

AGENDA

BOARD OF RETIREMENT

Stanislaus County Chambers - Basement Level

1010 10th Street Modesto, CA 95354

September 17, 2020

10:00 a.m.

The Board of Retirement welcomes you to its meetings, which are regularly held on the fourth Tuesday of each month. Your interest is encouraged and appreciated.

CONSENT/ACTION ITEMS: Consent matters include routine administrative actions and are identified under the Consent Items heading. All other items are considered to be action items "Action" means that the Board may dispose of any item by any action, including but not limited to the following acts: approve, disapprove, authorize, modify, defer, table, take no action, or receive and file.

BOARD AGENDAS & MINUTES: Board agendas, minutes and copies of items to be considered by the Board of Retirement are customarily posted on the Internet by Friday afternoon preceding a meeting at the following website: www.stancera.org.

AUDIO/VIDEO: All Board of Retirement regular meetings are audio and visually recorded. Audio/Video recordings of the meetings are available after the meetings at <http://www.stancera.org/agenda>.

NOTICE REGARDING NON-ENGLISH SPEAKERS: Board of Retirement meetings are conducted in English and translation to other languages is not provided. Please make arrangements for an interpreter if necessary.

Pursuant to California Governor Gavin Newsom's Executive Order N-29-20, The Board of Retirement ("StanCERA") is authorized to hold public meetings via teleconference and to make public meetings accessible telephonically or otherwise electronically to all members of the public who wish to participate and to provide public comment to the local legislative body during the current health emergency. We are unable to safely distance ourselves due to the COVID-19 Pandemic guidelines in our own boardroom. StanCERA's offices are currently closed to public access. The location of the meeting will be moved to Stanislaus County Chambers - Basement Level 1010 10th Street Modesto, CA 95354. This location is being utilized for some or all Trustees and Staff who will be attending in person. All other Trustees, Staff and Consultants unable to attend in person will be attending remotely via teleconference.

If you wish to make either a general public comment or to comment on a specific agenda item in writing, please submit your comment (if your comment pertains to a specific agenda item, please include the agenda item number in the subject line) via email or fax prior to the meeting. Written comments regarding StanCERA's agenda items can be submitted by 4:30 p.m. on the day before the board meetings via email to Gomesk@Stancera.org or via fax to 209-558-4976. Pursuant to Government Code section 54954.3(a), Public Comment or public comment on an Agenda Item are limited to (400 words or less).

The public will not be granted access to Board of Supervisors Chambers to attend StanCERA's meeting. If you wish to join the meeting by teleconference as a member of the public and listen to the meeting, then please dial in using your phone and call **209-689-0007 Access Code: 414752**. When directed to do so please press 5* on your phone to alert the Chair you wish to a public comment. Pursuant to Government Code section 54954.3(a), Public Comment or public comment on an Agenda Item are limited to three (3) minutes StanCERA will provide its best effort to fulfill the request.

In compliance with the Americans with Disabilities Act, a person requiring an accommodation, auxiliary aid, or service to participate in this meeting should contact StanCERA at (209) 525-6393, as far in advance as possible but no later than 48 hours before the scheduled event.

Agendas and Minutes are on our website at www.stancera.org.

1. Call Meeting to Order
2. Pledge of Allegiance
3. Roll Call
4. Announcements
5. Public Comment
6. Consent Items
 - a. Approval of the August 20, 2020 Meeting Minutes [View](#)
 - b. Information Technology Solutions (ITS) Project Update [View](#)
 - c. Approval of Service Retirement(s) – Government Code Sections 31499.14, 31670, 31662.2 & 31810
 1. Amps, Lisa – Superior Court – Effective 09-12-20
 2. Brown, Cory – Sheriff – Effective 09-18-20
 3. Cardona, Cecilia – Superior Court – Effective 09-12-20
 4. Carlsen, Stacy – Agriculture – Effective 09-04-20
 5. De La Cerda, Charles – BHRS – Effective 09-16-20
 6. Farriester, Lillie – Environmental Resources – Effective 09-12-20
 7. Ferrera, James – HSA – Effective 09-26-20
 8. Gomez, Gloria – Superior Court – Effective 09-12-20
 9. Jacobson, Steven – District Attorney – Effective 08-15-20
 10. Jones, Sandra – Superior Court – Effective 09-12-20
 11. Locke, Denise – Probation – Effective 09-22-20
 12. Middleton, Margaret – Superior Court – Effective 09-12-20
 13. Nand, Vishwa, ITC – Effective 09-05-20
 14. Paine, Danielle – Public Guardian – Effective 09-01-20
 15. Palmer, Lynne – Superior Court – Effective 09-12-20
 16. Ramirez, Jr., Joe – Sheriff – Effective 07-31-20
 17. Ramirez, Veronica – Superior Court – Effective 09-30-20
 18. Ramos, Oscar – BHRS – Effective 09-16-20
 19. Robinson, Craig – Probation – Effective 09-12-20
 20. Sohl, Carrie – Superior Court – Effective 09-22-20
 21. Switzer, David – Sheriff – Effective 02-12-20
 - d. Approval of Deferred Retirement(s) – Government Code Section 31700
 1. Gonzales, Maria Lucia – CSA – Effective 06-05-20
 - e. Application of Death Benefit – Government Code Section 31781, 31781.1, 31781.3
 1. Berryhill, Thomas – BOS – Non-Service Connected – Effective 08-29-20 – Active Member
 2. Stacy Tolbert – HSA – Non-Service Connected – Effective 09.05.20 – Active Member
 - f. Application for Disability Retirement – Government Code Section 31724
 1. Webster, Noah – Parks & Recreation – Service-Connected – Effective 08-07-19

7. NEPC – Investment Consultant

- a. July Flash Report [View](#)
- b. Key Market Themes and Asset Class Assumptions [View](#)

8. Investment

- a. Investment Matrix [View](#)

9. Administrative

- a. Implementation of the Alameda Supreme Court Update

10. Closed Session

- a. Conference with Legal Counsel – Pending Litigation – One Case:
O’Neal et al v. Stanislaus County Employees’ Retirement Association
Stanislaus County Superior Court Case No. 648469
Government Code Section 54956.9(d)(1)
- b. Conference with Legal Counsel – Pending Litigation – One Case:
Stanislaus County Employees’ Retirement Association v. Buck Consultants,
LLC, Mediation Pursuant to Evidence Code Sections 1115, 1119, 1152
Government Code Section 54956.9d)(4)
- c. Application for Disability Retirement – Government Code Section 31724
1. Williams, Cynthia – Parks and Recreation – Service-Connected – Application filed 07-10-2018

11. Members’ Forum (Information and Future Agenda Requests Only)

12. Adjournment

BOARD OF RETIREMENT MINUTES
August 20, 2020[Return to Agenda](#)1. Call Meeting to Order

Meeting called to order 10:00am by Trustee O'Neal, Chair

2. Pledge of Allegiance3. Roll Call**Trustees Present:**

Michael O'Neal, Jim DeMartini, Donna Riley, Jeff Mangar, Darin Gharat, Mike Lynch, and, Jonathan Goulding, Alternate Retiree Representative

Trustees Present by Conference Call Jeff Grover, Mandip Dhillon, Joshua Clayton

Trustees Absent: Rhonda Biesemeier, Alternate Retiree Representative,

Staff Present:

Rick Santos, Executive Director

Stan Conwell, Retirement Investment Officer

Lisa Fraser, Benefits Manager

Kellie Gomes, Executive Board Assistant

Fred Silva, General Legal Counsel

Others Present by Conference Call:

Natalie Davis, Fiscal Services Manager

Daniel Hennessy, NEPC Investment Consultant

Sam Austin, NEPC Investment Consultant

4. Announcements

Trustee O'Neal had the following announcements:

Due to the COVID-19 Pandemic, StanCERA's offices are currently closed to public access. We are meeting today in the Stanislaus County Board of Supervisors Chambers to accommodate 6ft spacing for this meeting. If you are joining the meeting today by teleconference as a member of the public your phone will be muted. If you would like to comment on an item today please email your comments to gomesk@stancera.org or fax them to 209 558-4976. Today's agenda was posted with the same information and allowed for public comments to be sent ahead of today's meeting as well. We will make every effort to read all comments received during our meeting today if we are unable to present your public comment today it will be ajenized and presented at our next meeting.

5. Public Comment

None

6. Consent Items

a. Approval of the July 30, 2020 Meeting Minutes

b. Information Technology Solutions (ITS) Project Update

c. Approval of Service Retirement(s) – Government Code Sections 31499.14, 31670, 31662.2 & 31810

1. Bardney, Yulonda – HSA – Effective 08-08-20
2. Berg, Kimberley – BHRS – Effective 08-29-20
3. Carlson, Debra – DCSS – Effective 08-14-20
4. Cooper, Cathleen – DCSS – Effective 08-04-20
5. Davis, Tamara – CSA – Effective 08-08-20
6. Fjellstrom, Jackie – CSA – Effective 08-15-20
7. Meredith, Becky – CEO – Effective 08-08-20
8. Nuno, Marcelino – Sheriff – Effective 08-10-20
9. Olvera, Juanita – HSA – Effective 08-15-20
10. Perry, Mark - Sheriff – Effective 08-12-20
11. Pugh, Susan – Superior Court – Effective 08-29-20
12. Romero-Rivas, Sandra – CSA – Effective 08-05-20
13. Sackman, David - CSA– Effective 07-04-20
14. Seymour, Lawrence – Sheriff – Effective 08-15-20
15. Silveira, Margaret – Planning – Effective 08-01-20
16. Sutton, Brian – Animal Services – Effective 08-28-20
17. Thomason, Rebecca – DCSS – Effective 07-24-20
18. Willmon, Clarence – Assessor – Effective 08-04-20

d. Approval of Deferred Retirement(s) – Government Code Section 31700

1. Casillas, Kathleen – CSA – Effective 07-24-20
2. Contreras, Jorge – BHRS - Effective 01-03-20
3. De La Cruz, Maria del Carmen – CSA - Effective 05-18-20
4. Jones, Matthew – Superior Court – Effective 07-17-20

e. Application of Death Benefit – Government Code Section 31781, 31781.1, 31781.3

1. Pemberton, Carol – Alliance WorkNet – Non-Service Connected – Effective 07.23.20 – Active Member

f. Investment Matrix

Motion was made by Trustee DeMartini and seconded by Trustee Gharat to accept the consent items as presented

Roll Call Vote was as follows:

Michael O'Neal,	YES
Jim DeMartini,	YES
Donna Riley,	YES
Jeff Mangar,	YES
Darin Gharat,	YES
Mike Lynch,	YES
Joshua Clayton	YES
Jeff Grover,	YES
Mandip Dhillon	YES

Motion carried unanimously

7. Administrative

- a. Discussion regarding implementation of the Alameda California Supreme Court Decision
- b. SACRS
Appointment of Two Voting Delegates re: State Association of County Retirement Systems (SACRS) Virtual Election Ballot and Provide Direction to Voting Delegates re: State Association of County Retirement Systems (SACRS) Election Ballot.

Motion was made by Trustee Lynch and seconded by Trustee O'Neal to appoint Jeff Mangar as the voting proxy and Darin Gharat as alternate proxy and support the committee's ballot recommendation.

Roll Call Vote was as follows:

Michael O'Neal,	YES
Jim DeMartini,	YES
Donna Riley,	YES
Jeff Mangar,	YES
Darin Gharat,	YES
Mike Lynch,	YES
Joshua Clayton	YES
Jeff Grover,	YES
Mandip Dhillon	YES

Motion carried unanimously

8. NEPC – Investment Consultant

- a. Survey Results and Work Plan
- b. Quarter 2 Investment Report as of June 30, 2020
- c. July Flash Report

9. Committee Reports and Recommendations for Action

- a. Discussion regarding Compensation Committee (PRCC) for Executive Director, Rick Santos

Motion was made by Trustee Gharat and seconded by Trustee DeMartini to accept the item as presented and support the 5% percent increase effective November 19, 2021 and approve the attached Resolution 2020-01. The resolution authorizes the Stanislaus County Board of Supervisors to act on the behalf of the StanCERA Board of Retirement to administer COLA's and Across the Board salary adjustments as they do for other county managers while the Board of Retirement will reserve the right to administer these types of salary adjustments for the Executive Director in the future should the need arise.

Roll Call Vote was as follows:

Michael O'Neal,	YES
Jim DeMartini,	YES
Donna Riley,	YES
Jeff Mangar,	YES
Darin Gharat,	YES
Mike Lynch,	YES

Joshua Clayton YES
Jeff Grover, YES
Mandip Dhillon YES
Motion carried unanimously

b. Internal Governance Committee – Annual Audit Entry Report

10. Investment

None

11. Closed Session

a. Conference with Legal Counsel – Pending Litigation – One Case:
O'Neal et al v. Stanislaus County Employees' Retirement Association
Stanislaus County Superior Court Case No. 648469
Government Code Section 54956.9(d)(1)

b. Conference with Legal Counsel – Pending Litigation – One Case:
Stanislaus County Employees' Retirement Association v. Buck Consultants,
LLC, Mediation Pursuant to Evidence Code Sections 1115, 1119, 1152
Government Code Section 54956.9d)(4)

c. Executive Director's Annual Review Public Employment Government Code Section 54957(b)

No Closed Session was Held

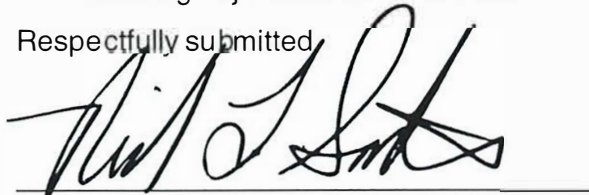
12. Members' Forum (Information and Future Agenda Requests Only)

Director, Rick Santos announced the New Pension Administration System will go live on September 14th, 2020

13. Adjournment

Meeting adjourned at 11:40 a.m.

Respectfully submitted,



Rick Santos, Executive Director

APPROVED AS TO FORM

By 
Fred Silva, GENERAL LEGAL COUNSEL

September 17, 2020

Retirement Board Agenda Item

[Return to Agenda](#)

TO: Retirement Board

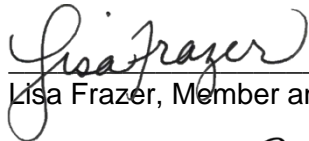
FROM: Jamie Borba, Member and Employer Services Specialist

- I. SUBJECT: Information Technology Solutions (ITS) Project
- II. ITEM NUMBER: 6.b.
- III. ITEM TYPE: Information Only
- IV. STAFF RECOMMENDATION: None
- V. ANALYSIS: The Pension Administration System (PAS) is scheduled to go live this month. Staff and the project team are optimistic, anticipating a smooth transition from our current Tyler system to the new Arrivos system.

Testing has been completed on the Release 22 migration, in preparation for go-live. Staff is currently parallel testing active work Pension Administration System. In doing so, this allows for adjustments to be made in Arrivos, as needed, and for staff to familiarize themselves with the PAS in addition to their scheduled training.
- VI. RISK: None
- VII. STRATEGIC PLAN: Strategic Objective II: Successful implementation/completion of the Pension Administration System (PAS).
- VIII. ADMINISTRATIVE BUDGET IMPACT: None



Jamie Borba, Member and Employer Services Specialist



Lisa Frazer, Member and Employer Services Manager



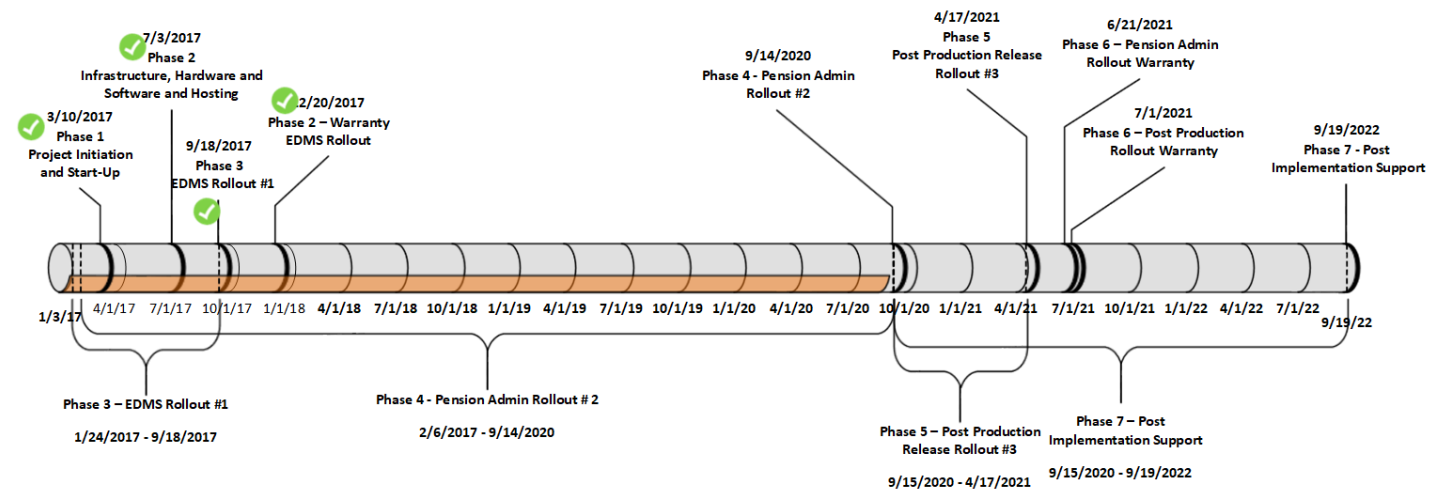
Rick Santos, Executive Director



PAS IMPLEMENTATION LINEA BI-WEEKLY STATUS UPDATE



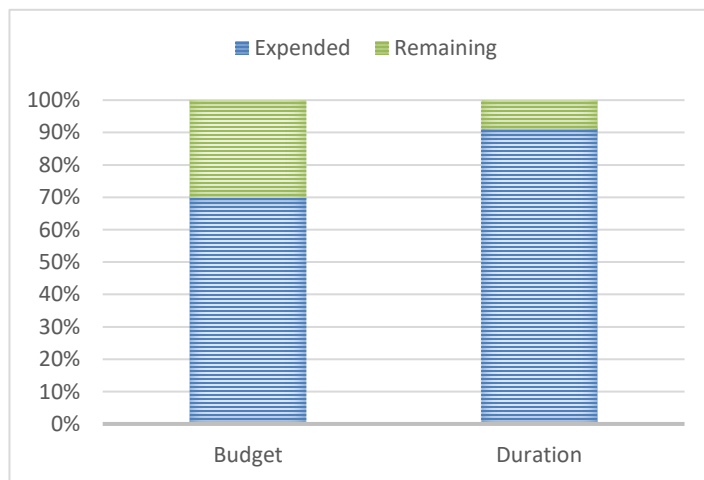
SPONSOR: Rick Santos **REPORT DATE:** 08-21-2020



Baseline 12/01/2016

STATUS

Risks & Issues:



Linea Budget as of 07/31/2020

StanCERA, Linea Solutions, and Tegrit continue to work remotely due to the pandemic in preparation for a remote go-live targeted for September 14, 2020. Project status remains green during go-live preparations and development of new functionality.

Risks to project communication and coordination are low as teams have adapted to remote work. Other known project risks continue to be evaluated by the project team, including:

- Staff Training / Operational Readiness
- Logistics of Remote Go-Live

Accomplishments:

Upcoming:

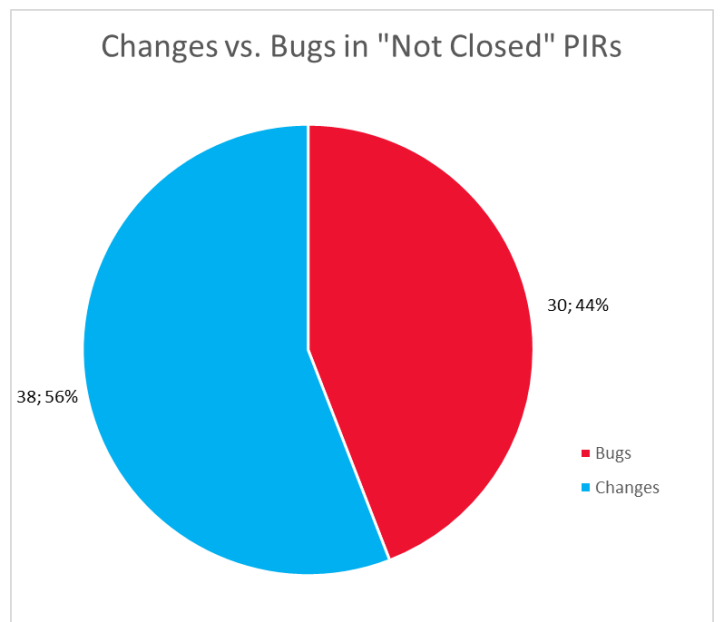
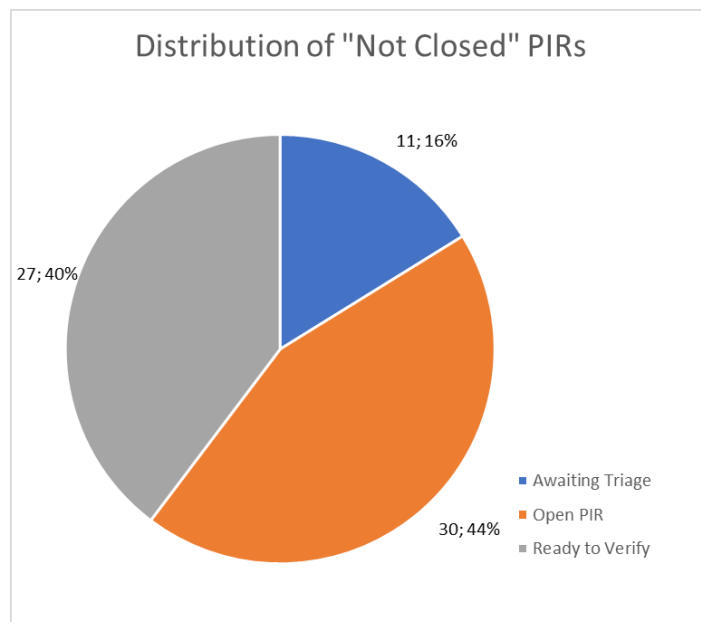
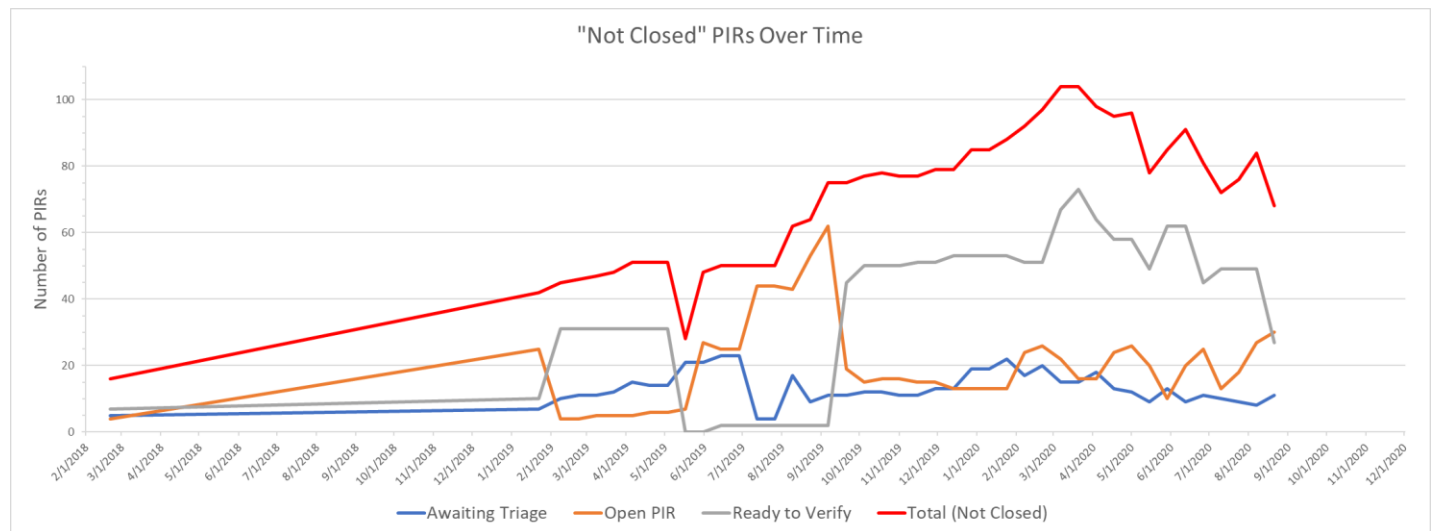
- StanCERA continued staff training activities.
- StanCERA met to discuss, demonstrate, and refine the Arrivos payroll process roles and responsibilities.
- Linea continued work on creation of process workaround documents, additional PIR retesting scripts, and support process documentation.

- Continued staff training activities.
- Tegrit to make final release to UAT prior to go-live, including new functionality and resolved PIRs.
- Evaluation of work transitioning between systems and development of final cutover plans.

Ongoing Project Contributions

- Facilitate weekly Project Manager's meetings and create meeting minutes.
- Facilitate monthly Steering Committee Meetings and create meeting minutes.
- Participate in Tegrit work sessions, review meeting minutes, and compile resulting decision logs and action items.
- Regularly review action items for follow up and completion.
- Review and hold group review sessions for BSRD deliverables made by Tegrit (BSR062, BSR076, BSR080).
- Track requirements, as discussed in work sessions and BSRDs, using the RTM and meet with StanCERA PM to update requirements confirmation.
- Manage and participate in system testing efforts, including review of test scripts, compiling of results, input of PIRs, and tracking of issue resolution.

Current PIR Summary



MONTHLY PERFORMANCE REPORT

Stanislaus County ERA

July 31, 2020



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

CALENDAR YEAR INDEX PERFORMANCE

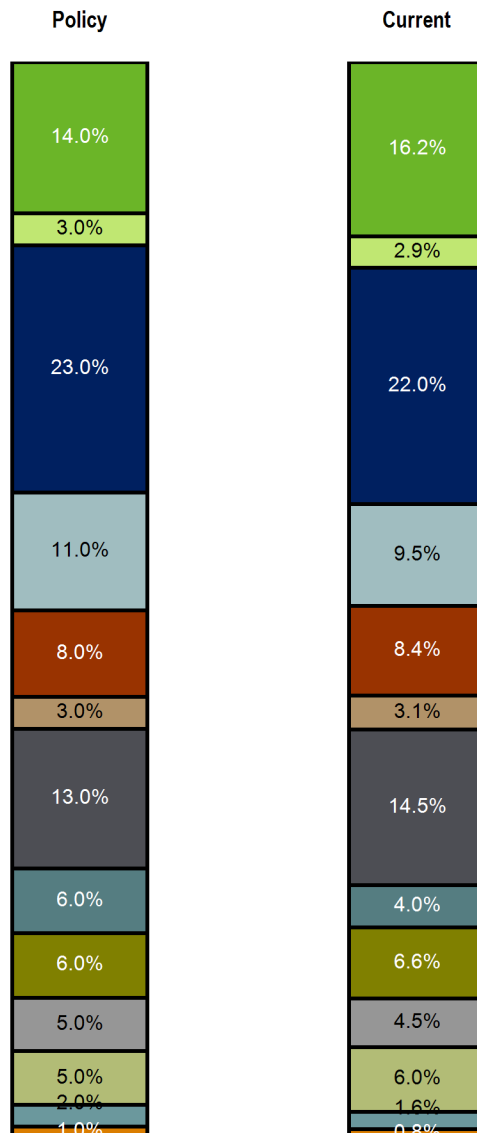
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Jul	YTD
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	5.6%	2.4%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	5.9%	2.9%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	2.8%	-10.6%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	4.0%	-7.5%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	2.3%	-9.3%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	8.9%	-1.7%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	5.3%	-1.3%
Private Equity	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	-	-7.3%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	2.3%	8.4%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	1.7%	3.8%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	2.7%	0.0%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	4.7%	0.7%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	1.5%	7.7%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	3.2%	6.3%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	4.2%	26.3%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	6.1%	12.4%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	6.4%	37.0%
JPM GBI-EM Global Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	3.0%	-4.1%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	3.7%	0.8%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	-3.3%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	5.7%	-14.8%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-3.6%	-38.0%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	4.0%	-15.4%

Source: FactSet, Barclays, Thomson One

*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



TOTAL FUND ASSET ALLOCATION VS. POLICY



Asset Allocation vs. Target						
	Current	Policy	Current	Policy Range	Within Range	
Large Cap Equity	\$363,927,573	14.0%	16.2%	10.0% - 18.0%	Yes	
Small Cap Equity	\$65,851,882	3.0%	2.9%	0.0% - 6.0%	Yes	
International Equity	\$495,277,965	23.0%	22.0%	14.0% - 32.0%	Yes	
Intermediate	\$212,712,906	11.0%	9.5%	5.0% - 12.0%	Yes	
Short Duration Bonds	\$188,259,203	8.0%	8.4%	4.0% - 12.0%	Yes	
Treasury	\$70,809,454	3.0%	3.1%	1.0% - 6.0%	Yes	
Risk Parity	\$325,965,834	13.0%	14.5%	8.0% - 18.0%	Yes	
Private Credit	\$88,962,796	6.0%	4.0%	0.0% - 10.0%	Yes	
Private Equity	\$148,664,435	6.0%	6.6%	0.0% - 10.0%	Yes	
Real Estate	\$101,473,690	5.0%	4.5%	0.0% - 10.0%	Yes	
Real Estate - Core	\$135,574,979	5.0%	6.0%	0.0% - 10.0%	Yes	
Infrastructure	\$36,458,482	2.0%	1.6%	0.0% - 5.0%	Yes	
Cash / Short Duration	\$16,940,329	1.0%	0.8%	0.0% - 4.0%	Yes	
Total	\$2,250,879,527	100.0%	100.0%			

Stanislaus County ERA

TOTAL FUND NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	2,250,879,527	100.0	3.1	7.9	-1.5	3.1	4.0	5.2	5.8	8.1	8.7	Jan-95
Policy Index			3.1	8.0	0.4	3.1	6.1	5.9	6.4	8.1	7.9	Jan-95
Liquidity Sub-Portfolio	229,653,176	10.2	1.3	4.6	5.9	1.3	8.5	4.9	3.3	--	--	Apr-11
StanCERA Liquidity Blended BM			1.3	4.2	9.2	1.3	10.6	4.8	3.3	2.1	2.2	Apr-11
Cash	16,940,271	0.8	0.0	0.1	0.8	0.0	1.6	1.5	1.3	--	--	Apr-11
FTSE T-Bill 1 Month TR			0.0	0.0	0.4	0.0	1.2	1.6	1.1	0.6	0.6	Apr-11
Intermediate Gov't/Credit	212,712,906	9.5	1.4	5.0	6.3	1.4	9.0	5.2	--	--	5.2	Jun-17
BBgBarc US Govt/Credit Int TR			0.7	2.1	6.1	0.7	8.0	4.5	3.5	3.1	4.6	Jun-17
Insight	212,712,906	9.5	1.4	5.0	6.3	1.4	9.0	5.2	--	--	5.2	Jun-17
BBgBarc US Credit Int TR			1.4	4.6	5.6	1.4	8.2	5.1	4.4	4.1	5.2	Jun-17
Growth Sub-Portfolio	1,762,157,694	78.3	3.7	9.3	-3.4	3.7	2.9	5.4	6.3	9.9	7.6	Dec-03
StanCERA Growth Blended BM			3.7	9.5	-1.3	3.7	5.3	6.6	7.2	--	--	Dec-03
US Equities	429,779,513	19.1	5.2	13.4	-2.3	5.2	5.9	8.1	8.3	12.6	9.0	Dec-03
Russell 3000			5.7	13.9	2.0	5.7	10.9	11.4	10.9	13.6	9.0	Dec-03
US Large	363,927,573	16.2	5.7	14.0	2.3	5.7	11.3	11.4	10.6	13.9	12.4	Dec-94
Russell 1000			5.9	13.9	2.9	5.9	12.0	12.0	11.3	13.9	10.2	Dec-94
BlackRock Russell 1000 Growth	202,629,177	9.0	7.7	19.9	18.3	7.7	29.8	20.9	16.9	17.3	17.3	Jul-10
Russell 1000 Growth			7.7	19.9	18.3	7.7	29.8	20.9	16.8	17.3	17.3	Jul-10
BlackRock Russell 1000 Value	79,987,859	3.6	4.0	6.8	-12.8	4.0	-5.8	2.8	5.5	10.2	10.7	Jul-09
Russell 1000 Value			4.0	6.8	-12.9	4.0	-6.0	2.7	5.4	10.1	10.6	Jul-09
Dodge & Cox-Equity	81,310,537	3.6	2.6	7.7	-13.5	2.6	-6.9	2.6	5.9	11.0	11.1	Dec-94
Russell 1000 Value			4.0	6.8	-12.9	4.0	-6.0	2.7	5.4	10.1	9.2	Dec-94
US Small	65,851,940	2.9	2.8	10.7	-21.1	2.8	-16.0	-3.9	0.1	7.9	9.7	Dec-08
Russell 2000			2.8	13.3	-10.6	2.8	-4.6	2.7	5.1	10.1	11.4	Dec-08
Capital Prospects	65,851,940	2.9	2.8	10.7	-21.1	2.8	-16.0	-3.2	2.0	8.1	10.0	Dec-08
Russell 2000 Value			2.1	8.0	-21.9	2.1	-15.9	-3.9	2.2	7.3	8.5	Dec-08



TOTAL FUND NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Real Estate	135,574,979	6.0	0.4	0.2	-4.1	0.4	-1.0	3.0	3.3	4.7	2.0	Mar-08
NCREIF Property Index			0.0	-1.0	-0.3	0.0	2.7	5.4	6.8	9.7	5.8	Mar-08
Prime Property Fund	58,199,033	2.6	0.0	-1.9	-1.3	0.0	1.7	5.7	--	--	7.0	Sep-15
NCREIF-ODCE			0.0	-1.6	-0.6	0.0	2.2	5.7	7.3	10.8	6.8	Sep-15
BlackRock US Real Estate	18,516,284	0.8	3.3	4.5	-19.4	3.3	-16.3	-1.2	1.9	--	5.3	Sep-12
DJ US Select RESI TR USD			3.3	4.6	-19.4	3.3	-16.3	-1.2	1.9	7.6	5.3	Sep-12
PGIM Real Estate US Debt Fund	58,859,661	2.6	0.0	0.9	2.0	0.0	4.9	--	--	--	5.0	Sep-18
BBgBarc US CMBS Investment Grade			1.3	4.2	5.7	1.3	7.1	5.1	4.3	4.9	7.9	Sep-18
Value Add Real Estate	101,473,690	4.5	0.0	-0.2	5.1	0.0	8.1	9.7	11.1	--	10.2	Jul-14
NCREIF Property Index +2%			0.2	-0.5	0.9	0.2	4.7	7.5	8.9	11.9	9.9	Jul-14
American Strategic Value Realty	68,253,503	3.0	0.0	-0.3	1.0	0.0	5.4	7.8	9.9	--	10.5	Dec-14
NCREIF Property Index			0.0	-1.0	-0.3	0.0	2.7	5.4	6.8	9.7	7.3	Dec-14
Greenfield Gap VII	10,206,286	0.5	0.0	0.0	2.1	0.0	3.1	10.3	11.9	--	11.0	Jul-14
NCREIF-ODCE +1%			0.1	-1.3	0.0	0.1	3.2	6.7	8.4	11.9	9.5	Jul-14
Greenfield Gap VIII	23,013,901	1.0	0.0	0.0	18.3	0.0	18.7	--	--	--	19.0	Apr-18
NCREIF-ODCE +1%			0.1	-1.3	0.0	0.1	3.2	6.7	8.4	11.9	5.6	Apr-18
Risk Parity	325,965,834	14.5	4.0	8.4	0.5	4.0	4.4	--	--	--	5.5	Nov-17
60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg			4.4	9.8	2.1	4.4	8.0	6.2	6.3	6.6	5.4	Nov-17
AQR Global Risk Premium - EL	160,857,661	7.1	3.4	7.1	-2.1	3.4	2.5	--	--	--	5.9	Mar-18
60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg			4.4	9.8	2.1	4.4	8.0	6.2	6.3	6.6	5.1	Mar-18
PanAgora Risk Parity Multi Asset	165,108,173	7.3	4.5	9.6	3.3	4.5	6.4	--	--	--	6.4	Nov-17
60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg			4.4	9.8	2.1	4.4	8.0	6.2	6.3	6.6	5.4	Nov-17
Infrastructure	36,458,482	1.6	-0.4	-0.4	2.8	-0.4	4.9	13.9	10.2	--	7.2	May-15
CPI + 5% (Unadjusted)			0.9	2.3	3.7	0.9	6.0	7.0	6.7	6.8	6.8	May-15
MS Infrastructure Partners II	36,458,482	1.6	-0.4	-0.4	2.8	-0.4	4.9	13.9	10.2	--	7.2	May-15
CPI + 5% (Unadjusted)			0.9	2.3	3.7	0.9	6.0	7.0	6.7	6.8	6.8	May-15
Private Equity	2,604,326	0.1	0.0	0.0	--	0.0	--	--	--	--	0.0	Apr-20
Russell 3000 + 3%			5.9	14.7	3.8	5.9	14.2	14.7	14.2	17.0	30.2	Apr-20
Private Equity Proxy	146,060,109	6.5	5.7	13.8	2.0	5.7	10.9	13.1	12.1	14.2	9.4	Nov-03
Russell 3000			5.7	13.9	2.0	5.7	10.9	11.4	10.9	13.6	9.2	Nov-03
Private Credit	88,962,796	4.0	0.0	0.0	-9.6	0.0	-8.9	-0.5	0.5	--	2.4	May-13
S&P/LSTA Leveraged Loan Index +2%			2.1	7.6	-1.6	2.1	1.1	4.5	5.4	6.3	5.3	May-13



TOTAL FUND NET PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Int'l Equities	495,277,965	22.0	4.2	13.0	-8.9	4.2	-0.4	0.1	2.9	4.9	5.7	Sep-04
MSCI ACWI ex USA			4.5	12.8	-7.0	4.5	0.7	1.4	3.2	4.5	5.4	Sep-04
LSV Asset Mgt	234,407,808	10.4	2.9	9.6	-14.5	2.9	-5.0	-2.6	1.5	4.0	5.1	Sep-04
MSCI ACWI ex USA			4.5	12.8	-7.0	4.5	0.7	1.4	3.2	4.5	5.4	Sep-04
Fidelity	260,870,157	11.6	5.4	16.2	-3.2	5.4	4.1	2.8	3.9	5.6	3.6	Apr-06
MSCI ACWI ex USA			4.5	12.8	-7.0	4.5	0.7	1.4	3.2	4.5	2.8	Apr-06
Risk-Diversifying Sub-Portfolio	259,068,657	11.5	0.7	1.6	4.9	0.7	6.5	4.0	4.0	4.2	5.0	Nov-03
StanCERA Risk-Diversifying Blended BM			0.4	0.8	5.5	0.4	7.0	4.0	2.9	2.5	--	Nov-03
US Treasury	70,809,454	3.1	1.4	1.1	11.4	1.4	13.5	6.8	5.8	5.1	5.5	Nov-03
BBgBarc US Treasury 7-10 Yr TR			0.9	1.1	12.1	0.9	13.8	7.0	5.0	4.7	--	Nov-03
Northern Trust Intermediate Gov't Bond	49,303,063	2.2	0.3	0.6	6.1	0.3	7.5	4.1	--	--	4.1	Jul-17
BBgBarc US Govt Int TR			0.3	0.6	6.1	0.3	7.5	4.1	2.9	2.5	4.1	Jul-17
Northern Trust Long Term Gov't Bond	21,506,391	1.0	4.1	2.4	25.8	4.1	29.9	13.7	--	--	13.7	Jul-17
BBgBarc US Govt Long TR			4.2	2.4	26.0	4.2	30.2	13.7	9.4	8.1	13.7	Jul-17
Short-Term Gov't/Credit	188,259,203	8.4	0.4	1.7	2.6	0.4	4.2	3.0	--	--	3.0	Jul-17
BBgBarc US Govt/Credit 1-3 Yr. TR			0.2	0.7	3.1	0.2	4.5	2.8	2.1	1.6	2.8	Jul-17
DFA	188,259,203	8.4	0.4	1.7	2.6	0.4	4.2	3.0	--	--	3.0	Jul-17
BBgBarc US Govt/Credit 1-3 Yr. TR			0.2	0.7	3.1	0.2	4.5	2.8	2.1	1.6	2.8	Jul-17

FUND ASSET GROWTH SUMMARY BY MANAGER

	Month Ending July 31, 2020					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
American Strategic Value Realty	\$68,253,503	\$0	\$0	\$0	\$0	\$68,253,503
AQR Global Risk Premium - EL	\$155,503,822	\$0	\$0	\$0	\$5,353,839	\$160,857,661
Bernzott	\$10,255,239	\$0	-\$41	-\$41	\$813,689	\$11,068,887
BlackRock Russell 1000 Growth	\$188,156,624	\$0	\$0	\$0	\$14,472,553	\$202,629,177
BlackRock Russell 1000 Value	\$76,931,364	\$0	\$0	\$0	\$3,056,495	\$79,987,859
BlackRock US Real Estate	\$17,918,245	\$0	\$0	\$0	\$598,040	\$18,516,284
Capital Prospects Transition	\$58	\$0	\$0	\$0	\$0	\$58
Cash Account	\$17,093,157	\$201,666	-\$359,065	-\$157,399	\$4,512	\$16,940,271
Channing	\$13,674,272	\$0	-\$20	-\$20	\$639,137	\$14,313,388
DFA	\$187,556,105	\$0	-\$252	-\$252	\$703,350	\$188,259,203
Dodge & Cox-Equity	\$79,219,529	\$0	-\$157	-\$157	\$2,091,165	\$81,310,537
Fidelity	\$247,416,709	\$0	-\$2,500	-\$2,500	\$13,455,948	\$260,870,157
Greenfield Gap VII	\$10,206,286	\$0	\$0	\$0	\$0	\$10,206,286
Greenfield Gap VIII	\$23,013,901	\$0	\$0	\$0	\$0	\$23,013,901
Insight	\$209,838,184	\$0	-\$244	-\$244	\$2,874,965	\$212,712,906
Insight Partners XI	\$2,260,370	\$0	\$0	\$0	\$0	\$2,260,370
InView	\$11,742,252	\$0	-\$15	-\$15	\$231,361	\$11,973,599
Keeley	\$8,133,238	\$0	-\$16	-\$16	\$158,115	\$8,291,336
LSV Asset Mgt	\$227,714,569	\$0	-\$5,096	-\$5,096	\$6,698,335	\$234,407,808
Medley Capital	\$8,745,574	\$0	\$0	\$0	\$0	\$8,745,574
MS Infrastructure Partners II	\$36,772,708	\$0	-\$155,952	-\$155,952	-\$158,274	\$36,458,482
Northern Trust Intermediate Gov't Bond	\$49,149,570	\$0	\$0	\$0	\$153,493	\$49,303,063
Northern Trust Long Term Gov't Bond	\$20,649,605	\$0	\$0	\$0	\$856,785	\$21,506,391
Northern Trust Russell 3000	\$138,233,757	\$0	\$0	\$0	\$7,826,353	\$146,060,109
Owl Rock First Lien Fund	\$4,425,584	\$32	-\$9	\$24	\$0	\$4,425,607



Stanislaus County ERA

FUND ASSET GROWTH SUMMARY BY MANAGER

	Month Ending July 31, 2020					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Pacific Ridge	\$11,566,158	\$0	-\$23	-\$23	-\$87,016	\$11,479,118
PanAgora Risk Parity Multi Asset	\$157,951,664	\$0	\$0	\$0	\$7,156,509	\$165,108,173
PGIM Real Estate US Debt Fund	\$58,859,661	\$0	\$0	\$0	\$0	\$58,859,661
Prime Property Fund	\$58,199,033	\$0	\$0	\$0	\$0	\$58,199,033
Raven Capital	\$7,805,701	\$0	\$0	\$0	\$0	\$7,805,701
Raven Opportunity III	\$45,093,443	\$0	\$0	\$0	\$0	\$45,093,443
Vista Foundation Fund IV	\$0	\$343,956	\$0	\$343,956	\$0	\$343,956
Walthausen	\$8,690,292	\$0	-\$38	-\$38	\$35,300	\$8,725,553
White Oak Pinnacle	\$22,892,471	\$0	\$0	\$0	\$0	\$22,892,471
Total	\$2,183,922,647	\$545,655	-\$523,428	\$22,227	\$66,934,653	\$2,250,879,527



Stanislaus County ERA

NOTES

- All performance is shown net of investment management fees.
- All data prior to July 1, 2020 was received from StanCERA's previous investment consultant.
- Policy Index makeup history:
 - **Inception - 6/30/2017:** 14.4% Russell 1000 Value, 11.3% Russell 1000 Growth, 4.8% S&P 500, 4% Russell 2000 Value, 3.7% Russell 2000 Growth, 18% MSCI ACWI ex USA Gross, 29.8% BBgBarc US Aggregate TR, 3.5% DJ US Select RESI TR USD, 7.5% 9% Annual, 3% CPI + 4%
 - **7/1/2017 - 8/31/2018:** 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex USA Gross, 19% BBgBarc US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3% BBgBarc US Treasury 7-10 Yr TR, 7.7% NCREIF Property Index, 1.7% NCREIF Property Index +2%, 0.6% CPI + 5%, 5% BBgBarc US High Yield + 2%, 14% 60% MSCI ACWI Net/40% BBgBarc Global Aggregate
 - **9/1/2018 - 5/30/2019:** 10% Russell 1000, 3% Russell 2000, 6% Russell 3000 +3%, 27% MSCI ACWI ex USA Gross, 20% BBgBarc US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3% BBgBarc US Treasury 7-10 Yr TR, 5% NCREIF Property Index, 5% NCREIF Property Index +2%, 1% CPI + 5%, 6% S&P/LSTA Leveraged Loan Index+2%, 13% 60% MSCI ACWI Net/40% BBgBarc Global Aggregate
 - **6/1/2019 - 6/30/2020:** 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% BBgBarc US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% BBgBarc Global Aggregate
- As of 7/1/2020, the Policy Index is comprised of: 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 8% BBgBarc US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% BBgBarc US Treasury 7-10 Yr, 5% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 6% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 11% BBgBarc US Intermediate.
- As of 7/1/2020, the Small Capital Prospects transition cash balance is moved from the Cash composite to the Capital Prospects account. Historical performance for Capital Prospects, US Small, US Equities, Growth Sub-Portfolio, Cash, and Liquidity Sub-Portfolio prior to 7/1/2020 reflects performance of these composites before this change.



Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.



September 17, 2020[Return to Agenda](#)

Retirement Board Agenda Item

TO: Retirement Board

FROM: Stan Conwell, Retirement Investment Officer

- I. SUBJECT: Key Market Themes and Asset Allocation Assumptions
- II. ITEM NUMBER: 7.b
- III. ITEM TYPE: Information Only
- IV. STAFF RECOMMENDATION: N/A
- V. ANALYSIS:

NEPC's presentation at September's meeting is meant to be an introduction and overview of NEPC's approach to asset allocation. The main focus will be on the primary factors NEPC uses to inform their thinking and develop their assumptions. Current market themes and their impact on future performance will be covered as well as NEPC's building block approach to forming their capital market assumptions. The return and volatility assumptions are important because they are the key inputs when developing the asset allocation needed to achieve the investment goals of the plan.

The scope of the materials covered is very broad, so any questions you have about the process are welcome. In addition, please let us know if you want to cover something more in depth or have any additional topics that you'd like to discuss at a future Board meeting. NEPC is prepared to provide education whatever topic is needed as we gear up for the asset/liability study this winter.

- VI. RISK: None
- VII. STRATEGIC PLAN: N/A
- VIII. ADMINISTRATIVE BUDGET IMPACT: NONE



Stan Conwell, Retirement Investment Officer

NEPC MEETING MATERIALS

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

September 17, 2020

Daniel Hennessy, CFA, CAIA Senior Consultant

Sam Austin, Partner

Kiley Fischer, Consulting Analyst



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

TABLE OF CONTENTS

Page

Today's Agenda

Key Market Themes

Asset Class Assumptions

Appendix



TODAY'S AGENDA

- **Discuss the key market themes that are impacting performance for all asset classes**
- **Explain NEPC's "building blocks" approach to setting 10- and 30-year asset class performance expectations**
- **Review NEPC's current expectations for equities, fixed income, real assets, and risk parity**
- **Describe our next steps for reviewing the pension plan's asset allocation**

KEY MARKET THEMES

KEY MARKET THEMES OVERVIEW

Key Market Themes are factors that define global markets and can be expected to both evolve and remain relevant without a clear timeline of conclusion. At times, themes may be challenged or disrupted and generate market volatility. The conclusion of a theme likely alters both market dynamics and our market outlook. Our intent is for clients to be aware of these themes and understand their implications for asset allocation and portfolio implementation.

NEPC currently has four Key Market Themes:

**Virus
Trajectory**

**Permanent
Interventions**

**China
Transitions**

**Globalization
Backlash**

TWO MARKET THEMES ARE MOST DOMINANT

**Virus
Trajectory**

**Permanent
Interventions**

*China
Transitions*

*Globalization
Backlash*

ASSESSING THE KEY MARKET THEMES

06/30/20 Assessment

	Virus Trajectory	Permanent Interventions	Globalization Backlash	China Transitions
Dominant	<p><u>Change in Status:</u> -</p> <p>Virus Trajectory is the dominant force driving market and economic outcomes. While the market is optimistic regarding a vaccine, economic reopening in some states have paused given recent upward trends in cases. We believe uncertainty remains high related to the path of the virus and the timing of a global economic recovery.</p>	<p><u>Change in Status:</u> -</p> <p>Globally, significant monetary and fiscal stimulus has been aimed at lessening the economic impact of COVID-19.</p> <p>The Federal Reserve created liquidity and lending facilities to support corporations along with state and local municipalities. Recent interventions have pushed credit spreads lower across IG and HY markets.</p>	<p><u>Change in Status:</u> -</p> <p>The influence of the theme will likely increase in coming quarters as countries digest lasting impacts from the pandemic. The world will likely be faced with an amplified wealth divide given economic and labor market disruptions. In addition, backlash may continue as countries reassess supply chains.</p>	<p><u>Change in Status:</u> -</p> <p>Tensions between the US and China intensified following China's approval of the Hong Kong national security law that effectively ends the "one country, two systems" relationship. The question of Hong Kong and other geo-political tensions are likely to be at the forefront of political agendas in both the US and China.</p>
Emerging				
Neutral				
Fading				
Dormant				

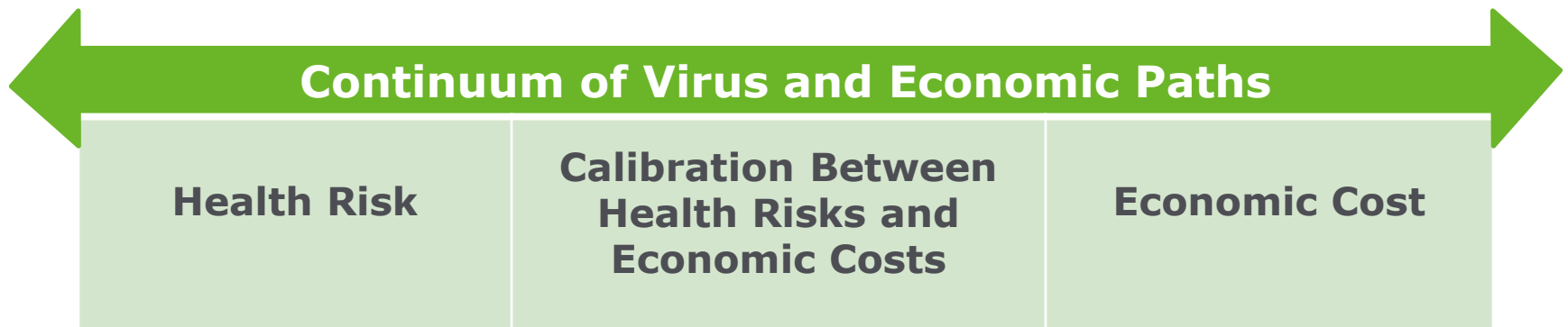
VIRUS AND ECONOMIC PATHS ARE ALIGNED

The COVID-19 pandemic has limited global economic activity

Virus Trajectory reflects uncertainty of pandemic and economy

Plausible paths include rapid economic recovery or depression

With a wide range of outcomes, investor focus is drawn to the extremes of vaccine optimism to a renewed virus outbreak



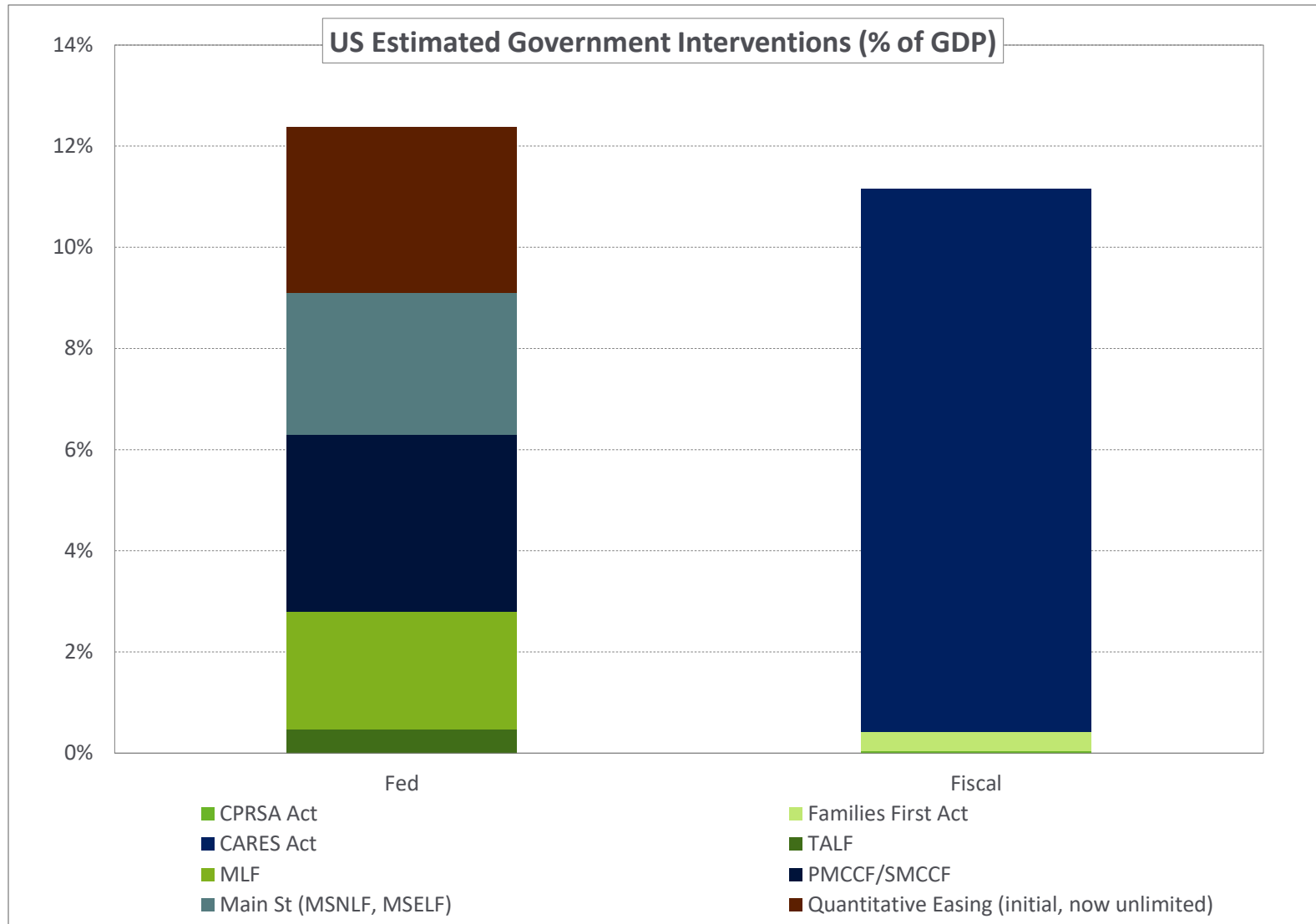
REAL-TIME DATA INFORMS VIRUS TRAJECTORY

The table below represents the weekly average of year-over-year changes in seated diners at restaurants open for reservations

	3-May	10-May	17-May	24-May	31-May	7-Jun	14-Jun	21-Jun	28-Jun	5-Jul	12-Jul
Global	-	16%	40%	49%	51%	57%	58%	64%	57%	58%	59%
Germany	-	36%	53%	48%	76%	79%	78%	91%	90%	90%	98%
Mexico	-	-	10%	24%	27%	27%	30%	37%	32%	30%	33%
United States	-	22%	40%	52%	49%	57%	58%	63%	55%	56%	56%
California	-	-	-	55%	48%	58%	59%	66%	53%	55%	51%
Florida	34%	45%	50%	58%	58%	69%	65%	67%	54%	55%	52%
Massachusetts	0%	0%	0%	0%	0%	42%	58%	62%	55%	63%	63%
Texas	29%	33%	41%	51%	55%	60%	57%	56%	43%	45%	46%
London	0%	0%	0%	0%	0%	0%	0%	0%	9%	53%	56%
New York City	0%	0%	0%	0%	0%	0%	0%	18%	28%	22%	32%

Source: [OpenTable: State of the Industry](#)

ELEVATED PERMANENT INTERVENTIONS



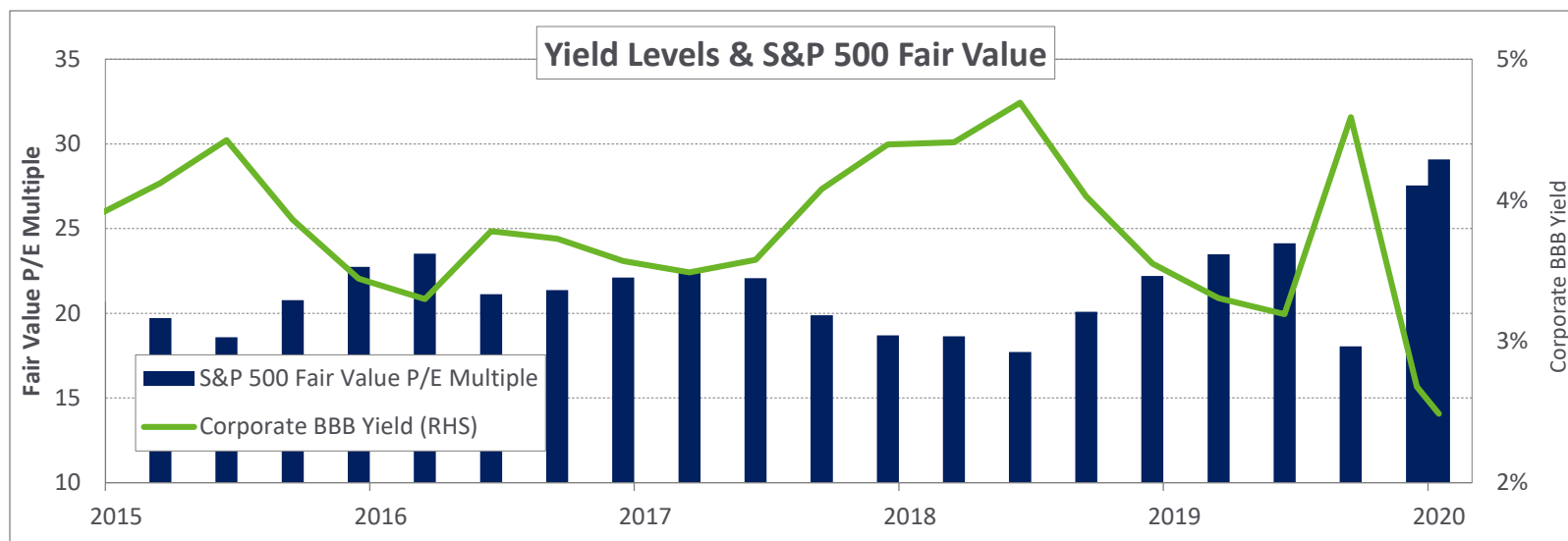
Source: NEPC, Federal Reserve

ELEVATED PERMANENT INTERVENTIONS

The developed world has undergone a regime shift defined by central bank market interventions and permanent fiscal support

The COVID-19 pandemic has supercharged this theme with the outsized response from central banks and fiscal relief actions

Permanent Interventions drive low interest rates and high P/E multiples rendering valuations as a less potent market signal



KEY MARKET THEMES AMID UNCERTAINTY

Key Market Themes are factors that define global markets and remain relevant without a clear timeline of conclusion

Our intent is for clients to be aware of these themes and understand their implications for the capital markets

Due to Virus Trajectory, economic data releases have been and will continue to be extremely volatile

Permanent Interventions sustains positive risk asset sentiment and boosts our return outlook despite the economic challenges

Key Market Themes influence our strategic outlook and inform capital market assumption inputs such as P/E terminal values

ASSET CLASS ASSUMPTIONS

CAPITAL MARKET ASSUMPTION OVERVIEW

We publish capital market assumptions quarterly for over 65 asset classes

- Assumptions include 10-year and 30-year return forecasts, volatility expectations, and correlations
- 10-year forecasts are useful for setting strategic asset allocations
- 30-year forecasts are useful as actuarial inputs and very long-term planning

Current estimates are based on data as of June 30, 2020

- Assumptions are developed with proprietary valuation models and rely on a core building block methodology

Forward-looking asset class assumptions have declined and reflect a range of potential outcomes due to the COVID-10 epidemic

- Embrace diversification and maintain sufficient liquidity to navigate the wide paths of potential economic scenarios

BUILDING BLOCKS METHODOLOGY

Forward-looking asset class models incorporate current and forecasted market and economic data to inform expected returns

Quantitative inputs combined with a conversion to long-term terminal values drive the expectations

Our approach focuses on estimating core drivers of return across asset classes – forming the foundation of our building blocks framework

Building block components will differ for equity, fixed income, and real assets





CORE GEOMETRIC RETURN ASSUMPTIONS

	Asset Class	10-Year Return	30-Year Return	Volatility
	Cash	0.6%	1.8%	1.00%
	US Inflation	1.7%	2.4%	-
Equity	Large Cap Equities	6.3%	6.7%	16.50%
	International Equities (Unhedged)	6.7%	6.8%	20.50%
	Emerging International Equities	9.1%	9.1%	28.00%
	<i>Global Equity*</i>	<i>7.2%</i>	<i>7.4%</i>	<i>17.75%</i>
	<i>Private Equity*</i>	<i>10.4%</i>	<i>10.5%</i>	<i>24.58%</i>
Fixed Income	Treasuries	0.6%	1.9%	5.50%
	<i>Core Bonds*</i>	<i>1.3%</i>	<i>2.6%</i>	<i>6.10%</i>
	TIPS	0.9%	2.0%	6.50%
	High Yield Bonds	4.3%	5.4%	12.50%
	<i>Private Debt*</i>	<i>6.8%</i>	<i>7.4%</i>	<i>11.54%</i>
Real Assets	Commodities	1.7%	4.1%	19.00%
	REITs	6.6%	7.1%	20.00%
	Core Real Estate	4.4%	5.6%	13.00%
	Private Real Assets: Infrastructure/Land	5.9%	7.0%	12.00%
Multi-Asset	<i>US 60/40*</i>	<i>4.6%</i>	<i>5.4%</i>	<i>10.40%</i>
	<i>Global 60/40*</i>	<i>4.9%</i>	<i>5.5%</i>	<i>11.65%</i>
	<i>Hedge Funds*</i>	<i>4.6%</i>	<i>5.5%</i>	<i>8.18%</i>

*Calculated as a blend of other asset classes

MACRO ASSUMPTIONS

INFLATION OVERVIEW

Inflation is an integral component of our asset allocation assumptions

Represents an essential building block for developing asset class returns

Inflation building blocks are model-driven and informed by multiple sources for both the US and global asset classes

Includes forecasts from international organizations (e.g. IMF), local consumer and producer price indices, break-even inflation expectations, and global interest rate curves

NEPC's US inflation expectation is at a historical low point, incorporating the material decline of inflation break-even rates due to COVID-19

We anticipate potential volatility from quarter to quarter in our inflation assumption as market-based inflation expectations struggle to discount all potential economic scenarios

Market-based inflation expectations reflect little to no inflation pressure

Inflation break-evens (difference between Treasury and TIPS yields) suggest inflation will be near current levels for the next twenty years

NEPC's capital market assumptions incorporate higher inflation expectations than break-evens, but are in line with IMF forecasts and are well below long-term averages

Region	10-Year Inflation Assumption	30-Year Inflation Assumption
United States	1.7%	2.4%

GLOBAL INFLATION

In most developed economies, core inflation is below central bank targets

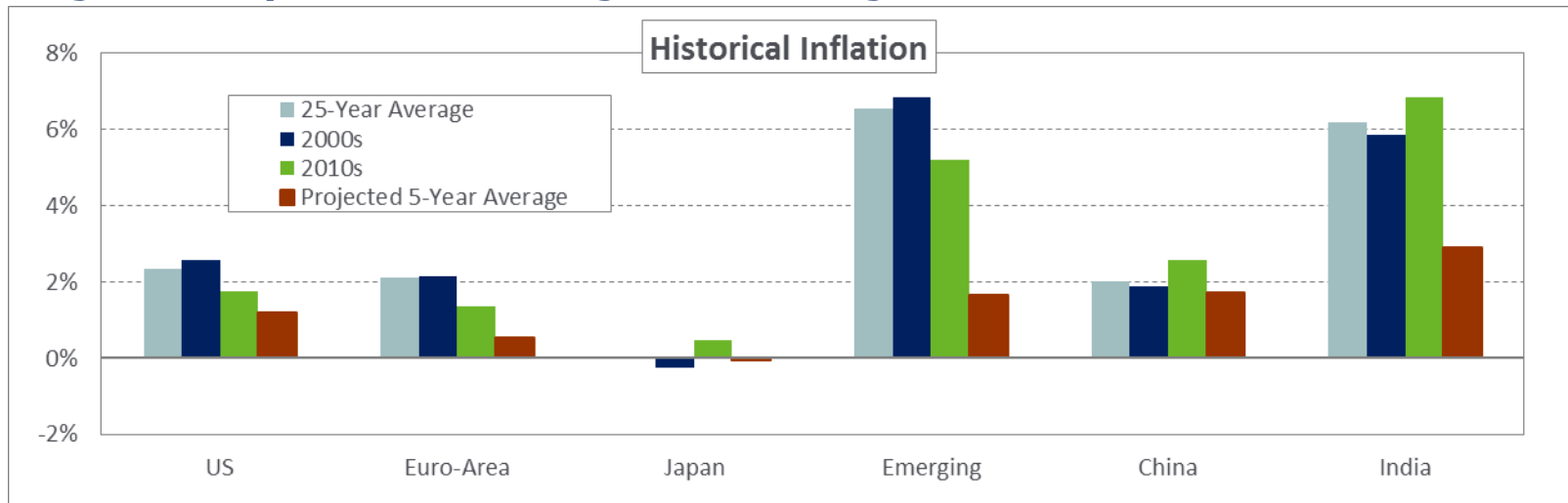
COVID-19, globalization, deflationary technology, and aging demographics are all deflationary headwinds influencing markets across the globe

This trend will likely continue as global central banks rely on expansive monetary policy programs to mitigate deflationary headwinds

The shift to sustained expansion of government fiscal spending may be a source for potential inflation, but would require broad expansion of credit lending across markets

This may be an especially difficult prospect in the European Union given constitutional constraints and differences in opinion among member countries

Emerging market inflation remains well above the developed world, but is significantly lower than long-term averages



Source: IMF, FactSet, NEPC

US CASH EXPECTATIONS

Cash is a foundational input for all asset class returns

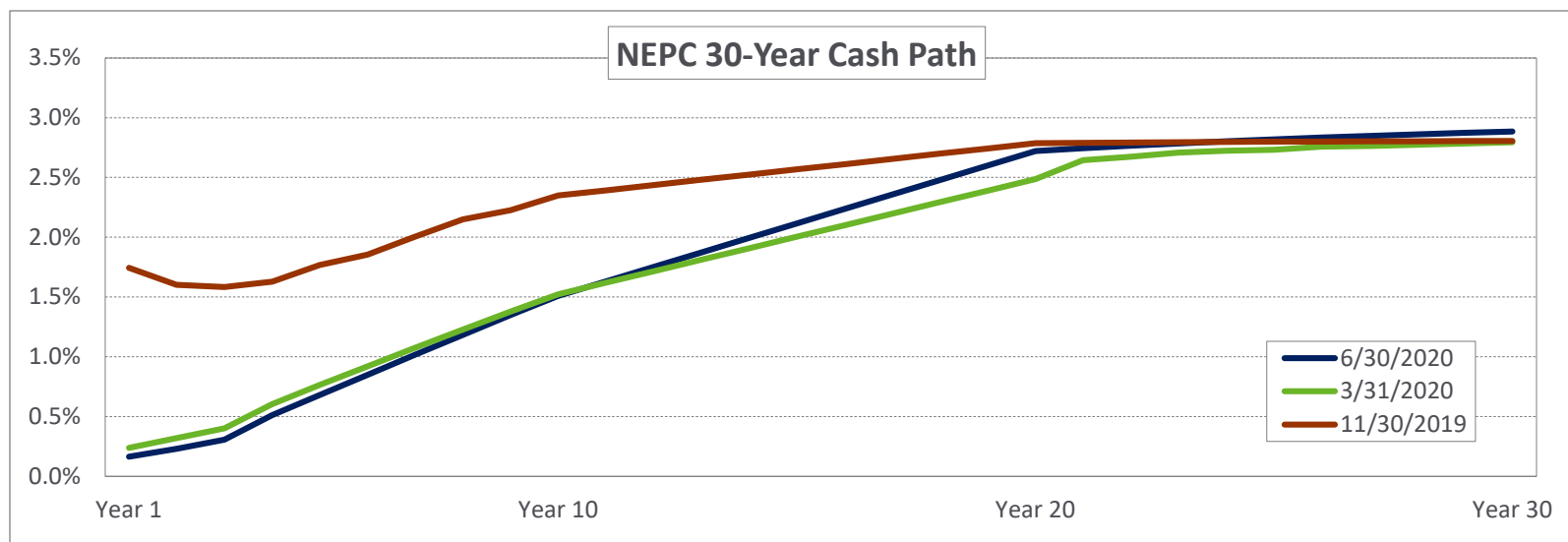
The assumption flows through as a direct building block component and as a relative value adjustment (cash + risk premia) in long-term return projections

Long-term cash assumptions are based on inflation expectations and real interest rates

US nominal rates are at a historically low point for NEPC forecasts

This level reflects recent rate cuts by the Federal Reserve and muted inflation pressures

Market expectations of a relatively flat curve and negligible inflation create a slow and muted trend for cash to reach NEPC terminal value assumption



Source: Bloomberg, FactSet, NEPC

EQUITY ASSUMPTIONS

NEPC'S CURRENT VIEW OF EQUITIES

Equity Beta Group Thoughts

- Growing disconnect between current earnings and public equity prices
- Value stocks trading a significant discount to growth and are approaching extreme levels
- New capital deployed in recession-era private equity vintages have the best opportunity for higher returns and illiquidity premia

General Equity Recommendations

- Consider slight overweight to US and Emerging Markets equities and a balanced approach to value versus growth strategies
- Consider slight overweight to small-cap equities, but be mindful of private equity holdings (which are typically small-cap companies)
- Maintain your private equity pacing plan to capture higher illiquid returns

Implications for StanCERA

- This is likely an excellent time to be initiating a new private equity program
- The portfolio's style and geographic mix will be part of the overall asset allocation discussion this Winter

EQUITY: ASSUMPTIONS

Equity Building Blocks	
Illiquidity Premium	The additional return expected for investments carrying liquidity risk
Valuation	An input representing P/E multiple contraction or expansion relative to long-term trend
Inflation	Represents market-specific inflation derived from index country revenue contribution and region-specific forecasted inflation
Real Earnings Growth	Reflects market-specific real growth for each equity asset class as a weighted-average derived from index country revenue contribution and forecasted GDP growth
Dividend Yield	Informed by current income distributed to shareholders with adjustments made to reflect market conditions and trends

Asset Class	06/30/20 10-Year Return	06/30/20 30-Year Return
US Large Cap	6.3%	6.7%
US Small/Mid-Cap	6.8%	7.0%
US Micro Cap	7.4%	7.6%
International (Unhedged)	6.7%	6.8%
International (Hedged)	7.1%	7.2%
International Small Cap	7.2%	7.3%
Emerging Markets	9.1%	9.1%
Emerging Markets Small Cap	9.5%	9.3%
Hedge Funds – Long/Short	4.5%	5.4%
<i>Global Equity</i>	<i>7.2%</i>	<i>7.4%</i>
<i>Private Equity</i>	<i>10.4%</i>	<i>10.5%</i>

Source: NEPC

EQUITY: REAL EARNINGS GROWTH

Global growth rates are subdued reflecting the economic impact of COVID-19, demographic trends, and US-China trade tensions

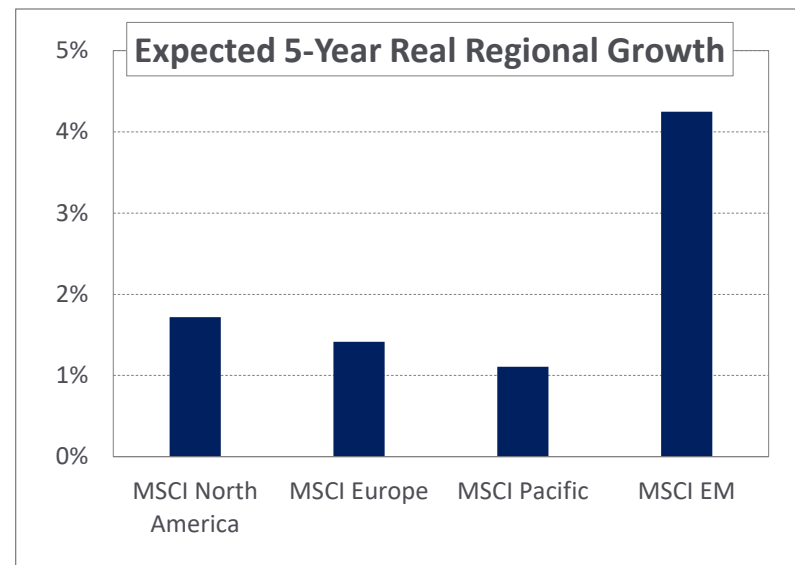
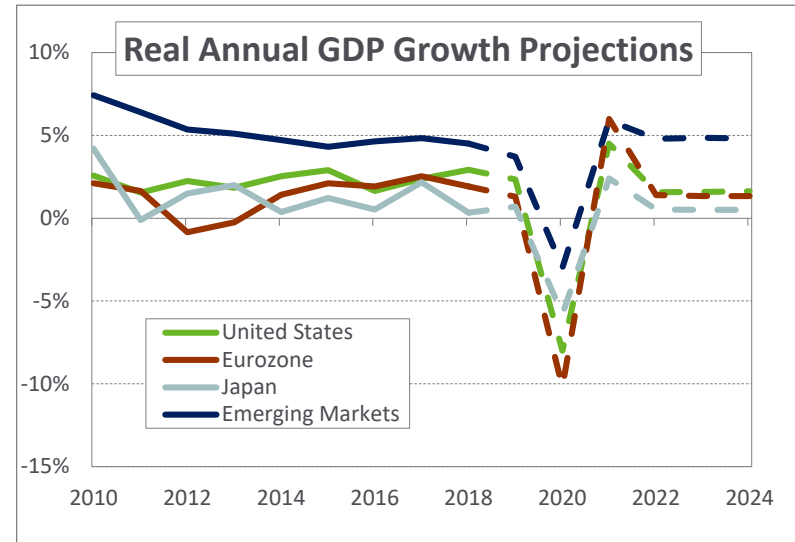
Regions more reliant on emerging markets for revenue generation are forecasted to enjoy higher expected real earnings growth

International and emerging market stocks benefit from generating a much larger portion of revenues from this region than US equities

Small-caps have higher terminal targets for real earnings growth relative to large-cap equities

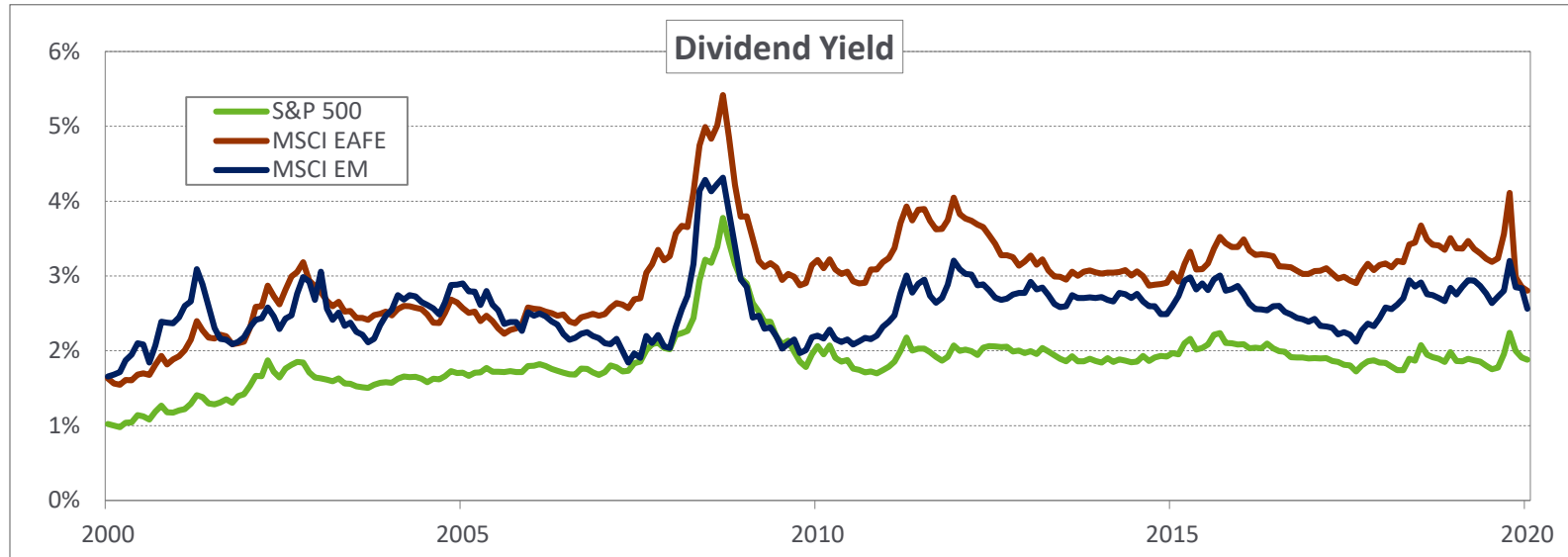
This premium reflects a risk premium for small/mid-caps over large-cap, which has existed historically

In US markets, this represents a 50 basis point premium over large cap



Source: (Top) FactSet, NEPC
Source: (Bottom) IMF, MSCI, FactSet, NEPC

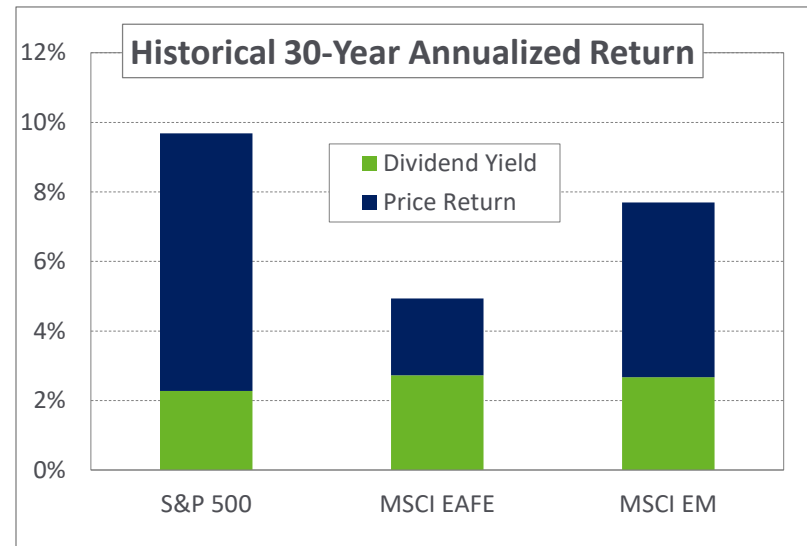
EQUITY: DIVIDEND YIELD



NEPC's long-term terminal value assumption for the S&P 500 dividend yield is 2.50%

EAFE and emerging markets offer structurally higher dividend yields relative to the US equity market

Long-term terminal value assumptions for the MSCI EAFE and MSCI Emerging Market dividend yields are 3.00% and 2.50%



Source: (Top) S&P, MSCI, FactSet, NEPC
Source: (Bottom) S&P, MSCI, FactSet, NEPC

EQUITY: VALUATION

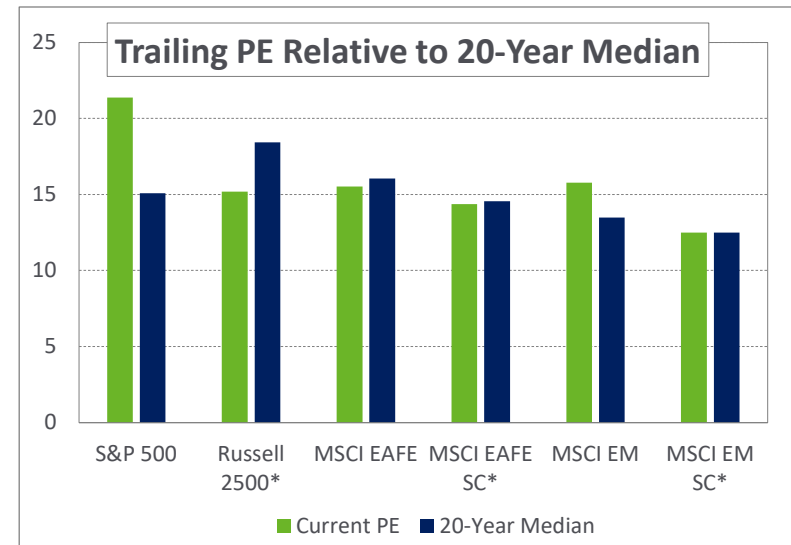
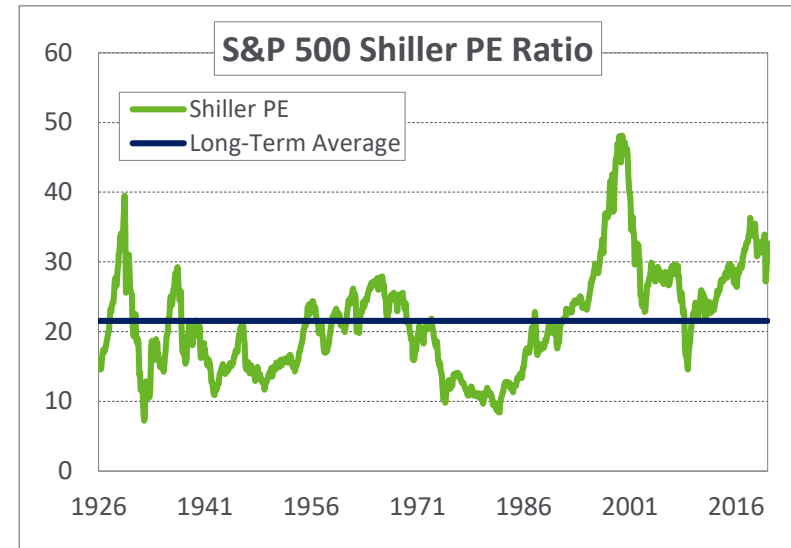
US equities remain overvalued relative to long-term averages

However, low interest rate and inflation rates can sustain high equity valuations

Terminal value assumptions for the US equity price/earnings ratio (P/E) are higher than long-term averages to reflect low interest rate levels and easy Fed policy

Terminal P/E values for EAFE are above current levels, however they are reflective of a less constructive market environment

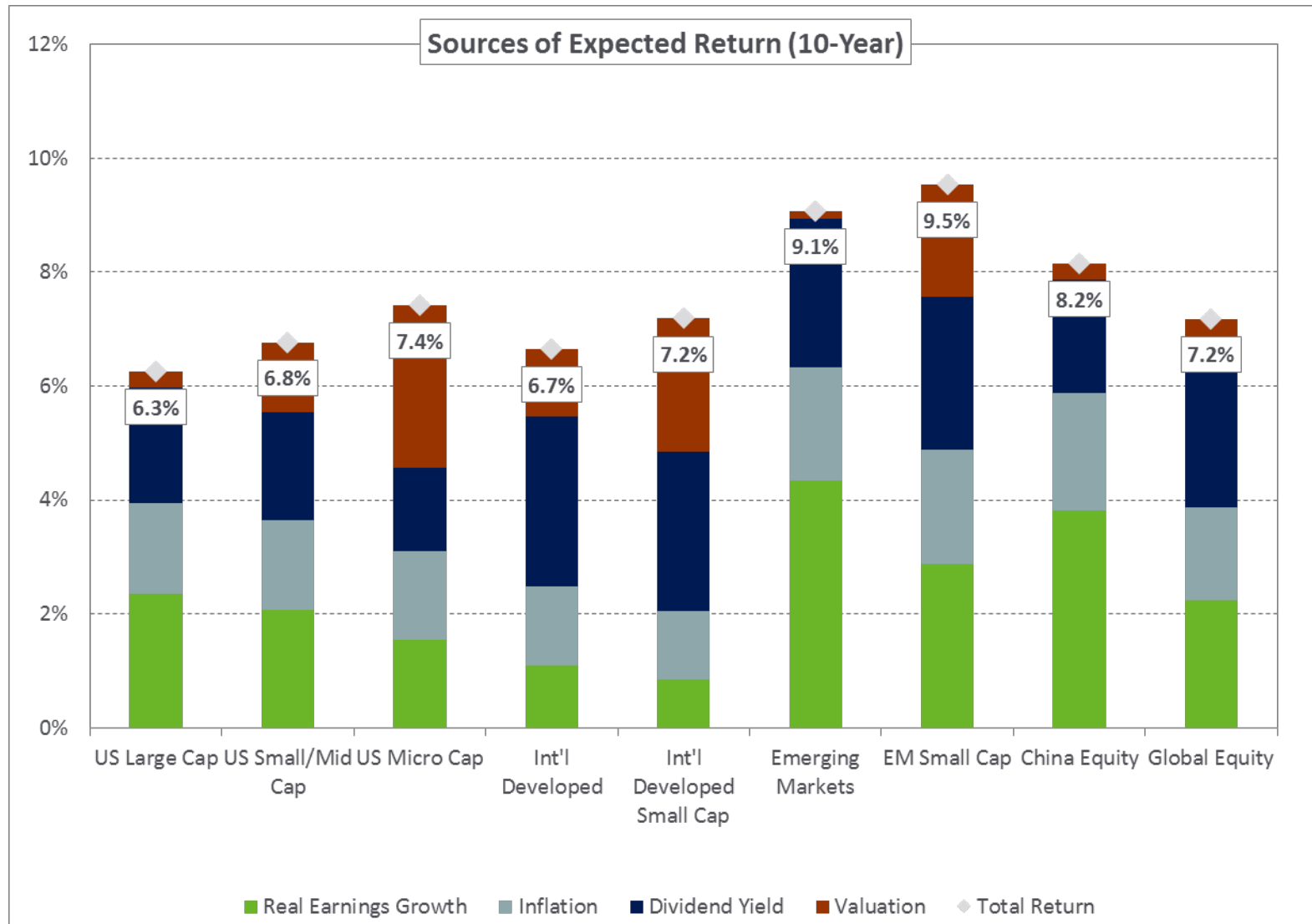
Among emerging markets, equity and currency valuations remain near long-term averages and offer an attractive total return



Source: (Top) S&P, Shiller, NEPC; long-term average beginning in 1926

Source: (Bottom) S&P, Russell, MSCI, FactSet, NEPC; *Small cap indices use index positive-adjusted earnings; MSCI EM Small Cap median calculated since 12/31/2008

EQUITY: BUILDING BLOCKS



Source: NEPC

FIXED INCOME ASSUMPTIONS

NEPC'S CURRENT VIEW OF FIXED INCOME

Credit Beta Group Thoughts

- Fixed income sectors experienced significant spread tightening due to the swift accommodative programs launched by the Fed
- Dramatic increase in new issuances and rapid retail inflow post-March provided much-needed liquidity to the markets
- Credit fundamentals are weakening from economic stress

General Credit Recommendations

- Maintain a Treasury allocation to provide liquidity during market crises
- A strategic approach to public credit (high yield, bank loans, and blended EM debt) could provide a source for private credit capital calls in normal market environments and enhance long-term risk-adjusted returns
- Be cautious reaching for extremely high yield; evaluate the risk/return potential carefully

Implications for StanCERA

- The current emphasis on Treasuries and other investment-grade bonds offer excellent liquidity for the Plan
- The private debt program may be the best way to capitalize on current and expected credit dislocations

FIXED INCOME: ASSUMPTIONS

Fixed Income Building Blocks	
Illiquidity Premium	The additional return expected for investments carrying liquidity risk
Government Rates Price Change	The valuation change resulting from a change in the current yield curve to forecasted rates
Credit Deterioration	The average loss for credit securities associated with an expected default cycle and recovery rates
Spread Price Change	The valuation change resulting from a change in credit spreads over the duration of the investment and highly sensitive to economic cycles
Credit Spread	Additional yield premium provided by securities with credit risk
Government Rates	The yield attributed to sovereign bonds that do not have credit risk associated with their valuation

Asset Class	06/30/20 10-Year Return	06/30/20 30-Year Return
Short-Term Treasuries	0.7%	1.9%
Treasuries	0.6%	1.9%
TIPS	0.9%	2.0%
MBS	0.8%	2.2%
High-Yield Bonds	4.3%	5.4%
Bank Loans	4.1%	4.7%
EMD (External)	4.4%	4.9%
EMD (Local Currency)	5.3%	5.2%
Non-US Bonds (Unhedged)	0.6%	1.6%
Non-US Bonds (Hedged)	0.9%	1.9%
Investment Grade Corporate Credit	2.6%	3.8%
Hedge Funds – Credit	4.4%	5.5%
<i>Core Bonds</i>	<i>1.3%</i>	<i>2.6%</i>
<i>Private Debt</i>	<i>6.8%</i>	<i>7.4%</i>

Source: NEPC

FIXED INCOME: CREDIT SPREADS

Credit spreads remain above long-term median levels

Spreads tightened considerably in the last quarter, reflecting Fed involvement across various credit qualities

Lower spread levels reduce future return expectations

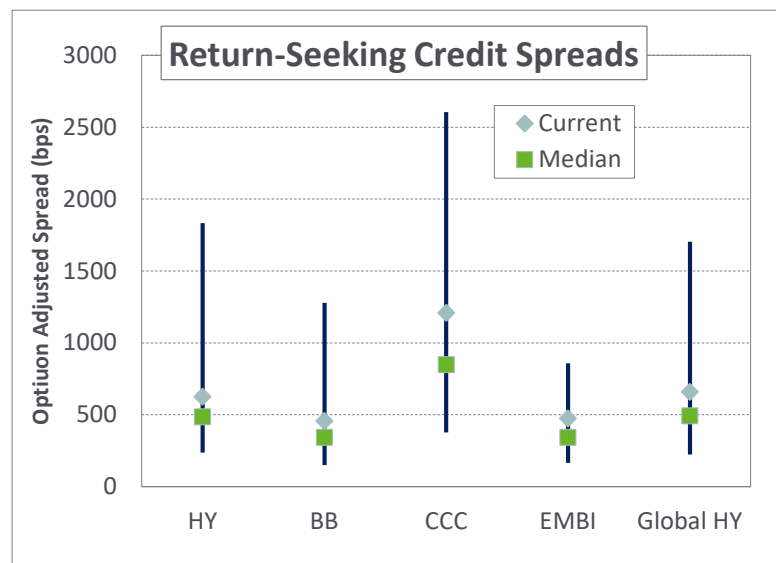
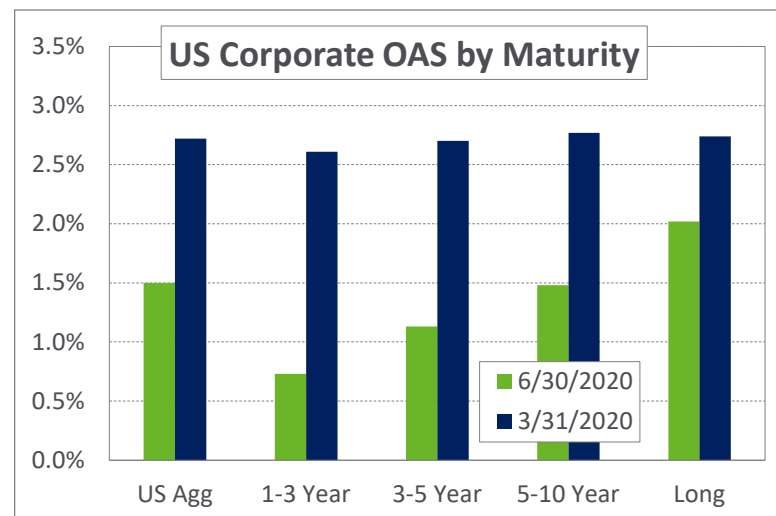
However, spreads converging down to long-term medians would provide additional short-term gains

Credit spread assumptions reflect a heightened risk environment

There are a record number of BBB rated corporates – suggesting a greater risk of “fallen angel” downgrades

Corporate debt issuance has expanded rapidly in recent years with the majority of new debt rated BBB

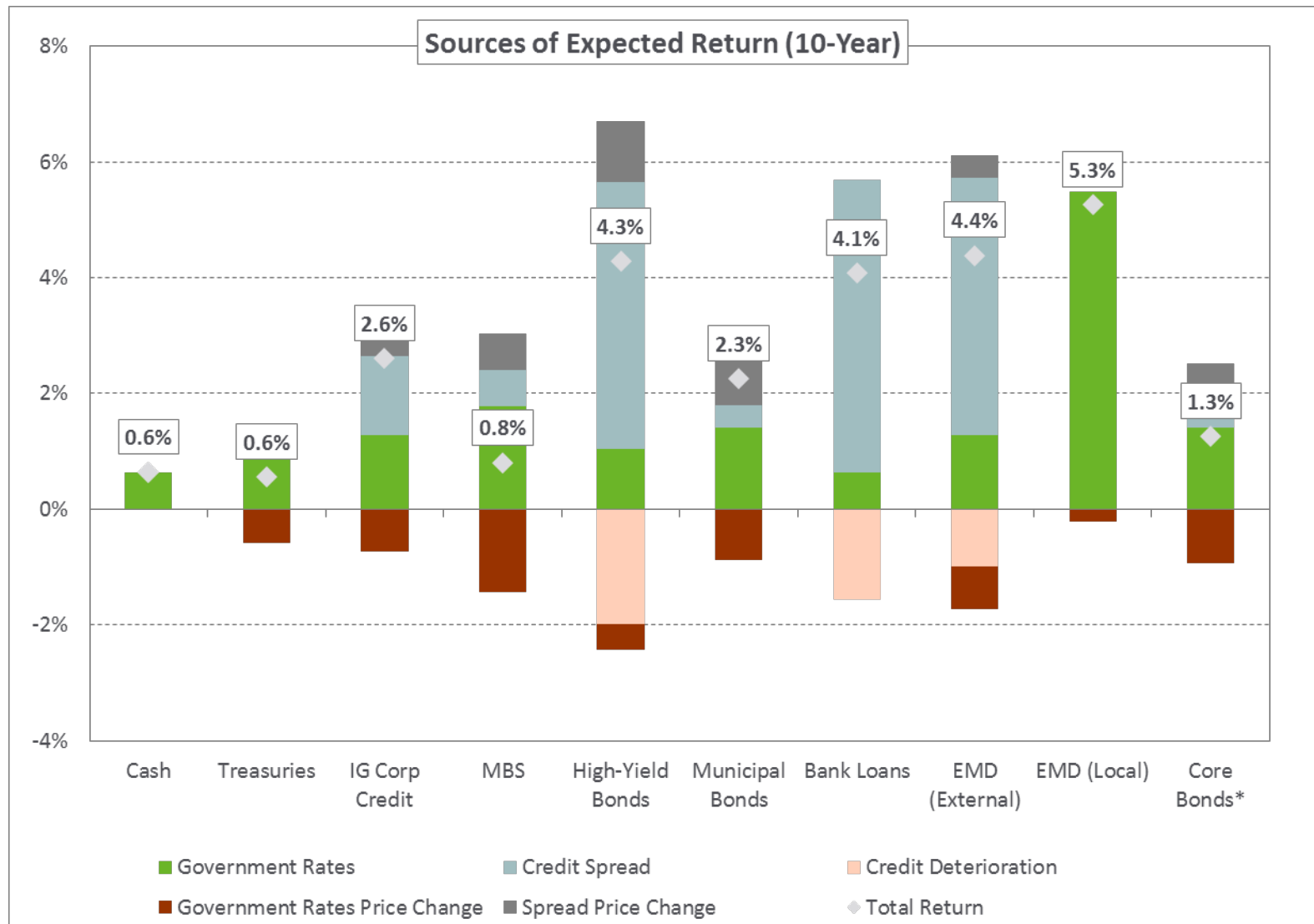
Default and recovery rates across the credit complex are modeled using historical averages



Source: (Top) Barclays, FactSet, NEPC

Source: (Bottom) Barclays, JPM, FactSet, NEPC; as of 03/31/2000

FIXED INCOME: BUILDING BLOCKS



Source: NEPC

*Calculated as a blend of other classes

REAL ASSET ASSUMPTIONS

NEPC'S CURRENT VIEW OF REAL ASSETS

Real Asset Beta Group Thoughts

- Public real asset equities rebounded during the second quarter, while private valuations are still adjusting to the “new normal”
- Stress is growing in certain real asset sub-sectors; energy infrastructure and much of the retail and hotel/leisure real estate are experiencing very low demand
- Industrial and digital infrastructure have proven resilient

General Real Asset Recommendations

- Attractive private opportunities may surface but patience is critical
- Remain disciplined with pacing plan commitments; economic downturns tend to produce strong vintage year performance
- Quality is important, and high quality assets can provide downside protection in the event of future market declines or economic stress

Implications for StanCERA

- StanCERA already has a well-balanced blend of public and private, core and non-core real assets. This should help to navigate an uncertain future.

REAL ASSETS: ASSUMPTIONS

Real Assets Building Blocks	
Illiquidity Premium	The additional return expected for investments carrying liquidity risk
Valuation	The expected change in price of the underlying asset reverting to a long-term real average or terminal value assumption
Inflation	Incorporates the inflation paths as defined by TIPS breakeven expectations and NEPC expected inflation assumptions
Growth	Reflects market-specific growth for each equity asset class as a weighted-average derived from index country revenue contribution and forecasted GDP growth
Real Income	Represents the inflation-adjusted income produced by the underlying tangible or physical asset

Asset Class	06/30/20 10-Year Return	06.30/20 30-Year Return
Commodities	1.7%	4.1%
Midstream Energy	7.4%	7.6%
REITs	6.6%	7.1%
Public Infrastructure	6.3%	6.8%
Public Resource Equity	7.5%	7.4%
Core Real Estate	4.4%	5.6%
Non-Core Real Estate	5.3%	7.0%
Private RE Debt	4.1%	5.1%
Private Real Assets: Energy/ Metals	8.5%	9.0%
Private Real Assets: Infra/Land	5.9%	7.0%

Source: NEPC

REAL ASSETS: REAL INCOME

Public Real Assets: real income is the inflation-adjusted dividend yield

Includes midstream energy, REITs, public infrastructure, natural resource and global infrastructure equities

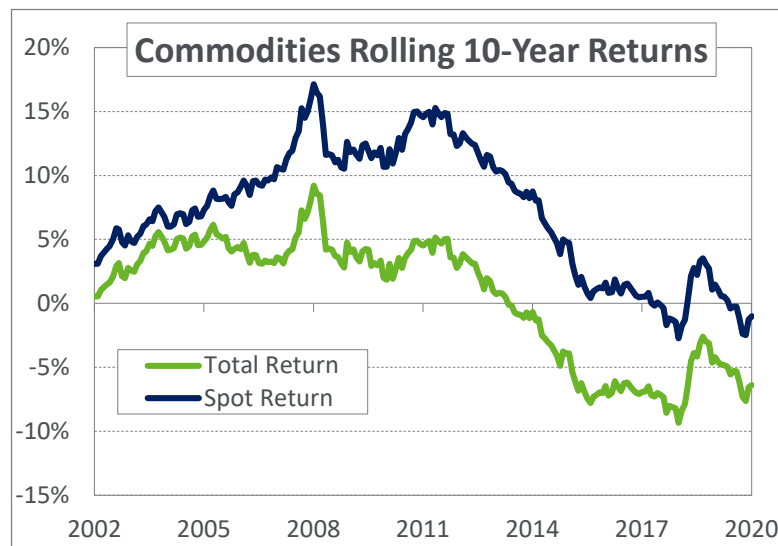
These publicly-traded real assets tend to have lucrative dividend yields relative to traditional global equities

Real Estate: real income is a function of net operating income

Net operating income growth exhibits a cyclical economic pattern and appears to have retreated from cyclical highs

Commodities: real income is negative due to the implicit “roll yield” in acquiring future contracts

While commodity futures provide a pure market beta to inflation, the ongoing cost is currently quite high



Real Assets Yields	6/30/20	3/31/20
Midstream Energy	8.6%	12.0%
Core Real Estate	4.5%	4.5%
US REITs	4.3%	5.4%
Global REITs	5.0%	5.7%
Global Infra Equities	4.7%	4.3%
Natural Resource Equities	4.7%	4.8%
US 10-Yr Breakeven Inflation	1.3%	0.9%
Commodity Index Roll Yield	-6.8%	-14.3%

Source: (Top) Bloomberg, FactSet, NEPC

Source: (Bottom) NCREIF, Alerian, NAREIT, S&P, FactSet, NEPC

*Commodity Index Roll Yield represents a proprietary calculation methodology

REAL ASSETS: VALUATION

Commodity valuations represent spot price relative to the long-term real average of spot prices

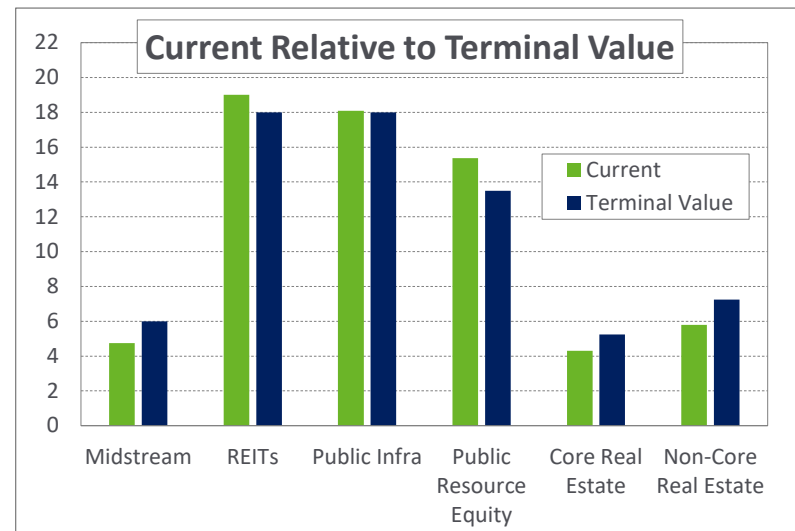
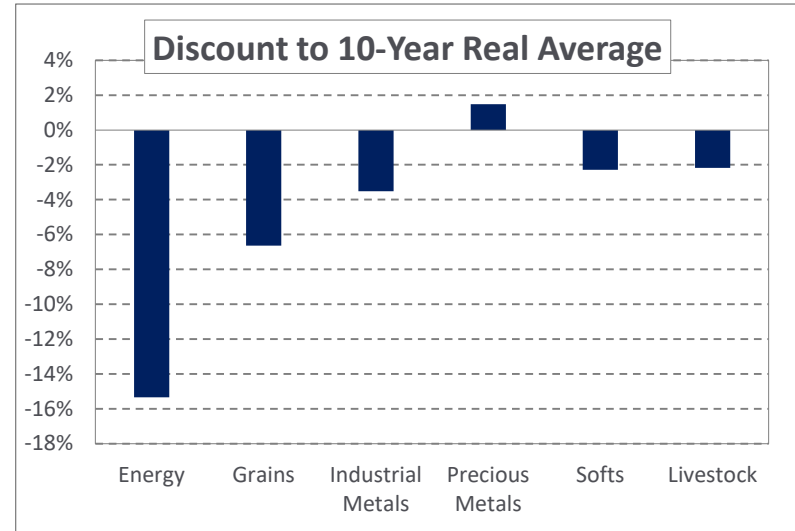
Commodity prices continue to trade below their long-term real averages, particularly in the energy sector

The potential for higher spot prices is additive to future expected returns

Valuation adjustments for other real assets reflect a terminal value with the relevant valuation metrics

For example, Price over Cashflow from Operations is used for midstream energy to reflect the cash flow intense nature of the business, whereas Cap Rates are used for real estate

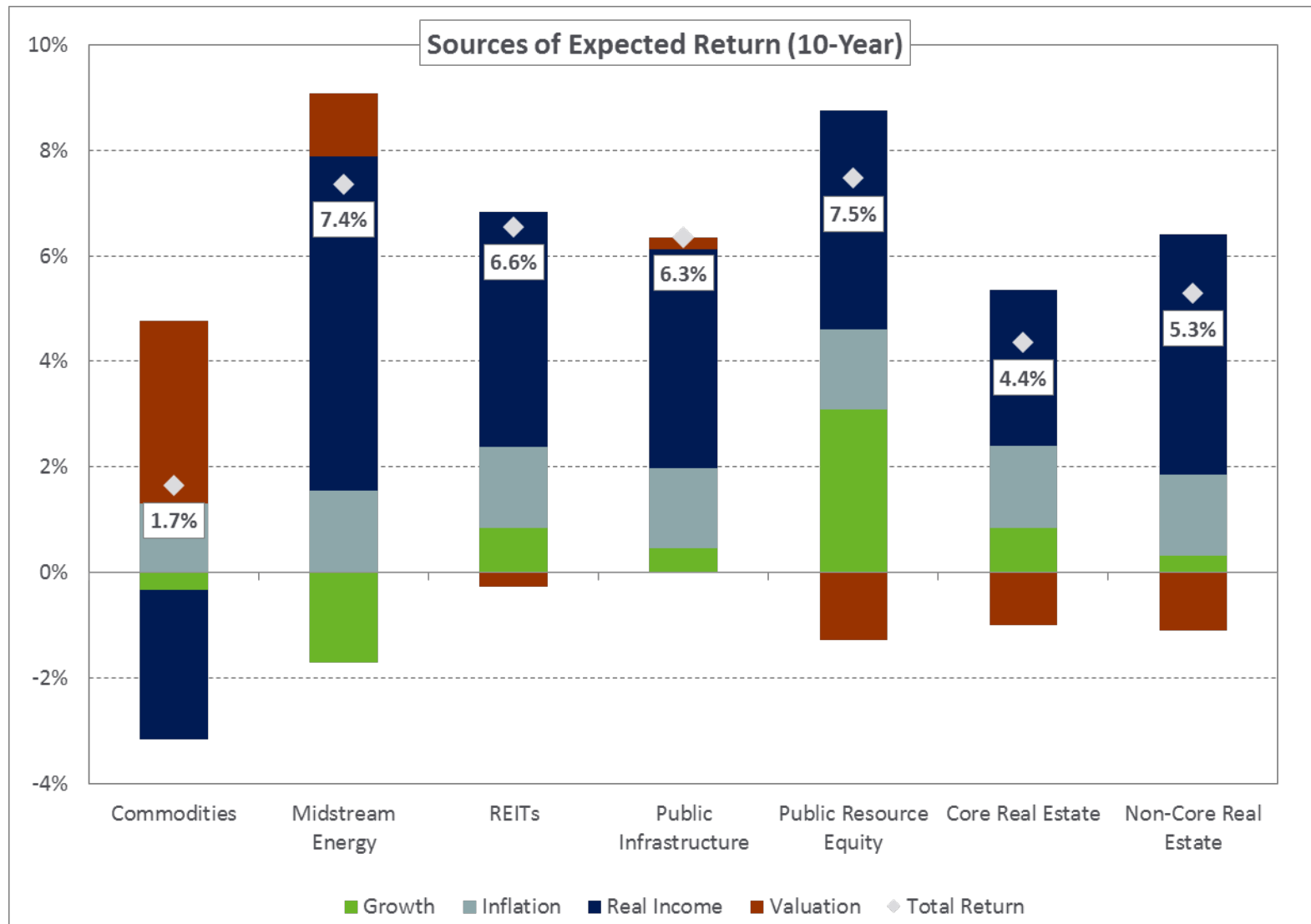
Valuation levels in Public Resource Equities are expected to detract from future returns as valuations trend downward toward long-term averages



Source: (Top) FactSet, NEPC

Source: (Bottom) Alerian, FTSE, S&P, FactSet, NEPC

REAL ASSETS: BUILDING BLOCKS



Source: NEPC

MULTI-ASSET STRATEGY ASSUMPTIONS

NEPC'S CURRENT VIEW OF MULTI-ASSET STRATEGIES

Multi-Asset Beta Group Thoughts

- Reaffirm multi-asset strategy goals and objectives (portfolio fit)
- Take this opportunity to measure how well these approaches fit your institution's risk tolerance and return objectives
- If volatility and tracking error have caused angst in this space, consider more strategic adjustments to the multi-asset portfolio

General Multi-Asset Recommendations

- Consider structure and implementation during manager selection
- Risk Parity and other liquid multi-asset strategies can be useful funding sources for portfolio rebalancing and liquidity needs
- Maintain exposure to systematic strategies that may be lagging in the short-term due to sharp reversals
- Active strategies may require time to incorporate new data into their models

Implications for StanCERA

- StanCERA's risk parity investments provide liquid exposure to a diverse set of asset classes, and historically have remained very liquid even during crisis periods
- Their position in the portfolio will be evaluated as part of the overall asset allocation discussion this Winter

ALTERNATIVES

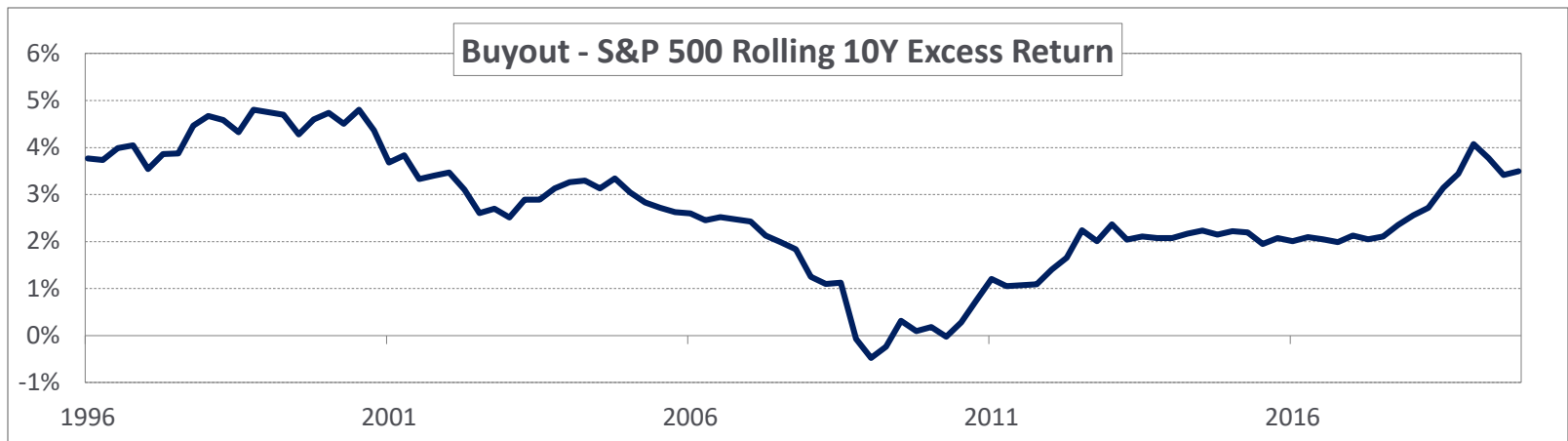
ALTERNATIVES METHODOLOGY

Private market assumptions are constructed from betas to public markets with an added illiquidity premia based on historical return analysis relative to appropriate public market equivalents

Historically, the observed illiquidity premium has been a significant component to private market returns. The assumed premium can be adjusted to reflect the current market environment and forward-looking views by strategy

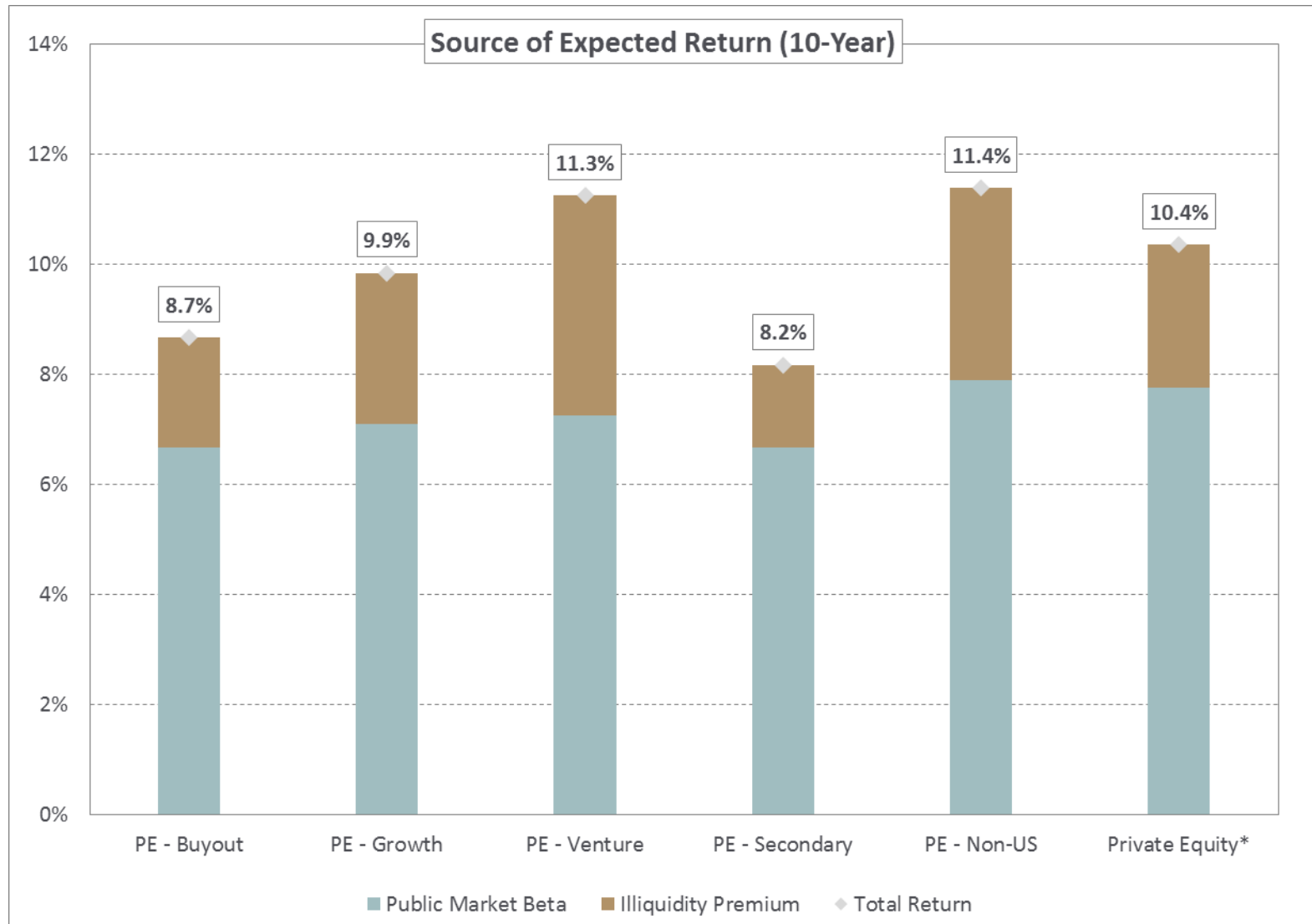
Hedge fund assumptions are constructed using betas to public market assumptions with an added alpha assumption based on historical manager universe performance relative to a market benchmark

Changes to the alternative asset return assumptions reflect changes to the underlying public market assumptions and qualitative adjustments to the illiquidity premia and alpha assumptions



Source: Thomson One, S&P, FactSet

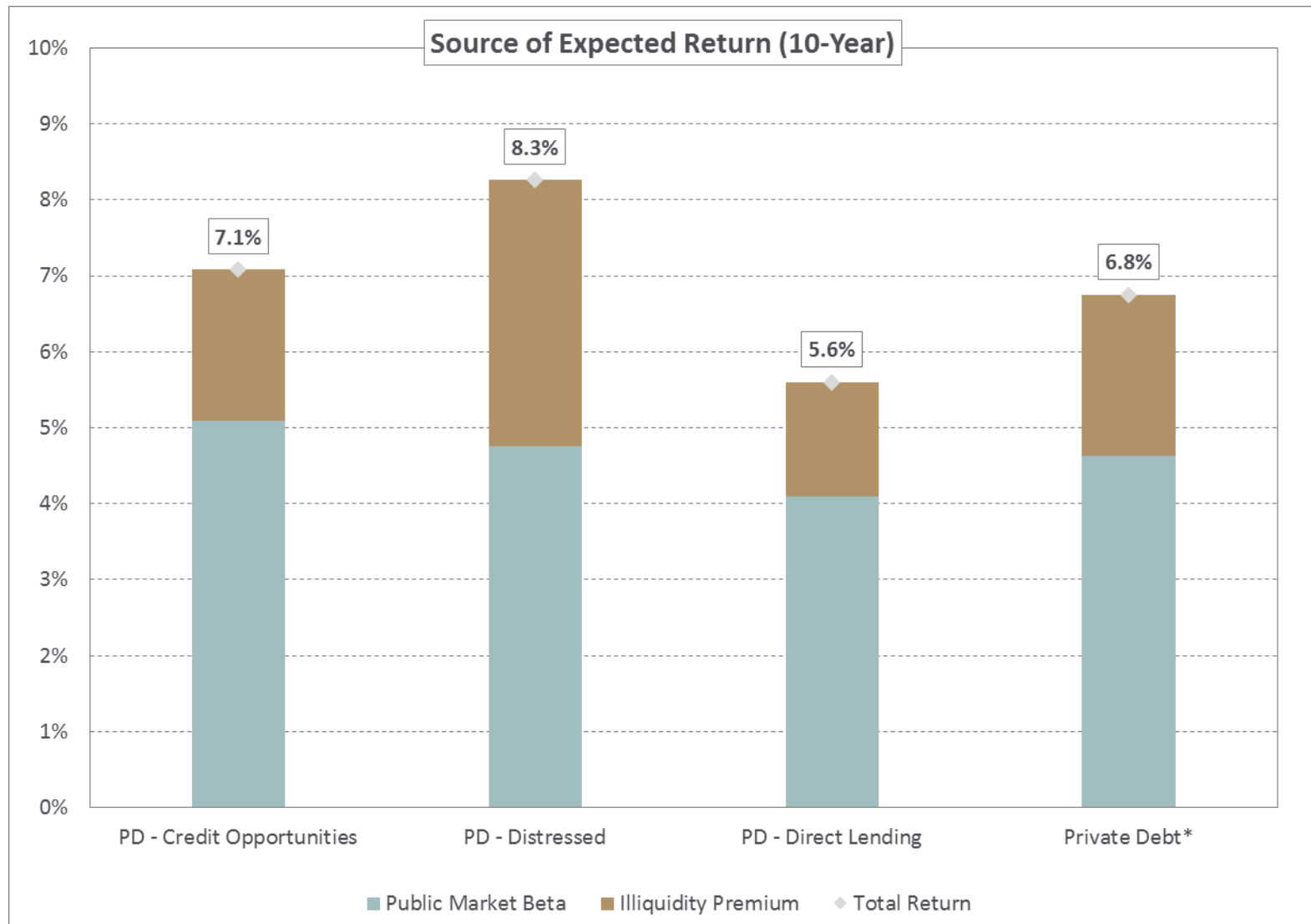
PRIVATE EQUITY BUILDING BLOCKS



Source: NEPC

*Private Equity is a derived composite of 34% US Buyout, 34% US Growth, 8.5% US Secondary, 8.5% US Venture, 15% Non-US PE

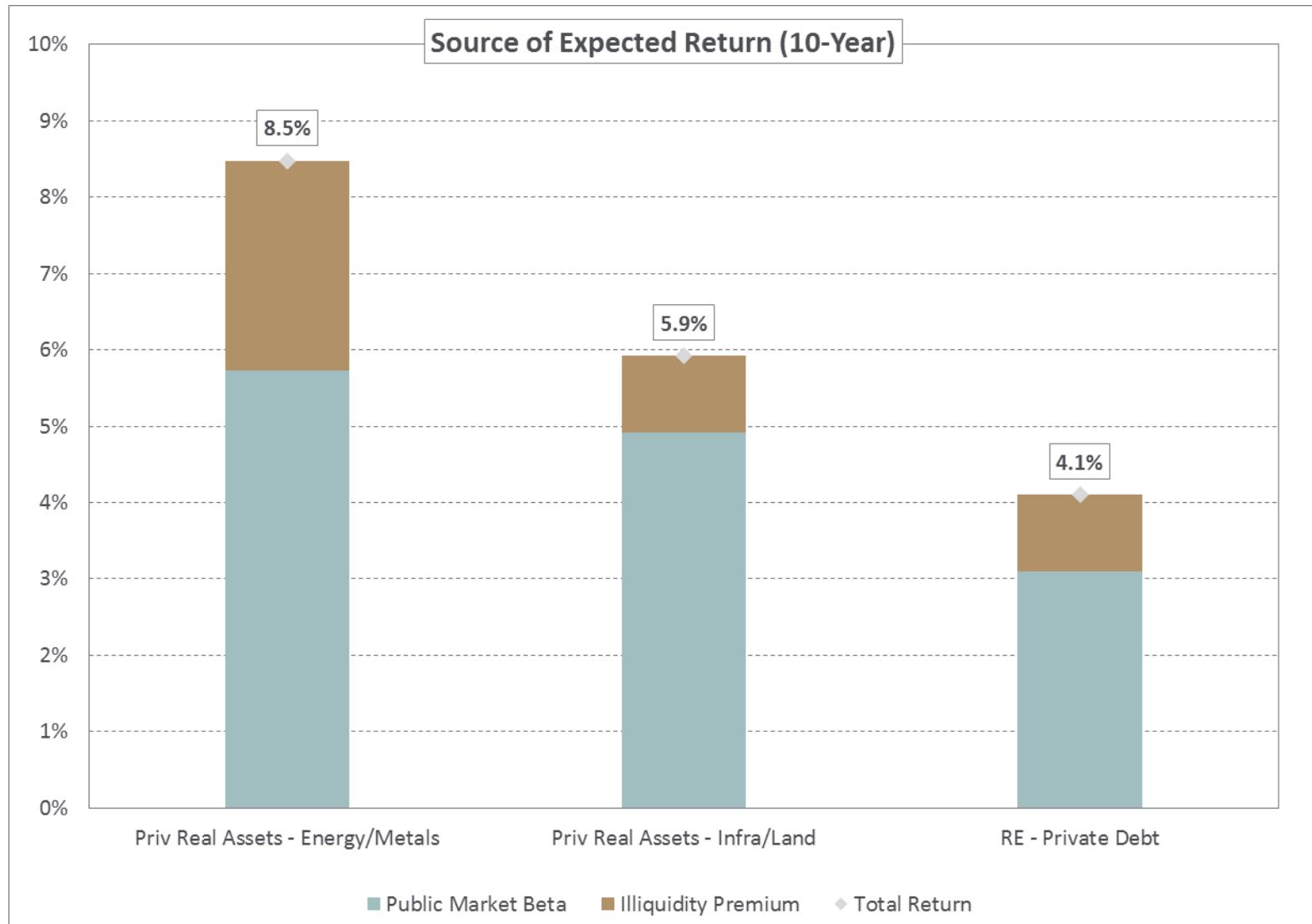
PRIVATE DEBT BUILDING BLOCKS



Source: NEPC

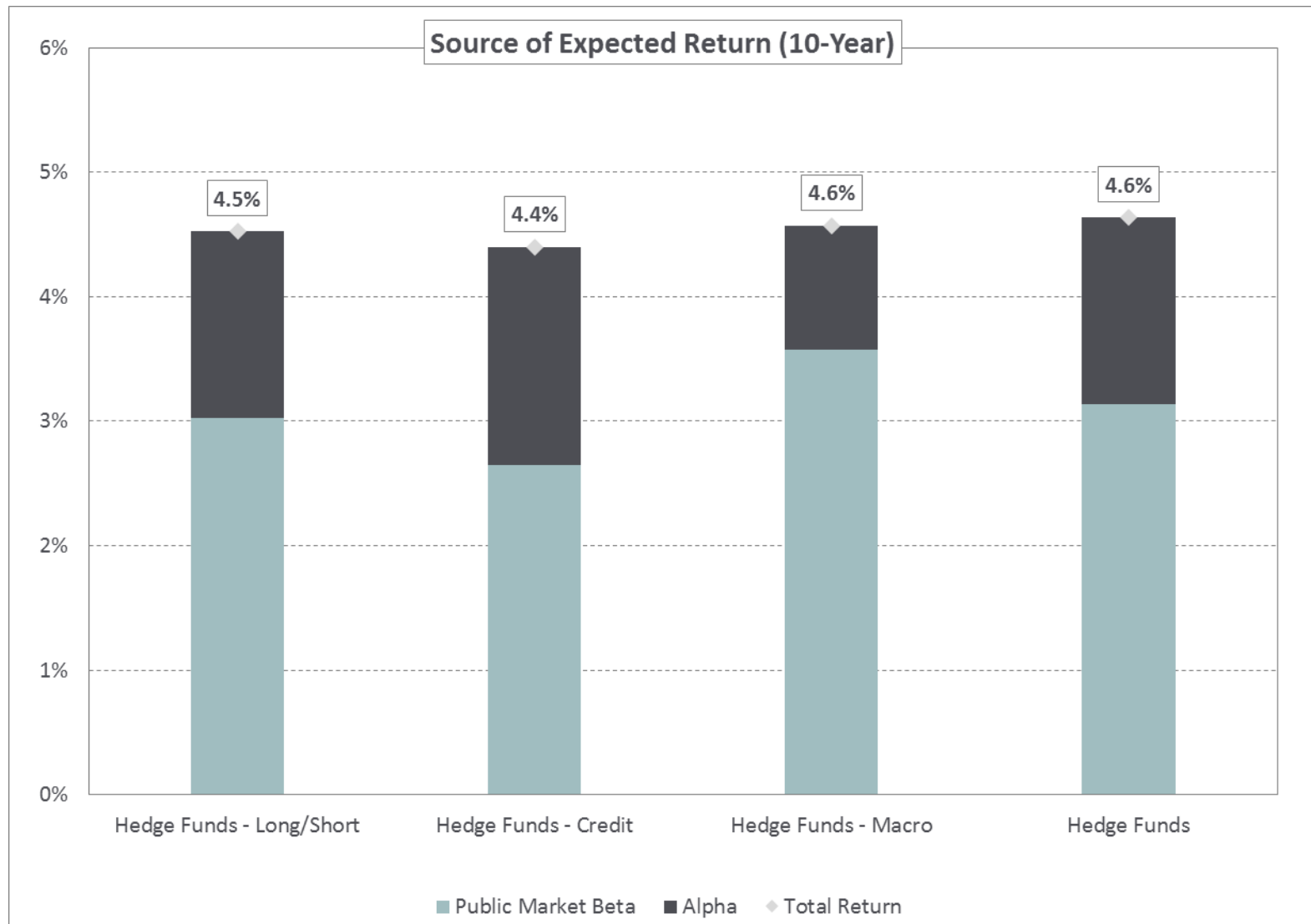
*Private Debt is a derived composite of 25% Mezzanine, 25% Distressed, 50% Direct Lending

PRIVATE REAL ASSETS BUILDING BLOCKS



Source: NEPC

HEDGE FUND BUILDING BLOCKS



Source: NEPC

*Hedge Funds is a derived composite of 40% Long/Short, 40% Credit, 20% Macro

APPENDIX

10-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
Inflation	1.7%	1.7%	-
Cash	0.6%	0.7%	-0.1%
US Leverage Cost	0.9%	1.0%	-0.1%
Non-US Cash	0.1%	0.5%	-0.4%
Large Cap Equities	6.3%	6.6%	-0.3%
Small/Mid Cap Equities	6.8%	7.3%	-0.5%
Int'l Equities (Unhedged)	6.7%	7.5%	-0.8%
Int'l Equities (Hedged)	7.1%	7.8%	-0.7%
Int'l Sm Cap Equities (Unhedged)	7.2%	7.8%	-0.6%
Emerging Int'l Equities	9.1%	10.2%	-1.1%
Emerging Int'l Sm Cap Equities	9.5%	10.2%	-0.7%
Hedge Funds - Long/Short	4.5%	4.8%	-0.3%
PE Buyout	8.7%	9.1%	-0.4%
PE Growth	9.9%	10.6%	-0.7%
PE Venture	11.3%	12.1%	-0.8%
PE Secondary	8.2%	8.6%	-0.4%
PE Non-US	11.4%	12.0%	-0.6%
China Equity	8.2%	8.9%	-0.7%
US Microcap Equity	7.4%	8.4%	-1.0%

10-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
TIPS	0.9%	1.2%	-0.3%
Treasuries	0.6%	0.6%	-
IG Corp Credit	2.6%	3.9%	-1.3%
MBS	0.8%	0.9%	-0.1%
High-Yield Bonds	4.3%	5.6%	-1.3%
Bank Loans	4.1%	5.5%	-1.4%
EMD (External)	4.4%	5.7%	-1.3%
EMD (Local Currency)	5.3%	5.9%	-0.6%
Non-US Bonds (Unhedged)	0.6%	0.7%	-0.1%
Non-US Bonds (Hedged)	0.9%	1.0%	-0.1%
Short TIPS (1-5 yr)	0.8%	1.2%	-0.4%
Short Treasuries (1-3 yr)	0.7%	0.8%	-0.1%
Short Credit (1-3 yr)	1.7%	2.7%	-1.0%
Short HY (1-3 yr)	3.3%	5.8%	-2.5%
Municipal Bonds	2.3%	2.6%	-0.3%
Municipal Bonds (1-10 Year)	1.3%	1.5%	-0.2%
High-Yield Municipal Bonds	4.0%	4.4%	-0.4%
Hedge Funds - Credit	4.4%	5.0%	-0.6%
PD Credit Opportunities	7.1%	8.2%	-1.1%

10-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
PD Distressed	8.3%	9.4%	-1.1%
PD Direct Lending	5.6%	7.0%	-1.4%
Long Treasuries	0.4%	0.4%	-
Long TIPS	1.0%	1.2%	-0.2%
Long Credit	3.0%	4.5%	-1.5%
20+ YR STRIPS	0.0%	0.0%	-
Corp - AAA	1.7%	2.3%	-0.6%
Corp - AA	1.7%	2.5%	-0.8%
Corp - A	2.1%	3.1%	-1.0%
Corp - BBB	3.1%	4.6%	-1.5%
Corp - BB	5.0%	6.1%	-1.1%
Corp - B	4.5%	5.9%	-1.4%
Corp - CCC/Below	-0.8%	1.5%	-2.3%
IG ABS/CMBS	1.8%	2.4%	-0.6%
IG CLO	2.1%	2.2%	-0.1%
HY Securitized	1.9%	2.3%	-0.4%
HY CLO	4.6%	5.3%	-0.7%
Taxable Muni Debt	2.7%	3.2%	-0.5%
US 10 yr Treasuries	0.5%	0.6%	-0.1%

10-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
Non-US 10-Year Sov (Hedged)	0.0%	0.9%	-0.9%
Commodities	1.7%	1.4%	+0.3%
Midstream Energy	7.4%	8.1%	-0.7%
REITs	6.6%	7.0%	-0.4%
Public Infrastructure	6.3%	6.8%	-0.5%
Public Resource Equity	7.5%	8.2%	-0.7%
Core Real Estate	4.4%	4.5%	-0.1%
Non-Core Real Estate	5.3%	5.4%	-0.1%
Private RE Debt	4.1%	4.6%	-0.5%
Private Real Assets - Energy/Metals	8.5%	8.9%	-0.4%
Private Real Assets - Infra/Land	5.9%	6.2%	-0.3%
Hedge Funds - Macro	4.6%	4.8%	-0.2%
<i>Global Equity*</i>	<i>7.2%</i>	<i>7.7%</i>	<i>-0.5%</i>
<i>Private Equity*</i>	<i>10.4%</i>	<i>10.9%</i>	<i>-0.5%</i>
<i>Core Bonds*</i>	<i>1.3%</i>	<i>1.6%</i>	<i>-0.3%</i>
<i>Private Debt*</i>	<i>6.8%</i>	<i>8.0%</i>	<i>-1.2%</i>
<i>Long Govt/Credit*</i>	<i>2.0%</i>	<i>2.5%</i>	<i>-0.5%</i>
<i>Hedge Funds*</i>	<i>4.6%</i>	<i>4.8%</i>	<i>-0.2%</i>

*Calculated as a blend of other asset classes

30-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
Inflation	2.4%	2.4%	-
Cash	1.8%	1.8%	-
US Leverage Cost	2.1%	2.1%	-
Non-US Cash	1.2%	0.5%	+0.7%
Large Cap Equities	6.7%	7.4%	-0.7%
Small/Mid Cap Equities	7.0%	7.6%	-0.6%
Int'l Equities (Unhedged)	6.8%	7.6%	-0.8%
Int'l Equities (Hedged)	7.2%	8.0%	-0.8%
Int'l Sm Cap Equities (Unhedged)	7.3%	8.0%	-0.7%
Emerging Int'l Equities	9.1%	9.5%	-0.4%
Emerging Int'l Sm Cap Equities	9.3%	10.0%	-0.7%
Hedge Funds - Long/Short	5.4%	5.6%	-0.2%
PE Buyout	8.9%	9.6%	-0.7%
PE Growth	10.1%	10.9%	-0.8%
PE Venture	11.0%	11.9%	-0.9%
PE Secondary	8.4%	9.1%	-0.7%
PE Non-US	11.0%	11.7%	-0.7%
China Equity	8.5%	8.8%	-0.3%
US Microcap Equity	7.6%	8.6%	-1.0%

30-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
TIPS	2.0%	2.0%	-
Treasuries	1.9%	1.9%	-
IG Corp Credit	3.8%	4.2%	-0.4%
MBS	2.2%	2.2%	-
High-Yield Bonds	5.4%	5.8%	-0.4%
Bank Loans	4.7%	5.1%	-0.4%
EMD (External)	4.9%	5.3%	-0.4%
EMD (Local Currency)	5.2%	5.6%	-0.4%
Non-US Bonds (Unhedged)	1.6%	1.2%	+0.4%
Non-US Bonds (Hedged)	1.9%	1.4%	+0.5%
Short TIPS (1-5 yr)	2.1%	2.0%	+0.1%
Short Treasuries (1-3 yr)	1.9%	1.9%	-
Short Credit (1-3 yr)	2.8%	3.1%	-0.3%
Short HY (1-3 yr)	3.5%	4.5%	-1.0%
Municipal Bonds	2.5%	2.6%	-0.1%
Municipal Bonds (1-10 Year)	2.0%	2.0%	-
High-Yield Municipal Bonds	4.4%	4.4%	-
Hedge Funds - Credit	5.5%	5.7%	-0.2%
PD Credit Opportunities	7.2%	7.7%	-0.5%

30-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
PD Distressed	8.1%	8.5%	-0.4%
PD Direct Lending	7.0%	7.4%	-0.4%
Long Treasuries	1.9%	1.8%	+0.1%
Long TIPS	1.9%	1.9%	-
Long Credit	4.1%	4.5%	-0.4%
20+ YR STRIPS	1.6%	1.5%	+0.1%
Corp - AAA	2.9%	3.1%	-0.2%
Corp - AA	2.9%	3.2%	-0.3%
Corp - A	3.3%	3.6%	-0.3%
Corp - BBB	4.1%	4.6%	-0.5%
Corp - BB	6.0%	6.3%	-0.3%
Corp - B	5.4%	5.8%	-0.4%
Corp - CCC/Below	0.1%	0.6%	-0.5%
IG ABS/CMBS	3.1%	3.2%	-0.1%
IG CLO	3.1%	3.0%	+0.1%
HY Securitized	4.4%	4.4%	-
HY CLO	5.5%	5.7%	-0.2%
Taxable Muni Debt	4.0%	4.1%	-0.1%
US 10 yr Treasuries	2.1%	2.1%	-

30-YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	6/30/2020	3/31/2020	Delta
Non-US 10-Year Sov (Hedged)	1.2%	1.8%	-0.6%
Commodities	4.1%	4.0%	+0.1%
Midstream Energy	7.6%	8.3%	-0.7%
REITs	7.1%	7.6%	-0.5%
Public Infrastructure	6.8%	7.1%	-0.3%
Public Resource Equity	7.4%	8.1%	-0.7%
Core Real Estate	5.6%	5.7%	-0.1%
Non-Core Real Estate	7.0%	7.1%	-0.1%
Private RE Debt	5.1%	5.3%	-0.2%
Private Real Assets - Energy/Metals	9.0%	9.4%	-0.4%
Private Real Assets - Infra/Land	7.0%	7.2%	-0.2%
Hedge Funds - Macro	5.0%	5.3%	-0.3%
<i>Global Equity*</i>	<i>7.4%</i>	<i>8.1%</i>	<i>-0.7%</i>
<i>Private Equity*</i>	<i>10.5%</i>	<i>11.2%</i>	<i>-0.7%</i>
<i>Core Bonds*</i>	<i>2.6%</i>	<i>2.6%</i>	-
<i>Private Debt*</i>	<i>7.4%</i>	<i>7.8%</i>	<i>-0.4%</i>
<i>Long Govt/Credit*</i>	<i>3.2%</i>	<i>3.2%</i>	-
<i>Hedge Funds*</i>	<i>5.5%</i>	<i>5.6%</i>	<i>-0.1%</i>

*Calculated as a blend of other asset classes

PRIVATE MARKETS COMPOSITES

Assumed public market beta composites for private market return assumptions are detailed below:

Private Equity:

Private Equity – Buyout: 25% US Large Cap, 75% US Small/Mid Cap

Private Equity – Secondary: 25% US Large Cap, 75% US Small/Mid Cap

Private Equity – Growth: 50% US Small/Mid Cap, 50% US Microcap

Private Equity – Venture: 25% US Small/Mid Cap, 75% US Microcap

Private Equity – Non-US: 70% International Small Cap, 30% Emerging Small Cap

PE Composite: 34% Buyout, 34% Growth, 15 % Non-US, 8.5% Secondary, 8.5% Venture

Private Debt:

Private Debt – Direct Lending: 100% Bank Loans

Private Debt – Distressed: 20% US Small/Mid Cap, 60% US High Yield, 20% Bank Loans

Private Debt – Credit Opportunities: 24% US SMID Cap, 33% US High Yield, 33% Bank Loans

Private Debt Composite: 50% Direct Lending, 25% Credit Opportunities, 25% Distressed

Private Real Assets:

Private Real Assets – Energy: 30% Comm., 35% Midstream, 35% Public Resource Equity

Private Real Assets - Infra/Land: 30% Commodities, 70% Public Infrastructure

Private Real Estate Debt: 50% CMBS, 50% Core Real Estate

INFORMATION DISCLAIMER

Past performance is no guarantee of future results.

The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

[Return to Agenda](#)

September 17, 2020

Retirement Board Agenda Item

[Return to Agenda](#)

TO: Retirement Board

FROM: Stan Conwell, Retirement Investment Officer

- I. SUBJECT: Investment Matrix
- II. ITEM NUMBER: 8.a
- III. ITEM TYPE: Information Only
- IV. STAFF RECOMMENDATION: N/A
- V. ANALYSIS:

a) *Investment Program Activities & Governance:*

The onboarding process continued with NEPC in August. Staff worked with NEPC to familiarize themselves with the portfolio managers, the liquidity sub-portfolio, and general investment history of the plan. Various projects related to improving the efficiency of some investment tasks from the work-from-home environment began as well. A potential private equity investment was reviewed and proceeded to the legal due diligence phase. Staff also met with a few managers for a brief update on recent developments and attended some work trainings.

Staff reviewed investment guidelines changes in the Dodge and Cox stock fund. Dodge and Cox is a long-time manager for StanCERA and the current guidelines in place are from StanCERA's prior investment policy statement. The new guidelines are the standard guidelines Dodge & Cox uses for the stock fund and are very similar to those in place now. The only change will be in the restriction on foreign securities traded over the counter. Changing the guidelines will result in one holding change. Given that the new guidelines are more reflective of StanCERA's current policy and will have a small impact on the fund as a result, both staff and NEPC are comfortable implementing the change.

Another potential change staff and NEPC are exploring is adding a private credit proxy to the portfolio. Directive 3 of the investment policy statement identifies appropriate private market proxies to use in StanCERA's portfolio and provides authority to investment staff to put a proxy in place as the target allocation is built out over time. Private credit is currently below target with most funds in the harvesting phase and a couple funds approaching their end of life. The addition of the private credit proxy would help the plan achieve its target allocation now and in the future.

The catalyst for implementing the private credit proxy now was the resizing of the liquidity sub-portfolio with Insight, which freed up some cash. There is about \$55-60 million in cash available. Staff reduced the years of cash shortfalls to prefund from 9 years to 6 years. This change was driven by the drop-in interest rates which would have required an increase in capital to fund the same period of cash shortfalls and forecasting out over a shorter time period is more accurate.

Staff is currently researching appropriate funds with the assistance of NEPC and will implement the new fund in multiple phases. By deploying the capital across multiple phases, any impact from unexpected market volatility will be dampened.

b) *Money Transfer Report:*

August:

From			To		
Manager	Asset Class	Amount	Manager	Asset Class	Amount
NT Russell 3000 Index	Public Equities	\$-900,000	Insight Partners XI, LP	Private Equity	\$900,000
StanCERA Cash	Cash	\$-907,909	Owl Rock First Lien	Private Credit	\$907,909

c) *Manager Meeting Notes:*

Medley

Staff met in August with representatives from Medley for a fund and firm update. Medley's main office in New York City is currently closed and the firm is working entirely remotely. Covid-19 has had minimal impact on Medley's operations. Medley had announced a merger with other related investment companies, but that merger is no longer being pursued. The current market environment and a portfolio update including an overview of recent realized investments were discussed. Some time was also dedicated to review each of the remaining positions in the portfolio. Much of the discussion was spent on the more stressed positions and the outlook for each. Various portfolio statistics were covered including the loan maturity schedule. The Medley Opportunity fund II is currently set to end on June 2021, however there is the possibility the limited partners could extend the life of the fund if certain majority deem it's in the best interest of the fund.

d) *Trainings/Conferences:*

Pension Bridge Virtual Week

Like many other conferences and events, Pension Bridge moved its conference to a virtual setting due to Covid-19. The conference spanned the week of August 24-28. Sessions covered many different topics with an emphasis on asset classes and common strategies available to institutional portfolios. Much of the discussion by the panel speakers focused on the impact of the pandemic on markets and the challenges and opportunities facing many firms right now. A common theme across all sessions was the elevated uncertainty about the shape of the recovery and what the new market landscape might look like.

VI. RISK: None

VII. STRATEGIC PLAN: N/A

VIII. ADMINISTRATIVE BUDGET IMPACT: NONE


Stan Conwell, Retirement Investment Officer

[Return to Agenda](#)