

# VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

## BOARD OF RETIREMENT

### BUSINESS MEETING

NOVEMBER 20, 2023

### AGENDA

**PLACE:** Ventura County Employees' Retirement Association  
Second Floor, Boardroom  
1190 S. Victoria Avenue, Suite 200  
Ventura, CA 93003

*The public may listen to the Public Session and offer comments by calling: +1 (669) 219-2599, using Meeting ID: 852-1517-3374. Persons may also submit written comments to [publiccomment@vcera.org](mailto:publiccomment@vcera.org) prior to and during the Board meeting. Please include your name, agenda item, the last 4 numbers of the telephone number that will be used to call in, and your comment. Public comment emails will be read into the record or summarized if lengthy.*

*Note: The Board may take action on any item on the agenda, and agenda items may be taken out of order.*

**TIME:** 9:00 a.m.

**ITEM:**

**I. CALL TO ORDER**

A. Roll Call.

**II. APPROVAL OF AGENDA**

**III. CONSENT AGENDA**

A. Approve Regular and Deferred Retirements and Survivors Continuances for the Month of October 2023.

B. Approve Disability Meeting Minutes of November 6, 2023.

**IV. INVESTMENT MANAGER PRESENTATIONS**

A. Annual Investment Presentation from BlackRock: Grant Dechert, Kit Donovan, and Daphne Tai.

**V. INVESTMENT INFORMATION**

VCERA – Dan Gallagher, Chief Investment Officer.  
NEPC – Allan Martin and Rose Dean.

A. \$30M Commitment to Pantheon Credit Opportunities Fund III.  
**RECOMMENDED ACTION: Approve.**

V. **INVESTMENT INFORMATION** (continued)

1. Staff Letter by Chief Investment Officer.
  2. Joint Fund Recommendation Report from NEPC.
  3. Pantheon Credit Opportunities Fund III Presentation: Iain Jones.
- B. Third Quarter 2023 Investment Performance Report.  
**RECOMMENDED ACTION: Receive and File.**
- C. Monthly Investment Performance Report for the Period Ending October 31, 2023.  
**RECOMMENDED ACTION: Receive and File.**

VI. **OLD BUSINESS**

- A. Alameda Implementation Status Report.  
**RECOMMENDED ACTION: Receive and File.**

VII. **NEW BUSINESS**

- A. 2024 Calendars of Investment Presentations and of Investment On-Site Due Diligence Meetings.  
**RECOMMENDED ACTION: Approve.**
1. Staff Letter from Chief Investment Officer.
  2. Proposed Investment Presentations Calendar for 2024.
  3. Proposed Due Diligence Calendar for 2024.
- B. Authorization for Chief Technology Officer to Attend the Gartner CIO Leadership Forum, February 26-27, 2024, in Phoenix, Arizona.  
**RECOMMENDED ACTION: Approve.**
1. Staff Letter from Chief Technology Officer.
  2. Gartner CIO Leadership Forum Agenda.
- C. Creation of an Ad-Hoc Benefit and Compensation Committee for 2024.
1. Staff Letter from Interim Retirement Administrator.

VIII. **CLOSED SESSION**

- A. It is the intention of the Personnel Review Committee to Meet in Closed Session, Pursuant to Government Code Section 54957(b)(1), to Discuss the Following Item.
1. Public Employee Appointment.  
Title: Retirement Administrator.

- IX. INFORMATIONAL**
- X. PUBLIC COMMENT**
- XI. STAFF COMMENT**
- XII. BOARD MEMBER COMMENT**
- XIII. ADJOURNMENT**

**VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**  
**REPORT OF REGULAR AND DEFERRED RETIREMENTS AND SURVIVORS CONTINUANCES**

**October 2023**

FIRST NAME	LAST NAME	G/S	DATE OF BENEFIT MEMBERSHIP SERVICE	D	DEPARTMENT	EFFECTIVE DATE
<b>REGULAR RETIREMENTS:</b>						
ROY ALEXANDER	ALLAN	G	3/26/2006	15.59	AUDITOR CONTROLLER	9/30/2023
JANET ELIZABETH	ALLEN	G	8/19/2012	8.87	D PUBLIC WORKS AGENCY	9/30/2023
LISA	BALDONADO	S	12/11/1988	34.72	PROBATION AGENCY	9/15/2023
EDWARD JOSEPH	BEAUVAIS	S	5/7/1995	30.53	SHERIFF'S OFFICE	9/29/2023
ROBERT BRUCE	BLACKWELL	S	2/4/1991	32.42	FIRE PROTECTION DISTRICT	9/30/2023
WILLIAM BULLOCK	CAREY	G	4/14/1991	32.96	PUBLIC WORKS AGENCY	9/16/2023
JACQUELINE ANNE	COLMENERO	G	12/4/2016	5.68	D INFORMATION TECHNOLOGY SERVICES	10/6/2023
TONY MARIN	DOMINGUEZ	G	11/2/1997	25.90	COUNTY EXECUTIVE OFFICE	9/30/2023
BOKCHIN S	FLEMING	G	11/19/2006	0.61	D HEALTH CARE AGENCY	10/2/2023
STEPHEN JAMES	GOODIN	G	4/23/2017	6.41	DISTRICT ATTORNEY	9/23/2023
CYNTHIA ANN	HARBER	G	5/23/2004	19.03	PROBATION AGENCY	9/10/2023
CHRIS ALAN	HOOKE	G	7/11/1999	24.21	PUBLIC WORKS AGENCY	9/30/2023
JASON SCOTT	JAMES	G	10/2/2011	8.89	D GENERAL SERVICES AGENCY	10/11/2023
ARTHUR BRUCE	NORRIS	G	8/7/2005	2.14	* D DISTRICT ATTORNEY	9/7/2023
MARK EDWARD	PLASSMEYER	S	12/16/2007	20.08	SHERIFF'S OFFICE	9/3/2023
AHMAD	RAJAE	G	12/24/2000	6.79	D HEALTH CARE AGENCY	9/18/2023
ELAINE	RALEY	G	11/17/1996	7.63	* D HUMAN SERVICES AGENCY	9/1/2023
ROBERT J	SCHUETT	S	9/20/1998	24.95	FIRE PROTECTION DISTRICT	10/1/2023
EVA Y	STAFFORD	G	2/11/2007	3.70	* D HUMAN SERVICES AGENCY	9/6/2023
URSULA	SUTHERLAND	G	3/23/1997	27.40	HEALTH CARE AGENCY	9/16/2023
SUSAN L	THOMAS	G	5/6/2007	7.01	D HEALTH CARE AGENCY	10/19/2023
RAMONA Q	URIBE	G	5/8/2005	18.36	HEALTH CARE AGENCY	9/30/2023
SESE JUNIOR	VAIVAO	G	7/22/1990	33.05	GENERAL SERVICES AGENCY	9/9/2023
ESTHER CHRISTINA	VALENZUELA	G	1/6/1980	42.82	COUNTY CLERK-RECORDER	9/15/2023
CATHY D	WALTERS	G	7/29/2018	5.02	HUMAN SERVICES AGENCY	9/28/2023
EDMUND E	WILLIAMS	G	8/1/2018	5.14	* AGRICULTURAL COMMISSIONER	9/1/2023
<b>DEFERRED RETIREMENTS:</b>						
JAHIR JESUS	ARROYO	G	1/3/2016	7.53	HUMAN SERVICES AGENCY	7/29/2023
AMY III	BANDAGSKI	G	3/19/2018	5.42	** PUBLIC WORKS AGENCY	8/25/2023
TANISHIA HEATHER	BROWN	G	8/9/2020	2.95	HEALTH CARE AGENCY	7/21/2023
CASEY ARELLANO	CACCAM	G	2/23/2020	2.51	HEALTH CARE AGENCY	8/16/2023
SERGIO ESTEBAN	CAMPOS-JUAREZ	G	11/28/2021	1.65	HEALTH CARE AGENCY	7/29/2023
SHARMAINE GLOVER	CARDENAS	G	7/10/2022	1.06	HEALTH CARE AGENCY	8/11/2023
PEGGY PALMIERI	CEFALU	G	5/30/2023	0.14	ASSESSOR	7/25/2023
STEVEN MICHAEL	COUNCIL	G	5/14/2023	0.23	HEALTH CARE AGENCY	8/8/2023
VICTORIA LEE CHRISTINA	COVEART	G	4/2/2023	0.27	ANIMAL SERVICES	7/23/2023
BRIANNE LYDIA	COX	G	6/26/2022	1.07	HEALTH CARE AGENCY	7/22/2023
KRYSTAL LORRAINE	DIAZ	G	4/28/2013	8.26	HUMAN SERVICES AGENCY	7/16/2023
SHARA RENEE	DUNCAN	G	5/13/2012	10.50	HEALTH CARE AGENCY	9/2/2023
JENNIFER R	EBERWEIN	G	1/16/2022	1.59	** AIR POLLUTION CONTROL DISTRICT	8/19/2023
GORDON WILLIAM	EMHOFF	G	7/10/2022	0.76	HEALTH CARE AGENCY	7/22/2023
GEORGE	GALVAN	G	5/16/2021	2.19	HEALTH CARE AGENCY	7/26/2023
ASHLEY H	GONGORA	G	6/29/2008	12.42	HUMAN SERVICES AGENCY	8/12/2023
VICTOR EDUARDO	GONZALEZ	G	9/18/2022	0.85	HEALTH CARE AGENCY	7/29/2023
RACHELL IRENE	GUERRA	G	11/30/2014	8.61	** HEALTH CARE AGENCY	9/28/2023
NABEEL R	HAMEED	G	6/27/2021	0.99	HEALTH CARE AGENCY	7/30/2023
HEATHER AMANDA	HEERSCHKE	S	10/11/2015	7.83	SHERIFF'S OFFICE	8/15/2023
SCOTT D	HENDRICKSON	G	4/4/1999	22.75	DISTRICT ATTORNEY	9/16/2023
JUSTINE VANESSA	HERNANDEZ	G	6/27/2021	1.10	HEALTH CARE AGENCY	8/2/2023
RACHEL LOIS	HOLST	G	8/7/2022	0.72	HEALTH CARE AGENCY	7/23/2023
CARLOS A	HURTADO	G	11/1/2009	13.65	HEALTH CARE AGENCY	7/21/2023
ANALILA S	JULIO	G	2/19/2023	0.41	HEALTH CARE AGENCY	7/18/2023
CYNTHIA HELEN	KADLEC	G	1/26/2016	7.35	PUBLIC WORKS AGENCY	8/15/2023
AMY ROSE	KREVENAS	G	1/8/2023	0.49	HEALTH CARE AGENCY	8/2/2023
DANA NICOLE	LAMBERT	G	7/9/2023	0.02	HEALTH CARE AGENCY	7/19/2023
JESSE FOREST	LANGILLE	G	12/25/2022	0.52	HEALTH CARE AGENCY	7/19/2023
MICHAEL ALEXANDER	LAVIZZO	G	11/1/2020	2.76	HEALTH CARE AGENCY	8/15/2023
RYAN M	LIPPINCOTT	G	4/18/2016	4.85	PUBLIC WORKS AGENCY	9/9/2023
CHRISTINA LUNA	MAGDALENO	G	4/9/2017	5.14	HEALTH CARE AGENCY	8/8/2023
SIENNA G	MAGDALENO	G	8/9/2020	2.95	HEALTH CARE AGENCY	7/22/2023
TASHA DAWN	MICHAEL	G	4/2/2023	0.35	HEALTH CARE AGENCY	8/10/2023
ANA HIT	NERSISYAN	G	10/2/2022	0.78	HUMAN SERVICES AGENCY	7/15/2023



**VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
REPORT OF REGULAR AND DEFERRED RETIREMENTS AND SURVIVORS CONTINUANCES**

**October 2023**

FIRST NAME	LAST NAME	G/S	DATE OF BENEFIT		D	DEPARTMENT	EFFECTIVE DATE
			MEMBERSHIP	SERVICE			
MARGARITA	O'GRADY	G	12/21/2011	9.89		HEALTH CARE AGENCY	9/1/2023
LETICIA SIERRA	ORTIZ	G	1/3/2016	5.43		HUMAN SERVICES AGENCY	8/18/2023
ALBERTO	PERAZA	G	4/2/2023	0.34		HUMAN SERVICES AGENCY	8/3/2023
NAOMI ELIZABETH A.	PEREZ	G	1/8/2023	0.45		CHILD SUPPORT SERVICES	8/3/2023
LIANE I.	PHILLIPS	G	9/13/2004	18.81		INFORMATION TECHNOLOGY SERVICES	8/5/2023
PRISCILLA ANNE	PIERCE	G	7/24/2022	1.06	*	PUBLIC WORKS AGENCY	8/12/2023
MAYRA ALEJANDRA	QUINTERO	G	12/2/2018	4.30		COUNTY CLERK-RECORDER	7/26/2023
DALIANA	REYES	G	7/10/2022	1.09		HUMAN SERVICES AGENCY	8/12/2023
LAURA BETH	RICHMOND	G	4/22/2018	5.26		ANIMAL SERVICES	8/3/2023
JAMES	RIVERA	G	9/18/2022	0.87		HUMAN SERVICES AGENCY	7/29/2023
THOMAS BURR	RUSSELL	G	11/22/2015	7.54		HARBOR ADMINISTRATION	8/14/2023
STEVIE RAY	RUTLEDGE	G	6/25/2023	0.14		SHERIFF'S OFFICE	8/16/2023
FRANKLIN RENE	SALAVERRIA	G	7/7/2013	10.03		HUMAN SERVICES AGENCY	7/22/2023
ALICIA BARNES	SANCHEZ	G	12/14/2008	11.24		HEALTH CARE AGENCY	7/24/2023
KYLE THOMAS	SCHNEIDER	S	12/11/2022	0.66		FIRE PROTECTION DISTRICT	8/10/2023
ERIN CHRISTINE	SPENCE CLOONAN	G	8/18/2013	7.73		SUPERIOR COURT	8/8/2023
PAUL	STAMPER	G	8/9/1999	23.82		COUNTY EXECUTIVE OFFICE	7/22/2023
KIMBERLY ANN	THALER-STRANGE	G	4/2/2023	0.32	*	HUMAN SERVICES AGENCY	7/28/2023
EMILIO E.	URIBE VALDES	S	7/28/2019	4.00	*	SHERIFF'S OFFICE	8/10/2023
ELIZA	VIERA	G	7/28/2019	3.77		HEALTH CARE AGENCY	8/2/2023
ESTEFANIA	VILLALOBOS	G	12/26/2021	1.05		HEALTH CARE AGENCY	8/7/2023
ANASTASIYA	VOLKAVA	G	4/16/2023	0.27		HEALTH CARE AGENCY	8/3/2023
COLE JOSEPH	WEAVER	S	3/11/2018	5.36	*	FIRE PROTECTION DISTRICT	7/28/2023

**SURVIVORS' CONTINUANCES:**

MARILYN	COOK
CATHERINE A	DONALDSON
MICHELLE E	FLEMING
LENORE Z	HARRIS
MAIA-PIRET	KADAI
BARBARA L	REED
RUTH M	WEIKEL
MADLINE JOYCE	WITTENBERG

\* = Excludes reciprocal service or service from any previous retirements

\*\* = Member establishing reciprocity

G = General Member

S = Safety Member

D = Deferred Member

# VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

## BOARD OF RETIREMENT

### DISABILITY MEETING

NOVEMBER 6, 2023

### AGENDA

**TRUSTEES  
PRESENT:**

Mike Sedell, Chair, Public Member  
Arthur E. Goulet, Vice-Chair, Retired Member  
Aaron Grass, Safety Employee Member  
Sue Horgan, Treasurer-Tax Collector  
Tommie E. Joe, Public Member  
Kelly Long, Public Member  
Jordan Roberts, General Employee Member  
Robert Ashby, Alternate Safety Employee Member  
Donald Brodt, Alternate Public Member  
Will Hoag, Alternate Retired Member

**TRUSTEES  
ABSENT:**

Anthony Rainey, Public Member  
Cecilia Hernandez-Garcia, General Employee Member

**STAFF  
PRESENT:**

Rick Santos, Interim Retirement Administrator  
Amy Herron, Chief Operations Officer  
Lori Nemiroff, General Counsel  
La Valda Marshall, Chief Financial Officer  
Josiah Vencel, Retirement Benefits Manager  
Brian Owen, Sr. Information Technology Specialist  
Michael Sanchez, Sr. Information Technology Specialist  
Chris Ayala, Program Assistant

**PLACE:**

Ventura County Employees' Retirement Association  
Second Floor, Boardroom  
1190 S. Victoria Avenue, Suite 200  
Ventura, CA 93003

**TIME:**

9:00 a.m.

**ITEM:**

**I. CALL TO ORDER**

A. Roll Call.

Chair Sedell called the Disability Meeting of November 6, 2023, to order at 9:01 a.m.

Roll Call:

Trustees Present: Robert Ashby, Donald Brodt, Aaron Grass, Art Goulet, Will Hoag, Sue Horgan, Tommie Joe, Jordan Roberts, Mike Sedell

Trustees Absent: Cecilia Hernandez-Garcia, Kelly Long, Anthony Rainey

**II. APPROVAL OF AGENDA**

MOTION: Approve.

Moved by Goulet, seconded by Roberts

Vote: Motion carried

Yes: Brodt, Grass, Goulet, Horgan, Joe, Roberts, Sedell

No: -

Absent: Hernandez-Garcia, Long, Rainey

Abstain: -

**III. CONSENT AGENDA**

*Notice: Any item appearing on the Consent Agenda may be moved to the Regular Agenda at the request of any Trustee who would like to propose changes to or have discussion on the item. Note that approval of meeting minutes are now part of the Consent Agenda.*

A. Receive and File Pending Disability Application Status Report.

B. Receive and File Report of Checks Disbursed in September 2023.

C. Approve Disability & Business Meeting Minutes of October 23, 2023.

D. FY 2022-23 Quarterly Financial Statements and Budget Summaries, as of June 30, 2023 (Unaudited).

1. Staff Letter from Chief Financial Officer.

2. Financial Statements.

3. Budget Summaries.

E. Approval of Staff Recommendation for Request for Proposal (RFP) Actuarial Audit Services Firm Selection.

1. Staff Letter from Chief Financial Officer.

Trustee Long arrived at the meeting at 9:08 a.m., before the vote on the item.

After discussion by the Board and staff, the following motion was made.

MOTION: Approve Consent Agenda.

Moved by Long, seconded by Roberts

Vote: Motion carried

Yes: Brodt, Grass, Goulet, Horgan, Joe, Long, Roberts, Sedell

No: -

Absent: Hernandez-Garcia, Rainey

Abstain: -

#### **IV. APPLICATIONS FOR DISABILITY RETIREMENT**

- A. Application for Service-connected Disability Retirement—Ferguson, Renee; Case No. 21-035. (New Model) (Law Enforcement)

1. Staff Recommendation to Grant the Application for Service-connected Disability Retirement, dated October 24, 2023.
2. Supporting Documentation for Staff Recommendation.
3. Application for Service-connected Disability Retirement, filed by Applicant's Attorney, Thomas Wicke, dated October 13, 2021.
4. Hearing Notice, dated October 24, 2023.

Josiah Vencel was present on behalf of VCERA. Thomas Wicke, Attorney at Law, was present on behalf of the applicant, Renee Ferguson, who was also present.

Mr. Vencel provided a summary statement.

Mr. Wicke declined to make a summary statement.

MOTION: Approve Staff's Recommendation to Grant the Service-connected Disability Retirement, Effective March 19, 2022.

Moved by Grass, seconded by Goulet

Vote: Motion carried

Yes: Brodt, Grass, Goulet, Horgan, Joe, Long, Roberts, Sedell

No: -

Absent: Hernandez-Garcia, Rainey

Abstain: -

- B. Application for Service-connected Disability Retirement—Egnatchik, Stephen; Case No. 22-007. (New Model) (Law Enforcement)

1. Staff Recommendation to Grant the Application for Service-connected Disability Retirement, dated October 30, 2023.
2. Supporting Documentation for Staff Recommendation.
3. Application for Service-connected Disability Retirement, filed by Applicant's Attorney, Thomas Wicke, dated February 25, 2022.
4. Hearing Notice, dated October 30, 2023.

Josiah Vencel was present on behalf of VCERA. Thomas Wicke, Attorney at Law, was present on behalf of the applicant, Stephen Egnatchik, who was also present.

Mr. Vencel provided a summary statement.

Mr. Wicke declined to make a summary statement.

MOTION: Approve Staff's Recommendation to Grant the Service-connected Disability Retirement, Effective October 29, 2022.

Moved by Goulet, seconded by Grass

Vote: Motion carried

Yes: Brodt, Grass, Goulet, Horgan, Joe, Long, Roberts, Sedell

No: -

Absent: Hernandez-Garcia, Rainey

Abstain: -

C. Application for Service-connected Disability Retirement—Leake, Todd; Case No. 22-009. (New Model) (Fire)

1. Staff Recommendation to Grant the Application for Service-connected Disability Retirement, dated October 24, 2023.
2. Supporting Documentation for Staff Recommendation.
3. Application for Service-connected Disability Retirement, filed by Applicant, dated March 11, 2022.
4. Hearing Notice, dated October 24, 2023.

Josiah Vencel was present on behalf of VCERA. The applicant, Todd Leake, was also present.

Mr. Vencel provided a summary statement.

MOTION: Approve Staff's Recommendation to Grant the Service-connected Disability Retirement, Effective March 23, 2022.

Moved by Ashby, seconded by Long

Vote: Motion carried

Yes: Ashby, Brodt, Goulet, Horgan, Joe, Long, Roberts, Sedell

No: -

Absent: Hernandez-Garcia, Rainey

Abstain: -

**V. OLD BUSINESS**

A. None.

**VI. NEW BUSINESS**

A. 2024 Board of Retirement Meeting Calendar.

**RECOMMENDED ACTION: Approve.**

1. Staff Letter from Interim Retirement Administrator.
2. Proposed 2024 Board of Retirement Meeting Calendar.

Mr. Santos presented a proposed Board of Retirement Meeting Calendar for 2024, which kept the same format of scheduling one meeting per month every other month, with the remaining months having two meetings per month. Also, at the upcoming Special meeting on December 4<sup>th</sup>, staff would like to discuss the option of utilizing more committees, and depending on the outcome of those discussions, staff may also propose a one-meeting-per-month Board Calendar.

**MOTION:** Approve the 2024 Board of Retirement Meeting Calendar, as Presented.

Moved by Horgan, seconded by Roberts

Vote: Motion carried

Yes: Brodt, Grass, Goulet, Horgan, Joe, Long, Roberts, Sedell

No: -

Absent: Hernandez-Garcia, Rainey

Abstain: -

**VII. INFORMATIONAL**

**VIII. PUBLIC COMMENT**

None.

**IX. STAFF COMMENT**

None.

**X. BOARD MEMBER COMMENT**

Trustee Long provided a verbal report on her attendance at the Nossaman Fiduciary Form for 2023.

Trustee Ashby announced his resignation from the Board of Retirement, effective today. He would also be retiring from the Ventura County Fire Department and had taken a position at another fire department. He said that his announcement was bittersweet because he enjoyed his time on the Board, and it had been a pleasure to work with both the Board members and VCERA staff.

Chair Sedell thanked Trustee Ashby for his dedication and service as a trustee of the Board.

Trustee Goulet said that it was bittersweet for the Board as well, but he wished him well in his new position.

Trustee Long thanked Trustee Ashby for his service to the employees, and that it had been a pleasure to work with him.

Chair Sedell also provided a brief update on the recruitment for VCERA's new Retirement Administrator. He noted that the Recruitment Committee had recently reviewed the recommendations from the consultant overseeing the recruitment process, and there were 5 candidates that the committee was looking to meet with, and afterwards they planned to bring 2 to 3 of them to the Board for consideration.

**XI. ADJOURNMENT**

The Chair adjourned the meeting at 9:33 a.m.

Respectfully submitted,

\_\_\_\_\_  
RICHARD SANTOS, Interim Retirement Administrator

Approved,

\_\_\_\_\_  
MIKE SEDELL, Chair

**November 20<sup>th</sup>, 2023**

Grant Dechert, Vice President

Kit Donovan, Director

Daphne Tai, Vice President

**BlackRock**<sup>®</sup>

# **Ventura County Employees' Retirement Association**



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# **I. Relationship Summary**

# **i. BlackRock Relationship Management Team**

# BlackRock Relationship Team

Function	Contact	Location	Telephone	Email
Americas Institutional Business – Lead	Grant Dechert, Vice President	San Francisco	415.670.4339	<a href="mailto:Grant.Dechert@blackrock.com">Grant.Dechert@blackrock.com</a>
Client Experience Management	Joseph Skaggs, Associate	San Francisco	415.670.6196	<a href="mailto:Joseph.Skaggs@blackrock.com">Joseph.Skaggs@blackrock.com</a>
Americas Institutional Business	Helena Moreno, Analyst	San Francisco	415.670.2194	<a href="mailto:Helena.Moreno@blackrock.com">Helena.Moreno@blackrock.com</a>

# Relationship Team Biographies



**Grant Dechert**, Vice President, is a member of the U.S. and Canada Institutional team within BlackRock's Institutional Client Business. He is responsible for developing and maintaining relationships with institutional investors, primarily public and private pension plans.

Previously, Grant was an associate Investment Strategist on the U.S. ETF Investment Strategy team where he was responsible for conducting multi-asset research, delivering macro thought leadership, investment insights and content to both retail and institutional clients of the firm.

Grant joined BlackRock as a Summer Analyst in the BlackRock Investment Institute (BII). He earned a B.S. in Finance and a B.A. in Economics from California State University, Chico.



**Joseph Skaggs**, Associate, is a member of the Americas Client Experience Management (CEM) team, within Global Client Experience. He is responsible for maintaining an elevated client experience for the firm's US pension clients, including service delivery, developing service solutions and the enhancement of the client experience.

Prior to joining BlackRock, Mr. Skaggs was a Client Service Manager at State Street Bank & Trust where he was responsible for the oversight of US institutional clients on the west coast.

Mr. Skaggs graduated from California State University, Chico with a BS in Business Administration in 2014.



**Helena Moreno**, Analyst, is a member of the Pensions team in San Francisco within BlackRock's Americas Institutional Business (AIB). Helena is responsible for developing and maintaining relationships with institutional clients, focusing on corporate and public pension plans.

Helena graduated from Harvard University in 2022, where she studied Economics with a minor in History.

# Presenter Biographies



**Kit Donovan**, Director, is a member of the Systematic Fixed Income Product Strategy Team within BlackRock's Portfolio Management Group.

Ms. Donovan's service with the firm dates back to 2011. Prior to joining the Product Strategy team, Ms. Donovan was a member of the US and Canada Institutional team within BlackRock's Institutional Client Business. She was responsible for developing and maintaining relationships with institutional investors, including public and private pension plans, foundations and endowments.

Ms. Donovan earned a BA degree in Political Economy from the University of California, Berkeley.



**Grant Dechert**, Vice President, is a member of the U.S. and Canada Institutional team within BlackRock's Institutional Client Business. He is responsible for developing and maintaining relationships with institutional investors, primarily public and private pension plans.

Previously, Grant was an associate Investment Strategist on the U.S. ETF Investment Strategy team where he was responsible for conducting multi-asset research, delivering macro thought leadership, investment insights and content to both retail and institutional clients of the firm.

Grant joined BlackRock as a Summer Analyst in the BlackRock Investment Institute (BII). He earned a B.S. in Finance and a B.A. in Economics from California State University, Chico.



**Daphne Tai, CFA**, Vice President, is a member of the US Index Equity Product Strategy team within BlackRock's ETF and Index Investments ("EII") group. She's currently leading the Sub-Advised segment across the Retirement Group and USWA as well as Defined Benefits segment covering our Pension, Foundation & Endowment clients.

Prior to her current role, Ms. Tai was a Portfolio Manager for eight years within EII Americas Portfolio Management group. She was responsible for Emerging Markets iShares funds. In addition, she was also a Senior Portfolio Manager on the Index Asset Allocation team, managing LifePath, Target Allocation, iShares 529, and other multi-asset fund of funds for defined contribution and defined benefit plans in the Americas.

Ms. Tai started her career at BlackRock as an Investment Risk Manager within the Risk & Quantitative Analysis (RQA) group, focusing on developing risk analytics and performance attribution and providing independent risk oversight of various strategies ranging from iShares, LifePath, and Alternatives.

Ms. Tai earned a BA degree in Economics from University of California, Berkeley in 2009.

# **ii. VCERA Investments with BlackRock**

# Ventura County Employees' Retirement Association Relationship Summary

Ventura County Employees' Retirement System	AUM
Russell 1000 Index Fund	\$1,746,312,172
Russell 2500 Index Fund	\$84,930,595
ACWI Equity Index Fund	\$729,055,931
ACWI ex-US IMI Index Fund	\$546,657,424
U.S. Debt Index Fund	\$152,096,847
<b>Total AUM</b>	<b>\$ 3,259,052,969</b>



# Ventura County Employees' Retirement Association

## Performance

Russell 1000 Index Fund							
Performance	Q3%	Fiscal YTD %	1-yr %	3-yr %	5-yr %	10-yr%	Since Inception %
Russell 1000 Index Fund (gross)	-3.14	-3.14	21.23	9.55	9.66	11.66	10.20
Russell 1000 Index Fund (net)	-3.14	-3.14	21.22	9.54	9.65	11.65	10.19
Russell 1000 Index	-3.15	-3.15	21.19	9.53	9.63	11.63	10.17
<b>Difference (net)</b>	<b>0.01</b>	<b>0.01</b>	<b>0.02</b>	<b>0.01</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>

Russell 2500 Index Fund							
Performance	Q3%	Fiscal YTD %	1-yr %	3-yr %	5-yr %	10-yr%	Since Inception %
Russell 2500 Index Fund (gross)	-4.75	-4.75	11.45	8.50	4.63	8.03	8.60
Russell 2500 Index Fund (net)	-4.75	-4.75	11.45	8.48	4.61	8.01	8.58
Russell 2500 Index	-4.78	-4.78	11.28	8.39	4.55	7.90	8.48
<b>Difference (net)</b>	<b>0.03</b>	<b>0.03</b>	<b>0.16</b>	<b>0.09</b>	<b>0.06</b>	<b>0.11</b>	<b>0.10</b>

MSCI ACWI Equity Index Fund							
Performance	Q3%	Fiscal YTD %	1-yr %	3-yr %	5-yr %	10-yr%	Since Inception %
MSCI ACWI Equity Index Fund (gross)	-3.32	-3.32	21.30	7.32	6.90	8.04	8.27
MSCI ACWI Equity Index Fund (net)	-3.33	-3.33	21.25	7.28	6.86	7.99	8.22
MSCI ACWI Net Dividend Return Index	-3.40	-3.40	20.80	6.89	6.46	7.56	7.80
<b>Difference (net)</b>	<b>0.07</b>	<b>0.07</b>	<b>0.45</b>	<b>0.38</b>	<b>0.40</b>	<b>0.43</b>	<b>0.42</b>

\*Net of Fees is based on an estimated annual fee calculation, which uses the effective fee rate as of 7/01/2022. Since inception is as of overall fund's inception date.

\*Performance greater than 1 year annualized

# Ventura County Employees' Retirement Association

## Performance

MSCI ACWI ex-US IMI Index Fund							
Performance	Q3%	Fiscal YTD %	1-yr %	3-yr %	5-yr %	10-yr%	Since Inception %
MSCI ACWI ex-US IMI Index Fund (gross)	-3.48	-3.48	20.56	4.07	2.86	3.79	3.28
MSCI ACWI ex-US IMI Index Fund (net)	-3.49	-3.49	20.51	4.03	2.82	3.74	3.24
MSCI ACWI ex-US IMI Net Dividend Index	-3.49	-3.49	20.19	3.77	2.57	3.48	2.99
<b>Difference (net)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.32</b>	<b>0.26</b>	<b>0.25</b>	<b>0.27</b>	<b>0.25</b>

U.S. Debt Index Fund							
Performance	Q3%	Fiscal YTD %	1-yr %	3-yr %	5-yr %	10-yr%	Since Inception %
U.S. Debt Index Fund (gross)	-3.20	-3.20	0.72	-5.13	0.19	1.23	5.36
U.S. Debt Index Fund (net)	-3.21	-3.21	0.69	-5.16	0.15	1.20	5.32
Bloomberg Barclays U.S. Agg Bond Index	-3.23	-3.23	0.64	-5.21	0.10	1.13	5.30
<b>Difference (net)</b>	<b>0.02</b>	<b>0.02</b>	<b>0.04</b>	<b>0.04</b>	<b>0.05</b>	<b>0.07</b>	<b>0.03</b>

\*Net of Fees is based on an estimated annual fee calculation, which uses the effective fee rate as of 7/01/2022. Since inception is as of overall fund's inception date.

\*Performance greater than 1 year annualized

# **II. Equity Index Overview**

# BlackRock's Index Equity Platform:

## Global leader in Index Equity assets<sup>1</sup>

### Focus on consistent performance with efficient outcomes for clients

- Thousands of skillful and thoughtful decisions made annually in each portfolio in seeking to achieve the precise performance clients demand

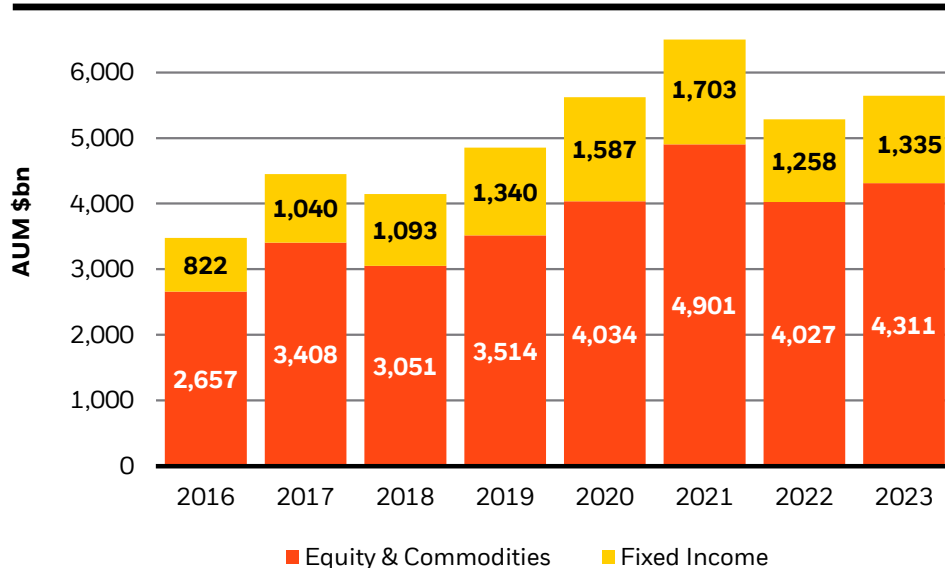
### Extensive and flexible platform for index strategies

- Over 2,500 funds managed against 900+ benchmarks, including: factors, ESG, liquidity strategies and index plus

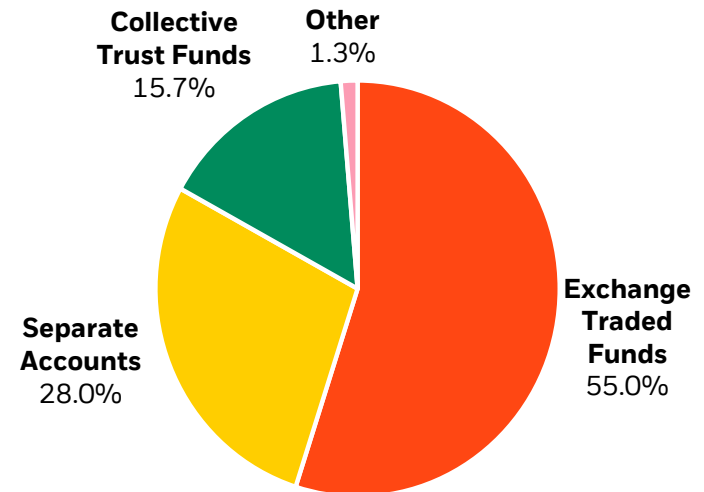
### Sophisticated technology and risk management

- The Aladdin® platform seamlessly integrates the capabilities of our dedicated portfolio management, research, trading and risk management teams

**Total indexed assets of \$5.65 trillion 2023**



**Distribution of assets by vehicle type as of 2023**



Source: BlackRock as of 30 September 2023  
 1 In terms of AUM. Source: Pensions & Investments  
 All dollar amounts referenced in this presentation are in USD

# Current Indexing Landscape



## Trending / Ongoing Interests

- Proxy Voting Choice
- Income
- Yield Enhancement
- Emerging Markets disaggregation
- Cash and ETF liquidity strategies
- Digital Assets

## Global Index Flows<sup>1, 2</sup>

- Total Index 2023 YTD flows of +\$135.9B
- iShares represented 70% of the equity inflows, remainder into Institutional Strategies

## Recent and Upcoming Index Events

Feb 2023	Mar 2023	May 2023	Jun 2023	Aug 2023	Sep 2023	Nov 2023	Dec 2023
(MSCI)	(S&P)	(MSCI)	(Russell)	(MSCI)	(S&P)	(MSCI)	(S&P)
Quarterly index review	Rebalance (GICS) Reclassification	Quarterly index review	Annual index Reconstitution (S&P) Rebalance	Quarterly index review	Rebalance	Quarterly index review	Rebalance

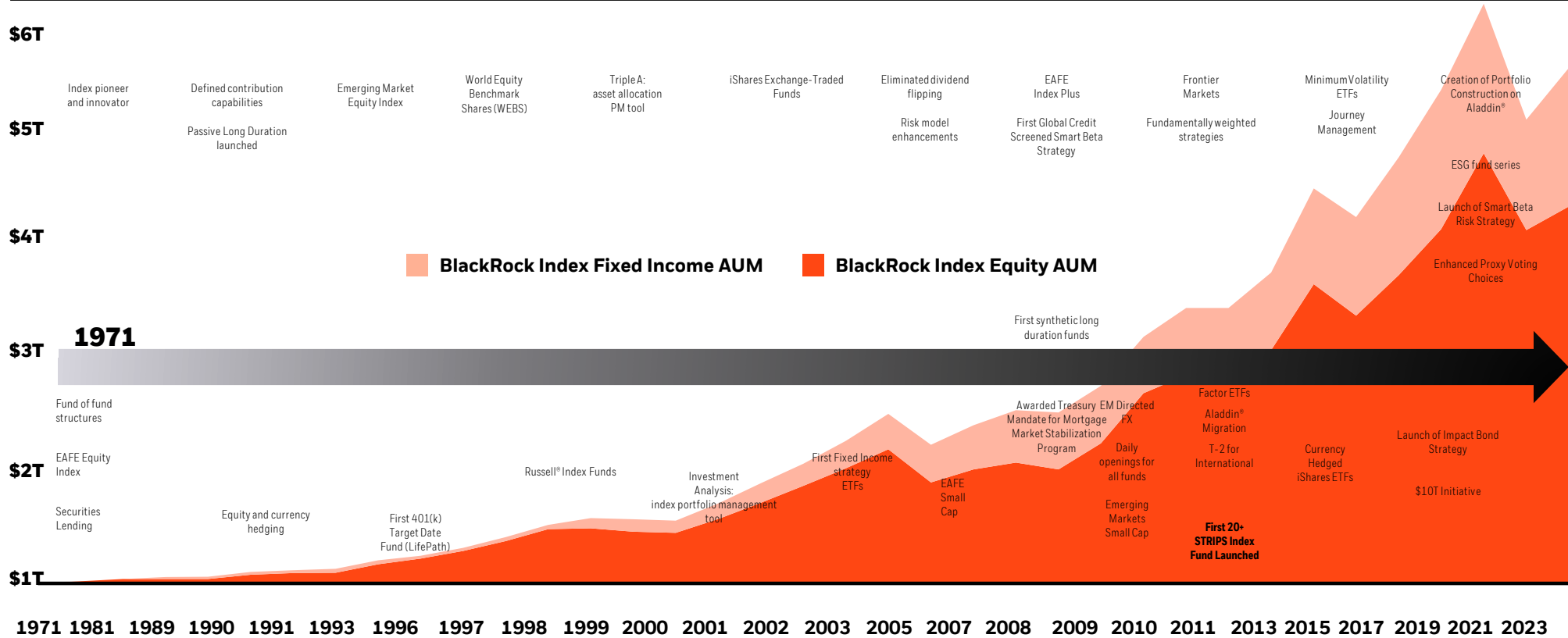
1 Flows are from January 1, 2023 – September 30, 2023. Data includes BlackRock institutional index and ETF asset flows  
 2 Non-ETF flows includes flows into commingled trust funds, mutual funds and separately managed accounts as of September 2023

# Over 50 years of experience driving index forward

## Creating solutions so our clients have access to high quality index exposures

- Drive the industry forward through our ability to create specialized, innovative investments afforded by our scale & depth of expertise
- Forge new ground for clients
- Evolve capabilities to continuously deliver on emerging trends – smart beta, global benchmarking, overlay strategies
- Serve as an index advocate on behalf of asset owners and act a key partner to index providers seeking our practitioner knowledge

## Over 50 years of Index Equity – Continual evolution of products, technology and capabilities



AUM as of 30 September 2023

# BlackRock's vision for the future of indexing

We continue to invest in a scalable investment engine through a focus on:

Building diverse teams who can sit at the intersection of portfolio management and technology

People



Platform



Leveraging Aladdin® platform and the new technologies to build scale

Developing a systems-driven and rules-based investment process

Process



# ETFs and Index Investments (EII) Investments Pillar

**Salim Ramji**

Global Head of ETFs and Index Investments

## Investments Pillar

**Samara Cohen**

Chief Investment Officer of ETF and Index Investments

## Index Equity

**Jennifer Hsui, CFA**, Global CIO and Co-Head of Index Equity

**Paul Whitehead**, Global Co-Head of Index Equity

## Global Research

**Nogie Udevbulu**

Global Head of  
EII Research

### Index & Quantitative Research

+ 10 Researchers

### Analytics Research

+ 52 Research Officers

## Strategy

**Scott Dohemann, CFA**

Head of  
U.S. Product Strategy  
+8 Strategists

### Office of the CIO

**Tim Parsons, CFA**

Deputy CIO

+ 3 Portfolio Managers

### Americas Portfolio Management

**Matthew Waldron, CFA**

Head of

International PM

+ 17 Portfolio Managers

**Peter Sietsema, CFA**

Head of

North America PM

+ 23 Portfolio Managers

**Shaun Ong, CFA**

Global Head of Index Plus

+ 6 Portfolio Managers

**Steven White**

Head of Active Risk Index  
ETF PM, CIO Global Head  
of Performance,

Risk & Index Advocacy

+ 5 Portfolio Managers

**Greg Savage, CFA**

Head of Global IAA,  
Commodities & Synthetics

**Peter Tsang**

Head of Americas IAA

+ 5 Portfolio Managers

**Kyle Peppo**

Head of Commodities &  
Synthetic Indexing

+ 2 Portfolio Managers

**Orlando Montalvo**

Head of FX & Synthetics

+ 3 Portfolio Managers

### Platform

**Rajesh Nagella**

Global Head of EII  
Investment Process &  
Platform

+ 8 Platform Managers

### Transition Management

**Paul Francis**

Americas Transition  
Management

+ 17 Transition Specialists



# **Process and Philosophy**

# Why BlackRock for indexing?

As a BlackRock index client, you receive an excellent indexing experience with the following:

<b>1</b>	<b>Index Research Expertise</b>	Detailed knowledge of index methodologies and experience with projecting index changes
<b>2</b>	<b>Skilled Portfolio Management</b>	Dedicated portfolio managers with deep local market and index expertise
<b>3</b>	<b>Extensive Trading Capabilities &amp; Research</b>	Scale and breadth of our global trading platform helps minimize transaction costs
<b>4</b>	<b>Sophisticated Operating Platform</b>	Proprietary end-to-end Aladdin® platform integrates portfolio management, risk analytics, trading and operations
<b>5</b>	<b>Robust Securities Lending Benefit</b>	Global focus on extracting premiums and negotiating stock loans in order to add value to index portfolios

## Leveraging the Power of the BlackRock Platform

<p><b>Risk &amp; Quantitative Analysis</b></p> <p>Specialized Risk &amp; Quantitative Analysis Team (RQA) monitors risk factors globally on a continuous basis</p>	<p><b>Fiduciary</b></p> <p>With no cross subsidization between business units or affiliate broker-dealers acting as principal, we have an investment-only focus</p>	<p><b>Proxy Voting Choice</b></p> <p>Eligible institutional index commingled trust fund and separate account clients can leverage BlackRock Investment Stewardship for proxy voting or choose to own their proxy voting</p>	<p><b>BlackRock Investment Institute</b></p> <p>Internal forum facilitates idea sharing, debates economic implications and publishes firm wide thought leadership</p>	<p><b>Index Provider Relationships</b></p> <p>Allows for access to a broad index data set, with the ability to customize indices as needed. BlackRock acts as a steward of the indexing ecosystem</p>
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Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Focus on efficient performance outcomes

## Supported by proprietary Aladdin® technology

- BlackRock's disciplined index portfolio management is focused on optimally balancing return, risk and cost in seeking to deliver effective outcomes to clients
- Our portfolio managers specialize in financial markets, supported by BlackRock's extensive global trading platform and market leading analytics, to provide a high-quality index experience



### What is Aladdin® ?

---

- A sophisticated operating system that connects information, people and technology to support the entire investment lifecycle

### Aladdin® helps solve investing challenges:

---

- Technology does the 'heavy-lifting', enabling portfolio managers to focus on key drivers affecting portfolio return
- Offers process scalability and efficiency
- Includes consistency across product types and functions

Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Index Investment Management Cycle – dedicated expertise and resources

## Performance & Oversight

- Review cumulative effect of investment decisions to help identify factors contributing to/detracting from portfolio performance
- Risk & Quantitative Analysis Team (RQA) monitors dozens of risk factors globally on a continuous basis
- **Aladdin® Platform Advantage:** Portfolio Management tools are integrated on the same platform as risk monitoring tools, making it easy for RQA to provide a third-party risk assessment on portfolios

## Efficient Trading

- Global trading infrastructure allows for real time oversight of all trades in all regions
- Smart trading strategies are designed to access optimal liquidity
- One of the industry's largest internal marketplace for potential netting of client flows
- Focused trading research and systems
- **Aladdin® Platform Advantage:** Extensive global trading platform helps ensure low costs and optimal access to liquidity

## Benchmark Knowledge

- Detailed knowledge of index methodologies
- Experience with predicting and projecting index changes
- Focused on optimal treatment of corporate actions
- Continual research into index events
- **Aladdin® Platform Advantage:** Proprietary Aladdin® 'Index Pro' application makes analyzing benchmark changes a clean and efficient process

## Portfolio Construction

- Significant investment in technology
- Market leading portfolio and risk tools provided by our Aladdin® platform
- Integrated cost, risk, and liquidity analysis
- Access to sophisticated optimization tools
- **Aladdin® Platform Advantage:** Custom 'Portfolio Construction' application built by our Portfolio Management Team designed specially for index management



Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Index Investment Management Cycle

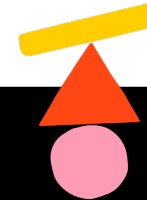
## Benchmark knowledge

Our index platform has a dedicated internal global index research team unique to BlackRock; they are essential to the portfolio management process



### Day-to-Day Benchmark Focus

- **Team works directly with all our index vendors to:**
  - Perform the data-intensive process of combing daily index loads to provide clean fund snapshots
  - Project daily changes and rebalances
  - Field all equity index data requests across the firm



### Long-Term Rebalance Projections

- **All index families have a different cadence of rebalance**
- **Team works to predict what will be added or deleted from various indices in advance of rebalance**
  - This helps portfolio managers to have a thoughtful opinion about what will happen on index effective date
  - Enables portfolio managers to monitor the applicable stocks and their liquidity profiles. This influences our ultimate trade strategy

### Index Methodology Recommendations

**The index research team coordinates across BlackRock and works closely with index providers to drive methodology improvements to the indices we utilize in our strategies**

*ALADDIN® Tools: Index Pro*

Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Index Research Group tools: Index Pro

Our Aladdin®-based **IndexPro** application allows for BlackRock's dedicated Index Research Team to: make projections, monitor benchmark changes and help our portfolio management team leverage index provider resources

IndexPro  
File Benchmarks Projections Index Data Vendor Data Diagnostics Help

Constituents x Projections x Benchmarks x S&P 500 Index x

Constituents Benchmark Usage Distribution Chart

503 of 1558 constituents (Constituents as of 03-APR-2023 and loaded on 31-MAR-2023)

Security Name *	Ticker *	Sedol *	Currency	USD Price *	FX Rate *	Index Quantity	Shares outstanding	Benchmark Shares *	USD Benchmark Cap *	Benchmark Weight *	Country	Industry level 1	Industry level 2	Industry level 3	Industry level 4
APPLE INC	AAPL	2046251	United States Do...	164.90	1.00000	14,872,629,240	15,821,946,000	14,872,629,240	2,452,496,561,6...	7.1414	United States (US)	Information Tech...	Technology Hard...	Technology Hard...	Technology Hard...
MICROSOFT CORP	MSFT	2588173	United States Do...	288.30	1.00000	7,443,804,000	7,443,804,000	7,443,804,000	2,146,048,693,2...	6.2491	United States (US)	Information Tech...	Software & Servi...	Software	Systems Software
AMAZON COM INC	AMZN	2000019	United States Do...	103.29	1.00000	8,915,116,200	10,247,260,000	8,915,116,200	920,842,352,29...	2.6814	United States (US)	Consumer Discre...	Consumer Discre...	Broadline Retail	Broadline Retail
NVIDIA CORP	NVDA	2379504	United States Do...	277.77	1.00000	2,460,000,000	2,460,000,000	2,460,000,000	683,314,200,00...	1.9897	United States (US)	Information Tech...	Semiconductors ...	Semiconductors ...	Semiconductors
ALPHABET INC CLASS A	GOOGL	BYVY8G0	United States Do...	103.73	1.00000	5,956,000,000	5,956,000,000	5,956,000,000	617,815,880,00...	1.7990	United States (US)	Communication S...	Media & Entertai...	Interactive Medi...	Interactive Medi...
TESLA INC	TSLA	B616C79	United States Do...	207.46	1.00000	2,689,487,550	3,164,103,000	2,689,487,550	557,961,087,12...	1.6247	United States (US)	Consumer Discre...	Automobiles & C...	Automobiles	Automobile Manu...
BERKSHIRE HATHAWAY INC CLASS B	BRKB	2073390	United States Do...	308.77	1.00000	1,801,720,400	2,197,220,000	1,801,720,400	556,317,207,90...	1.6199	United States (US)	Financials	Financial Services	Financial Services	Multi-Sector Hold...
ALPHABET INC CLASS C	GOOG	BY88Y7	United States Do...	104.00	1.00000	5,192,160,000	5,968,000,000	5,192,160,000	539,984,640,00...	1.5724	United States (US)	Communication S...	Media & Entertai...	Interactive Medi...	Interactive Medi...
META PLATFORMS INC CLASS A	META	B7J1820	United States Do...	211.94	1.00000	2,225,763,000	2,225,763,000	2,225,763,000	471,728,210,72...	1.3736	United States (US)	Communication S...	Media & Entertai...	Interactive Medi...	Interactive Medi...

IndexPro  
File Benchmarks Projections Index Data Vendor Data Diagnostics Help

Constituents x Projections x Benchmarks x Compare Benchmark x S&P 500 Index x

Port Group: From Ticker: SNP500 To Ticker: SNP500 From Date: 17-FEB-2023 To Date: 17-MAR-2023 Asset Search

Compare Type:  Normal  Proforma  Forward

Comparing 7 constituents.

Benchmark Ticker *	Benchmark Name *	Security Name *	Compare Result Type *	Sedol *	Ticker *	From: Price	To: Price	From: Benchmark Shares *	To: Benchmark Shares *	From: Benchmark Weight *	To: Benchmark Weight *	Country	From: Index Quantity	To: Index Quantity	From: Shares To: outstanding	Country
SNP500	S&P 500 Index	AMERICAN WAT...	CHANGED	B2R3PV1	AWK	147.46	142.65	181,828,000	192,967,000	0.0783	0.0830	United States (US)	192,967,000	181,828,000	181,828,000	United States (US)
SNP500	S&P 500 Index	LINDE PLC	DELETED	BZ12WP8	LIN	323.50		494,380,000		0.4673		United States (US)			494,380,000	
SNP500	S&P 500 Index	SIGNATURE BANK	DELETED	B00JQL9	SBNY	127.02		62,927,000		0.0234		United States (US)			62,927,000	
SNP500	S&P 500 Index	SVB FINANCIAL ...	DELETED	2808053	SIVBQ	301.93		59,104,000		0.0521		United States (US)			59,104,000	
SNP500	S&P 500 Index	BUNGE LTD	ADDED	2788713	BG		96.72		149,800,000		0.0437		149,800,000			United States (US)
SNP500	S&P 500 Index	INSULET CORP	ADDED	B1XGNW4	PODD		312.36		69,449,000		0.0654		69,449,000			United States (US)
SNP500	S&P 500 Index	LINDE PLC	ADDED	BNZH81	LIN		338.29		494,380,000		0.5041		494,380,000			United States (US)

Screenshots are for illustrative purposes only. References to specific companies are included solely to help illustrate the portfolio construction process and should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned

# Combining the power of Aladdin® technology with portfolio management expertise

**Portfolio Construction:** We have developed a proprietary system called ‘Portfolio Construction’ that combines together in one place all of the tools a Portfolio Manager would need to effectively and efficiently manage an index portfolio

## Portfolio Managers make thousands of investment decisions every year involving:

Investing/  
divesting  
based on client  
and participant  
instruction

Corporate  
actions  
effecting the  
portfolio assets

Equitization  
and reinvestment  
of dividend  
income

Determining the  
optimal level  
of optimization  
to balance  
risk and costs

Trading  
for periodic  
index  
changes

## Snapshot on: MSCI All Country World Index (ACWI)<sup>1</sup>

- **Constituents:** 2,935
- **Country representation:** 47 (developed and emerging)
- **Coverage:** ~85% of the global investable equity opportunity set
- **As an illustration, a portfolio with an ACWI benchmark will require over 3,900 action points<sup>2</sup> annually, including:**
  - Between 3,000 and 4,000 corporate actions annually
  - Quarterly index rebalances for 900+ index additions/deletions/migrations, IPO addition

*ALADDIN® Tools: Portfolio Construction*

<sup>1</sup> Source: MSCI as of 30 September 2023

<sup>2</sup> Based on MSCI index data as of 30 September 2023

# 'Portfolio Construction' using the power of Aladdin® technology

## Our Portfolio Construction application was built for managing risk in index funds:

- Brings together all index data, portfolio attributes, risk and transaction cost models and optimization tools
- By leveraging a tolerance and exceptions-based framework, portfolio managers are able to focus on the items that most influence portfolio returns
- Portal for trade approval and delivery of orders to our global trading teams

**PORTFOLIO CONSTRUCTION** **Aladdin**

File Options View Action History Format Help

03-APR-2023 - 10:16:57AM As Ordered and Traded w/Proposed - 1 pf 510 pos, 2 trd, 1 ord, 1 cf - 1 distinct bench 503 pos, no trd, no ord, no cf

Port Group [ ] Bench Primary Bench Level Portfolio Date T+1 Ccy USD Filter Issuer (family) LT

Round To 1.0 Trans Direction [ ] Min Trade Impact % Nav 0.01 Sell For [ ] Hedge Off % Actions None ESG SC

Main Window DHV DHV 2.0 CDV Order View Adjustments & Projections Targets Country Country by Ccy Sector Size

### Benchmark Holdings Filtered View

503 Items

Portfolio	SEDOL	ISIN	BB Ticker	Issuer	Name	Sec Group	Sec Type	MV Bench	%Exp B... (3dps)	%Exp Pf (3dps)	Exp Pf	New %Exp Pf (3dps)	New Nominated ID Active (3dps)	%Exp Active (3dps)	New %Exp Active (3dps)
INDEX1	2046251	US0378331005	AAPL US	APPLE INC	APPLE INC	EQUITY	EQUITY	USD 9,343,858,452	7.141%	7.141%	USD9,343,849,073	7.141%	-0.000%	-0.000%	-0.000%
INDEX1	2588173	US5949181045	MSFT US	MICROSOFT CORPORATION	MICROSOFT CORP	EQUITY	EQUITY	USD 8,176,311,247	6.249%	6.249%	USD8,175,825,820	6.249%	-0.000%	-0.000%	-0.000%
INDEX1	2000019	US0231351067	AMZN US	AMAZON.COM INC	AMAZON COM INC	EQUITY	EQUITY	USD 3,508,351,747	2.681%	2.681%	USD3,508,348,227	2.681%	-0.000%	-0.000%	-0.000%
INDEX1	2379504	US6706661040	NVDA US	NVIDIA CORPORATION	NVIDIA CORP	EQUITY	EQUITY	USD 2,603,384,348	1.990%	1.990%	USD2,603,381,820	1.990%	-0.000%	-0.000%	-0.000%
INDEX1	BYVY8G0	US02079K3059	GOOGL US	ALPHABET INC	ALPHABET INC CLASS A A	EQUITY	EQUITY	USD 2,353,839,847	1.799%	1.799%	USD2,353,837,418	1.799%	-0.000%	-0.000%	-0.000%
INDEX1	B616C79	US88160R1014	TESLA US	TESLA INC	TESLA INC	EQUITY	EQUITY	USD 2,125,796,831	1.625%	1.625%	USD2,125,794,619	1.625%	-0.000%	-0.000%	-0.000%
INDEX1	2073390	US0846707026	BRK/B US	BERKSHIRE HATHAWAY INC	BERKSHIRE HATHAWAY INC CLASS B B	EQUITY	EQUITY	USD 2,119,533,754	1.620%	1.620%	USD2,119,531,537	1.620%	-0.000%	-0.000%	-0.000%
INDEX1	BYVY8Y7	US02079K1079	GOOG US	ALPHABET INC	ALPHABET INC CLASS C C	EQUITY	EQUITY	USD 2,057,307,693	1.572%	1.572%	USD2,057,305,579	1.572%	-0.000%	-0.000%	-0.000%
INDEX1	B7TL820	US30303M1027	META US	META PLATFORMS INC	META PLATFORMS INC CLASS A A	EQUITY	EQUITY	USD 1,797,254,966	1.374%	1.374%	USD1,797,253,154	1.374%	-0.000%	-0.000%	-0.000%
INDEX1	2326618	US30231G1022	XOM US	EXXON MOBIL CORP	EXXON MOBIL CORP	EQUITY	EQUITY	USD 1,720,491,088	1.315%	1.315%	USD1,720,489,383	1.315%	-0.000%	-0.000%	-0.000%

### Non Benchmark Holdings Filtered View

2 Items

Lo...	Portfolio	SEDOL	BB Ticker	Issuer	Name	Sec Group	Sec Type	Market	Ccy	Price	Price (USD)	Price As Of Date	Unscaled Qty Bench	MV Bench	%Exp Ben... (3dps)	%Exp Pf (3dps)	Exp Pf	New %
INDEX1	2593025	IVV US	ISHARES S&P 500	ISHARES CORE S&P 500 ETF ETF-E	ISHARES CORE S&P 500 ETF ETF-E	EQUITY	EQUITY	US	USD	USD 411.08000	USD 411.08000	03/31/23		0	0.000%	0.000%	0	
INDEX1			NONE	S&P500 EMINI JUN 23 ME 16-JUN-2023	FUTURE	INDEX		US	USD	USD 4,137.75000	USD 4,137.75000	03/31/23		0	0.000%	0.414%	USD 541,217,700	

Screenshots are for illustrative purposes only. References to specific companies are included solely to help illustrate the portfolio construction process and should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned



# Efficient Trading:

## Adding value through core activities

### An Industry Leader

Tier 1 client to all major counterparties, giving us deep access to liquidity  
 Trader expertise across all major asset classes with ~\$104.1T of annual volume (\$3.0T equity notional)

### A Focus on Costs

Large and diverse client base results in a robust marketplace for potential netting of client flows  
 Trading footprint allows us to negotiate extremely competitive commission rates

### Research Driven

Comprehensive database of metrics, including a tick database and >\$259T USD of trading history across >222M transaction records

## BlackRock's Global Coverage

24 hour a day, 5.5 days per week coverage



**Color key**  
 Fixed Income  
 Equities  
 Foreign Exchange

**One Order Management System platform: Aladdin® Dashboard**  
 Regional hubs for each asset class with local market knowledge and sector expertise  
 Common technology enables us to pass the book with embedded business continuity plan

All data as of December 31, 2022; Figures show in USD; Source: BlackRock. Inclusive of internal crossing opportunities. BlackRock Execution Cost is the average difference between: the actual price achieved on the trade and the benchmark price. For Equity, BlackRock calculates Market Expected Cost using an average of multiple independent broker models. There is no guarantee that a positive investment outcome will be achieved. Subject to Change.

# Scalable Trading Platform

## Fully-integrated trading platform and risk analytics

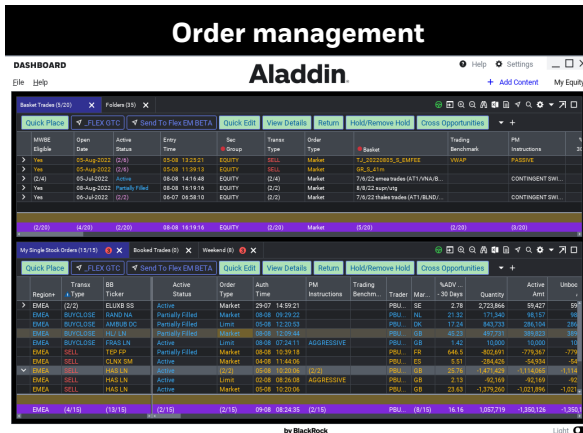
- Active collaboration between portfolio managers and traders on execution strategy
- Close partnership with Global Trading Research team, focused on analysis of tactics and venues
- Straight-through processing of investments, from order entry to trade execution to settlement

### Portfolio Management

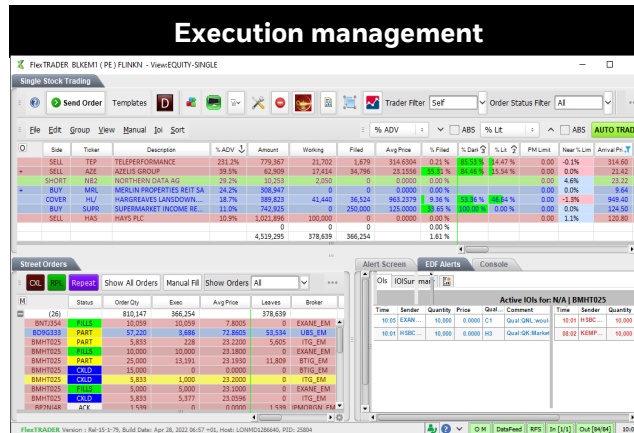
### Trading

### Investment Operations

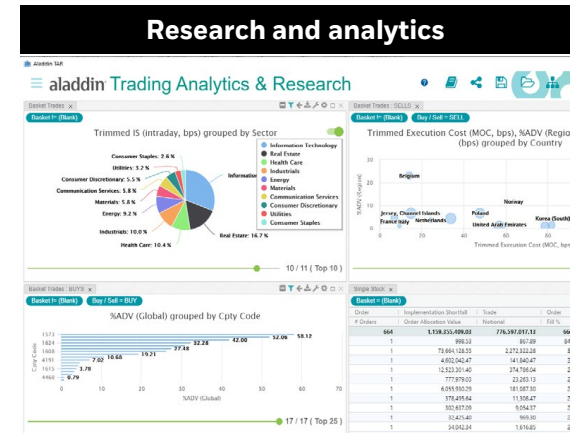
#### Order management



#### Execution management



#### Research and analytics



#### Execution tools and venues

DMA

ECNs

Smart Order Routers

Dark Pools

Algorithms

Broker Portals

Program / ETF Desks

Block Desks

Broker Risk

Low Touch

High Touch

Screenshots are for illustrative purposes only

References to specific companies are included solely to help illustrate the trading platform and should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned

# Portfolio Risk Monitoring:

## A continual process

**Successful Index Portfolio Management requires a high level of data quality and higher degree of effective forecasting and risk management.**

- The trade-off between tracking error and transaction costs is more impactful in an index portfolio
- Rebalancing index funds requires quantitative sophistication to execute trades over multiple days while closely tracking an index whose performance does not account for trading costs

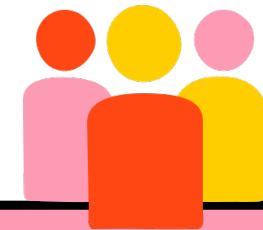
**Performance and oversight of portfolios occurs through:**



**Daily Portfolio  
Management review**



**Monthly Index Review  
Committee with  
senior management**



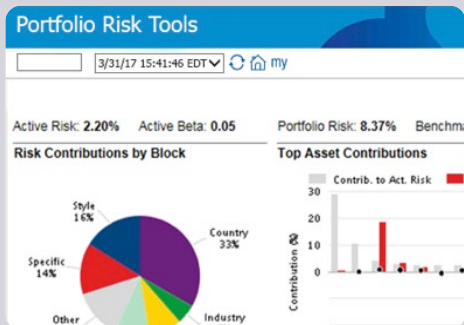
**Independent review from  
BlackRock's Risk and  
Quantitative Analysis  
Group (RQA)**

*ALADDIN® Tools: Portfolio Risk Tools, Green Package, Explore*

Source: BlackRock. Investment Process is shown for illustrative purposes only and is subject to change.

# RQA Tools & Process

1

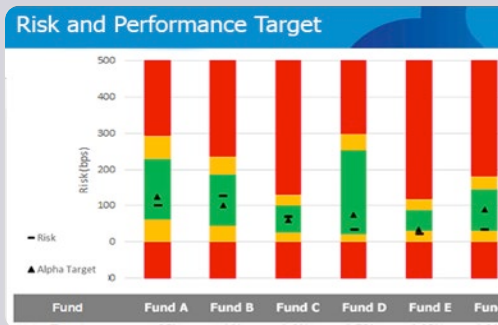


## Ex-Ante Risk Measurement

### Risk measurement tools

RQA seeks to provide accurate and appropriate risk measures for investment, liquidity and redemption risk

2



## Risk Management

### Appropriate levels of risk

RQA works with portfolio managers to achieve buy-in for risk and performance target and ensure risk taking is consistent with targets

3

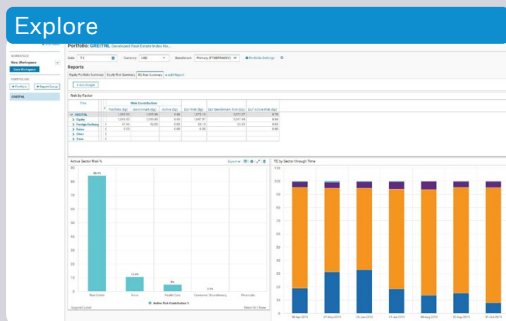
Portfolio Name	As Of Date	Benchmark	NAV US\$ (000)
Portfolio A	30-Mar-2017	JACIIGNIG	79,098.00
Portfolio B	30-Mar-2017	NOBENCHTWD	49,868.00
Portfolio C	30-Mar-2017	IBALCKMUS	18,123.00
Portfolio D	30-Mar-2017	JACI_XM	2,750,499.00
Portfolio E	30-Mar-2017	LEH_AGG	175,788.00
Portfolio F	30-Mar-2017	LEH_AGG	2,062,868.00
Portfolio G	30-Mar-2017	3MSTLLIBOR	1,202,910.00

## Risk/Return Awareness

### Enhancing and assessing

Regular meetings between portfolio managers & RQA to ensure positioning is deliberate, diversified and scaled

4



## Performance Attribution

### Consistency and accuracy

RQA determines the degree of consistency between pre-trade analysis and actual performance

5

Vendor (Peer Group)	As Of Date	1M	3M
Lipper (High Yield Funds)	2/28/2017	44 (314/713)	39 ( )
MorningStar	2/28/2017	44 (321/737)	40 ( )

## Performance Analysis

### Measure of success

RQA, portfolio managers and senior leaders review performance relative to the benchmark, peers and comparable accounts in formal Investment Review Committee Meeting

Screenshots are for illustrative purposes only. Subject to change without notice

# Highlights from recent index rebalances

## MSCI August 2023 rebalance highlights

### The EII team generated orders worth \$46 billion for the MSCI rebalance

- This trade was nearly double last August's notional of \$24 billion
- Crossing percentages were consistent with prior rebalances with BlackRock's Americas trade desk at 24%
- Index turnover was higher than last August due to MSCI's transition to a quarterly comprehensive index review (QCIR) process, with the intent of spreading index changes and turnover more evenly throughout the year
- Heightened activity within India, Korea, and Taiwan were the primary markets driving higher turnover the August rebalance.

## Russell Reconstitution 2023 highlights

### Overall, the EII team generated orders worth approximately \$91 billion for the close of June 23rd.

- The overall trade size was slightly smaller than September 2022 (\$95B), partly attributed to a reduction of corporate activity in primary markets and a lower impact of de-SPACs.
- Approximately 57% of the trade activity was crossed
- Russell 1000 Index (R1000) observed 33 additions (9 pure additions; 24 migrations) and 32 deletions (7 pure deletions; 25 migrations)
- The 3 largest names in the R1000 remain as: Apple, Microsoft, and Amazon with weights of 6.77%, 6.25%, and 2.77%, respectively

## FTSE/SPDJ/Morningstar September 2023 rebalance highlights

### The EII team generated orders worth \$77 billion for the FTSE and S&P Dow Jones rebalances

- This trade was 28% higher than last September's notional of \$60 billion
- Crossing percentages were consistent with prior rebalances with BlackRock's Americas trade desk at 28%
- BLACKSTONE INC (BX) and AIRBNB INC (ABNB) became the newest members of the S&P 500 Index at weights of about 20 bps each
- S&P 400 and S&P 600 saw increased turnover due to updates to the S&P Composite 1500 Market Capitalization Guidelines where market cap breakpoints were adjusted to reflect current market conditions
- FTSE All World Index saw additions of 166 newly eligible China A Shares per the expansion of eligible stocks under the Hong Kong Exchanges and Clearing Limited (HKEX) Stock Connect program

## Other Index Provider Notes

- Following on MSCI's decision to reclassify Russia from Emerging status to Standalone status in one step at market close on March 9<sup>th</sup>, 2022, MSCI officially stopped reporting on the Russian index in March 2023. BlackRock continues to monitor the possibility of liquidity in residual Russian exposure
- MSCI's transition to four equally sized quarterly comprehensive index reviews (QCIRs) for its global index series was implemented in February 2023. Previously, MSCI's index review schedule included two quarterly index review (QIRs) at February and August month-end and two comprehensive semi-annual index reviews (SAIRs) at May and November month-end

Source: BlackRock and MSCI, FTSE Russell, Morningstar, and S&P Dow Jones as of September 2023. Past performance is not indicative of future results.

References to specific companies should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned.

Indexes are unmanaged and one cannot invest directly in an index.

# August 2023 MSCI Index Rebalance Results

The August 2023 MSCI Index Rebalance was effective on August 31, 2023

- ▶ The EII team generated orders worth \$46B for the August MSCI rebalance
- ▶ This trade was nearly double last August’s notional of \$24 billion
- ▶ Crossing percentages were consistent with prior rebalances with the Americas trade desk at 24%
- ▶ >99% of trades were executed on effective date across all regions. Some orders were placed prior to effective date for liquidity management

## Rebalance highlights

- ▶ At the May rebalance, MSCI postponed the migration of Korean name **Ecopro Ltd** from Emerging Markets Small Cap to EM Standard due to it exhibiting extreme price increase leading into the index review price date. This rebalance, ECOPRO became the largest addition to **MSCI ACWI** at a weight of 27 bps in MSCI EM and 2.2% in MSCI Korea.
- ▶ Heightened activity within India, Korea, and Taiwan were the primary markets driving higher turnover in August 2023.
- ▶ 2023 marks the first year of MSCI’s transition to a **quarterly comprehensive index review (QCIR)** process. A key objective of this change is to reduce the size of May and November rebalances by spreading index changes and turnover more evenly across all quarters.

## MSCI index change details

Index	# Adds	# Deletes	Aug 2023 Two-Way Turnover	Aug 2022 Two-Way Turnover
<b>EAFE</b>	7	9	1.5%	0.6%
<b>EAFE SC</b>	34	66	4.8%	1.2%
<b>Emerging Standard</b>	47	31	3.4%	1.2%
<b>Emerging SC</b>	128	53	13.3%	0.8%
<b>World</b>	14	15	0.8%	0.8%

Source: BlackRock and MSCI as of May 2023. **Past performance is not indicative of future results.**

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Indexes are unmanaged and one cannot invest directly in an index.

# Russell Reconstitution 2023

**Overall, the EII team generated orders worth approximately \$91B for the close of June 23rd**

- ▶ The overall trade size was slightly smaller than June 2022 (\$95B), partly attributed to a reduction of corporate activity in primary markets and a lower impact of de-SPACs
- ▶ Approximately 57% of the trade activity was crossed

## Highlights

- ▶ Russell 1000 Index (R1000) observed 33 additions (9 pure additions; 24 migrations) and 32 deletions (7 pure deletions; 25 migrations)
- ▶ The 3 largest names in the R1000 remain as: Apple, Microsoft, and Amazon with weights of 6.77%, 6.25%, and 2.77%, respectively
- ▶ Volumes were ~25% lower vs the 2022 Russell Reconstitution
- ▶ Despite lower volumes, we saw wrong-way<sup>1</sup> performance, but ample liquidity was present at US market close
- ▶ In R1000, Consumer Discretionary and Health Care were the largest weight increases with Technology and Energy being the largest weight decreases
- ▶ In R2000, Technology and Energy were the largest weight increases with Consumer Discretionary and Consumer Staples being the largest weight decreases

## Index Changes

	Russell 1000	Russell 2000	Russell 3000
<b>2022 One-Way Turnover</b>	1.70%	9.71%	1.68%
<b>2023 One-way Turnover</b>	1.13%	7.92%	1.05%

### Sector Weights at Rebalance:

Russell 1000				Russell 2000			
Sector	Curr Wgt	New Wgt	Wgt Chg	Sector	Curr Wgt	New Wgt	Wgt Chg
Technology	31.02%	30.78%	-0.24%	Technology	11.77%	12.44%	0.67%
Consumer Discretionary	14.53%	14.67%	0.13%	Consumer Discretionary	13.32%	12.90%	-0.42%
Health Care	12.73%	12.82%	0.08%	Health Care	16.95%	17.03%	0.08%
Industrials	12.56%	12.64%	0.07%	Industrials	18.03%	18.14%	0.11%
Financials	10.01%	10.03%	0.02%	Financials	14.58%	14.45%	-0.13%
Consumer Staples	5.25%	5.27%	0.02%	Consumer Staples	3.26%	2.98%	-0.28%
Energy	4.18%	4.06%	-0.12%	Energy	6.59%	7.05%	0.46%
Real Estate	2.80%	2.82%	0.02%	Real Estate	6.36%	6.26%	-0.11%
Utilities	2.78%	2.81%	0.02%	Utilities	3.33%	3.28%	-0.06%
Telecommunications	2.22%	2.20%	-0.02%	Telecommunications	1.70%	1.54%	-0.16%
Basic Materials	1.91%	1.91%	0.00%	Basic Materials	4.11%	3.94%	-0.17%

Current weight as of 06/21/23, new weight at Rebalance Date.

Source: BlackRock, Barclays, Instinet and Bank of America as of June 2023. **Past performance is not indicative of future results.** It is not possible to invest directly in an index.

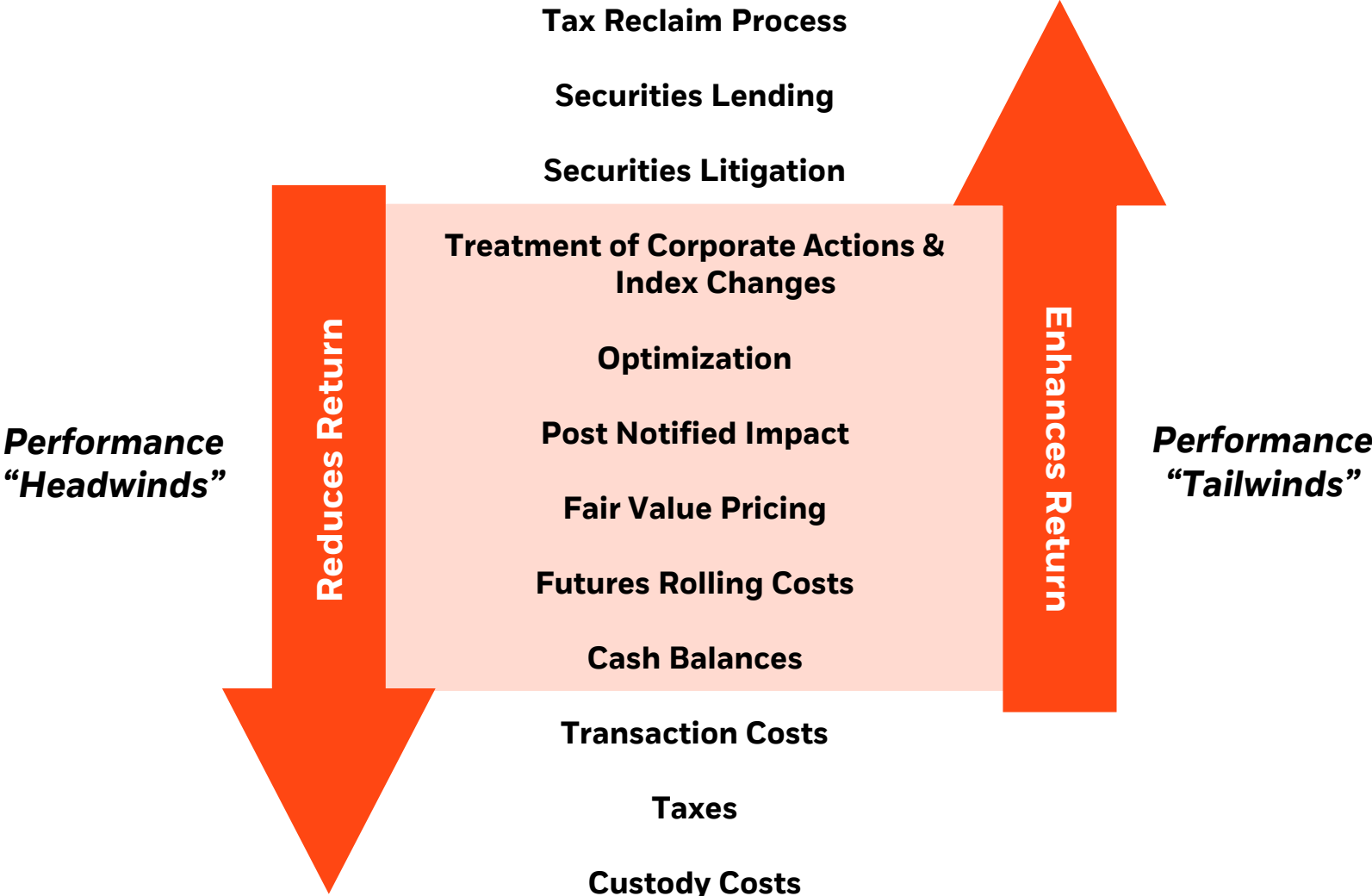
<sup>1</sup> Right-way: Prices for index rebalance purchases trend higher into the effective date (or sales trend lower). Wrong-way: Prices for index rebalance purchases trend lower into the effective date (or sales trend higher).

References to specific companies should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned.

# **Performance attribution**



# Major sources of tracking error: Global & domestic index funds



# **III. Fixed Income Index Overview**

# Long history of innovation and commitment to Fixed Income

BlackRock is a provider of beta and alpha, supported by proprietary analytics, experienced investment professionals, and a strong culture of risk management and information sharing

## Focus on seeking to deliver solutions for clients:

<p><b>Beta</b></p> <hr/> <p><b>Index &amp; ETFs</b></p> <p><b>\$1,530 bn<sup>1</sup></b></p>	<ul style="list-style-type: none"><li>• First fixed income index manager and evolving to become a comprehensive provider of synthetic solutions for clients through our index and iShares platforms</li><li>• Full spectrum of global index products</li><li>• Modular structure of investment vehicles provides clients with flexibility to implement custom, cost-effective solutions<sup>2</sup><ul style="list-style-type: none"><li>– Pioneer in synthetic beta solutions to support alpha / beta separation</li></ul></li></ul>
<p><b>Alpha</b></p> <hr/> <p><b>Total return &amp; absolute return</b></p> <p><b>\$1,047 bn<sup>1</sup></b></p>	<ul style="list-style-type: none"><li>• Pioneer in multiple fixed income styles leveraging a risk management culture<ul style="list-style-type: none"><li>– Relative value strategies build from top-down and bottom-up research</li><li>– Models designed and managed through a research-intensive process</li></ul></li><li>• Investment solutions offered across markets and risk profiles from enhanced index to hedge funds</li></ul>

## Disciplined and independent risk management is a core component of BlackRock's culture

- Proprietary risk management system provided by BlackRock Solutions® is embedded in every portfolio
- Risk professionals partner with portfolio managers to analyse risks and improve investment process

**There is no guarantee that a positive investment outcome will be achieved. While the investment approach described herein seeks to control risk, risk cannot be eliminated.**

<sup>1</sup>AUM in USD as of 30 September 2023; team assets represent both dedicated and broader mandates managed by the team, including alternatives. **Past performance is not necessarily an indicator of future performance.**

<sup>2</sup>Please see slide 12 for more information.

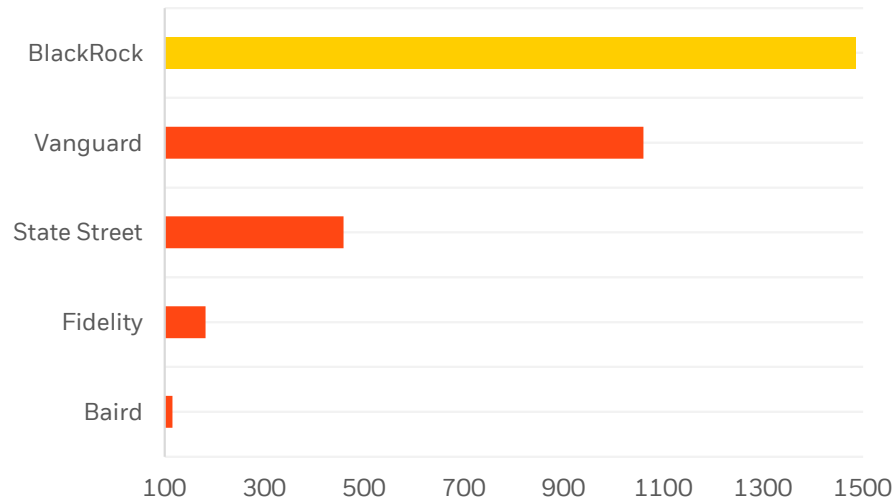
# BlackRock's Fixed Income Indexing Platform

## Global leader in Fixed Income Index assets

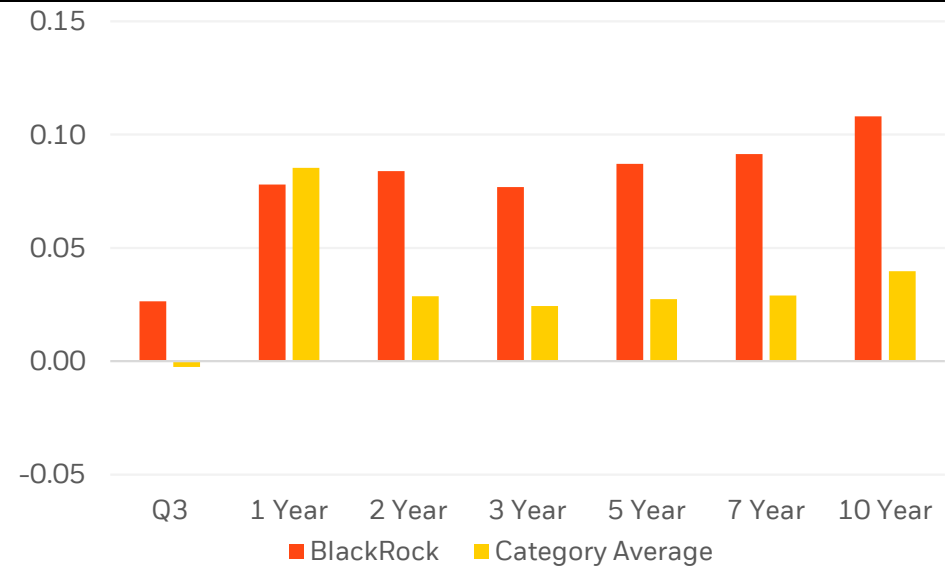
There are four key reasons to pick BlackRock over any other index provider:

- Low historical tracking error<sup>1</sup>
- An experienced, stable team
- Potential for Low transaction costs from size and scale
- Transparent pricing and no cross subsidization as BlackRock has no custody business

**Global Fixed Income Index Market AUM (\$B)<sup>2</sup>**



**Gross Tracking Difference vs. BBG Barclays US Aggregate Index<sup>3</sup>**



1 Source: BlackRock. Realized 10-year gross tracking error as of 9/30/2023 is 11 bps for the BlackRock U.S. Debt Index Collective Trust Fund. Please see slide 20 for additional information on the Fund's tracking error.

2 Source: Pension & Investments. All dollar values are in gross \$ billions.; data as of 30 June 2022. Managers included based on largest global fixed income index market AUM per Pension & Investments.

3 Source: eVestment; data as of 30 September 2023. Periods less than a year are not annualized. Indexes are unmanaged and one cannot invest directly in an index. Managers on the right are different from those with the largest Index AUM due to product availability or missing data. The Category Average includes all index funds available on eVestment managed against the Bloomberg Barclays US Aggregate Index. Category Average depicts tracking difference, defined as risk in excess of the benchmark, vs. the Bloomberg Barclays US Aggregate Index. The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** All periods contain 7 managers in the universe except the 7-Year and 10-Year periods, which contain 6. BlackRock is included in the universe. Please see slide 20 for the Fund's full performance track record.

# **Team, Philosophy & Process**

# Americas Fixed Income Index Team

## Americas Fixed Income

### Portfolio Management

#### Jay Mauro

Head of Americas Index Fixed Income PM

#### Karen Uyehara

Deputy Head of Americas Index Fixed Income PM

#### Multi-Sector/Rates/MBS

#### Credit/Emerging Markets

#### Muni/Canada/ESG

##### Marcus Tom

Portfolio Manager  
Multi-Sector/  
MBS/Rates

##### Wes George

Portfolio Manager  
Multi-Sector/MBS

##### Jonathan Graves

Sr. Portfolio  
Manager  
Corporate Credit

##### David Dulski

Portfolio Manager  
High Yield Credit

##### Joel Silva

Sr. Portfolio  
Manager  
Muni/Canada/ESG

##### Rena Patel

Portfolio Manager  
Municipals

##### Emily Freeman

Portfolio Manager  
Multi-Sector

##### Yang He

Portfolio Manager  
Multi-Sector/MBS

##### Ryan Connors

Portfolio Manager  
High Yield Credit

##### Meher Habib

Portfolio Manager  
High Yield Credit

##### Tao Chen

Portfolio Manager  
Municipals

##### Brian Chi

Portfolio Manager  
Municipals

##### Jakob Hallmer

Portfolio Manager  
US Govt Bonds

##### Htet Htet Win Pyone

Portfolio Manager  
Multi-Sector/MBS

##### Allen Kwong

Portfolio Manager  
Corporate Credit

##### Cole Bushman

Portfolio Manager  
Corporate Credit

##### Jermaine Pierre

Portfolio Manager  
Canada

##### Lip Tong

Portfolio Manager  
Canada

##### William Chen

Portfolio Manager  
US Govt Bonds

##### Clay Armistead

Portfolio Manager  
Securitized Credit

##### Danny Ng

Portfolio Manager  
Corporate Credit

##### Fan Xu

Portfolio Manager  
Corporate Credit

##### Spencer Sheff

Portfolio Manager  
Canada

##### Brian Venter

Portfolio Manager  
ESG

##### Kent Yamane

Portfolio Manager  
Securitized Credit

##### Cheryl Chow

Portfolio Manager  
Corporate Credit

##### Oscar Loyola

Portfolio Manager  
Corporate Credit

##### Jimmy Wang

Portfolio Manager  
ESG

##### Gabe Shipley

Portfolio Manager  
Emerging Markets

##### Dandi Li

Portfolio Manager  
Emerging Markets

##### Camila Ramirez

Portfolio Manager  
Emerging Markets

### Technology

#### Portfolio Management Architecture

##### Will Flanagan

Global Head of Portfolio  
Management Architecture

##### Justin Graham

Head of Bond ETF  
Architecture

### Technology

+ 9 Engineers

### Strategy

#### Americas

Matt Tucker

Gordon Readey

Kathryn Donovan

Laura May

Alli Leiva

Chloe Yeh

Xoshil Chen-Marquez

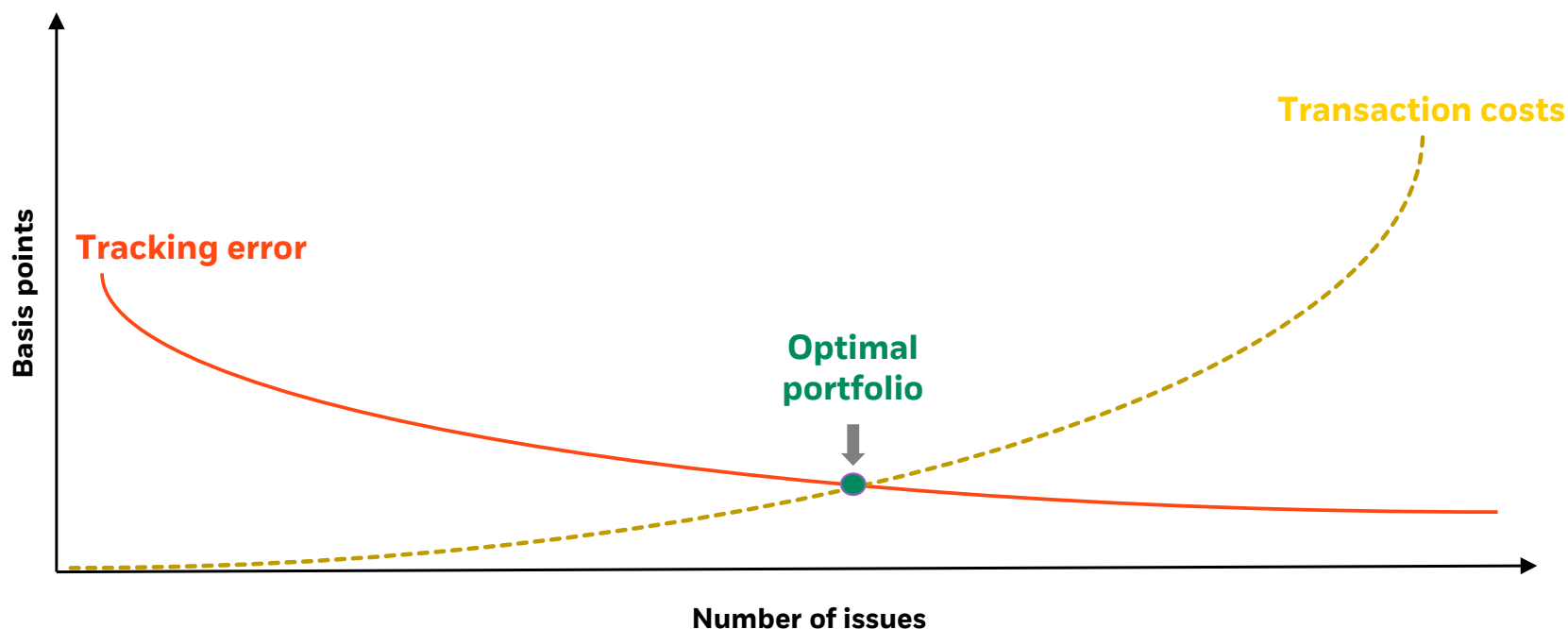
As of 30 September 2023. Subject to change.

# Fixed Income Index Management

## OTC markets require different strategies vs. exchange traded markets

### Quantitative process balances tracking error & transaction costs

- Unlike most stocks, bonds trade “Over the Counter”
- Prohibitive costs, uncertain liquidity, and issue scarcity often makes perfect replication infeasible
- Index process optimizes marginal contribution to tracking error with T-Costs



For illustrative purpose only and subject to change.  
Source: BlackRock

# Philosophy

## Total performance management supported by proprietary Aladdin® technology

Superior investment outcomes may be best achieved through a disciplined, objective process for managing return, risk and cost

- **Return** — Performance as planned with value-added portfolio management
- **Risk** — Proprietary portfolio & risk management system helps manage investment and operational risk
- **Cost** — Trading cost integrated into portfolio construction using proprietary transaction cost models



### What is Aladdin® ?

---

- A sophisticated operating system that connects information, people and technology to support the entire investment lifecycle

### Aladdin® helps solve investing challenges:

---

- Technology does the 'heavy-lifting', enabling portfolio managers to focus on key drivers affecting portfolio return
- Offers process scalability and efficiency
- Includes consistency across product types and functions

Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.



# Process

Disciplined process within a scalable, risk-managed framework underpin consistent performance

## Performance & Oversight

- Investment Review Committee
- Dedicated return attribution
- Separate group for compliance / RQA

**Aladdin Advantage:** Portfolio Management tools are integrated on the same platform as risk monitoring tools, making it simpler for RQA to provide a risk assessment on portfolios

## Efficient Trading

- Centralized trading
- Unit exchange opportunities
- Scalable trading platform

**Aladdin Advantage:** Extensive global trading platform seeks to ensure low costs and optimal access to liquidity

## Benchmark Knowledge

- Daily updates from index providers
- Index methodology changes
- Index Advisory

**Aladdin Advantage:** Proprietary Aladdin applications aim to make analyzing benchmark changes a clean and efficient process

## Portfolio Construction

- Portfolio analysis
- Stratified sampling
- Leading edge portfolio construction technology

**Aladdin Advantage:** Custom 'Portfolio Construction' applications built by our Portfolio Management Team designed specially for index management

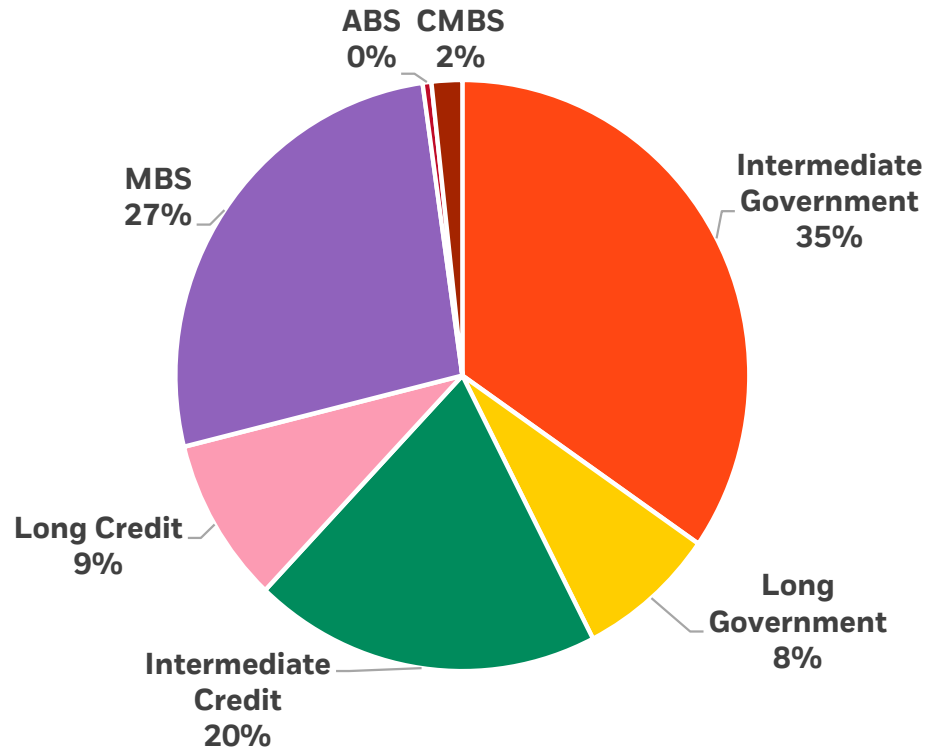


Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change. Risk management and due diligence processes seek to mitigate, but cannot eliminate, risk nor do they imply low risk.

# Modular Fund Design

BlackRock's modular fund design leverages scale and facilitates crossing opportunities

**Barclays US Aggregate Index**  
 Issues Fund: 11,122  
 Issues Benchmark: 13,358



**Intermediate Government**  
 Issues Fund: 270  
 Issues B'mark: 605

**Long Government**  
 Issues Fund: 146  
 Issues B'mark: 103

**Intermediate Credit**  
 Issues Fund: 5,160  
 Issues B'mark: 5,272

**Long Credit**  
 Issues Fund: 3,202  
 Issues B'mark: 3,266

**Mortgage-Backed Securities**  
 Issues Fund: 937  
 Issues B'mark: 937

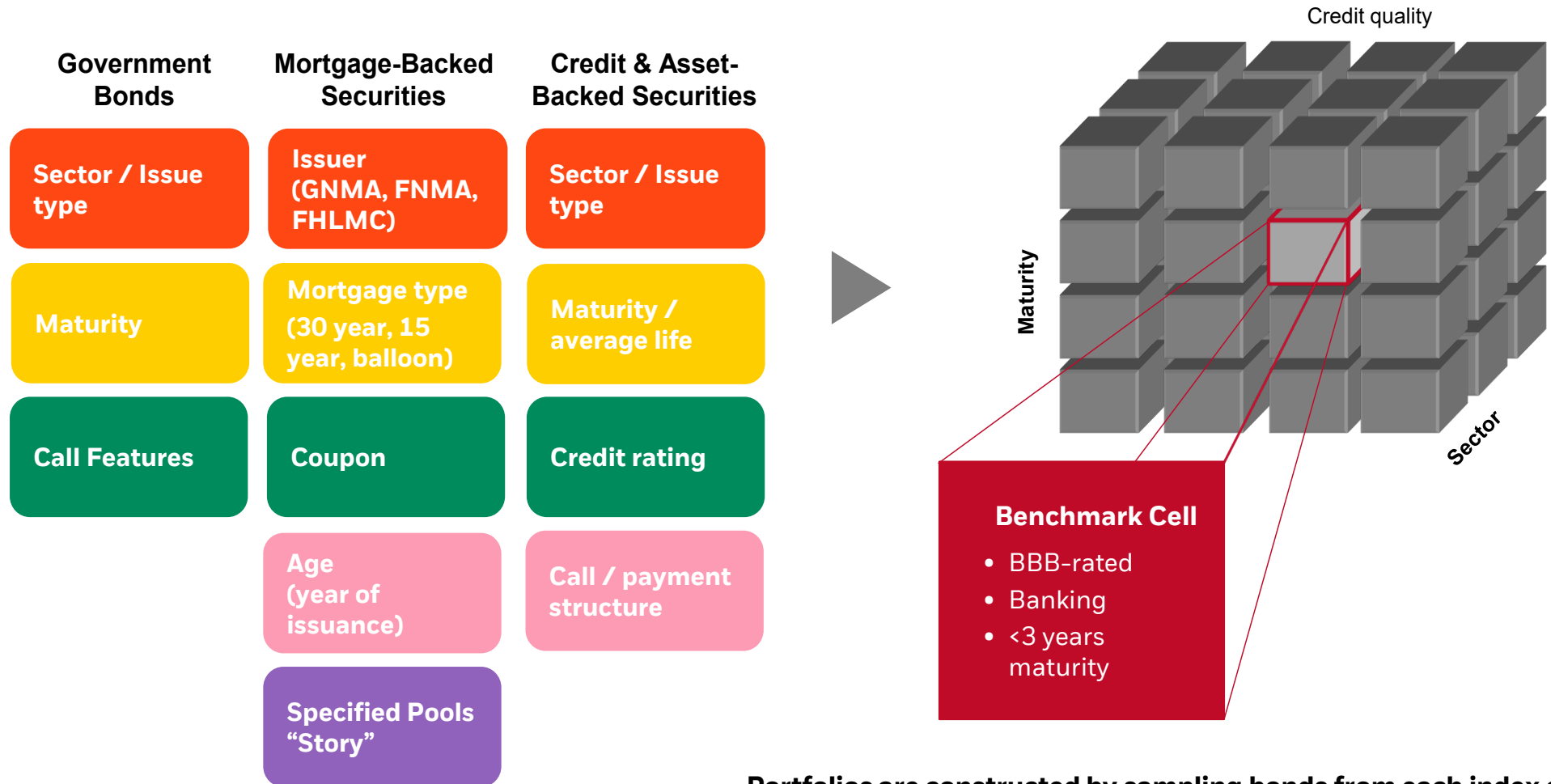
**Asset-Backed Securities**  
 Issues Fund: 148  
 Issues B'mark: 462

**CMBS**  
 Issues Fund: 556  
 Issues B'mark: 2,713

Source: Barclays and BlackRock as of September 30, 2023  
 Funds are BlackRock CTFs. For illustrative purposes only.

# Portfolio Construction

**Stratified sampling: Dividing the various indexes into subsets (cells) based upon relative parameters**



**Portfolios are constructed by sampling bonds from each index cell**

Source: BlackRock. For illustrative purpose only and subject to change.

# Portfolio Construction

## Building a corporate bond index portfolio

### Construction process

#### Part 1

#### Stratify Universe by Risk Cells

- Sector
- Industry / sub-sector
- Maturity
- Credit
- Structure

#### Part 2

#### Optimize by Risk Factors

- Key Rate Duration
- Convexity
- Duration Times Spread
- T-Cost

### Example: US Intermediate Investment Grade Corporate Bond Index Fund (illustrative)

#### Index (*Barclays Intermediate Credit Index*)

Index (5,272 bonds)

BLK (5,160 bonds)

#### Sector (example: *Industrials*)

Index (2,573 bonds)

BLK (2,539 bonds)

#### Sub-Sector (example: *Energy*)

Index (307 bonds)

BLK (301 bonds)

#### Maturity (example: *7-10 years*)

Index (73 bonds)

BLK (70 bonds)

#### Credit Rating (example: *BBB*)

Index (60 bonds)

BLK (57 bonds)

#### Structure (example: *Make Whole Call*)

Index (20 bonds)

BLK (18 bonds)

Source: BlackRock; data as of 30 September 2023. Example for illustrative purposes only and does not depict actual Collective Trust Fund data. It is shown to demonstrate the investment process.

# Scalable Trading Platform

Size and scale are clear competitive advantages in the fixed income marketplace

## An Industry Leader

BlackRock traded \$8.2T notional in fixed income in 2022, making us one of the largest trading counterparties to broker-dealers in the fixed income market

## A Focus on Costs

Globally coordinated trading business leveraging scale across all investment activity for pricing power

## Research Driven

Comprehensive database of metrics, including a tick database and >\$259tn USD of trading history across >222mn transaction records



### Primary issuance

- BLK Global Capital Markets/Syndicate manages deal structure as well as optimizes allocations
- BLK drives many “issued to manage” deals which have the potential to result in reduced fees and increased allocations

### Secondary trading

- Pricing power of world’s largest asset manager<sup>1</sup>
- Managed trade distribution and optimized execution leverages price discovery, has the potential to reduce bid/offer spread

### Small lot trading

- Dedicated unit aggregates firm-wide small lot orders
- Potential execution benefits from round-lot price improvement

Source: BlackRock; Data as of 31 December 2022.

1. Per Pensions Age rankings as of 10/31/2022.

# Performance analysis and review

## Aladdin® Enterprise System: “One Database, One System, One Process”\*

- 25,000+ Aladdin users across 45 countries
- 5,000 Stress tests performed each week
- 1000+ developers working to continually evolve the platform

**Green Package**

Risk Country Bloc Summr

### Risk Country Bloc Summary Exposure Report

Market Index	1Yr GOVT	2Yr GOVT	3Yr GOVT	5Yr GOVT	10Yr GOVT	30Yr GOVT	1M Libor	3M Libor	FGPC Yld	FNPC Yld	5Y SwSp	10Y SwSp	3X5 SwVol
USD	0.7770	1.1110	1.3700	1.8010	2.3200	2.9820	0.6056	0.9351	3.0299	3.0018	-1.5	-16.3	0.84
EUR	-0.7560	-0.7580	-0.7450	-0.4710	0.2030	0.8455	-0.3740	-0.3140	3.0299	3.0018			0.42
JPY	-0.2430	-0.1520	-0.1210	-0.0910	0.0120	0.5665	-0.0826	-0.0760	3.0299	3.0018			0.24

Fund/ Sector	Market Value (m)		%NAV			Duration			Duration Contribution			Convexity			Spread Duration			
	Value	Count	Port	Bench	Active	Port	Bench	Active	Port	Bench	Active	Port	Bench	Active	Port	Bench	Active	
	2,766,001	2,739	100.00	100.00		5.56	5.54	0.03	5.56	5.54	0.03	0.11	0.09	0.02	3.80	3.84	-0.03	2.49

**PortfolioRiskTools**

Risk Calc | Time Series | Risk Matrix

Report: Contribution to Analytical Risk Using: Portfolio

	Stress Pbl	Risk	Beta
Portfolio:	-	481 bps	1.01
Benchmark:	-	477 bps	1.00
Active:	-	4 bps	0.01

Economy Date: T-1B Exposure Date: T-1B Calendar: New York Banks Restore Time Zone: Los Angeles

Risk Options Exposure Mapping: ^^WRLDB,DEFAULT, What-if: Personal, Shared, Weighting: DLY, Horizon: One Year, Confidence Level: 84% (1σ)

Source: BlackRock, as of 30 December 2016. Sample screenshots are for illustrative purpose only and do not depict actual data.

# Straight through processing with Aladdin

**Aladdin connects the information, people and technology needed to manage money in real time**

## Aladdin Platform

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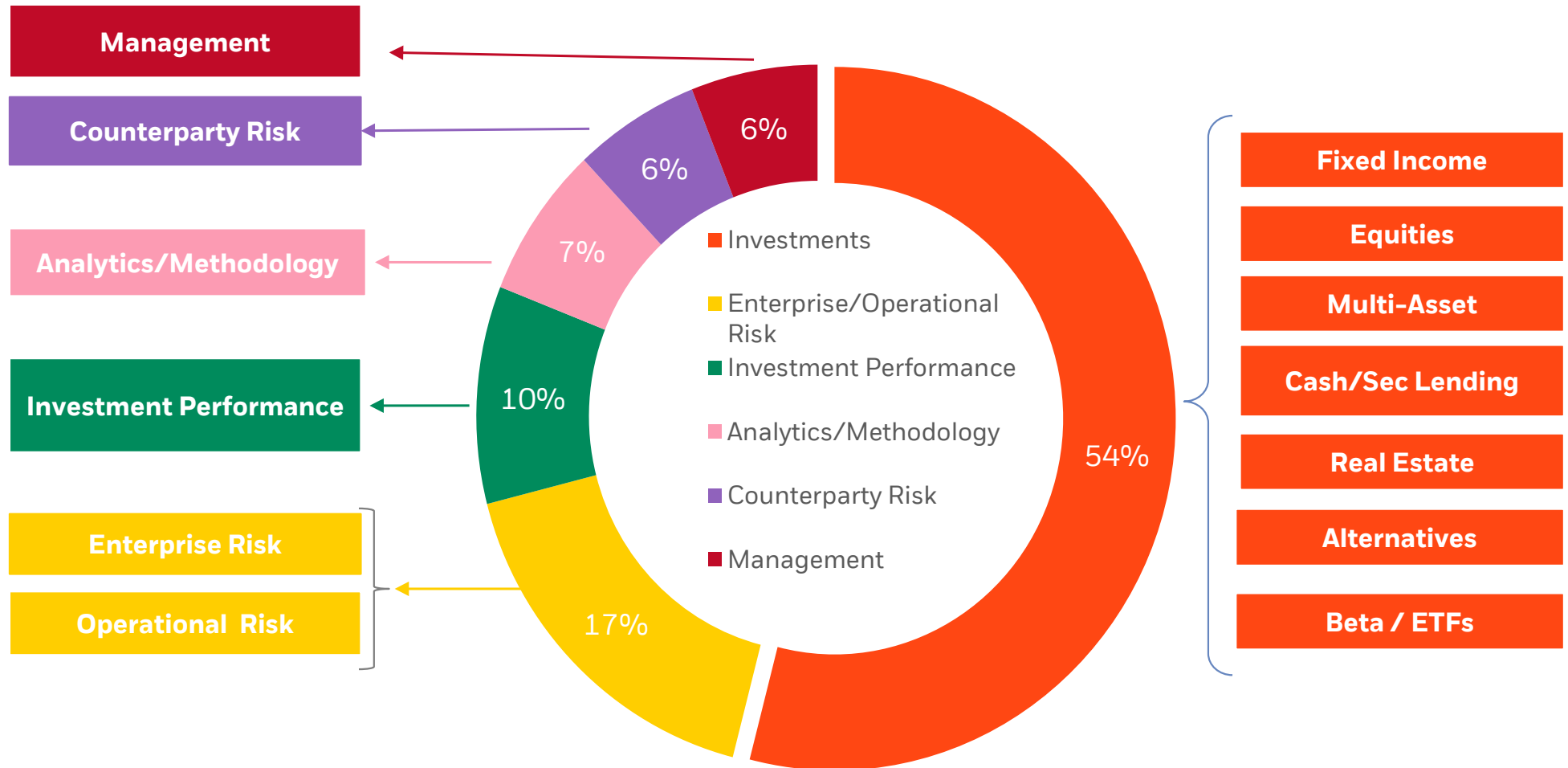
- Combines sophisticated risk, exposure and performance analyses with comprehensive portfolio management, trading, compliance and operations tools on a single platform
- Provides transparency and powers informed decision-making, effective risk management, efficient trading and operational scale



Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Risk Management Resources and Functions

## RQA (Risk & Quantitative Analytics)



Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.



# **IV. Fund Characteristics**

# U.S. Debt Index Fund

## Portfolio profile

	U.S. Debt Index Fund	Bloomberg U.S. Aggregate Bond Index
Market value (\$B)	4.75	24,789.17
# Issues	11,144	13,358
<b>Characteristics</b>		
Coupon (%)	2.94	2.99
Yield to maturity (YTM) (%)	5.39	5.39
Weighted avg life (yrs)	8.51	8.51
Effective duration (yrs)	6.11	6.09
Spread duration	3.72	3.72
Option adjusted spread (bps)	51	51
Convexity	0.66	0.65
<b>Quality breakdown (mkt val %)</b>		
AAA or above	3.99	4.05
AA	72.28	71.88
A	11.56	11.64
BBB	12.16	12.41
Below BBB	0.00	0.00
NR	0.00	0.02

	U.S. Debt Index Fund	Bloomberg U.S. Aggregate Bond Index
<b>Sector breakdown (mkt val %)</b>		
Treasury	41.56	41.49
Agencies	1.08	1.05
Financials	8.16	8.27
Industrials	14.06	14.28
Utilities	2.11	2.14
Non-US credit	3.15	3.36
Taxable munis	0.59	0.60
ABS	0.49	0.49
Mortgages	26.63	26.61
Hybrid ARM	0.01	0.00
CMBS	1.71	1.71
Foreign Government	0.00	0.00
Other	0.00	0.00
Cash	0.46	0.00
<b>Weighted avg life breakdown (mkt val %)</b>		
0-1	0.90	0.08
1-2	10.66	11.89
2-3	11.85	10.45
3-5	15.26	16.90
5-7	13.82	12.84
7-10	23.13	24.48
10-20	13.98	13.06
20-30	9.67	9.53
30+	0.74	0.77

Fund inception date 30 June 1986

Data is for analytical purposes only. Index data points may differ to those published by the Index due to different calculation criteria. The credit quality of a particular security or group of securities may be based upon a rating from a nationally recognized statistical rating organization or, if unrated by a ratings organization, assigned an internal rating by BlackRock, neither of which ensures the stability or safety of an overall portfolio. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. Sources: BlackRock, Bloomberg Finance L.P.

# Russell 1000<sup>®</sup> Index Fund

## Characteristics

### Fund information

Benchmark	Russell 1000 <sup>®</sup> Index
Total fund assets	\$120.31B
Number of issues in fund	1,012
Number of issues in benchmark	1,012

### Top 10 holdings

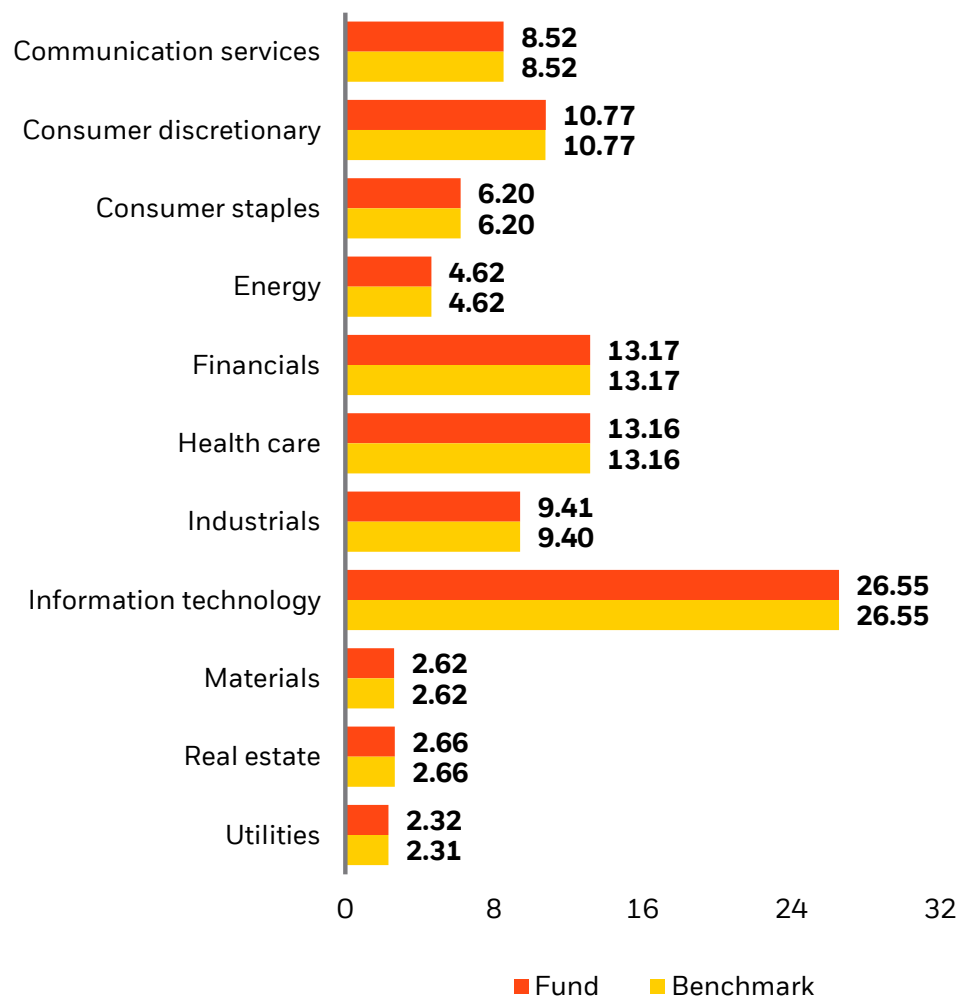
	Fund %	Index %
Apple Inc	6.45	6.45
Microsoft Corp	5.93	5.93
Amazon Com Inc	2.89	2.89
Nvidia Corp	2.61	2.61
Alphabet Inc Class A	1.96	1.96
Tesla Inc	1.74	1.74
Alphabet Inc Class C	1.69	1.69
Meta Platforms Inc Class A	1.68	1.68
Berkshire Hathaway Inc Class B	1.62	1.62
Exxon Mobil Corp	1.19	1.19

Fund inception date 31 January 1987

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF and statistically immaterial factors. Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Sources: BlackRock, FTSE Russell

### Sector diversification



# Russell 2500™ Index Fund

## Characteristics

### Fund information

Benchmark	Russell 2500™ Index
Total fund assets	\$8.65B
Number of issues in fund	2,473
Number of issues in benchmark	2,486

### Top 10 holdings

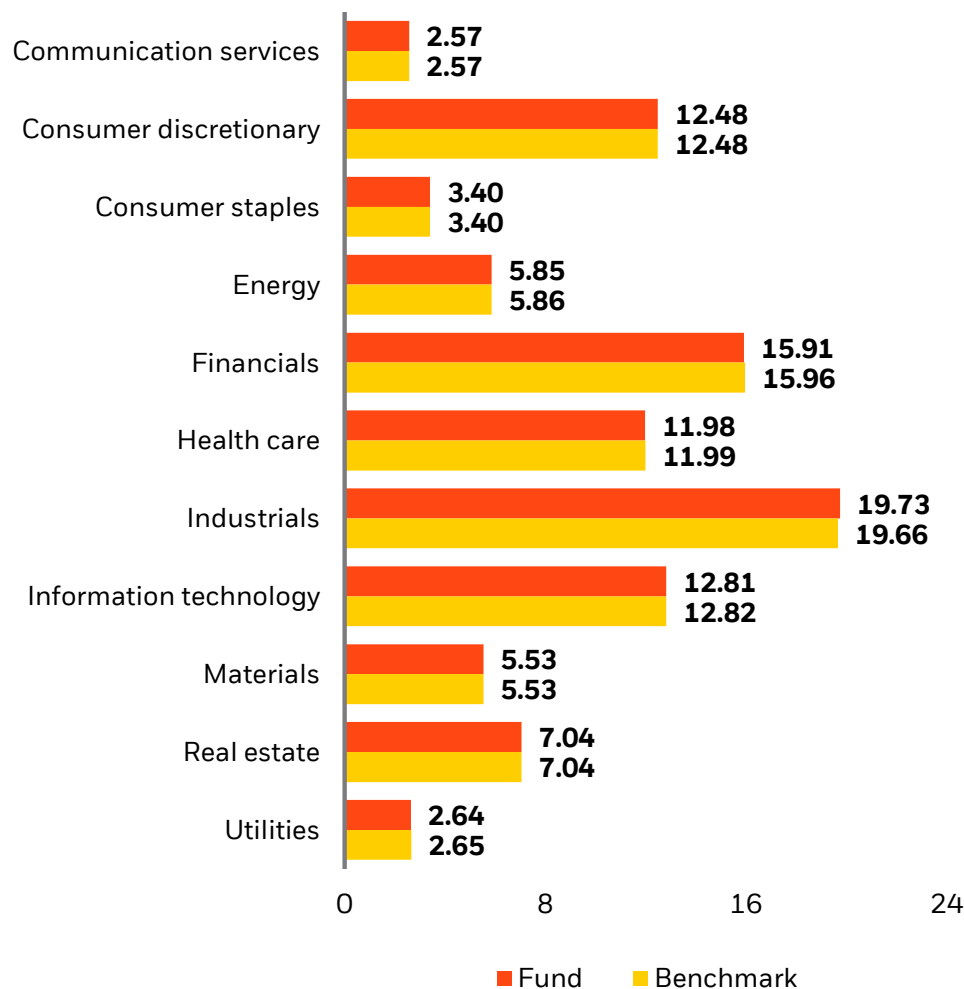
	Fund %	Index %
FactSet Research Systems Inc	0.32	0.32
Hubbell Inc	0.32	0.32
Cboe Global Markets Inc	0.31	0.31
PTC Inc	0.31	0.31
Jabil Inc	0.31	0.31
PulteGroup Inc	0.31	0.31
Everest Group Ltd	0.30	0.30
Builders FirstSource Inc	0.30	0.30
Textron Inc	0.29	0.29
Reliance Steel & Aluminum	0.29	0.29

Fund inception date 28 February 2001

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF and statistically immaterial factors. Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Sources: BlackRock, FTSE Russell

### Sector diversification



# BlackRock MSCI ACWI Equity Index Fund

## Characteristics

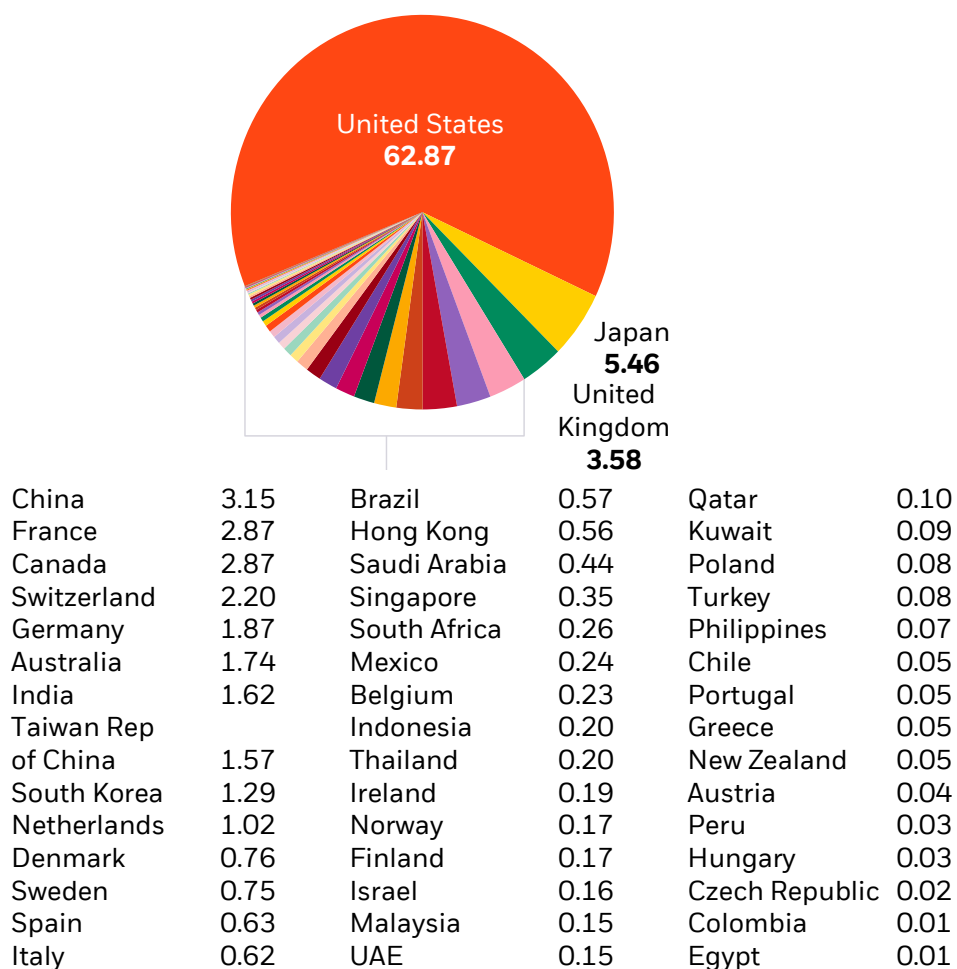
### Fund information

Benchmark	MSCI ACWI Net Dividend Return Index
Total fund value	\$11.60B
Number of issues in fund	2,963
Number of issues in benchmark	2,951

### Top 10 holdings

	Country	Weight (%)
Apple Inc	United States	4.47
Microsoft Corp	United States	3.70
Amazon Com Inc	United States	1.95
Nvidia Corp	United States	1.78
Alphabet Inc Class A	United States	1.29
Tesla Inc	United States	1.18
Alphabet Inc Class C	United States	1.16
Meta Platforms Inc Class A	United States	1.10
Exxon Mobil Corp	United States	0.79
UnitedHealth Group Inc	United States	0.78

### Country allocation (%)



Fund inception date 22 April 2010

Data is used for analytical purposes only. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF and statistically immaterial factors. Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Sources: BlackRock, MSCI Inc.

# BlackRock MSCI ACWI ex-U.S. IMI Index Fund

## Characteristics

### Fund information

Benchmark	MSCI ACWI ex USA IMI Index
Total fund value	\$17.67B
Number of issues in fund	6,791
Number of issues in benchmark	6,739

### Top 10 holdings

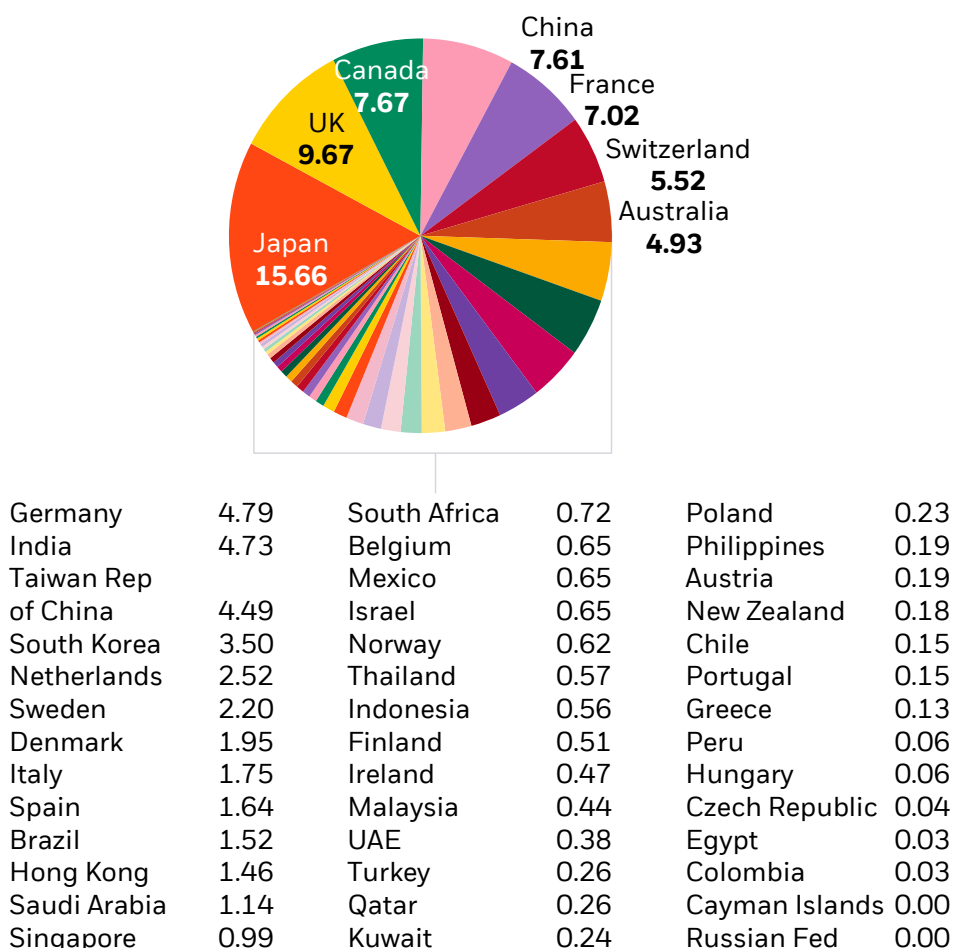
	Country	Weight (%)
Taiwan Semiconductor Manufacturing	Taiwan Rep of China	1.51
Novo Nordisk Class B	Denmark	1.10
Nestle SA	Switzerland	1.06
Tencent Holdings Ltd	China	0.99
Samsung Electronics Ltd	South Korea	0.91
ASML Holding NV	Netherlands	0.90
Shell PLC	United Kingdom	0.80
AstraZeneca PLC	United Kingdom	0.79
LVMH	France	0.79
Novartis AG	Switzerland	0.73

Fund inception date 20 March 2008

Data is used for analytical purposes only. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF and statistically immaterial factors. Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Sources: BlackRock, MSCI Inc.

### Country allocation (%)



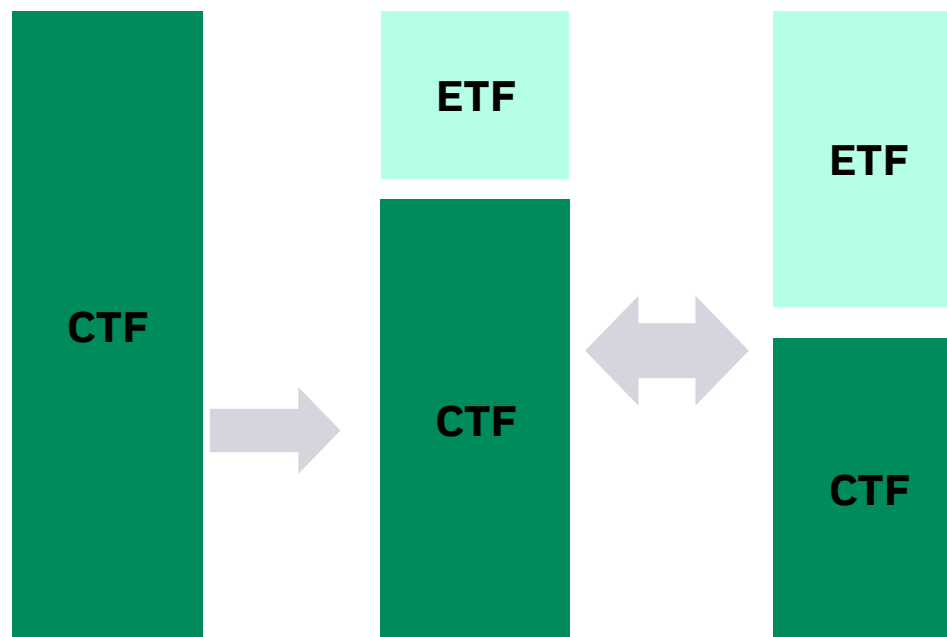
# V. Appendix

# Client Trend: Seeking Optimal Beta

**Some clients  
have been  
looking to:**

1. Increase the liquidity profile of an index exposure at a low cost
2. Facilitate efficient rebalance activity, capital calls, benefit payments, etc.
3. Reduce market entry timing risk through the option of same day trading

## Dynamic Exchange Traded Fund / Commingled Trust Fund Concept



*Clients have noticed that shifting from a static CTF allocation to a dynamic CTF/ETF blend may provide flexibility to choose the most optimal split between beta exposure vehicles, to be adjusted over time as client needs and market conditions evolve*

Source: BlackRock's observation of client trends as of 31 December 2022. For illustrative purposes only and subject to change.



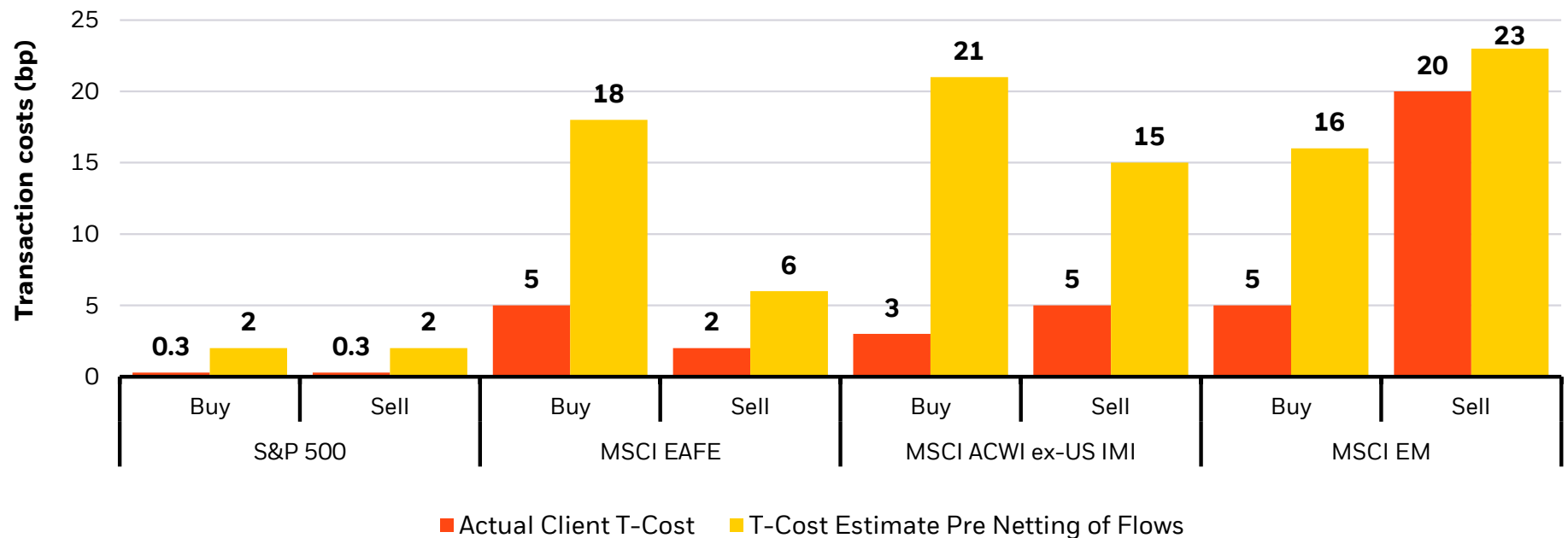
# BlackRock's scale can help drive lower costs

The scale of BlackRock's index platform can help **lower transaction costs** in the following ways:

- The size of our trading footprint allows us to negotiate low commission rates
- The diversity of our client base, coupled with the range of indices we manage assets against, facilitates the one of the industry's largest internal market place for potential netting of client flows
- Large seasoned funds may require less market trading for flows relative to small asset pools

## BlackRock transaction costs vs. ex-ante estimates<sup>1</sup>

Average client cost in 2022, as of Dec 31, 2022



<sup>1</sup> Estimated transaction costs includes commissions and taxes based on BlackRock's current standard negotiated rates  
 Source: BlackRock. BlackRock Flagship Index Funds shown  
 Historical transaction costs are not indicative of future results

# Platform offerings: Index strategies

## Equity

### US Equity Index Funds

- S&P 500®
  - S&P/Citigroup Value
  - S&P/Citigroup Growth
  - S&P 400 Mid Cap
  - S&P 500 Equal Weighted

### Dow Jones Indexes

- US Equity Market (DJ Total Stock Market™)
- Extended Market (DJ Completion Ttl Stk Mtk™)

### Russell® Indexes

- Russell® 3000
  - Russell® 2500
  - Russell® 1000
    - Russell® 1000 Value
    - Russell® 1000 Growth
  - Russell® 2000
    - Russell® 2000 Value
    - Russell® 2000 Growth

### MSCI Indexes

- MSCI US
- MSCI US IMI
- MSCI US Small Cap

### Developed International Index Funds

- MSCI Canada Index
- MSCI EAFE ex-Japan
- MSCI EMU and EMU IMI
- MSCI EAFE Hedged
- MSCI Europe
- MSCI Pac Rim
- MSCI World
- MSCI World ex-US
- Russell® Dev. Ex US Large Cap

### Developed International Index Funds (cont'd)

#### MSCI EAFE Index

Australia	Hong Kong	Norway
Austria	Ireland	Portugal
Belgium	Italy	Singapore
Denmark	Israel	Spain
Finland	Japan	Sweden
France	Netherlands	Switzerland
Germany	New Zealand	UK

#### Integrated International Broad & Small Cap Index Strategies

- MSCI ACWI and ACWI IMI
- MSCI ACWI ex-US & ACWI ex US IMI
- MSCI Global Investable Market Indices
  - MSCI EAFE Small Cap
  - MSCI Canada Small Cap
  - MSCI World Small Cap
  - World ex-US Small Cap
  - MSCI Emerging Markets ex China
  - MSCI Emerging Markets Small Cap
  - MSCI ACWI ex US Small Cap

#### Emerging Markets Index Funds

Brazil	Hungary	South Africa
Chile	India	South Korea
China	Indonesia	Taiwan
Colombia	Kuwait	Thailand
Czech Rep.	Malaysia	Turkey
Egypt	Peru	Qatar
Greece	Philippines	
UAE	Poland	

### Sustainable Investing

- Developed ex-Fossil Fuel
- ACWI ex Fossil Fuels ESG Focus Index
- ACWI ESG Focus Index

### Index Plus Strategies

- S&P 500®
- Russell® 1000
- EAFE
- World ex-US
- EM
- World ex-US Small Cap
- ACWI ex-US
- World ex-US IMI

### Non-Lending Funds

- S&P 100®
- S&P 500®
- S&P 400®
- Russell® 1000, V, G
- Russell® 2000
- Russell® 2500
- Russell® 3000
- Russell® Midcap
- EAFE
- EAFE Small Cap
- Canada
- Canada Small Cap
- Russell® Developed ex-US Lg Cap
- EM
- EM IMI
- EM Small Cap
- ACWI
- ACWI ex-US
- ACWI ex-US IMI
- World
- World ex-US
- World ex-US Small Cap

## Alternatives

### US Commodity Funds

- S&P GSCI Total Return Indexes
- Bloomberg Commodity Index
- Commodity Smart Beta

### Real Estate Investment Trust (REITs) and Infrastructure Indices

- DJ US Real Estate Securities Index (RESI)
- MSCI US REIT Index
- FTSE EPRA/NAREIT Developed ex-US Index
- FTSE EPRA/NAREIT Developed Index
- DJ Brookfield Global Infrastructure
- Developed REIT – Non-lending
- Global Real Estate – Non-lending

### Smart Beta

- Russell® Defensive Indices
- FTSE RAFI Indices
- FTSE EDHEC Efficient US
- MSCI Minimum Volatility Indices
- MSCI Diversified Multi-Factor Indices
- Equal and GDP-Weighted Indices
- MSCI USA Risk-Weighted Index
- MSCI USA Value Index
- MSCI USA Momentum Index

Custom Strategies available

As of 30 September 2023

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# Important Notes (cont'd)

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## Index

It is not possible to directly invest in an unmanaged index.

## Risk

Investing in the bond market is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk. Equities may decline in value due to both real and perceived general market, economic, and industry conditions. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and while generally backed by a government, government-agency or private guarantor there is no assurance that the guarantor will meet its obligations. High-yield, lower-rated, securities involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. Investors will, at times, incur a tax liability. Income from municipal bonds may be subject to state and local taxes and at times the alternative minimum tax. Derivatives may involve certain costs and risks such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested.

There can be no assurance that the investment objectives of any strategy referred to herein will be achieved. An investment in any strategy referred to herein involves a high degree of risk, including the risk that the entire amount invested may be lost.

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## Important Notes (cont'd)

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Each Fund is subject to key risks, as described in the Fund's Collective Investment Fund Profile. Some or all of those risks may adversely affect the value of units in the Fund, yield, total return and the Fund's ability to meet its investment objective. See the Collective Investment Fund Profile for additional information.

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# Important Notes (cont'd)

## Index

It is not possible to directly invest in an unmanaged index.

## Risk

Investing in the bond market is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk; investments may be worth more or less than the original cost when redeemed. The credit quality of a particular security or group of securities does not ensure the stability or safety of the overall portfolio. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and while generally backed by a government, government-agency or private guarantor there is no assurance that the guarantor will meet its obligations. Investors will, at times, incur a tax liability.

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November 20, 2023

Board of Retirement  
Ventura County Employees' Retirement Association  
1190 South Victoria Avenue, Suite 200  
Ventura, CA 93003

**SUBJECT: \$30 Million Commitment to Pantheon Credit Opportunities Fund III**

Dear Board Members:

NEPC and I jointly recommend Board approval of a \$30 million commitment to Pantheon Credit Opportunities Fund III (PCO III). Attached is NEPC's joint recommendation memo and Pantheon's PCO III presentation deck.

*Background*

The Board's adopted asset allocation of April 18, 2022 increased the target allocation to private credit from 6% to 8% for a globally diversified private credit program over three years. At the March 27, 2023 Board meeting, the Board approved a Private Credit Pacing Plan that called for a 2023 commitment target of \$225 million.

On January 23, 2023, the Board approved a \$30 million commitment to each of HarbourView Royalties Fund and to Kennedy Lewis Capital Partners Fund III; on February 27, 2023 approved \$25 million add-on to Cross Ocean ESS Fund IV, and on April 17 committed \$25 million to Monroe Capital Opportunistic Private Credit Fund II. At its business meeting on June 26, 2023, the Board approved \$25 million commitments each to Crayhill Principal Strategies Fund III and Crescent Cove Capital Fund IV, and then at its July 24 meeting approved a \$25 million commitment to Adams Street Private Credit Fund III, and a \$25 million commitment to HarbourVest Direct Lending Fund II. Finally, at its meeting of September 25, the Board approved a commitment of \$20 million to Bridge Debt strategies Fund V. These commitments combined to meet the \$225 million target for 2023. As noted in NEPC's recommendation memo, we believe that the pull-back of large money center banks combined with the demise of several small and mid-size banks have created attractive opportunities in private credit which warrant exceeding the original pacing plan.

*Discussion*

As described more fully in NEPC's joint recommendation memo and Pantheon's presentation deck, PCO III would be a follow-on fund to VCERA's \$50 million commitment to PCO II, supplementing VCERA's private credit secondaries investments fund exposure in a fund size targeted at \$750 million.



It is intended that PCO III will be deployed in a similar fashion to PCO II which investments consist of senior and junior loans with equity kickers diversified across multiple sectors, and geographically diversified, primarily across U.S. and European investments. The fund is also diversified across GP-led, LP-led, and co-investments deals. PCO III will use a credit facility to manage liquidity and capital calls, but no leverage will be employed at the fund level.

PCO II was not rated by NEPC, but with the fund's valuations clocking a net internal rate of return (net-IRR) of 32.1% and its Total Value to Paid-In Capital (TVPI) showing a multiple of 1.35x, this fund on both metrics would rank in the top quartile of Cambridge's global private credit universe. Note that internal rate of return statistics decline as a function of time. PCO II's current investments have been purchased at an effective 21% discount, have a weighted average duration of 3.7 years, and are generating a net annual cash yield of 10.1%

PCO III is targeting a net-IRR of 15% to 20% and a TVPI multiple of 1.5x to 1.7x. The fund life will be 8 years with a possible two-year extension. The standard management fee is 1.25% on invested capital. VCERA is eligible for a 10-basis points management fee discount for the life of the fund as a follow-on investor in PCO II, plus an additional 10 basis points early closing discount, and an additional 2.5 basis points fee discount for size. Additional NEPC client aggregated discounts would be available upon qualification. There is an 8% preferred return per annum compounded, and a 10% carried interest.

We believe this fund's strategy will be additive and diversifying to VCERA's private credit portfolio structure.

**THEREFORE, IT IS RECOMMENDED THAT THE BOARD:**

- 1. Approve a commitment of \$30 million to Pantheon Credit Opportunities Fund III, and direct staff and counsel to negotiate the necessary legal documents; and,**
- 2. Subject to successful contract negotiations, authorize the Board Chair or the Retirement Administrator or if both are unavailable the Chief Investment Officer to approve and execute the required documentation.**

Respectfully submitted,



Dan Gallagher  
Chief Investment Officer



**To: Ventura County Employees' Retirement Association**

**From: NEPC Consulting Team**

**Date: November 20, 2023**

**Subject: Pantheon Credit Opportunities III (Private Credit)**

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### **Recommendation**

NEPC and VCERA's CIO recommend that the Board of the Ventura County Employees' Retirement Association ("VCERA" or the "Plan") approve a commitment of \$30 million to Pantheon Credit Opportunities III ("PCO III," "Fund III," or the "Fund"). NEPC Research has reviewed the fund and sees PCO III as a suitable investment that is additive to VCERA's private credit portfolio. As of 9/30/2023, Pantheon manages \$103.4 million across VCERA's Private Credit & Private Equity Allocations. In addition, the Board approved a \$25 Million commitment to Pantheon Global Infrastructure IV at the September meeting. The Fund has been rated 3 by the NEPC Private Investment Committee, largely due to the limited track record on prior fund and the significant increase in fund size from prior fund.

This commitment represents the final PC commitment for 2023, bringing total 2023 PC commitments to \$255 million, \$30 Million over the 2023 PC pacing plan. In a year where several smaller US banks collapsed, creating exceptional opportunities in Private Credit, both staff and NEPC are comfortable exceeding the original pacing plan.

NEPC and VCERA's CIO believe that Pantheon Credit Opportunities III fits well in the VCERA's Private Credit allocation for the following reasons:

- **Established Platform:** Pantheon was founded in 1982, has over 450 total employees (over 130 investment professionals), and has over \$90 billion in AUM. Pantheon is a well-established firm that has offices globally and a diverse array of private market investment platforms. The Firm started out in private equity, and has since added platforms in secondaries, co-investments, infrastructure, real assets, real estate, and private credit. The private credit vertical was started in 2018 and has dedicated resources that work on those products. A prospective investor should be encouraged by the 40+ year track record that Pantheon has established, and the scale that the Firm has achieved since then. A prospective investor should also be encouraged that Pantheon was also one of the first movers in establishing a dedicated private credit secondaries platform.
- **Dedicated Secondaries Team:** Pantheon's private credit secondaries platform will have a dedicated team that will include 15 investment professionals. The team will be led by a 5-person Global Credit Committee ("GCC"), that includes Rakesh Jain (Partner & Global Head of Private Credit), Francesco di Valmarana (Partner), Toni Vainio (Partner), Dennis McCrary (Partner), and Jeff Miller (Partner & Global Head of Private Equity). In addition to the senior leadership on the GCC, the team will have 2 Principals, 2 Vice Presidents, 2 Senior Associates, and 4 Associates on the Fund. Aside from Messrs. McCrary and Miller, the rest of the team will be fully dedicated to Pantheon's private credit secondaries platform. It should be noted, however, that this team will be working on Pantheon's opportunistic credit secondaries fund, as well as a senior debt secondaries fund.

- **Strong Performance:** Pantheon Credit Opportunities II (“PCO II”), the first fully dedicated opportunistic credit secondaries commingled fund that Pantheon invested, has achieved strong performance so far. As of June 30, 2023, Fund II has achieved a net TVPI of 1.35x, a net DPI of 0.11x, and a net IRR of 32.1%. These results, compared to Cambridge Associates’ Global Credit Opportunities universe, are first quartile, second quartile, and first quartile respectively. Fund II still has a long way to go in its investment lifecycle, the investment period started January 2022 and will run through January 2025. That said, prospective investors should be encouraged by the early strong performance that PCO II has achieved.
- **Market Opportunity Set:** PCO III should benefit from an opportunistic credit secondary market that looks to be in a durable expansion phase. Private credit AUM looks to be increasing over the years ahead, providing ample deal flow for PCO III. Pantheon’s secondaries platform should benefit from the continued growth that is projected in private credit globally, there should be a durable need for liquidity and rebalancing between GP’s and LP’s throughout PCO III’s term.
- **Favorable Economics:** A PCO III investor that is an existing Pantheon LP, a first close LP, and reaches the \$25 million commitment threshold will receive an approximately 20% discount from the base management fee, from 1.25% to 1.025% on invested capital. Additionally, the carried interest will be 10%, and the preferred return will be 8%. An existing LP with Pantheon will be eligible for a 0.10% re-up discount, and an early close investor in PCO III will be subject to an additional 0.10% discount. Furthermore, Pantheon will aggregate commitments and apply discounts at thresholds of \$25 million, \$50 million, \$100 million, and \$150 million, for a discount of 0.025%, 0.05%, 0.075%, and 0.10%. NEPC thinks that the management fee terms, combined with the carried interest and preferred return terms are favorable.



## Overview of Ventura Private Credit Program (PC)

As of 9/30/2023, VCERA has committed \$940 million to Private Credit with approximately \$440 million invested as of 6/30/2023. Through 6/30/2023, the PC allocation has generated a net internal rate of return of 9.1% per annum, with a Total Value to Paid-In Capital ratio of 1.15x. Results have been achieved through a broad mix of Direct Lending, Real Estate, Distressed and Opportunistic Lending strategies. VCERA has made nine 2023 vintage year commitments for a total of \$225 million.

## Fund Overview

Pantheon is fundraising a total return oriented private credit secondaries strategy, Pantheon Credit Opportunities III ("PCO III," or "Fund III," or the "Fund"). Pantheon has not closed on any commitments yet for PCO III, the Firm anticipates having a first close in December 2023 for the Fund. Pantheon is targeting \$750 million in commitments for PCO III, with no stated hard cap presently, it is expected that PCO III will be open through March 2025. Pantheon started their private credit secondaries initiative in 2018, initially building out a senior debt secondaries strategy. After the senior debt secondaries launch, Pantheon started an opportunistic credit secondaries initiative. The prior vintage to PCO III, Pantheon Credit Opportunities II ("PCO II") has a 2020 vintage and approximately \$390 million in commitments. Pantheon's private credit secondaries platform is comprised of 15 investment professionals, led by Pantheon's Global Credit Committee ("GCC"). Pantheon's GCC includes Rakesh Jain (Partner & Global Head of Private Credit), Francesco di Valmarana (Partner), Toni Vainio (Partner), Dennis McCrary (Partner), and Jeff Miller (Partner & Global Head of Private Equity). The investment team that supports the GCC will include 10 additional investment professionals, including 2 Principals, 2 Vice Presidents, 2 Senior Associates and 4 Associates.

The Fund should provide a globally diversified secondaries exposure, across special situations, distressed debt, and other opportunistic credit strategies. PCO III will make investments in the \$10 million to \$50 million deal range, PCO III should be broadly diversified across 15 to 30 secondary transactions. Each transaction comprising one or more funds, total diversification at the underlying level could be greater than 1,000 positions. PCO III will be targeting a net IRR in the 15% to 20% range, and a net TVPI in the 1.5x to 1.7x range. PCO III will not be utilizing fund-level leverage.

Pantheon Credit Opportunities III will have a total return-driven private credit secondary investment strategy with a focus on: (i) purchasing secondary limited partnership interests in mature high-quality subordinated debt funds, special situations, distressed funds and, (ii) other high-quality private credit secondary opportunities that are solely managed/advised by private credit managers. The Fund is expected to selectively invest in levered direct lending funds, structured credit (debt and equity) funds, and other debt-like funds and assets which meet the strategy's risk-return expectations. The strategy will invest primarily across the U.S. and Europe.

The Fund is an opportunistic strategy with the ability to invest across the entire private credit spectrum in mature loans and assets via secondary transactions in private credit funds. PCO III's target universe includes but is not limited to opportunistic credit funds, special situations, capital solutions, distressed, venture debt, mezzanine, asset-based credit, specialty finance and structured credit. The strategy also has the flexibility to selectively make co-investments with private credit managers that Pantheon believes provide additional return, diversification or access to high quality private credit opportunities that have the potential to benefit the portfolio from a risk-return perspective. The strategy will invest primarily across the U.S. with a smaller exposure to Europe.

Potential investments will be selected based on factors including but not limited to risk-return profile, embedded downside protection, cash yield vs. accrual/payment-in-kind, underlying company financial performance, industry exposure, and duration/maturity.



Pantheon Credit Opportunities III is appropriate for prospective investors that want a diversifier in a private credit allocation. The secondaries strategy should provide a j-curve mitigator effect that will help diversify an existing private credit allocation. PCO III will also have a mix of current income and capital appreciation elements to it. An investor that seeks capital appreciation, but also wants some current income could be well-served by committing to PCO III. Prospective investors should benefit from Pantheon's secondaries experience and the dedicated team that will be working on PCO III.

Overall, NEPC has a positive view of Pantheon, the Team, and the Fund and concurs with staff's recommendation to commit \$30 million to Pantheon Credit Opportunities III.

#### **Fees and Carried Interest**

The starting standard management fee for Pantheon Credit Opportunities III will begin at 1.25% on invested capital through the life of the fund lifecycle. For LP's that re-up there will be a 0.10% discount. For LP's that make the first close there will be a 0.10% discount. For LP's that clear the \$25M commitment threshold there will be a 0.025% discount. These discounts are additive. An LP that makes all three requirements will have their management fee discounted from 1.25% to 1.025%.

The Carried Interest will be 10% over an 8% Preferred Return.



### NEPC Research Ratings Definitions

Rating	Description
<b>1</b>	A high conviction investment product. Product has a clear and economically-grounded investment thesis, and is managed by an investment team that is sufficiently resourced and incented to execute on the thesis.
<b>2</b>	NEPC has a positive view of the strategy. Strategy has a compelling and sound investment thesis. The manager is sufficiently resourced and incented to execute on the thesis. Strengths outweigh the weaknesses, but the strategy does not meet all requirements for a 1 rating.
<b>3</b>	A satisfactory investment product. The strategy lacks a compelling investment thesis, however there are no significant concerns around the manager's viability.
<b>4</b>	The strategy may have an unclear or ambiguous investment thesis or the manager may lack the ability to execute on the stated thesis. The strategy likely has strengths and weaknesses and the weaknesses may outweigh the strengths.
<b>5</b>	A strategy that lacks an investment thesis or NEPC has no confidence in the manager's ability to execute on the thesis, and/or the investment firm may not be viable. Serious issues have been identified with an investment manager or product. This rating aligns with a Due Diligence status of Terminate for client-owned products.
<b>Not Rated</b>	Due diligence has not been sufficiently completed on the product or manager.



## Disclaimers and Disclosures

- Past performance is no guarantee of future results.
- 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.
- This memo for the Fund provides a summary of information and documentation received by NEPC from the manager through phone calls and meetings. The product has been rated by NEPC's Alternative Assets Committee.
- Information used to prepare this report was obtained directly from the investment manager, and market index data was provided by other external sources. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- NEPC does not provide legal, regulatory or tax advice. Please consult your attorney or tax advisor for assistance as needed.
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In addition, it is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds, real estate, and private equity:

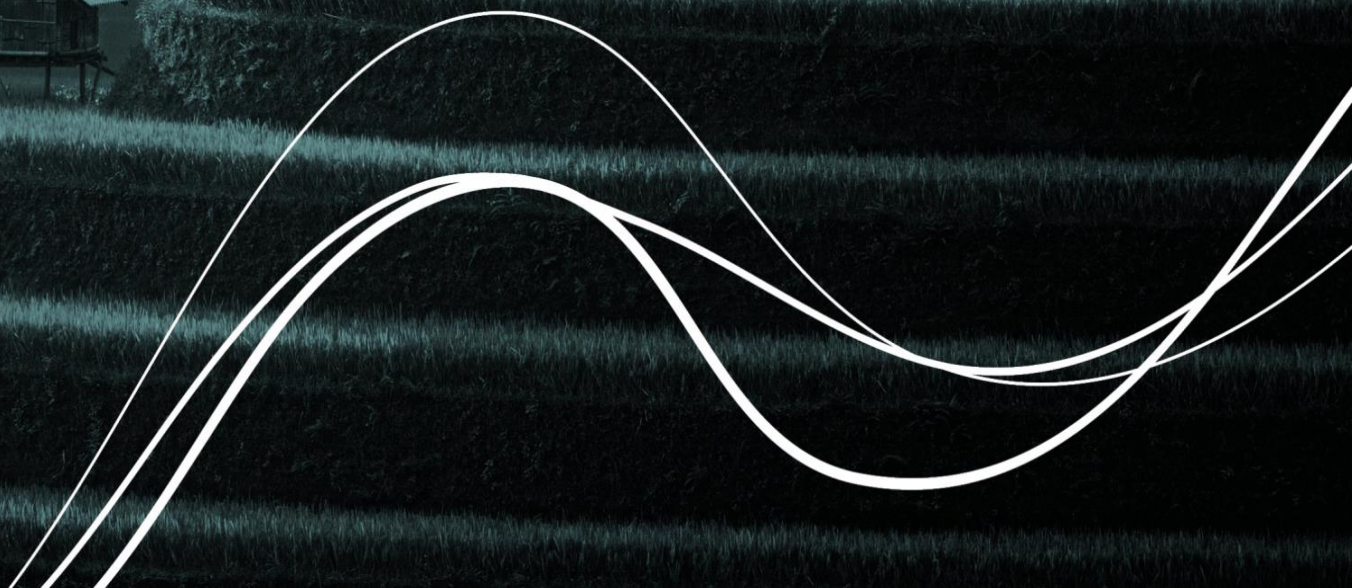
- Performance can be volatile, and investors could lose all or a substantial portion of their investment.
- Leverage and other speculative practices may increase the risk of loss.
- Past performance may be revised due to the revaluation of investments.
- These investments can be illiquid, and investors may be subject to lockups or lengthy redemption terms.
- A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value.
- These funds are not subject to the same regulatory requirements as registered investment vehicles.
- Managers may not be required to provide periodic pricing or valuation information to investors.
- These funds may have complex tax structures and delays in distributing important tax information.
- These funds often charge high fees.
- Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy.





# PANTHEON CREDIT SECONDARY SOLUTIONS PANTHEON CREDIT OPPORTUNITIES III

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# Pre-Marketing disclosure

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- This material does not constitute an offer.
- Information herein liable to be modified or withdrawn.
- This material is intended for indicative and exploratory purposes only. There is currently no fund in existence

# Glossary of terms

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- **Effective Discount:** Based on the first available capital accounts, which is typically 3 months after closing but could be as recent as one-month post-closing and includes interim cash flows. This figure reflects the discount/(premium) to value at the time of deal closing.
- **Assets Under Management:** All AUM / AUA figures as of March 31, 2023. Includes \$32.5bn of assets under advisory.
- **Facility Usage:** PCO III will employ a credit facility, which is generally used to bridge capital calls from limited partners and/or to pay for a portion of an investment. This can cause the resulting Net IRR and multiples to appear higher than the Gross IRR and multiple, on an interim basis, particularly in the early life cycle of the fund. The Net IRR may decline as investors capital is drawn down to repay the credit facility. Any borrowing by PCO III will affect its performance results. All performance includes realized and unrealized investments, unrealized investments are subject to change and may be materially lower when realized.
- **Target Returns:** The targeted return figures presented above are provided for informational purposes only. These targets are based on management's estimates and assumptions regarding the performance of the types of secondaries that PCO III will invest in. The targets were derived by conducting an analysis of the return characteristics for all secondary & co-investment transactions closed into since 2018. The analysis was based on performance figures as of September 30, 2022, and assessed lower, mid & upper percentile performance as well as equal-weighted average and median return figures. Targeted net returns demonstrated are inclusive of anticipated Pantheon fees and carried interest, which is as follows: Management fee: An annual management fee of 1.25% on invested capital during the investment period and then NAV. Performance fee: Pantheon receives 10% of all distributions once all contributed capital commitments have been returned to investors and Pantheon has delivered 8% p.a. preferred return on all unreturned capital. We do not expect any significant spread between gross and net returns, as the dilution in performance from the fund's fees and expenses as well as carried interest would be offset by the following: the use of fund level recycling, enabling us to over-commit the fund by at least 20%, with the additional commitments funded via recycling of distributions. This has historically served to increase the multiple on capital drawn and to reduce the fee drag on the performance of our funds. Please be advised that the targets shown above are subject to change at any time and are current as of the date of this presentation only. Targets are objectives and should not be construed as providing any assurance or guarantee as to the results that may be realized in the future from investments in any asset or asset class described herein. There is no guarantee that the Fund will achieve the targets presented above. Past performance is not indicative of future results. Future returns are not guaranteed, and a loss of principal may occur. This is not a recommendation to invest in a Pantheon product or service. This material does not constitute an offer and Information herein liable to be modified or withdrawn. This material is intended for indicative and exploratory purposes only. Please note that PCO III is not currently in existence.
- **Underwritten IRR:** Underwritten net IRR is a mixture of contracted yield and embedded value at time of investment; this includes current pay, payment-in-kind (PIK) and value uplift.

# Pantheon Presenters

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**Hart Orenstein, Principal (joined in 2022, 5 years of private markets experience)**

Hart is a Principal in Pantheon's Private Credit team. Prior to joining Pantheon, Hart was an Executive Director at Morgan Stanley Private Credit, originating and transacting on first and second lien debt, first-out / last-out, unitranche and equity co-investment opportunities. He previously served as a credit investment analyst at UBS O'Connor, a multi-strategy hedge fund manager, having started his finance career at JPMorgan, where he worked both in the Credit Trading Group covering special situation high yield bonds and leveraged loans as well as in the Syndicated and Leveraged Finance group focusing on the technology, media and telecom industries. Hart holds a bachelor's degree in Engineering from Queen's University in Canada and received his MBA from the Ross School of Business at the University of Michigan. He is based in New York.

[hart.orenstein@pantheon.com](mailto:hart.orenstein@pantheon.com)



**Iain Jones, Managing Director (joined 2012, 13 years of private markets experience)**

Iain is a Managing Director and Head of U.S. Institutional Investor Relations focusing on existing relationships and business development in North America. Previously, Iain provided client service and fundraising support across the UK market, as well Asia and Australia, from Pantheon's London office. Prior to joining Pantheon, he worked for Preqin in the Infrastructure research team in London. He has a BSc in economics from the University of Bristol. Iain is based in San Francisco.

[iain.jones@pantheon.com](mailto:iain.jones@pantheon.com)

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**Section 2:** Market Overview

**Section 3:** Existing VCERA Pantheon Private Credit Portfolio

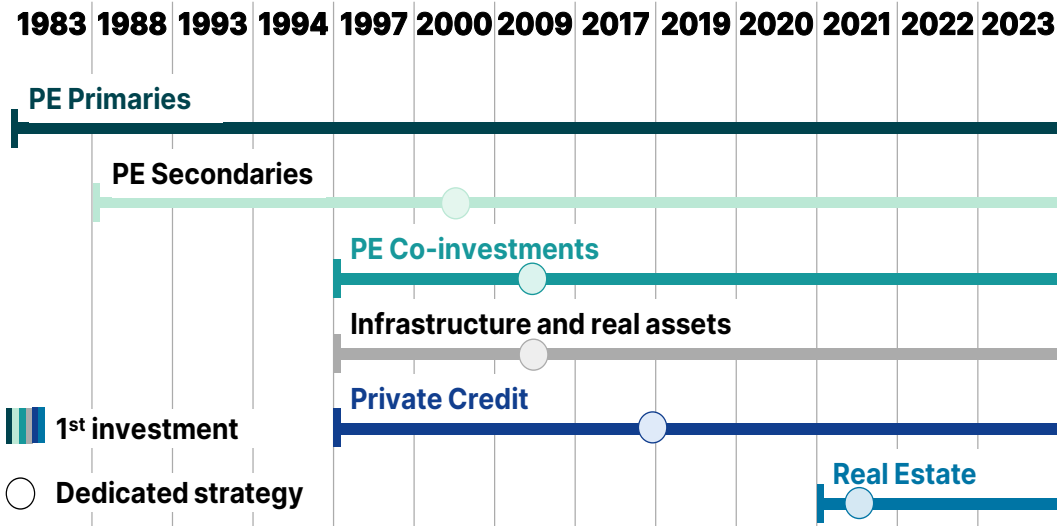
**Section 4:** Pantheon Credit Opportunities III

**Section 5:** Appendix

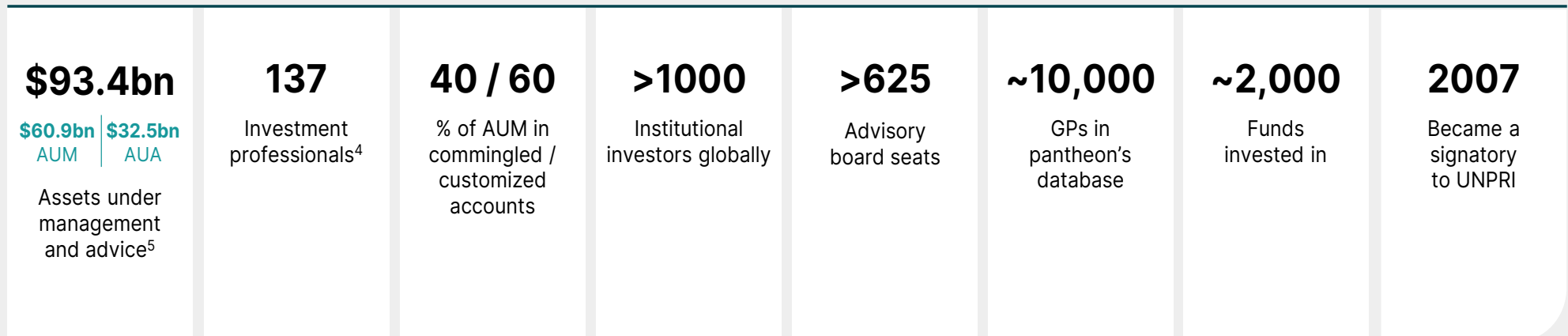
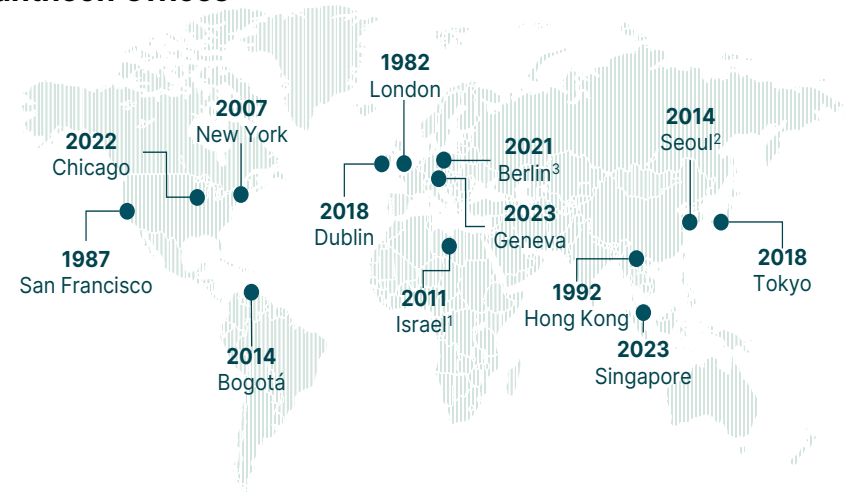
# PANTHEON PRIVATE CREDIT



# Investing in private markets for 40+ years



## Pantheon Offices



<sup>1</sup>A location from which executives of the Pantheon Group perform client service activities but does not imply an office. <sup>2</sup>A location from which executives of the Pantheon Group perform client service activities. <sup>3</sup>Pantheon has had a presence in Berlin since 2011 and opened an office in 2021. <sup>4</sup>As of September 30, 2023. Please note this includes 34 professionals who support the deal teams through investment structuring, portfolio strategy, research and treasury. <sup>5</sup>As of March 31, 2023.

# Pantheon credit secondaries

Building on Pantheon's compelling secondary credit strategy

## Proven track record

**\$3bn+** committed to **75** secondaries over last 5 years at w.a. 12% discount<sup>1</sup>

**\$4.8bn+** closed from investors<sup>2</sup>  
**100+ investors** across **15** funds & SMAs<sup>2</sup>

**1.21x** net TVPI / **16.5%** net IRR<sup>3</sup>  
Portfolio of **~4,000** companies<sup>4</sup>

## Pantheon Credit

**\$6.7bn AUM**<sup>4</sup>

## Differentiators<sup>5</sup>

### Suite of GP relationships

Partnered with 70 private credit GPs since 2018

### Scaled, global investor

Ability to commit \$10-400m+ to U.S. and European transactions

### Specialist first mover

Co-led and completed largest credit secondary deal ever

<sup>1</sup>As of October 2023, inclusive of all credit secondary investments closed 2018. In addition, Pantheon has committed \$341m to 26 co-investments and \$372m to 15 primaries. Weighted average effective discount reflective of all secondary deals completed between 2018 – 2023. See Glossary of Terms for full definition. <sup>2</sup>Includes all closed and hard circled capital from private credit-focused commingled funds and SMAs closed since 2018. There is no guarantee hard circled capital will close. <sup>3</sup>As of June 30, 2023, hypothetical performance inclusive of all credit investments completed from Pantheon co-mingled funds. See slide titled "Pantheon's Private Credit Secondary Performance" for further information on track record. Notional net performance representative of PSD III USD fees and carry. <sup>4</sup>Number of companies is representative of underlying exposures at Pantheon's entry. As of September 2023. <sup>5</sup>Pantheon opinion. Please see slide titled "Pantheon Credit Secondary Differentiators" for further detail. <sup>6</sup>Pantheon opinion based on press and intermediary reporting.

# Pantheon's Global Private Credit team

Experience in direct private credit, special situations, secondary solutions

## Global Credit Committee – average of 15 years' private credit experience



**Rakesh Jain**  
Partner, Global Head of Private Credit  
New York



**Dennis McCrary<sup>1</sup>**  
Partner  
Chicago



**Jeff Miller<sup>1</sup>**  
Partner  
San Francisco



**Francesco di Valmarana**  
Partner  
London



**Toni Vainio**  
Partner  
London

## Focused private credit investment professionals



**Bernard Galea**  
Principal  
London



**Hart Orenstein**  
Principal  
New York



**Alexander Midera**  
Vice President  
New York



**Heloise O'Malley**  
Vice President  
New York



**Christopher Kelly**  
Senior Associate  
London



**Priya Radia**  
Senior Associate  
London



**Jillian Hostetler**  
Associate  
New York



**Rafe Sulke<sup>2</sup>**  
Associate  
London



**Niyati Tiwari**  
Associate  
London



**Eric Zhou**  
Associate  
New York

## Product specialists



**Justin Mallis<sup>1</sup>**  
Managing Director  
London



**Sinead McQuaid**  
Vice President,  
Fund Finance  
Dublin



**Jesse Koppi**  
Associate, Product  
Strategy & Fundraising  
London



**Senthuran Pillay**  
Associate  
London

## Execution specialists<sup>1</sup>



**Eimear Palmer**  
Partner, Head of ESG  
London



**Matt Lowman**  
Managing Director  
London



**Chelsea Bokor**  
Vice President,  
Investment Tax  
London



**Isobel Hobbs**  
Senior Analyst,  
Investment Structuring  
London

**51**  
Additional  
investment team  
members

**34**  
Investment  
Structuring team

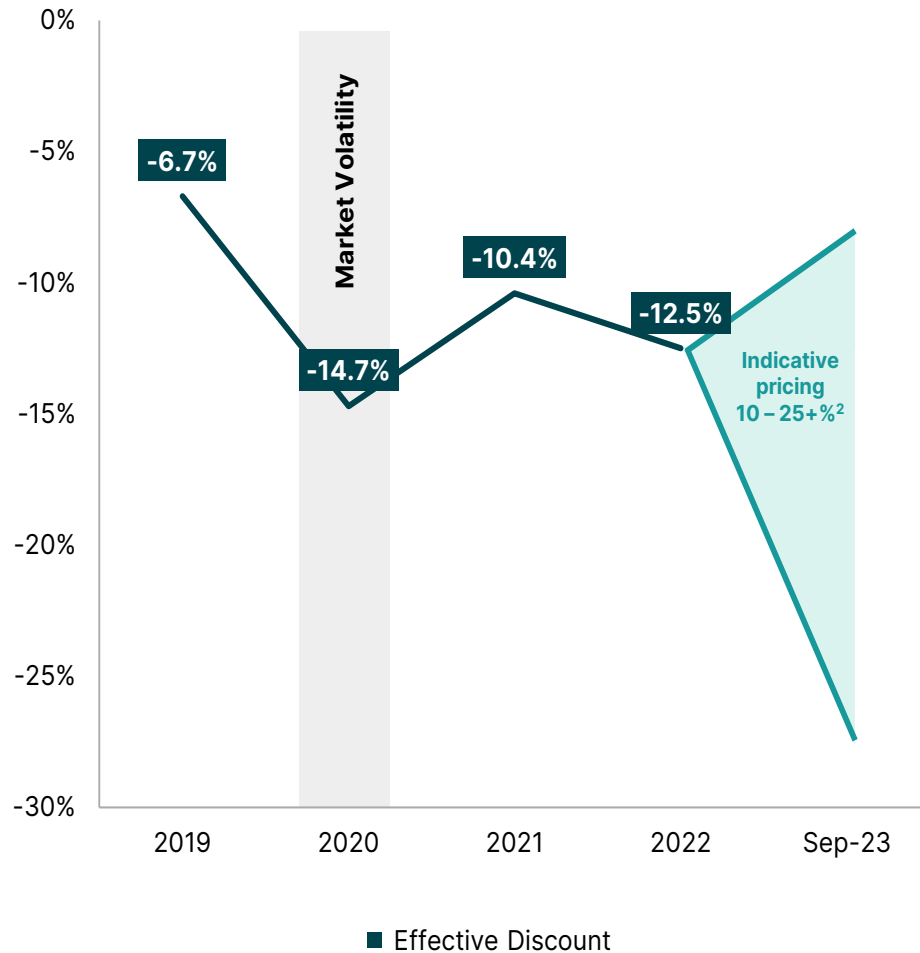
As of September 30, 2023. <sup>1</sup>Dedicates part of time to another investment strategy other than specified. <sup>2</sup>Dedicated Private Credit Product Specialist located within the investment team.



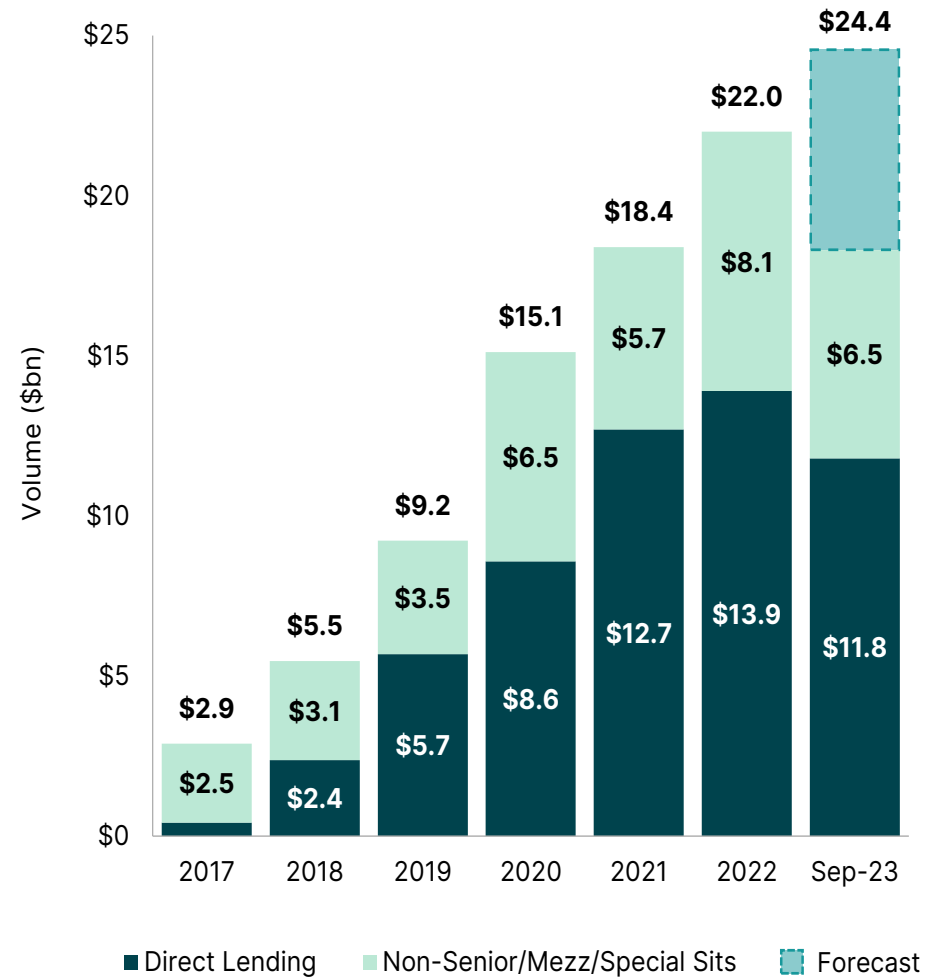
# Why invest in Private credit secondaries now

Consistent, growing deal flow with attractive pricing dynamics

| Pantheon's historic private credit pricing & outlook<sup>1</sup>



| Pantheon's credit secondary deal flow



<sup>1</sup>Pantheon internal data, as of September 2023. See Glossary of Terms for full definition. There is no guarantee these trends will continue. <sup>2</sup>Pricing based off discounts achieved in Q1-Q3 2023 closed transactions.



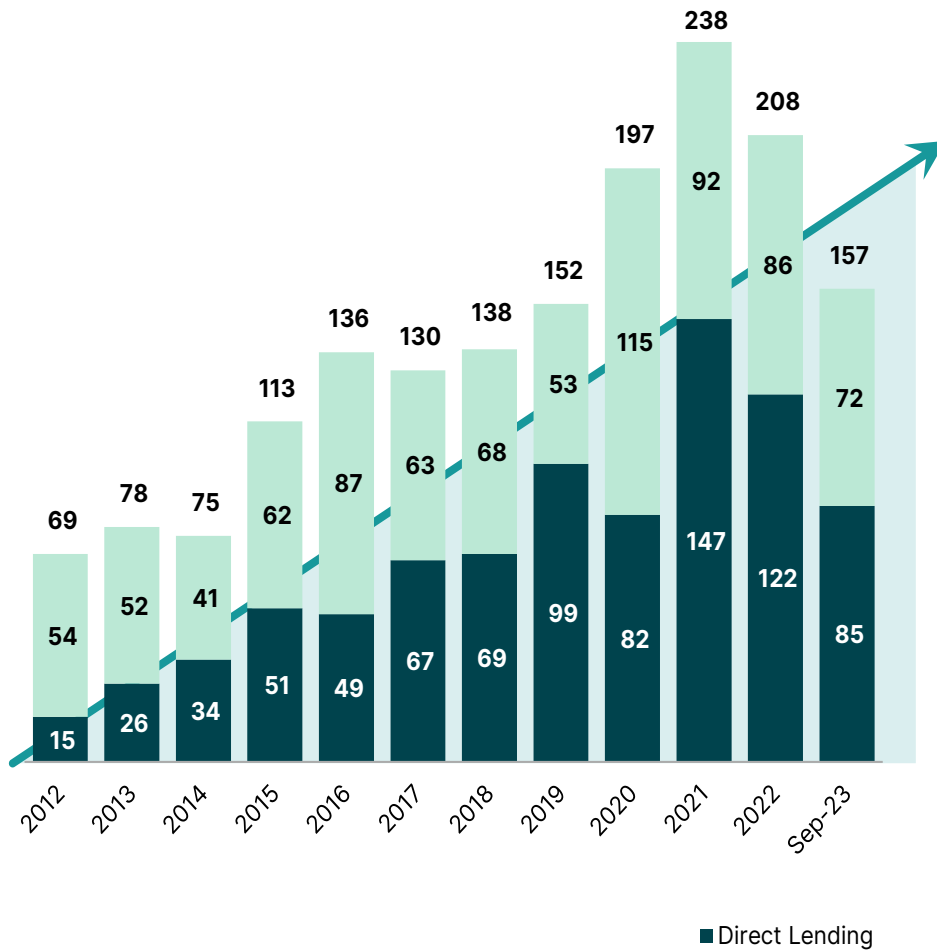
# MARKET OVERVIEW



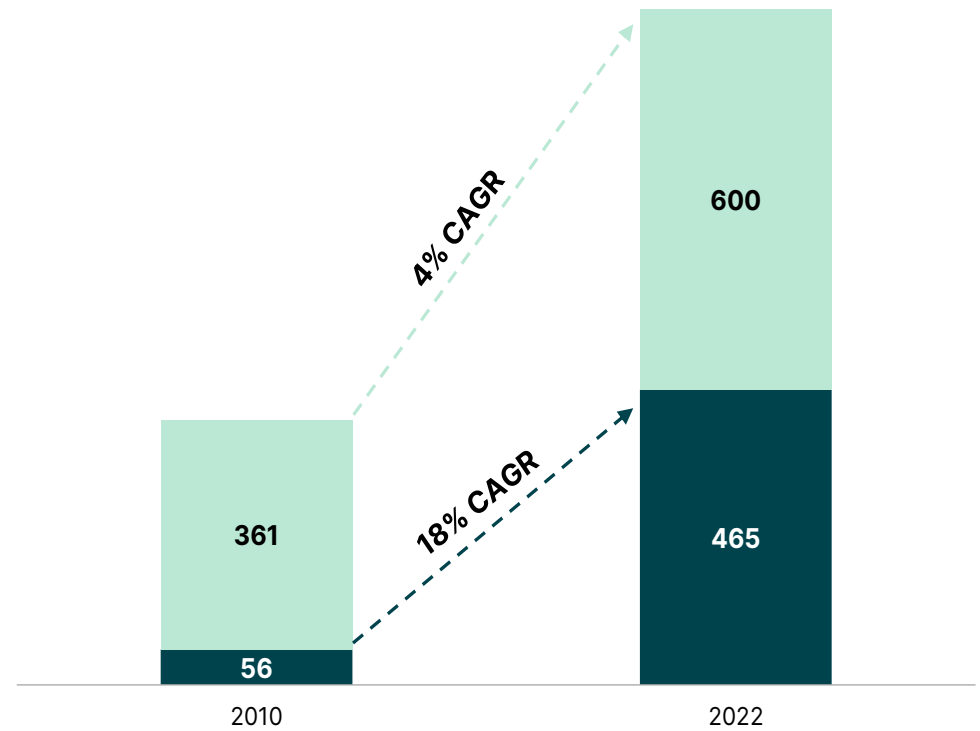
# Capital formation and GP universe continues to grow

Strategy commoditization and specialization

**Private credit capital raised**  
2012 – September 2023<sup>1</sup>



**Growth in # of active private credit managers**  
2010 vs 2022 compounded annual growth rate<sup>2</sup>



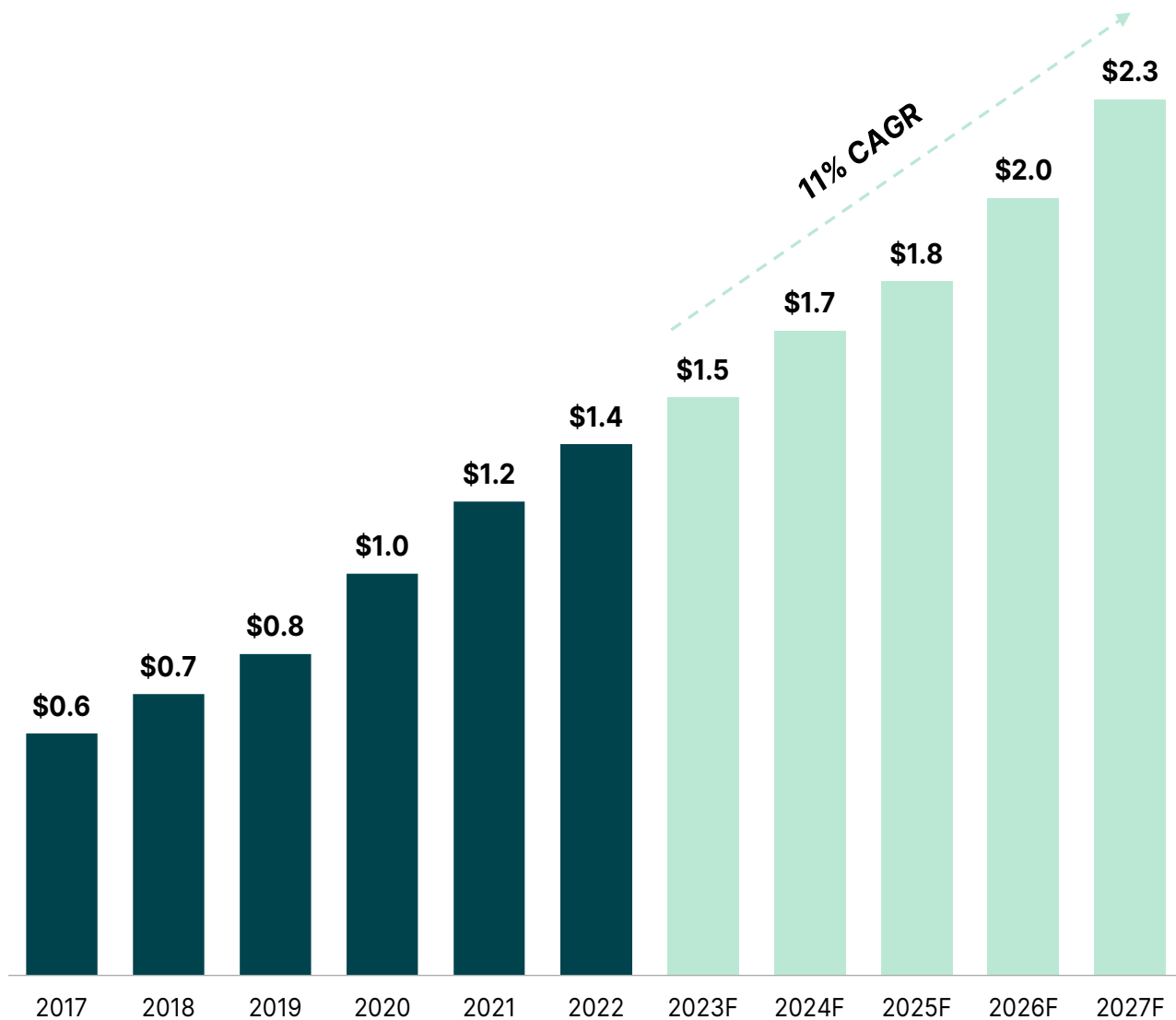
<sup>1</sup>Preqin data, includes capital raised from January 1, 2012, to September 30, 2023. <sup>2</sup>Source: Preqin, September 2023. Pantheon opinion. Note: There is no guarantee that these trends will continue.



# Market Growth Provides a Significant Opportunity

AUM up >100% since 2017

| Private credit AUM (\$tn)<sup>1</sup> 2017 – 2027 Forecast



Unprecedented market opportunity<sup>2</sup>



Record volume



Elevated LP liquidity needs



Broad acceptance



Limited dry powder

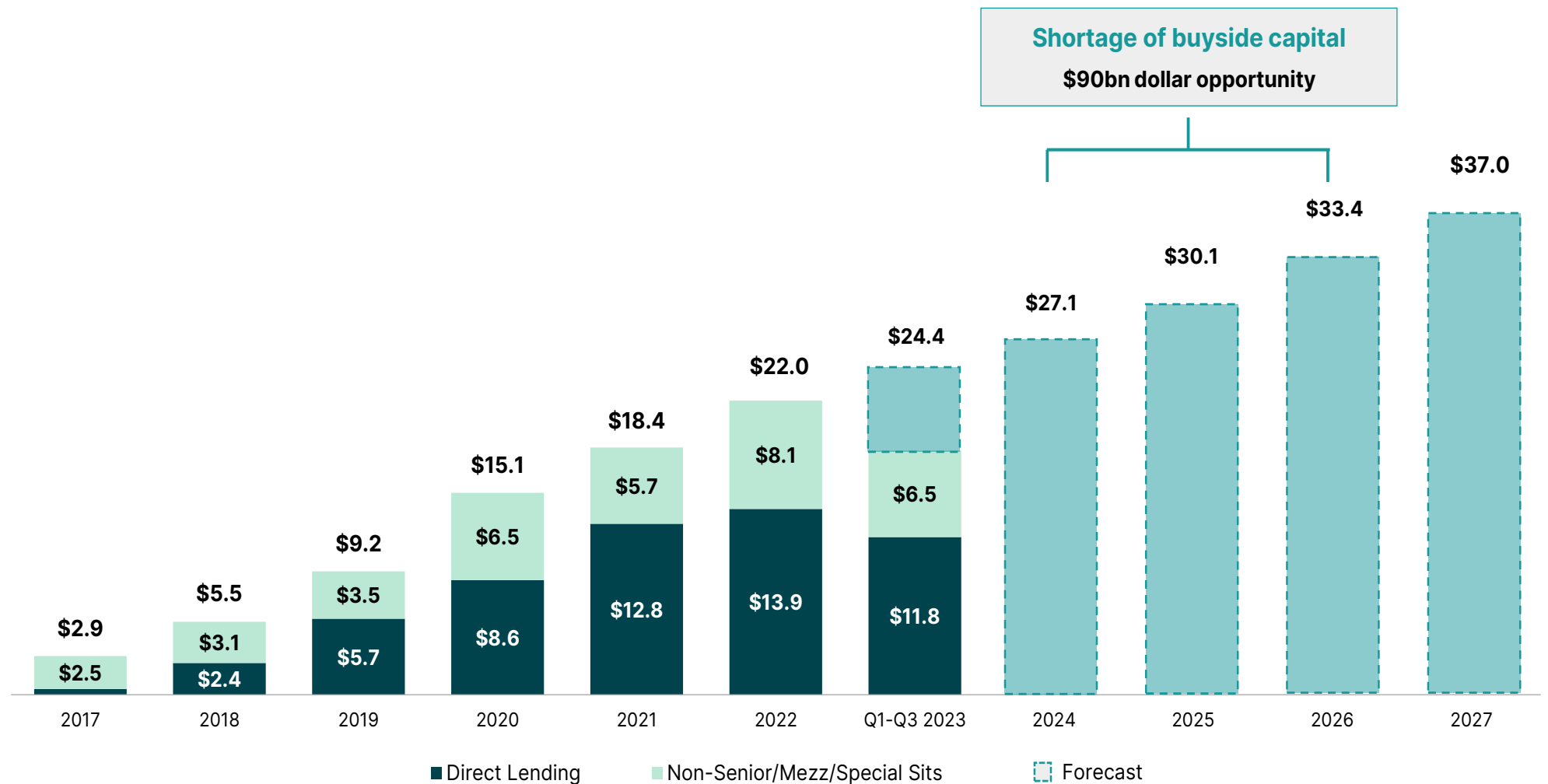
<sup>1</sup>Preqin, January 2023. <sup>2</sup>Pantheon opinion based on market data from intermediaries, GPs and LPs and internal deal flow.



# Pantheon Private Credit Secondary Deal Flow Increasing

## Opportunity set has continued to grow year-on-year

Private credit deal flow by fund type (\$bn, 2017–Q3 2023 actual, Q4 2023–2027 forecast)  
Volume (\$bn)



Source: Pantheon internal data. Total deal exposure inclusive of NAV and unfunded as of September 2023. Forecasted deal flow based on Preqin Global Private Debt Report 2023 AUM growth forecast of 11%. There is no guarantee that these trends will continue or that forecasts will come to fruition.

# EXISTING VCERA PROGRAM

## PANTHEON CREDIT OPPORTUNITIES II



# VCERA: PANTHEON PRIVATE CREDIT SECONDARIES

As of June 30, 2023



**VCERA made a \$50mn commitment to Pantheon Credit Opportunities II (“PCO II”), adding private credit secondaries to the existing private equity secondaries partnership.**

Program	Vintage	Commitments (USD mn)	Committed to Investments (USD mn)	Contributions since inception (USD mn)	Distributions since inception (USD mn)	NAV (USD mn)	Net Multiple	Net IRR
Pantheon Credit Opportunities II	2020	50.0	36.0	24.4	2.6	30.4	1.35x	32.1%

**PCO II is a top-quartile fund<sup>1</sup> when benchmarked against the private credit universe (see pg. 17).**

<sup>1</sup>PCO II performance data as of June 30, 2023. Primary peer set data sourced from Preqin as of October 2023. Distressed and Special Situations Peer Set includes 47 2020-vintage distressed and special situations funds that have reported information as at quarter end. Past performance is not indicative of future results. Future results are not guaranteed, and loss of principal may occur. A full, detailed track record file is available upon request.

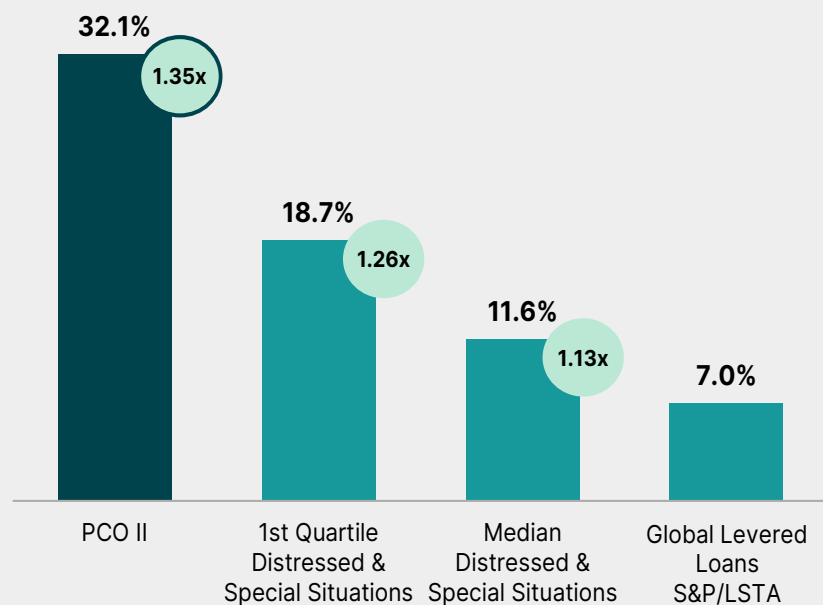
# Pantheon Credit Opportunities II overview

As of October 2023

Key Information	Total Program Size <sup>1</sup>	Vintage	Committed <sup>2</sup>	Weighted average duration <sup>3</sup>	Net annual Cash Yield <sup>4</sup>	Effective Entry Discount <sup>5</sup>
	\$589m	2020	87%	3.7 years	10.1%	21%

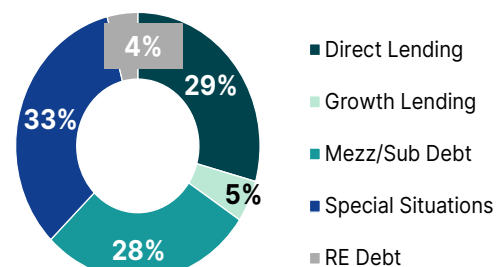
## PCO II net IRR as of June 30, 2023, vs. Distressed and Special Situation Funds<sup>6</sup>

June 2023 (Net IRR / TVPI)

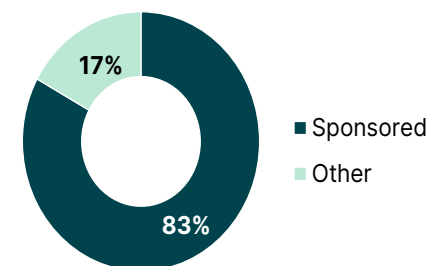


## PCO II portfolio diversification<sup>7</sup>

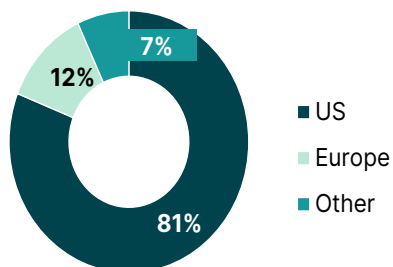
### Sub Strategy<sup>5</sup>



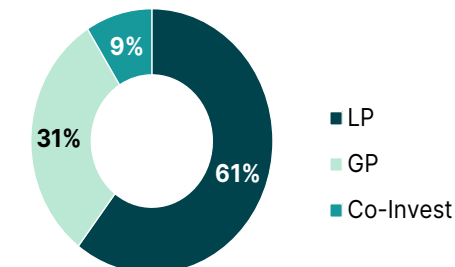
### Sponsor Profile<sup>6</sup>



### Geography<sup>5</sup>



### Deal Type<sup>7</sup>



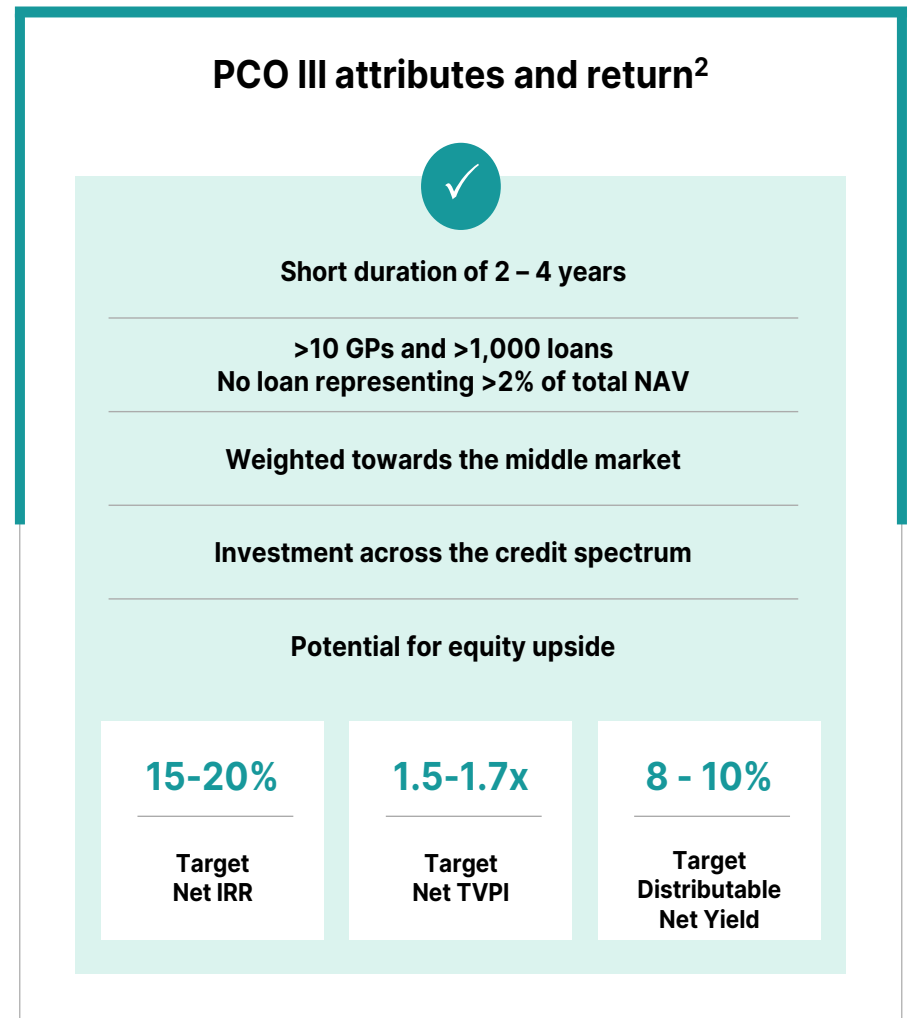
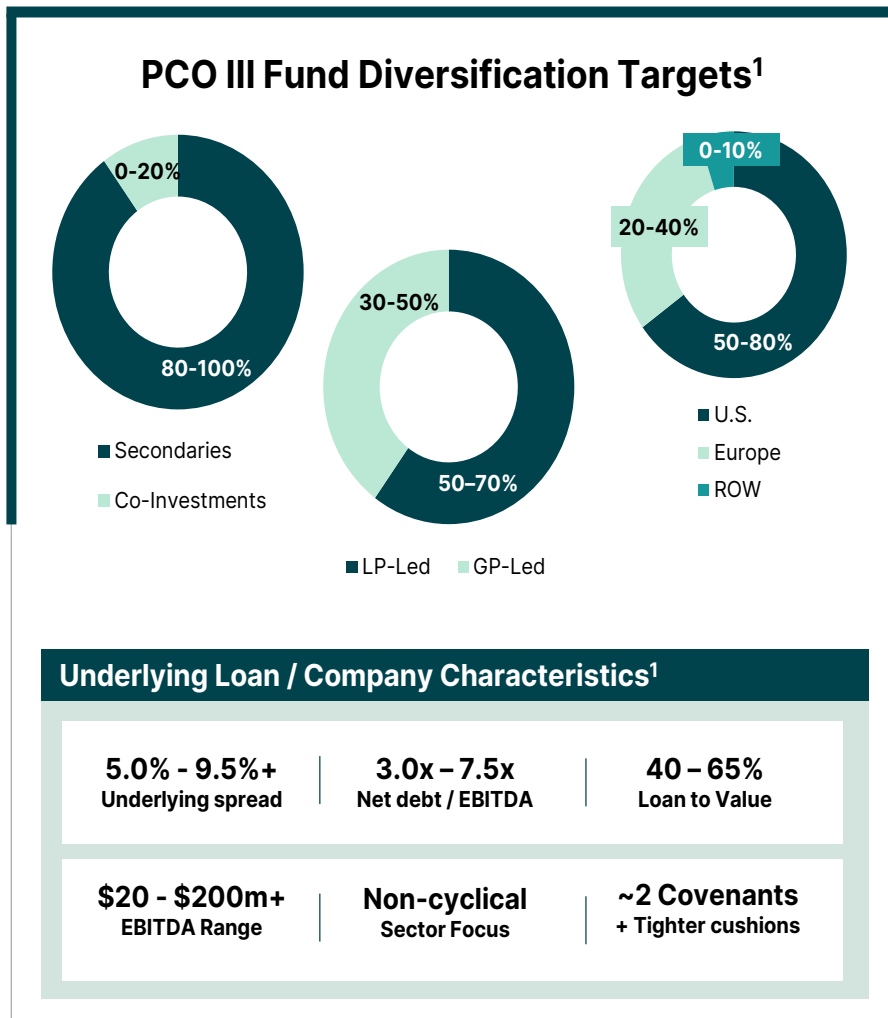
<sup>1</sup>Program size includes \$389m into PCO II and \$200m into an overflow account investing alongside PCO II. <sup>2</sup>As of September 2023, includes all deals closed. <sup>3</sup>Weighted average duration at entry based off commitments, as of September 2023. <sup>4</sup>LTM net annualized cash yield based off NAV, as of September 30, 2023. <sup>5</sup>Metrics weighted by NAV inclusive of all deals closed. <sup>6</sup>PCO II performance data as of June 30, 2023. Primary peer set data sourced from Preqin as of October 2023. Distressed and Special Situations Peer Set includes 47 2020-vintage distressed and special situations funds that have reported information as at quarter end. Past performance is not indicative of future results. Future results are not guaranteed, and loss of principal may occur. A full, detailed track record file is available upon request. <sup>7</sup>All portfolio information weighted by PCO II commitment, accurate as of September 2023.



# PANTHEON CREDIT OPPORTUNITIES III

# Illustrative PCO III Portfolio

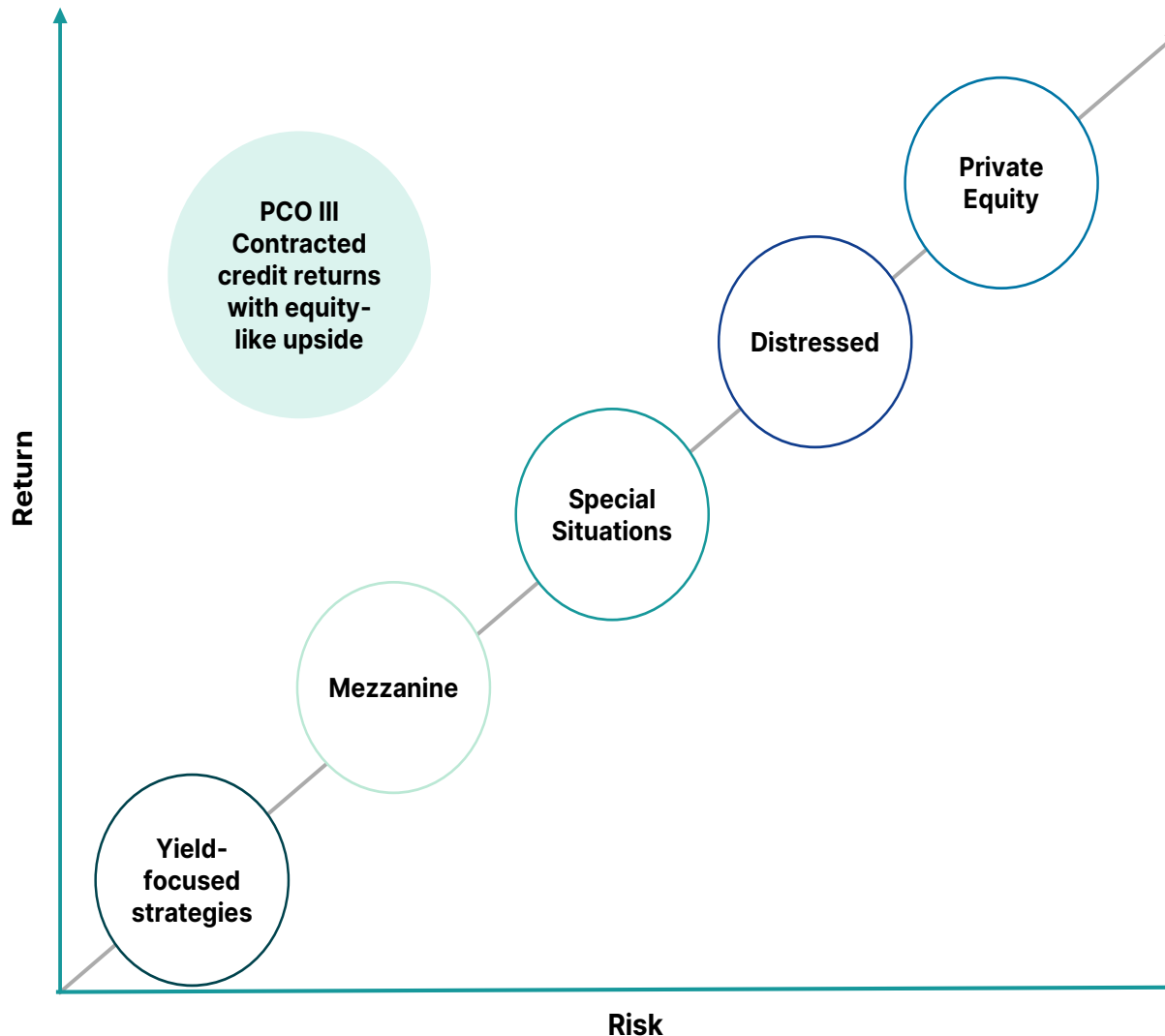
## Targeted portfolio construction



<sup>1</sup>Targets allocations are indicative and are subject to change. <sup>2</sup>Please refer to the Glossary of Terms for full disclosures with regards to target returns. There is no guarantee this investment thesis will come to fruition. There is no guarantee this fund will be launched; this information is for indicative purposes only and there is currently no fund in existence.

# PCO III's Private Credit Risk / Return Positioning

## Seeking attractive absolute returns with downside mitigation



### PCO III's compelling proposition<sup>1</sup>

- ✓ Increased diversification vs. a primary fund
- ✓ Superior visibility into underlying credit assets
- ✓ Senior/secured provides current yield and mitigates downside exposure
- ✓ Discounted purchase prices provide upside convexity
- ✓ Performing credit with shorter durations

<sup>1</sup>Pantheon opinion. There is no guarantee the investment thesis will come to fruition. Returns illustrated above reflect i) Pantheon's perspective on the inherent risk / return profile of each of the asset classes and ii) Pantheon's observations of historical returns. Past performance is not indicative of future results. Future performance is not guaranteed, and loss of principal may occur. Pantheon makes no representation or forecast about the performance, profitability or success of these asset classes. Note: There is no guarantee that these trends will continue. There is no guarantee this fund will be launched, this information is for indicative purposes only and there is currently no fund in existence.

# PCO III Strategy Terms



<b>Currency</b>	USD
<b>Feeders</b>	Luxembourg & Delaware
<b>Term</b>	<ul style="list-style-type: none"><li>• <b>Strategy Life:</b> Eight years from expected final investor closing, with the ability to extend up to two years</li><li>• <b>Investment Period:</b> Maximum of three years following final close</li></ul>
<b>Recycling</b>	<b>Recycling Provisions:</b> Principal recycled during investment period
<b>VCERA Management fee</b>	<b>1.025%</b>
<b>Key dates</b>	<b>Launch date:</b> Q4 2023 <b>Target first close:</b> Q4 2023
<b>Performance fee</b>	<ul style="list-style-type: none"><li>• 10% carried interest over a 8% hurdle. Carried interest subject to return of investor contributions plus the hurdle, 100% GP Catch-up</li></ul>
<b>Pantheon commitment</b>	At least 1%

These terms do not constitute marketing for the purposes of the UK implementation of the AIFMD. This is not a recommendation to invest in a Pantheon product or service. This summary of Key Terms is qualified in its entirety by the more detailed provisions of the Partnership Agreement for each fund, and the terms hereof are subject to modification or withdrawal. Pantheon's private debt program is denominated in US\$ & EUR€ and, accordingly, costs may increase or decrease relative to the currencies of the jurisdictions in which investors are located as a result of currency and exchange rate fluctuation.

# Disclosure 1 – case studies

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A list of all investments is available upon request.

# Important disclosure (1/4)

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## Important disclosure (2/4)

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### Important information regarding: Opening a new “Account”

To help the government fight the funding of terrorism and money laundering activities, federal law requires all financial institutions to obtain, verify, and record information that identifies each customer who opens an account. What this means for you: When you open an account, Pantheon may ask for documents or information related to your principal place of business, local office or other physical location; taxpayer identification number; and other documents demonstrating your lawful existence such as certified articles of incorporation, a government-issued business license, a partnership agreement, or a trust instrument, and other identifying documents.

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### Potential investment program risks

- Pantheon's investment strategies relate to investments in private funds investing in alternative investments such as private equity, infrastructure and real assets, or private credit, or direct real estate, or other direct investments in such alternative investments. In general, such alternative investments involve a high degree of risk, including potential loss of principal invested. These investments can be highly illiquid, charge higher fees than other investments, and typically do not grow at an even rate of return and may decline in value. These investments are not subject to the same regulatory requirements as registered investment products.
- An investment in a fund investing in alternative investments involves a high degree of risk. Such investments are speculative, subject to high return volatility and will be illiquid on a long-term basis. Investors may lose their entire investment.

## Important disclosure (3/4)

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- Managers of funds investing in alternative assets typically take several years to invest a fund's capital. Investors will not realize the full potential benefits of the investment in the near term, and there will likely be little or no near-term cash flow distributed by the fund during the commitment period. Interests may not be transferred, assigned or otherwise disposed of without the prior written consent of the manager or general partner.
  - Funds investing in alternative assets are subject to significant fees and expenses, typically, management fees and a 20% carried interest in the net profits generated by the fund and paid to the general partner, manager or an affiliate thereof. Investments in such funds are affected by complex tax considerations.
  - Funds investing in alternative assets may make a limited number of investments. These investments involve a high degree of risk. In addition, funds may make minority investments where the fund may not be able to protect its investment or control, or influence effectively the business or affairs of the underlying investment. The performance of a fund may be substantially adversely affected by a single investment. Private fund investments are less transparent than public investments and private fund investors are afforded fewer regulatory protections than investors in registered funds or registered public securities.
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### Description of commonly used indices

This list may not represent all indices used in this material.

**MSCI World Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The MSCI World Index consists of the following 23 developed market country indexes: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

**S&P 500 Index** is a widely recognized gauge of the US equities market. This index is an unmanaged capitalization-weighted index consisting of 500 of the largest capitalization US common stocks. The returns of the S&P 500 include the reinvestment of dividends.

**MSCI Europe Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe. The MSCI Europe Index consists of the following 15 developed market country indexes: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**MSCI AC Asia Pacific Index** captures large and mid-cap representation across 5 Developed Markets countries and 8 Emerging Markets countries in the Asia Pacific region. With over 1,500 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. Developed Markets countries in the index include: Australia, Hong Kong, Japan, New Zealand, and Singapore. Emerging Markets countries include: China, India, Indonesia, Korea, Malaysia, the Philippines, Taiwan, and Thailand.



## Important disclosure (4/4)

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**MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. The MSCI Emerging Markets Index consists of the following 25 emerging market country indexes: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates.

**FTSE Europe Index** is one of a range of indices designed to help investors benchmark their European investments. The index comprises Large and Mid-cap stocks providing coverage of the Developed markets in Europe. The index is derived from the FTSE Global Equity Index Series (GEIS), which covers 98% of the world's investable market capitalization.

**MSCI USA Index** is designed to measure the performance of the large and mid-cap segments of the US market. With over 600 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US.

**FTSE Asia-Pacific Index** is part of a range of indices designed to help Asia Pacific investors to benchmark their investments. The index comprises Large (40%) and Mid (60%) Cap stocks providing coverage of 14 markets. The index is derived from the FTSE Global Equity Index Series (GEIS), which covers 98% of the world's investable market capitalization.

**FTSE All World Index** is a market-capitalization weighted index representing the performance of the large and mid-cap stocks from the FTSE Global Equity Index Series and covers 90-95% of the investable market capitalization. The index covers Developed and Emerging markets and is suitable as the basis for investment products, such as funds, derivatives, and exchange-traded funds.

**Cambridge Associates Private Investment Benchmarks** are based on data compiled from over 8,000 global private market funds (including buyout, growth equity, private equity energy, subordinated capital funds and venture capital), including fully liquidated partnerships, formed between 1988 and 2022, including fully liquidated partnerships. The Cambridge Associates Private Investment Benchmarks have limitations (some of which are typical of other widely used indices) and cannot be used to predict performance of the Fund. These limitations include survivorship bias (the returns of the index may not be representative of all private market funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all private market funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many funds do not report to indices, and the index may omit funds, the inclusion of which might significantly affect the performance shown).

**Cambridge Associates (Infrastructure)** is comprised of data extracted in fund currency from Private Equity and Venture Capital index based on funds classified as Infrastructure by Cambridge Associates. Cambridge Associates defines Infrastructure as funds that primarily invest in companies and assets that provide an essential service that contributes to the economic or social productivity of an organization, community, or society at large, with real assets in the water, transportation, energy, communication, or social sector. Investments must also have one or more of the following structural features: a monopolistic or oligopolistic market position with high barriers to entry; a low elasticity of demand due to their essential functions; stable, predictable, and long-term revenue contracts; or inflation protection through inflation adjustment mechanisms in underlying contracts. These indexes have limitations (some of which are typical of other widely used indices) and cannot be used to predict performance of the fund. These limitations include survivorship bias (the returns of the index may not be representative of all private equity funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all private equity are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many funds do not report to indices, and the index may omit funds, the inclusion of which might significantly affect the performance shown).

**Preqin's** database includes performance information on over 7,000 active Private Equity funds.

Any reference to the title of "Partner" in these materials refers to such person's capacity as a partner of Pantheon Ventures (UK) LLP. In addition, any reference to the title of "Partner" for persons located in the United States refers to such person's capacity as a limited partner of Pantheon Ventures (US) LP.

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# THIRD QUARTER 2023 PERFORMANCE REPORT

VENTURA COUNTY EMPLOYEES'  
RETIREMENT ASSOCIATION

SEPTEMBER 30, 2023

Allan Martin, Partner  
Rose Dean, CFA, Principal  
Leah Tongco, Consulting Analyst





# MARKET ENVIRONMENT



# ECONOMIC ENVIRONMENT

- **Q3 Real GDP (advance estimate) increased at an annual rate of 4.9%.**
  - Retail sales ended August at +2.9% on a YoY basis. In the same period last year the YoY growth rate was +8.8%.
  - Corporate profits as a percent of GDP ended March 2023 at 10.7%, down from 12.3% in the same period last year and remain elevated relative to historical levels.
  - The inventory-to-sales ratio ended July at 1.37 up from 1.36 one year ago. Levels have remained relatively constant since early 2010 with a spike to 1.7 in April 2020.
  - The U.S. trade deficit contracted ended August as exports increased. The trade deficit is the lowest since September 2020.
- **The unemployment rate was 3.8% ended Q3, up from 3.5% in Q2; U-6, a broader measure of unemployment, increased to 7.0% in Q3 from 6.9% in Q2.**
  - The labor force participation rate ended Q3 at 62.8%, up from 62.6% in Q2. Labor force participation declined to 60.2% in April 2020 and is at levels below the 10 year pre-pandemic average of 63.0%.
- **The Case-Shiller Home Price Index (ended July) increased to 310.2 up from 297.3 in Q1 and remains at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI ended Q3 at 3.69 up from 3.09% in Q2. In the same period last year, it was 8.21%; Capacity Utilization increased to 79.7 from 78.9 in Q2.**
- **Fed Funds rate increased in Q3 by 0.25% to a targeted range of 5.25%-to-5.50%. The 10-year Treasury Yield (constant maturity) finished Q3 at 4.38% up from 3.75% in Q2.**
- **The Fed continues scaling back asset purchases. The Fed continues to reduce the size of its balance sheet after a period of rapid growth post-pandemic.**
- **S&P valuations (using Shiller CAPE ratio) decreased in Q3 to 29.31x from 31.08x in Q2 and are lower than the 10-year average of 29.46x.**
  - Cyclically adjusted Shiller PE ratio remains above the long-term average of 17.05x.

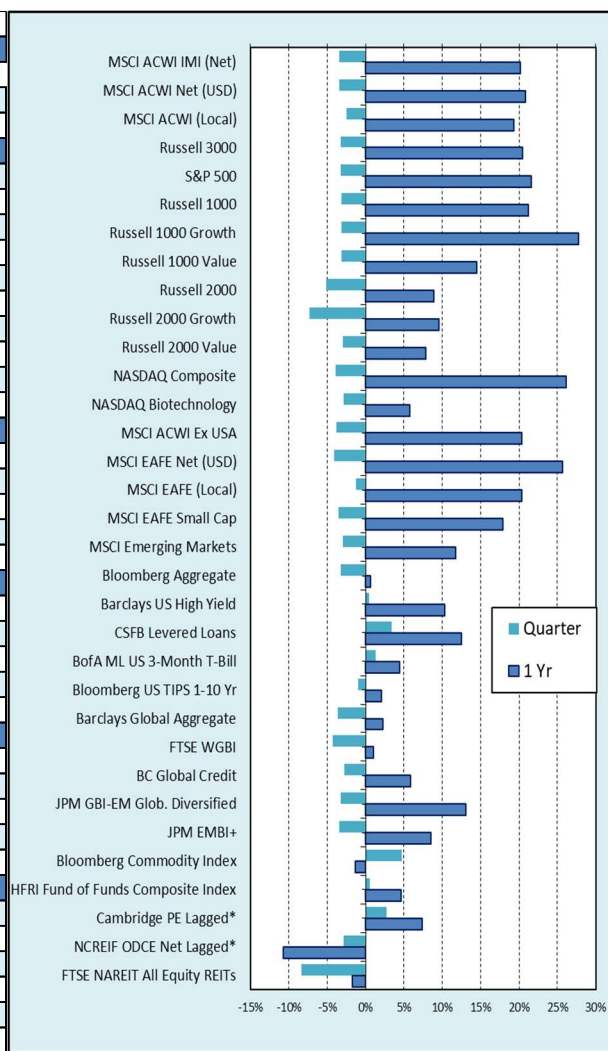




# MARKET ENVIRONMENT

## Q3 2023 OVERVIEW

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
<b>World Equity Benchmarks</b>						
MSCI ACWI IMI (Net)	World with Small Cap	-3.40%	20.16%	6.88%	6.09%	7.38%
MSCI ACWI Net (USD)	World W/O Small Cap	-3.40%	20.80%	6.89%	6.46%	7.56%
MSCI ACWI (Local)	World (Local Currency)	-2.50%	19.36%	8.41%	7.33%	8.89%
<b>Domestic Equity Benchmarks</b>						
Russell 3000	Domestic All Cap	-3.25%	20.46%	9.38%	9.14%	11.28%
S&P 500	Large Core	-3.27%	21.62%	10.15%	9.92%	11.91%
Russell 1000	Large Core	-3.15%	21.19%	9.53%	9.63%	11.63%
Russell 1000 Growth	Large Growth	-3.13%	27.72%	7.97%	12.42%	14.48%
Russell 1000 Value	Large Value	-3.17%	14.44%	11.05%	6.23%	8.45%
Russell 2000	Small Core	-5.13%	8.93%	7.16%	2.39%	6.65%
Russell 2000 Growth	Small Growth	-7.32%	9.59%	1.09%	1.55%	6.72%
Russell 2000 Value	Small Value	-2.96%	7.84%	13.32%	2.59%	6.19%
NASDAQ Composite	Large Growth	-3.94%	26.11%	6.60%	11.41%	14.52%
NASDAQ Biotechnology	Biotech	-2.82%	5.78%	-1.68%	1.31%	6.65%
<b>International Equity Benchmarks</b>						
MSCI ACWI Ex USA	World ex-US	-3.77%	20.39%	3.74%	2.58%	3.35%
MSCI EAFE Net (USD)	Int'l Developed	-4.11%	25.65%	5.75%	3.24%	3.82%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	-1.27%	20.32%	10.81%	5.65%	6.75%
MSCI EAFE Small Cap	Small Cap Int'l	-3.51%	17.90%	1.10%	0.76%	4.30%
MSCI Emerging Markets	Emerging Equity	-2.93%	11.70%	-1.73%	0.55%	2.07%
<b>Domestic Fixed Income Benchmarks</b>						
Bloomberg Aggregate	Core Bonds	-3.23%	0.64%	-5.21%	0.10%	1.13%
Barclays US High Yield	High Yield	0.46%	10.28%	1.76%	2.96%	4.24%
CSFB Levered Loans	Bank Loans	3.37%	12.47%	5.91%	4.31%	4.33%
BofA ML US 3-Month T-Bill	Cash	1.31%	4.47%	1.70%	1.72%	1.12%
Bloomberg US TIPS 1-10 Yr	Inflation	-1.00%	2.11%	-0.02%	2.63%	1.78%
<b>Global Fixed Income Benchmarks</b>						
Barclays Global Aggregate	Global Core Bonds	-3.59%	2.24%	-6.93%	-1.62%	-0.44%
FTSE WGBI	World Gov. Bonds	-4.27%	1.04%	-8.72%	-2.57%	-1.19%
BC Global Credit	Global Bonds	-2.81%	5.82%	-5.63%	-0.43%	0.78%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	-3.26%	13.10%	-2.70%	0.00%	-0.84%
JPM EMBI+	Em. Mkt. Bonds	-3.43%	8.47%	-8.82%	-2.98%	0.56%
<b>Alternative Benchmarks</b>						
Bloomberg Commodity Index	Commodities	4.71%	-1.30%	16.23%	6.13%	-0.75%
HFRI Fund of Funds Composite Index	Fund of Hedge Funds	0.51%	4.59%	3.77%	3.38%	3.28%
Cambridge PE Lagged*	Private Equity	2.77%	7.38%	21.36%	15.40%	14.54%
NCREIF ODCE Net Lagged*	Real Estate	-2.88%	-10.73%	7.04%	5.56%	7.77%
FTSE NAREIT All Equity REITs	REIT	-8.33%	-1.71%	2.68%	2.79%	6.17%
CPI + 2%	Inflation/Real Assets	1.70%	5.76%	7.86%	6.13%	4.84%

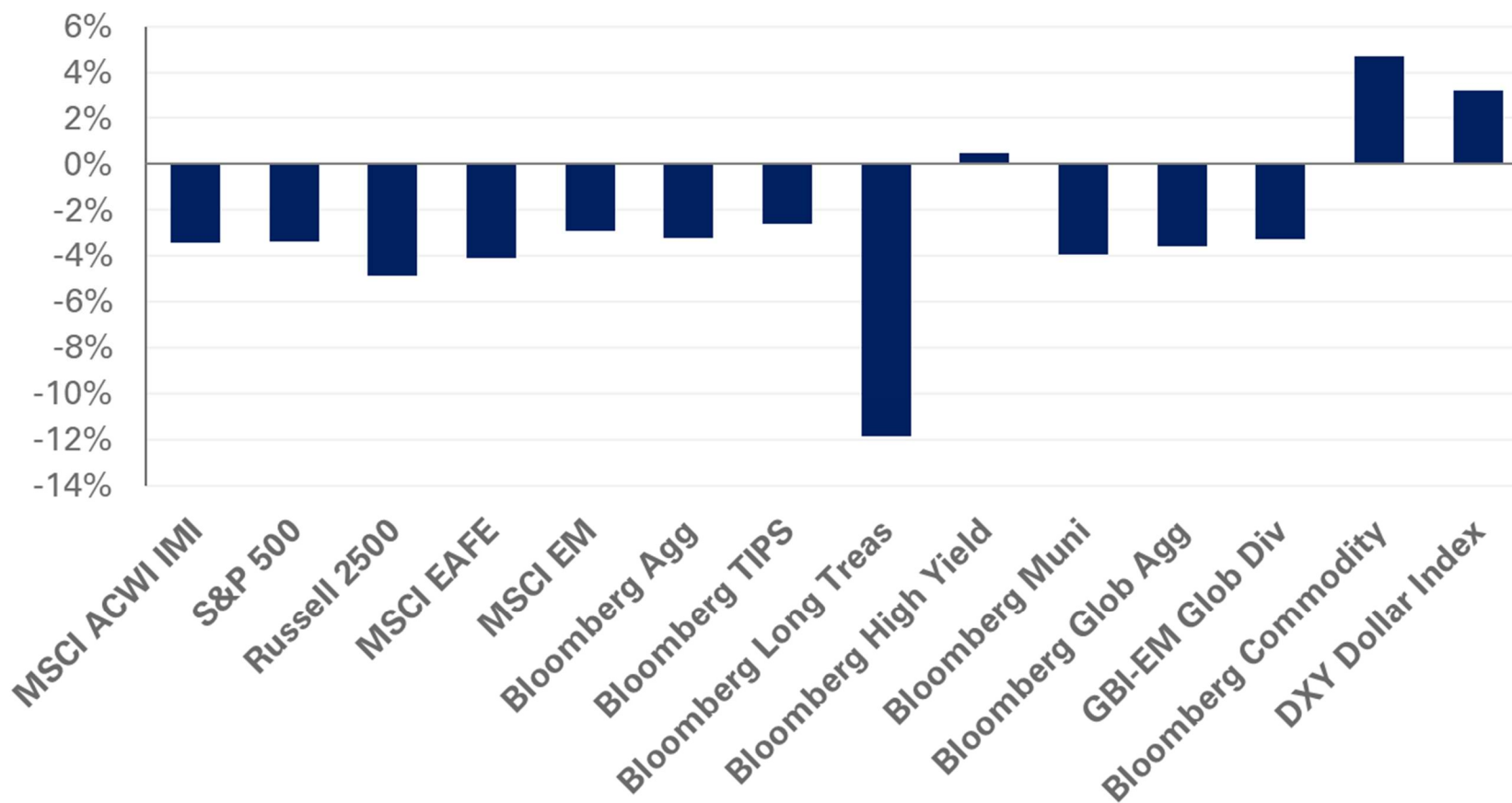


\* As of 6/30/2023



# STOCKS AND BONDS SOLD OFF SHARPLY

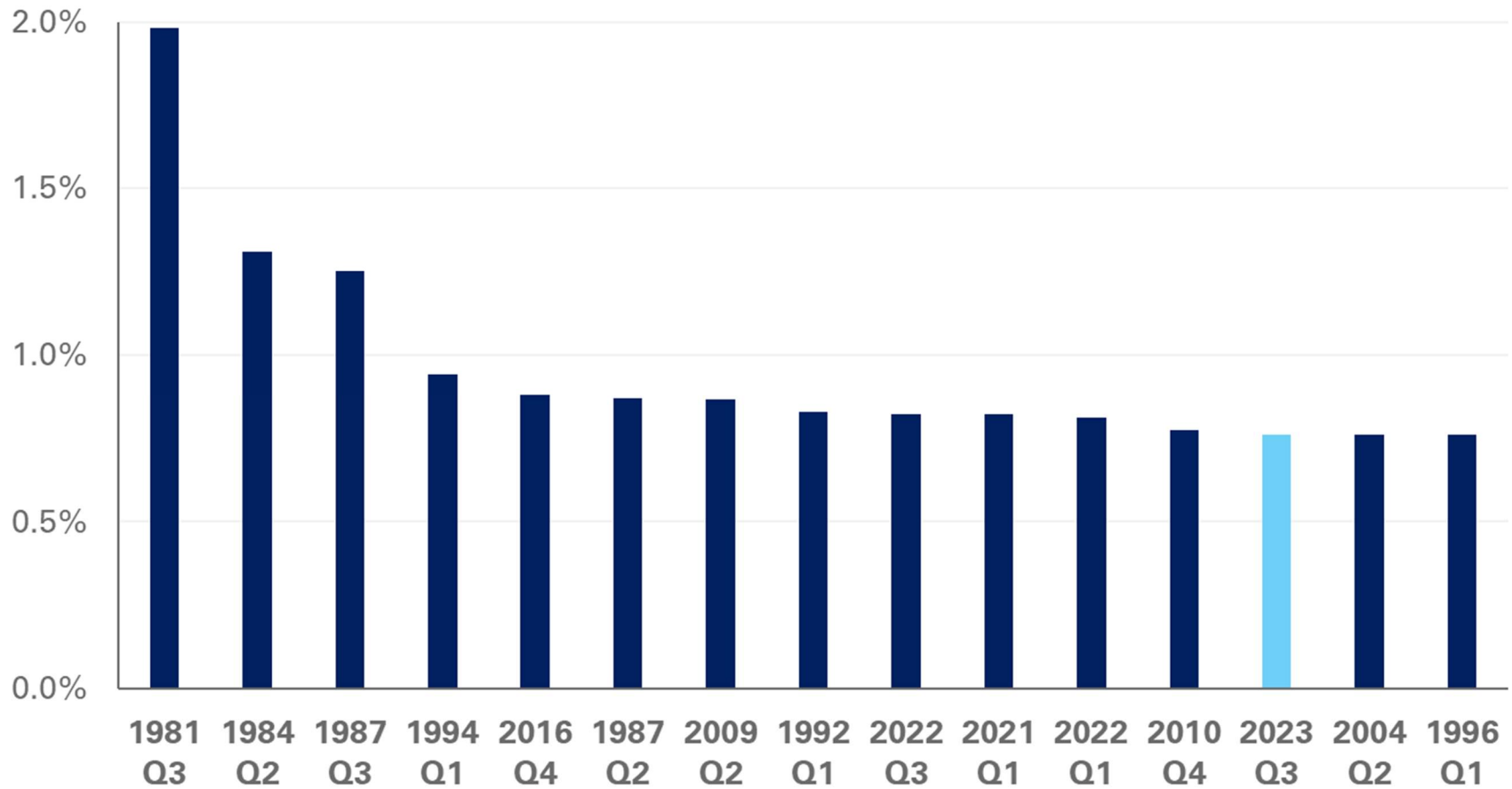
## QUARTERLY TOTAL RETURNS



Source: MSCI, S&P, Russell, Bloomberg, JP Morgan, FactSet

# 10-YEAR YIELDS ROSE SIGNIFICANTLY

TOP 15 QUARTERLY CHANGE: 10-YEAR U.S. TREASURY YIELD

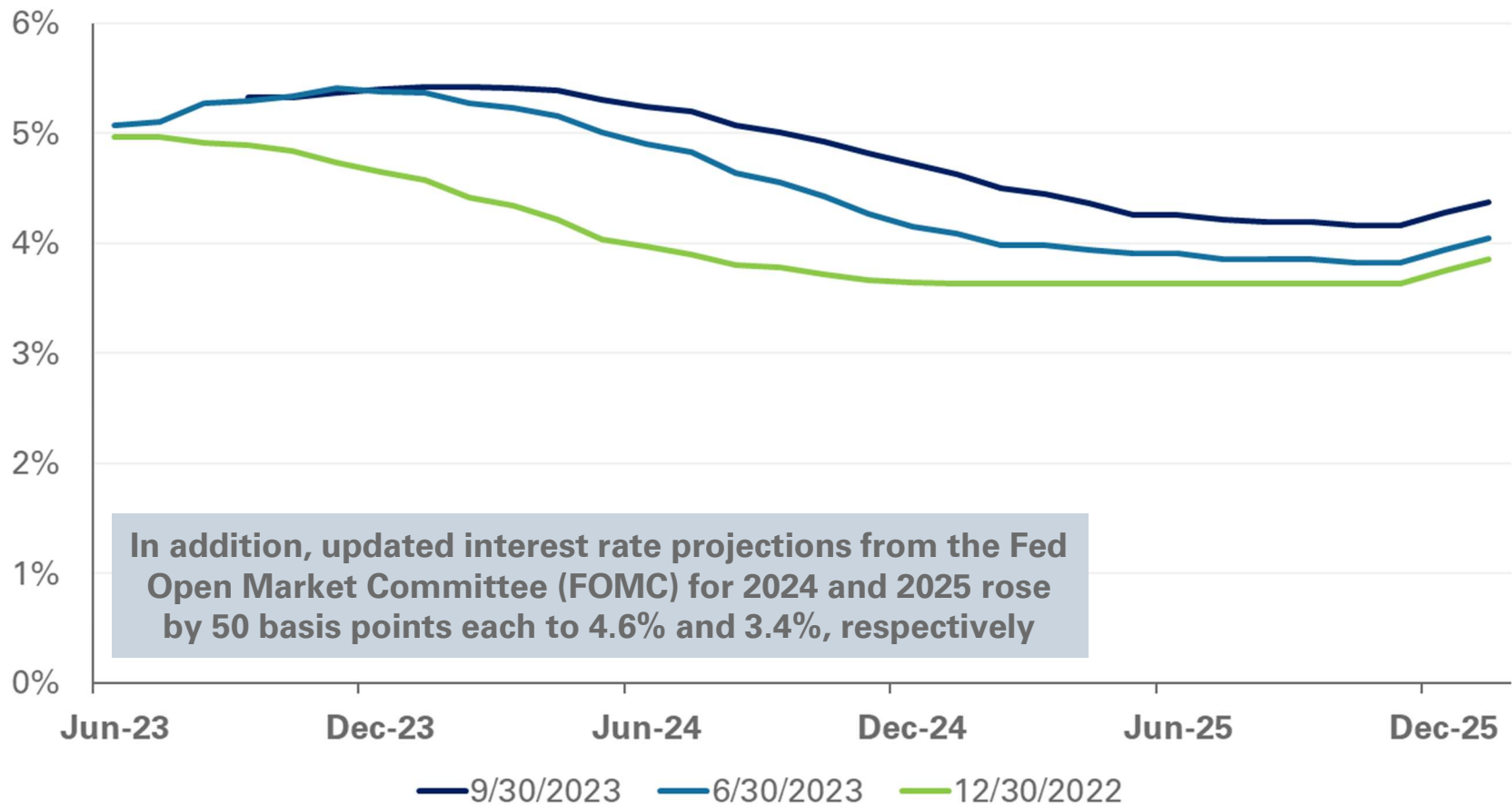


Calculated based on data as of 12/31/1980  
Source: FactSet



# THE MARKET IS PRICING IN "HIGHER FOR LONGER"

## FEDERAL FUND FUTURES

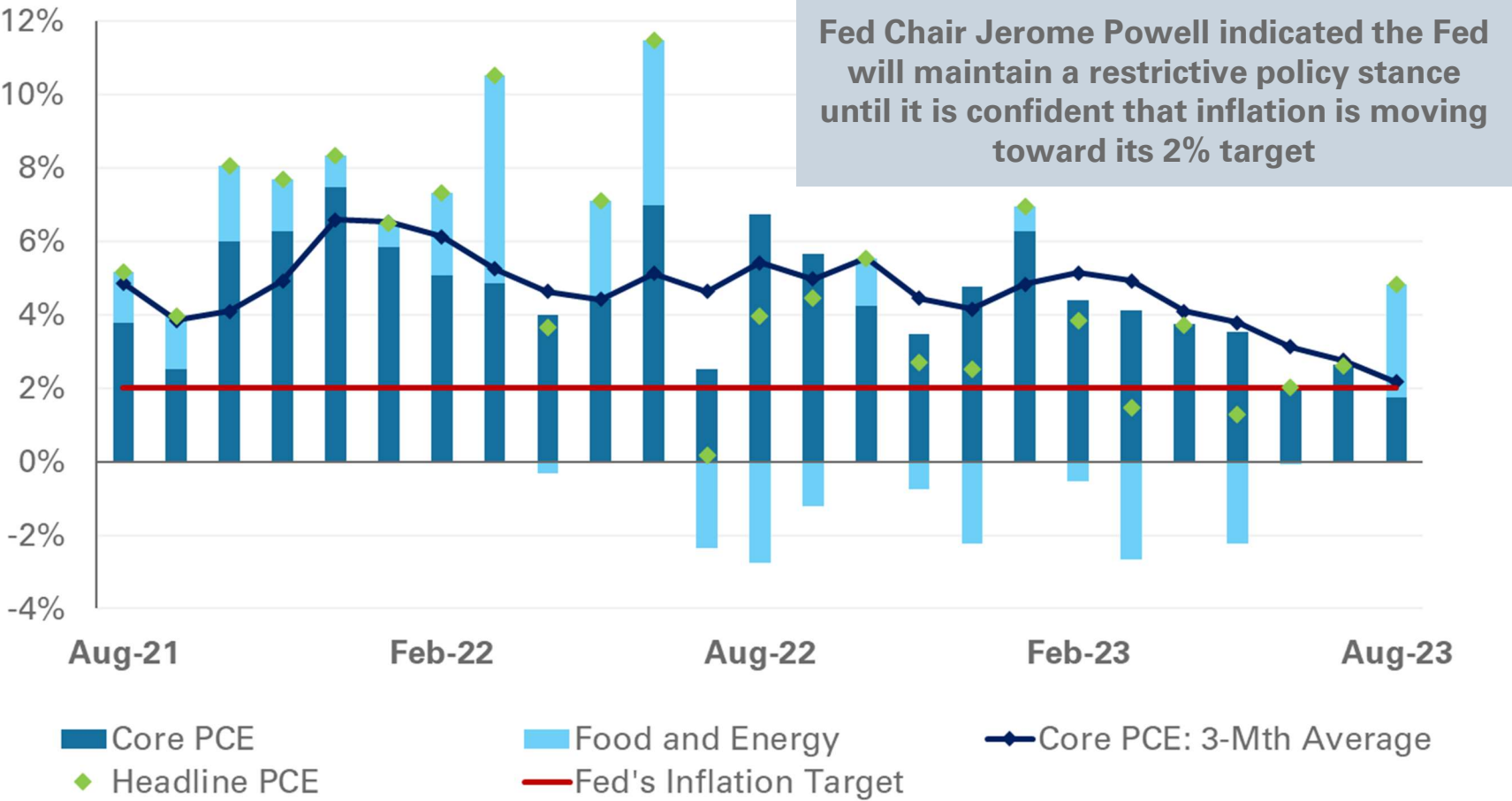


Source: FactSet



# CORE INFLATION NEAR FED'S INFLATION TARGET

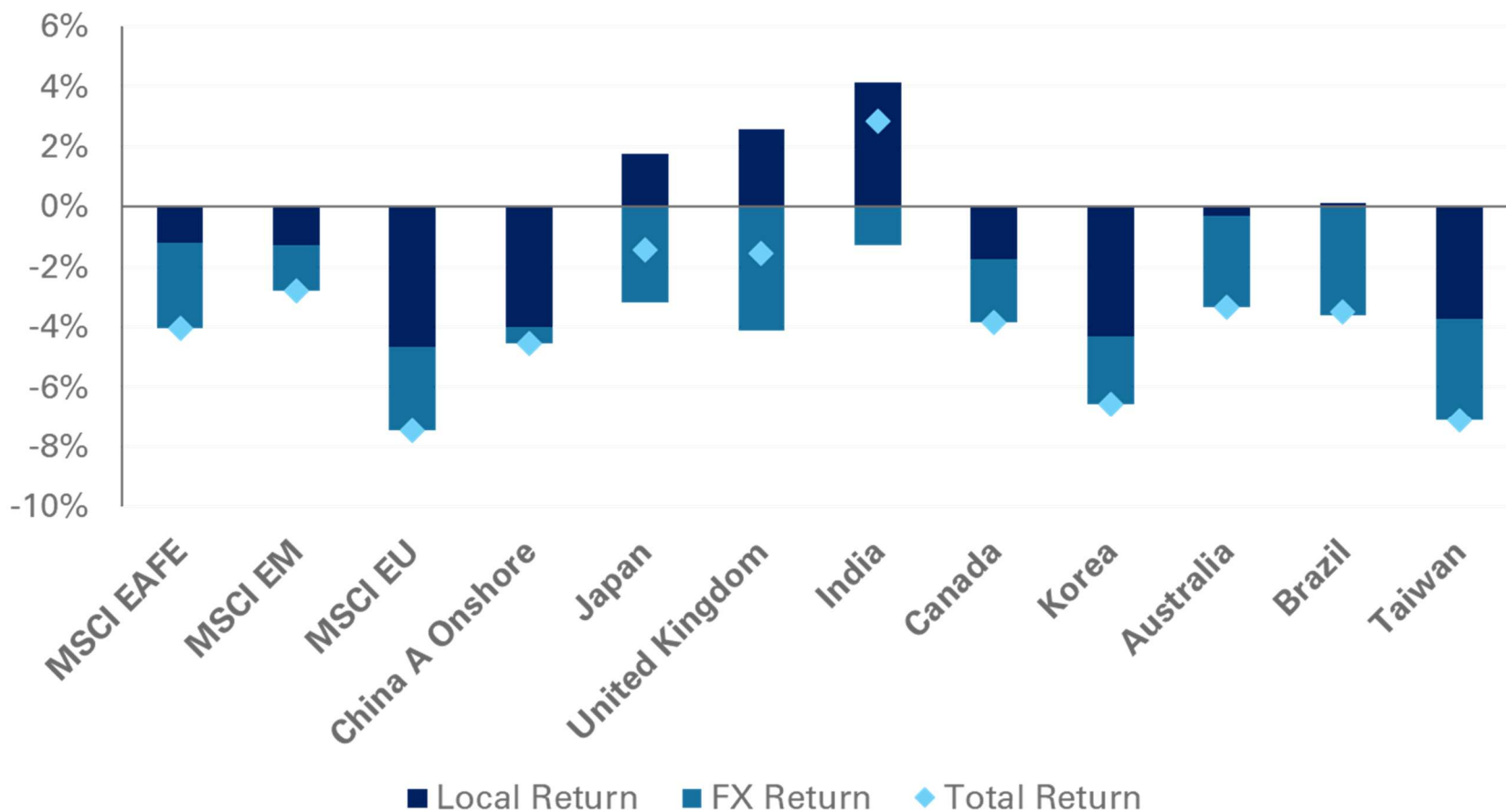
## ANNUALIZED MONTHLY U.S. PCE PRICE INDEX CHANGES



Sources: Department of Labor, FactSet

# A STRONGER USD WEIGHED ON NON-U.S. ASSETS

## QUARTERLY TOTAL RETURNS



Sources: MSCI, FactSet



# TOTAL FUND PERFORMANCE



# TOTAL FUND PERFORMANCE SUMMARY

	Market Value (\$)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
<b>Total Fund</b>	<b>7,431,631,872</b>	<b>-2.08 (53)</b>	<b>5.63 (16)</b>	<b>11.60 (13)</b>	<b>7.30 (18)</b>	<b>6.76 (15)</b>	<b>7.85 (13)</b>	<b>7.28 (10)</b>
<i>Policy Index</i>		-2.44 (71)	7.62 (2)	14.50 (2)	6.22 (31)	6.65 (16)	7.82 (14)	7.42 (9)
<i>60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg</i>		-3.46 (96)	5.05 (29)	13.18 (3)	1.33 (100)	3.44 (98)	4.66 (99)	4.49 (100)
<i>InvMetrics Public DB &gt; \$1 Billion Median</i>		-2.06	4.45	9.85	5.75	5.19	6.29	6.06

- For the five-year period ending September 30, 2023, the Fund returned 6.76%, outperforming the Policy Index by 0.11% and ranking in the 15<sup>th</sup> percentile among its peers. The Fund's volatility, measured by standard deviation, ranked in the 70<sup>th</sup> percentile. The risk-adjusted return, or Sharpe Ratio, ranked in the 20<sup>th</sup> percentile, indicating that the Fund earned more return per unit of volatility than 80% of its peers.
- For the three-year period ending September 30, 2023, the Fund returned 7.30%, outperforming the Policy Index by 1.08% and ranking in the 18<sup>th</sup> percentile among its peers. Over this period, the Fund's volatility ranked in the 70<sup>th</sup> percentile, and the Fund's Sharpe Ratio ranked in the 25<sup>th</sup> percentile.
- For the one-year period ending September 30, 2023, the Fund returned 11.60%, underperforming the Policy Index by 2.90% and ranking in the 13<sup>th</sup> percentile among its peers.
- For the one-year period, the Fund experienced a net investment gain of \$785 million, which includes a net investment loss of \$156 million within the third calendar quarter of 2023. Assets increased from \$6.77 billion one year ago to \$7.43 billion.
- The Fund returned 7.28% over the ten-year period ending September 30, 2023, exceeding the current actuarial rate of return of 7.0%.

## 3 Years Ending September 30, 2023

	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
<b>Total Fund</b>	<b>7.30 (18)</b>	<b>11.11 (70)</b>	<b>0.53 (25)</b>	<b>0.84 (25)</b>
<i>Policy Index</i>	6.22 (31)	12.48 (93)	0.41 (58)	0.62 (58)
<i>60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg</i>	1.33 (100)	12.79 (94)	0.03 (99)	0.05 (99)

## 5 Years Ending September 30, 2023

	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
<b>Total Fund</b>	<b>6.76 (15)</b>	<b>11.62 (70)</b>	<b>0.47 (20)</b>	<b>0.69 (20)</b>
<i>Policy Index</i>	6.65 (16)	12.76 (87)	0.43 (24)	0.64 (22)
<i>60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg</i>	3.44 (98)	12.69 (87)	0.19 (98)	0.27 (98)

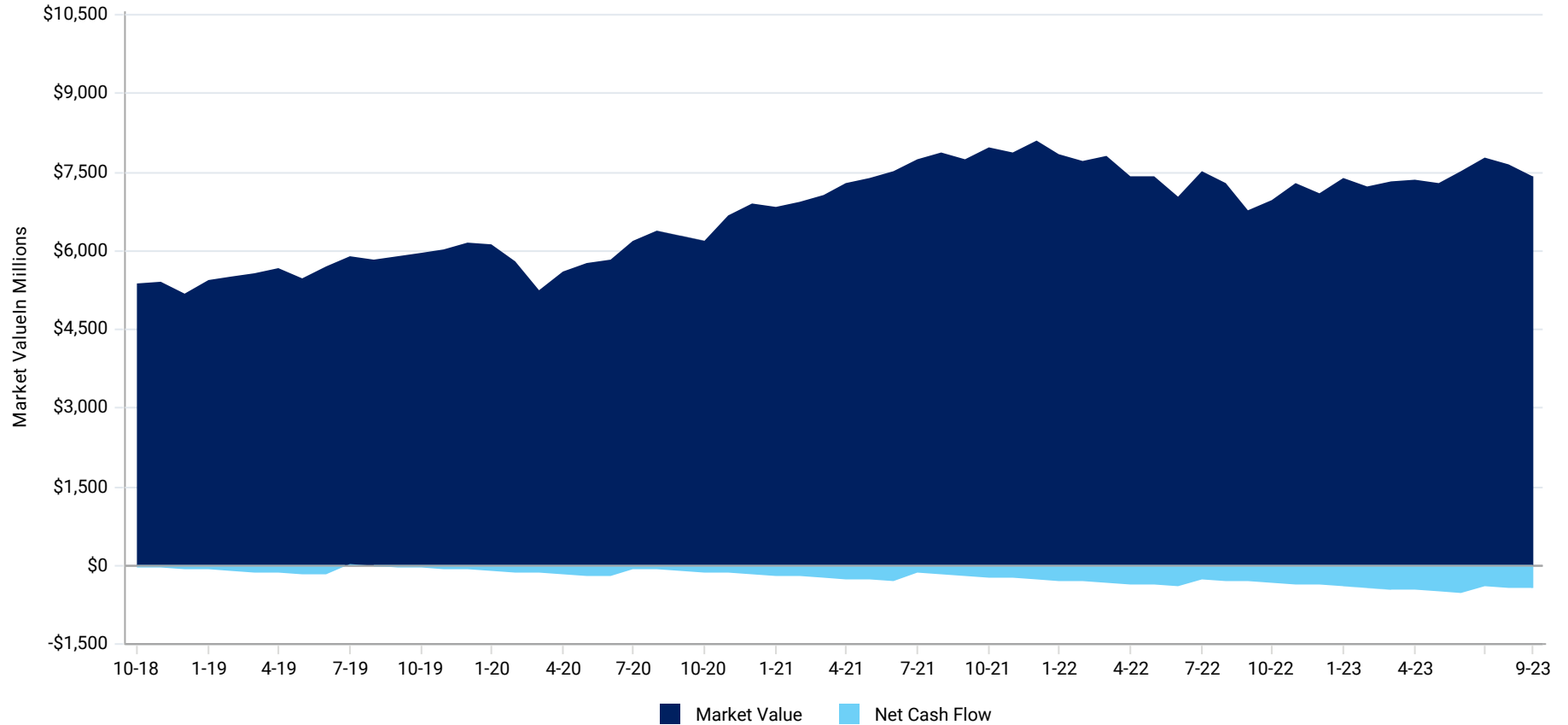
\*Fiscal Year ends June 30.

\*Performance returns are reported net of fees unless otherwise noted

\*\*As of 5/1/2022, the policy index was changed to 26% Russell 3000, 9% MSCI ACWI Index, 15% MSCI ACWI ex US, 10% Bloomberg Agg, 8% (50% CS Lev Loan/50% ICE BofA US HY BBB Rated Constrained Index), 18% Russell 3000+2%, 6% CPI+2%, 8% NCREIF ODCE Index.

# TOTAL FUND ASSET GROWTH SUMMARY

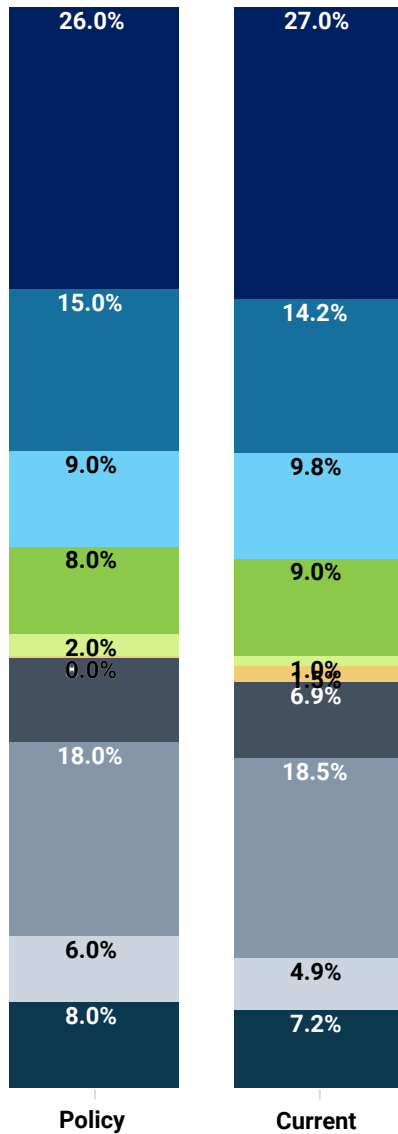
5 Years Ending September 30, 2023



	Last Three Months	Year To Date	1 Year	3 Years	5 Years
Beginning Market Value	7,514,054,561	7,094,889,155	6,773,612,127	6,276,976,535	5,681,345,338
Net Cash Flow	74,023,266	-65,813,790	-127,777,752	-311,069,218	-404,856,016
Net Investment Change	-156,445,955	402,556,507	785,797,497	1,495,483,581	2,184,901,575
<b>Ending Market Value</b>	<b>7,431,631,872</b>	<b>7,431,631,872</b>	<b>7,431,631,872</b>	<b>7,431,631,872</b>	<b>7,431,631,872</b>
Net Change	-82,422,689	336,742,717	658,019,745	1,154,655,337	1,750,286,534

# ASSET ALLOCATION VS. POLICY TARGETS

## Asset Allocation vs. Target



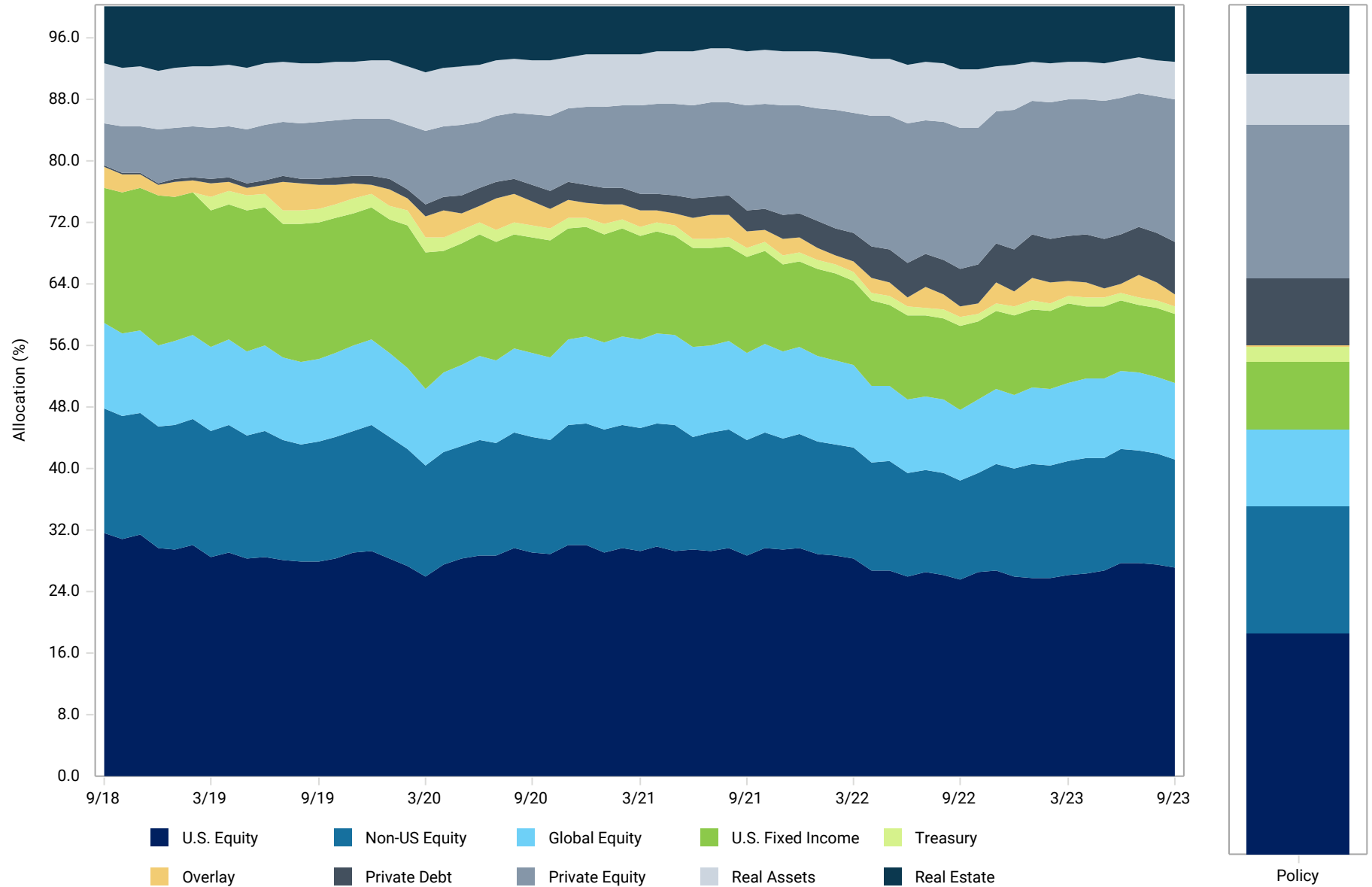
	Current (\$)	Current (%)	Policy (%)	Differences* (%)	Policy Range (%)	Within Range
■ U.S. Equity	2,010,117,488	27.0	26.0	1.0	20.0 - 32.0	Yes
■ Non-US Equity	1,051,825,070	14.2	15.0	-0.8	12.0 - 20.0	Yes
■ Global Equity	729,055,931	9.8	9.0	0.8	7.0 - 13.0	Yes
■ U.S. Fixed Income	672,249,851	9.0	8.0	1.0	6.0 - 12.0	Yes
■ Treasury	73,229,342	1.0	2.0	-1.0	0.0 - 5.0	Yes
■ Overlay	110,803,290	1.5	0.0	1.5	0.0 - 3.0	Yes
■ Private Debt	514,107,968	6.9	8.0	-1.1	4.0 - 12.0	Yes
■ Private Equity	1,371,975,637	18.5	18.0	0.5	14.0 - 22.0	Yes
■ Real Assets	362,722,762	4.9	6.0	-1.1	4.0 - 8.0	Yes
■ Real Estate	535,544,533	7.2	8.0	-0.8	5.0 - 11.0	Yes
<b>Total</b>	<b>7,431,631,872</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>		

\*Difference between Policy and Current Allocation

Cash represents assets in Parametric Overlay.

Policy Index as of 5/1/2022: 26% Russell 3000, 9% MSCI ACWI Index, 15% MSCI ACWI ex US, 10% Bloomberg Agg, 8% (50% CS Lev Loan/ 50% ICE BofA US HY BBB Rated Constrained Index), 18% Russell 3000+2%, 6% CPI+2%, 8% NCREIF ODCE Index

# TOTAL FUND ALLOCATION HISTORY

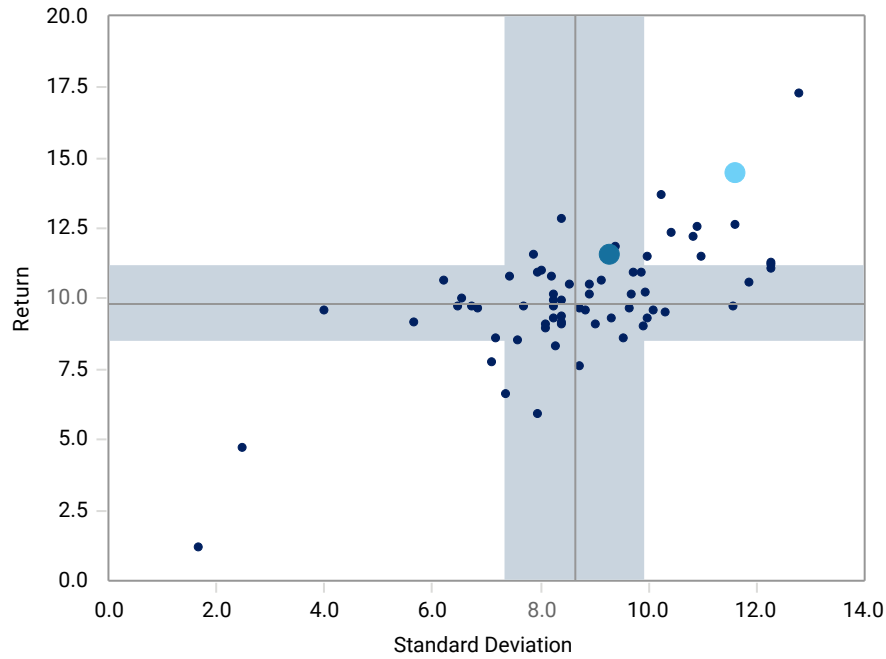


# Ventura County Employees' Retirement Association

## TOTAL FUND RISK/RETURN

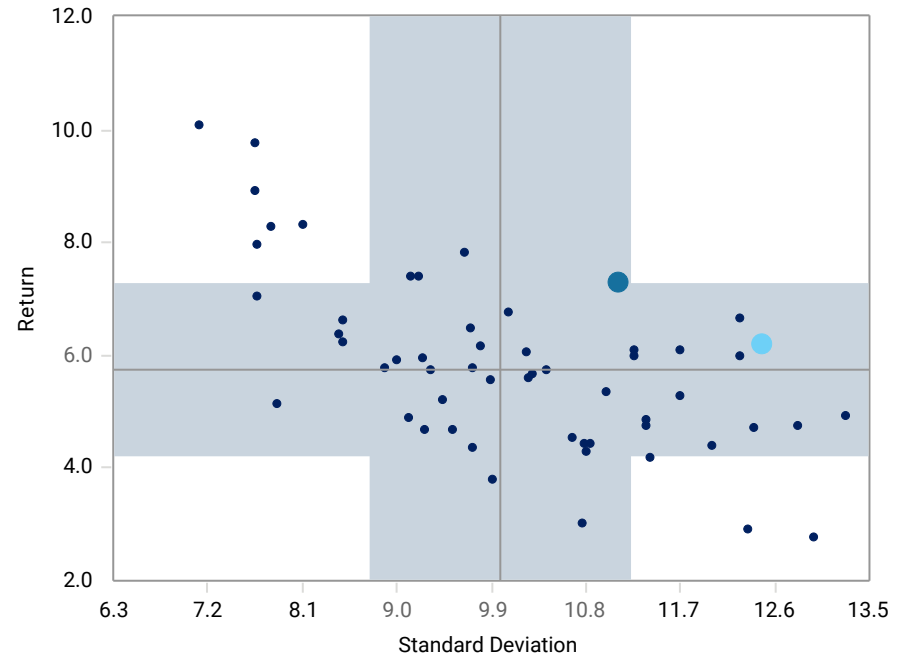
September 30, 2023

1 Year Ending September 30, 2023



- InvMetrics Public DB > \$1 Billion
- Total Fund
- Policy Index

3 Years Ending September 30, 2023



- InvMetrics Public DB > \$1 Billion
- Total Fund
- Policy Index

1 Year Ending September 30, 2023

	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Fund	11.6 (13)	9.3 (61)	0.7 (24)	1.3 (24)
Policy Index	14.5 (2)	11.6 (92)	0.8 (9)	1.5 (13)
Population	66	66	66	66

3 Years Ending September 30, 2023

	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Fund	7.3 (18)	11.1 (70)	0.5 (25)	0.8 (25)
Policy Index	6.2 (31)	12.5 (93)	0.4 (58)	0.6 (58)
Population	58	58	58	58

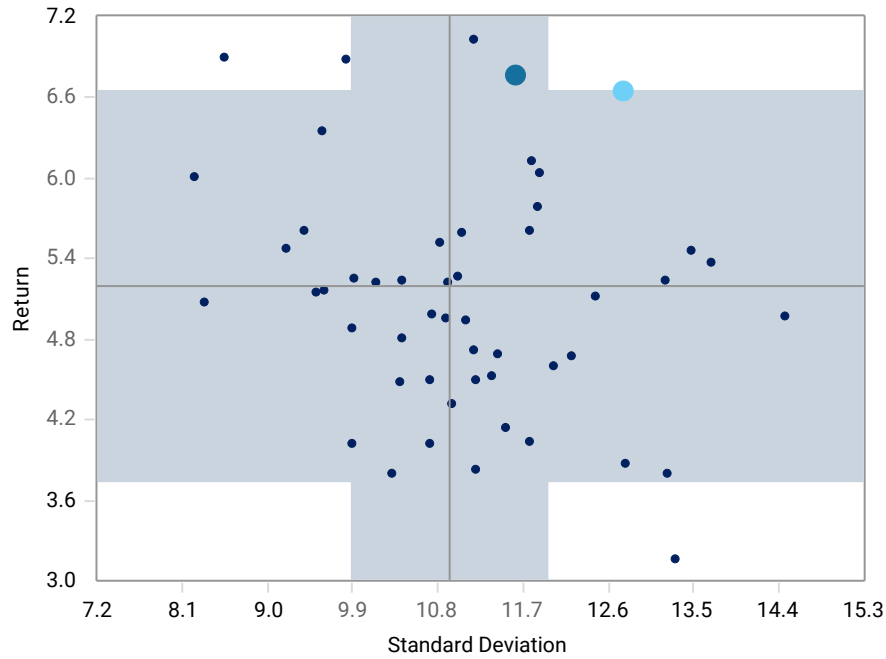


# Ventura County Employees' Retirement Association

## TOTAL FUND RISK/RETURN

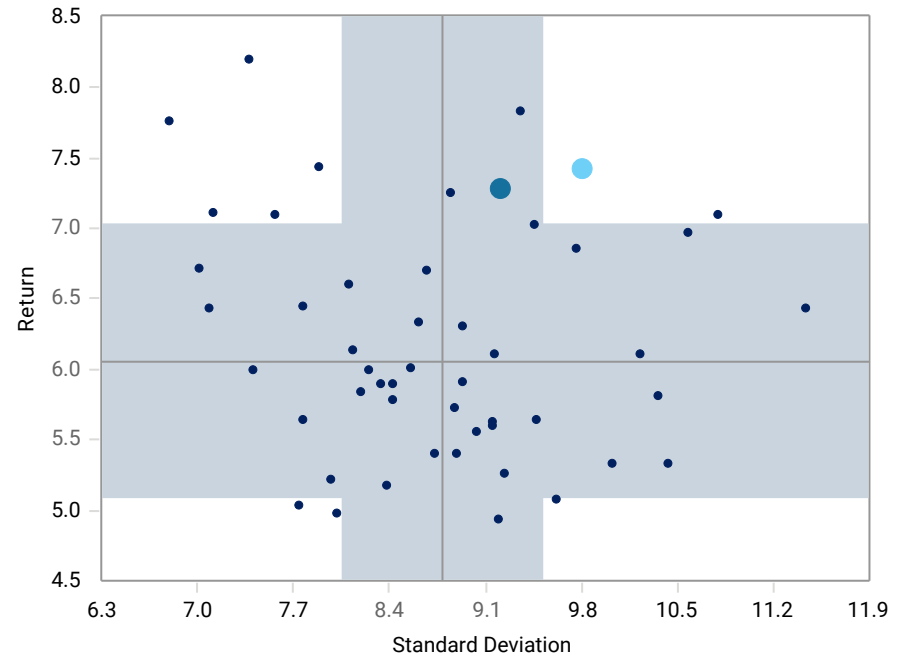
September 30, 2023

5 Years Ending September 30, 2023



- InvMetrics Public DB > \$1 Billion
- Total Fund
- Policy Index

10 Years Ending September 30, 2023



- InvMetrics Public DB > \$1 Billion
- Total Fund
- Policy Index

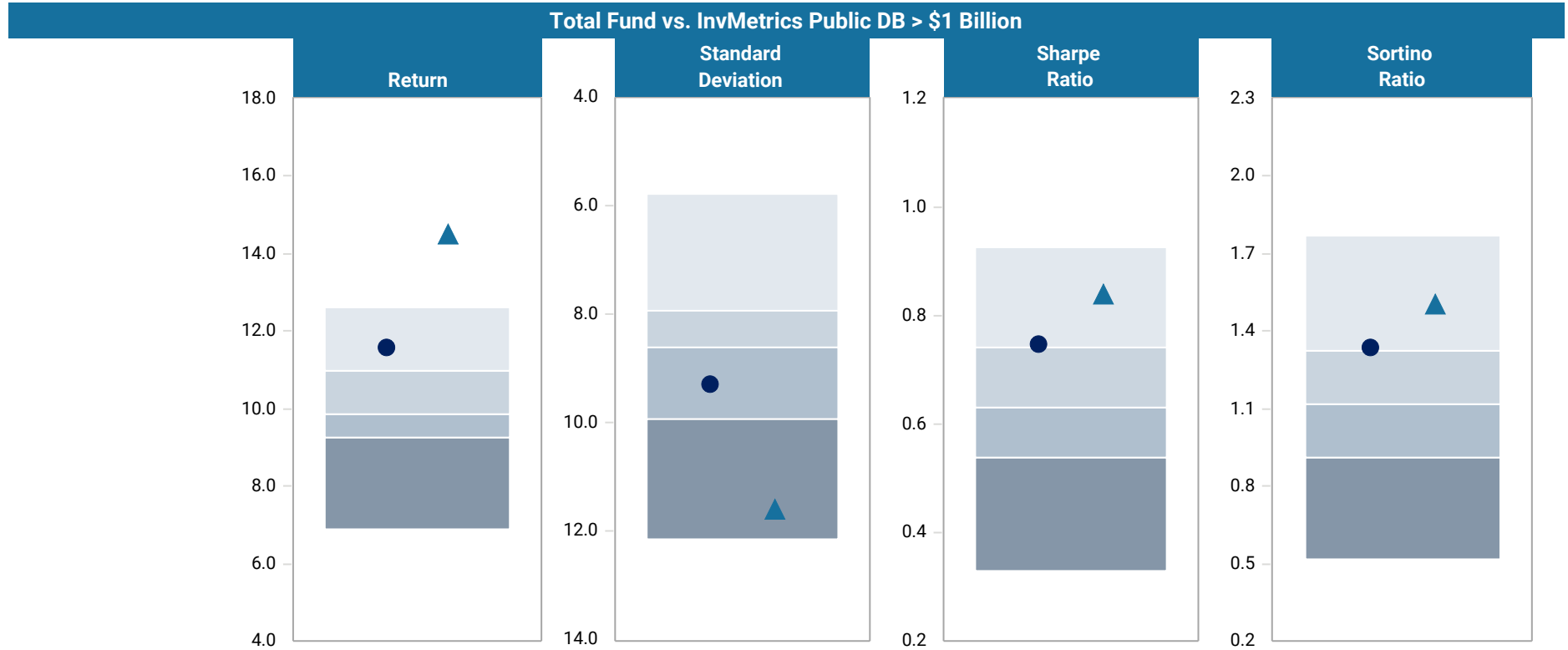
5 Years Ending September 30, 2023

	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Fund	6.8 (15)	11.6 (70)	0.5 (20)	0.7 (20)
Policy Index	6.6 (16)	12.8 (87)	0.4 (24)	0.6 (22)
Population	58	58	58	58

10 Years Ending September 30, 2023

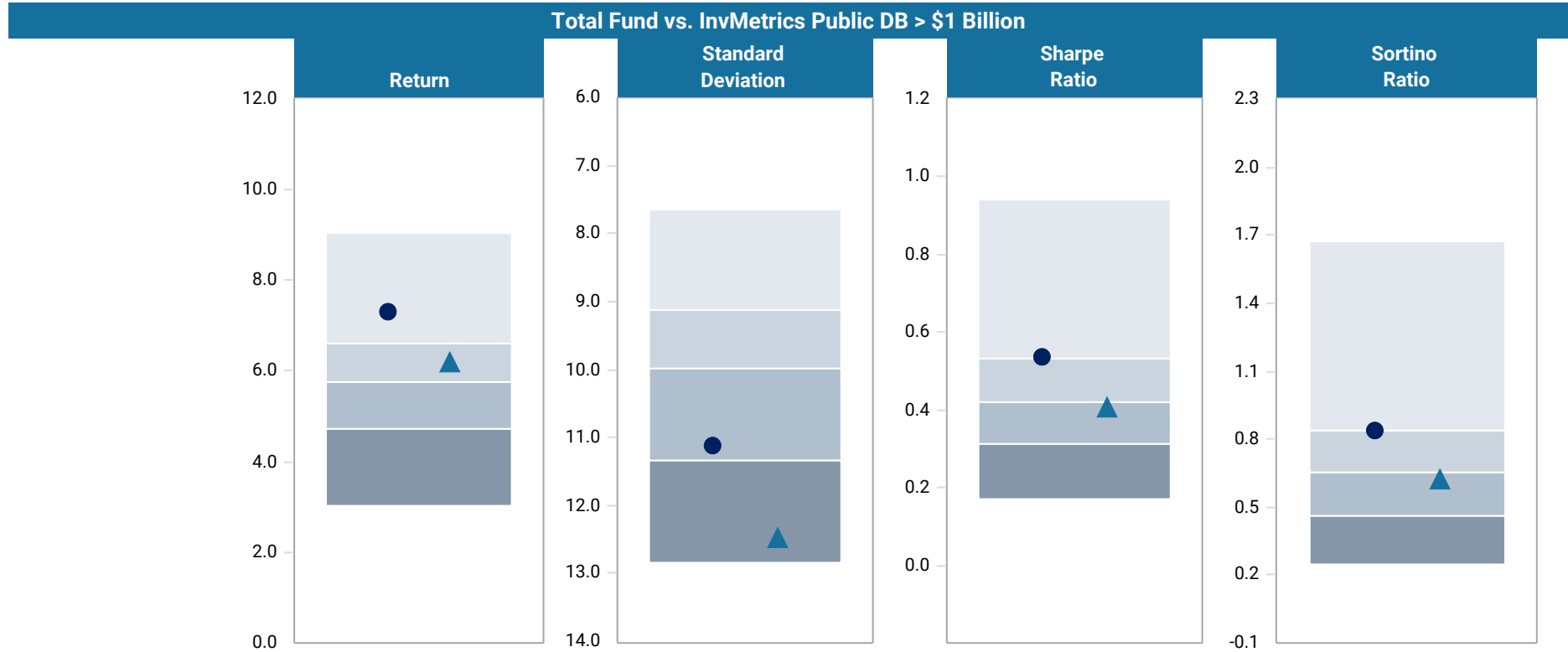
	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Total Fund	7.3 (10)	9.2 (70)	0.7 (26)	1.0 (22)
Policy Index	7.4 (9)	9.8 (84)	0.7 (29)	1.0 (29)
Population	52	52	52	52

# RISK STATISTICS VS. PEER UNIVERSE - 1 YEAR



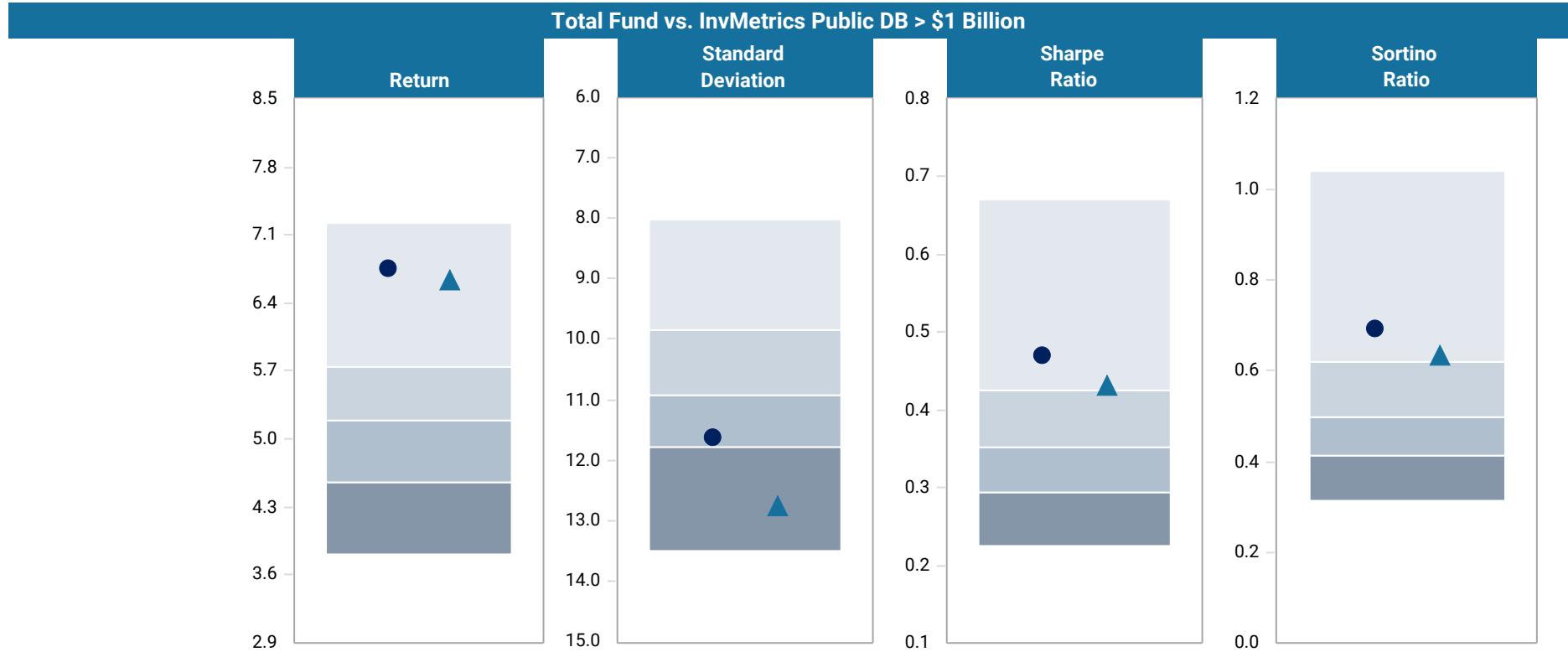
	1 Yr (%)	1 Yr (%)	1 Yr (%)	1 Yr (%)
● Total Fund	11.6 (13)	9.3 (61)	0.7 (24)	1.3 (24)
▲ Policy Index	14.5 (2)	11.6 (92)	0.8 (9)	1.5 (13)
5th Percentile	12.6	5.8	0.9	1.8
1st Quartile	11.0	7.9	0.7	1.3
Median	9.8	8.6	0.6	1.1
3rd Quartile	9.2	9.9	0.5	0.9
95th Percentile	6.9	12.1	0.3	0.5
Population	66	66	66	66

# RISK STATISTICS VS. PEER UNIVERSE - 3 YEARS



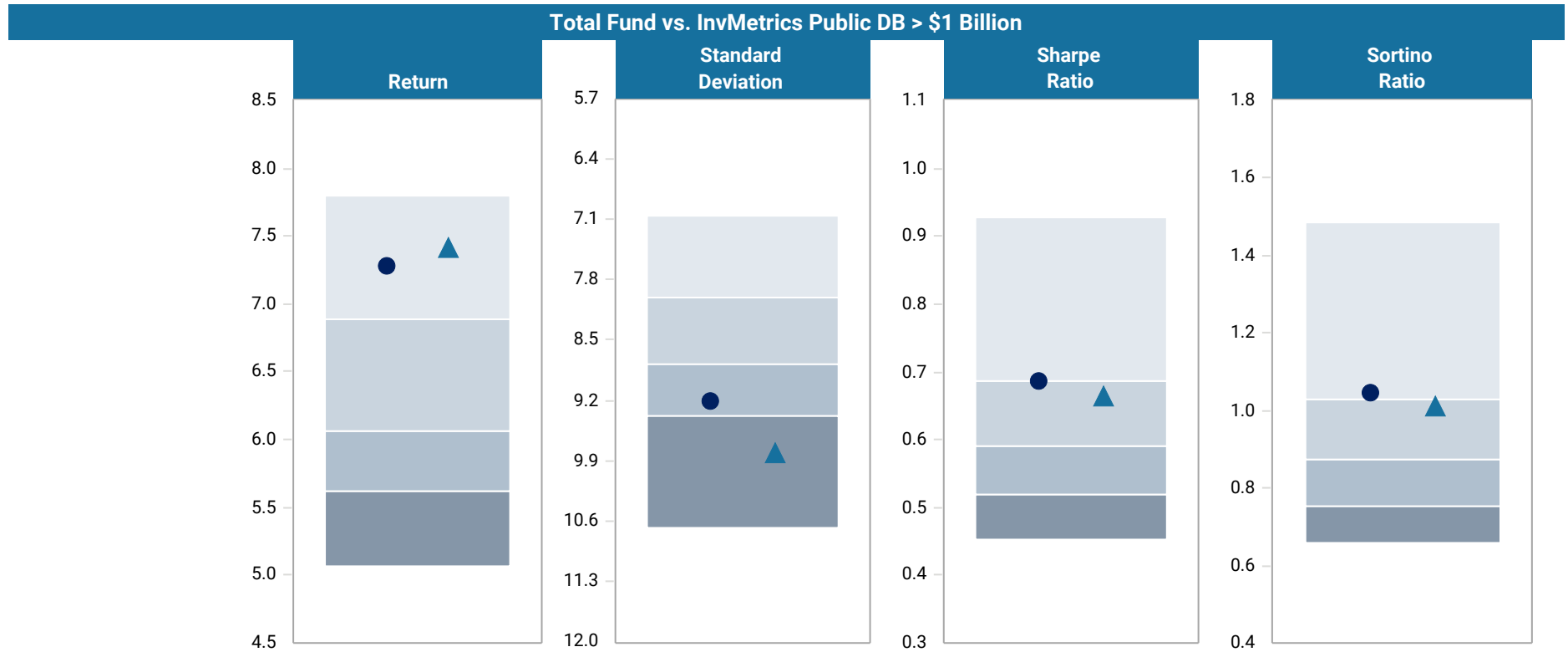
	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)	3 Yrs (%)
● Total Fund	7.3 (18)	11.1 (70)	0.5 (25)	0.8 (25)
▲ Policy Index	6.2 (31)	12.5 (93)	0.4 (58)	0.6 (58)
5th Percentile	9.1	7.7	0.9	1.7
1st Quartile	6.6	9.1	0.5	0.8
Median	5.8	10.0	0.4	0.7
3rd Quartile	4.7	11.3	0.3	0.5
95th Percentile	3.0	12.8	0.2	0.3
Population	58	58	58	58

# RISK STATISTICS VS. PEER UNIVERSE - 5 YEARS



	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)	5 Yrs (%)
● Total Fund	6.8 (15)	11.6 (70)	0.5 (20)	0.7 (20)
▲ Policy Index	6.6 (16)	12.8 (87)	0.4 (24)	0.6 (22)
5th Percentile	7.2	8.0	0.7	1.0
1st Quartile	5.7	9.9	0.4	0.6
Median	5.2	10.9	0.4	0.5
3rd Quartile	4.6	11.8	0.3	0.4
95th Percentile	3.8	13.5	0.2	0.3
Population	58	58	58	58

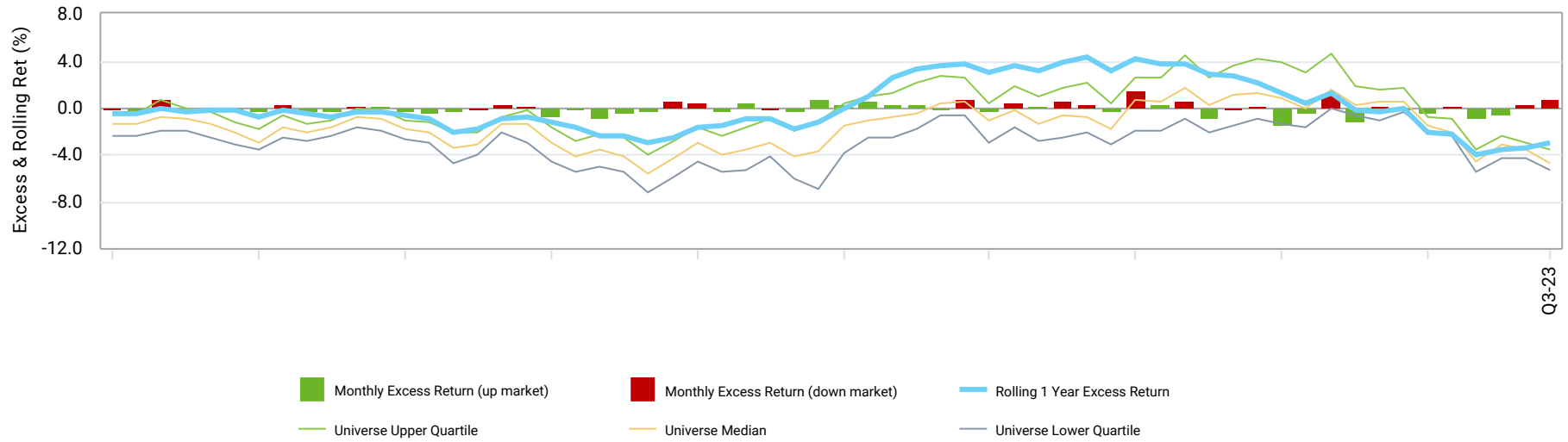
# RISK STATISTICS VS. PEER UNIVERSE - 10 YEARS



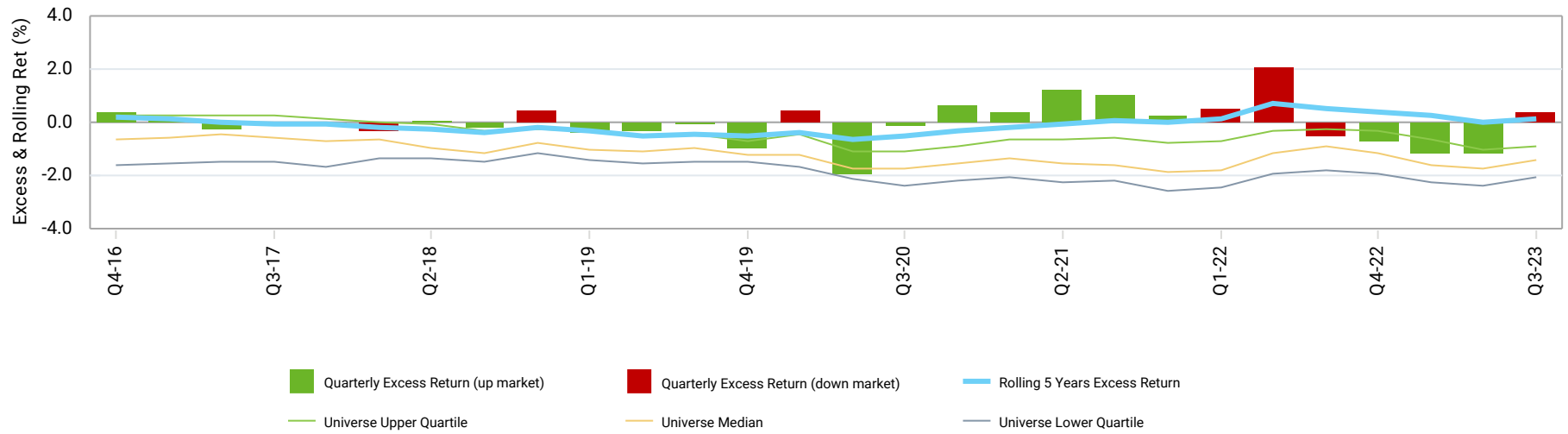
	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)	10 Yrs (%)
● Total Fund	7.3 (10)	9.2 (70)	0.7 (26)	1.0 (22)
▲ Policy Index	7.4 (9)	9.8 (84)	0.7 (29)	1.0 (29)
5th Percentile	7.8	7.1	0.9	1.5
1st Quartile	6.9	8.0	0.7	1.0
Median	6.1	8.8	0.6	0.9
3rd Quartile	5.6	9.4	0.5	0.8
95th Percentile	5.1	10.7	0.5	0.7
Population	52	52	52	52

# ROLLING 5 YEAR EXCESS RETURNS- NET OF FEES

Quarter Excess Return with a Rolling 1 Year Excess Return vs. Policy Index over 5 Years Ending September 30, 2023  
Comparison with the InvMetrics Public DB > \$1 Billion

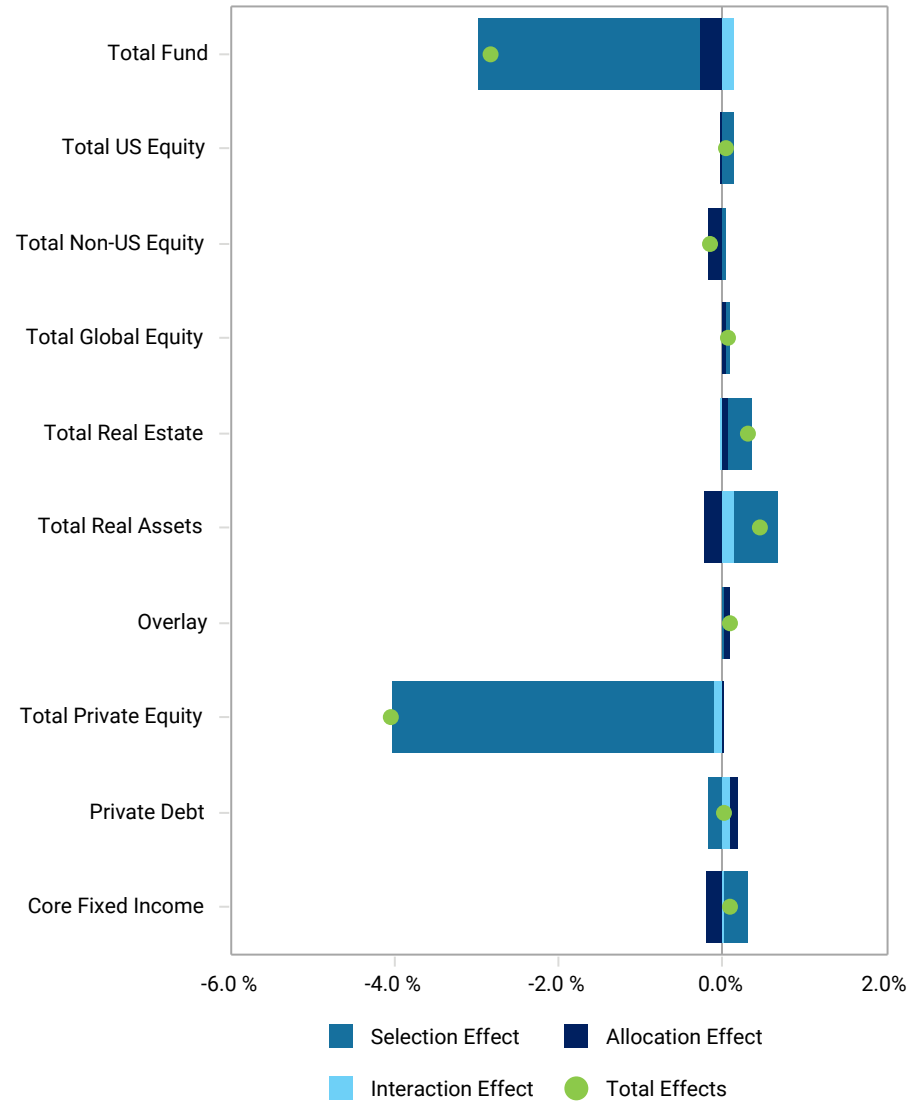


Quarter Excess Return with a Rolling 5 Years Excess Return vs. Policy Index over 7 Years Ending September 30, 2023  
Comparison with the InvMetrics Public DB > \$1 Billion



# TOTAL FUND ATTRIBUTION ANALYSIS

**Attribution Effects**  
1 Year Ending September 30, 2023



**Attribution Summary**  
1 Year Ending September 30, 2023

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
Total US Equity	20.8	20.5	0.4	0.1	0.0	0.0	0.1
Total Non-US Equity	20.5	20.4	0.2	0.0	-0.2	0.0	-0.2
Total Global Equity	21.3	20.8	0.5	0.1	0.0	0.0	0.1
Total Real Estate	-10.1	-12.9	2.8	0.3	0.1	0.0	0.3
Total Real Assets	14.7	5.8	9.0	0.5	-0.2	0.2	0.5
Overlay	28.5	4.5	24.1	0.0	0.1	0.0	0.1
Total Private Equity	0.7	22.9	-22.2	-3.9	0.0	-0.1	-4.0
Private Debt	8.5	11.1	-2.6	-0.2	0.1	0.1	0.0
Core Fixed Income	3.1	0.6	2.4	0.3	-0.2	0.0	0.1
<b>Total Fund</b>	<b>11.6</b>	<b>14.4</b>	<b>-2.8</b>	<b>-2.7</b>	<b>-0.3</b>	<b>0.1</b>	<b>-2.8</b>

\*Total Actual and Index returns are weighted average calculations.

# TOTAL FUND ATTRIBUTION ANALYSIS

**Attribution Effects**  
3 Years Ending September 30, 2023



**Attribution Summary**  
3 Years Ending September 30, 2023

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
Total US Equity	9.4	9.4	0.0	0.0	0.1	0.0	0.1
Total Non-US Equity	3.7	3.7	-0.1	0.0	0.0	0.0	0.0
Total Global Equity	7.3	6.9	0.4	0.0	0.0	0.0	0.1
Total Real Estate	6.0	6.2	-0.2	0.0	-0.2	0.0	-0.2
Total Real Assets	7.9	7.9	0.1	0.0	0.0	0.0	0.0
Overlay	-4.4	1.7	-6.1	0.0	-0.3	0.0	-0.3
Total Private Equity	21.9	11.8	10.1	1.5	-0.2	-0.4	0.9
Core Fixed Income	-3.3	-5.2	1.9	0.3	0.2	0.0	0.5
Private Debt	5.6	1.3	4.3	0.3	0.0	-0.1	0.1
<b>Total Fund</b>	<b>7.3</b>	<b>6.2</b>	<b>1.1</b>	<b>2.1</b>	<b>-0.4</b>	<b>-0.6</b>	<b>1.1</b>

\*Total Actual and Index returns are weighted average calculations.



# TOTAL FUND ATTRIBUTION ANALYSIS

**Attribution Effects  
5 Years Ending September 30, 2023**



**Attribution Summary  
5 Years Ending September 30, 2023**

	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Interaction Effects (%)	Total Effects (%)
Total US Equity	9.3	9.1	0.2	0.0	0.1	0.0	0.1
Total Non-US Equity	2.3	2.6	-0.3	-0.1	0.0	0.0	0.0
Total Global Equity	6.9	6.5	0.4	0.0	0.0	0.0	0.0
Total Real Estate	3.6	4.7	-1.1	-0.1	-0.1	0.0	-0.2
Fixed Income	1.2	1.3	-0.1	0.0	0.0	0.0	-0.1
Total Real Assets	3.7	6.4	-2.7	-0.3	0.0	0.0	-0.3
Overlay	4.0	1.7	2.3	0.0	-0.1	0.0	-0.1
Total Private Equity	17.0	11.9	5.1	0.7	-0.2	-0.2	0.3
Private Debt	3.3	0.8	2.5	0.2	0.0	-0.1	0.1
Core Fixed Income	0.4	-1.2	1.5	0.2	0.2	0.0	0.4
<b>Total Fund</b>	<b>6.8</b>	<b>6.7</b>	<b>0.1</b>	<b>0.7</b>	<b>-0.3</b>	<b>-0.4</b>	<b>0.1</b>

\*Total Actual and Index returns are weighted average calculations.

# ASSET CLASS RISK STATISTICS

	1 Year Ending September 30, 2023					
	1 Year Return	1 Year Standard Deviation	1 Year Jensen Alpha	1 Year Tracking Error	1 Year Information Ratio	1 Year Beta
<b>Total Equity</b>	<b>20.79 (42)</b>	<b>15.70 (31)</b>	<b>-0.11 (45)</b>	<b>0.78 (1)</b>	<b>0.00 (43)</b>	<b>1.01 (50)</b>
<i>MSCI AC World Index (Net)</i>	<i>20.80 (42)</i>	<i>15.58 (28)</i>	<i>0.00</i>	<i>0.00</i>	<i>-</i>	<i>1.00</i>
<b>Total US Equity</b>	<b>20.81 (27)</b>	<b>16.31 (23)</b>	<b>0.28 (28)</b>	<b>0.33 (1)</b>	<b>0.90 (7)</b>	<b>1.00 (56)</b>
<i>Russell 3000</i>	<i>20.46 (28)</i>	<i>16.27 (22)</i>	<i>0.00</i>	<i>0.00</i>	<i>-</i>	<i>1.00</i>
<b>Total Non-US Equity</b>	<b>20.54 (48)</b>	<b>17.26 (30)</b>	<b>0.47 (55)</b>	<b>2.28 (6)</b>	<b>0.04 (48)</b>	<b>0.97 (55)</b>
<i>MSCI ACWI ex USA</i>	<i>20.39 (51)</i>	<i>17.56 (40)</i>	<i>0.00</i>	<i>0.00</i>	<i>-</i>	<i>1.00</i>
<b>Total Global Equity</b>	<b>21.30 (38)</b>	<b>15.59 (28)</b>	<b>0.42 (41)</b>	<b>0.08 (1)</b>	<b>5.25 (1)</b>	<b>1.00 (53)</b>
<i>MSCI AC World Index (Net)</i>	<i>20.80 (42)</i>	<i>15.58 (28)</i>	<i>0.00</i>	<i>0.00</i>	<i>-</i>	<i>1.00</i>
<b>Fixed Income</b>	<b>5.46 (20)</b>	<b>4.53 (36)</b>	<b>1.23 (20)</b>	<b>1.55 (6)</b>	<b>0.82 (16)</b>	<b>0.79 (57)</b>
<i>Total Fixed Income Policy Index</i>	<i>4.07 (31)</i>	<i>5.62 (49)</i>	<i>0.00</i>	<i>0.00</i>	<i>-</i>	<i>1.00</i>
<b>US Fixed Income</b>	<b>3.56 (36)</b>	<b>6.89 (65)</b>	<b>2.75 (30)</b>	<b>0.87 (8)</b>	<b>3.25 (1)</b>	<b>0.96 (32)</b>
<i>Blmbg. U.S. Aggregate Index</i>	<i>0.64 (86)</i>	<i>7.12 (70)</i>	<i>0.00</i>	<i>0.00</i>	<i>-</i>	<i>1.00</i>

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the 90 Day T-Bill Index.

# ASSET CLASS RISK STATISTICS

	1 Year Return	1 Year Standard Deviation
<b>Total Real Assets</b>	<b>14.74</b>	<b>8.86</b>
<i>Real Assets Index</i>	5.77	1.01
<b>Total Real Estate</b>	<b>-10.10</b>	<b>6.12</b>
<i>NCREIF ODCE Net</i>	-12.88	6.23
<b>Total Private Equity</b>	<b>0.67</b>	<b>3.37</b>
<i>Private Equity Benchmark</i>	22.87	16.30

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the 90 Day T-Bill Index.

# ASSET CLASS RISK STATISTICS

	3 Years Ending September 30, 2023					
	3 Years Return	3 Years Standard Deviation	3 Years Jensen Alpha	3 Years Tracking Error	3 Years Information Ratio	3 Years Beta
<b>Total Equity</b>	<b>7.34 (40)</b>	<b>17.44 (31)</b>	<b>0.35 (43)</b>	<b>0.77 (1)</b>	<b>0.63 (17)</b>	<b>1.02 (49)</b>
<i>MSCI AC World Index (Net)</i>	6.89 (44)	17.09 (24)	0.00	0.00	-	1.00
<b>Total US Equity</b>	<b>9.37 (52)</b>	<b>18.21 (32)</b>	<b>-0.02 (56)</b>	<b>0.45 (1)</b>	<b>0.01 (51)</b>	<b>1.00 (45)</b>
<i>Russell 3000</i>	9.38 (52)	18.15 (30)	0.00	0.00	-	1.00
<b>Total Non-US Equity</b>	<b>3.67 (46)</b>	<b>17.67 (19)</b>	<b>-0.06 (47)</b>	<b>2.15 (2)</b>	<b>0.01 (46)</b>	<b>1.02 (52)</b>
<i>MSCI ACWI ex USA</i>	3.74 (46)	17.19 (11)	0.00	0.00	-	1.00
<b>Total Global Equity</b>	<b>7.27 (40)</b>	<b>17.10 (25)</b>	<b>0.35 (43)</b>	<b>0.15 (1)</b>	<b>2.34 (1)</b>	<b>1.00 (58)</b>
<i>MSCI AC World Index (Net)</i>	6.89 (44)	17.09 (24)	0.00	0.00	-	1.00
<b>Fixed Income</b>	<b>-0.22 (33)</b>	<b>4.74 (39)</b>	<b>2.27 (23)</b>	<b>1.54 (6)</b>	<b>1.97 (2)</b>	<b>0.83 (56)</b>
<i>Total Fixed Income Policy Index</i>	-3.25 (65)	5.49 (47)	0.00	0.00	-	1.00
<b>US Fixed Income</b>	<b>-2.84 (61)</b>	<b>6.24 (59)</b>	<b>2.36 (35)</b>	<b>1.35 (13)</b>	<b>1.82 (4)</b>	<b>0.98 (32)</b>
<i>Blmbg. U.S. Aggregate Index</i>	-5.21 (86)	6.20 (58)	0.00	0.00	-	1.00

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the 90 Day T-Bill Index.

# ASSET CLASS RISK STATISTICS

	3 Years Return	3 Years Standard Deviation
<b>Total Real Assets</b>	<b>7.93</b>	<b>12.14</b>
<i>Real Assets Index</i>	7.86	1.38
<b>Total Real Estate</b>	<b>6.00</b>	<b>8.02</b>
<i>NCREIF ODCE Net</i>	6.19	8.89
<b>Total Private Equity</b>	<b>21.91</b>	<b>9.51</b>
<i>Private Equity Benchmark</i>	11.84	18.22

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the 90 Day T-Bill Index.

# ASSET CLASS RISK STATISTICS

	5 Years Ending September 30, 2023					
	5 Years Return	5 Years Standard Deviation	5 Years Jensen Alpha	5 Years Tracking Error	5 Years Information Ratio	5 Years Beta
<b>Total Equity</b>	<b>6.81 (39)</b>	<b>18.55 (38)</b>	<b>0.27 (44)</b>	<b>0.77 (1)</b>	<b>0.53 (9)</b>	<b>1.02 (43)</b>
<i>MSCI AC World Index (Net)</i>	6.46 (45)	18.12 (28)	0.00	0.00	-	1.00
<b>Total US Equity</b>	<b>9.33 (22)</b>	<b>19.71 (32)</b>	<b>0.13 (27)</b>	<b>0.49 (1)</b>	<b>0.41 (6)</b>	<b>1.01 (53)</b>
<i>Russell 3000</i>	9.14 (24)	19.57 (30)	0.00	0.00	-	1.00
<b>Total Non-US Equity</b>	<b>2.30 (66)</b>	<b>17.87 (14)</b>	<b>-0.26 (68)</b>	<b>1.82 (1)</b>	<b>-0.14</b>	<b>1.00 (70)</b>
<i>MSCI ACWI ex USA</i>	2.58 (60)	17.72 (10)	0.00	0.00	-	1.00
<b>Total Global Equity</b>	<b>6.85 (38)</b>	<b>18.12 (28)</b>	<b>0.37 (42)</b>	<b>0.14 (1)</b>	<b>2.54 (1)</b>	<b>1.00 (53)</b>
<i>MSCI AC World Index (Net)</i>	6.46 (45)	18.12 (28)	0.00	0.00	-	1.00
<b>Fixed Income</b>	<b>3.26 (10)</b>	<b>4.54 (34)</b>	<b>1.84 (11)</b>	<b>1.75 (10)</b>	<b>1.06 (1)</b>	<b>0.85 (53)</b>
<i>Total Fixed Income Policy Index</i>	1.34 (42)	5.03 (38)	0.00	0.00	-	1.00
<b>US Fixed Income</b>	<b>1.74 (30)</b>	<b>5.83 (53)</b>	<b>1.62 (29)</b>	<b>2.16 (18)</b>	<b>0.76 (1)</b>	<b>0.97 (30)</b>
<i>Blmbg. U.S. Aggregate Index</i>	0.10 (87)	5.59 (48)	0.00	0.00	-	1.00

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the 90 Day T-Bill Index.

# ASSET CLASS RISK STATISTICS

	5 Years Return	5 Years Standard Deviation
<b>Total Real Assets</b>	<b>3.72</b>	<b>13.45</b>
<i>Real Assets Index</i>	6.43	1.36
<b>Total Real Estate</b>	<b>3.58</b>	<b>6.47</b>
<i>NCREIF ODCE Net</i>	4.72	7.01
<b>Total Private Equity</b>	<b>17.03</b>	<b>8.97</b>
<i>Private Equity Benchmark</i>	11.93	19.63

Sortino Ratio RF = Sortino Ratio Risk Free. The risk free rate is the 90 Day T-Bill Index.

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)									
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date		
<b>Total Fund</b>	<b>7,431,631,872</b>	<b>100.0</b>	<b>100.0</b>	<b>-2.1 (53)</b>	<b>5.6 (16)</b>	<b>11.6 (13)</b>	<b>7.3 (18)</b>	<b>6.8 (15)</b>	<b>7.3 (10)</b>	<b>7.9 (14)</b>	<b>Apr-94</b>		
Policy Index				-2.4 (71)	7.6 (2)	14.5 (2)	6.2 (31)	6.6 (16)	7.4 (9)	7.9 (14)			
Over/Under				0.3	-2.0	-2.9	1.1	0.2	-0.1	0.0			
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg				-3.5 (96)	5.1 (29)	13.2 (3)	1.3 (100)	3.4 (98)	4.5 (100)				
Over/Under				1.4	0.5	-1.6	6.0	3.4	2.8				
InvMetrics Public DB > \$1 Billion Median				-2.1	4.4	9.8	5.8	5.2	6.1	7.4			
<b>Total Fund ex Parametric</b>	<b>7,393,997,378</b>	<b>99.5</b>	<b>100.0</b>	<b>-2.0</b>	<b>5.5</b>	<b>11.0</b>	<b>7.5</b>	<b>6.8</b>		<b>7.2</b>	<b>Nov-13</b>		
<b>Total US Equity</b>	<b>2,010,117,488</b>	<b>27.0</b>	<b>26.0</b>	<b>-3.3 (45)</b>	<b>12.6 (23)</b>	<b>20.8 (27)</b>	<b>9.4 (52)</b>	<b>9.3 (22)</b>	<b>11.4 (20)</b>	<b>9.5 (62)</b>	<b>Jan-94</b>		
Russell 3000				-3.3 (44)	12.4 (24)	20.5 (28)	9.4 (52)	9.1 (24)	11.0 (25)	9.7 (55)			
Over/Under				0.0	0.2	0.3	0.0	0.2	0.4	-0.2			
eV All US Equity Median				-3.5	5.9	15.9	9.5	6.8	9.1	9.8			
Western U.S. Index Plus	178,874,721	2.4		-3.9 (76)	13.2 (32)	22.1 (33)	9.1 (53)	9.1 (38)	11.8 (25)	7.3 (68)	Jun-07		
S&P 500 Index				-3.3 (60)	13.1 (33)	21.6 (35)	10.2 (41)	9.9 (24)	11.9 (24)	8.7 (40)			
Over/Under				-0.6	0.1	0.5	-1.1	-0.8	-0.1	-1.4			
eV US Large Cap Equity Median				-3.0	8.0	18.6	9.4	8.4	10.4	8.1			
Blackrock Russell 1000 Index	1,746,312,172	23.5		-3.1 (56)	13.0 (33)	21.2 (37)	9.5 (49)	9.6 (28)		11.3 (32)	May-17		
Russell 1000 Index				-3.1 (56)	13.0 (33)	21.2 (37)	9.5 (49)	9.6 (28)		11.3 (32)			
Over/Under				0.0	0.0	0.0	0.0	0.0		0.0			
eV US Large Cap Equity Median				-3.0	8.0	18.6	9.4	8.4		10.0			
Blackrock Russell 2500 Index	84,930,595	1.1		-4.8 (54)	3.7 (53)	11.4 (65)	8.5 (62)	4.6 (66)		7.0 (66)	May-17		
Russell 2500 Index				-4.8 (55)	3.6 (55)	11.3 (67)	8.4 (63)	4.5 (67)		7.0 (66)			
Over/Under				0.0	0.1	0.1	0.1	0.1		0.0			
eV US Small-Mid Cap Equity Median				-4.5	4.0	13.4	10.2	5.6		8.0			

Policy Index as of May, 2022: 26% Russell 3000 Index, 15% MSCI ACWI ex U.S., 9% MSCI ACWI, 18% Private Equity Benchmark, 10% Bloomberg US Aggregate, 8% 50% CS Leveraged Loan/50% ICE BofA US HY BB-B Rated Constrained Index, 8% NCREIF ODCE, 6% Real Assets Index.

Total U.S. Equity Benchmark: Russell 3000 Index. Prior to January 2016, the Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.

Prior to January 2016 the Total U.S. Equity Benchmark was a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.

Reams Custom Index: Merrill Lynch 3 Month Libor Constant Maturity Index, prior to February 2013 the Bloomberg Aggregate.

Loomis Custom Index: 65% Bloomberg US Aggregate, 30% Citigroup High Yield Market Index and 5% JPM Non-US Hedged Bond Index.

Total Real Estate Benchmark: NCREIF ODCE; prior to January 2006, the NCREIF Property Index.

Total Real Assets Benchmark CPI + 4% from inception until 6/30/2019; CPI +2% from 6/30/2019 to present.

Real Estate managers and NCREIF ODCE are valued on a quarterly basis. Performance is not applicable in mid-quarter months, therefore 0% return is shown.

Please Note: Private Equity performance is shown on a time-weighted return basis. Values are cash adjusted with current month cash flows. Fiscal year ends 6/30.



# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)									
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date		
<b>Total Non-US Equity</b>	<b>1,051,825,070</b>	<b>14.2</b>	<b>15.0</b>	<b>-5.9 (66)</b>	<b>5.2 (59)</b>	<b>20.5 (48)</b>	<b>3.7 (46)</b>	<b>2.3 (66)</b>	<b>3.5 (77)</b>	<b>5.8 (78)</b>	<b>Mar-94</b>		
MSCI ACWI ex USA				-3.8 (34)	5.3 (57)	20.4 (51)	3.7 (46)	2.6 (60)	3.3 (82)	4.8 (98)			
Over/Under				-2.1	-0.1	0.1	0.0	-0.3	0.2	1.0			
eV ACWI ex-US All Cap Equity Median				-5.1	5.9	20.4	3.1	3.0	4.2	6.1			
BlackRock ACWI ex-U.S. Index	546,657,424	7.4		-3.5 (30)	5.5 (56)	20.4 (49)	4.0 (44)	2.8 (58)	3.7 (71)	2.8 (67)	Apr-07		
MSCI AC World ex USA IMI (Net)				-3.5 (30)	5.3 (58)	20.2 (52)	3.8 (46)	2.6 (60)	3.5 (78)	2.6 (69)			
Over/Under				0.0	0.2	0.2	0.2	0.2	0.2	0.2			
eV ACWI ex-US All Cap Equity Median				-5.1	5.9	20.4	3.1	3.0	4.2	3.2			
Sprucegrove	253,781,967	3.4		-6.0 (69)	6.3 (46)	23.2 (27)	7.6 (25)	1.6 (79)	3.3 (83)	6.2 (51)	Apr-02		
MSCI EAFE (Net)				-4.1 (36)	7.1 (35)	25.6 (21)	5.8 (34)	3.2 (44)	3.8 (66)	5.4 (78)			
Over/Under				-1.9	-0.8	-2.4	1.8	-1.6	-0.5	0.8			
eV ACWI ex-US All Cap Equity Median				-5.1	5.9	20.4	3.1	3.0	4.2	6.2			
Walter Scott	251,385,679	3.4		-10.4 (97)	3.6 (73)	18.1 (71)	-0.2 (75)	4.4 (23)	5.2 (24)	5.5 (29)	Jan-11		
MSCI EAFE (Net)				-4.1 (36)	7.1 (35)	25.6 (21)	5.8 (34)	3.2 (44)	3.8 (66)	4.5 (57)			
Over/Under				-6.3	-3.5	-7.5	-6.0	1.2	1.4	1.0			
MSCI EAFE Growth Index				-8.6 (86)	4.6 (62)	20.4 (51)	0.7 (70)	3.6 (37)	4.8 (28)	5.3 (32)			
Over/Under				-1.8	-1.0	-2.3	-0.9	0.8	0.4	0.2			
eV ACWI ex-US All Cap Equity Median				-5.1	5.9	20.4	3.1	3.0	4.2	4.7			
<b>Total Global Equity</b>	<b>729,055,931</b>	<b>9.8</b>	<b>9.0</b>	<b>-3.3 (36)</b>	<b>10.4 (28)</b>	<b>21.3 (38)</b>	<b>7.3 (40)</b>	<b>6.9 (38)</b>	<b>7.5 (46)</b>	<b>6.5 (67)</b>	<b>May-05</b>		
MSCI AC World Index (Net)				-3.4 (38)	10.1 (31)	20.8 (42)	6.9 (44)	6.5 (45)	7.6 (46)	7.0 (54)			
Over/Under				0.1	0.3	0.5	0.4	0.4	-0.1	-0.5			
eV All Global Equity Median				-4.2	7.0	19.5	6.1	6.1	7.3	7.1			
BlackRock MSCI ACWI Equity Index	729,055,931	9.8		-3.3 (36)	10.4 (28)	21.2 (39)	7.3 (40)	6.8 (38)	8.0 (38)	9.2 (45)	Aug-12		
MSCI AC World Index (Net)				-3.4 (38)	10.1 (31)	20.8 (42)	6.9 (44)	6.5 (45)	7.6 (46)	8.8 (53)			
Over/Under				0.1	0.3	0.4	0.4	0.3	0.4	0.4			
eV All Global Equity Median				-4.2	7.0	19.5	6.1	6.1	7.3	8.9			
<b>Total Private Equity</b>	<b>1,371,975,637</b>	<b>18.5</b>	<b>18.0</b>	<b>0.7</b>	<b>-0.2</b>	<b>0.7</b>	<b>21.9</b>	<b>17.0</b>	<b>16.3</b>	<b>15.8</b>	<b>Jan-12</b>		
Private Equity Benchmark				-2.8	14.1	22.9	11.8	11.9	14.4	15.9			
Over/Under				3.5	-14.3	-22.2	10.1	5.1	1.9	-0.1			

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)									
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date		
<b>US Fixed Income</b>	<b>672,249,851</b>	<b>9.0</b>	<b>8.0</b>	<b>-2.3 (57)</b>	<b>0.6 (51)</b>	<b>3.6 (36)</b>	<b>-2.8 (61)</b>	<b>1.7 (30)</b>	<b>2.1 (39)</b>	<b>5.0 (15)</b>	<b>Mar-94</b>		
Blmbg. U.S. Aggregate Index				-3.2 (79)	-1.2 (82)	0.6 (86)	-5.2 (86)	0.1 (87)	1.1 (81)	4.3 (43)			
Over/Under				0.9	1.8	3.0	2.4	1.6	1.0	0.7			
eV All US Fixed Inc Median				-1.4	0.6	2.7	-2.0	1.1	1.7	4.1			
BlackRock U.S. Debt Fund	152,096,852	2.0		-3.2 (79)	-1.0 (79)	0.7 (85)	-5.2 (86)	0.1 (87)	1.2 (79)	4.1 (45)	Dec-95		
Blmbg. U.S. Aggregate Index				-3.2 (79)	-1.2 (82)	0.6 (86)	-5.2 (86)	0.1 (87)	1.1 (81)	4.0 (49)			
Over/Under				0.0	0.2	0.1	0.0	0.0	0.1	0.1			
eV All US Fixed Inc Median				-1.4	0.6	2.7	-2.0	1.1	1.7	4.0			
Western	182,393,347	2.5		-3.8 (87)	-1.0 (79)	0.9 (82)	-5.8 (92)	0.4 (80)	1.8 (47)	4.8 (18)	Jan-97		
Blmbg. U.S. Aggregate Index				-3.2 (79)	-1.2 (82)	0.6 (86)	-5.2 (86)	0.1 (87)	1.1 (81)	4.0 (49)			
Over/Under				-0.6	0.2	0.3	-0.6	0.3	0.7	0.8			
eV All US Fixed Inc Median				-1.4	0.6	2.7	-2.0	1.1	1.7	4.0			
Reams	207,328,453	2.8		-1.2 (50)	2.6 (28)	7.3 (16)	0.3 (29)	3.4 (8)	2.3 (35)	4.7 (21)	Oct-01		
Blmbg. U.S. Aggregate Index				-3.2 (79)	-1.2 (82)	0.6 (86)	-5.2 (86)	0.1 (87)	1.1 (81)	3.2 (59)			
Over/Under				2.0	3.8	6.7	5.5	3.3	1.2	1.5			
Reams Custom Index				1.3 (13)	3.7 (22)	4.6 (27)	1.7 (18)	1.9 (27)	1.3 (70)	3.4 (51)			
Over/Under				-2.5	-1.1	2.7	-1.4	1.5	1.0	1.3			
eV All US Fixed Inc Median				-1.4	0.6	2.7	-2.0	1.1	1.7	3.4			
Loomis Strategic Alpha	47,229,860	0.6		1.2 (15)	3.2 (25)	5.4 (20)	0.3 (29)	2.0 (24)	2.4 (32)	2.3 (33)	Aug-13		
Blmbg. U.S. Aggregate Index				-3.2 (79)	-1.2 (82)	0.6 (86)	-5.2 (86)	0.1 (87)	1.1 (81)	1.2 (80)			
Over/Under				4.4	4.4	4.8	5.5	1.9	1.3	1.1			
eV All US Fixed Inc Median				-1.4	0.6	2.7	-2.0	1.1	1.7	1.7			
Loomis Sayles Multi Strategy	83,201,338	1.1		-1.5 (51)	1.1 (44)	3.7 (35)	-1.8 (48)	2.2 (20)	3.3 (18)	5.1 (13)	Aug-05		
5% Bmbg. U.S. Int Agg / 65% Blmbg. U.S. Agg / 30% FTSE HY				-2.0 (55)	1.0 (45)	3.6 (36)	-3.0 (62)	1.0 (56)	2.0 (41)	3.8 (27)			
Over/Under				0.5	0.1	0.1	1.2	1.2	1.3	1.3			
eV All US Fixed Inc Median				-1.4	0.6	2.7	-2.0	1.1	1.7	3.0			
<b>Treasuries</b>	<b>73,229,342</b>	<b>1.0</b>	<b>2.0</b>	<b>-3.0</b>	<b>-1.4</b>	<b>-1.3</b>	<b>-8.0</b>			<b>-1.6</b>	<b>Apr-19</b>		
Reams 10-Year Treasuries	73,229,342	1.0		-3.0	-1.4	-1.3	-8.0			-1.6	Apr-19		
Blmbg. U.S. Treasury: 7-10 Year				-4.4	-2.9	-1.9	-7.5			-1.6			
Over/Under				1.4	1.5	0.6	-0.5			0.0			
<b>Private Credit</b>	<b>514,107,968</b>	<b>6.9</b>	<b>8.0</b>	<b>2.0</b>	<b>7.5</b>	<b>8.5</b>	<b>12.3</b>	<b>8.6</b>		<b>8.1</b>	<b>Jan-18</b>		
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				1.8	7.5	11.1	4.0	4.5		4.7			
Over/Under				0.2	0.0	-2.6	8.3	4.1		3.4			

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Real Estate</b>	<b>535,544,533</b>	<b>7.2</b>	<b>8.0</b>	<b>0.4</b>	<b>-5.6</b>	<b>-10.1</b>	<b>6.0</b>	<b>3.6</b>	<b>6.2</b>	<b>7.1</b>	<b>Apr-94</b>
NCREIF ODCE Net				<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>	<u>4.7</u>	<u>7.2</u>	<u>7.5</u>	
Over/Under				2.5	2.5	2.8	-0.2	-1.1	-1.0	-0.4	
Prudential Real Estate	208,742,745	2.8		0.0	-3.7	-9.2	7.7	6.3	8.3	6.3	Jul-04
NCREIF ODCE Net				<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>	<u>4.7</u>	<u>7.2</u>	<u>6.5</u>	
Over/Under				2.1	4.4	3.7	1.5	1.6	1.1	-0.2	
UBS Real Estate	222,579,482	3.0		0.0	-10.4	-15.2	2.2	0.5	4.2	5.6	Apr-03
NCREIF ODCE Net				<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>	<u>4.7</u>	<u>7.2</u>	<u>6.7</u>	
Over/Under				2.1	-2.3	-2.3	-4.0	-4.2	-3.0	-1.1	
LaSalle Income + Growth VIII Limited Partnership	66,921,682	0.9		0.4	0.7	2.4	18.8			11.1	Mar-20
NCREIF ODCE Net				<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>			<u>4.9</u>	
Over/Under				2.5	8.8	15.3	12.6			6.2	
Alterra IOS Venture II	37,300,624	0.5		5.7	10.9	9.4				3.4	Apr-22
NCREIF ODCE Net				<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>				<u>-5.8</u>	
Over/Under				7.8	19.0	22.3				9.2	
<b>Total Real Assets</b>	<b>362,722,762</b>	<b>4.9</b>	<b>6.0</b>	<b>1.8</b>	<b>8.4</b>	<b>14.7</b>	<b>7.9</b>	<b>3.7</b>	<b>3.6</b>	<b>4.1</b>	<b>May-13</b>
Real Assets Index				<u>1.4</u>	<u>5.3</u>	<u>5.8</u>	<u>7.9</u>	<u>6.4</u>	<u>6.6</u>	<u>6.4</u>	
Over/Under				0.4	3.1	8.9	0.0	-2.7	-3.0	-2.3	
Bridgewater All Weather Fund	108,233,730	1.5		-4.4	-0.2	6.9	-1.9	1.3	2.8	3.0	Sep-13
CPI + 5% (Unadjusted)				<u>2.1</u>	<u>7.6</u>	<u>8.9</u>	<u>11.0</u>	<u>9.2</u>	<u>7.9</u>	<u>7.9</u>	
Over/Under				-6.5	-7.8	-2.0	-12.9	-7.9	-5.1	-4.9	
Tortoise Energy Infrastructure	125,132,548	1.7		7.4	14.5	25.6	38.8	6.2	3.6	3.8	May-13
Tortoise MLP Index				<u>10.4</u>	<u>18.0</u>	<u>28.8</u>	<u>39.9</u>	<u>7.1</u>	<u>2.3</u>	<u>2.3</u>	
Over/Under				-3.0	-3.5	-3.2	-1.1	-0.9	1.3	1.5	
Brookfield Infra Fund IV B LP	50,512,913	0.7		4.7	11.7	7.2	14.0			10.1	Apr-20
CPI + 2% (Unadjusted)				<u>1.4</u>	<u>5.3</u>	<u>5.8</u>	<u>7.9</u>			<u>7.3</u>	
Over/Under				3.3	6.4	1.4	6.1			2.8	
Brookfield Infra Fund V B LP	12,456,693	0.2		0.0						0.0	Jun-23
CPI + 2% (Unadjusted)				<u>1.4</u>						<u>1.9</u>	
Over/Under				-1.4						-1.9	
Harbourvest Real Assets Fund IV L.P.	66,386,878	0.9		0.6	11.7	18.3				33.0	Apr-21
CPI + 2% (Unadjusted)				<u>1.4</u>	<u>5.3</u>	<u>5.8</u>				<u>8.3</u>	
Over/Under				-0.8	6.4	12.5				24.7	
<b>Overlay</b>	<b>110,803,290</b>	<b>1.5</b>	<b>0.0</b>								
Parametric	37,634,494	0.5									
Abbott Capital Cash	73,168,796	1.0									

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Private Equity</b>	<b>1,371,975,637</b>	<b>18.5</b>	<b>18.0</b>	<b>0.7</b>	<b>-0.2</b>	<b>0.7</b>	<b>21.9</b>	<b>17.0</b>	<b>16.3</b>	<b>15.8</b>	<b>Jan-12</b>
Private Equity Benchmark				-2.8	14.1	22.9	11.8	11.9	14.4	15.9	
Over/Under				3.5	-14.3	-22.2	10.1	5.1	1.9	-0.1	
C/A Global All PE (Qtr Lag)				1.5	4.5	2.8	18.3	14.0	13.6	13.5	
Over/Under				-0.8	-4.7	-2.1	3.6	3.0	2.7	2.3	
Adams Street Global Fund Series	247,374,445	3.3		0.0	-1.8	-2.6	19.6	16.2	14.9	14.7	Jan-12
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3	13.5	15.0	
Over/Under				2.8	-15.9	-25.5	8.0	4.9	1.4	-0.3	
Harbourvest	109,562,605	1.5		0.0	3.4	27.6	18.6	13.4	17.2	16.9	Aug-13
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3	13.5	13.4	
Over/Under				2.8	-10.7	4.7	7.0	2.1	3.7	3.5	
Pantheon Global Secondary Funds	57,934,186	0.8		0.0	-0.9	4.1	16.8	9.6	12.7	11.8	Jan-12
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3	13.5	15.0	
Over/Under				2.8	-15.0	-18.8	5.2	-1.7	-0.8	-3.2	
Drive Capital Fund II	14,719,640	0.2		-1.7	-50.5	-50.3	-8.8	5.1		-7.1	Sep-16
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3		13.8	
Over/Under				1.1	-64.6	-73.2	-20.4	-6.2		-20.9	
Abbott Secondary Opportunities	10,323,135	0.1		2.1	10.2	10.2	19.2	20.2		21.3	Jan-18
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3		12.0	
Over/Under				4.9	-3.9	-12.7	7.6	8.9		9.3	
Clearlake Capital Partners V	11,893,171	0.2		0.7	0.0	-6.2	12.6	23.2		22.7	Mar-18
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3		12.0	
Over/Under				3.5	-14.1	-29.1	1.0	11.9		10.7	
Battery Ventures XII	24,905,716	0.3		-3.0	-14.2	-22.4	33.4	22.4		18.8	Apr-18
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3		12.6	
Over/Under				-0.2	-28.3	-45.3	21.8	11.1		6.2	
Insight Venture Partners X	50,910,344	0.7		0.0	0.1	-20.0	24.8	22.2		18.9	May-18
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3		12.7	
Over/Under				2.8	-14.0	-42.9	13.2	10.9		6.2	
GTCR Fund XII	32,418,494	0.4		2.1	1.4	1.1	22.6	13.5		2.8	Jun-18
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3		12.3	
Over/Under				4.9	-12.7	-21.8	11.0	2.2		-9.5	
Buenaventure One, LLC	214,625,793	2.9		0.0	0.4	1.6	22.7	15.3		14.6	Jul-18
Russell 3000 + 2%				-2.8	14.1	22.9	11.6	11.3		12.3	
Over/Under				2.8	-13.7	-21.3	11.1	4.0		2.3	

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
ECI 11	8,533,624	0.1		-9.5	3.2	-3.1	18.1			19.9	Jan-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			15.5	
Over/Under				-6.7	-10.9	-26.0	6.5			4.4	
Buenaventure Two, LLC	2,167,937	0.0		0.0	0.3	3.1	19.9			29.4	Dec-18
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			13.0	
Over/Under				2.8	-13.8	-19.8	8.3			16.4	
The Resolute Fund IV L.P.	34,997,100	0.5		5.7	16.0	29.5	33.7			40.5	Jan-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			15.5	
Over/Under				8.5	1.9	6.6	22.1			25.0	
GGV Capital VII L.P.	13,176,637	0.2		-2.0	-5.7	-7.2	13.3			3.7	Feb-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			13.8	
Over/Under				0.8	-19.8	-30.1	1.7			-10.1	
GGV Discovery II, L.P.	3,841,569	0.1		-2.2	-3.9	-4.8	26.3			17.4	Feb-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			13.8	
Over/Under				0.6	-18.0	-27.7	14.7			3.6	
Drive Capital Overdrive Fund I	9,251,523	0.1		-0.4	-23.1	-23.5	23.6			14.0	May-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			12.2	
Over/Under				2.4	-37.2	-46.4	12.0			1.8	
Riverside Micro Cap Fund V, LP	11,904,045	0.2		0.0	3.9	8.7	27.0			6.8	May-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			12.2	
Over/Under				2.8	-10.2	-14.2	15.4			-5.4	
GGV Capital VII Plus, LP	3,204,433	0.0		-1.0	4.0	3.8	9.9			7.9	Jun-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			14.2	
Over/Under				1.8	-10.1	-19.1	-1.7			-6.3	
Astorg VII L.P.	10,251,198	0.1		19.1	-3.2	-1.8	22.9			5.9	Jul-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			12.6	
Over/Under				21.9	-17.3	-24.7	11.3			-6.7	
Astorg VIII L.P.	7,785,716	0.1		-8.0	-8.0	-8.0				-6.9	Aug-22
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9				6.5	
Over/Under				-5.2	-22.1	-30.9				-13.4	
M/C Partners Fund VIII LP. Limited Partnership	8,388,825	0.1		0.1	-0.4	1.3	11.3			-6.6	Jul-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			12.6	
Over/Under				2.9	-14.5	-21.6	-0.3			-19.2	
Genstar Capital Partners IX	9,762,030	0.1		3.5	5.4	11.7	32.8			-194.7	Aug-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			12.4	
Over/Under				6.3	-8.7	-11.2	21.2			-207.1	

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Genstar IX Opportunities Fund I	2,874,116	0.0		-1.1	-1.8	3.7	23.1			17.7	Aug-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			12.4	
Over/Under				1.7	-15.9	-19.2	11.5			5.3	
ABRY Partners IX, LP	12,916,263	0.2		0.0	3.9	17.1	23.1			5.1	Sep-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			13.2	
Over/Under				2.8	-10.2	-5.8	11.5			-8.1	
Advent International GPE IX LP	12,967,674	0.2		1.2	-1.0	-10.2	29.7			24.9	Nov-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			12.6	
Over/Under				4.0	-15.1	-33.1	18.1			12.3	
Drive Capital Fund III LP	7,022,004	0.1		-0.8	-13.2	-14.9	10.3			2.8	Dec-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			11.8	
Over/Under				2.0	-27.3	-37.8	-1.3			-9.0	
Oak HC/FT Partners III LP	22,620,230	0.3		0.0	-5.4	-8.1	26.6			16.0	Dec-19
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			11.8	
Over/Under				2.8	-19.5	-31.0	15.0			4.2	
TA XIII A LP	12,444,117	0.2		2.8	3.3	3.8	28.9			21.4	Jan-20
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			11.1	
Over/Under				5.6	-10.8	-19.1	17.3			10.3	
Dover Street X, LP	32,668,231	0.4		4.3	7.2	5.6	45.3			31.4	Feb-20
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			11.4	
Over/Under				7.1	-6.9	-17.3	33.7			20.0	
Hellman & Friedman CP IX	25,989,487	0.3		0.0	15.2	11.7	14.2			9.4	Apr-20
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			19.6	
Over/Under				2.8	1.1	-11.2	2.6			-10.2	
Clearlake Capital Partners VI	28,165,925	0.4		1.7	8.8	5.9	27.9			24.8	Jun-20
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			14.3	
Over/Under				4.5	-5.3	-17.0	16.3			10.5	
Flexpoint Fund IV	8,146,570	0.1		0.0	-28.8	-29.5	4.6			11.8	Jun-20
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			14.3	
Over/Under				2.8	-42.9	-52.4	-7.0			-2.5	
Battery Ventures XIII	16,687,009	0.2		-2.5	-4.4	-6.4	15.2			12.3	Jun-20
<i>Russell 3000 + 2%</i>				-2.8	14.1	22.9	11.6			14.3	
Over/Under				0.3	-18.5	-29.3	3.6			-2.0	

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Green Equity Investors VIII, L.P.	15,449,791	0.2		2.4	10.2	10.2				5.2	Nov-20
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>12.7</u>	
Over/Under				5.2	-3.9	-12.7				-7.5	
Green Equity Investors IX LP	203,270	0.0								58.9	Sep-23
<i>Russell 3000 + 2%</i>										<u>-4.6</u>	
Over/Under										63.5	
CapVest Private Equity Partners IV, SCSp	10,248,827	0.1		-1.6	0.9	17.4				34.0	Dec-20
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>8.5</u>	
Over/Under				1.2	-13.2	-5.5				25.5	
Drive Capital Fund IV LP	4,358,006	0.1		-2.8	-4.1	-5.6				-5.4	Jan-22
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-3.5</u>	
Over/Under				0.0	-18.2	-28.5				-1.9	
Great Hill Equity Partners VII	8,860,137	0.1		2.8	22.7	24.5				80.8	Jan-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>7.0</u>	
Over/Under				5.6	8.6	1.6				73.8	
Great Hill Equity Partners VIII	4,092,963	0.1		18.2	-5.0					-5.0	Dec-22
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>					<u>7.6</u>	
Over/Under				21.0	-19.1					-12.6	
Vitruvian Investment Partners IV	18,846,180	0.3		-1.0	7.3	23.1				-100.0	Jan-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>7.0</u>	
Over/Under				1.8	-6.8	0.2				-107.0	
CRV XVIII, L.P.	15,238,769	0.2		-2.3	-9.3	-10.9				1.4	Mar-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>6.3</u>	
Over/Under				0.5	-23.4	-33.8				-4.9	
GGV Capital VIII, L.P.	6,498,276	0.1		6.9	5.7	9.5				11.4	May-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>2.9</u>	
Over/Under				9.7	-8.4	-13.4				8.5	
GGV Discovery III, L.P.	2,848,942	0.0		0.2	3.7	16.1				23.5	May-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>2.9</u>	
Over/Under				3.0	-10.4	-6.8				20.6	
Oak HC/FT Partners IV, L.P.	9,681,236	0.1		1.4	4.2	3.8				8.6	May-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>2.9</u>	
Over/Under				4.2	-9.9	-19.1				5.7	
Prairie Capital VII, LP	4,714,482	0.1		-0.7	-6.3	-8.7				-0.8	Jun-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>2.7</u>	
Over/Under				2.1	-20.4	-31.6				-3.5	
GGV Capital VIII Plus, L.P.	1,095,462	0.0		0.0	-1.4	0.5				1.9	Jul-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>1.6</u>	
Over/Under				2.8	-15.5	-22.4				0.3	

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Flexpoint Overage Fund IV A, L.P.	2,932,527	0.0		2.0	15.9	12.0				12.0	Jul-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>1.6</u>	
Over/Under				4.8	1.8	-10.9				10.4	
Abbott Secondary Opportunities II, L.P.	28,166,270	0.4		0.0	6.1	8.6				52.7	Jul-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>1.6</u>	
Over/Under				2.8	-8.0	-14.3				51.1	
Genstar X Opportunities Fund I, LP	3,367,011	0.0		-0.5	1.8	3.4				5.4	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-0.6</u>	
Over/Under				2.3	-12.3	-19.5				6.0	
Charlesbank Overage Fund X	5,868,452	0.1		8.0	14.6	17.7				13.2	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-0.6</u>	
Over/Under				10.8	0.5	-5.2				13.8	
Charlesbank Equity Fund X	14,619,526	0.2		2.3	11.6	16.8				8.6	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-0.6</u>	
Over/Under				5.1	-2.5	-6.1				9.2	
GTCR Fund XIII	15,198,532	0.2		2.7	-1.6	-3.1				28.3	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-0.6</u>	
Over/Under				5.5	-15.7	-26.0				28.9	
Hellman & Friedman CP X	15,341,715	0.2		4.5	15.3	11.9				2.0	Nov-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-1.8</u>	
Over/Under				7.3	1.2	-11.0				3.8	
Genstar Capital Partners X LP	10,907,776	0.1		-1.3	1.4	3.6				8.2	Dec-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-1.2</u>	
Over/Under				1.5	-12.7	-19.3				9.4	
TA XIV A LP	6,096,750	0.1		0.1	-1.2	-5.9				-7.1	Dec-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-1.2</u>	
Over/Under				2.9	-15.3	-28.8				-5.9	
CVC Capital Partners VIII A LP	12,264,989	0.2		-2.2	-1.6	12.5				15.6	Dec-21
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-1.2</u>	
Over/Under				0.6	-15.7	-10.4				16.8	
Drive Capital Overdrive	5,392,240	0.1		53.6	-11.6	-13.3				-10.7	Feb-22
<i>Russell 3000 + 2%</i>				<u>-2.8</u>	<u>14.1</u>	<u>22.9</u>				<u>-0.2</u>	
Over/Under				56.4	-25.7	-36.2				-10.5	



# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Drive Capital Fund IV LP	4,358,006	0.1		-2.8	-4.1	-5.6				-5.7	Feb-22
Russell 3000 + 2%				-2.8	14.1	22.9				-0.2	
Over/Under				0.0	-18.2	-28.5				-5.5	
Kinderhook Capital Fund 7	7,211,503	0.1		5.2	84.9	73.3				26.1	Mar-22
Russell 3000 + 2%				-2.8	14.1	22.9				1.3	
Over/Under				8.0	70.8	50.4				24.8	
Pantheon Global Secondary Funds VII	6,198,328	0.1		0.0	10.0	10.0				16.3	Apr-22
Russell 3000 + 2%				-2.8	14.1	22.9				-0.8	
Over/Under				2.8	-4.1	-12.9				17.1	
Harbourvest PTN Co Inv VI LP	19,737,708	0.3		3.1	8.4	-2.3				-0.5	Apr-22
Russell 3000 + 2%				-2.8	14.1	22.9				-0.8	
Over/Under				5.9	-5.7	-25.2				0.3	
Clearlake Capital Partners VII	11,960,164	0.2		0.6	5.4	3.7				2.6	May-22
Russell 3000 + 2%				-2.8	14.1	22.9				5.8	
Over/Under				3.4	-8.7	-19.2				-3.2	
Battery Ventures XIV	1,786,966	0.0		-2.6	-6.6	-14.3					Jul-22
Russell 3000 + 2%				-2.8	14.1	22.9				14.1	
Over/Under				0.2	-20.7	-37.2					
Oak HC/FT Partners V	1,549,959	0.0		-2.5	-9.2	56.0					Jul-22
Russell 3000 + 2%				-2.8	14.1	22.9				14.1	
Over/Under				0.3	-23.3	33.1					
Advent International GPE X LP	5,762,073	0.1		0.8	-1.8	-18.5				-18.5	Oct-22
Russell 3000 + 2%				-2.8	14.1	22.9				22.9	
Over/Under				3.6	-15.9	-41.4				-41.4	
GTCR Strategic Growth 1/A	1,082,799	0.0		-7.6	-49.3	-49.3				-49.3	Oct-22
Russell 3000 + 2%				-2.8	14.1	22.9				22.9	
Over/Under				-4.8	-63.4	-72.2				-72.2	
GTCR Strategic Growth 1/B	1,300,192	0.0		8.5	34.2	37.3				37.3	Oct-22
Russell 3000 + 2%				-2.8	14.1	22.9				22.9	
Over/Under				11.3	20.1	14.4				14.4	
Riverside Micro Cap Fund VI, LP	6,269,502	0.1		4.3	6.5	-4.2				-4.2	Oct-22
Russell 3000 + 2%				-2.8	14.1	22.9				22.9	
Over/Under				7.1	-7.6	-27.1				-27.1	
Ridgemont Equity Partners IV	6,129,218	0.1		-0.7	11.9					11.9	Jan-23
Russell 3000 + 2%				-2.8	14.1					14.1	
Over/Under				2.1	-2.2					-2.2	
CapVest Private Equity Partners V, SCSp	261,305	0.0		-66.3						-66.3	Apr-23
Russell 3000 + 2%				-2.8						5.9	
Over/Under				-63.5						-72.2	

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Private Credit</b>	<b>514,107,968</b>	<b>6.9</b>	<b>8.0</b>	<b>2.0</b>	<b>7.5</b>	<b>8.5</b>	<b>12.3</b>	<b>8.6</b>		<b>8.1</b>	<b>Jan-18</b>
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>	<u>4.0</u>	<u>4.5</u>		<u>4.7</u>	
Over/Under				0.2	0.0	-2.6	8.3	4.1		3.4	
CVI Credit Value Fund IV	22,970,672	0.3		2.0	6.1	8.2	10.9	7.7		7.3	Jan-18
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>	<u>4.0</u>	<u>4.5</u>		<u>4.7</u>	
Over/Under				0.2	-1.4	-2.9	6.9	3.2		2.6	
Monroe Capital Private Credit Fund III	21,627,347	0.3		2.6	10.0	12.3	12.8			11.5	Dec-18
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>	<u>4.0</u>			<u>4.9</u>	
Over/Under				0.8	2.5	1.2	8.8			6.6	
Bluebay Direct Lending Fund III	19,405,928	0.3		0.0	5.2	6.9	10.2			9.6	Apr-19
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>	<u>4.0</u>			<u>4.4</u>	
Over/Under				-1.8	-2.3	-4.2	6.2			5.2	
Pimco Private Income Fund	73,553,371	1.0		1.9	3.5	2.5	10.6			8.1	Nov-19
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>	<u>4.0</u>			<u>4.0</u>	
Over/Under				0.1	-4.0	-8.6	6.6			4.1	
Bridge Debt Strategies III Limited Partner	13,467,225	0.2		2.1	4.4	5.9	14.4			6.7	Jan-20
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>	<u>4.0</u>			<u>3.5</u>	
Over/Under				0.3	-3.1	-5.2	10.4			3.2	
PIMCO Corp Opps Fund III	51,279,371	0.7		2.1	2.5	4.6	25.8			27.6	May-20
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>	<u>4.0</u>			<u>6.5</u>	
Over/Under				0.3	-5.0	-6.5	21.8			21.1	
Torchlight Debt Fund VII, L.P.	13,322,185	0.2		0.1	2.5	3.7				3.6	Jan-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>2.5</u>	
Over/Under				-1.7	-5.0	-7.4				1.1	
Torchlight Debt Fund VIII, L.P.	4,627,020	0.1		-1.3	-16.6					-16.6	Jan-23
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>					<u>7.5</u>	
Over/Under				-3.1	-24.1					-24.1	
Crayhill Principal Strategies Fund II	15,849,781	0.2		1.6	1.0	1.5				14.5	May-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>1.9</u>	
Over/Under				-0.2	-6.5	-9.6				12.6	
CVI Credit Value Fund A V	21,305,826	0.3		2.1	7.0	6.0				6.0	Jun-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>1.7</u>	
Over/Under				0.3	-0.5	-5.1				4.3	

# TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Bridge Debt Strategies Fund IV LP	23,978,953	0.3		2.9	6.4	7.7				6.2	Aug-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>1.3</u>	
Over/Under				1.1	-1.1	-3.4				4.9	
Cross Ocean USD ESS Fund IV	33,889,259	0.5		6.8	10.5	11.5				9.0	Sep-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>1.1</u>	
Over/Under				5.0	3.0	0.4				7.9	
Harbourvest Direct Lending L	19,491,718	0.3		0.0	6.0	10.2				4.8	Sep-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>1.1</u>	
Over/Under				-1.8	-1.5	-0.9				3.7	
Bain Capital Special Situations Asia Fund II	3,318,293	0.0		5.0	19.8	20.0				15.2	Nov-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>1.0</u>	
Over/Under				3.2	12.3	8.9				14.2	
Arbour Lane Credit Opp III A	16,727,397	0.2		3.4	10.5	9.1				-0.7	Dec-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>1.4</u>	
Over/Under				1.6	3.0	-2.0				-2.1	
Monroe Private Capital Fund IV	25,166,618	0.3		3.2	8.6	10.8				8.4	Jan-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>0.7</u>	
Over/Under				1.4	1.1	-0.3				7.7	
Crescent Cove Opportunity Fund LP	25,553,210	0.3		0.0	7.3	6.9				4.3	May-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>	<u>11.1</u>				<u>3.8</u>	
Over/Under				-1.8	-0.2	-4.2				0.5	
Pantheon Credit Opportunity II	39,311,380	0.5		0.0	40.2					40.2	Nov-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>					<u>9.0</u>	
Over/Under				-1.8	32.7					31.2	
VWH Partners III LP	31,223,362	0.4		0.0	3.5					3.5	Dec-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>	<u>7.5</u>					<u>7.3</u>	
Over/Under				-1.8	-4.0					-3.8	
Harbourview Royalties I	19,562,171	0.3		2.6						1.3	Apr-23
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>						<u>4.0</u>	
Over/Under				0.8						-2.7	
KLCP Domestic Fund III LP	13,346,161	0.2		4.3						4.3	May-23
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>						<u>3.1</u>	
Over/Under				2.5						1.2	
PIMCO Corp Opps Fund IV	5,130,720	0.1		3.4						3.4	May-23
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				<u>1.8</u>						<u>3.1</u>	
Over/Under				1.6						0.3	

\*As of 5/1/2022, the policy index was changed to 26% Russell 3000, 9% MSCI ACWI Index, 15% MSCI ACWI ex US, 10% Bloomberg Agg, 8% (50% CS Lev Loan / 50% ICE BofA US HY BBB Rated Constrained Index), 18% Russell 3000+2%, 6% CPI+2%, 8% NCREIF ODCE Index.

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Total Fund</b>	<b>-11.5 (62)</b>	<b>19.1 (10)</b>	<b>13.6 (16)</b>	<b>18.7 (19)</b>	<b>-3.6 (48)</b>	<b>16.0 (39)</b>	<b>8.6 (18)</b>	<b>-0.9 (67)</b>	<b>6.3 (33)</b>	<b>18.1 (20)</b>
Policy Index	-12.9 (76)	15.8 (47)	14.4 (11)	20.7 (7)	-3.6 (47)	16.2 (31)	7.4 (65)	0.7 (25)	6.6 (22)	17.2 (31)
Over/Under	1.4	3.3	-0.8	-2.0	0.0	-0.2	1.2	-1.6	-0.3	0.9
60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg	-17.3 (100)	8.8 (100)	14.0 (12)	18.6 (22)	-6.0 (88)	17.1 (13)	5.7 (98)	-2.5 (94)	2.8 (98)	12.1 (78)
Over/Under	5.8	10.3	-0.4	0.1	2.4	-1.1	2.9	1.6	3.5	6.0
InvMetrics Public DB > \$1 Billion Median	-10.6	15.3	11.3	17.1	-3.7	15.5	7.6	-0.4	5.7	15.5
<b>Total Fund ex Parametric</b>	<b>-11.7</b>	<b>19.8</b>	<b>13.4</b>	<b>18.6</b>	<b>-3.7</b>	<b>16.3</b>	<b>9.2</b>	<b>-1.0</b>	<b>6.3</b>	
<b>Total US Equity</b>	<b>-19.6 (63)</b>	<b>26.5 (44)</b>	<b>20.5 (37)</b>	<b>31.6 (27)</b>	<b>-5.0 (36)</b>	<b>21.4 (38)</b>	<b>13.0 (47)</b>	<b>0.5 (37)</b>	<b>12.5 (29)</b>	<b>34.0 (55)</b>
Russell 3000	-19.2 (61)	25.7 (50)	20.9 (36)	31.0 (32)	-5.2 (38)	21.1 (39)	12.7 (48)	-0.5 (45)	11.3 (39)	33.5 (59)
Over/Under	-0.4	0.8	-0.4	0.6	0.2	0.3	0.3	1.0	1.2	0.5
eV All US Equity Median	-16.9	25.6	15.2	28.1	-7.1	19.0	12.4	-1.1	9.7	34.8
Western U.S. Index Plus	-21.4 (73)	28.6 (28)	17.9 (41)	33.5 (20)	-5.3 (51)	22.7 (38)	13.8 (27)	1.1 (41)	14.2 (20)	32.9 (51)
S&P 500 Index	-18.1 (62)	28.7 (28)	18.4 (40)	31.5 (34)	-4.4 (42)	21.8 (43)	12.0 (39)	1.4 (38)	13.7 (25)	32.4 (57)
Over/Under	-3.3	-0.1	-0.5	2.0	-0.9	0.9	1.8	-0.3	0.5	0.5
eV US Large Cap Equity Median	-14.8	26.0	14.3	29.1	-5.3	20.7	10.1	0.0	11.6	33.0
Blackrock Russell 1000 Index	-19.2 (67)	26.6 (46)	21.0 (34)	31.4 (34)	-4.7 (45)					
Russell 1000 Index	-19.1 (67)	26.5 (48)	21.0 (34)	31.4 (34)	-4.8 (45)					
Over/Under	-0.1	0.1	0.0	0.0	0.1					
eV US Large Cap Equity Median	-14.8	26.0	14.3	29.1	-5.3					
Blackrock Russell 2500 Index	-18.3 (55)	18.2 (69)	20.0 (44)	27.8 (51)	-9.9 (50)					
Russell 2500 Index	-18.4 (56)	18.2 (69)	20.0 (44)	27.8 (51)	-10.0 (51)					
Over/Under	0.1	0.0	0.0	0.0	0.1					
eV US Small-Mid Cap Equity Median	-17.3	23.4	17.0	27.9	-10.0					

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Total Non-US Equity</b>	<b>-17.0</b>	<b>9.0</b>	<b>9.3</b>	<b>21.0</b>	<b>-13.0</b>	<b>26.5</b>	<b>6.6</b>	<b>-4.8</b>	<b>-3.6</b>	<b>16.3</b>
MSCI ACWI ex USA	<u>-16.0</u>	<u>7.8</u>	<u>10.7</u>	<u>21.5</u>	<u>-14.2</u>	<u>27.2</u>	<u>4.5</u>	<u>-5.7</u>	<u>-3.9</u>	<u>15.3</u>
Over/Under	-1.0	1.2	-1.4	-0.5	1.2	-0.7	2.1	0.9	0.3	1.0
BlackRock ACWI ex-U.S. Index	<u>-16.4</u> (38)	<u>8.7</u> (57)	<u>11.2</u> (67)	<u>21.9</u> (71)	<u>-14.6</u> (45)	<u>28.1</u> (58)	<u>4.7</u> (28)	<u>-4.5</u> (73)	<u>-3.8</u> (46)	<u>16.0</u> (76)
MSCI AC World ex USA IMI (Net)	<u>-16.6</u> (40)	<u>8.5</u> (59)	<u>11.1</u> (67)	<u>21.6</u> (71)	<u>-14.8</u> (47)	<u>27.8</u> (59)	<u>4.4</u> (31)	<u>-4.6</u> (74)	<u>-3.9</u> (47)	<u>15.8</u> (77)
Over/Under	0.2	0.2	0.1	0.3	0.2	0.3	0.3	0.1	0.1	0.2
eV ACWI ex-US All Cap Equity Median	<u>-19.0</u>	<u>10.0</u>	<u>15.7</u>	<u>24.6</u>	<u>-15.2</u>	<u>28.9</u>	<u>1.5</u>	<u>-0.8</u>	<u>-4.1</u>	<u>20.0</u>
Sprucegrove	<u>-12.0</u> (21)	<u>6.9</u> (71)	<u>4.0</u> (85)	<u>17.3</u> (86)	<u>-13.8</u> (37)	<u>27.5</u> (62)	<u>11.9</u> (4)	<u>-9.1</u> (94)	<u>-3.2</u> (43)	<u>17.1</u> (70)
MSCI EAFE (Net)	<u>-14.5</u> (31)	<u>11.3</u> (38)	<u>7.8</u> (76)	<u>22.0</u> (70)	<u>-13.8</u> (37)	<u>25.0</u> (77)	<u>1.0</u> (54)	<u>-0.8</u> (51)	<u>-4.9</u> (61)	<u>22.8</u> (34)
Over/Under	2.5	-4.4	-3.8	-4.7	0.0	2.5	10.9	-8.3	1.7	-5.7
eV ACWI ex-US All Cap Equity Median	<u>-19.0</u>	<u>10.0</u>	<u>15.7</u>	<u>24.6</u>	<u>-15.2</u>	<u>28.9</u>	<u>1.5</u>	<u>-0.8</u>	<u>-4.1</u>	<u>20.0</u>
Walter Scott	<u>-22.6</u> (70)	<u>11.3</u> (38)	<u>20.4</u> (36)	<u>27.5</u> (31)	<u>-7.1</u> (1)	<u>26.6</u> (67)	<u>5.1</u> (26)	<u>-0.4</u> (46)	<u>-3.5</u> (44)	<u>11.8</u> (92)
MSCI EAFE (Net)	<u>-14.5</u> (31)	<u>11.3</u> (38)	<u>7.8</u> (76)	<u>22.0</u> (70)	<u>-13.8</u> (37)	<u>25.0</u> (77)	<u>1.0</u> (54)	<u>-0.8</u> (51)	<u>-4.9</u> (61)	<u>22.8</u> (34)
Over/Under	-8.1	0.0	12.6	5.5	6.7	1.6	4.1	0.4	1.4	-11.0
MSCI EAFE Growth Index	<u>-22.7</u> (71)	<u>11.6</u> (37)	<u>18.7</u> (40)	<u>28.4</u> (26)	<u>-12.5</u> (22)	<u>29.3</u> (47)	<u>-2.7</u> (81)	<u>4.5</u> (12)	<u>-4.1</u> (49)	<u>22.9</u> (31)
Over/Under	0.1	-0.3	1.7	-0.9	5.4	-2.7	7.8	-4.9	0.6	-11.1
eV ACWI ex-US All Cap Equity Median	<u>-19.0</u>	<u>10.0</u>	<u>15.7</u>	<u>24.6</u>	<u>-15.2</u>	<u>28.9</u>	<u>1.5</u>	<u>-0.8</u>	<u>-4.1</u>	<u>20.0</u>
<b>Total Global Equity</b>	<b>-18.1</b>	<b>18.9</b>	<b>16.7</b>	<b>27.1</b>	<b>-9.0</b>	<b>24.5</b>	<b>9.0</b>	<b>-3.8</b>	<b>1.9</b>	<b>22.0</b>
MSCI AC World Index (Net)	<u>-18.4</u>	<u>18.5</u>	<u>16.3</u>	<u>26.6</u>	<u>-9.4</u>	<u>24.0</u>	<u>7.9</u>	<u>-2.4</u>	<u>4.2</u>	<u>22.8</u>
Over/Under	0.3	0.4	0.4	0.5	0.4	0.5	1.1	-1.4	-2.3	-0.8
BlackRock MSCI ACWI Equity Index	<u>-18.1</u> (48)	<u>18.9</u> (49)	<u>16.7</u> (46)	<u>27.1</u> (47)	<u>-9.0</u> (48)	<u>24.5</u> (41)	<u>8.4</u> (32)	<u>-2.0</u> (65)	<u>4.6</u> (44)	<u>23.2</u> (63)
MSCI AC World Index (Net)	<u>-18.4</u> (51)	<u>18.5</u> (52)	<u>16.3</u> (48)	<u>26.6</u> (50)	<u>-9.4</u> (52)	<u>24.0</u> (45)	<u>7.9</u> (36)	<u>-2.4</u> (67)	<u>4.2</u> (48)	<u>22.8</u> (65)
Over/Under	0.3	0.4	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4
eV All Global Equity Median	<u>-18.4</u>	<u>18.7</u>	<u>15.6</u>	<u>26.6</u>	<u>-9.2</u>	<u>23.2</u>	<u>6.1</u>	<u>-0.6</u>	<u>3.8</u>	<u>25.9</u>
<b>Total Private Equity</b>	<b>1.9</b>	<b>55.0</b>	<b>24.5</b>	<b>8.3</b>	<b>18.7</b>	<b>16.9</b>	<b>7.6</b>	<b>14.7</b>	<b>19.0</b>	<b>17.9</b>
Private Equity Benchmark	<u>-17.6</u>	<u>28.8</u>	<u>24.5</u>	<u>34.9</u>	<u>-2.4</u>	<u>24.8</u>	<u>16.0</u>	<u>3.5</u>	<u>15.8</u>	<u>37.5</u>
Over/Under	19.5	26.2	0.0	-26.6	21.1	-7.9	-8.4	11.2	3.2	-19.6

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>US Fixed Income</b>	<b>-10.7</b>	<b>-0.5</b>	<b>11.1</b>	<b>8.5</b>	<b>0.0</b>	<b>4.4</b>	<b>4.9</b>	<b>0.3</b>	<b>3.0</b>	<b>-0.1</b>
Blmbg. U.S. Aggregate Index	<u>-13.0</u>	<u>-1.5</u>	<u>7.5</u>	<u>8.7</u>	<u>0.0</u>	<u>3.5</u>	<u>2.6</u>	<u>0.5</u>	<u>6.0</u>	<u>-2.0</u>
Over/Under	2.3	1.0	3.6	-0.2	0.0	0.9	2.3	-0.2	-3.0	1.9
BlackRock U.S. Debt Fund	-13.1 (75)	-1.6 (87)	7.6 (35)	8.7 (43)	0.0 (56)	3.6 (54)	2.7 (55)	0.6 (47)	6.2 (29)	-2.0 (77)
Blmbg. U.S. Aggregate Index	<u>-13.0</u> (74)	<u>-1.5</u> (85)	<u>7.5</u> (36)	<u>8.7</u> (43)	<u>0.0</u> (56)	<u>3.5</u> (55)	<u>2.6</u> (55)	<u>0.5</u> (48)	<u>6.0</u> (32)	<u>-2.0</u> (77)
Over/Under	-0.1	-0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.0
eV All US Fixed Inc Median	-9.3	-0.1	5.9	8.1	0.3	3.8	3.1	0.5	3.9	-0.3
Western	-16.2 (90)	-1.4 (82)	10.9 (13)	10.6 (27)	-0.6 (69)	6.0 (28)	4.1 (40)	0.9 (34)	7.4 (19)	-1.2 (64)
Blmbg. U.S. Aggregate Index	<u>-13.0</u> (74)	<u>-1.5</u> (85)	<u>7.5</u> (36)	<u>8.7</u> (43)	<u>0.0</u> (56)	<u>3.5</u> (55)	<u>2.6</u> (55)	<u>0.5</u> (48)	<u>6.0</u> (32)	<u>-2.0</u> (77)
Over/Under	-3.2	0.1	3.4	1.9	-0.6	2.5	1.5	0.4	1.4	0.8
eV All US Fixed Inc Median	-9.3	-0.1	5.9	8.1	0.3	3.8	3.1	0.5	3.9	-0.3
Reams	-5.0 (29)	0.1 (44)	12.0 (10)	6.6 (65)	0.7 (43)	2.5 (70)	6.0 (29)	0.3 (56)	-3.6 (100)	2.5 (21)
Blmbg. U.S. Aggregate Index	<u>-13.0</u> (74)	<u>-1.5</u> (85)	<u>7.5</u> (36)	<u>8.7</u> (43)	<u>0.0</u> (56)	<u>3.5</u> (55)	<u>2.6</u> (55)	<u>0.5</u> (48)	<u>6.0</u> (32)	<u>-2.0</u> (77)
Over/Under	8.0	1.6	4.5	-2.1	0.7	-1.0	3.4	-0.2	-9.6	4.5
Reams Custom Index	1.3 (4)	0.2 (42)	1.1 (94)	2.6 (94)	2.1 (6)	1.1 (91)	0.7 (88)	0.2 (59)	0.2 (94)	-0.4 (52)
Over/Under	-6.3	-0.1	10.9	4.0	-1.4	1.4	5.3	0.1	-3.8	2.9
eV All US Fixed Inc Median	-9.3	-0.1	5.9	8.1	0.3	3.8	3.1	0.5	3.9	-0.3
Loomis Strategic Alpha	-7.9 (41)	1.5 (31)	10.9 (13)	4.3 (83)	0.6 (46)	3.3 (59)	6.1 (29)	-1.0 (76)	2.4 (66)	
Blmbg. U.S. Aggregate Index	<u>-13.0</u> (74)	<u>-1.5</u> (85)	<u>7.5</u> (36)	<u>8.7</u> (43)	<u>0.0</u> (56)	<u>3.5</u> (55)	<u>2.6</u> (55)	<u>0.5</u> (48)	<u>6.0</u> (32)	
Over/Under	5.1	3.0	3.4	-4.4	0.6	-0.2	3.5	-1.5	-3.6	
eV All US Fixed Inc Median	-9.3	-0.1	5.9	8.1	0.3	3.8	3.1	0.5	3.9	
Loomis Sayles Multi Strategy	-11.5 (63)	1.3 (32)	12.9 (10)	9.4 (35)	-0.8 (71)	8.4 (12)	8.2 (20)	-2.3 (85)	6.8 (23)	1.4 (24)
5% Bmbg. U.S. Int Agg / 65% Blmbg. U.S. Agg / 30% FTSE HY	<u>-12.2</u> (67)	<u>0.5</u> (38)	<u>7.3</u> (39)	<u>10.2</u> (28)	<u>-0.6</u> (67)	<u>4.5</u> (40)	<u>7.0</u> (25)	<u>-1.2</u> (78)	<u>4.6</u> (44)	<u>0.8</u> (29)
Over/Under	0.7	0.8	5.6	-0.8	-0.2	3.9	1.2	-1.1	2.2	0.6
eV All US Fixed Inc Median	-9.3	-0.1	5.9	8.1	0.3	3.8	3.1	0.5	3.9	-0.3
<b>Treasuries</b>	<b>-16.6</b>	<b>-3.6</b>	<b>11.4</b>							
Reams 10-Year Treasuries	-16.6	-3.6	11.4							
Blmbg. U.S. Treasury: 7-10 Year	<u>-14.9</u>	<u>-3.1</u>	<u>10.0</u>							
Over/Under	-1.7	-0.5	1.4							
<b>Private Credit</b>	<b>3.5</b>	<b>15.9</b>	<b>7.1</b>	<b>8.4</b>	<b>4.7</b>					
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>	<u>6.1</u>	<u>13.3</u>	<u>1.0</u>					
Over/Under	9.3	10.1	1.0	-4.9	3.7					

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Total Real Estate</b>	<b>6.7</b>	<b>19.3</b>	<b>-2.7</b>	<b>0.3</b>	<b>6.9</b>	<b>5.9</b>	<b>6.8</b>	<b>12.8</b>	<b>11.6</b>	<b>10.6</b>
NCREIF ODCE Net	<u>6.5</u>	<u>21.0</u>	<u>0.3</u>	<u>4.4</u>	<u>7.4</u>	<u>6.7</u>	<u>7.8</u>	<u>14.0</u>	<u>11.5</u>	<u>12.9</u>
Over/Under	0.2	-1.7	-3.0	-4.1	-0.5	-0.8	-1.0	-1.2	0.1	-2.3
Prudential Real Estate	5.9	21.1	2.1	5.9	8.2	7.0	8.2	14.5	12.5	13.8
NCREIF ODCE Net	<u>6.5</u>	<u>21.0</u>	<u>0.3</u>	<u>4.4</u>	<u>7.4</u>	<u>6.7</u>	<u>7.8</u>	<u>14.0</u>	<u>11.5</u>	<u>12.9</u>
Over/Under	-0.6	0.1	1.8	1.5	0.8	0.3	0.4	0.5	1.0	0.9
UBS Real Estate	5.3	15.6	-4.7	-2.8	6.2	5.4	6.2	11.9	10.6	9.3
NCREIF ODCE Net	<u>6.5</u>	<u>21.0</u>	<u>0.3</u>	<u>4.4</u>	<u>7.4</u>	<u>6.7</u>	<u>7.8</u>	<u>14.0</u>	<u>11.5</u>	<u>12.9</u>
Over/Under	-1.2	-5.4	-5.0	-7.2	-1.2	-1.3	-1.6	-2.1	-0.9	-3.6
LaSalle Income + Growth VIII Limited Partnership	23.6	44.5								
NCREIF ODCE Net	<u>6.5</u>	<u>21.0</u>								
Over/Under	17.1	23.5								
Alterra IOS Venture II										
NCREIF ODCE Net										
Over/Under										
<b>Total Real Assets</b>	<b>-9.7</b>	<b>16.4</b>	<b>0.0</b>	<b>14.4</b>	<b>-7.3</b>	<b>7.2</b>	<b>11.7</b>	<b>-13.8</b>	<b>10.2</b>	
Real Assets Index	<u>8.6</u>	<u>9.2</u>	<u>3.4</u>	<u>5.3</u>	<u>6.0</u>	<u>6.2</u>	<u>6.2</u>	<u>4.8</u>	<u>4.8</u>	
Over/Under	-18.3	7.2	-3.4	9.1	-13.3	1.0	5.5	-18.6	5.4	
Bridgewater All Weather Fund	-21.9	11.8	9.6	16.7	-5.0	11.9	10.0	-6.8	7.6	
CPI + 5% (Unadjusted)	<u>11.8</u>	<u>12.4</u>	<u>6.4</u>	<u>7.4</u>	<u>7.0</u>	<u>7.2</u>	<u>7.2</u>	<u>5.8</u>	<u>5.8</u>	
Over/Under	-33.7	-0.6	3.2	9.3	-12.0	4.7	2.8	-12.6	1.8	
Tortoise Energy Infrastructure	30.4	41.4	-29.4	8.0	-13.3	-3.5	15.9	-27.1	15.7	
Tortoise MLP Index	<u>26.4</u>	<u>41.6</u>	<u>-27.9</u>	<u>10.9</u>	<u>-13.7</u>	<u>-5.7</u>	<u>21.0</u>	<u>-34.1</u>	<u>8.0</u>	
Over/Under	4.0	-0.2	-1.5	-2.9	0.4	2.2	-5.1	7.0	7.7	
Brookfield Infra Fund IV B LP	6.6	13.9								
CPI + 2% (Unadjusted)	<u>8.6</u>	<u>9.2</u>								
Over/Under	-2.0	4.7								
Harbourvest Real Assets Fund IV L.P.	26.4									
CPI + 2% (Unadjusted)	<u>8.6</u>									
Over/Under	17.8									
<b>Overlay</b>										
Parametric										
Abbott Capital Cash										

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Total Private Equity</b>	<b>1.9</b>	<b>55.0</b>	<b>24.5</b>	<b>8.3</b>	<b>18.7</b>	<b>16.9</b>	<b>7.6</b>	<b>14.7</b>	<b>19.0</b>	<b>17.9</b>
Private Equity Benchmark	<u>-17.6</u>	<u>28.8</u>	<u>24.5</u>	<u>34.9</u>	<u>-2.4</u>	<u>24.8</u>	<u>16.0</u>	<u>3.5</u>	<u>15.8</u>	<u>37.5</u>
Over/Under	19.5	26.2	0.0	-26.6	21.1	-7.9	-8.4	11.2	3.2	-19.6
C/A Global All PE (Qtr Lag)	<u>-2.8</u>	<u>48.2</u>	<u>15.0</u>	<u>7.8</u>	<u>16.4</u>	<u>15.9</u>	<u>8.5</u>	<u>7.0</u>	<u>16.3</u>	<u>15.9</u>
Over/Under	4.7	6.8	9.5	0.5	2.3	1.0	-0.9	7.7	2.7	2.0
Adams Street Global Fund Series	<u>-7.0</u>	<u>68.4</u>	<u>26.9</u>	<u>4.1</u>	<u>19.6</u>	<u>13.4</u>	<u>7.1</u>	<u>10.3</u>	<u>19.6</u>	<u>15.7</u>
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>	<u>-3.3</u>	<u>23.6</u>	<u>15.0</u>	<u>2.5</u>	<u>14.8</u>	<u>36.2</u>
Over/Under	10.6	40.2	3.6	-29.5	22.9	-10.2	-7.9	7.8	4.8	-20.5
Harbourvest	<u>-3.3</u>	<u>36.0</u>	<u>19.6</u>	<u>12.2</u>	<u>22.7</u>	<u>23.2</u>	<u>6.7</u>	<u>28.5</u>	<u>18.5</u>	
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>	<u>-3.3</u>	<u>23.6</u>	<u>15.0</u>	<u>2.5</u>	<u>14.8</u>	
Over/Under	14.3	7.8	-3.7	-21.4	26.0	-0.4	-8.3	26.0	3.7	
Pantheon Global Secondary Funds	4.6	40.2	6.4	-0.4	17.3	24.1	15.5	6.4	16.7	14.9
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>	<u>-3.3</u>	<u>23.6</u>	<u>15.0</u>	<u>2.5</u>	<u>14.8</u>	<u>36.2</u>
Over/Under	22.2	12.0	-16.9	-34.0	20.6	0.5	0.5	3.9	1.9	-21.3
Drive Capital Fund II	<u>-9.0</u>	<u>68.3</u>	<u>12.3</u>	<u>53.0</u>	<u>-2.5</u>	<u>-33.7</u>				
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>	<u>-3.3</u>	<u>23.6</u>				
Over/Under	8.6	40.1	-11.0	19.4	0.8	-57.3				
Abbott Secondary Opportunities	<u>-10.6</u>	<u>59.9</u>	<u>40.5</u>	<u>8.9</u>	<u>26.0</u>					
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>	<u>-3.3</u>					
Over/Under	7.0	31.7	17.2	-24.7	29.3					
Clearlake Capital Partners V	<u>-35.5</u>	<u>94.9</u>	<u>27.8</u>	<u>50.2</u>						
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>						
Over/Under	-17.9	66.7	4.5	16.6						
Battery Ventures XII	4.4	102.2	46.7	5.7						
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>						
Over/Under	22.0	74.0	23.4	-27.9						
Insight Venture Partners X	<u>-10.2</u>	<u>69.7</u>	<u>46.2</u>	<u>21.4</u>						
Russell 3000 + 2%	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>	<u>33.6</u>						
Over/Under	7.4	41.5	22.9	-12.2						



# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
GTCR Fund XII	6.0	47.4	55.6	-18.8						
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3	33.6						
Over/Under	23.6	19.2	32.3	-52.4						
Buenaventure One, LLC	11.1	46.9	17.7	6.7						
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3	33.6						
Over/Under	28.7	18.7	-5.6	-26.9						
ECI 11	5.7	34.2	20.8	34.2						
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3	33.6						
Over/Under	23.3	6.0	-2.5	0.6						
Buenaventure Two, LLC	12.9	35.3	16.0	16.8						
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3	33.6						
Over/Under	30.5	7.1	-7.3	-16.8						
The Resolute Fund IV L.P.	24.7	34.6	42.2	81.6						
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3	33.6						
Over/Under	42.3	6.4	18.9	48.0						
GGV Capital VII L.P.	5.9	40.2	9.7							
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3							
Over/Under	23.5	12.0	-13.6							
GGV Discovery II, L.P.	36.1	49.2	11.2							
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3							
Over/Under	53.7	21.0	-12.1							
Drive Capital Overdrive Fund I	1.6	63.1	45.4							
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3							
Over/Under	19.2	34.9	22.1							
Riverside Micro Cap Fund V, LP	34.1	32.0	1.7							
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3							
Over/Under	51.7	3.8	-21.6							
GGV Capital VII Plus, LP	0.9	14.2	15.7							
<i>Russell 3000 + 2%</i>	-17.6	28.2	23.3							
Over/Under	18.5	-14.0	-7.6							

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Astorg VII L.P.	30.5	14.7	62.3							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	48.1	-13.5	39.0							
Astorg VIII L.P.										
<i>Russell 3000 + 2%</i>										
Over/Under										
M/C Partners Fund VIII LP, Limited Partnership	28.8	9.7	-35.1							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	46.4	-18.5	-58.4							
Genstar Capital Partners IX	31.8	46.4	27.1							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	49.4	18.2	3.8							
Genstar IX Opportunities Fund I	32.4	35.1	12.6							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	50.0	6.9	-10.7							
ABRY Partners IX, LP	25.2	30.9	-15.0							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	42.8	2.7	-38.3							
Advent International GPE IX LP	-30.4	185.4	29.0							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	-12.8	157.2	5.7							
Drive Capital Fund III LP	16.0	21.1	-9.0							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	33.6	-7.1	-32.3							
Oak HC/FT Partners III LP	-6.6	93.6	3.2							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	11.0	65.4	-20.1							
TA XIII A LP	12.8	74.1	1.9							
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>	<u>23.3</u>							
Over/Under	30.4	45.9	-21.4							

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Dover Street X, LP	14.7	58.0								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	32.3	29.8								
Hellman & Friedman CP IX	0.2	21.7								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	17.8	-6.5								
Clearlake Capital Partners VI	2.9	67.4								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	20.5	39.2								
Flexpoint Fund IV	37.3	33.9								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	54.9	5.7								
Battery Ventures XIII	19.4	26.0								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	37.0	-2.2								
Green Equity Investors VIII, L.P.	3.0	2.2								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	20.6	-26.0								
Green Equity Investors IX LP										
<i>Russell 3000 + 2%</i>										
Over/Under										
CapVest Private Equity Partners IV, SCSp	29.8	71.2								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	47.4	43.0								
Drive Capital Fund IV LP	-5.4									
<i>Russell 3000 + 2%</i>	<u>-17.6</u>									
Over/Under	12.2									
Great Hill Equity Partners VII	-11.3	368.6								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	6.3	340.4								

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Great Hill Equity Partners VIII										
<i>Russell 3000 + 2%</i>										
Over/Under										
Vitruvian Investment Partners IV	34.0	-100.0								
<i>Russell 3000 + 2%</i>	-17.6	28.2								
Over/Under	51.6	-128.2								
CRV XVIII, L.P.	13.1									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	30.7									
GGV Capital VIII, L.P.	8.8									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	26.4									
GGV Discovery III, L.P.	29.0									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	46.6									
Oak HC/FT Partners IV, L.P.	22.9									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	40.5									
Prairie Capital VII, LP	13.6									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	31.2									
GGV Capital VIII Plus, L.P.	5.8									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	23.4									
Flexpoint Overage Fund IV A, L.P.	11.6									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	29.2									
Abbott Secondary Opportunities II, L.P.	29.5									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	47.1									
Genstar X Opportunities Fund I, LP	10.0									
<i>Russell 3000 + 2%</i>	-17.6									
Over/Under	27.6									

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Charlesbank Overage Fund X	10.9									
<i>Russell 3000 + 2%</i>	<i>-17.6</i>									
Over/Under	28.5									
Charlesbank Equity Fund X	7.3									
<i>Russell 3000 + 2%</i>	<i>-17.6</i>									
Over/Under	24.9									
GTCR Fund XIII	27.8									
<i>Russell 3000 + 2%</i>	<i>-17.6</i>									
Over/Under	45.4									
Hellman & Friedman CP X	-10.0									
<i>Russell 3000 + 2%</i>	<i>-17.6</i>									
Over/Under	7.6									
Genstar Capital Partners X LP	12.6									
<i>Russell 3000 + 2%</i>	<i>-17.6</i>									
Over/Under	30.2									
TA XIV A LP	-11.6									
<i>Russell 3000 + 2%</i>	<i>-17.6</i>									
Over/Under	6.0									
CVC Capital Partners VIII A LP	16.5									
<i>Russell 3000 + 2%</i>	<i>-17.6</i>									
Over/Under	34.1									
Drive Capital Overdrive										
<i>Russell 3000 + 2%</i>										
Over/Under										
Drive Capital Fund IV LP										
<i>Russell 3000 + 2%</i>										
Over/Under										
Kinderhook Capital Fund 7										
<i>Russell 3000 + 2%</i>										
Over/Under										
Pantheon Global Secondary Funds VII										
<i>Russell 3000 + 2%</i>										
Over/Under										
Harbourvest PTN Co Inv VI LP										
<i>Russell 3000 + 2%</i>										
Over/Under										

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Clearlake Capital Partners VI	2.9	67.4								
<i>Russell 3000 + 2%</i>	<u>-17.6</u>	<u>28.2</u>								
Over/Under	20.5	39.2								
Battery Ventures XIV										
<i>Russell 3000 + 2%</i>										
Over/Under										
Oak HC/FT Partners V										
<i>Russell 3000 + 2%</i>										
Over/Under										
Advent International GPE X LP										
<i>Russell 3000 + 2%</i>										
Over/Under										
GTCR Strategic Growth 1/A										
<i>Russell 3000 + 2%</i>										
Over/Under										
GTCR Strategic Growth 1/B										
<i>Russell 3000 + 2%</i>										
Over/Under										
Riverside Micro Cap Fund VI, LP										
<i>Russell 3000 + 2%</i>										
Over/Under										
Ridgemont Equity Partners IV										
<i>Russell 3000 + 2%</i>										
Over/Under										
CapVest Private Equity Partners V, SCSp										
<i>Russell 3000 + 2%</i>										
Over/Under										

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Private Credit</b>	<b>3.5</b>	<b>15.9</b>	<b>7.1</b>	<b>8.4</b>	<b>4.7</b>					
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>	<u>6.1</u>	<u>13.3</u>	<u>1.0</u>					
Over/Under	9.3	10.1	1.0	-4.9	3.7					
CVI Credit Value Fund IV	7.7	14.7	2.1	7.1	4.6					
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>	<u>6.1</u>	<u>13.3</u>	<u>1.0</u>					
Over/Under	13.5	8.9	-4.0	-6.2	3.6					
Monroe Capital Private Credit Fund III	9.2	13.9	11.2	11.2						
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>	<u>6.1</u>	<u>13.3</u>						
Over/Under	15.0	8.1	5.1	-2.1						
Bluebay Direct Lending Fund III	8.4	14.8	7.1							
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>	<u>6.1</u>							
Over/Under	14.2	9.0	1.0							
Pimco Private Income Fund	1.6	15.9	11.3							
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>	<u>6.1</u>							
Over/Under	7.4	10.1	5.2							
Bridge Debt Strategies III Limited Partner	3.3	15.4	2.6							
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>	<u>6.1</u>							
Over/Under	9.1	9.6	-3.5							
PIMCO Corp Opps Fund III	1.9	64.7								
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>								
Over/Under	7.7	58.9								
Torchlight Debt Fund VII, L.P.	6.0	1.4								
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>	<u>5.8</u>								
Over/Under	11.8	-4.4								
Torchlight Debt Fund VIII, L.P.										
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index										
Over/Under										
Crayhill Principal Strategies Fund II	30.1									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>									
Over/Under	35.9									
CVI Credit Value Fund A V	-1.0									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	<u>-5.8</u>									
Over/Under	4.8									

# TOTAL FUND CALENDAR YEAR RETURN SUMMARY

	Performance (%)									
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Bridge Debt Strategies Fund IV LP	6.2									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	-5.8									
Over/Under	12.0									
Cross Ocean USD ESS Fund IV	8.4									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	-5.8									
Over/Under	14.2									
Harbourvest Direct Lending L	4.0									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	-5.8									
Over/Under	9.8									
Bain Capital Special Situations Asia Fund II	9.5									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	-5.8									
Over/Under	15.3									
Arbour Lane Credit Opp III A	-10.6									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	-5.8									
Over/Under	-4.8									
Monroe Private Capital Fund IV	6.1									
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	-5.8									
Over/Under	11.9									
Crescent Cove Opportunity Fund LP										
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index										
Over/Under										
VWH Partners III LP										
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index										
Over/Under										
Harbourview Royalties I										
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index										
Over/Under										
KLCP Domestic Fund III LP										
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index										
Over/Under										
PIMCO Corp Opps Fund IV										
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index										
Over/Under										



# PRIVATE EQUITY LP PERFORMANCE

Fund Name	Vintage Year	Initial Closing Date	Commitment	Capital Called to Date <sup>1</sup>	Outstanding Commitment	Call Ratio	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Since Inception	
												Distributions Total Value to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
Abbott Secondary Opportunities, LP.	2017	12/21/2017	\$25,000,000	\$25,074,608	\$288,108	99%	\$30,935,775	\$10,670,452	\$41,606,227	\$16,531,619	24.7%	1.23x	1.66x
Abbott Secondary Opportunities II, LP.	2020	1/31/2020	\$40,000,000	\$22,934,408	\$17,065,592	57%	\$4,600,000	\$25,698,726	\$30,298,726	\$7,364,318	41.0%	0.2x	1.32x
Abbott Secondary Opportunities III, LP.	2024	6/28/2023	\$50,000,000	--	\$50,000,000	--	--	--	--	--	--	--	--
ABRY Partners IX	2019	12/6/2018	\$10,600,000	\$10,586,174	\$3,137,152	100%	\$3,123,326	\$12,521,624	\$15,644,950	\$5,058,776	18.5%	0.3x	1.48x
Adams Street 2010 U.S. Fund	2010	5/21/2010	\$42,500,000	\$37,442,500	\$5,057,500	88%	\$69,102,240	\$26,129,923	\$95,232,163	\$57,774,450	16.7%	1.85x	2.54x
Adams Street 2010 Non-U.S. Dev. Mkts Fund	2010	5/21/2010	\$25,500,000	\$22,962,749	\$2,537,251	90%	\$33,935,811	\$10,738,721	\$44,674,532	\$21,710,194	13.1%	1.48x	1.95x
Adams Street 2010 Non-U.S. Emg Mkts Fund	2010	1/3/2011	\$8,500,000	\$7,633,000	\$867,000	90%	\$8,032,589	\$7,506,536	\$15,539,125	\$7,906,125	10.5%	1.05x	2.04x
Adams Street 2010 Direct Fund	2010	5/21/2010	\$8,500,000	\$8,168,500	\$331,500	96%	\$12,560,694	\$2,728,457	\$15,289,151	\$7,113,954	11.8%	1.54x	1.87x
Adams Street 2013 Global Fund	2013	6/27/2013	\$75,000,000	\$69,319,741	\$5,680,259	92%	\$69,218,870	\$78,644,000	\$147,862,870	\$78,532,401	14.2%	1x	2.13x
Adams Street 2016 Global Fund	2016	8/16/2016	\$60,000,000	\$49,384,776	\$10,615,224	82%	\$21,068,412	\$74,592,490	\$95,660,902	\$46,276,126	19.6%	0.43x	1.94x
Adams Street Co-Investment Fund IV A	2018	9/24/2018	\$30,000,000	\$28,267,931	\$5,062,521	94%	\$10,574,191	\$35,150,208	\$45,724,399	\$17,388,660	20.9%	0.37x	1.62x
Adams Street Co-Investment Fund V	2022	9/30/2021	\$35,000,000	\$8,750,000	\$26,250,000	25%	--	\$9,445,636	\$9,445,636	\$695,636	19.4%	--	1.08x
Adams Street Global Secondary Fund 7	2022	11/4/2022	\$25,000,000	\$5,447,560	\$19,625,000	22%	--	\$7,324,072	\$7,324,072	\$1,876,512	68.7%	--	1.34x
Advent International GPE IX	2019	5/23/2019	\$10,000,000	\$9,350,638	\$649,362	94%	\$999,600	\$12,967,677	\$13,967,277	\$4,616,639	22.2%	0.11x	1.49x
Advent International GPE X	2022	4/28/2022	\$20,000,000	\$4,650,000	\$15,350,000	23%	--	\$4,412,073	\$4,412,073	(\$237,927)	-18.4%	--	0.95x
Astorg VII	2019	12/17/2018	\$8,729,735	\$8,226,589	\$503,146	94%	--	\$10,544,674	\$10,544,674	\$2,318,085	12.9%	--	1.28x
Astorg VIII	2022	2/1/2022	\$18,405,521	\$8,535,371	\$9,870,150	46%	--	\$8,008,603	\$8,008,603	(\$526,768)	-20.5%	--	0.94x
Battery Ventures XII	2018	2/1/2018	\$9,050,000	\$8,161,290	\$888,710	90%	\$5,283,696	\$16,122,771	\$21,406,467	\$13,245,177	29.5%	0.65x	2.62x
Battery Ventures XII Side Fund	2018	2/1/2018	\$5,050,000	\$4,772,755	\$277,245	95%	\$5,790,040	\$8,782,944	\$14,572,984	\$9,800,229	36.3%	1.21x	3.05x
Battery Ventures XIII	2020	2/11/2020	\$9,240,000	\$7,780,080	\$1,459,920	84%	--	\$9,586,799	\$9,586,799	\$1,806,719	11.0%	--	1.23x
Battery Ventures XIII Side Fund	2020	2/11/2020	\$6,160,000	\$5,125,120	\$1,034,880	83%	--	\$7,100,207	\$7,100,207	\$1,975,087	16.8%	--	1.39x
Battery Ventures XIV	2022	2/24/2022	\$10,000,000	\$2,010,000	\$7,990,000	20%	--	\$1,786,967	\$1,786,967	(\$223,033)	-21.8%	--	0.89x
BlackFin Financial Services Fund IV	2023	4/6/2023	\$20,256,516	--	\$20,256,516	--	--	--	--	--	--	--	--
Buenaventure One, LLC	2018	1/5/2018	\$289,599,750	\$151,510,590	\$138,089,160	52%	\$17,233,156	\$205,715,770	\$222,948,926	\$71,438,336	18.1%	0.11x	1.47x
CapVest Equity Partners IV	2019	7/11/2018	\$12,487,271	\$8,224,804	\$4,262,467	66%	--	\$10,466,373	\$10,466,373	\$2,241,569	13.7%	--	1.27x
CapVest Equity Partners V	2021	11/23/2021	\$18,837,232	\$346,467	\$18,490,765	--	--	-\$108,029	-\$108,029	--	-100.0%	--	-0.31x
Charlesbank Equity Fund X	2020	11/20/2020	\$24,000,000	\$10,474,475	\$13,534,575	44%	\$95,719	\$12,099,795	\$12,195,514	\$1,721,039	13.0%	0.01x	1.16x
Charlesbank Equity Coverage Fund X	2020	11/20/2020	\$6,000,000	\$4,634,384	\$1,370,079	77%	\$31,636	\$5,655,875	\$5,687,511	\$1,053,127	20.2%	0.01x	1.23x
Charlesbank Technology Opportunies Fund II	2023	2/21/2023	\$30,000,000	--	\$30,000,000	--	--	-\$376,910	-\$376,910	--	-100.0%	--	--
Clearlake Capital Partners V	2017	12/22/2017	\$9,950,000	\$14,212,616	\$2,006,446	80%	\$18,000,335	\$12,451,393	\$30,451,728	\$16,192,954	41.5%	1.27x	2.14x
Clearlake Capital Partners VI	2020	1/2/2020	\$18,700,000	\$18,922,043	\$522,109	101%	\$1,566,382	\$28,609,336	\$30,175,718	\$11,253,675	26.2%	0.08x	1.59x
Clearlake Capital Partners VII	2021	9/17/2021	\$20,000,000	\$10,274,689	\$9,725,311	51%	\$487	\$10,718,188	\$10,718,675	\$443,986	5.0%	0x	1.04x
CRV XVIII	2020	7/2/2020	\$15,000,000	\$12,112,500	\$2,887,500	81%	--	\$12,892,568	\$12,892,568	\$780,068	3.5%	--	1.06x
CRV XIX	2022	1/27/2022	\$10,000,000	\$2,075,000	\$7,925,000	21%	--	\$1,746,201	\$1,746,201	(\$328,799)	-26.3%	--	0.84x
CVC Capital Partners VIII	2020	5/22/2020	\$19,944,921	\$11,423,819	\$8,521,102	57%	\$13,084	\$12,415,428	\$12,428,512	\$1,004,693	8.7%	0x	1.09x
Drive Capital Fund II	2016	8/19/2016	\$15,000,000	\$14,946,053	\$57,157	100%	\$5,047,070	\$14,719,638	\$19,766,708	\$4,817,445	6.8%	0.34x	1.32x
Drive Capital Fund III	2019	4/5/2019	\$7,500,000	\$6,255,413	\$1,244,587	83%	--	\$7,218,434	\$7,218,434	\$963,021	7.09%	--	1.15x
Drive Capital Fund IV	2021	12/27/2021	\$10,000,000	\$4,333,092	\$5,666,908	43%	--	\$3,948,659	\$3,948,659	(\$384,433)	-8.0%	--	0.91x
Drive Capital Overdrive Fund I	2019	4/5/2019	\$7,500,000	\$7,366,773	\$133,227	98%	\$12,492	\$9,210,640	\$9,223,132	\$1,856,359	8.0%	--	1.25x
Drive Capital Overdrive Fund II	2021	12/27/2021	\$10,000,000	\$4,662,975	\$5,337,025	47%	--	\$4,547,838	\$4,547,838	(\$115,137)	-2.6%	--	0.98x
ECl 11	2018	7/5/2018	\$9,775,550	\$8,828,660	\$946,890	90%	\$4,088,333	\$8,827,063	\$12,915,396	\$4,086,736	18.4%	0.46x	1.46x
ECl 12	2022	7/15/2022	\$21,084,084	--	\$21,084,084	--	--	--	--	--	--	--	--
Flexpoint Fund IV-A	2019	7/2/2019	\$10,650,000	\$6,105,377	\$4,544,623	57%	\$2,879,261	\$6,985,619	\$9,864,880	\$3,759,503	28.4%	0.47x	1.62x
Flexpoint Overage Fund IV-A	2019	7/2/2019	\$3,550,000	\$2,542,747	\$1,007,253	72%	--	\$2,932,527	\$2,932,527	\$389,780	9.5%	--	1.15x
Genstar Capital Partners IX	2019	2/21/2019	\$7,500,000	\$7,161,214	\$1,182,940	95%	\$3,496,169	\$10,191,147	\$13,687,316	\$6,526,102	33.3%	0.49x	1.91x
Genstar Capital Partners IX Opportunities Program	2019	2/21/2019	\$2,500,000	\$2,156,762	\$343,238	86%	\$1,067,194	\$2,878,797	\$3,945,991	\$1,789,229	25.3%	0.49x	1.83x
Genstar Capital Partners X	2021	4/1/2021	\$15,000,000	\$9,560,745	\$5,468,267	64%	\$29,012	\$9,879,877	\$9,908,889	\$348,144	4.2%	0x	1.04x
Genstar Capital Partners X Opportunities Program	2021	4/1/2021	\$5,000,000	\$3,206,113	\$1,793,887	64%	\$9,743	\$3,357,685	\$3,367,428	\$161,315	4.8%	0x	1.05x
Genstar Capital Partners XI	2023	4/26/2023	\$20,000,000	--	\$20,000,000	--	--	--	--	--	--	--	--



# PRIVATE EQUITY LP PERFORMANCE

Fund Name	Vintage Year	Initial Closing Date	Commitment	Capital Called to Date <sup>1</sup>	Outstanding Commitment <sup>1</sup>	Call Ratio	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Since Inception	
												Distributions to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
GGV Capital VII	2019	8/15/2018	\$10,160,000	\$9,652,000	\$508,000	95%	\$69,608	\$13,169,644	\$13,239,252	\$3,587,252	11.1%	0.01x	1.37x
GGV Capital VII Plus	2019	8/15/2018	\$2,540,000	\$2,476,500	\$63,500	98%	--	\$3,204,432	\$3,204,432	\$727,932	8.9%	--	1.29x
GGV Capital VIII	2020	10/30/2020	\$9,180,000	\$5,370,300	\$3,809,700	59%	--	\$6,039,277	\$6,039,277	\$668,977	8.1%	--	1.12x
GGV Capital VIII Plus	2020	10/30/2020	\$2,295,000	\$1,055,700	\$1,239,300	46%	--	\$1,095,462	\$1,095,462	\$39,762	2.3%	--	1.04x
GGV Discovery II	2019	8/15/2018	\$2,100,000	\$2,016,000	\$84,000	96%	--	\$3,831,070	\$3,831,070	\$1,815,070	24.7%	--	1.9x
GGV Discovery III	2020	10/30/2020	\$3,825,000	\$1,931,625	\$1,893,375	51%	--	\$2,791,567	\$2,791,567	\$859,942	26.2%	--	1.45x
Great Hill Equity Partners VII	2019	6/28/2019	\$8,900,000	\$8,159,058	\$740,942	92%	\$2,458,521	\$8,860,139	\$11,318,660	\$3,159,602	44.5%	0.3x	1.39x
Great Hill Equity Partners VIII	2021	11/1/2021	\$25,000,000	\$5,207,239	\$19,792,761	--	--	\$4,092,963	\$4,092,963	--	-57.8%	--	0.79x
Green Equity Investors VIII	2019	10/18/2019	\$15,000,000	\$13,420,491	\$1,698,745	89%	\$119,236	\$15,529,888	\$15,649,124	\$2,228,633	9.0%	0.01x	1.17x
Green Equity Investors IX	2022	3/1/2022	\$13,300,000	--	\$13,300,000	--	--	\$75,374	\$75,374	--	--	--	--
GTCR Fund XII	2017	9/29/2017	\$30,000,000	\$24,532,892	\$5,467,108	82%	\$12,846,870	\$32,194,351	\$45,041,221	\$20,508,329	24.0%	0.52x	1.84x
GTCR Fund XIII	2020	10/27/2020	\$30,000,000	\$15,343,652	\$14,656,348	51%	\$3,268,145	\$14,955,898	\$18,224,043	\$2,880,391	19.1%	0.21x	1.19x
GTRC Fund XIV	2023	1/12/2023	\$20,000,000	--	\$20,000,000	--	--	--	--	--	--	--	--
GTCR Strategic Growth Fund I	2022	1/18/2022	\$10,000,000	\$1,422,000	\$8,578,000	14%	--	\$1,069,857	\$1,069,857	--	-45.1%	--	0.75x
HarbourVest - Dover Street VIII	2013	5/30/2013	\$67,500,000	\$62,184,954	\$5,400,000	92%	\$98,517,562	\$6,942,103	\$105,459,665	\$43,189,757	19.8%	1.58x	1.7x
HarbourVest - Dover Street IX	2016	12/16/2016	\$60,000,000	\$52,800,000	\$7,200,000	88%	\$55,495,915	\$36,251,263	\$91,747,178	\$38,947,178	22.2%	1.05x	1.74x
HarbourVest - Dover Street X	2019	5/31/2019	\$40,000,000	\$26,100,000	\$13,900,000	65%	\$9,864,775	\$30,325,118	\$40,189,893	\$14,089,893	31.1%	0.38x	1.54x
HarbourVest - Dover Street XI	2023	1/27/2023	\$40,000,000	\$2,400,000	\$37,600,000	--	--	\$3,418,251	\$3,418,251	\$1,018,251	--	--	1.42x
HarbourVest Partners Co-Investment IV	2017	6/2/2017	\$30,000,000	\$24,464,388	\$5,732,352	82%	\$23,670,200	\$23,188,246	\$46,858,446	\$22,394,058	16.5%	0.97x	1.92x
HarbourVest Partners Co-Investment V	2019	7/31/2018	\$35,000,000	\$27,125,000	\$7,875,000	78%	\$6,938,328	\$42,037,334	\$48,975,662	\$21,850,662	23.0%	0.26x	1.81x
HarbourVest Partners Co-Investment VI	2021	6/24/2021	\$35,000,000	\$17,500,000	\$17,500,000	50%	--	\$17,450,216	\$17,450,216	(\$49,784)	-0.6%	--	1x
Hellman & Friedman Capital Partners IX	2019	9/28/2018	\$19,800,000	\$20,312,185	\$537,072	103%	\$1,156,489	\$26,259,292	\$27,415,781	\$7,103,596	13.5%	0.06x	1.35x
Hellman & Friedman Capital Partners X	2021	5/10/2021	\$20,000,000	\$14,412,643	\$5,607,418	72%	\$20,061	\$14,680,188	\$14,700,249	\$287,606	1.6%	0x	1.02x
Hellman & Friedman Investors XI	2023	3/31/2023	\$20,000,000	--	\$20,000,000	--	--	--	--	--	--	--	--
Insight Venture Partners X	2017	10/13/2017	\$25,000,000	\$26,180,872	\$855,061	105%	\$11,860,083	\$51,480,146	\$63,340,229	\$37,159,357	26.4%	0.45x	2.42x
Jade Equity Investors II	2022	3/1/2022	\$6,700,000	--	\$6,700,000	--	--	\$9,431	-\$9,431	--	-100.0%	--	--
Kinderhook Capital Fund 7	2022	1/28/2022	\$10,000,000	\$3,609,805	\$6,390,195	36%	\$4,083	\$5,883,512	\$5,887,595	\$2,277,790	95.1%	0x	1.63x
M/C Partners VIII	2019	4/2/2018	\$10,000,000	\$7,647,432	\$2,352,568	76%	\$1,194,902	\$7,955,687	\$9,150,589	\$1,503,157	8.5%	0.16x	1.2x
M/C Partners IX	2022	5/6/2022	\$10,000,000	--	\$10,000,000	--	--	--	--	--	--	--	--
Oak HC/FT Partners III	2019	7/31/2019	\$15,000,000	\$15,048,730	\$1,348,190	100%	\$1,396,920	\$23,050,716	\$24,447,636	\$9,398,906	22.1%	0.09x	1.62x
Oak HC/FT Partners IV	2021	2/17/2021	\$10,000,000	\$8,559,565	\$1,440,435	86%	--	\$9,681,235	\$9,681,235	\$1,121,670	8.5%	--	1.13x
Oak HC/FT Partners V	2022	5/11/2022	\$10,000,000	\$1,370,310	\$8,629,690	14%	--	\$1,473,915	\$1,473,915	\$103,605	19.5%	--	1.08x
Pantheon Global Secondary Fund IV	2010	6/24/2010	\$15,000,000	\$9,960,000	\$2,040,000	66%	\$14,996,793	\$975,999	\$15,972,792	\$6,012,792	12.9%	1.51x	1.6x
Pantheon Global Secondary Fund V	2015	2/6/2015	\$50,000,000	\$39,616,509	\$10,383,491	79%	\$32,192,573	\$32,500,764	\$64,693,337	\$25,239,342	12.6%	0.81x	1.63x
Pantheon Global Secondary Fund VI	2018	2/24/2020	\$25,000,000	\$17,347,805	\$7,887,113	69%	\$3,476,162	\$25,818,099	\$29,294,261	\$11,946,456	24.5%	0.2x	1.69x
Pantheon Global Secondary Fund VII	2022	10/28/2021	\$25,000,000	\$5,848,631	\$19,151,369	23%	\$80,542	\$6,146,045	\$6,226,587	\$377,956	7.6%	0.01x	1.06x
Parthenon Investors VII	2023	3/14/2023	\$20,000,000	--	\$20,000,000	--	--	--	--	--	--	--	--
Prairie Capital VII QP	2021	4/6/2021	\$10,800,000	\$4,644,000	\$6,156,000	43%	--	\$4,749,053	\$4,749,053	\$105,053	1.8%	--	1.02x
The Resolute Fund IV	2018	5/2/2018	\$20,000,000	\$21,313,069	\$2,493,677	107%	\$12,695,432	\$33,239,421	\$45,934,853	\$24,621,784	39.0%	0.6x	2.16x
Ridgmont Equity Partners IV	2021	10/29/2021	\$20,000,000	\$1,551,812	\$18,448,188	--	--	\$1,717,659	\$1,717,659	\$165,847	24.1%	--	1.11x
Riverside Micro-Cap Fund V	2018	8/21/2018	\$10,000,000	\$8,637,774	\$1,920,150	86%	\$1,015,813	\$11,711,210	\$12,727,023	\$4,089,249	17.4%	--	1.47x
Riverside Micro-Cap Fund VI	2021	8/26/2021	\$20,000,000	\$5,561,940	\$14,438,060	28%	\$4,966	\$5,534,882	\$5,539,848	--	-1.1%	0x	1x
TA XIII	2019	5/2/2019	\$10,000,000	\$9,800,000	\$200,000	98%	\$3,650,000	\$12,422,053	\$16,072,053	\$6,272,053	28.0%	0.37x	1.64x
TA XIV	2021	5/27/2021	\$10,000,000	\$6,600,000	\$3,400,000	66%	--	\$6,090,192	\$6,090,192	--	-8.3%	--	0.92x
TA XV	2023	4/27/2023	\$20,000,000	--	\$20,000,000	--	--	--	--	--	--	--	--
Vitruvian Investment Partnership IV	2020	6/3/2020	\$20,364,507	\$16,543,323	\$3,821,184	81%	--	\$18,222,803	\$18,222,803	\$1,679,480	9.2%	--	1.1x
<b>Total VCERA Private Equity Program</b>		<b>5/21/2010</b>	<b>\$2,094,535,087</b>	<b>\$1,223,683,382</b>	<b>\$892,971,739</b>	<b>58%</b>	<b>\$625,823,373</b>	<b>\$1,361,468,822</b>	<b>\$1,987,292,195</b>	<b>\$763,608,813</b>	<b>17.7%</b>	<b>0.51x</b>	<b>1.62x</b>



# PRIVATE CREDIT LP PERFORMANCE

Fund Name	Vintage Year	Initial Investment Date	Commitment	Capital Called to Date <sup>1</sup>	Outstanding Commitment	Call Ratio	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Since Inception	
												Distributions to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
Adams Street Private Credit Fund III	2023		\$25,000,000		\$25,000,000	0%						--	1x
Arbour Lane Credit Opp III A	2021	11/15/2021	\$30,000,000	\$16,682,291	\$13,317,709	56%	\$0	\$16,727,403	\$16,727,403	\$54,402	0.3%	--	1.33x
Bain Capital Special Situations Asia Fund II	2021	7/26/2021	\$25,000,000	\$2,500,000	\$22,500,000	10%	\$0	\$3,318,293	\$3,318,293	\$788,327	18.5%	--	1.33x
BlueBay Direct Lending III (Arcmont)	2019	2/12/2019	\$25,000,000	\$19,206,789	\$5,793,211	77%	\$5,100,084	\$20,555,355	\$25,655,439	\$6,369,512	12.9%	0.27x	1.34x
Bridge Debt Strategies III	2019	12/20/2019	\$25,000,000	\$23,849,171	\$1,150,829	95%	\$16,659,050	\$14,176,911	\$30,835,961	\$6,077,184	8.9%	0.7x	1.29x
Bridge Debt Strategies Fund IV	2021	7/26/2021	\$25,000,000	\$24,160,736	\$839,264	97%	\$2,013,740	\$24,550,449	\$26,564,189	\$2,245,352	6.8%	0.08x	1.1x
Bridge Debt Strategies Fund V	2023		\$20,000,000		\$20,000,000							--	--
Crayhill Principal Strategies II	2021	4/23/2021	\$25,000,000	\$16,080,605	\$8,919,395	64%	\$4,133,126	\$15,223,439	\$19,356,565	\$3,231,186	20.0%	0.26x	1.2x
Crayhill Principal Strategies III	2023		\$25,000,000		\$25,000,000	0%						--	--
Crescent Cove Opportunity Fund LP	2022	5/20/2022	\$50,000,000	\$15,000,000	\$35,000,000	30%	\$335,115	\$16,988,711	\$17,323,826	\$2,323,826	16.3%	0.02x	1.15x
Cross Ocean USD ESS Fund IV	2021	6/21/2021	\$50,000,000	\$29,550,387	\$20,449,613	59%	\$0	\$33,889,250	\$33,889,250	\$4,282,282	23.0%	--	1.15x
CVI Credit Value Fund IV	2017	12/31/2017	\$30,000,000	\$27,000,000	\$3,000,000	90%	\$10,801,346	\$25,660,986	\$36,462,332	\$9,468,478	7.9%	0.4x	1.35x
CVI Credit Value Fund V	2021	4/30/2021	\$30,000,000	\$19,500,000	\$10,500,000	65%	\$0	\$21,037,513	\$21,037,513	\$1,364,798	5.1%	--	1.08x
HarbourVest Direct Lending L	2021	6/21/2021	\$25,000,000	\$20,000,000	\$5,000,000	80%	\$3,049,325	\$19,731,146	\$22,780,471	\$2,526,062	9.9%	0.15x	1.14x
HarbourVest Direct Lending II	2023		\$20,000,000		\$20,000,000	0%						--	--
HarbourView Royalties Fund I	2023	3/16/2023	\$30,000,000	\$16,559,690	\$13,440,310	55%	\$20,454	\$16,903,942	\$16,924,396	\$270,678	2.0%	0x	1.02x
Kennedy Lewis Capital Partners III	2023		\$30,000,000	\$12,036,616	\$17,963,384	40%	\$0	\$13,271,164	\$13,271,164	\$394,475	3.1%	--	1.1x
Monroe Capital Opportunity Fund II	2023		\$25,000,000		\$25,000,000	0%						--	--
Monroe Capital Private Credit Fund III	2018	9/5/2018	\$25,000,000	\$21,253,151	\$3,746,849	85%	\$9,081,749	\$22,238,536	\$31,320,285	\$9,933,276	12.2%	0.43x	1.47x
Monroe Capital Private Credit Fund IV	2022	1/10/2022	\$30,000,000	\$25,500,000	\$4,500,000	85%	\$2,794,887	\$25,926,910	\$28,721,797	\$3,381,885	11.4%	0.11x	1.13x
Pantheon Credit Opportunity II	2022	10/25/2022	\$50,000,000	\$24,413,447	\$25,586,553	49%	\$2,628,683	\$30,354,118	\$32,982,801	\$8,521,968	32.5%	0.11x	1.35x
PIMCO Corporate Opportunity Fund III	2020	1/26/2020	\$50,000,000	\$45,000,000	\$5,000,000	90%	\$0	\$51,279,390	\$51,279,390	\$6,279,390	7.8%	--	1.14x
PIMCO Corporate Opportunity Fund IV	2022	5/31/2023	\$100,000,000	\$5,000,000	\$95,000,000	5%	\$0	\$5,000,000	\$5,000,000	\$0	0.0%	--	1x
PIMCO Private Income Fund	2019	3/25/2019	\$55,000,000	\$70,632,005	\$0	128%	\$0	\$73,553,353	\$73,553,353	\$2,921,348	9.3%	--	1.04x
Torchlight Debt Fund VII	2021	1/25/2021	\$25,000,000	\$12,500,000	\$12,500,000	50%	\$0	\$13,484,200	\$13,484,200	\$984,200	4.9%	--	1.08x
Torchlight Debt Fund VIII	2022	1/31/2023	\$40,000,000	\$5,000,000	\$35,000,000	13%	\$0	\$4,627,018	\$4,627,018	-\$372,982	-15.1%	--	0.93x
VWH Partners III LP	2022	12/1/2022	\$50,000,000	\$20,201,932	\$29,798,068	40%	\$0	\$22,315,722	\$22,315,722	\$2,371,808	13.3%	--	1.1x
<b>Total VCERA Private Credit Program</b>			<b>\$895,000,000</b>	<b>\$471,626,820</b>	<b>\$459,005,185</b>	<b>53%</b>	<b>\$56,617,559</b>	<b>\$490,813,809</b>	<b>\$547,431,368</b>	<b>\$73,417,455</b>	<b>9.1%</b>	<b>0.12x</b>	<b>1.16x</b>

Values shown are as of 6/30/2023 unless otherwise indicated.

<sup>1</sup>Capital Called to Date includes recallable return of capital



# PRIVATE REAL ASSETS LP PERFORMANCE

Fund Name	Vintage Year	Initial Investment Date	Commitment	Capital Called to Date <sup>1</sup>	Outstanding Commitment	Call Ratio	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Since Inception	
												Distributions to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
Brookfield Infrastructure Fund IV B, LP	2019	10/21/2019	\$50,000,000	\$47,505,049	\$2,494,951	95%	\$9,106,683	\$50,383,824	\$59,490,507	\$11,985,458	11.5%	0.19x	1.25x
Brookfield Infrastructure Fund V B, LP	2023	5/23/2023	\$40,000,000	\$5,805,546	\$34,194,454	15%	\$0	\$5,397,146	\$5,397,146	-\$408,400	7.0%	--	0.93x
HarbourVest Real Assets Fund IV, LP	2019	7/15/2019	\$100,000,000	\$56,000,000	\$44,000,000	56%	\$16,118,421	\$64,924,301	\$81,042,722	\$25,042,722	45.2%	0.29x	1.45x
<b>Total VCERA Private Real Assets Program</b>			<b>\$190,000,000</b>	<b>\$109,310,595</b>	<b>\$80,689,405</b>	<b>58%</b>	<b>\$25,225,104</b>	<b>\$120,705,271</b>	<b>\$145,930,375</b>	<b>\$36,619,780</b>	<b>23.2%</b>	<b>0.23x</b>	<b>1.34x</b>

Values shown are as of 6/30/2023 unless otherwise indicated.

<sup>1</sup>Capital Called to Date includes recallable return of capital



# PRIVATE REAL ESTATE LP PERFORMANCE

Fund Name	Vintage Year	Initial Investment Date	Commitment	Capital Called to Date <sup>1</sup>	Outstanding Commitment	Call Ratio	Distributions to Date	Valuation	Total Value	Net Benefit	IRR	Since Inception	
												Distributions to Paid In Multiple (DPI)	Total Value to Paid In Multiple (TVPI)
Alterra IOS Venture II LP	2022	4/7/2022	\$35,000,000	\$22,509,542	\$12,490,458	64%	\$0	\$31,810,175	\$31,810,175	\$9,300,633	12.2%	--	1.41x
LaSalle Income & Growth Fund VIII, LP	2019	2/26/2020	\$100,000,000	\$63,011,955	\$36,988,045	63%	\$25,162,914	\$61,596,952	\$86,759,866	\$23,747,911	13.1%	0.4x	1.38x
<b>Total VCERA Private Real Estate Program</b>			<b>\$135,000,000</b>	<b>\$85,521,497</b>	<b>\$49,478,503</b>	<b>63%</b>	<b>\$25,162,914</b>	<b>\$93,407,127</b>	<b>\$118,570,041</b>	<b>\$33,048,544</b>	<b>12.9%</b>	<b>0.29x</b>	<b>1.39x</b>

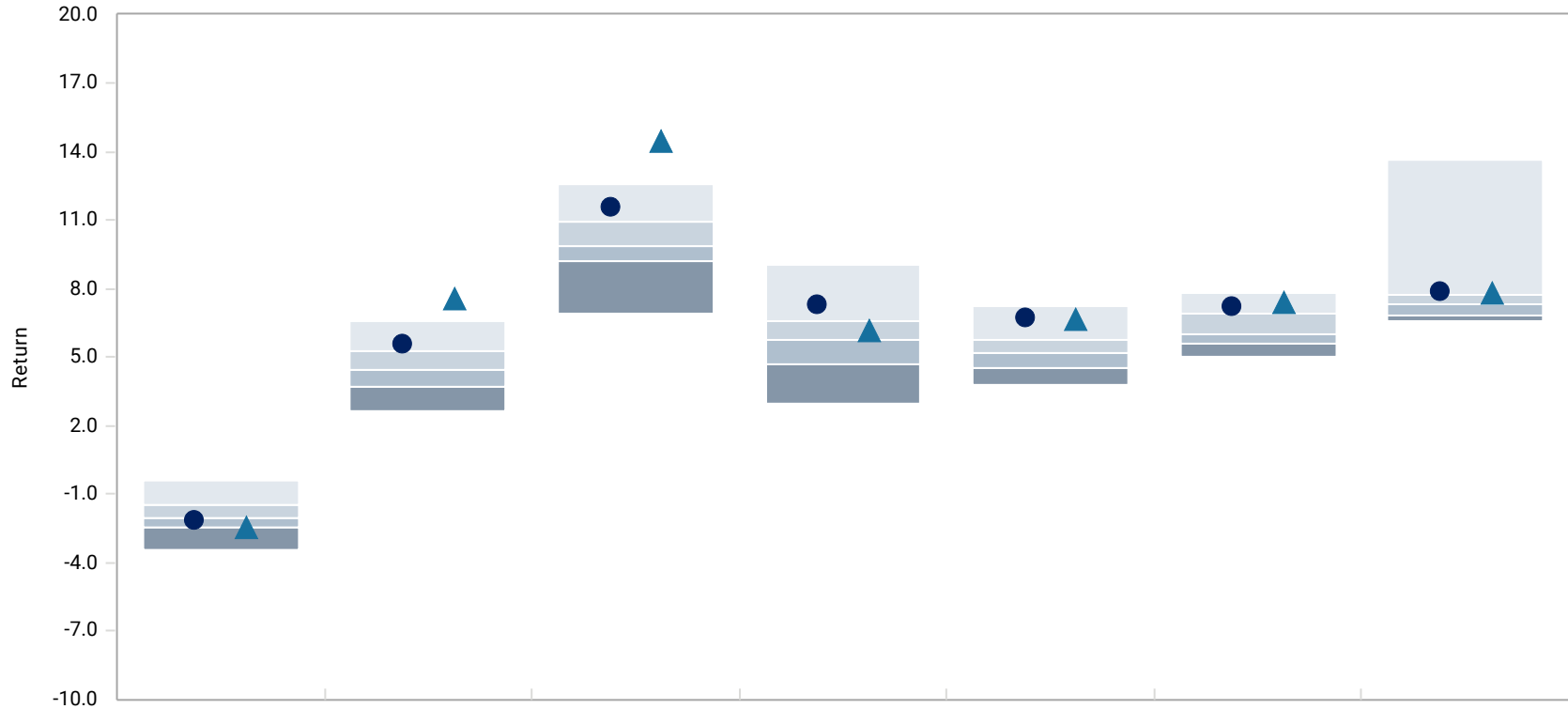
Values shown are as of 6/30/2023 unless otherwise indicated.

<sup>1</sup>Capital Called to Date includes recallable return of capital



# TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

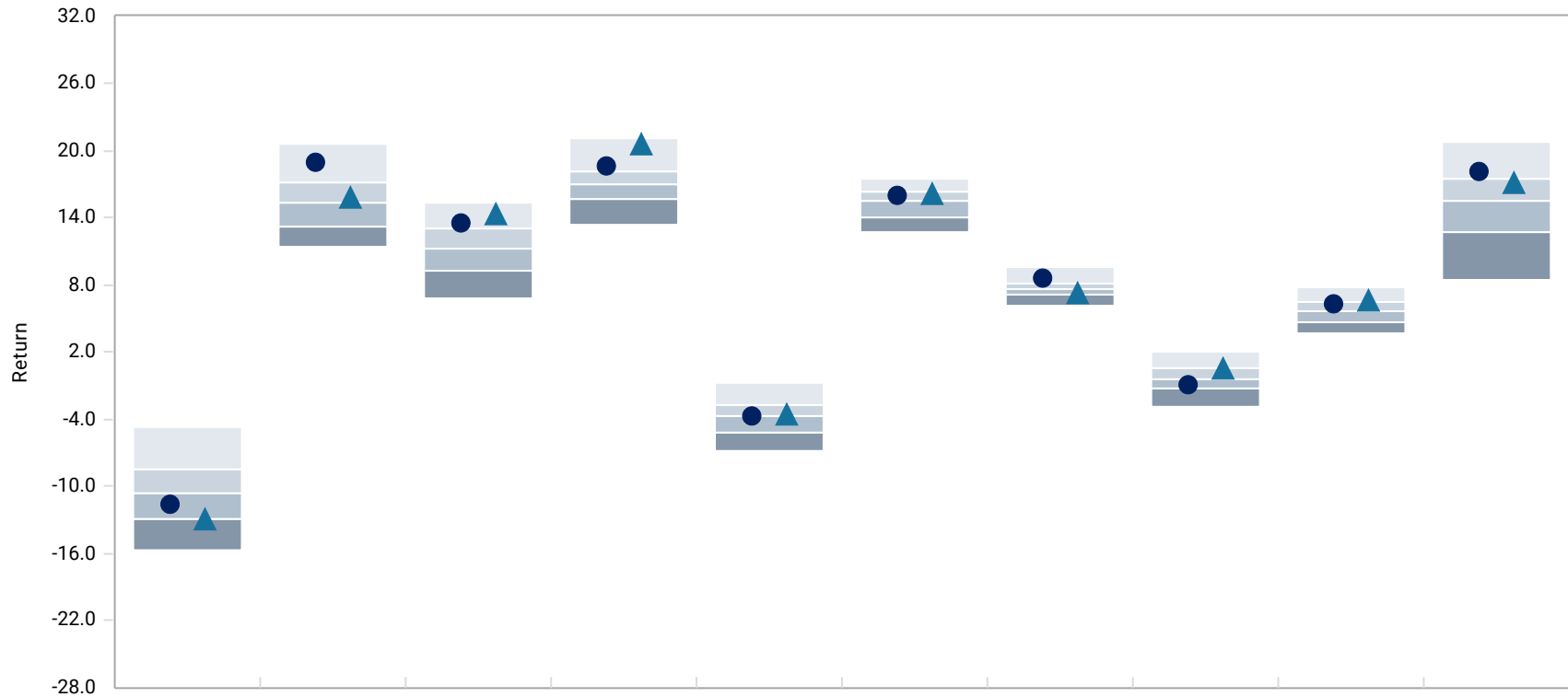
Total Fund vs. InvMetrics Public DB > \$1 Billion



	3 Mo	YTD	1 Year	3 Years	5 Years	10 Years	Inception
● Total Fund	-2.1 (53)	5.6 (16)	11.6 (13)	7.3 (18)	6.8 (15)	7.3 (10)	7.9 (14)
▲ Policy Index	-2.4 (71)	7.6 (2)	14.5 (2)	6.2 (31)	6.6 (16)	7.4 (9)	7.9 (14)
5th Percentile	-0.4	6.6	12.6	9.1	7.2	7.8	13.6
1st Quartile	-1.5	5.3	11.0	6.6	5.7	6.9	7.7
Median	-2.1	4.4	9.8	5.8	5.2	6.1	7.4
3rd Quartile	-2.5	3.7	9.2	4.7	4.6	5.6	6.9
95th Percentile	-3.4	2.6	6.9	3.0	3.8	5.1	6.6
Population	70	66	66	58	58	52	16

# TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

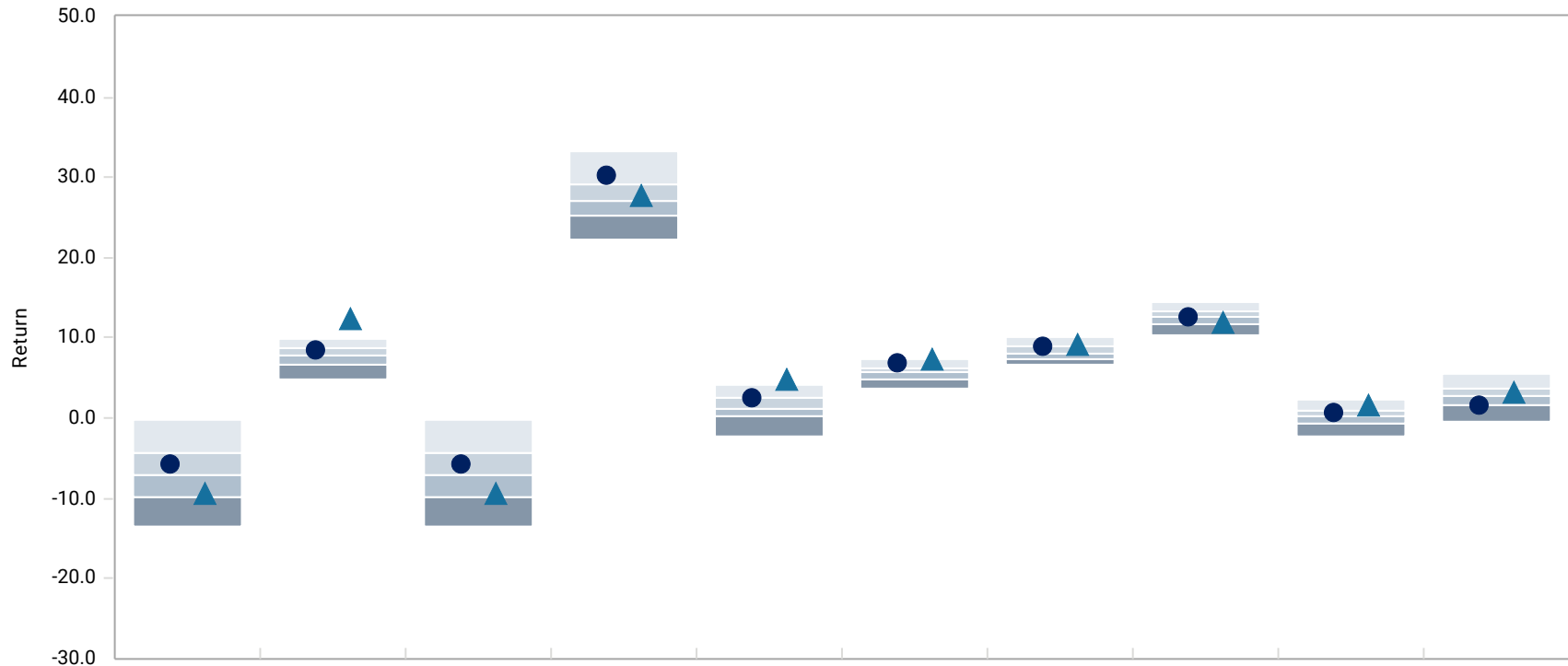
Total Fund vs. InvMetrics Public DB > \$1 Billion



	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
● Total Fund	-11.5 (62)	19.1 (10)	13.6 (16)	18.7 (19)	-3.6 (48)	16.0 (39)	8.6 (18)	-0.9 (67)	6.3 (33)	18.1 (20)
▲ Policy Index	-12.9 (76)	15.8 (47)	14.4 (11)	20.7 (7)	-3.6 (47)	16.2 (31)	7.4 (65)	0.7 (25)	6.6 (22)	17.2 (31)
5th Percentile	-4.7	20.7	15.4	21.2	-0.7	17.5	9.7	2.1	7.8	20.9
1st Quartile	-8.4	17.2	13.1	18.2	-2.7	16.4	8.2	0.6	6.5	17.6
Median	-10.6	15.3	11.3	17.1	-3.7	15.5	7.6	-0.4	5.7	15.5
3rd Quartile	-12.8	13.3	9.3	15.7	-5.1	14.0	7.1	-1.3	4.7	12.8
95th Percentile	-15.6	11.4	6.9	13.4	-6.8	12.8	6.2	-2.8	3.7	8.5
Population	100	135	147	124	104	115	113	110	106	104

# TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1 Billion

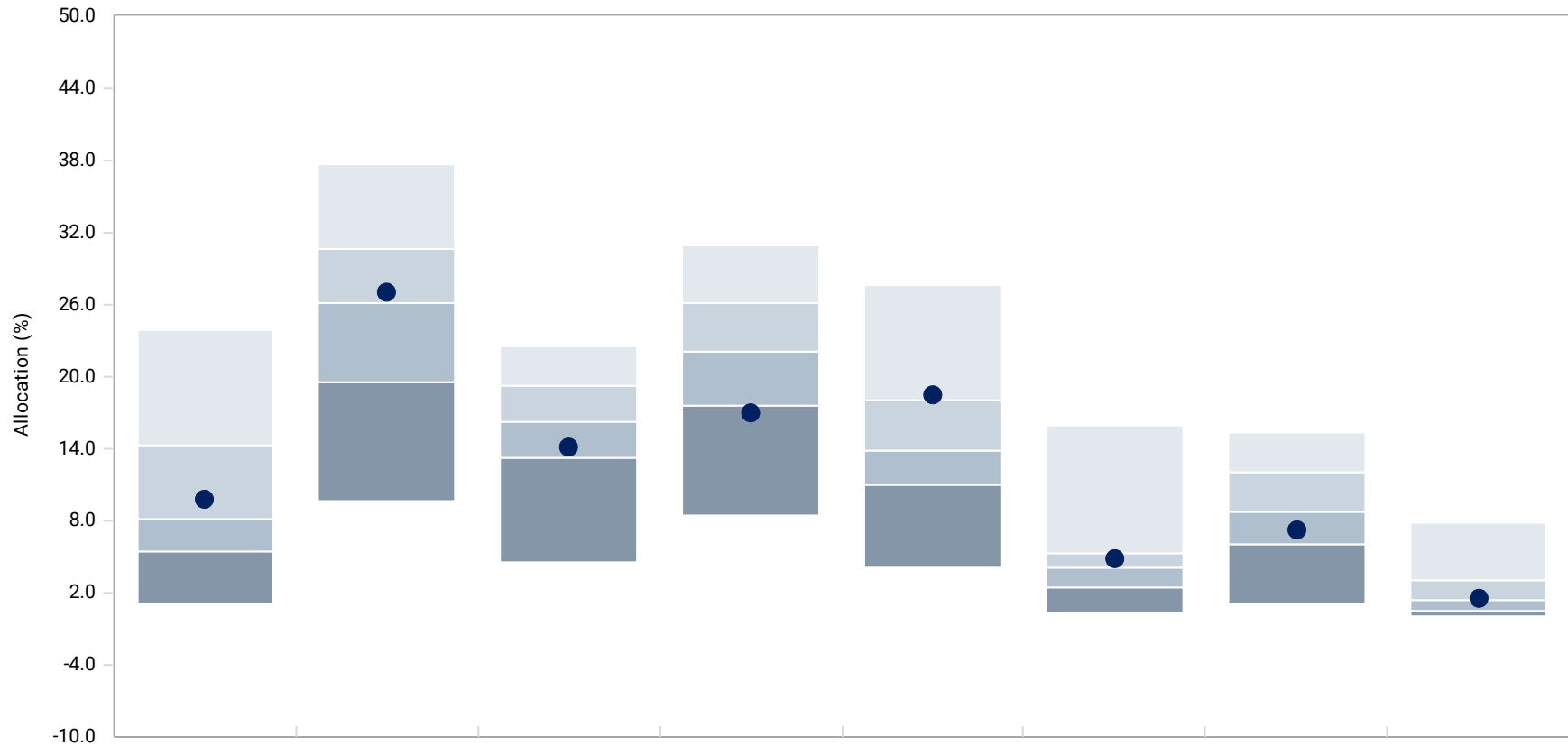


	Fiscal 2022	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
● Total Fund	-5.6 (40)	8.5 (31)	-5.6 (40)	30.3 (20)	2.5 (29)	7.0 (9)	8.9 (31)	12.6 (47)	0.8 (34)	1.7 (76)
▲ Policy Index	-9.4 (73)	12.4 (1)	-9.4 (73)	27.8 (39)	4.8 (1)	7.4 (5)	9.2 (20)	12.0 (62)	1.6 (7)	3.2 (39)
5th Percentile	-0.2	10.0	-0.2	33.2	4.1	7.4	10.2	14.4	2.3	5.5
1st Quartile	-4.2	8.8	-4.2	29.2	2.6	6.3	9.0	13.4	0.9	3.7
Median	-7.0	7.7	-7.0	27.0	1.3	5.7	8.1	12.5	0.2	2.7
3rd Quartile	-9.9	6.6	-9.9	25.3	0.2	4.8	7.4	11.6	-0.7	1.7
95th Percentile	-13.4	4.9	-13.4	22.2	-2.1	3.7	6.7	10.4	-2.3	-0.3
Population	105	105	105	148	133	102	80	79	75	73



# TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Fund Allocation vs. InvMetrics Public DB > \$1 Billion



	Global Equity	US Equity	Global ex-US Equity	Total Fixed Income	Private Equity	Real Assets/Commod	Total Real Estate	Cash & Equivalents
● Total Fund	9.8 (39)	27.0 (45)	14.2 (70)	16.9 (78)	18.5 (21)	4.9 (37)	7.2 (65)	1.5 (49)
5th Percentile	23.9	37.7	22.5	30.9	27.7	16.0	15.4	7.9
1st Quartile	14.4	30.7	19.2	26.2	18.0	5.3	12.1	3.1
Median	8.2	26.1	16.3	22.1	13.8	4.1	8.7	1.4
3rd Quartile	5.5	19.6	13.3	17.7	11.0	2.4	6.0	0.5
95th Percentile	1.1	9.6	4.6	8.5	4.1	0.3	1.1	0.1
Population	27	68	68	72	54	37	54	61



# MANAGER DUE DILIGENCE



# DUE DILIGENCE MONITOR

The items below summarize the one-year trailing performance and any changes or announcements from the Plan's managers/products. A "-" indicates there were no material announcements. A "Yes" indicates there was an announcement and a brief summary is provided on the following pages.

NEPC's Marketable Investment Committee and Private Investment Committee meet every two weeks to review events as they relate to investment managers and determine if any action should be taken (by NEPC and/or by our clients). Events are rated: No Action, Watch, Hold, Client Review, or Terminate. NEPC's recommendation in view of the recent quarter's developments (performance, manager events, and any of the longer-term trending data) is refreshed quarterly.

Investment Options	Performance (One Year Period)	Changes/Announcements (Recent Quarter)
Western U.S. Index Plus	-	-
BlackRock Russell 1000 Index	-	-
BlackRock Russell 2500 Index	-	-
BlackRock MSCI ACWI ex-U.S. Index	-	-
Sprucegrove	-	-
Walter Scott	-	-
BlackRock MSCI ACWI Index	-	-
PIMCO PIF	-	-
BlackRock U.S. Debt Fund	Bottom Quartile	-
Western	Bottom Quartile	-
Reams	Top Quartile	-
Loomis Sayles Strategic Alpha	Top Quartile	-
Loomis Sayles Multi-Sector Full Discretion	-	-



# INVESTMENT GUIDELINES

- **Blackrock Russell 1000 Index Fund**

- The Blackrock Russell 1000 Index Fund shall be invested and reinvested primarily in a portfolio of Equity Securities with the objective of approximating as closely as practicable the capitalization weighted total rate of return of the Russell 1000 Index (large cap companies).

- **Blackrock Russell 2500 Index Fund**

- The Blackrock Russell 2500 Index Fund shall be invested and reinvested primarily in a portfolio of Equity Securities with the objective of approximating as closely as practicable the capitalization weighted total rate of return of the Russell 2500 Index (mid and small cap companies).

- **Western Asset Management Index Plus Separate Account**

- The objective of the Portfolio is to maximize the long term total return in the Portfolio while providing a core domestic equity exposure to the Standard & Poor's ("S&P") 500 Index and managing Portfolio risk. The Manager shall aim to exceed the total return of the S&P 500 index with all dividends reinvested in the index by 75 basis points on an annualized basis over a full market cycle.

- **Blackrock MSCI ACWI ex-U.S. IMI Index Fund**

- The BlackRock MSCI ACWI ex-U.S. IMI Index Fund shall be invested and reinvested in a portfolio of International Equity Securities whose total rates of return will approximate as closely as practicable the capitalization-weighted total rates of return of the equity markets of selected non-U.S. developed and emerging countries.

- **Blackrock MSCI ACWI Equity Index Fund**

- The BlackRock MSCI ACWI Equity Index Fund shall be invested and reinvested primarily in a portfolio of U.S. Equity Securities and International Equity Securities with the objective of approximating as closely as practicable the capitalization-weighted total rates of return of the equity markets of the U.S, non- U.S. developed and emerging countries.



# INVESTMENT GUIDELINES

- **Sprucegrove U.S. International Pooled Fund**

- The Fund seeks to maximize the long-term rate of return while seeking to preserve investment capital by investing primarily in equity and quasi-equity securities of companies with more value characteristics located in developed markets in the Europe, Australasia and the Far East ("EAFE") Index and to outperform the index, net of fees and achieve a high ranking relative to similar funds over a full market cycle.

- **Walter Scott & Partners International Fund**

- The Fund will invest in equity securities that meet certain quantitative and qualitative investment criteria and will seek long-term capital appreciation. The Fund will tend to focus on those industries or sectors with more growth characteristics and experiencing upper quartile economic growth and may avoid industries which are in secular economic decline. The Fund seeks to outperform the MSCI Europe, Australasia and the Far East ("EAFE") Index net of fees, and achieve a high ranking relative to similar funds over a full market cycle.

- **Blackrock U.S. Debt Index Fund**

- The U.S. Debt Index Fund shall be invested and reinvested primarily in a portfolio of Debt Securities with the objective of approximating as closely as practicable the total rate of return of the market for Debt Securities as defined by the Bloomberg Barclays U.S. Aggregate Bond Index.

- **Western Asset Management Core Plus Fixed Income Separate Account**

- The objective of the Portfolio is to provide above-average total return in a manner that is consistent with the typical rate-of-return volatility exhibited by broad market fixed income portfolios. The Fund will seek to outperform the Bloomberg Barclays U.S. Aggregate Index, net of fees, over a full market cycle.

- **Reams Unconstrained Fixed Income Separate Account**

- The Portfolio will be broadly diversified across markets, sectors, securities, and maturities in a manner consistent with accepted standards of prudence. The objective of the Portfolio is to maximize risk-adjusted total return by systematically pursuing relative value opportunities throughout all sectors of the fixed income market. The Portfolio will seek returns in excess of the Bloomberg/Barclays U.S. Aggregate Bond Index and/or the three month London Interbank Offered Rate ("LIBOR") in U.S. dollars plus 3% net of fees with an expected risk volatility goal of approximately 4 to 6% over a full market cycle.



# INVESTMENT GUIDELINES

- **Loomis, Sayles & Company Multisector Full Discretion Separate Account**

- The fixed income portfolio should be broadly diversified across markets, sectors, securities, and maturities in a manner consistent with accepted standards of prudence. The objective of the Portfolio is to provide above-average total return in a manner that is consistent with the typical rate-of-return volatility exhibited by broad market fixed income portfolios. The return of the Manager should exceed that of the custom benchmark (30% of the rate of return of the Citigroup High-Yield Index, 5% of the rate of return of the J.P. Morgan Non-U.S. Hedged Bond Index and 65% of the rate of return of the Bloomberg Barclays U.S. Aggregate Bond Index), net of fees, over a full market cycle.

- **Loomis, Sayles & Company Strategic Alpha Fund**

- The objective of the Fund is to provide absolute returns in excess of the Bloomberg/Barclays U.S Aggregate Bond Index and/or the three month London Interbank Offered Rate (“LIBOR”) in U.S. dollars plus 3% net of fees with an expected risk volatility goal of approximately 4 to 6% over a full market cycle.

- **Reams 10-Year Treasuries**

- The portfolio shall be invested in 10-Year U.S. Treasury Debt Securities with the objective of returning the rate of return on a 10-Year U.S. Treasury Debt Security.

- **Bridgewater Associates All Weather Portfolio**

- The investment objective of the Fund is to seek to provide attractive returns with relatively limited risks, with no material bias to perform better or worse in any particular type of economic environment. In other words, the portfolio seeks to perform approximately as well in rising or falling inflation periods, or in periods of strong or weak economic growth. To achieve this objective, the Fund holds investments in different asset classes that have different biases to economic conditions. The Manager will seek to outperform the CPI + 4% (Unadjusted) benchmark net of fees over a full market cycle.

- **Tortoise Energy Infrastructure Master Limited Partnership**

- The Manager will invest in master limited partnerships with an investment approach that emphasizes a long-term, buy-and-hold philosophy with low turnover in an effort to achieve a portfolio characterized by high current income, high growth and low volatility. The Manager invests primarily in long-haul pipelines and gathering & processing pipelines. The Manager will seek to outperform the Wells Fargo MLP Index net of fees over a full market cycle.



# INVESTMENT GUIDELINES

- **PGIM Real Estate Property Investment Separate Account**

- PRISA is a broadly diversified equity real estate portfolio that invests primarily in existing, incomeproducing properties with strong cash flow that is expected to increase over time and thereby provide the potential for capital appreciation. The Fund’s performance objective is to produce a total return each year that meets or exceeds the National Council of Real Estate Investment Fiduciaries Fund Index – Open-End Diversified Core Equity (“NCREIF-ODCE”) net of fees, while maintaining the benefits of a broadly diversified, core real estate portfolio.

- **UBS Realty Investors Trumbull Property Fund**

- The Fund seeks to provide investors with strategic market access to high-quality private commercial real estate with the financial objective of providing superior risk-adjusted returns across the real estate cycles. Maximize the quality and growth of the Fund’s income by acquiring and aggressively managing high quality assets in major US metropolitan markets to minimize risk through diversification by property type, geographic location and economic sector. The Fund’s performance objective is to outperform the National Council of Real Estate Investment Fiduciaries Fund Index – Open-End Diversified Core Equity (“NCREIF-ODCE”) index net of fees, and a 5% real rate of return (inflation-adjusted return) over a full market cycle.





# APPENDIX







**MACRO**



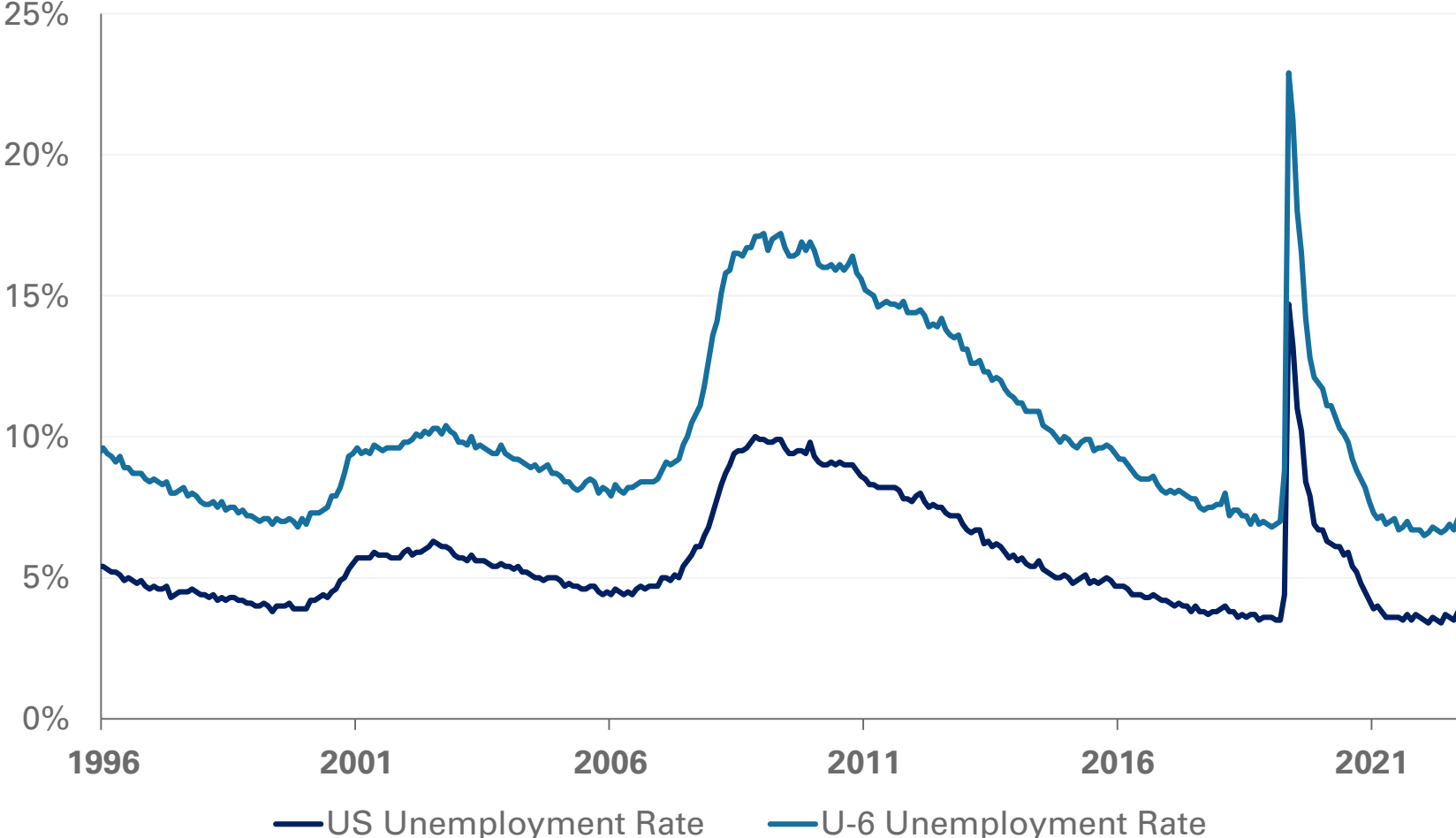
# INFLATION

## U.S. CONSUMER PRICE INDEX



Source: Bureau of Labor Statistics, FactSet

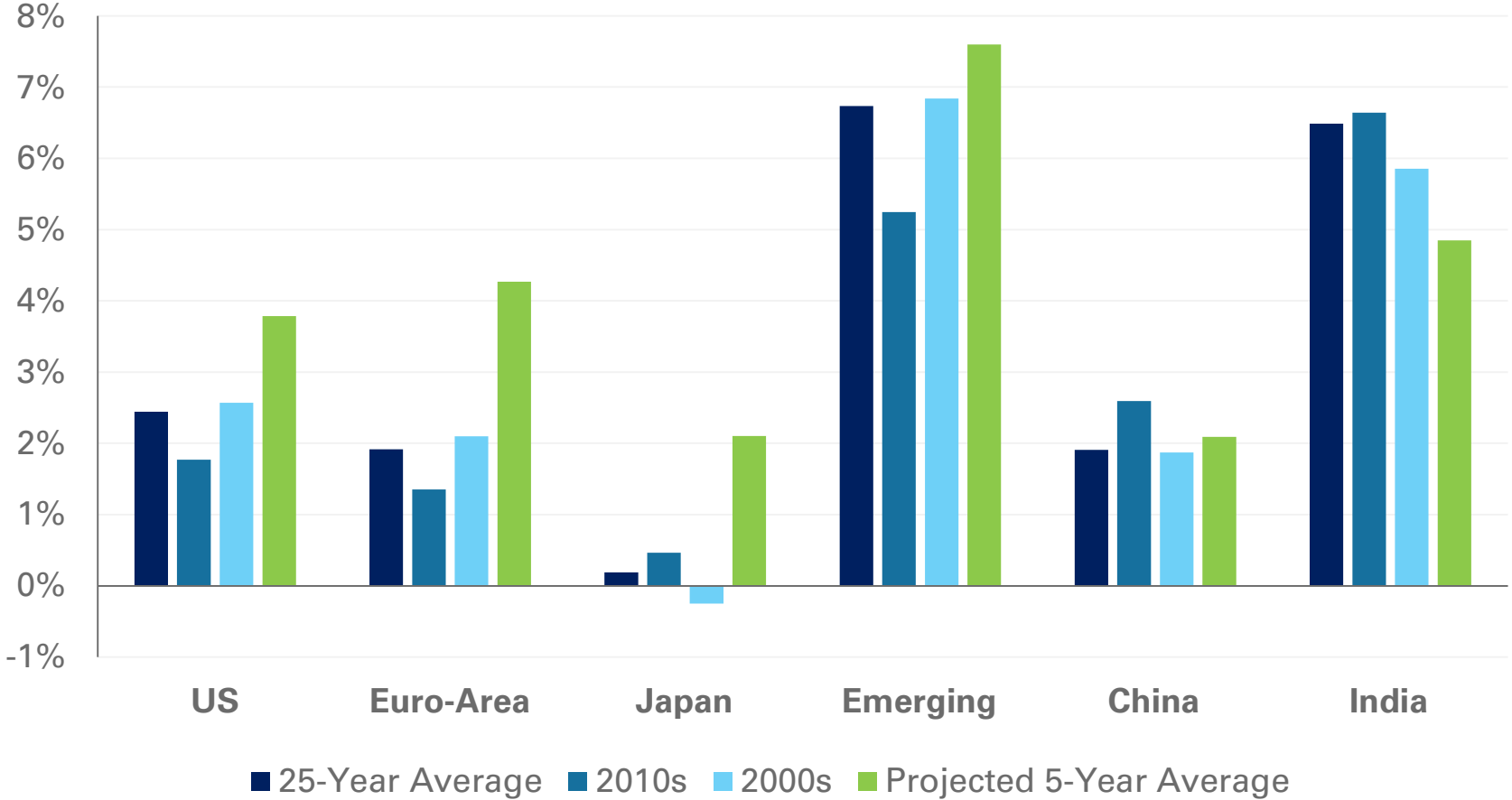
# U.S. UNEMPLOYMENT RATES



Source: FactSet

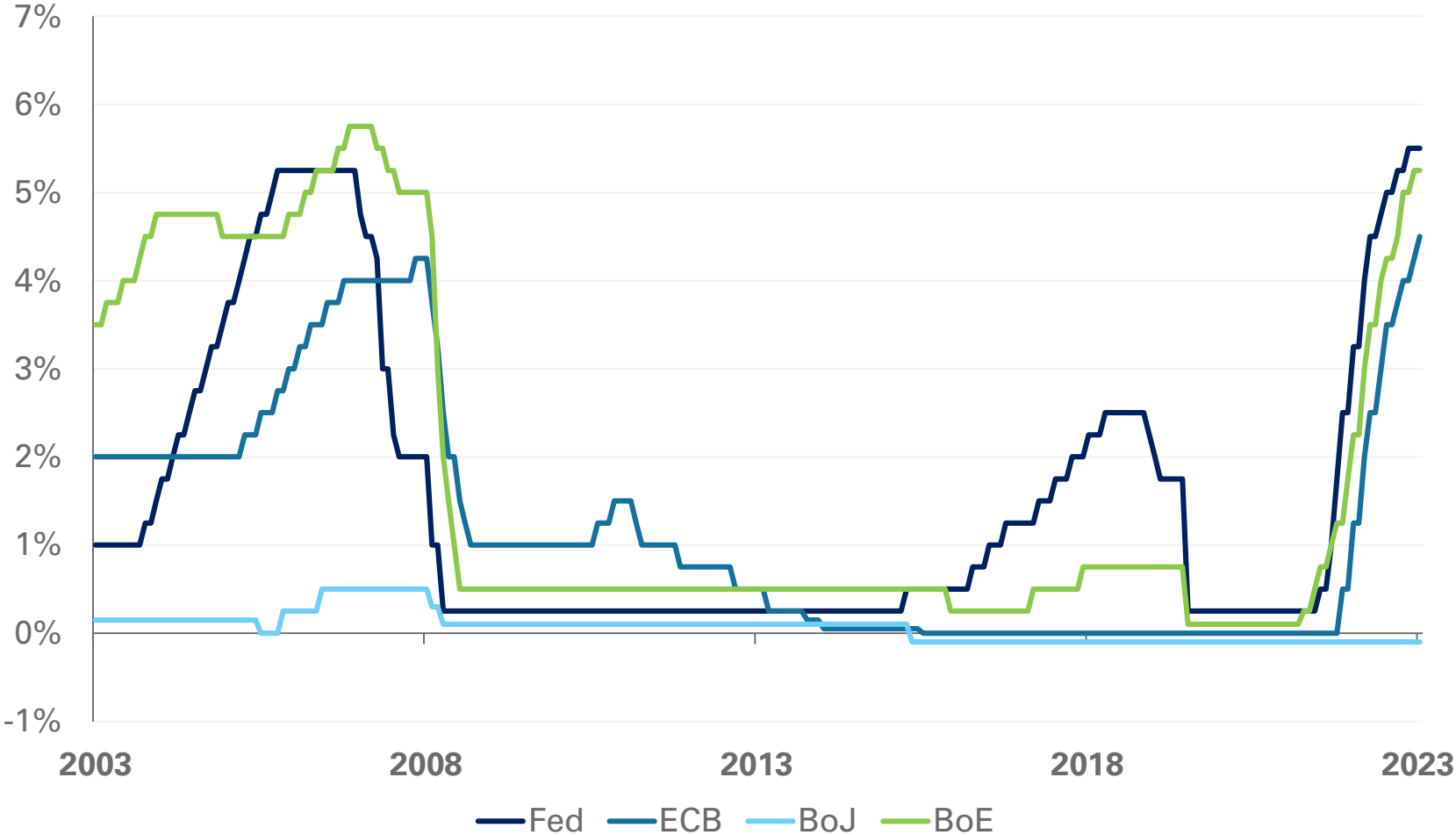
# HISTORICAL INFLATION

## IMF PROJECTIONS



Source: IMF, FactSet

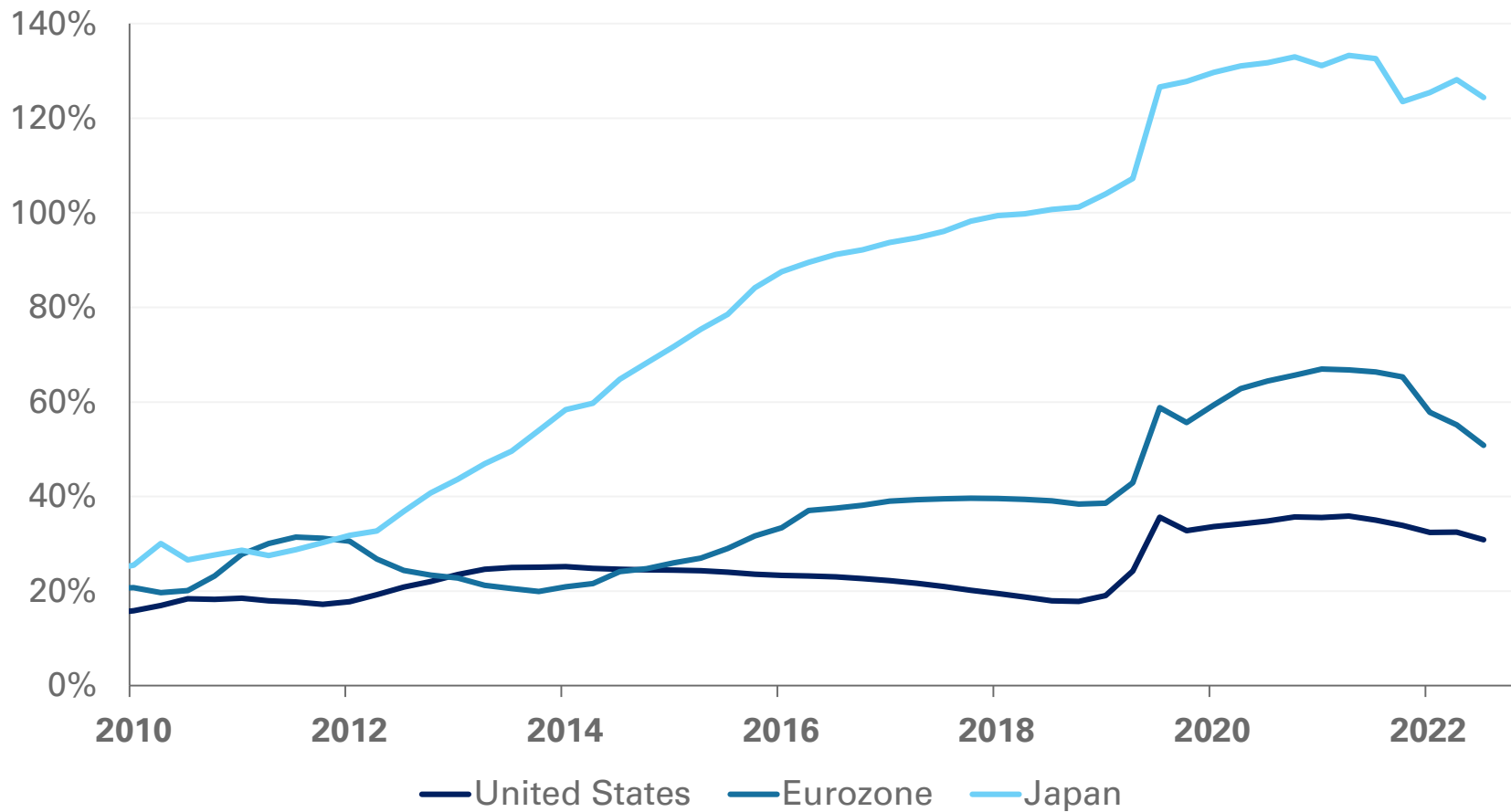
# CENTRAL BANK POLICY RATES



Source: Federal Reserve, ECB, Bank of Japan, Bank of England, FactSet

# CENTRAL BANK BALANCE SHEETS

AS A PERCENTAGE OF GDP



Source: FactSet

# CURRENCIES

## RELATIVE TO THE U.S. DOLLAR

Currencies	Spot	1 Month	YTD	1 Year
<b>Euro</b>	<b>1.06</b>	-2.5%	-0.8%	8.4%
<b>British Pound</b>	<b>1.22</b>	-3.7%	1.5%	10.6%
<b>Japanese Yen</b>	<b>149.23</b>	-2.4%	-11.6%	-3.1%
<b>Swiss Franc</b>	<b>0.91</b>	-3.4%	1.1%	7.2%
<b>Australian Dollar</b>	<b>0.65</b>	-0.3%	-4.8%	-0.3%
<b>New Zealand Dollar</b>	<b>1.66</b>	0.9%	-5.0%	5.7%
<b>Canadian Dollar</b>	<b>1.35</b>	0.1%	0.2%	1.4%
<b>Chinese Yuan</b>	<b>7.30</b>	-0.2%	-4.8%	-1.4%
<b>Taiwanese Dollar</b>	<b>32.28</b>	-1.3%	-4.8%	-1.3%
<b>Korean Won</b>	<b>1349</b>	-2.0%	-6.3%	6.6%
<b>Vietnamese Dong</b>	<b>24305</b>	-0.9%	-3.0%	-2.2%
<b>Thai Baht</b>	<b>36.41</b>	-3.8%	-4.9%	4.6%
<b>Philippines Peso</b>	<b>56.58</b>	0.1%	-1.5%	4.2%
<b>Indian Rupee</b>	<b>83.04</b>	-0.3%	-0.4%	-1.4%
<b>Russian Ruble</b>	<b>97.60</b>	-1.6%	-25.2%	-40.2%
<b>Mexican Peso</b>	<b>17.38</b>	-3.1%	12.1%	16.3%
<b>Brazilian Real</b>	<b>5.01</b>	-1.1%	5.5%	8.0%
<b>Chilean Peso</b>	<b>0.03</b>	-5.9%	-2.4%	13.1%
<b>Argentine Peso</b>	<b>350.03</b>	0.0%	-49.4%	-58.0%
<b>South African Rand</b>	<b>18.84</b>	0.5%	-9.7%	-4.3%



Source: FactSet

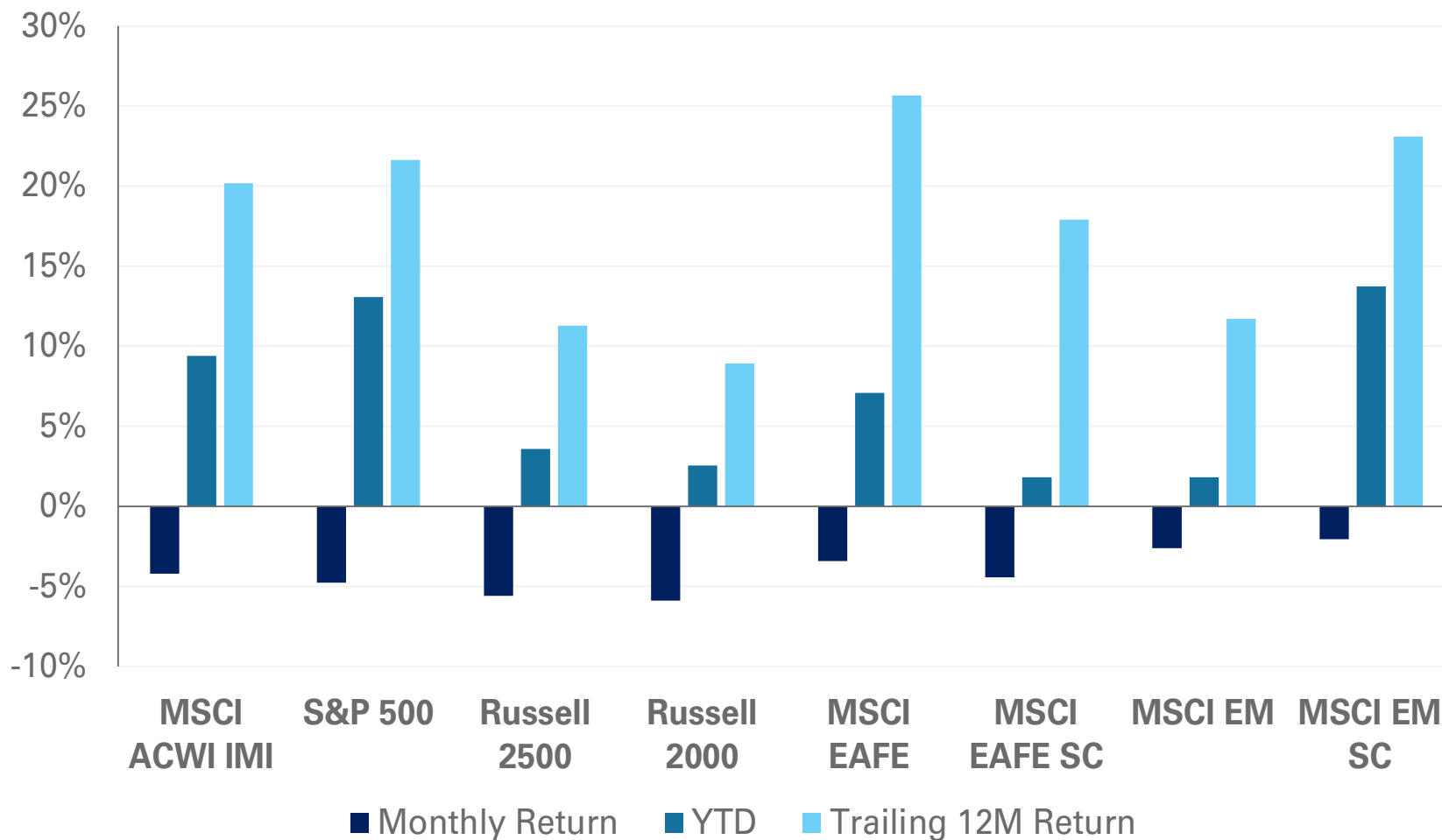


**EQUITY**



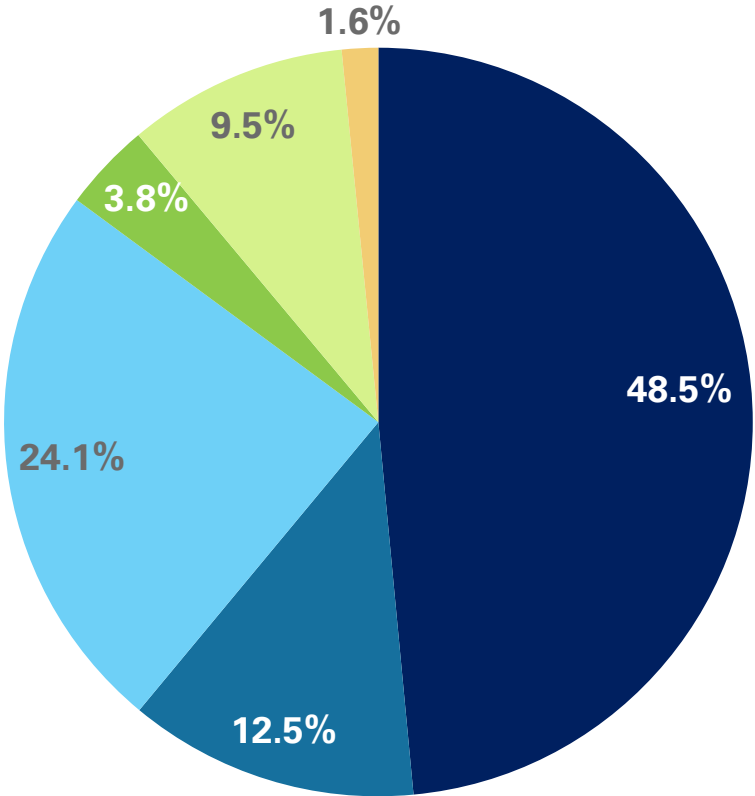


# EQUITY INDEX PERFORMANCE



Source: MSCI, S&P, Russell, FactSet

# MSCI ACWI IMI WEIGHTS



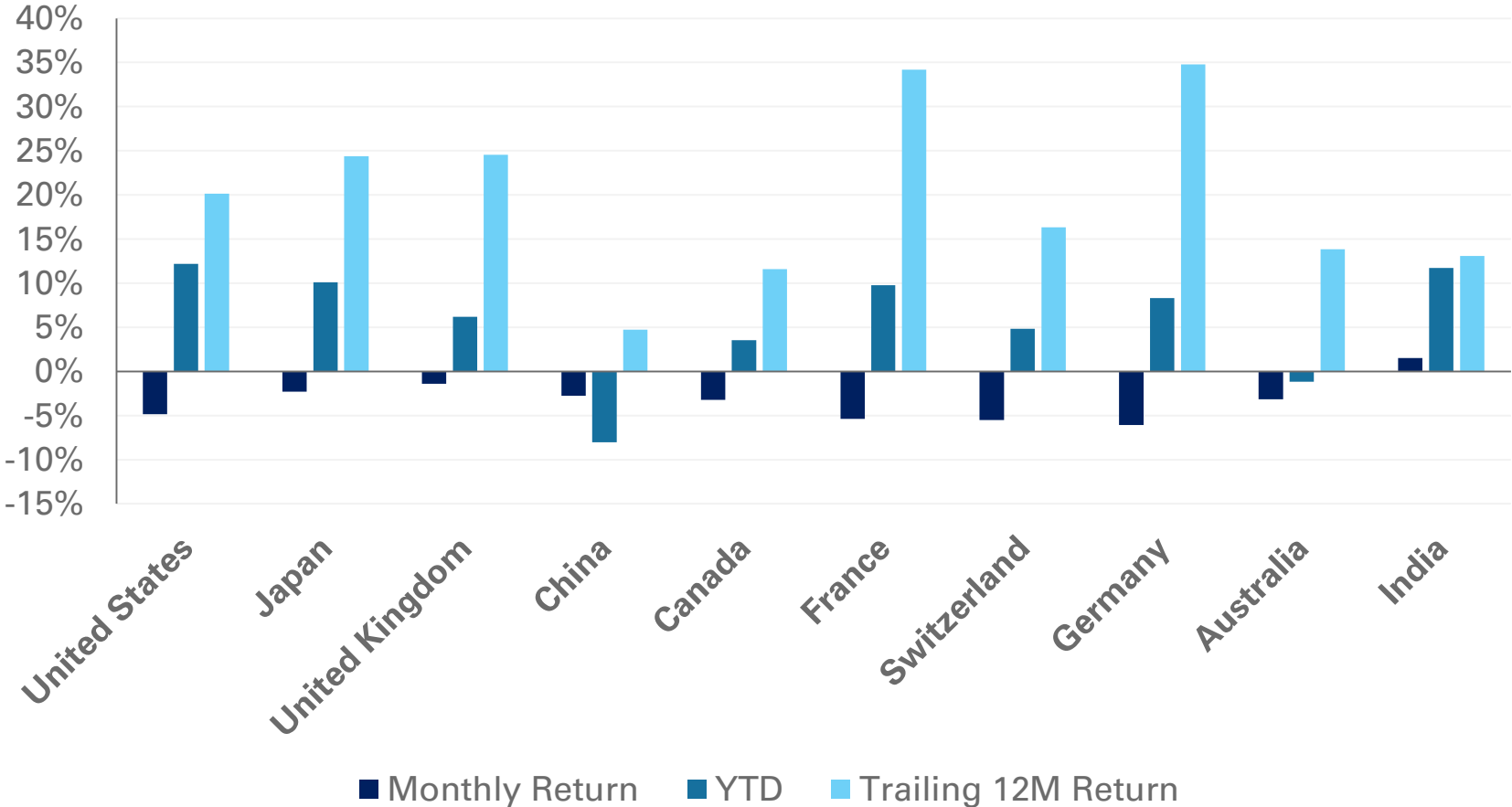
■ US Large Cap ■ US Small Cap ■ EAFE ■ EAFE Small Cap ■ EM ■ EM Small Cap



Source: MSCI, FactSet

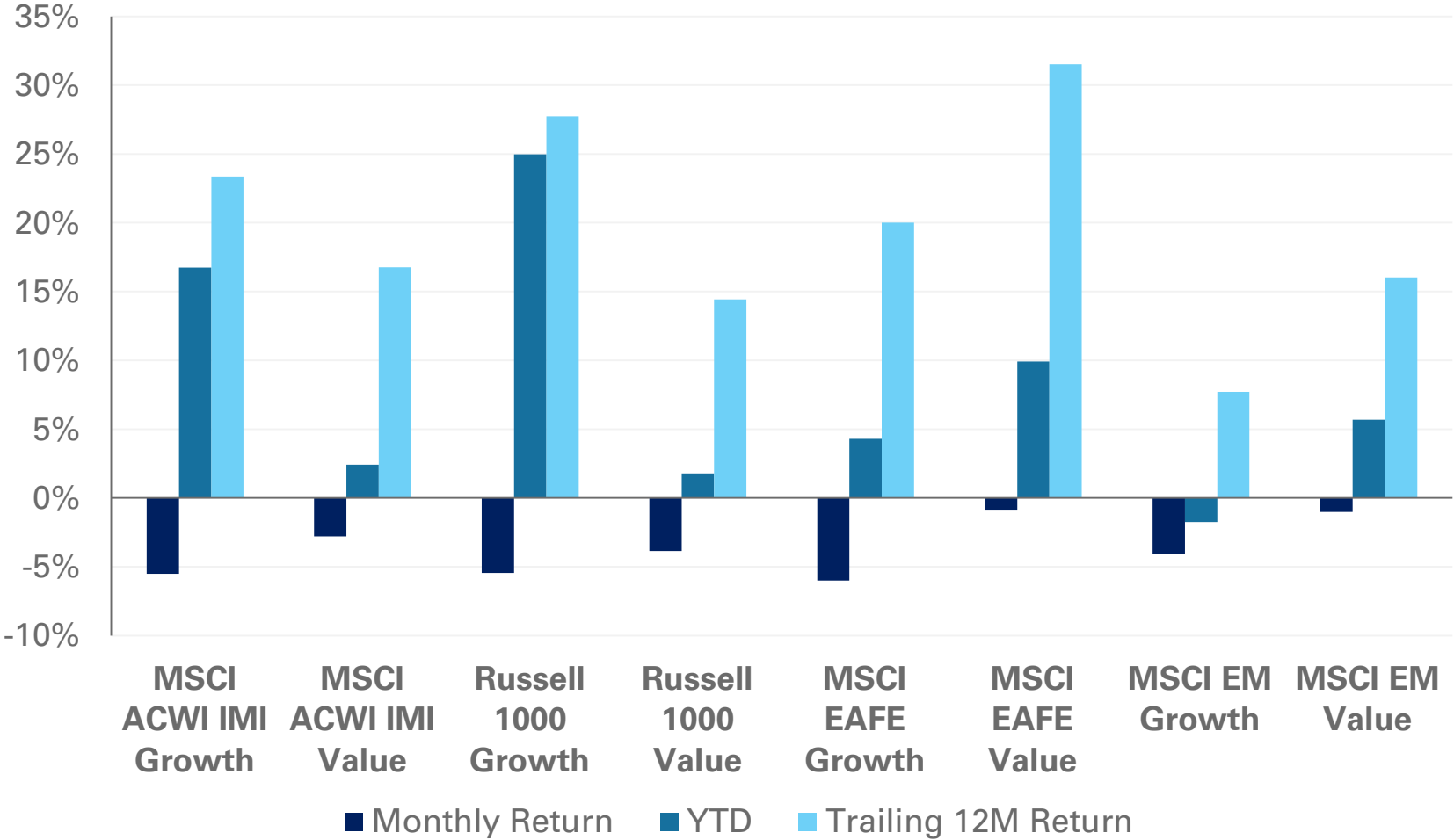
# EQUITY INDEX PERFORMANCE

TOP 10 COUNTRIES BY MARKET CAP IN MSCI ACWI IMI INDEX



Source: MSCI, FactSet

# STYLE INDEX PERFORMANCE



Source: MSCI, Russell, FactSet

# SECTOR INDEX PERFORMANCE

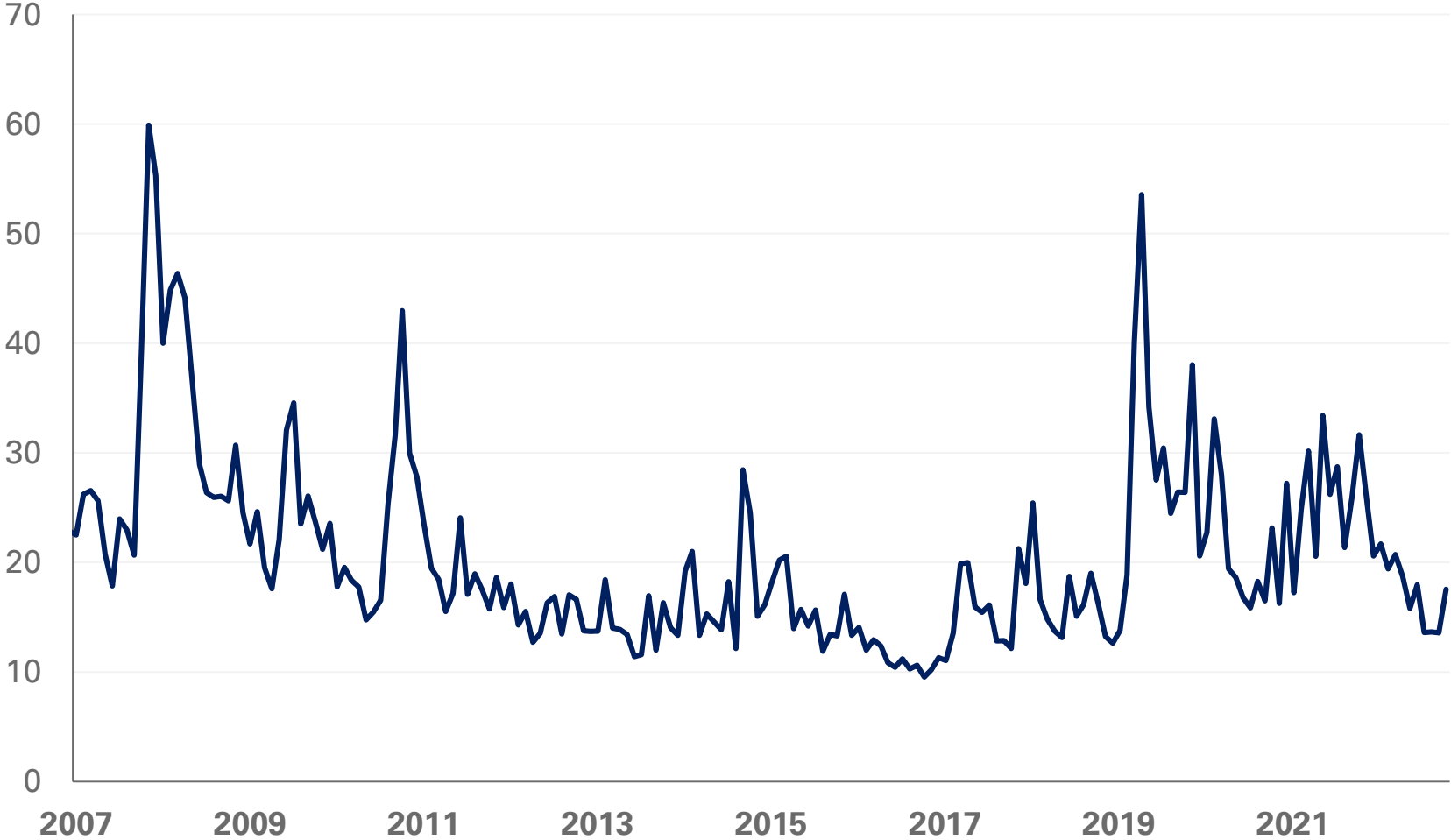
	Monthly Return	YTD	Trailing 12M Return	Index Weight
<b>MSCI ACWI IMI</b>	<b>-4.2%</b>	<b>9.4%</b>	<b>20.2%</b>	<b>100.0%</b>
Communication Services	-3.2%	24.4%	27.7%	7.1%
Consumer Discretionary	-5.3%	16.1%	17.1%	11.4%
Consumer Staples	-4.6%	-2.2%	8.8%	6.9%
Energy	2.6%	8.7%	27.5%	5.2%
Financials	-2.1%	2.3%	16.6%	15.5%
Health Care	-3.6%	-2.5%	9.2%	11.6%
Industrials	-5.0%	8.3%	26.4%	11.4%
Information Technology	-6.4%	27.6%	35.2%	20.5%
Materials	-4.2%	1.3%	17.2%	4.9%
Real Estate	-6.2%	-6.3%	-0.4%	2.9%
Utilities	-5.1%	-9.3%	0.0%	2.6%

	Monthly Return	YTD	Trailing 12M Return	Index Weight
<b>S&amp;P 500</b>	<b>-4.8%</b>	<b>13.1%</b>	<b>21.6%</b>	<b>100.0%</b>
Communication Services	-3.3%	40.4%	38.5%	8.9%
Consumer Discretionary	-6.0%	26.7%	13.8%	10.7%
Consumer Staples	-4.5%	-4.8%	7.3%	6.6%
Energy	2.6%	6.0%	30.2%	4.7%
Financials	-3.1%	-1.6%	11.7%	12.8%
Health Care	-3.0%	-4.1%	8.2%	13.4%
Industrials	-6.0%	4.5%	24.6%	8.3%
Information Technology	-6.9%	34.7%	41.1%	27.5%
Materials	-4.8%	2.6%	18.0%	2.4%
Real Estate	-7.2%	-5.4%	-1.8%	2.4%
Utilities	-5.6%	-14.4%	-7.0%	2.4%



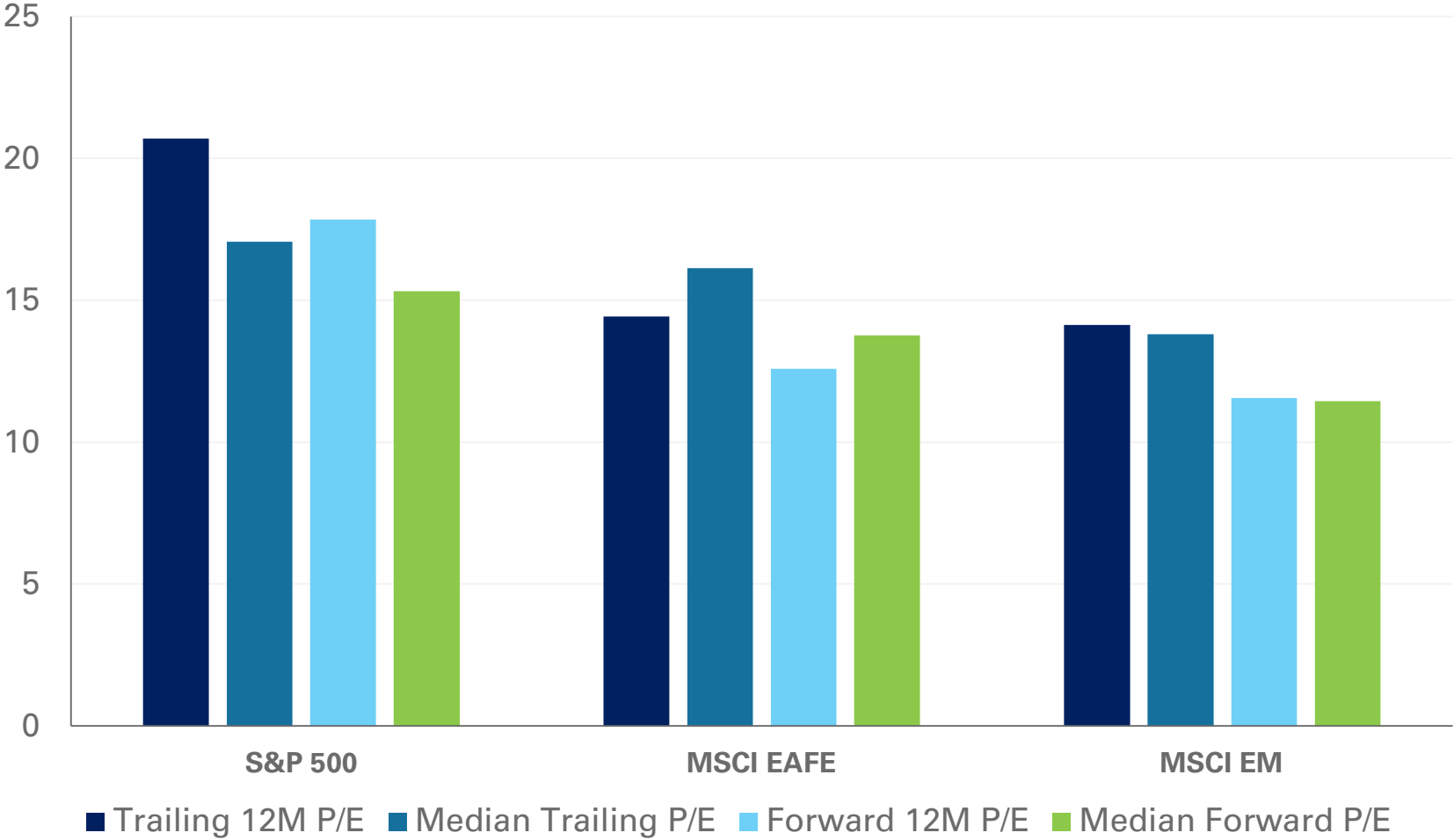
Source (Top): MSCI, FactSet  
Source (Bottom): S&P, FactSet

# EQUITY VOLATILITY INDEX (VIX)



Source: CBOE, FactSet

# GLOBAL EQUITY VALUATIONS



Median calculated based on 20-year monthly data  
 Source: S&P, MSCI, FactSet



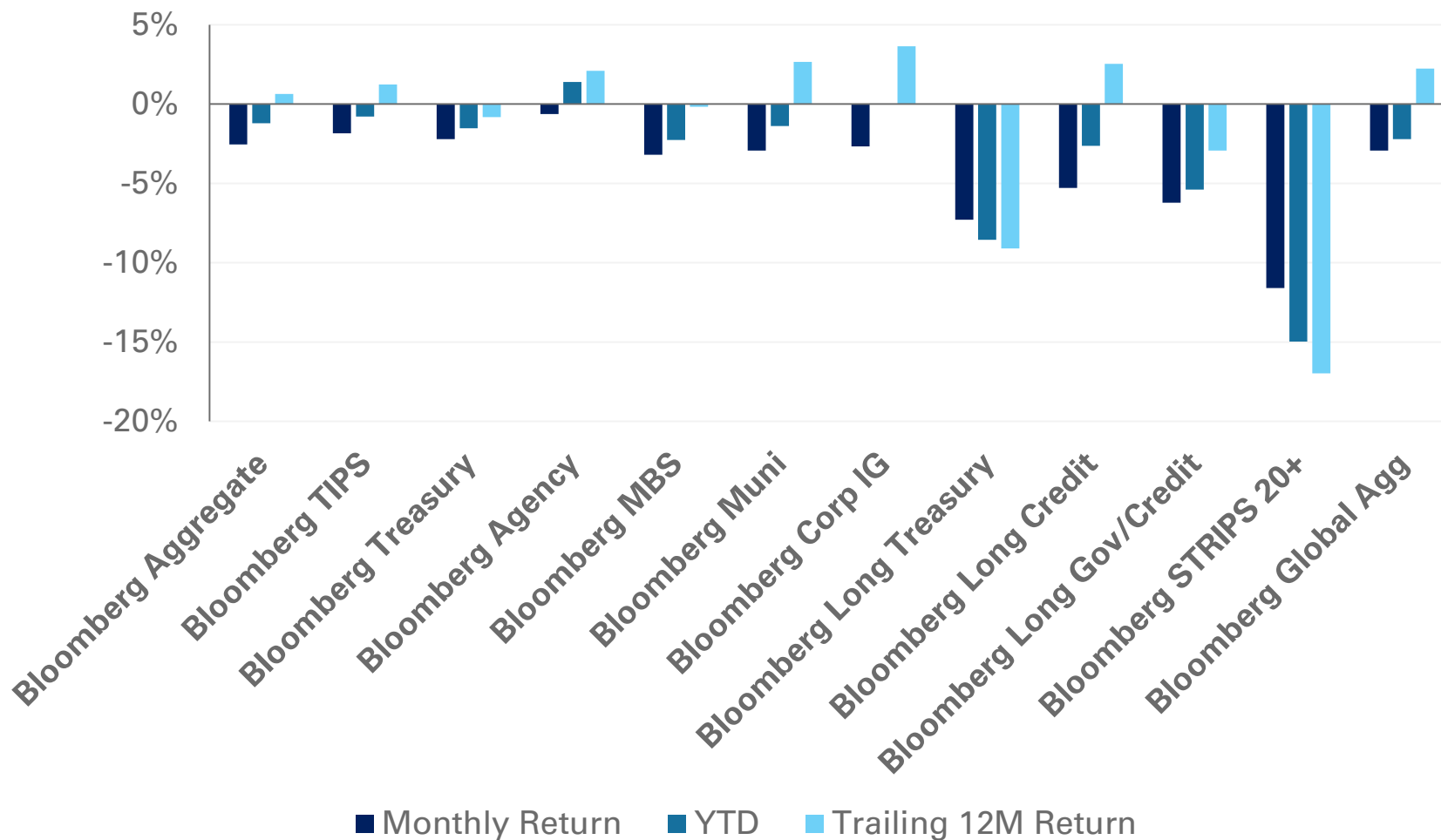


# SAFE-HAVEN FIXED INCOME





# SAFE-HAVEN FIXED INCOME PERFORMANCE



Source: Bloomberg, FactSet

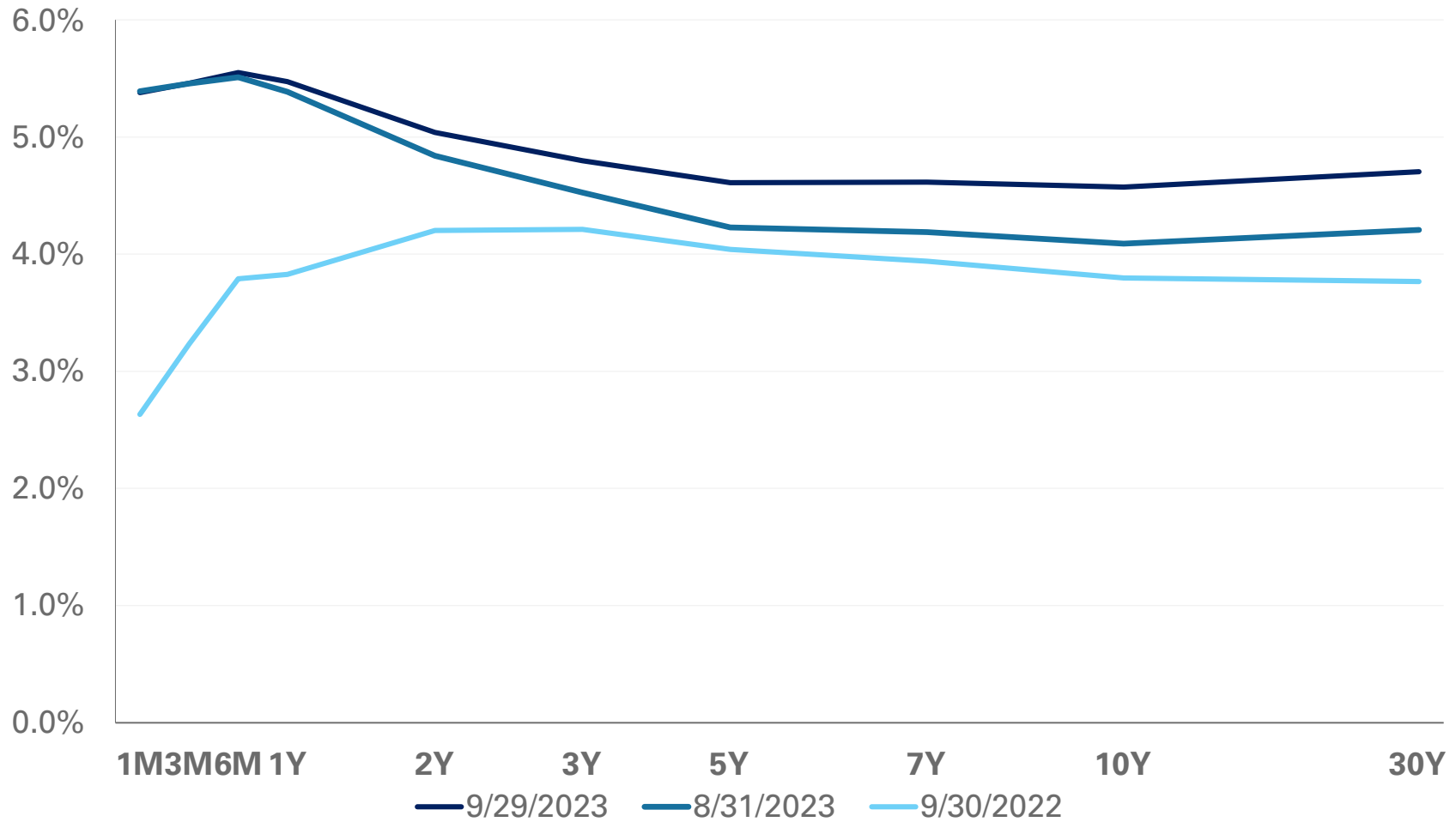
# FIXED INCOME CHARACTERISTICS

	Yield to Worst	Spread (bps)	Duration (Years)
<b>Bloomberg Aggregate</b>	5.39%	52	6.2
<b>Bloomberg TIPS</b>	5.02%	-	5.0
<b>Bloomberg Treasury</b>	4.85%	-	5.9
<b>Bloomberg Agency</b>	5.20%	16	3.1
<b>Bloomberg MBS</b>	5.57%	66	6.4
<b>Bloomberg Muni</b>	4.32%	-	6.4
<b>Bloomberg Corp IG</b>	6.04%	121	6.8
<b>Bloomberg Long Treasury</b>	4.85%	-	15.3
<b>Bloomberg Long Credit</b>	6.13%	133	12.4
<b>Bloomberg Long Gov/Credit</b>	5.54%	71	13.7
<b>Bloomberg STRIPS 20+</b>	4.81%	-	24.8
<b>Bloomberg Global Agg</b>	4.22%	50	6.6



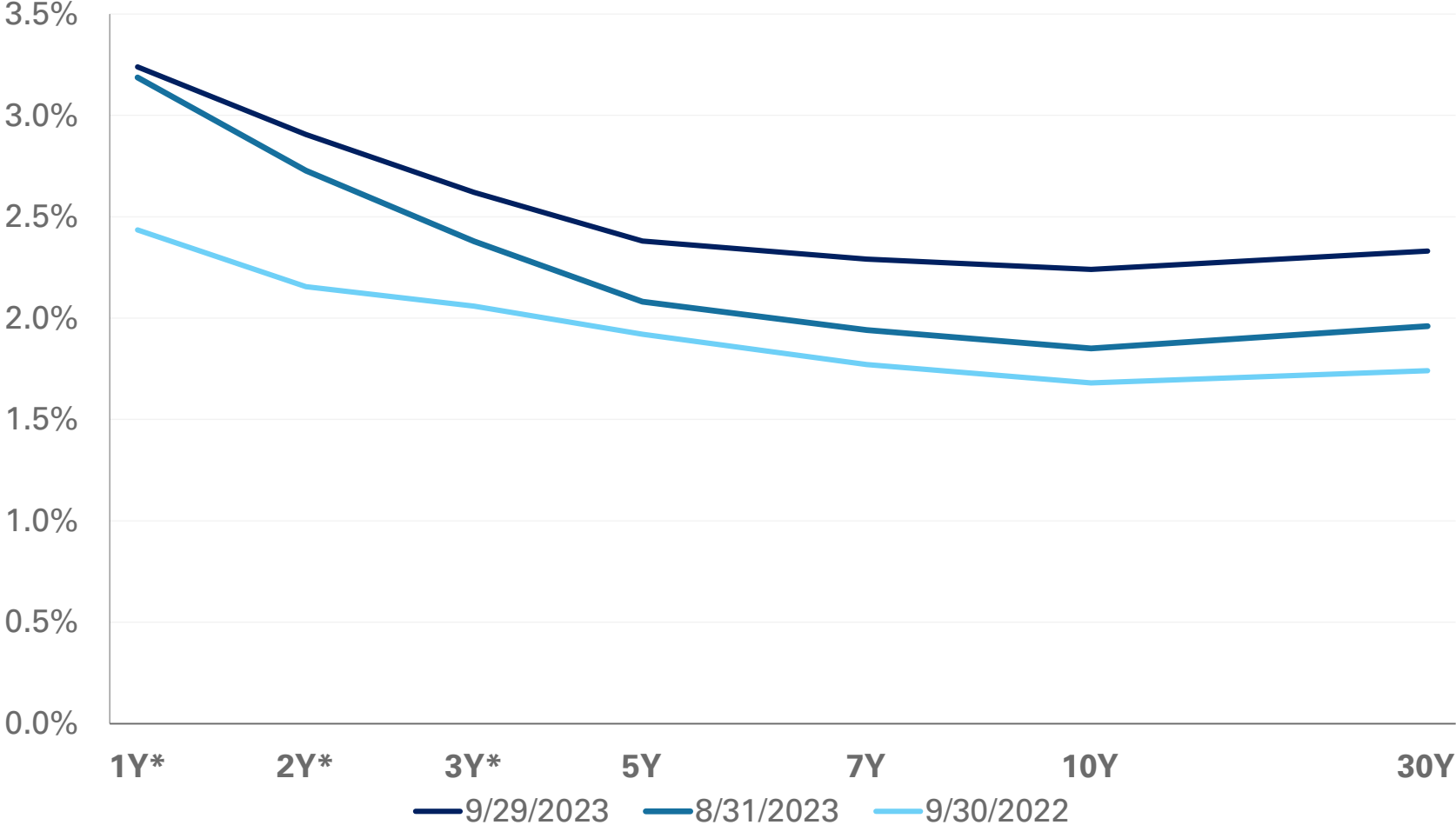
Source: Bloomberg, FactSet

# US TREASURY YIELD CURVE



Source: FactSet

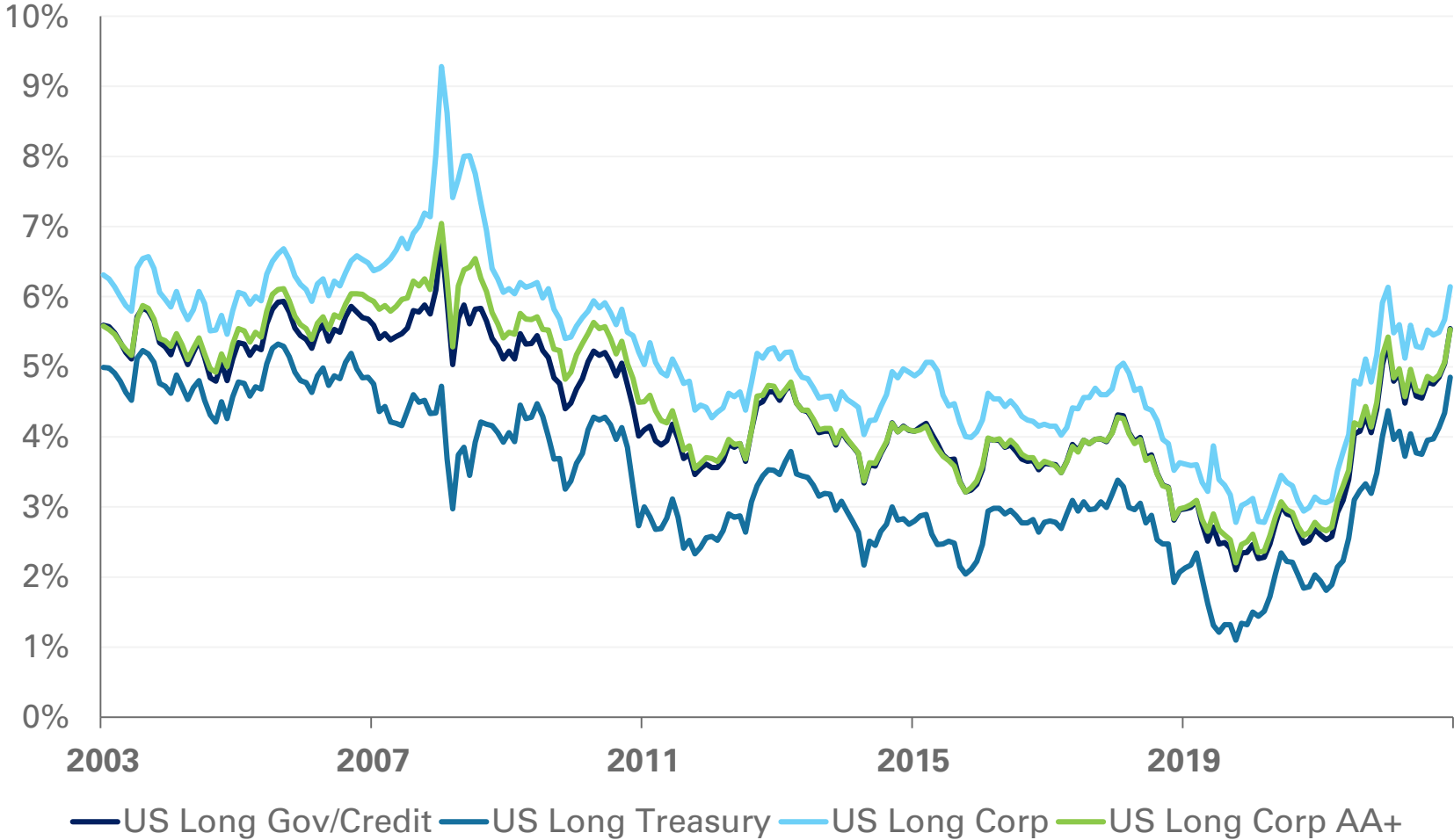
# US TREASURY REAL YIELD CURVE



Notes: \*Real yields are calculated based on a weighted average of select off-the-run TIPS yields  
 Source: NEPC, Bloomberg, FactSet

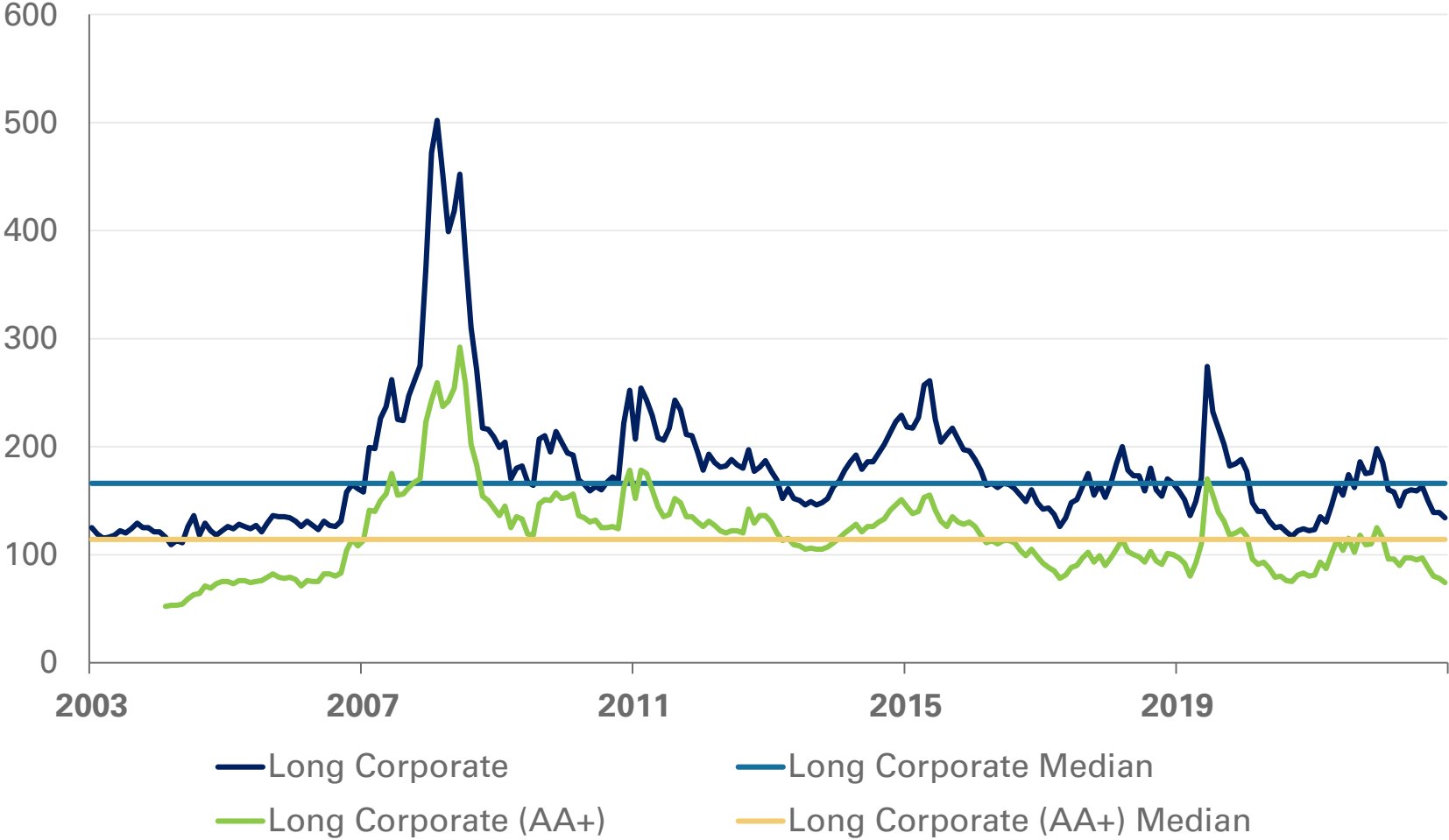


# LONG DURATION YIELDS



Source: Bloomberg, FactSet

# LONG DURATION CORPORATE SPREADS



Median calculated based on 20-year of monthly data  
Source: Bloomberg, FactSet

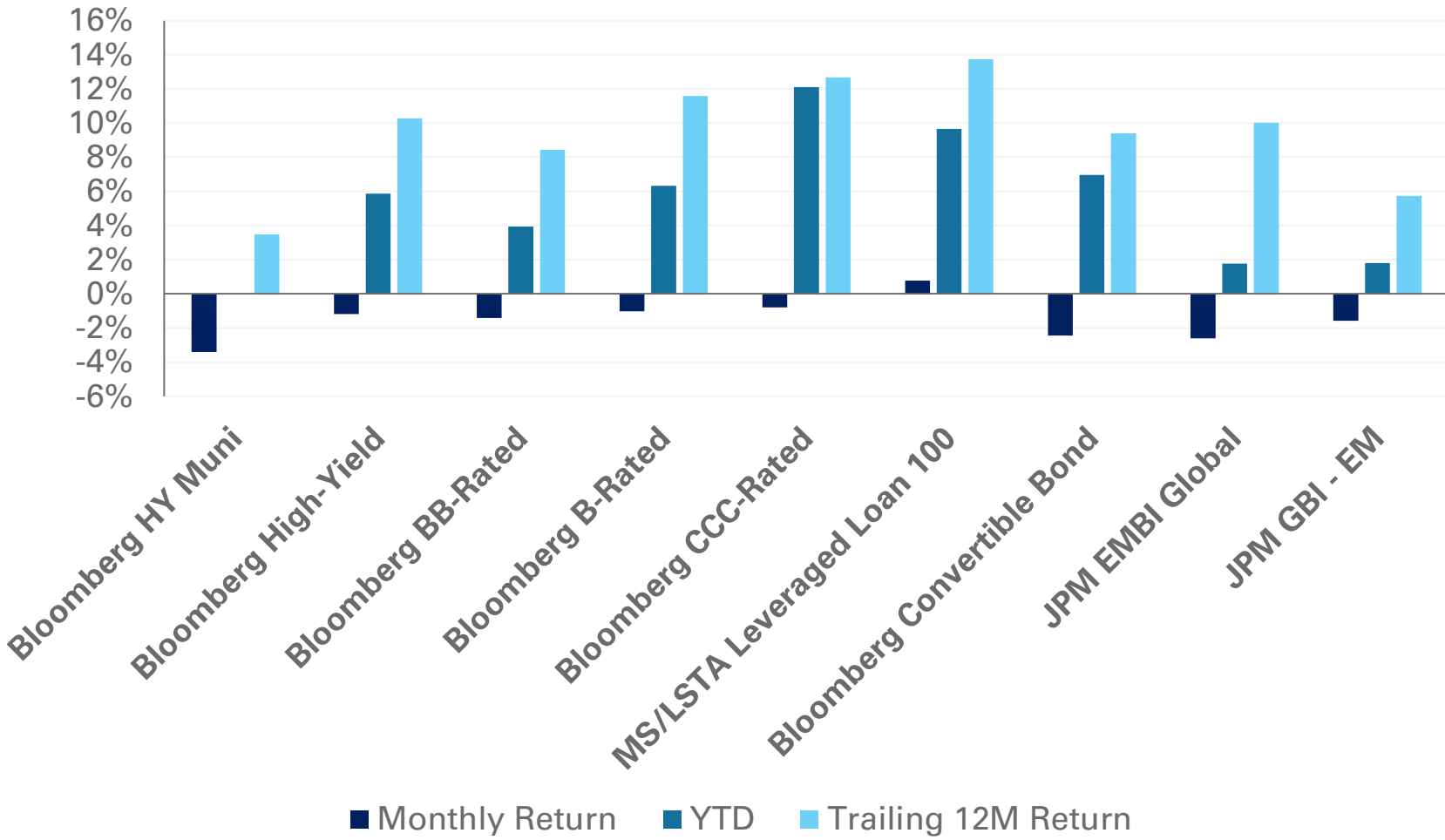




# RETURN-SEEKING CREDIT



# RETURN-SEEKING CREDIT INDEX PERFORMANCE



Source: Bloomberg, S&P, JPM, FactSet



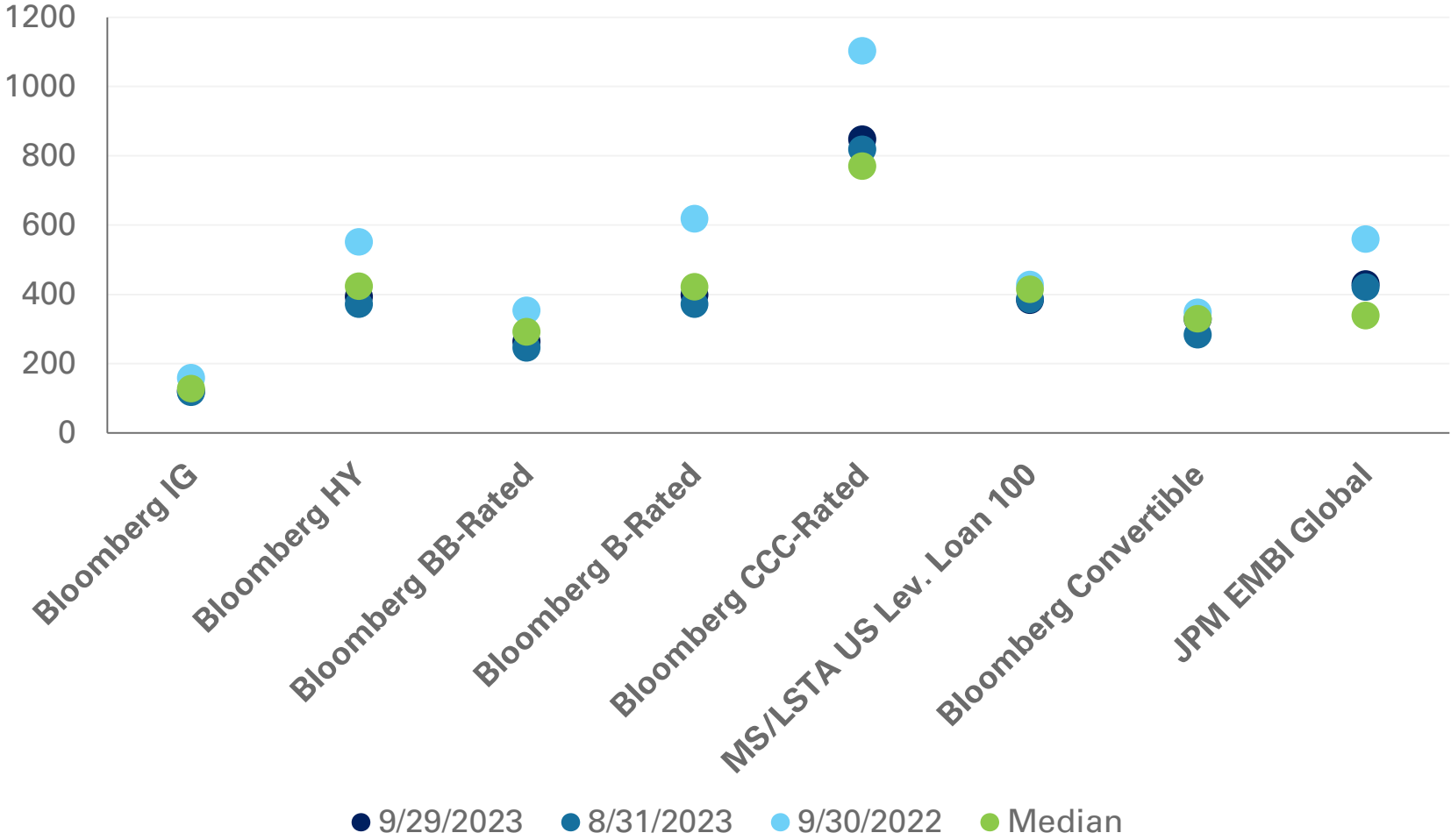
# RETURN-SEEKING CREDIT CHARACTERISTICS

	Yield to Worst	Spread (bps)	Duration (Years)
<b>Bloomberg HY Muni</b>	6.25%	-	7.9
<b>Bloomberg High-Yield</b>	8.88%	394	3.5
<b>Bloomberg BB-Rated</b>	7.61%	264	3.8
<b>Bloomberg B-Rated</b>	9.00%	399	3.3
<b>Bloomberg CCC-Rated</b>	13.28%	848	3.0
<b>MS/LSTA Leveraged Loan 100</b>	9.49%	384	-
<b>Bloomberg Convertible Bond</b>	0.71%	329	2.1
<b>JPM EMBI Global</b>	9.04%	430	6.3
<b>JPM GBI - EM</b>	4.96%	-	5.4



Source: Bloomberg, S&P, JPM, FactSet

# CREDIT SPREADS



Median calculated based on 20-year of monthly data  
 Source: Bloomberg, S&P, JPM, FactSet

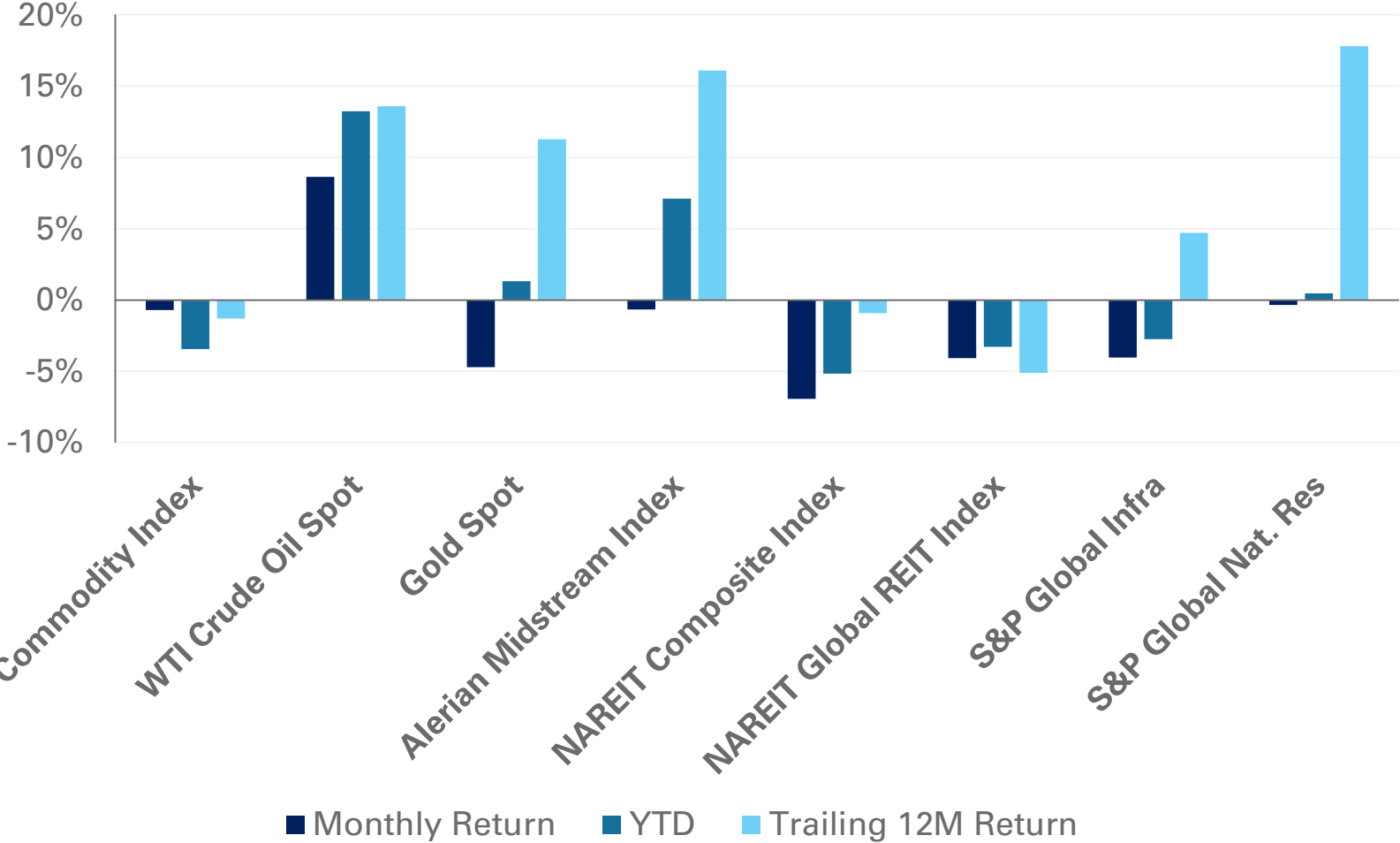




# REAL ASSETS



# REAL ASSETS INDEX PERFORMANCE



Source: Bloomberg, Alerian, NAREIT, S&P, FactSet

# REAL ASSETS INDEX PERFORMANCE

Index	1 Month	3 Month	YTD	1 Year	3 Year	5 Year
<b>Bloomberg Commodity Index</b>	<b>-0.7%</b>	<b>4.7%</b>	<b>-3.4%</b>	<b>-1.3%</b>	<b>16.2%</b>	<b>6.1%</b>
<b>Bloomberg Sub Agriculture Index</b>	<b>-4.2%</b>	<b>-3.2%</b>	<b>-4.2%</b>	<b>-1.8%</b>	<b>19.4%</b>	<b>10.7%</b>
Coffee	-5.0%	-6.6%	-6.1%	-27.1%	10.6%	3.4%
Corn	0.1%	-3.7%	-15.2%	-14.9%	20.6%	9.0%
Cotton	-0.3%	9.9%	11.3%	12.1%	19.5%	7.1%
Soybean	-6.4%	-3.8%	1.7%	13.5%	21.8%	14.0%
Soybean Oil	-10.3%	-4.0%	-6.2%	2.4%	32.8%	19.2%
Sugar	5.1%	16.6%	51.6%	73.6%	33.7%	20.4%
Wheat	-9.7%	-18.9%	-34.8%	-44.8%	-7.5%	-3.2%
<b>Bloomberg Sub Energy</b>	<b>4.4%</b>	<b>19.6%</b>	<b>-4.3%</b>	<b>-13.0%</b>	<b>26.5%</b>	<b>-1.2%</b>
Brent Crude	6.2%	24.6%	13.9%	22.1%	47.1%	10.1%
Heating Oil	9.2%	41.0%	17.4%	34.6%	65.5%	14.9%
Natural Gas	-6.5%	-9.2%	-54.0%	-70.6%	-17.0%	-23.8%
Unleaded Gas	-2.8%	12.8%	19.7%	35.0%	53.8%	13.5%
WTI Crude Oil	9.9%	31.7%	18.8%	24.6%	41.4%	-0.1%
<b>Bloomberg Sub Industrial Metals</b>	<b>1.6%</b>	<b>3.5%</b>	<b>-9.3%</b>	<b>5.6%</b>	<b>9.6%</b>	<b>5.6%</b>
Aluminum	7.0%	9.3%	-1.8%	7.9%	9.1%	0.6%
Copper	-1.8%	-0.1%	0.4%	13.5%	8.5%	6.4%
Nickel	-7.9%	-8.9%	-37.4%	-10.7%	9.4%	8.5%
Zinc	9.4%	12.3%	-7.0%	-5.4%	6.6%	3.7%
<b>Bloomberg Sub Precious Metals</b>	<b>-5.7%</b>	<b>-3.6%</b>	<b>-0.7%</b>	<b>12.5%</b>	<b>-1.5%</b>	<b>7.9%</b>
Gold	-4.7%	-3.9%	1.3%	10.9%	-1.4%	8.0%
Silver	-9.1%	-2.6%	-6.9%	17.9%	-2.2%	7.4%
<b>Bloomberg Sub Livestock</b>	<b>0.3%</b>	<b>2.7%</b>	<b>7.8%</b>	<b>17.0%</b>	<b>8.8%</b>	<b>-1.8%</b>
Lean Hogs	-3.6%	0.7%	-14.7%	-4.6%	9.4%	-8.2%
Live Cattle	1.9%	3.3%	21.7%	30.3%	8.2%	1.5%



Source: Bloomberg, FactSet

# OIL MARKETS

## WTI VERSUS BRENT CRUDE SPOT PRICES



Source: WTI, Brent, FactSet

# GOLD SPOT PRICE



Source: FactSet

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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.

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







**VCERA**  
VENTURA COUNTY EMPLOYEES'  
RETIREMENT ASSOCIATION

# MONTHLY PERFORMANCE REPORT

VENTURA COUNTY EMPLOYEES'  
RETIREMENT ASSOCIATION

OCTOBER 31, 2023

Allan Martin, Partner

Rose Dean, CFA, Principal

Leah Tongco, Consulting Analyst



# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)									
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Total Fund</b>	<b>7,290,115,570</b>	<b>100.0</b>	<b>100.0</b>	<b>-1.6</b>	<b>-3.6</b>	<b>4.0</b>	<b>6.4</b>	<b>7.1</b>	<b>7.5</b>	<b>6.8</b>	<b>7.8</b>	<b>Apr-94</b>	
<i>Policy Index</i>				<u>-2.2</u>	<u>-4.6</u>	<u>5.2</u>	<u>6.9</u>	<u>6.0</u>	<u>7.2</u>	<u>6.9</u>	<u>7.8</u>		
Over/Under				0.6	1.0	-1.2	-0.5	1.1	0.3	-0.1	0.0		
<i>60% MSCI ACWI (Net)/ 40% Bloomberg Global Agg</i>				<u>-2.3</u>	<u>-5.7</u>	<u>2.7</u>	<u>7.0</u>	<u>1.0</u>	<u>4.0</u>	<u>4.0</u>	-		
Over/Under				0.7	2.1	1.3	-0.6	6.1	3.5	2.8	-		
<i>60% S&amp;P 500 / 40% Bloomberg Aggregate</i>				<u>-1.9</u>	<u>-5.1</u>	<u>5.2</u>	<u>6.3</u>	<u>4.0</u>	<u>6.8</u>	<u>7.2</u>	<u>8.0</u>		
Over/Under				0.3	1.5	-1.2	0.1	3.1	0.7	-0.4	-0.2		
<b>Total Fund ex Parametric</b>	<b>7,256,358,634</b>	<b>99.5</b>	<b>100.0</b>	<b>-1.5</b>	<b>-3.5</b>	<b>3.9</b>	<b>6.0</b>	<b>7.3</b>	<b>7.5</b>	<b>6.9</b>	<b>6.9</b>	<b>Nov-13</b>	
<b>Total US Equity</b>	<b>1,922,389,055</b>	<b>26.4</b>	<b>26.0</b>	<b>-2.6</b>	<b>-5.8</b>	<b>9.6</b>	<b>8.8</b>	<b>9.2</b>	<b>10.4</b>	<b>10.7</b>	<b>9.4</b>	<b>Jan-94</b>	
<i>Russell 3000</i>				<u>-2.7</u>	<u>-5.8</u>	<u>9.4</u>	<u>8.4</u>	<u>9.2</u>	<u>10.2</u>	<u>10.3</u>	<u>9.5</u>		
Over/Under				0.1	0.0	0.2	0.4	0.0	0.2	0.4	-0.1		
Western U.S. Index Plus	173,935,077	2.4		-2.8	-6.6	10.1	10.0	9.0	10.1	10.9	7.0	Jun-07	
<i>S&amp;P 500 Index</i>				<u>-2.1</u>	<u>-5.3</u>	<u>10.7</u>	<u>10.1</u>	<u>10.4</u>	<u>11.0</u>	<u>11.2</u>	<u>8.5</u>		
Over/Under				-0.7	-1.3	-0.6	-0.1	-1.4	-0.9	-0.3	-1.5		
Blackrock Russell 1000 Index	1,668,667,568	22.9		-2.4	-5.5	10.3	9.5	9.5	10.7	-	10.7	May-17	
<i>Russell 1000 Index</i>				<u>-2.4</u>	<u>-5.5</u>	<u>10.3</u>	<u>9.5</u>	<u>9.5</u>	<u>10.7</u>	-	<u>10.7</u>		
Over/Under				0.0	0.0	0.0	0.0	0.0	0.0	-	0.0		
Blackrock Russell 2500 Index	79,786,411	1.1		-6.1	-10.5	-2.6	-4.5	5.6	5.5	-	5.9	May-17	
<i>Russell 2500 Index</i>				<u>-6.1</u>	<u>-10.6</u>	<u>-2.7</u>	<u>-4.6</u>	<u>5.5</u>	<u>5.5</u>	-	<u>5.8</u>		
Over/Under				0.0	0.1	0.1	0.1	0.1	0.0	-	0.1		

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)									Inception Date
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)		
<b>Total Non-US Equity</b>	<b>1,010,013,882</b>	<b>13.9</b>	<b>15.0</b>	<b>-4.0</b>	<b>-9.6</b>	<b>1.0</b>	<b>12.1</b>	<b>3.2</b>	<b>3.1</b>	<b>2.8</b>	<b>5.6</b>	<b>Mar-94</b>	
MSCI ACWI ex USA				<u>-4.1</u>	<u>-7.7</u>	<u>1.0</u>	<u>12.1</u>	<u>3.0</u>	<u>3.5</u>	<u>2.5</u>	<u>4.6</u>		
Over/Under				0.1	-1.9	0.0	0.0	0.2	-0.4	0.3	1.0		
BlackRock ACWI ex-U.S. Index	523,027,220	7.2		-4.3	-7.7	0.9	11.8	3.2	3.6	2.9	2.5	Apr-07	
MSCI AC World ex USA IMI (Net)				<u>-4.3</u>	<u>-7.7</u>	<u>0.7</u>	<u>11.6</u>	<u>3.0</u>	<u>3.5</u>	<u>2.7</u>	<u>2.3</u>		
Over/Under				0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.2		
Sprucegrove	241,344,019	3.3		-4.9	-10.7	1.0	12.0	6.4	2.2	2.5	5.9	Apr-02	
MSCI EAFE (Net)				<u>-4.1</u>	<u>-8.0</u>	<u>2.7</u>	<u>14.4</u>	<u>5.7</u>	<u>4.1</u>	<u>3.1</u>	<u>5.2</u>		
Over/Under				-0.8	-2.7	-1.7	-2.4	0.7	-1.9	-0.6	0.7		
MSCI EAFE Value Index (Net)				<u>-4.4</u>	<u>-3.8</u>	<u>5.1</u>	<u>18.1</u>	<u>11.0</u>	<u>3.3</u>	<u>2.1</u>	<u>4.9</u>		
Over/Under				-0.5	-6.9	-4.1	-6.1	-4.6	-1.1	0.4	1.0		
Walter Scott	245,642,643	3.4		-2.3	-12.5	1.2	12.7	0.4	5.7	4.8	5.3	Jan-11	
MSCI EAFE (Net)				<u>-4.1</u>	<u>-8.0</u>	<u>2.7</u>	<u>14.4</u>	<u>5.7</u>	<u>4.1</u>	<u>3.1</u>	<u>4.1</u>		
Over/Under				1.8	-4.5	-1.5	-1.7	-5.3	1.6	1.7	1.2		
MSCI EAFE Growth Index				<u>-3.7</u>	<u>-12.0</u>	<u>0.8</u>	<u>11.2</u>	<u>0.8</u>	<u>4.8</u>	<u>4.1</u>	<u>5.0</u>		
Over/Under				1.4	-0.5	0.4	1.5	-0.4	0.9	0.7	0.3		
<b>Total Global Equity</b>	<b>681,979,667</b>	<b>9.4</b>	<b>9.0</b>	<b>-3.0</b>	<b>-6.3</b>	<b>7.1</b>	<b>10.9</b>	<b>7.0</b>	<b>7.9</b>	<b>6.8</b>	<b>6.3</b>	<b>May-05</b>	
MSCI AC World Index (Net)				<u>-3.0</u>	<u>-6.3</u>	<u>6.7</u>	<u>10.5</u>	<u>6.7</u>	<u>7.5</u>	<u>6.8</u>	<u>6.8</u>		
Over/Under				0.0	0.0	0.4	0.4	0.3	0.4	0.0	-0.5		
BlackRock MSCI ACWI Equity Index	681,979,667	9.4		-3.0	-6.3	7.0	10.9	7.0	7.9	7.2	8.9	Aug-12	
MSCI AC World Index (Net)				<u>-3.0</u>	<u>-6.3</u>	<u>6.7</u>	<u>10.5</u>	<u>6.7</u>	<u>7.5</u>	<u>6.8</u>	<u>8.5</u>		
Over/Under				0.0	0.0	0.3	0.4	0.3	0.4	0.4	0.4		
<b>Total Private Equity</b>	<b>1,395,543,317</b>	<b>19.1</b>	<b>18.0</b>	<b>1.0</b>	<b>1.7</b>	<b>0.8</b>	<b>2.6</b>	<b>21.3</b>	<b>17.3</b>	<b>16.5</b>	<b>15.8</b>	<b>Jan-12</b>	
Private Equity Benchmark				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.6</u>	<u>13.0</u>	<u>13.6</u>	<u>15.6</u>		
Over/Under				3.5	6.9	-10.4	-7.9	9.7	4.3	2.9	0.2		

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)									
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>US Fixed Income</b>	<b>662,705,615</b>	<b>9.1</b>	<b>8.0</b>	<b>-1.4</b>	<b>-3.7</b>	<b>-0.8</b>	<b>2.5</b>	<b>-3.3</b>	<b>1.6</b>	<b>1.8</b>	<b>4.9</b>	<b>Mar-94</b>	
<i>Blmbg. U.S. Aggregate Index</i>				<u>-1.6</u>	<u>-4.8</u>	<u>-2.8</u>	<u>0.4</u>	<u>-5.6</u>	<u>-0.1</u>	<u>0.9</u>	<u>4.2</u>		
Over/Under				0.2	1.1	2.0	2.1	2.3	1.7	0.9	0.7		
BlackRock U.S. Debt Fund	149,698,908	2.1		-1.6	-4.8	-2.6	0.4	-5.6	0.0	0.9	4.0	Dec-95	
<i>Blmbg. U.S. Aggregate Index</i>				<u>-1.6</u>	<u>-4.8</u>	<u>-2.8</u>	<u>0.4</u>	<u>-5.6</u>	<u>-0.1</u>	<u>0.9</u>	<u>4.0</u>		
Over/Under				0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0		
Western	178,776,534	2.5		-2.0	-5.7	-3.0	0.8	-6.3	0.2	1.5	4.7	Jan-97	
<i>Blmbg. U.S. Aggregate Index</i>				<u>-1.6</u>	<u>-4.8</u>	<u>-2.8</u>	<u>0.4</u>	<u>-5.6</u>	<u>-0.1</u>	<u>0.9</u>	<u>3.9</u>		
Over/Under				-0.4	-0.9	-0.2	0.4	-0.7	0.3	0.6	0.8		
Reams	205,427,233	2.8		-0.9	-2.1	1.6	5.3	-0.2	3.3	2.1	4.6	Oct-01	
<i>Blmbg. U.S. Aggregate Index</i>				<u>-1.6</u>	<u>-4.8</u>	<u>-2.8</u>	<u>0.4</u>	<u>-5.6</u>	<u>-0.1</u>	<u>0.9</u>	<u>3.1</u>		
Over/Under				0.7	2.7	4.4	4.9	5.4	3.4	1.2	1.5		
<i>Reams Custom Index</i>				<u>0.4</u>	<u>1.8</u>	<u>4.1</u>	<u>4.8</u>	<u>1.8</u>	<u>1.9</u>	<u>1.4</u>	<u>3.4</u>		
Over/Under				-1.3	-3.9	-2.5	0.5	-2.0	1.4	0.7	1.2		
Loomis Strategic Alpha	46,926,673	0.6		-0.7	0.5	2.5	4.5	0.2	1.9	2.3	2.3	Aug-13	
<i>Blmbg. U.S. Aggregate Index</i>				<u>-1.6</u>	<u>-4.8</u>	<u>-2.8</u>	<u>0.4</u>	<u>-5.6</u>	<u>-0.1</u>	<u>0.9</u>	<u>1.0</u>		
Over/Under				0.9	5.3	5.3	4.1	5.8	2.0	1.4	1.3		
Loomis Sayles Multi Strategy	81,876,268	1.1		-1.6	-3.1	-0.6	2.4	-2.4	2.0	2.9	4.9	Aug-05	
<i>5% Bmbg. U.S. Int Agg / 65% Blmbg. U.S. Agg / 30% FTSE HY</i>				<u>-1.5</u>	<u>-3.5</u>	<u>-0.5</u>	<u>2.0</u>	<u>-3.4</u>	<u>0.9</u>	<u>1.8</u>	<u>3.7</u>		
Over/Under				-0.1	0.4	-0.1	0.4	1.0	1.1	1.1	1.2		
<b>Treasuries</b>	<b>72,273,276</b>	<b>1.0</b>	<b>2.0</b>	<b>-1.3</b>	<b>-4.2</b>	<b>-2.7</b>	<b>-0.8</b>	<b>-7.9</b>	<b>-</b>	<b>-</b>	<b>-1.8</b>	<b>Apr-19</b>	
<i>Blmbg. U.S. Treasury: 7-10 Year</i>				<u>-1.9</u>	<u>-6.3</u>	<u>-4.7</u>	<u>-2.4</u>	<u>-7.7</u>	<b>-</b>	<b>-</b>	<u>-2.0</u>		
Over/Under				0.6	2.1	2.0	1.6	-0.2	-	-	0.2		
Reams 10-Year Treasuries	72,273,276	1.0		-1.3	-4.2	-2.7	-0.8	-7.9	-	-	-1.8	Apr-19	
<i>Blmbg. U.S. Treasury: 7-10 Year</i>				<u>-1.9</u>	<u>-6.3</u>	<u>-4.7</u>	<u>-2.4</u>	<u>-7.7</u>	<b>-</b>	<b>-</b>	<u>-2.0</u>		
Over/Under				0.6	2.1	2.0	1.6	-0.2	-	-	0.2		
<b>Private Credit</b>	<b>520,029,254</b>	<b>7.1</b>	<b>8.0</b>	<b>0.4</b>	<b>2.4</b>	<b>7.9</b>	<b>8.8</b>	<b>11.1</b>	<b>8.4</b>	<b>-</b>	<b>8.1</b>	<b>Jan-18</b>	
<i>50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index</i>				<u>-0.5</u>	<u>1.3</u>	<u>7.0</u>	<u>8.5</u>	<u>3.7</u>	<u>4.5</u>	<b>-</b>	<u>4.5</u>		
Over/Under				0.9	1.1	0.9	0.3	7.4	3.9	-	3.6		

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Real Estate</b>	<b>535,544,555</b>	<b>7.3</b>	<b>8.0</b>	<b>0.0</b>	<b>0.4</b>	<b>-5.6</b>	<b>-10.1</b>	<b>6.1</b>	<b>3.6</b>	<b>6.2</b>	<b>7.1</b>	<b>Apr-94</b>
<i>NCREIF ODCE Net</i>				<u>0.0</u>	<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>	<u>4.7</u>	<u>7.2</u>	<u>7.5</u>	
Over/Under				0.0	2.5	2.5	2.8	-0.1	-1.1	-1.0	-0.4	
Prudential Real Estate	208,742,745	2.9		0.0	0.0	-3.7	-9.2	7.7	6.3	8.3	6.3	Jul-04
<i>NCREIF ODCE Net</i>				<u>0.0</u>	<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>	<u>4.7</u>	<u>7.2</u>	<u>6.5</u>	
Over/Under				0.0	2.1	4.4	3.7	1.5	1.6	1.1	-0.2	
UBS Real Estate	222,579,482	3.1		0.0	0.0	-10.4	-15.2	2.2	0.5	4.2	5.6	Apr-03
<i>NCREIF ODCE Net</i>				<u>0.0</u>	<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>	<u>4.7</u>	<u>7.2</u>	<u>6.7</u>	
Over/Under				0.0	2.1	-2.3	-2.3	-4.0	-4.2	-3.0	-1.1	
LaSalle Income + Growth VIII Limited Partnership	66,921,682	0.9		0.0	0.4	0.7	2.4	20.8	-	-	10.8	Mar-20
<i>NCREIF ODCE Net</i>				<u>0.0</u>	<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	<u>6.2</u>	-	-	<u>4.8</u>	
Over/Under				0.0	2.5	8.8	15.3	14.6	-	-	6.0	
Alterra IOS Venture II	37,300,646	0.5		0.0	5.7	10.9	9.4	-	-	-	3.4	May-22
<i>NCREIF ODCE Net</i>				<u>0.0</u>	<u>-2.1</u>	<u>-8.1</u>	<u>-12.9</u>	-	-	-	<u>-5.8</u>	
Over/Under				0.0	7.8	19.0	22.3	-	-	-	9.2	
<b>Total Real Assets</b>	<b>360,532,456</b>	<b>4.9</b>	<b>6.0</b>	<b>-0.4</b>	<b>1.5</b>	<b>8.0</b>	<b>10.2</b>	<b>8.0</b>	<b>4.5</b>	<b>3.3</b>	<b>4.1</b>	<b>May-13</b>
<i>Real Assets Index</i>				<u>0.1</u>	<u>1.5</u>	<u>5.4</u>	<u>5.3</u>	<u>7.8</u>	<u>6.4</u>	<u>6.3</u>	<u>6.3</u>	
Over/Under				-0.5	0.0	2.6	4.9	0.2	-1.9	-3.0	-2.2	
Bridgewater All Weather Fund	106,489,085	1.5		-1.6	-5.9	-1.8	2.9	-2.1	1.5	2.4	2.8	Sep-13
<i>CPI + 5% (Unadjusted)</i>				<u>0.4</u>	<u>2.5</u>	<u>8.0</u>	<u>8.4</u>	<u>11.0</u>	<u>9.2</u>	<u>7.9</u>	<u>7.9</u>	
Over/Under				-2.0	-8.4	-9.8	-5.5	-13.1	-7.7	-5.5	-5.1	
Tortoise Energy Infrastructure[CE]	124,847,321	1.7		-0.3	7.1	14.2	11.5	37.3	7.7	3.3	3.8	May-13
<i>Tortoise MLP Index</i>				<u>0.9</u>	<u>11.3</u>	<u>19.0</u>	<u>14.6</u>	<u>38.6</u>	<u>8.9</u>	<u>2.1</u>	<u>2.4</u>	
Over/Under				-1.2	-4.2	-4.8	-3.1	-1.3	-1.2	1.2	1.4	
Brookfield Infra Fund IV B LP	50,512,927	0.7		0.0	4.7	11.7	7.2	14.0	-	-	9.8	Apr-20
<i>CPI + 2% (Unadjusted)</i>				<u>0.1</u>	<u>1.5</u>	<u>5.4</u>	<u>5.3</u>	<u>7.8</u>	-	-	<u>7.1</u>	
Over/Under				-0.1	3.2	6.3	1.9	6.2	-	-	2.7	
Brookfield Infra Fund V B LP	12,048,288	0.2		-3.3	-3.3	-	-	-	-	-	-3.3	Jun-23
<i>CPI + 2% (Unadjusted)</i>				<u>0.1</u>	<u>1.5</u>	-	-	-	-	-	<u>2.0</u>	
Over/Under				-3.4	-4.8	-	-	-	-	-	-5.3	
Harbourvest Real Assets Fund IV L.P.	66,634,835	0.9		1.7	2.3	13.6	20.3	-	-	-	32.7	Apr-21
<i>CPI + 2% (Unadjusted)</i>				<u>0.1</u>	<u>1.5</u>	<u>5.4</u>	<u>5.3</u>	-	-	-	<u>8.1</u>	
Over/Under				1.6	0.8	8.2	15.0	-	-	-	24.6	
<b>Overlay</b>	<b>129,104,492</b>	<b>1.8</b>	<b>0.0</b>									
Parametric	33,756,936	0.5										
Abbott Capital Cash	95,347,556	1.3										

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)									
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Total Private Equity</b>	<b>1,395,543,317</b>	<b>19.1</b>	<b>18.0</b>	<b>1.0</b>	<b>1.7</b>	<b>0.8</b>	<b>2.6</b>	<b>21.3</b>	<b>17.3</b>	<b>16.5</b>	<b>15.8</b>	<b>Jan-12</b>	
Private Equity Benchmark				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.6</u>	<u>13.0</u>	<u>13.6</u>	<u>15.6</u>		
Over/Under				3.5	6.9	-10.4	-7.9	9.7	4.3	2.9	0.2		
Adams Street Global Fund Series	250,583,623	3.4		0.5	0.5	-1.3	-2.1	19.8	16.3	15.1	14.6	Jan-12	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	<u>12.7</u>	<u>14.7</u>		
Over/Under				3.0	5.7	-12.5	-12.6	8.4	3.9	2.4	-0.1		
Harbourvest	113,335,328	1.6		3.5	3.5	7.0	32.1	16.5	14.2	17.6	17.1	Aug-13	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	<u>12.7</u>	<u>13.0</u>		
Over/Under				6.0	8.7	-4.2	21.6	5.1	1.8	4.9	4.1		
Pantheon Global Secondary Funds	55,554,022	0.8		-1.8	-1.8	-2.7	2.2	15.7	9.2	12.4	11.6	Jan-12	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	<u>12.7</u>	<u>14.7</u>		
Over/Under				0.7	3.4	-13.9	-8.3	4.3	-3.2	-0.3	-3.1		
Drive Capital Fund II	14,719,640	0.2		0.0	-1.7	-50.5	-50.3	-8.8	5.1	-	-7.0	Sep-16	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	-	<u>13.2</u>		
Over/Under				2.5	3.5	-61.7	-60.8	-20.2	-7.3	-	-20.2		
Abbott Secondary Opportunities	10,323,135	0.1		0.0	2.1	10.2	10.2	19.2	20.2	-	21.0	Jan-18	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	-	<u>11.3</u>		
Over/Under				2.5	7.3	-1.0	-0.3	7.8	7.8	-	9.7		
Clearlake Capital Partners V	11,893,170	0.2		0.0	0.7	0.0	-6.2	12.6	23.2	-	22.3	Mar-18	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	-	<u>11.4</u>		
Over/Under				2.5	5.9	-11.2	-16.7	1.2	10.8	-	10.9		
Battery Ventures XII	24,905,716	0.3		0.0	-3.0	-14.2	-22.4	33.4	22.4	-	18.5	Apr-18	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	-	<u>11.9</u>		
Over/Under				2.5	2.2	-25.4	-32.9	22.0	10.0	-	6.6		
Insight Venture Partners X	52,766,854	0.7		4.2	4.2	4.3	5.4	26.5	24.1	-	19.5	May-18	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	-	<u>12.0</u>		
Over/Under				6.7	9.4	-6.9	-5.1	15.1	11.7	-	7.5		
GTCR Fund XII	32,418,494	0.4		0.0	2.1	1.4	1.1	22.9	13.5	-	2.7	Jun-18	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	-	<u>11.6</u>		
Over/Under				2.5	7.3	-9.8	-9.4	11.5	1.1	-	-8.9		
Buenaventure One, LLC	217,960,342	3.0		1.6	1.6	2.0	3.2	23.4	15.7	-	14.6	Jul-18	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	<u>12.4</u>	-	<u>11.6</u>		
Over/Under				4.1	6.8	-9.2	-7.3	12.0	3.3	-	3.0		
ECl 11	8,483,981	0.1		-0.6	-10.1	2.6	-6.6	17.3	-	-	19.4	Jan-19	
Russell 3000 + 2%				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>14.6</u>		
Over/Under				1.9	-4.9	-8.6	-17.1	5.9	-	-	4.8		



# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Buenaventure Two, LLC	2,167,937	0.0		0.0	0.0	0.3	3.0	19.9	-	-	28.9	Dec-18
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>12.2</u>	
Over/Under				2.5	5.2	-10.9	-7.5	8.5	-	-	16.7	
The Resolute Fund IV L.P.	34,997,100	0.5		0.0	5.7	16.0	20.7	34.0	-	-	39.7	Jan-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>14.6</u>	
Over/Under				2.5	10.9	4.8	10.2	22.6	-	-	25.1	
GGV Capital VII L.P.	12,717,637	0.2		-3.5	-5.4	-9.0	-10.5	12.0	-	-	2.9	Feb-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>12.9</u>	
Over/Under				-1.0	-0.2	-20.2	-21.0	0.6	-	-	-10.0	
GGV Discovery II, L.P.	3,841,569	0.1		0.0	-2.2	-3.9	-4.8	26.3	-	-	17.1	Feb-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>12.9</u>	
Over/Under				2.5	3.0	-15.1	-15.3	14.9	-	-	4.2	
Drive Capital Overdrive Fund I	9,284,909	0.1		0.0	-0.4	-23.1	-23.5	8.4	-	-	13.8	May-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.3</u>	
Over/Under				2.5	4.8	-34.3	-34.0	-3.0	-	-	2.5	
Riverside Micro Cap Fund V, LP	11,770,964	0.2		-1.1	-1.1	2.8	10.1	26.5	-	-	6.4	May-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.3</u>	
Over/Under				1.4	4.1	-8.4	-0.4	15.1	-	-	-4.9	
GGV Capital VII Plus, LP	3,204,433	0.0		0.0	-1.0	4.0	3.8	9.9	-	-	7.7	Jun-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>13.2</u>	
Over/Under				2.5	4.2	-7.2	-6.7	-1.5	-	-	-5.5	
Astorg VII L.P.	10,234,252	0.1		-0.2	18.9	-3.3	-2.8	20.1	-	-	5.7	Jul-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.7</u>	
Over/Under				2.3	24.1	-14.5	-13.3	8.7	-	-	-6.0	
Astorg VIII L.P.	7,772,845	0.1		-0.2	-8.1	-8.1	-8.1	-	-	-	-6.6	Aug-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>4.0</u>	
Over/Under				2.3	-2.9	-19.3	-18.6	-	-	-	-10.6	
M/C Partners Fund VIII LP. Limited Partnership	8,680,913	0.1		0.0	0.1	-0.4	-2.8	11.3	-	-	-6.5	Jul-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.7</u>	
Over/Under				2.5	5.3	-11.6	-13.3	-0.1	-	-	-18.2	
Genstar Capital Partners IX	9,784,131	0.1		0.0	3.5	5.4	11.7	32.8	-	-	-194.8	Aug-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.5</u>	
Over/Under				2.5	8.7	-5.8	1.2	21.4	-	-	-206.3	
Genstar IX Opportunities Fund I	2,878,347	0.0		0.0	-1.1	-1.8	3.7	23.1	-	-	17.3	Aug-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.5</u>	
Over/Under				2.5	4.1	-13.0	-6.8	11.7	-	-	5.8	



# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
ABRY Partners IX, LP	12,976,231	0.2		0.5	0.5	4.4	17.7	23.3	-	-	5.2	Sep-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>12.3</u>	
Over/Under				3.0	5.7	-6.8	7.2	11.9	-	-	-7.1	
Advent International GPE IX LP	12,967,674	0.2		0.0	1.2	-1.0	-10.2	29.7	-	-	24.3	Nov-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.6</u>	
Over/Under				2.5	6.4	-12.2	-20.7	18.3	-	-	12.7	
Drive Capital Fund III LP	7,093,331	0.1		0.0	-0.8	-13.2	-14.9	6.9	-	-	2.7	Dec-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>10.8</u>	
Over/Under				2.5	4.4	-24.4	-25.4	-4.5	-	-	-8.1	
Oak HC/FT Partners III LP	22,987,696	0.3		1.6	1.6	-3.9	-3.9	20.2	-	-	16.1	Dec-19
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>10.8</u>	
Over/Under				4.1	6.8	-15.1	-14.4	8.8	-	-	5.3	
TA XIII A LP	12,576,764	0.2		1.1	3.9	4.4	4.4	29.3	-	-	21.2	Jan-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>10.2</u>	
Over/Under				3.6	9.1	-6.8	-6.1	17.9	-	-	11.0	
Dover Street X, LP	32,668,231	0.4		0.0	4.3	7.2	5.6	27.2	-	-	30.6	Feb-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>10.4</u>	
Over/Under				2.5	9.5	-4.0	-4.9	15.8	-	-	20.2	
Hellman & Friedman CP IX	26,764,584	0.4		3.0	3.0	18.6	15.0	15.8	-	-	10.1	Apr-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>18.2</u>	
Over/Under				5.5	8.2	7.4	4.5	4.4	-	-	-8.1	
Clearlake Capital Partners VI	27,796,687	0.4		0.0	1.7	8.8	5.9	27.9	-	-	24.2	Jun-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>13.1</u>	
Over/Under				2.5	6.9	-2.4	-4.6	16.5	-	-	11.1	
Flexpoint Fund IV	8,146,570	0.1		0.0	0.0	-28.8	-29.5	8.1	-	-	11.5	Jun-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>13.1</u>	
Over/Under				2.5	5.2	-40.0	-40.0	-3.3	-	-	-1.6	
Battery Ventures XIII	16,687,009	0.2		0.0	-2.5	-4.4	-6.4	15.2	-	-	12.0	Jun-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>13.1</u>	
Over/Under				2.5	2.7	-15.6	-16.9	3.8	-	-	-1.1	
Green Equity Investors IX LP	163,250	0.0		-19.7	-	-	-	-	-	-	27.6	Sep-23
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	-	-	-	-	-	-	<u>-7.0</u>	
Over/Under				-17.2	-	-	-	-	-	-	34.6	
Green Equity Investors VIII, L.P.	15,810,358	0.2		2.3	4.8	12.8	12.8	5.9	-	-	5.9	Nov-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	<u>11.4</u>	-	-	<u>11.4</u>	
Over/Under				4.8	10.0	1.6	2.3	-5.5	-	-	-5.5	

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
CapVest Private Equity Partners IV, SCSp	10,231,884	0.1		-0.2	-1.8	0.8	5.5	-	-	-	32.9	Dec-20
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>7.3</u>	
Over/Under				2.3	3.4	-10.4	-5.0	-	-	-	25.6	
Drive Capital Fund IV LP	5,013,593	0.1		0.0	-2.8	-4.1	-5.6	-	-	-	-5.2	Jan-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-4.6</u>	
Over/Under				2.5	2.4	-15.3	-16.1	-	-	-	-0.6	
Great Hill Equity Partners VII	8,860,137	0.1		0.0	2.8	22.7	24.5	-	-	-	77.7	Jan-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>5.9</u>	
Over/Under				2.5	8.0	11.5	14.0	-	-	-	71.8	
Great Hill Equity Partners VIII	4,283,975	0.1		0.0	18.2	-5.0	-	-	-	-	-5.0	Dec-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	-	-	-	-	<u>4.9</u>	
Over/Under				2.5	23.4	-16.2	-	-	-	-	-9.9	
Vitruvian Investment Partners IV	18,815,025	0.3		-0.2	-1.2	7.1	21.8	-	-	-	-100.0	Jan-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>5.9</u>	
Over/Under				2.3	4.0	-4.1	11.3	-	-	-	-105.9	
CRV XVIII, L.P.	15,238,769	0.2		0.0	-2.3	-9.3	-10.9	-	-	-	1.4	Mar-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>5.1</u>	
Over/Under				2.5	2.9	-20.5	-21.4	-	-	-	-3.7	
GGV Capital VIII, L.P.	6,498,276	0.1		0.0	6.9	5.7	9.5	-	-	-	11.0	May-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>1.7</u>	
Over/Under				2.5	12.1	-5.5	-1.0	-	-	-	9.3	
GGV Discovery III, L.P.	2,963,691	0.0		0.0	0.2	3.7	16.1	-	-	-	22.6	May-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>1.7</u>	
Over/Under				2.5	5.4	-7.5	5.6	-	-	-	20.9	
Oak HC/FT Partners IV, L.P.	10,663,438	0.1		10.1	11.7	14.8	14.8	-	-	-	12.5	May-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>1.7</u>	
Over/Under				12.6	16.9	3.6	4.3	-	-	-	10.8	
Prairie Capital VII, LP	4,714,482	0.1		0.0	-0.7	-6.3	-8.7	-	-	-	-0.8	Jun-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>1.5</u>	
Over/Under				2.5	4.5	-17.5	-19.2	-	-	-	-2.3	
GGV Capital VIII Plus, L.P.	1,095,462	0.0		0.0	0.0	-1.4	0.5	-	-	-	1.8	Jul-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>0.5</u>	
Over/Under				2.5	5.2	-12.6	-10.0	-	-	-	1.3	
Flexpoint Overage Fund IV A, L.P.	2,932,527	0.0		0.0	2.0	15.9	12.0	-	-	-	11.5	Jul-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>0.5</u>	
Over/Under				2.5	7.2	4.7	1.5	-	-	-	11.0	

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Abbott Secondary Opportunities II, L.P.	29,698,715	0.4		5.4	5.4	11.9	11.9	-	-	-	53.8	Jul-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>0.5</u>	
Over/Under				7.9	10.6	0.7	1.4	-	-	-	53.3	
Genstar X Opportunities Fund I, LP	3,374,883	0.0		0.0	-0.5	1.8	3.4	-	-	-	5.2	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-1.7</u>	
Over/Under				2.5	4.7	-9.4	-7.1	-	-	-	6.9	
Charlesbank Overage Fund X	5,868,452	0.1		0.0	8.0	14.6	17.7	-	-	-	12.7	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-1.7</u>	
Over/Under				2.5	13.2	3.4	7.2	-	-	-	14.4	
Charlesbank Equity Fund X	14,619,526	0.2		0.0	2.3	11.6	16.8	-	-	-	8.3	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-1.7</u>	
Over/Under				2.5	7.5	0.4	6.3	-	-	-	10.0	
GTCR Fund XIII	15,381,918	0.2		0.0	2.7	-1.6	-3.1	-	-	-	27.1	Sep-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-1.7</u>	
Over/Under				2.5	7.9	-12.8	-13.6	-	-	-	28.8	
Hellman & Friedman CP X	15,376,830	0.2		0.0	4.5	15.3	11.9	-	-	-	1.9	Nov-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-3.0</u>	
Over/Under				2.5	9.7	4.1	1.4	-	-	-	4.9	
Genstar Capital Partners X LP	13,565,405	0.2		0.0	-1.3	1.4	3.6	-	-	-	7.8	Dec-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-2.4</u>	
Over/Under				2.5	3.9	-9.8	-6.9	-	-	-	10.2	
TA XIV A LP	6,418,771	0.1		5.3	5.4	4.1	4.1	-	-	-	-4.3	Dec-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-2.4</u>	
Over/Under				7.8	10.6	-7.1	-6.4	-	-	-	-1.9	
CVC Capital Partners VIII A LP	15,236,033	0.2		1.1	-1.1	-0.5	12.6	-	-	-	15.5	Dec-21
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-2.4</u>	
Over/Under				3.6	4.1	-11.7	2.1	-	-	-	17.9	
CVC Capital Partners VIII AIV	131,244	0.0		-	-	-	-	-	-	-	-	Nov-23
<i>Russell 2000 Value + 2%</i>				-	-	-	-	-	-	-	-	
Over/Under				-	-	-	-	-	-	-	-	
Drive Capital Overdrive	6,371,093	0.1		0.0	53.6	-11.6	-13.3	-	-	-	-9.7	Jan-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-4.6</u>	
Over/Under				2.5	58.8	-22.8	-23.8	-	-	-	-5.1	
Kinderhook Capital Fund 7	8,167,210	0.1		0.0	5.2	84.9	73.3	-	-	-	24.6	Mar-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-0.3</u>	
Over/Under				2.5	10.4	73.7	62.8	-	-	-	24.9	

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Pantheon Global Secondary Funds VII	6,622,665	0.1		6.8	6.8	17.5	17.5	-	-	-	20.3	Apr-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>-2.4</u>	
Over/Under				9.3	12.0	6.3	7.0	-	-	-	22.7	
Harbourvest PTN Co Inv VI LP	20,122,160	0.3		1.9	5.1	10.6	4.0	-	-	-	0.8	May-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>3.7</u>	
Over/Under				4.4	10.3	-0.6	-6.5	-	-	-	-2.9	
Clearlake Capital Partners VII	11,960,164	0.2		0.0	0.6	5.4	7.9	-	-	-	2.6	Jun-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>3.9</u>	
Over/Under				2.5	5.8	-5.8	-2.6	-	-	-	-1.3	
Battery Ventures XIV	1,786,966	0.0		0.0	-2.6	-6.6	-14.3	-	-	-	-	Jul-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>11.1</u>	
Over/Under				2.5	2.6	-17.8	-24.8	-	-	-	-	
Oak HC/FT Partners V	1,570,638	0.0		1.3	-1.2	-8.0	-8.0	-	-	-	-	Jul-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>11.1</u>	
Over/Under				3.8	4.0	-19.2	-18.5	-	-	-	-	
Advent International GPE X LP	5,762,076	0.1		0.0	0.8	-1.8	-18.5	-	-	-	-17.2	Oct-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>18.2</u>	
Over/Under				2.5	6.0	-13.0	-29.0	-	-	-	-35.4	
GTCR Strategic Growth 1/A	1,082,799	0.0		0.0	-7.6	-49.3	-49.3	-	-	-	-46.6	Oct-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>18.2</u>	
Over/Under				2.5	-2.4	-60.5	-59.8	-	-	-	-64.8	
GTCR Strategic Growth 1/B	1,537,192	0.0		0.0	8.5	34.2	37.3	-	-	-	34.0	Oct-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>18.2</u>	
Over/Under				2.5	13.7	23.0	26.8	-	-	-	15.8	
Riverside Micro Cap Fund VI, LP	6,269,501	0.1		0.0	4.3	6.5	-4.2	-	-	-	-3.8	Oct-22
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	<u>10.5</u>	-	-	-	<u>18.2</u>	
Over/Under				2.5	9.5	-4.7	-14.7	-	-	-	-22.0	
Ridgmont Equity Partners IV	6,129,218	0.1		0.0	-0.7	11.9	-	-	-	-	11.9	Jan-23
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	<u>11.2</u>	-	-	-	-	<u>11.2</u>	
Over/Under				2.5	4.5	0.7	-	-	-	-	0.7	
CapVest Private Equity Partners V, SCSp	260,873	0.0		-0.2	-66.4	-	-	-	-	-	-66.4	Apr-23
<i>Russell 3000 + 2%</i>				<u>-2.5</u>	<u>-5.2</u>	-	-	-	-	-	<u>3.3</u>	
Over/Under				2.3	-61.2	-	-	-	-	-	-69.7	

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)									
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Private Credit</b>	<b>520,029,254</b>	<b>7.1</b>	<b>8.0</b>	<b>0.4</b>	<b>2.4</b>	<b>7.9</b>	<b>8.8</b>	<b>11.1</b>	<b>8.4</b>	-	<b>8.1</b>	<b>Jan-18</b>	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	3.7	4.5	-	4.5		
Over/Under				0.9	1.1	0.9	0.3	7.4	3.9	-	3.6		
CVI Credit Value Fund IV	23,124,943	0.3		0.7	2.7	6.8	8.6	11.1	7.5	-	7.3	Jan-18	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	3.7	4.5	-	4.5		
Over/Under				1.2	1.4	-0.2	0.1	7.4	3.0	-	2.8		
Monroe Capital Private Credit Fund III	21,627,347	0.3		0.0	2.6	10.0	12.3	12.8	-	-	11.3	Dec-18	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	3.7	-	-	4.7		
Over/Under				0.5	1.3	3.0	3.8	9.1	-	-	6.6		
Bluebay Direct Lending Fund III	20,423,596	0.3		5.2	5.2	10.7	12.5	12.1	-	-	10.7	Apr-19	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	3.7	-	-	4.2		
Over/Under				5.7	3.9	3.7	4.0	8.4	-	-	6.5		
Pimco Private Income Fund	73,553,371	1.0		0.0	1.9	3.5	3.1	8.6	-	-	7.9	Nov-19	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	3.7	-	-	3.8		
Over/Under				0.5	0.6	-3.5	-5.4	4.9	-	-	4.1		
Bridge Debt Strategies III Limited Partner	12,927,032	0.2		0.0	2.1	4.4	5.9	11.9	-	-	6.6	Jan-20	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	3.7	-	-	3.3		
Over/Under				0.5	0.8	-2.6	-2.6	8.2	-	-	3.3		
PIMCO Corp Opps Fund III	51,279,371	0.7		0.0	2.1	2.5	4.6	23.5	-	-	26.9	May-20	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	3.7	-	-	6.2		
Over/Under				0.5	0.8	-4.5	-3.9	19.8	-	-	20.7		
Torchlight Debt Fund VII, L.P.	13,322,185	0.2		0.0	0.1	2.5	3.7	-	-	-	3.5	Jan-21	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	2.3		
Over/Under				0.5	-1.2	-4.5	-4.8	-	-	-	1.2		
Torchlight Debt Fund VIII, L.P.	4,627,020	0.1		0.0	-1.3	-16.6	-	-	-	-	-16.6	Jan-23	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	-	-	-	-	7.0		
Over/Under				0.5	-2.6	-23.6	-	-	-	-	-23.6		
Crayhill Principal Strategies Fund II	15,561,956	0.2		0.0	1.6	1.0	1.5	-	-	-	13.9	May-21	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	1.6		
Over/Under				0.5	0.3	-6.0	-7.0	-	-	-	12.3		
CVI Credit Value Fund A V	23,020,225	0.3		1.0	3.1	8.1	8.2	-	-	-	6.2	Jun-21	
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	1.5		
Over/Under				1.5	1.8	1.1	-0.3	-	-	-	4.7		

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Bridge Debt Strategies Fund IV LP	23,376,710	0.3		0.0	2.9	6.4	7.7	-	-	-	5.9	Aug-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	1.0	
Over/Under				0.5	1.6	-0.6	-0.8	-	-	-	4.9	
Cross Ocean USD ESS Fund IV	33,540,092	0.5		0.0	6.8	10.5	11.5	-	-	-	8.7	Sep-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	0.8	
Over/Under				0.5	5.5	3.5	3.0	-	-	-	7.9	
Harbourvest Direct Lending L	20,269,797	0.3		4.0	4.0	10.2	10.2	-	-	-	6.5	Sep-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	0.8	
Over/Under				4.5	2.7	3.2	1.7	-	-	-	5.7	
Bain Capital Special Situations Asia Fund II	3,318,293	0.0		0.0	5.0	19.8	20.0	-	-	-	14.5	Nov-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	0.7	
Over/Under				0.5	3.7	12.8	11.5	-	-	-	13.8	
Arbour Lane Credit Opp III A	18,346,164	0.3		0.0	3.4	10.5	9.1	-	-	-	-0.7	Dec-21
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	1.1	
Over/Under				0.5	2.1	3.5	0.6	-	-	-	-1.8	

# TOTAL FUND PERFORMANCE DETAIL

	Allocation			Performance (%)								
	Market Value (\$)	% of Portfolio	Policy (%)	1 Mo (%)	FYTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Monroe Private Capital Fund IV	25,166,618	0.3		0.0	3.2	8.6	10.8	-	-	-	8.0	Jan-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	0.4	
Over/Under				0.5	1.9	1.6	2.3	-	-	-	7.6	
Crescent Cove Opportunity Fund LP	26,988,712	0.4		5.6	5.6	13.3	12.9	-	-	-	8.4	Jun-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	4.2	
Over/Under				6.1	4.3	6.3	4.4	-	-	-	4.2	
Pantheon Credit Opportunity II	36,203,334	0.5		-7.2	-7.2	30.1	30.1	-	-	-	30.1	Nov-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	8.5	-	-	-	8.5	
Over/Under				-6.7	-8.5	23.1	21.6	-	-	-	21.6	
VWH Partners III LP	32,359,653	0.4		3.6	3.6	7.3	-	-	-	-	7.3	Dec-22
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	7.0	-	-	-	-	6.8	
Over/Under				4.1	2.3	0.3	-	-	-	-	0.5	
Harbourview Royalties I	19,562,171	0.3		0.0	2.6	-	-	-	-	-	1.3	Apr-23
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	-	-	-	-	-	3.5	
Over/Under				0.5	1.3	-	-	-	-	-	-2.2	
Kennedy Lewis Capital Partners Master Fund III LP	16,299,944	0.2		0.0	4.3	-	-	-	-	-	4.3	May-23
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	-	-	-	-	-	2.6	
Over/Under				0.5	3.0	-	-	-	-	-	1.7	
PIMCO Corp Opps Fund IV	5,130,720	0.1		0.0	3.4	-	-	-	-	-	3.4	May-23
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index				-0.5	1.3	-	-	-	-	-	2.6	
Over/Under				0.5	2.1	-	-	-	-	-	0.8	

Policy Index as of May, 2022: 26% Russell 3000 Index, 15% MSCI ACWI ex U.S., 9% MSCI ACWI, 18% Private Equity Benchmark, 10% Bloomberg US Aggregate, 8% 50% CS Leveraged Loan/50% ICE BofA US HY BB-B Rated Constrained Index, 8% NCREIF ODCE, 6% Real Assets Index.

Total U.S. Equity Benchmark: Russell 3000 Index. Prior to January 2016, the Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.

Prior to January 2016 the Total U.S. Equity Benchmark was a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index.

Reams Custom Index: Merrill Lynch 3 Month Libor Constant Maturity Index, prior to February 2013 the Bloomberg Aggregate.

Loomis Custom Index: 65% Bloomberg US Aggregate, 30% Citigroup High Yield Market Index and 5% JPM Non-US Hedged Bond Index.

Total Real Estate Benchmark: NCREIF ODCE; prior to January 2006, the NCREIF Property Index.

Total Real Assets Benchmark CPI + 4% from inception until 6/30/2019; CPI +2% from 6/30/2019 to present.

Real Estate managers and NCREIF ODCE are valued on a quarterly basis. Performance is not applicable in mid-quarter months, therefore 0% return is shown.

Please Note: Private Equity performance is shown on a time-weighted return basis. Values are cash adjusted with current month cash flows. Fiscal year ends 6/30. Report is preliminary.

Abbott Capital Cash value is adjusted by \$166,243 due to cash flow timing.

# 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.

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







November 20, 2023

Board of Retirement  
Ventura County Employees' Retirement Association  
1190 South Victoria Avenue, Suite 200  
Ventura, CA 93003

**SUBJECT: ALAMEDA IMPLEMENTATION STATUS REPORT DATED NOVEMBER 20, 2023**

Dear Board Members:

Background

Staff are working to implement the July 30, 2020, California Supreme Decision, *Alameda County Deputy Sheriffs' Association v. Alameda County Employees' Retirement Association* (2020) 9 Cal.5th 1032, 1070 ("*Alameda*"), based on the latest direction received from the Board of Retirement on April 17, 2023.

Summary & Highlights

The VPAC team includes several VCERA staff, plus coordination with the following partners:

- County of Ventura – providing calculations for excluded & situational pay codes, as well as partial assistance w/flex credits
- MBS – providing tool development & flex credit calculations
- Simpler Systems – providing reporting tool

Four fixed-term positions (one office assistant, two benefit specialists, and one business analyst) have been budgeted to help increase staffing resources for the Alameda implementation project. Job bulletins for all four of these positions have been posted within the last couple of weeks. As the application deadlines approach, the next steps will be review of the applications for minimum qualifications and then scoring of applicants, usually via an oral examination panel. Top applicants will be interviewed by the hiring managers and then selections will be made.

The County is working on some perquisite tasks that are needed for the setup of the existing adjustment process in VCHRP, which will be used to generate the changes to pensionable earnings and contributions based on flex credit amounts provided by VCERA. After these items

are successfully tested, the County team will have enough information to develop the remaining proposed timeline for the flex credit calculations.

VCERA has contracted with MBS to provide the additional calculations needed outside of the V3 pension administration system for flex credits and interest. The technical setup for MBS and coordination of tasks with Vitech has taken longer than anticipated, and as a result we have adjusted the commencement of the MBS task list by another month. MBS is currently testing connecting to the database and confirming the rights and access within the database and the schema to confirm if all is setup as needed or if we need to work with Vitech further.

Once the corrected data is loaded into V3, VCERA staff will perform several steps to update individual member accounts (retiree benefits and contribution refund processing). In order to speed up some of that processing, VCERA has engaged the system vendor Vitech to make some system enhancements that are currently under development and in testing. There are currently 6 items in the queue for Vitech; one is in testing, one is expected to be delivered for testing this week, one is in development, two are not started (but less critical), and the final one is a 6-part item of which 2 parts are in testing and 3 parts are in development.

Staff received feedback from tax counsel regarding some of the key remaining implementation plan details. With that information, staff can proceed with the manual calculations for VRSD members.

Staff conducted a project kick off meeting with Simpler Systems which included a review of the project charter, datasets, and a system demo. Next steps include meeting with the vendor to provide overviews of the V3 system, database, and key datasets.

Staff met with members from the Ventura County Professional Peace Officers Association (VCPPOA) and Ventura County Deputy Sheriffs Association (VCDSA) to answer questions about the implementation of the Alameda Decision and other pension topics.

#### Estimate of Impacted Members

As a reminder, here are the overall estimated counts of members impacted by each of the various exclusions:

##### PEPRA Exclusions:

- Excluded Pay Codes                    500+ retired, 1500+ active/deferred
- Situational Pay Codes                500+ retired, 2400+ active/deferred
- Leave Straddling                      1200+ retired members to review and/or correct

##### Alameda Exclusions:

- Flex Credits                            850+ retired, 6500+ active/deferred
- Leave Donations                      450+ retired members to review and/or correct

*For comparison, as part of normal operations, VCERA processes about 100 benefit estimates and 30 new retirements each month.*

### Estimated Project Timeline

As mentioned above, the MBS tasks have been adjusted by an additional month. Also, discussions are still underway regarding the timeline for the County tasks. The overall project timeline will be reviewed as the project progresses to determine any additional impacts. The end date for the project has not yet been adjusted, as there are still too many moving parts to project that adjustment accurately.

Year	Months	Task	Assigned	Status
<b><i>Phase 1: Calculate pensionable earnings &amp; member contributions</i></b>				
2023	May – June	Planning	VCERA	Completed
2023	May – June	Stop Contributions	County	Completed
2023	July – Dec	Correction Files Format/Workflow	County	In Progress
2023	July – Dec +	System Enhancements	Vitech	In Progress
2023	July – Dec	Data Cleanup & Prep Tasks	VCERA/County	In Progress
2023	Sep – Dec +	Recruit & Train Staff	VCERA	In Progress
2023-24	Sep – June +	Queries/Reporting	Simpler Systems	In Progress
2023-24	<b>Nov</b> – July +	Tools Dev/Flex Credit Calcs	MBS/Consultants	In Progress
2023-24	<b>Nov</b> – Mar	VRSD Corrections (manual)	VCERA	
2024	Jan – Mar +	Send Correction Files	County	
2024	Jan – Mar	Test & Verify System Enhancements	VCERA IT & Ops	
2024	Apr – Sep	Review/Test Tools & Corrections	VCERA IT & Ops	
<b><i>Phase 2: Calculate retirement benefits &amp; process refunds w/interest</i></b>				
2024	Sep – Dec	Perform Calcs/Pay Refunds & Rollovers	VCERA	
2025	Jan – Sep +			

+ indicates a task that may continue further to completion

Items in bold have been updated since the prior status report.

DISCLAIMER: This timeline is an estimate based on initial review of the project scope. Actual timeline may fluctuate due to factors including resources, vendor timelines, processing complexity, and unanticipated priorities. Updates to this estimated timeline will be published as more information becomes available.

### **RECOMMENDATION: RECEIVE & FILE ALAMEDA IMPLEMENTATION STATUS REPORT DATED NOVEMBER 20, 2023**

VCERA staff will be pleased to respond to any questions you may have on this matter at the November 20, 2023, Business & Disability Meeting.

Sincerely,



Amy Herron  
Chief Operations Officer



November 20, 2023

Board of Retirement  
Ventura County Employees' Retirement Association  
1190 South Victoria Avenue, Suite 200  
Ventura, CA 93003

**SUBJECT: 2024 Calendars of Investment Presentations and of Investment  
On-Site Due Diligence Meetings**

Dear Board Members,

Attached for your consideration are two calendars. One is a proposed calendar of 2024 investment presentations. The other is a proposed calendar of 2024 investment on-site due diligence visits.

Please approve both calendars and authorize expenditures for investment on-site due diligence travel in accordance with the Board adopted Education and Travel Policy. Appropriations for on-site due diligence travel are included in the FY2023-24 Board adopted budget, and the remainder of the calendar year travel costs will be included in the FY2024-25 Budget.

**IT IS RECOMMENDED THAT THE BOARD APPROVE:**

- 1. THE PROPOSED 2024 CALENDARS FOR INVESTMENT PRESENTATIONS AND INVESTMENT ON-SITE DUE DILIGENCE AND,**
- 2. AUTHORIZE NECESSARY EXPENDITURES IN ACCORDANCE WITH THE BOARD'S ADOPTED TRAVEL POLICY AND BUDGET.**

Sincerely,

Dan Gallagher  
Chief Investment Officer

# VCERA BOARD MEETINGS 2024

## INVESTMENT PRESENTATIONS CALENDAR

Date	Deadline	Meeting	Presentations	Items
1/8/2024	12/29/2023	Disability		
1/22/2024	1/12/2024	Business	Prudential – PRISA LaSalle Growth and Income	November 2023 <i>Monthly</i> Investment Performance Report - NEPC
2/26/2024	2/16/2024	Disability & Business	Adams Street UBS Real Estate	Dec 2023 and Jan 2024 <i>Monthly</i> Investment Performance Reports - NEPC
3/11/2024	3/1/2024	Disability		
3/25/2024	3/15/2024	Business	Abbott HarbourVest Pantheon	2023 Q4 Investment Performance Report - NEPC February <i>Monthly</i> Investment Performance Report - NEPC
4/15/2024	4/5/2024	Disability & Business	Sprucegrove State Street	Private Equity Report- Abbott
5/6/2024	4/26/2024	Disability		
5/20/2024	5/10/2024	Business	PIMCO Bridgewater	March <i>Monthly</i> Investment Performance Reports - NEPC
6/17/2024	6/7/2024	Disability & Business	Parametric	April <i>Monthly</i> Investment Performance Reports - NEPC Q1 Investment Performance Report - NEPC
7/8/2024	6/28/2024	Disability		
7/22/2024	7/12/2024	Business	Walter Scott	May <i>Monthly</i> Investment Performance Report- NEPC
9/9/2024	8/30/2024	Disability		
9/23/2024	9/13/2024	Business	Board Retreat	Q2 Performance Report - NEPC June & July <i>Monthly</i> Performance - NEPC
10/21/2024	10/11/2024	Disability & Business	Reams Western Abbott	August <i>Monthly</i> Investment Performance Report - NEPC Private Equity Report- Abbott CA Code Sect 7514.7 Annual Reports Abbott and NEPC
11/4/2024	10/25/2024	Disability		
11/18/2024	11/8/2024	Business	Blackrock	Q3 Performance Report - NEPC; Annual Private Investments report - Abbott September <i>Monthly</i> Investment Performance Report - NEPC
12/16/2024	12/6/2024	Disability & Business	Loomis Sayles	Q3 Performance Report - NEPC; Annual Private Investments report - Abbott October <i>Monthly</i> Investment Performance Report - NEPC

## VCERA 2024 CALENDAR OF INVESTMENT ON-SITE DUE DILIGENCE MEETINGS

DATE	INVESTMENT MANAGER / SERVICE PROVIDER	LOCATION
2024 Q1	Blackrock	San Francisco, CA
2024 Q1	UBS	San Francisco, CA
2024 Q2	Drive Capital	Columbus, Ohio
2024 Q3	Loomis Sayles	Boston, MA
2024 Q3	NEPC	Boston, MA
2024 Q4	Tortoise	Leawood, KS
2024 Q4	State Street	Kansas City, KS



November 20, 2023

Board of Retirement  
Ventura County Employees' Retirement Association  
1190 South Victoria Avenue, Suite 200  
Ventura, CA 93003

**SUBJECT: AUTHORIZATION FOR CHIEF TECHNOLOGY OFFICER TO ATTEND THE GARTNER CIO LEADERSHIP FORUM, FEBRUARY 26-27, 2024, IN PHOENIX, ARIZONA**

Dear Board Members:

Staff requests authorization for Chief Technology Officer, Leah Oliver, to attend the Gartner CIO Leadership Forum, February 26-27, 2024, in Phoenix, Arizona.

The CIO Leadership Forum is an exclusive community of Chief Information Officers (CIO) and Chief Technology Officers (CTO) that are given the opportunity to interact with Gartner experts and peers on critical enterprise priorities IT Executives face today. The agenda this year is centered on the CIO/CTO role as the leader of the digital experience and building leadership and executive skills needed to accelerate innovative business and technology strategies. Some of the specific topics covered this year are: Artificial Intelligence, Business Value of IT, Cybersecurity, Digital Business Transformation, Innovation, Leadership, Culture and Change, Democratization of Digital Delivery, Strategic Planning and Execution, and more (as outlined in the attached agenda).

The conference admission of \$3,525 per attendee is included as part of the Gartner Executive Manager Program, therefore the only costs expected are \$3,500 for travel-related accommodations. Funds for Ms. Oliver's attendance are included in the 2023-24 fiscal year's budget.

VCERA staff will be pleased to respond to any questions you may have on this matter at the December 18, 2023, Business & Disability Meeting.

Sincerely,

Leah Oliver  
Chief Technology Officer



# Agenda

Gain more insights into CIO strategies, leadership skills growth and technology at Gartner CIO Leadership Forum 2024 in Phoenix, AZ.

## 2024 topic highlights

Over two days, Gartner CIO Leadership Forum 2024 addresses 13 key topics centered on the CIO role as the leader of the digital experience and building leadership and executive skills needed to accelerate innovative business and technology strategies.



### Artificial Intelligence

Leverage game-changing technologies such as generative AI to drive transformative innovation, growth and efficiencies at scale. Learn how this technology will impact the CIO role, talent and skills, risk and governance.



### Business Value of IT

There is an art and science to identifying and measuring the value of IT. Learn how you can craft a more impactful business value narrative and support it with metrics that your business leadership will care about.



### CIO Role Evolution

Step into the opportunities that now exist across the enterprise to deliver on digital dividends. One's personal brand, communication skills and influence are the hallmark of effectively establishing this expanded role.



### Culture and Change

Create a culture that encourages continuous exploration and the quest for game-changing business capabilities.



### Cybersecurity

Reframe cybersecurity as a business issue and manage risks in response to the disruption created by rapid changes in the digital world and a volatile geopolitical landscape.



### Democratization of Digital Delivery

CIOs need to provide executive leadership in the C-suite to collectively achieve enterprise outcomes through digital capabilities impacting IT leadership responsibilities, accountability and decision rights.



### Digital Business Transformation

Build, scale, refine and accelerate your digital business strategy. Shift toward the next era of digitalization focusing on autonomous business. Discover how to create new products and business models that transform the business.



### Innovation

Harness and apply innovation to drive disruption, leveraging emerging technologies to achieve your digital ambitions. Learn techniques that generate disruptive ideas.



### Leadership

Discover how to be a transformational leader, influence stakeholders and embrace the evolution of the CIO role. Strive for high performance of a generationally and geographically diverse team.



### Operating Models

Explore how to align operating models with enterprise, information and technology strategies, as well as how to adopt new operating models that are a better fit for the current environment.



### Stakeholder Management

Top-performing leaders are people-centric and focus on relationships. Improve your executive relationships and develop yourself to amplify your impact.



### Strategic Planning and Execution

Learn how to create and execute dynamic and adaptive strategies that build resilience and position your organization to thrive.



### Talent and Diversity

Learn how to recruit and retain diverse talent. Reskill and upskill your existing workforce to deliver increased value and business outcomes. Foster diversity as a fundamental lever for motivation and engagement.

## Want to stay informed?

Get conference email updates.

Work Email

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[Gartner.com \(https://www.gartner.com/en\)](https://www.gartner.com/en)

[Frequently Asked Questions \(/en/conferences/na/cio-us-west/frequently-asked-questions\)](/en/conferences/na/cio-us-west/frequently-asked-questions)

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November 20, 2023

Board of Retirement  
Ventura County Employees' Retirement Association  
1190 South Victoria Avenue, Suite 200  
Ventura, CA 93003

**SUBJECT: Creation of an Ad-Hoc Benefit and Compensation Committee for 2024**

Dear Board Members:

Earlier this year, an item came before the Finance Committee related to the funding of a management health stipend based on years of service. This benefit, from a VCERA funding perspective, affects only those whose position at the time of retirement was as a management employee under the VCERA "District Status". During staff's analysis of the issue, it was discovered that there is nothing in VCERA's current Management Resolution that addresses whether the Organization wishes to have VCERA service count toward accrual of this benefit, similar to provisions adopted by the APCD and Courts for their management employees (those plan sponsors outside the County "umbrella").

Additionally, the County has recently implemented a health stipend (HSA reimbursement scheme) for all employees that may have (will) suffered a reduction in their retirement benefit due to the elimination of the majority of flex credit used in the calculation of the member's final compensation. The stipend is meant to partially compensate employees/retirees for that loss. This benefit does not automatically confer to VCERA's 5 district employees since they are not County employees and as a result, the Committee must address this matter as well.

Finally, 2024 marks the end of the triennial period for which the Organization must undertake a Market Based Compensation Study to understand where the VCERA Management Team resides next to other comparable positions. Section 304 of the VCERA Management Employees Resolution provides that the Board shall endeavor to conduct a study at least every three years. The Board commissioned the last study in May of 2021.

As such, staff is recommending the Chair appoint 3 members to form this Ad-Hoc Committee to address these issues in 2024 and make recommendations to the full Board. Staff expects approximately 10-15 hours of a Committee member's time to fulfill this obligation during the 2024 calendar year.

Staff will be happy to answer any questions at today's meeting.

Sincerely,

Rick Santos, CFA, ASA, MAAA  
Interim Retirement Administrator