,000 and to forgive loans that they owed AWL. The Medley Defendants obtained a full release and bore none of the settlement amount. The Pennsylvania Class Action was dismissed with prejudice on November 2, 2020.

The Medley Defendants and the other defendants believe the alleged claims asserted in the Virginia Class Action and the West Virginia putative class action are without merit and they are defending these lawsuits vigorously ***April 2019 – Sierra Class Action.*** *Roger Anderson and James T. Bischof v. Stephen R. Byers, Oliver T. Kane, Valerie Lancaster-Beal, Brook Taube, Seth Taube, Sierra Income Corporation and Sierra Management, Inc.,* filed April 5, 2019, in Supreme Court of the State of New York, County of New York, as Index No. 652006/2019 (the "Sierra Class Action").

On August 4, 2020, the court approved a stipulation of dismissal of a purported class action (the "Anderson Action") pending in the Supreme Court of the State of New York, County of New York, captioned Roger Anderson et al. v. Stephen R. Byers et al., Index No. 652006/2019. Named as defendants were Stephen R. Byers, Oliver T. Kane, Valerie Lancaster-Beal, Brook Taube, Seth Taube, the Company, and Sierra Management, Inc. (collectively, the "Defendants"). The complaint alleged that the Defendants breached their fiduciary duties to stockholders of Sierra Income Corporation in connection with the proposed mergers of MCC with and into the Company and of MDLY with and into Sierra Management, Inc., a wholly owned subsidiary of the Company. Compensatory damages in unspecified amounts were sought. The defendants vigorously denied any wrongdoing or liability with respect to the facts and claims which were asserted, or which could have been asserted, in the Anderson Action. None of the Defendants paid any consideration to the plaintiffs in connection with the dismissal. Pursuant to the terms of the stipulation of dismissal, on August 14, 2020, plaintiffs' attorneys filed a motion seeking an award of attorneys' fees and expenses in the amount of $1 million. Defendants opposed the motion for fees and expenses in a brief filed on September 11, 2020, and Plaintiffs filed a reply brief in further support of their motion on October 1, 2020. The motion remains pending before the Supreme Court of the State of New York, County of New York.

May 2019 - Point.360. Bankruptcy debtor Point.360 and the Official Committee of Unsecured Creditors in that case allege that the secured claims of MCC and MOF II against Point.360 should be subordinated, re-characterized and disallowed and their liens avoided in Point.360's bankruptcy proceeding. The loans giving rise to the secured claims were made by MCC and MOF II in connection with Point.360's purchase of Modern VideoFilm's assets in a foreclosure sale.

The claims are the subject of an adversary proceeding captioned *Point.360, a California corporation, and the Official Committee of Creditors Holding Unsecured Claims v. Medley Capital Corporation and Medley Opportunity Fund II, LP*, filed on May 1, 2019, in the United States Bankruptcy Court, Central District of California, Los Angeles Division, as Case No.: 2:17-bk-22432-WB, Adv. Pro. No.: 2:19-ap-01129- WB. Medley Capital Corporation believes that the alleged claims are without merit and intends to defend the lawsuit vigorously.

Medley Material Business Changes

Medley Capital Corporation (previously Medley's publicly traded BDC) was internalized as of January 1, 2021 and Medley Capital Corporation's $0.3 billion of assets (as of September 30, 2020) are no longer under Medley's management. Please refer to MDLY's 8-K filed on November 18, 2020 with respect to the MCC Internalization.

Morgan Creek Custodian Reconciliation

N/A this is not a separate account.

Northern Trust Investment Team Changes

Yes. There was one addition to the Global Index Equity Team. Celia Chau, Portfolio Manager, joined the firm during 4Q20.

Northern Trust Management Level Changes

Yes. 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 and anticipated changes to senior personnel are the following:

- October 2020, Paula Kar has been named our new Global Director of Product Strategy & Development for Northern Trust Asset Management. In this role Paula is responsible for leading innovation and product development efforts to grow our business across North America, EMEA, and APAC. Paula was previously Head of FMAG Product Strategy at Northern Trust, where she led a range of initiatives to position ETFs and Mutual Funds for success across Intermediary and Institutional channels.
- October 2020, Joseph McInerney was appointed Asset Management's Chief Risk Officer. Joe previously led our Outsourced Chief Investment Officer practice and was responsible for providing customized investment solutions for a wide range of institutional and global family office clients.

Parametric Material Business Changes

On October 8, 2020, Parametric's parent company, Eaton Vance Corp. ("EVC"), announced that it had entered into a definitive agreement to be acquired by Morgan Stanley for an equity value of approximately $7 billion. The combination of EVC and Morgan Stanley Investment Management ("MSIM") will create one of the world's largest and most important global asset managers, with approximately $1.2 trillion of assets under management and expertise spanning the global capital markets.

Bringing EVC and MSIM together creates a uniquely powerful set of investment solutions to serve both institutional and retail clients in the US and internationally. The acquisition is subject to customary closing conditions, and is expected to close in the second quarter of 2021. This transaction will not change the structure or operating model of Parametric. Refer to the attached press release for more details (Attachment A).

Parametric, in coordination with Eaton Vance, 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 our business operations as the highest priorities.

Parametric has made significant investments in technologies that allow employees to work remotely and collaborate effectively across locations. The firm's business continuity plans have been routinely tested over time in preparation for a variety of potential scenarios and are functioning successfully across all investment, operations, technology, service, and other business functions. As they are each day, Parametric's investment teams are focused on the markets and the investment portfolios they manage during this period of uncertainty.

PIMCO Litigation

PIMCO is not the subject of any lawsuit that could reasonably be expected to have 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 current 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 she was treated and compensated fairly based on her role and performance.

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.

PIMCO was named in a number of substantively similar complaints filed in the Orange County Superior Court and the Superior Court of California County of Los Angeles. The individual complaints, which were filed by certain state prisoners, each name PIMCO, along with Atlantic Financial and certain local / state government officials as defendants (collectively, the "Defendants"). The complaints allege that the Defendants illegally formed, created, and sold certain bonds in the plaintiffs' names, without their consent or disclosure, in addition to a variety of other related allegations. As of January 7, 2021, each of these matters have been dismissed.

PIMCO has been named in two substantively similar complaints filed in the US Bankruptcy Court District of Colorado. The individual complaints, which were filed by certain state prisoners, allege that PIMCO illegally formed, created, and sold certain bonds in the plaintiffs' names, without their consent or disclosure, in addition to a variety of other related allegations. As of December 14, 2020, both matters have been dismissed.

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 current PIMCO employees. The lawsuit alleges, among other things, discrimination and unequal pay based on gender and disability status, and retaliation. The allegations in the complaint are not accurate and PIMCO will demonstrate that the employees were treated and compensated fairly.

Specific to your request regarding regulatory proceedings, as a matter of policy, the Fund does not selectively disclose non-public information to investors. Unfortunately, since the information you are requesting is not publicly available, PIMCO is unable to comply with this request. Please reference PIMCO's most recent Form ADV for relevant public disclosures.

PIMCO Management Level Changes

Please refer to the tables below for a summary of PIMCO Investment Professionals gained and lost during the most recent quarter ending December 31, 2020.

Gained - PIMCO Investment Professionals

Date	Name	Title	Department	Office
Nov-20	Connor Sidebottom	--	Portfolio Management	New York
Oct-20	Yusuke Ito	Senior Vice President	Account Management – Client Service	Tokyo

Lost - PIMCO Investment Professionals

Date	Name	Title	Department	Years at PIMCO	Reason	Office
Dec-20	Orie Paul	Vice President	Account Management – Client Service	2	Other*	New York
Dec-20	Philip-John Munoz	–	Account Management – Client Service	14	Other*	New York
Dec-20	Brent Harris	Managing Director	Business Management	35	Other*	Newport Beach
Dec-20	Wes Chan	Executive Vice President	Portfolio Management	2	Other*	Newport Beach
Dec-20	Bill Smith	Executive Vice President	Portfolio Management	2	Other*	Newport Beach
Dec-20	Ted Sullivan	Executive Vice President	Account Management – Client Service	31	Other*	New York

Lost - PIMCO Investment Professionals (continued)

Date	Name	Title	Department	Years at PIMCO	Reason	Office
Nov-20	Yiannis Repoulis	Executive Vice President	Account Management – Client Service	20	Other*	New York
Nov-20	Jesse Pricer	Executive Vice President	Account Management – Client Service	19	Other*	Newport Beach
Nov-20	Lee Galloway	Executive Vice President	Portfolio Management	10	Other*	London
Nov-20	Oussama Damaj	Senior Vice President	Portfolio Management	9	Other*	Newport Beach
Nov-20	Lukas Gabriel	Vice President	Portfolio Management	5	Other*	New York
Nov-20	Dave Jackson	Senior Vice President	Portfolio Management	10	Other*	New York
Nov-20	Jeffrey Thompson	Executive Vice President	Portfolio Management	3	Other*	New York
Nov-20	Kevin Slebioda	Senior Vice President	Portfolio Management	15	Other*	Newport Beach
Nov-20	Daniel Phillipson	Executive Vice President	Product Strategy Group	17	Other*	London
Nov-20	Andrew Pyne	Executive Vice President	Product Strategy Group	9	Other*	Newport Beach
Oct-20	Eric Mogelof	Managing Director	Account Management – Business Development	17	Other*	New York
Oct-20	Olivier Rheault	–	Account Management – Business Development	3	Other*	Toronto
Oct-20	Erik Crawford	Senior Vice President	Account Management – Client Service	8	Other*	Munich
Oct-20	Dorris Chen	Senior Vice President	Analysts	5	Other*	Hong Kong
Oct-20	Ben Petkevicius	Vice President	Portfolio Management	4	Other*	London
Oct-20	Eric Pradier	Senior Vice President	Portfolio Management	1	Other*	Newport Beach

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

Prima Material Business Changes

Yes - In December, Prima's management sold one half of its ownership of the firm to it's existing partner, an investment fund affiliated with the private equity firm, Stone Point Capital. Prima and Stone Point also 'extended' their partnership for another 10 years.

Principal Custodian Reconciliation

Not applicable. The Principal US Property Account is a commingled account. Attached is the September 30th monthly statement. We do not receive reports from their custodian to reconcile.

Principal Litigation

Given the size and scope of our operations we are occasionally involved in litigation, both as a defendant and as a plaintiff. However, management does not believe that any pending litigation will have a material adverse effect on our business, financial position or net income. Please see our public filings for details. Also, regulatory bodies, such as the SEC, the Financial Industry Regulatory Authority, the Department of Labor and other regulatory bodies regularly make routine inquiries and conduct examinations or investigations concerning our compliance with, among other things, securities laws, ERISA and laws governing the activities of investment advisors. While the outcome of any regulatory matter cannot be predicted, management does not believe that any regulatory matter will have a material adverse effect on our business, financial position or our ability to fully perform our duties to clients.

Principal Material Business Changes

There were no material changes to the firm's business during the fourth quarter.

On January 4, 2021, nearly all of the assets (properties, cash and other investments) and liabilities of the Separate Account were transferred to the Principal U.S. Property Portfolio ("Portfolio"), a newly created real estate operating partnership. While most assets were transferred to the Portfolio, the Separate Account retained some properties (the "Retained Assets"). The investment strategy of the Separate Account is unchanged and the Portfolio will be managed according to that same investment strategy and objective. Instead of holding all properties in the Separate Account, the Separate Account now holds an interest in the Portfolio, which holds most of the properties, and a small number of properties directly as Retained Assets.

SJCERA was notified in advance of the transfer on October 15, 2020 and November 16, 2020.

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.

RREEF Custodian Reconciliation

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

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.

Walton Street Investment Personnel Changes

Yes, Corey Chamberlain has been promoted from Vice President to Principal in the Debt Platform department.

White Oak Litigation

In relation to the July 31, 2018 arbitration claim by a client, who challenged whether White Oak had followed the "most favored nation" ("MFN") provision related to fees in, and made certain other legal claims related to, the client's investment management agreement ("IMA") with White Oak, the arbitrator issued a partial, interim decision on November 30, 2020. Additional details regarding the interim partial decision were provided in our notice to you dated December 30, 2020. We remain available to discuss this further if you have any questions. There are no additional present or pending regulatory actions 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. Routine proceedings against borrowers, including the Financing Affiliates (as such term is defined in Part 2A of Form ADV), occur from time to time in the normal course of business.

DISCLOSURES:

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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
AQR	Diversifying Strategies	Alternative Risk Premia	Apr-19	Jul-19	Mar-21	4/21/2020		Stamford, CT
BlackRock	Stabilized Growth, PC	Direct Lending				3/18/2019*		San Francisco, CA
BlackRock	Aggressive Growth	Infrastructure				3/18/2019*	8/22/2019	New York, NY
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				8/11/2020		New York, NY
Dodge & Cox	Diversifying Strategies, PP	Core Fixed Income		Dec-20		6/3/2020		San Francisco, CA
Dodge & Cox	Diversifying Strategies, CRO	Long Duration				6/3/2020		San Francisco, CA
DoubleLine	Diversifying Strategies, PP	MBS		Mar-21		11/29/2018*		Los Angeles, CA
GQG	Traditional Growth	Emerging Markets				10/16/2020		San Francisco, CA
Graham	Diversifying Strategies, CRO	Systematic Trend Following				7/23/2020		Rowayton, CT
HPS EU	Stabilized Growth, PC	Direct Lending		Mar-20		8/3/2017*		New York, NY
Invesco	Traditional Growth	REITs, Core US				5/6/2020*		Atlanta, GA
Lombard	Diversifying Strategies	Alternative Risk Premia				10/19/2020		New York, NY
Medley	Stabilized Growth, PC	Direct Lending		Sep-17		3/12/2015		San Francisco/New York
Mesa West III & IV	Stabilized Growth, PC	Comm. Mortgage				8/22/2019	8/22/2019	Los Angeles, CA
Morgan Creek III, V, & VI	Aggressive Growth	Multi-Strat FOF		May-18		8/22/2019	8/22/2019	Chapel Hill, NC
Mount Lucas	Diversifying Strategies, CRO	Systematic Trend Following		May-18		3/17/2020	5/11/2018	Newton, PA
Northern Trust	Traditional Growth	MSCI World IMI						Chicago, IL
Northern Trust	Cash	Collective Govt. Short Term						Chicago, IL
Neuberger Berman	Stabilized Growth, LC	Global Credit		May-19		10/20/2020		Chicago, IL
Oaktree	Stabilized Growth, PC	Leveraged Direct Lending				11/6/2020		New York, NY
Ocean Avenue	Aggressive Growth	PE Buyout FOF		Jan-19				Santa Monica, CA
P/E Diversified	Diversifying Strategies	Alternative Risk Premia		May-18		2/17/2020		Boston, MA
PanAgora	Stabilized Growth, RP	Risk Parity		Mar-18		4/7/2020*		Boston, MA
Parametric	Cash	Cash Overlay				10/27/2020*		Minneapolis, MN
PIMCO (RAE)	Traditional Growth	Emerging Markets				7/23/2020*	8/22/2019	Newport Beach, CA
Raven II & III	Stabilized Growth, PC	Direct Lending		Apr-18			2/23/2018	New York, NY
Stone Harbor	Stabilized Growth, LC	Absolute Return		Feb-20		9/29/2020*	2/3/2021	New York, NY
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

Manager	Sub-Segment	Most Recent Visit to Meketa/SJCERA	Mgr. Meeting with SJCERA
Berkeley Partners	Private Real Estate	10/16/2020	8/14/2020
Stellex Capital Management	Private Equity		5/8/2020

Terminated Managers

Manager	Strategic Class	Sub-Segment	Date Terminated	Location
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	2020	Newport Beach, CA

San Joaquin County Employees Retirement Association (SJCERA)

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

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
TOTAL PLAN[1]			$ 3,496,710,572	100.0%	100.0%	-0.2	8.5	-0.2	7.3	5.4	7.8	7.8	Apr-90
Policy Benchmark[4]						-0.4	7.0	-0.4	9.0	6.8	8.6	7.7	
Difference:						0.2	1.5	0.2	-1.7	-1.4	-0.8	0.1	
75/25 Portfolio[5]						-0.5	13.3	-0.5	19.1	8.7	11.4	7.6	
Difference:			.			0.3	-4.8	0.3	-11.8	-3.3	-3.6	0.2	
Broad Growth			$ 2,575,598,866	73.7%	75.0%	-0.2	11.3	-0.2	8.6	6.1	9.6	8.4	Jan-95
Aggressive Growth Lag[2]			$ 262,078,231	7.5%	10.0%	7.0	7.0	4.6	4.6	9.0	8.2	-5.5	Feb-05
50% MSCI ACWI +2% Lag/50% NCREIF ODCE +1%						-3.0	8.8	13.2	13.2	8.6	8.8	0.0	
Difference:						10.0	-1.8	-8.6	-8.6	0.4	-0.6	-5.5	
BlackRock Global Energy&Power Lag[3]	*$50,000*	*Global Infrastructure*	$ 12,316,905	0.4%		0.2	0.2	2.6	--	--	--	11.2	Jul-19
MSCI ACWI +2%Lag						-3.0	8.8	13.2	--	--	--	12.2	
Difference:						3.2	-8.6	-10.6	--	--	--	-1.0	
Ocean Avenue II Lag[3]	*$40,000*	*PE Buyout FOF*	$ 40,233,755	1.2%		19.7	19.7	11.7	11.7	16.7	16.6	10.4	May-13
MSCI ACWI +2% Lag						-3.0	8.8	13.2	13.2	8.6	8.8	8.9	
Difference:						22.7	10.9	-1.5	-1.5	8.1	7.8	1.5	
Ocean Avenue III Lag[3]	*$50,000*	*PE Buyout FOF*	$ 54,742,527	1.6%		3.8	3.8	1.6	1.6	28.2	--	19.3	Apr-16
MSCI ACWI +2% Lag						-3.0	8.8	13.2	13.2	8.6	--	8.8	
Difference:						6.8	-5.0	-11.6	-11.6	19.6	--	10.5	
Ocean Avenue IV Lag[3]	*$50,000*	*PE Buyout*	$ 12,940,010	0.4%		8.4	8.4	27.4	--	--	--	25.0	Dec-19
MSCI ACWI +2% Lag						-3.0	8.8	13.2	--	--	--	14.5	
Difference:						11.4	-0.4	14.2	--	--	--	10.5	
Morgan Creek III Lag[3]	*$10,000*	*Multi-Strat FOF*	$ 7,294,473	0.2%		1.8	1.8	-19.9	-19.9	-4.6	-2.4	-3.1	Feb-15
MSCI ACWI +2% Lag						-3.0	8.8	13.2	13.2	8.6	8.8	8.8	
Difference:						4.8	-7.0	-33.1	-33.1	-13.2	-11.2	-11.9	
Morgan Creek V Lag[3]	*$12,000*	*Multi-Strat FOF*	$ 9,893,870	0.3%		10.9	10.9	4.3	4.3	11.0	9.2	12.5	Jun-13
MSCI ACWI +2% Lag						-3.0	8.8	13.2	13.2	8.6	8.8	8.9	
Difference:						13.9	2.1	-8.9	-8.9	2.4	0.4	3.6	
Morgan Creek VI Lag[3]	*$20,000*	*Multi-Strat FOF*	$ 23,118,259	0.7%		7.5	7.5	8.8	8.8	15.4	9.7	6.1	Feb-15
MSCI ACWI +2% Lag						-3.0	8.8	13.2	13.2	8.6	8.8	8.8	
Difference:						10.5	-1.3	-4.4	-4.4	6.8	0.9	-2.7	
Opportunistic Private Real Estate													
Greenfield V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 240,220	0.0%		0.0	0.0	-24.4	-24.4	-6.1	-5.3	-3.1	Jul-08
NCREIF ODCE + 1% Lag Blend						0.4	0.5	1.5	1.5	5.3	6.7	8.3	
Difference:						-0.4	-0.5	-25.9	-25.9	-11.4	-12.0	-11.4	
Greenfield VI[3]	*$20,000*	*Opportunistic Pvt. RE*	$ 244,302	0.0%		3.7	3.7	-42.3	-42.3	-32.1	-19.2	-7.2	Apr-12
NCREIF ODCE + 1% Lag Blend						0.4	0.5	1.5	1.5	5.3	6.7	12.9	
Difference:						3.3	3.2	-43.8	-43.8	-37.4	-25.9	-20.1	
Greenfield VII[3]	*$19,100*	*Opportunistic Pvt. RE*	$ 13,301,258	0.4%		1.1	1.1	4.3	4.3	10.3	11.9	11.2	Oct-14
NCREIF ODCE + 1% Lag Blend						0.4	0.5	1.5	1.5	5.3	6.7	11.9	
Difference:						0.7	0.6	2.8	2.8	5.0	5.2	-0.7	
Grandview[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 19,912,513	0.6%		13.8	13.8	36.3	36.3	--	--	5.6	Apr-18
NCREIF ODCE + 1% Lag Blend						0.4	0.5	1.5	1.5	5.3	6.7	8.9	
Difference:						13.4	13.3	34.8	34.8	--	--	-3.3	
Miller Global Fund V[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 5,542	0.0%		-35.9	-35.9	-59.6	-59.6	-18.7	-9.8	-16.3	Oct-05
NCREIF ODCE + 1% Lag Blend						0.4	0.5	1.5	1.5	5.3	6.7	10.5	
Difference:						-36.3	-36.4	-61.1	-61.1	-24.0	-16.5	-26.8	
Miller Global Fund VI[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 358,937	0.0%		92.1	92.1	-71.9	-71.9	-30.0	-16.3	-7.2	May-08
NCREIF ODCE + 1% Lag Blend						0.4	0.5	1.5	1.5	5.3	6.7	8.4	
Difference:						91.7	91.6	-73.4	-73.4	-35.3	-23.0	-15.6	
Miller Global Fund VII[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 235,588	0.0%		68.8	68.8	-6.2	-6.2	-11.6	-2.3	23.2	Dec-12
NCREIF ODCE + 1% Lag Blend						0.4	0.5	1.5	1.5	5.3	6.7	12.4	
Difference:						68.4	68.3	-7.7	-7.7	-16.9	-9.0	10.8	

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

[2] Total class returns are as of 12/31/20, and lagged 1 quarter.

[3] Manager returns are as of 12/31/20, and lagged 1 quarter. Since Inception date reflects one quarter lag.

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

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

San Joaquin County Employees Retirement Association (SJCERA)

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

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Opportunistic Private Real Estate (continued)													
Walton Street V[3]	*$30,000*	*Opportunistic Pvt. RE*	$ 2,417,146	0.1%		-1.8	-1.8	-17.4	-17.4	-14.6	-8.6	-4.4	Nov-06
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*9.6*	
Difference:						-2.2	-2.3	-18.9	-18.9	-19.9	-15.3	-14.0	
Walton Street VI[3]	*$15,000*	*Opportunistic Pvt. RE*	$ 4,732,134	0.1%		0.3	0.3	-10.1	-10.1	-1.6	-0.5	7.0	Jul-09
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*9.7*	
Difference:						-0.1	-0.2	-11.6	-11.6	-6.9	-7.2	-2.7	
Value-Added Private Real Estate													
AG Core Plus IV[3]	*$20,000*	*Value-Added Pvt. RE*	$ 20,050,687	0.6%		2.0	2.0	4.8	4.8	7.7	7.2	4.1	Sep-15
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*11.3*	
Difference:						1.6	1.5	3.3	3.3	2.4	0.5	-7.2	
Almanac Realty VI[3]	*$30,000*	*Value-Added Pvt. RE*	$ 3,824,321	0.1%		0.6	0.6	-28.8	-28.8	-11.6	-1.0	24.3	Feb-13
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*12.9*	
Difference:						0.2	0.1	-30.3	-30.3	-16.9	-7.7	11.4	
Colony Realty III[3]	*$21,000*	*Value-Added Pvt. RE*	$ 222,987	0.0%		6.7	6.7	-1.2	-1.2	-8.2	-4.3	17.9	Dec-09
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*11.3*	
Difference:						6.3	6.2	-2.7	-2.7	-13.5	-11.0	6.6	
Colony Realty IV[3]	*$21,000*	*Value-Added Pvt. RE*	$ 222,269	0.0%		-5.8	-5.8	3.2	3.2	-0.7	3.7	13.0	Mar-13
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*12.8*	
Difference:						-6.2	-6.3	1.7	1.7	-6.0	-3.0	0.2	
Stockbridge RE III[3]	*$45,000*	*Value-Added Pvt. RE*	$ 27,630,069	0.8%		3.4	3.4	3.7	3.7	--	--	1.3	Jul-18
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*8.4*	
Difference:						3.0	2.9	2.2	2.2	--	--	-7.1	
Traditional Growth[2]			**$ 1,253,717,099**	**35.9%**	**32.0%**	**-0.4**	**17.5**	**-0.4**	**10.2**	**5.2**	**12.3**	**9.3**	**Jan-95**
MSCI ACWI IMI Net						*-0.2*	*18.1*	*-0.2*	*19.1*	*8.9*	*14.5*	*8.1*	
Difference:						-0.2	-0.6	-0.2	-8.9	-3.7	-2.2	1.2	
Global Equity			$ 1,215,132,658	34.8%									
Northern Trust MSCI World IMI		*All Cap Global*	$ 1,079,263,501	30.9%		-0.7	--	--	--	--	--	10.7	Sep-20
MSCI World IMI Net						*-0.6*	*--*	*--*	*--*	*--*	*--*	*10.6*	
Difference:						-0.1	--	--	--	--	--	0.1	
SJCERA Transition		*All Cap Global*	$ 3,489	0.0%		NM	NM	NM	--	--	--	NM	Jul-20
Emerging Markets			$ 135,865,668										
GQG Active Emerging Markets		*Emerging Markets*	$ 67,113,799	1.9%		1.6	14.2	--	--	--	--	20.5	Aug-20
MSCI Emerging Markets Index Net						*3.1*	*20.9*	*--*	*--*	*--*	*--*	*24.1*	
Difference:						-1.5	-6.7	--	--	--	--	-3.6	
PIMCO RAE Fundamental Emerging Markets		*Emerging Markets*	$ 68,751,869	2.0%		1.3	28.3	1.3	11.4	-2.3	13.1	4.8	Apr-07
MSCI Emerging Markets Index						*3.1*	*21.0*	*3.1*	*28.3*	*4.8*	*15.4*	*5.4*	
Difference:						-1.8	7.3	-1.8	-16.9	-7.1	-2.3	-0.6	
REITS			$ 38,584,441	1.1%									
Invesco All Equity REIT		*Core US REIT*	$ 38,584,441	1.1%		-0.7	7.1	-0.7	-12.1	3.8	5.6	8.3	Aug-04
FTSE NAREIT Equity Index						*0.1*	*14.7*	*0.1*	*-9.0*	*4.9*	*5.5*	*8.1*	
Difference:						-0.8	-7.6	-0.8	-3.1	-1.1	0.1	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 9/30/20, 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] January 2021

	Commitment ($000)	Sub-Segment		Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Stabilized Growth			$	1,059,803,536	30.3%	33.0%	-0.1	5.6	-0.1	7.6	6.3	7.0	3.9	Jan-05
Risk Parity			$	407,985,017	11.7%		-0.3	10.1	-0.3	9.5	7.5	9.0	5.0	
T-Bill +4%							0.3	1.0	0.3	4.6	5.6	5.2	4.6	
Difference:							-0.6	9.1	-0.6	4.9	1.9	3.8	0.4	
Bridgewater All Weather		*Risk Parity*	$	198,577,056	5.7%		-0.3	9.2	-0.3	7.4	6.3	8.5	5.3	Mar-12
T-Bill +4%							0.3	1.0	0.3	4.6	5.6	5.2	5.6	
Difference:							-0.6	8.2	-0.6	2.8	0.7	3.3	-0.3	
PanAgora Diversified Risk Multi-Asset		*Risk Parity*	$	209,407,961	6.0%		-0.3	11.0	-0.3	11.5	8.5	--	8.9	Apr-16
T-Bill +4%							0.3	1.0	0.3	4.6	5.6	--	5.3	
Difference:							-0.6	10.0	-0.6	6.9	2.9	--	3.6	
Liquid Credit			$	218,423,925	6.2%		0.2	4.7	0.2	3.7	3.8	5.1	2.3	Oct-06
50% BB High Yield, 50% S&P/LSTA Leveraged Loans							0.8	5.6	0.8	5.6	5.1	7.3	6.0	
Difference:							-0.6	-0.9	-0.6	-1.9	-1.3	-2.2	-3.7	
Neuberger Berman		*Global Credit*	$	90,833,417	2.6%		0.1	5.5	0.1	5.3	--	--	6.6	Feb-19
33% ICE BofA HY Constrained, 33% S&P/LSTA LL, 33% JPM EMBI Glbl Div.							0.2	5.2	0.2	4.3	--	--	6.7	
Difference:							-0.1	0.3	-0.1	1.0	--	--	-0.1	
Stone Harbor Absolute Return		*Absolute Return*	$	127,590,508	3.6%		0.2	4.2	0.2	2.7	2.8	4.7	3.0	Oct-06
3-Month Libor Total Return							0.0	0.1	0.0	0.9	1.9	1.5	1.5	
Difference:							0.2	4.1	0.2	1.8	0.9	3.2	1.5	
Private Credit Lag[2]			$	274,266,396	7.8%		1.8	1.8	0.1	0.1	1.2	2.3	3.2	
50% BB High Yield, 50% S&P/LSTA Leveraged Loans							-0.2	4.4	2.2	2.2	3.7	5.4	5.8	
Difference:							2.0	-2.6	-2.1	-2.1	-2.5	-3.1	-2.6	
BlackRock Direct Lending Lag[3]	*$100,000*	*Direct Lending*	$	19,137,063	0.5%		4.0	4.0	4.0	---	---	---	7.2	May-20
CPI +6% Annual Blend[5]							-0.2	4.4	4.4	---	---	---	-0.3	
Difference:							4.2	-0.4	-0.4	---	---	---	7.5	
Mesa West RE Income III Lag[3]	*$45,000*	*Comm. Mortgage*	$	2,163,970	0.1%		-0.5	-0.5	-3.9	-3.9	4.7	6.6	4.9	Sep-13
CPI +6% Annual Blend[4]							0.6	2.4	7.4	7.4	8.0	8.4	4.0	
Difference:							-1.1	-2.9	-11.3	-11.3	-3.3	-1.8	0.9	
Mesa West RE Income IV Lag[3]	*$75,000*	*Comm. Mortgage*	$	46,154,019	1.3%		1.4	1.4	7.6	7.6	8.3	--	7.5	Mar-17
CPI +6% Annual Blend[4]							0.6	2.4	7.4	7.4	8.0	--	8.6	
Difference:							0.8	-1.0	0.2	0.2	0.3	--	-1.1	
Crestline Opportunity II Lag[3]	*$45,000*	*Opportunistic*	$	20,770,292	0.6%		1.7	1.7	-6.7	-6.7	-2.2	2.0	4.0	Nov-13
CPI +6% Annual Blend[4]							0.6	2.4	7.4	7.4	8.0	8.4	8.6	
Difference:							1.1	-0.7	-14.1	-14.1	-10.2	-6.4	-4.6	
Davidson Kempner Distr Opp V Lag[3]	*$50,000*	*Opportunistic*	$	8,351,205	0.0%		21.1	--	--	--	--	--	21.1	Oct-20
CPI +6% Annual Blend[4]							0.6	--	--	--	--	--	2.4	
Difference:							20.5	--	--	--	--	--	18.7	
Oaktree Lag	*$50,000*	*Leveraged Direct*	$	10,005,355	0.3%		5.8	5.8	17.6	17.6	--	--	9.0	Mar-18
CPI +6% Annual Blend[6]							-3.0	8.8	13.2	13.2	--	--	8.6	
Difference:							8.8	-3.0	4.4	4.4	--	--	0.4	
HPS EU Asset Value II Lag[3]	*$50,000*	*Direct Lending*	$	2,657,609	0.1%		7.9	7.9	--	--	--	--	-6.9	Aug-20
CPI +6% Annual Blend[4]							0.6	2.4	--	--	--	--	4.0	
Difference:							7.3	5.5	--	--	--	--	-10.9	
Raven Opportunity II Lag[3]	*$45,000*	*Direct Lending*	$	11,793,860	0.3%		1.2	1.2	-20.2	-20.2	-0.5	-3.9	-4.8	Aug-14
CPI +6% Annual Blend[4]							0.6	2.4	7.4	7.4	8.0	8.4	8.5	
Difference:							0.6	-1.2	-27.6	-27.6	-8.5	-12.3	-13.3	
Raven Opportunity III Lag[3]	*$50,000*	*Direct Lending*	$	46,104,057	1.3%		3.4	3.4	2.1	2.1	7.8	--	1.7	Nov-15
CPI +6% Annual Blend[4]							0.6	2.4	7.4	7.4	8.0	--	8.4	
Difference:							2.8	1.0	-5.3	-5.3	-0.2	--	-6.7	

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

[2] Total class returns are as of 12/31/20, and lagged 1 quarter.

[3] Manager returns are as of 12/31/20, and lagged 1 quarter. Since Inception date reflects one quarter lag.

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

[5] 50% BBgBC 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] — January 2021

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Private Credit Lag (continued)													
Medley Opportunity II Lag[3]	*$50,000*	*Direct Lending*	$ 11,750,156	0.3%		-9.9	-9.9	-19.9	-19.9	-15.5	-8.5	-2.4	Jul-12
CPI +6% Annual Blend [4]						*0.6*	*2.4*	*7.4*	*7.4*	*8.0*	*8.4*	*8.6*	
Difference:						-10.5	-12.3	-27.3	-27.3	-23.5	-16.9	-11.0	
White Oak Summit Peer Fund Lag[3]	*$50,000*	*Direct Lending*	$ 45,691,444	1.3%		1.7	1.7	4.7	4.7	6.4	--	7.1	Mar-16
CPI +6% Annual Blend [4]						*0.6*	*2.4*	*7.4*	*7.4*	*8.0*	--	*8.3*	
Difference:						1.1	-0.7	-2.7	-2.7	-1.6	--	-1.2	
White Oak Yield Spectrum Master V Lag[3]	*$50,000*	*Direct Lending*	$ 49,687,366	1.4%		2.0	2.0	---	---	---	--	-1.8	Mar-20
CPI +6% Annual Blend [4]						*0.6*	*2.4*	---	---	---	--	*6.2*	
Principal US[3]	*$25,000*	*Core Pvt. RE*	$ 33,760,920	1.0%		0.0	0.0	0.2	0.2	4.9	7.1	7.1	Jan-16
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*10.6*	
Difference:						-0.4	-0.5	-1.3	-1.3	-0.4	0.4	-3.5	
Prologis Logistics[3]	*$35,000*	*Core Pvt. RE*	$ 74,142,304	2.1%		4.5	4.5	8.1	8.1	13.8	15.2	6.3	Dec-07
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*8.9*	
Difference:						4.1	4.0	6.6	6.6	8.5	8.5	-2.6	
RREEF America II[3]	*$45,000*	*Core Pvt. RE*	$ 50,531,354	1.4%		0.0	0.0	2.3	2.3	5.5	--	6.7	Jul-16
NCREIF ODCE + 1% Lag Blend						*0.4*	*0.5*	*1.5*	*1.5*	*5.3*	*6.7*	*9.8*	
Difference:						-0.4	-0.5	0.8	0.8	0.2	--	-3.1	
Diversifying Strategies			**$ 787,315,759**	**22.5%**	**25.0%**	**0.0**	**0.7**	**0.0**	**2.1**	**3.1**	**2.3**	**6.5**	**Oct-90**
Principal Protection			$ 330,936,509	9.5%	10.0%	0.1	2.2	0.1	1.7	4.4	4.1	6.4	Oct-90
BB Aggregate Bond Index						*-0.7*	*0.4*	*-0.7*	*4.7*	*5.5*	*4.0*	*6.1*	
Difference:						0.8	1.8	0.8	-3.0	-1.1	0.1	0.3	
Dodge & Cox		*Core Fixed Income*	$ 167,412,936	4.8%		-0.6	2.0	-0.6	7.0	6.3	5.6	7.3	Oct-90
BB Aggregate Bond Index						*-0.7*	*0.4*	*-0.7*	*4.7*	*5.5*	*4.0*	*6.1*	
Difference:						0.1	1.6	0.1	2.3	0.8	1.6	1.2	
DoubleLine Capital		*MBS*	$ 112,210,714	3.2%		1.0	2.2	1.0	2.6	4.7	4.1	5.3	Feb-12
BB Aggregate Bond Index						*-0.7*	*0.4*	*-0.7*	*4.7*	*5.5*	*4.0*	*3.2*	
Difference:						1.7	1.8	1.7	-2.1	-0.8	0.1	2.1	
SJ Principal Protection		*Int Core Bond ETF*	$ 49,977,086	1.4%		---	---	---	---	---	---	---	Jan-21
BB Aggregate Bond Index						---	---	---	---	---	---	---	
Difference:						---	---	---	---	---	---	---	
PRIMA Lag[5]		*Comm. Mortgage*	$ 1,335,773	0.0%		0.0	2.5	0.0	-4.7	1.9	2.6	3.9	Jul-08

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[2] Total class returns are as of 12/31/20, and lagged 1 quarter.

[3] Manager returns are as of 12/31/20, and lagged 1 quarter. Since Inception date reflects one quarter lag.

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

[5] PRIMA redeemed 98% of it's assets on 1/19/21. The remaining value will be redeemed in February.

San Joaquin County Employees Retirement Association (SJCERA)

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

	Commitment ($000)	Sub-Segment	Market Value	Physical % of Total	Policy Target %	1-Mo	3-Mos	YTD	1-Yr	3-Yrs	5-Yrs	SI Return	SI Date
Crisis Risk Offset			**$ 456,379,250**	**13.1%**	**15.0%**	-0.1	-0.4	-0.1	**1.7**	**2.1**	**0.7**	**6.6**	**Jan-05**
CRO Custom Benchmark [2]						*-1.4*	*1.1*	*-1.4*	*5.2*	*5.3*	*3.6*	*5.4*	
Difference:						1.3	-1.5	1.3	-3.5	-3.2	-2.9	1.2	
Long Duration			$ 157,949,129	4.5%		-3.1	-2.9	-3.1	6.0	9.4	--	5.0	
BB US Long Duration Treasuries						*-3.6*	*-3.6*	*-3.6*	*6.2*	*9.7*	--	*6.0*	
Difference:						0.5	0.7	0.5	-0.2	-0.3	--	-1.0	
Dodge & Cox Long Duration		*Long Duration*	$ 157,949,129	4.5%		-3.1	-2.9	-3.1	6.0	9.4	--	5.0	Feb-16
BB US Long Duration Treasuries						*-3.6*	*-3.6*	*-3.6*	*6.2*	*9.7*	--	*6.0*	
Difference:						0.5	0.7	0.5	-0.2	-0.3	--	-1.0	
Systematic Trend Following			$ 174,227,300	5.0%		2.0	11.6	2.0	10.1	-0.2	-3.3	8.1	
BTOP50 Index						*-1.0*	*5.9*	*-1.0*	*3.8*	*0.9*	*-0.5*	*4.2*	
Difference:						3.0	5.7	3.0	6.3	-1.1	-2.8	3.9	
Mt. Lucas Managed Futures - Cash		*Systematic Trend Following*	$ 88,510,078	2.5%		5.1	15.2	5.1	19.8	0.3	-5.0	7.5	Jan-05
BTOP50 Index						*-1.0*	*5.9*	*-1.0*	*3.8*	*0.9*	*-0.5*	*4.2*	
Difference:						6.1	9.3	6.1	16.0	-0.6	-4.5	3.3	
Graham Tactical Trend		*Systematic Trend Following*	$ 85,717,222	2.5%		-1.0	8.1	-1.0	1.3	-0.8	--	-0.2	Apr-16
SG Trend Index						*-0.7*	*7.0*	*-0.7*	*4.6*	*0.4*	--	*-0.1*	
Difference:						-0.3	1.1	-0.3	-3.3	-1.2	--	-0.1	
Alternative Risk Premia			$ 124,202,821	3.6%		0.9	-10.9	0.9	-13.0	-3.9	-1.7	7.3	
5% Annual						*0.4*	*1.2*	*0.4*	*5.0*	*5.0*	*5.0*	*6.4*	
Difference:						0.5	-12.1	0.5	-18.0	-8.9	-6.7	0.9	
AQR Style Premia		*Alternative Risk Premia*	$ 25,986,352	0.7%		6.6	7.9	6.6	-20.7	-16.3	--	-7.6	May-16
5% Annual						*0.4*	*1.2*	*0.4*	*5.0*	*5.0*	--	*5.0*	
Difference:						6.2	6.7	6.2	-25.7	-21.3	--	-12.6	
PE Diversified Global Macro		*Alternative Risk Premia*	$ 37,648,392	1.1%		1.0	-25.7	1.0	-19.6	-4.9	--	-2.0	Jun-16
5% Annual						*0.4*	*1.2*	*0.4*	*5.0*	*5.0*	--	*5.0*	
Difference:						0.6	-26.9	0.6	-24.6	-9.9	--	-7.0	
Lombard Odier		*Alternative Risk Premia*	$ 60,568,077	1.7%		-1.4	-6.3	-1.4	-10.8	--	--	-4.1	Jan-19
5% Annual						*0.4*	*1.2*	*0.4*	*5.0*	--	--	*5.0*	
Difference:						-1.8	-7.5	-1.8	-15.8	--	--	-9.1	
Cash[3]			**$ 92,236,143**	**2.6%**	**0.0%**	**0.1**	**0.1**	**0.1**	**0.3**	**1.1**	**1.0**	**2.4**	**Sep-94**
US T-Bills						*0.0*	*0.0*	*0.0*	*0.5*	*1.6*	*1.2*	*2.4*	
Difference:						0.1	0.1	0.1	-0.2	-0.5	-0.2	0.0	
Northern Trust STIF		*Collective Govt. Short Term*	$ 107,080,673	3.1%		0.1	0.1	0.1	0.3	1.1	1.0	2.7	Jan-95
US T-Bills						0.0	0.0	0.0	0.5	1.6	1.2	*2.4*	
Difference:						0.1	0.1	0.1	-0.2	-0.5	-0.2	0.3	
Parametric Overlay[4]		*Cash Overlay*	**$ 41,559,804**	**1.2%**		**0.0**	**0.0**	**0.0**	**--**	**--**	**--**	**0.0**	**Jan-20**

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

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

[3] Includes lagged cash.

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

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

Capital Markets Outlook & Risk Metrics

As of January 31, 2021

Capital Markets Outlook

Takeaways

- After posting a strong performance in December 2020, global developed equity markets pulled back moderately. However, risk appetite was evident in some markets that included Chinese and Emerging Market Equity Indices. And in a rotation in the US, smaller cap stocks outperformed large caps. As the actions of retail investors (e.g., GameStop) made headlines, the primary areas of the capital markets that felt the impact were small and micro-cap equities. The reverse of these impacts (some of which is already occurring in February) will smooth these divergences out over time.
- High quality bonds mostly finished the month of January in negative territory. However, inflation sensitive TIPS posted positive returns supported by market concerns on rising inflation.
- The US Treasury yield curve continued to steepen as the spread between the 10-year and 2-year bond yields continued to widen, although the 10-year yield remained below 2%. European and Japanese bonds remain near the zero bound or are trading in negative yield territory.
- Credit spreads continued to tighten in investment grade credit, high yield, and emerging market debt markets as investors searched for yield.
- The first estimate of Q4 GDP and other economic data indicated that an economic recovery was well underway. However, recent increases in COVID-related cases/deaths, recent payroll/unemployment data, and increased shutdowns across the globe represent headwinds to the recovery.

Capital Markets Outlook

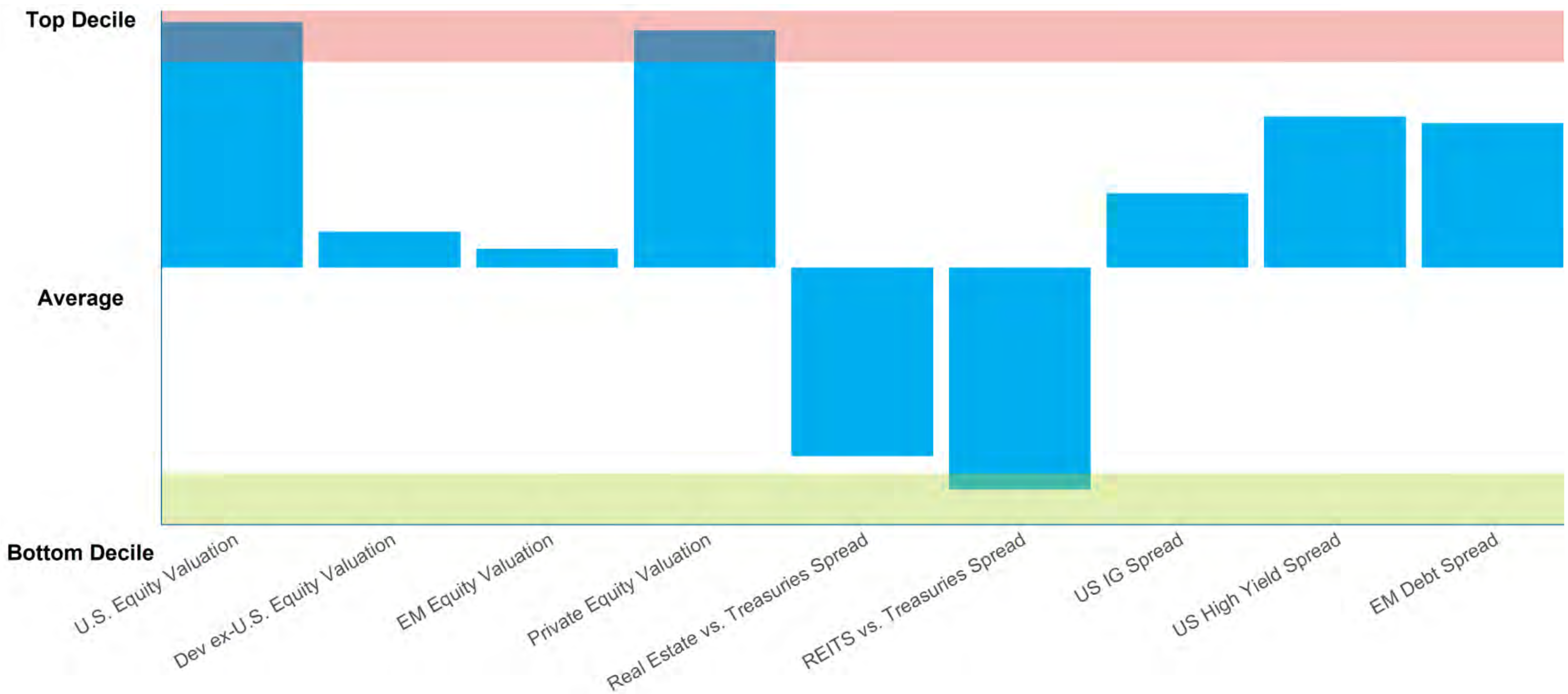
Takeaways

- While the markets do appear as though they are looking past COVID (largely due to successful vaccine development), the next several months are projected to be challenging from an economic standpoint as widespread distribution of the vaccine will not be immediate. Returning to pre-COVID levels of economic activity is not expected to occur until mid-2021 at the earliest.
- As the US government enters a new administration, investors will be examining guidance and action as it relates to monetary and fiscal policy, with a particular focus on individual stimulus, taxation, and broad infrastructure spending.
- Due in part to retail investor behavior, implied equity market volatility[1] spiked at month end before resuming its moderating trend since last summer. Implied fixed income volatility[2] remained within its 50- and 100-day moving averages in January.

[1] As measured by VIX Index.

[2] As measured by MOVE Index.

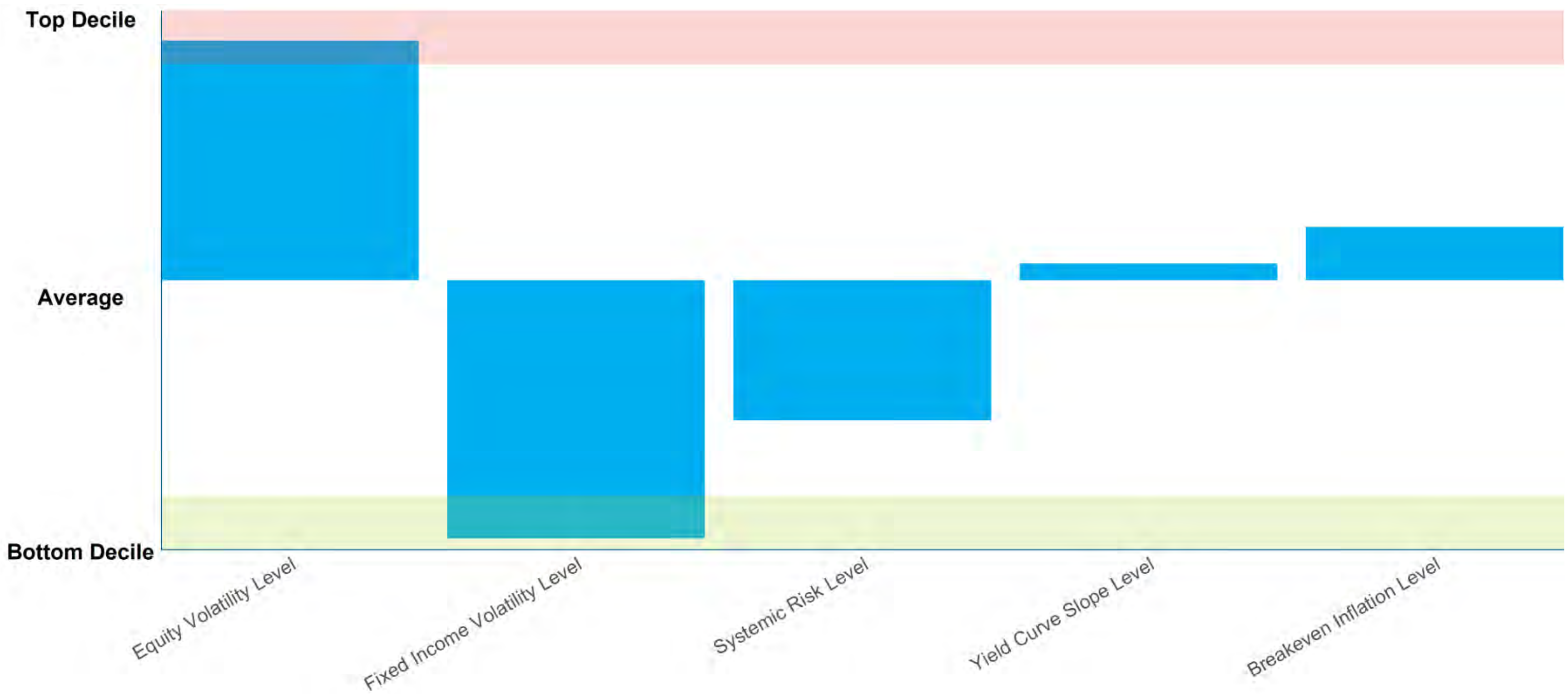
Risk Overview/Dashboard (1)
(As of January 31, 2021)[1]



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

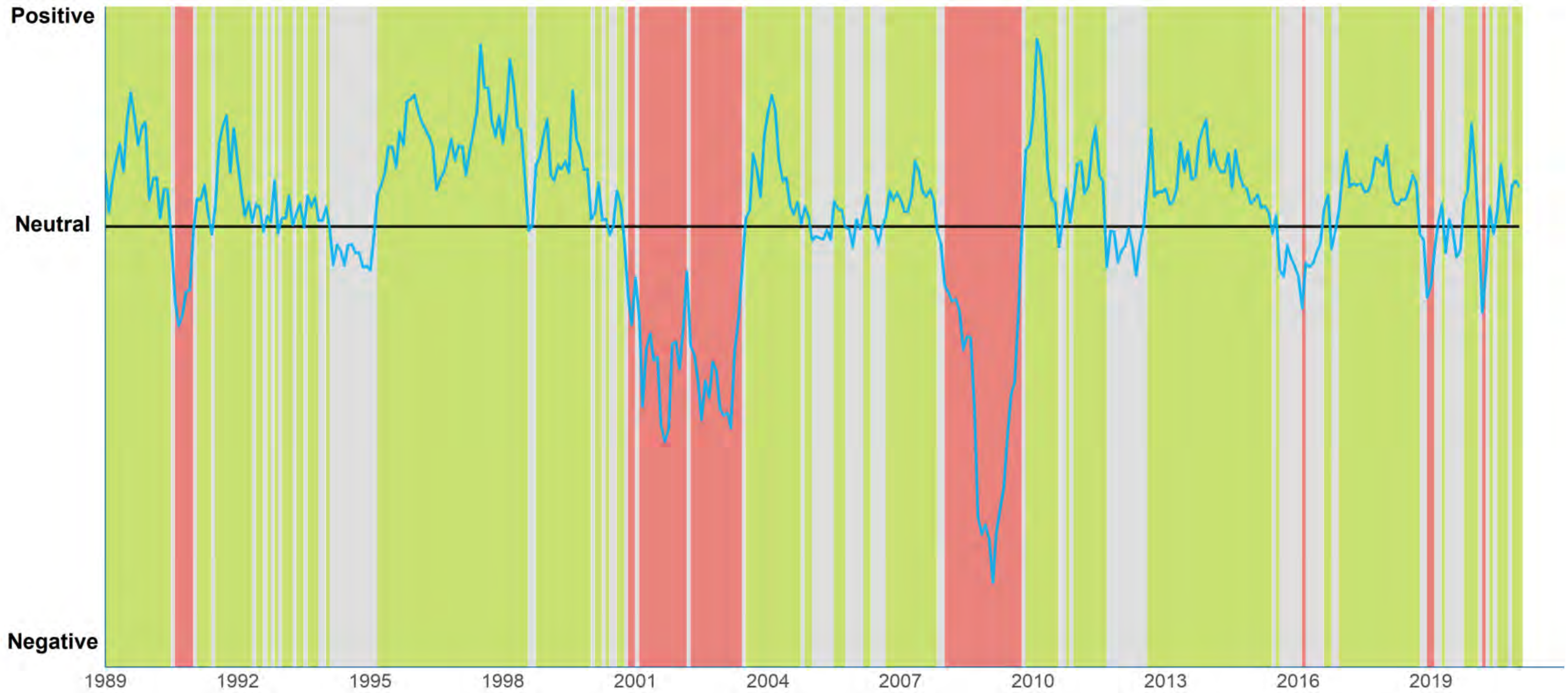
[1] With the exception of Private Equity Valuation, that is YTD as of December 31, 2019.

Risk Overview/Dashboard (2)
(As of January 31, 2021)



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

Market Sentiment Indicator (All History)
(As of January 31, 2021)



Market Sentiment Indicator (Last Three Years)
(As of January 31, 2021)

US Equity Cyclically Adjusted P/E[1]
(As of January 31, 2021)

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

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

Small Cap P/E vs. Large Cap P/E[1]
(As of January 31, 2021)

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

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

Growth P/E vs. Value P/E[1]
(As of January 31, 2021)

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

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

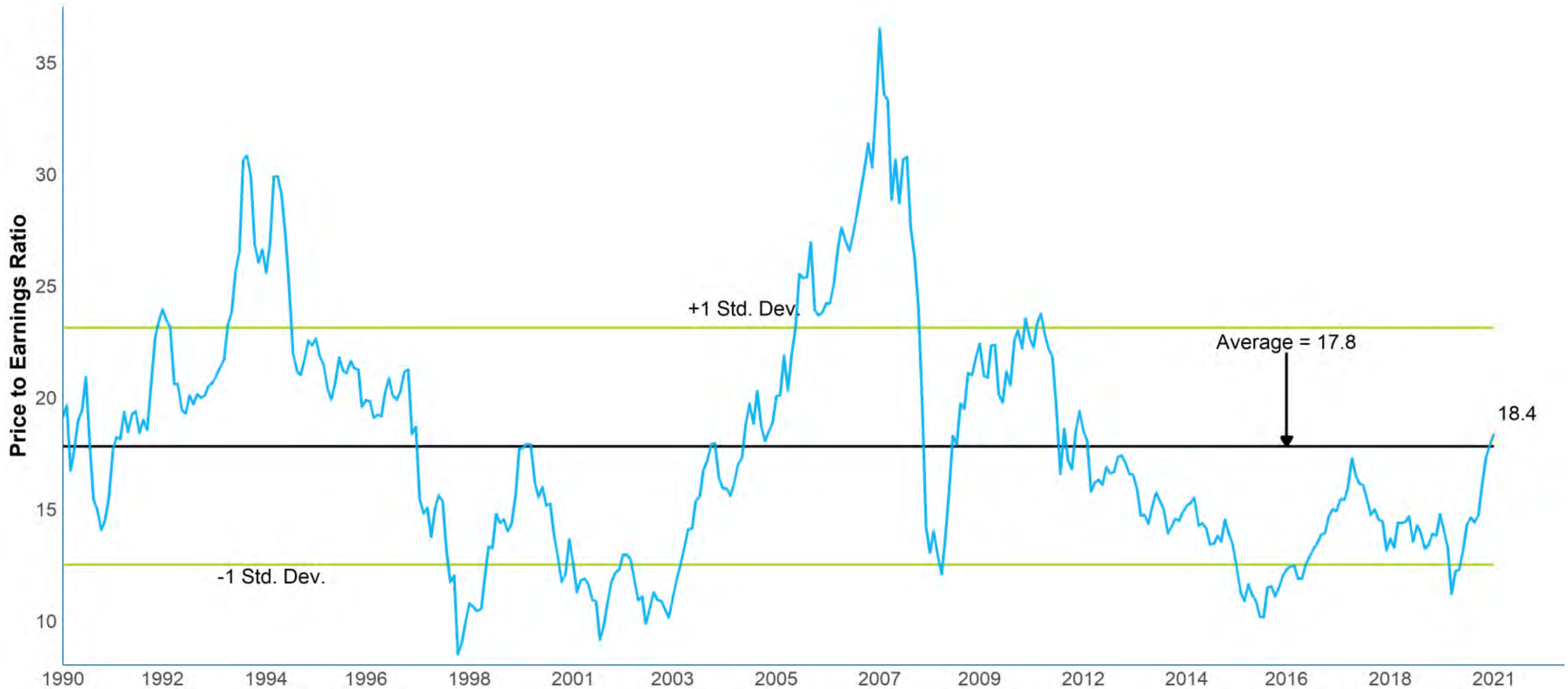
Developed International Equity Cyclically Adjusted P/E[1]

(As of January 31, 2021)

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

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

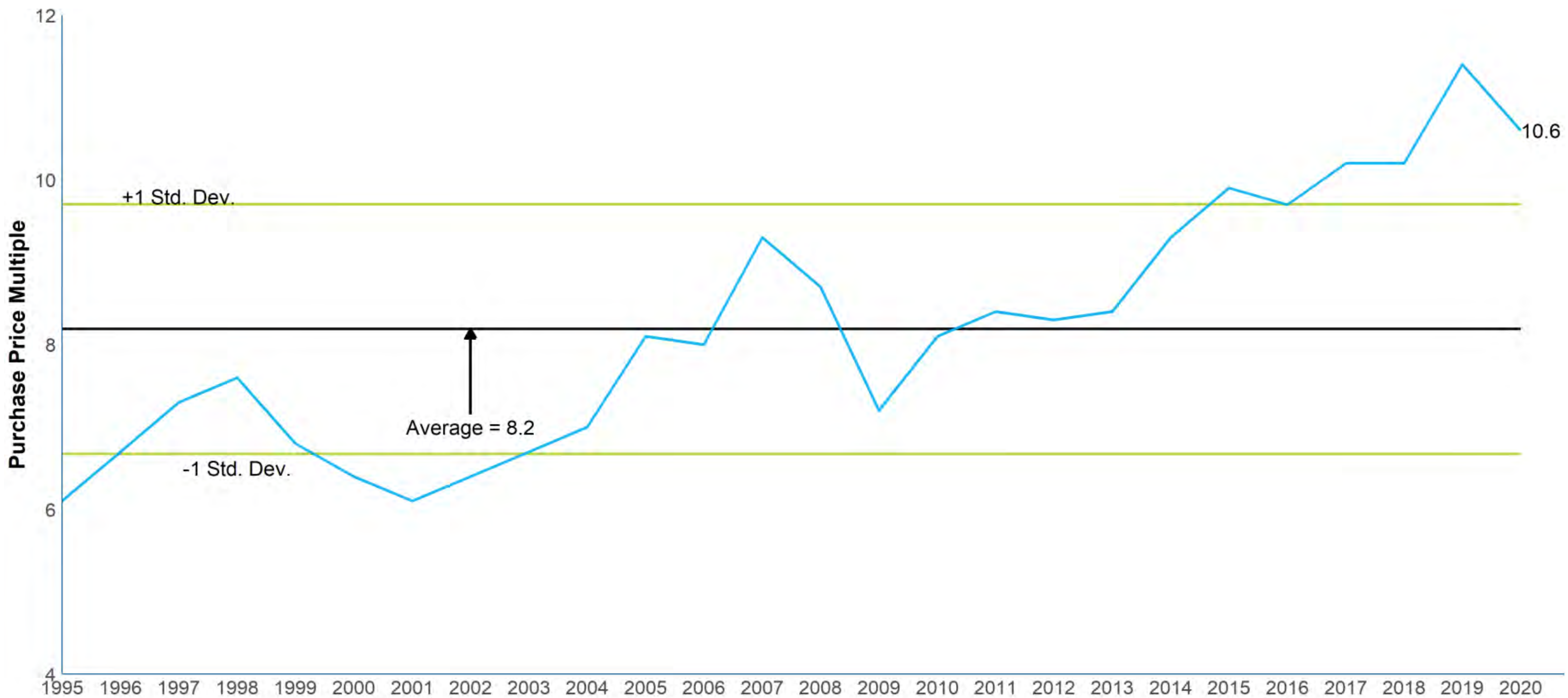
Emerging Market Equity Cyclically Adjusted P/E[1]
(As of January 31, 2021)



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

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

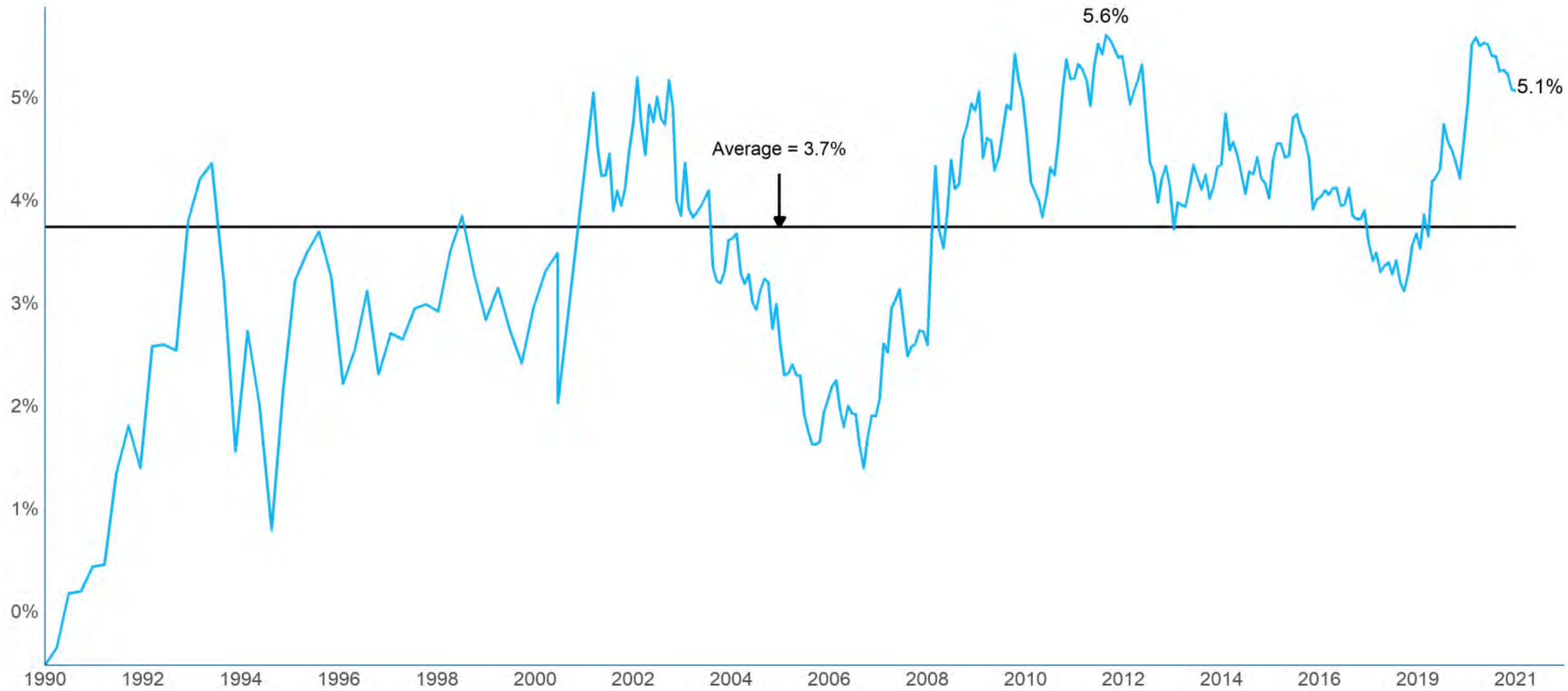
Private Equity Multiples[1]
(As of February 29, 2020)[2]



- 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 figures, except for 2020 (YTD).

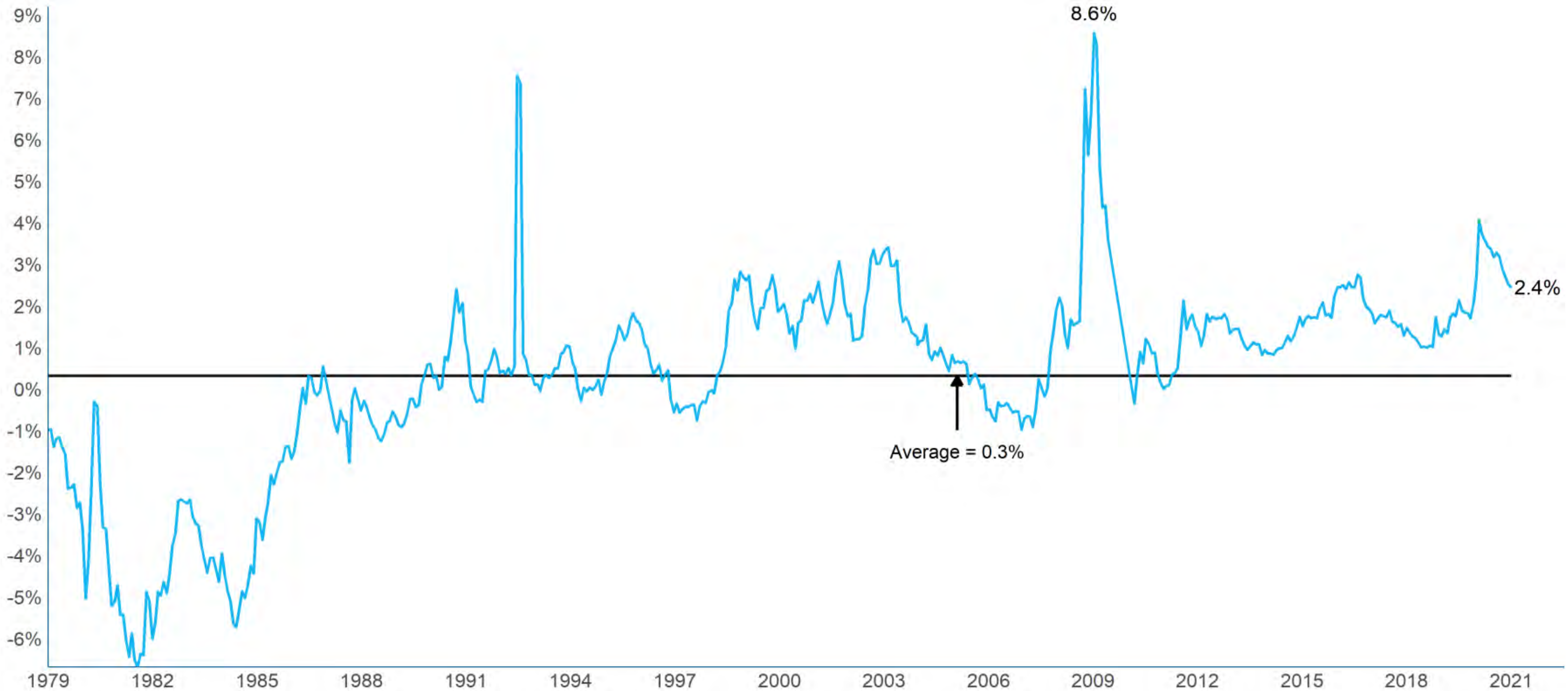
Core Real Estate Spread vs. Ten-Year Treasury[1]
(As of January 31, 2021)



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

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

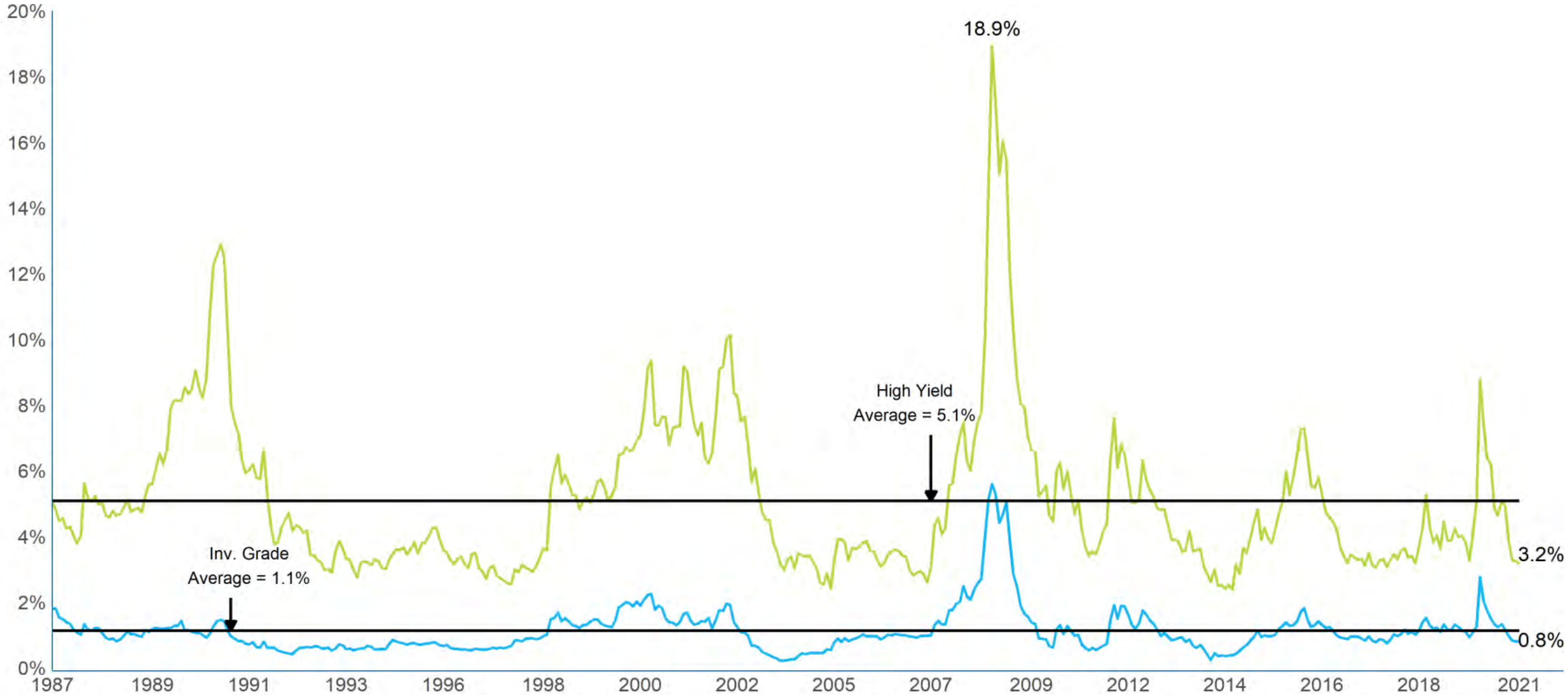
REITs Dividend Yield Spread vs. Ten-Year Treasury[1]
(As of January 31, 2021)



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

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

Credit Spreads[1]
(As of January 31, 2021)



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

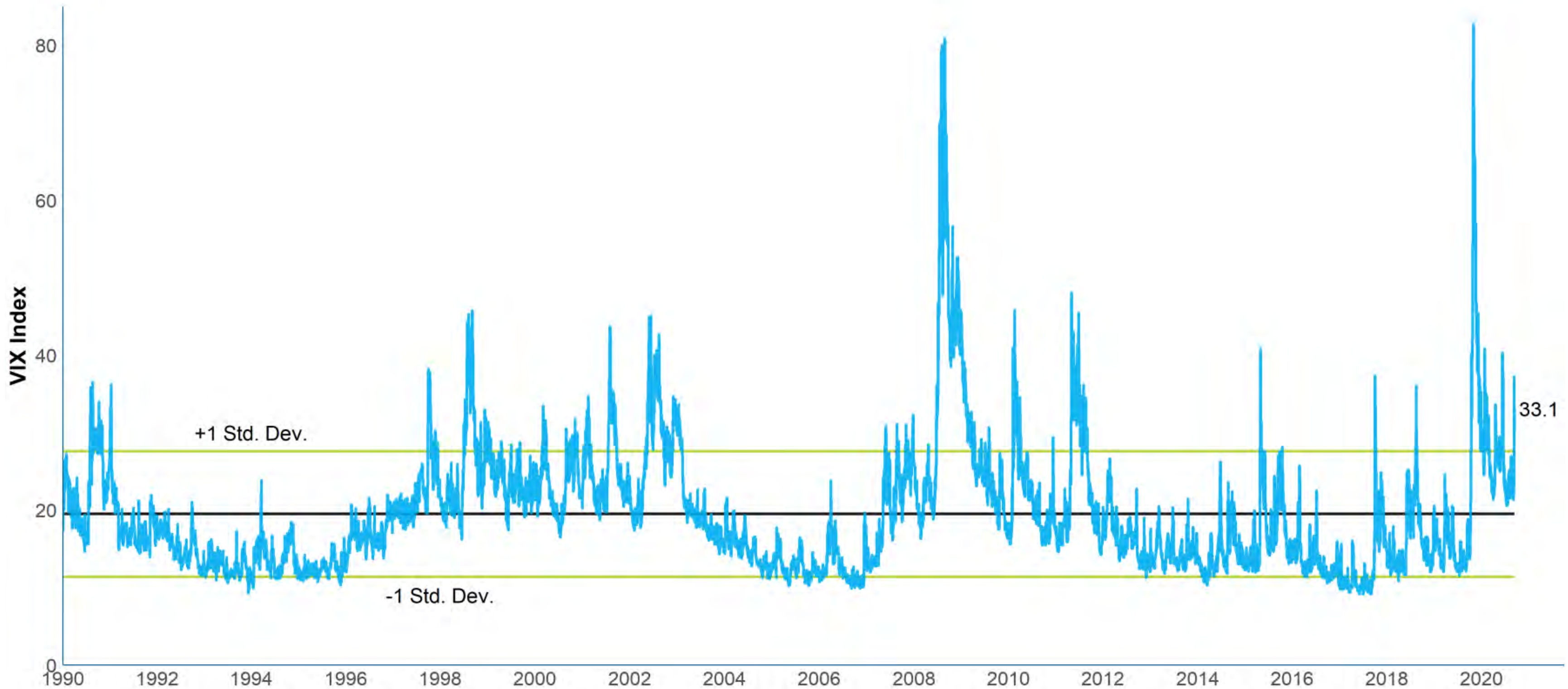
[1] Credit Spreads – Source: Barclays Capital. High Yield is proxied by the Barclays High Yield index and Investment Grade Corporates are proxied by the Barclays US Corporate Investment Grade index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year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

Emerging Market Debt Spreads[1]
(As of January 31, 2021)

- 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 Barclays EM USD Aggregate Index.

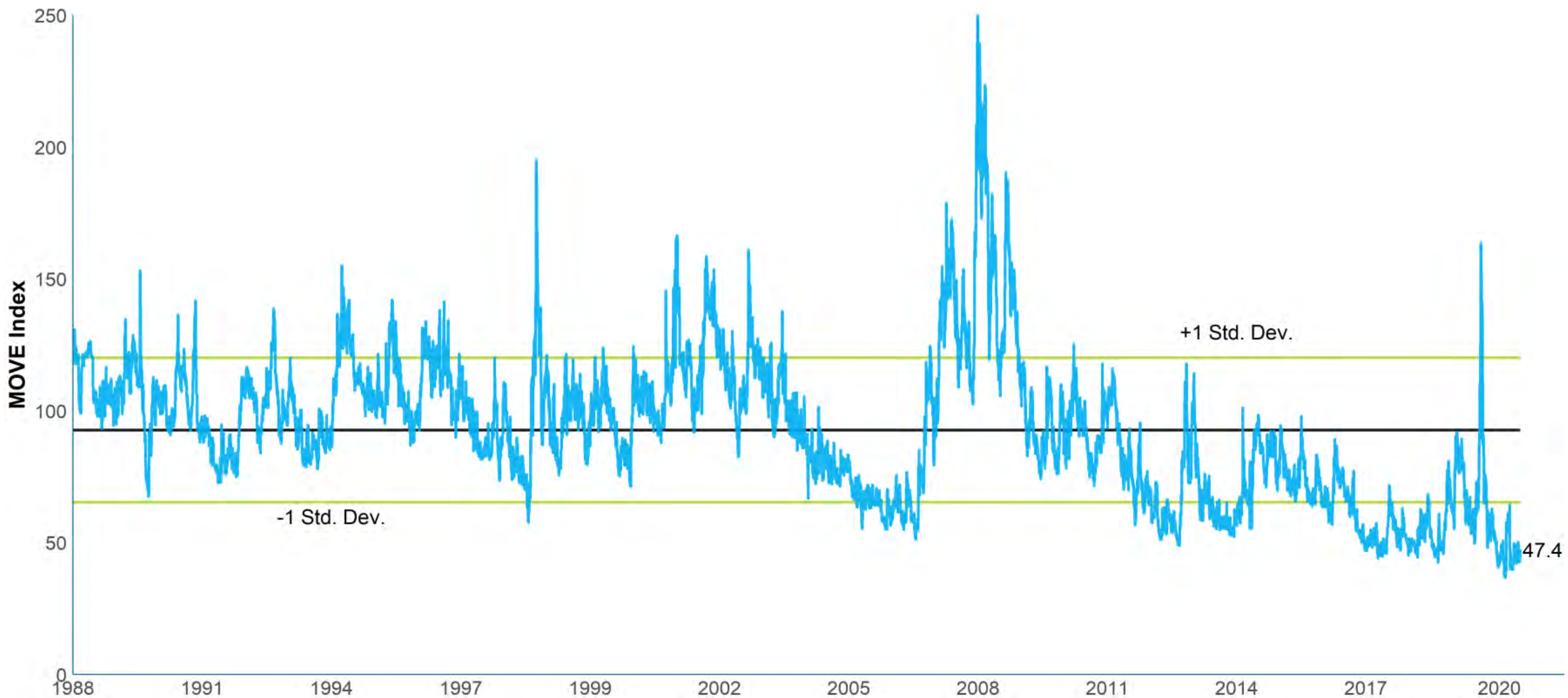
Equity Volatility[1]
(As of January 31, 2021)



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

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

Fixed Income Volatility[1]
(As of January 31, 2021)

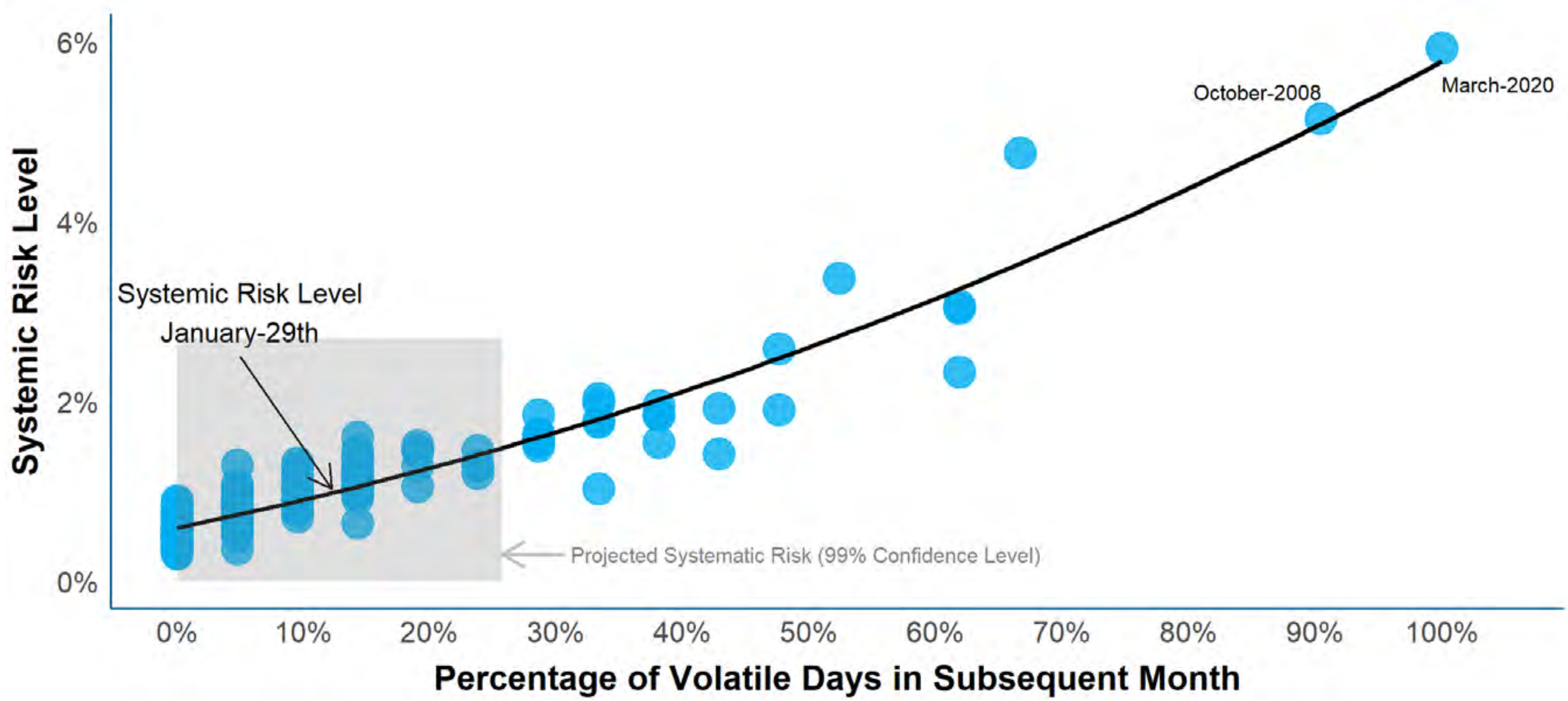


- This chart details historical implied fixed income market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

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

Systemic Risk and Volatile Market Days[1]

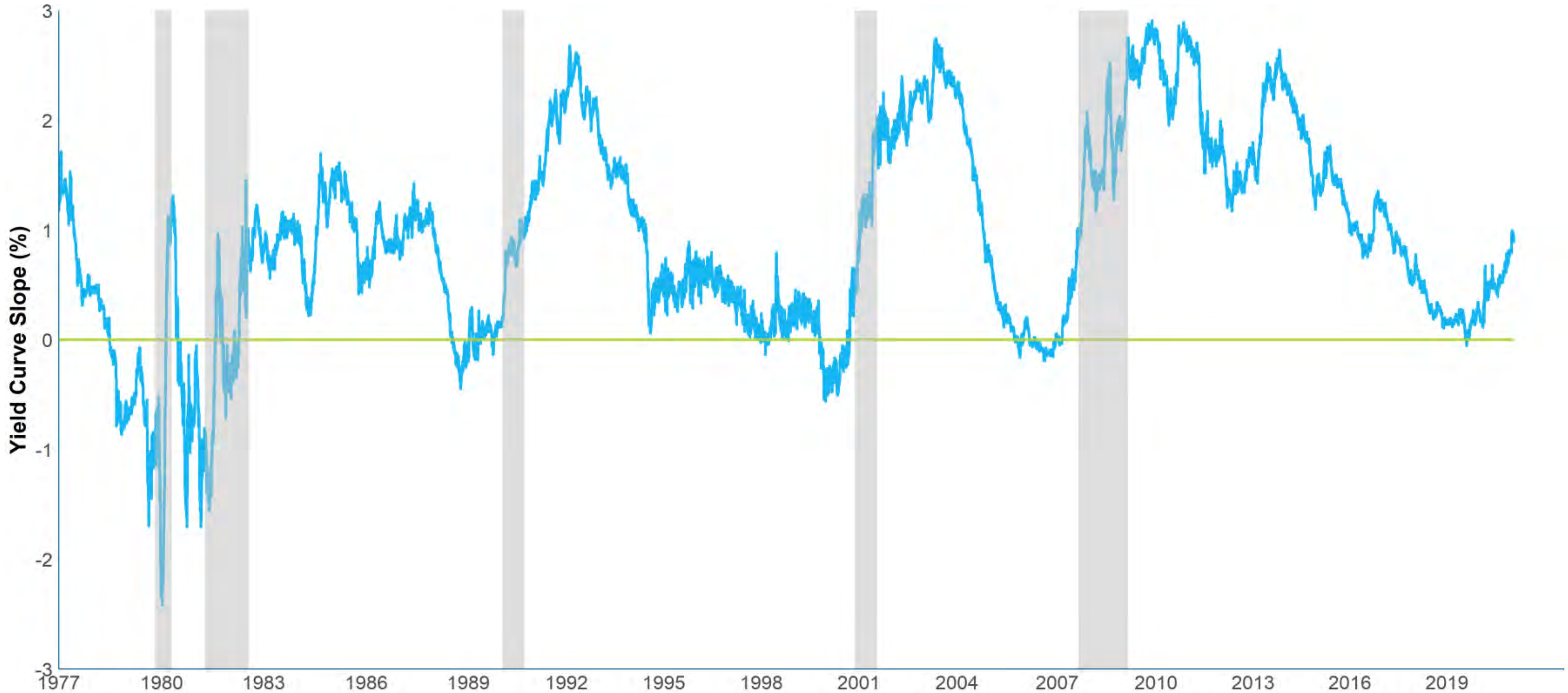
(As of January 31, 2021)



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

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

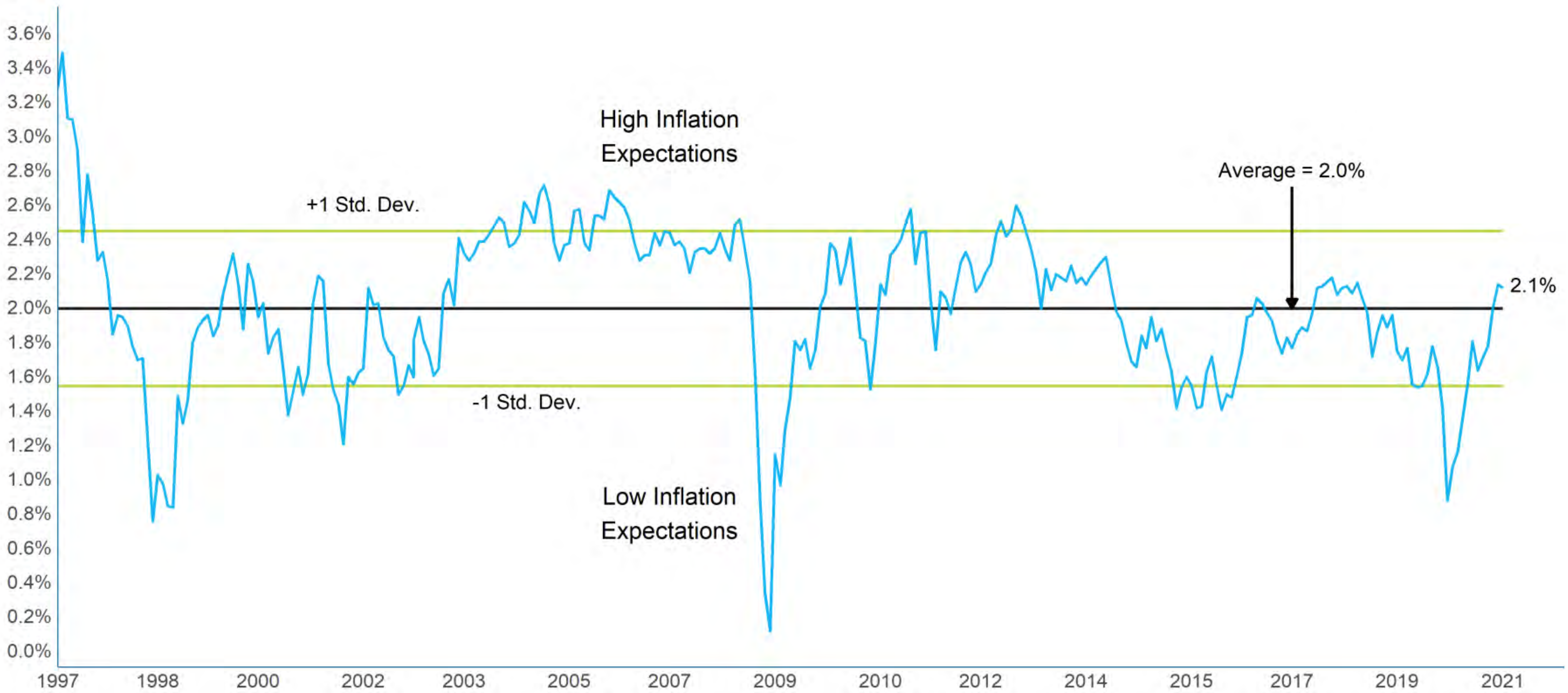
Yield Curve Slope (Ten Minus Two)[1]
(As of January 31, 2021)



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

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

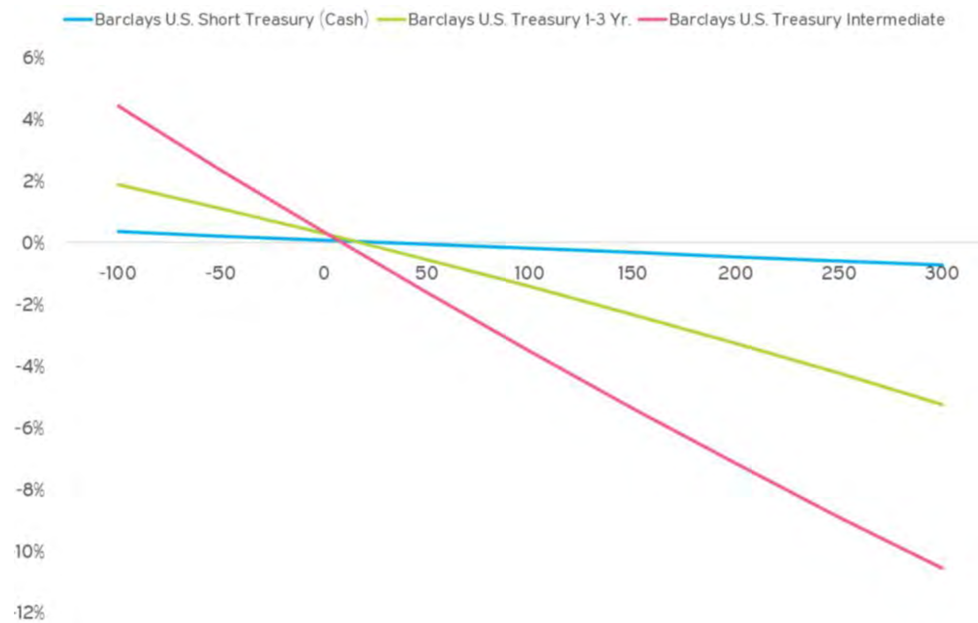
Ten-Year Breakeven Inflation[1]
(As of January 31, 2021)



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

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

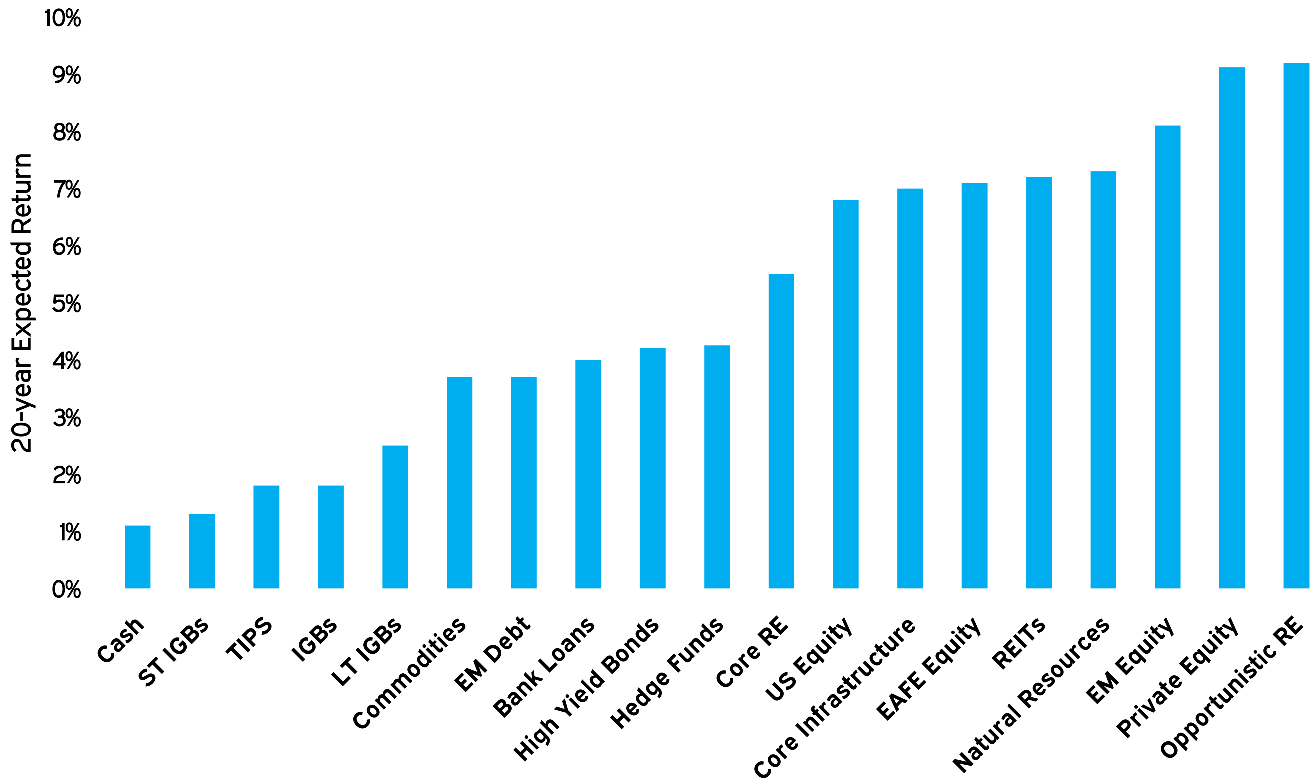
Total Return Given Changes in Interest Rates (bps)[1]
(As of January 31, 2021)



	Total Return for Given Changes in Interest Rates (bps)									Statistics	
	-100	-50	0	50	100	150	200	250	300	Duration	YTW
Barclays US Short Treasury (Cash)	0.3%	0.2%	0.1%	-0.1%	-0.2%	-0.3%	-0.5%	-0.6%	-0.7%	0.27	0.07%
Barclays US Treasury 1-3 Yr.	1.9%	1.1%	0.3%	-0.6%	-1.4%	-2.3%	-3.3%	-4.3%	-5.3%	1.65	0.28%
Barclays US Treasury Intermediate	4.4%	2.3%	0.3%	-1.6%	-3.5%	-5.4%	-7.2%	-8.9%	-10.6%	3.98	0.32%
Barclays US Treasury Long	23.0%	11.7%	1.5%	-7.5%	-15.5%	-22.3%	-27.9%	-32.4%	-35.8%	19.24	1.51%

[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 2021 Annual Asset Study.

Appendix

Data Sources and Explanations[1]

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

[1] All Data as of January 31, 2020 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: Barclays Capital. High Yield is proxied by the Barclays High Yield index and Investment Grade Corporates are proxied by the Barclays 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 Barclays EM USD Aggregate Index.
- Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.
- Fixed Income Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.
- Systemic Risk and Volatile Market Days – Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.
- Systemic Risk, which measures risk across markets, is important because the more contagion of risk that exists between assets, the more likely it is that markets will experience volatile periods.

[1] All Data as of January 31, 2020 unless otherwise noted.

Appendix

Data Sources and Explanations[1]

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

[1] All Data as of January 31, 2020 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.

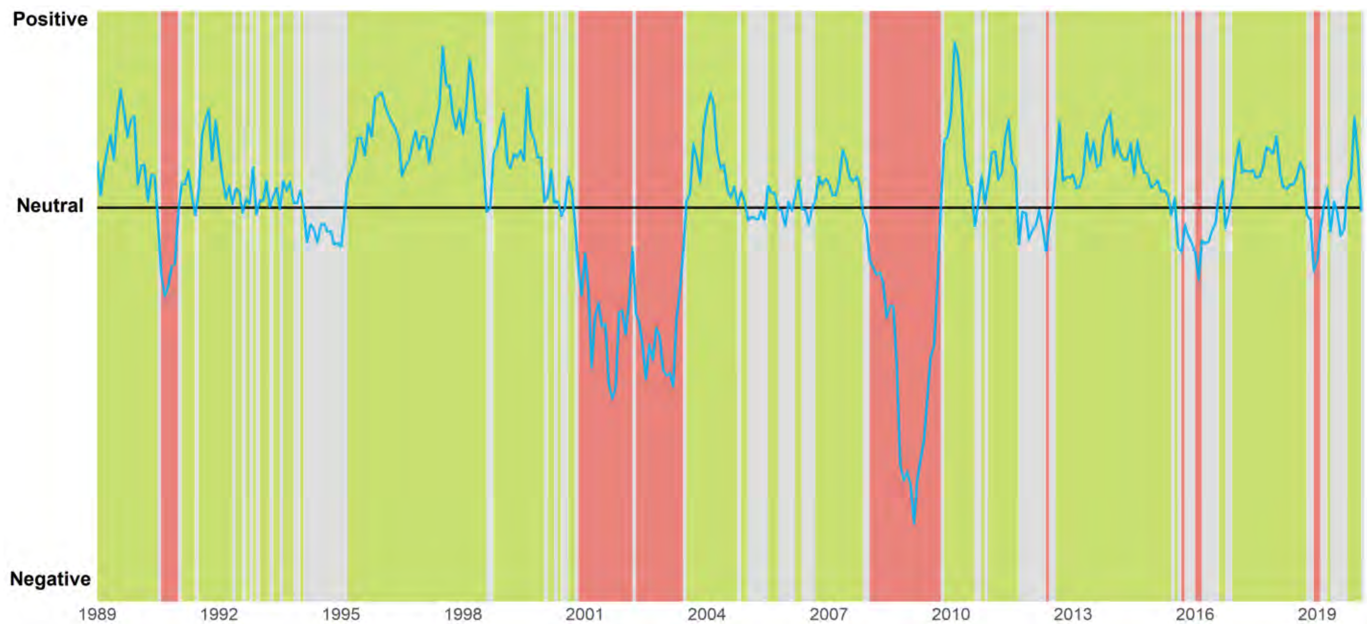
- Meketa's Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market corrections 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. In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12-month period. The MIG-MSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

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MEKETA

INVESTMENT GROUP

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

March 12, 2021

Active Passive Review

Agenda

1. **Summary**
2. **Active Value Trends**

Summary

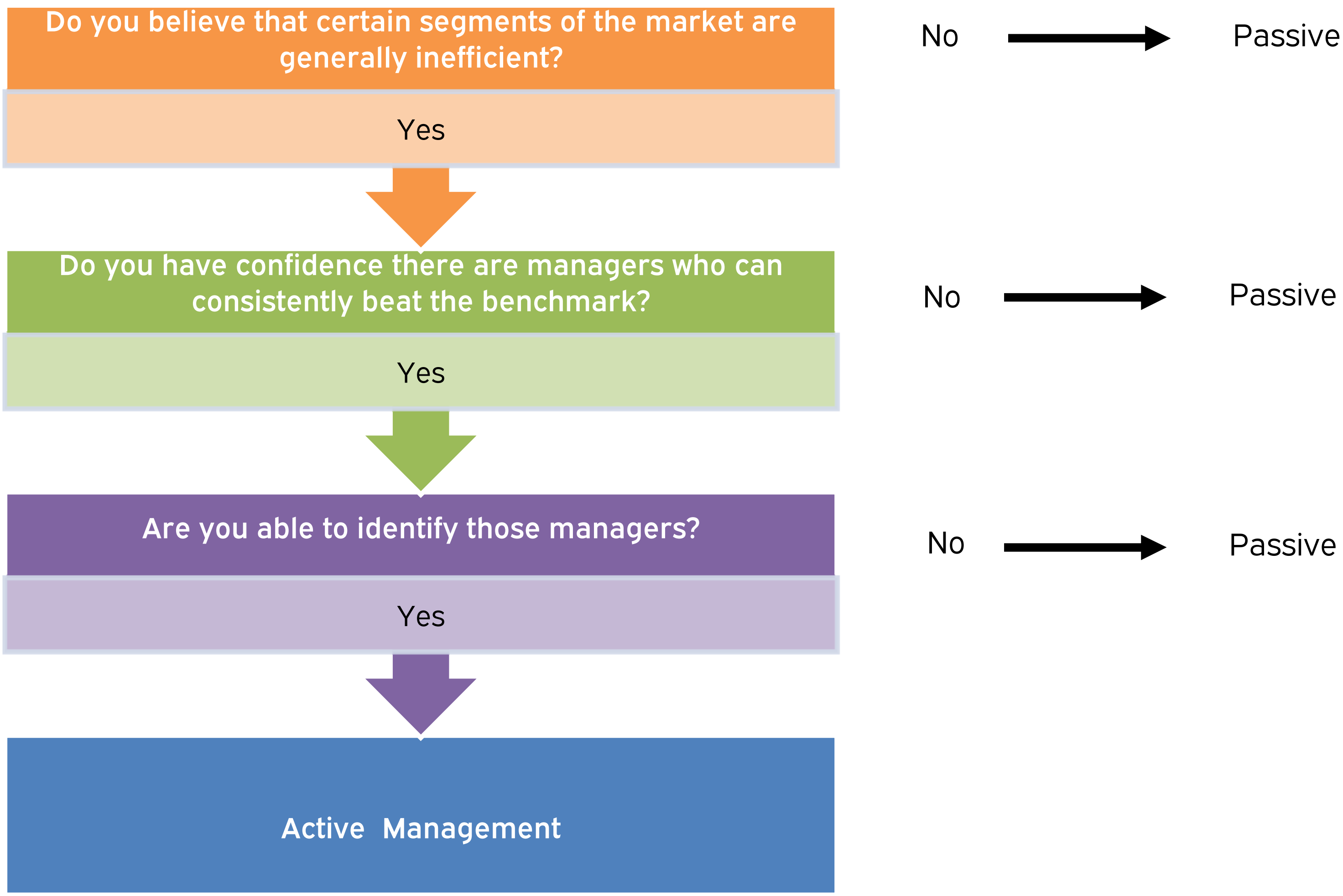
- In the majority of market segments, active management has not added consistent value
- Difficult to identify persistent long-term outperforming managers before the fact
- Active management can add value in certain market segments
  - Research shows outperformance in certain segments is persistent (e.g. Non-U.S. Equity and Core/Core Plus Fixed Income)
- Successful manager selection requires multi-tiered analysis
  - e.g., factoring macroeconomic trends
  - examining trends in fundamental characteristics
  - portfolio holding analysis
  - not based solely on (or over-emphasize) past performance

Management Style	Definition
Active	Attempting to add value over the returns of an index by selecting securities within that index based on qualitative models and/or fundamental research.
Passive	Attempting to replicate the returns of an index or benchmark by owning the same securities, in the same proportions, as the index.
Hybrid-Passive	Very low-cost strategies that attempt to mirror rule-based (not buy-and-hold) indices. Also, strategies that implement alternative weighting schemes in order to provide returns that are meaningfully different, yet track very close to, an index.

	Advantages	Disadvantages
Active	• Potential to beat the index • Potential for down market protection	• Higher costs and fees • Risk and unpredictability • People/organization risk
Passive	• Reduced active management risk – no underperformance surprise risk • Close correlation to the policy benchmark • Low fees and low monitoring costs	• No possibility for positive alpha • Possibility of underperforming the index due to implementation/fees • No downside protection
Hybrid-Passive	• Low cost relative to active management • Potential for alpha • Increased transparency	• Potential to underperform • Modest organizational risk

Representative	Benchmark is appropriate and relevant to the portfolio's investment strategy
Investable	Should be able to invest in all of the securities included in the benchmark
Transparent	Names and weights of securities comprising the benchmark are available and understandable
Measurable	Benchmark is readily calculable on a frequent basis
Independent	Calculated by an independent third party to ensure a fair comparison

- Added value by active management can vary depending on market segment
- In the public investment markets, outperformance occurring more than 60% of the time is rare
- Empirical public-market evidence shows past winners have difficulty repeating success
  - Ability for active managers to outperform benchmarks is often cyclical
  - On average, it has been extremely difficult to capture persistent outperformance



- Selecting active managers that will consistently outperform is extremely difficult

Data

- Universe data has survivorship bias
- Universe returns are typically overstated
- Lack of transparency among managers
- Monitoring managers is costly

Benchmarking

- Some market segment benchmarks do not exhibit good benchmark attributes
- Benchmark replication is not realistic

Risk Tolerance

- Underperformance surprise risk
- People/organizational risks
- Potential for strategy drift

Conviction

- Confidence that active managers can provide consistent outperformance net of fees

Active Value Trends

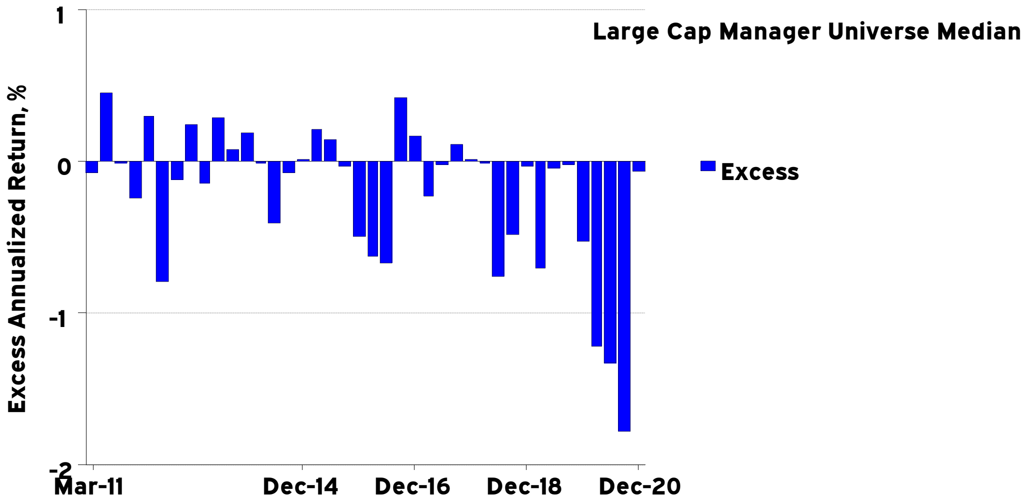
Meketa Summary of Observed Trends of Added Value Results over the Last 10 Years

	% of Time Median Outperformed (Qtrs)		Results: Rolling 36-months		
Manager Mandate	Last 10 Years	Last 3 Years	Trend of Distribution	Median vs. Benchmark	3rd Quartile vs. Benchmark
U.S. Large Cap Equity	30%	0%	Widening; Higher	Recent Underperformance	Recent Underperformance
U.S. Small Cap Equity	67%	50%	Widening; Higher	Competitive	Mixed
International Equity	62%	41%	Tightening; Lower	Somewhat Competitive	Mixed
Emerging Markets Equity	57%	58%	Widening; Higher	Recent Outperformance	Mixed
Core Fixed Income	80%	83%	Tightening; Flat	Competitive	Competitive
Core Plus Fixed Income	75%	75%	Tightening; Flat	Competitive	Competitive

Source: MPI, eVestment Alliance, Lipper,
Returns are presented gross of fees, except for REITs

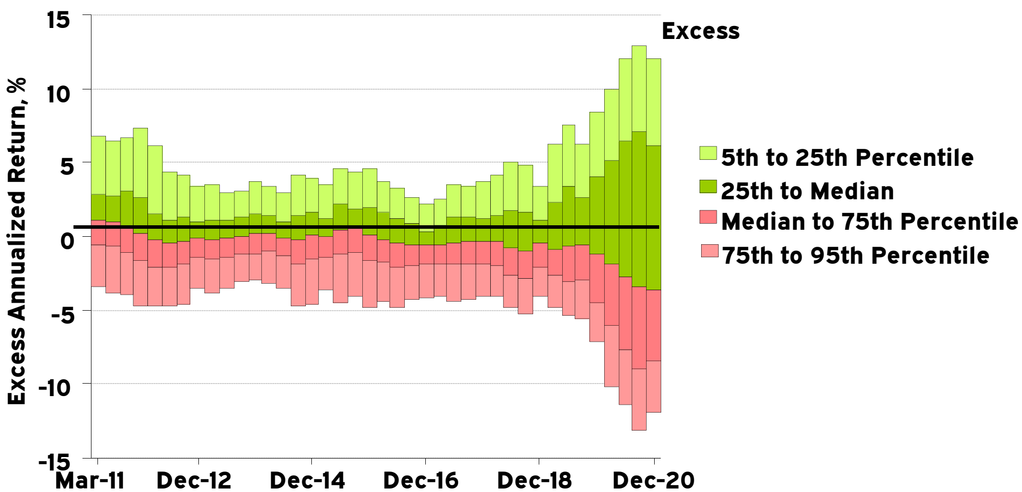
- Added value trends pose significant challenges for plan sponsors when selecting the next set of successful active managers
- While observations show the median manager outperforming the benchmark around 60% or more in certain mandates, individual managers can move from one quartile to another over time (i.e. drop from top quartile to bottom quartile)

Quarterly Excess Performance vs. Russell 1000 Index



- Median large core manager has outperformed 30% of the time over the long-term
- Median manager outperformed in 0 of last 12 quarters
- Underperformance has been significant

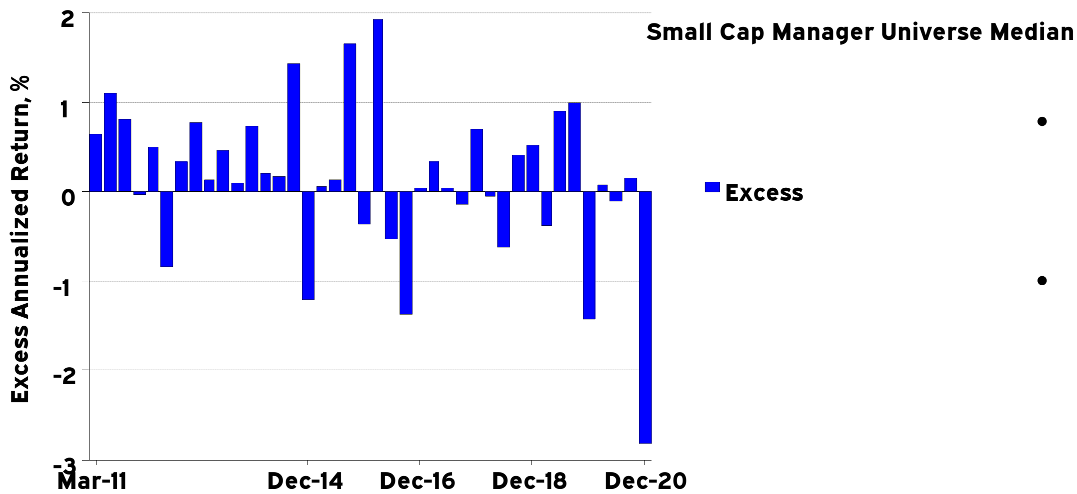
36 Month Rolling Performance



- Median manager's ability to add value has diminished since 2011
- Manager performance has widened in 2020

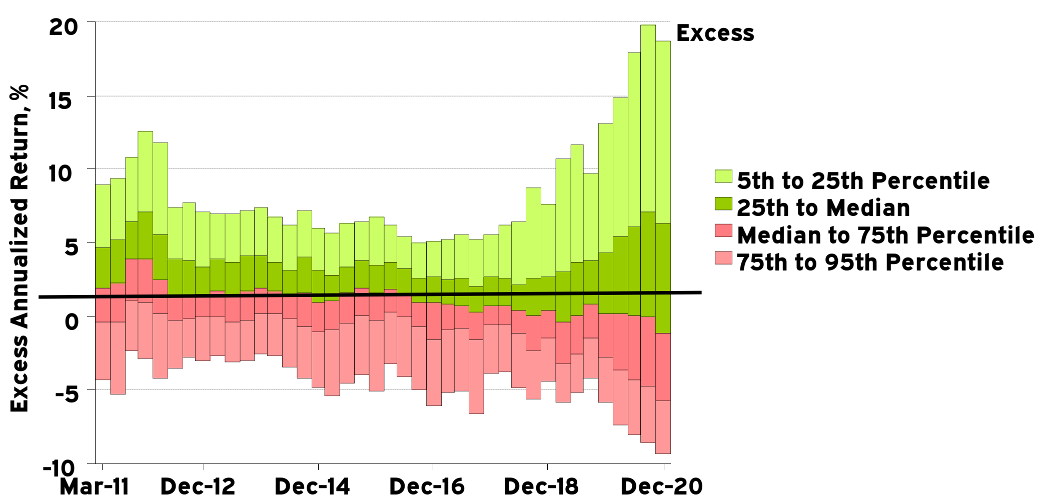
Source: MPI, eVestmentAlliance

Quarterly Excess Performance vs. Russell 2000 Index



- Median small managers have outperformed 67% of the time over the long-term
- Median manager outperformed in 6 of last 12 quarters

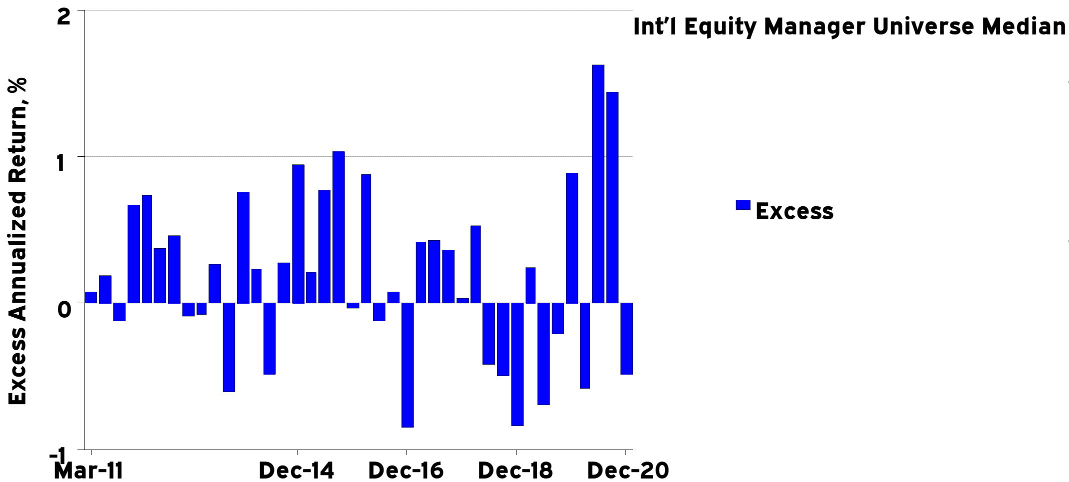
36 Month Rolling Performance



- Distribution among managers has significantly widened
- Median manager has added value through various cycles

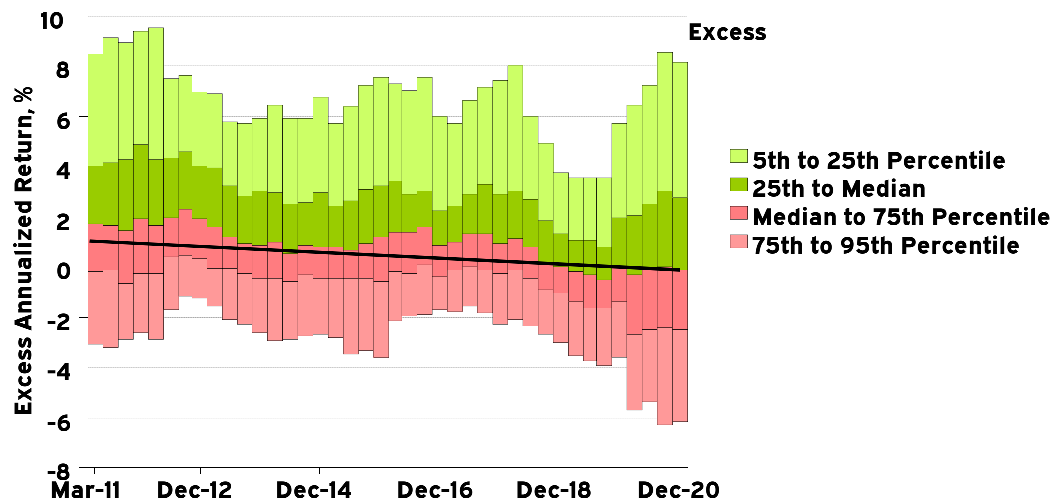
Source: MPI, eVestmentAlliance

Quarterly Excess Performance vs. MSCI EAFE Index



- Median international equity manager outperformed roughly 62% of the time over the long-term
- Median manager outperformed in 5 of last 12 quarters

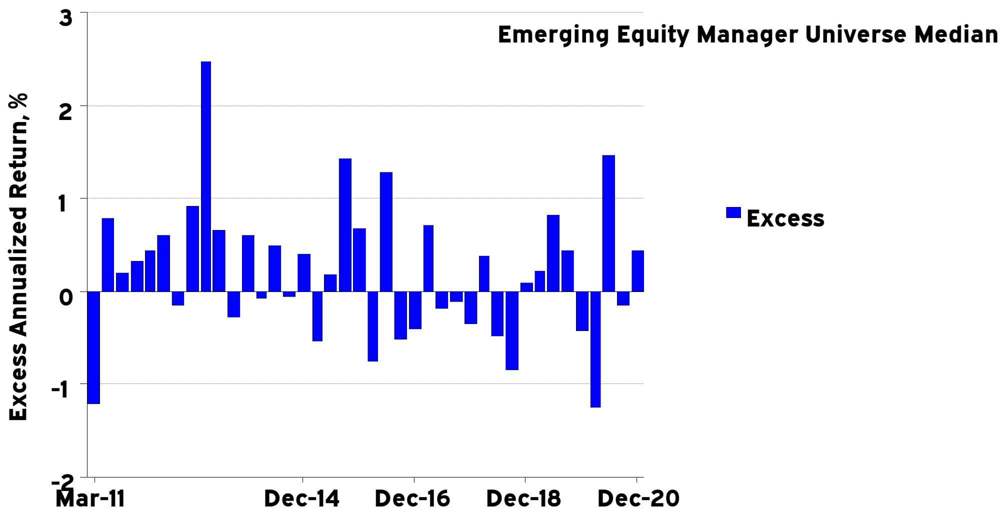
36 Month Rolling Performance



- Distribution among managers has varied
- Median manager has historically added value

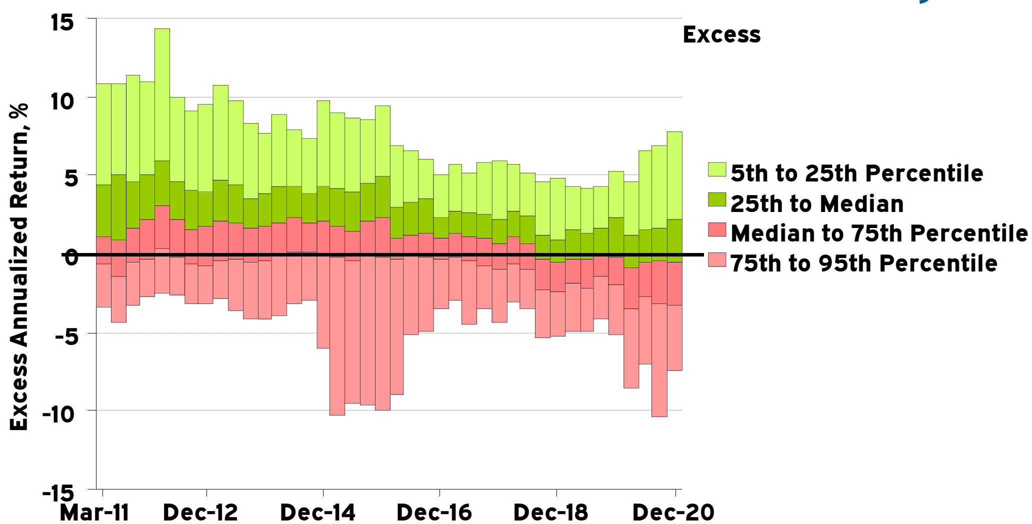
Source: MPI, eVestmentAlliance

Quarterly Excess Performance vs. MSCI Emerging Markets Index



- Median emerging markets manager outperformed roughly 57% of the time over the long-term
- Median manager outperformed in 7 of last 12 quarters

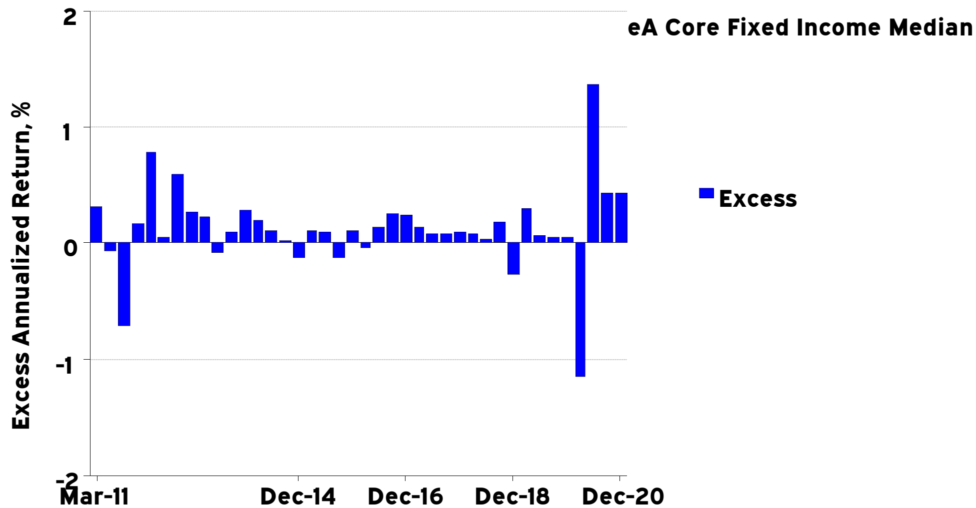
36 Month Rolling Performance



- Median manager has added value in various cycles
- Distribution among managers has varied
- Median manager added value has been relatively consistent

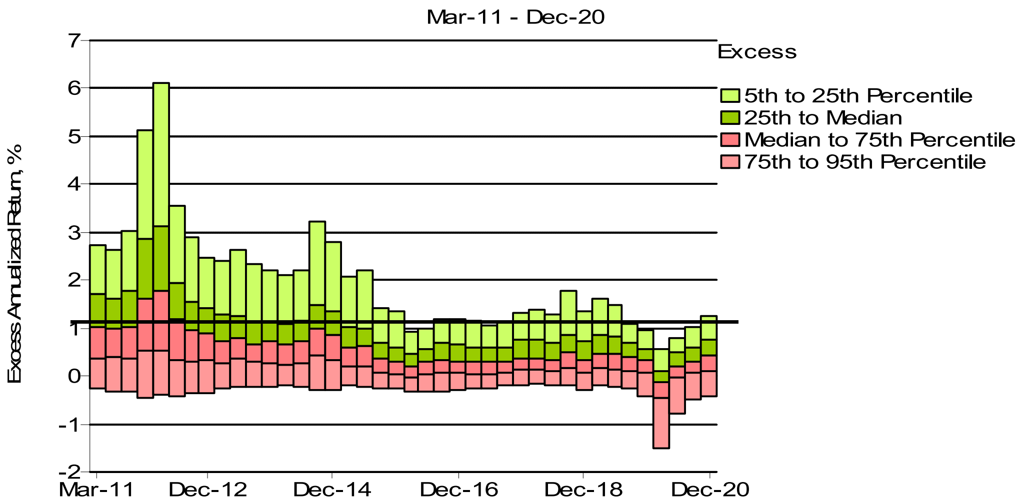
Source: MPI, eVestmentAlliance

Quarterly Excess Performance vs. BB Aggregate Index



- Median core fixed income manager outperformed 80% of the time over the long-term
- Median manager outperformed in 10 of last 12 quarters

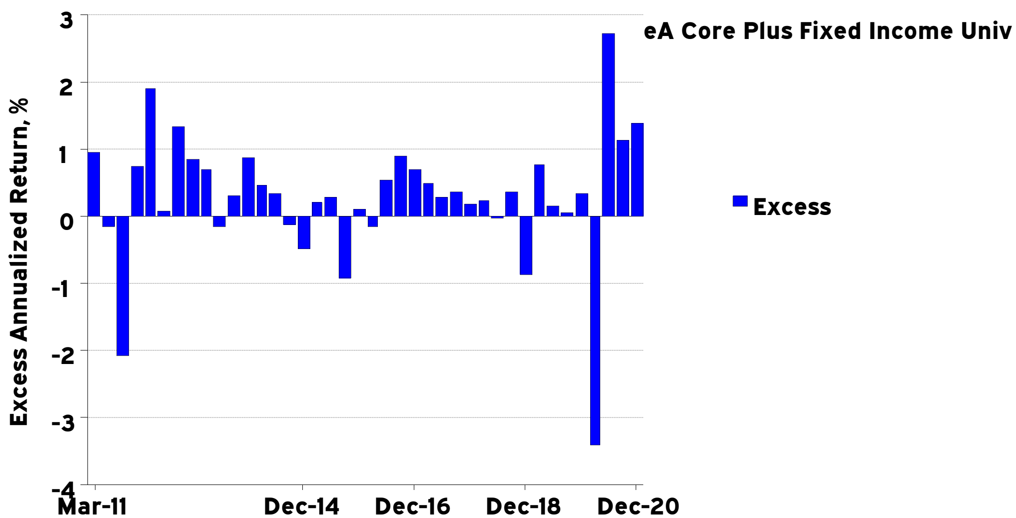
36 Month Rolling Performance



- Median manager added value has been cyclical
- Distributions among managers has tightened
- The median manager has generally added since 2011

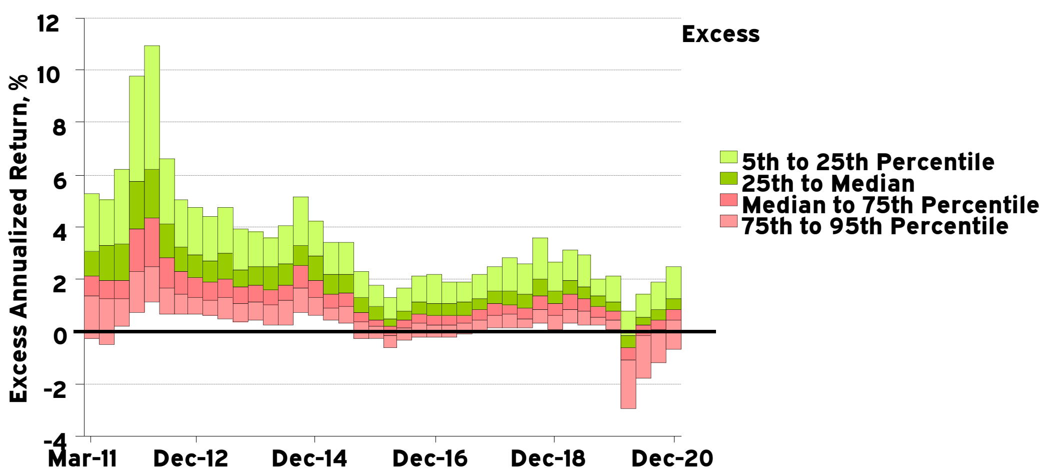
Source: MPI, eVestmentAlliance

Quarterly Excess Performance vs. BB Aggregate Index



- Median core plus fixed income manager outperformed roughly 75% of the time over the long-term
- Median manager outperformed in 9 of last 12 quarters

36 Month Rolling Performance



- Median manager added value has been cyclical
- Dislocation in credit markets during briefly 2020 widened the distribution of returns
- Results of above median managers has tightened in recent periods

Source: MPI, eVestmentAlliance

- Active vs. Passive management is not binary; it should be viewed on a continuum
  - As such, portfolio construction should not be entirely active or entirely passive
- Sometimes active management is the only reasonable/prudent solution
- Many view basic tilts *(rules based investment strategy used to deviate from a given index in order to provide excess returns)* away from traditional benchmarks as active management; that should not be the default position
- DO NOT overdiversify with and overpay for active management

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

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

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

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

2021 LEGISLATION

Last Updated: 03/02/2021

BILL NO.	AUTHOR	DESCRIPTION	LAST ACTION DATE	LOC	SPONSOR
Legislation Impacting SJCERA:					
AB 361	Rivas	This bill would authorize local agencies to use teleconferencing to hold meetings, without complying to Brown Act requirements for purpose of declaring or ratifying a local emergency, during a declared state or local emergency and other specified circumstances. The abbreviated procedures still require providing notice, posting the agenda, and allowing the public to access the meeting and address the legislative body. The intent is to improve public access to local agency meetings during COVID-19 and future emergencies.	02/12/21	Assembly L. Gov Comm.	
AB 845	Rodriguez	This bill, until 1/1/2023, would create a presumption, applicable to the retirement systems that PEPRA regulates, that would be applied to disability retirements on the basis of a COVID-19-related illness. The presumption would apply to specified firefighter, public safety officer, and health care job classifications, or their functional equivalents, and to members in other job classes who test positive during a COVID-19 outbreak at their place of employment.	02/25/21	Assembly P.E. & R Comm.	
SB 274	Wieckowski	This bill would require a local agency to email a copy of, or website link to, the agenda or a copy of the agenda packet if the person requests that the items be delivered by email. If it is technologically infeasible, the bill would require materials to be sent by mail.	2/22/21	Senate Joint Rule 55 suspended	
SB 634	L, PE & R Comm.	This bill would authorize county health officer's duly authorized representative to also advise retirement boards with advice on medical matters; correct an obsolete CERL cross-reference to a provision in the Education Code; repeal a CERL member's authority to complete a service credit by paying a lump sum; authorize the Board to contract with a private practice physician for medical advice necessary to carry out disability retirement related provisions of CERL. This bill would also make changes to PERS and STRS that would not impact SJCERA.	2/22/21	Senate Joint Rule 55 suspended	
Other Bills of Interest:					
AB 386	Cooper	This bill would exempt from disclosure under CPRA regarding an internally managed private loan made directly by the PERS fund.	02/12/21	Assembly PE & R and JUD Comm.	
AB 473	Chau	Technical, non-substantive changes to CPRA.	02/18/21	Assembly JUD Comm.	

BILL NO.	AUTHOR	DESCRIPTION	LAST ACTION DATE	LOC	SPONSOR
AB 761	Chen	This bill would allow the OCERS Board to appoint CEO, ACEO, CIO and provide that personnel appointed pursuant to these provisions would not be county employees, and instead be employees of the retirement system.	2/25/21	Assembly P.E. & R Comm.	OCERS
AB 821	Cooper	This bill would make nonsubstantive changes to the Brown Act.	2/17/21	Assembly From Printer	
AB 1133	Chen	This bill would state the intent of the Legislature to enact legislation that would create a hybrid retirement benefit, consisting of a DB plan and DC plan.	2/19/21	Assembly From printer	
AB 1354	Grayson	Technical, non-substantive changes to PEPRA.	02/22/21	Assembly 1st Reading	
AJR 9	Cooper	This bill would request the Congress of the U.S. to enact, and the President to sign, legislation that would repeal the Government Pension Offset and the Windfall Elimination Provision from the Social Security Act	03/01/21	Assembly To Print	
SB 278	Leyva	This bill would establish new procedures under PERL for cases in which PERS determines that benefits of a member or annuitant are based on disallowed compensation that conflicts with PEPRA or other laws under PERL. For retirees, the bill would require adjustment of benefits and for actives it would require crediting of contributions paid on disallowed earnings against future required contributions.	02/22/21	Senate Joint Rule 55 suspended	
SB 294	Leyva	This bill would remove the 12-year limitation for service credit earned on an employer-approved compensated leave for PERS and STRS.	02/22/21	Senate Joint Rule 55 suspended	

2021 TENTATIVE State Legislative Calendar (Last Revised 12-21-2020)

Feb 19	Last day for new bills to be introduced
Mar 25	Spring Recess begins upon adjournment
Jun 4	**Last day for bills to be passed out of the house of origin**
Jun 15	Budget Bill must be passed by midnight
Jul 16 - Aug 15	Summer Recess upon adjournment provided budget bill passed
Sep 3	Last day to amend bills on the floor
Sep 10	Last day for each house to pass bills; Final Study Recess begins upon adjournment
Oct 10	Last day for Governor to sign or veto bills.

2021 CONFERENCES AND EVENTS SCHEDULE 2021

EVENT DATES 2021 BEGIN	END	EVENT TITLE	EVENT SPONSOR	LOCATION	REG. FEE	WEBLINK FOR MORE INFO	EST. BOARD EDUCATION HOURS
Apr 20	Apr 20	Legislative Conference	NCPERS	Webinar	N/A	ncpers.org	N/A
May 4	May 7	2021 Annual Pension Bridge Virtual Conference	Pension Bridge	Virtual Conference	N/A	pensionbridge.com	10 hrs*
May 10	May 10	Trustees Round Table	CALAPRS	Webinar	$50	calaprs.org	6 hrs*
May 11	May 14	SACRS Spring Conference	SACRS	Virtual Conference	$120	sacrs.org	11 hrs*
May 24	May 26	2021 Visions, Insights & Perspectives	Institutional Real Estate Inc.	Palos Verdes, CA	N/A	irei.com	10.75 hrs*
Jun 8	Jun 9	Trustee Educational Seminar	NCPERS	Virtual Conference	$300	ncpers.org	8 hrs*
Jun 25	Jun 25	Administrators' Round Table	CALAPRS	Webinar	$125	calaprs.org	5 hrs*
Nov 9	Nov 12	SACRS Fall Conference	SACRS	Hollywood, CA	$120	sacrs.org	11 hrs*

** Estimates based on prior agendas*

SAN JOAQUIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

SUMMARY OF PENDING TRUSTEE AND EXECUTIVE STAFF TRAVEL

2021 Event Dates	Sponsor / Event Description	Location	Traveler(s)	Estimated Cost	BOR Approval Date
May 24 - 26	IREI Visions, Insights & Perspectives	Palos Verdes	Restuccia	N/A	N/A

SAN JOAQUIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

SUMMARY OF COMPLETED TRUSTEE AND EXECUTIVE STAFF TRAVEL

Event Dates 2020	Sponsor / Event Description	Location	Traveler(s)	Estimated Cost	Actual Cost	Event Report Filed
Jan 27	Meketa Fourth Quarter 2020 Market Review	Webinar	Nicholas, Praus	N/A	N/A	N/A
Feb 2 - 3	NCPERS FALL Conference	Webinar	Shick, Herman, Ba	$900	$900	N/A
Feb 11	CALAPRS Administrators' Roundtable	Webinar	Shick	$50	$50	N/A
Feb 19	CALAPRS Attorneys' Roundtable	Webinar	Morrish	$50	$50	N/A
Mar 8 - 9	CALAPRS General Assembly	Webinar	Shick, Bassett, McCray, Nicholas	$850	$850	N/A

San Joaquin County Employees' Retirement Association

March 5, 2021

TO: Board of Retirement

FROM: Johanna Shick
Chief Executive Officer

SUBJECT: Chief Executive Officer Report

Strengthen Fund Stability
<u>Deliver Target Investment Return.</u>
SJCERA's assets as of December 31, 2020, reached an all-time high of $3.5 billion. In the last quarter of 2020, the total portfolio increased $257 million, which accounts for the majority of the total increase of $281.5 million for the year.

For the five-year time period of 2015-2019, investment fees have decreased from 79 basis points (0.79 percent) to 59 basis points (0.59 percent), while over the same time period, total assets grew $730 million. The lower fees resulted in SJCERA saving approximately $6.6 million.

Leverage Technology to Improve Accuracy and Efficiency
<u>Implement Year 1 of Five-Year Technology Plan.</u>
Contract with Outside Vendor to Conduct a Comprehensive Cybersecurity Audit
In addition to getting input from the County's Information Systems Division, Management Analyst III, Greg Frank and Information Systems Manager, Adnan Khan also met with Matt Eakin, OCERS' Director of Information Security, to review SJCERA's Cybersecurity Audit Request for Proposal (RFP). Matt will also participate on the Request for Proposal (RFP) evaluation team. His expertise in cybersecurity in the pension arena will be invaluable in selecting a strong vendor.

Issue RFP for a Provider to Write an RFP for a new PAS Vendor
Greg Frank has drafted the RFP and it is currently being reviewed by staff. The goal is to distribute the RFP by March 15.

Manage Risk
<u>Conduct Actuarial Audit</u>
On February 19, 2021, Greg Frank issued RFP #2021-01 for Actuarial Auditing Services and we are now in a quiet period. Letters of intent to bid and proposer's questions are due March 5, and proposals are due April 9. If you are contacted by an actuarial firm(s), please refer them to Greg at ActuaryAuditRFP@sjcera.org or to SJCERA's website, www.sjcera.org.

<u>Research Enterprise-Wide Risk Management (EWRM) Methodologies</u>
As a first step toward this goal, Management Analyst III, Greg Frank, is researching EWRM resources and trainings. Establishing a baseline understanding of EWRM will improve staff's ability to assess how to implement an EWRM framework at SJCERA.

Deliver Excellent Service and Support to Stakeholders
<u>Revise and Update Prioritized Member Communications and Web Content</u>
Investment Officer, Paris Ba, updated the Strategic Asset Allocation Policy to reflect the Board's February

12, 2021, decision to revise the Aggressive Growth benchmark. The revised policy has been posted on the website.

<u>Provide Excellent Customer Service.</u> Moving affects not just a retiree's address, it can also affect health insurance enrollment, taxes, and direct deposit. Recently, a retiree called to inquire about his *Alameda*-related benefit adjustment. Staff quickly identified that he had not updated his address, and his mail had not been forwarded. However, Kathy Herman and Marissa Smith were able to take care of all his needs: Kathy explained the *Alameda* decision and sent him a change of address form; Marissa Smith, worked with him on state tax withholding and health insurance. Excellent team work and customer service.

<u>Deliver Operations Timely and Accurately</u>
The count-down is on. March is the busiest month for new retirement applications. In 2020, 90 people retired between March 1 and April 1. Thus far, SJCERA has already 70 retirement applications for the month of March, with more coming in each week. While we encourage members to submit their retirement applications 60 days before retirement, by law, members can submit their retirement applications as late as the day they plan to retire.

Maintain a High-Performing Workforce

<u>Employee Appreciation Week</u>
March 1 - 5 was Employee Appreciation Week, culminating with Employee Appreciation Day on March 5. To celebrate, each day there were treats in the café, and lunch was provided on Friday. Monday: Donuts ("Donut what we would do without you!"); Tuesday: Bagels (for the **B**est **A**ll-Around **G**roup **E**ver in my **L**ifetime); Wednesday: Ice Cream bars (as an employee "shout out"—because we all scream for ice cream); Thursday: Oranges and Bananas ("Orange" you glad it's almost Friday? We'd all go "bananas" if it were still Monday); Friday: lunch.

<u>Random Acts of Kindness Week</u>
February 16 - 19 we celebrated Random Acts of Kindness Week. Each day, staff received a small (sweet) surprise on their desks. Thanks goes to Administrative Secretary, Kendra Fenner, for her creative talents in preparing these treats.

<u>Modify SJCERA Job Descriptions for Career Paths to Meet Organizational Needs.</u>
Kathy Herman met with County Human Resources on February 19 to discuss possible changes to SJCERA's job descriptions. Some job descriptions no longer match the skills required or responsibilities of the job. The goal of this review is to provide more flexibility in hiring and potential career path opportunities that benefit both the organization and staff. Additional research is underway.

<u>Implement Approved Changes to Physical Layout of Office.</u>
The virtual receptionist video phone has been implemented at the front counter. A friendly sign invites visitors to push a button to talk to a staff member. With an average of four to five visitors per day in the last 12 months, and the increased use of video and phone meetings in lieu of face-to-face meetings, using the video phone as a virtual receptionist is more efficient and safer for staff, and members have made a smooth transition. In the past, with one person seated at the counter at all times, members might have had to wait until the staff member completed a phone call; now four or five staff members are available to assist our members at the touch of a button, so members do not have to wait.

<u>Communications Officer Recruitment</u>
Communications Officer, Freda King, joined SJCERA on March 1 and hit the ground running! In her first week, in addition to two days of new employee orientation and learning everyone's names, she

spearheaded the selection of the cover photo for the Comprehensive Annual Financial Report (CAFR) and the companion document the Popular Annual Financial Report (PAFR). Welcome aboard Freda!

Managing Emerging Organizational Needs

Implement *Alameda* Decision

Retirement Services Officer, Melinda DeOliveira, Retirement Services Associates Ron Banez and Andrea Bonilla, and Accounting Technician II, Stephanie Conner have taken on implementation of the *Alameda* decision in addition to their regular workload, and are doing a fabulous job. As a result of the California Supreme Court decision on July 30, 2020, SJCERA was required to exclude three earnings codes from retirement benefit calculations. Two because they are for services provided outside of normal working hours (Stand-By Pay, Correctional Briefing Pay) and one because it is considered an in-kind conversion (Employer Contributions to Deferred Compensation on the Member's Behalf). For retired members, the earnings for services provided outside of normal hours applied to anyone who retired on or after January 1, 2013, and the earnings for employer paid contributions to deferred compensation applied to anyone who retired on or after July 30, 2020.

As previously reported, all members affected by the deferred compensation earnings have been corrected. A total of 127 retirees were identified as having received either Standby pay (75 people) or Correctional Briefing pay (52 people). Of the 75 retirees who received Standby, only 69 retirees' benefits required adjustment. The other six retirees received Standby pay at a time other than during their highest final average compensation period.

Staff has completed the benefit adjustment calculations for those affected by the Standby pay exclusion and notified each of the 69 retirees affected. The average monthly benefit decrease was $486: the largest decrease was $2,815.34; the smallest was $1.71. The Board of Retirement, with guidance from Counsel, directed staff to calculate the contributions paid on these earnings codes and collect overpayment of benefits for the months following the Supreme Court decision only, starting with the September 1, 2020 benefit payment. Receivables and reasonable repayment plans are being established.

Staff continues to review and calculate the remaining 52 retirees who received Correctional Briefing pay. Preliminary research indicates the average adjustments will likely be smaller than those of Standby pay.

Alameda Decision: Possible Base-Pay Only for Tier 2 New Hires.

Meetings are underway to solicit employer feedback on the possibility of using base-pay only for Tier 2 members hired on or after a future date. Feedback from those with whom I've met thus far, has been supportive. The County, which employs 93 percent of SJCERA's members, is in the process of recruiting a new County Administrative Officer (CAO). Although I have already met with Brandi Hopkins, Human Resources Division head, completing the task of soliciting employer feedback will necessarily be delayed until the new CAO is on board.

SJCERA vs. Travelers' Insurance.

On March 2, Jim Vorhis of Nossaman, LLP provided oral argument (virtually) to a panel of three judges at the Federal Ninth Circuit court. Deputy County Counsel Jason Morrish and I observed. Jim did an excellent job articulating our arguments, and the judges appeared to have a strong knowledge of the facts. We do not have a date by which to expect the written opinion; however, Jim has indicated he expects it fairly quickly.

Conclusion

Another good, productive month!

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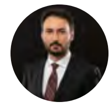
ARTICLE

How COVID-19 Vaccines and Brexit Create the Trade of the 2020s

February 2021

AUTHORS

Rob Arnott*
Partner, Chairman of the Board



Vitali Kalesnik, PhD
Partner, Director of Research for Europe

Lillian Wu
Vice President, Research, Research Affiliates Global Advisors (Europe) Limited

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In mid-January 2016, when emerging markets (EM) value stocks were extraordinarily cheap, Research Affiliates identified this segment of the market as "the trade of the decade."[1] In the first two years after the low of January 21, 2016, EM value earned 80%. RAFI EM, with a value tilt, fared even better with a gain of 85%.[2] In the depths of the COVID-19 crash in March 2020, EM value again settled back to bargain-basement prices, offering investors another bite of the apple.

In late 2020, a new kid emerged on the bargain-of-the-decade block. As Brexit negotiations broke down again and again, and a more virulent form of COVID emerged in the United Kingdom, UK stocks, and notably UK value, reached implausibly cheap levels relative to justifiably "fair" values of stocks in other developed economies. We began describing UK value as a new trade of the decade. Even today, UK value remains at remarkably low valuations relative to most of its fundamentals, while enjoying a few fundamental tailwinds.

Key Points

- Around the globe, value is trading at extremely deep discounts relative to growth. The discounts are wide no matter how we measure valuation.
- While we still like our last named trade of the decade, emerging markets value stocks, the UK equity market, and UK value stocks in particular, are now even cheaper.
- With the final Brexit deal done and the rapid COVID vaccination rate in the United Kingdom, the outlook for UK value is extremely promising, enough for a "trade of the decade."

When the Going Gets Tough...

Most investors are transfixed by current events, but surprisingly few will ask: "Will these events matter much in five years?" Neither Brexit nor the COVID-19 pandemic is likely to have near as much impact in 2026 as in 2020–2021. Therefore, the market shocks induced by these events represent opportunities now.

The COVID-19 pandemic continues to have an enormous impact on the global economy. Although still too early to tally the numbers, many indicators place the current recession—and in many countries, a double-dip recession—among the worst shocks the world economy has experienced over the last century. According to the International Labour Organization (ILO) (2021), the pandemic caused an 8.8% decline in global working hours in calendar-year 2020, the equivalent of 255 million jobs lost. The ILO measures the impact as about *five times* as large as the 2009 labor losses arising from the global financial crisis. The 2020 losses disproportionately afflicted the working poor, most of whom do not have the luxury of working from home.

The COVID-19 pandemic is tamping down both the supply and the demand sides of the economy. For example, a survey by the Institute for Supply Chain Management found that "nearly 75 percent of companies reported supply chain disruptions… due to coronavirus-related transportation activities" (Sengupta, 2020). The demand side is being impacted as government-imposed restrictions limit customers' access to goods and services. Notably, few if any of the people making these lockdown decisions are in any risk of losing their job or in need of reinventing their lives for a new economy. In response to both supply and demand shocks, companies continue to cut jobs, further hurting demand as laid-off workers stop spending because their income is reduced.

The spread of COVID-19, the resulting lockdowns, and the ultimate impact on national and regional economies have been far from evenly experienced around the world. The developed nations of Italy, the United States, and the United Kingdom and the EM nations of Mexico, Brazil, and South Africa suffered some of the most devastating personal and economic tolls of COVID-19.

Consistent with intuition, the GDP declines are typically worse among the countries hardest hit by COVID. For example, 2020 GDP is expected to decline by 9.1% in Italy and 9.2% in Mexico, and the United Kingdom is likely to face one of the deepest GDP declines, currently estimated at 11.2%. The United Kingdom's poor growth outlook reflects the double whammy of Brexit and COVID-19, magnified by Britain's correspondingly severe lockdowns.

Projected 2020 GDP Declines and COVID-19 Cases by Country/Region

	Cumulative to February 1, 2021		2020
Country/Region	Officially Reported COVID Cases per 100,000*	Officially Reported COVID Deaths per 100,000*	Projected Real GDP Growth Rates
United States	7,382	122	-3.7%
Australia	114	4	-3.8%
Japan	264	4	-5.3%
France	4,475	109	-9.1%
Italy	3,949	136	-9.1%
Germany	2,466	58	-5.5%
Euro Area**	**3,924**	**96**	**-7.7%**
India	774	11	-9.9%
Mexico	1,293	111	-9.2%
South Africa	2,300	64	-8.1%
Brazil	4,033	100	-6.0%
Saudi Arabia	1,065	18	-5.1%
Russia	2,477	46	-4.3%
Indonesia	343	10	-2.4%
Turkey	2,868	29	-1.3%
South Korea	143	3	-1.1%
China	6	0	1.8%
EM***	**870**	**20**	**-2.2%**
United Kingdom	5,134	135	-11.2%

*Cases are likely massively underestimated in all countries due to asymptomatic and mild cases, and deaths may be vastly underreported in many emerging economies, especially those countries that wish to create an illusion of success.

**Euro area COVID cases are summed across all eurozone countries. Euro area projected GDP growth is a GDP-weighted average across all eurozone countries.

***EM COVID cases are summed across 26 EM countries, defined using the MSCI classification (excluding Taiwan, because data are not reported separately for Taiwan). EM projected GDP growth is a GDP-weighted average calculated using the same 26 EM countries.

Source: Research Affiliates, LLC, using data from OECD (2020), World Bank, International Monetary Fund, and Wikipedia.

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Governments of most major countries acted with unprecedented effort to resurrect their economies and to prevent their financial markets from collapsing. The economic stimulus packages used to provide economic support came in all shapes and forms and included direct payments to companies and individuals, tax deferral, loans, guarantees, and equity investments.

Summary of Country Fiscal Measures in Response to the COVID-19 Pandemic and the Resultant Projected Government Deficit, as of December 31, 2020 (USD billion)

Country	Above-the-Line Measures (Spending or Foregone Revenue) (a)	Liquidity Support (b)	Total (c = a + b)	2019 GDP (d)	Total Economic Stimulus as % of GDP (e = c/d)	Projected Gov't Budget Deficit FY 2020 as % of GDP (f)
US	$3,503	$510	$4,013	$21,430	18.7%	15.2%
Australia	218	24	243	1,397	17.4%	11.0%
Japan	782	1,428	2,210	5,082	43.5%	11.4%
France	198	405	603	2,716	22.2%	11.3%
Germany	418	1,054	1,472	3,861	38.1%	7.3%
Italy	127	663	790	2,004	39.4%	10.4%
Euro Area	990	2,517	3,099	10,484	29.6%	9.2%
Brazil	118	88	206	1,840	11.2%	12.1%
China	711	193	904	14,340	6.3%	4.7%
India	81	134	215	2,870	7.5%	7.0%
Indonesia	29	9	38	1,119	3.4%	6.3%
Mexico	7	14	21	1,269	1.6%	4.2%
Russia	42	22	63	1,700	3.7%	4.4%
Saudi Arabia	15	6	21	793	2.7%	12.0%
South Africa	16	12	28	351	8.1%	15.0%
South Korea	56	166	222	1,647	13.5%	3.2%
Turkey	8	64	72	761	9.4%	5.4%
EM (Select 10)	1,082	708	1,790	26,691	6.7%	5.8%
UK	441	437	877	2,829	31.0%	19.0%

Note: The euro area includes the 19 EU Countries. The numbers for the euro area are summed for all 19 EU countries. The projected government budget deficit for the euro area is the GDP-weighted average across the 19 EU countries. Column (a) reports the amount of direct fiscal spending (direct payments and tax relief). Column (b) shows the amount of government liquidity support (loans, guarantees, and asset purchases). Column (c) reports the sum value of total economic stimulus. Column (e) reports the size of the stimulus as a percentage of GDP. Column (f) reports the fiscal-year 2020 government deficit for the countries/regions. The 10 EM countries are those with the largest economies.

Source: Research Affiliates, LLC, based on data published by European Commission Directorate General, Federation of American Scientists, International Monetary Fund, ING Think Economic and Financial Analysis, Reuters, and Bloomberg.

The United States' fiscal stimulus in 2020 totaled $3.5 trillion, about 16% of 2019 GDP, three times more than the response to the 2008–2009 global financial crisis, when the stimulus program was roughly 5% of 2008 GDP (IMF, 2009). The 2020 stimulus took the form of direct payments to individuals, aid to hospitals, funding for medical research, tax relief to companies and individuals, aid to states and municipalities, and a wide array of arguably less-relevant programs. The US fiscal stimulus very nearly equals the total combined stimulus programs of the rest of the world. The $2 trillion CARES (Coronavirus Aid, Relief, and Economic Security) Act alone marked the largest emergency relief bill in US history. Including the liquidity support the US Federal Reserve Bank provided through quantitative easing, the total value of economic stimulus in the United States as of year-end 2020 approached 20% of GDP.

In Australia, the total value of the economic stimulus program was much smaller (A$243 billion, or US$218 billion) than the US program, but was of similar size (17.4%) relative to Australia's economy. Ironically, in 2019, the Australian government had just achieved its first balanced budget in a decade. After spending related to pandemic support, the projected Australian budget deficit for 2020 was 11% of the nation's GDP.

Japan's COVID-related stimulus package—overwhelmingly focused on monetary stimulus—amounted to 43.5% of its 2020 GDP, the highest of all countries and regions. The Japanese government strongly favored liquidity support over direct transfer payments to businesses and individuals (2-to-1 ratio). This major stimulus package, and Japan's ability as an island nation to keep the pandemic at bay, did not save the nation from a 5% slump in GDP.

Western European countries have allocated about US$3.1 trillion to a diversity of stimulus programs, about 23 times the inflation-adjusted value of the Marshall Plan after World War II.[3] The UK government's economic response to the COVID pandemic was massive, valued at about 31% of UK GDP—second only to Japan—sending its budget deficit forecast for fiscal-year 2020 to the most severe level, at 19% of GDP, of the nations we compare. As with Japan, the stimulus failed to avert a severe economic downturn.

Interestingly, across the 10 EM nations with the largest economies,[4] the GDP-weighted-average size of the stimulus relative to the combined economies of these nations is 6.7%, far lower than in the developed countries. As with the global financial crisis of 2008–2009 (Faruqee, Das, and Blanchard, 2010), the impact on GDP of COVID-crisis lockdowns has been milder in the EM nations.

Perhaps stimulus doesn't really stimulate?[5]

The tremendous shock to the global economy from the COVID-19 lockdowns resulted in dramatic declines in corporate earnings. The European, Australian, and UK corporate sectors suffered severe declines in earnings of 50%, 54%, and a staggering 88%, respectively. In the first quarter of 2021, these nations' COVID-related economic woes are far from resolved, continuing the global flight to safety and fueling a surge in prices of US fixed income and equities, giving further support to these asset classes beyond the US fiscal stimulus and the Fed's deep pockets.[6]

Equity Market Performance in the COVID-19 Crisis, 2020

	2020 Earnings Per Share Declines	Regional Index Performance		
		Market	Value	Growth
United States	-17%	21%	3%	38%
Developed Markets	-29%	17%	0%	28%
Australia	-54%	15%	13%	16%
Japan	-42%	14%	-3%	27%
Europe ex UK	-50%	14%	5%	21%
Emerging Markets	-28%	10%	-3%	21%
United Kingdom	-88%	-7%	-15%	4%

Note: We use Russell 1000, Russell 1000 Growth, and Russell 1000 Value as the representative indices for the United States. For other countries and regions, we report the simulated performance of the capitalization-weighted portfolios. The market portfolio consists of the largest stocks by market-cap: 1,000 stocks in each of the United States, Developed Markets, Europe ex UK, and Emerging Markets; 400 stocks each in Australia and Japan; and 100 stocks in the United Kingdom. Value consists of the top 50% of stocks, and growth consists of the bottom 50% of stocks (by count of the corresponding number of stocks for each region) by book-to-price rank.
Source: Research Affiliates, LLC, using data from Russell and Worldscope/Datastream.

The global flight to safety and the behemoth stimulus packages drove the US equity market to appreciate 21% in 2020. US growth stocks—especially tech companies, in many cases direct beneficiaries of the pandemic—did better still, appreciating 38%. Meanwhile, value stocks, which experienced slower growth and typically weaker profit margins, were harder hit by the COVID market shock and fared much worse (3%). Investors' high risk aversion to the economic uncertainty of the pandemic significantly weighed on value strategies around the globe, with the exception of Australia. The addition of Brexit uncertainty to the pandemic concerns fed strong negative returns in UK equities in general (−7%) and for value strategies (−15%).

... the Tough Get Going

The considerable stimulus packages and aggressive monetary policies of 2020 have led to further declines in discount rates around the world. Near-record-low interest rates meant that a record US$18 trillion in bonds globally sported negative yields as of December 2020 (Mullen and Ainger, 2020). The "TINA" (there is no alternative) narrative propelled US equities to very high valuations relative to historical levels. At a time when most fixed-income assets are priced to deliver anemic or negative yields and starkly negative real returns, and when US equities are very expensive, valuations are unsurprisingly elevated, far away from historical norms.

In the last nearly 60 years, the US equity market has only been more expensive than its current valuation, based on price-to-book ratio, one-sixth of the time; more expensive based on price-to-five-year average cash-flow ratio only 8% of the time; and more expensive based on price-to-five-year average sales ratio only 6% of the time. The majority of the developed equity markets, however, are not so expensive. Australian, European, Japanese, and EM equities are all trading within hailing distance of their historical medians of valuation based on price to book and price to cash flows, while Australian and European equities are in the most expensive quintile based on price to sales.

The UK equity market stands out as trading cheaper than our last named trade of the decade—the emerging markets. Among the major equity markets, at the end of 2020, UK stocks are trading in the cheapest quintile of their historical norms based on both price-to-book and price-to-five-year average cash-flow ratios, and in the bottom third, based on price-to-five-year average sales ratio.

Why is the UK market trading so cheap? First, following the global financial crisis, both European and UK equities lagged, shunned by investors in the wake of the debt crises in Greece and Italy. As the situation in Continental Europe normalized, the United Kingdom was hit by another shock—Brexit—which drove down UK equity valuations even before the COVID pandemic. The fact that the COVID pandemic hit the United Kingdom particularly hard was the last big link in the chain of events responsible for the UK's current cheap valuations.

"Most investors are transfixed by current events, but surprisingly few ask: 'Will these events matter much in five years?' "

Cheap valuations can mean either 1) an attractive buying opportunity because assets are temporarily depressed due to fear and high risk aversion or 2) a value trap in which the financial prospects of British companies could continue declining. If Brexit and the COVID lockdowns are the two main factors responsible for the troubled valuations, will they continue to dampen UK companies' operations and profits five years hence?

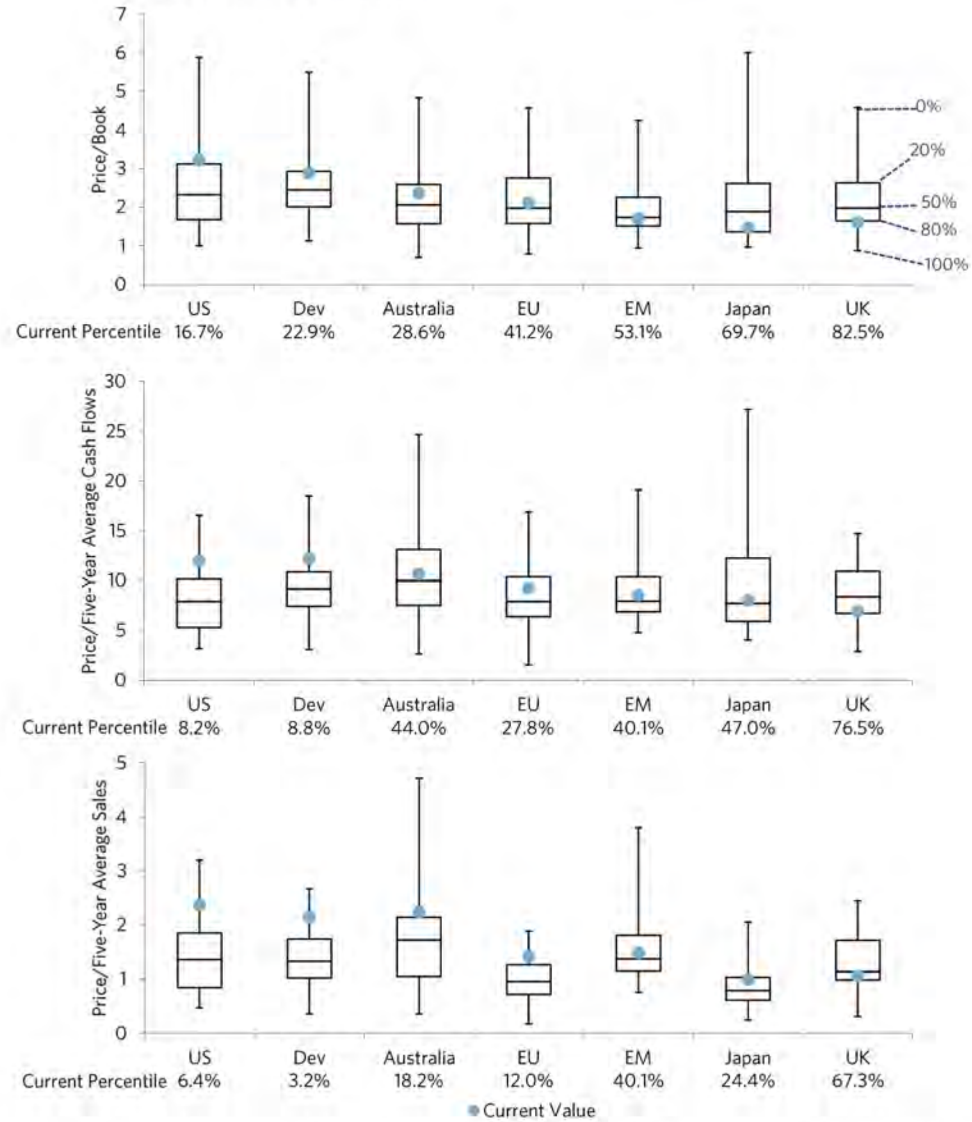
Vaccination, Brexit Deal, and Mean Reversion

The cause of the COVID-19 crisis is biological, and the exit from the crisis will also be biological. The world will emerge from the crisis when the global population achieves herd immunity, halting the ready transmission of the disease. Herd immunity can be achieved through immunization or in the old-fashioned way as people are exposed to COVID and either contract the disease or exhibit resistance.[7] Presumably, in the United States and Western Europe, which did not pursue the intrusive contact tracing, enforced quarantines, and closed borders of East Asia and Oceania, a decent share of the population has already been exposed. When most of the rest, the unexposed, have been immunized, the population should approach herd immunity or strong resistance to the virus.

The good news is that several vaccines have shown both safety and efficacy in building immunity against the SARS-CoV-2 virus, the COVID-19 pathogen. Creating the vaccines, producing many millions of doses, and administering those doses to the majority of the population in a short time period is a difficult scientific, industrial, and logistical challenge. That said, the United States alone distributes nearly 200 million flu vaccines each year (an estimated 198 million in the 2020–2021 flu season and 175 million in the previous flu season, according to the Centers for Disease Control and Prevention[8]). So, the challenge is manageable.

In contrast to the very expensive US equity market, the UK equity market is extremely cheap relative to its historical valuation median.

Valuations Relative to History of Major Equity Markets, as of December 31, 2020



Note: Valuations are based on year-end price-to-book ratio, price-to-five-year average cash-flow ratio, and price-to-five-year average sales ratio relative to historical levels. Historical period for the United States is 1962–2020; for the developed markets, United Kingdom, Japan, and Australia is 1982–2020; and for the EM markets is 1994–2020. The box plot shows the minimum and maximum values over the historical period as well as the first and fifth quintiles and the median.

Source: Research Affiliates, LLC, using data from CRSP/Compustat and Worldscope/Datastream.

How are the various countries coping with this vaccination challenge?

As of February 13, 2021, the United Kingdom is a clear leader in vaccination, having vaccinated 20.6% of its population with at least one vaccine dose.[9] The United States is second in the running among the large economies, with 10.7% of the population having received at least one vaccine dose by mid-February 2021, and well over 1 million people "getting the jab" every single day. Other countries, however, significantly lag behind. The European Union's progress has been deeply disappointing, with only about 3% of its citizens immunized thus far. Given that most vaccine doses were first delivered in January 2021, the United Kingdom clearly has one of the fastest rates of vaccination in the developed world. The end of the COVID threat is within sight in the UK, and the nation's rapid progress could be a real tailwind for its economy and equity market.

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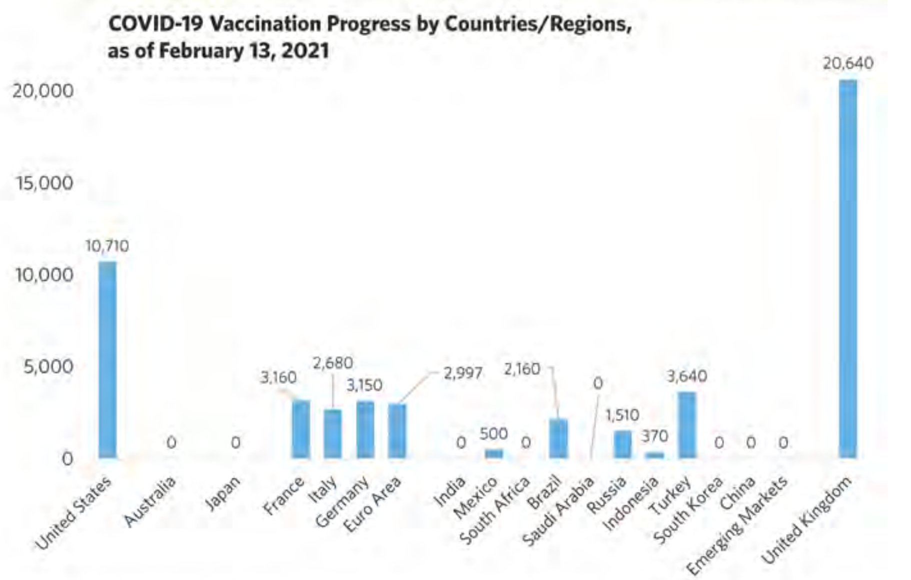


Note: Vaccinated population with at least one dose per 100,000. Euro area is the average for France, Italy, and Germany. Emerging markets is the average for the 10 EM nations in the chart.
Source: Research Affiliates, LLC, using data from https://ourworldindata.org/covid-vaccinations.

After the 2016 Brexit referendum, the UK equity market suffered significant headwinds. Uncertainty and fear on numerous fronts caused a decline in UK equity prices: What would be the impact of divorcing from the big and well-integrated European market? What would happen in a no-deal Brexit? How might the EU punish the UK (even if at a cost to its own businesses) to set a negative example to other nations wanting to exit the union? And what other unanticipated outcomes could unfold?

In the UK, 2020 was not all bad news. On the eve of 2021, the UK and the EU reached a long-awaited Brexit deal. The main terms of the deal are

- tariff-free and quota-free trade;
- continued cooperation on pension benefits and healthcare for mutual visitors; and
- continued cooperation and recognition of the mutual standards.

Are all Brexit-related perils over now for the UK economy? Not yet. It remains to be seen if the EU will opt for a trade war that would harm future growth for the region. The Brexit deal appears to reduce the likelihood of that scenario, and for each year that passes without new barriers to trade, we believe the prospects for continued free trade are quite good.

With the Brexit deal in place, much of the uncertainty around Britain's withdrawal from the EU single market and customs union is now resolved. Thus, the Armageddon scenarios envisioned by many on the "remain" side of the debate never materialized. Notably, however, services, which account for the majority of the UK economy, were not included in the final Brexit agreement. This omission is understandably viewed by many as a distinct negative to the Brexit process, particularly as it pertains to financial services.

But as the dust settles on the deal, many have come to believe the exclusion of the services industry will likely be a positive for the City of London. Yes, some jobs have been lost to EU financial hubs, such as Frankfurt, Paris, and Dublin, but not to the extent predicted by many. The trading of Swiss shares is also expected to recommence in London, replacing some of the capital outflows after Britain bowed out of the EU. Optimism now appears strong that the UK can rival global financial hubs such as Singapore and New York.

"The UK equity market stands out as trading cheaper than our last named trade of the decade—the emerging markets."

The UK's newfound independence from the European Union allows more flexibility in regulating various aspects of its economy. Just the simple example of the UK's faster rate of vaccination compared to its European neighbors signals that this new independence may reap benefits going forward.[10] Such independence of thought when it comes to economic direction and regulation can give the United Kingdom a tailwind in an ever-increasing globally competitive landscape.

Another positive aspect of Brexit is the UK's freedom to enter preferential trade agreements with other countries and trading blocs. The United Kingdom, on its own, should be more nimble than the EU, which has to agree terms on behalf of 27 different countries, each with its own sovereign process necessary to ratify any deal. Although some would argue the UK has had a slow start in sealing new trade deals, it will be applying to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a free-trade pact that represents a market of around 500 million people. The UK already has trade deals with 7 of the 11 nations that make up the CPTPP. The potential icing on the cake, however, would be the new Biden administration's decision for the United States to rejoin the CPTPP; the United States withdrew in January 2017. Should the United States not rejoin the trading partnership, a trade deal between the UK and the US is likely at the very top of UK Prime Minister Boris Johnson's to-do list.

Lastly, the UK's economy is one of the hardest hit by the coronavirus. The transitory nature of this crisis, as with most crises, suggests that the UK economy should be able to quickly bounce back. The tailwind of vaccination and the clarity around Brexit are responsible for projected UK growth rates in 2021 and 2022 of 4.2% and 4.1%, respectively, which only slightly lag behind the average projected growth rates of the EM economies (5.7% in 2021 and 4.2% in 2022).

Projected 2021 and 2022 GDP Growth by Countries/Regions

Country/Region	Projected Real GDP Growth Rates	
	2021	2022
United States	3.2%	3.5%
Australia	3.2%	3.1%
Japan	2.3%	1.5%
France	6.0%	3.3%
Italy	4.3%	3.2%
Germany	2.8%	3.3%
Euro Area*	**3.7%**	**3.3%**
India	7.9%	4.8%
Mexico	3.6%	3.4%
South Africa	3.1%	2.5%
Brazil	2.6%	2.2%
Saudi Arabia	3.2%	3.6%
Russia	2.8%	2.2%
Indonesia	4.0%	5.1%
Turkey	2.9%	3.2%
South Korea	2.8%	3.4%
China	8.0%	4.9%
EM**	**5.7%**	**4.2%**
United Kingdom	4.2%	4.1%

* Projected real GDP growth for the euro area is a GDP-weighted average (using 2019 GDP) across the 19 EU countries.

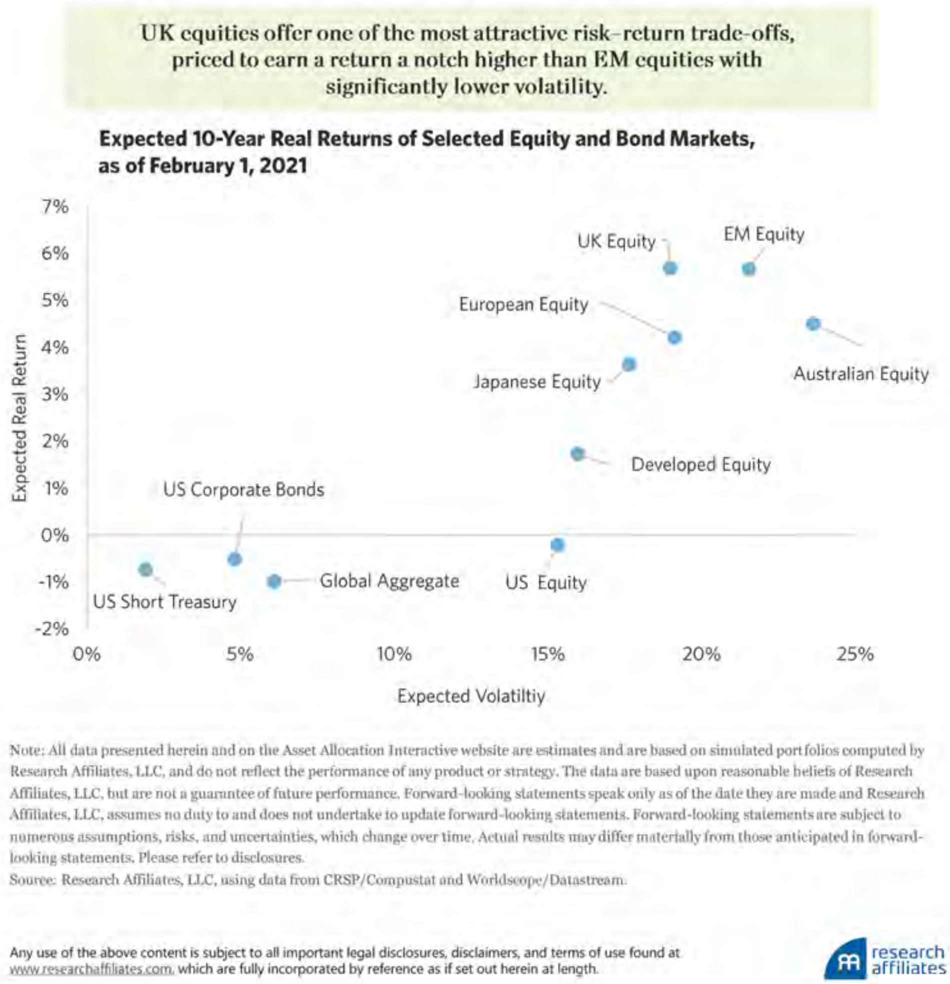
** Projected real GDP growth for EM nations is a GDP-weighted average (using 2019 GDP) across the 26 countries as defined using the MSCI classification (excluding Taiwan, because data are not reported separately for Taiwan).

Source: Research Affiliates, LLC using data from OECD (2020) and International Monetary Fund.

What does this mean in terms of potential return going forward?

Research Affiliates' Asset Allocation Interactive web tool uses a fairly simple building-block model that takes into account yield, growth in income, and changes in valuation multiples (or, for bonds, their spreads) to determine the expected long-term return of global asset classes. Most global asset classes, in particular the majority of fixed-income securities and US equities, are priced to deliver returns below the expected inflation rate, resulting in a negative real return. UK equities stand out as offering one of the most attractive risk–return trade-offs, priced to earn a return a notch higher than EM equities with significantly lower volatility.

> *"For current growth-to-value discounts to be 'fair,' [we must] assume roughly half of all value companies will go out of business over the course of the current recession. Obviously, this assumption is implausible."*



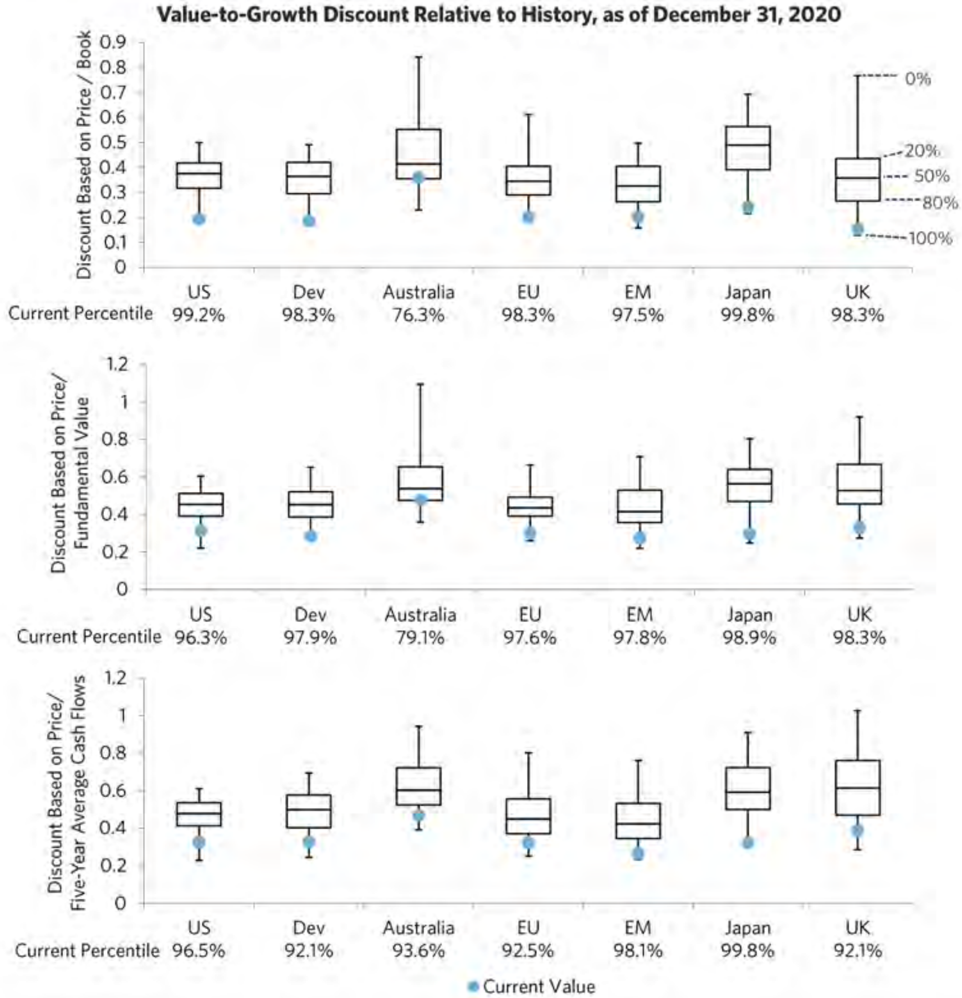
Value Around the Globe

UK equities are not the only segment of the market that performed poorly in recent years. US value stocks have lagged growth stocks for nearly 14 years, perhaps ending their drawdown in September 2020. The magnitude and length of the drawdown depends on which valuation measure we use to define value. If we use price to sales, the drawdown began in 2017, if we use price to earnings, it began in 2014, and if we use price to book (using the Fama–French methodology), it started in 2007 (see Arnott et al., 2021). In other regions, value stocks also experienced long and deep underperformance relative to growth. The UK equity market's underperfomance means it is now trading at relatively attractive valuation multiples. What about value?

Today, around the globe, value is trading at extremely deep discounts relative to growth. Except in Australia, value-to-growth discounts are wider than 95% of the respective country's or region's history, in some cases falling into the cheapest percentile of all available history. The discounts are wide no matter how we measure valuation: price to book or price to fundamental value (a composite measure that combines relative price to five-year average sales, five-year average cash flows, five-year average dividends, and the most recent book value).

No matter how we measure valuation, value-to-growth discounts are wider than 95% of the respective country's or region's history (excepting Australia). The tailwinds of Brexit and rapid COVID vaccination make the UK's low valuation especially attractive.

Value-to-Growth Discount Relative to History, as of December 31, 2020



Note: The value-to-growth discount is calculated as the ratio of the price-to-fundamentals ratio of the value portfolio to the corresponding ratio of the growth portfolio. We simulated the value and growth cap-weighted portfolios by defining value as the top 50% of stocks, and growth as the bottom 50% of stocks (by count of the corresponding number of stocks for each region) by book-to-price rank. The starting universe consists of the largest stocks by market-cap: 1,000 stocks in each of the United States, Developed Markets, Europe ex UK, and Emerging Markets; 400 stocks each in Australia and Japan; and 100 stocks in the United Kingdom. Value-to-growth discounts are based on year-end price-to-book ratio, year-end price-to-fundamental value ratio, and year-end price-to-five-year average cash-flow ratio relative to historical levels. Historical period for the United States is 1962–2020; for the developed markets, United Kingdom, Japan, and Australia is 1982–2020; and for the EM markets is 1994–2020. Fundamental value is a composite measure that combines relative price to five-year average sales, five-year average cash flows, five-year average dividends, and the most recent book value. The box plot shows the minimum and maximum values over the historical period as well as the first and fifth quintiles and the median.

Source: Research Affiliates, LLC, using data from CRSP/Compustat and Worldscope/Datastream.

Why are value stocks trading at such deep discounts? Value stocks represent more-cyclical sectors and are much more prone to economic shocks. Perhaps the deep discounts reflect the market's expectations for large declines in future profits and soaring bankruptcy risk for value companies. For the current discounts to be "fair" discounted cash-flow assumptions, however, it is necessary to assume that roughly half of all value companies will go out of business over the course of the current recession. Obviously, this assumption is implausible.

Over the last decade, retail participation in the equity market jumped markedly. The volume of retail trading rose from 10% in 2010 to about 15% in 2019 and soared to an average of 20% in 2020 (Osipovich, 2020). Many of these new retail investors entered the market only in the last decade and have never experienced the end of a long-lived bubble, such as the tech bubble's bursting 20 years ago.

The 2020 pandemic-related lockdowns contributed to the tremendous rise in retail participation, as workers suddenly found extra time in their day due to furloughs, layoffs, or simply not having to commute because they worked from home. Further feeding the frenzy of market trading was checking and savings account growth from stimulus payments and lower spending. Many of the new market participants are not investing, but seeking speculative gains and simply gambling, as places such as Las Vegas and Monte Carlo, not to mention sports betting, have largely shut down.

Value stocks are much less shiny and glamourous compared to market darlings like Tesla. In the current COVID-driven environment, the contrarian positioning of value stocks feels especially risky and scary. Extreme underpricing of value stocks relative to their fundamentals, combined with much greater retail participation in momentum trading, has sharpened the contrast between value and growth stocks. This heightened divergence is likely a more reasonable explanation for the current deep discount rates than is the expectation of the lower profitability of value companies. Going forward, undervalued value stocks should offer an attractive long-run source of return.

Conclusion

The long-running saga of Brexit and the more-recent drama of the COVID-19 lockdown crisis have combined to generate unique investment opportunities. In particular, UK equities are now trading at valuation levels comparable to EM equity markets. A major difference, however, is that the United Kingdom is a developed market with a sophisticated economy. The recently finalized Brexit deal means that UK businesses can operate with much less uncertainty. The Brexit deal also opens additional markets to UK firms.

An additional positive is that the United Kingdom is among the world's champions in leading the COVID-19 vaccination charge. The current low valuations of UK stocks, combined with the tailwinds of the Brexit deal and tremendous progress in vaccination, imply that UK stocks should be especially attractive going forward. Further compounding the investment opportunity of UK value stocks is that value investing in general has suffered significantly over the last nearly 14 years, trading today at bargain-basement multiples. Both UK and EM value stocks may prove to be the trades of the decade.

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Endnotes

1. Too many people exaggerate in their use of "trade of a century" or "trade of a lifetime." We are happy when we see a terrific opportunity every 5 or 10 years, allowing for one or two trade-of-a-decade opportunities in any decade.

2. We are referencing the FTSE RAFI EM Index. Over the same two-year period, the US cap-weighted index (S&P 500 Index) gained 46.3% and the developed cap-weighted index (MSCI World Index) earned 45.9%.

3. The Marshall Plan (or European Recovery Program), signed by US President Harry Truman in 1948, provided 16 nations of Western Europe with a broad spectrum of support programs including food, staples, fuel, and machinery. In total, the United States transferred over $12 billion (equivalent to $130 billion in 2019) in economic recovery aid to these Western European economies after the end of World War II.

4. Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea, and Turkey.

5. On December 27, 2020, the *Wall Street Journal* published a letter to the editor from Rob Arnott in which he addressed this very topic:

   > Words matter. In your editorial "Covid Political Relief" (Dec. 21) you write, "Please don't call this economic stimulus." That's exactly right. Where does the money for fiscal stimulus come from? Current taxpayers or future taxpayers. The largesse is then redirected to selected cohorts in society and used to create goods and services that the private sector often would have created in due course, sometimes faster and always more efficiently than the government can redistribute resources.
   >
   > Consumption is moved forward from the future; savings and investment are pushed back. Consumption feels good, but savings and investment fuel long-term growth. This is why the recovery from the global financial crisis of 2007-09 was so anemic, while the recovery after World War II was so explosive—federal spending tumbled from 45% of gross domestic product in 1946 to 11% in 1948.
   >
   > It's called stimulus for a reason. People who want to control the distribution of national treasure from the future to the present or from haves to have-nots—but all too often in the opposite direction, contrary to stated intent—would rather speak of "stimulus," a term with positive connotations, than "redistribution." Some redistribution is necessary and good, but most is neither. Either way, let's call it what it is.

6. There is a direct, but widely misunderstood, link between fiscal stimulus and corporate earnings. Stimulus can make its way into the economy directly, bolstering both savings and spending, which propel earnings higher. Alternatively, stimulus can make its way into the economy indirectly through the capital markets (Brightman, 2015).

7. Three "control groups" bear mention: the Diamond Princess cruise ship, the USS Theodore Roosevelt aircraft carrier, and the Manhattan subways. We can reasonably assume that nearly 100% of the population was exposed to COVID-19. In each case, comprehensive testing indicates that roughly 17–25% of the population contracted COVID-19 (Moriarty et al., 2020; Kasper et al., 2020; and Yang et al., 2020), which suggests that most of the world's population has some measure of resistance to the disease.

8. Source: https://www.cdc.gov/flu/prevent/vaccine-supply-distribution.htm

9. As of February 13, 2021, the only other developed country with a vaccination rate higher than the United Kingdom is Israel, a tiny country with the foresight to pay a premium to make a special arrangement with Pfizer/BioNTech. The nation received accelerated access in return for access to the anonymized detailed information of those vaccinated (Ben Zion, 2021). By February 13, Israel had already immunized 44.3% (see https://ourworldindata.org/vaccination-israel-impact and slide toggle to February 13) of its modest population with at least one dose.

10. Belonging to the European Union does not legally restrict any member state from taking its own path in its vaccination program. The member states chose to collaborate as one by appointing the European Commission to lead the bloc's vaccine strategy.

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THE NCPERS MONITOR

The Latest in Legislative News

February 2021

In This Issue

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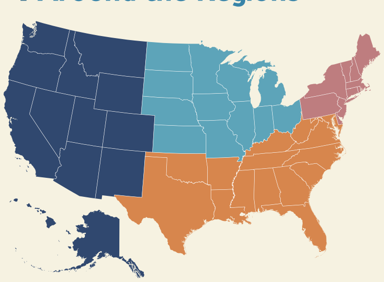
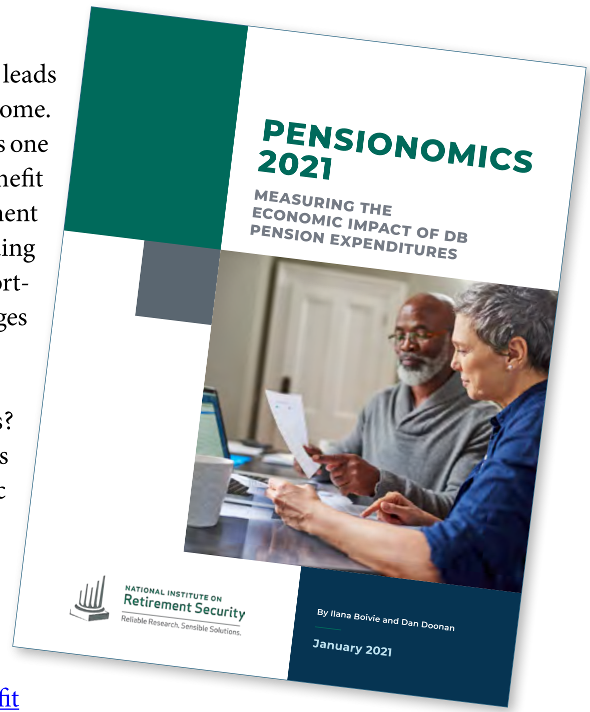
With the Senate fresh off a new power sharing agreement between the two parties and in rapid-fire succession set to consider President Biden's Covid-19 relief package.

Every year, NCPERS takes a comprehensive look at public sector retirement system practices—and every year, we learn something new.



This month, we will highlight Rhode Island, Kansas, Kentucky and California.

Public Pensions Provided $675 Billion in Economic Activity, NIRS Study Finds



In an open economy, extra income leads to spending, which creates more income. It's called the multiplier effect, and it's one of the superpowers of defined benefit pensions. By providing steady retirement income, pensions encourage the spending that helps communities thrive by supporting job creation, which in turn encourages spending. The ripples go on and on.

How big is the impact of DB plans? In 2018, spending of pension benefits generated $1.3 trillion in total economic output, supported nearly seven million jobs, and added $192 billion in government tax revenues at the federal, state and local levels. That is a key finding of Pensionomics 2021: Measuring the Economic Impact of Defined Benefit Pensions, published by the National Institute on Retirement Security (NIRS).

At a time of severe economic stress in the U.S., "retirees' spending of their pension income is critical for sustaining and stabilizing consumer spending, which supports millions of jobs across the nation," said Dan Doonan, NIRS executive director and the study's co-author. Retirees can rely upon the steady, predictable income from a DB plan. By contrast, retirees often hesitate to tap their 401(k) plan savings because their value varies, and can swing wildly during periods of upheaval.

Pension beneficiaries pay taxes directly on their pension benefits and on expenditures in the local economy, such as retail sales tax, and this props up state and local government tax revenue amid economic volatility. Beneficiaries also buy food, clothing and medicine locally and may be able to make bigger purchases such as cars, furniture and computers because their income is reliable.

CONTINUED ON PAGE 6

Federal Legislative Forecast for the 117th Congress

By Tony Roda

Photo illustration © 2021, adobestock.com

With the Senate fresh off a new power sharing agreement between the two parties and in rapid-fire succession set to consider President Biden's Covid-19 relief package and hold an unprecedented second impeachment trial of former President Trump, it is a good time to pause and get our bearings on which retirement-related proposals have a chance of approval in this Congress.

At the outset let me say that Congress is expected to spend considerable time on legislation to provide financial relief to private sector, collectively-bargained, multiemployer pension plans ("Taft-Hartley" plans). If this legislation is confined solely to Taft-Hartley plans, it would not affect state and local governmental plans. However, over the years the public pension community has watched the development of multiemployer legislation very closely to make sure that amendments to it are not harmful to our plans. While a Democratic-controlled Congress is unlikely to push for inclusion of reporting requirements under PEPTA, caps on discount rates, Roth mandates, or the imposition of the Unrelated Business Income Tax (UBIT) on plan assets, we will continue to be vigilant in opposing these measures.

Examining the waterfront of issues that the public plan community, in general, or a group of individual plans are advancing in Congress, three issues stand out for potential action – improvements to the HELPS provision, repeal or reform of the Windfall Elimination Provision (WEP), and an early age Medicare buy in for retired first responders.

Section 402(l) of the federal tax code, known as HELPS, allows retired public safety officers to exclude from gross income up to $3,000 per year from governmental retirement plan distributions, provided the monies are paid directly from the retirement plan to a health care or long-term care provider. There will be efforts to enhance this provision in the 117th Congress, including proposals to increase the annual exclusion amount (H.R. 4897, 116th Congress), index the exclusion amount in subsequent years, and repeal the direct payment requirement (H.R. 6436, 116th).

Second, the Social Security penalty known as WEP reduces your Social Security benefit if you earn a retirement benefit from non-Social Security covered employment (i.e., no FICA tax). Twenty five percent (25%) of all public employees are not covered by Social Security and may be impacted by the WEP penalty, which could result in receiving up to $5,555 less in their Social Security benefit each year.

Legislation was introduced in the 116th Congress to repeal WEP, S. 521, Sen. Sherrod Brown, and H.R. 141, Rep. Rodney Davis (R-IL). Legislation, S. 710, was also introduced by Sen. Pat Toomey (R-PA) to exempt public safety personnel with five years of service. Finally, separate legislation by House Ways and Means Chairman Richard Neal (D-MA) and Kevin Brady (R-TX) would provide rebates to those currently being hit by the WEP penalty and subject new Social Security recipients to a proportional formula. The bills introduced in the 116th Congress were H.R. 4540 (Neal) and H.R. 3934 (Brady). The bills include broad grandfather and

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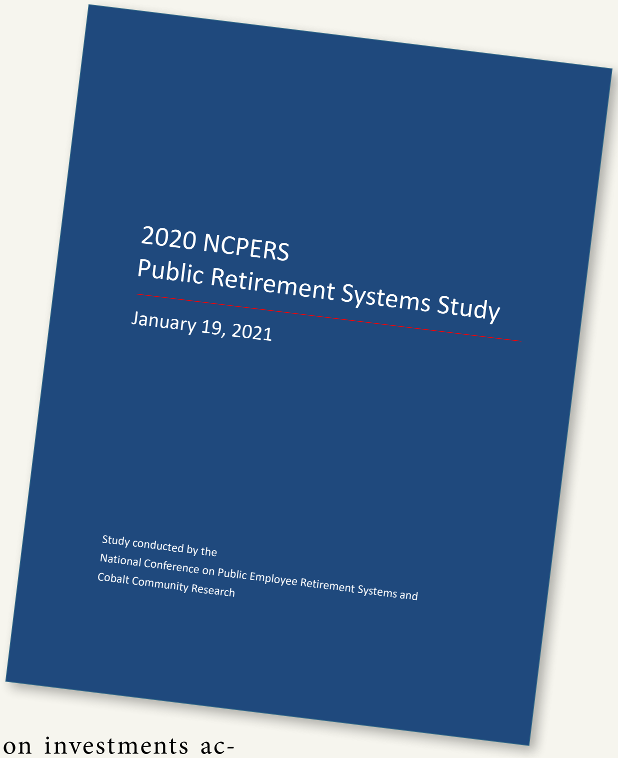
NCPERS Executive Directors Corner

PERS Study and Dashboard Offer Vital Benchmarks for Public Pension Systems



Every year, NCPERS takes a comprehensive look at public sector retirement system practices—and every year, we learn something new.

The 2020 NCPERS Public Retirement Systems Study, which we conducted between September and December, show that even before the disruption caused by the Covid-19 pandemic, public pension systems had taken a big leap forward. Keep in mind, by its nature the statistical information collected in this PERS study is backward-looking, covering the previous fiscal year. In most cases, that means calendar year 2019.

During that period, 58 percent of pension systems said their board members could participate and vote by phone or videoconference, up from 19 percent. About 54 percent of funds offered live web conferences to members, and 19 percent were considering it. The share of pension systems that had implemented enhanced online portals to allow members to access account information rose to 52 percent, from 47 percent a year earlier.

The 2020 NCPERS Public Retirement Systems Study, which we conducted between September and December, show that even before the disruption caused by the Covid-19 pandemic, public pension systems had taken a big leap forward.

Of course, we expect to see these numbers continue to grow as we enter Year 2 of the pandemic. But it is impressive to see the level of readiness that preceded the Covid-related shutdowns that began in March 2020.

Most findings are more incremental, as one would expect from pension systems that, by their nature, operate for the long term.

The 10th annual PERS study found, for example, that earnings on investments accounted for 71 percent of public retirement system revenues, up from 69 percent a year earlier. Employer contributions provided 20 percent, down from 22 percent, and employee contributions were steady at 9 percent.

The PERS study also found that the average funded level of public pensions reached 75.1 percent, up from 72.4 percent in 2019. While funded levels are not as important to pensions' sustainability as steady contributions are, the trend is positive.

Naturally, it's tricky to ascribe meaning to small shifts such as these, but the big picture is what's important. The PERS study data are a reminder that patient, long-term investing that reliably produce earnings are what truly differentiates public pensions from other retirement vehicles. Yes, employer and employee contributions matter, and when employers skip their contributions, trouble follows. But that 71 percent figure is a powerful reminder

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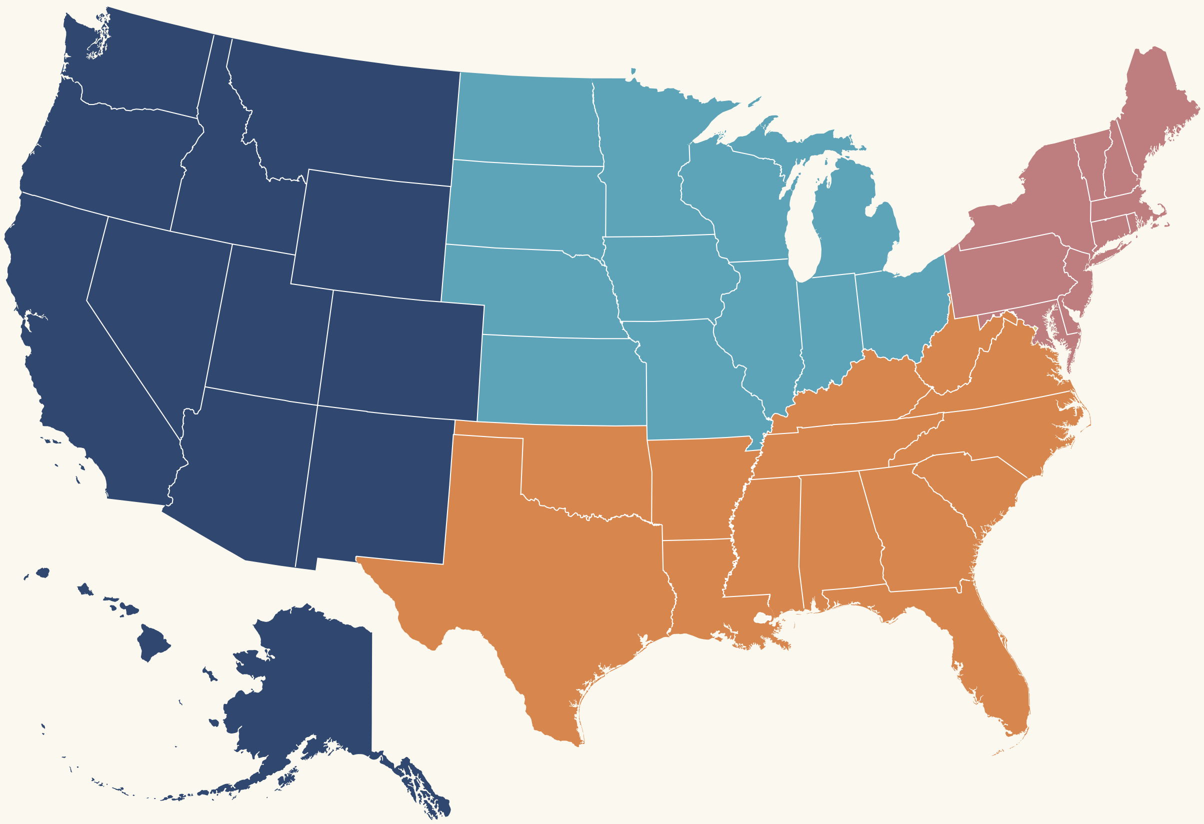
NCPERS Around the Regions

This month, we will highlight Rhode Island, Kansas, Kentucky and California.



NORTHEAST: Rhode Island

The State of Rhode Island is seeking to trim payroll costs in the wake of the Covid-19 pandemic by offering a voluntary retirement incentive: A one-time payment of up to $40,000 to state workers who are eligible to retire in 2021.

According to a memorandum distributed by the office of Brett Smiley, director of the Department of Administration, the state increased its incentive to help it "navigate the financial uncertainty associated with the pandemic and its long-term consequences."

The offer is open to participants in the Employee Retirement System of Rhode Island who were actively employed by the state as of on January 4, 2021, were in continuous employment for at least one year previous to that date, and are eligible for a full benefit retirement on or before December 31, 2020. Only those employees with a longevity amount calculated as a percentage additional to an employee's salary are covered by the voluntary retirement incentive.

The incentive is available only to those working for the executive branch, the legislature and the public defender's office. Correctional officers, sheriffs, state police and judges in the state retirement system are not eligible. Approximately 900 employees are eligible to retire, according to Department of Administration spokesman Robert Dulski told the *Providence Journal*.

Under the state's timetable, eligible workers who qualified for a 20 percent longevity bonus have until March 15 to submit notice of their intent to retire on or before April 15, 2021. Those with 17.5 percent and 15 percent longevity bonuses have until April 15 to signal their intent to retire by May 15. Others have until May 15 to submit paperwork to retire by June 15.

CONTINUED ON PAGE 8

NIRS STUDY CONTINUED FROM PAGE 1

The study found that in 2018, $578.7 billion in pension benefits were paid to 23.8 million retired Americans. Of this total, 53 percent, or $308.7 billion, was paid to approximately 11 million state and local government retirees and their beneficiaries. Their average benefit payment was $2,335 per month, or $28,019 per year.

Expenditures made out of all DB payments collectively supported 6.9 million American jobs that paid nearly $394.2 billion in labor income, the study found. DB pensions support $1.27 trillion in total economic activity, 53 percent of which, or $674.9 billion, is attributable to state and local pensions. The value added to the national economy, as measured by gross domestic product, equals $703.9 billion, and the 53 percent share attributable to public pensions equals $375.5 billion.

Each dollar paid out in pension benefits supported $2.19 in total economic output nationally. And each taxpayer dollar contributed to state and local pensions supported $8.80 in total output nationally. This represents the leverage created by long-term investment returns as well as the funding responsibilities met by employers and employees. The largest employment impacts occurred in the real estate, food services, healthcare, and retail trade sectors, the study found.

The study included detailed information on the economic impacts of public pension on a state-by-state basis according to measures that include employment, income and output, and tax impacts. ◆

EXECUTIVE DIRECTORS CORNER CONTINUED FROM PAGE 3

that earnings are pensions' jet fuel. A long investing horizon is what positions pensions to provide safe, reliable retirement income for millions of public servants. And a funding level that is moving up—and has now surpassed 75 percent—is a powerful rebuke to critics who question public pensions' sustainability.

The annual PERS study, based on responses from 138 state and local pension systems, with 12.8 million active and retired members and assets exceeding $1.5 trillion in actuarial and market value. They were roughly evenly split between statewide pension systems—51 percent—and local pension systems—49 percent.

Because it is packed with granular detail on the fiscal and operational integrity of public pensions, the PERS study is a dynamic tool for benchmarking and comparing practices of public pension systems. We will review how to use the study's dashboard and how you can refine data to your specifications at February 16 webinar at 1 p.m. Eastern Standard Time. Both the dashboard and the webinar are part of your membership value proposition; they are available at no fee to dues-paying members only. Members use the dashboard to build their own comparisons and peer groups in order to analyze their performance, assumptions, and expenses.

Some other takeaways include:

- The average investment assumed rate of return for responding funds was 7.26 percent, compared with 7.24 percent the previous year.
- The overall average expense for all respondents to administer the funds and to pay investment management fees was 60 basis points (0.6 percent). This was an increase from 55 basis points (0.55 percent) in the 2019 survey and on par with the level in the 2018 survey.
- Among pension systems that offered a cost-of-living adjustment (COLA) to members, the average in the most recent fiscal year was 1.7 percent, slightly higher than a year earlier. Many responding funds did not offer a COLA in the most recent fiscal year.
- Funds reported one-year returns averaging 8.1 percent, five-year returns of 6.8 percent annually, 10-year returns of 8.7 percent annually and 20-year returns of 6.3 percent annually. The 20-year returns fell below the assumed rate of return as the strong performance of the late 1990s began to roll off the average.
- In all, 52 percent of responding funds said they lowered their assumed rate of return, and 17 percent are considering this measure.
- Some 31 percent set higher benefit age and service requirements, and 4 percent are considering doing so.
- Thirty-four percent increased employee contributions, and 12 percent are considering this option.
- Just more than half of respondents—51 percent—excluded overtime pay from the benefit calculation in their most recent fiscal year, versus 55 percent a year earlier.

The PERS study is rich with detailed, relevant information. We hope you'll dig into the data and put it to work for you. And we hope to see you at the February 16 webinar. ◆

hold harmless protections to ensure that no one would put in a negative position by enactment of the new legislation.

Finally, our nation's first responders generally retire in their mid-fifties. That is well short of the Medicare eligibility age of 65. Given rising costs, state and local employers are finding it increasingly difficult to provide retiree health care. In the 116th Congress, Sen. Sherrod Brown (D-OH) and Rep. Tom Malinowski (D-NJ) introduced identical legislation, S. 2522 and H.R. 4527, respectively, which would allow retired first responders who have reached age 50 to buy into Medicare under the same terms as individuals who have reached the current eligibility age of 65. All facets of Medicare – Part A (hospital insurance), Part B (medical insurance), Part C (Medicare Advantage) and Part D (prescription drug coverage) – would be available. We expect the legislation to be reintroduced in this current Congress and for this proposal to be part of the debate on Medicare and health care reform.

In addition, Congress has been looking at a raft of other pieces of legislation that could bear on public pension plans, including Required Minimum Distributions (RMDs) and investments in infrastructure.

Federal tax law was changed through enactment of the SECURE Act at the end of 2019 to increase the age trigger for Required Minimum Distributions (RMDs) to 72 from the previous age of 70 ½. The RMD rules apply to Internal Revenue Code Section 401(a) plans, 401(k) plans, governmental 457(b) plans, 403(b) plans, and IRAs. RMDs do not apply to Roth accounts.

At the end of the 116th Congress, legislation was pending to increase the age trigger yet again. The House bill would have increased the age to 75 beginning in year 2021; the Senate bill would have moved the trigger to age 75 as well but not until 2029. In addition, the House legislation included an exception from the RMD rules for holders of small accounts, which was defined as aggregate defined contribution account holdings of less than $100,000.

On infrastructure, House Budget Committee Chairman John Yarmuth (D-KY) has been working on legislation that would create a National Infrastructure Development Bank, which would be financed through the sale of $75 billion worth of Rebuild America Bonds on the credit of the U.S. Treasury. Importantly for the public pension plan community, the bonds may be purchased only by pension plans – both plans governed by ERISA and governmental plans as defined by ERISA, which includes state and local governmental pension plans. The bonds will bear an interest rate of 200 basis points above the 30-year Treasury bond.

Also, some proponents of greater participation by public plans in infrastructure investing argue that it would be a benefit to plans to have full or partial ownership of the actual infrastructure asset and the revenue stream produced by that asset. They have identified a barrier in federal tax law to such acquisitions, namely whether public pension plans would meet the criteria for an instrumentality of one or more states or political subdivisions. Legislation may be introduced on this technical tax matter.

Please be assured that NCPERS will closely monitor the issues outlined in this article as well as new issues that arise. We will keep our members informed of significant developments. ◆

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

AROUND THE REGIONS CONTINUED FROM PAGE 4

MIDWEST: Kansas

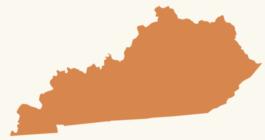
The newly appointed Kansas State Treasurer, Democrat Lynn Rogers, is expected to throw his support behind Governor Laura Kelly's push to refinance the Kansas Public Employee Retirement System, the *Kansas Reflector* reported.

Kelly, also a Democrat, has proposed unsuccessfully for two years to pay the next 12 years' worth pension over 25 years, but the plan has met with strong Republican opposition in the legislature. The Kansas Reflector quoted Rogers as warning that the legislature faces a difficult task if it does not refinance annual KPERS payments that are set to balloon by $300 million.

"If they don't want the governor or KPERS to reamortize, then they have to commit to funding the payments that are going to be escalating for the next few years," Rogers said. Kansas, like many states, is experiencing fiscal strains because of the pandemic.

Kelly tapped Rogers, who was formerly her lieutenant governor, to fill was treasurer's role after it was vacated by Jake LaTurner, a Republican who was elected to Congress in November. Rogers, a former banker, state senator, and Wichita Board of Education president, was sworn into office on January 4.

SOUTH: Kentucky



Pensions are expected to be on the agenda as Kentucky's General Assembly convenes for a legislative session that runs through March 30.

Under consideration: House Bill 258, proposed on January 13 by Rep. C. Ed Massey, a Republican. It would switch newly hired teachers to a hybrid pension plan, a step toward moving the defined benefit pension system over time toward a defined contribution plan. It would apply to educators who enter the Teachers Retirement System (TRS) after January 1, 2022.

Also on January 13, Massey also introduced House Bill 8, which would change the method for determining employers' contribution to amortize the unfunded actuarial accrued liability among employers in the KERS Non-Hazardous System. Currently employers contribute a percentage of their covered payroll; the proposed legislation would allocate a dollar contribution amount that is based on the percentage of the System's total actuarial accrued liability that is attributable to each employer's current and former employees.

In other news from the Bluegrass State, the Kentucky Retirement System has welcome a new chief investment officer, Steven Herbert. He arrives as the KRS is preparing to be split into three board systems. Effective April 1, one board will oversee the two separate plans for state employees and state police; the second will oversee county plans; and the third will oversee ongoing and administration and investment management of the entire system.

Chief Investment Officer reported that one of the first steps for Herbert will be to determine how to split up assets that previously belonged to a single trust. These assets include illiquid funds allocated among 70 private equity managers.

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AROUND THE REGIONS CONTINUED FROM PAGE 8

WEST: California

It was bound to happen. Advisors, sniffing opportunity, are looking for ways promote alternatives to the highly successful CalSavers program.

CalSavers establishes a way for employers who don't already offer retirement savings benefits to their workers to do so through a state-run program. Modeled on the SecureChoice model championed by NCPERS, CalSavers had enrolled 244,000 Californians by the end of 2020—68 percent of them in the last three months of the year, following the first registration deadline for the largest employers. Nearly 100,000 were already saving by the end of the year, and had amassed $28.4 million.

Along comes the California 401(k) Plan, which promotes itself as a pooled employer plan (PEP) sponsored by the 401(k) Plan Co.

Which is what, exactly?

It's a brand new (September 2020) private sector effort to leech whatever it can from a carefully vetted program run by professional investors. It is the brainchild of Thomas Frost, a graduate of St. Lawrence University, who notes in his biography that he was president of student government in 1997 and also graduated from "Kent, School" in Connecticut. We're pretty sure he means Kent School.

As Frost's LinkedIn page proclaims, "We are an aspirin for CFO and HR 401(k) Headaches. No really, we 'actually' solve the issues you are resigned that you have to do: Goodbye Audit, Goobdye 5500, Goodbye Notice requirements, 'Hello Best Interest!'"

Yes, Goobdye.

Frost continues: "As you can tell, I'm a pretty focused, but flexible and determined person. After all, in 2008 I was named the number one Advisor in California, 11th nationally, and today I advise to well over $50MM of 401(k) assets, so what you are reading is the capstone apex of my career."

Well, yes, if his last notable achievement was in 2008, we're pretty sure this is his career capstone. "All we can say to Tom Frost is Goobdye and Goobdluck," said Hank Kim, NCPERS executive director and chief counsel. ◆

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Calendar of Events 2021

February

NCPERS FALL Conference

February 2 -3, 2021
Virtual

March

NCPERS Accredited Fiduciary Program (NAF): Modules 1&2

March 2 – 5, 2021
Virtual

NCPERS Accredited Fiduciary Program (NAF): Modules 3&4

March 9 -12, 2021
Virtual

April

2021 Legislative Conference Webcast

April 20, 2021

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ARTICLE

As Duration Dies, Equities Rise

March 2021

Now, for ten years we've been on our own,
And moss grows fat on a rollin' stone
But that's not how it used to be.
– Don McLean in "American Pie"

Duration risk, as most investors know, is the risk associated with changes in interest rates. The longer the duration of the asset, the more affected it should be by changes in underlying rates. Duration risk is most often associated with fixed-rate bonds, but equities are also considered long-duration assets. Although opinions vary on how to properly calculate equity duration, a common approach is the inverse of the dividend yield. The dividend yield of the S&P 500 Index has hovered between 1.5% and 2.0% over the last few years, equating to a duration of between 50 and 67 years. This is an interesting factoid, but what does it have to do with anything?

Over the last few years, many in the industry, myself included, have discussed that equities were overvalued, justified by tightening yields and high price-to-earnings multiples. At the same time, others have used the equity risk premium (ERP), a comparison of equity and bond yields, as justification that US stocks, in particular, have actually been cheap. The story goes that stock investors are willing to accept a lower yield because the alternative—bonds—is also trading at a low yield.[1]

This explanation was recently used by Jerome Powell, Chairman of the Federal Reserve—"Admittedly (price-to-earnings multiples) are high…but that's maybe not as relevant in a world where we think the 10-year Treasury is going to be lower than it's been historically from a term perspective" (Cox, 2020)—and Professor Robert Shiller—"But with interest rates low and likely to stay there, equities will continue to look attractive, particularly when compared to bonds" (Shiller, Black, and Jivraj, 2020).

A comparison of the current value of bonds versus stocks within the context of the equity risk premium, coupled with potential US Federal Reserve policy direction, leads us to conclude that risk assets, such as equities and corporate bonds, may be poised for additional positive returns in the future.

Equity Risk Premium

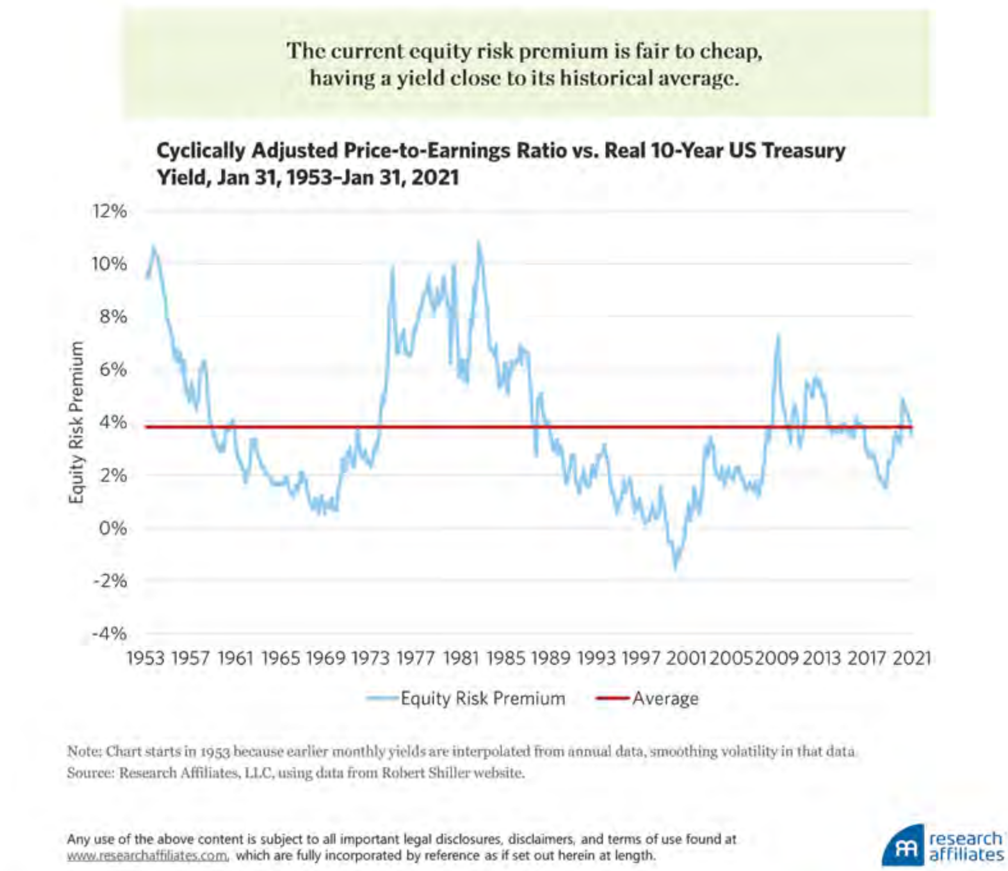
Compared to its own history, until very recently the equity risk premium has indeed been cheap, that is, it had a higher yield than its average over time. The ERP can be computed several ways. I borrow from Professor Shiller and use the inverse of the cyclically adjusted price-to-earnings ratio compared to the real 10-year US Treasury bond yield.[2]

AUTHOR

Jim Masturzo, CFA
Partner, Head of Asset Allocation

Key Points

- The equity risk premium, a comparison of equity and bond yields that is now close to its historical average, can be used as justification that US stocks are fairly valued or even cheap, the position recently taken by Jerome Powell, Chairman of the Federal Reserve.
- Although yields are at historically low levels, their recent upward tick appears to be the market's response to fear of the two-headed monster of slow growth and rising inflation, a circumstance that may likely cause the US Federal Reserve to adopt new policies.
- An examination of the policy options available to the Fed leads us to conclude that the central bank will strongly consider yield-curve targeting, which indicates US equities and bonds may be poised for additional positive returns in future.



Although the high equity risk premium is used as a justification for the fair, or even cheap, valuation of stocks, and therefore, for an outright long position in stocks, that interpretation is not entirely correct. Because the equity risk premium is based on the relative comparison of stocks to bonds, the appropriate trade is actually to go long equities and short long bonds (or overweight stocks and underweight long bonds relative to a neutral positioning).

This distinction is important because in an ERP view of the world, on an absolute basis, stocks can still be expensive because bonds are expensive. Suppose an investor uses her cash to only buy equities. If bond prices drop because bond yields rise, equity prices are also expected to drop as equity yields rise. Without the offsetting long bond position, the investor would still lose money, and probably not feel any better that bonds were the cause. Investors were facing this scenario in the last weeks of February.

The equity bull market of the last decade has, at least partially, been fueled by the reduction in both the level and the volatility of long interest rates.[3] As investors in short-volatility instruments and carry trades, which are inherently short vol, can attest, short-volatility bets can be highly profitable for a time, but can quickly blow up in your face. This is true unless additional information indicates the probability of a blow out in rates is even lower than it should be under normal circumstances.

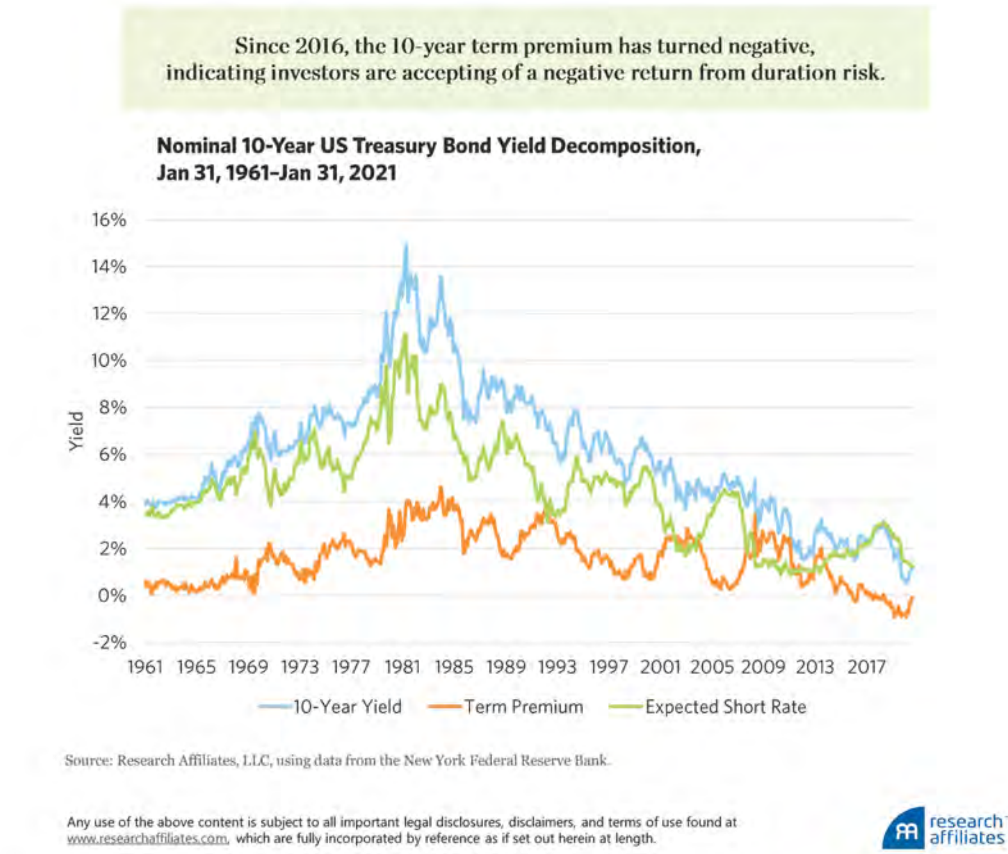
I believe such information exists. Before getting to that discussion, however, let's review the drivers of long-term rates in order to gain an appreciation for the current valuation of bonds. After all, if both the ERP and bonds are cheap, an investor's portfolio positioning becomes much more obvious.

Background on Long-Term Rates

Recalling basic investment theory, bond yields have two distinct drivers: the expectations hypothesis and the term premia. The former is simply the idea that long-term yields are determined by the expected path of short-term yields into the future.[4] In a world of zero yield uncertainty, an investor should be ambivalent between owning a long-term bond to maturity or buying and rolling over a series of short-term bonds.

In reality, future yields are uncertain and that uncertainty is captured in the term premia. Uncertainty in government bond yields is mostly related to future changes in monetary policy, whereas uncertainty in corporate bond yields also incorporates an element of counterparty, or default, risk.

Several models decompose bond yields into the two components of expectations hypothesis and term premia. Using the model of Adrian, Crump, and Moench (2013), we can plot these two components to gain a better understanding of the magnitude each has played historically in the 10-year US Treasury yield.



The majority of 10-year US Treasury bond yields have historically (back to 1961) been determined by the expected path of future short-term rates, with unforeseen circumstances usually adding 1% to 2% to the yield and thus compensating investors for taking duration risk. Since 2016, the 10-year Treasury term premium interestingly has turned negative, indicating investors have been willing to accept a negative return from duration risk. This acceptance indicates the richness of bonds as opposed to investing in and rolling over short-term instruments, and that the market has been expecting consistently lower nominal rates for some time. The market's expectation is not surprising given lower real trend economic growth, relatively low inflation, and low probability of inflation shocks.

Recently, the term premium has turned upward, but as of today remains in negative territory. The upward tick could be due to higher real economic growth or to expectations of rising inflation. Given the slow-growth starting point, it appears the market is fearful of the two-headed monster of slow growth and rising inflation, a circumstance that may likely cause the US Federal Reserve to adopt new policies.

Yield-Curve Targeting

Starting in 2008 and ending in 2014, the Fed expanded its balance sheet by engaging in a series of quantitative easing (QE) programs. The Fed reinstituted these programs in response to the COVID-19 crisis of 2020.

Given the market's and the public's familiarity, if not acceptance, of QE policies, the Fed may continue with these policies. If, however, bond yields continue to rise over the next few months, the Fed may need to curb the rise by transitioning to a new paradigm: yield-curve targeting. Both higher real rates and future inflation can be inhibitors of economic growth and full employment, and the Fed is keenly aware of both. Consequently, the probability of yield-curve targeting is rising even if the yield slope is not particularly steep. Today, the 10-year slope is near its 50-year average of 1.5%, but has risen 50 basis points (bps) over the last two months.

A key to understanding a possible change in direction is in understanding the subtle difference between the two types of programs. Quantitative easing focuses on investing a particular dollar amount and letting the market determine yields. In comparison, yield-curve targeting, or yield-curve controls (YCC), focuses on pegging to a particular yield, using whatever dollar amount is needed based on the market.

Forward guidance is another mechanism the Fed uses to signal future intent regarding short-term rates. Yield-curve targeting goes further, indicating target rates for longer-duration bonds and taking the direct market actions needed to defend those pegged values.

"If yields are pegged by the Fed, US equity prices should move higher. Existing US bondholders could also benefit."

Although unknown to many investors, yield-curve controls were adopted by the Fed in 1942 to help the US government finance World War II (Humpage, 2016). At that time the Treasury and the Fed agreed to cap short-term rates at 37½ bps and long-term rates at 250 bps.

Yield-curve targets have also been instituted internationally, including in Japan in 2016 and more recently in Australia in 2020. Even in January 2021, the European Central Bank (ECB) was getting in on the action by discussing their plans for YCC. The unique challenges to a monetary union of multiple countries may mean the ECB would need to focus on targeting spreads between countries as opposed to yield levels. Even if the Fed doesn't pursue an explicit yield-targeting policy, globally diversified investors should still be aware of these global developments by central banks.

Pros and Cons of Yield Targeting

Because yield-curve controls focus on the Fed's desired yield, the amount of balance sheet expansion can be relatively small or quite large. In contrast, as previously stated, a QE policy predetermines the amount of central bank buying. The key to successful YCC is the level of persuasiveness the central bank has in the market, not unlike the Fed's promise to backstop the credit markets by buying corporate debt. The market tended to believe a strong backstop was in place, so that Fed buying never needed to approach predefined limits.

Similarly, if the market is adequately convinced the Fed is willing and able to buy securities at the pre-specified rate, the market clearing price will be set at the target rate and private investors will pick up much of the load of transactions. This is similar to the experience in Japan, where the amount of buying by the Bank of Japan has been less under YCC than under its QE programs. If, however, the market does not believe the central bank has the firepower to maintain the peg, private buyers will not emerge, and the central bank will be forced to buy large amounts of securities.[5]

What might the key target rate be? To get an idea, let's look at the historical spread of 10-year Treasury maturities versus the short-term (three-month T-bill) rate over the period 1966 through January 2021. The median spread versus the short-term rate is 1.5%, close to the current level. If we assume the Fed will want to lower yields from where they currently are, but not want to cap rates at too low a level, a value between the current level and one standard deviation below the historical average seems fair. One standard deviation below the average is about 0.5%, meaning that halfway between that level and the current 1.5% is a potential 50 bp reduction from today's 10-year yield. From the current 10-year Treasury yield, a target of 1.0% would imply price appreciation of 4.0% assuming a duration of about 8 years and no convexity (the appendix provides the derivation of equity duration). Ergo, there may yet be a little skin on the bone for those investors currently holding Treasury bond positions.

Portfolio Positioning

From an absolute valuation perspective, equities are expensive when looking at a variety of different valuation multiples; on a relative basis, however, the equity risk premium is still cheap to fairly valued. By taking an overweight position in equities along with an underweight in Treasury bonds, an investor can extract the ERP, but does so by making an explicit short bet on rate volatility. As most investors know, short volatility bets are prone to crashes—unless investors are aware of unpriced information that indicates rates will stay low. The market's focus on slow growth with potentially higher inflation, coupled with the Fed's desire to encourage growth and employment, indicates a potential for yield-curve targeting in the US market. YCC are already underway in many developed countries.

> *"From the current 10-year Treasury yield, a target of 1.0% would imply price appreciation of 4.0%."*

If yields are pegged by the Fed, US equity prices should move higher. Existing US bondholders could benefit as well because historical precedent suggests a potential 10-year pegged rate 50 bps below today's yield. Should the 10-year Treasury yield hit that lower rate, continuing to hold bonds likely only provides modest yield without opportunity for capital gains. In addition to equities, other risk assets such as investment-grade and high-yield credit, currently trading at compressed spreads, should also benefit, as should gold and other commodities due to tumbling real yields and dollar weakening.

Appendix: Derivation of Equity Duration

Duration captures the percentage change in a security's price per arithmetic change in rates. To calculate the duration of an equity security, we start with the Gordon Growth Model and take a derivative with respect to rates, *r*,

$$P = \frac{D}{r-g}$$

$$\frac{dP}{dr} = -1 \times \frac{D}{(r-g)^{-2}}$$

Dividing both sides of the equation by 1 over the price and simplifying shows that duration is equal to 1 over *r* minus growth, as follows:

$$\frac{dP}{dr} \times \frac{1}{P} = -1 \times \frac{D}{(r-g)^{-2}} \times \frac{1}{P}$$

$$\frac{\frac{dp}{P}}{dr} = \frac{-D}{(r-g)^{-2}} \times \frac{r-g}{D}$$

$$\text{Duration} = -1\,\frac{1}{(r-g)}$$

For convention purposes, the −1 is dropped because duration is usually stated as a positive number. The −1 is important, however, because it indicates that the relationship between yield change and price is negative. Thus, when we calculate a price change due to a change in rates, the duration is then multiplied by −1,

$$\text{Duration} = \frac{P}{D}$$

Endnotes

1. The comparison of stock and bond yields is often referred to as the Fed model, and compares equity yields to nominal bond yields. We prefer to compare equity yields to real bond yields (i.e., net of inflation).

2. Equities have a long duration, so the argument could be made that the 30-year US Treasury bond may be a more appropriate comparison. The US Treasury did not start issuing 30-year bonds until the 1960s, thus we use the 10-year US Treasury bond to provide a longer history.

3. The level of bond yields and the volatility of bond yields have been highly correlated in the past.

4. The expectations hypothesis is based on extracting forward rates from the current yield curve to determine the future path of interest rates.

5. Inflation may be one reason investors would not be convinced. If investors think the capital injection will fire up inflation, they will in turn be wary of the Fed's ability to maintain a pegged rate. As investors consider how to position their portfolios in an era of YCC, a perspective on inflation is a key consideration.

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