



Sept. 23, 2025
1:30 P.M.
BOARD ROOM

BOARD OF RETIREMENT

AGENDA

832 12th Street
Suite 600
Modesto, CA

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.

The StanCERA boardroom, is currently open to public access. If you wish to make a public comment during the Public Comment section of the meeting, alert the Chair that you wish to speak. As permitted by Gov. Code § 54954.3(b)(1), each public comment is limited to three minutes.

You may also submit public comments in writing. If you wish to make a general public comment or a comment on a specific agenda item in writing, please submit your comment via email or fax no later than 4:30 p.m. on the day before a Board meeting. Comments can be submitted via email at taaa@stancera.org or via fax at (209) 558-4976. If your comment pertains to a specific agenda item, please include the agenda item number in the subject line. As permitted by Gov. Code § 54954.3(b)(1), each public comment is limited to 400 words. Comments submitted in writing will be read aloud during the meeting.

CONSENT/ACTION ITEMS: Consent matters include routine administrative actions and are identified under the Consent Items heading. All other items are 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.

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.

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

- 1) Call Meeting to Order
- 2) Pledge of Allegiance
- 3) Roll Call

- 4) Announcements
- 5) Public Comment
- 6) Emergency Declaration
- 7) Consent Items:
 - (a) Approval of August 26, 2025 Meeting Minutes [View](#)
 - (b) Application for Service Retirement(s)
Government Code Section 31499.17, 31670, 31662.2 & 31810
See attached for details [View](#)
 - (c) Application for Disability Retirement – Government Code Section 31724
 - i. Davidson, Lisa – Stanislaus County – Effective 09-24-2025
 - (d) Investment Matrix [View](#)
 - (e) IRS Proposed Penalty Update [View](#)
 - (f) Conference Summary [View](#)
- 8) Investment:
 - (a) Investment Consultant – August Flash Report – NEPC [View](#)
 - (b) Asset Allocation Education – NEPC [View](#)
 - (c) Liquidity Sub-Portfolio Review – NEPC [View](#)
 - (d) Liquidity Sub-Portfolio Annual Funding Plan [View](#)
- 9) Administrative
 - (a) RESCO Insurance Response Update [View](#)
- 10) Closed Session:
 - (a) CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION
Pursuant to Government Code Section 54946.9 (d)(1)(2 Cases)
 - i. Vincent L. Hooper v. StanCERA County of Sacramento Superior Court
Case No. 25WM000093
 - ii. StanCERA v. Ruby Esparza County of Stanislaus Superior Court
Case No. CV-25-005766
 - (b) PERSONNEL MATTER
Government Code Section 54957 (b)(1)

13) Members' Forum (Information and Future Agenda Requests Only)

14) Adjournment



August 26, 2025
1:30 P.M.
BOARD ROOM

BOARD OF RETIREMENT

MINUTES

832 12th Street
Suite 600
Modesto, CA 3

- 1) Call Meeting to Order
- 2) Pledge of Allegiance
- 3) Roll Call

Trustees

Donna Riley
Delilah Vasquez
Darin Gharat
Terry Withrow (Arrived 1:50 p.m.)
Joshua Clayton
Rhonda Biesemeier

Trustees Absent

Mike Lynch
Samuel Sharpe
Jeff Grover
Doris Foster

Others Present

Tom Stadelmaier, Executive Director
Carmen Gusman- Retirement Fiscal Manager
Stan Conwell, Retirement Investment Officer
Jamie Gingerich, Member and Employer Services Specialist
Alaine Taa, Executive Assistant/Clerk of the Board
Fred Silva, General Legal Counsel
Jeff MacLean, CEO, Verus
Vincent Phan, Associate Director, Verus
Daniel Hennessy, NEPC, Investment Consultant
Daniel Wade, Principal, Milliman (Virtual)
Nick Collier, Principal, Milliman (Virtual)
Julie Smith, Consulting Actuary, Milliman (Virtual)
Phil Edwards, Principal, Curcio Webb (Virtual)
Uma Kolluri, Consultant, Curcio Webb (Virtual)
Michael O'Neal – Member of the public

- 4) Announcements
Announcement of Board of Retirement Seat #2 filled by Doris Foster.
Trustee Foster's first Board of Retirement Meeting will be on September 23, 2025.
- 5) Public Comment - NONE
- 6) Emergency Declaration - NONE
- 7) Consent Items:
- (a) Approval of June 24, 2025 Meeting Minutes
 - (b) Application for Service Retirement(s)
Government Code Section 31499.17, 31670, 31662.2 & 31810
See attached for details
 - (c) Application for Disability Retirement – Government Code Section 31724
 - i. Meza, Elizabeth – Stanislaus County – Effective 05-14-2025
 - (d) Investment Matrix
 - (e) Private Market Commitment Notice
 - i. Graceada Partners Fund IV
 - ii. Great Hill Equity Partners IX
 - iii. Monroe Capital Private Credit Fund V
 - iv. Pimco European Data Centre Opportunity Fund
 - (f) Private Markets Report as of December 31, 2024
 - (g) Value Added Reports as of March 2025
 - (h) StanCERA Strategic Goals Action Update
 - (i) Disability Officers Contract
 - (j) Board of Retirement Committee assignments
 - (k) Board of Retirement Election Seat #2
 - (l) Internal Governance Committee – Audit Entrance Meeting Update
 - (m) Due Diligence Committee – Annual Committee Managers Review

Motion was made by Trustee Biesemeier and seconded by Trustee Riley to approve all consent items as presented.

Motion passed unanimously.

Item 10.a was moved out of original order to discuss after Consent items as requested by Trustee Bieseemeier.

10) Administrative (II)

(a) RESCO Insurance Broker Deductions - Discussion and Action Item

The Board heard public comments from Michael O'Neal expressing his concerns regarding StanCERA's proposed administrative fees. His concerns are listed as follows:

1. How was the administrative fee determined?
2. RESCO is being singled out. Believes it is egregious to apply a \$5 monthly fee.
3. RESCO requests that approval of the \$5 fee be tabled while they review and work with the new insurance broker.

Motion was made by Trustee Gharat and seconded by Trustee Riley to discontinue insurance deductions for the current insurance broker PGA, and to support deductions for insurance offered through the new RESCO insurance broker selected by RESCO for a period of 90 days and find a solution regarding the administrative fees. The administrative fee for insurance deductions will be revisited at the October Board of Retirement meeting.

Roll Call Vote was as follows:

Trustee Riley	YES
Trustee Vasquez	YES
Trustee Gharat	YES
Trustee Withrow	YES
Trustee Clayton	YES
Trustee Bieseemeier	YES

Motion passed unanimously.

8) Administrative (I)

(a) Actuarial Audit Update - Discussion and Action Item – Milliman

Motion was made by Trustee Gharat and seconded by Trustee Vazquez to approve the presented Actuarial Audit Report.

Motion passed unanimously.

9) Investment:

- (a) Verus – Private Equity and Private Credit Review
- (b) Public Equity Education – NEPC
- (c) Investment Consultant – June/July Flash Report – NEPC
- (d) Quarterly Investment Performance Report – NEPC
- (e) Quarterly Private Real Assets Report – NEPC

11) Committee Reports and Recommendations

- (a) Private Markets Consulting Committee – Private Markets Consulting Services – Discussion and Action Item

Motion was made by Trustee Riley and seconded by Trustee Vasquez to authorize staff to negotiate and execute a final contract with Meketa for private markets consulting services.

Motion passed unanimously.

Motion was made by Trustee Gharat and seconded by Trustee Riley to move into closed session.

Motion passed unanimously.

12) Closed Session:

- (a) CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION
Pursuant to Government Code Section 54946.9 (d)(1) (2 Cases)

- i. Vincent L. Hooper v. StanCERA
County of Sacramento Superior Court Case No. 25WM000093
- ii. StanCERA v. Ruby Esparza
County of Stanislaus Superior Court Case No. CV-25-005766

- (b) PERSONNEL MATTER
Government Code Section 54957 (b)(1)

Motion was made by Trustee Gharat and seconded by Trustee Biesemeier to move into open session.

Motion passed unanimously.

There was no reportable action to report from Closed Session.

13) Members' Forum (Information and Future Agenda Requests Only)

- i. Trustee Biesemeier will attend SACRS Board Meeting on September 5, 2025
- ii. Trustee Clayton attended the July UC Berkeley SACRS Conference in Berkeley, CA and highly recommends it to other trustees
- iii. Trustee Gharat stated that Stanislaus County charges \$20 per person to administer benefits (in regard to item 10.a).

14) Adjournment Time: 3:48 p.m.

Respectively submitted,

By Thomas Stadelmaier

Thomas Stadelmaier, Executive Director

APPROVED AS TO FORM

By Fred A. Silva

Fred A. Silva, General Legal Counsel

StanCERA APPLICATIONS FOR SERVICE RETIREMENT(S)

*GOVERNMENT CODE SECTIONS 31499.14, 31670,
31662.2, 31810 & 31700*

09/23/25 Item 7.b

Boddy, Lisa - Stanislaus County - Effective 09/27/2025
Cox, Monique - Stanislaus County - Effective 08/17/2025
De Leon Park, Rosa - Stanislaus Council of Govt. - Effective 08/15/2025
Eppler, Sheryl - Stanislaus County - Effective 09/06/2025
Hodge, Rebecca - Stanislaus County - Effective 09/06/2025
Jackson, Eric - Stanislaus County - Effective 08/23/2025
MONTGOMERY, ANN - City of Ceres - Effective 09/13/2025
Moon, Elizabeth - Stanislaus County - Effective 09/06/2025
Myers-Hart, Amber - Stanislaus County - Effective 09/06/2025
Sanders, Cecelia - Stanislaus Superior Court - Effective 09/06/2025
Stambaugh, Brian - Stanislaus County - Effective 08/29/2025
Tristao, Rose - Stanislaus County - Effective 08/21/2025
Valtierra-Gongora, Andrea - Stanislaus County - Effective 08/30/2025
Verver, Steven - Stanislaus County - Effective 09/15/2025
Walker, Leslie - Stanislaus County - Effective 08/09/2025
Watson, Karyn - Stanislaus County - Effective 09/25/2025

September 23, 2025

Retirement Board Agenda Item

TO: Retirement Board

FROM: Stan Conwell, Retirement Investment Officer

- I. SUBJECT: Investment Matrix
- II. ITEM NUMBER: 7.d
- III. ITEM TYPE: Information Only
- IV. STAFF RECOMMENDATION: N/A
- V. ANALYSIS:

a) *Investment Program Activities:*

Following the Board's approval to engage Meketa as StanCERA's private markets consultant, staff has been working with counsel and Curcio Webb to negotiate and finalize the contract. To ensure a smooth transition, staff has begun reaching out to managers to inform them of the upcoming change.

The Due Diligence Committee also met during the month and identified managers for its annual review. The committee will be reviewing PanAgora, Graham Capital Management, and Raven Capital Management and a visit to NEPC is also planned. A comprehensive due diligence questionnaire (DDQ) has been distributed, and an onsite visit is scheduled for mid-October. To maximize efficiency, additional manager meetings will be held during the same trip.

b) *Money Transfer Report:*

August 2025: Capital Calls & Private Market Proxy Trades

From			To		
Manager	Asset Class	Amount	Manager	Asset Class	Amount
NT STIF Fund	Cash	-\$1,015,864.17	Pimco EDCO Fund	Private Infrastructure	\$1,015,864.17
NT STIF Fund	Cash	-\$12,026,558.00	Monroe Private Credit Fund V	Private Credit	\$12,026,558.00

NTAM Russell 3000 Index Fund	Public Equities	-\$5,000,000.00	NT STIF Fund	Cash	\$5,000,000.00
NT STIF Fund	Cash	-\$8,920,528.00	Graceada Partners Fund IV	Private Real Estate	\$8,920,528.00
BlackRock US High Yield Index Fund	Fixed Income	-\$10,000,000.00	NT STIF Fund	Cash	\$10,000,000.00
NT STIF Fund	Cash	-\$414,968.25	Ares SDL Fund III	Private Credit	\$414,968.25
NT STIF Fund	Cash	-\$1,458,714.97	Callodine Asset Based Loan Fund II	Private Credit	\$1,458,714.97
NT STIF Fund	Cash	-\$134,367.01	Audax Private Equity Fund VII	Private Equity	\$134,367.01
NT STIF Fund	Cash	-\$172,174.00	Grandview Partners II	Private Real Estate	\$172,174.00
NT STIF Fund	Cash	-\$810,271.00	SSC Partners II	Private Equity	\$810,271.00

c) *Manager Monitor:*

Manager Monitor August 2025				
Manager	Organizational Health	Performance Status	Regulatory action in the last 12 months? (Y/N)	Comments
Liquidity Sub-Portfolio				
Northern Trust STIF Fund	Stable	Performing	N	
Insight Investment	Watch	Performing	N	Portfolio Manager Retirement; Succession Management Plan in place
Growth Sub-Portfolio				
BlackRock Russell 1000 Growth	Stable	Performing	Y	Minor fines pending from state courts and foreign regulatory authorities.

BlackRock Russell 1000 Value	Stable	Performing	Y	Minor fines pending from state courts and foreign regulatory authorities.
Dodge & Cox-Equity	Stable	Performing	N	
Attucks Small Cap	Stable	Performing	N	
LSV International Value	Stable	Performing	N	
Fidelity International Growth	Stable	Performing	N	
MS Prime Property Fund	Watch	Performing	N	Large exit queue from fund; queue size is moderating
PGIM Real Estate US Debt Fund	Watch	Performing	N	Organizational changes under new CEO
ARA American Strategic Value Realty Fund	Stable	Performing	N	Weak short-term performance, Good long-term performance.
Greenfield Acquisition Partners VII	Stable	Performing	N	
Grandview Property Partners I	Stable	Performing	N	
Grandview Property Partners II	Stable	Performing	N	
TA Realty Value Fund XIII	Stable	Too Soon To Tell	N	
KSL Credit Opportunities IV	Stable	Too Soon To Tell	N	
MS Infrastructure Partners II	Stable	Performing	N	
Northern Trust Infrastructure Fund	Stable	Performing	N	
Palistar Communications Infrastructure Fund II	Stable	Performing	N	
JP Morgan IIF Hedged LP	Stable	Performing	Y	JPMorgan Chase affiliates settle actions related to retail broker-dealer customers.
IFM Global Infrastructure Fund	Stable	Performing	N	
Carlyle Renewable and Sustainable Energy Fund II	Stable	Too Soon To Tell	Y	SEC penalty for violating certain recordkeeping provisions.
Upwelling (Medley Opp Fund II)	Stable	Not Performing	N	Largely liquidated. Some residual income expected.

White Oak Pinnacle Fund	Watch	Not Performing	N	Maintaining enhanced oversight; Working with GP and LPs to influence prioritization of realizations while maximizing value.
Raven Opportunity Fund III	Watch	Not Performing	N	Maintaining enhanced oversight; Working with GP and LPs to influence prioritization of realizations while maximizing value.
Blue Owl First Lien Fund	Stable	Performing	N	
Monroe Capital Private Credit Fund IV	Stable	Performing	N	
Callodine ABL II	Stable	Performing	N	
Ares SDL Fund III	Stable	Too Soon To Tell	N	
Comvest Partners Fund VII	Stable	Too Soon To Tell	N	
SVP Special Situations Fund V	Stable	Performing	N	
ABRY Senior Equity VI	Stable	Performing	N	
Crestline Opportunity Fund V	Stable	Performing	N	
Crayhill Principal Strategies Fund III	Stable	Too Soon To Tell	N	
Vista Foundation IV	Stable	Not Performing	N	Early returns not in line with expectations. Conviction maintained
CD&R XI	Stable	Performing	N	
Gryphon Partners VI	Stable	Too Soon To Tell	N	Some portfolio companies facing delayed value creation
Sole Source Fund II	Stable	Performing	N	
Blue Wolf Fund V	Stable	Too Soon To Tell	N	
Audax Private Equity Fund VII	Stable	Too Soon To Tell	N	
Gridiron Capital Fund V	Stable	Too Soon To Tell	N	
Insight Partners Fund XI	Stable	Performing	N	
Great Hill Equity Partners	Stable	Too Soon To Tell	N	Delayed deployment from market headwinds. Conviction maintained.

Eclipse Fund V	Stable	Too Soon To Tell	N	
NIS Opportunistic Credit	Stable	Performing	N	
Risk-Diversifying Sub-Portfolio				
AQR Global Risk Premium	Stable	Under Review	N	Performance low vs 60/40 benchmark. Recent performance improving.
PanAgora Risk Parity Multi Asset	Stable	Under Review	N	Performance low vs 60/40 benchmark. Recent performance improving.
Northern Trust Intermediate Gov't Bond	Stable	Performing	N	
Northern Trust Intermediate Gov't Bond	Stable	Performing	N	
Northern Trust US TIPS	Stable	Performing	N	
Graham Proprietary Matrix	Stable	Performing	N	
Wellington Global Macro	Stable	Performing	N	

Manager Monitor Ratings Key:

Organizational Health

- **Stable** – No known organizational concerns. Team continuity, ownership and strategy AUM remain strong.
- **Watch** – Notable changes (personnel, ownership, strategy) that warrant monitoring.
- **Concern** – Material issues that could impair long-term effectiveness (key departures, instability, strategy outflows).

Performance Status

- **Performing** – Manager is meeting or exceeding performance expectations
- **Not Performing** - Manager is persistently underperforming expectations without sufficient explanation
- **Too Soon To Tell / Under Review** – Manager results are inconclusive due to strategy vintage, recent changes, or short-term volatility. Monitoring for clearer performance trends.

Regulatory actions are monitored across the whole organization and may not impact the fund directly.

VI. RISK: None

VII. STRATEGIC PLAN: N/A

VIII. ADMINISTRATIVE BUDGET IMPACT: None

September 23, 2025

Retirement Board Agenda Item

TO: Retirement Board

FROM: Carmen Gusman, Financial Services Manager

- I. SUBJECT: IRS Proposed Penalty Update
- II. ITEM NUMBER: 7.e
- III. ITEM TYPE: Information Only
- IV. STAFF RECOMMENDATION: N/A
- V. ANALYSIS: Regarding the late filing of the 2021 1099-R forms, I'm pleased to report that the IRS has waived the proposed penalty fees. Staff had submitted all required documents as part of the mitigation process, and the waiver has now been confirmed in writing. Staff would like to thank Judy Boyette, Mikaela Habib and the staff at Hanson Bridgett for their assistance in the process.

Please let us know if you require additional information or have any further questions or feedback regarding this item.

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

Conference Summary

1. **Attendee Name:** Tom Stadelmaier
2. **Event Name:** Nossaman Fiduciary Forum
3. **Event Date:** August 22, 2025
4. **Event Location:** Sacramento
5. **Describe what was good about the event:**

This event provided an opportunity to get legal perspective on current fiduciary concerns. There was also an opportunity to meet in-person with legal staff and like-minded fiduciaries from across the country. I was able to connect with contacts working on critical issues with us right now. As a Nossaman client this was also a great opportunity and a low-cost event.

6. **Would you recommend this event to other trustees/staff:**

It is a great event especially for staff. The presentations on investment contracts and current pension litigation was especially timely.

7. **Number of Education Credits:**

Conference Summary

1. **Attendee Name:** Tom Stadelmaier
2. **Event Name:** Carlyle Global Investor Conference
3. **Event Date:** Sept 9-10, 2025
4. **Event Location:** Washington DC
5. **Describe what was good about the event:**

This event provided a great opportunity to get to know one of our newest managers. StanCERA is invested in the Renewable and Sustainable Energy Fund 2 as part of our infrastructure portfolio. Carlye also offers a wide range of additional private investments. The firm is very connected to the political arena and the event offered unique insights from experts in the field.

6. **Would you recommend this event to other trustees/staff:**

Yes. This event was well suited to staff especially investment professionals. It was also a good opportunity to connect with people at the firm that are part of the StanCERA relationship.

7. **Number of Education Credits:**

Conference Summary

1. **Attendee Name:** Tom Stadelmaier
2. **Event Name:** Fiduciary Investors Symposium
3. **Event Date:** Sept 17-18, 2025
4. **Event Location:** Stanford
5. **Describe what was good about the event:**

This event covered more technical investment-related topics with a focus on technology, infrastructure, geopolitics and current topics facing the largest pension plans and investors in the world. Several aspects of this event were more unique than most including many of the topics were covered by academics and not just by investment managers or industry professionals. That provides a different perspective which is very helpful. The event also provides a more international perspective on the topic of investing and managing large-scale pension plans with representation from not only California but also New York, North Carolina, Canada, Australia, Norway, Singapore and many other states and countries. Speakers included not only world-leading academics but managers that work with StanCERA today and people that have deep relevant experience in prestigious political posts. The quality of the presenters and fellow colleagues was top notch.

The event was offered with no registration cost through partnership with our custodian Northern Trust.

6. **Would you recommend this event to other trustees/staff:**

Yes. This event was well suited to staff especially investment professionals.

7. **Number of Education Credits:**



MONTHLY PERFORMANCE FLASH REPORT

STANISLAUS COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION

AUGUST 31, 2025

Dan Hennessy, CFA, CAIA, Senior Consultant

Sam Austin, Partner

John Tolar, Senior Consulting Analyst



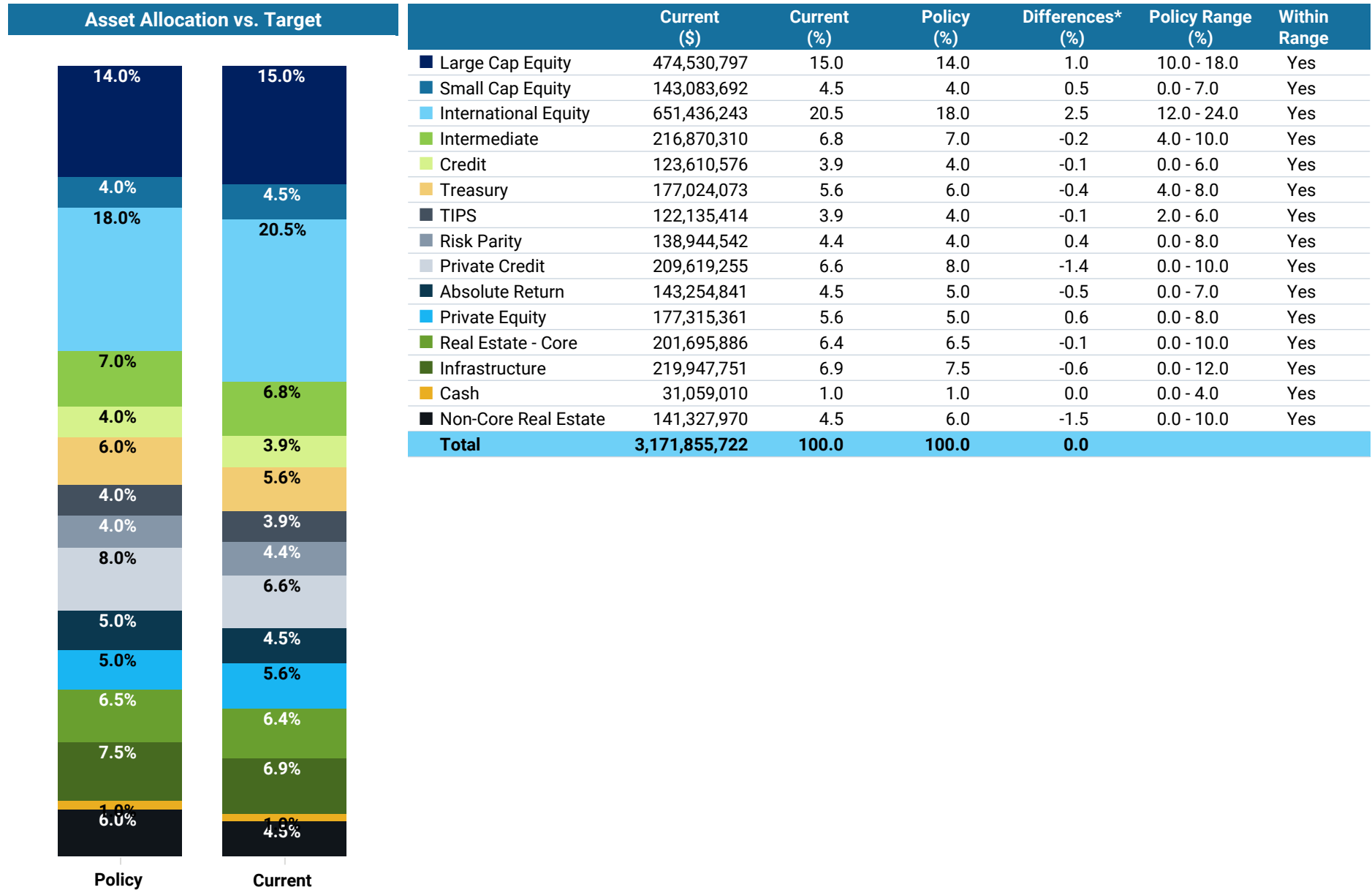
CALENDAR YEAR INDEX PERFORMANCE

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Aug	YTD
S&P 500	1.4%	12.0%	21.8%	-4.4%	31.5%	18.4%	28.7%	-18.1%	26.3%	25.0%	2.0%	10.8%
Russell 1000	0.9%	12.1%	21.7%	-4.8%	31.4%	21.0%	26.5%	-19.1%	26.5%	24.5%	2.1%	10.8%
Russell 2000	-4.4%	21.3%	14.6%	-11.0%	25.5%	20.0%	14.8%	-20.4%	16.9%	11.5%	7.1%	7.1%
Russell 2500	-2.9%	17.6%	16.8%	-10.0%	27.8%	20.0%	18.2%	-18.4%	17.4%	12.0%	5.2%	7.8%
MSCI EAFE	-0.8%	1.0%	25.0%	-13.8%	22.0%	7.8%	11.3%	-14.5%	18.2%	3.8%	4.3%	22.8%
MSCI EM	-14.9%	11.2%	37.3%	-14.6%	18.4%	18.3%	-2.5%	-20.1%	9.8%	7.5%	1.3%	19.0%
MSCI ACWI	-2.4%	7.9%	24.0%	-9.4%	26.6%	16.3%	18.5%	-18.4%	22.2%	17.5%	2.5%	14.3%
Private Equity	12.6%	9.9%	9.0%	21.0%	11.1%	17.6%	32.9%	39.4%	-9.1%	5.8%	-	-
BBG TIPS	-1.4%	4.7%	3.0%	-1.3%	8.4%	11.0%	6.0%	-11.8%	3.9%	1.8%	1.5%	6.4%
BBG Municipal	3.3%	0.2%	5.4%	1.3%	7.5%	5.2%	1.5%	-8.5%	6.4%	1.1%	0.9%	0.3%
BBG Muni High Yield	1.8%	3.0%	9.7%	4.8%	10.7%	4.9%	7.8%	-13.1%	9.2%	6.3%	0.5%	-1.3%
BBG US Corporate HY	-4.5%	17.1%	7.5%	-2.1%	14.3%	7.1%	5.3%	-11.2%	13.4%	8.2%	1.2%	6.4%
BBG US Agg Bond	0.5%	2.6%	3.5%	0.0%	8.7%	7.5%	-1.5%	-13.0%	5.5%	1.3%	1.2%	5.0%
BBG Global Agg	-3.2%	2.1%	7.4%	-1.2%	6.8%	9.2%	-4.7%	-16.2%	5.7%	-1.7%	1.5%	7.2%
BBG Long Treasuries	-1.2%	1.3%	8.5%	-1.8%	14.8%	17.7%	-4.6%	-29.3%	3.1%	-6.4%	0.3%	2.5%
BBG US Long Credit	-4.6%	10.2%	12.2%	-6.8%	23.4%	13.3%	-1.2%	-25.3%	10.7%	-2.0%	0.8%	4.5%
BBG US STRIPS 20+ Yr	-3.7%	1.4%	13.7%	-4.1%	20.9%	24.0%	-5.2%	-39.6%	1.1%	-13.8%	-1.5%	-3.1%
JPM GBI-EM Global Div	-14.9%	9.9%	15.2%	-6.2%	13.5%	2.7%	-8.7%	-11.7%	12.7%	-2.4%	2.2%	13.8%
JPM EMBI Glob Div	1.2%	10.2%	10.3%	-4.3%	15.0%	5.3%	-1.8%	-17.8%	11.1%	6.5%	1.6%	8.7%
CS Hedge Fund	-0.7%	1.2%	7.1%	-3.2%	9.3%	6.4%	8.2%	1.1%	5.8%	9.8%	-	4.8%
BBG Commodity	-24.7%	11.8%	1.7%	-11.2%	7.7%	-3.1%	27.1%	16.1%	-7.9%	5.4%	1.9%	7.1%
Alerian Midstream	-37.3%	33.8%	-2.4%	-13.3%	24.0%	-23.4%	38.4%	21.5%	14.0%	44.5%	1.0%	4.8%
FTSE NAREIT Equity REITs	3.2%	8.5%	5.2%	-4.6%	26.0%	-8.0%	43.2%	-24.4%	13.7%	8.7%	4.4%	3.4%

*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag
Source: FactSet, Barclays, Thomson One



ASSET ALLOCATION VS. POLICY



*Difference between Policy and Current Allocation

TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)									
	Market Value (\$)	% of Portfolio	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	3,171,855,722	100.0	1.8	2.3	8.4	8.6	9.0	7.6	7.0	7.5	8.6	Jan-95
Policy Index			1.6	2.0	8.1	9.0	10.2	8.1	7.6	8.0	8.0	
Allocation Index			1.9	2.2	8.1	8.6	8.3	7.1				
Liquidity Sub-Portfolio	247,929,320	7.8	0.9	1.0	4.6	5.1	4.9	2.3	3.7	2.8	2.6	Aug-14
StanCERA Liquidity Blended BM			1.1	1.0	5.0	4.7	4.2	1.3	2.9	2.3	2.1	
Cash	31,059,010	1.0	0.4	0.9	3.5	5.3	5.5	4.2	3.4	2.7	2.5	Aug-14
FTSE 1 Month T-Bill			0.4	0.7	2.9	4.6	4.8	3.0	2.6	2.0	1.8	
Cashflow-Matched Bonds	216,870,310	6.8	1.0	1.0	4.8	5.1	4.7	1.8	3.5		3.0	Jul-17
Blmbg. Intermed. U.S. Government/Credit			1.2	1.1	5.3	4.7	4.1	0.7	2.5		2.1	
Insight	216,870,310	6.8	1.0	1.0	4.8	5.1	4.7	1.8	3.5		3.0	Jul-17
Blmbg. Intermed. U.S. Government/Credit			1.2	1.1	5.3	4.7	4.1	0.7	2.5		2.1	
Growth Sub-Portfolio	2,342,567,532	73.9	2.0	2.8	9.7	10.0	11.0	10.0	8.5	9.2	8.3	Jan-04
StanCERA Growth Blended BM			2.1	3.0	11.4	12.7	12.5	11.0	9.8	10.2		
US Equities	617,614,489	19.5	3.4	5.1	10.0	14.5	18.4	15.0	12.5	13.2	10.7	Jan-04
Russell 3000 Index			2.3	4.6	10.6	15.8	18.8	14.1	13.2	14.0	10.5	
US Large Equity	474,530,797	15.0	2.3	4.2	10.8	16.0	19.4	14.8	13.8	14.3	13.0	Jan-95
Russell 1000 Index			2.1	4.4	10.8	16.2	19.3	14.3	13.7	14.3	11.1	
BlackRock Russell 1000 Growth	248,666,366	7.8	1.1	4.9	11.3	22.5	25.0	15.2	17.3	17.9	17.3	Aug-10
Russell 1000 Growth Index			1.1	4.9	11.3	22.6	25.0	15.2	17.3	17.9	17.3	
BlackRock Russell 1000 Value	111,591,108	3.5	3.2	3.8	10.0	9.3	12.9	12.9	9.4	10.3	11.6	Aug-09
Russell 1000 Value Index			3.2	3.8	10.0	9.3	12.9	13.0	9.3	10.2	11.5	
Dodge & Cox-Equity	114,273,323	3.6	4.1	2.9	10.7	10.1	15.3	16.4	11.1	12.3	12.1	Jan-95
Russell 1000 Value Index			3.2	3.8	10.0	9.3	12.9	13.0	9.3	10.2	10.0	
US Small Equity	143,083,692	4.5	7.3	8.5	7.1	9.0	14.6	16.8	8.2	9.4	12.1	Jan-09
Russell 2000 Index			7.1	9.0	7.1	8.2	10.3	10.1	5.9	8.9	11.3	
Attucks Small Cap	143,083,692	4.5	7.3	8.5	7.1	9.0	14.6	16.8	8.2	10.3	12.2	Jan-09
Russell 2000 Value Index			8.5	10.4	6.9	5.8	8.8	13.1	5.7	8.6	10.1	
International Equity	651,436,243	20.5	3.9	4.8	25.8	20.1	18.7	11.9	8.6	8.6	7.3	Oct-04
MSCI AC World ex USA (Net)			3.5	3.2	21.6	15.4	15.1	8.9	7.0	7.3	6.5	
LSV Int'l Large Cap Value	333,933,665	10.5	4.6	6.2	31.5	26.5	22.3	15.0	9.6	9.3	7.5	Oct-04
MSCI AC World ex USA Value (Net)			4.1	4.9	25.7	19.9	17.9	12.8	7.4	7.2	6.1	
Fidelity Int'l Growth	317,502,578	10.0	3.2	3.3	20.0	13.5	14.9	8.7	7.4	7.6	5.1	May-06
MSCI AC World ex USA Growth (Net)			2.8	1.6	17.7	11.2	12.5	5.2	6.4	7.3	4.9	

- Cash Composite includes the Transaction Account Value.

TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)									
	Market Value (\$)	% of Portfolio	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Real Estate	201,695,886	6.4	0.0	0.0	2.6	4.8	1.5	5.7	4.3	5.1	3.0	Apr-08
NCREIF ODCE			0.0	0.0	2.1	3.5	-5.4	3.4	3.7	5.3	4.5	
Prime Property Fund	91,005,741	2.9	0.0	0.0	1.5	2.3	-3.0	4.6	4.6		5.7	Oct-15
NCREIF ODCE			0.0	0.0	2.1	3.5	-5.4	3.4	3.7		5.0	
PGIM Real Estate US Debt Fund	110,690,146	3.5	0.0	0.0	3.6	6.9	6.6	5.9	5.6		5.6	Sep-18
Blmbg. U.S. Investment Grade: CMBS Index			1.5	1.4	5.9	5.8	4.6	1.0	2.9		2.9	
Value-Add Real Estate	141,327,970	4.5	0.0	0.0	0.6	0.4	-2.9	5.1	6.1	8.1	7.8	Aug-14
CJA Global Real Estate			0.0	0.0	0.6	-1.2	-2.1	5.8	4.9	6.4	6.9	
American Strategic Value Realty	77,145,447	2.4	0.0	0.0	0.5	0.6	-5.2	2.5	3.6	6.1	6.6	Jan-15
CJA Global Real Estate			0.0	0.0	0.6	-1.2	-2.1	5.8	4.9	6.4	6.5	
Greenfield Acquisition Partners VII	604,720	0.0	0.0	0.0	-11.0	-7.3	-1.2	11.0	10.5	11.6	11.0	Aug-14
CJA Global Real Estate			0.0	0.0	0.6	-1.2	-2.1	5.8	4.9	6.4	6.9	
Grandview Property Partners I	15,311,546	0.5	0.0	0.0	-6.7	-4.5	0.8	12.2	12.2		14.4	Apr-18
CJA Global Real Estate			0.0	0.0	0.6	-1.2	-2.1	5.8	4.9		4.8	
Grandview Property Partners II	19,207,768	0.6	0.0	0.0	7.8	3.3	2.9				1.3	Dec-21
CJA Global Real Estate			0.0	0.0	0.6	-1.2	-2.1				1.4	
TA Realty Value Fund XIII	17,571,571	0.6	0.0	0.0	0.7	0.1					-2.6	Dec-23
CJA Global Real Estate			0.0	0.0	0.6	-1.2					-1.7	
KSL Credit Opportunities IV	2,566,389	0.1	0.0	0.0	1.6	5.6					5.4	Apr-24
CJA Global Real Estate			0.0	0.0	0.6	-1.2					-0.9	
Graceada PR Fund IV	8,920,528	0.3										Sep-25
CJA Global Real Estate												

TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)									
	Market Value (\$)	% of Portfolio	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Infrastructure	219,947,751	6.9	0.0	0.0	3.9	10.5	7.3	3.0	5.2	7.0	5.5	Jun-15
CJA Global Infrastructure			0.0	0.0	1.5	7.1	7.6	11.4				
CPI + 5% 1 Qtr Lag (Unadjusted)			0.6	1.3	5.3	7.5	8.4	9.9	8.7	8.2	8.3	
MS Infrastructure Partners II	13,163,168	0.4	0.0	0.0	10.4	18.2	7.2	6.1	7.4	8.5	7.0	Jun-15
CPI + 5% 1 Qtr Lag (Unadjusted)			0.6	1.3	5.3	7.5	8.4	9.9	8.7	8.2	8.3	
CJA Global Infrastructure			0.0	0.0	1.5	7.1	7.6	11.4				
Palistar Communications Infrastructure Fund II	18,704,269	0.6	0.0	0.0	6.1	8.5	7.9				7.7	Feb-22
CJA Global Infrastructure			0.0	0.0	1.5	7.1	7.6				9.1	
JP Morgan IIF Hedged LP	40,369,673	1.3	0.0	0.0	5.2	10.2	10.4				9.6	Apr-22
CJA Global Infrastructure			0.0	0.0	1.5	7.1	7.6				7.8	
Northern Trust Infrastructure Fund	75,111,632	2.4	0.0	0.0	-0.7	8.6	5.1				2.0	Jul-21
67% STOXX Global Broad Infra/33% Blmbg. US TIPS 1 Qtr Lag			0.0	0.0	-0.6	8.2	4.6				1.8	
IFM Global Infrastructure Fund	62,260,010	2.0	0.0	0.0	5.8	10.7	7.6				7.4	Aug-22
CJA Global Infrastructure			0.0	0.0	1.5	7.1	7.6				7.4	
Carlyle Renewable and Sustainable Energy Fund II	9,177,398	0.3	0.0	0.0	11.7	22.6					26.1	Feb-24
CJA Global Infrastructure			0.0	0.0	1.5	7.1					8.2	
PIMCO Euro Data Centre Opp Fund	1,161,602	0.0										Sep-25
CJA Global Infrastructure												
Private Equity	177,315,361	5.6	0.2	0.4	2.0	4.4	4.8	8.4			11.1	Dec-18
CJA Global All PE			0.0	0.0	2.6	6.7	2.4	14.9			11.8	
Russell 3000 + 3% QTR Lagged			6.6	6.1	5.3	16.5	17.2	18.8			15.5	
Private Equity	162,143,689	5.1	0.0	0.0	1.3	3.1	0.4	11.4			10.5	Apr-20
CJA Global All PE			0.0	0.0	2.6	6.7	2.4	14.9			11.7	
Private Equity Proxy	15,171,672	0.5	2.3	4.6	10.5	15.8	18.8	14.1	14.1	14.6	10.8	Dec-03
CJA Global All PE			0.0	0.0	2.6	6.7	2.4	14.9	12.0	12.0	13.2	
Private Credit	209,619,255	6.6	0.4	0.5	-3.4	-9.1	-0.2	-0.1	-0.7	0.2	1.4	Jun-13
CJA Global Credit			0.0	0.0	1.4	5.4	5.1	12.3	8.4	8.6	9.1	
S&P/LSTA Leveraged Loan Index +2% Qtr Lag			1.7	1.8	5.7	8.9	10.8	9.7	7.6	7.1	6.9	
Private Credit	148,270,870	4.7	0.0	0.0	-7.9	-17.0	-4.9	-0.7	-1.2	-0.1	1.1	Jun-13
CJA Global Credit			0.0	0.0	1.4	5.4	5.1	12.3	8.4	8.6	9.1	
Private Credit Proxy	61,348,385	1.9	1.3	1.7	6.3	8.2	9.1				3.8	Jul-21
CJA Global Credit			0.0	0.0	1.4	5.4	5.1				8.2	

TOTAL FUND PERFORMANCE DETAIL

	Allocation		Performance (%)									
	Market Value (\$)	% of Portfolio	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Public Credit	123,610,576	3.9	-0.1	1.6							2.9	Apr-25
Public Credit Benchmark			0.9	1.3							3.7	
NIS Opportunistic Credit	123,610,576	3.9	-0.1	1.6							2.9	Apr-25
NIS Blend			1.1	1.3							3.6	
Risk-Diversifying Sub-Portfolio	581,358,870	18.3	1.2	1.0	4.9	5.0	3.1	0.9	2.3	2.5	4.0	Dec-03
StanCERA Risk-Diversifying Blended BM			1.7	1.8	9.0	8.0	8.3	3.4	4.2	3.2		
Risk Parity	138,944,542	4.4	2.5	3.1	9.0	7.2	3.3	1.8	3.6		3.3	Dec-17
S&P Risk Parity Index - 10% Target Volatility (TR)			2.6	2.5	9.7	8.4	7.3	6.9	7.6		7.1	
AQR Global Risk Premium - EL	69,152,657	2.2	2.5	2.9	8.0	5.9	5.1	3.4	4.2		4.3	Apr-18
S&P Risk Parity Index - 10% Target Volatility (TR)			2.6	2.5	9.7	8.4	7.3	6.9	7.6		7.6	
PanAgora Risk Parity Multi Asset	69,791,885	2.2	2.6	3.3	9.9	8.6	1.4	0.2	2.9		2.4	Dec-17
S&P Risk Parity Index - 10% Target Volatility (TR)			2.6	2.5	9.7	8.4	7.3	6.9	7.6		7.1	
US Treasury Bonds	177,024,073	5.6	0.9	0.4	4.1	1.2	1.3	-2.3	1.0	1.6	3.6	Dec-03
Blmbg. U.S. Treasury: 7-10 Year			1.7	1.1	6.5	3.0	1.8	-2.2	1.4	1.2	3.4	
Northern Trust Intermediate Gov't Bond	120,749,540	3.8	1.2	0.9	4.9	4.2	3.3	0.2	2.0		1.6	Aug-17
Blmbg. U.S. Government: Intermediate			1.2	1.0	5.0	4.2	3.4	0.3	2.0		1.7	
Northern Trust Long Term Gov't Bond	56,274,533	1.8	0.3	-0.6	2.4	-4.5	-3.3	-7.7	-1.0		-0.8	Aug-17
Blmbg. U.S. Government: Long Term Bond Index			0.3	-0.6	2.5	-4.4	-3.2	-8.2	-1.3		-1.1	
Liquid Absolute Return	143,254,841	4.5	0.0	-0.8	1.6	6.5	5.7				8.3	Oct-21
30 Day T-Bill + 4%			0.7	1.4	5.7	8.8	9.0				8.0	
Graham Proprietary Matrix	81,339,190	2.6	0.0	-1.0	4.3	9.2	6.5				11.6	Nov-21
HFRI Macro (Total) Index			1.5	1.6	0.3	2.5	1.8				3.3	
Wellington Global Macro	61,915,650	2.0	0.0	-0.5	-1.7						4.6	Oct-24
HFRI Macro (Total) Index			1.5	1.6	0.3						0.9	
US Short Duration TIPS	122,135,414	3.9	1.3	1.6	5.7	6.6					7.0	Jun-24
Blmbg. U.S. TIPS 0-5 Year			1.3	1.6	5.7	6.7					7.0	
Northern Trust US TIPS	122,135,414	3.9	1.3	1.6	5.7	6.6					7.0	Jun-24
Blmbg. U.S. TIPS 0-5 Year			1.3	1.6	5.7	6.7					7.0	

CASH FLOW SUMMARY BY MANAGER

	1 Month Ending August 31, 2025				
	Beginning Market Value	Contributions	Withdrawals	Ending Market Value	Net Investment Change
Abry Senior Equity VI, L.P.	\$13,308,162	-	-	\$13,308,162	-
American Strategic Value Realty	\$77,145,447	-	-	\$77,145,447	-
AQR Global Risk Premium - EL	\$67,460,015	-	-	\$69,152,657	\$1,692,642
Ares Sr Direct Lending Fund III	\$5,258,538	\$414,968	-\$164,338	\$5,509,168	-
Audax Private Equity VII	\$11,119,484	\$134,367	-	\$11,253,851	-
Blackrock High Yield Fund	\$70,620,912	-	-\$10,000,000	\$61,348,385	\$727,473
BlackRock Russell 1000 Growth	\$245,952,000	-	-	\$248,666,366	\$2,714,366
BlackRock Russell 1000 Value	\$108,156,867	-	-	\$111,591,108	\$3,434,240
Blue Wolf Capital Fund V-A, L.P.	\$17,721,737	-	-	\$17,721,737	-
Callodine Loan Fund II LP	\$15,161,512	\$1,458,715	-\$333,649	\$16,286,578	-
Cash Account	\$38,917,220	\$33,456,812	-\$41,466,888	\$31,010,135	\$102,990
Carlyle Renewable and Sustainable Energy Fund II	\$9,177,398	-	-	\$9,177,398	-
Channing	\$34,994,904	-	-\$63,360	\$37,204,204	\$2,272,660
Clayton, Dublier, & Rice	\$18,695,605	-	-	\$18,695,605	-
Comvest Credit Partners VII	\$10,811,868	-	-	\$10,811,868	-
Crayhill Principal Strategies Fund III	\$6,624,134	-	-	\$6,624,134	-
Crestline Opportunity Fund IV	\$11,427,724	-	-	\$11,427,724	-
Dodge & Cox-Equity	\$109,708,884	-	-	\$114,273,323	\$4,564,439
Eclipse Fund V	\$2,484,280	-	-	\$2,484,280	-
Fidelity Int'l Growth	\$307,646,331	-	-	\$317,502,578	\$9,856,247
Genstar Capital Partners X	\$15,504,300	-	-	\$15,504,300	-
Graceada PR Fund IV	-	\$8,920,528	-	\$8,920,528	-
Graham Proprietary Matrix	\$81,339,190	-	-	\$81,339,190	-
Grandview Property Partners I	\$15,311,546	-	-	\$15,311,546	-
Grandview Property Partners II	\$19,035,594	\$172,174	-	\$19,207,768	-
Great Hill EP VIII	\$10,928,291	-	-	\$10,928,291	-
Greenfield Acquisition Partners VII	\$643,549	-	-\$38,829	\$604,720	-
Gridiron Capital Fund V	\$8,006,454	-	-	\$8,006,454	-
Gryphon Partners VI LP	\$16,175,585	-	-	\$16,175,585	-

CASH FLOW SUMMARY BY MANAGER

	Beginning Market Value	Contributions	Withdrawals	Ending Market Value	Net Investment Change
IFM Global Infrastructure Fund	\$62,260,010	-	-	\$62,260,010	-
Insight	\$219,021,152	-	-\$4,326,586	\$216,870,310	\$2,175,744
Insight Partners XI	\$23,672,675	-	-	\$23,672,675	-
JP Morgan IIF Hedged LP	\$40,369,673	-	-	\$40,369,673	-
KSL Credit Opportunities IV	\$2,608,337	-	-\$41,948	\$2,566,389	-
LSV Int'l Large Cap Value	\$321,027,655	-	-\$2,060,294	\$333,933,665	\$14,966,304
Upwelling Capital	\$36,738	-	-	\$36,738	-
Monroe Capital Fund V	-	\$12,026,558	-	\$12,026,558	-
Monroe Private Credit IV	\$16,413,892	-	-\$417,339	\$15,996,553	-
MS Infrastructure Partners II	\$13,163,168	-	-	\$13,163,168	-
NIS Opportuntistic Credit	\$123,610,576	\$123,090	-	\$123,610,576	-\$123,090
Northern Trust Infrastructure Fund	\$75,111,632	-	-	\$75,111,632	-
Northern Trust Intermediate Gov't Bond	\$119,294,895	\$12,209	-	\$120,749,540	\$1,442,436
Northern Trust Long Term Gov't Bond	\$56,102,279	\$5,953	-	\$56,274,533	\$166,301
Northern Trust Russell 3000	\$19,835,333	\$1,370	-\$5,000,000	\$15,171,672	\$334,969
Northern Trust US TIPS	\$120,523,767	-	-	\$122,135,414	\$1,611,647
Owl Rock First Lien Fund	\$6,008,122	-	-	\$6,008,122	-
Pacific Ridge	\$22,430,056	-	-\$55,350	\$24,625,511	\$2,250,805
Palistar Communications Infrastructure Fund II	\$18,704,269	-	-	\$18,704,269	-
PanAgora Risk Parity Multi Asset	\$68,032,231	-	-	\$69,791,885	\$1,759,653
PIMCO Euro Data Centre Opp Fund	-	\$1,161,602	-	\$1,161,602	-
PGIM Real Estate US Debt Fund	\$110,690,146	-	-	\$110,690,146	-
Phocas'	\$32,405,077	-	-\$54,043	\$34,195,254	\$1,844,221
Prime Property Fund	\$91,005,741	-	-	\$91,005,741	-
Raven Opportunity III	\$15,449,100	-	-	\$15,449,100	-
Seizert	\$43,703,164	-	-\$63,017	\$47,058,723	\$3,418,576
Sole Source Capital Partners II	\$17,445,149	\$810,271	-	\$18,255,420	-
Strategic Values Special Situations Fund V, L.P.	\$11,505,377	-	-	\$11,505,377	-
TA Realty Value Fund XIII	\$17,599,135	-	-\$27,564	\$17,571,571	-

CASH FLOW SUMMARY BY MANAGER

	Beginning Market Value	Contributions	Withdrawals	Ending Market Value	Net Investment Change
Transition Account	\$48,700	-	-	\$48,876	\$176
Vista Foundation Fund IV	\$19,445,492	-	-	\$19,445,492	-
Wellington Global Macro	\$61,915,650	-	-	\$61,915,650	-
White Oak Pinnacle	\$23,280,788	-	-	\$23,280,788	-
Total	\$3,122,057,508	\$58,698,618	-\$64,113,204	\$3,171,855,722	\$55,212,800

NOTES

- All performance is shown net of investment management fees. Fiscal year end date is June 30th. Wellington Global Macro and Graham Matrix values are carried from prior month; NIS value is carried by NT. PanAgora value is preliminary.

- Performance history is provided by Verus through June 2020. As of July 1, 2020 performance is calculated and reported by NEPC.

- Policy Index 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% Bloomberg 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% Bloomberg US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3% Bloomberg US Treasury 7-10 Yr TR, 7.7% NCREIF Property Index, 1.7% NCREIF Property Index +2%, 0.6% CPI + 5%, 5% Bloomberg US High Yield + 2%, 14% 60% MSCI ACWI Net/40% Bloomberg 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% Bloomberg US Govt/Credit 1-3 Yr. TR, 1% FTSE T-Bill 1 Month TR, 3%Bloomberg 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% Bloomberg Global Aggregate
- **6/1/2019 - 6/30/2020:** 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 19% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% Bloomberg 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% Bloomberg Global Aggregate
- **7/1/2020 - 12/31/2020:** 14% Russell 1000, 3% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 8% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 3% Bloomberg 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% Bloomberg Global Aggregate, 11%Bloomberg US Intermediate.
- **1/1/2021 - 06/30/2021:** 16% Russell 1000, 3.5% Russell 2000, 6% Russell 3000 + 3%, 23% MSCI ACWI ex-USA, 8% Bloomberg US Gov't/Credit 1-3 Yr, 1% Citi 1 Month T-Bills, 5% Bloomberg US Treasury 7-10 Yr, 6% NCREIF Property, 5% NCREIF Property +2%, 2% CPI +5%, 4.5% S&P/LSTA Leveraged Loan Index + 2%, 13% 60% MSCI ACWI / 40% Bloomberg Global Aggregate, 7%Bloomberg US Intermediate.
- **7/1/2021 - 6/30/2023:** 16% Russell 1000, 4% Russell 2000, 5% Russell 3000 + 3%, 20% MSCI ACWI ex USA Gross, 6.5% NCREIF Property Index, 6% NCREIF Property Index + 2%, 7.5% CPI + 5% (Unadjusted), 8% S&P/LSTA Leveraged Loan Index +2%, 6% Bloomberg US Treasury 7-10 Yr TR, 10% 60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg, 3% 30 Day T-Bill + 4%, 1% FTSE T-Bill 1 Month TR, 7% Bloomberg US Govt/Credit Int TR.
- **7/1/2023 - Present:** 16% Russell 1000, 4% Russell 2000, 5% Russell 3000 + 3%, 20% MSCI ACWI ex USA Gross, 6.5% NCREIF Property Index, 6% NCREIF Property Index + 2%, 7.5% CPI + 5% 1 Qtr Lag (Unadjusted), 8% S&P/LSTA Leveraged Loan Index +2%, 6% Bloomberg US Treasury 7-10 Yr TR, 10% 60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg, 3% 30 Day T-Bill + 4%, 1% FTSE T-Bill 1 Month TR, 7% Bloomberg US Govt/Credit Int TR.
- **5/1/2024 - Present:** 14% Russell 1000, 4% Russell 2000, 5% Russell 3000 + 3%, 18% MSCI ACWI ex USA Gross, 6.5% NCREIF Property Index, 6% NCREIF Property Index + 2%, 7.5% CPI + 5% 1 Qtr Lag (Unadjusted), 8% S&P/LSTA Leveraged Loan Index +2%, 4% Public Credit Custom Benchmark (50% Bloomberg US Corp Investment Grade Index/25% Bloomberg US HY 2% Cap/25% Morningstar LTSA US Leveraged Loan Index), 6% Bloomberg US Treasury 7-10 Yr TR, 4% Bloomberg US TIPS 0-5 Yr, 4% S&P Risk Parity Index 10% Target Volatility, 1% FTSE T-Bill 1 Month TR, 7% Bloomberg US Govt/Credit Int TR.
- **4/1/2025 - Present:** 14% Russell 1000, 4% Russell 2000, 5% CJA Global Credit, 18% MSCI ACWI ex USA Gross, 6.5% NCREIF ODCE, 6% CJA Global Real Estate, 7.5% CJA Global Infrastructure, 8% CJA Global Credit, 4% Public Credit Custom Benchmark (50% Bloomberg US Corp Investment Grade Index/25% Bloomberg US HY 2% Cap/25% Morningstar LTSA US Leveraged Loan Index), 6% Bloomberg US Treasury 7-10 Yr TR, 4% Bloomberg US TIPS 0-5 Yr, 4% 60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg, 5% 30 Day T-Bill + 4%, 1% FTSE T-Bill 1 Month TR, 7% Bloomberg US Govt/Credit Int TR.

- As of July 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 July 1, 2020 reflects performance of these composites before this change.

- Private Equity and Private Credit investments are valued one quarter lagged and adjusted for capital calls and distributions between quarter-end months. As of July 1, 2023, Infrastructure funds and NT Infrastructure benchmark are valued one quarter lagged and adjusted for capital calls and distributions between quarter-end months. Value-Add Real Estate managers are valued quarterly adjusted for current cash flows.

DISCLAIMERS & DISCLOSURES

Past performance is no guarantee of future results.

Returns for pooled funds, e.g. mutual funds and collective investment trusts, are collected from third parties; they are not generally calculated by NEPC. Returns for separate accounts, with some exceptions, are calculated by NEPC. Returns are reported net of manager fees unless otherwise noted.

A “since inception” return, if reported, begins with the first full month after funding, although actual inception dates (e.g. the middle of a month) and the timing of cash flows are taken into account in Composite return calculations.

NEPC’s preferred data source is the plan’s custodian bank or record-keeper. If data cannot be obtained from one of the preferred data sources, data provided by investment managers may be used. Information on market indices and security characteristics is received from additional providers. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within. In addition, some index returns displayed in this report or used in calculation of a policy index, allocation index or other custom benchmark may be preliminary and subject to change.

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

The opinions presented herein represent the good faith views of NEPC as of the date of this presentation and are subject to change at any time. Neither fund performance nor universe rankings contained in this report should be considered 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.

Source of private fund performance benchmark data: Cambridge Associates, via Refinitiv





ASSET ALLOCATION EDUCATION

STANISLAUS COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION

SEPTEMBER 23, 2025

Dan Hennessy, CFA, CAIA, Senior Consultant

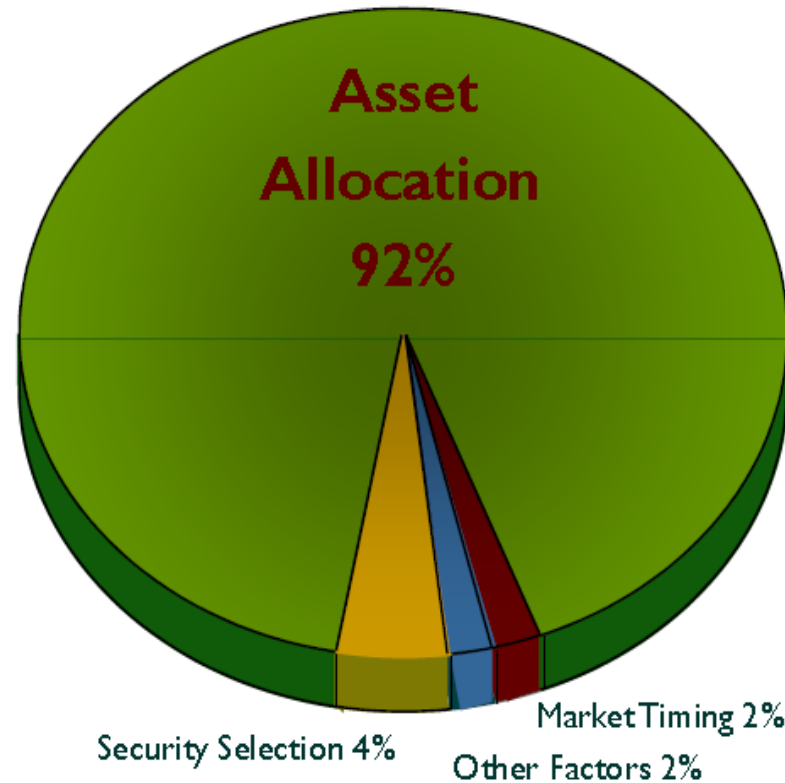
Sam Austin, Partner

John Tolar, Senior Consulting Analyst



ASSET ALLOCATION: THE KEY INVESTMENT DECISION

Determinants of Portfolio Performance



Source: *Determinants of Portfolio Performance II: An Update*, Brinson, et al, *Financial Analysts Journal*, May/June 1991, pp 40-48.

STANCERA'S INVESTMENT OBJECTIVES

The investment objectives of the Investment Program are:

- To provide liquidity to meet retiree benefit payments in a timely manner;
 - Liquidity sub-portfolio
- To produce long-term growth to meet future retiree benefit payments and, if applicable, to close a funding gap over time; and
 - Growth sub-portfolio
- To protect the assets against the adverse impacts of rising inflation and investment market volatility.
 - Diversifying sub-portfolio

ASSET CLASS OBJECTIVES

Asset Class	Portfolio Role	Current Target
Liquidity		
Cash and Cashflow-Matched Bonds	- Covers shortfall between contributions and benefits/fees - Ensures short-term needs so the rest of the portfolio can be managed for the long-term	8%
Growth		
Public Equity	- Capital appreciation - Capture global growth	36%
Public Credit	Blend of income, diversification, and stable returns	4%
Private Equity and Private Credit	Higher return expectations than public equity and credit	13%
Real Assets (Real Estate and Infrastructure)	- Inflation hedge - Income production potential	20%
Risk-Diversifying		
Treasuries and Other Safe-Haven Bonds	- Downside protection - Adds diversification	10%
Risk Parity	Adds diversification	4%
Liquid Absolute Return Strategies	- Skill-based active management - Adds diversification	5%

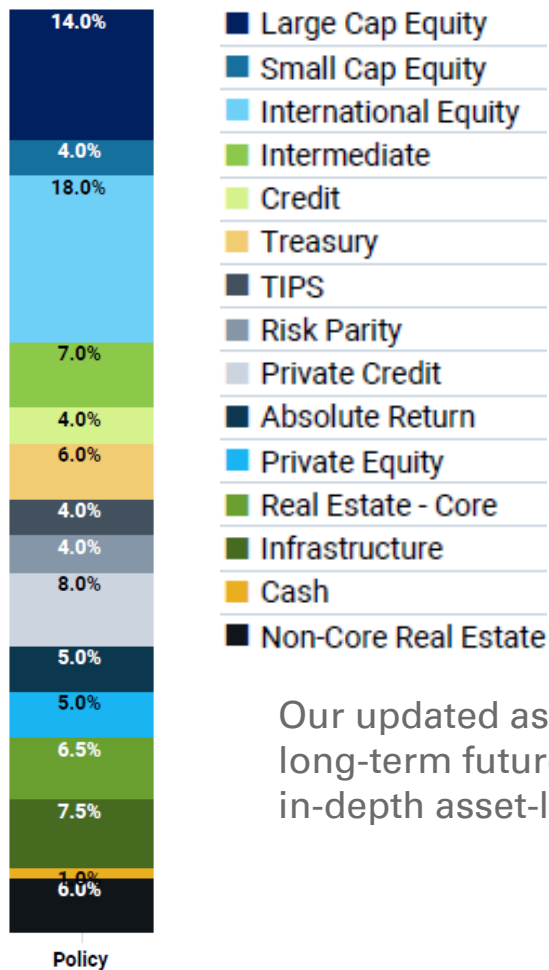
CORE ASSET CLASS RETURN ASSUMPTIONS

	Asset Class	6/30/2025 10-Year Return	6/30/2024 10-Year Return	Delta
	Cash	3.8%	4.2%	-0.4%
	U.S. Inflation	2.6%	2.6%	-
Equity	U.S. Large-Cap Equity	5.3%	4.0%	+1.3%
	Non-U.S. Developed Equity	5.3%	4.5%	+0.8%
	Emerging Market Equity	6.6%	7.8%	-1.2%
	Global Equity*	5.7%	5.0%	+0.7%
	Private Equity*	8.6%	8.7%	-0.1%
Fixed Income	U.S. Treasury Bond	4.4%	4.6%	-0.2%
	U.S. Municipal Bond	4.3%	3.8%	+0.5%
	U.S. Aggregate Bond*	4.8%	5.0%	-0.2%
	U.S. TIPS	4.6%	4.8%	-0.2%
	U.S. High Yield Corporate Bond	6.1%	6.3%	-0.2%
	Private Debt*	8.3%	8.3%	-
Real Assets	Commodity Futures	4.8%	4.4%	+0.4%
	REIT	5.5%	6.3%	-0.8%
	Gold	4.0%	5.0%	-1.0%
	Real Estate - Core	5.4%	6.0%	-0.6%
	Private Real Assets - Infrastructure	5.7%	6.6%	-0.9%
Multi-Asset	60% S&P 500 & 40% U.S. Aggregate	5.4%	4.7%	+0.7%
	60% MSCI ACWI & 40% U.S. Agg.	5.7%	5.3%	+0.4%
	Hedge Fund*	6.2%	6.2%	-

*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time.

STANCERA'S EXPECTED FUTURE RETURNS

BASED ON NEPC'S 6/30/2025 AND 6/30/2023 ASSUMPTIONS

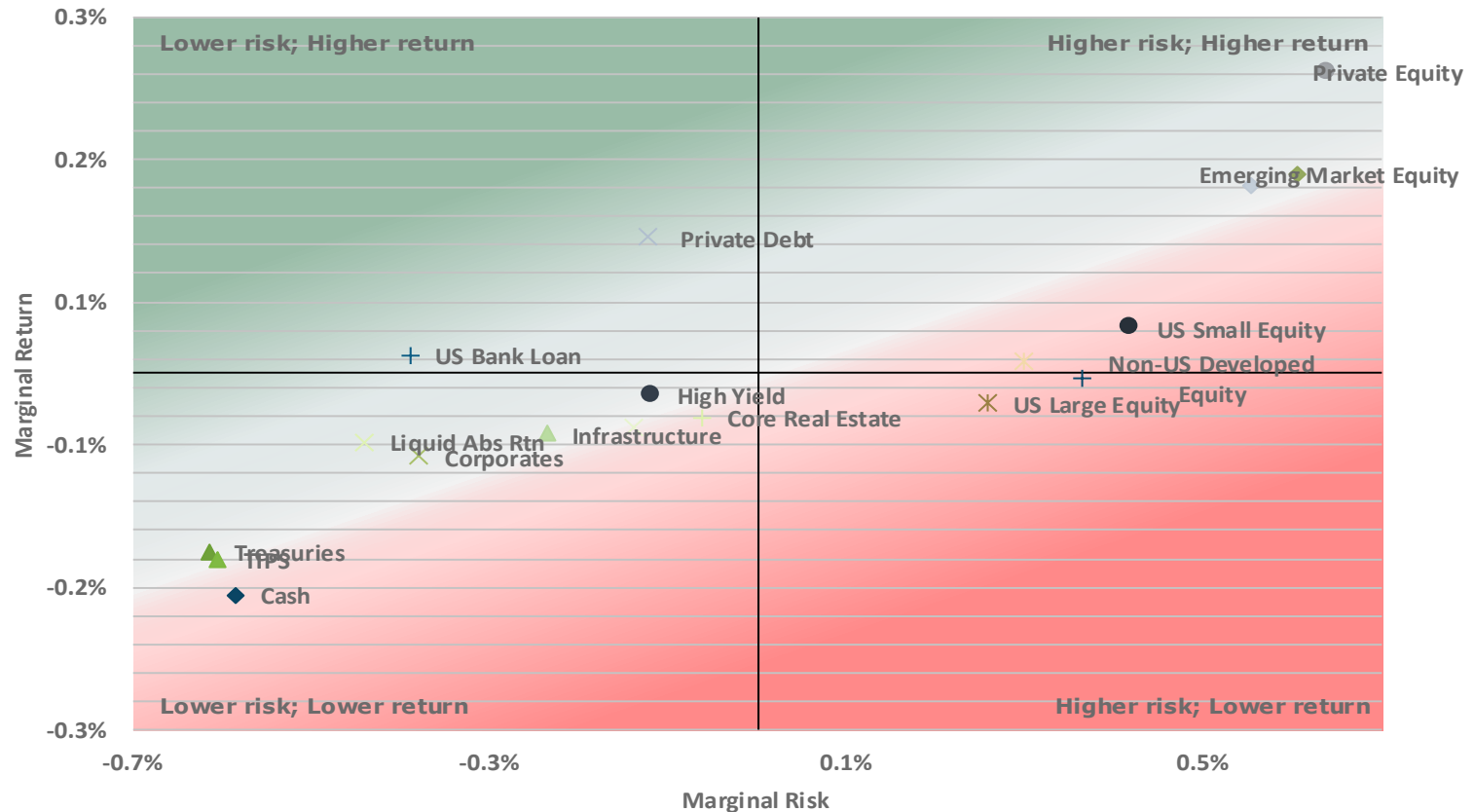


	10 Year Annualized		30 Year Annualized	
	2025	2023	2025	2023
Expected Return	6.4%	6.4%	7.5%	7.3%
Expected Volatility	11.8%	12.0%	11.8%	12.0%
Return/Volatility	0.54	0.53	0.64	0.61
Sharpe Ratio	0.22	0.20	0.34	0.33

Our updated asset class assumptions now predict slightly less volatile and better long-term future investment returns than we expected when we last performed an in-depth asset-liability study for StanCERA

MARGINAL RISK/RETURN HEAT MAP

ESTIMATED 10-YEAR ANNUALIZED IMPACT OF A 5% SHIFT



This heat map shows how various potential investments would impact the expected long-term risk/return of StanCERA's current policy target

ASSET CLASS ASSUMPTIONS



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ASSET CLASS ASSUMPTIONS

OVERVIEW

- **NEPC's capital market assumptions are available each quarter with this release reflecting June 30, 2025 market data**
- **U.S. equity markets fully recovered from the early April selloff – hitting new highs to end the quarter**
- **Despite recent valuation expansion, Non-U.S. developed market equity return assumptions improved, reflecting a modest increase in long-term earnings expectations**
- **Fixed income assumptions are lower as market rate expectations shifted modestly lower, pulling down interest rate forecasts**
- **Credit spreads remain tight and are below long-term medians, limiting the upside return potential within risk-seeking credit**

CAPITAL MARKET ASSUMPTION PRINCIPLES

HOW SHOULD RETURN ASSUMPTIONS BE INTERPRETED

- **NEPC return assumptions are meant to reflect a nominal return expectation, net of fees, over a 10-year and 30-year investment horizon**
- **With this in mind, NEPC asset class return assumptions look to include all sources of return that flow to an asset class over time**
 - Each major contributing source of return is a building block in our models
- **NEPC's asset class models are designed to be forward-looking and not to replicate the past, which requires both model scrutiny and iteration**
- **Forecasting asset class returns, requires forward-looking assumptions about building block contributors and how they evolve over time**
- **Developing market trends require scrutiny and time to analyze data and research market shifts to understand whether they are cyclical or structural inputs contributing to an asset class's building blocks**

ASSET CLASS ASSUMPTIONS

DEVELOPMENT

- **Capital market assumptions are published for over 70 core asset classes and over 30 composites**
- **Market data as of 06/30/2025**
- **NEPC proprietary models used to develop return forecasts based on a building block approach**
- **The 10-year return outlook is intended to support strategic asset allocation analysis**
- **30-year return assumptions are used for actuarial inputs and long-term planning**

Asset Allocation Process

1. Finalize list of new asset classes
2. Calculate asset class volatility and correlation assumptions
3. Set model terminal values, growth, and inflation inputs
4. Model data updated at quarter-end
5. Review model outputs and produce asset class return assumptions
6. Assumptions released on the 15th calendar day after quarter-end

ASSET CLASS BUILDING BLOCKS

METHODOLOGY

- **Asset models reflect current and forecasted market data to inform expected returns**
- **Systematic inputs are paired with a long-term trend to terminal values**
- **Model inputs are aggregated to capture key return drivers for each asset class**
- **Building block inputs will differ across asset class categories**

Illiquidity Premium

Valuation

Inflation

Real Growth

Yield

MACROECONOMIC



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U.S. INFLATION ASSUMPTIONS

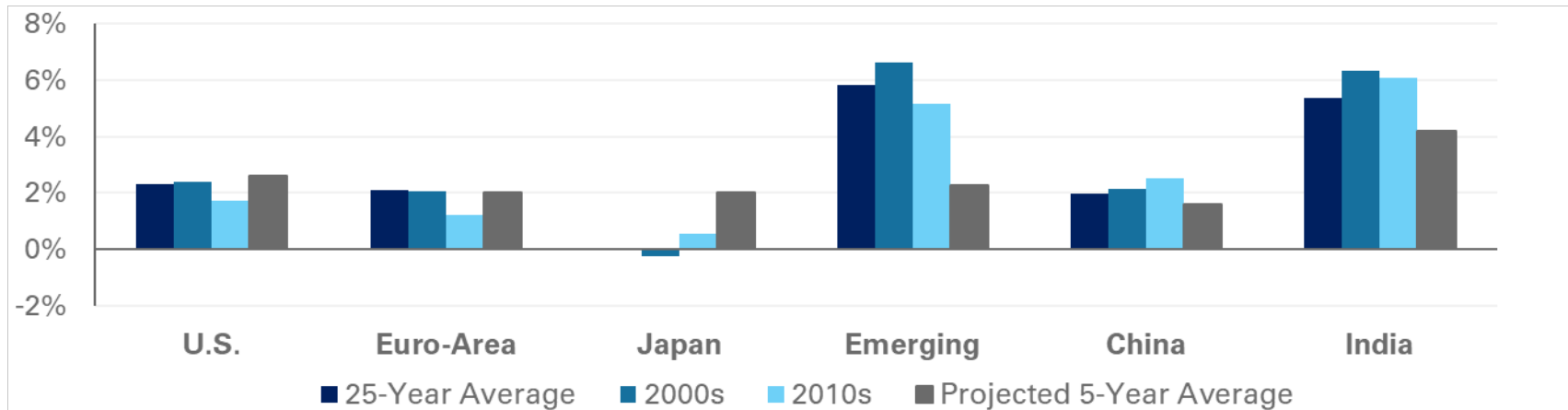
OVERVIEW

- Inflation is a key building block to develop asset class assumptions
- Inflation assumptions are model-driven and informed by multiple inputs for both the U.S. and global assets
- NEPC's inflation assumption forecasts near-term paths for major Consumer Price Index (CPI) components including food, energy, core services, and shelter costs
 - CPI is expected to converge with breakeven inflation forecast over the long-term
- The composite inflation assumption reflects a blend of NEPC's inflation forecast and market-implied breakeven inflation rates

U.S. Inflation Assumption		
Time Horizon	Current	12-Month Change
10-Year	2.6%	—
30-Year	2.7%	+0.1%

GLOBAL INFLATION

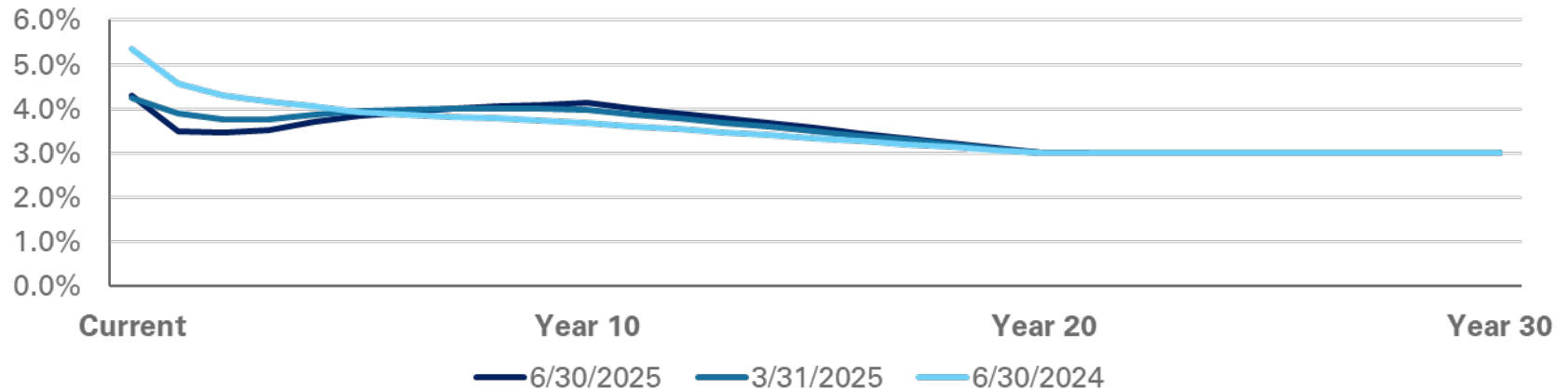
HISTORICAL INFLATION



- **Non-U.S. forecasts are guided by IMF forecasts, local consumer and producer price indices, and global interest rate curves**
- **Near-term inflation levels for developed markets are projected to be higher relative to history**
 - Long-term inflation assumptions reflect NEPC's path and central bank targets

U.S. CASH

EXPECTATIONS



- **Cash is a foundational input for all asset class return expectations that reflects forward expectations of inflation and real interest rates**
 - Cash + risk premia is an input for long-term asset class return projections
- **The composite cash assumption is built from a blend of NEPC's cash forecast and market forward pricing of short-term interest rates**

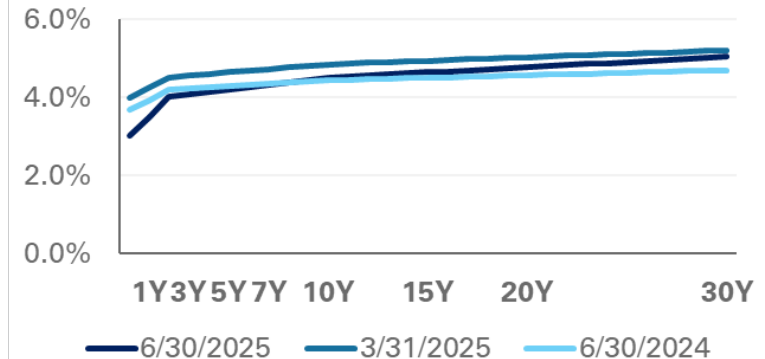
Time Horizon	Current	12-Month Change
10-Year	3.8%	-0.4%
30-Year	3.5%	—

Sources: Bloomberg, FactSet, NEPC

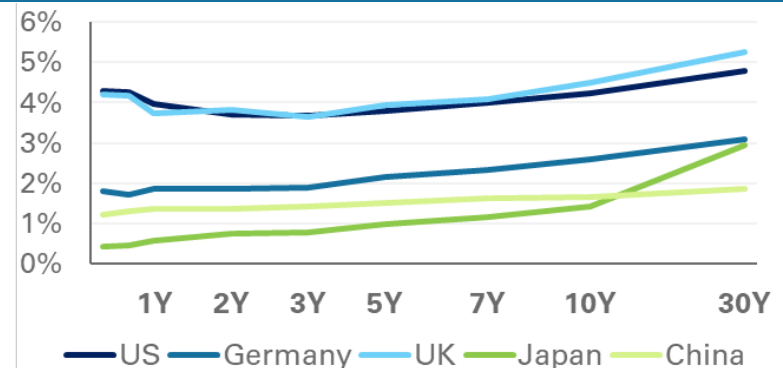
GLOBAL INTEREST RATES EXPECTATIONS

- NEPC's outlook on U.S. interest rates has remained consistent over the past few years, generally above market expectations
- As interest rate expectations shift lower, the return outlook for base interest rates gradually declines
- The outlook is less attractive for non-U.S. developed markets due to the nominal yield differential relative to the U.S.
 - Differing regional growth and inflation conditions have led to diverging central bank actions

NEPC 10-Year Forward U.S. Treasury Curve



Global Yield Curves



PUBLIC EQUITY



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PUBLIC EQUITY ASSUMPTIONS

OVERVIEW

- **Recent equity performance has been strong across all regions, weighing on forward-looking return expectations**
 - U.S. equity return assumptions remain subdued relative to history given the extended valuation environment
- **Non-U.S. developed market equity return assumptions improved, reflecting a modest increase in earnings expectations for the region**
- **Emerging market forecasts declined meaningfully, reflecting the impact of significant valuation expansion among countries with a higher beta to U.S. markets**
- **We recommend the MSCI ACWI IMI be adopted as the strategic asset allocation target and investment policy benchmark for public equity**
 - NEPC's strategic recommendation for public equity reflects benchmark-neutral regional weights relative to the MSCI ACWI IMI

PUBLIC EQUITY ASSUMPTIONS

BUILDING BLOCKS

Illiquidity Premium	The return expected for assets with illiquidity risk
Valuation	Represents P/E multiple contraction or expansion relative to long-term trend
Inflation	Market-specific inflation based on country-level revenue exposure
Real Earnings Growth	Market-specific real growth based on a weighted-average of country revenue exposure and GDP growth
Shareholder Yield	Income distributed to shareholders via dividend distributions and net share repurchases

Asset Class	6/30/25 10-Yr Return	12-Month Change
U.S. Large-Cap Equity	5.3%	+1.3%
U.S. Small/Mid-Cap Equity	5.7%	-0.5%
Non-U.S. Developed Equity	5.3%	+0.8%
Non-U.S. Developed Small-Cap Equity	6.0%	-0.7%
Emerging Market Equity	6.6%	-1.2%
Emerging Market Small-Cap Equity	6.6%	-0.5%
Hedge Fund - Equity	5.7%	+0.2%
Global Equity*	5.7%	+0.7%
Private Equity*	8.6%	-0.1%

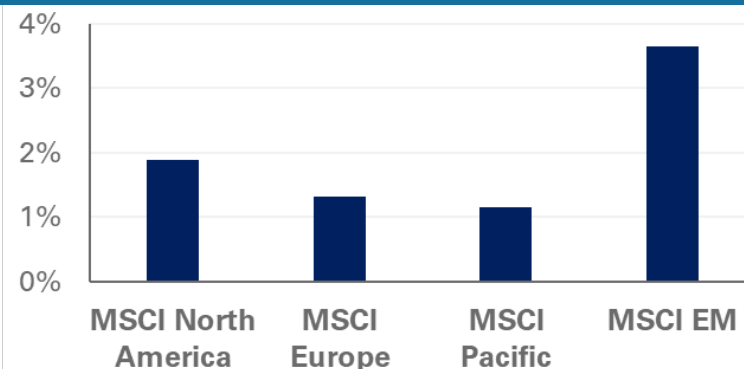
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PUBLIC EQUITY

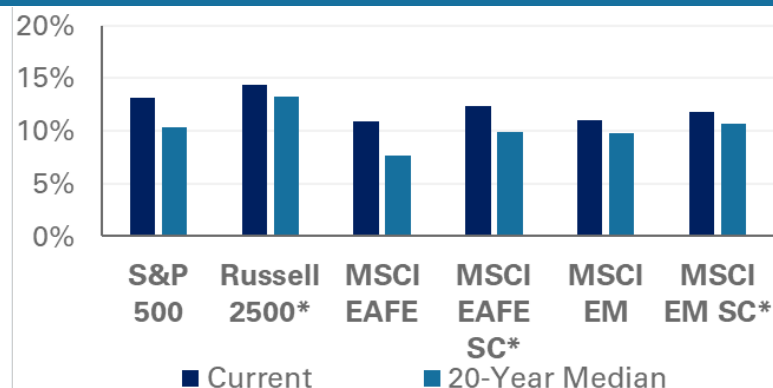
REAL EARNINGS GROWTH

- **U.S. equities benefit from higher sales growth forecasts, reflecting the impact of a resilient U.S. consumer**
 - U.S. large cap companies also have global revenue exposure that benefits from global growth rates
- **Cyclically-high profit margin levels temper real earnings growth forecasts given expectations for normalization**
 - Profit margin assumptions reflect a lower path towards long-term targets that consider the shift in index composition through time

Expected 5-Year Real Growth



Profit Margins Relative Median



Note: *Small cap indices margins based on EBITDA margins
Sources: S&P, Russell, MSCI, FactSet, NEPC

PUBLIC EQUITY

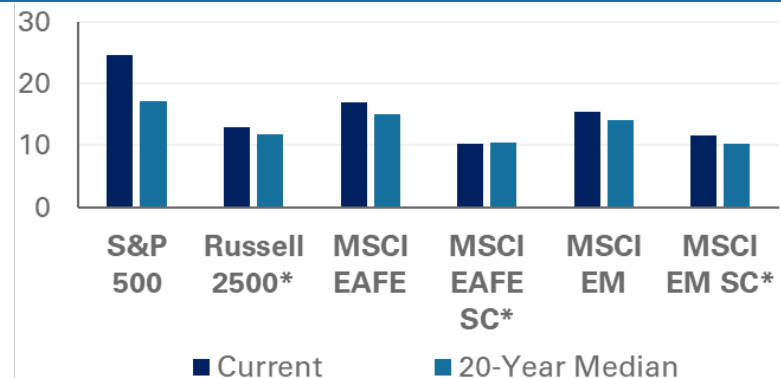
VALUATION

- **Valuations can heavily influence short- to medium-term returns, but earnings growth is the main driver of long-term equity returns**
- **Valuations across the equity spectrum are elevated relative to long-term target levels**
 - U.S. large-cap valuations represent the largest drag on returns across the equity complex
- **Non-U.S. developed market valuations have expanded after an extended period of perceived U.S. exceptionalism**

Historical S&P 500 Price Return



Trailing P/E Relative Median

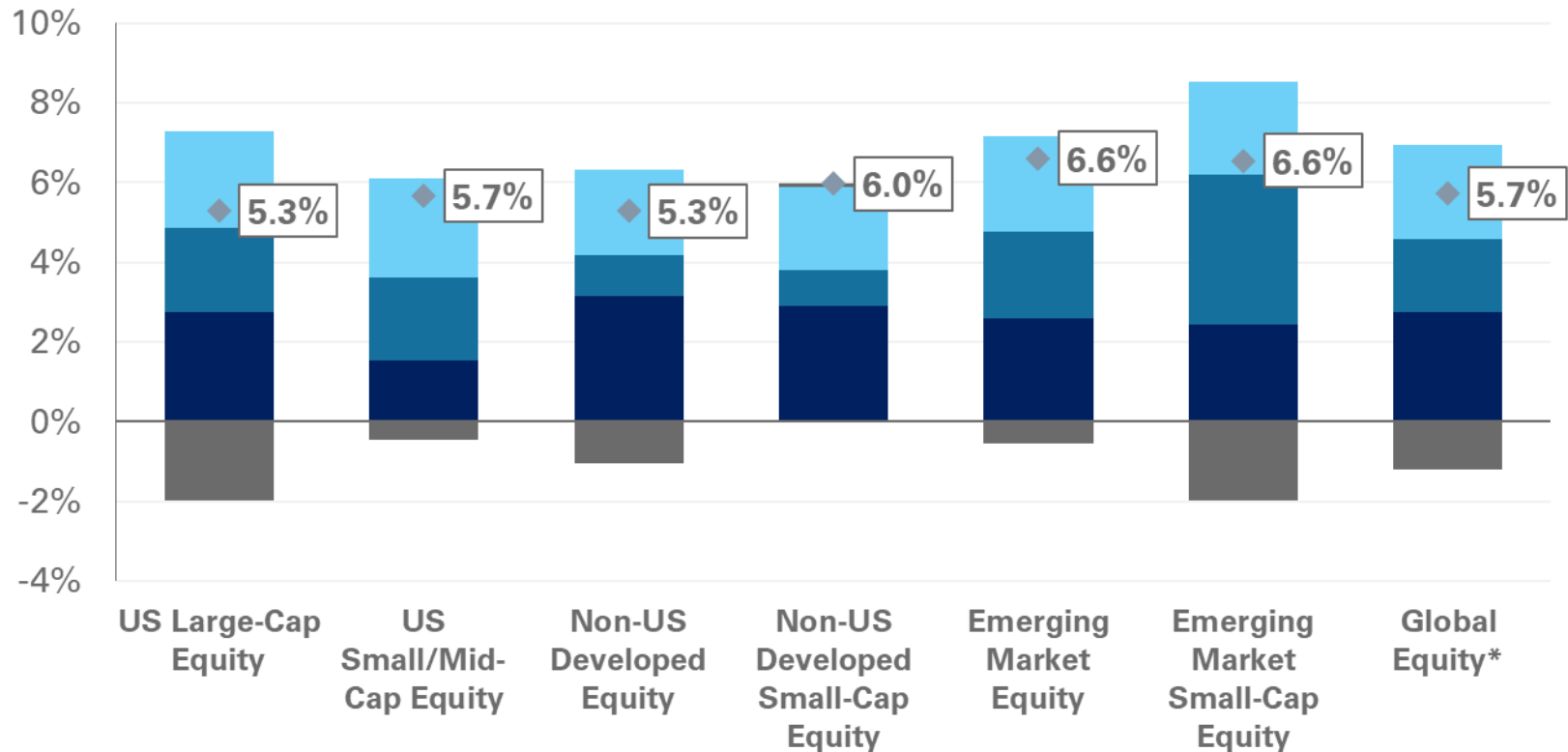


Note: *Small cap indices valuations based on EV/EBITDA multiples

Sources: S&P, Shiller, Russell, MSCI, FactSet, NEPC; Shiller PE long-term average beginning in 1924

PUBLIC EQUITY

BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



■ Shareholder Yield ■ Real Earnings Growth ■ Inflation ■ Valuation ◆ Total Return

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Source: NEPC

FIXED INCOME



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FIXED INCOME ASSUMPTIONS

OVERVIEW

- **Expected returns across fixed income assets declined as markets react to ongoing uncertainty surrounding the path for economic growth and inflation**
- **Market interest rate expectations reflect an accelerated path for Fed easing – diverging from more hawkish short-term rate expectations expressed in the Fed’s dot plot**
- **NEPC’s internal interest rate forecast has remained consistent relative to changes in Fed expectations and market pricing**
- **Safe-haven fixed income exposure is a critical liquidity source for the portfolio and offers downside protection in periods of market stress**
 - Sizing of the safe-haven exposure is a strategic exercise and reflects investor return objectives, risk-tolerance, and private market pacing plan needs
- **High-quality fixed income is an asset class group designed to support lower volatility portfolios and larger strategic targets to fixed income**

FIXED INCOME ASSUMPTIONS

BUILDING BLOCKS

Illiquidity Premium	The return expected for assets with illiquidity risk
Government Rates Price Change	Change due to shifts in current yields relative to forecasted rates
Credit Deterioration	The average loss for credit assets due to defaults and recovery rates
Spread Price Change	Valuation change due to changes in credit spreads relative to long-term targets
Credit Spread	Yield premium provided by securities with credit risk
Government Rates	The yield attributed to sovereign bonds that do not have credit risk

Asset Class	6/30/25 10-Yr Return	12-Month Change
U.S. TIPS	4.6%	-0.2%
U.S. Treasury Bond	4.4%	-0.2%
U.S. Corporate Bond	5.5%	-0.2%
U.S. MBS	4.7%	-0.1%
U.S. High Yield Corporate	6.1%	-0.2%
U.S. Leveraged Loan	7.0%	-0.4%
EMD External Debt*	6.6%	-1.1%
EMD Local Currency Debt	6.2%	-0.7%
Non-U.S. Govt. Bond	2.7%	-
U.S. Muni Bond (1-10 Year)	3.7%	+0.3%
U.S. High Yield Muni Bond	5.0%	+0.8%
Hedge Fund – Credit	6.6%	-0.1%
U.S. Aggregate Bond*	4.8%	-0.2%
Private Debt*	8.3%	-

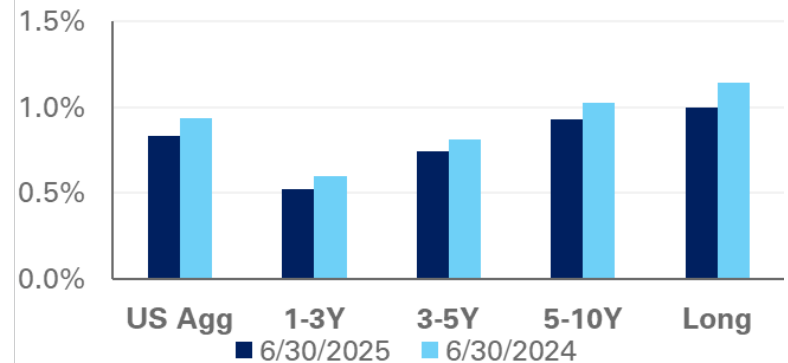
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FIXED INCOME

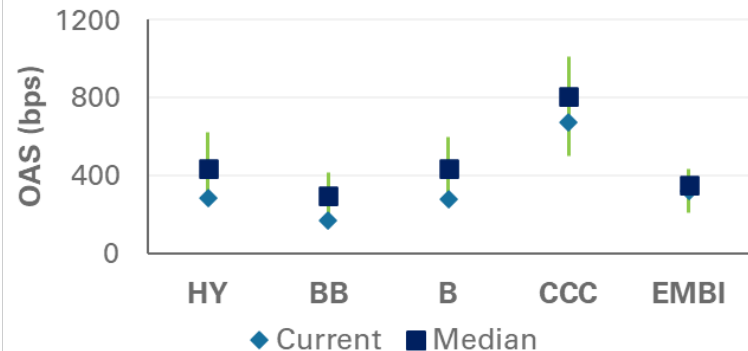
CREDIT SPREADS

- **Credit spreads have tightened further below median levels**
 - Lower spread levels weigh on future return expectations given less overall carry return
- **Credit spread assumptions reflect a reversion towards long term medians**
- **Default and recovery rate assumptions are informed by long-term history**

U.S. Corporate OAS by Maturity



Return-Seeking Option Adjusted Spread

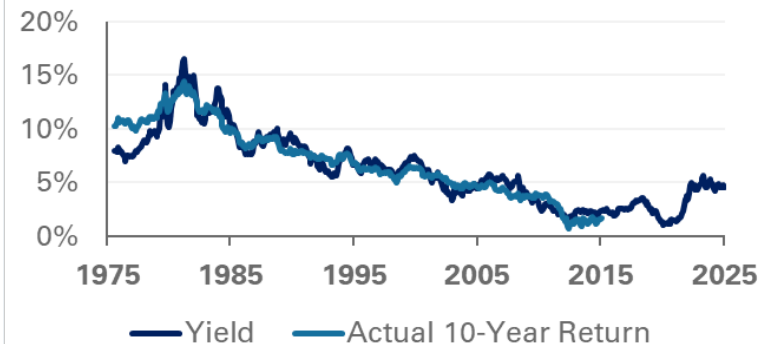


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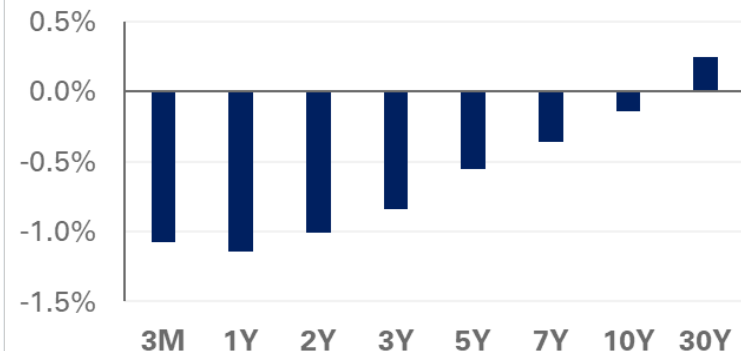
GOVERNMENT RATES

- **Government rates price change reflects shifts in interest rates, the yield curve, and roll down**
 - Roll down refers to the price change due to the aging of a bond along the yield curve
- **The U.S. Treasury yield curve has steepened over the last quarter, with short-term rates declining and long-terms rates increasing**
- **A normal, upward-sloping yield curve provides optimal return potential for fixed income**

Barclays U.S. Aggregate Bond

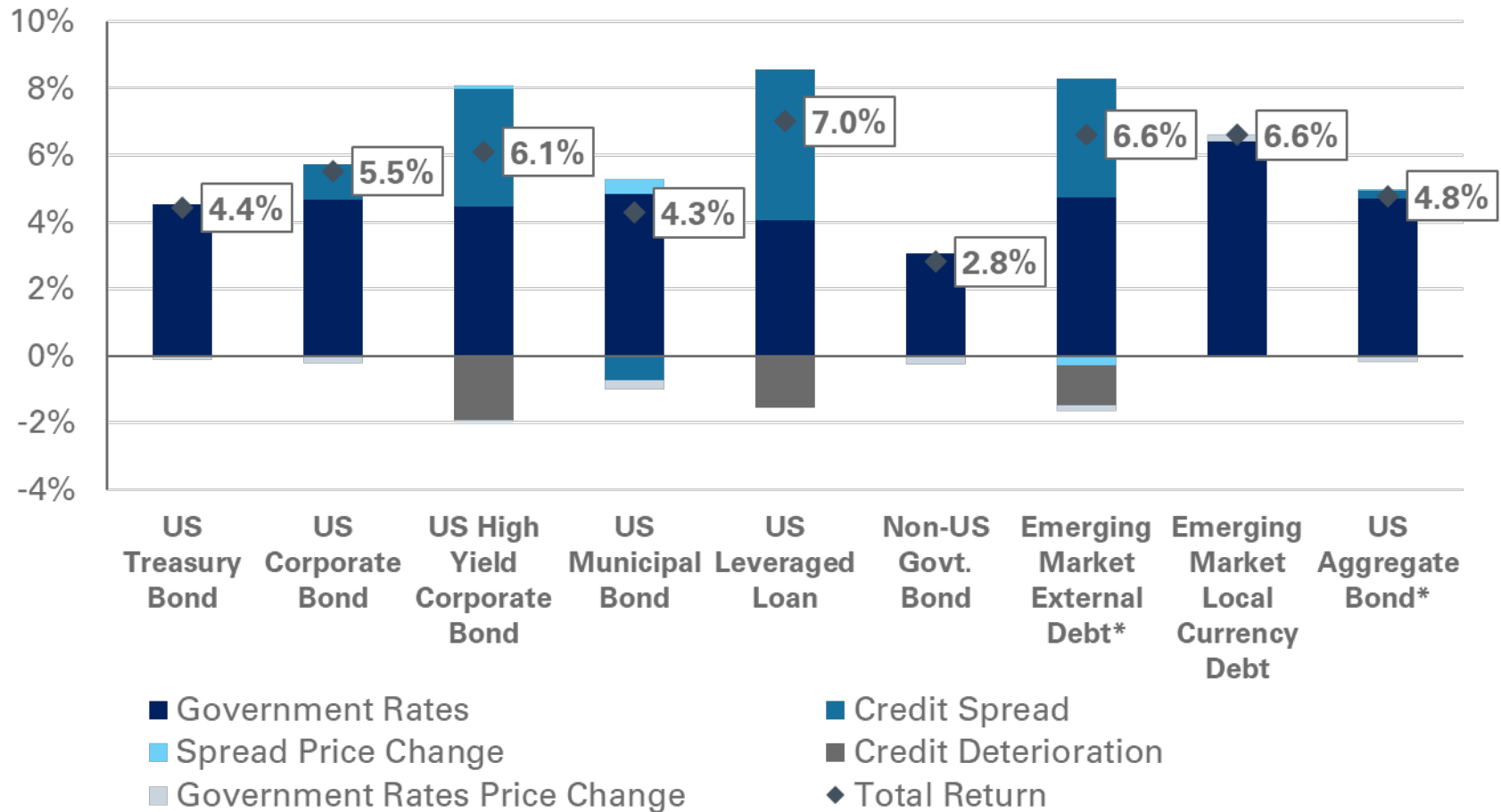


Annual Change in Treasury Yields



FIXED INCOME

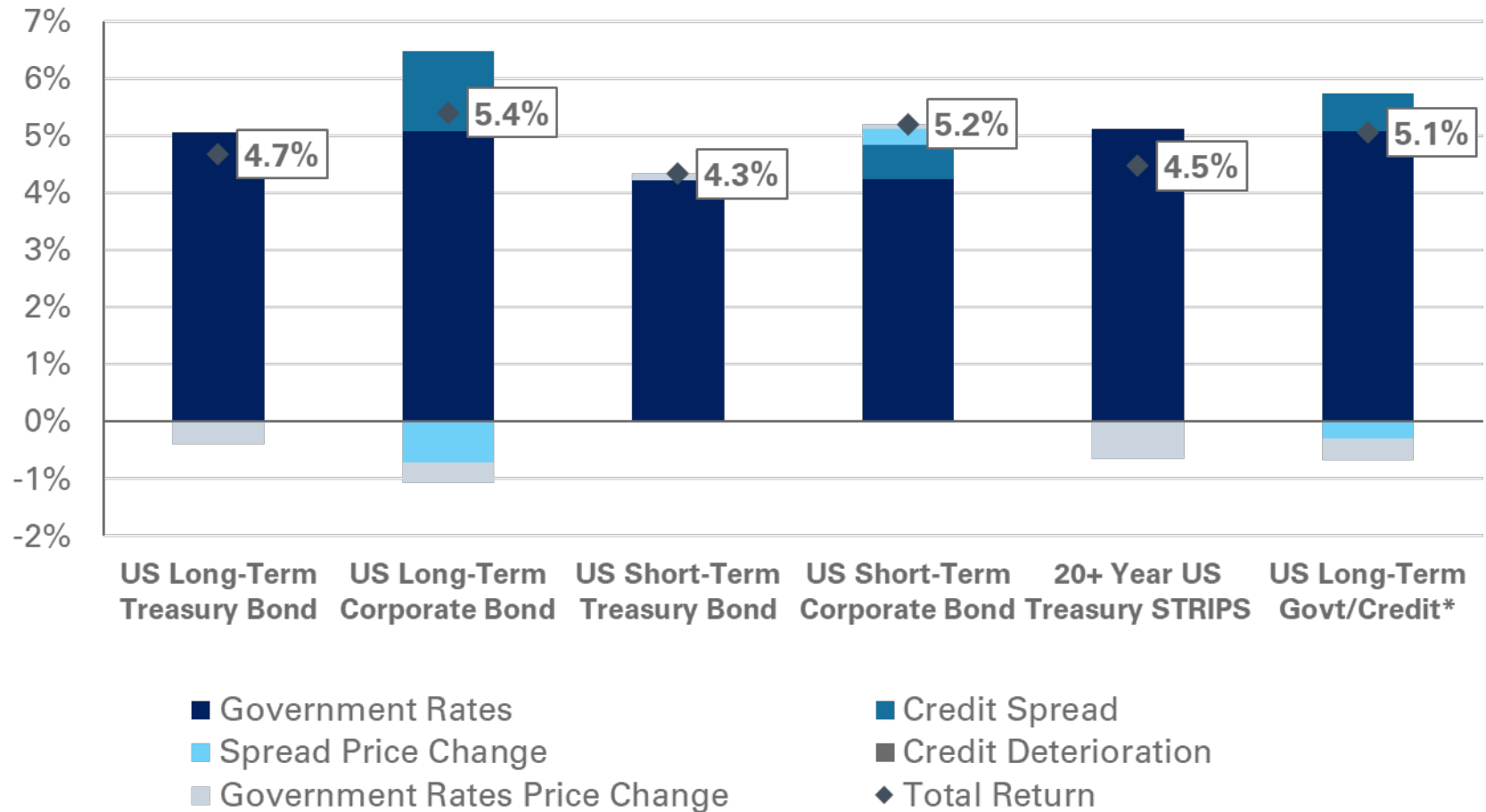
BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



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FIXED INCOME

BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



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REAL ASSET



PROPRIETARY & CONFIDENTIAL

REAL ASSET ASSUMPTIONS

OVERVIEW

- **Real assets are highly sensitive to global growth and inflation dynamics**
 - Linger uncertainty surrounding the economic impact of policy changes in the U.S. suggests a more neutral near-term outlook
- **Return forecasts across the real asset complex have broadly declined as elevated valuations relative to long-term targets weigh on returns**
- **The commodity futures assumption reflects the impact of global supply-demand dynamics on spot prices and the shape of futures curves**
- **We encourage investors to evaluate strategic real asset exposure relative to their long-term investment objectives and spending needs**
 - We believe building portfolio inflation sensitivity is a strategic exercise and public real assets serve as a complement to private market investments
- **NEPC recommends a strategic real assets target comprising an equal-weight blend to commodity futures, natural resource equity, public infrastructure equity, REITs, and gold**

REAL ASSET ASSUMPTIONS

BUILDING BLOCKS

Illiquidity Premium	The return expected for assets with illiquidity risk
Valuation	The change in price of the asset moving to a terminal value or real average level
Inflation	Based on the inflation path as defined by breakeven-inflation rates and NEPC assumptions
Growth	Market-specific real growth based on a weighted-average of country-level revenue exposure and GDP growth
Real Income	The inflation-adjusted income produced by the asset

Asset Class	6/30/25 10-Yr Return	12-Month Change
Commodity Futures	4.8%	+0.4%
Midstream Energy	5.4%	+0.4%
REIT	5.5%	-0.8%
Global Infrastructure Equity	4.7%	-1.5%
Global Nat Resource Equity	6.0%	-0.4%
Gold	4.0%	-1.0%
Real Estate - Core	5.4%	-0.6%
Real Estate – Non-Core	7.1%	-0.7%
Private Debt - Real Estate	6.4%	-0.2%
Private Real Assets - Natural Resources	8.0%	-0.1%
Private Real Assets - Infrastructure	5.7%	-0.9%

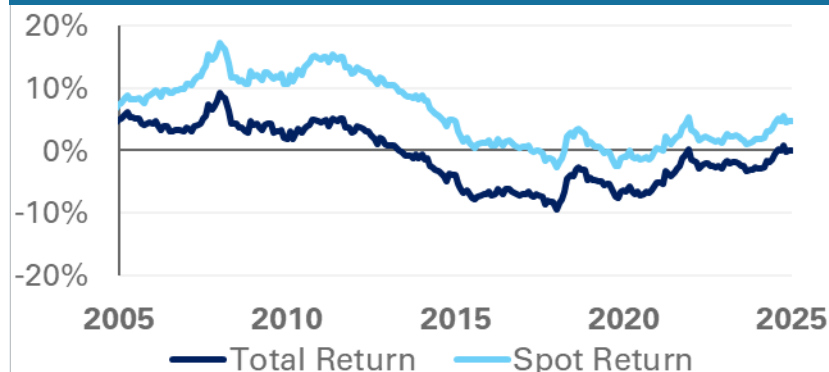
*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

REAL ASSET

REAL INCOME

- **Equity: Real income is inflation-adjusted dividend yield**
 - Includes public infrastructure, REITS, midstream energy, and natural resource equity
- **Real Estate: Real income is net operating income (NOI)**
 - NOI growth tracks the business cycle and economic regimes
- **Commodity Futures: Real income reflects collateral return and the futures roll yield**
 - Collateral is based on a cash proxy over the time horizon and has increased in-line with cash rates

Commodities Rolling 10-Year Returns



Real Asset Yields

	6/30/25	6/30/24
Midstream Energy	4.5%	5.1%
Real Estate - Core	3.2%	2.9%
U.S. REITs	4.3%	4.5%
Global Infrastructure Equities	3.6%	3.7%
Natural Resource Equities	3.3%	3.7%
U.S. 10-Year Breakeven Inflation	2.3%	2.5%
Commodity Index Roll Yield*	0.6%	-0.8%

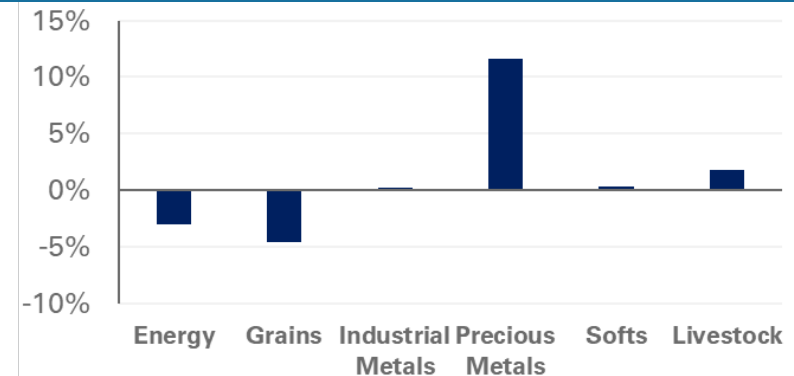
Note: *Commodity Index Roll Yield represents a proprietary calculation methodology
Sources: Bloomberg, NCREIF, Alerian, NAREIT, S&P, FactSet, NEPC

REAL ASSET VALUATION

- **Commodity valuation inputs reflect the long-term average of spot prices**
 - Precious metals are trading at a large premium to long-term real averages given significant momentum in gold prices
- **Valuation assumptions for other real assets are based on asset-specific valuation inputs**
 - Capitalization rates are used for core real estate, price-to-earnings for global infrastructure and global natural resources equity
 - Gold's valuation incorporates the asset's historical risk premia and the impact of the macro regime

Note: Real price of gold reflects inflation-adjusted price of gold, i.e. price of gold in today's dollars
Sources: FactSet, NEPC

Discount/Premium to 10-Year Real Average

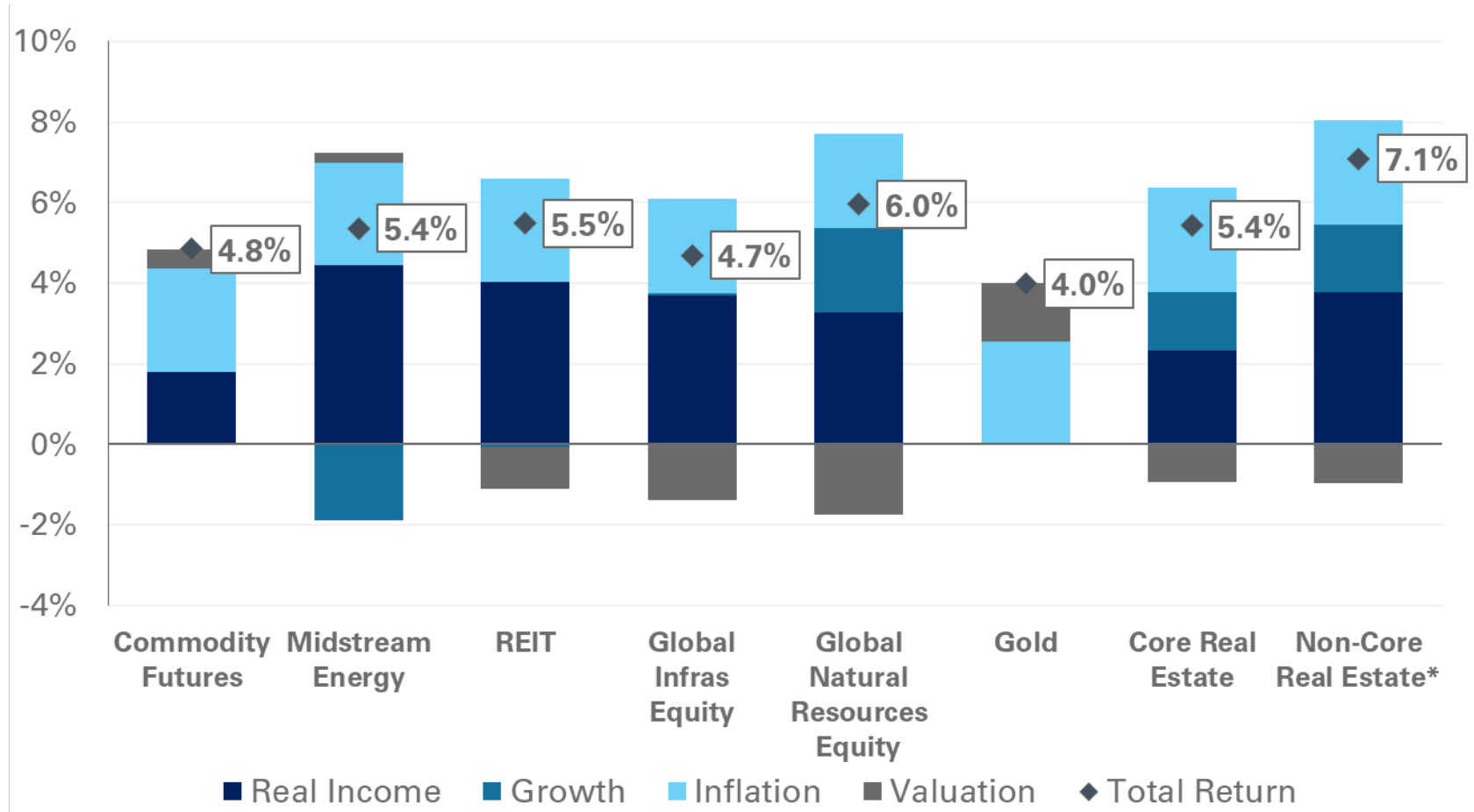


Real Price of Gold



REAL ASSET

BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



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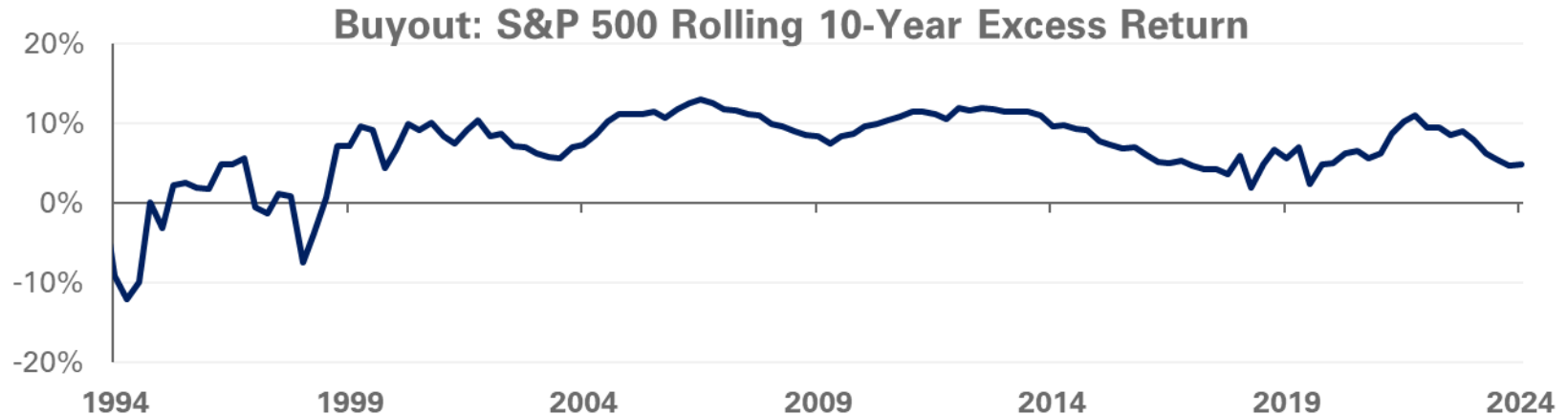
ALTERNATIVE ASSETS



PROPRIETARY & CONFIDENTIAL

ALTERNATIVE ASSETS

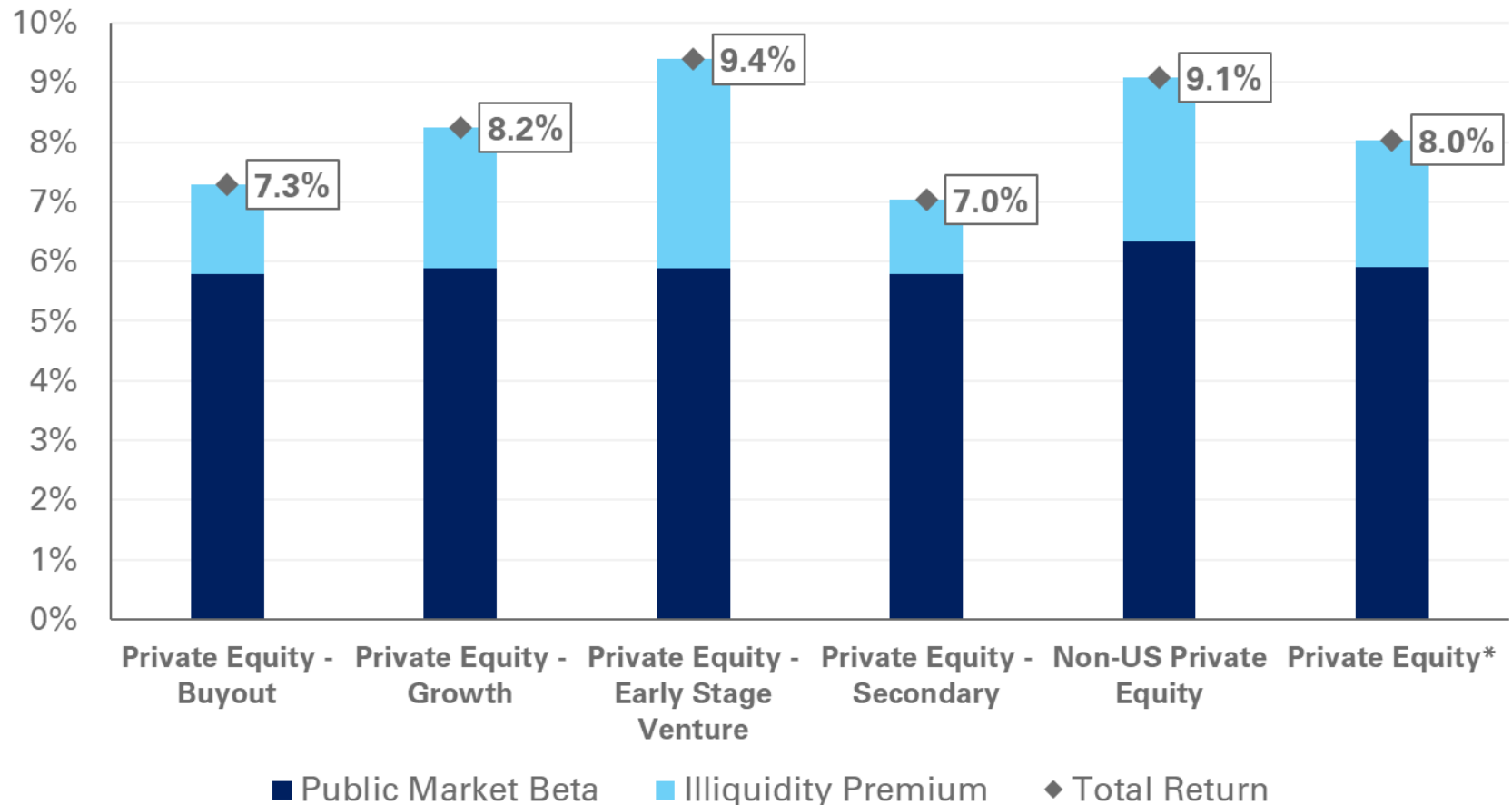
METHODOLOGY



- **Private market assumptions are constructed from public market betas with an added illiquidity premia**
 - Historically, the observed illiquidity premium has been a significant component driving private market returns
- **Hedge fund assumptions are constructed from betas to public markets with an added alpha assumption**

PRIVATE EQUITY

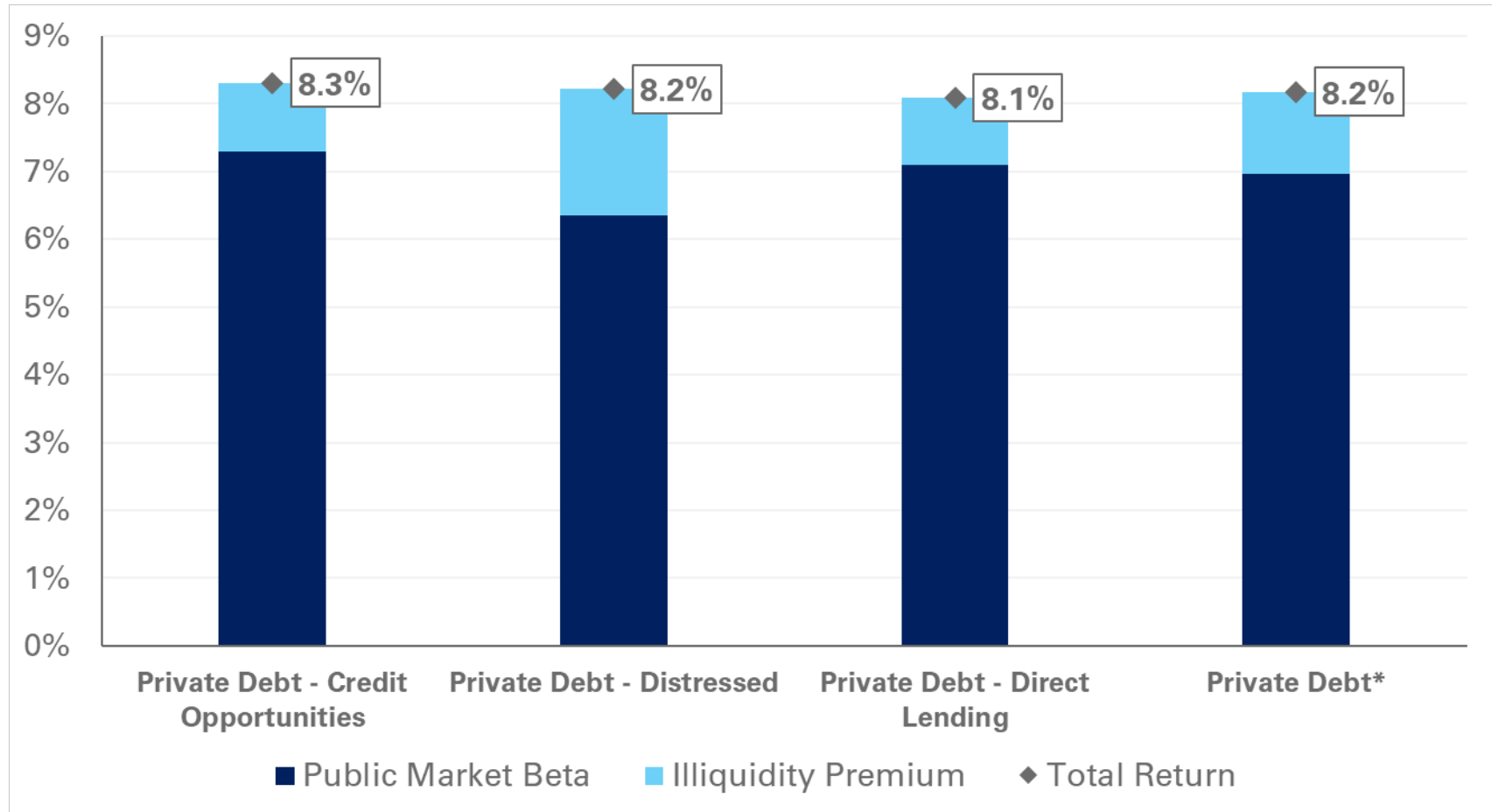
BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



*Private Equity is a derived composite of 34% U.S. Buyout, 34% U.S. Growth, 8.5% U.S. Secondary, 8.5% U.S. Venture, 15% Non-U.S. PE. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

PRIVATE DEBT

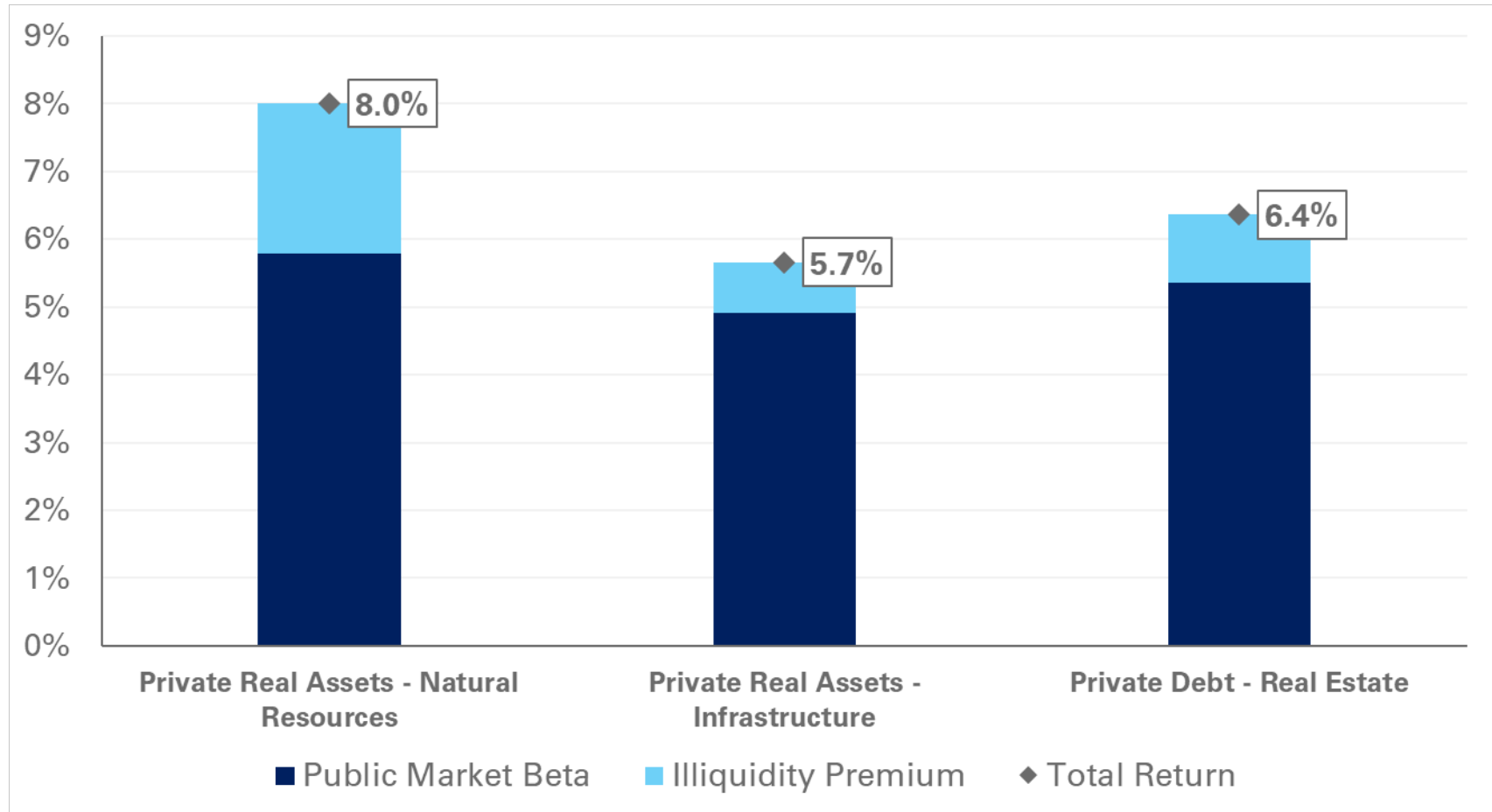
BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



*Private Debt is a derived composite of 25% Credit Opportunities, 25% Distressed, 50% Direct Lending. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

PRIVATE REAL ASSET

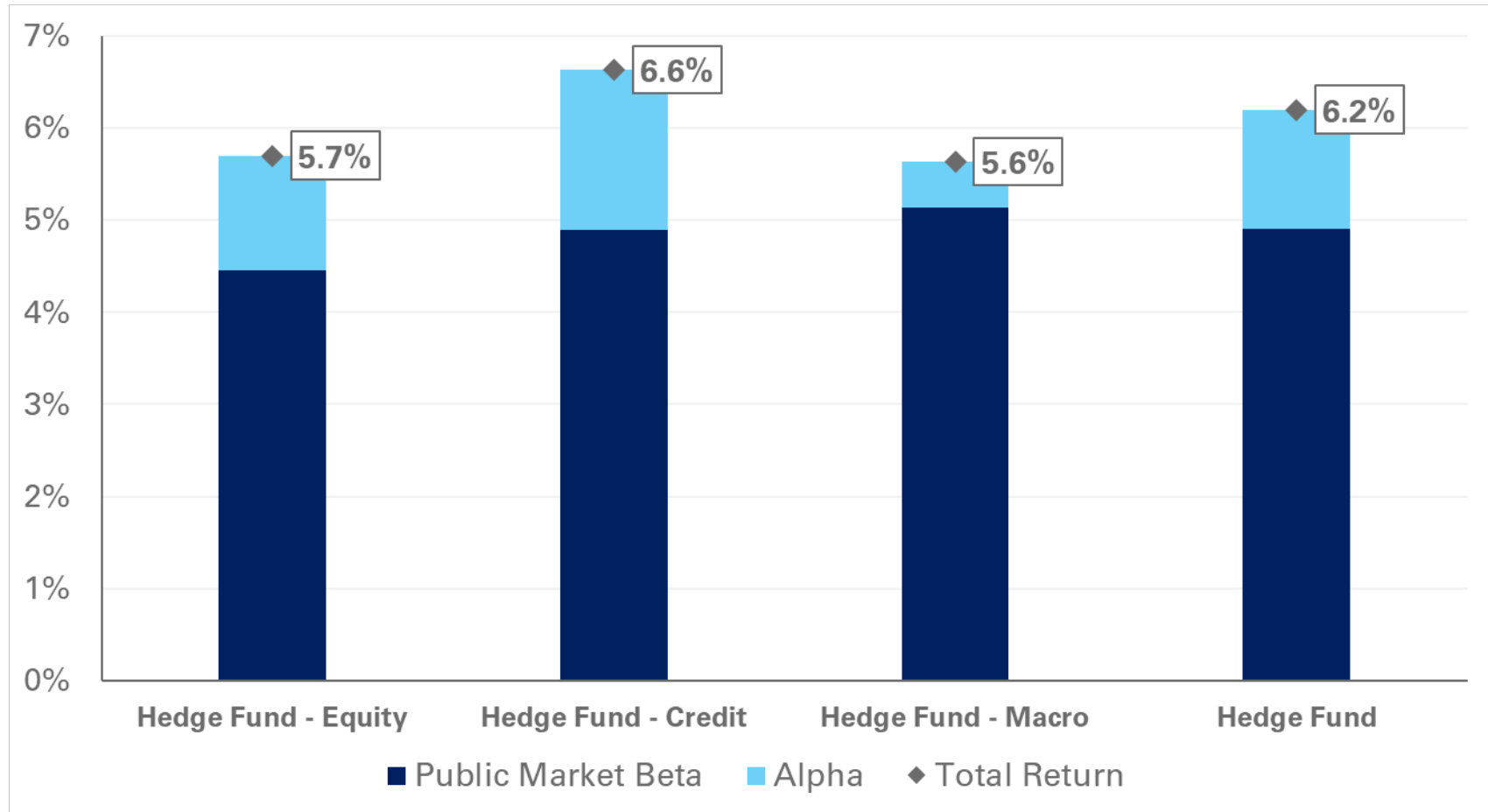
BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

HEDGE FUND

BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



*Hedge Funds is a derived composite of 40% Long/Short, 40% Credit, 20% Macro. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

APPENDIX



PRIVATE MARKETS COMPOSITES

PUBLIC MARKET BETA INPUTS FOR PRIVATE MARKETS

PRIVATE EQUITY

Buyout: 25% U.S. Large Cap, 75% U.S. Small/Mid Cap

Secondary: 25% U.S. Large Cap, 75% U.S. Small/Mid Cap

Growth: 100% U.S. Small/Mid Cap

Early-Stage Venture: 100% U.S. Small/Mid Cap

Non-U.S.: 70% International Small Cap, 30% Emerging Small Cap

Composite: 34% Buyout, 34% Growth, 15 % Non-U.S., 8.5% Secondary, 8.5% Early Venture

PRIVATE DEBT

Direct Lending: 100% Bank Loans

Distressed: 20% U.S. Small/Mid Cap, 60% U.S. High Yield, 20% Bank Loans

Credit Opportunities: 34% High Yield Securitized, 33% U.S. High Yield, 33% Bank Loans

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

PRIVATE REAL ASSETS

Energy: 30% Comm., 35% Midstream, 35% Public Resource Equity

Infra/Land: 30% Commodities, 70% Public Infrastructure

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

10-YEAR RETURN FORECASTS

EQUITY

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
U.S. Large-Cap Equity	5.3%	4.0%	+1.3%
U.S. Small/Mid-Cap Equity	5.7%	6.2%	-0.5%
Non-U.S. Developed Equity	5.3%	4.5%	+0.8%
Non-U.S. Developed Equity (USD Hedge)	5.5%	4.7%	+0.8%
Non-U.S. Developed Small-Cap Equity	6.0%	6.7%	-0.7%
Emerging Market Equity	6.6%	7.8%	-1.2%
Emerging Market Small-Cap Equity	6.6%	7.1%	-0.5%
Hedge Fund - Equity	5.7%	5.5%	+0.2%
Private Equity - Buyout	7.3%	7.2%	+0.1%
Private Equity - Growth	8.2%	8.5%	-0.3%
Private Equity - Early Stage Venture	9.4%	9.7%	-0.3%
Private Equity - Secondary	7.0%	6.7%	+0.3%
Non-U.S. Private Equity	9.1%	9.7%	-0.6%
China Equity	7.0%	9.8%	-2.8%
Global Equity*	5.7%	5.0%	+0.7%
Private Equity*	8.6%	8.7%	-0.1%

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10-YEAR RETURN FORECASTS

FIXED INCOME

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
Cash	3.8%	4.2%	-0.4%
US TIPS	4.6%	4.8%	-0.2%
US Treasury Bond	4.4%	4.6%	-0.2%
US Corporate Bond	5.5%	5.7%	-0.2%
US Corporate Bond - AAA	4.9%	4.9%	-
US Corporate Bond - AA	5.0%	5.1%	-0.1%
US Corporate Bond - A	5.3%	5.5%	-0.2%
US Corporate Bond - BBB	5.8%	6.0%	-0.2%
US Mortgage-Backed Securities	4.7%	4.8%	-0.1%
US Securitized Bond	5.2%	5.4%	-0.2%
US Collateralized Loan Obligation	5.4%	5.7%	-0.3%
US Municipal Bond	4.3%	3.8%	+0.5%
US Municipal Bond (1-10 Year)	3.7%	3.4%	+0.3%
US Taxable Municipal Bond	5.6%	5.5%	+0.1%

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10-YEAR RETURN FORECASTS

FIXED INCOME

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
Non-US Government Bond	2.7%	2.7%	-
Non-US Government Bond (USD Hedge)	2.9%	3.0%	-0.1%
Non-US Inflation-Linked Bond (USD Hedge)	3.9%	3.7%	+0.2%
US Short-Term TIPS (1-3 Year)	4.4%	4.8%	-0.4%
US Short-Term Treasury Bond (1-3 Year)	4.3%	4.7%	-0.4%
US Short-Term Corporate Bond (1-3 Year)	5.2%	5.6%	-0.4%
US Intermediate-Term TIPS (3-10 Year)	4.5%	4.8%	-0.3%
US Intermediate-Term Treasury Bond (3-10 Year)	4.3%	4.6%	-0.3%
US Intermediate-Term Corporate Bond (3-10 Year)	5.7%	6.0%	-0.3%
US Long-Term TIPS (10-30 Year)	5.2%	4.9%	+0.3%
US Long-Term Treasury Bond (10-30 Year)	4.7%	4.3%	+0.4%
US Long-Term Corporate Bond (10-30 Year)	5.4%	5.4%	-
20+ Year US Treasury STRIPS	4.5%	4.2%	+0.3%
10 Year US Treasury Bond	4.5%	4.7%	-0.2%
10 Year Non-US Government Bond (USD Hedge)	2.7%	2.6%	+0.1%
US Aggregate Bond*	4.8%	5.0%	-0.2%

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10-YEAR RETURN FORECASTS

FIXED INCOME

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
US High Yield Corporate Bond	6.1%	6.3%	-0.2%
US Corporate Bond - BB	6.6%	6.9%	-0.3%
US Corporate Bond - B	6.3%	6.4%	-0.1%
US Corporate Bond - CCC/Below	0.0%	0.8%	-0.8%
US Short-Term High Yield Corporate Bond (1-3 Year)	5.6%	5.8%	-0.2%
US Leveraged Loan	7.0%	7.4%	-0.4%
Emerging Market Investment Grade External Debt	5.5%	5.4%	+0.1%
Emerging Market High Yield External Debt	7.4%	9.7%	-2.3%
Emerging Market Local Currency Debt	6.2%	6.9%	-0.7%
US High Yield Securitized Bond	8.8%	9.3%	-0.5%
US High Yield Collateralized Loan Obligation	7.6%	8.0%	-0.4%
US High Yield Municipal Bond	5.0%	4.2%	+0.8%
Hedge Fund - Credit	6.6%	6.7%	-0.1%
Private Debt - Credit Opportunities	8.3%	7.7%	+0.6%
Private Debt - Distressed	8.2%	8.5%	-0.3%
Private Debt - Direct Lending	8.1%	8.3%	-0.2%
Private Debt*	8.3%	8.3%	-

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10-YEAR RETURN FORECASTS

REAL ASSETS

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
Commodity Futures	4.8%	4.4%	+0.4%
Midstream Energy	5.4%	5.0%	+0.4%
REIT	5.5%	6.3%	-0.8%
Global Infrastructure Equity	4.7%	6.2%	-1.5%
Global Natural Resources Equity	6.0%	6.4%	-0.4%
Gold	4.0%	5.0%	-1.0%
Real Estate - Core	5.4%	6.0%	-0.6%
Real Estate – Value-Add	6.5%	7.2%	-0.7%
Real Estate - Opportunistic	7.6%	8.3%	-0.7%
Private Debt - Real Estate	6.4%	6.6%	-0.2%
Private Real Assets - Natural Resources	8.0%	8.1%	-0.1%
Private Real Assets - Infrastructure	5.7%	6.6%	-0.9%

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30-YEAR RETURN FORECASTS

EQUITY

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
U.S. Large-Cap Equity	7.0%	6.3%	+0.7%
U.S. Small/Mid-Cap Equity	7.2%	7.5%	-0.3%
Non-U.S. Developed Equity	6.8%	6.1%	+0.7%
Non-U.S. Developed Equity (USD Hedge)	7.1%	6.4%	+0.7%
Non-U.S. Developed Small-Cap Equity	7.6%	7.9%	-0.3%
Emerging Market Equity	8.6%	9.0%	-0.4%
Emerging Market Small-Cap Equity	8.3%	8.5%	-0.2%
Hedge Fund - Equity	6.2%	6.0%	+0.2%
Private Equity - Buyout	8.7%	8.7%	-
Private Equity - Growth	9.5%	9.7%	-0.2%
Private Equity - Early Stage Venture	10.4%	10.5%	-0.1%
Private Equity - Secondary	8.2%	8.2%	-
Non-U.S. Private Equity	10.4%	10.6%	-0.2%
China Equity	8.5%	9.5%	-1.0%
Global Equity*	7.4%	7.0%	+0.4%
Private Equity*	9.9%	10.0%	-0.1%

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30-YEAR RETURN FORECASTS

FIXED INCOME

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
Cash	3.5%	3.5%	-
US TIPS	5.0%	4.8%	+0.2%
US Treasury Bond	4.8%	4.6%	+0.2%
US Corporate Bond	6.3%	6.1%	+0.2%
US Corporate Bond - AAA	5.7%	5.4%	+0.3%
US Corporate Bond - AA	5.6%	5.4%	+0.2%
US Corporate Bond - A	6.0%	5.8%	+0.2%
US Corporate Bond - BBB	6.6%	6.4%	+0.2%
US Mortgage-Backed Securities	5.0%	4.8%	+0.2%
US Securitized Bond	5.6%	5.5%	+0.1%
US Collateralized Loan Obligation	5.0%	5.1%	-0.1%
US Municipal Bond	4.3%	4.0%	+0.3%
US Municipal Bond (1-10 Year)	4.0%	3.7%	+0.3%
US Taxable Municipal Bond	6.4%	6.2%	+0.2%

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30-YEAR RETURN FORECASTS

FIXED INCOME

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
Non-US Government Bond	3.3%	3.2%	+0.1%
Non-US Government Bond (USD Hedge)	3.6%	3.4%	+0.2%
Non-US Inflation-Linked Bond (USD Hedge)	4.0%	3.7%	+0.3%
US Short-Term TIPS (1-3 Year)	4.5%	4.5%	-
US Short-Term Treasury Bond (1-3 Year)	4.4%	4.4%	-
US Short-Term Corporate Bond (1-3 Year)	5.4%	5.4%	-
US Intermediate-Term TIPS (3-10 Year)	4.9%	4.8%	+0.1%
US Intermediate-Term Treasury Bond (3-10 Year)	4.7%	4.6%	+0.1%
US Intermediate-Term Corporate Bond (3-10 Year)	6.4%	6.3%	+0.1%
US Long-Term TIPS (10-30 Year)	5.5%	5.1%	+0.4%
US Long-Term Treasury Bond (10-30 Year)	5.2%	4.7%	+0.5%
US Long-Term Corporate Bond (10-30 Year)	6.7%	6.3%	+0.4%
20+ Year US Treasury STRIPS	5.4%	4.7%	+0.7%
10 Year US Treasury Bond	5.4%	5.1%	+0.3%
10 Year Non-US Government Bond (USD Hedge)	3.6%	3.3%	+0.3%
US Aggregate Bond*	5.3%	5.1%	+0.2%

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30-YEAR RETURN FORECASTS

FIXED INCOME

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
US High Yield Corporate Bond	7.5%	7.3%	+0.2%
US Corporate Bond - BB	7.7%	7.6%	+0.1%
US Corporate Bond - B	7.3%	7.1%	+0.2%
US Corporate Bond - CCC/Below	1.4%	1.5%	-0.1%
US Short-Term High Yield Corporate Bond (1-3 Year)	5.9%	5.9%	-
US Leveraged Loan	6.6%	6.7%	-0.1%
Emerging Market Investment Grade External Debt	6.4%	5.4%	+1.0%
Emerging Market High Yield External Debt	8.2%	9.7%	-1.5%
Emerging Market Local Currency Debt	5.5%	5.9%	-0.4%
US High Yield Securitized Bond	8.8%	8.6%	+0.2%
US High Yield Collateralized Loan Obligation	7.4%	7.4%	-
US High Yield Municipal Bond	5.4%	4.9%	+0.5%
Hedge Fund - Credit	7.2%	7.1%	+0.1%
Private Debt - Credit Opportunities	8.9%	8.4%	+0.5%
Private Debt - Distressed	9.4%	9.4%	-
Private Debt - Direct Lending	8.9%	8.9%	-
Private Debt*	9.1%	9.0%	+0.1%

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30-YEAR RETURN FORECASTS

REAL ASSETS

Geometric Expected Return			
Asset Class	06/30/2025	06/30/2024	Delta
Commodity Futures	4.3%	3.8%	+0.5%
Midstream Energy	6.1%	6.4%	-0.3%
REIT	7.1%	7.4%	-0.3%
Global Infrastructure Equity	6.3%	6.8%	-0.5%
Global Natural Resources Equity	7.1%	7.2%	-0.1%
Gold	4.8%	4.9%	-0.1%
Real Estate - Core	6.2%	6.5%	-0.3%
Real Estate – Value-Add	7.5%	7.8%	-0.3%
Real Estate - Opportunistic	8.4%	8.7%	-0.3%
Private Debt - Real Estate	6.8%	6.8%	-
Private Real Assets - Natural Resources	8.9%	8.9%	-
Private Real Assets - Infrastructure	6.8%	7.0%	-0.2%

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VOLATILITY FORECASTS

EQUITY

Volatility			
Asset Class	06/30/2025	06/30/2024	Delta
U.S. Large-Cap Equity	17.4%	17.2%	+0.2%
U.S. Small/Mid-Cap Equity	21.4%	21.0%	+0.4%
Non-U.S. Developed Equity	19.6%	19.7%	-0.1%
Non-U.S. Developed Equity (USD Hedge)	17.4%	17.7%	-0.3%
Non-U.S. Developed Small-Cap Equity	23.3%	24.2%	-0.9%
Emerging Market Equity	27.4%	28.1%	-0.7%
Emerging Market Small-Cap Equity	30.6%	31.4%	-0.8%
Hedge Fund - Equity	10.9%	11.0%	-0.1%
Private Equity - Buyout	20.7%	20.0%	+0.7%
Private Equity - Growth	30.8%	31.5%	-0.7%
Private Equity - Early Stage Venture	48.0%	46.5%	+1.5%
Private Equity - Secondary	20.4%	20.4%	-
Non-U.S. Private Equity	29.0%	32.0%	-3.0%
China Equity	30.4%	30.6%	-0.2%
Global Equity*	18.2%	18.2%	-
Private Equity*	25.8%	25.9%	-0.1%

*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

VOLATILITY FORECASTS

FIXED INCOME

Volatility			
Asset Class	06/30/2025	06/30/2024	Delta
Cash	0.6%	0.6%	-
US TIPS	6.0%	6.0%	-
US Treasury Bond	5.5%	5.4%	+0.1%
US Corporate Bond	7.9%	7.7%	+0.2%
US Corporate Bond - AAA	7.0%	6.8%	+0.2%
US Corporate Bond - AA	6.7%	6.6%	+0.1%
US Corporate Bond - A	7.7%	7.6%	+0.1%
US Corporate Bond - BBB	8.6%	8.4%	+0.2%
US Mortgage-Backed Securities	6.5%	6.5%	-
US Securitized Bond	7.9%	8.0%	-0.1%
US Collateralized Loan Obligation	6.5%	7.7%	-1.2%
US Municipal Bond	6.0%	6.0%	-
US Municipal Bond (1-10 Year)	4.5%	4.5%	-
US Taxable Municipal Bond	7.5%	7.5%	-

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VOLATILITY FORECASTS

FIXED INCOME

Volatility			
Asset Class	06/30/2025	06/30/2024	Delta
Non-US Government Bond	9.8%	9.5%	+0.3%
Non-US Government Bond (USD Hedge)	4.1%	4.1%	-
Non-US Inflation-Linked Bond (USD Hedge)	6.7%	6.7%	-
US Short-Term TIPS (1-3 Year)	3.3%	3.3%	-
US Short-Term Treasury Bond (1-3 Year)	2.3%	2.3%	-
US Short-Term Corporate Bond (1-3 Year)	2.8%	2.8%	-
US Intermediate-Term TIPS (3-10 Year)	5.8%	6.0%	-0.2%
US Intermediate-Term Treasury Bond (3-10 Year)	5.4%	5.9%	-0.5%
US Intermediate-Term Corporate Bond (3-10 Year)	7.4%	7.1%	+0.3%
US Long-Term TIPS (10-30 Year)	12.6%	12.4%	+0.2%
US Long-Term Treasury Bond (10-30 Year)	12.3%	11.8%	+0.5%
US Long-Term Corporate Bond (10-30 Year)	12.4%	11.9%	+0.5%
20+ Year US Treasury STRIPS	21.0%	20.7%	+0.3%
10 Year US Treasury Bond	7.6%	7.5%	+0.1%
10 Year Non-US Government Bond (USD Hedge)	4.9%	5.0%	-0.1%
US Aggregate Bond*	5.8%	5.8%	-

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VOLATILITY FORECASTS

FIXED INCOME

Volatility			
Asset Class	06/30/2025	06/30/2024	Delta
US High Yield Corporate Bond	11.3%	11.2%	+0.1%
US Corporate Bond - BB	9.7%	9.7%	-
US Corporate Bond - B	11.7%	11.6%	+0.1%
US Corporate Bond - CCC/Below	20.4%	20.3%	+0.1%
US Short-Term High Yield Corporate Bond (1-3 Year)	8.2%	8.2%	-
US Leveraged Loan	6.1%	9.1%	-3.0%
Emerging Market Investment Grade External Debt	8.7%	8.7%	-
Emerging Market High Yield External Debt	17.5%	17.5%	-
Emerging Market Local Currency Debt	12.6%	12.7%	-0.1%
US High Yield Securitized Bond	13.0%	11.2%	+1.8%
US High Yield Collateralized Loan Obligation	15.9%	10.4%	+5.5%
US High Yield Municipal Bond	12.0%	12.0%	-
Hedge Fund - Credit	9.7%	9.9%	-0.2%
Private Debt - Credit Opportunities	14.3%	14.5%	-0.2%
Private Debt - Distressed	13.9%	14.4%	-0.5%
Private Debt - Direct Lending	11.0%	11.0%	-
Private Debt*	11.8%	11.8%	-

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VOLATILITY FORECASTS

REAL ASSETS

Volatility			
Asset Class	06/30/2025	06/30/2024	Delta
Commodity Futures	18.5%	18.5%	-
Midstream Energy	27.7%	28.2%	-0.5%
REIT	22.4%	21.8%	+0.6%
Global Infrastructure Equity	19.3%	19.4%	-0.1%
Global Natural Resources Equity	22.9%	23.3%	-0.4%
Gold	16.6%	16.4%	+0.2%
Real Estate - Core	14.7%	15.0%	-0.3%
Real Estate – Value-Add	23.0%	23.4%	-0.4%
Real Estate - Opportunistic	27.3%	25.8%	+1.5%
Private Debt - Real Estate	11.9%	11.9%	-
Private Real Assets - Natural Resources	32.5%	32.3%	+0.2%
Private Real Assets - Infrastructure	10.6%	12.4%	-1.8%

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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.

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LIQUIDITY SUB- PORTFOLIO REVIEW

STANISLAUS COUNTY EMPLOYEES'
RETIREMENT ASSOCIATION

OCTOBER 23, 2025

Daniel Hennessy, CFA, CAIA



STANCERA'S INVESTMENT OBJECTIVES

- The investment objectives of the Investment Program are:
 - To provide liquidity to meet retiree benefit payments in a timely manner;
 - Liquidity sub-portfolio
 - To produce long-term growth to meet future retiree benefit payments and, if applicable, to close a funding gap over time;
 - Growth sub-portfolio
 - To protect the assets against the adverse impacts of rising inflation and investment market volatility.
 - Diversifying sub-portfolio

ASSET CLASS OBJECTIVES

Asset Class	Portfolio Role	Current Target
Liquidity		
Cash and Cashflow-Matched Bonds	- Covers shortfall between contributions and benefits/fees - Ensures short-term needs so the rest of the portfolio can be managed for the long-term	8%
Growth		
Public Equity and Credit	- Capital appreciation - Capture global growth - Income generation	40%
Private Equity and Credit	Higher return expectations than public equity and credit	13%
Real Assets (Real Estate and Infrastructure)	- Inflation hedge - Income generation	20%
Risk-Diversifying		
Treasuries and TIPS	- Downside protection - Adds diversification	10%
Risk Parity	Adds diversification	4%
Liquid Absolute Return Strategies	- Skill-based active management - Adds diversification	5%

ROLE OF THE LIQUIDITY SUB-PORTFOLIO

StanCERA's benefit payments exceed the contributions it receives from employers and plan members. Covering this shortfall is the reason that the StanCERA pension plan exists.

In order to achieve its long-term investment return assumption of 6.75%, StanCERA invests in a diversified mix of growth, risk-diversifying, and liquidity strategies.

The Liquidity Sub-Portfolio consists of a cash account plus a high-quality fixed income strategy that seeks to provide income and principal repayments that match the expected monthly shortfall, typically for at least the next 48 months and usually longer. Currently the program seeks to cover the shortfall for the next 6 years.

It helps prevent forced sales of growth assets during poor market conditions, providing a stable financial buffer during periods of market volatility.

HIGHER STARTING BOND YIELDS MAKE IT EASIER TO COVER SHORTFALLS

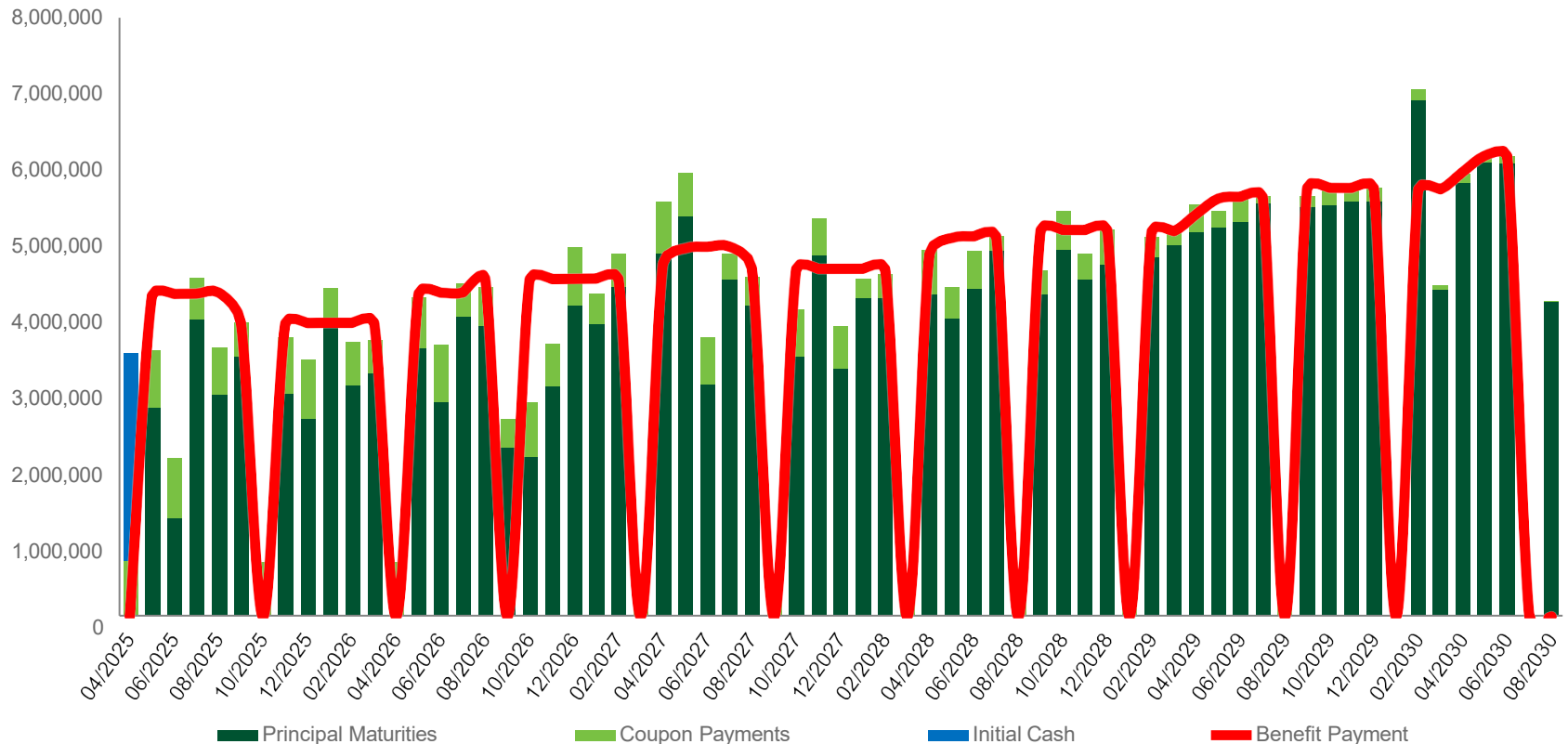
EFFECTIVE YIELD OF THE ICE BOFA US CORPORATE INDEX



INSIGHT INVESTMENT LIQUIDITY STRATEGY

EXPECTED CASHFLOWS AS OF MARCH 31, 2025

Investment source by cashflow period



Source: Insight Investment as of March 31, 2025

INSIGHT INVESTMENT LIQUIDITY STRATEGY

PORTFOLIO ATTRIBUTES AS OF MARCH 31, 2025

Key characteristics	Portfolio	Rating (%)	Portfolio	Asset allocation exposure (%)	Portfolio
Yield to worst (%)	4.47	AAA	16.38	ABS	6.07
Yield to maturity (%)	4.49	AA	12.80	Corporate	82.13
OAS (bp)	48	A	51.62	US Treasury/Agency	10.58
Effective duration (years)	2.69	BBB	17.99	Cash	1.22
Spread duration (years)	2.79	BB	0.00	Total	100.00
Number of issuers	100	Cash & other	1.22		
Average rating	A+	Total	100.00		
Average coupon (%)	3.44				

Subsector exposure (%)	Portfolio
ABS Other	0.83
Car loan	2.32
Consumer cyclical	7.40
Consumer non-cyclical	9.83
Credit card	2.92
Energy	7.44
Financials	20.84
Foreign agencies	0.67
Industrials	13.68
Technology, media, telecom	11.60
Utilities	10.68
US Treasury/Agency	10.58
Cash	1.22
Total	100.00

Source: Insight Investment as of March 31, 2025

NEPC DISCLOSURES

Past performance is no guarantee of future results.

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

Some of the information presented herein has been obtained from external sources NEPC believes to be reliable. While NEPC has exercised reasonable professional care in preparing this content, we cannot guarantee the accuracy of all source information contained within.

The opinions presented herein represent the good faith views of NEPC as of the publication date and are subject to change at any time.

This presentation contains summary information regarding the investment management approaches described herein but is not a complete description of the investment objectives, portfolio management and research that supports these approaches. This analysis does not constitute a recommendation to implement any of the aforementioned approaches.

September 23, 2025

Retirement Board Agenda Item

TO: Retirement Board

FROM: Stan Conwell, Retirement Investment Officer

I. SUBJECT: Liquidity Sub-Portfolio Annual Funding Plan

II. ITEM NUMBER: 8.d

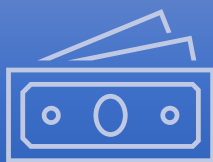
III. ITEM TYPE: Information Only

IV. STAFF RECOMMENDATION: N/A

V. ANALYSIS:

Background

StanCERA follows a functionally focused investment policy. This strategy divides the portfolio into three functional sub-portfolios: liquidity, growth, and diversifying. Each sub-portfolio addresses a separate investment objective. The liquidity sub-portfolio provides liquidity to meet current retiree benefit payments in a timely manner, the growth sub-portfolio seeks to provide long-term growth to meet future retiree payments and the diversifying sub-portfolio is intended to offset some of the risks in the growth sub-portfolio. While the three sub-portfolios are aligned with the investment objectives individually, collectively they provide appropriate risk and return characteristics to meet StanCERA's overall investment goals. This strategy can be described as the three P's of portfolio management.



Provide

Liquidity to meet retiree benefit payments
Cash flow matched bonds, Cash



Produce

Growth to meet future retiree benefit payments
Equities, Credit, Real Estate, Infrastructure



Protect

Offset risk in growth assets while remaining liquid
Treasuries, Risk Parity, Liquid Absolute Return

The liquidity sub-portfolio acts as a drawdown vehicle during the year and needs to be replenished annually. In accordance with the investment policy, an annual funding plan is produced by staff on how best to replenish the liquidity sub-portfolio. In conjunction with the annual funding plan, the policy also requires the investment consultant, NEPC, to deliver a capital markets review to the Board and if necessary, recommend changes to the asset allocation. NEPC, is not recommending any adjustments to the asset allocation at this time.

Cash Shortfall Forecast

StanCERA's monthly cash needs can be calculated using the following formula: Retiree Benefit Payments + Administrative Expenses – Plan Sponsor Contributions = Cash Shortfall. Staff creates forecast estimates of each input using historical trends, data and assumptions from actuarial reports, budget estimates and known employment changes from plan sponsors to generate a cash shortfall forecast. The process is conducted annually using the latest available data. The chart below provides a comparison between the actual and forecasted shortfalls from FY 2025. Note that in October and April the county had three pay periods resulting in no shortfall. Overall, the forecast closely tracked the actual shortfalls and the plan did not need to sell assets to pay benefits.



Liquidity Sub-Portfolio Sizing

The liquidity sub-portfolio is composed of the cash flow matched bond portfolio as well as a 1% strategic target to cash. The cash flow matched bond portfolio, managed by Insight Investment, is measured in dollars rather than a percentage of the total fund. The size of the cash flow matched portfolio will vary based on the number of years of cash shortfalls that need to be funded and the current interest rates. The market value of the cash flow matched bond portfolio as of 8/30/2025 was \$216,857,171 and will cover the cash shortfalls through June 2030. To maintain six years of cash shortfalls, approximately \$17 Million will need be added to the cash-flow matched bond portfolio as part of the annual

funding plan. As a percentage of the total plan, the allocation to the liquidity sub-portfolio is estimated to change from 6.8% of the total fund to about 7.3% of the total fund. That percentage will trend down over time as the bond portfolio makes monthly distributions to meet the cash needs of the plan.

Rebalance Plan

In alignment with StanCERA's Investment Policy, the annual funding plan is designed to keep the portfolio aligned with the long-term policy targets to maintain the intended risk/return profile. With this in mind, we are proposing to trim from asset classes that are overweight relative to target to replenish the liquidity sub portfolio. As of September, StanCERA is overweight international and domestic equities with international equities showing the largest deviation from target. The proposed rebalance plan will trim international equities and redeploy the proceeds into the cash flow matched bond fund. The rebalance will reduce the equity overweight, bring the total portfolio closer to the long-term targets, and reduce the overall portfolio risk by paring back exposure to equities.

The proposed rebalance plan is detailed below:

From			To		
Manager	Asset Class	Amount	Manager	Asset Class	Amount
LSV International Value	Public Equity	-\$13,000,000	Insight Investment	Short-term Bonds	\$17,000,000
Fidelity International Growth	Public Equity	-\$4,000,000			

Summary

StanCERA's investment policy requires staff to provide an annual funding plan to the Board every year to replenish the liquidity sub-portfolio. The investment consultant will also provide a capital markets review to the Board and recommend asset allocation changes if needed. The cash flow matched bond portfolio within the liquidity sub-portfolio is measured in dollars rather than a target percentage of the total fund. Approximately, \$17 million will be added to the liquidity sub-portfolio from international equity as that asset class currently exceeds its long-term policy target.

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

September 23, 2025

Retirement Board Agenda Item

TO: Retirement Board

FROM: Carmen Gusman, Retirement Fiscal Manager
Tom Stadelmaier, Executive Director
Donna Wood, Member and Employer Services Specialist

- I. SUBJECT: Board Update – RESCO Insurance Deductions
- II. ITEM NUMBER: 9.a
- III. ITEM TYPE: Informational only
- IV. STAFF RECOMMENDATION: None
- V. EXECUTIVE SUMMARY: Staff would like to provide an update on the transition of RESCO's insurance broker from Pacific Group Agencies (PGA) to Rico, Pfitzer, Pires and Associates (RPP), effective October 1, 2025.

Over the past several weeks, StanCERA staff have been working to support this transition. This has required significant staff involvement across multiple areas, including fiscal, member services, and management. Staff time has gone into process changes, coordination with RESCO, and preparing to reconcile deductions with the new broker. We are also continuing to respond to member questions and assist with issues that arise. As we have experienced in the past, this "middleman" role often leads to additional work for staff and, at times, frustration for members who may be better served by working directly with RESCO, or with the broker, or insurance carrier.

As a reminder, deductions for broker-managed insurance are outside StanCERA's core mission, and the current process creates ongoing administrative, compliance, and customer service challenges. Staff continues to see risks in maintaining this service, particularly as broker changes require additional effort, retraining, and process adjustments.

Staff has spent well over 400 hours just in the last two months related to the broker transition. In tracking work items in the last month, staff identified over 2,500 distinct activities that required staff time to review. Staff anticipates work related to this transition at a much higher than normal level for the remainder of the year as well until we reach a more normal steady state. Experience from previous years indicates that there will typically be a greater volume of work related to broker deductions annually during open enrollment especially when there are significant changes such as this year. Analysis of work effort includes the following activities directly related to broker deductions: calls, voicemails, walk-in traffic, e-mails, document scans, meetings, monthly import file processing, reconciliation and fiscal services activity. Averaged over a year, this requires over 0.5 of a full-time equivalent (FTE) on staff in order to support premium collections for the broker. The cost of an FTE is approximately

two times salary. This analysis supports the proposed fee of \$5 per transaction at the current volumes of deductions collected on behalf of the broker.

At the August meeting, the Board granted a 90-day extension to continue supporting deductions while RESCO finalized its transition. This means a decision on whether to continue this service will need to be made at the **October meeting**. Staff's recommendation remains the same:

- **Option A:** Discontinue support of these deductions altogether, OR
- **Option B:** Continue supporting deductions but charge the broker a \$5 per transaction fee to offset StanCERA's costs.

Please feel free to reach out to staff if you have any questions ahead of the October meeting.

- VI. **RISK:** Continuing to support the deductions brings some risk that is mitigated by the fee. Also, there is a risk of member dissatisfaction from being involved in the process or from making changes to the process, such as converting members and beneficiaries to direct billing or third-party billing.
- VII. **STRATEGIC PLAN:** Making this change supports several strategic objectives including improved efficiency and improved member service.
- VIII. **ADMINISTRATIVE BUDGET IMPACT:** TBD based on the decision. Implementing the recommended approach will result in long-term cost savings for StanCERA, which benefits all members and beneficiaries of the plan.